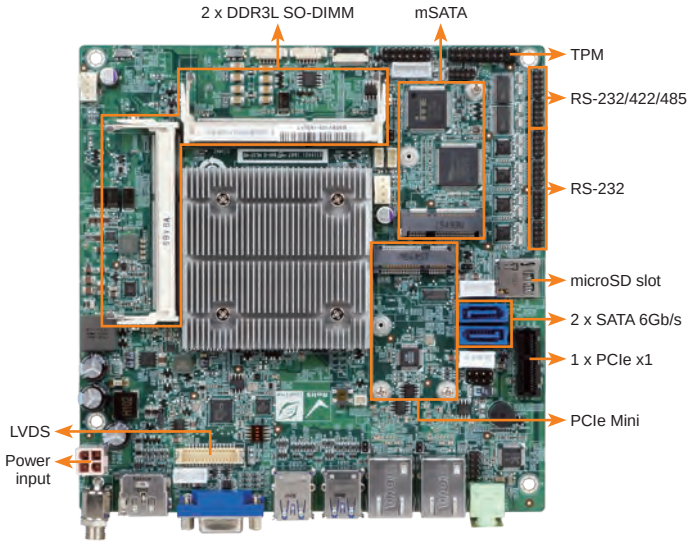
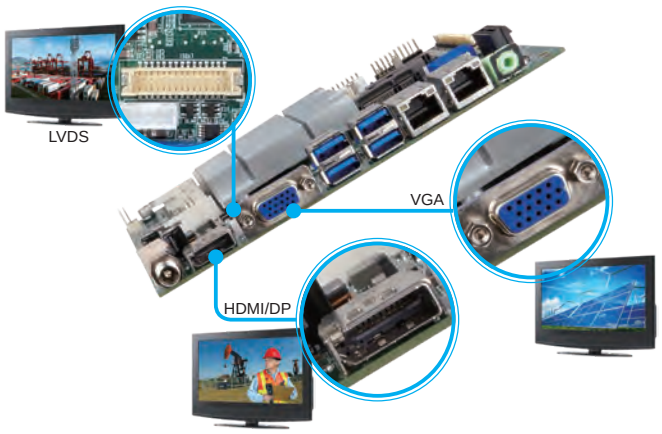
tKINO-BW

Thin Mini-ITX SBC supports 14nm Intel® Pentium®/Celeron® on-board SoC, 9~30V 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



One Key Recovery

1.35V DDR3L | USB 3.0 | mSATA | PCIe Mini Expansion | Thin Type | Triple Display

Specifications

- SoC
  Intel® Pentium® N3710 on-board SoC (up to 2.56GHz, quad-core, 2MB cache, TDP=6W)
  Intel® Celeron® N3160 on-board SoC (up to 2.24GHz, quad-core, 2MB cache, TDP=6W)
  Intel® Celeron® N3060 on-board SoC (up to 2.48GHz, dual-core, 2MB cache, TDP=6W)
  Intel® Celeron® N3010 on-board SoC (up to 2.24GHz, dual-core, 2MB cache, TDP=4W)
- BIOS
  UEFI BIOS
- Memory
  Two 204-pin 1333/1600 MHz single-channel DDR3L SDRAM unbuffered SO-DIMM slots support up to 8 GB
- Graphics Engine
  Intel® HD Graphics Gen 8 Engines with 16 low-power execution units, supporting DX11.1, OpenGL 4.2 and OpenCL1.2
- Display Output
  Triple independent display
  1 x HDMI/DP (up to 3840x2160@30Hz)
  1 x 18/24-bit dual-channel LVDS (up to 1920x1200@60Hz)
  1 x VGA (up to 1920x1200@60Hz)
- Ethernet
  Dual Realtek RTL8111E PCIe GbE controller
- External I/O Interface
  4 x USB 3.0
- Internal I/O Interface
  1 x KB/MS (1x6 pin)
  1 x MicroSD card slot
  1 x mSATA (colay SATA2)
  2 x RS-232/422/485 (2x5 pin, P=2.0)
  2 x SATA 6Gb/s with 5V output
  2 x USB 2.0 (2x4 pin, P=2.54)
  4 x RS-232 (2x5 pin, P=2.0)
- 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)
- I²C
  1 x I²C (1x4 pin)
- Digital I/O
  8-bit digital I/O (2x5 pin)
- Expansion
  1 x PCIe x1
  1 x Full-size PCIe Mini card slot
- Audio
  Realtek ALC662 HD codec
  1 x Audio jacks (line-out) on rear IO
  1 x Front audio (2x5 pin)
- Watchdog Timer: Software programmable supports 1~255 sec. system reset
- Power Supply
  1 x External DC power jack (ø5.5 mm)
  1 x Internal power connector (2x2 pin)
  Input Voltage Range: 9V ~ 30V
  Support AT/ATX mode
- Fan Connector
  1 x CPU smart fan (1x4 pin)
  1 x System smart fan (1x4 pin)
- Power Consumption
  12V@1.61A (Intel® Celeron® N3710 CPU with two 4 GB 1600 MHz 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
- CE/FCC compliant

Features

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

Packing List

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

Ordering Information

Part No.	Description
tKINO-BW-N4-R10	Thin Mini-ITX SBC supports Intel® Pentium® quad-core processor N3710 up to 2.56GHz (6W), VGA/LVDS/DP+HDMI, SATA, dual GbE, USB 3.0, HD Audio and RoHS
tKINO-BW-N3-R10	Thin Mini-ITX SBC supports Intel® Celeron® quad-core processor N3160 up to 2.24GHz (6W), VGA/LVDS/DP+HDMI, SATA, dual GbE, USB 3.0, HD Audio and RoHS
tKINO-BW-N2-R10	Thin Mini-ITX SBC supports Intel® Celeron® dual-core processor N3060 up to 2.48GHz (6W), VGA/LVDS/DP+HDMI, SATA, dual GbE, USB 3.0, HD Audio and RoHS
tKINO-BW-N1-R10**	Thin Mini-ITX SBC supports Intel® Celeron® dual-core processor N3010 up to 2.24GHz (4W), VGA/LVDS/DP+HDMI, SATA, dual GbE, USB 3.0, HD Audio and RoHS
32205-002700-200-RS	RS-232/422/485 cable, 200mm, P=2.0
TPM-IN01-R20	20-pin Infineon TPM module, software management tool, firmware v3.17

**By order production, MOQ: 100