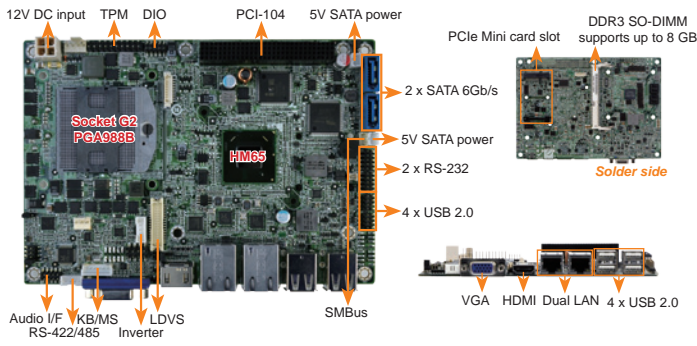


# NANO-HM650

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 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 1333/1066 MHz DDR3 SDRAM SO-DIMM slot supports up to 8 GB
- ◆ Display Output  
Dual display supported  
1 x VGA (up to 2048x1536@75Hz)  
1 x 18/24-bit dual-channel LVDS (up to 1920x1200@60Hz)  
1 x HDMI (up to 1920x1200@60Hz)
- ◆ Ethernet  
Dual LAN: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support
- ◆ External I/O Interface  
4 x USB 2.0
- ◆ 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 SATA 6G/s with 5V SATA power connector (RAID 0,1 supported)  
8 x USB 2.0 (2x4 pin, P=2.0)
- ◆ Audio  
Realtek ALC662 HD Audio codec  
1 x Front audio (2x5 pin)
- ◆ Expansion  
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 (2x5 pin)
- ◆ 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

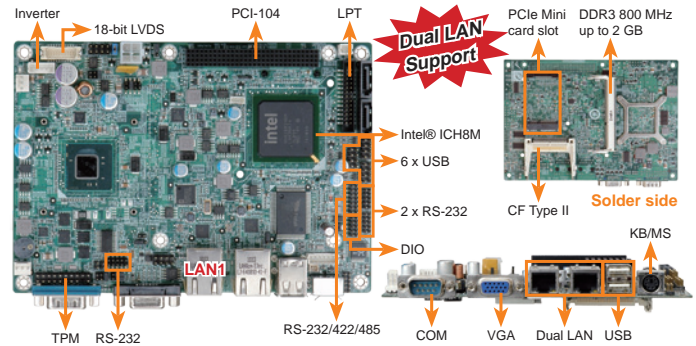
1 x NANO-HM650 single board computer	
1 x Audio cable	1 x Mini jumper pack
1 x Power cable	1 x One Key Recovery CD
2 x RS-232 cable	1 x QIG
2 x SATA with power cable	1 x Utility CD

## 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/110mm, P=2.0
32001-008600-200-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

# NANO-PV-D5251

EPIC SBC with Intel® Atom™ D525, DDR3, VGA/LVDS, Dual GbE, USB 2.0, CF Type II, Audio and SATA 3Gb/s, RoHS



## Features

- EPIC SBC with Intel® Atom™ D525/D425/N455 processor
- 800 MHz DDR3 SDRAM supported (system max. 2 GB)
- Support VGA and 18-bit single-channel LVDS with dual display
- Support PCI-104 and PCIe Mini card slot
- Support five COM, eight USB, two SATA 3Gb/s and one CF Type II socket
- TPM V1.2 hardware security function support by TPM module
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

## Specifications

- ◆ CPU  
Intel® Atom™ D525 (1.8GHz, dual-core, 1MB cache)
- ◆ Chipset  
Intel® ICH8M
- ◆ BIOS  
UEFI BIOS
- ◆ Memory  
One 204-pin 800 MHz DDR3 SDRAM SO-DIMM slot supports up to 4 GB
- ◆ Graphics  
GMA 3150  
Graphic core speed 400 MHz for D525
- ◆ Display Output  
VGA (up to 2048x1536@60Hz)  
18-bit single-channel LVDS (up to 1366x768@60Hz)
- ◆ Audio  
Realtek ALC888 HD codec  
1 x Front Audio (2x5 pin)
- ◆ SMBus  
1 x SMBus (1x4 pin)
- ◆ TPM  
1 x TPM (2x10 pin)
- ◆ Expansion  
1 x PCI-104 slot  
1 x PCIe Mini card slot
- ◆ Ethernet  
LAN1: Realtek RTL8111E PCIe GbE controller with ASF 2.0 support  
LAN2: Realtek RTL8111E PCIe GbE controller
- ◆ External I/O Interface  
1 x PS/2 KB/MS  
2 x USB 2.0
- ◆ Internal I/O Interface  
1 x CF Type II socket  
1 x KB/MS (1x6 pin)  
1 x LPT (2x13 pin, P=2.0)  
1 x RS-232/422/485 (2x7 pin, P=2.0)  
2 x SATA 3Gb/s with 5V SATA power connector  
3 x RS-232 (2x5 pin, P=2.0)  
6 x USB 2.0 (2x4 pin, P=2.54)
- ◆ Watchdog Timer  
Software programmable supports 1~255 sec. system reset
- ◆ Digital I/O  
8-bit digital I/O (2x5 pin)
- ◆ Fan Connector  
1 x CPU smart fan (1x3 pin)  
1 x System smart fan (1x3 pin)
- ◆ Power Supply  
12V only DC input  
1 x Internal power connector (2x2 pin) support AT/ATX mode
- ◆ Power Consumption  
12V@2.21A (Intel® Atom™ D525 with one 2 GB 1066 MHz DDR3 memory)
- ◆ Operating Temperature  
-10°C ~ 60°C
- ◆ Storage Temperature: -20°C ~ 70°C
- ◆ Operating Humidity: 5% ~ 95%, non-condensing
- ◆ Weight: GW: 670g / NW: 350g

## Packing List

1 x NANO-PV-D5251 single board computer	
1 x Audio cable	2 x RS-232 cable
1 x Dual port USB cable	1 x Mini jumper pack
1 x KB/MS Y cable	1 x One Key Recovery CD
1 x Power cable	1 x QIG
1 x SATA with 5V output cable	1 x Utility CD

## Ordering Information

Part No.	Description
NANO-PV-D5251-R10	EPIC with Intel® Atom™ D525 1.8GHz, DDR3, VGA/LVDS, Dual GbE, USB 2.0, CF Type II, audio and SATA 3Gb/s, RoHS
19800-004300-100-RS	RS-232 & RS-422/485 cable with bracket, 14-pin to two DB-9, 250mm, P=2.0
19FFD124010HB2A7-000001-RS	CPU fan (40mmx40mmx10mm)
32200-015100-RS	LPT cable, 280mm, P=2.0
32801-000703-500-RS	SATA (7-pin to 7-pin) cable, 500mm
34000-000629-RS	30mm higher heatsink
TPM-IN01-R20	20-pin Infineon TPM module, software management tool, firmware v3.17