DFI Desire For Innovation

Application-Specific System

Our Reliable Embedded Systems for Specialized Applications across Diverse Industries.

Our Trusted Embedded Systems for Specialized Applications across Diverse Industries.

We provide a diverse range of Application-Specific Systems, expertly tailored to address the unique requirements of industries like Railway, In-Vehicle, Medical, and Agile Infotainment. Each solution is thoughtfully engineered to overcome sector-specific challenges, driving innovation and boosting efficiency across various industries.

Embedded Systems Index

In-Vehicle Systems

VC700-ASL

Products Type	Processor	Model	Index
System	10th Gen Intel® Core™ Processor	VC500-CMS	P6
		VC500-CMS-MXM	
	9th/8th Gen Intel® Core™ Processor	VC300-CS	
	7th Gen Intel® Core™ Processor	VC70B-KU	P7
	Intel® Atom® Amston Lake Processor	VC700-ASL	
	Intel® Atom® Processor E3900	VC230-AL	
	Intel® Atom® Processor E3800	VC230-BT	P8
	NXP i.MX8M	VC900-M8M	
Panel PC	Intel® Atom® Processor E3800	VP101-BT	P9
	NXP i.MX 8M Dual/Quad Cortex-A53	VP070-M8M	
		VP101-M8M	

Railway Systems

RC300-CS

Products Type	Processor	Model	Index
System	9th/8th Gen Intel® Core™ Processor	RC300-CS	P10
	Intel® Atom® Amston Lake Processor	RC700-ASL	

Medical Systems

MPC350-RPS

Products Type	Processor	Model	Index
System	13th Gen Intel® Core™ Processor	MPC350-RPS	P11
	6th Gen Intel® Core™ Processor	MD711-SU	
Monitor	-	MDPi270	P12
		MDPi238	
		MDPi215	
		MDP156	

Innovative Agile Infotainment Solutions

GM841-HPF

Products Type	Processor	Model	Index
System	14th/13th/12th Gen Intel® Core™ Processor	GM850-RPF	P13
	9th/8th Gen Intel® Core™ Processor	GM831-CSF	
	Intel® Atom® Alder Lake-N Processors	EC70A-ADN	
	AMD® Ryzen™ Embedded 8000 Series	GM841-HPF	P14
	AMD® Ryzen™ V2000 Series	GM840-RNF	
	AMD® Ryzen™ V1000/R1000/R2000 Series	GM341-GHF	P15
	NXP i.MX 8M Mini	GM310-8MM	
Motherboard-Mini-ITX	14th/13th/12th Gen Intel® Core™ Processor	RPS183-Q670E	P16
		RPS183-H610E	
	AMD® Ryzen™ Embedded 8000 Series	HPT171	
	AMD® Ryzen™ V2000 Series	RNO171	
Motherboard-Peripheral	FPGA + MCU	GM903	P17

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.

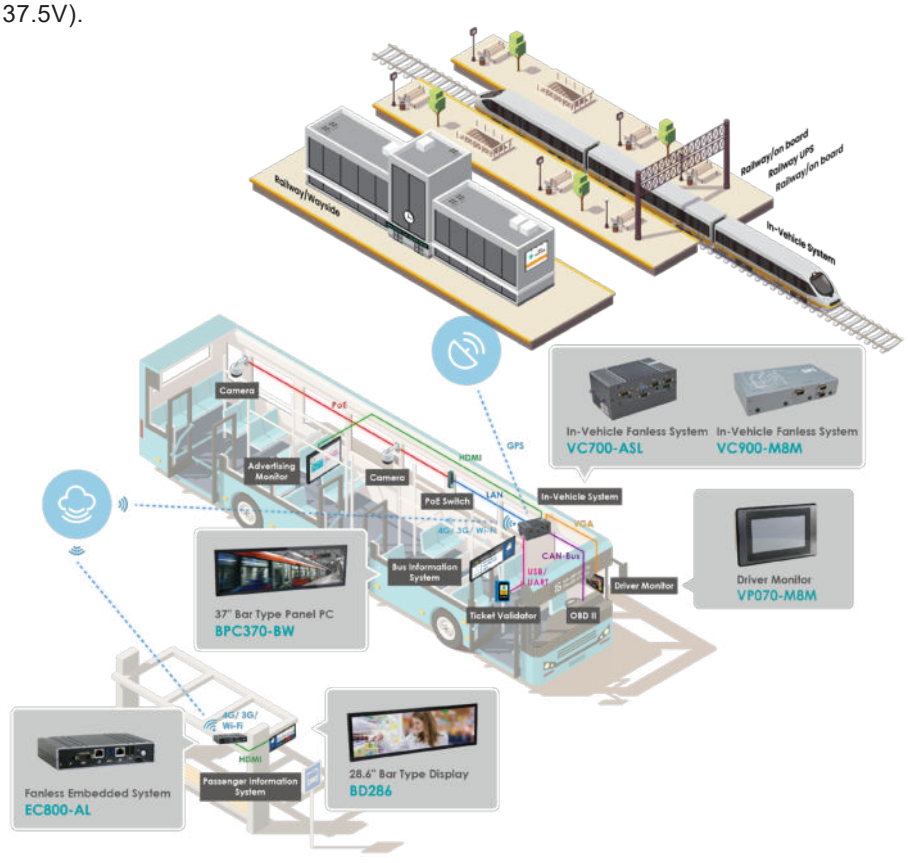
DFI railway system commits to achieving high versatility and reliability in today's increasingly complex rolling stock operations. With NVIDIA MXM modules and 5G capabilities, they can handle autonomous driving and AI vision in the IoT ecosystem. Moreover, all the essential standards and features for 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.

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

4KV Isolated I/O Ports

Medical-Grade Antibacterial Finish

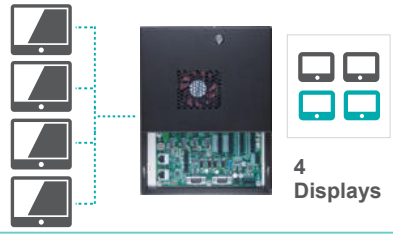
Extensive Computing Solutions for Infotainment Excellence

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.

Infotainment I/O & Intrusion Detection

4 Display Ports Support 4K @ 60Hz



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 87.55 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-KU	VC700-ASL	VC230-AL
Platform		ULT	Intel® Atom®	Atom
System	Processor	7th Gen Intel® Core™	Intel® Atom® Amston Lake	Intel Atom® Processor E3900
	Socket	FCBGA 1356	-	BGA 1296
	Max. Speed	2.4~2.8GHz	3.2~3.6GHz	1.6~2.0GHz
	CPU TDP	15W	6/9/12W	6.5/9/12W
	Cache	3/4M	-	2M
	Chipset	-	-	-
	BIOS	Insyde SPI 128Mbit	AMI SPI 64Mbit	Insyde SPI 64Mbit
GPU / AI Accelerator Card Support		N/A	N/A	N/A
Memory	Technology	Dual Channel DDR4 2133MHz	LPDDR5 5200MHz	Single Channel DDR3L 1600/1866MHz
	Max. Capacity	4/8GB	4/8GB	8GB
	Socket	Memory Onboard	Memory down	1 SODIMM
Storage		1x 2.5" SATA 3.0 Drive Bay	2x swappable 2.5" SATA Drive Bays (Opt.), eMMC 64GB	eMMC up to 64GB, 1 mSATA
GNSS		N/A	Support	Support
Sensor		N/A	9 axis IMU(3 Accelerometer + 3 Gyroscope + 3 Magnetometer)	N/A
Expansion	PCIe, PCI, Mini PCIe	1 Full mPCIe, 1 Half mPCIe	2 Mini-PCIe (1 Half + 1 Full)	2 Full mPCIe, 1 Half mPCIe
	M.2	-	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	3 SIM
Audio	Audio Codec	Realtek ALC888	-	-
Ethernet	Controller	1 Intel® I210IT, 1 Intel® I219LM	2 Intel® i210	2 Intel® I210AT
LED	Indicators	Status, HDD	Power, Storage, Programmable	Power, Storage LED
I/O	PoE/10G	-	-	-
	Ethernet (GbE)	2 GbE (RJ45)	2 GbE (M12)	2 GbE (RJ45)
	Serial	2 RS-232/422/485, 4 RS-232 (DB-9)	2 RS-232/422/485 (DB9-M)	1 RS-232/422/485 (DB9-M)
	USB	4 USB 3.2, 2 USB 2.0	4 USB 3.2 type A	2 USB 3.2, 2 USB 2.0
	Display	1 HDMI, 1 VGA	1 HDMI, 1 VGA	1 HDMI, 1 DVI-I
	DIO	8-bit DIO (Opt.)	8-bit Isolated DIO up to 30V Input	8-bit Isolated DIO up to 30V Input
	Buttons	Power, Reset Button	Reset Button	Reset Button
	Antenna	5 Holes	7 Holes	4 SMA Holes, 1 FME Hole
	Audio	Line-out, Mic-in	Line-out, Mic-in	1 x 4pins 5.00mm terminal block
	OOB	-	-	-
	CANBus	CAN-Bus via DB-9 port (Opt.)	2 CAN 2.0B (DB9-M)	CAN-Bus via DB-9 (Opt.)
Power		9~36V DC-in with Ignition control	9~36V DC-in with ignition control	9~36V DC-in with Ignition control
Cooling		Fanless	Fanless	Fanless
OS Support		Win10 IoT, Win10, Linux	Win10, Win11, Linux Ubuntu	Win10, Linux, CentOS 7
Mechanism	Construction	Aluminum + Sheet Metal	Aluminum + SPGC Metal	Aluminum + SPGC Metal
	Mounting	Wall/VESA/DIN Rail Mount	Wall mount	Wall/VESA mount
	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		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

		10.1"	10.1"	7"
Model Name		**VP101-BT**	**VP101-M8M**	**VP070-M8M**
Platform		Intel® Atom®	ARM	ARM
System	Processor	Intel® Atom® Processor E3800	NXP i.MX 8M Dual / Quad Cortex-A53	NXP i.MX 8M Dual / Quad Cortex-A53
	Socket	BGA 1170	-	-
	Max. Speed	1.33~1.91GHz	1.3GHz	1.3GHz
	CPU TDP	10W	-	-
	Cache	2M / 1M	-	-
	Chipset	AMI SPI 64Mbit	-	-
	BIOS	Single Channel DDR3L 1333MHz	Single Channel LPDDR4 3200 MHz	Single Channel LPDDR4 3200 MHz
GPU / AI Accelerator Card Support		2GB / 4GB	2GB / 4GB	2GB / 4GB
Memory	Technology	ECC Memory Down	Memory Down	Memory Down
	Max. Capacity	10.1" TFT LCD Panel with Capacitive Touch Screen	10.1" PCAP TFT	7" PCAP TFT
	Socket	1280 x 800	1280 x 800	1024 x 600
Storage		500 cd/m²	1200 cd/m², 500 cd/m²	425 cd/m²
GNSS		1 HDMI, 1 VGA	-	-
Sensor		1x 2.5" SATA 2.0 Drive Bay, 1 micro SD (Opt.), Onboard eMMC (Opt.)	16GB eMMC (Up to 64GB)	16GB eMMC (Up to 64GB)
Expansion	PCIe, PCI, Mini PCIe	N/A	6 axis IMU (3 Accelerometer + 3 Gyroscope)	6 axis IMU (3 Accelerometer + 3 Gyroscope)
	M.2	3 Mini PCIe, 1 SIM	1 M.2 2242/3042 B Key, 1 M.2 2230 E Key, 1 Nano SIM	1 M.2 2242/3042 B Key, 1 M.2 2230 E Key, 1 Nano SIM
	microSD, SIM	Realtek ALC886	SGTL5000	SGTL5000
Audio	Audio Codec	2 Intel® I210AT	AR8035	AR8035
Ethernet	Controller	Power, HDD LED	Power	Power
LED	Indicators	2 GbE	1 GbE	1 GbE
I/O	PoE/10G	4 RS-232/422/485,1 RS-232	1 RS-232/422/485, 3 RS-232, 1 CAN Bus	1 RS-232/422/485, 1 RS-232, 1 CAN Bus
	Ethernet (GbE)	1 USB 3.2 Gen1, 3 USB 2.0	2 USB 3.2 Gen1, 1 OTG micro USB	2 USB 3.2 Gen1, 1 OTG micro USB
	Serial	1 HDMI, 1 VGA	-	-
	USB	1 Line-out, 1 Mic-in	1 x 3W Speaker	with Amplifier to support 2W speaker (Opt.) 1 Line-out, 1 Mic-in (internal header)
	Display	Power Button, Reset Button	1 Reset switch, 1 re-download switch	1 Reset switch
	DIO	2	-	-
	Buttons	9~36V DC-in In-Vehicle Power Management IncludesIgnition On/Off and System On/Off Delay Time Control	9~36V DC Power input, with ACC / IGN control	9~36V DC Power input, with ACC / IGN control
	Antenna	Win7, Win10, Linux	Android 9.0 / Yocto 2.5 (Opt.)	Android 9.0 / Yocto 2.5 (Opt.)
	Audio	Aluminum Front Bezel	Aluminum + SGCC	Aluminum + SGCC
	OOB	IP65 Front Panel	IP65 Front Panel	IP65 Front Panel
	CANBus	Panel / VESA Mount	Panel / VESA Mount	Panel / VESA Mount
Power		294 x 193 x 65 mm	294 x 193 x 53 mm	235 x 150 x 54 mm
Cooling		1.7 kg	1.67 kg	2.9 kg
OS Support		-20°C ~ 60°C	-20°C ~ 70°C	-20°C ~ 70°C
Mechanism	Construction	5% ~ 85% RH (non-condensing)	10% ~ 90% RH (non-condensing)	10% ~ 90% RH (non-condensing)
	Mounting	Wall/VESA/DIN Rail Mount	Wall mount	Wall/VESA mount
	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

Railway Systems

Model Name		RC300-CS	RC700-ASL
Platform		Desktop	Intel® Atom®
System	Processor	9th/8th Gen Intel® Core™	Intel® Atom® Amston Lake
	Socket	LGA 1151	-
	Max. Speed	1.8~2.4GHz	3.2~3.6GHz
	CPU TDP	35W	6/9/12W
	Cache	9/12M	-
	Chipset	Intel® Q370	-
	BIOS	AMI SPI 128Mbit	AMI SPI 64Mbit
GPU / AI Accelerator Card Support		up to 115W GPU MXM module without active fan MXM Type A/B/C	N/A
Memory	Technology	Dual Channel DDR4 2666/2400MHz	LPDDR5 5200MHz
	Max. Capacity	64GB	4GB/8GB
	Socket	2 SODIMM	Memory down
Storage		2/4 Swappable 2.5" 7mm SSD Storage Bays, 1 M.2 2280 M Key	eMMC 64GB, M.2 2242/2280 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	1 Half mPCIe, 1 Full mPCIe,1 M.2 2230 A+E Key, 1 M.2 3042/3052 B Key, 1 M.2 2242/2280 B+M Key
	microSD, SIM	3	1
Ethernet	Controller	5 Intel® I210IT, 1 Intel® I219LM	2 Intel® i210
LED	Indicators	Power, Storage, PoE	Power, Storage, Programmable
I/O	PoE/10G	2 GbE (RJ45), 4 M12 X-coded PoE	2 GbE (M12 X-coded)
	Ethernet (GbE)	2 RS-232/422/485 (DB-9)	2 RS-232/422/485 (DB9-M)
	Serial	4 USB 3.2, 2 USB 2.0	4 USB 3.2 type A
	USB	1 VGA, 1 HDMI, 1 DP++	1 VGA, 1 HDMI
	Display	Mic-in, Line-out	Mic-in, Line-out, Stereo speaker
	DIO	8-bits DI + 8-bits DO (Isolated) (DB-9)	2 8-bits DIO (Isolated) (DB15-M)
	Buttons	Power, Reset	Reset
	Antenna	7 SMA Holes	3 antenna holes, 4 Fakra antenna holes
Power		77~137.5VDC or 9~36VDC	14.4~160VDC
Cooling		Fanless	Fanless
OS Support		Win10 IoT Enterprise, Linux Ubuntu	Win10, Win11, Linux Ubuntu
Mechanism	Construction	Metal + Aluminum	Aluminum + SPGC Metal
	Mounting	Wall Mount	Wall Mount
	Dimensions (W x H x D)	340.5 x 132 x 223mm	182.4 x 95 x 118.4mm
Environment	Operating Temp.	-25°C~55°C or -25°C~70°C	-40°C~85°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 PCIexpress 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		MDPi270 (27")	MDPi238 (23.8")	MDPi215 (21.5")	MDP156 (15.6")
Display	Display	27" TFT LCD	23.8" TFT LCD	21.5" TFT LCD	15.6" TFT LCD
	Max. Resolution	1920 x 1080 (4K Option)	1920 x 1080	1920 x 1080	1920 x 1080
	Luminance	300 nits	250 nits	350 nits	250 nits
	Contrast	3000:1	1000:1	1000:1	700:1
	View Angle	160(H) / 140(V)	178(H) / 178(V)	178(H) / 178(V)	-85~85(H) / -85~85(V)
	Color Depth	8 bits	6 bits + FRC	8 bits	6 bits
	Display Colors	16.7M	16.7M	16.7M	262K
	Response Time (ms)	12 (On/Off)	14 (GtG)	22 (On/Off)	30
	Backlight MTBF	30,000 hrs (Min.)	30,000 hrs (Min.)	50,000 hrs (Min.)	50,000 hrs (Min.)
Touch Screen	Type	Projected Capacitive	Projected Capacitive	Projected Capacitive	Projected Capacitive
	Touch Point	10	10	10	10
	Glass Coating	AG	AG	AG	N/A
	Interface	Combo (USB/RS232)	Combo (USB/RS232)	Combo (USB/RS232)	USB
Systems	Color Temperature	Neutral/Warm/Cool/User	Neutral/Warm/Cool/User	Neutral/Warm/Cool/User	9300/7500/6500/5800/sRGB/User
	Gamma Selection	Neutral/2.2/DICOM	Neutral/2.2/DICOM	Neutral/2.2/DICOM	OFF/1.8/2.0/2.2/2.4
	Gamma LUT (bits)	10	10	10	N/A
	OSD Languages	English/French/German/ Italian/Spanish/Japanese	English/French/German/ Italian/Spanish/Japanese	English/French/German/ Italian/Spanish/Japanese	English/Japanese
	Speaker	2 x 2W Speaker	2 x 2W Speaker	2 x 2W Speaker	2 x 2 Watt speaker
I/O Interface	VGA	1 VGA	1 VGA	1 VGA	1 VGA
	DP	1 DP1.2	1 DP1.2	1 DP1.2	N/A
	HDMI / DVI	1 HDMI 1.4 or DVI-D	1 HDMI 1.4 or DVI-D	1 HDMI 1.4 or DVI-D	1 HDMI
	Audio	1 Line-in	1 Line-in	1 Line-in	1 Line-in
	Power input	1 DC IN	1 DC IN	1 DC IN	1 DC IN
Power requirements	AC Input	External power adapter, 100 ~ 250V	External power adapter, 100 ~ 250V	External power adapter, 100 ~ 250V	DC 12V /3A, < 36 Watt
	Power Consumption	40W (Max)	40W (Max)	40W (Max)	10W typical, normal operation
Mechanical	Chassis Material	Plastic ABS	Plastic ABS	Plastic ABS	Plastic
	Color	White	White	White	White
	Dimension (W x H x D)	651 x 441 x 175 mm (with Stand) 651 x 402 x 69 mm (w/o Stand)	581 x 400 x 175 mm (with Stand) 581 x 360 x 69 mm (w/o Stand)	537 x 387 x 175 mm (with Stand) 537 x 339 x 69 mm (w/o Stand)	387.8 x 232.9 x 38.45 mm
	Weight	10.3 (with Stand) 8.4 (w/o Stand)	9.5 (with Stand) 7.7 (w/o Stand)	8.2 (with Stand) 6.5 (w/o Stand)	3.5 (w/o Stand)
	Mounting	100 x 100 mm VESA mount	100 x 100 mm VESA mount	100 x 100 mm VESA mount	75 x 75 mm VESA mount
	Operating Temperature	0°C ~ 40°C	0°C ~ 40°C	0°C ~ 40°C	0°C ~ 40°C
	Storage Temperature	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C
	Operating Humidity	30% ~ 75% (non-condensing)	30% ~ 75% (non-condensing)	30% ~ 75% (non-condensing)	5% ~ 95% (non-condensing)
Others	OSD	RotaryKnob buttons on the side edge Power On/Off, Menu	RotaryKnob buttons on the side edge Power On/Off, Menu	RotaryKnob buttons on the side edge Power On/Off, Menu	7 keys (Menu,Input,Power...)
Certification	Certification	cTUVus(60601 Ed3.1), CE(EN 60601-1, EN60601-1-2,), FCC-class B	cTUVus(60601 Ed3.1), CE(EN 60601-1, EN60601-1-2,), FCC-class B	cTUVus(60601 Ed3.1), CE(EN 60601-1, EN60601-1-2,), FCC-class B	CE, FCC, RoHS, UL60601
Protection	IP level	IP65 Rating Protection in front bezel & IPx1 in back cover	IP65 Rating Protection in front bezel & IPx1 in back cover	IP65 Rating Protection in front bezel & IPx1 in back cover	-

*Populated by default

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	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

Innovative Agile Infotainment Solutions

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 SATADOM 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

Q670E

H610E

AMD

AMD

Model Name		RPS183-Q670E	RPS183-H610E	HPT171	RNO171
Platform		Desktop	Desktop	AMD	AMD V-Series
System	Processor	14th/13th/12th Gen Intel® Core™	14th/13th/12th Gen Intel® Core™	AMD® Ryzen™ Embedded 8000 Series	AMD® Ryzen™ Embedded V2000 Series
	Socket	LGA 1700	LGA 1700	-	FP6
	Max. Speed	2.4~5.8GHZ	2.4~5.8GHZ	4.9~5.1GHz	3.95~4.25GHz
	TDP	35/46/60/65W	35/46/60/65W	15W~54W	15/45W
	Cache	4/6/12/18/20/24/25/30/33/36M	4/6/12/18/20/24/25/30/33/36M	6/8M	3/4M
	Chipset	Intel® Q670E	Intel® H610E	-	-
	BIOS	AMI SPI 256Mbit	AMI SPI 256Mbit	AMI SPI 256Mbit	AMI BIOS
Memory	Technology	Dual Channel DDR5 4800MHz (ECC supported)	Dual Channel DDR5 4800MHz (ECC supported)	Dual Channel DDR5 5600/5200/4800MHz	Dual Channel DDR4 3200MHz (ECC supported by selected SKU)
	Max. Capacity	64GB	64GB	96GB	64GB
	Socket	2 SODIMM	2 SODIMM	2 SODIMM	2 SODIMM
Graphics	Connector	1 DP++(CPU), 1 DP++(MXM), 1 USB Type C(DP Alt-mode), 1 eDP(MXM), 1 internal HDMI(MXM)	1 DP++(CPU), 1 DP++(MXM), 1 USB Type C(DP Alt-mode), 1 eDP(MXM), 1 internal HDMI(MXM)	4 DP++ or 3 DP++ + 1 M.2 A display	4 DP++
Expansion	PCIe, PCI	1 PCIe x4 (Gen3)	-	1 PCIe x16 (Gen4)	1 PCIe x16 (Gen3)
	Mini PCIe / M.2	1 M.2 B key 2242/3042/3052 1 M.2 E key 2230, 1 M.2 M key 2280	1 M.2 B key 2242/3042/3052 1 M.2 E key 2230, 1 M.2 M key 2280	1 M.2 M Key 2280, 1 M.2 A Key 3030	1 M.2 M key 2280
	SIM	1 Nano SIM	1 Nano SIM	eMMC B2B header, GIO1 (UART, USB2, AUDIO R/L), GIO2 (PCIE x1)	-
Audio	Audio Codec	ALC888S	ALC888S	1 Realtek ALC888S, 1 Realtek ALC105(3W)	ALC888S
Ethernet	Controller	1 Intel® I226LM, 1 Intel® I226V	1 Intel® I219V, 1 Intel® I226V	2 Intel® I226V	2 Realtek RTL8119-CG
Rear I/O	Ethernet	2x 2.5GbE	2x 2.5GbE	2x 2.5GbE	2 GbE
	Serial	-	-	1 Full RS232, 1 RS232/RS422/RS485	1 RS232/422/485, 1 RS232
	USB	4 USB 3.2 Gen2 or 3 USB 3.2 Gen2+ 1 USB Type C	2 USB 3.2 Gen2 + 2 USB 2.0 or 2 USB 3.2 Gen2 + 1 USB Type C	1 USB 3.0 Gen2, 1 USB Type, 2 USB 2.0	2 USB 3.2 Gen1, 2 USB 2.0
	Display	1 DP++ (CPU), 1 DP++ (MXM), 1 USB Type C (DP alt-mode)	1 DP++ (CPU), 1 DP++ (MXM), 1 USB Type C (DP alt-mode)	4 DP++, 1 USB Type C (DP Alt-mode)	4 DP++
	Audio	Line-out, Mic-in	Line-out, Mic-in	1 Front audio (Line-out, Line-in, Mic-in)	1 Audio Jack (Lin-out/Mic-in/Line-in)
Internal I/O	Serial	2 RS-232/422/485	2 RS-232/422/485	2 RS232 / TTL header, 2 RS232 / ccTalk header	4 RS232
	USB	2 USB 3.2 Gen1, 1 USB 2.0	2 USB 3.2 Gen1, 1 USB 2.0	4 USB 2.0, 1 USB 2.0 vertical	3 USB 2.0 + 1 USB 2.0 Vertical Type A or 4 USB 2.0(Opt.)
	Display	1 eDP (MXM), 1 HDMI (MXM)	1 eDP (MXM), 1 HDMI (MXM)	-	-
	Audio	-	-	1 3W Speaker L/R header / 1 S/PDIF	1 Front Audio(Mic-in/Line-out), 1 S/PDIF
	Storage	1 SATA 3.0	1 SATA 3.0	2 SATA 3.0, (RAID 0/1) w/ M.2 M key	2 SATA 3.0
	DIO	8-bit DIO	8-bit DIO	8-bit DIO	-
	LPC**	-	-	-	-
	SMBus	2	2	2 I2C, 1 SPI	-
TPM / iAMT		dTPM (default) / fTPM (Opt.)	dTPM (default) / fTPM (Opt.)	dTPM 2.0(Default), fTPM (Opt.)	TPM 2.0 (Opt.)
Power		19~24V DC In	19~24V DC In	12V DC In	12V DC In
Operating Temperature		-5°C~65°C	-5°C~65°C	-5°C~65°C	-5°C~65°C

**Supports LPC EXT-RS232/RS485 module

Model Name		GM903
Processor	FPGA + MCU	FPGA & MUC implementation of the Infotainment features controller
Internal I/O	USB	Pin header for USB 2.0 signal input
	UART	Pin header for UART signal input
	I2C	Pin header for I2C signal input
	Host Interface	High/low speed connector, 1 PCIe x1 slot (Gold finger)
Infotainment	Intrusion Detection	8 x intrusion detection
	DI/DO	32-bit Digital Input, 32-bit OC output
	iButton	Support iButton 1-wire protocol, ds1996 device
	Meter Power	8 ports can be set as meter output with disconnect detect
	Serial	2 x RS232/CCTalk (TX/RX)
	Audio	Stereo 6W+6W Class D Audio AMP Output
	Security	SHA-256 or AES-256, 128B RBG (Opt.)
	SRAM (NVRAM)	Support 2pcs SRAM (BGA type)
	EEPROM	EEPROM 2KB
	Coin battery	1 CR2032 Lithium 3V/220mAh with socket type, 1 header for cable type
Hardware	Dimension	170mm x 113 mm
Power		12V DC-in