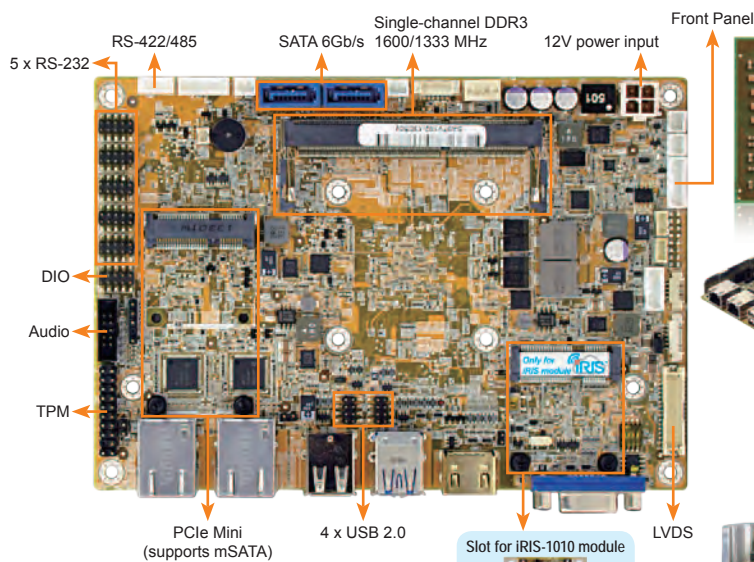


# NANO-KBN-i1

EPIC SBC supports AMD® Embedded G-Series SoC with VGA/HDMI/LVDS, Dual PCIe GbE, USB 3.0, PCIe Mini, SATA 6Gb/s, mSATA, COM, iRIS-1010, HD Audio and RoHS

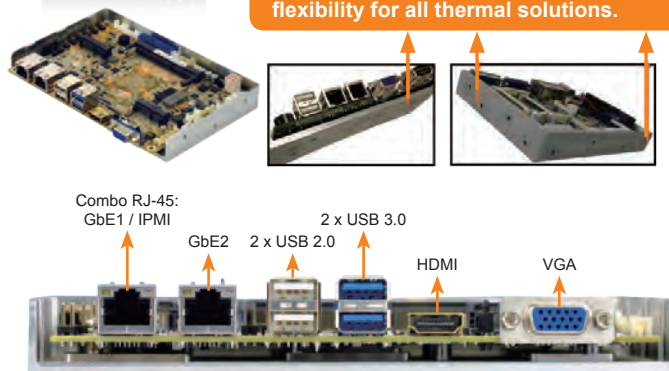
**New**



## Design for high performance and low power

- A high performance, low power system-on-chip (SoC) design
- Industrial temperature range of -40 to 85 degree
- Available in dual or quad-core processor
- Integrated discrete-class GPU and I/O controller

Multiple screw mounting holes provide flexibility for all thermal solutions.



## Specifications

- ◆ SoC
  - AMD® Embedded G-Series SoC
  - GX-415GA on-board SoC (1.5GHz, quad-core, 2MB cache, TDP=15W)
  - GX-210HA on-board SoC (1.0GHz, dual-core, 1MB cache, TDP=9W)
  - GX-420CA on-board SoC (2.0GHz, quad-core, 2MB cache, TDP=25W) (by request)
  - GX-217GA on-board SoC (1.65GHz, dual-core, 1MB cache, TDP=15W) (by request)
- ◆ BIOS: AMI UEFI BIOS
- ◆ Memory
  - One 204-pin 1600/1333MHz dual-channel DDR3 & DDR3L SDRAM unbuffered DIMMs support up to 8GB
- ◆ Graphics Engine
  - GPU frequency 500MHz (Radeon™ HD 8330E) for GX-415GA
  - GPU frequency 450MHz (Radeon™ HD 8310E) for GX-210HA
  - GPU frequency 600MHz (Radeon™ HD 8400E) for GX-420CA
  - GPU frequency 300MHz (Radeon™ HD 8280E) for GX-217GA
  - Support DX11.1, OpenGL 4.1 and OpenCL1.2
  - UVD4.2 decode for H.264, MPEG2/4, VC1, MVC
  - VCE 2.0 encode for H.264, VCE
- ◆ Display Output
  - VGA (up to 2048x1536@60Hz)
  - HDMI (up to 1920x1200@60Hz)
  - 18/24-bit dual-channel LVDS by CH7511B DP to LVDS converter (up to 1920x1200@60Hz)
- ◆ Ethernet
  - GbE1: Intel® I210-AT PCIe controller with NCSI support
  - GbE2: Intel® I211-AT PCIe controller
- ◆ Super I/O: Fintek F81866
- ◆ I/O Interface
  - 1 x 6-pin wafer for PS/2 KB/MS
  - 2 x USB 3.0 (on rear I/O)
  - 1 x RS-422/485 (pin header)
  - 2 x SATA 6G/s with 5V SATA power connector
  - 6 x USB 2.0 (2 on rear I/O, 4 by pin header)
  - 5 x RS-232 (5 by pin header)
- ◆ iRIS Remote Management Module: 1 x iRIS-1010 slot
- ◆ TPM: 1 x 20-pin (2x10) header
- ◆ SMBus: 1 x 4-pin (1x4) wafer
- ◆ I2C: 1 x 4-pin (1x4) wafer
- ◆ Audio
  - Realtek ALC662 HD Audio codec
  - 1 x S/PDIF by 4-pin (1x4) header for digital audio
  - 1 x Analog audio by 10-pin (2x5) header
- ◆ Front Panel
  - 1 x 6-pin (1x6) wafer for power LED & HDD LED
  - 1 x 2-pin (1x2) wafer for power button
  - 1 x 2-pin (1x2) wafer for power reset
- ◆ LAN LED: 2 x 2-pin headers for LAN1 Link LED, LAN2 Link LED
- ◆ Expansion: 1 x Full-size PCIe Mini card slot (supports mSATA co-lay SATA port 2)
- ◆ Watchdog Timer: Software programmable, support 1~255 sec. system reset
- ◆ Digital I/O: 8-bit digital I/O (4-bit input, 4-bit output)
- ◆ Fan Connector: 1 x 4-pin system fan connector
- ◆ Power Supply
  - 12V only DC input
  - 1 x Internal 4-pin (2x2) power connector
  - Support AT/ATX mode
- ◆ Power Consumption
  - +12V@ 1.02A (AMD GX-415GA 1.5GHz CPU with 1600MHz 8GB DDR3 memory)
- ◆ Operating Temperature: 0°C ~ 60°C
- ◆ Storage Temperature: -10°C ~ 85°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 115mm x 165mm
- ◆ Weight: GW:850g / NW:350g



## Features

1. EPIC SBC supports AMD® Embedded G-Series SoC
2. Dual independent display support
3. 1.35V DDR3L 1600/1333 MHz SDRAM supports up to 8GB
4. HD Audio supported by S/PDIF
5. Support IPMI 2.0 with iRIS-1010 module
6. COM, USB 3.0, SATA 6Gb/s PCIe Mini, mSATA and Audio supported
7. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Packing List

1 x NANO-KBN-i1 single board computer with enclosure heatsink	
2 x SATA with power cable kit (P/N: 32801-000201-100-RS)	
1 x Audio cable (P/N: 32007-002600-100-RS)	1 x One Key Recovery CD
1 x Power cable (P/N: 32100-087100-RS)	1 x QIG (Quick Installation Guide)
2 x RS-232 cable (P/N: 19800-000300-200-RS)	1 x Utility CD

## Ordering Information

Part No.	Description
NANO-KBN-i1-4151-R10	EPIC SBC supports AMD 28nm quad-core GX-415GA 1.5GHz (15W) on-board SoC with VGA/HDMI/LVDS, Dual PCIe GbE, USB 3.0, PCIe Mini, SATA 6Gb/s, mSATA, COM, iRIS-1010, HD Audio and RoHS
NANO-KBN-i1-2101-R10	EPIC SBC supports AMD 28nm dual-core GX-210HA 1.0GHz (9W) on-board SoC with VGA/HDMI/LVDS, Dual PCIe GbE, USB 3.0, PCIe Mini, SATA 6Gb/s, mSATA, COM, iRIS-1010, HD Audio and RoHS
iRIS-1010-R10	IPMI 2.0 adapter card with AST1010 BMC chip (W/O KVM over IP function) for PCIe Mini socket interface
32000-070301-RS	Dual-port USB cable
32205-003800-100-RS	RS-422/485 cable, 200mm
32006-001100-100-RS	PS/2 KB/MS cable
TPM-IN01-R11	20-pin Infineon TPM module, software management tool, firmware V3.17