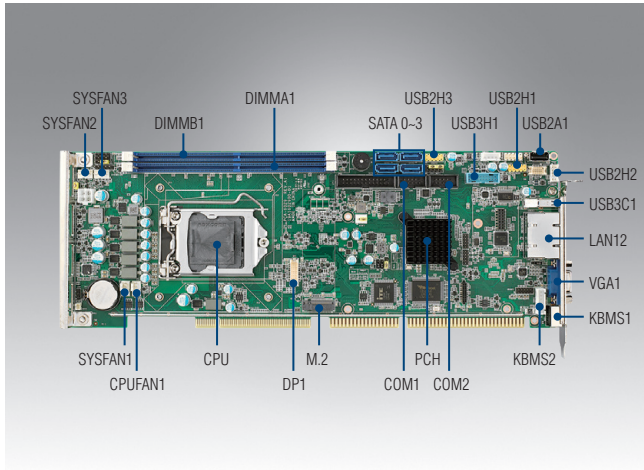


# PCA-6029

## LGA1151 6th and 7th Generation Intel® Core™ i7/i5/i3/Pentium/Celeron System Host Board with VGA/DVI/DP and Dual GbE LAN



### Features

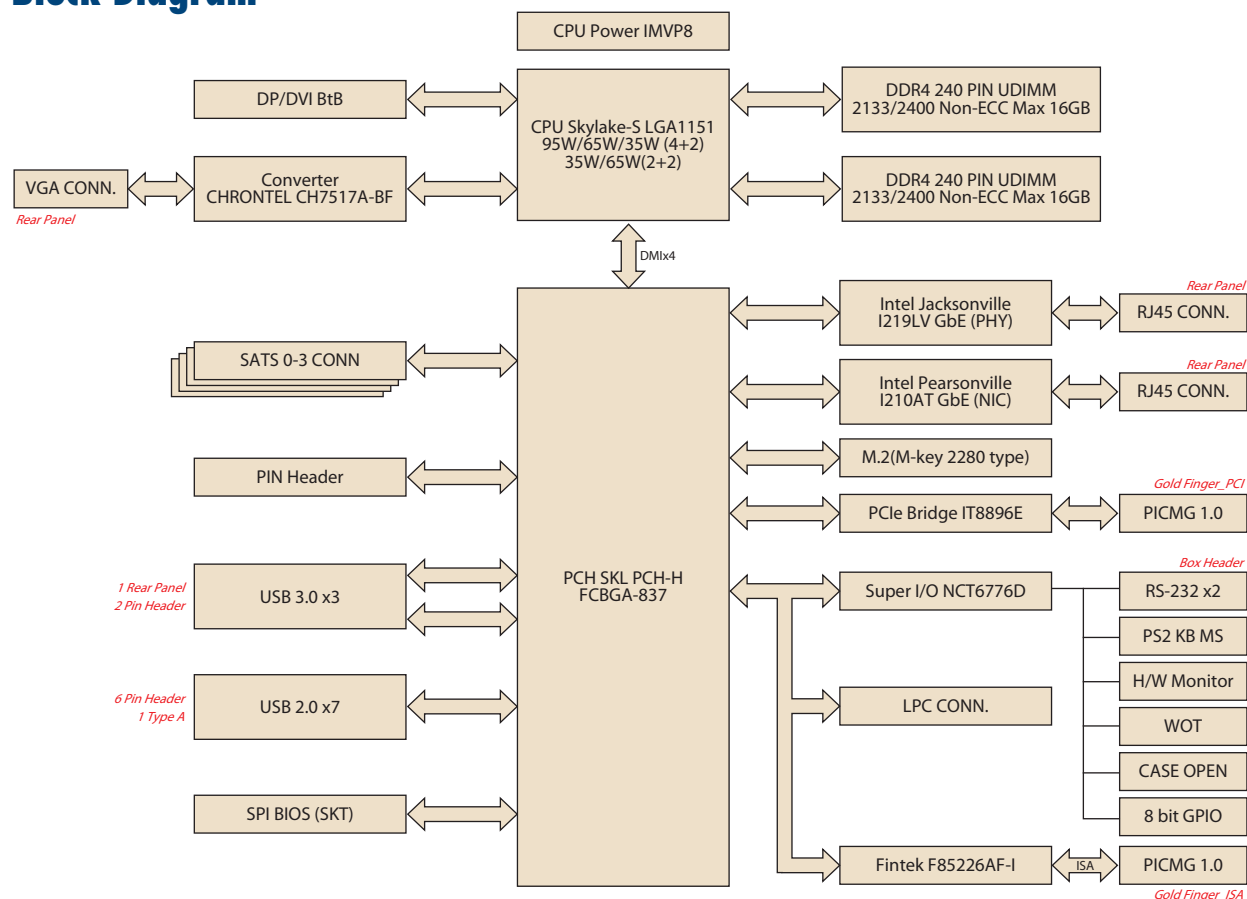
- Supports Intel® Core™ i7/i5/i3 LGA1151 processors with H110 chipset
- Dual Channel (Non-ECC) DDR4 2133/2400 up to 64 GB
- Supports USB 3.0, SATA3.0
- Dual display with VGA and DVI-D/DP (optional)
- Supports Advantech LPC modules
- Supports SUSIAccess and embedded software APIs

### Quiet Specifications

CE FCC

|                    |                      |                                                                                                                                                                                                                                       |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|--------------------|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------|-----------|---------|----------|---------|-----------|----------|-----------|---------|-----------|---------|---------|--------|---------|
| 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   | 3.4GHz  | 2.4GHz    | 3.4GHz  | 2.7GHz   | 3.2GHz  | 2.3GHz    | 3.9GHz   | 3.4GHz    | 3.7GHz  | 2.7GHz    | 3.3GHz  | 2.9GHz  | 2.8GHz | 2.6GHz  |
|                    | 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                | ISA                  | HISA (ISA High Driver)                                                                                                                                                                                                                |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | PCI                  | 32 bit/ 33 MHz PCI                                                                                                                                                                                                                    |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
| Memory             | Technology           | Dual-channel (non-ECC) U-DIMM DDR4 2133/2400 (6th Gen. CPU up to 2133, 7th Gen. CPU up to 2400)                                                                                                                                       |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | MHz Max. Capacity    | 64 GB (32 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                                                                                                                                                                                                 |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | Resolution           | Dual display of VGA+DVI or VGA+DP<br>DVI-D supports resolutions of up to 1920 x 1200 pixel @ 60 MHz<br>Display Port supports resolutions of up to 4096 x 2304 @ 60 MHz<br>VGA supports resolutions of up to 2048 x 1152 pixel @ 60 Hz |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
| Ethernet           | Interface            | 10/100/1000 Mbps                                                                                                                                                                                                                      |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | Controller           | LAN 1: Intel® I219-V<br>LAN 2: Intel® I210-AT                                                                                                                                                                                         |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | Connector with LED   | RJ45 x 2                                                                                                                                                                                                                              |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
| SATA               |                      | SATA 3.0 x 4 (600 MB/sec)                                                                                                                                                                                                             |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
| Rear I/O           | USB3.0               | 1                                                                                                                                                                                                                                     |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | Ethernet             | 2                                                                                                                                                                                                                                     |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | VGA                  | 1                                                                                                                                                                                                                                     |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | PS/2                 | 1 (PS/2 Y cable supports 1 x keyboard and 1 x mouse)                                                                                                                                                                                  |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
| Internal Connector | USB                  | Up to 7 x USB2.0 (6 x Pin header, 1x Type A)                                                                                                                                                                                          |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | SATA                 | 4                                                                                                                                                                                                                                     |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | DVI-D/DP             | 1 (Pin header)                                                                                                                                                                                                                        |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | COM                  | 2                                                                                                                                                                                                                                     |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | IrDA                 | 1                                                                                                                                                                                                                                     |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | GPIO                 | 8-bit                                                                                                                                                                                                                                 |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
| Watchdog Timer     | Output               | System reset                                                                                                                                                                                                                          |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | Interval             | Programmable 1-255 sec                                                                                                                                                                                                                |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
| Miscellaneous      | Audio                | Intel High Definition audio interface (required an audio extension module P/N: PCA-AUDIO-HDB1E)                                                                                                                                       |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
| Power Requirement  | Test Environment     | Intel® Core™ i7-6700 CPU@ 3.40GHz 65W, 2x 32G 2Rx8 DDR4 3200U                                                                                                                                                                         |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | Voltage              | +V12                                                                                                                                                                                                                                  |          |         |           | +V5     |          |         |           | +V5_SB   |           |         |           | +V12_4P |         |        |         |
|                    | Current              | 0.13A                                                                                                                                                                                                                                 |          |         |           | 0.94A   |          |         |           | 0.08A    |           |         |           | 1.33A   |         |        |         |
| Environment        |                      | Operating                                                                                                                                                                                                                             |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
|                    | Temperature/Humidity | 0 ~ 60 °C (32~140 °F); Depends on CPU frequency and cooler solution<br>Operating humidity: 40 °C @ 85% RH Non-Condensing                                                                                                              |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |
| Physical           | Dimensions (L x H)   | 338 x 122 mm (13.3" x 4.8")                                                                                                                                                                                                           |          |         |           |         |          |         |           |          |           |         |           |         |         |        |         |

## Block Diagram



## Ordering Information

| Part Number     | LAN | VGA | DVI-D/DP | COM | SATA | USB                  | M.2 |
|-----------------|-----|-----|----------|-----|------|----------------------|-----|
| PCA-6029G2-00A3 | 2   | Yes | 1*       | 2   | 4    | 10 (3 x 3.0+7 x 2.0) | 1   |

\*Note: Output DVI-D signal (Required DVI-D cable: 1700021831-01)

\*Note: Output DP signal (Required DP cable: PCE-DP10-00A1E)

## Packing List

| Part Number   | Description                | Quantity |
|---------------|----------------------------|----------|
| 1700003194    | Serial ATA HDD data cable  | x2       |
| 1701090401    | Single COM port cable      | x1       |
| 1700060202    | Keyboard and mouse Y-cable | x1       |
| 1700008461-11 | 4-port USB cable kit       | x1       |
| 2190000902    | Warranty Card              | x1       |
| -             | Startup manual             | x1       |

## I/O View



PCA-6029G2-00A3

## Optional Accessories

| Part Number      | Description                                    |
|------------------|------------------------------------------------|
| 1701090401       | Single COM cable                               |
| 1701092300       | Dual COM cable                                 |
| 1703100260       | 2-port USB 2.0 cable w/BKT (26cm) for USB2H2   |
| 1700020277-01    | 2-port USB 3.0 cable w/ BKT (30cm)             |
| 1700021831-01    | DP to DVI-D cable w/ BKT (digital signal only) |
| PCE-DP10-00A1E   | DP to DP cable w/ BKT                          |
| 1960050255N001   | PCA-6029 optimized CPU cooler (2U)             |
| PCA-AUDIO-HDB1E  | Audio card                                     |
| PCA-COM232-00A1E | 4 x RS-232 module                              |
| PCA-COM485-00A1E | 4 x RS-422/485 module                          |
| PCA-TPM-00B1E    | Trusted platform module compliant with TCG 2.0 |
| PCE-SA01-00A1E   | Extension Stack Board                          |