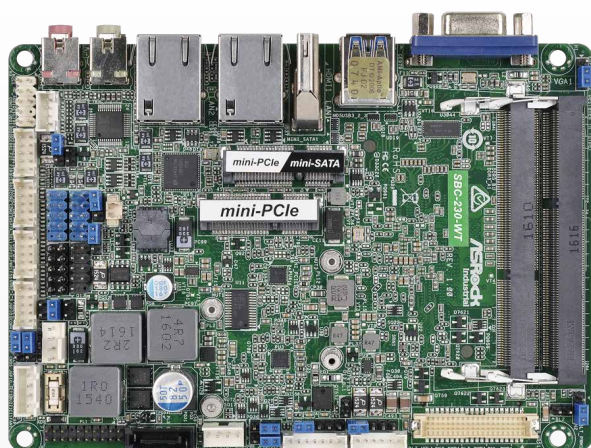




# SBC-230 / SBC-230M-WT

3.5" SBC Motherboard

## Spotlight Features

- BGA1296 for Intel® Apollo Lake /Apollo Lake-I SoC
- SBC-230D (N4200)
- SBC-230L (N3350)
- SBC-230J (J3455)
- SBC-230M-WT (E3940)
  - Supports Dual Channel DDR3L SO-DIMM 1867, up to 16GB
  - 1 x VGA, 1 x HDMI, 1 x LVDS or eDP (Jumper Switch)
  - 2 x USB 3.0, 4 x USB 2.0, 1 x SATA3, 4 x COM
  - 1 x Mini-PCle, 1 x Mini-PCle / mSATA Colay
  - 2 x Intel LAN
  - 1 x TPM Header
  - 9V~36V DC-in (4-pin DC-in PWR Con)

## Specifications

| Processor System | SBC-230                                                                                                               | SBC-230M-WT                |
|------------------|-----------------------------------------------------------------------------------------------------------------------|----------------------------|
| Dimensions       | 3.5" SBC (5.8-in x 4.0-in)                                                                                            |                            |
| CPU              | - 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) | E3940, QC, 1.60 GHz, 9.5 W |
| Chipset          | SOC                                                                                                                   |                            |

### Expansion Slot

|           |                                                                                       |
|-----------|---------------------------------------------------------------------------------------|
| PCIe      | N/A                                                                                   |
| Mini-PCle | 1 x full/ half size(Supports PCIe x1 & USB device)<br>1 x full size(colay with mSATA) |
| M.2       | N/A                                                                                   |
| mSATA     | 1 x Full Size(colay with Mini-PCle)                                                   |

### Memory

|            |                            |
|------------|----------------------------|
| Technology | Dual Channel DDR3L 1867MHz |
| Max        | 8GB                        |
| Socket     | 2 x SO-DIMM                |

### Graphics

|               |                                                |
|---------------|------------------------------------------------|
| Controller    | Intel® Gen9 Graphics 4K Codec Decode& Encode   |
| VGA           | Supports max resolution up to 1920 x 1200      |
| LVDS          | Supports max resolution up to 1920 x 1200@60Hz |
| eDP           | Supports max resolution up to 4096 x 2160@60Hz |
| HDMI          | Supports max resolution up to 4096 x 2160@24Hz |
| DVI           | N/A                                            |
| DisplayPort   | N/A                                            |
| Multi Display | Triple Display                                 |

### Ethernet

|            |                  |
|------------|------------------|
| Interface  | 10/100/1000 Mbps |
| Controller | 2 x Intel® I210  |

| Rear I/O    | SBC-230              | SBC-230M-WT |
|-------------|----------------------|-------------|
| VGA         | 1                    |             |
| DVI         | N/A                  |             |
| HDMI        | 1                    |             |
| DisplayPort | N/A                  |             |
| Ethernet    | 2                    |             |
| USB         | 2 x USB 3.0          |             |
| Audio       | 2 (Mic-in, Line-out) |             |
| Serial      | N/A                  |             |
| PS/2        | N/A                  |             |

### Internal Connector

|                     |                                            |
|---------------------|--------------------------------------------|
| USB                 | 4 x USB 2.0                                |
| LVDS                | 1                                          |
| eDP                 | 1                                          |
| VGA                 | N/A                                        |
| Serial              | 3 x COM (RS-232), 1 x COM (RS-232/422/485) |
| SATA                | 1 x SATA3                                  |
| Parallel            | N/A                                        |
| GPIO                | 4 x GPI + 4 x GPO                          |
| SATA PWR Output Con | 1                                          |
| Speaker Header      | 1                                          |
| TPM                 | 1 x Header                                 |

### Watchdog Timer

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

### Power Requirements

|           |                                                                                                                       |
|-----------|-----------------------------------------------------------------------------------------------------------------------|
| Input PWR | 9V~36V DC-in (4-pin DC-in PWR Con)                                                                                    |
| 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 Temperature | 0°C – 60°C   | -20°C – 75°C |
| Storage Temperature   | -40°C – 85°C |              |