



# SBC-250

## 3.5" SBC Motherboard



### KEY FEATURES

- Intel® Elkhart Lake SoC Processors
- 2 x 260-pin SO-DIMM DDR4 3200 MHz, up to 32GB (16GB per DIMM)
- 1 x USB 3.2 Gen2, 1 x USB 3.2 Gen1, 6 x USB 2.0, 1 x M.2 Key E, 1 x M.2 Key M, 1 x M.2 Key B, 4 x COM, 1 x SATA3
- 2 x Intel 2.5 Gigabit LAN
- Support Triple display, 1 x LVDS or eDP, 1 x HDMI2.0b, 1 x VGA
- TPM 2.0 onboard IC
- 9~36V DC-In

### SPECIFICATIONS

#### Form Factor

|            |                                                                |
|------------|----------------------------------------------------------------|
| Dimensions | 3.5"SBC (5.8-in x 4-in x 0.87-in, 14.7 cm x 10.2 cm x 2.20 cm) |
|------------|----------------------------------------------------------------|

#### Processor System

|         |                                                                                                                                                                                                                                                          |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU     | Intel® Elkhart Lake SoC Processors<br>SBC-250J (J6412, QC, Max Speed Up to 2.6GHz, 10W)<br>SBC-250D (J6426, QC, Max Speed Up to 3.0GHz, 10W)<br>SBC-250L (N6210, DC, Max Speed Up to 2.6GHz, 6.5W)<br>SBC-250N (N6415, QC, Max Speed Up to 3.0GHz, 6.5W) |
| Chipset | SoC                                                                                                                                                                                                                                                      |
| BIOS    | AMI SPI 256 Mbit                                                                                                                                                                                                                                         |

#### Memory

|            |                            |
|------------|----------------------------|
| Technology | Dual Channel DDR4 3200 MHz |
| Capacity   | 32GB (16GB per DIMM)       |
| Socket     | 2 x 260-pin SO-DIMM        |

#### Graphics

|              |                                                                           |
|--------------|---------------------------------------------------------------------------|
| Controller   | Intel® Gen 11 Graphics                                                    |
| HDMI         | HDMI 2.0b<br>Max resolution up to 4096 x 2160@60Hz                        |
| VGA          | Max resolution up to 1920 x 1200                                          |
| LVDS         | Dual channel 24 bit up to 1920 x 1200@60Hz<br>(Connector shared with eDP) |
| eDP          | Max resolution up to 1920 x 1080@60Hz<br>(Connector shared with LVDS)     |
| MultiDisplay | Triple display                                                            |

#### Expansion Slot

|            |                                                                                                                                            |
|------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| M.2        | 1 x M.2 (Key B, 3042/3052) with PCIe x1/USB3.2 and USB2.0 and SIM for 4G/5G<br>1 x M.2 (Key E, 2230) with PCIe x1 and USB 2.0 for Wireless |
| SIM Socket | 1x SIM socket connected to M.2 key B                                                                                                       |

#### Audio

|           |                                           |
|-----------|-------------------------------------------|
| Interface | Realtek ALC233 HD, High Definition Audio. |
|-----------|-------------------------------------------|

#### Ethernet

|                   |                                                                                                  |
|-------------------|--------------------------------------------------------------------------------------------------|
| Controller/ Speed | LAN1: Intel® I225LM with 10/100/1000/2500 Mbps<br>LAN2: Intel® I225LM with 10/100/1000/2500 Mbps |
| Connector         | 2 x RJ-45                                                                                        |

#### Rear I/O

|          |                               |
|----------|-------------------------------|
| HDMI     | 1 x HDMI2.0b                  |
| VGA      | 1                             |
| Ethernet | 2 x 2.5 Gigabit LAN           |
| USB      | 1 x USB 3.2 Gen2, 1 x USB 2.0 |

#### Internal Connector

|                 |                                                                                                                  |
|-----------------|------------------------------------------------------------------------------------------------------------------|
| USB             | 1 x USB 3.2 Gen1 (1 x USB 3.1 header)<br>1 x USB 2.0 (1 x USB 3.1 header)<br>4 x USB 2.0 (2 x 2.54 pitch header) |
| COM             | COM1, COM2, COM4 (RS-232)<br>COM3 (RS-232/422/485)                                                               |
| GPIO            | 4 x GPI, 4 x GPO                                                                                                 |
| LVDS            | 1 (Connector with LVDS/eDP signal, switch by BIOS)                                                               |
| TPM             | TPM 2.0 onboard IC                                                                                               |
| SATA PWR Output | 1                                                                                                                |
| Speaker Header  | 1                                                                                                                |

#### Storage

|      |                                                      |
|------|------------------------------------------------------|
| M.2  | 1 x M.2 (Key M, 3042/3060/2280) with PCIe x1 for SSD |
| 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 with 4-pin wafer PWR                                                                                          |
| 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 ~ 70°C     |
| Storage Temp       | -40° C ~ 85° C |
| Operating Humidity | 5% ~ 90%       |
| Storage Humidity   | 5% ~ 90%       |

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