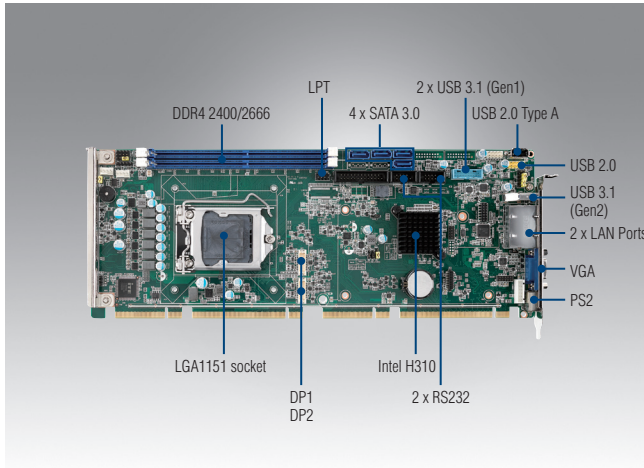


# PCE-5031

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



### Features

- Intel® Core™ i7/i5/i3 LGA1151 processor with H310 chipset
- Up to 64 GB of dual-channel (non-ECC) DDR4 2400/2666 MHz
- PCIe 3.0, USB 3.1, and SATA 3.0 slots
- Supports VGA and DVI-D/DP display (with optional cable)
- Supports Advantech's LPC modules, SUSIAccess, and embedded software APIs

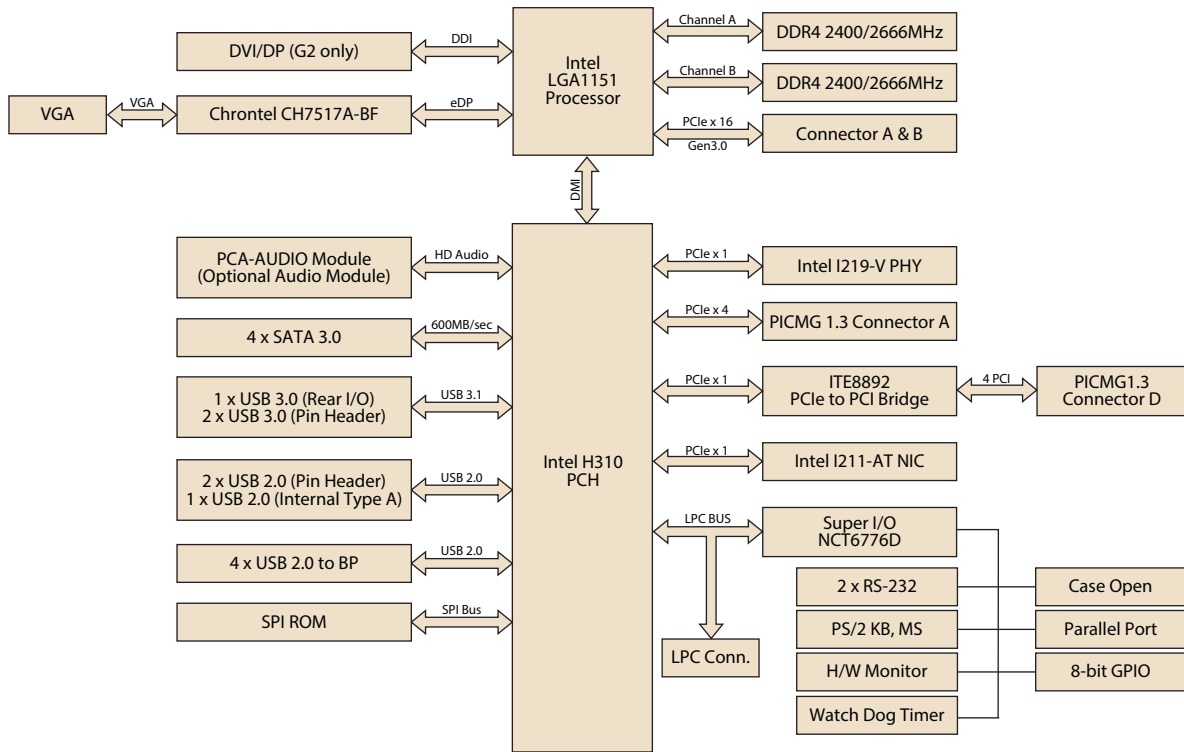
Note 1: Intel 8th and 9th generation processors only support Windows 10 (64-bit) (RS5 version).



### 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	2.6 GHz	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	4 MB	2 MB	2 MB
	Cores	8	8	6	6	6	6	6	6	4	4	4	4	2	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	35 W
	Socket	LGA 1151																
	Chipset	Intel H310																
	BIOS	AMI 256Mbit SPI Flash																
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																
	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																
Ethernet	Dual Display	CRT+DP/CRT+DVI																
	Interface	10/100/1000 Mbps																
	Controller	LAN 1: Intel® I219-V LAN 2: Intel® I211-AT																
Rear I/O	Connector with LED	RJ45 x 2																
	USB 3.1(Gen2)	1 (G2 SKU)																
	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) 2 x USB 3.1(Gen1) (pin header)																
	SATA	4																
	DP/DVI-D	1 (Pin header)																
	COM	2 (G2 SKU)																
	Parallel	1																
	GPIO	8 bits																
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	i7-6700, 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																	
	Temperature	0 - 60 °C (dependent on CPU and cooler solution)										Non-operating -40 - 85 °C						
Physical	Humidity	40 °C @ 85% relative humidity (non-condensing)																
	Dimensions (L x H)	338 x 122 mm (13.3" x 4.8")																

## Block Diagram



## Ordering Information

Part Number	Chipset	Memory	Backplane	Display	USB 3.0	USB 2.0	COM	GbE LAN	AMT	SATA	SW RAID	Intelligent System Module Support
PCE-5031G2-00A1	H310	Non-ECC	PCE-5BXX	VGA + DVI/DP*	3	7	2	2	No	4	No	Yes

\*Note: DP cable (P/N: PCE-DP10-00A1E) and DVI-D

## Packing List

Part Number	Description	Quantity
1700003194	Serial ATA HDD data cable	x2
1700022749-11	Serial ATA HDD power cable	x1
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
2061512900	Utility CD	x1

## Optional Accessories

Part Number	Description
1700020277-01	2-port USB 3.0 cable w/ BKT (30 cm)
1700002204	2-port USB 2.0 cable w/ BKT (27 cm)
1700021831-01	DP to DVI-D cable w/ BKT for G2 SKU
1701090401	Single COM cable (40 cm)
1701092300	Dual COM cable (28.5 cm)
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-COM485-00A1E	4-port RS-422/485 LPC module
PCA-COM232-00A1E	4-port RS-232 LPC module
PCE-DP10-00A1E	DP redriver board (25 cm) for G2 SKU
PCA-AUDIO-HDB1E	Extension module for HD audio
PCA-TPM-00B1E	TPM 2.0 Module

## I/O View



PCE-5031G2-00A1E