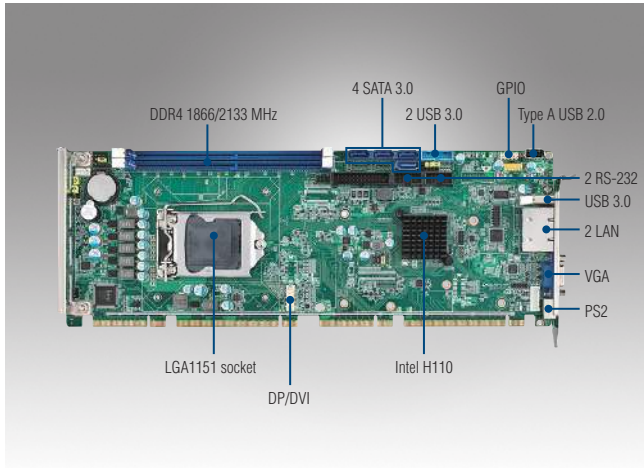


# PCE-5029

## LGA1151 6th and 7th Generation Intel® Core™ i7/i5/i3/Pentium/Celeron System Host Board with DDR4, SATA 3.0, USB 3.0, Dual GbE, and Dual Displays



CE FCC

### Features

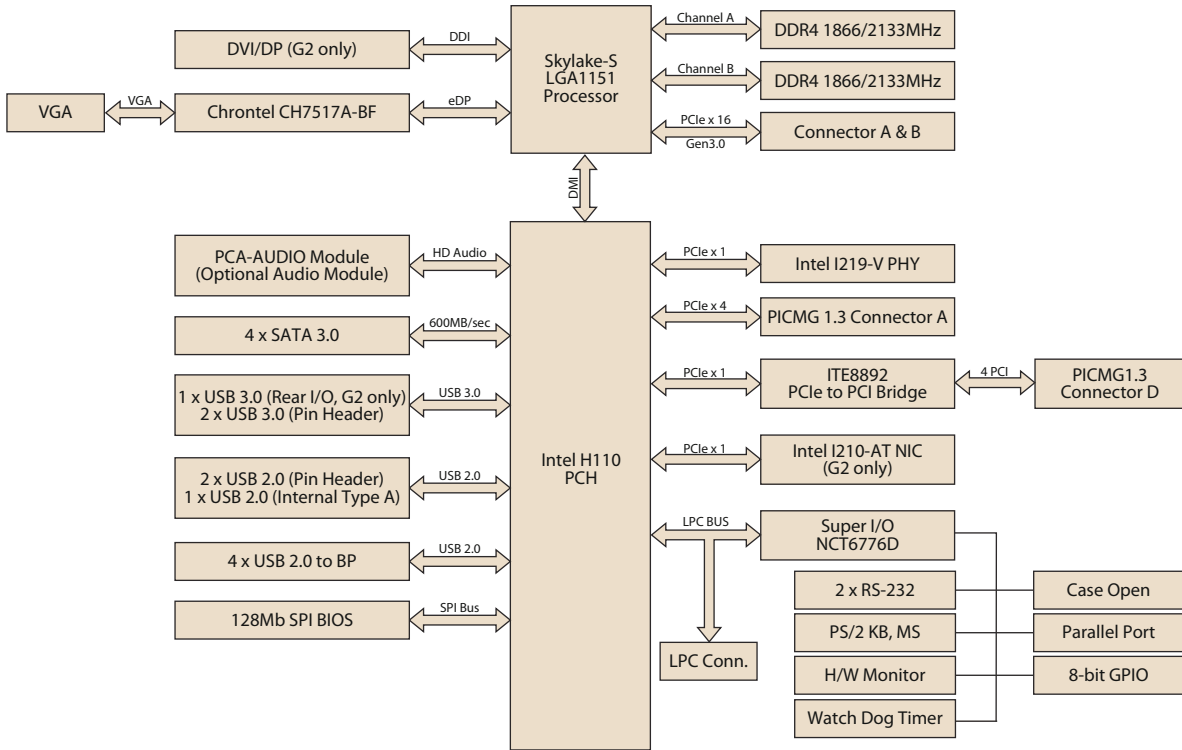
- Intel® Core™ i7/i5/i3 LGA1151 processor with H110 chipset
- Up to 32 GB of dual-channel (non-ECC) DDR4 1866/2133 MHz
- PCIe 3.0, USB 3.0, and SATA 3.0 slots
- Supports CRT and DVI-D/DP display (with optional cable)
- Supports Advantech's LPC modules, SUSIAccess, and embedded software APIs

Note 1: Intel 7th generation processors only support Windows 10 (64-bit).

### Specifications

|                    |                    | i7-7700  | i7-7700T | i7-6700 | i7-6700TE | i5-7500 | i5-7500T | i5-6500 | i5-6500TE | i3-7101E | i3-7101TE | i3-6100  | i3-6100TE | G4400   | G4400TE | G3900   | G3900TE |  |
|--------------------|--------------------|--|----------|---------|-----------|---------|----------|---------|-----------|----------|-----------|--|-----------|---------|---------|---------|---------|--|
| Processor System   | CPU                | i7-7700  | i7-7700T | i7-6700 | i7-6700TE | i5-7500 | i5-7500T | i5-6500 | i5-6500TE | i3-7101E | i3-7101TE | i3-6100  | i3-6100TE | G4400   | G4400TE | G3900   | G3900TE |  |
|                    | Speed              | 3.6GHz   | 2.9GHz   | 3.4 GHz | 2.4 GHz   | 3.4GHz  | 2.7GHz   | 3.2 GHz | 2.3 GHz   | 3.9GHz   | 3.4GHz    | 3.7 GHz  | 2.7 GHz   | 3.3 GHz | 2.9 GHz | 2.8 GHz | 2.6 GHz |  |
|                    | Cache              | 8MB  | 8MB      | 8 MB    | 8 MB      | 6MB     | 6MB      | 6 MB    | 6 MB      | 3MB      | 3MB       | 4 MB   | 4 MB      | 3 MB    | 3 MB    | 2 MB    | 2 MB    |  |
|                    | Socket             | LGA 1151   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | Chipset            | Intel H110   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | BIOS               | AMI 128Mbit 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 1866/2133 MHz   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | Max. Capacity      | 32 GB (16 GB per DIMM)   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | Socket             | 2 x DDR4 288-pin DIMM  |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
| Graphics           | Controller         | Chipset integrated with Intel® HD Graphics   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | VRAM               | Shared system memory is subject to OS  |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | CRT                | 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                                  |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | Dual Display       | CRT+DP/CRT+DVI   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
| Ethernet           | Interface          | 10/100/1000 Mbps   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | Controller         | LAN 1: Intel® I219-V<br>LAN 2: Intel® I210-AT  |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | Connector with LED | RJ45 x 2   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
| Rear I/O           | USB 3.0            | 1 (G2 SKU)   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | Ethernet           | 1 (VG SKU); 2 (G2 SKU)   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | VGA                | 1  |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | Serial             | 1 (VG SKU)   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | 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)<br>2 x USB 3.0 (pin header)   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | SATA               | 4  |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | DP/DVI-D           | 1 (Pin header)   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | COM                | 2 (G2 SKU)<br>1 (VG SKU)   |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |
|                    | 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   |           |          | +5Vsb     |  |           |         |         |         |         |  |
|                    | Current            | 2.64A  |          |         | 1.23A     |         |          | 0.19A   |           |          | 0.09A     |  |           |         |         |         |         |  |
| 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")  |          |         |           |         |          |         |           |          |           |  |           |         |         |         |         |  |

## 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-5029G2-00A4  | H110    | Non-ECC | PCE-5BXX  | VGA + DVI/DP* | 3       | 7       | 2   | 2       | No  | 4    | No      | Yes                               |
| PCE-5029VG-00A2E | H110    | Non-ECC | PCE-5BXX  | VGA           | 2       | 7       | 2   | 1       | No  | 4    | No      | No                                |

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

## Packing List

| Part Number | Description                | Quantity |
|-------------|----------------------------|----------|
| 1700003194  | Serial ATA HDD data cable  | x2       |
| 1700060202  | Keyboard and mouse Y-cable | x1       |
| 1701090401  | 1-port COM cable kit       | x1       |
| 1700002204  | 2-port USB 2.0 cable kit   | x1       |
| 2190000902  | Warranty card              | x1       |
| 2001512912  | Startup manual             | x1       |
| 2061512900  | Utility CD                 | x1       |

## Optional Accessories

| Part Number      | Description                                |
|------------------|--|
| 1960049408N001   | CPU heat sink for 1U Chassis and 35W TDP   |
| 1960050255N001   | CPU cooler for 2U Chassis and 95W TDP      |
| 1960052651N021   | CPU cooler for 2U/4U Chassis and 80W TDP   |
| 1700002204       | 2-port USB 2.0 cable kit                   |
| 1700020277-01    | 2-port USB 3.0 cable kit                   |
| 1701090401       | 1-port COM cable kit                       |
| 1701092300       | 2-port COM cable kit                       |
| PCE-DP10-00A1E   | DP to DP cable kit                         |
| 1700021831-01    | DP to DVI-D cable kit                      |
| PCA-TPM-00B1E    | TPM 2.0 module                             |
| PCA-AUDIO-HDB1E  | Audio module                               |
| PCA-COM232-00A1E | 4-port RS-232 module via LPC interface     |
| PCA-COM485-00A1E | 4-port RS-422/485 module via LPC interface |

## I/O View



PCE-5029G2-00A4

PCE-5029VG-00A2E