

LGA1700 12th/13th 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 (ECC/ non-ECC) DDR5 5600 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

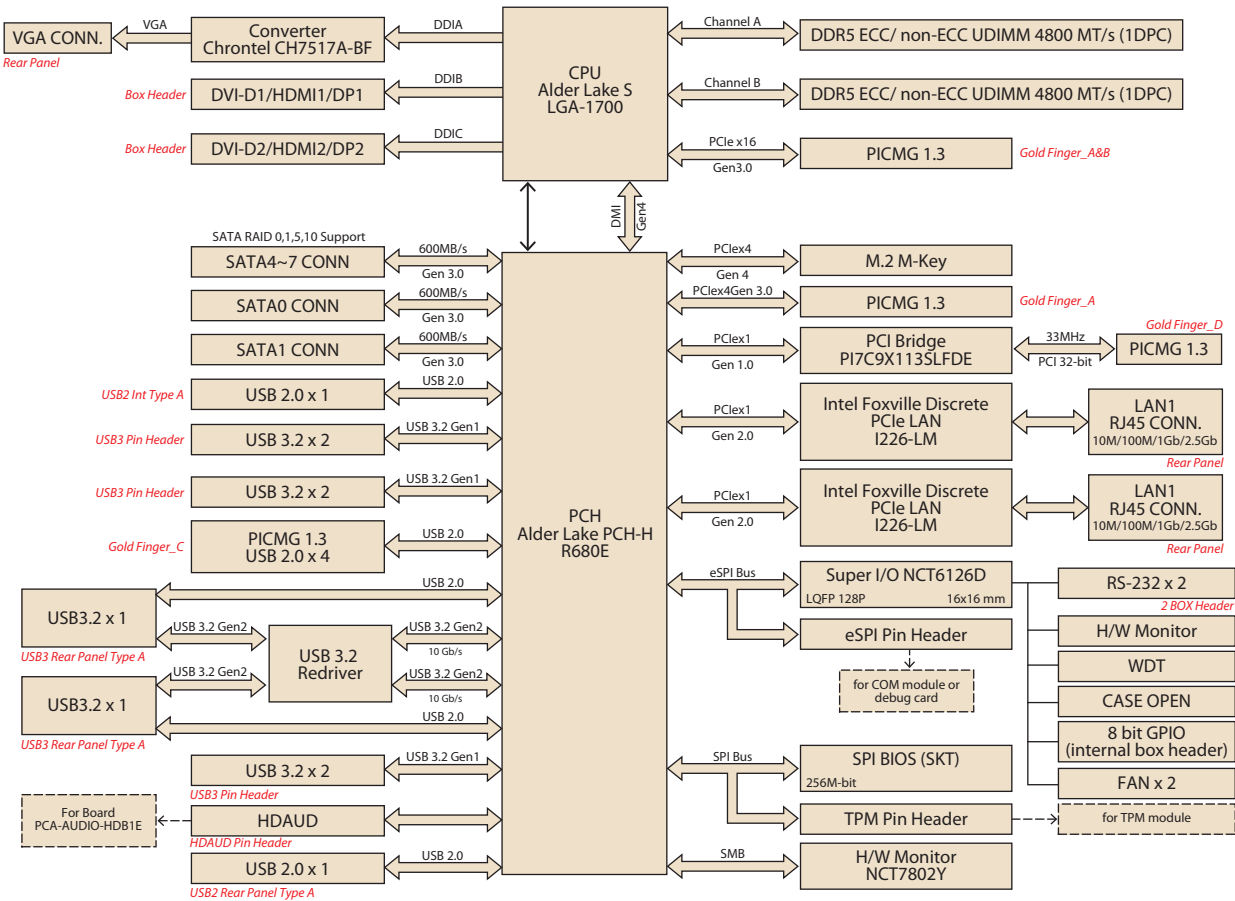
14 th Generation Processors	CPU	I9-14900	I9-14900T	I7-14700	I7-14700T	I5-14500	I5-14500T	I5-14400	I5-14400T	I5-14400F	I3-14100	I3-14100T	300	300T	
	P-core Base Frequency	2.0 GHz	1.1 GHz	2.1 GHz	1.3GHz	2.6 GHz	1.7 GHz	2.5 GHz	1.5 GHz	2.5 GHz	3.5 GHz	2.7 GHz	3.9 GHz	3.4 GHz	
	L3 Cache	36 MB	36 MB	33 MB	33 MB	24 MB	24 MB	20 MB	20 MB	20 MB	12 MB	12 MB	6 MB	6 MB	
	Cores	24	24	20	20	14	14	10	10	10	4	4	2	2	
	Processor Base Power	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	65 W	60 W	35 W	46 W	35 W	
14 th Generation Processors P-core only	CPU	I9-14901KE	I9-14901E	I9-14901TE	I9-14701E	I9-14701TE	I5-14401E	I5-14401TE	I5-14501E	I5-14501TE					
	P-core Base Frequency	3.8 GHz	2.8 GHz	2.3 GHz	2.6 GHz	2.1 GHz	2.5 GHz	2 GHz	3.3 GHz	2.2 GHz					
	L3 Cache	36MB	36MB	36MB	33MB	33MB	24MB	24MB	24MB	24MB					
	Cores	8	8	8	8	8	6	6	6	6					
	Processor Base Power	125W	65W	45W	65W	45W	65W	45W	65W	45W					
13 th Generation Processors	CPU	I9-13900(E)	I9-13900TE	I7-13700(E)	I7-13700T(E)	I5-13500(E)	I5-13500T(E)	I5-13400(E)	I3-13100(E)	I3-13100T(E)					
	P-core Base Frequency (Up to)	2.0 GHz	1.1 GHz	2.1 GHz	1.4 GHz	2.5 GHz	1.6 GHz	2.5 GHz	3.4 GHz	2.5 GHz					
	L3 Cache	36 MB	36 MB	30 MB	30 MB	24 MB	24 MB	20MB	12 MB	12 MB					
	Cores	24	24	16	16	14	14	10	4	4					
	Processor Base Power	65 W	35 W	65 W	35 W	65 W	35 W	65W	60 W	35 W					
12 th Generation Processors	CPU	I9-12900(E)	I9-12900TE	I7-12700(E)	I7-12700TE	I5-12500(E)	I5-12400	I5-12500TE	I3-12100(E)	I3-12100TE	Pentium G7400E	Pentium G7400TE	Celeron G6900E	Celeron G6900TE	
	P-core Base Frequency (Up to)	2.4 GHz	1.1 GHz	2.1 GHz	1.4 GHz	3.0 GHz	2.5 GHz	1.9 GHz	3.3 GHz	2.1 GHz	3.6 GHz	3.0 GHz	3.0 GHz	2.4 GHz	
	L3 Cache	30 MB	30 MB	25 MB	25 MB	18 MB	18 MB	18 MB	12 MB	12 MB	6 MB	6 MB	4 MB	4 MB	
	Cores	16	16	12	12	6	6	6	4	4	2	2	2	2	
	Processor Base Power	65 W	35 W	65 W	35 W	65 W	65 W	35 W	60 W	35 W	46 W	35 W	46 W	35 W	
	Socket	LGA 1700													
	Chipset	R680E													
	BIOS	AMI 256MB SPI Flash													
Bus	PCI-Express	1 x PCIe x16/2 x PCIe x8 and 1 x PCIe x4 to backplane													
	PCI	4 x PCI master to backplane, 32-bit, 33 MHz													
Memory	Technology	Dual-channel (ECC/non-ECC) U-DIMM DDR5 5600 MHz													
	Max. Capacity	Up to 64GB													
	Socket	2 x DDR5 288-pin DIMM													
Graphics	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													

Specifications (Cont.)

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	2.52A, 4.13A, 6.86A
Environment	Operating	Non-Operating
	Temperature	0 ~ 60 °C (dependent on CPU and cooler solution) -40 ~ 85 °C
	Humidity	40 °C @ 85% relative humidity (non-condensing) 60 °C @ 95% relative humidity (non-condensing)
Physical	Dimensions (L x H)	338 x 122 mm (13.3" x 4.8")

Note: Power must be turned off before installing any expansion modules

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-5133G2-00A2	R680E	ECC/ non-ECC	PCE-5BXX PCE-7BXX	2	Yes	2*	2	6	1	4	6	2	Yes	Yes

Note: DP/DVI/HDMI cable is optional

Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x2
1701090401	COM cable w/ BKT 40cm	x1
2190000902	Warranty card	x1
2041513300	Startup manual	x1

I/O View



PCE-5133G2-00A2

Optional Accessories

Part Number	Description
1970005349T000	CPU cooler for 2U, 4U, and wall-mount chassis (for CPU Base Power=35~125W)
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)
1700028292-01	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
PCE-DP20-00A1	2-port DP to DP cable w/BKT
1700034454-01	DP to HDMI cable w/ BKT
PCA-TPMSPI-00A1	dTPM 2.0 SPI module
20706WX1HS0054	PCE-5133 win 10 embedded OS (high-end)
20706WX1VS0054	PCE-5133 win 10 embedded OS (value)
20706WX1ES0054	PCE-5133 win 10 embedded OS (entry)
20706U22DS0025	img UbuntuD PCE-5133 64b 22.04 ENU
20706WLH1S0039	PCE-5133 win11 embedded OS (high-end)
20706WLV1S0039	PCE-5133 win11 embedded OS (value)
20706WLE1S0039	PCE-5133 win11 embedded OS (entry)