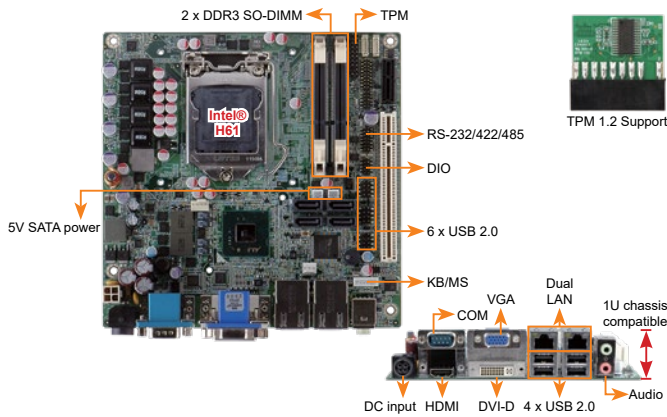


# KINO-DH610

Mini-ITX SBC supports LGA1155 Intel® Core™ i7/i5/i3/Pentium®/Celeron® CPU, DDR3, VGA/DVI-D/HDMI, dual PCIe GbE, USB 2.0, SATA 3Gb/s, HD Audio and RoHS



## Specifications

- ◆ CPU: LGA1155 socket supports Intel® Core™ i7/i5/i3/Pentium®/Celeron® dual-core processor (TDP 65W max.)
- ◆ Chipset: Intel® H61
- ◆ Memory: Two 204-pin 1066/1333 MHz dual-channel unbuffered DDR3L SDRAM SO-DIMM support up to 16 GB
- ◆ BIOS: UEFI BIOS
- ◆ Ethernet LAN1: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support
- ◆ LAN2: Realtek RTL8111E PCIe GbE controller
- ◆ Graphics Engine: Supports DX10.1 and OpenGL 3.0 Full MPEG2, VC1, AVC Decode
- ◆ Display Output: Dual display supported 1 x VGA (up to 2048x1536@75Hz) 1 x HDMI (up to 1920x1200@60Hz) 1 x DVI-D (up to 1920x1200@60Hz)
- ◆ External I/O Interface: 1 x RS-232 4 x USB 2.0
- ◆ Internal I/O Interface: 1 x KB/MS (1x6 pin) 1 x RS-232/422/485 (2x7 pin, P=2.0) 2 x SATA power connector 4 x SATA 3Gb/s 6 x USB 2.0 (2x4 pin, P=2.54)
- ◆ TPM: 1 x TPM (2x10 pin)
- ◆ Audio: Realtek ALC662 HD codec 2 x Audio jacks (line-out, mic-in) on rear I/O
- ◆ Expansions: 1 x PCI slot 1 x PCIe x1 slot
- ◆ Watchdog Timer: Software programmable supports 1~255 sec. system reset
- ◆ Fan Connector: 1 x CPU smart fan (1x4 pin) 1 x System fan (1x3 pin)
- ◆ Power Supply: Maximum input voltage range: 9V ~ 28V Recommended operating input voltage range: 12V ~ 24V 1 x External DC jack (4-pin DIN) 1 x Internal power connector (2x2 pin)
- ◆ Power Consumption: 12V@5.07A (2.2GHz Intel® G620T with two 1066 MHz 2 GB DDR3 memory running 3DMark06 burn in) 12V@8.85A (2.8GHz Intel® Core™ i7-2600S with two 1066 MHz 2 GB DDR3 memory running 3DMark06 burn in)
- ◆ Operating Temperature: -10°C ~ 60°C
- ◆ Storage Temperature: -20°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 170 mm x 170 mm
- ◆ Weight: GW: 1100g / NW: 700g
- ◆ CE/FCC compliant

## Packing List

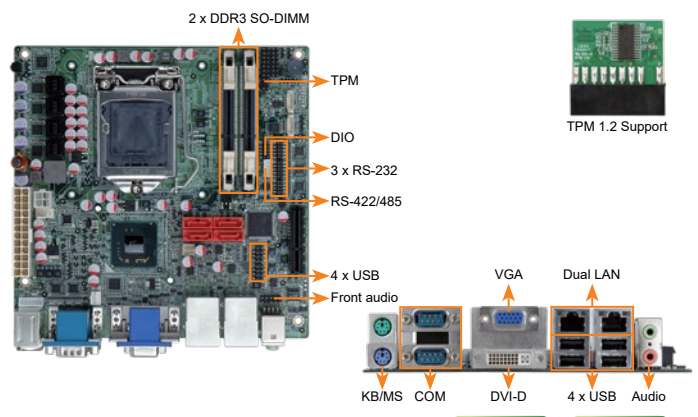
|                                      |                      |
|--------------------------------------|----------------------|
| 1 x KINO-DH610 single board computer |                      |
| 1 x I/O shielding                    | 1 x Mini jumper pack |
| 2 x SATA with 5V power cable         | 1 x QIG              |

## Ordering Information

| Part No.            | Description   |
|---------------------|---|
| KINO-DH610-R10      | Mini-ITX SBC supports LGA1155 Intel® Core™ i5/i3/Pentium®/Celeron® CPU, DDR3, VGA/DVI-D/HDMI, dual PCIe GbE, USB 2.0, SATA 3Gb/s, HD Audio and RoHS |
| CPU-DT-i5-2500T     | Intel® Core™ i5-2500T processor, LGA1155, quad core 2.3GHz, 6M cache, 45W, compatible with CF-115XC-R10 CPU cooler                                  |
| CPU-DT-i5-2390T     | Intel® Core™ i5-2390T processor, LGA1155, dual core 2.7GHz, 3M cache, 35W, AMT, compatible with CF-115XC-R10 CPU cooler                             |
| CPU-DT-i3-2120T     | Intel® Core™ i3-2120T processor, LGA1155, dual core 2.6GHz, 3M cache, 35W, compatible with CF-115XC-R10 CPU cooler                                  |
| CPU-DT-C-G440       | Intel® Celeron® G440 processor, LGA1155, single core 1.6GHz, 1M cache, 35W, compatible with CF-115XC-R10 CPU cooler                                 |
| CPU-DT-P-G630T      | Intel® Pentium® G630T processor, LGA1155, dual core 2.3GHz, 3M cache, 35W, compatible with CF-115XC-R10 CPU cooler                                  |
| 19800-003100-300-RS | Dual port USB cable with bracket, 300mm, P=2.54   |
| 19800-004300-100-RS | RS-232 & RS-422/485 cable with bracket, 14-pin to two DB-9, 250mm, P=2.0  |
| 32006-001100-201-RS | PS/2 KB/MS cable, 135mm, P=2.0  |
| 63040-010060-110-RS | 12V 60W power adaptor with 4-pin DIN lock, 90 ~ 264VAC input, ErP   |
| CF-115XA-R10        | High-performance LGA1155/LGA1156 cooler kit, 1U chassis compatible, 73W   |
| CF-115XC-R10        | LGA1155/LGA1156 cooler kit, 1U chassis compatible, 45W  |
| CF-115XD-R10        | LGA1155/LGA1156 cooler kit, 1U chassis compatible, 65W  |
| CF-115XE-R10        | High-performance LGA1155/LGA1156 cooler kit, 95W  |
| SACF-KIT01-R10      | SATA to CF converter board  |
| TPM-IN01-R20        | 20-pin Infineon TPM module, software management tool, firmware v3.17  |

# KINO-AH612

Mini-ITX SBC supports LGA1155 Intel® Core™ i7/i5/i3/Pentium®/Celeron® CPU with H61, DDR3, VGA/DVI-D, six COMs, dual PCIe GbE, SATA 3Gb/s, HD Audio and RoHS



## Features

- LGA1155 Intel® Core™ i7/i5/i3/Pentium®/Celeron® processor supported
- Dual-channel 1333/1066 MHz DDR3 supports up to 16 GB
- Supports dual independent display by VGA and DVI-D
- Supports six COM ports, four SATA 3Gb/s ports and one PCIe x4 slot for IO expansion card



## Specifications

- ◆ CPU: LGA1155 socket supports Intel® Core™ i7/i5/i3/Pentium®/Celeron® processor
- ◆ Chipset: Intel® H61
- ◆ Memory: Two 204-pin 1066/1333 MHz dual-channel unbuffered DDR3L SDRAM SO-DIMM support up to 16 GB
- ◆ BIOS: UEFI BIOS
- ◆ Ethernet LAN1: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support
- ◆ Graphics Engine: Supports DX10.1 and OpenGL 3.0 Full MPEG-2, VC1, AVC Decode
- ◆ Display Output: Dual display supported 1 x VGA (up to 2048x1536@75Hz) 1 x DVI-D (up to 1920x1200@60Hz)
- ◆ Audio: Realtek ALC662 HD codec 2 x Audio jacks (line-out, mic-in) on rear I/O 1 x Front Audio (2x5 pin)
- ◆ External I/O Interface: 1 x KB/MS 2 x RS-232 4 x USB 2.0
- ◆ Internal I/O Interface: 1 x KB/MS (1x6 pin) 4 x SATA 3Gb/s 1 x RS-422/485 (1x4 pin, P=2.0) 3 x RS-232 (2x5 pin, P=2.0) 4 x USB 2.0 (2x4 pin, P=2.54)
- ◆ TPM: 1 x TPM (2x10 pin)
- ◆ Expansion: 1 x PCIe x4 slot
- ◆ Watchdog Timer: Software programmable supports 1~255 sec. system reset
- ◆ Fan Connector: 1 x CPU smart fan (1x4 pin) 1 x System fan (1x3 pin)
- ◆ Power Supply: ATX power supply
- ◆ Power Consumption: 5V@3.9A, 12V@0.36A, Vcore\_12V@8.28A, 3.3V@1.24A, 5VSB@0.18A (3.4GHz Intel® Core™ i7-2600 with two 1333 MHz 2 GB DDR3 memory)
- ◆ Operating Temperature: -10°C ~ 60°C
- ◆ Storage Temperature: -20°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 170 mm x 170 mm
- ◆ Weight: GW: 1100g / NW: 700g
- ◆ CE/FCC compliant

## Packing List

|                                      |                      |
|--------------------------------------|----------------------|
| 1 x KINO-AH612 single board computer | 2 x SATA cable       |
| 1 x Dual RS-232 cable                | 1 x Mini jumper pack |
| 1 x I/O shielding                    | 1 x QIG              |

## Ordering Information

| Part No.            | Description  |
|---------------------|--|
| KINO-AH612-R10      | Mini-ITX SBC supports LGA1155 Intel® Core™ i7/i5/i3/Pentium®/Celeron® CPU with H61, DDR3, VGA/DVI-D, 6 COM, dual PCIe GbE, SATA 3Gb/s, HD Audio and RoHS |
| CPU-DT-i5-2500T     | Intel® Core™ i5-2500T processor, LGA1155, quad core 2.3GHz, 6M cache, 45W, compatible with CF-115XC-R10 CPU cooler                                       |
| CPU-DT-i5-2390T     | Intel® Core™ i5-2390T processor, LGA1155, dual core 2.7GHz, 3M cache, 35W, AMT, compatible with CF-115XC-R10 CPU cooler                                  |
| CPU-DT-i3-2120T     | Intel® Core™ i3-2120T processor, LGA1155, dual core 2.6GHz, 3M cache, 35W, compatible with CF-115XC-R10 CPU cooler                                       |
| CPU-DT-C-G440       | Intel® Celeron® G440 processor, LGA1155, single core 1.6GHz, 1M cache, 35W, compatible with CF-115XC-R10 CPU cooler                                      |
| CPU-DT-P-G630T      | Intel® Pentium® G630T processor, LGA1155, dual core 2.3GHz, 3M cache, 35W, compatible with CF-115XC-R10 CPU cooler                                       |
| 19800-003100-100-RS | Dual port USB 2.0 cable with bracket, 300mm, P=2.54  |
| 32102-000100-200-RS | SATA power cable, MOLEX 5264-4P to SATA15P   |
| CF-115XA-R10        | High-performance LGA1155/LGA1156 cooler kit, 1U chassis compatible, 73W  |
| CF-115XC-R10        | LGA1155/LGA1156 cooler kit, 1U chassis compatible, 45W   |
| CF-115XD-R10        | LGA1155/LGA1156 cooler kit, 1U chassis compatible, 65W   |
| CF-115XE-R10        | High-performance LGA1155/LGA1156 cooler kit, 95W   |
| SACF-KIT01-R10      | SATA to CF converter board   |
| TPM-IN01-R20        | 20-pin Infineon TPM module, software management tool, firmware v3.17   |