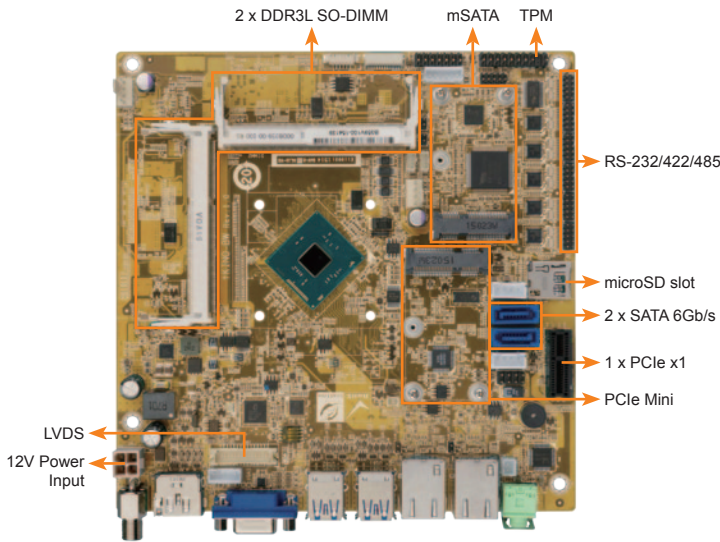


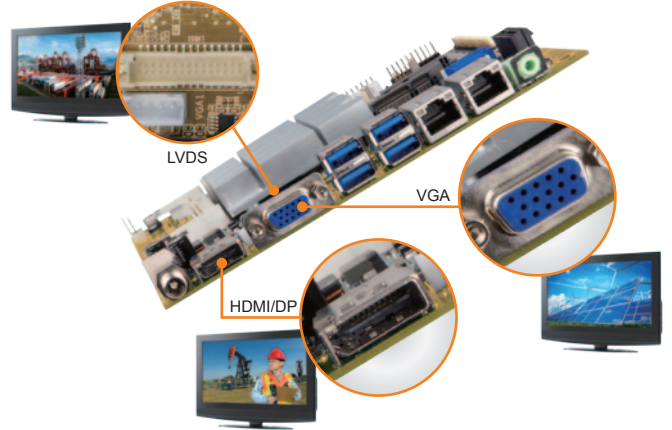
# tKINO-BW

Thin Mini-ITX SBC supports 14nm Intel® Pentium®/Celeron® on-board SoC, DC input, VGA/LVDS/DP+HDMI, SATA 6Gb/s, Dual GbE, USB 3.0, HD Audio and RoHS



## Three Digital Display Interfaces

3 independent displays under Window® 7 OS and up



## Specifications

- ◆ SoC
  - Intel® Pentium® N3700 on-board SoC (up to 2.4GHz, quad-core, 2MB cache, TDP=6W)
  - Intel® Celeron® N3150 on-board SoC (up to 2.08GHz, quad-core, 2MB cache, TDP=6W)
  - Intel® Celeron® N3050 on-board SoC (up to 2.16GHz, dual-core, 2MB cache, TDP=6W)
  - Intel® Celeron® N3000 on-board SoC (up to 2.08GHz, dual-core, 2MB cache, TDP=4W)
- ◆ BIOS
  - UEFI BIOS
- ◆ Memory
  - 2 x 1600/1333 MHz DDR3L SO-DIMM (support up to 8GB)
- ◆ Graphics
  - Intel® HD Graphics Gen 8 Engines with 16 low-power execution units, supporting DX11.1, OpenGL 4.2 and OpenCL1.2
- ◆ Display Output
  - HDMI+DP (up to 3840x2160@30Hz)
  - VGA (up to 1920x1200@60Hz)
  - 18/24-bit dual-channel LVDS by CH7511B DP to LVDS converter (up to 1920x1200@60Hz)
- ◆ Ethernet
  - Dual Realtek RTL8111E PCIe GbE controller
- ◆ External I/O Interfaces
  - 2 x USB 3.0
  - 2 x USB 2.0
- ◆ Internal I/O Interfaces
  - 4 x RS-232 (2x5 pin, P=2.0)      2 x RS-232/422/485 (2x5 pin, P=2.0)
  - 2 x SATA 6Gb/s with 5V output      1 x mSATA colay SATA2
  - 1 x KB/MS (1x6 pin)                  2 x USB 2.0 (2x4 pin, P=2.54)
- ◆ Super IO
  - F8186D-I
- ◆ Front Panel
  - 1 x Front panel (2x7 pin, Power LED, HDD LED, Speaker, Power Button, Reset Button)
- ◆ LAN LED
  - 2 x LAN LED (1x2 pin)
- ◆ SMBus
  - 1 x SMBus (1x4 pin)
- ◆ TPM
  - 1 x TPM (2x10 pin)
- ◆ I<sup>2</sup>C
  - 1 x I<sup>2</sup>C (1x4 pin)
- ◆ microSD
  - 1 x microSD slot (Linux bootable)
- ◆ Digital I/O
  - 8-bit digital I/O (2x5 pin)
- ◆ Expansion
  - 1 x PCIe x1
- ◆ Audio
  - Realtek ALC662 HD codec supports 5.1 channel
  - Audio Jack (2x5 pin)
- ◆ Watchdog Timer
  - Software programmable support 1~255 sec. system reset
- ◆ Power Supply
  - 12V DC input
  - 1 x External 4-pin DIN DC jack
  - 1 x Internal 4-pin (5V, 12V) power connector
- ◆ Fan Connector
  - 1 x 4-pin CPU fan connector
  - 1 x 4-pin system fan connector
- ◆ Power Consumption
  - 12V@1.33A (Intel® Celeron® N3050 CPU with 4GB 1600MHz DDR3L memory)
- ◆ Operating Temperature
  - 20°C ~ 60°C
- ◆ Storage Temperature
  - 30°C ~ 70°C
- ◆ Operating Humidity
  - 5% ~ 95%, non-condensing
- ◆ Weight: GW: 900g/NW: 400g



## Features

- Thin Mini-ITX form factor with 14nm Intel® Pentium®/Celeron® on-board SoC processor supports DDR3L memory
- 12V DC input design
- Supports USB 3.0, two SATA 6Gb/s
- Triple independent display, supporting 4K resolution
- Supports IEL jumperless function

## Packing List

1 x tKINO-BW single board computer
1 x SATA cable
1 x I/O shielding
1 x One Key Recovery CD
1 x Utility CD
1 x QIG

## Ordering Information

Part No.	Description
tKINO-BW-N37001-R10	Thin Mini-ITX SBC supports Intel® Pentium® quad-core processor N3700 (6W), DC input, VGA/LVDS/DP+HDMI, SATA, dual GbE, USB 3.0, HD audio and RoHS
tKINO-BW-N31501-R10	Thin Mini-ITX SBC supports Intel® Celeron® quad-core processor N3150(6W), DC input, VGA/LVDS/DP+HDMI, SATA, dual GbE, USB 3.0, HD audio and RoHS
tKINO-BW-N30501-R10	Thin Mini-ITX SBC supports Intel® Celeron® dual-core processor N3050 (6W), DC input, VGA/LVDS/DP+HDMI, SATA, dual GbE, USB 3.0, HD audio and RoHS
tKINO-BW-N30001-R10**	Thin Mini-ITX SBC supports Intel® Celeron® dual-core processor N3000 (6W), DC input, VGA/LVDS/DP+HDMI, SATA, dual GbE, USB 3.0, HD audio and RoHS
32205-003800-100-RS	RS-422/485 cable, 200mm, P=2.0
32205-002700-100-RS	RS-232 cable, 200mm, P=2.0
32205-003700-100-RS	RS-232 & RS-422/485 cable, 230mm, P=2.0
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware V3.17

\*\* : Those items are by order production, MOQ: 100