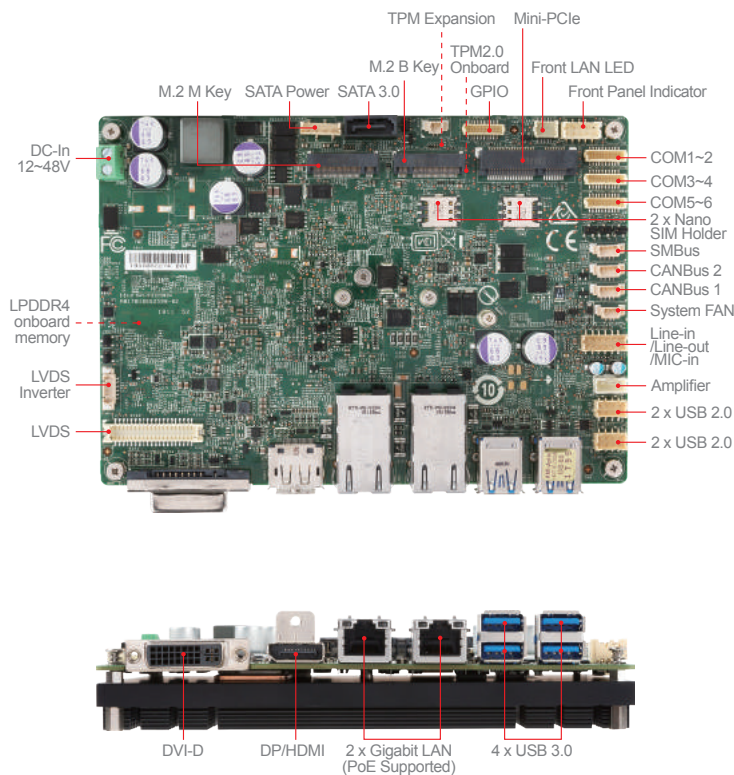


MS-98H5

EPIC SBC with Intel® Apollo Lake/Apollo Lake-I for Fanless, Low-Power, PoE, CANBus & Wide Temperature Solution

NEW



Features

- Supports Dual GbE LAN with IEEE PoE 802.3af & 2 channel CANBus 2.0B
- Supports 3 independent displays : DVI-D, DP (Co-Lay HDMI) and LVDS
- Supports LPDDR4 2133/2400 MHz onboard memory up to 4GB
- Supports 4 USB 3.0, 4 USB 2.0, and 6 COM ports (all with power)
- Mini-PCle & M.2 B Key 3042 with NANO SIM-Holder , SATA 3.0, M.2 M Key 2242 for storage
- Apollo Lake-I Series support wide operating temperature : -40 ~ 85°C
- Supports wide voltage 12~48V for in-vehicle application
- Compact design for anti-vibration devices in harsh environments

Ordering Information

Part Number	Description
Coming soon	

Packing List

Part Number	Description
Coming soon	

Specifications

Processor	CPU	Intel® Pentium® Processor N4200, QC, 6W Intel® Celeron® Processor N3350, DC, 6W	Intel® Atom™ x7 Processor E3950, QC, 12W Intel® Atom™ x5 Processor E3940, QC, 9.5W Intel® Atom™ x5 Processor E3930, DC, 6.5W	
	Frequency	N4200, 1.1 GHz, up to 2.5 GHz N3350, 1.1 GHz, up to 2.4 GHz	E3950, 1.6 GHz, up to 2.0 GHz E3940, 1.6 GHz, up to 1.8 GHz E3930, 1.3 GHz, up to 1.8 GHz	
	L2 Cache	2M		
	CPU Type	BGA		
Memory	Chipset	Integrated in SoC		
	BIOS	AMI		
	Technology	Single-channel LPDDR4 2400MHz	Single-channel LPDDR4 2133/2400MHz	
	Max. Capacity	Up to 4 GB		
Display	Socket	Onboard		
	Controller	Intel® HD Graphics		
	Graphic Memory	Shared system memory up to 1.7 GB SDRAM		
	LVDS	Dual Channel 18/24-bit		
	eDP	N/A		
	VGA	N/A		
	DVI	1 (DVI-D)		
	HDMI	1 (by BOM option)		
	DisplayPort	1 (Co-lay HDMI)		
	Multiple Display	3 independent displays		
Ethernet	Controller	2 x Intel® I211-AT GbE LAN	2 x Intel® I210-IT GbE LAN (w/ PoE IEEE 802.3af)	
		Controller	Realtek® ALC887 HD Audio Codec	
Super I/O	Controller	Fintek F81867D-I		
	Watchdog Timer	256-level Watchdog Timer		
H/W Monitor	Smart Fan	Yes		
	TPM	Controller	Pin header (Default) Infineon SLB9665TT 2.0 (by BOM option) Infineon SLB9665XT 2.0 (Default)	
I/O Interface	USB	4 x USB 3.0 (rear) 4 x USB 2.0 (internal)		
		Serial	6 x COM ports (internal) COM1~2: RS-232/422/485, 0V/5V/12V COM3~6: RS-232, 0V/5V/12V	
	Parallel	N/A		
	PS/2	N/A		
	GPIO	16-bits (8 x GPI; 8 x GPO), 5V		
	Expansion Slot	PCIe x 16	N/A	
PCIe x 4		N/A		
PCIe x 1		N/A		
PCI		N/A		
M.2		1 x M Key (SATA 3.0), 2242 1 x B Key (PCIe x1, USB2.0), 3042		
Storage	Mini-PCle	1 x Full-size (w/ SIM holder)		
	SATA	1 x SATA 3.0		
	IDE	N/A		
	eSATA	N/A		
	CFast	N/A		
	mSATA	N/A		
Power Supply	CompactFlash	N/A		
	DC	DC-in 12V~48V		
Environment	ATX	N/A		
	Operating Temperature	-10 ~ 60°C	-40 ~ 85°C	
		Operating Humidity	10 ~ 90%, non-condensing	
		Storage Temperature	-20 ~ 80°C	-40 ~ 85°C
Storage Humidity		10 ~ 90%, non-condensing		
Form Factor	Dimensions	165 x 115mm (EPIC)		
	Weight	0.42 kg	0.67 kg	
Certification	EMC	FCC, CE, RCM, VCCI, BSMI		
Software Platform	OS Support	Windows 10 (64-bit) Linux Fedora 25 (by request) Linux Ubuntu 16.04 (by request)		