



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-230M (E3940)
- 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-PCIe, 1 x Mini-PCIe / mSATA Colay
- 2 x Intel LAN
- 1 x TPM Header
- 9V~36V DC-in (4-pin 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) - SBC-230L (N3350, DC, 1.10 GHz, 6W) - SBC-230M (E3940, QC, 1.60 GHz, 9.5W)	- E3940, QC, 1.60 GHz, 9.5 W
Chipset	SOC	

Expansion Slot	
PCIe	N/A
Mini-PCIe	1 x full/ half size (Supports PCIe x1 & USB device) 1 x full size (colay with mSATA)
M.2	N/A
mSATA	1 x Full Size (colay with Mini-PCIe)

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 PWR Con)
Power On	AT/ATX Supported AT : Directly PWR on as power input ready 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	