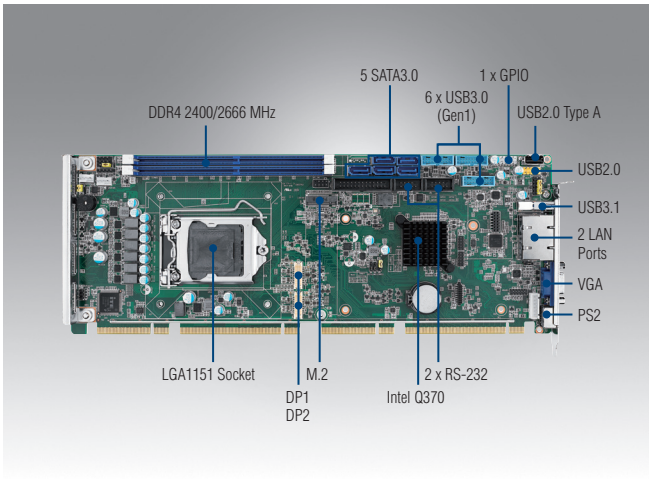
PCE-5131

LGA1151 8th and 9th Generation Intel® Core™ i7/i5/i3/Pentium/Celeron System Host Board with DDR4, SATA 3.0, USB 3.1, M.2, Dual GbE, and Triple Displays



Features

- Intel® Core™ i7/i5/i3 LGA1151 processor with Q370 chipset
- Up to 64 GB of dual-channel (non-ECC) DDR4 2400/2666 MHz
- PCIe 3.0, M.2, USB 3.0, SATA 3.0, and SW Raid 0, 1, 5, 10
- Supports out-of-band remote management with AMT
- Supports Advantech's LPC modules, SUSIAccess, and embedded software APIs

Note 1: Intel 8th and 9th generation processors only support Windows 10 (64-bit) (RS5 version).

Quiet

CE FCC

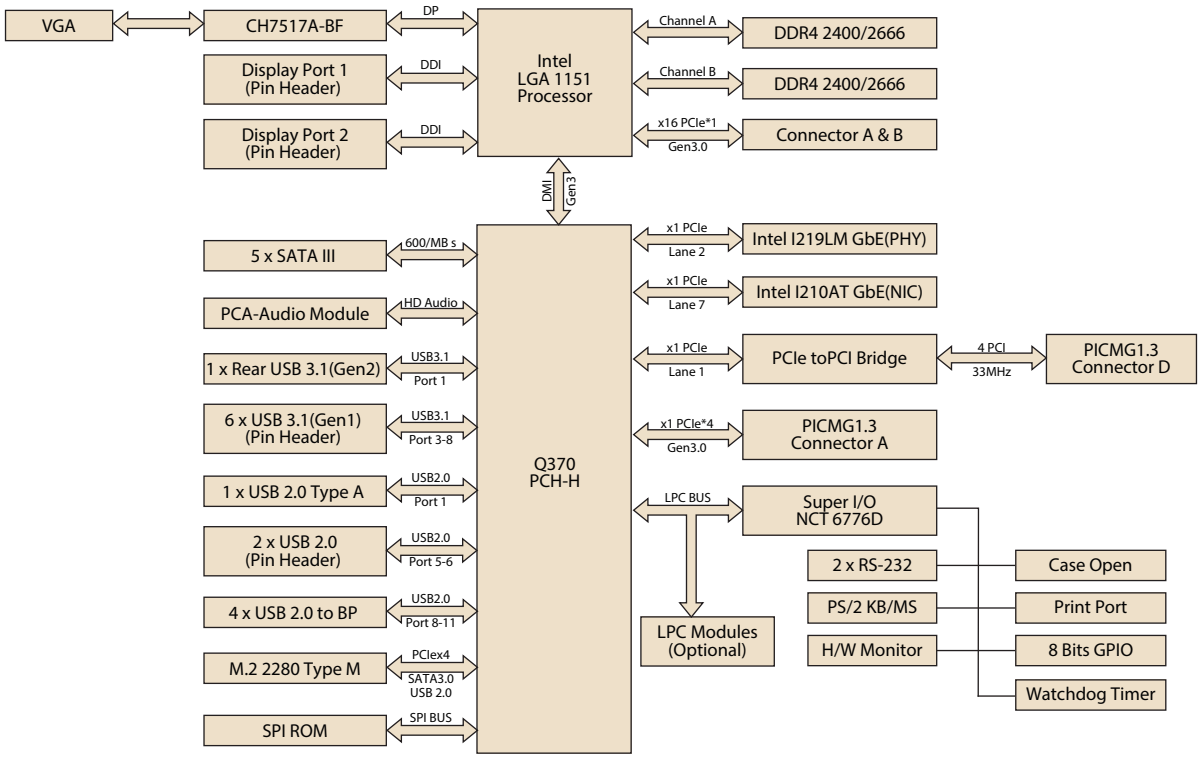
Specifications

Processor System	CPU	i7-9700E	i7-9700TE	i7-8700	i7-8700T	i5-9500E	i5-9500TE	i5-8500	i5-8500T	i3-9100E	i3-9100TE	i3-8100	i3-8100T	G5400	G5400T	G4900	G4900T
	Speed	2.6GHz	1.8 GHz	3.2 GHz	2.4 GHz	3.0 GHz	2.2 GHz	3.0 GHz	2.1 GHz	3.1 GHz	2.2 GHz	3.6 GHz	3.1 GHz	3.7 GHz	3.1 GHz	3.1 GHz	2.9 GHz
	L3 Cache	12 MB	12 MB	12 MB	12 MB	9 MB	9 MB	9 MB	9 MB	6 MB	6 MB	6 MB	6 MB	4 MB	4 MB	2 MB	2 MB
	Cores	8	8	6	6	6	6	6	6	4	4	4	4	2	2	2	2
	TDP	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	65 W	35 W	58 W	35 W	54 W	35 W
	Socket	LGA1151															
	Chipset	Q370															
	BIOS	AMI 256 Mbit SPI															
Bus	PCI-Express	1 x PCIe x16 and 1 x PCIe x4 to backplane															
	PCI	4 x PCI master to backplane, 32-bit, 33 MHz															
Memory	Technology	Dual-channel (non-ECC) U-DIMM DDR4 2400/2666 MHz (supports x8 DDR4 1024 M)															
	Max. Capacity	up to 64GB (based on CPU)															
	Socket	2 x DDR4 288-pin DIMM															
Graphics	Controller	Chipset integrated with Intel® HD Graphics															
	VRAM	Shared system memory is subject to OS															
	VGA	Supports resolutions of up to 1920 x 1200 pixel @ 60 MHz															
	DVI-D	Supports resolutions of up to 1920 x 1200 pixel @ 60 MHz															
	Display Port	Supports resolutions of up to 1920 x 1080 pixel @ 60 Hz															
	Triple Display	CRT+DP/DVI-D+DP/DVI-D															
Ethernet	Interface	10/100/1000 Mbps															
	Controller	LAN 1: Intel® I219-LM LAN 2: Intel® I210AT															
	Connector with LED	2 x RJ45															
Rear I/O	USB 3.1(Gen2)	1															
	Ethernet	2															
	VGA	1															
	PS/2	1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)															
Internal Connector	USB	7 x USB 2.0 (pin header*2 + USB Type A*1 + 4 on backplane) 6 x USB 3.1(Gen1) (pin header)															
	SATA (SW Raid 0,1,5,10)	5															
	M.2 (2280 Type M)	1 (supports SATA 3.0)															
	DP/DVI-D	2 (Pin header)															
	COM	2															
	IrDA	1															
	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	i7-8700, 3.4 GHz, 65 W, with 2 x 8-GB DDR4 2133															
	Voltage	+12V		+5V		+3.3V											
	Current	4.30A		2.15A		0.69A											
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")															

All product specifications are subject to change without notice.

Last updated: 28-Oct-2021

Block Diagram



Ordering Information

Part Number	PCH	Memory	Backplane	LAN	VGA	DP/DVI-D	COM	SATA III	M.2	USB 2.0	USB 3.1	USB 3.1 (Gen2)	S/W Raid	AMT
PCE-5131G2-00A2	Q370	Non-ECC	PCE-5BXX	2	Yes	2*	2	5	1	7	6	1	Yes	Yes

Note: DP/DVI-D cable is optional

Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x2
1701260305	COM + printer ports cable kit	x1
1700060202	Keyboard and mouse Y-cable	x1
1700002204	2-port USB cable kit	x1
2190000902	Warranty card	x1
2001512910	Startup manual	x1

Optional Accessories

Part Number	Description
1960049408N001	CPU cooler for 1U Chassis and 84W TDP
1960050255N001	CPU cooler for 2U Chassis and 95W TDP
1960052651N021	CPU cooler for 2U/4U Chassis and 80W TDP
PCA-AUDIO-HDB1E	Audio module
PCA-COM232-00A1E	4-port RS-232 LPC module
PCA-COM485-00A1E	4-port RS-422/485 LPC module
1700031719-01	4-port USB 3.0 cable w/ BKT (30cm)
1700020277-01	2-port USB 3.0 cable w/ BKT (30 cm)
1700021831-01	DP to DVI-D cable w/ BKT
PCE-DP10-00A1E	DP to DP cable w/ BKT
PCA-TPM-00B1E	TPM 2.0 Module

I/O View

PCE-5131G2-00A2