

## Embedded Systems

Our Durable Embedded Systems for Your Industrial-grade Applications



**Ultra Compact Fanless PC**

EC700-ASL 

EC710-ADN 

EC900-QCS 

EC70A-MTH 

EB100-MTU 

Processor	Model	Index
12th Gen Intel® Core™ Processor	EC70A-ADP	P9
11th Gen Intel® Core™ Processor	EC70A-TGU	
7th/6th Gen Intel® Core™ Processor	EC70A-SU EB100-KU	
Intel® Core™ Ultra Processor	EB100-MTU EC70A-MTH	P10
Intel® Atom® Amston Lake Processor	EC700-ASL	P11
Intel® Atom® Alder Lake-N Processors	EC70A-ADN EC700-ADN EC710-ADN	
Intel® Atom® Elkhart Lake Processors	ED700-EHL22I, ED700-EHL	P12
Intel® Atom® Processor E3900	EP100-AL EC90A-AL EC800-AL EC700-AL	P13
Intel® Atom® Processor E3800	EC700-BT	P14
AMD® Ryzen™ Embedded R1000 Series	EC90A-GH	
QCS6490 Qualcomm® Kryo™ 670, 8 cores, up to 2.7 GHz, 12 TOPS (INT8)	EC900-QCS	
Qualcomm® QRB5165, Kryo 585 CPU, up to 2.84 GHz	EC800-QRB	P15
NXP i.MX 8M Mini Processor	EC900-8MM, EC910-8MM	
NXP i.MX 6 Series Processor	EC900-FS6	

**Embedded PC**

EC600-RPS 

SF101-ADS 

Processor	Model	Index
14th/13th/12th Gen Intel® Core™ Processor	EC600-RPS	P17
12th Gen Intel® Core™ Processor	EC500-ADS, EC510-ADS/EC511-ADS EC543-ADS	P18
9th/8th Gen Intel® Core™ Processor	EC500-CS, EC510/EC511-CS EC543-CS ES220-CS, ES220F-CS	P19
7th/6th Gen Intel® Core™ Processor	EC500-KH, EC510/EC511-KH, EC531/EC532-KH EC500-SD, EC510/EC511-SD, EC531/EC532-SD	P20 P21
Intel® Atom® Processor E3800	EC220/EC221-BT, EC210-BT, EC200-BT	P22

**AI Inference / Training System**

RM645-SO630 

EC180-CS 

X6-MTH-ORN 

X6-ORN 

EC633D-RPS 

EC622-RPS 

Processor	Model	Index
14th/13th/12th Gen Intel® Core™ Processor	EC622-RPS EC633-RPS EC633D-RPS	P25
9th/8th Gen Intel® Core™ Processor	EC180-CS DT200-CS EC300-CS	P26
AMD® EPYC™ 3000 Series	RM645-SO630	P27
3rd Gen Intel® Xeon® Scalable Processor Family	RM645-ICX610	
2nd/1st Gen Intel® Xeon® Scalable Processor Family	RM840-PR810	P28
Intel® Core™ Ultra Processor + Nvidia ORIN NX	X6-MTH-ORN X6-MTH-MXM	
Intel® Core™ Ultra Processor	EB100-MTU EC70A-MTH	
NVIDIA® Jetson Orin Nano™ or NX	X6-ORN	P29
Intel® Atom® Alder Lake-N Processors	EC700-ADN EC710-ADN	
NVIDIA® Jetson Xavier™ NX	EC100-XNX, EC102-XNX	

**Application-Specific System**

MPC350-RPS



VC700-ASL



ITXPT

RC300-CS



Processor	Model	Application	Index
14th/13th/12th Gen Intel® Core™ Processor	GM850-RPF	Infotainment	P37
13th Gen Intel® Core™ Processor	MPC350-RPS	Medical	P36
10th Gen Intel® Core™ Processor	VC500-CMS, VC500-CMS-MXM	In vehicle	P32
9th/8th Gen Intel® Core™ Processor	GM831-CSF	Infotainment	P37
	RC300-CS	Railway	P35
	VC300-CS	In vehicle	P32
Intel® Core™ Ultra Processor	VC70B-MTH	In vehicle	P33
6th Gen Intel® Core™ Processor	MD711-SU	Medical	P36
Intel® Atom® Amston Lake Processor	VC700-ASL	In vehicle	P33
Intel® Atom® Alder Lake-N Processors	EC70A-ADN	Infotainment	P37
Intel® Atom® Processor E3800/E3900	VC230-AL	In vehicle	P33
	VC230-BT	In vehicle	P34
AMD® Ryzen™ Embedded 8000 Series	GM841-HPF	Infotainment	P38
AMD® Ryzen™ V2000 Series	GM840-RNF	Infotainment	
AMD® Ryzen™ V1000/R1000/R2000 Series	GM341-GHF	Infotainment	P39
NXP i.MX 8M Mini Processor	GM310-8MM	Infotainment	
NXP i.MX8M	VC900-M8M	In vehicle	P34

**Ruggedized Embedded System**

ECX700-ASL



Processor	Model	Index
Intel® Atom® Amston Lake Processor	ECX700-ASL	P41
12th Gen Intel® Core™ Processor	ECX700-ADP	
Intel® Atom® Processor E3900	ECX700-AL	

**Mini-ITX/µATX/ATX IPC System**

Mini-ITX Stand/ Desktop/ Wall Mount  
SF101



Micro-ATX Wall Mount  
WM343-CMS



ATX Rack Mount  
RM645



EATX Rack Mount  
RM840-PR810



Processor	Model	Index
14th/13th/12th Gen Intel® Core™ Processor	SF101-ADS	P44
12th Gen Intel® Core™ Processor	WM343-ADS336	
10th Gen Intel® Core™ Processor	WM120-CMS171/CMS173, WM343-CMS	
9th/8th/7th/6th Gen Intel® Core™ Processor	WM343-CS330, WM343-CS331, WM343-CS332, WM343-CS350	P45
	WM343-KD330, WM343-KD331, WM342-KD330	P46
	WM342-KD331, WM343-SD330, WM343-SD331	P47
	ST102-CS, ST102-SD	P48
	DT122-SD	
	RM641-CS, RM641-SD	P49
5th/4th Gen Intel® Xeon® Scalable Family Socket: Dual	RM646-ERX810	P49
3rd Gen Intel® Xeon® Scalable Processor Family	RM645-ICX610	P27
2nd/1st Gen Intel® Xeon® Scalable Processor Family	RM840-PR810	P27
AMD® Ryzen™ Embedded V1000/R1000 Series	DT122-GH	P49

**IPC Chassis Series**

Mini-ITX Stand / Desktop / Wall Mount  
ST102



Micro-ATX Wall Mount  
WM343



ATX Rack Mount  
RM641



EATX Rack Mount  
RM840



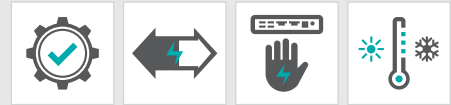
Form Factor - Chassis	Model	Form Factor - Motherboard	Index
Desktop	DT122	mini-ITX	P50
Stand	ST102	mini-ITX	
Wall mount	WM120	mini-ITX	
Wall mount	WM130	mini-ITX	P51
Wall mount	WM342	micro-ATX	
Wall mount	WM343	micro-ATX	
Rack Mount	RM641	ATX	
Rack Mount	RM645	ATX	
Rack Mount	RM810	EATX	

Processor	Model	Product Group	Index
14th/13th/12th Gen Intel® Core™ Processor	EC600-RPS	Embedded PC	P17
	EC622-RPS	AI Inference / Training System	P25
	EC633-RPS	AI Inference / Training System	
	EC633D-RPS	AI Inference / Training System	P44
	SF101-ADS	Mini-ITX/μATX/ATX IPC System	
	GM850-RPF	Application-Specific System	
13th Gen Intel® Core™ Processor	MPC350-RPS	Application-Specific System	P36
12th Gen Intel® Core™ Processor	EC70A-ADP	Ultra Compact Fanless PC	P9
	EC500-ADS, EC510-ADS/EC511-ADS,	Embedded PC	P17
	EC543-ADS	Embedded PC	P18
	WM343-ADS336	Mini-ITX/μATX/ATX IPC System	P44
	ECX700-ADP	Ruggedized Embedded System	P41
11th Gen Intel® Core™ Processor	EC70A-TGU	Ultra Compact Fanless PC	P9
10th Gen Intel® Core™ Processor	WM120-CMS171/CMS173, WM343-CMS	Mini-ITX/μATX/ATX IPC System	P44
	VC500-CMS, VC500-CMS-MXM	Application-Specific System	P32
9th/8th Gen Intel® Core™ Processor	EC500-CS, EC510/EC511-CS, EC543-CS	Embedded PC	P18
	ES220-CS, ES220F-CS	Embedded PC	P19
	EC180-CS, DT200-CS	AI Inference / Training System	P26
	EC300-CS	AI Inference / Training System	
	GM831-CSF	Application-Specific System	P37
	RC300-CS	Application-Specific System	P35
	VC300-CS	Application-Specific System	P32
	WM343-CS330, WM343-CS331, WM343-CS332, WM343-CS350	Mini-ITX/μATX/ATX IPC System	P45
	ST102-CS	Mini-ITX/μATX/ATX IPC System	P48
	RM641-CS	Mini-ITX/μATX/ATX IPC System	P49
14th Gen Intel® Core™ Ultra Processor	EC70A-MTH	Ultra Compact Fanless PC	P10
	EB100-MTU	Ultra Compact Fanless PC	P10
7th/6th Gen Intel® Core™ Processor	EC70A-SU	Ultra Compact Fanless PC	P9
	EB100-KU	Ultra Compact Fanless PC	P10
	EC500-KH, EC510/EC511-KH, EC531/EC532-KH	Embedded PC	P20
	EC500-SD, EC510/EC511-SD, EC531/EC532-SD	Embedded PC	P21
	WM343-KD330, WM343-KD331, WM342-KD330	Mini-ITX/μATX/ATX IPC System	P46
	WM342-KD331	Mini-ITX/μATX/ATX IPC System	P47
	ST102-SD	Mini-ITX/μATX/ATX IPC System	P48
	DT122-SD	Mini-ITX/μATX/ATX IPC System	
6th Gen Intel® Core™ Processor	RM641-SD	Training System	P49
		Mini-ITX/μATX/ATX IPC System	
	WM343-SD330, WM343-SD331	Mini-ITX/μATX/ATX IPC System	P47
	MD711-SU	Application-Specific System	P36
5th/4th Gen Intel® Xeon® Scalable Family Socket: Dual	RM646-ERX810	Mini-ITX/μATX/ATX IPC System	P49
3rd Gen Intel® Xeon® Scalable Processor Family	RM645-ICX610	AI Inference / Training System	P27
2nd/1st Gen Intel® Xeon® Scalable Processor Family	RM840-PR810	AI Inference / Training System	P27
		Mini-ITX/μATX/ATX IPC System	

Processor	Model	Product Group	Index
Intel® Core™ Ultra Processor + Nvidia ORIN NX	X6-MTH-ORN	AI Inference / Training System	P28
	X6-MTH-MXM	AI Inference / Training System	
Intel® Core™ Ultra Processor	EB100-MTU	Ultra Compact Fanless PC	P10
	EC70A-MTH	Ultra Compact Fanless PC	
NVIDIA® Jetson Orin Nano™ or NX	X6-ORN	AI Inference / Training System	P29
Intel® Atom® Amston Lake Processor	EC700-ASL	Ultra Compact Fanless PC	P11
	VC700-ASL	Application-Specific System	P33
	ECX700-ASL	Ruggedized Embedded System	P41
Intel® Atom® Alder Lake-N Processors	EC700-ADN	Ultra Compact Fanless PC	P29
		AI Inference / Training System	
	EC710-ADN	Ultra Compact Fanless PC	P37
	AI Inference / Training System		
	EC70A-ADN	Ultra Compact Fanless PC	P37
		Application-Specific System	
Intel® Atom® Elkhart Lake Processors	ED700-EHL22I, ED700-EHL	Ultra Compact Fanless PC	P12
Intel® Atom® Processor E3800	EC700-BT	Ultra Compact Fanless PC	P14
	EC220/EC221-BT, EC210-BT, EC200-BT	Embedded PC	P22
Intel® Atom® Processor E3800/E3900	VC230-AL, VC230-BT	Application-Specific System	P33
Intel® Atom® Processor E3900	EP100-AL, EC90A-AL, EC800-AL	Ultra Compact Fanless PC	P13
	EC700-AL	Ultra Compact Fanless PC	P14
	ECX700-AL	Ruggedized Embedded System	P41
AMD® EPYC™ 3000 Series	RM645-SO630	AI Inference / Training System	P27
AMD® Ryzen™ Embedded 8000 Series	GM841-HPF	Application-Specific System	P38
AMD® Ryzen™ Embedded R1000 Series	EC90A-GH	Ultra Compact Fanless PC	P14
AMD® Ryzen™ Embedded V1000/R1000 Series	DT122-GH	Mini-ITX/μATX/ATX IPC System	P49
AMD® Ryzen™ V1000/R1000/R2000 Series	GM341-GHF	Application-Specific System	P39
AMD® Ryzen™ V2000 Series	GM840-RNF	Application-Specific System	P38
NVIDIA® Jetson Xavier™ NX	EC100-XNX, EC102-XNX	AI Inference / Training System	P29
NXP i.MX 6 Series Processor	EC900-FS6	Ultra Compact Fanless PC	P15
NXP i.MX 8M Mini Processor	GM310-8MM	Application-Specific System	P39
	EC900-8MM, EC910-8MM	Ultra Compact Fanless PC	P15
NXP i.MX8M	VC900-M8M	Application-Specific System	P34
-	DT122	Mini-ITX/μATX/ATX IPC Chassis	P50
-	ST102	Mini-ITX/μATX/ATX IPC Chassis	
-	WM120	Mini-ITX/μATX/ATX IPC Chassis	
-	WM130	Mini-ITX/μATX/ATX IPC Chassis	
-	WM342	Mini-ITX/μATX/ATX IPC Chassis	P51
-	WM343	Mini-ITX/μATX/ATX IPC Chassis	
-	RM641	Mini-ITX/μATX/ATX IPC Chassis	
-	RM645	Mini-ITX/μATX/ATX IPC Chassis	
-	RM810	Mini-ITX/μATX/ATX IPC Chassis	

## Rugged Design

- Industrial-rated components with high MTBF over 100,000 hours
- Extended operating temperatures
- High ESD protection for I/O ports
- Comprehensive signal integrity measurement
- Wide range power design
- 100% Japan-made solid capacitor
- Power hot plug protection for DC-in type SBC and Industrial Motherboards



## Software Support

- Embedded BIOS and OS customization services
- Ubuntu IoT Hardware Certification Partner Program
- Multiple Android, Linux distribution support
- DFI developing embedded API  
(Hardware monitor, SMBus, I<sup>2</sup>C, Brightness Control, GPIO, Watchdog)
- Remote management utility (DFI RemoGuard with Innoage SSD)

ubuntu<sup>+</sup>

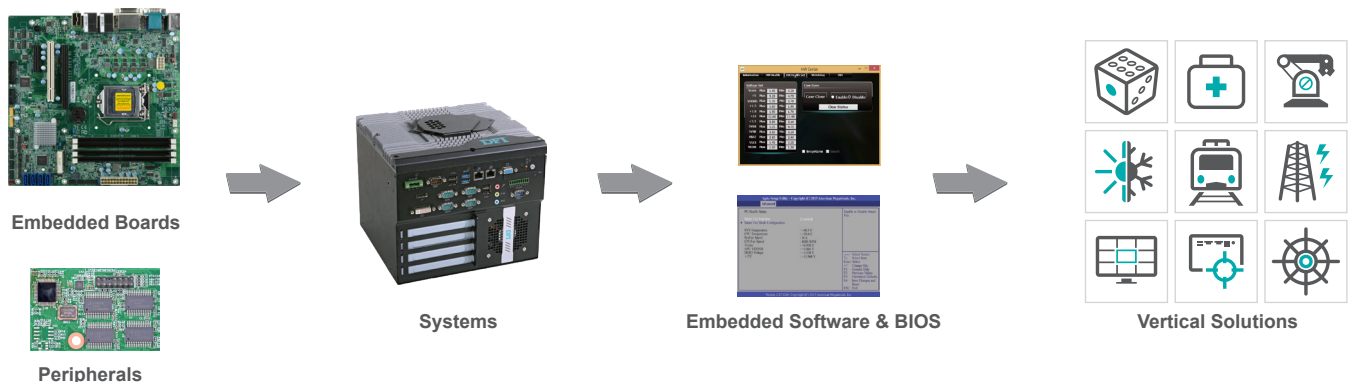


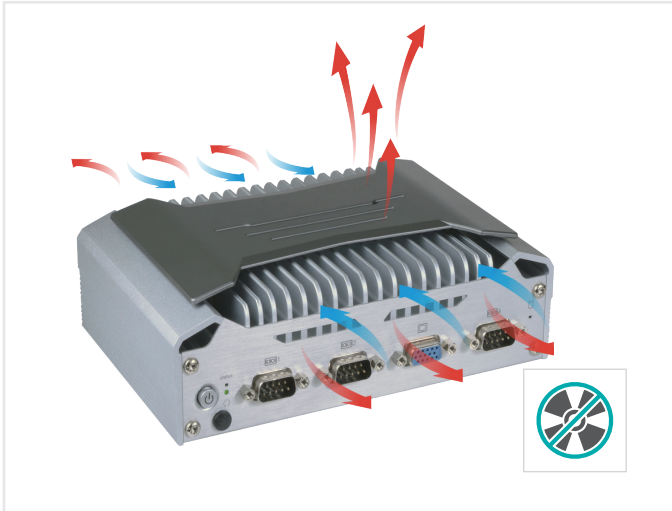
## Embedded Total Solution

- Express customization service: 30 days (NRE cost: based on project)
- Strict revision control
- Long product life cycle support
- High volume OEM/ODM production capabilities



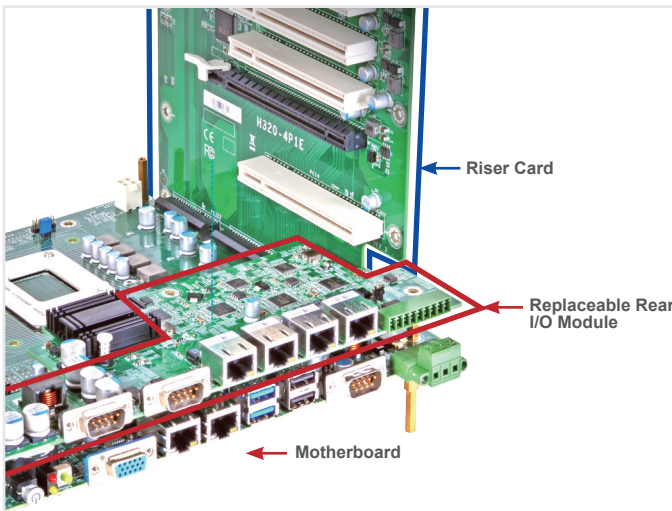
## We Provide a Total Solution Designed for Your Embedded Applications





### Small and Lightweight, but Powerful

- Equipped with up to date Intel® Core™ and AMD Ryzen™ Processors with reliable memory design
- Optimized low profile thermal solution to improve system durability and reliability
- With ruggedized construction, the system survives a wide operating temperature range
- Various types of compact designed system, smallest dimension up to 110 x 80mm x 60mm (W x H x D)



### Ultra-Flexible and Time-Effective Design

- Innovative modular concept designed to meet OEM requirements
- Replaceable I/O modules to provide I/O variations targeting industrial automation applications
- Multiple expansion configuration via different riser cards to offer flexibility to satisfy dedicated demands



### Various Form-Factor Configurable Systems

- Full range of standard industrial motherboards like Mini-ITX, ATX, microATX
- Multiple rack-mount, wall-mount chassis Options
- Designed for fast and easy implementation with minimal setup in a cost-effective manner
- Provides the configurable Options with well-integrated hardware and software to boost applications

# Ultra Compact Fanless PC

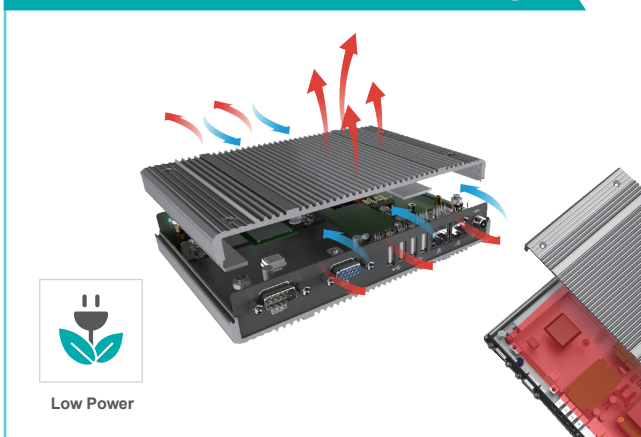
Low Power & Compact Solutions



## Features

Our industrial compact embedded systems, powered by 12th/11th/7th/6th Gen IntelCore. ULV processors and/or low power Atom/ARM processors, deliver extremely low power consumption for efficient fanless thermal solution in an ultra-small size. The systems are also equipped with extensive I/O interfaces and have efficient wireless connectivity to the cloud. Fanless & Compact Embedded Systems are ideal for a wide range of industrial applications such as factory automation, IoT gateways, and smart healthcare.

### Excellent Thermal Dissipation Design



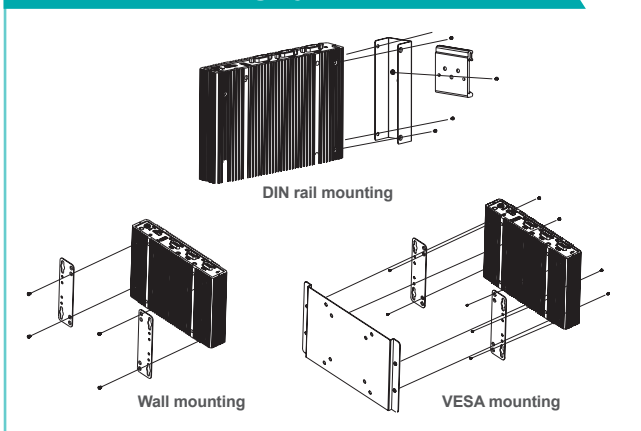
Low Power

### Compact and Rugged Design



-40°C~70°C

### Multiple Mounting Type

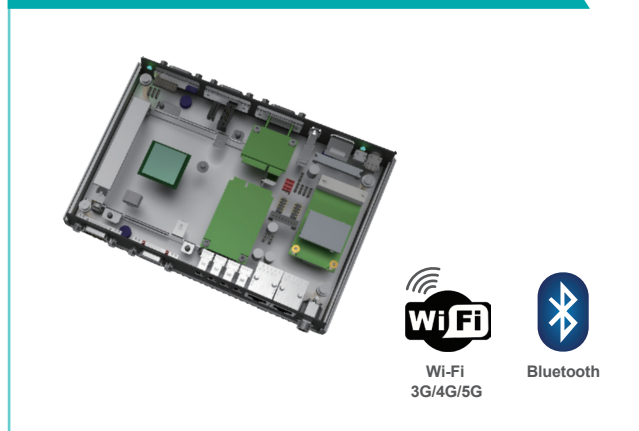


DIN rail mounting

Wall mounting

VESA mounting

### Rich Wireless Connectivity



Wi-Fi  
3G/4G/5G



Bluetooth



## Ultra Compact Fanless PC



Model Name		EC70A-ADP	EC70A-TGU	EC70A-SU
Platform		ULT	ULT	ULT
System	Processor	12th Gen Intel® Core™ Processor	11th Gen Intel® Core™ Processor	7th/6th Gen Intel® Core™ Processor
	Socket	BGA 1744	FCBGA 1449	BGA 1356
	Max. Speed	4.4~4.7GHz	3.9~4.4GHz	2.3~3.9GHz
	CPU TDP	15W(Fanless), 28W(w/Fan)	15W	15W
	Cache	10/12M	6/8/12M	3/4M
	Chipset	-	-	-
	BIOS	AMI SPI 256Mbit	AMI SPI 256Mbit	Insyde SPI 128Mbit
Memory	Technology	Dual Channel DDR4 3200MHz	Dual Channel DDR4	Dual Channel DDR4 2133MHz
	Max. Capacity	40GB (8GB memory onboard + 32GB memory DIMM)	40GB (8GB memory onboard + 32GB memory DIMM)	4/8GB
	Socket	Memory Onboard, 1 SODIMM	Memory Onboard, 1 SODIMM	Memory Onboard
Storage		-	1 M.2 2280 M Key	1x 2.5" SATA 3.0 Drive Bay, 1 mSATA-mini
Expansion	PCIe, PCI, Mini PCIe	-	-	1 Full mPCIe, 1 Half mPCIe
	M.2	1 M.2 2280 M Key, 1 M.2 3042/3052 B Key, 1 M.2 2230 E Key, 1 SIM for 4G/5G	1 M.2 3042/3052 B Key, 1 M.2 2230 E Key, 1 M.2 2280 M Key	-
	SIM	1 SIM	1 SIM	-
Audio	Audio Codec	Realtek ALC888	-	Realtek ALC888
Ethernet	Controller	3 Intel® I225IT	1 Intel® I225IT + 1/2 Intel® I210IT, 1 LAN7500i (Opt.)	1 Intel® I210IT, 1 Intel® I219LM
LED	Indicators	Power, HDD LED	Power, HDD LED	Power, HDD LED
I/O	Ethernet	1x 2.5GHz, 2 GbE	2/3/4 GbE	2 GbE
	Serial	2 RS-232/422/485, 1 RS-232, 1 RS-232/DIO	2 RS-232/422/485, 1 RS-232, 1 RS-232/DIO	2 RS-232/422/485, 2 RS-232
	USB	4 USB 3.2 (4 Type A or 2 Type A + 2 Type C)	2/4/6 USB 3.2 (type A)	4 USB 3.2
	Display	1 HDMI, 1 DP/VGA, 2 Type-C DP Alt. Mode	1 VGA, 2 HDMI	1 VGA, 1 HDMI/DP (DP upon request)
	DIO	8-bit DIO via DB-9 port (share with COM3)	8-bit DIO via DB-9 port (share with COM3)	8-bit DIO via DB-9 port
	Buttons	Power, Reset Button	Power, Reset Button	Power, Reset Button
	Antenna	6 Holes	6 Holes	3 Holes
	Audio	Mic-in, Line-out	-	Mic-in, Line-out
Power		9~36V DC-in	9~36V DC-in	15~36V DC-in
Cooling		Fanless (optional with Fan)	Fanless	Fanless
OS Support		Win10 IoT, Win11 IoT, Linux	Win10 IoT, Linux	Win7, WES 7, Win8.1, WE8S, Win10
Mechanism	Construction	Aluminum + Metal Aluminum	Aluminum + Metal Aluminum	Aluminum + Metal Aluminum
	Mounting	Wall/VESA/DIN Rail Mount	Wall/VESA/DIN Rail Mount	Wall/VESA/Din Rail Mount
	Dimensions (W x H x D)	181.6 x 57 x 118.4mm	181.6 x 57 x 118.4mm	181.6 x 57 x 118.4mm
Environment	Operating Temp.	Fanless: -20°C~60°C W/Fan: -20°C~70°C	-20°C~60°C	-20°C~60°C, 0°C~50°C

## Ultra Compact Fanless PC



Model Name		EB100-KU	EB100-MTU	EC70A-MTH
Platform		ULT	ULT	ULT
System	Processor	7th/6th Gen Intel® Core™ Processor	Intel® Core™ Ultra Processor	14th Gen Intel® Core™ Processor
	Socket	BGA 1356	BGA2049	FCBGA2049
	Max. Speed	2.3~3.9GHz	1.3~1.7GHz	1.3~3.8GHz
	CPU TDP	15W	12W(Fanless), 28W(w/Fan)	15W(Fanless), 28W(w/Fan)
	Cache	2/3/4M	12M	12/18/24MB
	Chipset	-	-	-
	BIOS	Insyde SPI 128Mbit	AMI SPI 256Mbit	AMI SPI 256Mbit
Memory	Technology	Dual Channel DDR4 1866/2133MHz	Dual Channel DDR5 4800MHz	Dual Channel LPDDR5
	Max. Capacity	32GB	48GB	32GB
	Socket	2 SODIMM	1 SODIMM	memory on board
Storage		1x 2.5" SATA 3.0 Drive Bay, 1 M.2 2280	1 M.2 2280 M Key	1 M.2 2280 M Key
Expansion	PCIe, PCI, Mini PCIe	1 Half mPCIe	-	-
	M.2	1 M.2 2280 M Key	1 M.2 2280 M Key / M.2 2230 E Key	1 x M.2 M key 2280 (PCIe Gen4 x4) 1 x M.2 B key 3052 (USB 3.0/2.0, PCIe x1, SATA) 1 x M.2 E key 2230 (USB 2.0/PCIe x1)
	SIM	-	-	1
Audio	Audio Codec	-	-	-
Ethernet	Controller	1 Intel® I210AT, 1 Intel® I219LM	2 Intel® I226IT	2 i226-IT 1 i210-IT
LED	Indicators	Power, Storage LED	Power, Storage LED	Power, Storage LED
I/O	Ethernet	2 GbE	2x 2.5GbE	2 i226-IT 1 i210-IT
	Serial	-	1 RS-232/422/485, 1 RS-232	1 RS-232/422/485 2 RS-232 1 RS-232/422/485 or 8-bit DIO by jumper setting
	USB	4 USB 3.2, 2 USB 2.0	4 USB 3.2 (Gen2x1) or 2 USB 3.2 (Gen2x1) + 2 USB-C (support DP Alt. Mode)	5 USB3.2 1 USB Type-C
	Display	2 HDMI	1 HDMI1.4b, 1 HDMI2.1	1 HDMI 1 USB-C DP Alt. Mode
	DIO	-	8bit DIO	8-bit DIO via DB-9 port (share with COM4)
	Buttons	Power, Reset Button	Power, Reset Button	Power, Reset Button
	Antenna	2 Holes	2 Holes	3 Holes
	Audio	Line-out, Mic-in	-	-
Power		12V DC-in	12V DC-in	9~36V DC-in
Cooling		Fanless	Fanless (optional with Fan)	Fanless (optional w/ Fan)
OS Support		Win10 IoT	Win10 IoT, Win11	Win10 IoT, Win11 IoT, Linux
Mechanism	Construction	Aluminum + Metal	Aluminum + Metal Aluminum	Aluminum + Metal Aluminum
	Mounting	Wall/VESA Mount	Wall/VESA rail mount	Wall/VESA/DIN Rail Mount
	Dimensions (W x H x D)	115 x 48.7 x 111mm	111 x 49.5 x 106mm / 111 x 51.1 x 106mm	181.6 x 57 x 118.4mm
Environment	Operating Temp.	-20°C~40°C	-20°C~50°C(Fanless), -20°C~70°C(w/Fan)	Fanless: -20°C~60°C W/Fan: -20°C~70°C

# Ultra Compact Fanless PC



Model Name		EC700-ASL	EC70A-ADN	EC700-ADN
Platform		Atom	Atom	Atom
System	Processor	Intel® Atom® Amston Lake Processor	Intel® Atom® Alder Lake-N Processors	Intel® Atom® Alder Lake-N Processors
	Socket	BGA1264	BGA1264	BGA 1264
	Max. Speed	3.2~3.6GHz	3.8GHz	2.7~3.4GHz
	CPU TDP	6/9/12W	15W	6/10/12W
	Cache	6 MB Smart Cache	6 MB Smart Cache	6 MB Smart Cache
	Chipset	SOC	SOC	SOC
	BIOS	AMI SPI 256Mbit (supports UEFI boot only)	AMI SPI 256Mbit (supports UEFI boot only)	AMI SPI 256Mbit (supports UEFI boot only)
Memory	Technology	LPDDR5 4800MHz	DDR5 4800MHz	LPDDR5 4800MHz
	Max. Capacity	8GB/16GB	32GB	8GB/16GB
	Socket	Memory down	1 SO-DIMM	Memory down
Storage		eMMC 32/64/128GB, 1 MicroSD (Opt.), 1 M.2 2280 M key	1 M.2 2280/2242 M Key	eMMC 32/64/128GB, 1 MicroSD (Opt.), 1 M.2 2280 M key
Expansion	PCIe, PCI, Mini PCIe	-	-	-
	M.2	1 M.2 2230 E key, 1 M.2 3042/3052 B key, 1 M.2 2242/2280 M key	1 M.2 2280/2242 M key, 1 M.2 3052/3042 B key, 1 M.2 2230 E key	1 M.2 2230 E key, 1 M.2 3042/3052 B key, 1 M.2 2242/2280 M key
	SIM	1 SIM	1 SIM	1 SIM
Audio	Audio Codec	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S
Ethernet	Controller	2 Intel® I226, 1 Intel® I210	3 Intel® I226V/IT	2 Intel® I226, 1 Intel® I210
LED	Indicators	Power, Storage LED	Power, HDD LED	Power, Storage LED
I/O	Ethernet	2x 2.5GbE, 1x GbE(Support DFI OOB)	3x 2.5GbE	2x 2.5GbE, 1x GbE(Support DFI OOB)
	Serial	2 RS232/422/485, 1 RS232, 1 RS232/DIO	1 RS-232/422/485 (Opt.)	2 RS232/422/485, 1 RS232, 1 RS232/DIO
	USB	3 USB 3.2 type A, 1 USB-C 3.2	4 USB 3.2, 2 USB 2.0	3 USB 3.2 type A, 1 USB-C 3.2
	Display	1 HDMI, 1 VGA	1 HDMI, 1 Type-C DP Alt. Mode	1 HDMI, 1 VGA
	DIO	4 DI, 4 DO (via COM4)	-	4 DI, 4 DO (via COM4)
	Buttons	Power, Reset Button	Power	Power, Reset Button
	Antenna	4 Holes	2 Holes	4 Holes
	Audio	Mic-in / Line-out	Mic-in, Line-out	Mic-in / Line-out
Power		9~36V DC-in	9~36V DC-in	9~36V DC-in
Cooling		Fanless	Fanless	Fanless
OS Support		Win11 IoT, Linux Ubuntu 22.04	Win11 IoT, Linux Ubuntu 22.04	Win11 IoT, Linux Ubuntu 22.04
Mechanism	Construction	Aluminum + Metal	Aluminum + Metal Aluminum	Aluminum + Metal
	Mounting	Wall/DIN Rail/VESA Mount	Wall/DIN Rail/VESA Mount	Wall/DIN Rail/VESA Mount
	Dimensions (W x H x D)	180 x 33 x 127.8 mm	181.6 x 52 x 118.4 mm	180 x 33 x 127.8 mm
Environment	Operating Temp.	-40°C~60°C with 0.2m/s air flow	-5°C~60°C	-5°C~60°C with 0.2m/s air flow

## Ultra Compact Fanless PC



Model Name		EC710-ADN	ED700-EHL22I	ED700-EHL
Platform		Atom	Atom	Atom
System	Processor	Intel® Atom® Alder Lake-N Processors	Intel® Atom® Elkhart Lake Processors	Intel® Atom® Elkhart Lake Processors
	Socket	BGA 1264	BGA 1493	BGA 1493
	Max. Speed	3.0GHz	1.8~3GHz	1.8~3GHz
	CPU TDP	15W	6.5/9/10/12W	6.5/9/10/12W
	Cache	SOC	1.5 MB L2 Cache	1.5 MB L2 Cache
	Chipset	SOC	-	-
	BIOS	AMI SPI 256Mbit (supports UEFI boot only)	AMI SPI 256Mbit (supports UEFI boot only)	AMI SPI 256Mbit (supports UEFI boot only)
Memory	Technology	LPDDR5 4800MHz	Dual Channel DDR4 3200MHz (in-band ECC support in embedded/industrial SKU)	Dual Channel DDR4 3200MHz (in-band ECC support in embedded/industrial SKU)
	Max. Capacity	8GB/16GB	32GB	32GB
	Socket	Memory down	Memory onboard + 1 SO-DIMM	Memory onboard + 1 SO-DIMM
Storage		eMMC, 1 M.2 2280 M Key	1 M.2 2280, 16GB/32GB eMMC	1 M.2 2280, 16GB/32GB eMMC
Expansion	PCIe, PCI, Mini PCIe	-	-	-
	M.2	eMMC 32/64/128GB, 1 MicroSD (Opt.), 1 M.2 2280 M key	1 M.2 2230, 1 M.2 3042/3052	1 M.2 2230, 1 M.2 3042/3052
	SIM	1 SIM	2 SIM	2 SIM
Audio	Audio Codec	Realtek ALC888S	Realtek ALC888	Realtek ALC888
Ethernet	Controller	2 Intel® I226, 1 Intel® I210	2/3 Intel® I210/I211, 1 Intel® Ethernet 2.5GigE LAN	2/3 Intel® I210/I211, 1 Intel® Ethernet 2.5GigE LAN
LED	Indicators	Power, Storage LED	1 Power, 1 HDD, 1 WiFi, 1 4G/5G, 2 COM, 8 DIO LED	1 Power, 1 HDD, 1 WiFi, 1 4G/5G, 2 COM, 8 DIO LED
I/O	Ethernet	2x 2.5GbE, 1x GbE(Support DFI OOB)	2/3 GbE (Opt.), 1 2.5GbE TSN, 1 Allxon OOB Enabler (Opt.)	2/3 GbE (Opt.), 1 2.5GbE TSN, 1 Allxon OOB Enabler (Opt.)
	Serial	2 RS232/422/485, 1 RS232, 1 RS232/DIO	2 RS232/422/485, 2 Isolated COM	2 RS232/422/485, 2 Isolated COM
	USB	3 USB 3.2 type A, 1 USB-C 3.2	2/4 USB 3.2 (Opt.), 2 USB 2.0	2/4 USB 3.2 (Opt.), 2 USB 2.0
	Display	1 HDMI, 1 VGA	1 VGA	1 VGA
	DIO	1 RS232/DIO	8-bit DIO, 12-bit isolated DIO	8-bit DIO
	Buttons	Power, Reset Button	-	-
	Antenna	4 Holes	6 Holes (2 for WiFi, 4 for 4G/5G/GPS)	6 Holes (2 for WiFi, 4 for 4G/5G/GPS)
	Audio	Mic-in / Line-out	-	-
Power		9~36V DC-in	9~36V DC-in	9~36V DC-in
Cooling		Fanless	Fanless	Fanless
OS Support		Win11 IoT, Linux Ubuntu 22.04	Win10 IoT, Linux Ubuntu 20.04	Win10 IoT, Linux Ubuntu 20.04
Mechanism	Construction	Aluminum + Metal	Aluminum + Metal	Aluminum + Metal
	Mounting	Wall/DIN Rail/VESA Mount	Wall/DIN Rail Mount	Wall/DIN Rail Mount
	Dimensions (W x H x D)	180 x 43 x 127.8 mm	72 x 172 x 118.2 mm	72 x 172 x 118.2 mm
Environment	Operating Temp.	-5°C~60°C with 0.2m/s air flow	0°C~60°C, -40°C~60°C (Support by Intel® Embedded Series )	0°C~60°C, -40°C~60°C (Support by Intel® Embedded Series )

## Ultra Compact Fanless PC



Model Name		EP100-AL	EC90A-AL	EC800-AL
Platform		Atom	Atom	Atom
System	Processor	Intel® Atom® Processor E3900	Intel® Atom® Processor E3900	Intel® Atom® Processor E3900
	Socket	BGA 1296	BGA 1296	BGA 1296
	Max. Speed	1.8GHz	1.8GHz	1.8~2.5GHz
	CPU TDP	9W	6.5/9W	6/9/12W
	Cache	2M	2M	2M
	Chipset	-	-	-
	BIOS	AMI SPI 128Mbit (supports UEFI/Legacy mode)	Insyde SPI 128Mbit (supports UEFI boot only)	Insyde SPI 128Mbit (supports UEFI boot only)
Memory	Technology	LPDDR4	Single Channel LPDDR4 2400MHz	Dual Channel LPDDR4 2400MHz
	Max. Capacity	4GB	2/4GB	2/4/8GB
	Socket	Memory Onboard	Memory Onboard	Memory Onboard
Storage		eMMC up to 64GB	eMMC up to 64GB	1 mSATA, 1 M.2 2242 B Key
Expansion	PCIe, PCI, Mini PCIe	-	1 Full mPCIe socket	1 Full mPCIe
	M.2	-	-	1 M.2 2230 E Key, 1 M.2 2242 B Key
	SIM	-	-	-
Audio	Audio Codec	-	-	Realtek ALC262
Ethernet	Controller	1 Intel® I210AT	2 Intel® I210IT	2 Intel® I210AT
LED	Indicators	Power, LAN LED	Power, HDD LED	Power, HDD LED
I/O	Ethernet	1 PoE PD 802.3af 12.95W	2 GbE	2 GbE
	Serial	-	1 RS-232/422/485/8-bit DIO	1 RS-232/422/485, 1 RS-232/422/485/8-bit DIO
	USB	1 USB 3.2 Type C, 1 USB 3.2 Type A, 2 USB 2.0 Type A	1 USB 2.0, 2 USB 3.2	2 USB 2.0, 2 USB 3.2
	Display	2 DP++	1 Mini DP++	1 VGA/DVI-D, 2 Mini-DP/Micro-HDMI
	DIO	-	8-bit DIO via DB-9 port	8-bit DIO via DB-9 port
	Buttons	Reset Button	Power Button	Power Button
	Antenna	-	2 Holes	2 Holes
	Audio	Line-out, Microphone	-	Line-out, Mic-in
Power		5V/15W	12V DC-in	9~36V DC-in
Cooling		Fanless	Fanless	Fanless
OS Support		Win10 IoT, Linux	Win10 IoT, Linux, Linux Yocto	Win10 IoT, Linux, Linux Yocto
Mechanism	Construction	Aluminum + Metal	Sheet Metal	Aluminum
	Mounting	Wall Mount	Wall/Din Rail Mount	Wall/VESA/Din Rail Mount (available upon request.)
	Dimensions (W x H x D)	83 x 47 x 62mm	127 x 42 x 80.4mm	161 x 35.1 x 108.2mm
Environment	Operating Temp.	0°C~50°C	-20°C~60°C with 0.7m/s Air Flow	-20°C~60°C, -40°C~70°C (Wide-temp sku only) with 0.4m/s Air Flow

# Ultra Compact Fanless PC



Model Name		EC700-AL	EC700-BT	EC90A-GH	EC900-QCS
Platform		Atom	Atom	AMD	ARM
System	Processor	Intel® Atom® Processor E3900	Intel® Atom® Processor E3800	AMD® Ryzen™ Embedded R1000 Series	QCS6490 Qualcomm® Kryo™ 670, 8 cores, up to 2.7 GHz, 12 TOPS (INT8)
	Socket	BGA 1296	BGA 1170	BGA1140	-
	Max. Speed	1.8~2.5GHz	1.33~2.41GHz	2.6~3.5GHz	2.7 GHz
	CPU TDP	6/9/10/12W	4.3/6/10W	up to 12W	-
	Cache	2M	1/2M	1M	-
	Chipset	-	-	-	-
	BIOS	AMI SPI 128Mbit (support UEFI/legacy mode)	AMI SPI 64Mbit	AMI SPI 64bit	-
Memory	Technology	Dual Channel DDR3L 1866MHz	Single Channel DDR3L 1066/1333MHz	Single DDR4 2400MHz	LPDDR5x, 4/8GB
	Max. Capacity	2/4/8GB	2/4GB	up to 8GB	-
	Socket	Memory Onboard, 1 SODIMM	ECC/non-ECC Memory Onboard	Memory onboard	-
Storage		eMMC (Opt.), 1 x 2.5" SATA bay, 1 Full mSATA	1x 2.5" SATA 2.0 Drive Bay, 1 mSATA, eMMC Onboard (Opt.), microSD (Opt.)	eMMC up to 128GB	Support UFS 3.1, default 128GB 1 x uSD3.0 card
Expansion	PCIe, PCI, Mini PCIe	1 Full mPCIe	2 Full mPCIe, 1 Half mPCIe	1 Full mPCIe	-
	M.2	1 M.2 2230 E Key	-	-	1 x M.2 B key 3052 (USB 3.1/ Opt. USB 2.0) 1 x M.2 E key 2230 (PCIe x1)
	SIM	1 Nano SIM	1	-	1 x Nano SIM slot
Audio	Audio Codec	Realtek ALC262	-	-	-
Ethernet	Controller	2 or 4 Intel® I210	2 Intel® I210	1 Intel® I211AT or 1 Intel® I210IT (Opt.)	AX88179A USB3 to GbE controller
LED	Indicators	Power, Status LED	Status, HDD LED	Power status	1 x Status LED
I/O	Ethernet	2/4 GbE	2 GbE	1 GbE	1 GbE
	Serial	4 RS-232/422/485	4 RS-232/422/485	Combo Port : 2 RS232 (or 8-bit DIO + 1 SMBus)	1 x RS-232
	USB	4/2 USB 3.0	4 USB 2.0, 1 USB 3.0	1 USB 3.2 Gen2 type C	2 x USB 3.1 Gen1 Type A 3 x USB 2.0 1 x USB Type C (Download only)
	Display	1 DP/VGA, 1 DP/HDMI combo (auto detect)	1 HDMI + 1 VGA or 1 DVI-I	2 Micro HDMI 1.4	1 x HDMI 1.4
	DIO	8-bit DIO via DB-9 port (Opt.)	8-bit DIO via DB-9 port	Combo Port : 8-bit DIO (or 2 RS232)	8 bit DIO
	Buttons	Power, Reset Button	Power, Reset Button	-	-
	Antenna	3 Holes	3 Holes	2 Holes (LTE or WiFi)	3 x Antenna Holes
	Audio	-	-	-	-
Power		9~36V DC-in	9~36V DC-in	12V DC-in	5V DC-in
Cooling		Fanless	Fanless	Fanless	-
OS Support		Win10 IoT, Win7, Linux	Win7, WES 7, Win8, WES 8, Win8.1, Win10, Linux	Win10 IoT, Ubuntu	Ubuntu 20.04 (Linux Kernel 5.4.233)
Mechanism	Construction	Aluminum + Metal	Aluminum + Metal Aluminum	Aluminum + Metal	Sheet Metal
	Mounting	Wall/VESA/Din Rail Mount (available upon request.)	Wall/VESA/Din Rail Mount	Wall/VESA Mount	DIN Rail Mount
	Dimensions (W x H x D)	180 x 33 x 127.8mm	180 x 33 x 121.2mm	112.29 x 80 x 56.20 mm	145 x 34 x 96 mm
Environment	Operating Temp.	-20°C~60°C, -40°C~70°C	-20°C~60°C, 0°C~50°C or 0°C~60°C, 0°C~50°C	-20°C~45°C	-20~60°C

# Ultra Compact Fanless PC



Model Name		EC800-QRB	EC900-8MM	EC910-8MM	EC900-FS6
Platform		ARM	ARM	ARM	ARM
System	Processor	Qualcomm® QRB5165, Kryo 585 CPU, up to 2.84 GHz	i.MX 8M Mini Processor	i.MX 8M Mini Processor	NXP i.MX 6 Series Processor
	Socket	-	BGA type	BGA type	21x21 BGA
	Max. Speed	2.84 GHz	1.6/1.8GHz	1.6/1.8GHz	1.0GHz
	CPU TDP	-	-	-	-
	Cache	-	-	-	-
	Chipset	-	-	-	-
	BIOS	-	-	-	-
Memory	Technology	POP LPDDR5, 8GB	LPDDR4 die size	LPDDR4 die size	Single Channel DDR3L 1600MHz
	Max. Capacity	-	Default 1GB/4GB, up to 8GB	Default 1GB/4GB, up to 8GB	1/2GB
	Socket	-	Memory Onboard	Memory Onboard	Memory Onboard
Storage		Support UFS 3.1, default 128GB	eMMC up to 64GB, MicroSD	eMMC up to 64GB, MicroSD	4MB NOR Flash, 8GB/16GB eMMC, 1 micro SD
Expansion	PCIe, PCI, Mini PCIe	-	-	-	1 Full mPCIe
	M.2	1 x M.2 B key 3052 (USB3.1, reserve PCIe x1) reference RM502G Quectel 1 x M.2 E key 2230 (PCIe x1) reference QCA6391 Wifi module	1 M.2 2230 E key, 1 M.2 3042/2242 B key	1 M.2 2230 E key, 1 M.2 3042/2242 B key	-
	SIM	1 x Nano SIM slot	1 Nano SIM	1 Nano SIM	-
Audio	Audio Codec	-	-	-	-
Ethernet	Controller	AX88179A USB3 to GbE controller	1 Atheros Ethernet RTL8211, 1 Ethernet	1 Atheros Ethernet RTL8211, 1 Ethernet	1 Atheros Ethernet AR8033-AL1B, 1 Microchip USB to Ethernet LAN7500-ABZJ
LED	Indicators	1 x Power LED	Status LED	Status LED	Status LED
I/O	Ethernet	1 GbE	2 GbE	2 GbE	2 GbE
	Serial	1 x RS232/422/485 (DB9)	1 RS-485, 1 RS-422, 2 RS-232	1 RS-485, 1 RS-422, 2 RS-232	1 RS-485, 1 RS-422, 1 UART
	USB	1 x uSD3.0 slot 2 x USB 3.1 Gen1 (Type A) 1 x USB 2.0 (Type A) 1 x USB 3.1 OTG (Type C) with DP	2 USB 2.0, 1 USB 2.0, 1 OTG USB Type C	2 USB 2.0, 1 USB 2.0, 1 OTG USB Type C	3 USB 2.0 1 OTG USB (Internal)
	Display	1 x HDMI 1.4	1 HDMI	1 HDMI	1 HDMI
	DIO	8-bit DIO	4-bit DIO	4-bit DIO	4-bit DIO
	Buttons	1 x Power button	1 Power reset button	1 Power reset button	1 Power Reset Button
	Antenna	3 x holes for 5G/Antenna	2 Holes	6 Holes	2 Holes
	Audio	-	-	-	-
Power		12V DC-in	9~36V DC-in	9~36V DC-in	9~36V DC-in
Cooling		-	Fanless	Fanless	Fanless
OS Support		Ubuntu 20.04 (Linux Kernel 5.4.2)	Yocto 3.3, Kernel 5.10.72	Yocto 3.3, Kernel 5.10.72	Yocto, Android
Mechanism	Construction	Aluminum + Metal	Sheet Metal	Sheet Metal	Sheet Metal
	Mounting	-	Din Rail Mount	Din Rail Mount	Din Rail Mount
	Dimensions (W x H x D)	161 x 35.1 x 108.2 mm	145 x 34 x 96mm	145 x 40 x 96mm	145 x 34 x 96.4mm
Environment	Operating Temp.	-20~60°C	-5°C~60°C, -40°C~70°C (Opt.)	-5°C~60°C, -40°C~70°C (Opt.)	-20°C~60°C, -40°C~70°C

# Embedded Fanless PC

Advanced Computing Solutions



## Features

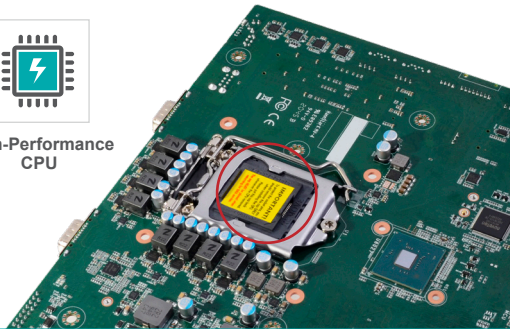
DFI's performance embedded PC series is based on the powerful 9th/8th/7th/6th Gen Intel® Core™ Desktop platform with advanced graphics and computing performance, which are available in solid designs and expansibility. Their high flexibility and reliability will fulfill your various I/O requirements and deliver high computing performance in industry environments.

### Desktop Platforms

9th/8th/7th/6th Gen Intel® Core™ Processor



High-Performance CPU

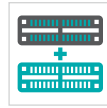


### Customization & Scalability

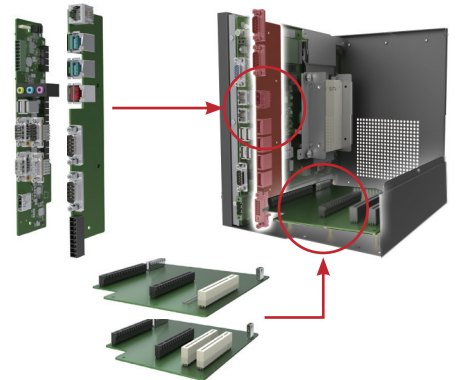
We accept custom-made I/O board on a MOQ basis



Customized I/O Board



Multiple Expansions



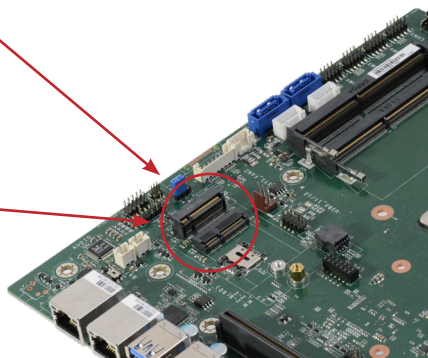
### 5G & Wifi 6 Module



5G



Wifi 6



### Rugged Design



Wide-Temperature



Wide-Voltage





Model Name		EC600-RPS	EC500-ADS	EC510-ADS/EC511-ADS
Platform		Desktop	Desktop	Desktop
System	Processor	14th/13th/12th Gen Intel® Core™ Processor	12th Gen Intel® Core™ Processor	12th Gen Intel® Core™ Processor
	Socket	LGA1700	LGA1700	LGA1700
	Max. Speed	3.3GHz	2.4GHz	2.4GHz
	CPU TDP	35W/65W	35W	35W
	Cache	4/6/12/18/25/30M	4/6/12/18/25/30M	4/6/12/18/25/30M
	Chipset	Intel® H610E/R680E	Intel® H610E/Q670E/R680E	Intel® Q670E
	BIOS	AMI SPI 256Mbit	AMI SPI 128Mbit	AMI SPI 128Mbit
GPU / AI Accelerator Card Support		-	-	-
Memory	Technology	Dual Channel DDR5 4800MHz	Dual Channel DDR4 3200MHz	Dual Channel DDR4 2400/2666MHz
	Max. Capacity	96GB	64GB	64GB
	Socket	2 SODIMM	2 SODIMM	2 SODIMM
Storage		1/2 M.2 2280	2x 2.5" SATA 3.0 Drive Bays, 1 M.2 2280 (Q670E/R680E only)	2x 2.5" SATA 3.0 Drive Bays, 1 M.2 2280
Expansion	PCIe, PCI, Mini PCIe	1 Full mPCIe	-	1 PCI / 1 PCIe x16
	M.2	1 M.2 3042/3052 B key, 1 M.2 2230 E key, 1 M.2 3042 A key, 1/2 M.2 2280 M key	1 M.2 2230 E key, 1 M.2 3042/3052 B key, 1 M.2 2280 M key (Q670E/R680E Only)	1 M.2 2230 E key, 1 M.2 2280 M key, 1 M.2 3042/3052 B key
	SIM	2 SIM	-	-
Audio	Audio Codec	-	Realtek ALC888	Realtek ALC888
Ethernet	Controller	1 Intel® i219LM, 3 Intel® I210IT, 2 Intel® i226IT	2 Intel® I225IT	2 Intel® I225IT
LED	Indicators	Status, HDD LED	Status, HDD LED	Status, HDD LED
I/O	Ethernet	2x 2.5GbE, 4x GbE, 2 GbE + 2 PoE (Opt.)	2 GbE	2 GbE + 4 PoE / 2 GbE + 2 PoE / 6 GbE / 4 GbE / 2 GbE
	Serial	2 RS-232/422/485, 4/8 RS-232	4 RS-232/422/485, 2 RS-232	4/8 RS232/422/485, 2 RS232
	USB	H610E: 3 x USB 3.2 (Gen2x1) 2 x USB 2.0 1 x USB Type-C (Alt. mode) R680E: 5 x USB 3.2 (Gen2x1) 1 x USB Type-C (Alt. mode)	4 USB 3.2, 2 USB 2.0	4/6/10 USB 3.2, 4 USB 2.0
	Display	1 VGA, 1 DP++, 1 HDMI	1 VGA, 2 DP++/HDMI (auto detection)	1 VGA, 2 DP++/HDMI (auto detection)
	DIO	8bits (share with COM1 DB9 connector)	8bits	8/16/32 bits
	Buttons	Power, Reset	Power, Reset	Power, Reset
	Antenna	4 Holes	4 Holes	6 Holes
Audio	N/A	Mic-in, Line-out	Mic-in, Line-out	
Power		9~36V DC-in	9~36V DC-in	9~36V DC-in
Cooling		Fanless (optional with Fan)	Fanless	Fanless
OS Support		Win10 IoT, Win11, Linux(Opt.)	Win10 IoT, Linux (Opt.)	Win10 IoT, Linux (Opt.)
Mechanism	Construction	Metal + Aluminum	Metal + Aluminum	Metal + Aluminum
	Mounting	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	249.5 x 85 x 223 mm	255.3 x 85 x 224 mm	255.3 x 124.6 x 224 mm
Environment	Operating Temp.	CPU TDP 35W: -20°C~70°C CPU TDP 65W: -20°C~50°C	-20°C~70°C	-20°C~60°C



Model Name		EC543-ADS	EC500-CS	EC510/EC511-CS
Platform		Desktop	Desktop	Desktop
System	Processor	12th Gen Intel® Core™ Processor	9th/8th Gen Intel® Core™ Processor	9th/8th Gen Intel® Core™ Processor
	Socket	LGA1700	LGA 1151	LGA 1151
	Max. Speed	2.4GHz	3.1~4.0GHz	3.1~4.0GHz
	CPU TDP	35W	35W	35W
	Cache	4/6/12/18/25/30M	2/4/6/9/12M	2/4/6/9/12M
	Chipset	Intel® Q670E	Intel® H310/Q370/C246	Intel® H310/Q370
	BIOS	AMI SPI 128Mbit	AMI SPI 128Mbit	AMI SPI 128Mbit
GPU / AI Accelerator Card Support		-	MXM 3.1 Type A/B/C: RTX2080, RTX2070	Intel® movidius™ AI accelerator card (Opt.) (EC511)
Memory	Technology	Dual Channel DDR4 3200MHz	Dual Channel DDR4 2666/2400MHz	Dual Channel DDR4 2666/2400MHz
	Max. Capacity	64GB	64GB	64GB
	Socket	2 SODIMM	2 SODIMM	2 SODIMM
Storage		2x 2.5" SATA 3.0 Drive Bays, 1 M.2 2280	2x 2.5" SATA 3.0 Drive Bays, 1 M.2 2280	2x 2.5" SATA 3.0 Drive Bays, 1 M.2 2280
Expansion	PCIe, PCI, Mini PCIe	1 PCIe x16 Gen3, 1 PCIe x4 Gen3, 1 PCIe x1 Gen3, 1 PCI	-	1 PCI or 1 PCIe
	M.2	1 M.2 2230 E key, 1 M.2 2280 M key, 1 M.2 3042/3052 B key	1 M.2 2230 E key, 1 M.2 2280 M key, 1 M.2 3052 B key	1 M.2 2230 E key, 1 M.2 2280 M key, 1 M.2 3042/3052 B key
	SIM	-	-	-
Audio	Audio Codec	Realtek ALC888	Realtek ALC888	Realtek ALC888
Ethernet	Controller	2 Intel® I225IT	1 Intel® I211AT, 1 Intel® I219LM/V	1 Intel® I210AT, 1 Intel® I219LM/V
LED	Indicators	Status, HDD LED	Status, HDD LED	Status, HDD LED
I/O	Ethernet	2 GbE + 4 PoE / 2 GbE + 2 PoE / 6 GbE / 4 GbE / 2 GbE	2 GbE	2 GbE + 4 PoE / 6 GbE / 2 GbE
	Serial	4/8 RS232/422/485, 2 RS232	4 RS-232/422/485, 2 RS-232	4/7 RS-232/422/485, 2 RS-232
	USB	4/6/10 USB 3.2, 4 USB 2.0	4 USB 3.2, 2 USB 2.0	4 USB 3.2 + 4 USB 2.0 / 8 USB 3.2 + 2 USB 2.0
	Display	1 VGA, 2 DP++/HDMI (auto detection)	1 VGA, 1/2 DP++/HDMI (auto detection)	1 VGA, 1/2 DP++/HDMI (auto detection)
	DIO	8/16/32 bits	8bits	8/16 bits
	Buttons	Power, Reset	Power, Reset	Power, Reset
	Antenna	6 Holes	4 Holes	4 Holes
	Audio	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out
Power		9~36V DC-in	9~36V DC-in	9~36V DC-in
Cooling		Fanless	Fanless	Fanless
OS Support		Win10 IoT, Linux (Opt.)	Win10 IoT, Linux (Opt.)	Win10 IoT, Linux (Opt.)
Mechanism	Construction	Metal + Aluminum	Metal + Aluminum	Metal + Aluminum
	Mounting	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	255.3 x 195 x 221.1 mm	255.3 x 85 x 224mm	255.3 x 124.6 x 224mm
Environment	Operating Temp.	-20°C~60°C	-20°C~70°C	-20°C~60°C

## Embedded Fanless PC



Model Name		EC543-CS	ES220-CS	ES220F-CS
Platform		Desktop	Desktop	Desktop
System	Processor	9th/8th Gen Intel® Core™ Processor	9th/8th Gen Intel® Core™ Processor	9th/8th Gen Intel® Core™ Processor
	Socket	LGA 1151	LGA 1151	LGA 1151
	Max. Speed	3.1~4.0GHz	2.9GHz~4GHz	2.9GHz~4GHz
	CPU TDP	35W	35W	35W
	Cache	2/4/6/9/12M	2/4/6/9/12M	2/4/6/9/12M
	Chipset	Intel® Q370	Intel® C246/Q370/H310	Intel® C246/Q370/H310
	BIOS	AMI SPI 128Mbit	Insyde SPI 128Mbit	Insyde SPI 128Mbit
GPU / AI Accelerator Card Support		Intel® movidius™ AI accelerator card (Opt.)	-	-
Memory	Technology	Dual Channel DDR4 2666/2400MHz	Dual Channel DDR4 2666MHz (C246 support ECC)	Dual Channel DDR4 2666MHz (C246 support ECC)
	Max. Capacity	64GB	64GB	64GB
	Socket	2 SODIMM	2 SODIMM	2 SODIMM
Storage		2x 2.5" SATA 3.0 Drive Bays, 1 M.2 2280	2x 2.5" SATA bay (Opt.), 1 M.2 2280	2x 2.5" SATA bay (Opt.), 1 M.2 2280
Expansion	PCIe, PCI, Mini PCIe	1 PCI, 1 x PCIe x16 Gen3, 1 x PCIe x4 Gen3, 1 x PCIe x1 Gen3	-	-
	M.2	"1 M.2 2230 E key, 1 M.2 2280 M key, 1 M.2 3042/3052 B key"	1 M.2 2280 M key, 1 M.2 2230 E key	1 M.2 2280 M key, 1 M.2 2230 E key
	SIM	-	-	-
Audio	Audio Codec	Realtek ALC888	-	-
Ethernet	Controller	1 Intel® I210AT, 1 Intel® I219LM	2 Intel® I219/I210IT	2 Intel® I219/I210IT
LED	Indicators	Status, HDD LED	Power, HDD LED	Power, HDD LED
I/O	Ethernet	2 GbE + 4 PoE / 6 GbE / 2 GbE	2 GbE	2 GbE
	Serial	4/7 RS-232/422/485, 2 RS-232	2 RS-232/422/485 / 1 RS-232/422/485 + 8-bit DIO	2 RS-232/422/485 / 1 RS-232/422/485 + 8-bit DIO
	USB	4 USB 3.2 + 4 USB 2.0 / 8 USB 3.2 + 2 USB 2.0	4 USB 3.2, 2 USB 2.0	4 USB 3.2, 2 USB 2.0
	Display	1 VGA, 2 DP++/HDMI (auto detection)	2 HDMI	2 HDMI
	DIO	8/16 bits	8-bit DIO	8-bit DIO
	Buttons	Power, Reset	Reset, Power Button	Reset, Power Button
	Antenna	4 Holes	2 Holes	2 Holes
	Audio	Mic-in, Line-out	-	-
Power		9~36V DC-in	12V DC-in	12V DC-in
Cooling		Fanless	Active Fan	Fanless
OS Support		Win10 IoT, Linux (Opt.)	Win10 IoT, Win10 Professional	Win10 IoT, Win10 Professional
Mechanism	Construction	Metal + Aluminum	Metal + Aluminum	Metal + Aluminum
	Mounting	Wall Mount	Wall mount / VESA mount (Opt.)	Wall mount / VESA mount (Opt.)
	Dimensions (W x H x D)	255.3 x 195 x 224mm	175 x 48.5 x 120mm / 175 x 73.5 x 120mm	175 x 69.4 x 120mm / 175 x 90.4 x 120mm
Environment	Operating Temp.	-20°C~60°C	-5°C~45°C	-5°C~45°C / -20°C~60°C



Model Name		EC500-KH	EC510/EC511-KH	EC531/EC532-KH
Platform		Mobile	Mobile	Mobile
System	Processor	7th Gen Intel® Core™ Processor	7th Gen Intel® Core™ Processor	7th Gen Intel® Core™ Processor
	Socket	BGA 1440	BGA 1440	BGA 1440
	Max. Speed	2.1~4.2GHz	2.1~4.2GHz	2.1~4.2GHz
	CPU TDP	25/35/45W	25/35/45W	25/35/45W
	Cache	3/6/8M	3/6/8M	3/6/8M
	Chipset	Intel® CM238/QM175	Intel® CM238/QM175	Intel® CM238/QM175
	BIOS	Insyde SPI 128Mbit	Insyde SPI 128Mbit	Insyde SPI 128Mbit
GPU / AI Accelerator Card Support		-	Intel® movidius™ AI accelerator card (Opt.) (EC511)	Intel® movidius™ AI accelerator card (Opt.)
Memory	Technology	Dual Channel DDR4 2400MHz	Dual Channel DDR4 2400MHz	Dual Channel DDR4 2400MHz
	Max. Capacity	32GB	32GB	32GB
	Socket	2 SODIMM (CM238 supports ECC)	2 SODIMM (CM238 supports ECC)	2 SODIMM (CM238 supports ECC)
Storage		1x 2.5" SATA 3.0 Drive Bay, 1 CFast, 1 M.2 2280	2x 2.5" SATA 3.0 Drive Bay, 1 M.2 2280	2x 2.5" SATA 3.0 Drive Bay, 1 M.2 2280
Expansion	PCIe, PCI, Mini PCIe	2 Full mPCIe	1 PCI / 1 PCIe x16, 1 Full mPCIe, 1 Full/Half mPCIe	1 PCIe x16 + 2 PCI / 2 PCIe x16 + 1 PCI, 1 Full mPCIe, 1 Full/Half mPCIe
	M.2	1 M.2 2280 M Key	1 M.2 2280 M key	1 M.2 2280 M key
	SIM	2 Micro-SIM	2 Micro-SIM	2 Micro-SIM
Audio	Audio Codec	Realtek ALC262	Realtek ALC262	Realtek ALC262
Ethernet	Controller	1 Intel® I211AT, 1 Intel® I219LM	4 Intel® I210IT, 1 Intel® I211IT, 1 Intel® I219LM	1 Intel® I211AT, 1 Intel® I219LM
LED	Indicators	Power, Status, HDD LED	Power, HDD LED	Power, HDD LED
I/O	Ethernet	2 GbE	6 GbE / 2 GbE + 4 PoE	2 GbE
	Serial	4 RS-232/422/485	5 RS-232/422/485	8 RS-232/422/485
	USB	4 USB 3.2, 2 USB 2.0	4 USB 3.2, 2 USB 2.0	8 USB 3.2, 2 USB 2.0
	Display	1 VGA, 1 HDMI/DVI (DVI-D signal), 1 HDMI/DP	1 VGA, 1 HDMI/DVI (DVI-D signal), 1 HDMI/DP	1 VGA, 1 HDMI/DVI (DVI-D signal), 1 HDMI/DP
	DIO	-	16-bit DIO	-
	Buttons	Reset, Power Button	Reset, Power Button	Reset, Power Button
	Antenna	3 Holes	4 Holes	3 Holes
	Audio	Line-out, Mic-in(Opt.)	Line-out, Mic-in(Opt.)	Line-out, Mic-in(Opt.)
Power		9~36V DC-in	9~36V DC-in	9~36V DC-in
Cooling		Fanless	Fanless	Fanless
OS Support		Win10 IoT, Linux	Win10 IoT, Linux	Win10 IoT, Linux
Mechanism	Construction	Metal + Aluminum	Metal + Aluminum	Metal + Aluminum
	Mounting	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	235 x 60.89 x 222mm	235 x 102.5 x 221.2mm	235 x 153.8 x 222.1mm
Environment	Operating Temp.	0°C~50°C (HDD), -20°C~60°C (SSD), -40°C~70°C (Opt.)	0°C~50°C (HDD), -20°C~60°C (SSD), -40°C~70°C (Opt.)	0°C~50°C (HDD), -20°C~60°C (SSD), -40°C~70°C (Opt.)

## Embedded Fanless PC



Model Name		EC500-SD	EC510/EC511-SD	EC531/EC532-SD
Platform		Desktop	Desktop	Desktop
System	Processor	7th/6th Gen Intel® Core™ Processor	7th/6th Gen Intel® Core™ Processor	7th/6th Gen Intel® Core™ Processor
	Socket	LGA 1151	LGA 1151	LGA 1151
	Max. Speed	2.7~3.8GHz	2.7~3.8GHz	2.7~3.8GHz
	CPU TDP	35W	35W	35W
	Cache	3/4/6/8M	3/4/6/8M	3/4/6/8M
	Chipset	Intel® Q170	Intel® Q170	Intel® Q170/H110
	BIOS	Insyde SPI 128Mbit	Insyde SPI 128Mbit	Insyde SPI 128Mbit
GPU / AI Accelerator Card Support		-	Intel® movidius™ AI accelerator card (Opt.) (EC511)	Intel® movidius™ AI accelerator card (Opt.)
Memory	Technology	Dual Channel DDR4 1866/2133MHz	Dual Channel DDR4 1866/2133MHz	Dual Channel DDR4 1866/2133MHz
	Max. Capacity	32GB	32GB	32GB
	Socket	2 SODIMM	2 SODIMM	2 SODIMM
Storage		1x 2.5" SATA 3.0 Drive Bay, 1 mSATA-mini, 1 CFast	2x 2.5" SATA 3.0 Drive Bay, 1 mSATA-mini	2x 2.5" SATA 3.0 Drive Bay, 1 mSATA-mini
Expansion	PCIe, PCI, Mini PCIe	1 Full mPCIe, 1 Half mPCIe	1 PCI / 1 PCIe x16, 1 Full mPCIe, 1 Half mPCIe	2 PCI + 1 PCIe x16 / 1 PCI + 2 PCIe x16, 1 Full mPCIe, 1 Half mPCIe
	M.2	-	-	-
	SIM	-	-	-
Audio	Audio Codec	Realtek ALC888	Realtek ALC888	Realtek ALC888
Ethernet	Controller	1 Intel® I211AT, 1 Intel® I219LM	1 Intel® I211AT, 4 Intel® I210IT, 1 Intel® I219LM	1 Intel® I211AT, 1 Intel® I219LM/V
LED	Indicators	Power, HDD LED	Power, HDD LED	Power, HDD LED
I/O	Ethernet	2 GbE	2 GbE + 4 PoE / 6 GbE	2 GbE
	Serial	4 RS-232/422/485	3 RS-232/422/485	6 RS-232/422/485
	USB	2 USB 2.0, 4 USB 3.2	4 USB 3.2	8 USB 3.2
	Display	1 VGA, 1 DVI (DVI-D signal), 1 HDMI/DP	1 VGA, 1 DVI (DVI-D signal), 1 HDMI/DP	1 VGA, 1 DVI (DVI-D signal), 1 HDMI/DP
	DIO	-	16-bit DIO	8-bit DIO
	Buttons	Reset, Power Button	Reset, Power Button	Reset, Power Button
	Antenna	2 Holes	4 Holes	3 Holes
	Audio	Mic-in, Line-out	Mic-in, Line-out	Mic-in, Line-out
Power		9~36V DC-in	9~36V DC-in	9~36V DC-in
Cooling		Fanless	Fanless	Fanless
OS Support		Win7, Win8.1, Win10	Win7, Win8.1, Win10	Win7, Win8.1, Win10
Mechanism	Construction	Aluminum + SGCC	Aluminum + SGCC	Aluminum + SGCC
	Mounting	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	235 x 63.2 x 221.2mm	235 x 102.5 x 222mm	235 x 153.8 x 222mm
Environment	Operating Temp.	0°C~50°C	0°C~50°C	0°C~50°C

# Embedded Fanless PC



Model Name		EC220/EC221-BT	EC210-BT	EC200-BT
Platform		Atom		
System	Processor	Intel® Atom® Processor E3800		
	Socket	BGA 1170		
	Max. Speed	1.91GHz		
	CPU TDP	10W		
	Cache	2M		
	Chipset	-		
	BIOS	AMI SPI 64Mbit		
GPU / AI Accelerator Card Support		-		
Memory	Technology	Dual Channel DDR3L 1333MHz		
	Max. Capacity	8GB		
	Socket	2 SODIMM		
Storage		1/2x 2.5" SATA 2.0 Drive Bay, 1 mSATA (via full mPCIe)		
Expansion	PCIe, PCI, Mini PCIe	2 PCI / 1 PCI + 1 PCIe x16, 1 Full mPCIe		1 Full mPCIe
	M.2	-		
	SIM	-		
Audio	Audio Codec	Realtek ALC888		
Ethernet	Controller	2 Intel® I210AT		
LED	Indicators	Power, HDD, Alert LED		
I/O	Ethernet	2 GbE		2
	Serial	4/8 RS-232/422/485, 2 RS-232		4/8 RS-232/422/485, 2 RS-232
	USB	1 USB 3.2, 5/7 USB 2.0		1 USB 3.2, 5/7 USB 2.0
	Display	1 VGA, 1 DVI-D (by model)		1 VGA, 1 DVI-D (by model)
	DIO	8-bit DIO / 16-bit DIO / 0		8-bit DIO / 16-bit DIO / 0
	Buttons	Power, Reset Button		Power, Reset Button
	Antenna	2 Holes		2 Holes
	Audio	1 Speaker-out		1 Speaker-out
Power		9~36V DC-in		9~36V DC-in
Cooling		Fanless		
OS Support		Win7, WES7, Win8.1, WES8, Linux (Opt.)		Win7, WES7, Win8.1, WES8, Win10, Linux (Opt.)
Mechanism	Construction	Aluminum + SGCC		
	Mounting	Wall/VESA mount		
	Dimensions (W x H x D)	275 x 114 x 203 mm		275 x 59 x 203mm
Environment	Operating Temp.	0°C~55°C / 0°C~50°C		0°C~55°C / 0°C~50°C / -10°C~70°C

# AI Inference/ Training System

GPU & High Performance CPU



## Actual AI applications are often composed of several AIs

In real-world scenarios, AI applications are rarely singular in function. Instead, they are composed of multiple AI models working together to process complex data streams, perform predictive analytics, and enhance automation. From machine vision and natural language processing to industrial anomaly detection, integrating several AI models into a single system is essential for achieving comprehensive intelligence. The challenge lies in efficiently managing these AI models within an edge computing environment, ensuring seamless execution without performance bottlenecks.

### Currently Available: X6-MTH-ORN

DFI's X6-MTH-ORN is designed as a highly flexible AI computing platform, capable of supporting multiple AI ecosystems within a single, compact industrial system. With its robust architecture and compatibility with leading AI accelerators such as NVIDIA, Intel, HAILO, and DeepX, the X6-MTH-ORN eliminates the need for multiple dedicated AI boxes. This refined approach reduces hardware redundancy, lowers costs, and simplifies system integration, allowing businesses to deploy and scale AI applications with minimal effort. By providing a unified platform for diverse AI workloads, the X6-MTH-ORN enhances adaptability in industrial environments.



X6-MTH-ORN

### Automated Optical Inspection



## DFI Product x PEG

With a dedicated graphics card installed, the system enjoys maximum performance in both graphics and AI computing. Discrete graphics cards typically have more than an adequate number of cores and a higher bandwidth, as well as a large amount of video memory to handle both large-scale deep learning and high-intensity AI operations. To match the performance of the discrete graphics card, the powerful CPU is nothing but the must for I/O expandability and general-purpose applications.



RM645-SO630



RM646-ERX810

### Automation and Flaw Analysis



Powers the same performance as its discrete counterpart, the MXM module allows more flexibility in layout, from size, weight to heat dissipation, achieves a more compact system. Systems with MXM module also enjoys the possibility of future upgrades and has no worries about the overall solution layout.

Supported MXM-compliant module: NVIDIA



EC300-CS



Driver Assistance



CPU+NPU

Intel



EB100-MTU  
Ultra Core NUC



X6-MTH  
Ultra Core



EC700-ADN  
Alder Lake N with M.2 Hailo

AMD



EC90A-GH  
R1000

Qualcomm



EC800-QRB  
RB5



EC900-QCS  
QCS6490

MXM

Type A



EC180-CS  
60W MXM



X6-MTH-MXM  
60W MXM

Type B / B+ / C



DT200-CS  
115W MXM



EC300-CS  
150W MXM



VC500-CMS-MXM  
150W MXM

NVIDIA Jetson

ORIN



X6-ORN  
ORIN NX or Nano

Xavier



EC102-XNX  
Xavier NX



EC100-XNX  
Xavier NX

PCI Express GPU Card

Expandable



EC622-RPS  
4.4"H x 6.6"L



EC633-RPS  
4.4"H x 9.5"L



EC633D-RPS  
4.4"H x 10.5"L  
or longer



RM641  
4.4"H x 10.5"L  
or longer



RM645  
4.4"H x 10.5"L  
or longer



WM130  
4.4"H x 6.6"L



WM343  
4.4"H x 9.5"L



WM646  
4.4"H x 9.5"L



RM646  
4.4"H x 10.5"L  
or longer



RM840  
4.4"H x 10.5"L  
or longer



## AI Inference / Training System



Model Name		EC622-RPS	EC633-RPS	EC633D-RPS
Platform		Desktop	Desktop	Desktop
System	Processor	14th/13th/12th Gen Intel® Core™ Processor	14th/13th/12th Gen Intel® Core™ Processor	14th/13th/12th Gen Intel® Core™ Processor
	Socket	LGA1700	LGA1700	LGA1700
	Max. Speed	1.1~5.2GHz	1.1~5.2GHz	1.1~5.2GHz
	CPU TDP	35/46/60/65W	35/46/60/65W	35/46/60/65W
	Cache	4/6/12/18/20/24/25/30/33/36M	4/6/12/18/20/24/25/30/33/36M	4/6/12/18/20/24/25/30/33/36M
	Chipset	Intel® R680E	Intel® R680E	Intel® R680E
	BIOS	AMI SPI 256Mbit	AMI SPI 256Mbit	AMI SPI 256Mbit
GPU / AI Accelerator Card Support		-	-	-
Memory	Technology	Dual Channel DDR5 4800MHz	Dual Channel DDR5 4800MHz	Dual Channel DDR5 4800MHz
	Max. Capacity	64GB	64GB	64GB
	Socket	2 SODIMM	2 SODIMM	2 SODIMM
Storage		2 M.2 2280 M key	2 M.2 2280 M key	2 M.2 2280 M key
Expansion	PCIe, PCI, Mini PCIe	1 Full mPCIe, 1 PCIe x16 (PCIe x16 slot), 1 PCIe x4 (PCIe x8 slot)	1 Full mPCIe, 1 PCIe x8 (PCIe x16 slot), 1 PCIe x8 (PCIe x8 slot), 1 PCIe x4 (PCIe x8 slot)	1 Full mPCIe, 1 PCIe x8 (PCIe x16 slot), 1 PCIe x8 (PCIe x8 slot), 1 PCIe x4 (PCIe x8 slot)
	M.2	1 M.2 2280 M key (SATA/PCIe x4), 1 M.2 2280 M key, 1 M.2 3042/3052 B key, 1 M.2 2230 E key, 1 M.2 3042 A key	1 M.2 2280 M key, 1 M.2 2280 M key, 1 M.2 3042/3052 B key, 1 M.2 2230 E key, 1 M.2 3042 A key	1 M.2 2280 M key, 1 M.2 2280 M key, 1 M.2 3042/3052 B key, 1 M.2 2230 E key, 1 M.2 3042 A key
	SIM	2 Nano SIM	2 Nano SIM	2 Nano SIM
Audio	Audio Codec	-	-	-
Ethernet	Controller	1 Intel® i219LM, 3 Intel® I210IT, 2 Intel® i226IT	2 Intel® I226IT, 1 Intel® I219LM, 3 Intel® I210IT	2 Intel® I226IT, 1 Intel® I219LM, 3 Intel® I210IT
LED	Indicators	Status, HDD LED	Status, HDD LED	Status, HDD LED
I/O	Ethernet	4 GbE, 2 2.5GbE or 2 GbE, 2 2.5GbE, 2 PoE (Opt.)	4 GbE, 2 2.5GbE or 2 GbE, 2 2.5GbE, 2 PoE (Opt.)	4 GbE, 2 2.5GbE or 2 GbE, 2 2.5GbE, 2 PoE (Opt.)
	Serial	1 RS-232/422/485/DIO, 8 RS-232	2 RS-232/422/485/DIO, 8 RS-232	2 RS-232/422/485/DIO, 8 RS-232
	USB	5 USB 3.2 Gen2, 1 Type-C	5 USB 3.2 Gen2, 1 Type-C	5 USB 3.2 Gen2, 1 Type-C
	Display	1 VGA, 1 DP++, 1 HDMI	1 VGA, 1 DP++, 1 HDMI	1 VGA, 1 DP++, 1 HDMI
	DIO	8bits (share with COM1 DB9 connector)	8bits (share with COM1 DB9 connector)	8bits (share with COM1 DB9 connector)
	Buttons	Power, Reset	Power, Reset	Power, Reset
	Antenna	4 Holes	4 Holes	4 Holes
	Audio	-	-	-
Power		9~36V DC-in	9~36V DC-in	9~36V DC-in
Cooling		Fan	Fan	Fan
OS Support		Win10 IoT, Win11, Linux(Opt.)	Win10 IoT, Win11, Linux(Opt.)	Win10 IoT, Win11, Linux(Opt.)
Mechanism	Construction	Metal + Aluminum	Metal + Aluminum	Metal + Aluminum
	Mounting	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	249.5 x 120 x 223mm	249.5 x 193 x 275mm	249.5 x 193 x 342mm
Environment	Operating Temp.	CPU TDP 35W: -20°C ~ 70°C CPU TDP 65W:-20°C ~ 50°C	CPU TDP 35W: -20°C ~ 70°C CPU TDP 65W:-20°C ~ 50°C	CPU TDP 35W: -20°C ~ 70°C CPU TDP 65W:-20°C ~ 50°C



Model Name		EC180-CS	DT200-CS	EC300-CS
Platform		Desktop	Desktop	Desktop
System	Processor	9th/8th Gen Intel® Core™ Processor	9th/8th Gen Intel® Core™ Processor	9th/8th Gen Intel® Core™ Processor
	Socket	LGA 1151 Socket	LGA 1151 Socket	LGA 1151
	Max. Speed	3.1GHz~4.0GHz	3.1GHz~4.6GHz	1.8~2.6GHz
	CPU TDP	35W	35W	35/65W
	Cache	6~12MB	6~12MB	9/12M
	Chipset	Intel® H310/Q370	Intel® H310/Q370	Intel® Q370
	BIOS	AMI SPI 128Mbit (supports UEFI/Legacy mode)	AMI SPI 128Mbit (supports UEFI/Legacy mode)	AMI SPI 128Mbit
GPU / AI Accelerator Card Support		1 MXM 3.1 slot, Type-A/B up to 60W	1 MXM 3.1 slot, Type-A/B up to 110W	MXM Type A, B, C on x16 PCIe 3.0
Memory	Technology	DDR4 2400/2666MHz	DDR4 2400/2666MHz	Dual Channel DDR4 2666/2400MHz
	Max. Capacity	64GB	up to 64GB	64GB
	Socket	2 SODIMM	2 SODIMM	2 SODIMM
Storage		1x SATA 3.0 connector for 1 x 2.5" SSD, 1 M.2 2242/2280 (Q370)	1x SATA 3.0 connector for 1 x 2.5" SSD, 1 M.2 2242/2280	4 Swappable 2.5" SSD Storage Bays, 1 M.2 2280
Expansion	PCIe, PCI, Mini PCIe	-	-	1 Half mPCIe, 2 Full mPCIe
	M.2	1 M.2 2242/2280 M key, 1 M.2 3052 B key, 1 M.2 2230 E key	1 M.2 2242/2280 M key, 1 M.2 3052 B key, 1 M.2 2230 E key	1 M.2 3042/3052 B Key, 1 M.2 2280 M Key
	SIM	-	-	3 SIM
Audio	Audio Codec	Realtek ALC888S	Realtek ALC888S	Realtek ALC888
Ethernet	Controller	1 Intel® I219V/LM, 3 Intel® I210AT	1 x Intel® I219LM, 3 x Intel® I210AT	5 Intel® I210IT, 1 Intel® I219LM
LED	Indicators	PWD, HDD LED	PWD, HDD LED	Power, Storage, POE LED
I/O	Ethernet	4 GbE	4 GbE	2 GbE, 4 POE
	Serial	2 RS-232/422/485	2 RS-232	2 RS-232/422/485 (DB9), 2 RS-232/422/485 onboard
	USB	4 USB 3.2	4 USB 3.2, 6 USB 2.0	4 USB 3.2, 2 USB 2.0
	Display	1 DP/HDMI (auto-detection), 4 DP (from MXM)	1 HDMI (auto-detection), 4 DP (from MXM)	1 VGA, 1 HDMI, 1 DP++
	DIO	-	-	1 DB-9 8 bit isolated DI, 1 DB-9 8 bit isolated DO
	Buttons	Power	Power	Power, Reset
	Antenna	6 holes	6 holes	7 holes
Audio	Line-out, Mic-in	Line-out, Mic-in	Line-out, Mic-in	
Power		19V DC-in	19V DC-in	12V DC-in
Cooling		Fanless	Fan	Fanless
OS Support		Win10 IoT, Linux	Win10 IoT, Linux	Win10 IoT, Linux Ubuntu
Mechanism	Construction	Aluminum + SGCC	Aluminum + SGCC	Metal + Aluminum
	Mounting	Wall mount (mounting brackets and screws)	Wall mount (mounting brackets and screws)	Wall Mount
	Dimensions (W x H x D)	250 x 180 x 76 mm (not include wall mount bracket)	320 x 220 x 87 mm (not include wall mount bracket)	340.5 x 132 x 223 mm
Environment	Operating Temp.	0°C~45°C	0°C~55°C	-20°C~70°C / -20°C~55°C

## AI Inference / Training System



Model Name		RM645-SO630	RM645-ICX610	RM840-PR810
Platform		AMD	Server-Grade	Rackmount Box PC
System	Processor	AMD® EPYC™ 3000 Series	3rd Gen Intel® Xeon® Scalable Processor Family	2nd/1st Gen Intel® Xeon® Scalable Processor Family
	Socket	BGA	LGA 4189	LGA 3647
	Max. Speed	3.0GHz	up to 3.6GHz(Turbo)	3.0~3.9GHz
	CPU TDP	Max. 100W	Max. 205W	70/85/105/125/150W
	Cache	Max. 32MB	Max 48M	11/13.75/16.5/19.25/22/24.75/27.5/30.25/35.75M
	Chipset	-	Intel® C621A	Intel® C622
	BIOS	Insyde	Insyde SPI 128Mbit	Insyde SPI 256Mbit
GPU / AI Accelerator Card Support		-	-	-
Memory	Technology	DDR4 2666 MHz	DDR4 Max. 3200MHz	Single Channel DDR4 2133/2400/2666/2933 MHZ
	Max. Capacity	256GB	512GB	384GB
	Socket	8 RDIMM/UDIMM	8 ECC-RDIMM	12 RDIMM
Storage		5 SATA 3.0, 1 M.2 2280 M Key, 1 M.2 2280 M Key	6 SATA 3.0, 1 M.2 2280 M key	2x 5.25" (1x 2.5"), 1x 3.5" (1x 2.5"), 1 M.2 2280
Expansion	PCIe, PCI, Mini PCIe	3 PCIe x16 (up to 6 PCIe x8), 1 PCI	3 PCIe x16, 3 PCIe x8	4 PCIe x16 Gen3 , 1 PCIe x8 Gen3 , 1 x PCI, 1 M.2 2280 M key
	M.2	1 M.2 2280 M Key, 1 M.2 2280 M Key	1 M.2 M key 2280	1 BMC Module slot for SEM2500/2510 (IPMI), 1 100GbE slot (x4 + x8)
	SIM	-	-	-
Audio	Audio Codec	-	ALC888S	Realtek ALC888
Ethernet	Controller	2 Intel® i210AT	2 Intel® I210AT, 2 Intel® x550-AT2, IPMI: RTL8211F	2 Intel® I210AT, 1 Intel® x557-AT2
LED	Indicators	Power, HDD LED	Power, HDD LED	Power, HDD LED
I/O	Ethernet	2 GbE	2x GbE, 2x 10GbE, 1 IPMI LAN	2 GbE, 2 10GbE x557-AT2, IPMI 2.0: 1 share w/ i210AT (Opt.)
	Serial	1 RS-232/422/485, 1 RS-232	1 RS-232	1 RS-232
	USB	6 USB 3.2 Gen1	4 USB 3.2, 2 USB 2.0	4 USB 3.2, 2 USB 2.0
	Display	-	1 VGA (Opt.)	1 VGA (Opt.)
	DIO	-	-	-
	Buttons	Power Button	Power Button	Power, Reset
	Antenna	-	-	-
Audio	-	Front Audio	Line-out, Mic-in	
Power		ATX PS/2 or Mini Redundant PSU	ATX PS/2 or Mini Redundant PSU	ATX PS/2 Power Supply 650W
Cooling		2 12cm Fan	2 12cm Fan	2 Fans (90mm = 51CFM)
OS Support		Win10, Windows Server 2019, Linux (Opt.)	Win10 IoT, Windows Server 2019, Linux Ubuntu	Win 10 IoT, Windows Server 2016 & 2019, Linux
Mechanism	Construction	Heavy Industrial Steel	Heavy Industrial Steel	Heavy Industrial Steel
	Mounting	Flexible hold down bar	Flexible hold down bar	Flexible Hold Down Bar
	Dimensions (W x H x D)	481.6 x 175.6 x 470.8 mm	481.6 x 175.6 x 470.8 mm	483 x 177 x 510 mm
Environment	Operating Temp.	0°C ~ 40°C	0°C ~ 40°C	0°C~40°C



Model Name		X6-MTH-ORN	X6-MTH-MXM	EB100-MTU	EC70A-MTH
Platform		-	-	ULT	ULT
System	Processor	Intel® Core™ Ultra Processor	Intel® Core™ Ultra Processor	Intel® Core™ Ultra Processor	14th Gen Intel® Core™ Processor
	Socket	BGA 2049	BGA 2049	BGA2049	FCBGA2049
	Max. Speed	1.3~1.7GHz	1.3~1.7GHz	1.3~1.7GHz	1.3~3.8GHz
	CPU TDP	15W	15W	12/28W	15W(Fanless), 28W(w/Fan)
	Cache	12M	12M	12M	12/18/24MB
	Chipset	-	-	-	-
	BIOS	AMI SPI	AMI SPI	AMI SPI 256Mbit	AMI SPI 256Mbit
GPU / AI Accelerator Card Support		Nvidia Orin NX, Nvidia Orin Nano	Type A MXM	-	-
Memory	Technology	Dual Channel DDR5 5600MHz	Dual Channel DDR5 5600MHz	Dual Channel DDR5 4800MHz	Dual Channel LPDDR5
	Max. Capacity	64GB	64GB	64GB	32GB
	Socket	2 SO-DIMM	2 SO-DIMM	2 SODIMM	memory on board
Storage		1 on board SSD up to 1024GB (Opt.) Optional 2x 2.5" SATA tray kit, M.2 2242/2280 M key	1 on board SSD up to 1024GB (Opt.) Optional 2x 2.5" SATA tray kit, M.2 2242/2280 M key	1 M.2 2280 M Key	1 M.2 2280 M Key
Expansion	PCIe, PCI, Mini PCIe	-	-	-	-
	M.2	1 M.2 3042/3052 B key 1 M.2 2230 E key, 2 M.2 2242/2280 M key, 1 M.2 A key for DFI OOB	1 M.2 3042/3052 B key, 1 M.2 2230 E key, 2 M.2 2242/2280 M key, 1 M.2 A key for DFI OOB	1 M.2 2280 M Key	1 x M.2 M key 2280 (PCIe Gen4 x4) 1 x M.2 B key 3052 (USB 3.0/2.0, PCIe x1, SATA) 1 x M.2 E key 2230 (USB 2.0/PCIe x1)
	SIM	1 micro/nano SIM	1 micro/nano SIM	-	1
Audio	Audio Codec	-	-	-	-
Ethernet	Controller	5 RJ45 GbE Optional 2x 15W PoE via X103- PE30-48	5 RJ45 GbE Optional 2x 15W PoE via X103- PE30-48	-	2 i226-IT 1 i210-IT
LED	Indicators	Power, HDD LED	Power, HDD LED	Power, Storage LED	Power, Storage LED
I/O	Ethernet	2 GbE, 2x2 stacked RJ45 GbE	-	-	2 i226-IT 1 i210-IT
	Serial	1 DB-9 RS232, 1 combo DB-9 RS232/422/485/ CAN bus	1 DB-9 RS232	1 RS-232/422/485, 1 RS-232/8bit DIO	1 RS-232/422/485 2 RS-232 1 RS-232/422/485 or 8-bit DIO by jumper setting
	USB	6 USB 3.2 Gen 1, 1 micro USB	4 USB 3.2 Gen 1	4 USB 3.2 (Gen2x1) or 2 USB 3.2 (Gen2x1) + 2 USB-C (support DP Alt. Mode)	5 USB3.2 1 USB Type-C
	Display	1 VGA, 2 HDMI port	1 VGA, 2 HDMI port, 3DP++	1 HDMI1.4b, 1 HDMI2.1	1 HDMI 1 USB-C DP Alt. Mode
	DIO	4 DI/4 DO	4 DI/4 DO	1 RS-232/8bit DIO	8-bit DIO via DB-9 port (share with COM4)
	Buttons	Power, Reset Button	Power, Reset Button	Power, Reset Button	Power, Reset Button
	Antenna	6 holes	6 holes	-	3 Holes
	Audio	-	-	-	-
Power		9-36V DC-in	9-36V DC-in	12V DC-in	9~36V DC-in
Cooling		Fanless	Fanless	Fanless (optional with Fan)	Fanless (optional w/ Fan)
OS Support		Win10, Win11, Linux Ubuntu 22.04	Win10, Win11, Linux Ubuntu 22.04	Win10 IoT, Win11	Win10 IoT, Win11 IoT, Linux
Mechanism	Construction	Aluminum + SGCC	Aluminum + SGCC	Aluminum + Metal Aluminum	Aluminum + Metal Aluminum
	Mounting	Wall / DIN Mount (Opt.)	Wall / DIN Mount (Opt.)	Wall/VESA rail mount	Wall/VESA/DIN Rail Mount
	Dimensions (W x H x D)	250 x 65 x 150 mm	250 x 65 x 150 mm	111 x 49.5 x 106mm / 111 x 51.1 x 106mm	181.6 x 57 x 118.4mm
Environment	Operating Temp.	TBD	TBD	-20°C~50°C, -20°C~70°C	Fanless: -20°C~60°C W/Fan: -20°C~70°C

# AI Inference / Training System



Model Name		X6-ORN	EC700-ADN	EC710-ADN	EC100-XNX	EC102-XNX
Platform		-	Atom	Atom	NVIDIA® Jetson Xavier™ NX	
System	Processor	6/8-core Arm® Cortex®-A78AE v8.2 64-bit CPU	Intel® Atom® Alder Lake-N Processors	Intel® Atom® Alder Lake-N Processors	6-core NVIDIA Carmel ARM® v8.2 64-bit CPU 6MB L2 + 4MB L3	
	Socket	-	BGA 1264	BGA 1264	-	
	Max. Speed	-	2.7~3.4GHz	3.0GHz	1.9GHz	
	CPU TDP	7-25W	6/10/12W	15W	10/15W	
	Cache	-	6 MB Smart Cache	SOC	-	
	Chipset	-	SOC	SOC	-	
	BIOS	-	AMI SPI 256Mbit (supports UEFI boot only)	AMI SPI 256Mbit (supports UEFI boot only)	-	
GPU / AI Accelerator Card Support		NVIDIA® Jetson Orin Nano™/ NX, up to 100TOPS	-	-	384-core NVIDIA Volta™ GPU with 48 Tensor Cores	
Memory	Technology	128-bit LPDDR5	LPDDR5 4800MHz	LPDDR5 4800MHz	LPDDR4 x 51.2GB/s	
	Max. Capacity	16GB	8GB/16GB	8GB/16GB	8 GB	
	Socket	onboard	Memory down	Memory down	Soldered on module	
Storage		M.2 2242/2280 M key (PCIe x4)	eMMC 32/64/128GB, 1 MicroSD (Opt.), 1 M.2 2280 M key	eMMC, 1 M.2 2280 M Key	16GB e.MMC v5.1 on module	Based on micro SD
Expansion	SIM, microSD	Nano SIM	1 SIM	SIM	-	1 micro SD
	UART, I2C, GPIOs	-	-	-	1 UART, 2 I2C, 9 GPIOs	
	M.2	1 M.2 Key E 2230 slot (USB 2 + PCIe1 signal) for Wi-Fi 6E 1x M.2 Key B 3042/3052 slot (USB3 signal) for 5G/LT with Nano SIM	1 M.2 2230 E key, 1 MicroSD (Opt.), 1 M.2 2242/2280 M key	eMMC 32/64/128GB, 1 MicroSD (Opt.), 1 M.2 2280 M key	1 x Mini PCIe	
LED	Indicators	Power, HDD	Power, Storage LED	Power, Storage LED	Power, Recovery	
Audio	Audio Codec	HS-100B	-	-	-	-
Ethernet	Controller	Intel I210	-	-	-	-
I/O	GbE, PoE	4 RJ45 GbE or 2 RJ45 GbE +2 RJ45 PoE	-	-	1 GbE, 8 PoE	1 GbE
	Serial	1 RS232/485 and CAN bus	2 RS232/422/485, 1 RS232, 1 RS232/DIO	2 RS232/422/485, 1 RS232, 1 RS232/DIO	Internal onboard 20-pin header	
	USB	4 USB 3.2 Gen1	3 USB 3.2 type A, 1 USB-C 3.2	3 USB 3.2 type A, 1 USB-C 3.2	1 USB 2.0 (Micro-B), 2 USB 3.2 (Type A)	
	Display	1 HDMI	1 HDMI, 1 VGA	1 HDMI, 1 VGA	1 HDMI 2.0	
	Buttons	Power, Reset	Power, Reset Button	Power, Reset Button	Power, Recovery	
	DIO	4 DI, 4 DO	4 DI, 4 DO (via COM4)	1 RS232/DIO	-	
	Antenna	4 holes	4 Holes	4 Holes	-	
	Audio	Min-in, Line-out	Mic-in / Line-out	Mic-in / Line-out	-	
Power		9-36Vdc	9~36V DC-in	9~36V DC-in	54V/2.78A	12V/5A
Cooling		Fanless	Fanless	Fanless	Fanless	Heat sink with fan
OS Support		Linux	Win11 IoT, Linux Ubuntu 22.04	Win11 IoT, Linux Ubuntu 22.04	Linux Ubuntu	
Mechanism	Construction	Aluminum+SGCC	Aluminum + Metal	Aluminum + Metal	Metal + Aluminum	
	Mounting	Wall mount	Wall/DIN Rail/VESA Mount	Wall/DIN Rail/VESA Mount	Wall Mount	
	Dimensions (W x H x D)	165 x 65 x 150 mm	180 x 33 x 127.8 mm	180 x 43 x 127.8 mm	190 x 80 x 175mm	91.4 x 70 x 76.6mm
Environment	Operating Temp.	0°C ~ 60°C (extended temp. support by request)	-5°C~60°C with 0.2m/s air flow	-5°C~60°C with 0.2m/s air flow	0°C~60°C	

# Application-Specific System

Application-Oriented Solutions



## In-Vehicle & Railway Systems

The design of DFI's In-vehicle Computers centers on reliability, MIL-STD anti-vibration, and SWap — small, lightweight, and low power consumption. The systems are certificated by E-Mark (E-13) to guarantee the quality level of electromagnetic. To provide real-time data analysis, DFI's In-Vehicle systems are built in with Mini PCIe and M.2 expansions for additional connectivity such as 3G/4G, Wi-Fi, GNSS, and CAN-Bus. Wide-temperature, wide-voltage, and in-vehicle power management jointly ensure stability and astonishing endurance even in harsh environments.

Beyond common industry certifications like CE/FCC/RoHS/UL94V0, DFI extends support in securing E-Mark and ISO7637/16750 certifications. Notably, DFI's In-vehicle system also adhere to ITxPT design specifications, simplifying customers' pursuit of membership in the European Public Transport Information Technology Standard (ITxPT) and successfully streamlined government bidding process for our customer.

DFI railway system commits to achieving high versatility and reliability in today's increasingly complex rolling stock operations. With NVIDIA MXM modules and 5G capabilities, they can handle autonomous driving and AI vision in the IoT ecosystem. Moreover, all the essential standards and features for railway system are ready for your requirements including EN50155 EU railway standard, multiple M.2 and mini PCIe (LTE, 5G, Wifi/BT, GNSS, CAN bus, MVB), wide temperature, and wide voltage (77-137.5V).

### CAN-Bus Interface Support



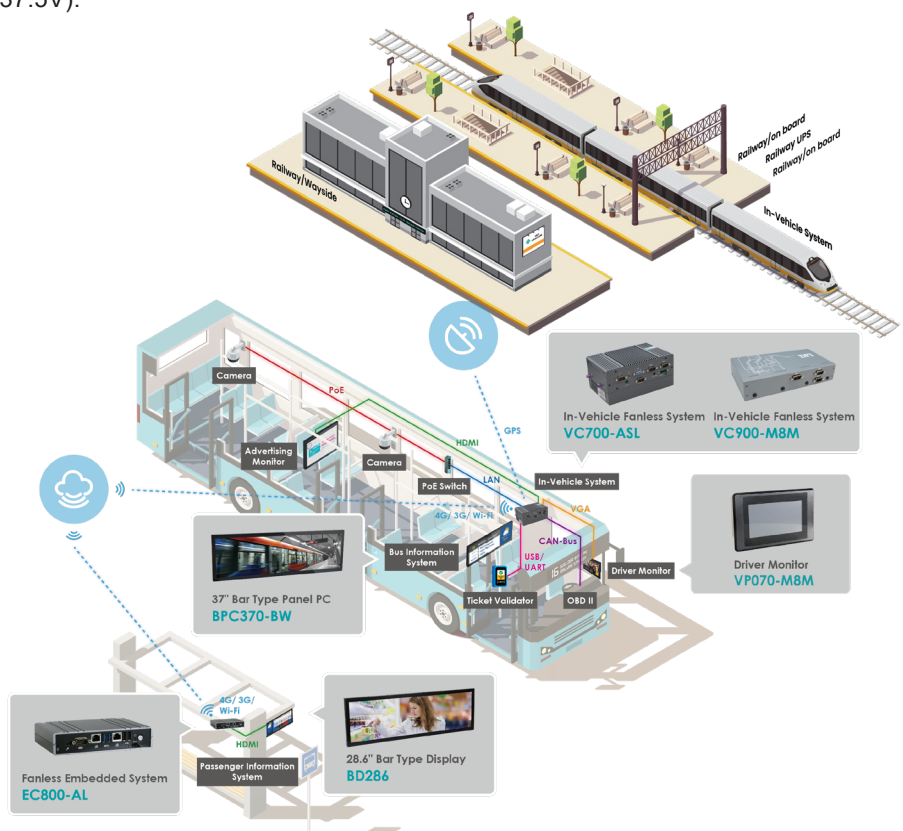
CAN-Bus (Optional)



### In-Vehicle Power Protector



In-Vehicle Power Protector

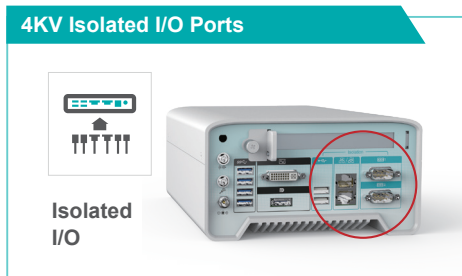


## Medical Systems

Medical equipment needs to output accurate results and keeps in stable operation, with peripheral equipment connected in various interfaces through clean signals not interfering with each other. Therefore, strict certification standards are necessary for the selection of machines.

DFI's MD711-SU is a high-performance fanless embedded Box IPC designed to work with medical equipment. This medical PC is equipped with 4kV isolated I/O ports and specialized heat dissipation technology with easy-to-clean design and silent operation. The ideal medical applications for this system covers nursing carts, operating rooms, healthcare information systems, and medical OEM equipment integration to ensure the best patient care.

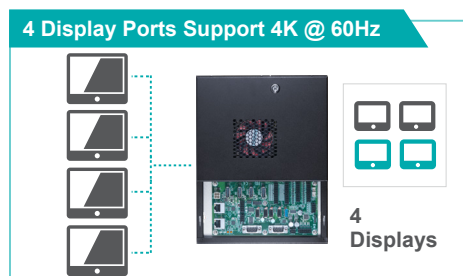
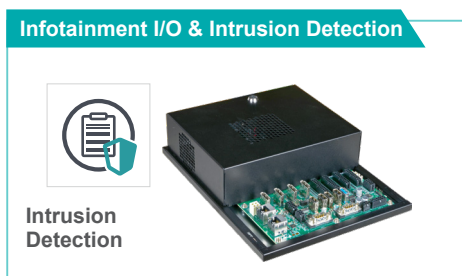
Certifications: CE, FCC, RoHS, IEC 60601-1-2:2014, EN 60601-1-2:2015, ISO 14971:2007



## Extensive Computing Solutions for Infotainment Excellence

As a global leader in embedded computing, DFI is at the forefront of innovation, offering state-of-the-art solutions that cater to the ever-evolving needs of the Infotainment industry. Our comprehensive portfolio spans advanced systems for casino slots, lottery machines, and player tracking systems, all designed to perform seamlessly in diverse environments worldwide.

Through rigorous system development and uncompromising quality assurance, DFI ensures that our high-performance solutions not only meet but exceed the specific demands of Infotainment enterprises around the globe. With a deep well of industry expertise, we are committed to driving the future of Infotainment technology.





Model Name		VC500-CMS	VC500-CMS-MXM	VC300-CS
Platform		Desktop	Desktop	Desktop
System	Processor	10th Gen Intel® Core™	10th Gen Intel® Core™	9th/8th Gen Intel® Core™
	Socket	LGA 1200	LGA 1200	LGA 1151
	Max. Speed	3.0~4.5GHz	3.6~4.5GHz	1.8~2.4GHz
	CPU TDP	35W	35W	35W
	Cache	2/4/6/12/16/20M	6/12/16/20M	9/12M
	Chipset	Intel® Q470E/W480E/H420E	Intel® Q470E/W480E	Intel® Q370
	BIOS	AMI SPI 256Mbit	AMI SPI 256Mbit	AMI SPI 128Mbit
GPU / AI Accelerator Card Support		N/A	Type A/B MXM modules: RTX A2000, RTX3000, A500, A1000	up to 115W GPU MXM module without active fan MXM Type A/B/C
Memory	Technology	Dual Channel DDR4 2933/2666/2400/2133 SDRAM (ECC support for Xeon-1270TE)	Dual Channel DDR4 2933/2666/2400/2133 SDRAM (ECC support for Xeon-1270TE)	Dual Channel DDR4 2666/2400MHz
	Max. Capacity	64GB	64GB	64GB
	Socket	2 SODIMM	2 SODIMM	2 SODIMM
Storage		2 swappable 2.5" SATA drive bays, 1 M.2 2280 M Key	2 swappable 2.5" SATA drive bays, 1 M.2 2280 M Key	2 Swappable 2.5" 7mm SSD Storage Bays, 1 M.2 2280 M Key
GNSS		N/A	N/A	N/A
Sensor		N/A	N/A	N/A
Expansion	PCIe, PCI, Mini PCIe	1 mPCIe	1 mPCIe	1 Half mPCIe, 2 Full mPCIe
	M.2	1 M.2 2230 E Key, 1 M.2 3042/3052 B Key, 1 M.2 2242/2280 M Key	1 M.2 2230 E Key, 1 M.2 3042/3052 B Key, 1 M.2 2242/2280 M Key	1 M.2 3042/3052 B Key, 1 M.2 2280 M Key
	microSD, SIM	3 SIM	3 SIM	3 SIM
Audio	Audio Codec	Realtek ALC888	Realtek ALC888	Realtek ALC888
Ethernet	Controller	1 Intel® i219LM, 1 Intel® i210IT	1 Intel® i219LM, 1 Intel® i210IT	5 Intel® i210IT, 1 Intel® i219LM
LED	Indicators	Storage Activity, Power Status, Programmable general purpose	Storage Activity, Power Status, Programmable general purpose	Power, Storage, PoE
I/O	PoE/10G	4x 802.11af PoE (RJ45/M12) or 2x 10GbE (SFP+ cage)	4x 802.11af PoE (RJ45/M12) or 2x 10GbE (SFP+ cage)	4x 802.3af PoE (RJ45/M12)
	Ethernet (GbE)	2 GbE (RJ45)	2 GbE (RJ45)	2 GbE (RJ45)
	Serial	4 RS-232/422/485, 1 RS-232	4 RS-232/422/485, 1 RS-232	2 RS-232/422/485 (DB-9)
	USB	8 USB 3.2	8 USB 3.2	4 USB 3.2, 2 USB 2.0
	Display	2 DP++, 1 HDMI	2 DP++, 1 HDMI	1 VGA, 1 HDMI, 1 DP++
	DIO	8-bit DI + 8-bit DO	8-bit DI + 8-bit DO	8-bit DI + 8-bit DO (Isolated) (DB-9)
	Buttons	Power, Reset	Power, Reset	Power, Reset
	Antenna	8 holes	8 holes	7 SMA Holes
	Audio	Mic-in, Line-in, Line-out	Mic-in, Line-in, Line-out	Mic-in, Line-out
	OOB	RJ45 (Opt.)	RJ45 (Opt.)	-
	CANBus	CAN-Bus via DB-9 port (Opt.)	CAN-Bus via DB-9 port (Opt.)	-
Power		3pin 3W3 connector or 3 pin terminal block, 9~50V DC-in	3pin 3W3 connector, 9~50V DC-in	12VDC (9~36V), 24VDC(14.4~33.6V)
Cooling		Passive	Passive	Fanless
OS Support		Win10 IoT, Win11 IoT, Ubuntu Linux	Win10 IoT, Win11 IoT, Ubuntu Linux	Win10 IoT, Linux Ubuntu
Mechanism	Construction	Aluminum + Metal	Aluminum + Metal	Metal + Aluminum
	Mounting	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	235 x 87.5 x 221mm (mounting bracket excluded )	346 x 87.5 x 221mm	340.5 x 132 x 223mm
Environment	Operating Temp.	-20°C~70°C	-20°C~60°C	-20°C~60°C or -20°C~70°C





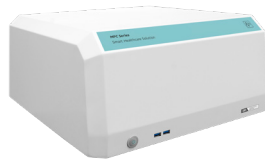
Model Name		VC70B-MTH	VC700-ASL	VC230-AL
Platform		-	Intel® Atom®	Atom
System	Processor	Intel® Core™ Ultra Processor	Intel® Atom® Amston Lake	Intel Atom® Processor E3900
	Socket	BGA2049	-	BGA 1296
	Max. Speed	1.3~1.7GHz	3.2~3.6GHz	1.6~2.0GHz
	CPU TDP	15W	6/9/12W	6.5/9/12W
	Cache	12/18/24M	-	2M
	Chipset	-	-	-
	BIOS	AMI SPI 256Mbit	AMI SPI 64Mbit	Insyde SPI 64Mbit
GPU / AI Accelerator Card Support		-	N/A	N/A
Memory	Technology	Dual Channel LPDDR5/x 6400MHz	LPDDR5 5200MHz	Single Channel DDR3L 1600/1866MHz
	Max. Capacity	32GB / 64GB (Opt.)	4/8GB	8GB
	Socket	Memory down	Memory down	1 SODIMM
Storage		-	2x swappable 2.5" SATA Drive Bays (Opt.), eMMC 64GB	eMMC up to 64GB, 1 mSATA
GNSS		-	Support	Support
Sensor		-	9 axis IMU (3 Accelerometer + 3 Gyroscope + 3 Magnetometer)	N/A
Expansion	PCIe, PCI, Mini PCIe	-	2 Mini-PCIe (1 Half + 1 Full)	2 Full mPCIe, 1 Half mPCIe
	M.2	1 M.2 2280 M Key, 1 M.2 3052 B Key, 1 M.2 2230 E Key	1 M.2 2230 A+E Key, 1 M.2 3042/3052 B Key, 1 M.2 2242/2280 B+M Key	-
	microSD, SIM	1 SIM slot for 4G/5G	1 SIM	3 SIM
Audio	Audio Codec	Realtek ALC888S	-	-
Ethernet	Controller	2 Intel® I226V, 1 Intel® i210AT	2 Intel® i210	2 Intel® I210AT
LED	Indicators	Power, HDD LED	Power, Storage, Programmable	Power, Storage LED
I/O	PoE/10G	-	-	-
	Ethernet (GbE)	3 GbE	2 GbE (M12)	2 GbE (RJ45)
	Serial	1 RS-232/422/485, 2 RS-232, 1 RS-232/422/485 or 8-bit DIO	2 RS-232/422/485 (DB9-M)	1 RS-232/422/485 (DB9-M)
	USB	5 USB 3.2, 1 USB Type C, 2 USB 2.0 type A	4 USB 3.2 type A	2 USB 3.2, 2 USB 2.0
	Display	1 HDMI 1.4b, 1 DP(from eDP), 1 USB-C DP Alt. mode	1 HDMI, 1 VGA	1 HDMI, 1 DVI-I
	DIO	1 RS-232/422/485 or 8-bit DIO	8-bit Isolated DIO up to 30V Input	8-bit Isolated DIO up to 30V Input
	Buttons	Power Button	Reset Button	Reset Button
	Antenna	6 Holes	7 Holes	4 SMA Holes, 1 FME Hole
	Audio	-	Line-out, Mic-in	1 x 4pins 5.00mm terminal block
	OOB	1 GbE	-	-
	CANBus	-	2 CAN 2.0B (DB9-M)	CAN-Bus via DB-9 (Opt.)
Power		9~36V DC-in	9~36V DC-in with ignition control	9~36V DC-in with Ignition control
Cooling		fanless	Fanless	Fanless
OS Support		Win10 IoT, Win11 IoT, Linux Ubuntu	Win10, Win11, Linux Ubuntu	Win10, Linux, CentOS 7
Mechanism	Construction	-	Aluminum + SPGC Metal	Aluminum + SPGC Metal
	Mounting	Wall mount	Wall mount	Wall/VESA mount
	Dimensions (W x H x D)	181.6 x 73 x 118.4mm	182.4 x 56.5/87.5 x 118.4mm	180 x 50 x 121.2 mm
Environment	Operating Temp.	-20°C~70°C fanless	-40°C~70°C	-40°C~70°C



Model Name		VC230-BT	VC900-M8M
Platform		Atom	ARM
System	Processor	Intel Atom® Processor E3800	NXP i.MX 8M Dual/Quad Cortex-A53
	Socket	BGA 1170	-
	Max. Speed	1.33~1.91GHz	1.3GHz
	CPU TDP	6/10W	-
	Cache	1/2M	-
	Chipset	-	-
	BIOS	AMI SPI 64Mbit	-
GPU / AI Accelerator Card Support		N/A	N/A
Memory	Technology	Single Channel DDR3L 1333/1600MHz	Single channel LPDDR4 up to 3200 MHz
	Max. Capacity	2/4GB	2/4GB
	Socket	ECC Memory Onboard	Memory Onboard
Storage		eMMC up to 32GB (Opt.)	eMMC 5.1 up to 64GB
GNSS		N/A	N/A
Sensor		N/A	6 axis IMU (3 Accelerometer + 3 Gyroscope)
Expansion	PCIe, PCI, Mini PCIe	2 Full mPCIe, 1 Half mPCIe	-
	M.2	-	1 M.2 2242/3042 B Key, 1 M.2 2230 E Key
	microSD, SIM	1 microSD (Opt.), 1 SIM	1 microSD, 1 Nano SIM
Audio	Audio Codec	-	-
Ethernet	Controller	2 Intel® I210AT	1 GbE (RJ45)
LED	Indicators	Status, HDD LED	Status LED
I/O	PoE/10G	-	-
	Ethernet (GbE)	2 GbE (RJ45)	1 GbE (RJ45)
	Serial	3 RS-232/422/485 (DB-9)	1 RS-232/422/485, 3 RS-232
	USB	1 USB 3.2, 4 USB 2.0	2 USB 3.2, type A, 1 OTG, micro USB
	Display	1 HDMI, 1 VGA	1 HDMI
	DIO	8-bit DIO via DB-9 port (Opt.)	-
	Buttons	Power, Reset Button	Power reset button
	Antenna	3 Holes	4 Holes
	Audio	Line-out (Opt.)	with Amplifier to support 2W speaker (Opt.) Line-out, MIC-in (internal header)
	OOB	-	-
CANBus		CAN-Bus via DB-9 (Opt.)	CAN-Bus (DB-9)
Power		9~36V DC-in with Ignition control	9~36V with ACC/IGN function
Cooling		Fanless	Fanless
OS Support		Win7, Win8, Win8.1, Win10 (Opt.), WES 7, WES 8	Yocto Linux 2.5, Android 9.0 (Opt.)
Mechanism	Construction	Aluminum + Metal Aluminum	Sheet Metal
	Mounting	Wall/VESA/DIN Rail Mount (Opt.)	Wall/DIN-Rail mount
	Dimensions (W x H x D)	180 x 33 x 121.2 mm	220 x 122 x 43 mm
Environment	Operating Temp.	-20°C~60°C	-20°C~70°C



Model Name		RC300-CS
Platform		Desktop
System	Processor	9th/8th Gen Intel® Core™
	Socket	LGA 1151
	Max. Speed	1.8~2.4GHz
	CPU TDP	35W
	Cache	9/12M
	Chipset	Intel® Q370
	BIOS	AMI SPI 128Mbit
GPU / AI Accelerator Card Support		up to 115W GPU MXM module without active fan MXM Type A/B/C
Memory	Technology	Dual Channel DDR4 2666/2400MHz
	Max. Capacity	64GB
	Socket	2 SODIMM
Storage		2/4 Swappable 2.5" 7mm SSD Storage Bays, 1 M.2 2280 M Key
Expansion	PCIe, PCI, Mini PCIe	-
	M.2	1 Half mPCIe, 2 Full mPCIe, 1 M.2 3042/3052 B Key, 1 M.2 2280 M Key
	microSD, SIM	3
Ethernet	Controller	5 Intel® I210IT, 1 Intel® I219LM
LED	Indicators	Power, Storage, PoE
	PoE/10G	2 GbE (RJ45), 4 M12 X-coded PoE
	Ethernet (GbE)	2 RS-232/422/485 (DB-9)
	Serial	4 USB 3.2, 2 USB 2.0
	USB	1 VGA, 1 HDMI, 1 DP++
	Display	Mic-in, Line-out
	DIO	8-bits DI + 8-bits DO (Isolated) (DB-9)
	Buttons	Power, Reset
	Antenna	7 SMA Holes
Power		77~137.5VDC or 9~36VDC
Cooling		Fanless
OS Support		Win10 IoT Enterprise, Linux Ubuntu
Mechanism	Construction	Metal + Aluminum
	Mounting	Wall Mount
	Dimensions (W x H x D)	340.5 x 132 x 223 mm
Environment	Operating Temp.	-25°C~55°C or -25°C~70°C



Model Name		MPC350-RPS	MD711-SU
Platform		Desktop	ULT
System	Processor	13th Gen Intel® Core™	6th Gen Intel® Core™
	Socket	LGA 1700	BGA 1356
	Max. Speed	5.1~5.2GHz	2.4~2.6GHz
	CPU TDP	65W	15W
	Cache	30/36M	3/4M
	Chipset	-	-
	BIOS	AMI SPI 256Mbit	Insyde SPI 128Mbit
GPU / AI Accelerator Card Support		Nvidia PCIeexpress GPU Card (Quadro up to RTX6000 ada) (GeForce up to RTX4070)	N/A
Memory	Technology	Dual Channel DDR5 up to 4400MHz (ECC/Non-ECC)	Dual Channel DDR4 2133MHz
	Max. Capacity	192GB	32GB
	Socket	4 UDIMM	2 SODIMM
Storage		2x swappable 2.5" SATA Drive Bays, 2 M.2 2242/2260/2280	2x 2.5" SATA 3.0 Drive Bays
GNSS		2 PCIe x16 (1 x16 or 2 x8), 2 PCIe x4	1 PCIe x16, 1 x Full-size Mini PCIe
Sensor		1 M.2 2230 E Key, 2 M.2 2242/2260/2280 M Key	1 M.2 2242 B Key
Expansion	PCIe, PCI, Mini PCIe	-	-
	M.2	Realtek ALC888	Realtek ALC888
	microSD, SIM	1 Intel® I226LM, 3 Intel® I226V	1 Intel® I210AT, 1 Intel® I219LM
Audio	Audio Codec	Power LED	Power, HDD LED
Ethernet	Controller	-	-
LED	Indicators	4x 2.5GbE (RJ-45)	2 GbE (RJ-45) (supports 4kV isolation)
I/O	PoE/10G	2 RS-232 (DB-9)	2 RS-232 (DB-9) (supports 4kV isolation)
	Ethernet (GbE)	4 USB 3.2 Gen2, 6 USB 3.2 Gen1	4 USB 3.2, 2 USB 2.0 (supports 4kV isolation)
	Serial	1 HDMI, 2 DP++, 1 VGA	1 DP/HDMI(Opt.), 1 DVI-D
	USB	-	-
	Display	Power	Power
	DIO	2 Holes	1 Hole
	Buttons	Line-out, Mic-in	Line-out, Mic-in
	Antenna	PSU 700W	9~36V DC-in
	Audio	Active Fan	Fanless
	OOB	Win10 IoT, Win11, Ubuntu Linux	Win7, Win8.1, Win10, WES 7, WE8S, Linux
	CANBus	Metal	Aluminum + Metal Aluminum
	Power	Wall Mount	Wall Mount
	Cooling	380 x 180 x 400 mm	182 x 97.6 x 200mm
OS Support		0°C~40°C	0°C~40°C (w/0.7m air flow)
Mechanism	Construction	Aluminum + Metal Aluminum	Sheet Metal
	Mounting	Wall/VESA/DIN Rail Mount (Opt.)	Wall/DIN-Rail mount
	Dimensions (W x H x D)	180 x 33 x 121.2 mm	220 x 122 x 43 mm
Environment	Operating Temp.	-20°C~60°C	-20°C~70°C



Model Name		GM850-RPF	GM831-CSF	EC70A-ADN
Platform		ULT	ULT	Atom
System	Processor	14th/13th/12th Gen Intel® Core™	9th/8th Gen Intel® Core™	Intel® Atom® Alder Lake-N
	Socket	LGA 1700	LGA 1151	FCBGA1264
	Max. Speed	2.4~5.8GHz	2.9~4.6GHz	3.8GHz
	CPU TDP	35/46/60/65W	35/54/58/65W	15W
	Cache	4/6/12/18/20/24/25/30/33/36M	2/4/6/9/12M	6M
	Chipset	Intel® Q670E/H610E	Intel® Q370/H310 Chipset	-
	BIOS	AMI SPI 256Mbit	Insyde or AMI UEFI (Supports hash and public key validation)	AMI SPI 256Mbit
GPU / AI Accelerator Card Support		1 MXM Type-A/B/B+ (up to 125W)	N/A	N/A
Memory	Technology	Dual Channel DDR5 4800MHz	Dual Channel DDR4 2400/2666 MHz	Single Channel DDR5 4800MHz
	Max. Capacity	64GB	64GB	32GB
	Socket	2 SODIMM	4 SODIMM	1 SODIMM
Storage		1 SATA 3.0, 1x 2.5" SSD Bay	5 SATA 3.0, 1 2.5" SSD Bay	1 M.2 2280/2242 M Key
GNSS		-	1 PCIe x16, 2 PCIe x4, 1 mPCIe	-
Sensor		1 M.2 2280 M Key, 1 M.2 2230 E Key, 1 M.2 2242/3042/3052 B Key	1 M.2 2242/2260/2280 M key	1 M.2 2280/2242 M Key, 1 M.2 3052/3042 B Key, 1 M.2 2230 E Key
Expansion	PCIe, PCI, Mini PCIe	-	-	1 SIM
	M.2	Realtek ALC888S	Realtek ALC888	Realtek ALC888S
	microSD, SIM	1 Intel® I226LM/I219V, 1 Intel® I226V	1 Intel® i219LM, 1 Intel® I211at	3 Intel® I226V/IT
Audio	Audio Codec	Power, HDD LED	Power, HDD LED	Power, HDD LED
Ethernet	Controller	-	-	-
LED	Indicators	2x 2.5GHz (RJ45)	2 GbE (RJ-45)	3x 2.5GbE (RJ-45)
I/O	PoE/10G	2 RS-232/422/485 (DB-9), 2 RS-232 (TX,RX)/ccTalk (Microfit)	1 RS-232/422/485 (DB9), 2 RS-232	1 RS-232/422/485 (Opt.)
	Ethernet (GbE)	4 USB 3.2 Gen2 / 3 USB 3.2 Gen2 + 1 USB Type C / 2 USB 3.2 Gen2 + 2 USB 2.0 / 2 USB 3.2 Gen2 + 1 USB Type C	2 USB 3.2 Gen2, 2 USB 3.2 Gen1, 6 USB 2.0	4 USB 3.2, 2 USB 2.0
	Serial	1 DP++, 1 DP++(MXM), 1 HDMI (MXM), 1 USB Type C	1 HDMI, 1 DVI-I, 1 DP++	1 HDMI, 1 Type-C DP Alt. Mode
	USB	-	-	-
	Display	-	-	-
	DIO	-	-	-
	Buttons	1 Audio Jack (Line-out/Mic-in)	Mic-in, Line-out, Line-in (Opt.)	Mic-in, Line-out
	Antenna	-	-	-
	Audio	-	-	-
	OOB	8 Intrusion detection	6 x Intrusion Dections	-
	CANBus	Supports up to 16Mbyte	Supports up to 16Mbyte	-
Infotainment	Intrusion Detection	32-bit Digital Input, 32-bit OC output	32-bit Digital Input, 32-bit OC output	-
	NVRAM	Support iButton 1-wire protocol	N/A	-
	DI/DO	19~24V DC-in	12V DC-in, Flex-ATX 250W (Opt.)	9~36V DC-in
	iButton	1x 8cm System Fan, w/ replaceable air filter	Fanless	Fanless
Power		Win10 IoT, Win11 IoT, Linux Ubuntu, Supplied with Infotainment function SDK	Win10, Ubuntu, Supplied with Infotainment function SDK	Win10 IoT, Linux
Cooling		-	-	Aluminum + Metal Aluminum
OS Support		Wall Mount	Wall Mount	Wall/VESA/DIN rail Mount
Mechanism	Construction	230 x 140 x 240 mm	275 x 146.3 x 296.43 mm or 365 x 145.3 x 296.43 mm	181.6 mm x 52 mm x 118.4 mm
	Mounting	0°C~45°C	0°C~45°C	-5°C~60°C
	Dimensions (W x H x D)	184 x 82 x 118.4 mm	182.4 x 56.5/87.5 x 118.4mm	180 x 50 x 121.2 mm
Environment	Operating Temp.	-20°C~60°C	-40°C~70°C	-40°C~70°C



Model Name		GM841-HPF	GM840-RNF
Platform		AMD	AMD
System	Processor	AMD® Ryzen™ Embedded 8000 Series	AMD® Ryzen™ V2000 Series
	Socket	LGA 1718	PGA 1331
	Max. Speed	3.3~4.3GHz	1.7~3.0GHz
	CPU TDP	15~30W / 35~54W	15/45W
	Cache	6/8M	3/4M
	Chipset	-	-
	BIOS	AMI SPI 256 Mbit	AMI BIOS
GPU / AI Accelerator Card Support		N/A	N/A
Memory	Technology	Dual-channel DDR5 5600/5200/4800MHz (ECC/non-ECC support)	Dual channel DDR4 up to 3200MHz (ECC/non-ECC support)
	Max. Capacity	64GB	64GB
	Socket	2 SODIMM	2 SODIMM
Storage		2 SATA 3.0, 1x 2.5" SSD Bay	2 SATA 3.0, 1x 2.5" SSD Bay
GNSS		1 x PCIe Gen4 x16 slot (x8 Gen4)	-
Sensor		1 M.2 2280 M Key, 1 M.2 3030/3042 A Key	1 M.2 2280 M Key (2242 by BOM opt.)
Expansion	PCIe, PCI, Mini PCIe	-	-
	M.2	Realtek ALC888S	Realtek ALC888S
	microSD, SIM	2 Intel® I226V	2 Realtek RTL8119-CG
Audio	Audio Codec	Power, HDD LED	Power, HDD LED
Ethernet	Controller	-	-
LED	Indicators	2x 2.5GHz (RJ45)	2 GbE(RJ45)
I/O	PoE/10G	1 RS-232/422/485 (DB-9), 1 Full RS-232 (DB-9), 4 RS232 (TX/RX, 2 ccTalk, DB-9), 2 RS-232 (TX/RX, 2 ccTalk, Microfit)	1 RS-232/422/485 (DB-9), 1 Full RS-232 (DB-9), 4 RS-232 (TX,RX) (DB-9), 2 RS-232 (TX,RX)/ccTalk (Microfit)
	Ethernet (GbE)	2 USB 3.2 Gen2, 7 USB 2.0	2 USB 3.2 Gen1, 6 USB 2.0
	Serial	4 DP++	4 DP++
	USB	-	-
	Display	-	-
	DIO	-	-
	Buttons	1 Audio Jack ( Line-in/Line-out/Mic-in), S/PDIF Out	1 Audio Jack ( Line-in/Line-out/Mic-in), S/PDIF Out
	Antenna	-	-
	Audio	-	-
	OOB	-	8 Intrusion detection
	CANBus	Supports up to 16Mbyte	Supports up to 16Mbyte
	Infotainment	Intrusion Detection	32-bit Digital Input, 32-bit OC output
NVRAM		Support iButton 1-wire protocol	Support iButton 1-wire protocol
DI/DO		12V DC-in	12V DC-in
iButton		1x 8cm System Fan, w/ replaceable air filter	1x 8cm System Fan, w/ replaceable air filter
Power		Win10 IoT, Win11, Linux Ubuntu, Supplied with Infotainment function SDK	Win10 IoT, Linux Ubuntu, Supplied with Infotainment function SDK
Cooling		-	-
OS Support		Wall Mount	Wall Mount
Mechanism	Construction	230 x 140 x 210 mm	220 x 125 x 200 mm
	Mounting	0°C~45°C	0°C~45°C
	Dimensions (W x H x D)	184 x 82 x 118.4 mm	180 x 50 x 121.2 mm
Environment	Operating Temp.	-20°C~60°C	-40°C~70°C



Model Name		GM341-GHF	GM310-8MM	
Platform		AMD	ARM	
System	Processor	AMD® Ryzen™ V1000/R1000/R2000 Series	NXP i.MX 8M Mini Quad Cortex-A53	
	Socket	FP5 BGA	QFN 56	
	Max. Speed	3.2~3.8GHz	1.8GHz	
	CPU TDP	12~54W	-	
	Cache	1/2/4M	-	
	Chipset	-	-	
	BIOS	AMI BIOS (supports hash and public key validation)	-	
GPU / AI Accelerator Card Support		N/A	N/A	
Memory	Technology	Dual Channel DDR4 3200MHz	Single Channel LPDDR4	
	Max. Capacity	32GB	4GB	
	Socket	2 SODIMM	Memory Down	
Storage		2 SATA DOM with 7-pin VCC Support	eMMC 5.1 8GB on board	
GNSS		-	1 mPCIe	
Sensor		1 M.2 2280 M Key	-	
Expansion	PCIe, PCI, Mini PCIe	-	-	
	M.2	5.1 Channel Audio Output, S/PDIF, Stereo 10W+10W Class D Audio AMP Output	Cirrus Logic WM8524	
	microSD, SIM	2 Realtek Ethernet LAN	1 RTL8111	
Audio	Audio Codec	Power, HDD LED	Status LED	
Ethernet	Controller	-	-	
LED	Indicators	2 GbE (RJ-45)	2 GbE (RJ-45)	
I/O	PoE/10G	1 RS-232, 1 RS-232/422/485, 1 RS-232 (Tx, Rx)/ccTalk, 2 RS-232 (Tx, Rx)/SAS/BACTA	1 RS-232/422/485 (Header), 1 RS-232 (Header)	
	Ethernet (GbE)	2 USB 3.2, 4 USB 2.0	2 USB 2.0, 1 USB 2.0 (Right Angle)	
	Serial	3/4 DP++	1 LVDS/ HDMI (Opt.)	
	USB	2 x USB 3.0 4 x USB 2.0	2 x USB 2.0 1 x USB 2.0 (Right Angle)	
	Display	Power, Reset Button	-	
	DIO	-	-	
	Buttons	-	1 Header (Line-out)	
	Antenna	-	-	
	Audio	-	-	
	OOB	8 Intrusion detection	-	
	CANBus	Supports up to 16Mbyte	256KB	
	Infotainment	Intrusion Detection	32-bit Digital Input, 32-bit OC output	4-bit Digital Input, 4-bit Digital output
		NVRAM	Support iButton 1-wire protocol	-
DI/DO		12V DC-in	12V DC-in	
iButton		CPU Fan	Fanless	
Power		Win10, Linux	Linux Yocto 2.5 (Kernel 4.14.98)	
Cooling		-	-	
OS Support		Wall Mount	Wall Mount	
Mechanism	Construction	270 x 63 x 200 mm	143 x 100 x 35 mm	
	Mounting	0°C~45°C	-5°C~60°C	
	Dimensions (W x H x D)	184 x 82 x 118.4 mm	180 x 50 x 121.2 mm	
Environment	Operating Temp.	-20°C~60°C	-40°C~70°C	

# Ruggedized Embedded System

Application-Oriented Solutions



## Ultra Ruggedized

Featuring the IP66 white enclosure and wide-temperature from -40 to 70°C, our ultra-ruggedized system can operate as the edge computer outdoor 24/7 without any shelter. The smart vent design can easily drain off water automatically to remain dry inside the system.

Our system also delivers versatile water-proof I/O including external SIM slot, high-gain antenna, combo port, and selective display ports (HDMI/VGA) were also delivered to help integrator meet the demand for various applications. It's an ideal candidate as outdoor IoT edge computing in the critical environment.

### IP66 Enclosure Withstand Water and Dust



IP66 Grade



### Outdoor IoT Edge Computing



Outdoor Application







Model Name		ECX700-ASL	ECX700-ADP	ECX700-AL
Platform		Atom	ULT	Atom
System	Processor	Intel® Atom® Amston Lake Processor	12th Gen Intel® Core™ Processor	Intel Atom® Processor E3900
	Socket	FCBGA 1264	BGA 1744	BGA 1296
	Max. Speed	1.3~3.6GHz	4.4~4.7GHz	1.8~2.0GHz
	CPU TDP	6/6.5/9.5/12W	15W	6/9.5/12W
	Cache	6M	12M	2M
	BIOS	AMI SPI 256Mbit	AMI SPI 256Mbit	AMI SPI 128Mbit (supports UEFI/Legacy mode and Security Boot (Opt.))
Memory	Technology	1 Channel LPDDR5-4800 MHz	Dual Channel DDR4 3200MHz	Dual Channel DDR3L 1866MHz
	Max. Capacity	4/8/16GB, 16GB total max	40GB (8GB memory onboard + 32GB memory DIMM)	2/4/8GB, 8GB total max
	Socket	Memory Onboard	Memory Onboard, 1 SODIMM	Memory Onboard, 1 SODIMM
Storage		eMMC up to 128GB (Opt.)	M.2 SSD (M Key) up to 512GB (Opt.)	eMMC up to 64GB (Opt.)
Expansion	PCIe, PCI, Mini PCIe	-	-	2 Full mPCIe
	M.2	1 x M.2 2242/2280 M key, 1 x M.2 2230 E Key, 1 x M.2 3042/3052 B key	1 M.2 3042/3052 B Key, 1 M.2 2230 E Key	1 M.2 2230 E Key
	SIM	1 SIM	1 SIM	1 SIM
Audio	Audio Codec	ALC888S	-	-
Ethernet	Controller	2 Intel® I226V	2 Intel® I225IT	2 Intel® I210AT
LED	Indicators	Power Status	Power Status	Power Status
I/O	Ethernet	2 GbE	2 GbE	2 GbE
	Serial	2 RS-232 and 1 Can bus protocol (Combo)	2 RS-232 and 2 Can bus protocol (Combo)	2 RS-232 and 2 Can bus protocol (Combo)
	USB	2 USB 3.2	4 USB 3.2	2 USB 3.2
	Display	1 HDMI or 1 VGA (Opt.)	1 HDMI	1 HDMI or 1 VGA (Opt.)
	Antenna	1 HDMI or 1 VGA (Opt.)	4 (LTE), 2 (WiFi)	2 (LTE), 2 (WiFi)
Power		9~36V DC-in	9~36V DC-in	9~36V DC-in
Cooling		Fanless	Fanless	Fanless
OS Support		Win11 IoT, Linux	Win10 IoT, Win11 IoT, Linux	Win10 IoT, Linux
Mechanism	Construction	Construction Metal + Aluminum, IP67/ IP69K enclosure	Metal + Aluminum, IP67/ IP69K enclosure	Aluminum, IP67/ IP69K enclosure
	Mounting	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	217 x 188 x 87 mm	239.24 x 194 x 101 mm	217 x 188 x 87 mm (with wall-mount bracket)
Environment	Operating Temp.	-40°C~70° C	-20°C~70° C	-40°C~70° C

# Mini-ITX/ATX System & Chassis

Scalable & Flexible Solutions



## Features

Our IPC systems are comprising of industrial chassis and our latest Intel®/AMD® platform-based embedded boards (ATX, microATX, Mini-ITX) which provide various selections from our embedded computing portfolio with the benefits of customization flexibility.

With high integration, wide compatibility, and outstanding product longevity, the IPC systems are the ideal solutions for a wide range of embedded applications.

### Explore DFI's range of Embedded and IoT Chassis

#### ST102

- MB: Mini-ITX
- W/O PSU
- 1 x 2.5" storage



Stand Type

#### DT122

- MB: Mini-ITX
- W/ Flex ATX PSU
- 2 x 2.5" or 1 x 3.5" storage
- 1 x PCIe (Opt.)



Desktop Type

#### WM120

- MB: Mini-ITX
- W/ O PSU
- 1 x 2.5" storage
- 1 x PCIe (Opt.)



Wall mount Type

#### WM342

- MB: Micro-ATX
- W/ Flex ATX PSU
- 2 x 2.5" storage
- 2 x PCIe



Wall mount Type

#### WM343

- MB: Micro-ATX
- W/ Flex ATX PSU
- 1 or 2 x 2.5" / 3.5" storage
- 4 x PCIe



Wall mount Type

#### RM641

- MB: ATX
- W/ ATX PSU
- 7 x PCIe



Rack mount-4U Type

#### RM646

- MB: ATX/EATX
- ATX/Redundant PSU support
- 7 x PCIe support
- up to 3 x Dual slot GPU cards



Rack mount-4U Type

#### RM645

- MB: ATX
- Redundant PSU support
- 7 x PCIe, Full height card available



Rack mount-4U Type

#### RM840

- MB: ETX
- ATX PS/2
- Up to 10 x PCIe



Rack mount-4U Type

Explore DFI's range of Embedded and IoT Chassis



Model Name	ST102	DT122	WM120
Mount type	Wall mount	Wall mount	Wall mount
Dimension (mm)	219 x 75.15 x 229.7	300 x 75 x 217	224 x 88 x 206
PSU type	DC-in to MB	Flex ATX	DC-in to MB
MB form available	Mini-ITX	Mini-ITX	Mini-ITX
PCIE slots available	N/A	1 x PCIe slot (opt.)	1 x PCIe slot (opt.)
Storage support	1 x 2.5"	2 x 2.5" or 1 x 3.5"	1 x 2.5"



Model Name	WM342	WM343	RM646
Mount type	Wall mount	Wall mount	4U Rack Mount
Dimension (mm)	306.6 x 132.1 x 301.9	349 x 140.2 x 290.9	431.8 x 449.8 x 175.6
PSU type	Flex ATX	Flex ATX	ATX/Mini Redundant
MB form available	Mini-ITX / micro-ATX	Mini-ITX / micro-ATX	ATX / EATX
PCIE slots available	2 x PCIe slots	4 x PCIe slots	7 x PCIe Slots
Storage support	2 x 2.5"	1 x 2.5"/3.5"	5 x 3.5" Hotswap bay tray



Model Name	RM641	RM645	RM840
Mount type	4U Rack Mount	4U Rack Mount	4U Rack Mount
Dimension (mm)	483 x 177 x 451	481.6 x 470.8 x 175.6	483 x 177 x 510
PSU type	ATX PS/2	ATX/Mini Redundant	ATX PS2
MB form available	ATX	ATX	ATX/ EATX
PCIE slots available	7 x PCIe slots	7 x PCIe slots	7 / 10 x PCIe slots
Storage support	1 x 3.5"	8 x 2.5"	5 x 3.5"

## Mini-ITX / ATX System & Chassis



Model Name		SF101-ADS	WM343-ADS336	WM120-CMS171/CMS173	WM343-CMS
Platform		Desktop IPC	Wallmount IPC	Wallmount IPC	Wallmount IPC
System	Processor	14th/13th/12th Gen Intel® Core™ Processor	12th Gen Intel® Core™ Processor	10th Gen Intel® Core™ Processor	10th Gen Intel® Core™ Processor
	Socket	LGA 1700	LGA 1700	LGA 1200	LGA 1200
	Max. Speed	2.4~5.5GHz	2.4~5.0GHz	3.0~4.5GHz	3.0~4.7GHz
	CPU TDP	35W	35/46/60/65/125W	35/65W	35/58/65/125W
	Cache	4/6/12/18/20/24/25/30/33/36M	4/6/12/18/25/30M	2/4/6/12/16/20M	2/4/6/12/16/20M
	Chipset	Intel® R680E	Intel® R680E/Q670E	Intel® Q470E	Intel® Q470E/H420E
	BIOS	AMI SPI 128Mbit	AMI SPI 256Mbit	AMI SPI 128Mbit	AMI SPI 256Mbit
Memory	Technology	Dual Channel DDR4 3200 MHz (ECC/Non-ECC)	Dual Channel DDR4 3200 MHz (R680E supports ECC)	Dual Channel DDR4 2933 MHz	Dual Channel DDR4 2400/2666/2933 MHz
	Max. Capacity	64GB	128GB	64GB	64/128GB
	Socket	2 SODIMM	4 UDIMM	2 SODIMM	2 or 4 UDIMM
Storage		1x 2.5" SATA bay, 1 M.2 2280 M Key	1 or 2x 3.5"/2.5" SATA 3.0 drive bays, 1x 5.25" Optical drive bay, 2 M.2 2242/2260/2280	1x 2.5" SATA 3.0 SSD, 1 M.2 2280 M Key	1 or 2x 3.5"/2.5" SATA 3.0 drive bays, 1x 5.25" Optical drive bay, 1 M.2 (Opt.)
Expansion	PCIe, PCI, Mini PCIe	1 PCIe x16 Gen 5	1 PCIe x16, 2 PCIe x4, 1 PCIe x4	1 PCIe x16 (Gen3 x8signal, Option)	1 PCIe x16 Gen3, 1 PCIe x4 Gen3, 2 PCI
	M.2	1 M.2 2230 E Key, 1 M.2 2280 M Key, 1 M.2 2242/3042/3052 B Key	2 M.2 2242/2260/2280 M key, 1 M.2 2230 E key	1 M.2 2230 E key, 1 M.2 2280 M key, 1 M.2 3042/3052 B key	1 M.2 2242/2260/2280 M Key or 1 M.2 2230 E Key or N/A
	SIM	-	-	1 SIM	-
Audio	Audio Codec	Realtek ALC888S	Realtek ALC888	Realtek ALC888	Realtek ALC888
Ethernet	Controller	1 Intel® I226V PCIe, 1 Intel® I219LM PHY	1 x Intel® I226-LM PCIe, 1 x Intel® I226-V PCIe, 2 x Intel® x550-AT2	1 Intel® I219LM PHY, 1 Intel® I211AT PCIe	1 Intel® I211AT PCIe, 1 Intel® I219LM PHY
LED	Indicators	Power, HDD LED	Power, HDD LED	Power, HDD LED	Power, HDD LED
I/O	Ethernet	1 2.5GbE, 1 GbE	2x 2.5GbE, 2x 10GbE	2 GbE	2 GbE
	Serial	2 COM	2 RS-232/422/485	-	1 RS-232/422/485
	USB	6 USB 3.2 Gen2, 2 USB 2.0	4 USB 3.2 Gen 2, 4 USB 3.2 Gen 1	8 USB 3.2 Gen2, 4 USB 3.2	2 USB 3.2 Gen2, 2~6 USB 3.2 Gen1, 2 USB 2.0
	Display	1 DP++, 1 DP++/HDMI	1 VGA, 2 DP++, 1 HDMI 2.0a	2 DP++	1 VGA, 1 DP++, 1 HDMI
	Buttons	-	Power, Reset	Power, Reset	Power, Reset
	PS/2	-	-	-	1 PS/2 (mini-DIN-6)
	Audio	Line-out	Line-out, Mic-in, Line-in(Opt. MOQ required)	-	Line-out, Mic-in, Line-in (Opt.)
Power		15~36V DC-in	250W/350W/500W FLEX ATX	12V DC-in / 15 to 36V DC-in	250W/500W FLEX ATX
Cooling		-	1x 12cm System Fan	1x 8cm System Fan, w/ replaceable air filter	1x 12cm System Fan
OS Support		Win10 IoT, Linux	Win10 IoT, Linux	Win10 IoT	Win10, Linux
Mechanism	Construction	Metal chassis + Aluminum front bezel	Sheet Metal	Sheet Metal	Sheet Metal
	Mounting	Wall Mount, Rack Mount	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	220 x 43 x 197.2 mm	349 x 140.2 x 290.9 mm	224 x 88 x 206 mm	349 x 140.2 x 290.9 mm
Environment	Operating Temp.	-5°C~45°C	0°C~45°C	-5°C~45°C	0°C~45°C

## Mini-ITX / ATX System & Chassis



Model Name		WM343-CS330	WM343-CS331	WM343-CS332	WM343-CS350
Platform		Wallmount IPC	Wallmount IPC	Wallmount IPC	Wallmount IPC
System	Processor	9th/8th Gen Intel® Core™ Processor	9th/8th Gen Intel® Core™ Processor	9th/8th Gen Intel® Core™ Processor	9th/8th Gen Intel® Core™ Processor
	Socket	LGA 1151	LGA 1151	LGA 1151	LGA 1151
	Max. Speed	2.9~5.0GHz	2.9~5.0GHz	2.9~5.0GHz	2.9~5.0GHz
	CPU TDP	35/54/58/65/95W	35/54/58/65/71/80/95W	35/54/58/65/71/80/95W	35/54/58/65/71/80/95W
	Cache	2/4/6/9/12/16M	2/4/6/8/9/12/16M	2/4/6/8/9/12/16M	2/4/6/8/9/12/16M
	Chipset	Intel® H310/Q370	Intel® Q370/C246	Intel® Q370/C246	Intel® Q370/C246
	BIOS	AMI SPI 128Mbit	AMI SPI 128Mbit	AMI SPI 128Mbit	AMI SPI 128Mbit
Memory	Technology	Dual Channel DDR4 2400/2666 MHz	Dual Channel DDR4 2400/2666 MHz	Dual Channel DDR4 2400/2666 MHz	Dual Channel DDR4 2400/2666 MHz
	Max. Capacity	64 or 128GB	64 or 128GB	64 or 128GB	64 or 128GB
	Socket	2 or 4 DIMM	2 or 4 DIMM	2 or 4 DIMM	2 or 4 DIMM
Storage		1 or 2x 3.5"/2.5" SATA 3.0 drive bays, 1x 5.25" Optical drive bay, 1 mSATA	1 or 2x 3.5"/2.5" SATA 3.0 Drive Bays, 1x 5.25" Optical Drive Bay, 1 mSATA, 1 M.2 2280"	1 or 2x 3.5"/2.5" SATA 3.0 Drive Bays, 1x 5.25" Optical Drive Bay, 1 M.2 2280	1 or 2x 3.5"/2.5" SATA 3.0 Drive Bays, 1x 5.25" Optical Drive Bay, 1 M.2 2280
Expansion	PCIe, PCI, Mini PCIe	1 PCIe x16 Gen3, 1 PCIe x4 Gen3, 2 PCI, 1 Full mPCIe (Q370)	2 PCIe x16 Gen3, 2 PCIe x4 Gen3, 1 mPCIe	1 PCIe x16 Gen3, 2 PCIe x4 Gen3, 1 PCI	2 PCIe x16 Gen3, 2 PCIe x4 Gen3
	M.2	-	1 M.2 2242/2260/2280 M Key	1 M.2 2242/2280 M Key, 1 M.2 2230 E Key	1 M.2 2242/2260/2280 M Key, 1 M.2 2230 E Key
	SIM	-	-	-	-
Audio	Audio Codec	Realtek ALC888	Realtek ALC888	Realtek ALC262-VC2	Realtek ALC888
Ethernet	Controller	1 Intel® I211AT, 2 Intel® I219V	1 Intel® I219LM, 1 Intel® I211AT	1 Intel® I219LM, 1 or 3 Intel® I211AT (Opt.)	1 Intel® I219LM, 1 Intel® I211AT
LED	Indicators	Power, HDD LED	Power, HDD LED	Power, HDD LED	Power, HDD LED
I/O	Ethernet	2 GbE	2 GbE	2 or 4 GbE	2 GbE
	Serial	1 RS-232/422/485	1 RS-232/422/485	1 RS-232/422/485	1 RS-232/422/485
	USB	4 USB 3.2 Gen1, 2 USB 2.0	2 USB 3.2 Gen2, 2 USB 3.2 Gen1, 2 USB 2.0	4 USB 3.2 Gen1, 2 USB 2.0	2 USB 3.2 Gen2, 2 USB 3.2 Gen1, 2 USB 2.0
	Display	1 VGA, 1 DVI-I (DVI-D signal), 1 DP++	1 HDMI, 1 DVI-I (DVI-D signal), 1 DP++	1 VGA, 2 DP++	1 HDMI, 1 DVI-I (DVI-D signal), 1 DP++
	Buttons	Power, Reset Button	Power, Reset Button	Power, Reset Button	Power, Reset Button
	PS/2	1 PS/2 (mini-DIN-6)	1 PS/2 (mini-DIN-6)	1 PS/2 (mini-DIN-6)	1 PS/2 (mini-DIN-6)
	Audio	Line-out, Mic-in, Line-in(Opt.)	Line-out, Mic-in, Line-in(Opt.)	Line-out, Mic-in, Line-in(Opt.)	Line-out, Mic-in, Line-in(Opt.)
Power		250W FLEX ATX (up to 500W)	250W FLEX ATX (up to 500W)	250W FLEX ATX (up to 500W)	250W FLEX ATX (up to 500W)
Cooling		1x 12cm System Fan	1x 12cm System Fan	1x 12cm System Fan	1x 12cm System Fan
OS Support		Win10, Linux	Win10, Linux	Win10, Linux	Win10, Linux
Mechanism	Construction	Sheet Metal	Sheet Metal	Sheet Metal	Sheet Metal
	Mounting	Wall Mount	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	349 x 140.2 x 290.9 mm	349 x 140.2 x 290.9 mm	349 x 140.2 x 290.9 mm	349 x 140.2 x 290.9 mm
Environment	Operating Temp.	0°C~45°C	0°C~45°C	0°C~45°C	0°C~45°C

## Mini-ITX / ATX System & Chassis



Model Name		WM343-KD330	WM343-KD331	WM342-KD330
Platform		Wallmount IPC	Wallmount IPC	Wallmount IPC
System	Processor	7th/6th Gen Intel® Core™ Processor	7th/6th Gen Intel® Core™ Processor	7th/6th Gen Intel® Core™ Processor
	Socket	LGA 1151	LGA 1151	LGA 1151
	Max. Speed	3.8~4.2GHz	3.8~4.2GHz	3.8~4.5GHz
	CPU TDP	65W	65/80W	65/91W
	Cache	3/6/8M	3/6/8M	3/6/8M
	Chipset	Intel® Q170/H110	Intel® C236/Q170	Intel® Q170/H110
	BIOS	Insyde SPI 128Mbit	Insyde SPI 128Mbit	Insyde SPI 128Mbit
Memory	Technology	Dual Channel DDR4 2133/2400 MHz	Dual Channel DDR4 2133/2400 MHz	Dual Channel DDR4 2133/2400 MHz
	Max. Capacity	32GB or 64GB	64GB	32GB or 64GB
	Socket	2 or 4 DIMM	4 DIMM (C236 Supports ECC)	2 or 4 DIMM
Storage		1 or 2x 3.5"/2.5" SATA 3.0 Drive Bays, 1x 5.25" Optical Drive Bay, 1 mSATA (Q170 Only)	1 or 2x 3.5"/2.5" SATA 3.0 Drive Bays, 1x 5.25" Optical Drive Bay	2x 2.5" SATA 3.0 Drive Bays
Expansion	PCIe, PCI, Mini PCIe	1 PCIe x16 Gen3, 1 PCIe x4 Gen3, 1 PCI, 1 Full mPCIe (Q170)	2 PCIe x16 Gen3, 2 PCIe x4 Gen3	1 PCIe x16 Gen3, 1 PCI
	M.2	-	1 M.2 2280 M Key	-
	SIM	-	-	-
Audio	Audio Codec	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S
Ethernet	Controller	1 Intel® I211AT, 1 Intel® I219LM/V	3 Intel® I211AT, 1 Intel® I219LM	1 Intel® I211AT, 1 Intel® I219LM/V
LED	Indicators	Power, Storage LED	Power, Storage LED	Power, Storage LED
I/O	Ethernet	2 GbE	4 GbE	2 GbE
	Serial	1 RS-232/422/485	1 RS-232/422/485	1 RS-232/422/485
	USB	4 USB 3.2, 2 USB 2.0	4 USB 3.2, 2 USB 2.0	4 USB 3.2, 2 USB 2.0
	Display	1 VGA, 1 DVI-I (DVI-D signal), 1 DP++	1 VGA, 1 DVI-I (DVI-D signal), 1 DP++	1 VGA, 1 DVI-I (DVI-D signal), 1 DP++
	Buttons	Power, Reset Button	Power, Reset Button	Power, Reset Button
	PS/2	1 PS/2 (mini-DIN-6)	1 PS/2 (mini-DIN-6)	1 PS/2 (mini-DIN-6)
	Audio	Line-out, Mic-in	-	-
Power		250W FLEX ATX (up to 500W)	250W FLEX ATX (up to 500W)	250W FLEX ATX (up to 500W)
Cooling		1 System Fan	1 System Fan	1 System Fan
OS Support		Win10, Linux	Win10, Linux	Win10 IoT
Mechanism	Construction	Sheet Metal	Sheet Metal	Sheet Metal
	Mounting	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	349 x 140.2 x 290.9 mm	349 x 140.2 x 290.9 mm	306.6 x 132.1 x 301.9 mm
Environment	Operating Temp.	0°C~45°C	0°C~45°C	0°C~45°C

## Mini-ITX / ATX System & Chassis



Model Name		WM342-KD331	WM343-SD330	WM343-SD331
Platform		Wallmount IPC	Wallmount IPC	Wallmount IPC
System	Processor	7th/6th Gen Intel® Core™ Processor	6th Gen Intel® Core™ Processor	6th Gen Intel® Core™ Processor
	Socket	LGA 1151	LGA 1151	LGA 1151
	Max. Speed	3.8~4.5GHz	2.6~4.0GHz	2.6~4.0GHz
	CPU TDP	65/80/91W	35/65W	35/65/80W
	Cache	3/6/8M	2/3/4/6/8M	2/3/4/6/8M
	Chipset	Intel® C236/Q170	Intel® Q170/H110	Intel® C236/Q170
	BIOS	Insyde SPI 128Mbit	Insyde SPI 128Mbit	Insyde SPI 128Mbit
Memory	Technology	Dual Channel DDR4 2133/2400 MHz	Dual Channel DDR4 1866/2133MHz	Dual Channel DDR4 1866/2133MHz
	Max. Capacity	64GB	32 or 64GB	64GB
	Socket	4 DIMM (C236 Supports ECC)	2 or 4 DIMM	4 ECC/non-ECC DIMM
Storage		2x 2.5" SATA 3.0 Drive Bays	1 or 2x 3.5"/2.5" SATA 3.0 Drive Bays, 1x 5.25" Optical Drive Bay, 1 mSATA (Q170 Only)	1 or 2x 3.5"/2.5" SATA 3.0 Drive Bays, 1x 5.25" Optical Drive Bay
Expansion	PCIe, PCI, Mini PCIe	1 PCIe x16 Gen3, 1 PCIe x4 Gen3	1 PCIe x16 Gen3, 1 PCIe x4 Gen3, 2 PCI, 1 Full mPCIe (Q170 Only)	2 x PCIe x16 (1 x16 or 2 x8 signal) Gen 3, 2 x PCIe x4 Gen 3
	M.2	-	-	-
	SIM	-	-	-
Audio	Audio Codec	Realtek ALC888S	Realtek ALC888S	Realtek ALC888S
Ethernet	Controller	3 Intel® I211AT, 1 Intel® I219LM	1 Intel® I210AT, 1 Intel® I219LM	1 Intel® I210AT, 1 Intel® I219LM
LED	Indicators	Power, Storage LED	Power, HDD LED	Power, HDD LED
I/O	Ethernet	4 GbE	2 GbE	2 GbE
	Serial	1 RS-232/422/485	1 RS-232/422/485	1 RS-232/422/485
	USB	4 USB 3.2, 2 USB 2.0	4 USB 3.2, 2 USB 2.0	4 USB 3.2, 2 USB 2.0
	Display	1 VGA, 1 DVI-I (DVI-D signal), 1 DP++	1 VGA, 1 DVI-I (DVI-D signal), 1 DP++	1 VGA, 1 DVI-I (DVI-D signal), 1 DP++
	Buttons	Power, Reset Button	Power Button	Power Button
	PS/2	1 PS/2 (mini-DIN-6)	1 PS/2 (mini-DIN-6)	1 PS/2 (mini-DIN-6)
	Audio	-	Mic-in, Line-out, Line-in (Opt.)	Mic-in, Line-out, Line-in (Opt.)
Power		250W FLEX ATX (up to 500W)	250W FLEX ATX	400W/250W FLEX ATX
Cooling		1 System Fan	1 System Fan	1 System Fan
OS Support		Win10 IoT	Win7, WES7, Win8.1, Win10 IoT, Debian, CentOS, Linux	Win7, WES7, Win8.1, Win10 IoT, Debian, CentOS, Linux
Mechanism	Construction	Sheet Metal	Sheet Metal	Sheet Metal
	Mounting	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	306.6 x 132.1 x 301.9 mm	349 x 140.2 x 290.9 mm	349 x 140.2 x 290.9 mm
Environment	Operating Temp.	0°C~45°C	0°C~45°C	0°C~45°C

## Mini-ITX / ATX System & Chassis



Model Name		ST102-CS	ST102-SD	DT122-SD
Platform		Stand IPC	Stand IPC	Desktop IPC
System	Processor	9th/8th Gen Intel® Core™ Processor	7th/6th Gen Intel® Core™ Processor	7th/6th Gen Intel® Core™ Processor
	Socket	LGA 1151	LGA 1151	LGA 1151
	Max. Speed	2.9~4.0GHz	2.4~3.8GHz	2.4~3.8GHz
	CPU TDP	35W	35W	35W
	Cache	2/4/6/9/12M	2/3/4/6/8M	2/3/4/6/8M
	Chipset	Intel® H310/Q370	Intel® H110	Intel® Q170/H110
	BIOS	AMI SPI 128Mbit	AMI SPI 64Mbit	Insyde SPI 128Mbit
Memory	Technology	Dual Channel DDR4 2666MHz	Dual Channel DDR4 1866/2133/2400MHz	Dual Channel DDR4 1866/2133MHz
	Max. Capacity	32GB	4GB/8GB	32GB
	Socket	2 SODOMM	2 SODOMM	2 SODIMM
Storage		1x 2.5" SATA 3.0 Drive bay, 1 mSATA	1x 2.5" SATA 3.0 Drive bay, 1 Slim ODD Bay (Opt.)	1x 3.5" or 2x 2.5" SATA 3.0 Drive Bay, 1 mSATA (Opt.), 1 Slim ODD Bay (Opt.)
Expansion	PCIe, PCI, Mini PCIe	1 Full mPCIe	-	1 PCIe x16 Gen3 or 1 PCI, 1 Half mPCIe or 1 Full mPCIe
	M.2	1 M.2 2280 M Key, 1 M.2 2230 E Key	-	-
	SIM	-	-	-
Audio	Audio Codec	Realtek ALC888S	Realtek ALC888	Realtek ALC888S
Ethernet	Controller	1 Intel® I210AT, 1 Intel® I219LM	1 Intel® I210AT, 1 Intel® I219LM	1 Intel® I210AT/I211AT, 1 Intel® I219LM/I219V
LED	Indicators	Power, HDD LED	Power, HDD LED	Power, HDD LED
I/O	Ethernet	2 GbE	2 GbE	2 GbE
	Serial	-	-	1 RS-232
	USB	4 USB 3.2, 2 USB 2.0	4 USB 3.2, 2 USB 2.0	4 USB 3.2, 2 USB 2.0
	Display	2 DP++, 1 HDMI	1 DVI-I (DVI-D signal), 1 HDMI/DP	1 VGA, 1 DVI-I (DVI-D signal), 1 DP++
	Buttons	Power	Power	Power, Reset
	PS/2	2	-	-
	Audio	Line-out, Mic-in	Line-out, Mic-in	Line-out, Mic-in, Line-in(Opt.)
Power		12V DC-In Jack	12V DC-In Jack	250W Flex ATX (up to 400W)
Cooling		1 System Fan, 1 CPU Fan	1 System Fan, 1 CPU Fan	1 System Fan, 1 CPU Fan
OS Support		Win10 IoT	Win10 IoT	Win7, WES7, Win8.1, Win10 IoT, Debian 8, CentOS 7, Linux
Mechanism	Construction	Metal chassis + Aluminum front bezel, Kensington lock	Sheet Metal & Aluminum	Front Bezel aluminum + Chassis Sheet Metal
	Mounting	Wall Mount	Wall Mount	Wall Mount
	Dimensions (W x H x D)	219 x 75.15 x 229.7 mm (without of stand holder)	219 x 77.15 x 229.7 mm	300 x 73.6 x 218 mm
Environment	Operating Temp.	-5°C~55°C	0°C~40°C	0°C~45°C



## Mini-ITX / ATX System & Chassis



Model Name		RM641-CS	RM641-SD	RM646-ERX810	DT122-GH
Platform		Rackmount Box PC	Rackmount Box PC	Rack Mount IPC	Desktop IPC
System	Processor	9th/8th Gen Intel® Core™/Pentium®/Celeron® Processors	6th Gen Intel® Core™ Processors	5th/4th Gen Intel® Xeon® Scalable Family Socket: Dual	AMD® Ryzen™ Embedded V1000/R1000 Series
	Socket	LGA 1151	LGA 1151	LGA 4677	Onboard
	Max. Speed	2.9GHz~4.7GHz	2.4GHz~4.0GHz	up to 4.1GHz (Turbo)	3.2~3.8GHz
	CPU TDP	35/54/65/71/80/95W	35/47/65W	up to 270W	12~25 or 35~54W
	Cache	2/4/6/8/9/12M	3/4/6/8M	up to 60MB	1/2M
	Chipset	Intel® C246	Intel® Q170	Intel® C741 Chipset	-
	BIOS	Insyde SPI 128Mbit	Insyde SPI 128Mbit	Insyde	AMI BIOS 64Mbit
GPU / AI Accelerator Card Support		-	-	-	-
Memory	Technology	Dual Channel DDR4 2400/2666MHz (ECC/non-ECC)	Dual Channel DDR4 1866/2133MHz	Single Channel DDR5 Max. 5600MHz	Dual Channel DDR4 3200MHz
	Max. Capacity	128GB	64GB	1024GB	32GB
	Socket	4 UDIMM	4 UDIMM	16 x ECC-RDIMM	2 SODIMM
Storage		3x 5.25" Optical drive bays, 1x 3.5" SATA 3.0 drive bay	3x 5.25" Optical Drive Bays, 1x 3.5"/2.5" SATA 3.0 Drive Bay	1 M.2 2280 M key, 4 SATA 3.0(RAID 0/1/5/10)	1x 3.5" or 2x 2.5" SATA 3.0 Drive Bay, 1 M.2 2280 NVME SSD
Expansion	PCIe, PCI, Mini PCIe	1 PCIe x16 Gen3, 3 PCIe x4 Gen3, 2 PCI, 1 mPCIe	2 PCIe x16 (1 x16 or 2x8) Gen3, 2 PCIe x4 Gen3, 3 PCI	4 x PCIe x16 Gen 5 2 x PCIe x8 Gen5	1 PCIe or 1 PCI
	M.2	1 M.2 2242/2280 M key	-	1 x M.2 M key 2280	-
	SIM	-	-	-	-
Audio	Audio Codec	Realtek ALC887 (ALC888 as Opt.)	Realtek ALC888S	-	Realtek Audio Codec with 5.1 Channel
Ethernet	Controller	1 Intel® I211AT, 1 Intel® I219LM	1 Intel® I210AT, 1 Intel® I219LM	4 x Intel® I210 IPMI: RTL8211F	2 Realtek Ethernet
LED	Indicators	Power, HDD LED	Power, HDD LED	Power, HDD LED	Power, HDD LED
I/O	Ethernet	2 GbE	2 GbE	4 x GbE 1 x Dedicated IPMI LAN	2 GbE
	Serial	1 RS-232/422/485	1 RS-232/422/485	1 x RS-232/422/485 (DB-9)	1 RS-232/422/485, 1 RS-232
	USB	4 USB 3.2, 2/4 USB 2.0	4 USB 3.2, 2/4 USB 2.0	4 x USB 3.2 Gen1	2 USB 3.2, 2 USB 2.0
	Display	1 VGA, 2 DP++	1 VGA, 1 DVI-I (DVI-D signal), 1 HDMI	1 x DP	3 or 4 DP++
	DIO	-	-	-	-
	Buttons	Power, Reset	Power, Reset, ATX	Power	Power, Reset
	PS/2	-	-	1 x PS/2	-
	Antenna	-	-	-	-
Audio	Line-out, Mic-in, Line-in(Opt.)	Line-out, Mic-in, Line-in(Opt.)	1 Front Audio Header	Line-out, Mic-in, Line-in	
Power	ATX PS/2 Power Supply 500W AC Power Input: 90~264V	ATX PS/2 Power Supply 500W AC Power Input: 90~264V	ATX PS/2/ Mini Redundant (Opt.)	150W FLEX ATX	
Cooling	2 x 92cm System Fan with Quick Access Filter	2 x 92cm System Fan with Quick Access Filter	2x 12CM system Fan	1 System Fan, 1 CPU Fan	
OS Support	Win10 IoT, Linux	Win7/WES7, Win8.1, Win10 IoT, Debian 8, CentOS 7, Linux	-	Win10, Linux	
Mechanism	Construction	SECC	SECC	Chassis Sheet Metal	Front Bezel aluminum + Chassis Sheet Metal
	Mounting	Flexible Hold Down Bar	Flexible Hold Down Bar	Rack Mount	Wall Mount
	Dimensions (W x H x D)	483 x 177 x 451 mm	483 x 177 x 451 mm	431.8 x 449.8 x 175.6 mm	300 x 75 x 217 mm
Environment	Operating Temp.	0°C~45°C	0°C~45°C	0°C~40°C	0°C~45°C

# IPC Chassis Series



## Features

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



Model Name		DT122	ST102	WM120
Form Factor	Chassis	Desktop	Stand	Wall mount
	Motherboard	mini-ITX	mini-ITX	mini-ITX
Storage		1 x 2.5"/3.5" SATA Drive Bay	1 x 2.5" SATA Drive Bay	1 x 2.5" SATA Drive Bay
Expansion		1 Expansion Slot (w/o GPU card)	N/A	1 Expansion Slot (only support I/O card) (Opt.)
Reserved I/O	Front	N/A (Opt.)	1 x 2 USB ports, 2 x Audio Jack	2 DB9 ports (Opt.)
	Rear	1 DB25 ports, 3 DB9 ports (Opt.)	N/A	N/A (Opt.)
Panel Control / LED	Buttons	1 Power Switch, 1 Reset Switch, 1 Power LED, 1 HDD LED	1 Power Switch, 1 Power LED, 1 HDD LED	1 Power Switch, 1 Reset Switch, 1 Power LED, 1 HDD LED
Cooling	Fan	1 x 40mm System Fan	1 x 60mm System Fan	1 x 80mm System Fan
Power	Supply	FlexATX PSU (Length up to 150 mm)	DC Jack via MB	DC Jack via MB
Mechanism	Dimensions (W x H x D)	300 x 74 x 217.20 mm	219 x 77.15 x 229.7 mm	224 x 88 x 206 mm
	Weight	TBD	TBD	TBD
Standards and Certifications	Shock	Operating: 3G	Operating: 3G	Operating: 3G
	Vibration	Operating: 1G	Operating: 1G	Operating: 1G



Model Name		WM130	WM342	WM343
Form Factor	Chassis	Wall mount	Wall mount	Wall mount
	Motherboard	mini-ITX	micro-ATX	micro-ATX
Storage		1 x 2.5" SATA Drive Bay	2 x 2.5" or 1 x 3.5" SATA drive bays	1 x 3.5" SATA drive bay, 1 x 5.25" Optical Drive Bay (Opt.)
Expansion		1 Expansion Slot	2 Expansion Slots	4 Expansion Slots
Reserved I/O	Front	2 x 2 USB ports, 3 x DB9 ports, 1 x Terminal block (4 pins) (Opt.)	N/A (Opt.)	N/A (Opt.)
	Rear	N/A (Opt.)	1 x 2 USB ports, 3 x DB9 ports (Opt.)	2 x DB-9 Cutout, 4 x 2 USB 2.0 Cutout (Opt.)
Panel Control / LED	Buttons	1 Power Switch with LED	1 Power Switch, 1 Reset Switch, 1 Power LED, 1 HDD LED	1 Power Switch, 1 Reset Switch, 1 Power LED, 1 HDD LED
Cooling	Fan	1 x 80mm System Fan	1 x 120mm System Fan	1 x 120mm System Fan
Power	Supply	DC Jack/Termainl Block	FlexATX	FlexATX
Mechanism	Dimensions (W x H x D)	200 x 140.8 x 210.6 mm	306.6 x 132.1 x 301.9 mm	349 x 140.2 x 290.9 mm
	Weight	1.7 Kg (3.75 lb)	TBD	7 Kg (15.4lb)
Standards and Certifications	Shock	Operating: 3G	Operating: 3G Non-operating: 5G	Operating: 3G Non-operating: 5G
	Vibration	Operating: 1G	Operating: random 5~500Hz 0.5G Non-operating: Sweep Sine 10~500Hz 1.5G	Operating: random 5~500Hz 0.5G Non-operating: Sweep Sine 10~500Hz 1.5G



Model Name		RM641	RM645	RM840
Form Factor	Chassis	Rack Mount	Rack Mount	Rack Mount
	Motherboard	ATX	ATX	EATX
Storage		3 x 5.25" Optical Drive Bays (Front Accessible) 1 x 3.5"/2.5" SATA Drive Bay (Front Accessible)	up to 8 x 2.5" drive bays	2 x 5.25" (Front), 1 x 3.5" (Front), 5 x 3.5"(Internal)
Expansion		7 Expansion Slots	7 Expansion Slots	7 Expansion Slots
Reserved I/O	Front	1 x Drive Panel Door With Keylock, 2 x USB 2.0 Cutout (Opt.)	N/A	2 x USB, 1 x PS/2 (Opt.)
	Rear	1 x DB-9 Cutout (Opt.)	N/A	1 x DB25 ports (Opt.)
Panel Control / LED	Buttons	1 Power Switch with LED, 1 HDD LED, 1 Reset Switch	1 Power Switch, 1 Power LED, 1 HDD LED	1 Power Switch, 1 Reset Switch, 1 Power LED, 1 HDD LED
Cooling	Fan	2 x 92mm System Fan with Quick Access Filter	2 x 120mm System Fan	2 x 90mm System Fan
Power	Supply	PS/2-ATX	PS/2-ATX, Mini-Redundant / 1+1 Redundant PSU	PS/2-ATX
Mechanism	Dimensions (W x H x D)	483 x 177 x 451 mm	481.5 x 175.6 x 470.8 mm	483 x 177 x 510 mm
	Weight	TBD	TBD	TBD
Standards and Certifications	Shock	Operating: 3G Non-operating: 5G	"Operating: 3G Non-operating: 5G"	"Operating: 3G Non-operating: 5G"
	Vibration	Operating: random 5~500Hz 1G Non-operating: Sweep Sine 10~500Hz 1.5G	Operating: random 5~500Hz 1G Non-operating: Sweep Sine 10~500Hz 1.5G	Operating: random 5~500Hz 1G Non-operating: Sweep Sine 10~500Hz 1.5G



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