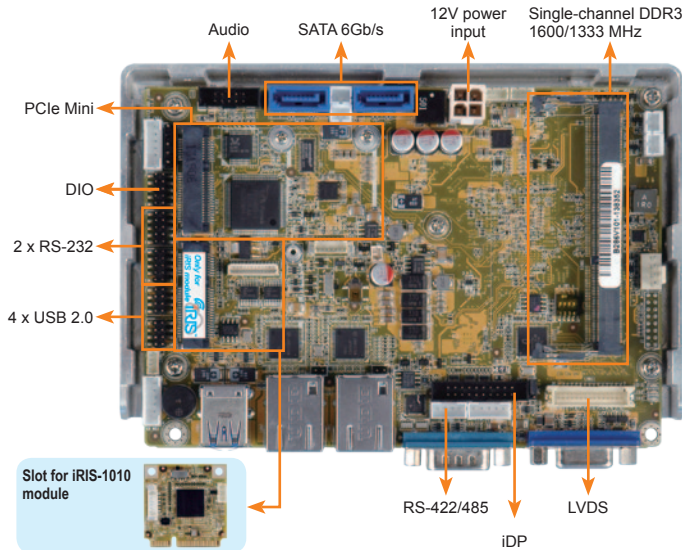


# WAFER-KBN-i1

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



## Multimedia Features

**New**

Unified Video Decoder 4.2

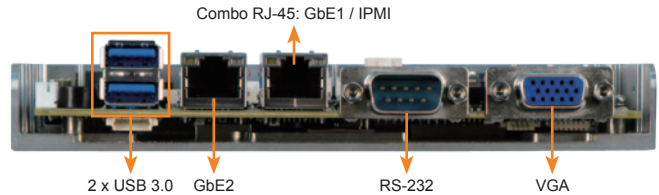
H.264, MPEG-2, VC-1, MPEG4 (DivX), and WMV

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 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 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
  - GbE1: Intel® I210-AT PCIe controller with NCSI support
  - GbE2: 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 ~ 85°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:32801-000201-100-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
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
32205-003800-100-RS	RS-422/485 cable, 200mm
32006-001100-100-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)