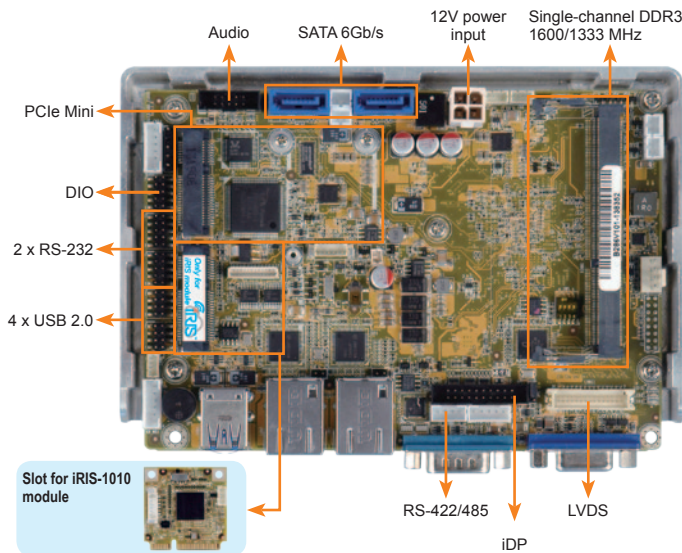


# WAFER-KBN-i1

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



## Multimedia Features

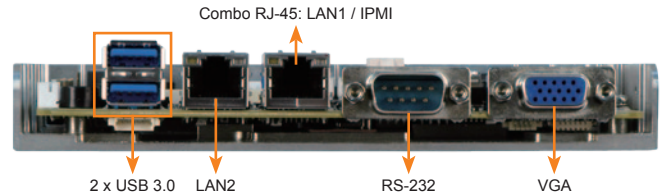
**New**

**Unified Video Decoder 4.2** H.264, MPEG-2, VC-1, MPEG4 (DivX), and WMV

Outstanding graphics performance and power saving through integrated advanced graphics and hardware

**Video Compression Engine 2.0** Video conferencing, wireless display, H.264, SVC

Fast HD transcoding, low latency encoding conclusions, power efficient video conferencing



## 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 supported up to 8GB
- ◆ Graphics Engine
  - GPU frequency 500MHz (Radeon™ HD 8330E) for GX-415GA
  - GPU frequency 300MHz (Radeon™ HD 8310E) for GX-210HA
  - GPU frequency 600MHz (Radeon™ HD 8400E) for GX-420CA
  - GPU frequency 450MHz (Radeon™ HD 8280E) for GX-217GA
  - Support DX11.1, OpenGL 4.1 and OpenCL 1.2
  - 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)
  - 18/24-bit dual-channel LVDS by CH7511B DP to LVDS converter (up to 1920x1200@60Hz)
  - iDP interface for HDMI, LVDS, VGA, DVI, DP (up to 2560x1600 @60 Hz)
- ◆ Ethernet
  - LAN1: Intel® I210-AT PCIe controller with NCSI support
  - LAN2: Intel® I211-AT PCIe controller
- ◆ Super IO
  - Fintek F81866
- ◆ I/O Interfaces
  - 1 x RS-422/485 3 x RS-232 (1 on rear I/O, 2 by pin header)
  - 2 x USB 3.0 (on rear I/O) 4 x USB 2.0 (by pin header)
  - 2 x SATA 6Gb/s with 5V SATA power connector
  - 1 x 6-pin wafer for PS/2 KB/MS
- ◆ iRIS Remote Management Module
  - 1 x iRIS-1010 slot
- ◆ SMBus: 1 x 4-pin (1x4) wafer
- ◆ I2C: 1 x 4-pin (1x4) wafer
- ◆ Audio
  - Realtek AL892 HD Audio codec
  - 1 x SPDIF 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 button
- ◆ 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)
- ◆ Digital I/O: 8-bit digital I/O (4-bit input / 4-bit output)
- ◆ Fan Connector: 1 x 4-pin system fan connector
- ◆ Watchdog Timer: Software programmable, support 1~255 sec. system reset
- ◆ Power Supply
  - 12V only DC input
  - 1 x Internal 4-pin (2x2) power connector
  - Support AT/ATX mode
- ◆ Power Consumption
  - +12V@ 2.12A (AMD GX-415GA 1.5GHz CPU with 1333MHz 4GB DDR3 memory)
- ◆ Operating Temperature: 0°C ~ 60°C
- ◆ Storage Temperature: -10°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 146mm x 102mm
- ◆ Weight: GW:600g/ NW:250g



## Features

1. 3.5" form factor with AMD® Embedded G-Series SoC
2. 12V only single voltage design with AT/ATX mode
3. 18/24-bit dual-channel LVDS for high resolution panel
4. Dual independent display by VGA, LVDS and iDP
5. Support IPMI 2.0 with iRIS-1010 module
6. Support full-size PCIe Mini card slot for mSATA, wireless card and DOM
7. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Packing List

1 x WAFER-KBN-210H single board computer with Enclosure Heatsink	
2 x SATA with 5V output cable kit (P/N: 32801-000201-300-RS)	
1 x Audio cable (P/N: 32000-072100-RS)	1 x One Key Recovery CD
1 x Power cable (P/N: 32100-087100-RS)	1 x QIG
1 x RS-232 cable (P/N: 19800-000300-200-RS)	1 x Utility CD

## Ordering Information

Part No.	Description
WAFER-KBN-i1-4151-R10	3.5" SBC supports AMD 28nm quad-core GX-415GA 1.5GHz (15W) on-board SoC with VGA/LVDS, Dual GbE, PCIe Mini, USB 3.0, SATA 6Gb/s, iRIS-1010, HD Audio and RoHS
WAFER-KBN-i1-2101-R10	3.5" SBC supports AMD 28nm dual-core GX-210HA 1.0GHz (9W) on-board SoC with VGA/LVDS, Dual GbE, PCIe Mini, USB 3.0, SATA 6Gb/s, 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 2.0 cable
32205-003800-300-RS	RS-422/485 cable, 200mm
32000-023800-RS	PS/2 KB/MS cable
DP-LVDS-R10	DisplayPort to 24-bit dual-channel LVDS converter board (for IEI iDP connector)
DP-HDMI-R10	DisplayPort to HDMI converter board (for IEI iDP connector)
DP-DVI-R10	DisplayPort to DVI-D converter board (for IEI iDP connector)
DP-VGA-R10	DisplayPort to VGA converter board (for IEI iDP connector)
DP-DP-R10	DisplayPort to DisplayPort converter board (for IEI iDP connector)