



SBC-230 / SBC-230-WT

3.5" SBC Motherboard

Spotlight Features

- BGA1296 for Intel® Apollo Lake SoC
 - SBC-230D (N4200)
 - SBC-230L (N3350)
 - SBC-230M (E3940)
 - SBC-230M-WT (E3940)
- Intel® Gen9 Intel® Graphics 4K Codec Decode& Encode
- Supports Dual Channel DDR3L 1867MHz, 2 x SO-DIMM, up to 16GB system memory
- 1 x VGA, 1 x HDMI, 1 x LVDS or eDP (Jumper Switch)
- 2 xUSB 3.0, 4 x USB 2.0, 1 x SATA3
- 1 x Mini-PCIe, 1 x Mini-PCIe / mSATA Colay
- Gigabit LAN : 2 x Intel LAN
- 1 x TPM Header
- 9V~36V DC-in (4-pin PWR Con)

Specifications

Processor System	SBC-230	SBC-230-WT
Dimension	SBC-3.5" (5.8-in x 4.0-in)	
CPU	BGA1296 for Intel® Apollo Lake SoC	
Core Number	(By CPU, Max 4)	
Max Speed	(By CPU)	
L2 Cache	(By CPU)	
Chipset	N/A	
BIOS	UEFI	
Expansion Slot		
PCIe	0	
Mini PCIe	1 x mini-PCIe (half/full/ size, PCIe x1 + USB)	
	1 x mini-PCIe (full size, PCIe x1 + USB, colay with MSATA)	
M.2	0	
mSATA	1 (full size, SATA3 + USB, colay with Mini-PCIe)	
Memory		
Technology	Dual Channel DDR3L 1867MHz	
Max.	16GB	
Socket	2 x SO-DIMM	
Graphics		
Controller	Intel® Gen9 Graphics 4K Codec Decode& Encode	
VRAM	Shared Memory	
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	No	
DisplayPort	No	
Multi Display	Yes (Triple Display)	
Ethernet		
Interface	10/100/1000 Mbps	
Controller	2 x Intel® I210	
Connector	2 x RJ45	
SATA		
Max Data Transfer Rate	SATA3 (6.0Gb/s)	

Rear I/O	SBC-230	SBC-230-WT
VGA	1	
DVI	0	
HDMI	1	
DisplayPort	0	
Ethernet	2	
USB	2 x USB 3.0	
Audio	2 (Mic-in, Line-out)	
Serial	0	
PS/2	0	

Internal Connector		
USB	4 x USB 2.0 (2 x 2.54 pitch header)	
LVDS/inverter	1/1	
eDP	1	
VGA	0	
Serial	4 x COM (COM1 supports RS-232/422/485)	
SATA	1	
mPCIe	2	
Parallel	0	
mSATA	1 (shared with mini-PCIe)	
IrDA	0	
GPIO	4 x GPI + 4 x GPO	
SATA PWR Output Con	1	
Speaker Header	1	

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