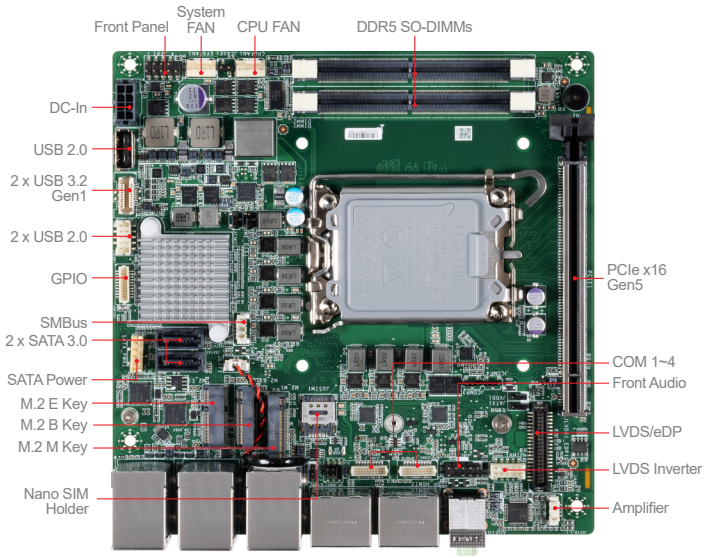
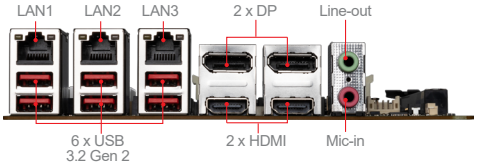
MS-CF10

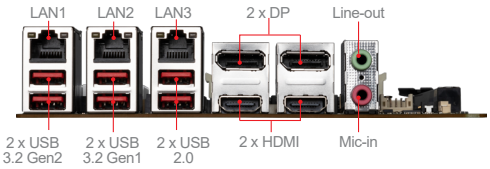
Mini-ITX with 14th/13th/12th Gen Intel® Raptor Lake-S Refresh/Raptor Lake-S/Alder Lake-S, Core™ i9/i7/i5/i3, Pentium®, Celeron® Processor & Intel® R680E/Q670E/H610E for High-Performance & DC Power Solution



SKU1/ SKU2



SKU3



Features

- Intel® 14th/13th/12th Gen Raptor Lake-S Refresh/Raptor Lake-S/Alder Lake-S Series with R680E/Q670E/H610E
- 2 DDR5 5200 MT/s ECC/non-ECC SODIMM slots up to 64GB
- Quadruple independent displays: 2DP, 2HDMI 2.0, LVDS/eDP
- 3 2.5GbE LAN with RJ-45
- 1 PCIe x16 (Gen 5) Slot, 1 M.2 E key (with CNVi), 1 M.2 B key (with SIM Holder) slots
- M.2 M key, 2 SATA 3.0 for storage
- SATA RAID 0/1/5
- 6 USB 3.2 Gen 2, 2 USB 3.2 Gen 1, 3 USB 2.0, 4 COM (4 RS-485), GPIO, Audio, System FAN
- Onboard TPM 2.0
- SMBus, iAMT 16.x
- Wide Voltage DC-IN 8-48V

Ordering Information

Part Number	Description
911-CF10-001	601-CF10-010\801-CF10-007 11,Intel Raptor Lake-S R680E,2*DDR5 SO-DIMM,2*HDMI+2*DP+1*eDP/LVDS,8*USB 3.2,3*USB 2.0,4*COM,3*2.5GbE LAN,2*SATA 3.0,1*M.2 E key,1*M.2 M key,1*M.2 B key,1*PCIe x16,TPM2.0,DC 8-48V, SINGLE For Channel
911-CF10-002	601-CF10-020\801-CF10-008 11,Intel Raptor Lake-S Q670E,2*DDR5 SO-DIMM,2*HDMI+2*DP+1*eDP/LVDS,8*USB 3.2,3*USB 2.0,4*COM,3*2.5GbE LAN,2*SATA 3.0,1*M.2 E key,1*M.2 M key,1*M.2 B key,1*PCIe x16,TPM2.0,DC 8-48V, SINGLE For Channel
911-CF10-003	601-CF10-030\801-CF10-009 11,Intel Raptor Lake-S,H610E,2*DDR5 SO-DIMM,2*HDMI+2*DP+1*eDP/LVDS,4*USB 3.2,5*USB 2.0,4*COM,3*2.5GbE LAN,2*SATA 3.0,1*M.2 E key,1*M.2 M key,1*PCIe x16,TPM2.0,DC 8-48V, SINGLE For Channel

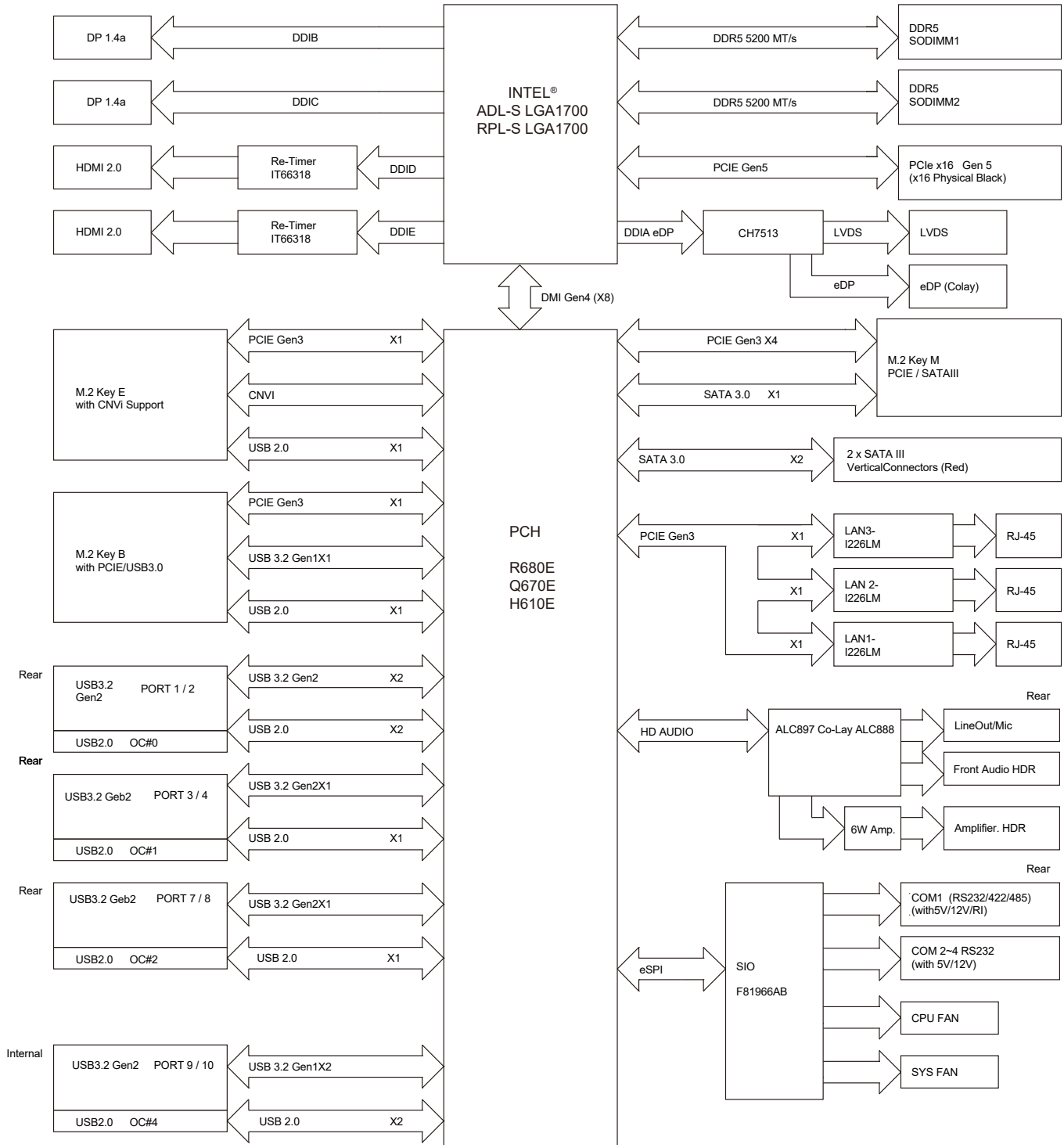
Packing List

Part Number	Description	Quantity
K1D-3012023-V03	SATA CABLE, 230mm	1
K14-3018004-V03	COM PORT CABLE, 250mm	1
K1G-3008092-V03	POWER CABLE, 250mm	1
E21-CF10010-C22	I/O SHIELDING, H610E	1
E21-CF10020-C22	I/O SHIELDING, R680E/Q670E	1

NEW

Specifications

		SKU1	SKU2	SKU3
System Processor	CPU	14th Gen Intel® Raptor Lake-S Refresh i9/i7/i5/i3 IOTG Series Processor, Max 65W 13th Gen Intel® Raptor Lake-S i9/i7/i5/i3/ Pentium®/Celeron® IOTG Series Processor, Max 65W 12th Gen Intel® Alder Lake-S i9/i7/i5/i3/Pentium®/ Celeron® IOTG Series Processor, Max 65W		
	Frequency	1.6GHz~5.1GHz (Depends on CPU)		
	L2 Cache	2MB~30MB (Depends on CPU)		
	CPU Type	Socket (LGA 1700)		
	Chipset	Intel® R680E	Intel® Q670E	Intel® H610E
	BIOS	AMI UEFI		
Memory	Technology	Dual-channel DDR5 (ECC/ non-ECC) 5200MT/s	Dual-channel DDR5 (non-ECC) 5200MT/s	
	Max. Capacity	Up to 64GB		
	Socket	2 x 262-pin DDR5 SO-DIMMs		
Graphic	Controller	Intel® UHD Graphics		
	Graphic Memory	Depends on CPU		
	LVDS	1 x Dual channel 18/24-bit (Connector shared with eDP)		
	eDP	1 (Connector shared with LVDS)		
	HDMI	2		
	DisplayPort	2		
	Multiple Display	4 independent displays		3 independent displays
	Display Interface	LVDS up to 1920 x 1200 @60Hz eDP up to 4096 x 2304 @60Hz HDMI 2.0 up to 4096 x 2304 @60Hz DP up to 4096 x 2304 @60Hz		
Ethernet	Controller	3 x Intel® I226-LM 2.5GbE LAN	1 x Intel® I226-LM 2.5GbE LAN 2 x Intel® I226-V 2.5GbE LAN	3 x Intel® I226-V 2.5GbE LAN
Audio	Controller	Realtek® ALC897 Audio Codec (Co-lay ALC888S)		
Super I/O	Controller	Fintek F81966D-I		
H/W Monitor	Watchdog Timer	256-level Watchdog Timer		
	Smart Fan	Yes		
TPM	Controller	Infineon® SLB 9672VU2.0		
Expansion Slot	PCIe x16	1 x PCIe x16 (Gen 5)		
	M.2	1 x M key (PCIe x4 NVMe, SATA-3.0), 2242/2280 1 x E key (PCIe x1, USB 2.0, CNVi), 2230 1 x B key (PCIe x1, USB 3.2 Gen 2 x 1, USB 2.0), 3042 (with SIM Holder)		1 x M key (PCIe x4 NVMe, SATA-3.0), 2242/2280 1 x E key (PCIe x1, USB 2.0, CNVi), 2230
Storage	SATA	2 x SATA 3.0 (Support RAID 0/1/5, RAID 5 with M.2 M Key) (Support AHCI Mode)		2 x SATA 3.0 (Support AHCI Mode)
I/O Interface	USB	6 x USB 3.2 Gen 2 (rear) 2 x USB 3.2 Gen 1 (internal) 3 x USB 2.0 (internal with one Vertical Type-A)		2 x USB 3.2 Gen2 (rear) 2 x USB 3.2 Gen1 (rear) 2 x USB 2.0 (rear) 3 x USB 2.0 (internal with one Vertical Type-A)
	Serial	4 x COM ports COM1: RS-232/422/485, RI/5V/12V, Auto-flow Control COM2~4: RS-232/422/485, 0V/5V/12V, Auto-flow Control	4 x COM ports COM1: RS-232/422/485, RI/5V/12V, Auto-flow Control COM2~4: RS-232, 0V/5V/12V	
	GPIO	16-bits (8 x GPI; 8 x GPO), 3.3V		
Power Supply	DC Input	DC-in 8-48V		
	AC Input	N/A		
Environment	Operating Temperature	0 ~ 60°C Note: Thermal Test w/ Airflow:0.7m/s		
	Operating Humidity	10 ~ 90%, non-condensing		
	Storage Temperature	-20 ~ 80°C		
	Storage Humidity	10 ~ 90%, non-condensing		
Physical haracteristics	Dimensions (WxDxH)	170 x 170 mm (Mini-ITX)		
	Weight	0.42 kg		
Certification	EMC	CE, FCC Class B, BSMI, RCM, VCCI, UKCA		
Software Platform	OS Support	Windows 10 IoT Enterprise 2021 LTSC (64-bit) Windows 11 IoT Enterprise 24H2 LTSC (64-bit) Linux (Support by request)		

MSI reserves the right to change the specifications without prior notices.

Block Diagram