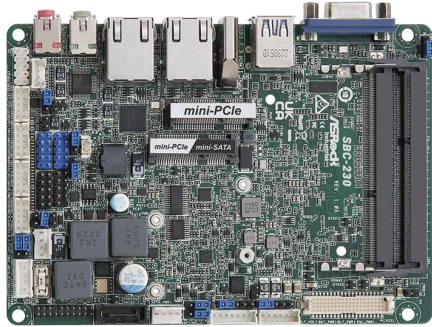


# SBC-230

3.5" SBC Motherboard



## KEY FEATURES

- Intel® Apollo Lake/Apollo Lake-I SoC Processors
- 2 x 204-pin SO-DIMM up to 16 GB DDR3L 1867 MHz (8GB per DIMM)
- 2 x USB 3.1 Gen1, 4 x USB 2.0, 1 x mini-PCIe, 1 x mSATA/mini-PCIe, 4 x COM, 1 x SATA3
- 2 x Intel 1 Gigabit LAN
- Supports Triple display, 1 x HDMI 1.4b, 1 x VGA, 1 x LVDS or eDP
- TPM Header
- 9~36V DC-In

## SPECIFICATIONS

### Form Factor

|            |                                                                |
|------------|----------------------------------------------------------------|
| Dimensions | 3.5" SBC (5.8-in x 4-in x 0.83-in, 14.7 cm x 10.2 cm x 2.1 cm) |
|------------|----------------------------------------------------------------|

### Processor System

|         |                                                                                                                                                                          |
|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU     | Intel® Apollo Lake/Apollo Lake-I SoC Processors<br>- SBC-230D (N4200, QC, 1.10 GHz, 6W)<br>- SBC-230L (N3350, DC, 1.10 GHz, 6W)<br>- SBC-230J (J3455, QC, 1.50 GHz, 10W) |
| Chipset | SoC                                                                                                                                                                      |
| BIOS    | AMI SPI 128 Mbit                                                                                                                                                         |

### Memory

|            |                             |
|------------|-----------------------------|
| Technology | Dual Channel DDR3L 1867 MHz |
| Capacity   | 16 GB (8 GB per DIMM)       |
| Socket     | 2 x 204-pin SO-DIMM         |

### Graphics

|              |                                                  |
|--------------|--------------------------------------------------|
| Controller   | Intel® Gen9 Graphics DX 12                       |
| HDMI         | HDMI 1.4b<br>Max resolution up to 4096x2160@24Hz |
| VGA          | Max resolution up to 1920x1200@60Hz              |
| LVDS         | Dual channel 24 bit up to 1920x1200@60Hz         |
| eDP          | Max resolution up to 4096x2160@60Hz              |
| MultiDisplay | Triple Display                                   |

### Expansion Slot

|                 |                                        |
|-----------------|----------------------------------------|
| mini-PCIe       | 1 x Full size with PCIe x1 and USB 2.0 |
| mSATA/mini-PCIe | 1 x Full size with USB 2.0             |

### Audio

|           |                                                         |
|-----------|---------------------------------------------------------|
| Interface | Realtek ALC897, High Definition Audio. Line-out, Mic-in |
|-----------|---------------------------------------------------------|

### Ethernet

|                   |                                                                                    |
|-------------------|------------------------------------------------------------------------------------|
| Controller/ Speed | LAN1: Intel® I210 with 10/100/1000 Mbps<br>LAN2: Intel® I210 with 10/100/1000 Mbps |
| Connector         | 2 x RJ-45                                                                          |

### Rear I/O

|          |                      |
|----------|----------------------|
| HDMI     | 1 x HDMI 1.4b        |
| VGA      | 1                    |
| Ethernet | 2 x 1 Gigabit LAN    |
| USB      | 2 x USB 3.2 Gen1     |
| Audio    | 2 (Mic-in, Line-out) |

### Internal Connector

|                 |                                                    |
|-----------------|----------------------------------------------------|
| USB             | 4 x USB 2.0 (2x 2.54 pitch header)                 |
| COM             | COM1 (RS-232/422/485)<br>COM2, COM3, COM4 (RS-232) |
| GPIO            | 4 x GPI + 4 x GPO                                  |
| TPM             | TPM Header                                         |
| LVDS            | 1 (shared with eDP, by jumper setting)             |
| eDP             | 1 (shared with LVDS, by jumper setting)            |
| SATA PWR Output | 1                                                  |
| Speaker Header  | 1                                                  |

### Storage

|       |                                                 |
|-------|-------------------------------------------------|
| mSATA | 1 x Half size with USB 2.0 colay with mini-PCIe |
| SATA  | 1 x SATA3 (6Gb/s)                               |

### Watchdog Timer

|          |                                  |
|----------|----------------------------------|
| Output   | From Super I/O to drag RESETCON# |
| Interval | 256 Segments, 0, 1, 2, ...255sec |

### Power Requirements

|           |                                                                                                                           |
|-----------|---------------------------------------------------------------------------------------------------------------------------|
| Input PWR | 9~36V (DC In)                                                                                                             |
| Power On  | AT/ATX Supported<br>- AT : Directly PWR on as power input ready<br>- ATX : Press button to PWR on after power input ready |

### Environment

|                    |                |
|--------------------|----------------|
| Operating Temp     | 0°C ~ 60°C     |
| Storage Temp       | -40° C ~ 85° C |
| Operating Humidity | 5% ~ 90%       |
| Storage Humidity   | 5% ~ 90%       |

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