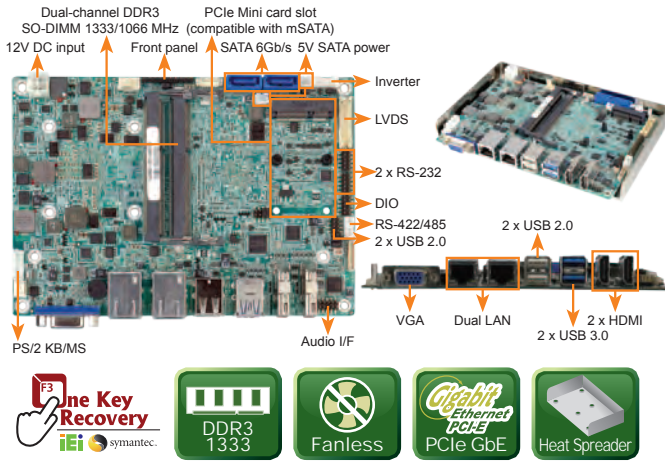


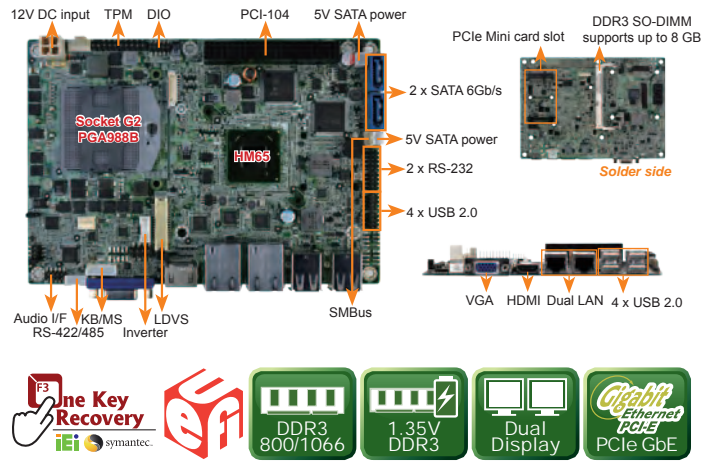
# NANO-HM651

EPIC SBC with on-board Intel® Celeron® Dual Core 847E 1.1GHz CPU, Dual HDMI/VGA/LVDS, Dual GbE, USB 3.0, PCIe Mini, SATA 6Gb/s and Audio



# NANO-HM650

EPIC SBC Supports Socket G2 for 2nd Generation Intel® Core™ i7/i5/i3 and Celeron® CPU, VGA/HDMI, Dual PCIe GbE, USB 2.0, PCI-104, SATA 6Gb/s and Audio



## Features

- EPIC SBC with on-board mobile 32nm Intel® Celeron® dual-core 847E 1.1GHz processor
- Dual HDMI/VGA with dual display support
- Dual-channel 204-pin 1333/1066 MHz DDR3 SO-DIMMs support up to 8 GB
- Easy assembly heat spreader for thermal management
- Supports three COM, four USB 3.0, two SATA 6Gb/s and audio
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU: 1.1GHz Intel® Celeron® 847E dual-core processor
- ◆ PCH: Intel® HM65
- ◆ BIOS: UEFI BIOS
- ◆ Memory: Two 204-pin 1333/1066 MHz dual-channel DDR3 SO-DIMMs support up to 16 GB
- ◆ Graphics: Intel® HD Graphics Gen 6 supports DX10.1 and OpenGL 3.0, Full MPEG-2, VC1, AVC Decode
- ◆ Display Output: VGA integrated in the Intel® HM65 (up to 2048x1536@75Hz), Dual channel 24-bit LVDS integrated in the Intel® HM65 (up to 1920x1200@60Hz), Dual HDMI (up to 1920x1200@60Hz)
- ◆ Ethernet: Dual LAN: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support
- ◆ Super I/O: Fintek F81866
- ◆ Audio: Realtek ALC662 HD codec
- ◆ Front Panel: 1 x Front panel (1x10 pin)
- ◆ Expansions: 1 x Full-size PCIe Mini card slot (supports mSATA)
- ◆ Digital I/O: 1 x 8-bit digital I/O (2x5 pin)
- ◆ External I/O Interface: 2 x USB 2.0, 2 x USB 3.0
- ◆ Internal I/O Interface: 1 x KB/MS (1x6 pin), 1 x RS-422/485 (1x4 pin, P=2.0), 2 x RS-232 (2x5 pin, P=2.0), 2 x USB 2.0 (2x4 pin, P=2.0), 2 x SATA 6Gb/s with 5V SATA power connector (RAID 0,1 supported)
- ◆ Watchdog Timer: Software programmable supports 1~255 sec. system reset
- ◆ Fan Connector: 1 x CPU smart fan (1x4 pin), 1 x System smart fan (1x4 pin)
- ◆ Power Supply: 12V only DC input, 1 x Internal power connector (2x2 pin), Support AT/ATX mode
- ◆ Power Consumption: 12V@1.88A (Intel® Celeron® with two 1333 MHz 4 GB DDR3 SO-DIMM)
- ◆ Operating Temperature: -10°C ~ 60°C
- ◆ Storage Temperature: -20°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 115 mm x 165 mm
- ◆ Weight: GW: 850g/NW: 350g

## Packing List

1 x NANO-HM651 single board computer	
1 x Audio cable	1 x Heat spreader
1 x Power cable	1 x Mini jumper pack
1 x SATA with power cable kit	1 x One Key Recovery CD
2 x Plastic shaft for securing half-size PCIe Mini card	1 x QIG (Quick Installation Guide)
2 x RS-232 cable	1 x Utility CD

## Ordering Information

Part No.	Description
NANO-HM651-847E-R10	EPIC SBC supports Intel® Celeron® dual core 847E 1.1GHz CPU, dual HDMI/VGA/LVDS, dual GbE, USB 3.0, PCIe Mini, SATA 6Gb/s and Audio
32000-070301-RS	Dual-port USB cable, 210mm, P=2.0

## Features

- EPIC SBC with Socket G2 for Intel® 2nd generation Core™ i7/i5/i3 and Celeron® processor
- VGA/24-bit dual-channel LVDS/HDMI for dual display support
- 1066/1333MHz DDR3 SDRAM supported (system max. 8 GB)
- Supports three COM, eight USB 2.0, two SATA 6Gb/s, PCI-104 and audio
- TPM V1.2 hardware security function supported by TPM module
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU: Socket G2 for 2nd generation Intel® Core™ i7/i5/i3 and Celeron® mobile processor
- ◆ Chipset: Intel® HM65
- ◆ BIOS: UEFI BIOS
- ◆ Memory: One 204-pin 1066/1333 MHz DDR3 SDRAM SO-DIMM slot supports up to 8 GB
- ◆ Display Output: Dual display supported, VGA (up to 2048x1536@75Hz), HDMI (up to 1920x1200@60Hz), 18/24-bit dual-channel LVDS (up to 1920x1200@60Hz)
- ◆ Ethernet: Dual LAN: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support
- ◆ I/O Interface: 1 x 6-pin header for KB/MS, 1 x RS-422/485, 2 x RS-232, 2 x SATA 6Gb/s with 5V SATA power connector, 8 x USB 2.0
- ◆ Super I/O: Fintek F81866
- ◆ Audio: Realtek ALC662 HD Audio codec
- ◆ Expansions: 1 x Full-size PCIe Mini card slot, 1 x PCI-104 slot (PCI signal)
- ◆ Watchdog Timer: Software programmable supports 1~255 sec. system reset
- ◆ Programmable GPIO: 8-bit digital I/O (4-bit input / 4-bit output)
- ◆ Fan Connector: 1 x CPU smart fan (1x4 pin), 1 x System smart fan (1x3 pin)
- ◆ Power Supply: 1 x Internal power connector (2x2 pin), 12V only DC input, support AT/ATX mode
- ◆ Power Consumption: 12V@4.85A (2.6GHz Intel® Core i5-2540M with 1333 MHz 4 GB DDR3 memory)
- ◆ Operating Temperature: -10°C ~ 60°C
- ◆ Storage Temperature: -20°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Dimensions: 115 mm x 165 mm
- ◆ Weight: GW: 850g/NW: 350g

## Packing List

1 x NANO-HM650 single board computer	
1 x Audio cable	1 x Mini jumper pack
1 x Power cable	1 x One Key Recovery CD
2 x RS-232 cable	1 x QIG (Quick Installation Guide)
2 x SATA with power cable	1 x Utility CD

## Ordering Information

Part No.	Description
NANO-HM650-R11	EPIC SBC supports Socket G2 for Intel® 2nd generation Core™ i7/i5/i3 and Celeron® CPU, VGA/HDMI, USB 2.0, dual PCIe GbE, PCI-104, SATA 6Gb/s and Audio
32000-023800-RS	PS/2 KB/MS cable, 135mm, P=2.0
32000-070301-RS	Dual-port USB cable, 210mm, P=2.0
32205-003800-300-RS	RS-422/485 cable, 200mm, P=2.0
CF-989A-RS-R12	CPU cooler for mobile socket-G up to 55W processor, copper, 60mm x 60mm x 27.6mm