

**LGA1700 12th Generation Intel® Core™
i9/i7/i5/i3/Pentium® System Host Board
with DDR5, SATA 3.0, USB 3.2, M.2,
Dual 2.5GbE, and Triple Displays**



- Intel® Core™ i9/i7/i5/i3/Pentium LGA1700 processor with R680E chipset
- Up to 64 GB of dual-channel (on-die ECC) DDR5 4800 MHz
- PCIe 3.0, M.2, USB 3.2, SATA 3.0, Dual 2.5GbE LAN and SW Raid 0, 1, 5, 10
- Supports VGA and 2 x DVI-D/DP/HDMI display (with optional cable)
- Supports out-of-band remote management with AMT
- Supports Advantech's TPM and COM modules, SUSI 4.0, and embedded software APIs

Note: Legacy platform is not supported.

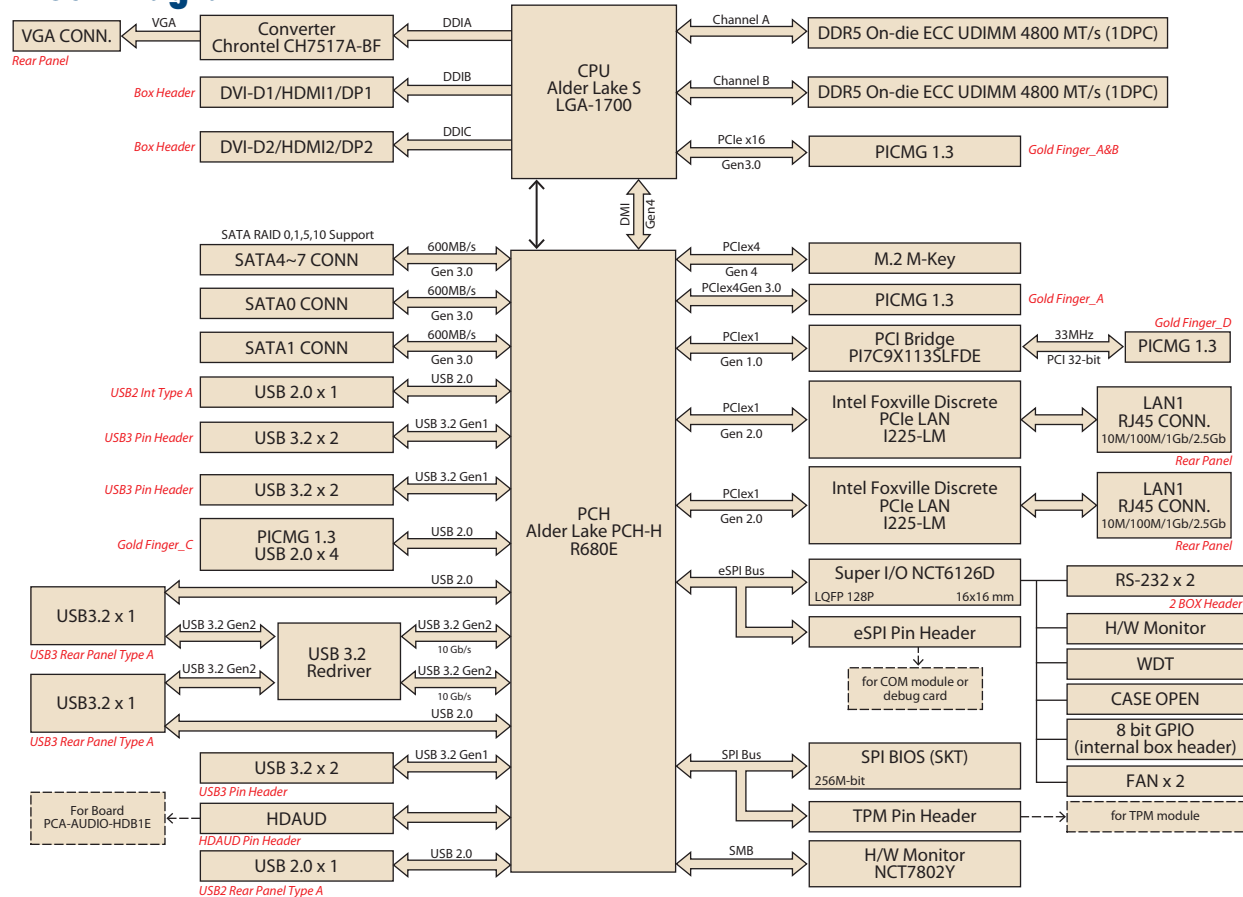
CE FCC

Processor System	CPU	i9-12900(E)	i9-12900TE	i7-12700(E)	i7-12700TE	i5-12500(E)	i5-12500TE	i3-12100(E)	i3-12100TE	Pentium G7400E	Pentium G7400TE	Celeron G6900E	Celeron G6900TE
	P-core Base Frequency	2.3GHz	1.1GHz	2.1GHz	1.4GHz	2.9GHz	1.9GHz	3.2GHz	2.1GHz	3.6GHz	3.0GHz	3.0GHz	2.4GHz
	L3 Cache	30MB	30MB	25MB	25MB	18MB	18MB	12MB	12MB	6MB	6MB	4MB	4MB
	Cores	16	16	12	12	6	6	4	4	2	2	2	2
	Processor Base Power	65W	35W	65W	35W	65W	35W	65W	35W	46W	35W	46W	35W
	Socket	LGA 1700											
Bus	Chipset	R680E											
	BIOS	AMI 256MB SPI Flash											
	PCI-Express	1 x PCIe x16/2 x PCIe x8 and 1 x PCIe x4 to backplane											
Memory	PCI	4 x PCI master to backplane, 32-bit, 33 MHz											
	Technology	Dual-channel (on-Die ECC) U-DIMM DDR5 4800 MHz											
	Max. Capacity	Up to 64GB (based on CPU)											
Graphics	Socket	2 x DDR5 288-pin DIMM											
	Controller	Chipset integrated with Intel® UHD Graphics											
	VRAM	Shared system memory is subject to OS											
	VGA	Supports resolutions of up to 2048 x 1152 pixel @ 60 MHz											
	DVI-D	Supports resolutions of up to 1920x 1200 @ 60 MHz											
	Display Port	Supports resolutions of up to 4096 x 2160 @ 60 MHz											
	HDMI	Supports resolutions of up to 1920 x 1080 @ 60MHz											
Ethernet	Triple Display	1st: VGA, 2nd DP/DVI-D/HDMI, 3rd DP/DVI-D/HDMI (2nd and 3rd display via optional cable)											
	Interface	10/100/1000/2500 Mbps											
	Controller	LAN 1: Intel® i225LM LAN 2: Intel® i225LM											
	Connector with LED	2 x RJ45											
Rear I/O	USB 3.2 Gen2	2											
	USB2.0	1											
	Ethernet	2											
	VGA	1											
Internal Connector	USB	5 x USB 2.0 (1 USB Type A + 4 to backplane), 6 x USB 3.2											
	SATA (SW Raid 0,1,5,10)	6											
	M.2 (2280 Type M)	1 (PCIe x4)											
	DP/DVI-D/HDMI	2 (Pin header)											
	COM	2 x RS232											
	GPIO	8bit											
Watchdog Timer	Output	System reset											
	Interval	Programmable 1-255 sec											
Miscellaneous	Audio	Intel® High Definition audio interface (requires audio extension module PCA-AUDIO-HDB1E)											
Power Requirement	Test Environment	Intel i9-12900E, Memory *2 DDR5 16GB											
	Voltage	+3.3V, +5V, +12V											
	Current	1.15A, 1.54A, 1.38A											
Environment	Operating	Non-Operating											
	Temperature	0 ~ 60 °C (dependent on CPU and cooler solution)							-40 ~ 85 °C				
Physical	Humidity	40 °C @ 85% relative humidity (non-condensing)							60 °C @ 95% relative humidity (non-condensing)				
	Dimensions (L x H)	338 x 122 mm (13.3" x 4.8")											

ADVANTECH Slot SBC & Passive Backplanes

Last updated: 6-Oct-2022

Block Diagram



Ordering Information

Part Number	PCH	Memory	Backplane	LAN	VGA	DP/DVI-D/ HDMI	COM	SATA III	M.2	USB 2.0	USB 3.2 (Gen1)	USB 3.2 (Gen2)	S/W Raid	AMT
PCE-5133G2-00A1	R680E	On-die ECC	PCE-5BXX PCE-7BXX	2	Yes	2*	2	6	1	2	6	2	Yes	Yes

Note: DP/DVI/HDMI cable is optional

Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x2
1701260305	COM + printer ports cable kit	x1
2190000902	Warranty card	x1
TBD	Startup manual	x1

Optional Accessories

Part Number	Description
1970005349T000	CPU cooler for 2U, 4U, and dwall-mount chassis (for CPUBase Power=35~125W)
TBD	CPU Cooler 1.5U (TBD)
PCA-AUDIO-HDB1E	Audio module
PCA-COM232-ESPA1	4-port RS-232 eSPI module
PCA-COM485-ESPA1	4-port RS-422/485 eSPI module
1700002204	2-port USB2.0 cable w/BKT (27 cm)
1700020277-01	2-port USB 3.0 cable w/ BKT (30 cm)
1700031719-01	4-port USB 3.0 cable w/ BRK (30 cm)
1700021831-01	DP to DVI-D cable w/ BKT
1701090401	1-port COM cable kit
1701092300	2-port COM cable kit
PCE-DP10-00A1E	DP to DP cable w/ BKT
TBD	DP to HDMI cable w/ BKT
TBD	TPM 2.0
TBD	PCE-5133 win 10 embedded OS (high-end)
TBD	PCE-5133 win 10 embedded OS (value)
TBD	PCE-5133 win 10 embedded OS (entry)

I/O View



PCE-5133G2-00A1