

Inventive Computer Products

New Products 2010 Q4

FUTURE IS TODAY

PRODUCTS

- CPU Cards
- Embedded Boards
- Industrial Motherboards
- Embedded Systems
- Industrial Chassis
- Mobile Computing
- Industrial Panel PCs
- Multimedia Monitors
- Digital Signage
- Medical Solutions

SERVICES

- Extensive Product Range
- Comprehensive Technical Expertise
- Professional Support
- On-site Warehouse
- System Assembly
- Prompt RMA Processing
- Custom Engineering
- Project Implementation

New Product Solutions

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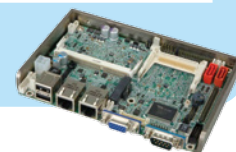
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AFOLUX GEN II

15.6" Wide Modular Expansion Panel PC

IEI designed a completely new modular architecture for its new AFOLUX GEN II panel PCs. A variety of expansion module boards connecting through a common interface give it functional versatility. The AFOLUX GEN II services diverse applications and is especially suited to self-service and interactive environments.



Intel® Atom™ Solution: AFL2-W15A-N270
 AMD 780E Solution: AFL2-W15A-L325

Expansion Module



Features

- **Modular All-in-One System**

Wide 15.6" all-in-one system is designed around its modularization architecture. Easy to expand and upgradeable functions via added modules increases system scalability and versatility.

- **Extraordinary Outlook**

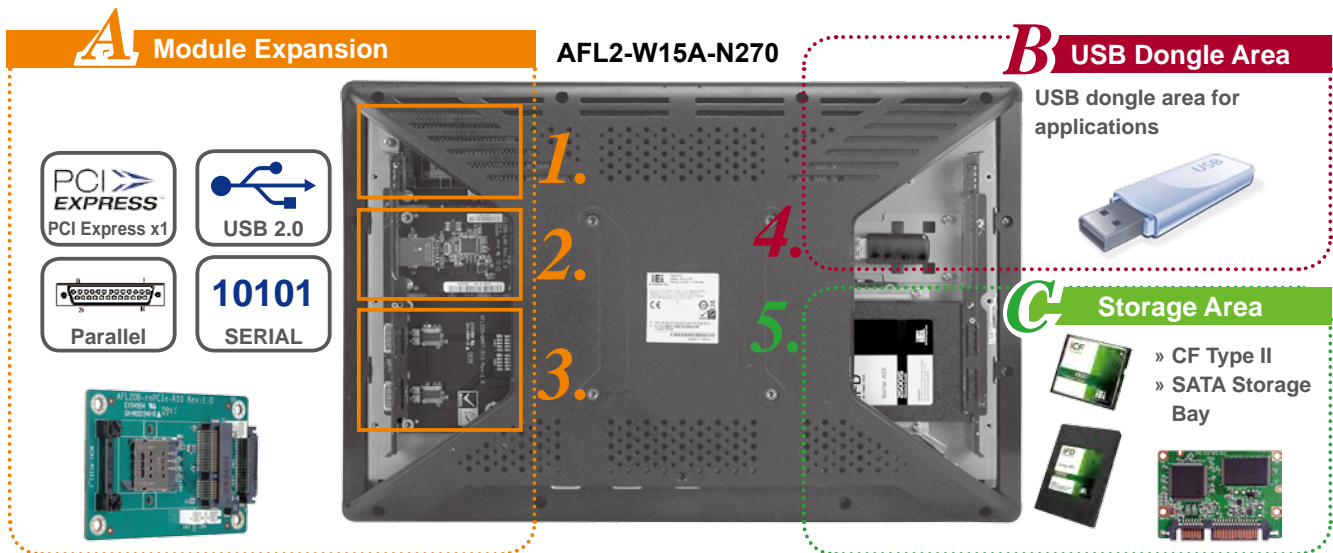
Sleek flat-bezel design makes the screen easy to clean and delivers stylish design. Slim body with only a 5 cm depth ensures the system is perfect for any public environment.

- **Reliable Design**

IP64 compliant front panel protection resists water and dust invasion. Function modules based on board to board design ensures system reliability for delivery and transportation applications.

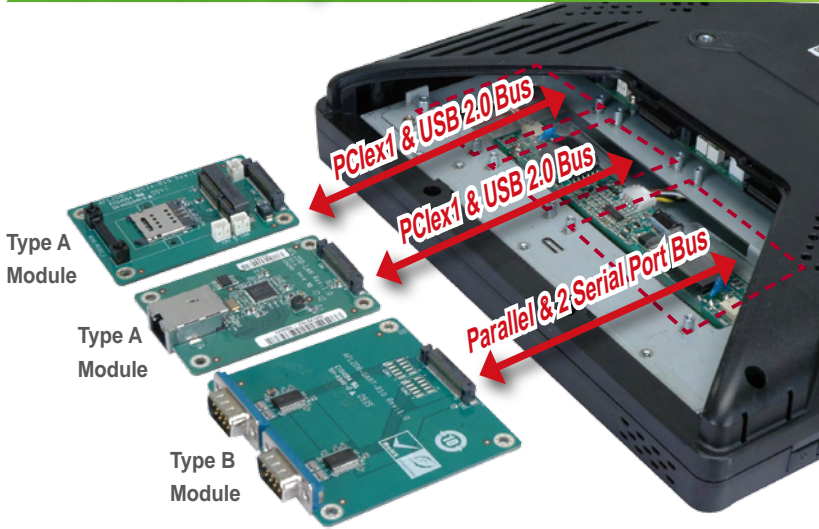
5-in-1 Rich Expansion

The guiding principle behind the AFOLUX GEN II is the ability to add expansion modules to the system mainboard facilitating simple expansion for system storage, PCI Express, parallel, serial and USB interface functions.



A. Module Expansion

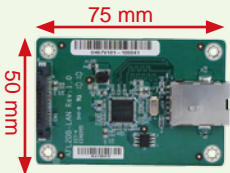
Rear Left Side View



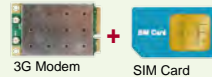
1. Easy to install function modules
 2. Small form factor function modules save warehouse space
 3. Faster distribution to your customers
 4. Customizable I/O bracket to fit different module board connectors
- Semi-off holes for one LAN port and two COM ports

Optional Modules

Type A Module



- **AFL2DB-MPCIE-R10**
PCIe Mini Card Carrying Module



- **AFL2DB-LAN-R10**
Giga Ethernet Module



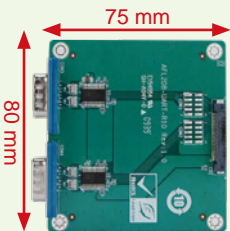
- **AFL2DB-USB3-R10**
USB 3.0 Module



- **AFL2DB-CPT4-R10**
4-Channel Video Capture Module



Type B Module



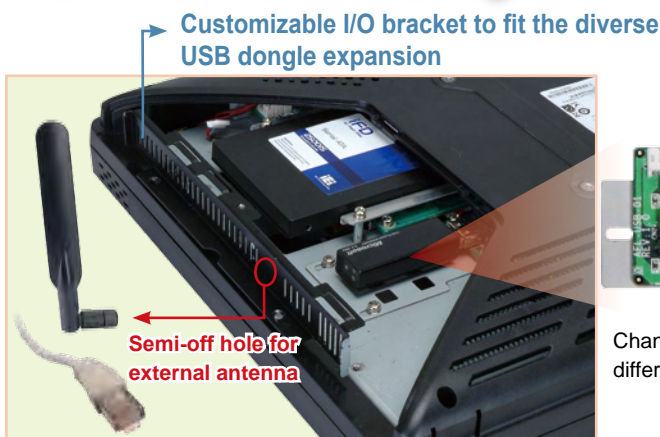
- **AFL2DB-UART-R10**
Serial Extension Module



Function	Interface	IEI Module Board	Type
HSUPA 3.5G connection	PCIe Mini card	AFL2DB-MPCIE-R10 + Optional 3G modem card	A
DVBT/ATSC or hybrid TV tuner	PCIe Mini card	AFL2DB-MPCIE-R10 + Optional TV tuner card	A
Ethernet	PCIe x1	AFL2DB-LAN-R10	A
USB 3.0	PCIe x1	AFL2DB-USB3-R10	A
Video capture card (4 port)	PCIe x1	AFL2DB-CPT4-R10	A
Serial port	2 x Serial	AFL2DB-UART-R10	B

B. Universal USB Dongle Area

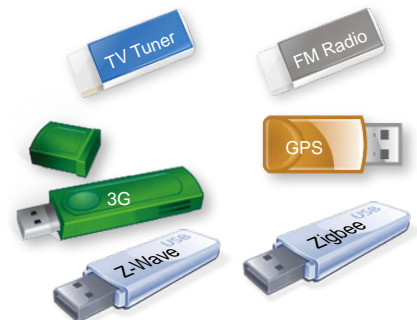
Rear Right Side View



Reserved internal USB slot allows fast deployment of diverse USB dongles.



Changeable bracket to support different sizes of USB dongles

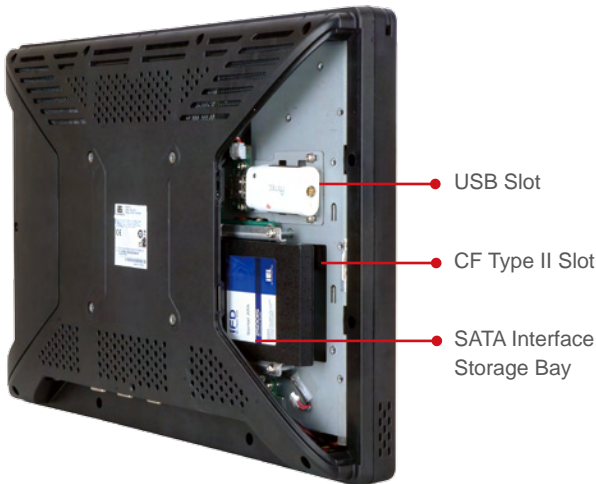


AFL2-W15A-N270

* AFL2-W15A-L325 without USB dongle area

C. Storage Area

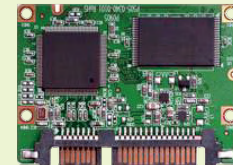
Rear Right Side View



Reliable Anti-Vibration SSD

2.5" SATA SSD

- Vibration: 20 G (7~2000 MHz)
- Shock: 1500 G / 0.5 ms



SATA SSD Module

- Capacity 8 GB – 32 GB
- Data Transfer Rate Up to 90 / 30 MB
- Power Supply: 5 V
- Power Consumption: <250 / 150 mA

Diverse Performance Options

• Reliable Fanless System-Intel® Atom™ Platform *Fanless*

High performance Intel® Atom™ CPU with low power consumption runs fast and stable for long-term usage.

• Graphic Performance System-AMD 780E Platform

- Built-in MPEG2/H.264/AVC Full HD Decoder
- HDMI delivers the High Image Quality on the Second Display

AFL-W15A-780E series supports high definition HDMI second display port. High-Definition Multimedia Interface (HDMI), which is a compact audio/video interface for transmitting uncompressed digital data delivering high-definition video support 1080p resolution which equates to 1,920x1,080 pixels, it also supports industry standard EIA-861B video modes including 480p, 720p, 1080i, and 1080p.



About 50 feet



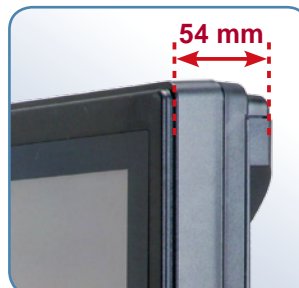
Seamless Flat-Bezel Design

The AFOLUX GEN II adopts a flat glass bezel with projected capacitive or resistive touchscreen.

- Sleek and stylish design
- Perfect edge design prevents dust and water accumulation
- Easy to clean

Slim Body Optimizes Space Utilization

The AFOLUX GEN II packs a lot of features into an ultraslim design. Measuring at just over 54 mm and only 3.8 kg, its slim body and rich expansion capabilities are designed to fit your self-service applications.



Sleek & stylish

▲ Advanced Flat-Bezel Design

Slim Body

Integrated EM / Mifare RFID Reader

The integrated RFID reader in the AFOLUX GEN II system allows for great efficiency, while the Mifare reader has read/write capabilities to update tag data in the field. Together these make the AFOLUX GEN II the most advanced of interactive asset tracking and identification terminals.

RFID Specifications:

- Frequency: 125KHz or 13.56 MHz
- Reading distance: 5-7 cm
- Supports ISO 14443A Mifare® or EM standard



Diverse Wireless Connectivity

• Bluetooth V2.1+EDR

Preinstalled bluetooth module communicates with a wide range of electronic devices from PDAs and cellphones to barcode readers. Good transmission performance, greater than 20 m in free space.



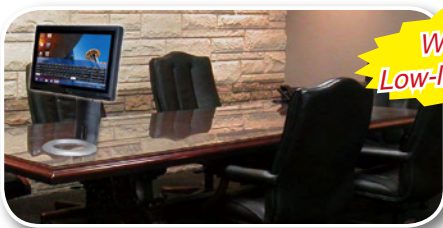
- Invisible antenna
- IEEE 802.11n is 27 times faster data transfer rate compared to 802.11b

• 802.11-b/g/n Wireless LAN

Integrated PIFA antenna on the AFOLUX GEN II ensures an uninterrupted wireless connection and provides up to IEEE 802.11n wide bandwidth operation. Frees cables and clutter from your workspace.

Video Intercom Device Ready

Ready for VoIP, door intercom, video conferencing and digital signage applications.



- VGA resolution image sensor
- Video resolution: 1280x1024, 640x480, 352x288, 320x240, 176x144, 160x120.
- Frame rate: 640x480 @ 30fps max.
- Storage format of image: AVI
- Storage format of photograph: BMP, JPEG



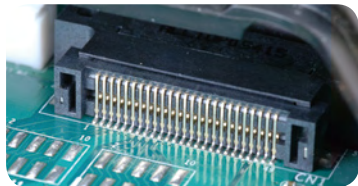
IEI Expansion System Concept

Features:

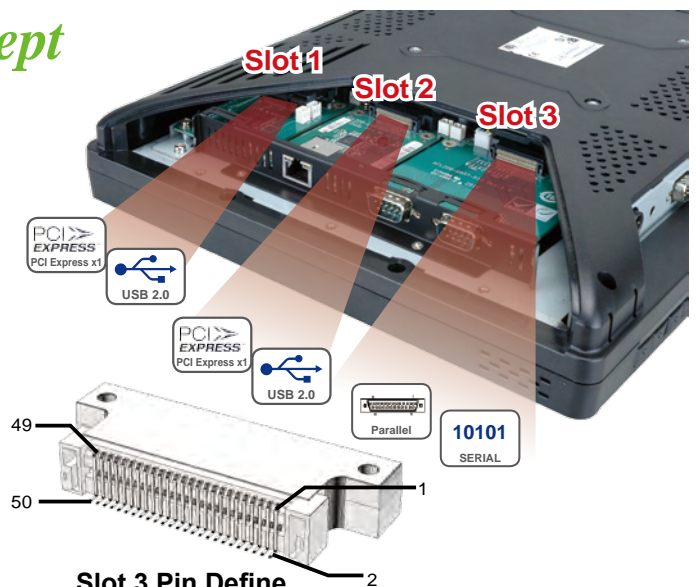
- Reliable board to board connection
- IEI's self-defined module interface reduces synchronization between function and system

Standard Connector Type Easy to Design Expansion Module

The AFOLUX GEN II motherboard utilizes three 50-pin card-edge connector to connect the expansion module.



Connector Type: JAE KX15-50KLD* or equivalent



Slot 1 and 2 Pins Define

Table 1: PCIe x 1 and USB Interface Signals

Pin	Signal	Pin	Signal
1	GND	2	GND
3	PETP1	4	PERP1
5	PETN1	6	PERN1
7	GND	8	GND
9	SMBCLK	10	CLK_PCIE_LAN2
11	SMBDATA	12	CLK_PCIE_LAN2#
13	GND	14	GND
15	PCIE_WAKE#	16	PCIRST#1
17	GND	18	GND
19	GND	20	USB+
21	GND	22	USB-
23	GND	24	GND
25	GND	26	GND
27	+1.5V_PCI	28	GND
29	+1.5V_PCI	30	VCC3_PCIE
31	+1.5V_PCI	32	GND
33	GND	34	VCC3_PCIE
35	GND	36	GND
37	VCC3	38	VCC3_PCIE
39	VCC3	40	GND
41	GND	42	GND
43	GND	44	VCC5_PCIE
45	GND	46	VCC5_PCIE
47	VCC12_PCIE (Reserved)	48	GND
49	VCC12_PCIE (Reserved)	50	GND

*pin 27, 29, 31: +1.5v -> max 2.1A

*pin 30, 32, 38 : +3.3v -> max 2.1A

*pin 44, 46 : +5v -> max 1.4A

*pin 37, 39: +3.3v dual -> max 1.4A

*pin 20, 22: not supported on slot 2 of AFL2-W15A-L325

Slot 3 Pin Define

Table 2: Parallel and Serial Port Interface Signals

Pin	Signal	Pin	Signal
1	DCD-5	2	DSR-5
3	RXD-5	4	RTS-5
5	TXD-5	6	CTS-5
7	DTR-5	8	RI-5
9	GND	10	GND
11	GND	12	GND
13	DCD-6	14	DSR-6
15	RXD-6	16	RTS-6
17	TXD-6	18	CTS-6
19	DTR-6	20	RI-6
21	GND	22	GND
23	GND	24	GND
25	PD7	26	PD6
27	PD5	28	PD4
29	PD3	30	PD2
31	PD1	32	PD0
33	-STB	34	-AFD
35	-ERR	36	-INIT
37	-SLIN	38	-ACK
39	BUSY	40	PE
41	SLCT	42	GND
43	GND	44	GND
45	VCC5	46	VCC12
47	VCC5	48	VCC12
49	VCC5	50	VCC12

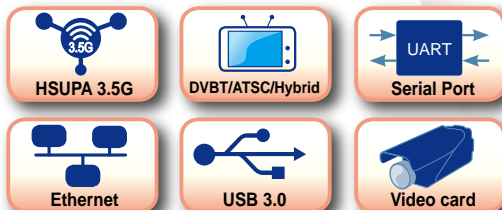
Serial Port x 2

Parallel Port x 1

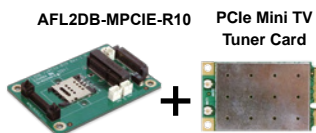
Applications



Use one system in different markets!

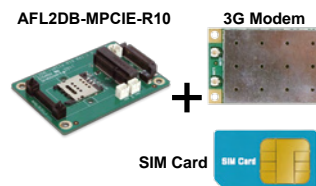


Digital TV



KIOSK System

3G/3.75G



Mobile Broadcasting System

4-Port Video Capturing



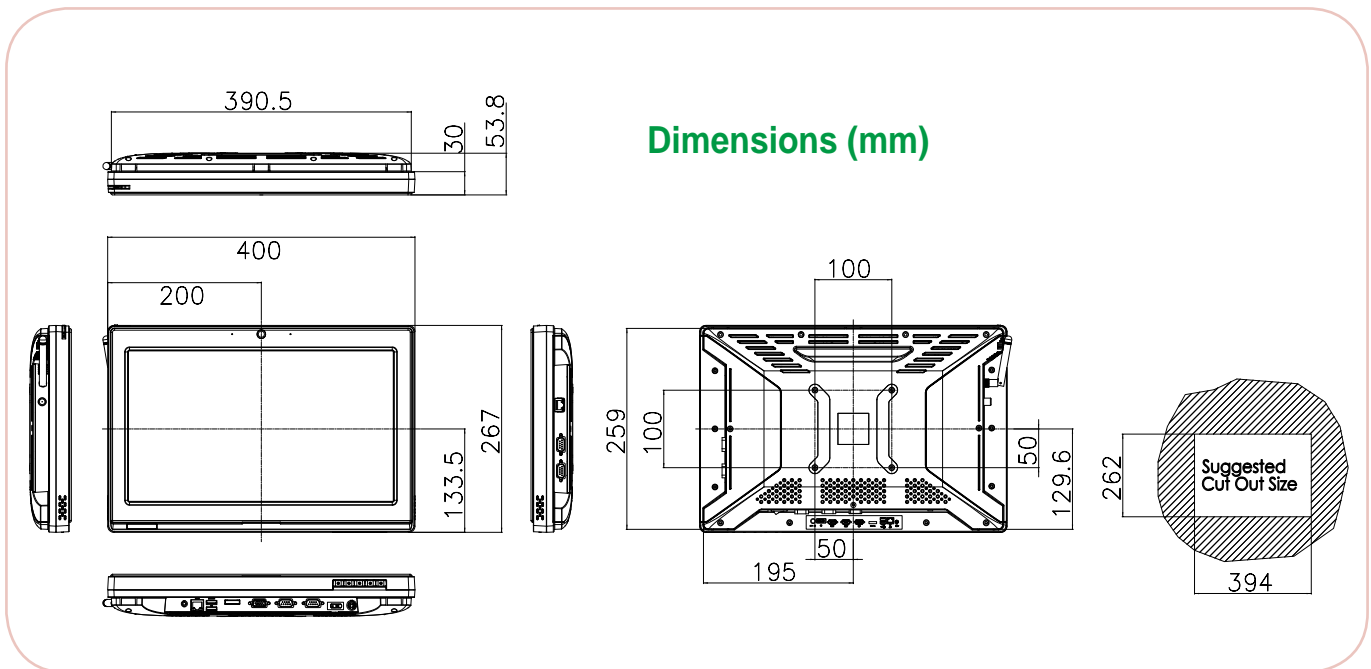
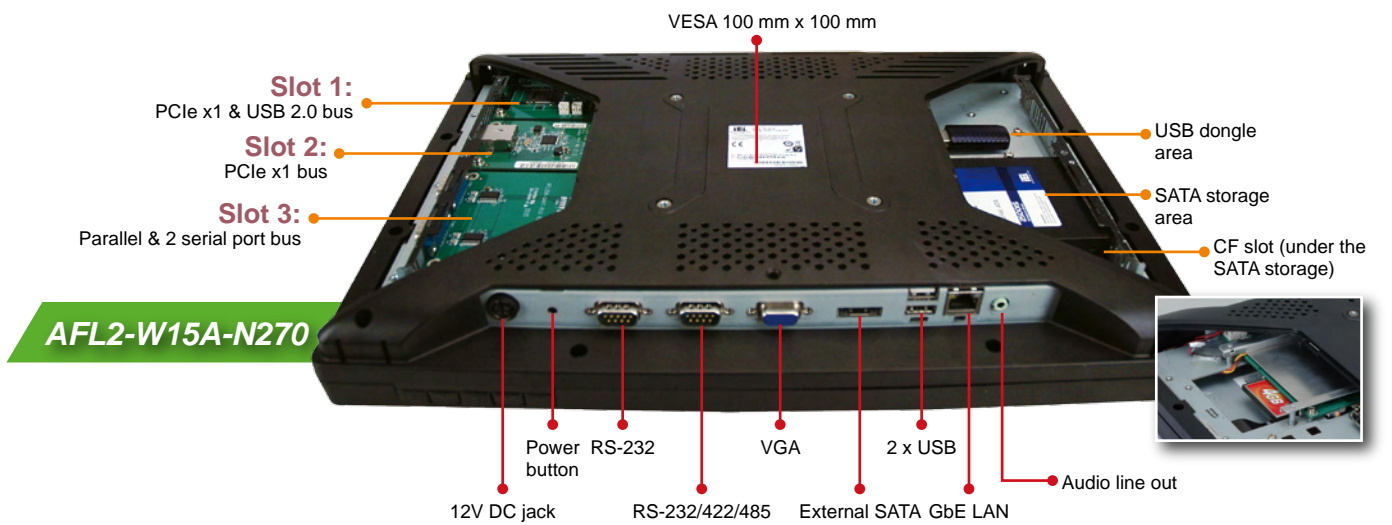
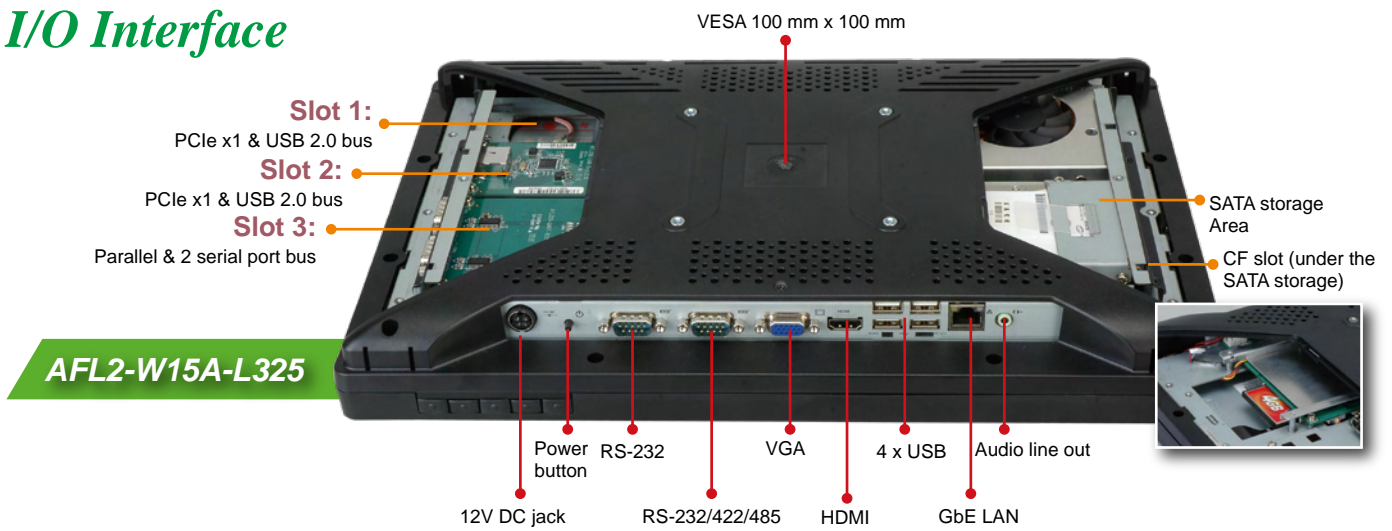
Surveillance System

Specifications



	AFL2-W15A-N270	AFL2-W15A-L325
LCD Specifications		
Size	Wide 15.6" TFT LCD	
Resolution	1366 x 768	
Brightness	250 cd/m ²	
Contrast Ratio	500:1	
LCD Color	16.2 M	
Pixel Pitch (mm)	0.252(H) x 0.252(V)	
Viewing Angle (H-V)	110°(H) / 85°(V)	
Backlight MTBF	50000 hrs	
System		
CPU	Intel® Atom™ processor N270 1.6 GHz CPU	AMD ASB1 L325 dual core 1.5 GHz CPU
Chipset	Intel® 945GSE + ICH7M	AMD 780E + SB710
RAM	Support one 400 MHz or 533 MHz DDR2 SO-DIMM (2 GB max.)	Support two 400 MHz or 533 MHz DDR2 SO-DIMM (4 GB max.)
SSD	CF Type II	CF Type II
HDD	1 x 2.5" SATA HDD Bay	1 x 2.5" SATA HDD Bay
Watchdog Timer	Software programmable supports 1~255 sec. system reset	Software programmable supports 1~255 sec. system reset
Input / Output	1 x RS-232 COM port 1 x RS-232/422/485 COM port 1 x RJ-45 for GbE LAN 2 x USB 2.0 1 x Power switch 1 x Reset button 1 x Audio port (Line out) 1 x VGA 1 x Power jack 1 x 8-bit digital I/O, 4-bit input/4-bit output (optional) 1 x External SATA	1 x RS-232 COM port 1 x RS-232/422/485 COM port 1 x RJ-45 for GbE LAN 4 x USB 2.0 1 x Power switch 1 x Reset button 1 x Audio port (Line out) 1 x VGA 1 x Power jack 1 x HDMI 1 x 8-bit digital I/O, 4-bit input/4-bit output (optional)
Expansion Interface	2 x PCIe x 1, 1 x USB dongle, 1 x Parallel port expansion, 2 x Serial port expansion	2 x PCIe x 1, 1 x Parallel port expansion, 2 x Serial port expansion * USB signal not Support on slot 2
Other Features		
Audio	AMP 1.5 W + 1.5 W (internal speaker)	
Camera	1.3 M pixels with low light function	
RFID Reader	EM 125 KHz or Mifare 13.56 MHz card reader (optional)	
OSD Function	LCD on/off, brightness up/down, volume up/down Ambient light sensor	
Infrared Remote Controller	LCD on/off, brightness up/down, volume up/down	
Touch Screen	Resistive type 5-wire flat touch window	
Wireless		
	1 x Optional HSPA mobile module (PCIe mini card interface) (Support GSM 850, EGSM 900, DCS 1800 & 1900) 1 x Wireless LAN 802.11-b/g/n module (internal PCIe mini card interface) 1 x Bluetooth function (internal USB interface, bluetooth V2.1+EDR)	Supported Bands *HSPA/UMTS — 800/850/900/1900/2100 MHz *Quad-band EDGE/GPRS/GSM — 850/900/1800/1900 MHz *Dual-band EV-DO/CDMA — 800/1900 MHz
Physical		
Construction Front Panel	ABS + PC plastic front frame	
Mounting	VESA 100 mm x 100mm	
Color	Black C	
Dimensions (mm)	400(W) x 267(H) x 54(D)	
Weight (N/G)	3.8 kg	
Environment		
Temperature (°C)	Operation: -10°C – 50°C, Storage: -20°C – 60°C	
IP Level	Front panel IP64	
Safety & EMI	CE / FCC / CB / CCC	
Power		
Power Supply	60 W power adapter » Input: 90 VAC–264 VAC, 50/60 Hz » Output: 12 VDC	84 W power adapter » Input: 90 VAC–264 VAC, 50/60 Hz » Output: 12 VDC
Power Requirement	12 VDC	
Power Consumption	51 W	
		68 W

I/O Interface



Optional Kit

Options		AFL2-W15A-N270/R (Resistive type touch)	AFL2-W15A-780E/R (Resistive type touch)
Panel Mounting Kit		AFL2PK-W15A-R10	
Wall Mounting Kit		AFLWK-19 / AFLWK-19B	
ARM		ARM-11-RS / ARM-31-RS	
STAND		STAND-A19 / STAND-B19 / STAND-C19 / STAND-210-R11	
OS	Win CE 6.0	AFL2CF-W15-N270-CE060-R10 (128 MB CF card)	N/A
	Win XPE	AFL2CF-W15-N270-XPE-R10 (1 GB CF card)	AFL2CF-W15-L325-XPE-R10 (1 GB CF card)
	Linux	AFL2CF-W15-N270-LNX-R10 (2 GB CF card)	AFL2CF-W15-L325-LNX-R10 (2 GB CF card)
	Win 7	AFL2CF-W15-N270-WES7E-R10 (2 GB CF card)	AFL2CF-W15-780-WES7E-R10 (2 GB CF card)
		AFL2SD-W15-N270-WES7E-R10 (4 GB SATA SSD module)	AFL2SD-W15-780-WES7E-R10 (4 GB SATA SSD module)
DC 12 V Input UPS		AUPS-B10-R10 (VESA 100, DC 12 V input, 12 V output 100 W UPS module with 3800 mAh)	
DC 9-36 V Input UPS		AUPS-B20-R10 (VESA 100, DC 9-36 V input, 12 V output 100 W UPS module with 3800 mAh)	

Packing List

Item	P/N	Q'ty	Specifications
Touch Pen	43125-0002C0-00-RS	1	
Power Adapter	63000-FSP060DBAB1554-RS (for Intel® N270 platform) 63000-FSP084DMBA1308-RS (for AMD L325 platform)	1	90-264 V AC input , 12 V DC output , 60 W 90-264 V AC input , 12 V DC output , 84 W
Power Cord	32000-000002-RS	1	1750 mm; European standard
User's Manual CD ROM	7B000-000087-RS	1	
Screws	44013-030041-RS	4	
Remote Controller	7Z000-8T00320ICP05G-RS	1	

Ordering Information

Resistive Type Touch		
Intel® Atom™	AFL2-W15A-N270/R/1G-R10	15.6" 250cd/m² WXGA+ fanless panel PC with Intel® Atom™ N270 1.6 GHz, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3 M camera, microphone, 1GB DDR2 RAM, RoHS
	AFL2-W15A-N270/R-EM/1G-R10	15.6" 250cd/m² WXGA+ fanless panel PC with Intel® Atom™ N270 1.6 GHz, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3M camera, microphone, 1GB DDR2 RAM, EM card reader
	AFL2-W15A-N270/R-MF/1G-R10	15.6" 250cd/m² WXGA+ fanless panel PC with Intel® Atom™ N270 1.6 GHz, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3 M camera, microphone, 1GB DDR2 RAM, Mifare card reader
AMD 780E	AFL2-W15A-L325/R/1G-R10	15.6" 250cd/m² WXGA+ panel PC with AMD 780E + L325 dual core 1.5 GHz CPU, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3 M camera, microphone, 1GB DDR2 RAM, RoHS
	AFL2-W15A-L325/R-EM/1G-R10	15.6" 250cd/m² WXGA+ panel PC with AMD 780E + L325 dual core 1.5GHz CPU, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3M camera, microphone, 1GB DDR2 RAM, EM card reader
	AFL2-W15A-L325/R-MF/1G-R10	15.6" 250cd/m² WXGA+ panel PC with AMD 780E + L325 dual core 1.5 GHz CPU, 802.11b/g/n wireless module, bluetooth module, resistive touch screen, 1.3 M camera,microphone, 1GB DDR2 RAM, Mifare card reader

Optional Module

Model Name	AFL2DB-MPCIE-R10	AFL2DB-UART-R10	AFL2DB-LAN-R10	AFL2DB-USB3-R10	AFL2DB-CPT4-R10
Interface	PCIe x 1	UART	PCIe x 1	PCIe x 1	PCIe x 1
Board size (mm)	50 x 75	80 x 75	50 x 75	50 x 75	50 x 75
Specifications	Support full size PCIe mini card slot and standard SIM card socket	Two DB9 RS-232 interface	Cotroller: RTL8111CP Connection rate: one port 10/100/1000Base-T (RJ-45)	Host Controller: Fresco FL1000G Connction rate: USB2.0 (max. 480Mbps) / USB3.0 (max. 5Gbps) USB power output: DC +5V @ 900mA (max.)	4 channel video capture with 4 BNC inputs. Video resolution - NTSC/PAL: D1, Dalf-D1, CIF Total recording rate: 120fps (NTSC), 100fps (PAL)
OS support	Windows 7, Windows XP	Windows 7, Windows XP	Windows 7, Windows XP, Linux driver for kernel 2.6.x and 2.4.x	Windows 7, Windows XP	Windows 7, Windows XP

* Packing with one video capture card and one DB9 to 4 BNC connector cable

AFL-15i-HM55/AFL-17i-HM55/AFL-19i-HM55

15"~19" AFOLUX PPC features Intel® Core™ i7/i5/i3 mobile processor with Intel® HM55 chipset

Key Features

- 15"~19" multi-functional panel PC with touchscreen
- Powered by high performance Intel® mobile Core™ i7/ i5/ i3 and Celeron® processor with Intel® HM55 chipset
- System memory supports DDR3 SDRAM SO-DIMM up to 8 GB
- HDMI interface provides second display with vivid image quality
- 802.11 b/g/n high speed wireless
- Bluetooth V2.1+EDR
- Dual gigabit Ethernet
- Versatile mounting solution: panel/wall/rack/stand mounting
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery



Intel® i3/i5/i7 with DDR3



High-end Audio and Video Performance



Performance Leadership

- Arrandale on 32nm Processor
- Introduces DDR3 Support (800/1066)
- Enhanced Graphics Engine (Gen 5.7)

Increased Integration

- Full HD HW Acceleration
- Dedicated High Definition Display Interface (HDMI)



Dual Channel DDR3 Support up to 8 GB



Information



Digital Signage



KIOSK



Internet KIOSK

AFOLUX PPC Mobile Chipset Transition

The AFOLUX PPC *i* series features 2010 new Intel® Core™ processor with HM55 chipset. Advanced technologies like Hyper-Threading Technology and an integrated graphics core increase in graphics core effectiveness providing outstanding audio/video and processing performance.

	2008	2009	2010
Platform	Merom in Santa Rosa (GME965)	Penryn in Montevina (GM45)	Arrandale in Calpella (HM55)
CPU	Intel® Core™ 2 Duo Intel® Core™ 2 Duo LV Intel® Celeron® M	Intel® Core™ 2 Duo Intel® Core™ 2 Duo LV Intel® Core™ 2 Duo ULV Intel® Celeron® M Intel® Celeron® M ULV	Socket G1 for Intel® mobile Core™ i7/ i5/ i3 and Celeron® processor
Chipset	ICH8M-E	ICH9M	HM55
FSB	667/800 MHz	1066/800/667 MHz	N/A
TDP	35 W	17.5 W~47 W (CPU + GM45/GS45)	15~37W
Supported Memory	DDR2 667/800 (system max. 4 GB)	DDR2 667/800 (system max. 4 GB)	Two 204-pin 4 GB (max.) 800/1066 MHz dual-channel DDR3 SDRAM SO-DIMM supported (System max. 8 GB)
Graphics Cores	Gen 4.0	Gen 5.5 with 10 Execution Units DirectX10, Open GL 2.0	Gen 5.7 with 12 Execution Units DirectX10, Open GL 2.1
Second Display Interface	VGA	VGA, HDMI	VGA, HDMI
Intel® Active Management Technology (Intel™ AMT)	2.5	4	No

New Intel® Core™ i Solution



Generation	Pentium® M		Core™ Duo / Solo		Core™2 Duo		Core i
Process	130 nm	90 nm	65 nm			45 nm	32 nm
FSB	400 MHz	533 MHz / 400 MHz	677 MHz / 533 MHz		800 MHz / 667 MHz	1066 MHz / 800 MHz	N/A
Architecture	<i>Banias</i>	<i>Dothan</i>	<i>Yonah</i>	<i>Napa Refresh</i>	<i>Santa Rosa</i>	<i>Penryn</i>	<i>Arrandale</i>
	Socket 479	Socket 479	Socket M	Socket M	Socket P	Socket P	Socket G1
TDP	24.5 W	21 W	31 W	34 W	35 W	35 W	37W
Platform							
	852GM / 855GM	915GME	945GME		GME965	GM45	HM55

Software OSD Utility

IEI patented system software settings utility allows users to adjust system settings from software under Windows environment instead of adjustment from the membrane keypad below the front panel.



Volume
Auto-Emmiting On Volume Backlight

Mute
Auto-Emmiting Off Volume Backlight

Brightness
Auto-Emmiting Volume On Backlight

Selectable AT/ATX Power



Remote Control AT Mode

The power is controlled by a central power unit rather than a power switch. The system turns on automatically when the power is connected.

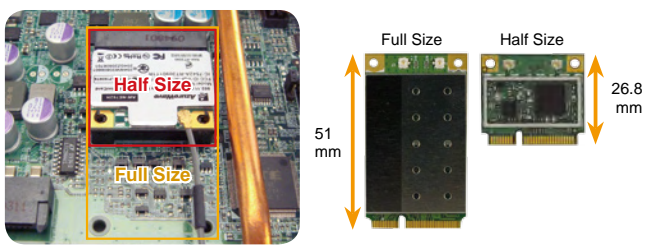
- Easy to turn on/off with wall/panel mounting
- Automatic start when power connected

Remote Control ATX Mode

With the ATX mode selected, the system series panel PC goes in a standby mode when it is turned off. The panel PC can be easily turned on via network or a power switch in standby mode.

- Power management
- Remote control via network advantage

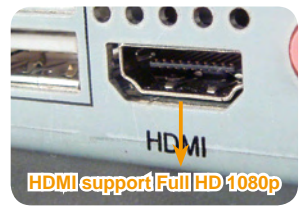
Comprehensive Wireless Network



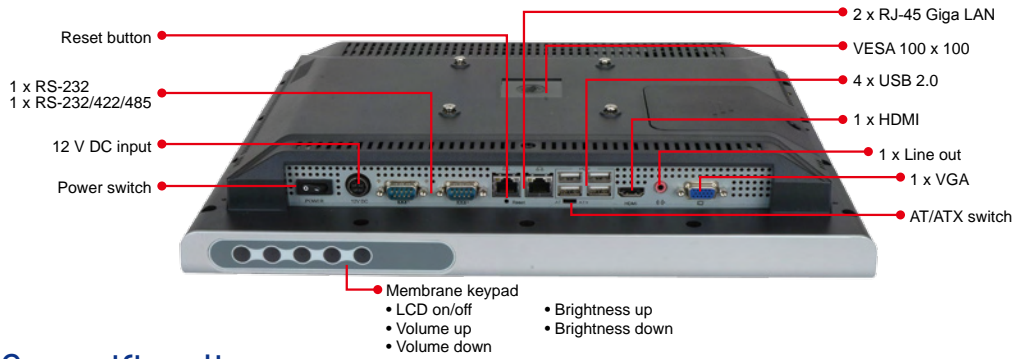
The wireless mini card is complied with IEEE 802.11b/g/n standards and operates on 2.4 GHz and 5 GHz frequencies. It can be used to provide up to 300 Mbps for IEEE 802.11n draft 2.0, or 54 Mbps for IEEE 802.11g, or 11 Mbps for IEEE 802.11b to connect your wireless LAN.

HDMI Port Delivers the High Image Quality on the Second Display

High-Definition Multimedia Interface (HDMI) which is a compact audio/video interface for transmitting uncompressed digital data delivering high-definition video support 1080p resolution which equates to 1,920x1,080 pixels, it also supports industry standard EIA-861B video modes including 480p, 720p, 1080i, and 1080p



I/O Interface

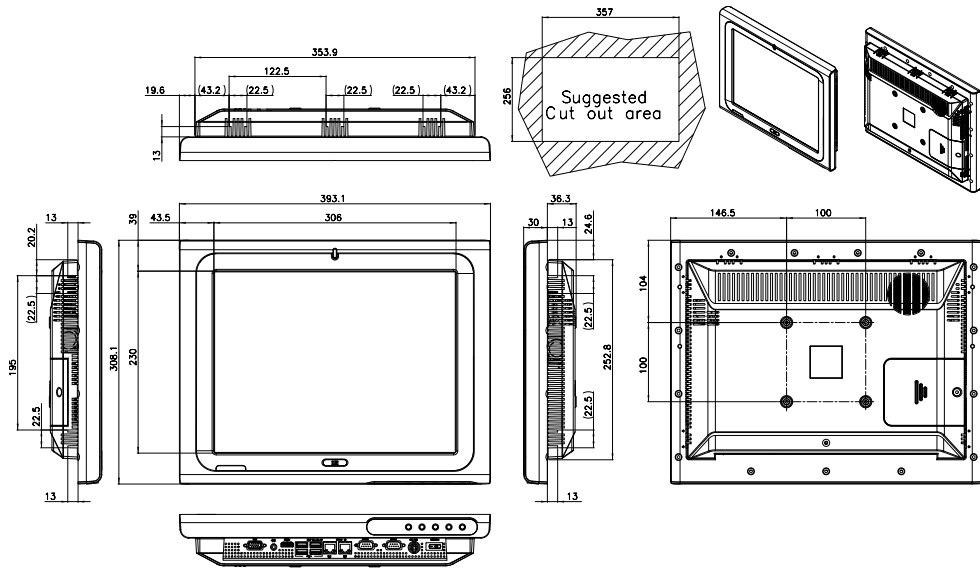


Specifications

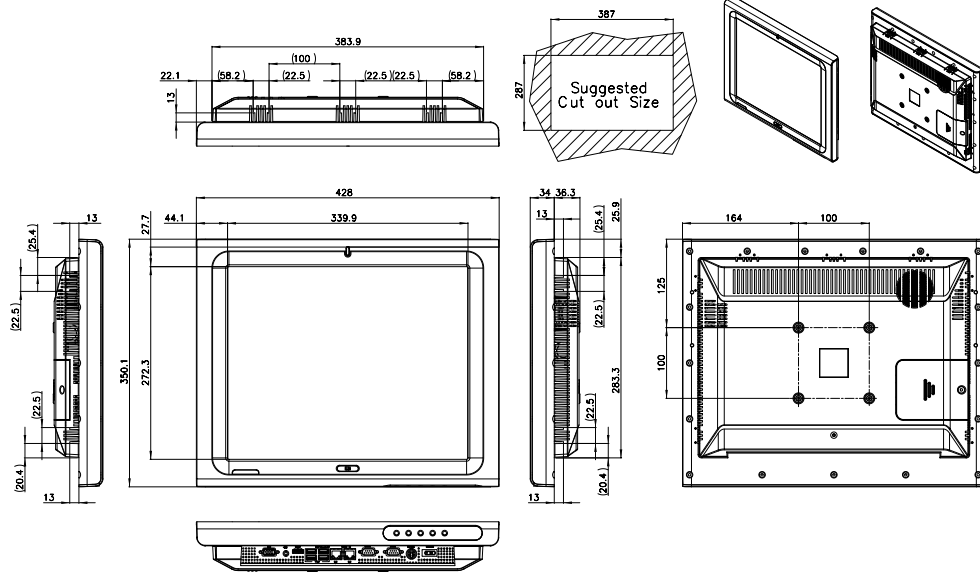
Model	AFL-15i(E)-HM55	AFL-17i-HM55	AFL-19i-HM55
LCD/Touch Specifications			
LCD Size	15"	17"	19"
Max. Resolution	1024 x 768	1280 x 1024	1280 x 1024
Brightness (cd/m ²)	350 or 250	350	450
Contrast Ratio	700:1 or 450:1	800 : 1	1000:1
LCD Color	262K or 16.7 M	16.7 M	16.7 M
Pixel Pitch (mm)	0.297(H) x 0.297(V)	0.264 (H) x 0.264 (V)	0.294(H) x 0.294(V)
Viewing Angle (H-V)	140°/125° or 120°/100°	160° / 160°	178° / 178°
Backlight MTBF	50000 hrs or 40000 hrs	50000 hrs	50000 hrs
Touch Screen	Resistive Type 5-wire (Touch controller IC is on board) or capacitive type touch screen without HDD bay		
System			
SBC Model	AFLMB2-HM55-R10		
CPU	Socket G (PGA989) Intel® Arrondale processor		
Chipset	Intel® HM55		
RAM	Two 204-pin 800/1066 DDR3 dual-channel SO-DIMMs supported (system max. 8 GB)		
I/O Ports	1 x RS-232 COM Port 1 x RS-232/422/485 COM Port 2 x RJ-45 for Giga LAN 4 x USB 2.0 1 x Power Switch 1 x Reset Button 1 x Audio Port (Line-Out) 1 x VGA 1 x Power Jack 1 x HDMI Port		
SSD	SATA SSD		
Watchdog Timer	Software programmable supports 1~255 sec. system reset		
Audio	AMP 3 W + 3 W (internal speaker)		
Expansion	1 x wireless Lan 802.11 b / g / n module (internal PCIe mini card interface) 1 x Bluetooth function (internal USB interface, Bluetooth V2.1+EDR)		
Drive Bay	1 x 2.5" SATA HDD bay		
Membrane Keypad	LCD on/off, brightness up/down, volume high/low (5 keys)		
LED Function	1 x Power on/off LED on front panel		
Wireless			
Wireless	1 x Wireless LAN 802.11 b/g/n module (internal PCIe mini card interface)		
Optional HSPA Module (support GSM 850, EGSM 900, DCS 1800 & 1900)	1 x HSPA mobile module (USB interface)		
Bluetooth	Bluetooth V2.1+EDR		
Physical			
Construction Front Panel	ABS + PC plastic front frame		
Mounting	Panel, Wall, Rack, Stand and Arm VESA 100 mm x 100 mm		
Front Panel Color	Sliver (877U) & Gray (ABSA2037)		
Dimensions (WxHxD) (mm)	394 x 309 x 75	428 x 350 x 76	470 x 383 x 79
Environment			
Operation Temperature (°C)	0°C ~ 50°C		
Storage Temperature (°C)	-20°C ~ 60°C		
Weight (N/G)	5.8 Kg	6.0 Kg	6.2 Kg
IP Level	Front frame IP64		
Safety & EMC	CE / FCC / CB / CCC		
Power			
Power Adapter	P/N: 63000-FSP096AHB-RS 96 W Power adapter Input: 90 VAC~264 VAC, 50/60 Hz Output: 12 VDC		
Power Requirement	12 VDC		
Power Consumption	80 W	85 W	87 W

Dimensions (Unit: mm)

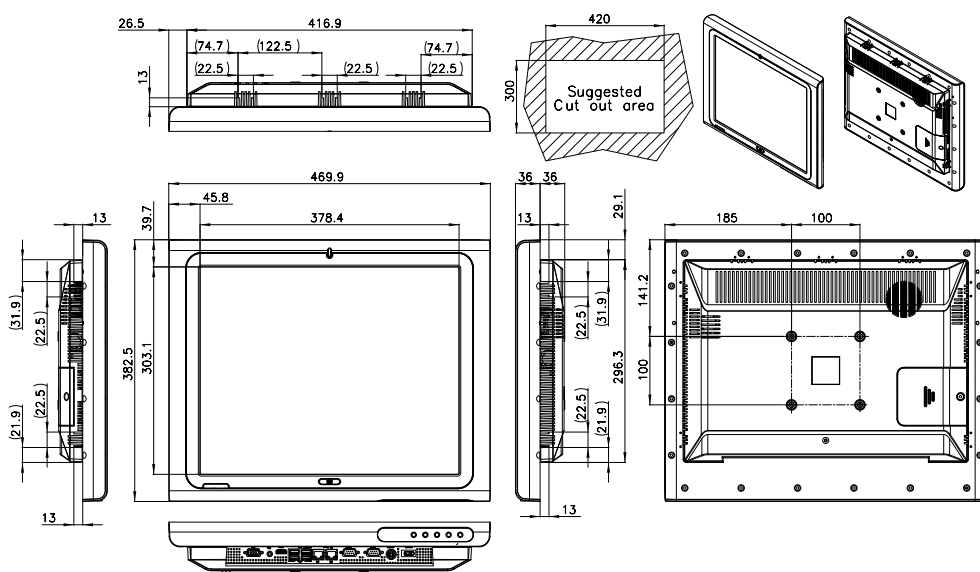
AFL-15i-HM55



AFL-17i-HM55



AFL-19i-HM55



Ordering Information

15" Regular Luminance (250cd/m ²)	AFL-15iE-HM55i3-33/R/2G-R10	15" 250cd/m ² XGA panel PC with Intel® Core™ i3-330M 2.26G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, RoHS
	AFL-15iE-HM55i5-52/R/2G-R10	15" 250cd/m ² XGA panel PC with Intel® Core™ i5-520M 2.4G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, RoHS
	AFL-15iE-HM55i7-62/R/2G-R10	15" 250cd/m ² XGA panel PC with Intel® Core™ i7-620M 2.66G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, RoHS
	AFL-15iE-HM55-P45/R/1G-R10	15" 250cd/m ² XGA panel PC with Intel® Celeron P4500 1.86G CPU, 1GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, RoHS
15" High Luminance (350cd/m ²)	AFL-15i-HM55i3-33/R/2G-R10	15" 350cd/m ² XGA panel PC with Intel® Core™ i3-330M 2.26G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, RoHS
	AFL-15i-HM55i5-52/R/2G-R10	15" 350cd/m ² XGA panel PC with Intel® Core™ i5-520M 2.4G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, RoHS
	AFL-15i-HM55i7-62/R/2G-R10	15" 350cd/m ² XGA panel PC with Intel® Core™ i7-620M 2.66G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, RoHS
	AFL-15i-HM55P-P45/R/1G-R10	15" 350cd/m ² XGA panel PC with Intel® Celeron P4500 1.86G CPU, 1GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, RoHS
17" High Luminance (350cd/m ²)	AFL-17i-HM55i3-33/R/2G-R10	17" 350cd/m ² SXGA panel PC with Intel® Core™ i3-330M 2.26G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, R10, RoHS
	AFL-17i-HM55i5-52/R/2G-R10	17" 350cd/m ² SXGA panel PC with Intel® Core™ i5-520M 2.4G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, R10, RoHS
	AFL-17i-HM55i7-62/R/2G-R10	17" 350cd/m ² SXGA panel PC with Intel® Core™ i7-620M 2.66G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, R10, RoHS
	AFL-17i-HM55-P45/R/1G-R10	17" 350cd/m ² SXGA panel PC with Intel® Celeron P4500 1.86G CPU, 1GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, R10, RoHS
19" High Luminance (450cd/m ²)	AFL-19i-HM55i3-33/R/2G-R10	19" 450cd/m ² SXGA panel PC with Intel® Core™ i3-330M 2.26G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, R10, RoHS
	AFL-19i-HM55i5-52/R/2G-R10	19" 450cd/m ² SXGA panel PC with Intel® Core™ i5-520M 2.4G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, R10, RoHS
	AFL-19i-HM55i7-62/R/2G-R10	19" 450cd/m ² SXGA panel PC with Intel® Core™ i7-620M 2.66G CPU, 2GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, R10, RoHS
	AFL-19i-HM55-P45/R/1G-R10	19" 450cd/m ² SXGA panel PC with Intel® Celeron P4500 1.86G CPU, 1GB DDR3 RAM, 802.11 b/g/n wireless module, touch screen, bluetooth, R10, RoHS

Options

Model	AFL-15i-HM55	AFL-17i-HM55	AFL-19i-HM55
Panel Mounting Kit	AFLPK-19B		
Wall Mounting Kit	AFLWK-19 / AFLWK-19B		
Rack Mounting Kit	AFLRK-15B	AFLRK-17B	N/A
ARM	ARM-11-RS, ARM-31-RS		
Stand	STAND-A19, STAND-B19, STAND-C19, STAND-210-R11		
OS: Win XPE	AFLSD-15-HM55-2G-XPE (2 GB SATA SSD module)	AFLSD-17-HM55-2G-XPE (2 GB SATA SSD module)	AFLSD-19-HM55-2G-XPE (2 GB SATA SSD module)
OS: Win	AFLSD-15-HM55-4G-WES7E-R10 (4 GB SATA SSD module)	AFLSD-17-HM55-4G-WES7E-R10 (4 GB SATA SSD module)	AFLSD-19-HM55-4G-WES7E-R10 (4 GB SATA SSD module)
Hybrid Card Reader	AFLP-19AMSI-U		
Magnetic Stripe Reader	AFLP-19AMSR-U		
DC 12 V Input UPS	AUPS-B10-R10 (VESA 100, DC 12 V input, 12 V output 100 W UPS module with 3800 mAh)		
DC 9-36 V Input UPS	AUPS-B20-R10 (VESA 100, DC 9-36 V input, 12 V output 100 W UPS module with 3800 mAh)		

Packing List

Item	Part Number	Q'ty	Specifications
Power Cord	32000-000002-RS	1	1750 mm; European Standard
Power Adapter	63000-FSP096AHB-RS	1	90-264 V AC Input; 12 V DC Output; 96 W
Utilities CDROM	7B000-000087-RS	1	
Screw Kit	44013-030041-RS	1	
Touch Pen	43125-0002C0-00-RS	1	
Remote Controller	7Z000-8T00320ICP05G-RS	1	

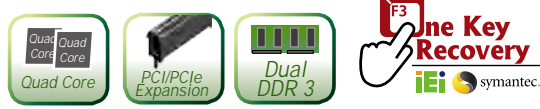
PPC-5150A-G41 / PPC-5170A-G41 / PPC-5190A-G41

15" ~ 19" Quad Core Industrial Panel PC with One PCI/PCIe Slot



Key Features

- 15"~19" robust panel PC with touchscreen
- Heavy-duty design with anti-rust chassis with aluminum IP65 compliant front panel
- Powered by high performance Intel® Core™2 Extreme/Quad/Duo and Celeron® processor supports up to 1333 MHz FSB with Intel® G41 chipset
- System memory supports dual-channel DDR3 DIMM up to 4 GB
- Offers one expansion slot for PCI/PCIex1 add-on cards
- Dual gigabit Ethernet
- Versatile mounting solution: panel/wall/rack/stand mounting
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery



Easily Upgrade to the Quad Core CPU without Additional Mechanism Rebuilding Costs

1. Upgradeable CPU Performance

Easy upgrade options from existing platforms featuring Intel® 945G 65nm dual core processor to Intel® 65nm/45nm quad core extreme performance platforms, meeting the needs of a wide range of intensive applications, and without the need to modify your system mechanism.



Based on Original Mechanical Design

2008 Dual Core 2010 Quad Core

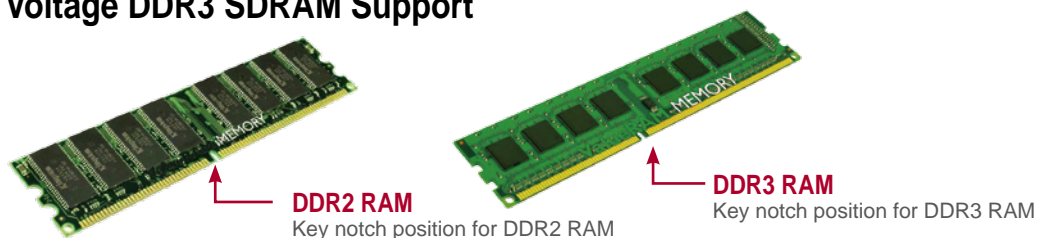
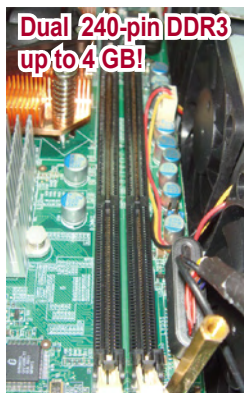


	PPC-51xxA-945	PPC-51xxA-G41
Upgrade Functions		
Chipset	Intel®945G	Intel®G41
CPU FSB	1066MHz 65nm	1333MHz 45nm/65nm
Graphic	Intel® Graphics Media Accelerator 950	Intel® Graphics Media Accelerator X4500
Memory	2 x 240-pin dual-channel DDR2 400/533/667MHz up to 4GB	2 x 240-pin dual-channel DDR3 1333/1066MHz up to 4GB
Based on Same Mechanism		
Expansion Slot	Either one PCIex1 or one PCI	
System Dimensions (WxHxD) (mm)	15" : 410 x 309 x 110.5 17" : 452 x 356 x 115 19" : 483 x 399 x 115.2	

Intel® G41 Embedded CPU Support List

Brand Name	CPU No.	Clock speed	FSB	L2 cache
Core 2 Quad	Q9400(Default)	2.66G	1333	6M
	E8400	3.0G	1066	6M
Core 2 Duo	E7400	2.8G		3M
	E6500	2.93G	1066	2M
Pentium D Dual Core	E5300	2.6G	800	2M
	E6400	2.13G	1066	2M
Core 2 Duo	E4300	1.8G	800	2M
	E2160	1.8G	800	1M
Pentium D Dual Core	E3400		800	
	E1500(Default)	2.4G		512K
Celeron Dual Core	2.2G		512K	
	440	2.00G	800	512K

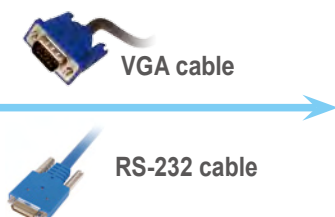
2. Effective and Low Voltage DDR3 SDRAM Support



Memory Type	DDR SDRAM	DDR2 SDRAM	DDR3 SDRAM
Prefetch	2-bit	4-bit	8-bit
Transfer Rate	DDR-200 ~ DDR-400	DDR2-400 ~ DDR2-800	DDR3-800 ~ DDR3-1600
Core Voltage	2.5 V	1.8 V	1.5 V

Touch Enabled Second Display

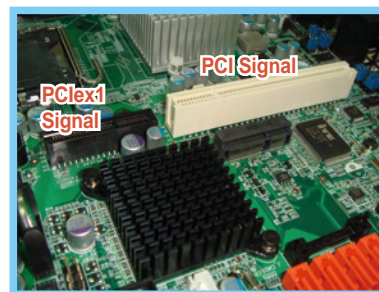
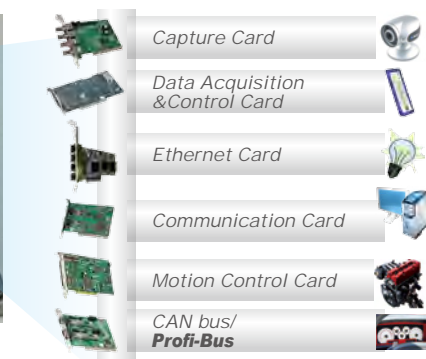
The PPC touch driver supports secondary display touch function. Just connect the VGA and RS-232 cable to the second monitor (AFOLUX monitor), doing calibration and you will get the dual touch experience and improve work efficiency.



Applications:



PCI/PCIe Expansion Capability



Built-in AC/DC Power Supply

Power supply built-in without external Power adapter to save space!



DC 48 V Input



DC 24 V Input



DC 48-V Input



PPC-51xxA-G41 with ACE-A622A



Input Range	Voltage	90-264 VAC
	Frequency	47-63 Hz
Output Voltage		220 W
Temperature	Operating	0°C-50°C
	Storage	-20°C-80°C
Efficiency		80%

PPC-51xxAD-G41 With ACE-4520C



Input Range	Voltage	24 VDC(18-36 VDC)
	Output Voltage	200 W
Temperature	Operating	0°C-50°C
	Storage	-20°C-80°C
Efficiency		78%



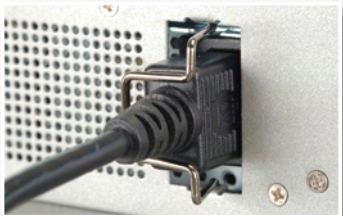
1. User-accessible CF

PPC has a CF slot on the bottom panel that makes installing and replacing CF cards easy.



2. Securing Your CF Card

PPC has a CF slot on the bottom panel. A security door on the PPC protects the CF card from being stolen in public places.



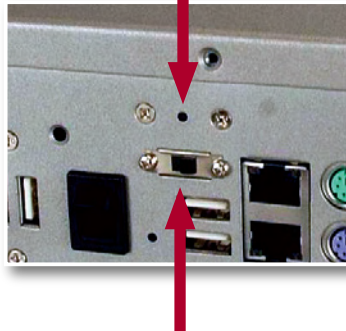
3. Lockable Power Cord

Power plug lock keeps power cable securely in place.

4. CMOS Reset Button

The CMOS reset button forces the BIOS to be reset to its default values for the following reasons:

- Fast BIOS updating
- Hard device conflicts or disrupts system operation



Restoring default system settings!



5. Selectable AT/ATX Mode Switch

Easily select the AT or ATX power mode with an easily accessed switch.

Production Line



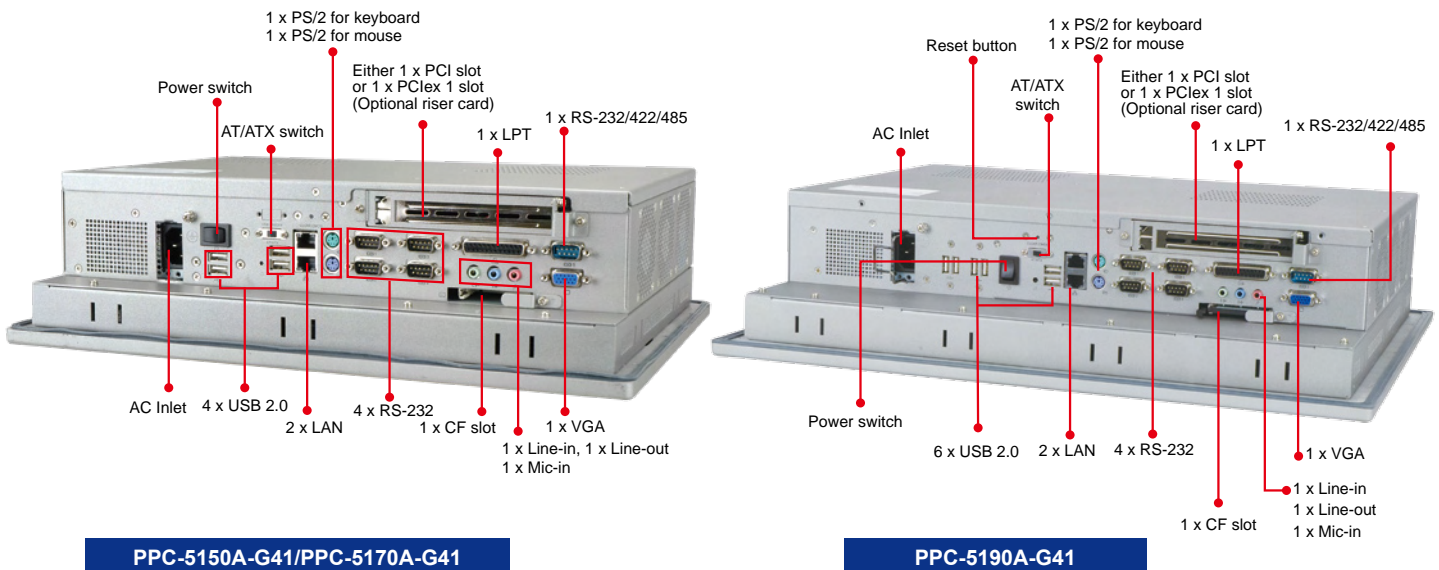
AT power mode allows multiple panel PCs automatically start when the central power unit is connected.

General Ticketing Machine (GTM)



The ATX power mode allows the panel PCs to be turned on/off remotely via network.

I/O Interface



Specifications

Model		PPC-5150A-G41	PPC-5170A-G41	PPC-5190A-G41
Display	LCD Size	15"	17"	19"
	Max Resolution	1024(W) x 768(H)	1280(W) x 1024(H)	1280(W) x 1024(H)
	Brightness (cd/m ²)	350	380	450
	Contrast Ratio	700:1	1000 : 1	1000:1
	LCD Color	16.2M	16.7M	16.7M
	Pixel Pitch (mm)	0.297(H) x 0.297(V)	0.264(H) x 0.264(V)	0.294(H) x 0.294(V)
	Viewing Angle (V-H)	125°/140°	160°/170°	160°/170°
	Backlight MTBF (hrs)	50,000	50,000	50,000
Motherboard	SBC Model	POS-G41-R10		
	CPU	LGA 775 Intel® Core™ 2 Extreme/Quad/Duo, Celeron with a 1333/1066/800MHz FSB support		
	Chipset	Intel® G41 + Intel® ICH7		
	RAM	Supports two 800/1066MHz DDRIII DIMM (4GB Max.)		
I/O Ports and Switches	4 x RS232 COM port	4 x RS232 COM port	4 x RS232 COM port	
	1 x RS-232/422/485 port	1 x RS-232/422/485 port	1 x RS-232/422/485 port	
	2 x RJ-45 for LAN port	2 x RJ-45 for LAN port	2 x RJ-45 for LAN port	
	4 x USB 2.0	4 x USB 2.0	6 x USB 2.0	
	1 x VGA Port	1 x VGA port	1 x VGA port	
	1 x Audio (Line-in, Line-out, MIC-in)	1 x Audio (Line-in, Line-out, MIC-in)	1 x Audio (Line-in, Line-out, MIC-in)	
	1 x LPT	1 x LPT	1 x LPT	
	1 x PS/2 (KB/MS)	1 x PS/2 (KB/MS)	1 x PS/2 (KB/MS)	
	1 x Power switch	1 x Power switch	1 x Power switch	
	1 x AT / ATX switch	1 x AT / ATX switch	1 x AT / ATX switch	
Driver Bay	HDD Driver Bay	1 x 2.5 SATA/IDE HDD bay with anti-shock		
	SSD	CF type II		
	CD-ROM Driver Bay	Slim type CD-ROM bay		
Extension Slot	Either 1 x PCI slot or 1 x PCIe x 1 slot (Optional riser card) 1 x PCIe Mini card			
Physical	Construction Front Panel	Aluminum		
	Construction Chassis	Heavy-duty steel		
	Mounting Front Panel Color	Panel, Wall, Rack, Stand and Arm VESA 100mm x 100mm Silver (Pantone 8001C)		
	Dimensions (WxHxD) (mm)	410 x 309 x 110.5	452 x 356 x 115	483 x 399 x 115.2
	Net Gross Weight	7 kg / 11 kg	8 Kg / 12 Kg	12.6 Kg / 18.2 Kg
	Operation Temperature (°C)	-10°C ~ 50°C	-10°C ~ 50°C	-10°C ~ 50°C
	Environment Storage Temperature (°C)	-20°C ~ 60°C	-20°C ~ 60°C	-20°C ~ 60°C
	Vibration	5~17Hz, 0.1 double amplitude displacement 17~640Hz, 1.5G acceleration peak to peak		
Shock	10G acceleration part to part (11ms)			
Touch Screen	Resistive type 5-wire with RS-232 interface			
Power Supply	AC Input	AC Input ATX power supply - P/N: ACE-A622A-RS - 220W power supply - Input: 90VAC~264VAC, 50/60Hz - Output(max.): 3.3A@14A, 5V@16A, 12V@10A, -12V@0.8A		
	DC Input	DC Input ATX power supply - P/N: ACE-4520C-RS - 200W power supply - Input: 24 VDC(18~36 VDC) - Output(max.): 3.3A@12A, 5V@12A, 12V@15.4A, -12V@0.5A		

Options

Part Number	Description
19Z00-000112-RS	IDE CD-ROM Installation Kit (W/O IDE cable)
41019-0393C0-00-RS	IDE HDD Bracket
32200-000037-RS	25cm HDD IDE Cable

Packing List

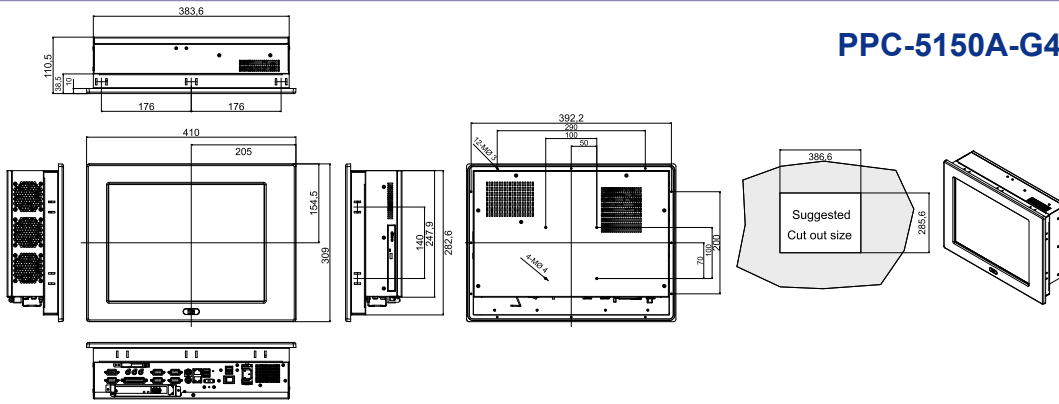
Item	P/N	Q'ty
User's Manual CD-ROM		1
SATA CD-ROM Cable	32803-000300-100-RS	1
Power Cord	32000-000002-RS	1
Panel Mount Kit	19Z00-000024-RS	1
Wall Mount Kit	41020-016102-00-RS	1
Touch Pen		1

IQ Mounting Options

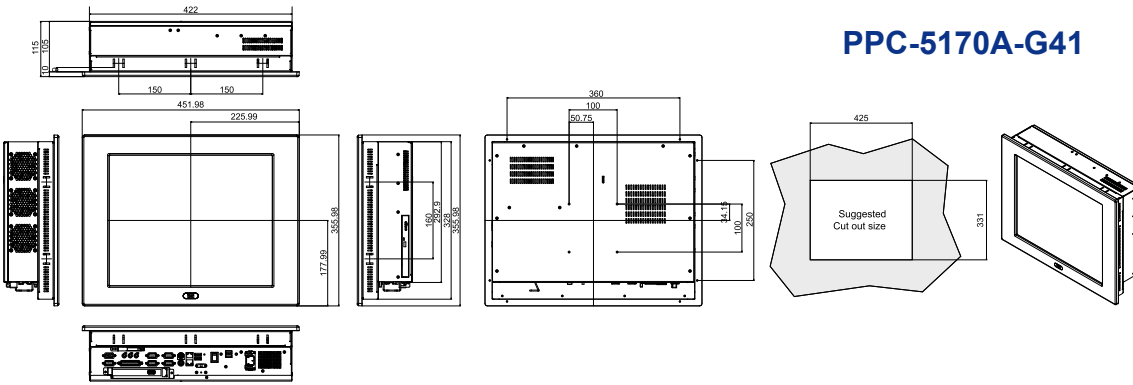
Item	PPC-5150A	PPC-5170A	PPC-5190A
Panel Mount Kit	PK-170M	PK-170M	PK-190M
Wall Mount Kit	WK-190MS-R10		
Rack Mount Kit	RK-150MS-R10	RK-170MS-R10	RK-190MS-R10
Stand	STAND-210-R11		
ARM	ARM-31-RS		

Dimensions (Unit: mm)

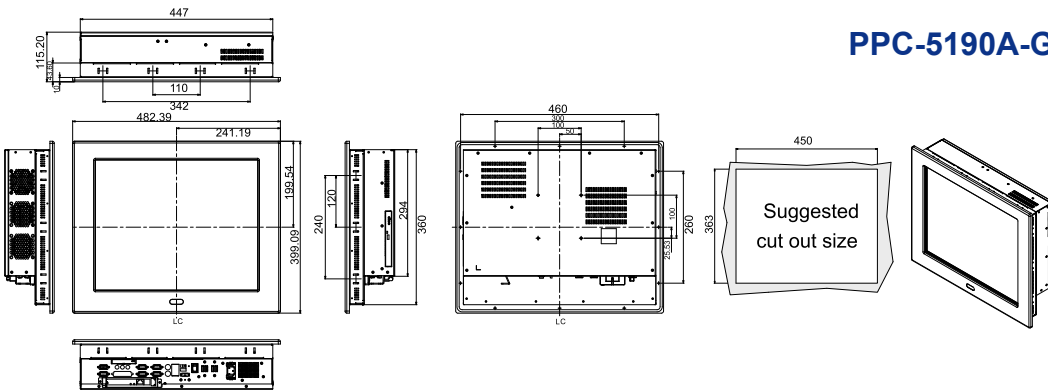
PPC-5150A-G41



PPC-5170A-G41



PPC-5190A-G41



Ordering Information

15" PPC	AC Input	PPC-5150A-G41-E15/R/1G-R10	15" 350 cd/m ² XGA Panel PC with POS-G41, Celeron Dual Core E1500 2.2GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-A622A, touch screen, w/o riser card
		PPC-5150A-G41-Q94/R/1G-R10	15" 350cd/m ² XGA Panel PC with POS-G41, Quad Core Q9400 2.66GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-A622A, touch screen, w/o riser card
	18~36 V DC input	PPC-5150AD-G41-E15/R/1G-R10	15" 350 cd/m ² XGA Panel PC with POS-G41, Celeron Dual Core E1500 2.2GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-4520C, touch screen, w/o riser card
		PPC-5150AD-G41-Q94/R/1G-R10	15" 350 cd/m ² XGA Panel PC with POS-G41, Quad Core Q9400 2.66GHz, 1GB DDR3 RAM, silver color, PSU ACE-4520C, touch screen, w/o riser card
17" PPC	AC Input	PPC-5170A-G41-E15/R/1G-R10	17" 380 cd/m ² SXGA Panel PC with POS-G41, Celeron Dual Core E1500 2.2GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-A622A, touch screen, w/o riser card
		PPC-5170A-G41-Q94/R/1G-R10	17" 380 cd/m ² SXGA Panel PC with POS-G41, Quad Core Q9400 2.66GHz, 1GB DDR3 RAM, silver color, PSU ACE-A622A, touch screen, w/o riser card
	18~36 V DC input	PPC-5170AD-G41-E15/R/1G-R10	17" 380 cd/m ² SXGA Panel PC with POS-G41, Celeron Dual Core E1500 2.2GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-4520C, touch screen, w/o riser card
		PPC-5170AD-G41-Q94/R/1G-R10	17" 380 cd/m ² SXGA Panel PC with POS-G41, Quad Core Q9400 2.66GHz, 1GB DDR3 RAM, silver color, PSU ACE-4520C, touch screen, w/o riser card
19" PPC	AC Input	PPC-5190A-G41-E15/R/1G-R10	19" 450 cd/m ² SXGA Panel PC with POS-G41, Celeron Dual Core E1500 2.2GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-A622A, touch screen, w/o riser card
		PPC-5190A-G41-Q94/R/1G-R10	19" 450 cd/m ² SXGA Panel PC with POS-G41, Quad Core Q9400 2.66GHz, 1GB DDR3 RAM, silver color, PSU ACE-A622A, touch screen, w/o riser card
	18~36 V DC input	PPC-5190AD-G41-E15/R/1G-R10	19" 450 cd/m ² SXGA Panel PC with POS-G41, Celeron Dual Core E1500 2.2GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-4520C, touch screen, w/o riser card
		PPC-5190AD-G41-Q94/R/1G-R10	19" 450 cd/m ² SXGA Panel PC with POS-G41, Quad Core Q9400 2.66GHz, 1GB DDR3 RAM, silver color, PSU ACE-4520C, touch screen, w/o riser card
Riser Card	PCIR-01H-R10	1-Slot PCI riser card	
	PCIER-101H-R10	1-Slot PCIe x 1 riser card	

PCIER-101H-R10



PCIe x4 slot with PCIe x1 signal riser card

PCIR-01H-R10



One Slot PCI riser card

WIDS-515A-G41 / WIDS-517A-G41

15"/17" Quad Core Wireless Industrial Panel PC with One PCI/PCIe Slot

~~Wireless+Quad Core+DDR3~~

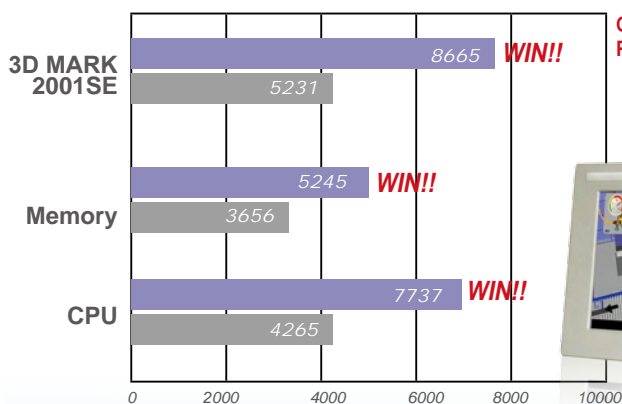


Key Features

- 15" and 17" Wireless panel PC with touchscreen
- Embedded PIFA antenna and mini PCIe 802.11b/g/n wireless module
- Heavy-duty design with anti-rust chassis with aluminum IP65 compliant front panel
- Powered by high performance Intel® Core™2 Extreme/Quad/Duo and Celeron® processor supports up to 1333MHz FSB with Intel® G41 chipset
- System memory supports dual channel DDR3 DIMM up to 4 GB
- Offers one expansion slot for PCI/PCIe1 add-on cards
- Dual gigabit Ethernet
- Versatile mounting solution: panel/wall/rack/stand mounting
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

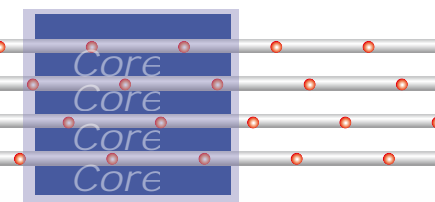


Easily Upgrade to the Quad Core CPU without Additional Mechanism Rebuilding Costs!



Quad Core Industrial Panel PC Performance Comparison

- Intel® G41 chipset
- Core 2 Quad Q9400 (2.66GHz, 1333MHz FSB, 6MB L2 Cache)
- Two DDR3 1066MHz (4GB)
- Intel® 945G chipset
- Pentium® Dual Core E6400 (2.13GHz, 1066MHz FSB, 2MB L2)
- One DDR2 800MHz (512MB)



Multitasking Quad Core!



Fast 802.11 b/g/n Transmission

Efficient PIFA antenna

WIDS wireless technology utilizes the most efficient antenna type available on the market-PIFA (planar inverted-F antenna). This particular antenna creates an exceptionally uniform 3D signal sphere through its inverted-F design, which generates an omni-directional signal field.

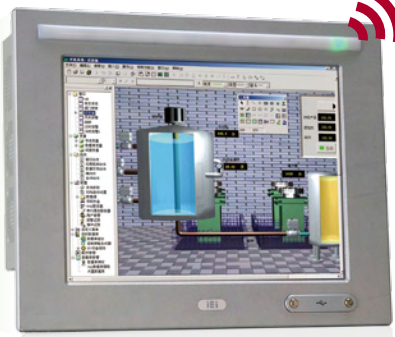


Wireless 802.11 b/g/n PCIe Mini Card Preinstalled
 Provides leading 802.11b/g/n performance supporting up to 300 Mbps physical data rates, which enables up to 10 times the throughput and more than twice the range of 802.11b/g solutions.



Fast 802.11b/g/n Transmission

Efficient PIFA antenna



Museum Guiding System/Easily rack mount with wireless Capability and without mechanical interference

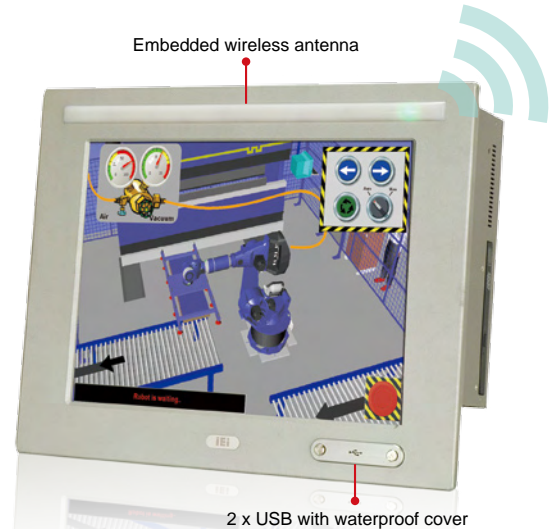
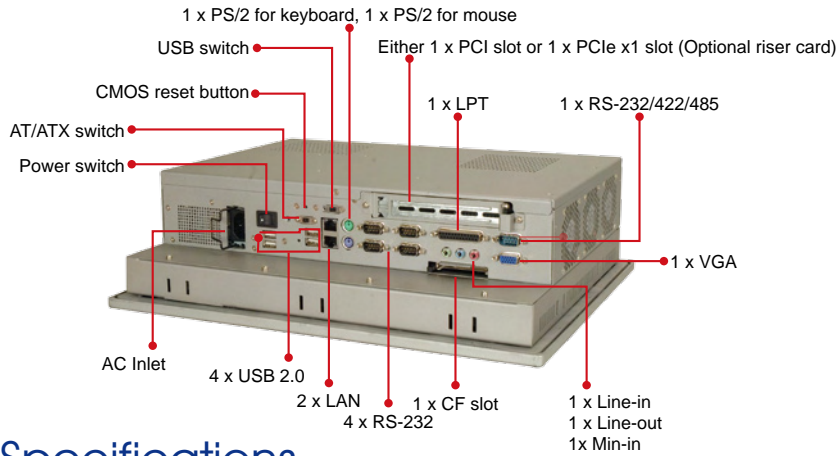
IP 65 Security Front USB Port

Designed for industrial use, WIDS waterproof front USB cover is based around the standard USB interface, with USB Ver.2 performance offering data transfer up to 480Mbs.

Front USB function switch allow user to enable or disable the front USB port function. Depends on application and security demands, the system administrator can easily make decision to release the front USB port or not.



I/O Interface



Specifications

Model		WIDS-515A-G41	WIDS-517A-G41
Display	LCD Size	15"	17"
	Max Resolution	1024(W) x 768(H)	1280(W) x 1024(H)
	Brightness (cd/m²)	350	380
	Contrast Ratio	700:1	1000 : 1 (Typ)
	LCD Color	16.2M	16.7M
	Pixel Pitch (mm)	0.297(H) x 0.297(V)	0.264(H) x 0.264(V)
	Viewing Angle (V-H)	125°/140°	160°/170°
	Backlight MTBF (hrs)	50,000	50,000
Motherboard	SBC Model	POS-G41-R10	
	CPU	LGA 775 Intel® Core™ 2 Extreme/Quad/Duo, Celeron with a 1333/1066/800MHz FSB support	
	Chipset	Intel® G41 + Intel® ICH7	
	RAM	Supports two 800/1066MHz DDRIII DIMM (4GB Max.)	
I/O Ports and Switches	4 x RS232 COM port		
	1 x RS-232/422/485 port		
	2 x RJ-45 for LAN port		
	4 x USB 2.0		
	1 x VGA port		
	1 x Audio (Line-in, Line-out, MIC-in)		
	1 x LPT		
	1 x PS/2 (KB/MS)		
	1 x Power switch		
	1 x AT / ATX switch		
Driver Bay	HDD Driver Bay	1 x 2.5" SATA/IDE HDD bay with anti-shock	
	SSD	CF Type II	
	CD-ROM Driver Bay	Slim type CD-ROM bay	
Extension Slot		Either 1 x PCI slot or 1 x PCIe x 1 slot (Optional riser card) 1 x PCIe Mini card (For Wireless 802.11 b/g/n module)	
Physical	Construction Front Panel	Aluminum	
	Construction Chasis	Heavy-duty steel	
	Mounting Front Panel Color	Panel, Wall, Rack, Stand and Arm VESA 100mm x 100mm silver (Pantone 8001C)	
	Dimensions (WxHxD) (mm)	410 x 309 x 110.5	452 x 356 x 115
	Net/Gross Weight	7 Kg / 11 Kg	8 Kg / 12 Kg
	Operating Temperature (°C)	-10°C ~50°C	-10°C ~50°C
	Environment Storage Temperature (°C)	-20°C ~60°C	-20°C ~60°C
	Vibration	5~17Hz, 0.1" double amplitude displacement 17~640Hz, 1.5G acceleration peak to peak	
	Shock	10G acceleration part to part (11ms)	
	Touch Screen		Resistive Type 5-Wire with RS-232 interface
Power Supply	AC Input	AC Input ATX Power Supply - P/N: ACE-A622A-RS - 220W Power Supply - Input: 90VAC~264VAC, 50/60Hz - Output(max.): 3.3A@14A, 5V@16A, 12V@10A, -12V@0.8A	
	DC Input	DC Input ATX Power Supply - P/N: ACE-4520C-RS - 200W Power Supply - Input: 24 VDC(18~36 VDC), 50/60Hz - Output(max.): 3.3A@12A, 5V@12A, 12V@15.4A, -12V@0.5A	

Dimensions (Unit: mm)

WIDS-515A-G41

WIDS-517A-G41

Options

Part Number	Description
19Z00-000112-RS	IDE CD-ROM Installation Kit (W/O IDE cable)
41019-0393C0-00-RS	IDE HDD Bracket
32200-000037-RS	25cm HDD IDE Cable

Packing List

Item	P/N	Q'ty
User's Manual CD-ROM		1
SATA CD-ROM Cable	32803-000300-100-RS	1
Power Cord	32000-000002-RS	1
Panel Mount Kit	19Z00-000024-RS	1
Wall Mount Kit	41020-016102-00-RS	1
Touch Pen		1
Power Supply		1

IQ Mounting Options

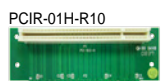
Item	WIDS-515A	WIDS-517A
Panel Mount Kit	PK-170M	
Wall Mount Kit	WK-190MS-R10	
Rack Mount Kit	WIDSRK-150MS-R10	WIDS-RK-170MS-RS
Stand	STAND-210-R11	
ARM	ARM-31-RS	

Ordering Information

15" PPC	AC Input	WIDS-515A-G41-E15/R/1G-R10	15" 350 cd/m ² XGA Wireless Panel PC with POS-G41, Celeron Dual Core E1500 2.2GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-A622A, touch screen, w/o riser card
		WIDS-515A-G41-Q94/R/1G-R10	15" 350 cd/m ² XGA Wireless Panel PC with POS-G41, Core 2 Quad Q9400 2.66GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-A622A, touch screen, w/o riser card
	18~36 V DC input	WIDS-515AD-G41-E15/R/1G-R10	15" 350 cd/m ² XGA Wireless Panel PC with POS-G41, Celeron Dual Core E1500 2.2GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-4520C, touch screen, w/o riser card
		WIDS-515AD-G41-Q94/R/1G-R10	15" 350 cd/m ² XGA Wireless Panel PC with POS-G41, Core 2 Quad Q9400 2.66GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-4520C, touch screen, w/o riser card
17" PPC	AC Input	WIDS-517A-G41-E15/R/1G-R10	17" 380 cd/m ² SXGA Wireless Panel PC with POS-G41, Celeron Dual Core E1500 2.2GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-A622A, touch screen, w/o riser card
		WIDS-517A-G41-Q94/R/1G-R10	17" 380 cd/m ² SXGA Wireless Panel PC with POS-G41, Core 2 Quad Q9400 2.66GHz, 1GB DDR3 RAM, silver color, ACE-A622A, touch screen, w/o riser card
	18~36 V DC input	WIDS-517AD-G41-E15/R/1G-R10	17" 380 cd/m ² SXGA Wireless Panel PC with POS-G41, Celeron Dual Core E1500 2.2GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-4520C, touch screen, w/o riser card
		WIDS-517AD-G41-Q94/R/1G-R10	17" 380 cd/m ² SXGA Wireless Panel PC with POS-G41, Core 2 Quad Q9400 2.66GHz CPU, 1GB DDR3 RAM, silver color, PSU ACE-4520C, touch screen, w/o riser card
Riser Card	PCIR-01H-R10	1-Slot PCI riser card	
	PCIER-101H-R10	1-Slot PCIe x 1 riser card	



PCIE x4 slot with PCIe x1 signal riser card



One Slot PCI riser card

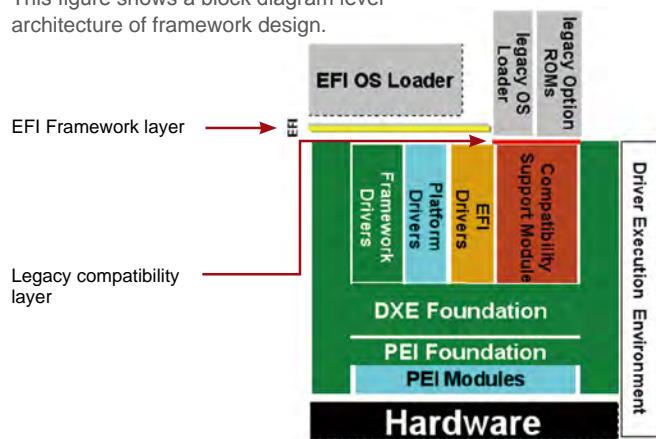


UEFI Introduction

- **UEFI (Unified Extensible Firmware Interface) BIOS** is next-generation BIOS firmware based on UEFI specifications and the Intel® Platform Innovation Framework for EFI.
- UEFI BIOS can be expanded by using a variety of drivers, development tools, support utilities and pre-boot application (PBA) solutions.

UEFI Architecture

This figure shows a block diagram level architecture of framework design.



Legacy BIOS V.S. UEFI

	Legacy BIOS	UEFI
Language	Assembly	C (99%)
Resource	Interrupt Hardcode Memory Access Hardcode I/O Access	Driver \ Protocols
Processor	x86 16-bits	CPU Protected Mode (Flat Mode)
Target	Binary Code	Removable Binary Drivers
Expand	Hook Interrupt	Load Driver
OS Bridge	ACPI (SMI, INT Service)	RunTime Driver Service AED (ACPI EFI Protocol Driver) (ACPI, SMI)
3rd Party ISV & IHV	Bad for Support	Easy for Support and for Multi Platforms

The architecture represents a structured implementation composed primarily of the following:

- Foundation code that binds the pieces together
- Modular elements of code that perform the functional job of enumerating and initializing the platform

UEFI Benefits

Expansibility –

ODM/OEM and customers can add their own PBA easily. PBA can be integrated in BIOS flash or placed in external mass storage devices.

Migration ability –

Drivers, PBA can be migrated easily from one platform to another because they're designed highly modularize on a unified framework.

IEI UEFI BIOS Features

1. Familiarity –

Providing advanced UEFI functionality with a familiar BIOS setup interface.

2. Compatibility –

Designed to extend BIOS compatibility into UEFI solutions. Supporting legacy Option Rom binaries and operating systems requiring a legacy BIOS runtime interface.



IEI Products with UEFI BIOS

1.QM57/HM55 chipset family.

KINO-QM57A, KINO-HM551, NOVA-HM551, NANO-QM57A, NANO-HM551

2.G41 chipset family

IMBA-G410, IMBA-G412ISA, KINO-G410

3. D525/D425/ N455 family

UEFI BIOS has a better compatibility with the dual ranks x16 DRAM memory module for D425/D525/N455 series

3. Functionality –

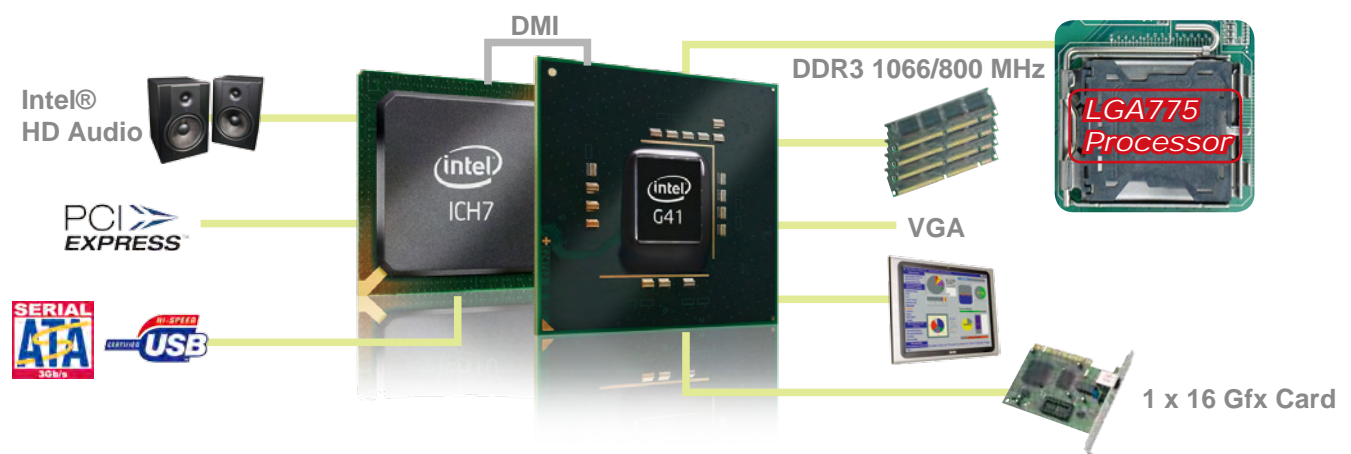
- (1) Compliant with iSMM H/W monitor utility
- (2) Dynamic LOGO
- (3) Fast boot
- (4) ICP Standard Feature – AT/ATX, WDT, DIO
- (5) BIOS setup with touch device support
- (6) HDD/Storage support over 2.2TB with 64-bit operation system

4. Extensibility –

- Allowing to add and execute pre-boot applications (PBA) in a protected hidden partition
- (1) HDD Security
 - (2) Shell environment
 - (3) Pre-boot messenger (Third Party)
 - (4) Pre-boot Network Browser (Third Party)
 - (5) Pre-boot Antivirus (Third Party)

Intel® G41 Chipset

The Best Choice of Performance Chipset for LGA775 Platform

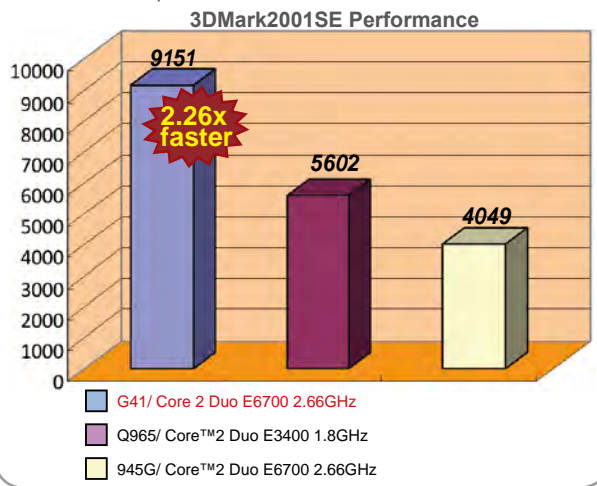


LGA775 Processor Supported by Intel® G41

Brand Name	CPU Code	CPU No.	Process	Clock speed	FSB MHz	L2 cache	TDP
Core 2 Quad	Yorkfield	Q9400	45nm	2.66G	1333	6M	95W
Core 2 Duo	Wolf dale	E8400	45nm	3.0G	1066	6M	65W
		E7400	45nm	2.8G		3M	65W
Pentium D Dual Core	Wolfdale	E6500	45nm	2.93G	1066	2M	65W
		E5300	45nm	2.6G	800	2M	65W
Core 2 Duo	Conroe	E6400	65nm	2.13G	1066	2M	65W
		E4300	65nm	1.8G	800	2M	65W
Pentium D Dual Core	Conroe	E2160	65nm	1.8G	800	1M	65W
Celeron Dual Core	Conroe	E3400	45nm	2.4G		512K	65W
		E1500	65nm	2.2G	800	512K	65W
Celeron	Conroe L	440	65nm	2.0G	800	512K	35W

Performance Comparison

Intel® G41 chipset features not only complete CPU support list but also an excellent graphic performance compared with Q965/945G chipset

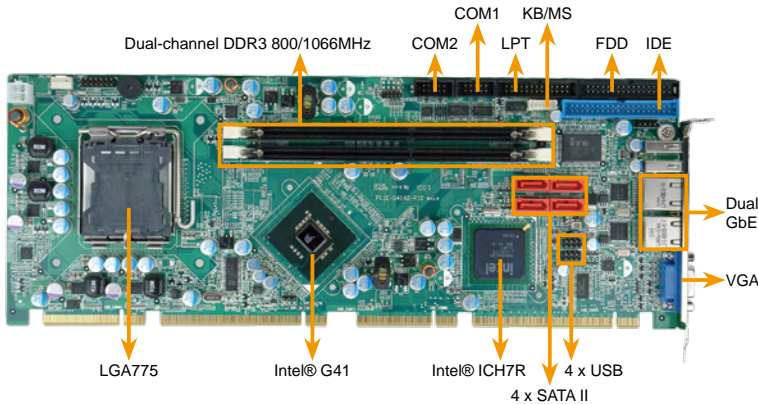


Intel® Desktop Chipset Specification Comparison Table

Northbridge	Intel® G41	Intel® G45	Intel® Q45	Intel® Q35	Intel® Q965	Intel® 945G
CPU FSB	1333MHz 45nm/65nm	1333MHz 45nm/65nm	1333MHz 45nm/65nm	1333MHz 45nm/65nm	1066MHz 65nm	1066MHz 65nm
Graphic	GMAX4500 Direct*X10	GMAX4500HD Direct*X10	GMAX4500 Direct*X10	GMA3100 Direct*X 9.0c	GMA3000 Direct*X 9.0c	GMA 950 Direct*X 9.0c
Full H/W decode acceleration MPEG2/4, VC1 & AVC	N/A	Yes	N/A	N/A	N/A	N/A
Memory	DDR3-1066 8GB	DDR3-1066 16GB	DDR3-1066 16GB	DDR2-800 8GB	DDR2-800 8GB	DDR2-667 4GB
PCIe x16	Gen1	Gen2	Gen2	Gen1	Gen1	Gen1
Southbridge	ICH7 / ICH7R	ICH10	ICH10DO	ICH9DO	ICH8DO	ICH7/ICH7R
PCI	6	4	4	4	6	6
PCIe x1 Lanes	6 (ICH7R) 4 (ICH7)	6	6	6	6	6 (ICH7R) 4 (ICH7)
USB 2.0	8	12	12	12	10	8
SATA II	4	6	6	6	6	4
Intel AMT	N/A	N/A	Yes	Yes	Yes	N/A

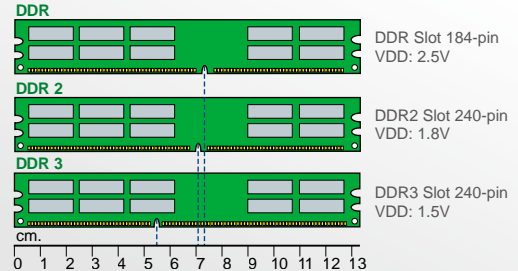
PCIE-G41A2

Full-size PICMG 1.3 CPU card supports LGA775 Intel® Core™2 Quad processor, DDR3 with VGA, Dual PCIe GbE, SATA II, Audio, COM and USB 2.0, RoHS



Advantages of DDR3

- Higher bandwidth performance, up to 1600 MT/s standardized
- Slightly improved latencies as measured in nanoseconds
- Higher performance at low power
- Enhanced low-power features



Specifications

- ◆ CPU
LGA775 45nm Intel® Core™2 Quad, Core™2 Duo, Pentium® D, Celeron® at FSB 800/1066/1333MHz processors
- ◆ System Chipset
Intel® G41+ ICH7R
- ◆ BIOS
AMI Flash BIOS
- ◆ System Memory
Two 240-pin 4GB (max.) 800/1066MHz dual-channel DDR3 SDRAM DIMM supported (System max. 8GB)
- ◆ Ethernet
Dual PCIe Realtek 8111CP GbE controller with ASF2.0 support
- ◆ I/O Interface
2 x RS-232
1 x IDE
1 x LPT
1 x FDD
1 x KB/MS by 6-pin header
4 x SATAII with Intel® RAID 0,1,5 and 10
8 x USB 2.0 (2 on bracket, 4 by pin header, 2 to backplane via golden finger)
- ◆ Digital I/O
8-bit digital I/O, 4-bit input / 4-bit output
- ◆ Infrared Interface
1 x Infrared by 5-pin pin header
- ◆ Super I/O
ITE IT8718F
- ◆ Display Interface
Intel® GMA X4500
VGA display output up to 2048x1536
- ◆ Audio
5.1 channel audio kit with Realtek ALC655 AC'97 codec
7.1 channel HD audio kit with Realtek ALC883 codec supports dual audio streams
- ◆ Watchdog Timer
Software programmable supports 1~255 sec. system reset
- ◆ Power Supply
ATX Power
- ◆ Power Consumption
3.3V@0.53A, 5V@6.2A, 12V@0.11A, Vcore_12V@2.91A (Intel® Core™2 Duo E8500 3.16GHz at FSB 1333MHz CPU with 2x2GB DDR3 1333MHz)
- ◆ Temperature
Operation: -10°C ~ 60°C
- ◆ Humidity
Operation: 5% ~ 95% non-condensing
- ◆ Dimensions
338 mm x 126 mm
- ◆ Weight
GW: 1100g

Features

1. PICMG 1.3 form factor
2. LGA775 Intel® Core™2 Extreme/Quad/Duo and Celeron® processor supports up to 1333 MHz FSB
3. Dual channel DDR3 800/1066MHz supports up to 8 GB
4. High performance PCI Express gigabit Ethernet controller
5. Four SATA II with Intel® Matrix Storage Manager support Raid 0,1,5 and 10
6. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Packing List

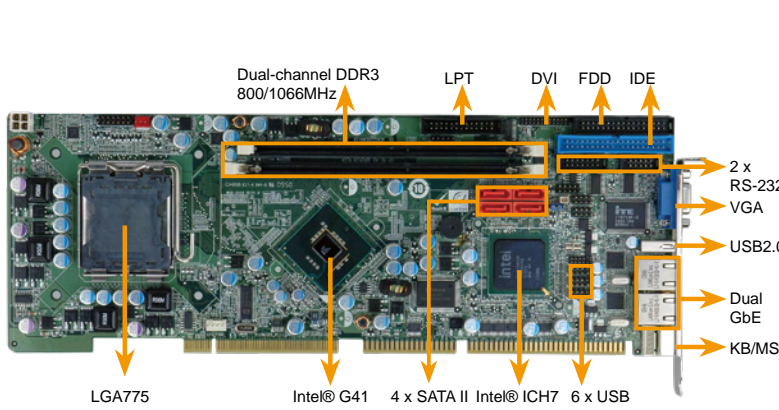
1 x PCIE-G41A2 single board computer
1 x Mini jumper pack
4 x SATA cable (P/N: 32000-062800-RS)
1 x Dual RS-232 cable (P/N: 19800-000051-RS)
1 x USB cable (P/N: CB-USB02-RS)
1 x Utility CD
1 x QIG

Ordering Information

Part No.	Description
PCIE-G41A2-R10	Full-size PICMG 1.3 CPU card supports LGA775 Intel® Core™2 Quad processor, DDR3 with VGA, Dual PCIe GbE, SATA II, Audio, COM and USB 2.0, RoHS
AC-KIT-883HD-R10	7.1 channel HD Audio kit with Realtek ALC883 support dual audio streams
AC-KIT08R-R10	5.1 channel AC'97 audio kit with Realtek ALC655
19800-000075-RS	6-pin wafer to PS/2 connector cable for keyboard and mouse
19800-000100-200-RS	4 ports USB cable with bracket
CF-775A-RS	CPU cooler for 130 W
CF-520-RS-R11	CPU cooler for 115 W
CF-775B-RS	1U CPU cooler for 90 W
32102-000100-200-RS	SATA power cable
32200-000017-RS	FDD cable
19800-000400-100-RS	LPT cable
32200-000052-RS	ATA66 IDE flat cable

WSB-G41A

PICMG 1.0 with Intel® G41 supports LGA775 Intel® Core2™ Quad CPU Card With VGA, DDR3, Dual PCIe GbE, SATA II, COM, USB 2.0 and Audio, RoHS



Intel® GMCH	G41	Q35	945G
Codename	Eaglelake	Bearlake	Lakeport
FSB	800/1066/1333 MHz	800/1066/1333 MHz	800/1066 MHz
System Memory	DDR3 (800/1066 MHz)	DDR2 (667/800 MHz)	DDR2 (667Hz)
Max Memory Size	8GB for DDR3	8GB	4GB
Integrated Graphics	GMAX4500	GMA3100	GMA 950
External Display	PCIe x16 Gen1	PCIe x16 Gen1	PCIe x16 Gen1
General Features	DirectX 10	DirectX 9.0c	DirectX 9.0c
HDMI 1.3	No	No	No
DisplayPort	Yes	No	No
iAMT Support	No	AMT 3.0	No
Memory Channels	Dual channels	Dual channels	Dual channels
DIMMs per Channel	1 DIMM/channel	2 DIMMs/channel	2 DIMMs/channel
ICH Support	ICH7	ICH9DO	ICH7R
RAID Support	0,1,10,5 by ICH7R	0,1,10,5	0,1,10,5 by ICH7R
IEI Solution	WSB-G41A	WSB-Q354	WSB-9454



Specifications

- ◆ CPU
LGA775 45nm Intel® Core™2 Quad, Core™2 Duo, Pentium® D, Celeron® at FSB 800/1066/1333MHz processors
- ◆ System Chipset
Intel® G41+ ICH7
- ◆ BIOS
AMI Flash BIOS
- ◆ System Memory
Two 240-pin 4GB (max.) 800/1066MHz dual-channel DDR3 SDRAM DIMM supported (System max. 8GB)
- ◆ Ethernet
Dual PCIe Intel 82583V GbE controller
- ◆ I/O Interface
2 x RS-232
7 x USB 2.0 (1 on bracket, 6 on board by pin header)
4 x SATA II
1 x IDE
1 x FDD
1 x LPT
1 x Keyboard and mouse (PS/2)
1 x 5-pin on-board header for KB
- ◆ Digital I/O
8-bit digital I/O, 4-bit input / 4-bit output
- ◆ Infrared Interface
1 x Infrared by pin header
- ◆ Super I/O
ITE IT8718F
- ◆ Display Interface
VGA Integrated in Intel® G41
DVI by Silicon Image SIL1362 (WSB-G41A-DVI only)
- ◆ Audio
10-pin on-board header connects to the IEI audio kit
- ◆ Watchdog Timer
Software programmable supports 1 ~255 sec. system reset
- ◆ Power Supply
AT/ATX power
- ◆ Power Consumption
5 V @ 7.13A, 12 V @ 0.27A, 5VBS@0.11A, Vcore@3.02A running 3D Mark2001SE with Intel® Core™2 Duo E8500 3.16GHz, DDR3 2GB*2
- ◆ Temperature
Operation: -10°C~ 60°C
- ◆ Humidity
Operation: 5% ~95 non-condensing
- ◆ Dimensions
338 mm x 122 mm
- ◆ Weight
GW: 1100g



Features

1. PICMG 1.0 form factor
2. Support Intel® LGA775 Core™ 2 Quad processor up to 1333 MHz FSB
3. Dual channel DDR3 800/1066MHz supports up to 8 GB
4. Dual Intel® GbE Ethernet, four SATA II, and two RS-232 serial port connectors
5. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Packing List

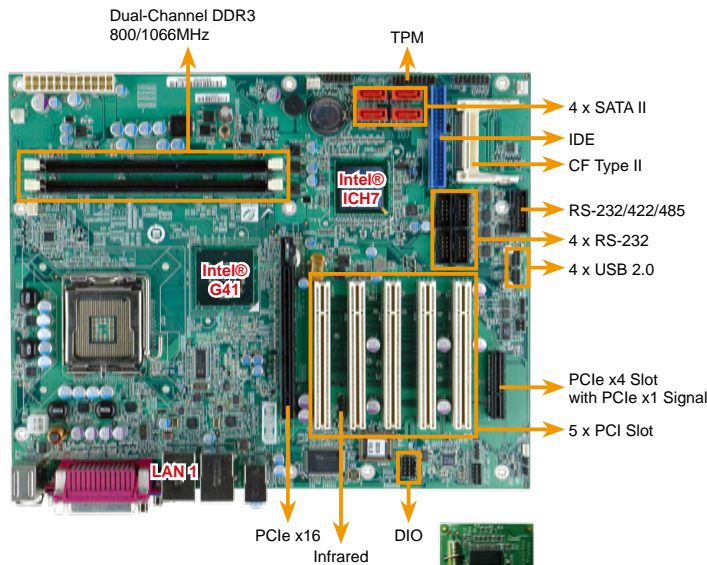
1 x WSB-G41A single board computer	
4 x SATA cable (P/N: 32000-062800-RS)	
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	
1 x KB/MS Y cable (P/N: 32000-133200-RS)	
1 x IO-KIT-001-R20 (For WSB-G41A-DVI-R10)	
1 x USB cable (P/N: CB-USB02-RS)	1 x QIG
1 x Mini jumper pack	1 x Utility CD

Ordering Information

Part No.	Description
WSB-G41A-R10	PICMG 1.0 with Intel G41 support LGA775 Intel Core 2 Quad CPU Card With VGA,DDR3,Dual PCIe GbE,SATAII,COM,USB 2.0,RoHS
WSB-G41A-DVI-R10	PICMG 1.0 with Intel G41 support LGA775 Intel Core 2 Quad CPU Card With VGA/DVI,DDR3,Dual PCIe GbE,SATAII,COM,USB 2.0,RoHS
AC-KIT-883HD-R10	7.1 channel HD Audio kit with Realtek ALC883 support dual audio streams
AC-KIT08R-R10	5.1 channel AC'97 audio kit with Realtek ALC655
19800-000100-200-RS	4 ports USB cable with bracket
CF-775A-RS	CPU cooler for 130W
CF-520-RS-R11	CPU cooler for 115W
CF-775B-RS	1U CPU cooler for 90W
32200-000052-RS	ATA 66 flat cable
32102-000100-200-RS	SATA power cable
19800-000400-100-RS	LPT cable
32200-000017-RS	FDD cable

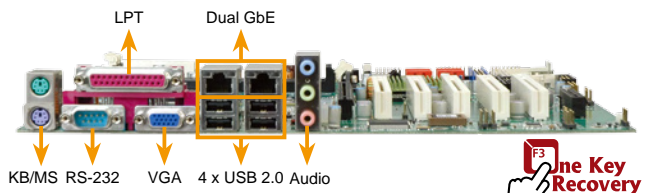
IMBA-G410

ATX Motherboard supports Intel® LGA775 Core 2 Duo/Quad with FSB 800/1066/1333MHz processor including VGA, PCIe x16, PCIe x4 (x1 signal), PCI, Dual PCIe GbE, USB 2.0, COM, CF, SATA II and Audio, RoHS



Comparison Table for New Upgrade Model

IEI Solution	IMBA-G410	IMBA-9454
CPU Socket	LGA 775	
CPU Type	Intel® Core™2 Quad / Duo	Intel® Core™2 Duo
FSB	1333/1066/800MHz	1066/800/533MHz
Chipset	Intel® G41	Intel® 945G
Memory	2 x 240-pin dual-channel DDR3 800/1066MHz up to 8GB	4 x 240-pin dual-channel DDR2 667/533/400MHz up to 4GB
Graphic Engine	Intel® GMA X4500	Intel® GMA 950



Specifications

- ◆ CPU
LGA775 45nm Intel® Core™2 Quad, Core™2 Duo, Pentium® D, Celeron® at FSB 800/1066/1333MHz processors
- ◆ System Chipset
Intel® G41+ICH7
- ◆ Memory
Two 240-pin 4GB (max.) 800/1066MHz dual-channel DDR3 SDRAM DIMM supported (System max. 8GB)
- ◆ BIOS
UEFI BIOS
- ◆ Ethernet
Dual Realtek RTL8111E PCIe GbE controllers, LAN 1 with ASF2.0 support
- ◆ Display Interface
Intel® GMA X4500
Supports DirectX 10 / OpenGL 1.5
VGA display supports analog CRT up to 2048x 1536 @ 75MHz
- ◆ Super I/O
Fintek F81865
- ◆ Audio
Realtek ALC888 HD audio codec
- ◆ I/O Interface

5 x RS-232	1 x RS-232/422/485 with Auto Flow control
8 x USB 2.0	1 x LPT
1 x IDE	2 x PS/2 KB/MS
4 x SATA II	1 x CF Type II slot
- ◆ TPM
2 x 10-pin header
- ◆ Infrared Interface
1 x 5-pin header
- ◆ Expansion
1 x PCIe x16 slot (support PCIe x1/x16 PCIe add-on card and SDVO card)
1 x PCIe x4 slot (with x1 signal)
5 x PCI Slot
- ◆ 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 CPU fan connector
3 x 3-pin system fan connector
- ◆ Power Supply
ATX power supply
- ◆ Power Consumption
12V@4.80A, -12V@0.06A, 5V@5.45A, 3.3V@0.16A
(Intel® Q9550 2.83GHz with 2GB 1333MHz DDR3 Memory)
- ◆ Temperature
Operation: -10°C ~ 60°C
- ◆ Humidity
Operation: 5% ~ 95%, non-condensing
- ◆ Dimensions
244mm x 305mm
- ◆ Weight
GW: 1200g / NW: 650g

TPM 1.2 Support



Features

1. Supporte Intel® Core™2 Quad/ Core™2 Duo/ Pentium®4/ Celeron® processor
2. Dual channel DDR3 1066MHz supports up to 8GB
3. Intel® GMA X4500 delivers an excellent blend of graphics performance
4. TPM V1.2 hardware security function supported by TPM module
5. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Packing List

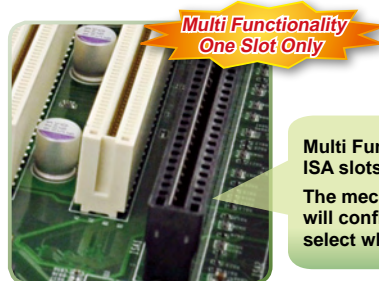
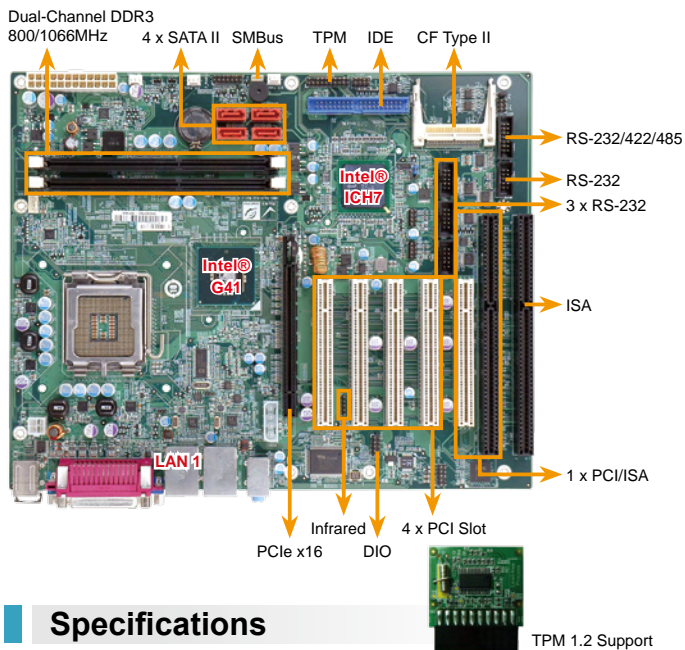
1 x IMBA-G410 single board computer	
2 x Dual RS-232 cable (P/N: 19800-000113-RS)	
1 x I/O shielding (P/N: 45014-0017C0-00-RS)	
2 x SATA cable (P/N: 32000-062800-RS)	1 x Utility CD
1 x Mini jumper pack	1 x QIG

Ordering Information

Part No.	Description
IMBA-G410-R10	ATX Motherboard supports Intel LGA775 Core 2 Duo/Quad with FSB 800/1066/1333MHz processor include VGA, PCIe x16, PCIe x4(x1 signal), PCI, Dual PCIe GbE, USB 2.0, COM, CF, SATA II and Audio, RoHS
32200-000052-RS	IDE cable
32102-000100-200-RS	SATA power cable
19800-000100-200-RS	Quad ports USB cable with bracket
CB-USB02-RS	Dual ports USB cable with bracket
19800-000058-RS	RS-232/422/485 cable
CF-775A-RS	CPU cooler for 130W
CF-520-RS-R11	CPU cooler for 115W
CF-775B-RS	1U CPU cooler for 90W
SDVO-100DVI-R10	PCIe x16 VGA Output SDVO card supports dual display (IEI CPU board only)
SDVO-100VGA-R10	PCIe x16 DVI Output SDVO card supports dual display (IEI CPU board only)
TPM-IN01-R11	20-pin INFINEON TPM Module, S/W management Tool, Firmware V3.17

IMBA-G412ISA

ATX Motherboard supports LGA775 Intel® Core™2 Duo/Core™2 Quad CPU with up to FSB 1333 MHz FSB, DDR3, dual PCIe GbE, ISA, PCI, PCIe x16, COM, LPT, SATA II, IDE, USB 2.0, Audio and RoHs



Specifications

- ◆ CPU
LGA775 45nm Intel® Core™2 Quad, Core™2 Duo, Pentium® D, Celeron® at FSB 800/1066/1333MHz processors
- ◆ System Chipset
Intel® G41+ICH7
- ◆ Memory
Two 240-pin 4GB (max.) 800/1066MHz dual-channel DDR3 SDRAM DIMM supported (System max. 8GB)
- ◆ BIOS
UEFI BIOS
- ◆ Graphic Engine
Intel® GMA X4500
- ◆ Display Interface
VGA supports analog CRT up to 2048x1536 @75MHz
- ◆ Ethernet
Dual Realtek RTL8111E PCIe GbE controller, LAN 1 with ASF2.0 support
- ◆ Super I/O
Fintek F81865
- ◆ ISA Bridge
ITE IT8888
- ◆ Audio
Realtek ALC888 HD Audio Codec
- ◆ I/O Interface

5 x RS-232	1 x RS-232/422/485 with Auto Flow control
4 x SATA II	8 x USB 2.0
1 x CF Type II	1 x IDE
1 x LPT	
- ◆ Expansion

1 x ISA slot	1 x PCI/ISA slot
4 x PCI slot	1 x PCIe x16 slot
- ◆ Infrared Interface
1 x 5-pin header
- ◆ TPM
2 x 10-pin header
- ◆ SMBus
1 x 4-pin wafer
- ◆ Digital I/O
8-bit digital I/O, 4-bit input / 4-bit output
- ◆ Power Supply
ATX power supply
- ◆ Power Consumption
12V@2.01A, -12V@0.05A, 3.3V@0.15A, 5V@5.06A (Intel® Core™2 Duo CPU E7400@2.8GHz with 1GB DDR3 memory)
- ◆ Temperature
Operation: -10°C ~ 60°C
- ◆ Humidity
Operation: 5% ~ 95%, non-condensing
- ◆ Dimensions
305mm x 244mm
- ◆ Weight
GW: 1200g / NW: 650g

Features

1. Support the next generation 45nm LGA775 Intel® Core™2 processor family with higher system performance
2. Intel® GMA X4500 delivers an excellent blend of graphics performance
3. Integrated VGA and PCIe x16 SDVO card interface for dual display
4. Support dual channel DDR3 800/1066MHz up to 8GB
5. TPM V1.2 hardware security function supported by TPM module
6. Expansion slot supports either five PCI and one ISA or four PCI and two ISA slots
7. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Packing List

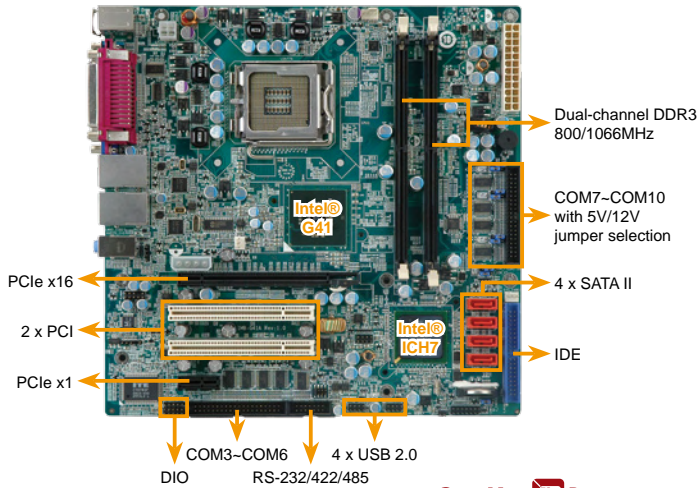
1 x IMBA-G412ISA single board computer	
1 x Dual Ports RS-232 cable with Bracket (P/N: 19800-000051-RS)	
1 x I/O shielding (P/N: 45014-0017C0-00-RS)	
4 x SATA cable (P/N: 32000-062800-RS)	1 x Mini jumper pack
1 x Utility CD	1 x QIG

Ordering Information

Part No.	Description
IMBA-G412ISA-R10	ATX Motherboard Supports LGA775 Intel® Core™2 Duo/Core™2 Quad CPU up to FSB 1333MHz, DDR3, Dual PCIe GbE, ISA, PCI, PCIe x16, COM, LPT, SATA II, IDE, USB 2.0, Audio and RoHs
32102-000100-200-RS	SATA Power cable
32200-000052-RS	IDE cable
CB-USB02-RS	Dual-Port USB cable with bracket
CF-775A-RS	CPU cooler for 130W
CF-520-RS-R11	CPU cooler for 115W
CF-775B-RS	1U CPU cooler for 90W
SDVO-100DVI-R10	PCIe x16 DVI output SDVO card support dual display (IEI CPU Board Only)
SDVO-100VGA-R10	PCIe x16 VGA output SDVO card support dual display (IEI CPU Board Only)
TPM-IN01-R11	20-pin INFINEON TPM Module, S/W management Tool, Firmware V3.17

IMB-G41A

Micro ATX motherboard supports 45nm LGA775 Intel® Core™2 Quad CPU with a 1333/1066/800MHz FSB, PCIe x16, PCIe x1, Two PCI, 10 COM, Dual PCIe GbE, SATA II, Audio and RoHS



LGA775 Embedded CPU List for G41

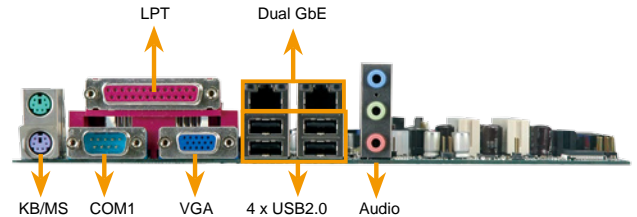
Brand Name	CPU Code	CPU No.	Clock speed	FSB	L2 cache	TDP	Chipset		
							945G	Q965	G41
Core™2 Quad	Yorkfield 45nm	Q9400	2.66G	1333	6M	95W			v
Core™2 Duo	Wolf dale 45nm	E8400	3.0G	1066	6M	65W			v
		E7400	2.8G		3M	65W			v
Pentium® D Dual Core	Wolfdale 45nm	E6500	2.93G	800	2M	65W			v
		E5300	2.6G		2M	65W			v
Core™2 Duo	Conroe	E6400	2.13G	800	2M	65W	v	v	v
		E4300	1.8G		2M	65W	v	v	v
Pentium® D Dual Core	Conroe	E2160	1.8G	800	1M	65W	v	v	v
Celeron® Dual Core	Conroe 45nm	E3400	2.4G	800	512K	65W			v
		E1500	2.2G		512K	65W	v	v	v
Celeron®	Conroe L	440	2.00G	800	512K	35W	v	v	v

Specifications



- ◆ CPU
LGA775 45nm Intel® Core™2 Quad, Core™2 Duo, Pentium® D, Celeron® at FSB 800/1066/1333MHz processors
- ◆ System Chipset
Intel® G41+ICH7
- ◆ Memory
Two 240-pin 4GB (max.) 800/1066MHz dual-channel DDR3 SDRAM DIMM supported (System max. 8GB)
- ◆ BIOS
AMI Flash BIOS
- ◆ Ethernet
Dual Realtek RTL8111CP PCIe GbE controllers with ASF2.0 support
- ◆ Display Interface
Intel® GMA X4500
Supports DirectX 10 / OpenGL 1.5
One VGA supports analog CRT up to 2048x1536 @ 75MHz
- ◆ Super I/O
ITE IT8783F
- ◆ Audio
Realtek ALC888 HD Audio Codec
- ◆ I/O Interface

1 x IDE	8 x USB 2.0
1 x LPT	4 x SATA II
2 x PS/2 for KB/MS	1 x RS-232/422/485
9 x RS-232 (COM7-COM10 with 5V/12V jumper selection)	
- ◆ Infrared Interface
1 x Infrared connector by 5-pin header
- ◆ Extension
1 x PCIe x16 slot
1 x PCIe x1 slot
2 x PCI slot
- ◆ 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 CPU fan connector
1 x 3-pin northbridge fan connector
1 x 3-pin system fan connector
- ◆ Power Supply
ATX power
- ◆ Power Consumption
5V@7.42A, 3.3V@0.15A, 12V@0.27A, Vcore@3.03A 3.16GHz
Intel® Core™ 2 Duo E8500 and 4GB 1066MHz DDR3
- ◆ Temperature
Operation: -10°C ~ 60°C
- ◆ Humidity
Operation: 5% ~ 95%, non-condensing
- ◆ Dimensions
244mm x 244mm
- ◆ Weight
GW: 1200g / NW: 700g



Features

1. Support for the next-generation 45nm Intel® Core™2 processor family with faster system performance
2. Intel® GMA X4500 delivers an excellent blend of graphics performance
3. Integrated VGA and PCIe x16 SDVO add-on card for dual display
4. Diverse I/O interfaces, including 10 COM ports, four SATA 3Gb/s ports
5. Support dual-channel DDR3 SDRAM DIMM up to 8GB (max.)
6. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Packing List

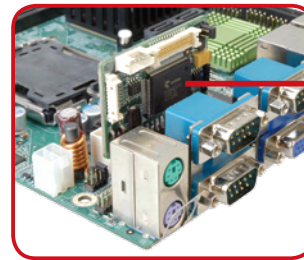
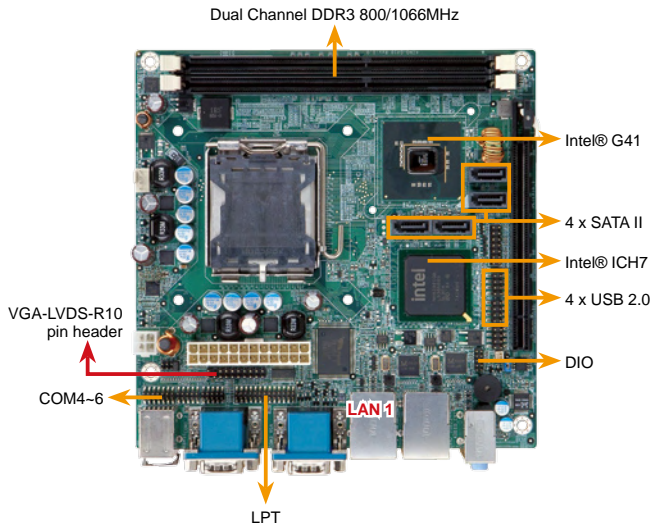
1 x IMB-G41A single board computer	
2 x Quad ports RS-232 cable without bracket (P/N: 32205-001203-100-RS)	
1 x I/O shielding (P/N: 45014-0017C0-00-RS)	
4 x SATA cable (P/N: 32000-062800-RS)	1 x Mini jumper pack
1 x Utility CD	1 x QIG

Ordering Information

Part No.	Description
IMB-G41A-R10	Micro ATX motherboard supports 45nm LGA775 Intel® Core™2 Quad CPU with a 1333/1066/800MHz FSB, PCIe x16, PCIe x1, 2 PCI, 10 COM, Dual PCIe GbE, SATAII and Audio, RoHS
CB-USB02-RS	Dual-port USB cable with bracket
32102-000100-200-RS	SATA Power cable
32200-000063-RS	RS-232/422/485 cable
32200-000052-RS	ATA66 IDE flat cable
CF-775A-RS	CPU cooler for 130W
CF-520-RS-R11	CPU cooler for 115W
CF-775B-RS	1U CPU cooler for 90W
SDVO-100VGA-R10	PCIe x16 VGA Output SDVO card supports dual display (IEI CPU board only)
SDVO-100DVI-R10	PCIe x16 DVI Output SDVO card supports dual display (IEI CPU board only)

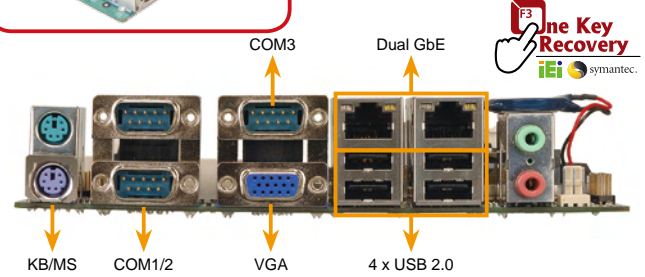
KINO-G410

Mini-ITX SBC supports socket LGA775 Intel® Core™2 Quad CPU with 1333MHz FSB, DDR3, VGA, dual PCIe GbE, six COM, four SATA II, Audio and RoHS



VGA-LVDS-R10

VGA to 24-bits dual-channel LVDS support
Resolution support:
640x480, 800x600, 1024x768, 1280x1024,
1366x768, 1920x1080



Features

1. LGA775 Intel® Core™ 2 Extreme/Quad/Duo and Celeron® processor with up to 1333MHz FSB
2. Intel® GMA X4500 delivers an excellent blend of graphics performance
3. Dual-channel DDR3 800/1066MHz supports up to 8GB
4. VGA and LVDS output for dual display support
5. Complete I/O interface for 6 COM, 8 USB, LPT and 4 SATA II
6. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Specifications

- ◆ CPU
LGA775 45nm Intel® Core™2 Quad, Core™2 Duo, Pentium® D, Celeron® at FSB 800/1066/1333MHz processors
- ◆ System Chipset
Intel® G41 + ICH7
- ◆ Memory
Two 240-pin 800/1066MHz dual-channel DDR3 SDRAM DIMM supported (System max. 8GB)
- ◆ BIOS
UEFI BIOS
- ◆ Ethernet
Dual Realtek RTL8111E PCIe GbE controller, LAN 1 with ASF2.0 support
- ◆ Graphic Engine
Intel® GMA X4500
- ◆ Display Interface
VGA Integrated in the Intel® G41 24-bit LVDS by VGA-LVDS-R10
- ◆ Super I/O
Fintek F81865
- ◆ Audio
Realtek ALC888 HD Audio Codec
- ◆ Expansion
1 x PCIe x16 slot
- ◆ TPM (optional)
On board Infineon SLB9635TT1.2
- ◆ I/O Interface
5 x RS-232 8 x USB 2.0
1 x LPT 4 x SATA II
2 x PS/2 KB/MS
1 x RS-232/422/485 with Auto Flow control
- ◆ 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 CPU fan connector
1 x 3-pin system fan connector
- ◆ Power Supply
ATX power supply
- ◆ Power Consumption
5V@6.41A, Vcore_12V@2.52A, 3.3V@0.27A (2.8GHz Intel® Core™2 Duo E7400 with 1GBx2 DDR3 1066MHz)
- ◆ Operating Temperature: -10°C ~ 60°C
- ◆ Operating Humidity: 5% ~95%, non-condensing
- ◆ Dimensions: 170mm x 170mm
- ◆ Weight: GW:1100g / NW: 700g



Packing List

1 x KINO-G410 single board computer	2 x SATA cable (P/N: 32000-062800-RS)
1 x I/O shielding (P/N: 45014-0014C0-00-RS)	1 x Mini jumper pack
1 x Utility CD	1 x QIG

Ordering Information

Part No.	Description
KINO-G410-R10	Mini-ITX SBC supports socket LGA775 Intel® Core™ 2 Quad CPU with 1333MHz FSB, DDR3, VGA, Dual PCIe GbE, 6 COM, 4 SATA II and Audio, RoHS
KINO-G410T-R10	Mini-ITX SBC supports socket LGA775 Intel® Core™ 2 Quad CPU with 1333MHz FSB, DDR3, VGA, Dual PCIe GbE, 6 COM, 4 SATA II and Audio, TPM, RoHS
CB-USB02-RS	Dual ports USB cable with Bracket
32102-000100-200-RS	SATA power cable
CF-775A-RS	CPU cooler for 130W
CF-520-RS-R11	CPU cooler for 115W
CF-775B-RS	1U CPU cooler for 90W
32200-015100-RS	LPT cable
32205-000300-100-RS	RS-232/422/485 cable
19800-000112-RS	Dual RS-232 with bracket cable
VGA-LVDS-R10	VGA to 24-bit dual channel LVDS converter module

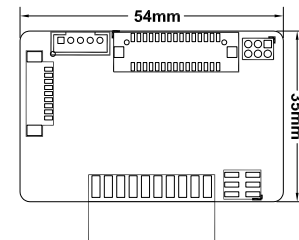
VGA-LVDS-R10

VGA to 24-bits dual-channel LVDS converter board



- ◆ LVDS supported by scaling chip Novatek 68667UFG
- ◆ Support resolution support:
640x480, 800x600, 1024x768, 1280x1024, 1366x768, 1920x1080

Dimensions (Unit : mm)



Ordering Information

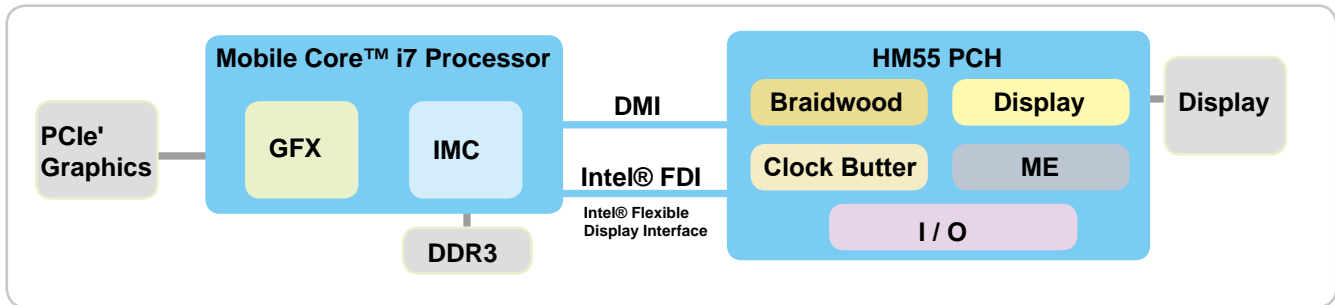
Part No.	Description
VGA-LVDS-R10	VGA to 24-bit dual-channel LVDS converter module
32600-004900-RS	30-pin LVDS connecting cable for evaluation only

Packing List

1 x VGA to LVDS converter module	1 x QIG
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Intel® HM55/QM57 Chipset

Best Graphic Performance Solution for Mobile Core™ i7/ i5/ i3/ Celeron® Platform

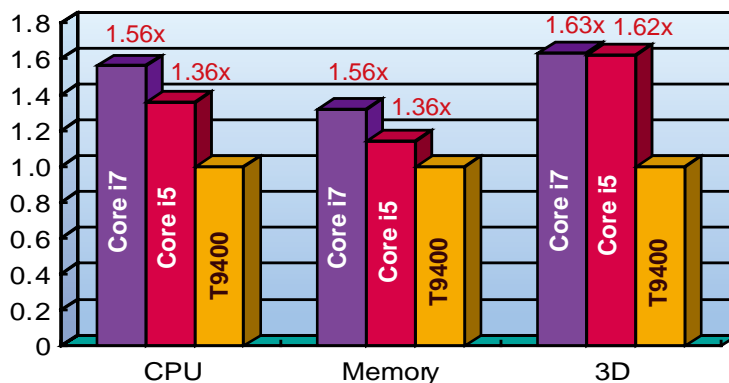


Mobile Core™ i7 Embedded CPU List for QM57/ HM55

Yellow means long term support

Package Type	Brand Name	Code Name	CPU No.	Clock Speed	L2 Cache	TDP	iAMT6.0	Integrated Graphic
Socket G1 988-pin PGA	Core™ i7 Extreme Edition	Arrandale	i7-940XM	2.13G	8M	55W		
			i7-920XM	2.0G	8M	55W		
	Core™ i7		i7-840QM	1.86G	8M	45W		
			i7-820QM	1.73G	8M	45W		
			i7-740QM	1.73G	6M	45W		
			i7-720QM	1.6G	6M	45W		
			i7-620M	2.66G	4M	35W	V (For QM57 only)	V
	Core™ i5		i5-520M	2.4G	3M	35W	V (For QM57 only)	V
			i5-540M	2.53G	3M	35W		V
			i5-450M	2.4G	3M	35W		V
			i5-430M	2.26G	3M	35W		V
	Core™ i3		i3-370M	2.4G	3M	35W		V
			i3-350M	2.26G	3M	35W		V
			i3-330M	2.13G	3M	35W		V
Celeron®		P4500	1.86G	2M	35W		V	

CPU Performance Comparison



Intel® Core™ i7 processor is 1.56 and 1.6 time faster on CPU and graphic performance compared with the T9400 CPU plus GM45 chipset.

Note: Intel® Core™ i7 Quad Core CPU does not support internal graphic, please use add-on graphic card for graphic support.

- i7-620M 2.66G
- i5-520M 2.4G
- T9400 2.53G

Valued Mobile Core™ i7 Choice

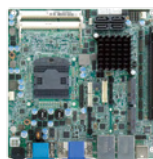
Specification differences between QM57 and HM55

Ibex Peak-M Feature	QM57	HM55
PCI-Express	8 ports	6 ports
SATA	6 ports	4 ports
TDP	3.2~3.5W	3.2~3.5W
Intel Active Management Technology (Intel AMT)	6.0 (integrated KVM)	No
USB 2.0 Ports	14 ports	12 ports

HM55 total solution coming soon!!

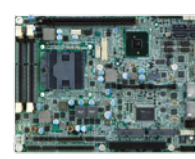
KINO-HM551

Mini-ITX SBC, 12V, 6COM, HDMI/LVDS/VGA/DVI, Dual GbE, PCIe x16, Dual PCIe Mini



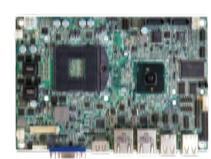
NOVA-HM551

5.25" SBC, 12V, 6COM, Dual HDMI/LVDS/VGA, Dual GbE, PCIe x16, PCI-104, Dual PCIe Mini



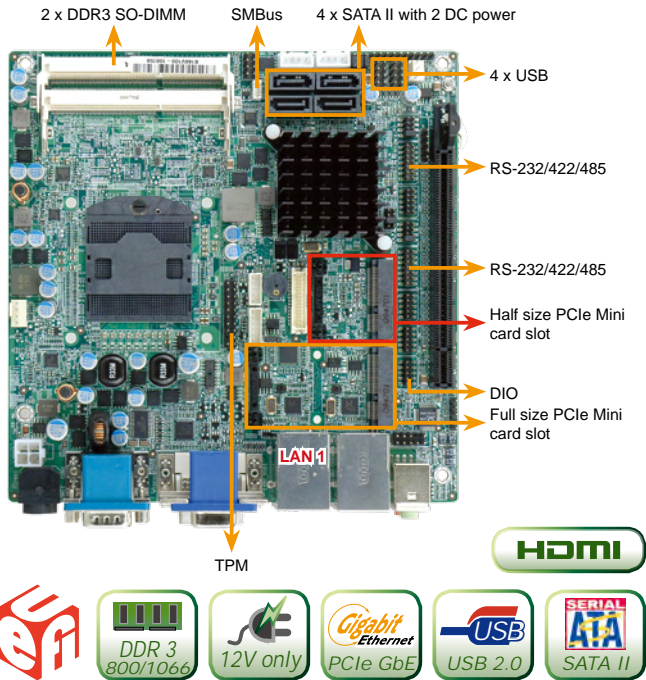
NANO-HM551

EPCI SBC, 12V, 5COM, HDMI/LVDS/VGA, Dual GbE

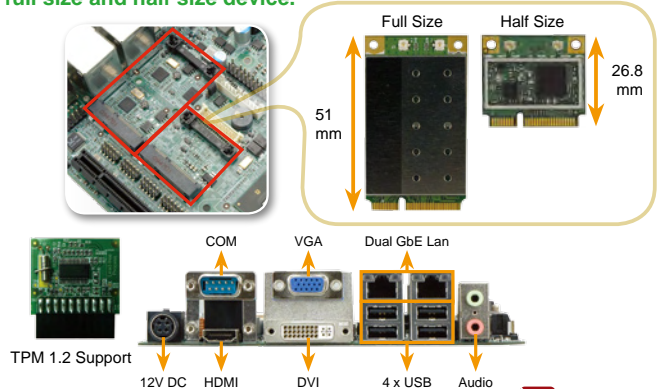


KINO-HM551

Mini-ITX SBC with Socket G1 for Intel® mobile Core™ i7/ i5/ i3 and Celeron® CPU, VGA/DVI/LVDS/HDMI, Dual PCIe GbE, USB 2.0, Dual PCIe Mini, SATA II and Audio, RoHS



Support dual PCIe Mini card including full size and half size device.



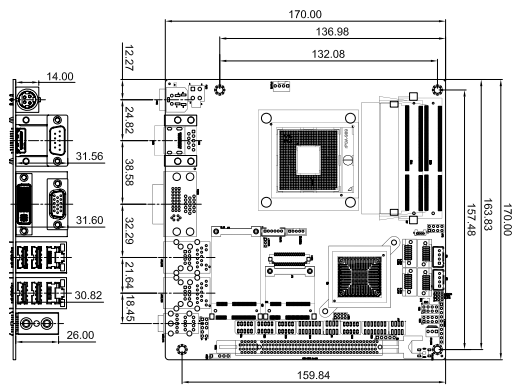
Features

1. Mini-ITX SBC with socket G1 for Intel® mobile Core™ i7/i5/i3 and Celeron® processor
2. DDR3 800/1066MHz dual channel SDRAM supported up to 8GB
3. 18/24-bit dual channel LVDS/ Analog CRT/ DVI/ HDMI output supported
4. PCIe x16 slot and dual MiniPCIe card for high speed device expansion
5. TPM V1.2 hardware security function supported by TPM module
6. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Specifications

- ◆ CPU: Socket G1 for Intel® mobile Core™ i7/ i5/ i3 and Celeron® processor (Socket 988)
- ◆ PCH: Intel® HM55
- ◆ Memory: Two 204-pin 4GB (max.) 800/1066MHz dual-channel DDR3 SDRAM SO-DIMM supported (System max. 8GB)
- ◆ BIOS: UEFI BIOS
- ◆ Ethernet: Dual GbE LAN controller by Realtek RTL8111E, LAN1 with ASF 2.0 support
- ◆ Graphic Engine: Gen 5.75 with 12 Execution Units DirectX® 10, OpenGL® 2.1
- ◆ Display Interface: Analog CRT by VGA connector (2048x1536), 18/24-bit Dual channel LVDS (1600x1200), HDMI supports resolution up to 1080p, DVI-D
- ◆ Super I/O: Fintek F81865
- ◆ Audio: Realtek ALC888 HD codec
- ◆ I/O Interface: 4 x RS-232, 2 x RS-232/422/485 with Auto Flow control, 8 x USB 2.0, 1 x 6-pin header for KB/MS
- ◆ Expansion: 1 x PCIe Mini card slot, 1 x Half size PCIe Mini card slot, 1 x PCIe x16 slot
- ◆ TPM: 2 x 10-pin header
- ◆ SMBus: 1 x 4-pin wafer connector
- ◆ 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 CPU fan connector, 1 x 3-pin system fan connector
- ◆ Power Supply: Single voltage 12V DC input, 1 x external DIN 4-pin DC jack, 1 x internal 2x2-pin power connector, AT/ATX support by jumper
- ◆ Power Consumption: 12W@4.67A (2.66GHz Intel® Core i7 620M CPU with DDR3 1333MHz 4GB*2 DIMM)
- ◆ Temperature: Operation: -10°C ~ 60°C
- ◆ Humidity: Operation: 5% ~ 95%, non-condensing
- ◆ Dimensions: 170mm x 170mm
- ◆ Weight: GW: 900g / NW: 450g

Dimensions (mm)



Packing List

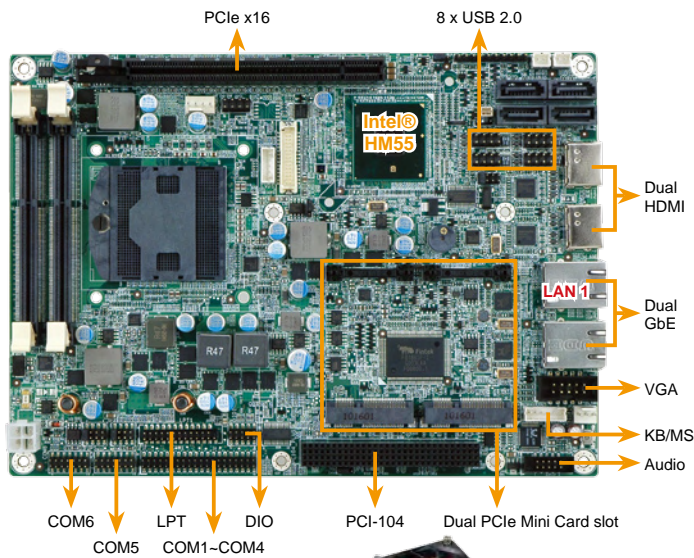
1 x KINO-HM551 single board computer	
1 x Dual RS-232 cable with bracket (P/N: 19800-000112-RS)	
2 x SATA with power cable kit (P/N: 32801-000100-100-RS)	
1 x I/O shielding (P/N: 45014-0032C0-00-RS)	1 x Utility CD
1 x QIG (Quick installation guide)	1 x Mini jumper pack

Ordering Information

Part No.	Description
KINO-HM551-R10	Mini-ITX SBC with Socket G1 for Intel® mobile Core i7/i5/i3 and Celeron® CPU, VGA/DVI/LVDS/HDMI, Dual PCIe GbE, USB 2.0, Dual PCIe Mini, SATA II and Audio, RoHS
CB-USB02-RS	Dual USB cable with bracket
SAIDE-KIT01-R10	SATA to IDE/CF Converter board
19800-000110-RS	RS-232/422/485 cable with bracket
32000-023800-RS	KB/MS Y cable
CF-989A-RS-R11	CPU cooler for mobile socket-G (PGA988) up to 55W processor, Copper, 60x60x27.6mm ,RoHS
TPM-IN01-R11	20-pin INFINEON TPM Module, S/W management Tool, Firmware V3.17

NOVA-HM551

5.25" SBC with Socket G1 Intel® 32nm/45nm Core™ i7/ i5/ i3 and Celeron® processor, VGA/Dual HDMI/LVDS, Dual PCIe GbE, USB 2.0, Dual PCIe Mini, PCIe x16, SATAII and Audio, RoHS



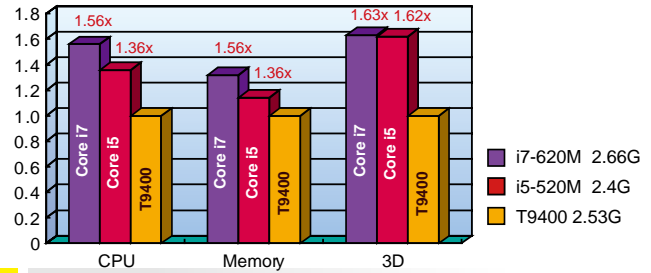
CPU Cooler
P/N: CF-989A-RS-R11



Specifications

- ◆ CPU
Socket G1 for Intel® mobile Core™ i7/ i5/ i3 and Celeron® processor (Socket 988)
- ◆ PCH
Intel® HM55
- ◆ Memory
Two 204-pin 4GB (max.) 800/1066MHz dual-channel DDR3 SDRAM SO-DIMM supported (System max. 8GB)
- ◆ BIOS
UEFI BIOS
- ◆ Graphic Engine
Gen 5.75 with 12 Execution Units DirectX* 10, OpenGL* 2.1
- ◆ Super I/O
Fintek F81865
- ◆ Display Interface
VGA integrated in the Intel®HM55 support up to QXGA
18/24-bit dual channel LVDS
Dual HDMI output
- ◆ LAN
Dual PCIe GbE controller by Realtek RTL8111E, LAN1 with ASF2.0 support
- ◆ I/O Interface
4 x RS-232 2 x RS-232/422/485 with Auto Flow control
8 x USB 2.0 4 x SATAII with DC power output
1 x LPT 1 x 6-pin header for KB/MS
- ◆ Expansion
1 x PCIe x16 slot
1 x PCI-104
2 x PCIe Mini card slot (USB+PCIe signal)
- ◆ SMBus
1 x 4-pin wafer connector
- ◆ TPM (optional)
On board Infineon SLB9635TT1.2
- ◆ Digital I/O
8-bit digital I/O, 4-bit input / 4-bit output
- ◆ Fan Connector
1 x 4-pin for CPU fan
1 x 3-pin for chassis fan
- ◆ Audio
On-board Realtek ALC888 HD Audio codec
- ◆ Watchdog Timer
Software programmable support 1~255 sec. system reset
- ◆ Power Supply
DC 12V only, AT/ATX Power support by jumper
- ◆ Power Consumption
12V@4.67A (2.66GHz Intel® Core™ i7 620M CPU with DDR3 1333MHz 4GB*2 DIMM)
- ◆ Temperature
Operation: -10°C ~ 60°C
- ◆ Humidity
Operation: 5% ~ 95%, non-condensing
- ◆ Dimensions
203mm x 146mm
- ◆ Weight
GW: 800g / NW: 300g

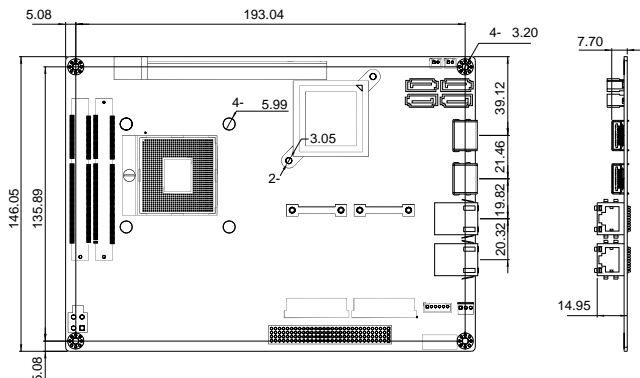
Performance



Features

- 5.25" SBC with Socket G support Intel® 32nm/45nm Core™ i7/ i5/ i3 and Celeron® processor
- Dual-channel 800/1066MHz DDR3 SDRAM supported up to 8GB
- 18/24-bit dual channel LVDS/ analog CRT/ dual HDMI output supported
- Support PCIe x16, dual PCIe Mini card and PCI-104 device
- IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Dimensions (mm)



Packing List

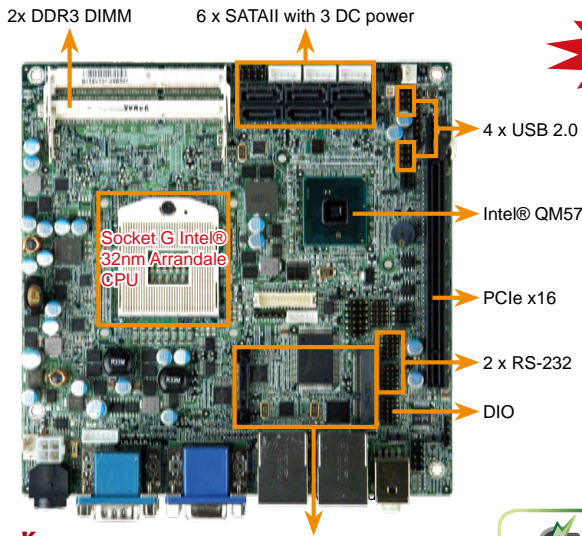
1 x NOVA-HM551 single board computer	
1 x VGA cable (P/N: 32000-033800-RS)	
2 x SATA with 5V power cable Kits (P/N:32000-106100-RS)	
1 x KB/MS Y cable (P/N: 32000-023800-RS)	
1 x Quad port RS-232 adapter cable (P/N: 32100-147900-RS)	
1 x USB cable (P/N:32000-070301-RS)	
1 x QIG (Quick installation guide)	
1 x Mini jumper pack	1 x Utility CD

Ordering Information

Part No.	Description
NOVA-HM551-R10	5.25" SBC with Socket G1 support Intel® 32nm/45nm Core™ i7/ i5/ i3 and Celeron® processor, VGA/Dual HDMI/LVDS, Dual PCIe GbE, USB 2.0, Dual PCIe Mini, PCIe x16, SATA II and Audio, RoHS
NOVA-HM551-T-R10	5.25" SBC with Socket G1 support Intel® 32nm/45nm Core™ i7/ i5/ i3 and Celeron® processor, VGA/Dual HDMI/LVDS, Dual PCIe GbE, USB 2.0, Dual PCIe Mini, PCIe x16, SATA II and Audio, TPM, RoHS
CB-USB02A-RS	Dual USB cable with bracket
32100-088600-RS	SATA power cable
32205-000300-100-RS	RS-232/422/485 cable
CF-989A-RS-R11	CPU cooler for mobile socket-G (PGA988) up to 55W processor, Copper, 60x60x27.6mm, RoHS
CF-989B-RS	CPU cooler for mobile socket-G (PGA988) 50W processor, Aluminum, 60x60x27.6mm, RoHS
SAIDE-KIT01-R10	SATA to IDE/CF converter board
32200-015100-RS	LPT cable

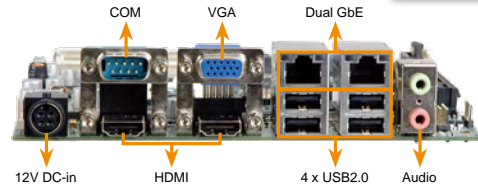
KINO-QM57A

Mini-ITX SBC with Socket G1 for Intel® mobile Core™ i7/ i5/ i3/ Celeron® CPU, VGA/Dual HDMI/LVDS, PCIe GbE, USB 2.0, PCIe Mini, SATA II, Audio and RoHS



IEI Easy Manager Features:

1. Remote troubleshooting and recovery
2. Event log and alert
3. Remote HW/SW asset tracking
4. Network outbreak containment
5. Agent presence alerts when agent is unresponsive



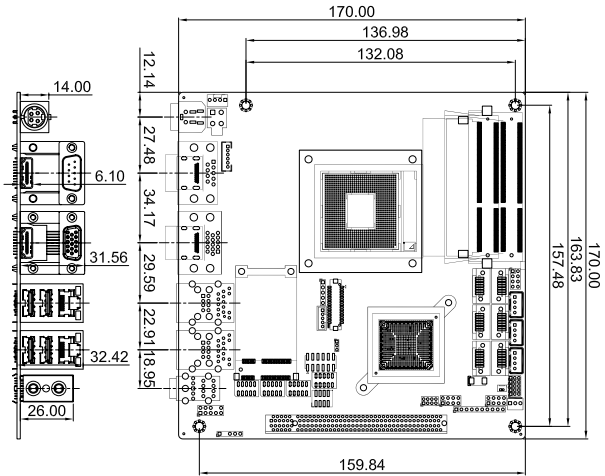
Specifications

- ◆ CPU
Socket G1 for Intel® mobile Core™ i7/ i5/ i3 and Celeron® processor (Socket 988)
- ◆ PCH
Intel® QM57
- ◆ Memory
Two 204-pin 800/1066MHz dual-channel DDR3 SDRAM SO-DIMM supported (System max. 8GB)
- ◆ BIOS
UEFI BIOS
- ◆ Ethernet
1 x Intel® 82577 GbE LAN controller with Intel® AMT 6.0 supported by IEZman software UI
1 x Intel® 82574L GbE LAN
- ◆ Graphic Engine
Gen 5.75 with 12 Execution Units DirectX® 10, OpenGL® 2.1
- ◆ Display Output
VGA integrated in Intel® QM57, resolution: 2048x1536@75Hz
18/24-bit dual-channel LVDS support, resolution: 1920x1200@60Hz
Dual HDMI output, resolution: 1920x1200@60Hz
- ◆ Super I/O
Fintek F81865
- ◆ Audio
Realtek ALC888 HD codec
- ◆ I/O Interface
3 x RS-232 1 x RS-232/422/485 with Auto Flow control
8 x USB2.0 1 x 6-pin header for KB/MS
6 x SATA II with Raid 0/1/5/10 Support three SATA power connectors
- ◆ Expansion
1 x PCIe Mini Card 1 x PCIe x16
- ◆ 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 CPU fan connector
1 x 3-pin system fan connector
- ◆ Power Supply
Single voltage 12V DC input
1 x external 4-pin DIN DC jack
1 x internal 4-pin (2x2) power connector
Support AT/ATX mode
- ◆ Power Consumption
12V@5.27A (2.66GHz Intel® Core™ i7 620M CPU with two 2GB 1333MHz DDR3 DIMMs)
- ◆ Temperature
Operation: 0°C ~ 60°C (32°F ~ 140°F)
- ◆ Humidity
Operation: 5% ~ 95%, non-condensing
- ◆ Dimensions
170mm x 170mm
- ◆ Weight
GW:1000g / NW:350g

Features

1. Mini-ITX SBC with Socket G for Intel® 32nm/ 45nm mobile Core™ i7/ i5/ i3 and Celeron® processor
2. 800/1066MHz dual-channel DDR3 SO-DIMM supported (System max. 8GB)
3. Analog CRT/18-bit or 24-bit dual-channel LVDS/Dual HDMI outputs supported
4. Intel® GbE LAN with Intel® AMT 6.0 support, IEZman UI is bundled for remote control under Windows environment
5. UEFI software interface between OS and platform firmware
6. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Dimensions (mm)



Packing List

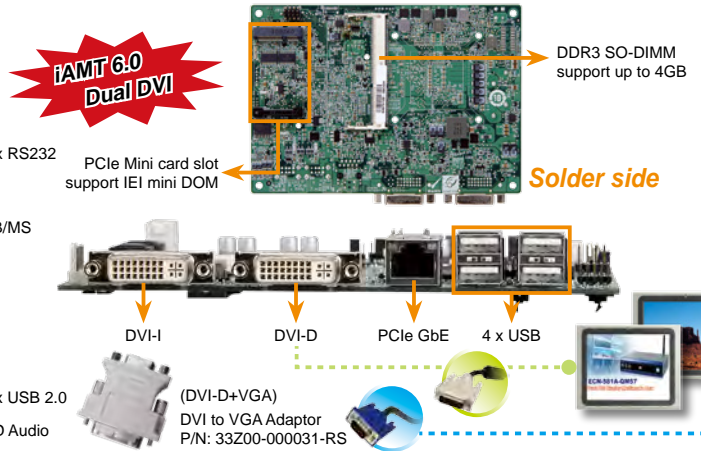
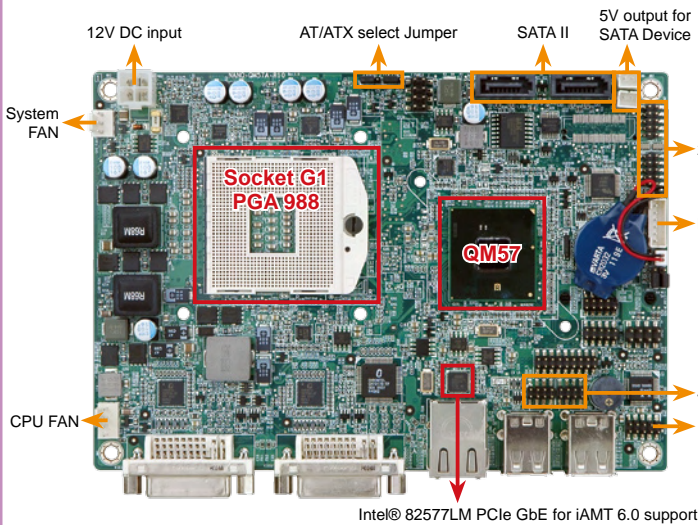
1 x KINO-QM57A single board computer	
1 x Dual RS-232 cable /w bracket (P/N: 19800-000112-RS)	
3 x SATA with power output cable (P/N: 32801-000100-100-RS)	
1 x I/O shielding (P/N: 45014-0029C0-00-RS)	1 x Mini jumper pack
1 x QIG (Quick Installation Guide)	1 x Utility CD

Ordering Information

Part No.	Description
KINO-QM57A-R10	Mini-ITX SBC with Socket G1 for Intel® mobile Arrandale CPU, VGA/Dual HDMI/LVDS, PCIe GbE, USB2.0, PCIe Mini, SATA II and audio, RoHS
CB-USB02-RS	Dual USB cable
SAIDE-KIT01-R10	SATA to IDE/CF converter board
WMPCIE-V01-R20	PCIe Mini card wireless LAN module
VMUSB-V01-R20	USB Mini card wireless LAN module
63000-FSP096AHB-RS	96W/12V power adaptor 90VAC~260VAC, DIN 4 pin
19800-000110-RS	RS-232/422/485 cable with bracket
CF-989A-RS-R11	CPU cooler for mobile socket-G (PGA988) up to 55W processor, Copper, 60x60x27.6mm, RoHS
CF-989B-RS	CPU cooler for mobile socket-G (PGA988) 50W processor, Aluminum, 60x60x27.6mm, RoHS

NANO-QM57A

EPIC SBC with Intel® Core™ i7/ i5/ i3 and Celeron® mobile processor, Dual DVI, PCIe GbE, USB 2.0, PCIe Mini, SATA II, Audio and RoHS



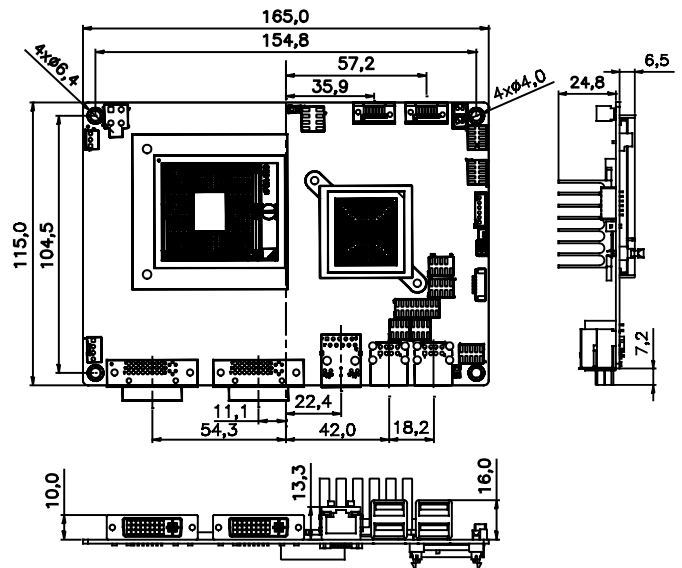
Specifications

- ◆ CPU
Socket G1 for Intel® mobile Core™ i7/ i5/ i3 and Celeron® processor (Socket 988)
- ◆ PCH
Intel® QM57
- ◆ BIOS
UEFI BIOS
- ◆ Memory
One 204-pin 800/1066MHz DDR3 SDRAM SO-DIMM up to 4GB
- ◆ Graphic
Gen 5.75 with 12 Execution Units DirectX* 10, OpenGL* 2.1
Support MPEG2, WMV9/VC-1, AVC and Hardware acceleration
- ◆ Display Output
Support Dual DVI Display: One DVI-I (DVI-D+VGA) and One DVI-D
- ◆ Ethernet Chipset
One Intel® 82577LM PCIe GbE PHY with Intel® AMT 6.0 support (with iAMT 6.0)
- ◆ Super I/O
Fintek F81801U
- ◆ I/O interface
8 x USB 2.0
2 x RS-232
2 x SATA II with RAID 0, 1 support
1 x 6-pin pin header for KB/MS
- ◆ Audio
Realtek ALC888 HD codec
- ◆ Expansion
1 x Mini PCIe card slot (PCIe + USB + SATA signal) support IEI mini DOM
- ◆ Watchdog Timer
Software programmable support 1-255 sec. system reset
- ◆ Fan Connector
1 x 4-pin CPU fan connector
1 x 3-pin system fan connector
- ◆ Power Supply
12V only, AT/ATX support by jumper
- ◆ Power Consumption
12V@4.66A (Intel® Core™ i7 620M 2.66G, DDR3 2GB/1333Mhz)
- ◆ Temperature
Operation: -10°C ~ 60°C
- ◆ Humidity
Operation: 5% ~ 95%, non-condensing
- ◆ Dimensions
115mm x 165mm
- ◆ Weight
GW:850g / NW:350g

Features

1. EPIC SBC support Socket G1 Intel® Core i7/i5/i3 and Celeron® mobile processor
2. Dual independent display supported by DVI+DVI or DVI+VGA
3. One DDR3 800/1066 Mhz SO-DIMM slot supports up to 4GB
4. Support dual SATA II with RAID 1,0 function, two serial ports and eight USB 2.0 ports
5. One Intel® 82577LM GbE PHY with Intel® AMT 6.0 support. iEZman UI is bundled for remote control under Windows environment
6. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Dimensions (mm)



Packing List

1 x NANO-QM57A single board computer	
1 x SATA with 5V output cable (P/N: 32801-000201-100-RS)	
1 x DVI-I to VGA adapter (P/N: 33Z00-000031-RS)	
1 x Power cable (P/N: 32100-087100-RS)	2 x RS-232 Cable (P/N: 32200-000049-RS)
1 x Audio cable (P/N: 32000-072100-RS)	1 x Mini Jumper Pack
1 x QIG (Quick Installation Guide)	1 x Utility CD

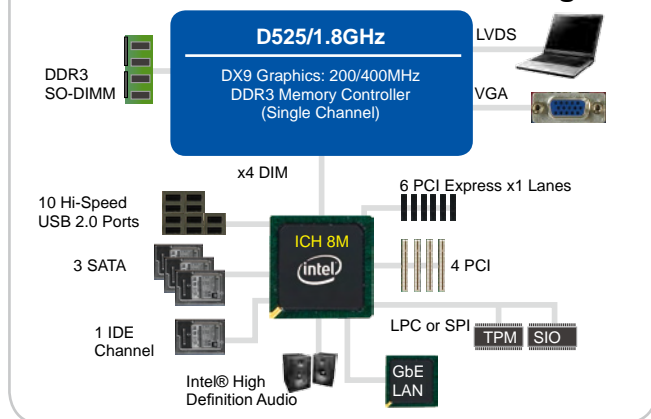
Ordering Information

Part No.	Description
NANO-QM57A-R10	EPIC SBC supports Socket G for Intel® Core™ i7/i5/i3 and Celeron® mobile CPU, Dual DVI, PCIe GbE, USB 2.0, Mini PCIe, SATA II and Audio, RoHS
32000-070301-RS	Dual port USB cable
32000-023800-RS	KB/MS cable
CF-989A-RS-R11	CPU cooler for mobile socket-G (PGA988) up to 55W processor, Copper, 60x60x27.6mm, RoHS

Intel® D525/D425/N455 Family

DDR3 Support for Low Power Embedded Platform

Intel® D525 Series DDR3 Block Diagram



Next Generation Atom™ Platforms Feature

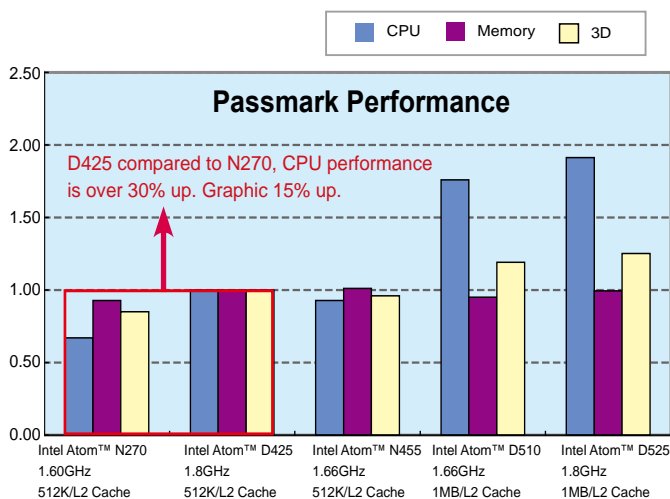
The GPU contains a refresh of the 3rd generation graphics core

- Direct X* 9 compliant Pixel Shader* v2.0
- 2 display ports: LVDS and RGB
 - Single LVDS channel supporting resolution up to 1366 * 768, 18bpp
 - Analog RGB display output resolution up to 2048 x 1536@ 60 Hz (D525 /D425), 1440 x1050 (N455)
- Intel® Clear Video Technology
 - MPEG2 Hardware Acceleration

Embedded higher performance with DDR3 Sku

- Intel® Atom™ D525 1.80GHz (Dual Core)
- Intel® Atom™ D425 1.80GHz (Single Core)
- Intel® Atom™ N455 1.66GHz (Single core)

Intel® Dual Core Atom™ Performance Chart

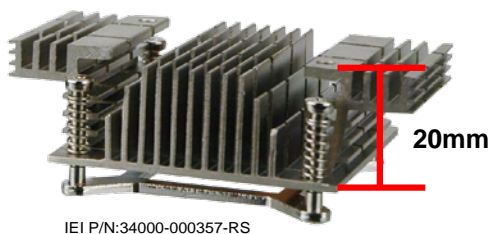


Embedded Intel® Atom™ Solution Specification Comparison Table

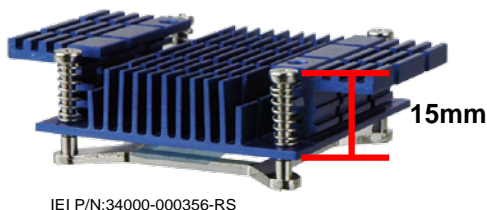
Platform	Atom™ D425	Atom™ D525	Atom™ N455
CPU/Chipset	Atom™ 1.8GHz Single Core/D425	Atom™ 1.8GHz Dual Core/D525	Atom™ 1.66GHz Single Core/N455
L2 Cache	512KB	1024KB	512KB
Supported Memory	DDR3 (800MHz) up to 4GB	DDR3 (800MHz) up to 4GB	DDR3 (667MHz) up to 2GB
Graphic Output	VGA (2048x1536) Single-channel 18-bit LVDS	VGA (2048x1536) Single-channel 18-bit LVDS	VGA (1400x1050) Single-channel 18-bit LVDS
Graphics Cores	Gen 3.5, 400MHz DirectX9c, OpenGL 1.5 GMA 3150	Gen 3.5, 400MHz DirectX9c, OpenGL 1.5 GMA 3150	Gen 3.5, 200MHz DirectX9c, OpenGL 1.5 GMA 3150
South Bridge	ICH8M	ICH8M	ICH8M
PCI-Express	6 Lanes (1x4+ 2x1), PCI Express 1.1		
PCI	PCI Rev 2.3 @ 33MHz up to 2 bus masters		
I/O	10 x USB 2.0, 3 x SATA II, 1 x IDE, HD Audio		

IEI Thermal Solution for Intel® Atom™ D525/D425/N455 Series Products

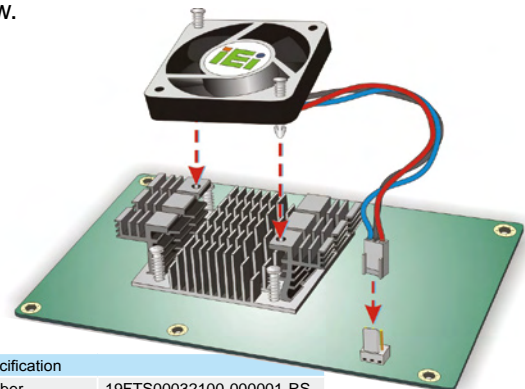
A. 20mm height heatsink with bracket preinstalled for D525 series products



B. 15mm height heatsink with bracket preinstalled for D425/N455 series products



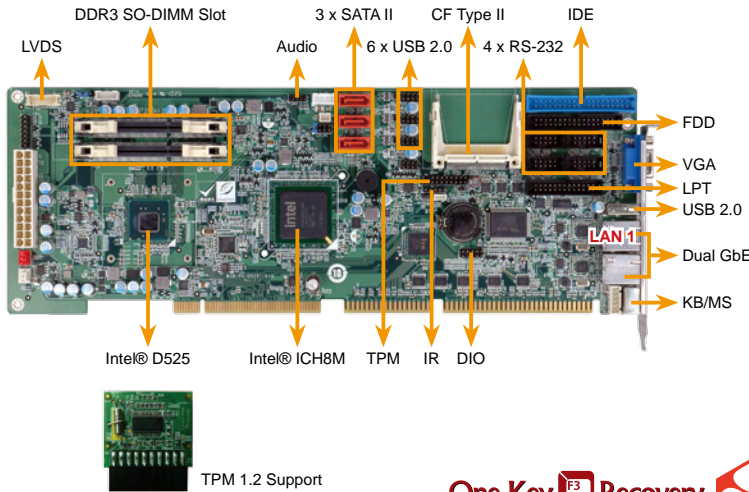
C. IEI also provides an optional CPU fan which can be easily installed on the preinstalled CPU heatsink by two push pins. The installation diagram is shown below.



CPU fan specification	
IEI Part Number	19FTS00032100-000001-RS
Dimensions (mm)	40x40x10
Fan Speed(RPM)	4200
Noise (dBA)	21
Life Expectance(hrs)	70000
Weight (g)	17

WSB-PV-D4251 D5251

Full-size PICMG 1.0 CPU card with Intel® Atom™ D425/D525, DDR3, VGA/LVDS, Dual PCIe GbE, SATA II, COM, USB 2.0, Audio and RoHS



Dual Independent Display support

Feature Comparison Table for WSB-PV SKUs		
Processor Name	Intel® Atom™ D525 (1M Cache, 1.80 GHz)	Intel® Atom™ D425 (512K Cache, 1.80 GHz)
# of Cores	2	1
CPU Freq.	1.80 GHz	1.80 GHz
Memory Freq.	DDR3 800MHz	
Memory Channel	Single Channel, 2 SO-DIMM Slots	
Max. Memory Size	4GB	
Display Interface	Dual Display independently by VGA and LVDS	
Max. Resolution	VGA: 2048 x 1536 LVDS: 1366 x 768; WXGA: 1280 x 800	



Specifications

- ◆ CPU
 - Intel® Atom™ D525 dual-core processor (1.80GHz/1MB L2 cache)
 - Intel® Atom™ D425 single-core processor (1.80GHz/512KB L2 cache)
- ◆ System Chipset
 - ICH8M
- ◆ BIOS
 - UEFI BIOS
- ◆ System Memory
 - Two 204-pin 800MHz DDR3 SDRAM SO-DIMMs supported (System max. 4GB) for D525/D425
- ◆ Graphics Engine
 - GMA 3150
 - Gen3.5 DX9, 400MHz for D525/D425
- ◆ Ethernet
 - Dual PCIe Realtek RTL8111E GbE controller, LAN1 with ASF2.0 support
- ◆ Display Interface
 - Analog CRT up to 2048x1536 for D525/D425
 - Supports CRT hot plug
 - 18-bit single channel LVDS, resolution support up to WXGA 1366x768 or XGA 1024x768
- ◆ I/O Interface

4 x RS-232	3 x SATA II
1 x IDE	1 x FDD
1 x CF Type II	1 x 5-pin on-board header for KB
1 x LPT	1 x PS/2 connector for KB/MS
7 x USB 2.0 (1 on bracket, 6 on board by pin header)	
- ◆ TPM
 - 2 x 10-pin header
- ◆ SMBus
 - 1 x 4-pin wafer connector
- ◆ Digital I/O
 - 8-bit digital I/O, 4-bit input / 4-bit output
- ◆ Infrared Interface
 - 1 x 5-pin infrared by pin header
- ◆ Super I/O
 - Fintek F81865
- ◆ Audio
 - 1 x 5-pin on-board header connects to the IEI audio kit
- ◆ Watchdog Timer
 - Software programmable supports 1~255 sec. system reset
- ◆ Power Supply
 - AT/ATX power
- ◆ Power Consumption
 - 5V@5.16A, 12V@0.55A (Intel® Dual Core Atom™ D525 1.80GHz with 1066MHz DDR3 1GBx2 Memory)
- ◆ Temperature
 - 20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
 - 20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor
- ◆ Humidity
 - Operation: 5% ~ 95% non-condensing
- ◆ Dimensions
 - 338 mm x 122 mm
- ◆ Weight
 - GW: 1100g

Features

1. PICMG 1.0 form factor and RoHS compliant
2. Support Intel® Atom™ D425/D525 1.80GHz processor
3. Support 800MHz DDR3 SDRAM SO-DIMM up to 4GB
4. Dual PCIe Ethernet, three SATA II, and four RS-232 serial port connectors
5. VGA and 18-bit single channel LVDS for dual independent display support
6. TPM V1.2 hardware security function supported by TPM module
7. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Packing List

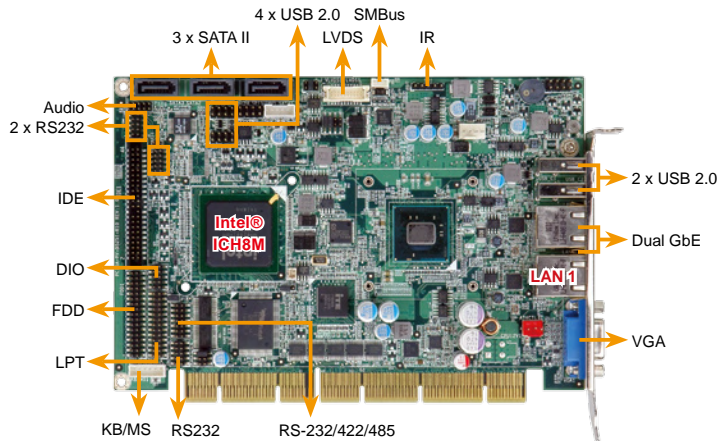
1 x WSB-PV-D4251/D5251 single board computer	
3 x SATA cable (P/N: 32000-062800-RS)	
1 x Dual RS-232 cable (P/N: 19800-000051-RS)	
1 x USB cable (P/N: CB-USB02-RS)	1 x Mini jumper pack
1 x Utility CD	1 x QIG

Ordering Information

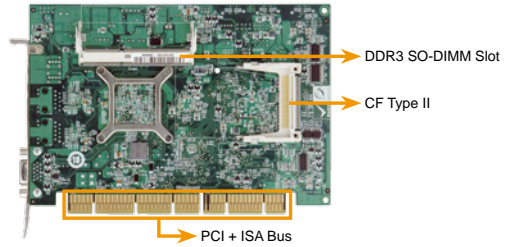
Part No.	Description
WSB-PV-D5251-R10	Full-size PICMG 1.0 CPU card with Intel® Dual Core Atom™ D525 1.80GHz/1MB L2 cache, DDR3, VGA/LVDS, Dual PCIe GbE, SATA II, COM, USB 2.0 and audio, RoHS
WSB-PV-D4251-R10	Full-size PICMG 1.0 CPU card with Intel® Single Core Atom™ D425 1.80GHz/512KB L2 cache, DDR3, VGA/LVDS, Dual PCIe GbE, SATA II, COM, USB 2.0 and audio, RoHS
AC-KIT-883HD-R10	7.1 channel HD Audio kit with Realtek ALC883 support dual audio streams
CB-USB14-RS	4 ports USB cable
32000-133200-RS	KB/MS Y cable
32200-000052-RS	ATA 66 flat cable
32102-000100-200-RS	SATA power cable
19800-000049-RS	LPT cable
2200-000017-RS	FDD cable
19FTS00032100-000001-RS	CPU Fan
TPM-IN01-R11	20-pin INFINEON TPM module, S/W management Tool, Firmware V3.17

PCISA-PV-D4251 N4551 D5251

Half-size PCISA CPU card with Intel® Atom™ D425/N455/D525, DDR3, VGA/LVDS, Dual PCIe GbE, USB 2.0, four COM, three SATA II, Audio and RoHS

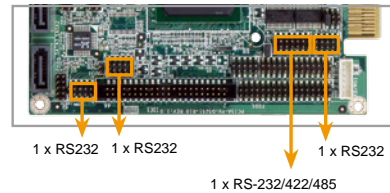


Solder Side



Four COM Ports Solution

(3 x RS-232, 1 x RS-232/422/485)



Specifications

- ◆ CPU
 - Intel® Atom™ D525 dual-core processor (1.80GHz/1MB L2 cache)
 - Intel® Atom™ D425 single-core processor (1.80GHz/512KB L2 cache)
 - Intel® Atom™ N455 single-core processor (1.66GHz/512KB L2 cache)
- ◆ Chipset
 - Intel® ICH8M
- ◆ BIOS
 - UEFI BIOS
- ◆ Memory
 - One 204-pin 800MHz DDR3 SDRAM SO-DIMM supported (System max. 2GB)
- ◆ Graphics Engine
 - GMA 3150
 - Gen3.5 DX9, 400MHz for D525/D425
 - Gen3.5 DX9, 200MHz for N455
- ◆ Display Interface
 - Analog CRT up to 2048x1536 for D525/ D425, 1400x1050 for N455
 - Support for CRT hot plug
 - 18-bit Single channel LVDS, resolution support up to WXGA 1366x768 or XGA 1024x768
- ◆ Ethernet
 - Dual PCIe GbE by Realtek RT8111E, LAN1 supports ASF2.0
- ◆ I/O Interface
 - 3 x RS-232 1 x RS232/422/485 with Auto Flow control
 - 1 x FDD 1 x LPT
 - 1 x KB/MS 1 x Infrared
 - 1 x CF Type II 3 x SATA II
 - 1 x IDE 6 x USB 2.0 (4 by pin-header, 2 on rear side)
- ◆ Audio
 - Realtek ALC888 HD codec
- ◆ SMBus
 - 1 x 4-pin wafer connector
- ◆ TPM (Optional)
 - On board INFINEON SLB9635TT1.2
- ◆ Expansion
 - 4 x PCI bus support
 - ISA bus support by ITE IT8888G PCI to ISA bridge
- ◆ Digital I/O
 - 8-bit digital I/O, 4-bit input / 4-bit output
- ◆ Super IO
 - Fintek F81865
- ◆ Watchdog Timer
 - Software programmable supports 1~255 sec. system reset
- ◆ Fan connector
 - 1 x 4-pin fan connector (smart fan)
- ◆ Power Supply
 - 5V/12V by PCISA bus, AT/ATX mode support
- ◆ Power Consumption
 - 12V@0.57A, 5V@3.36A (Intel® Atom™ D525 dual-core processor 1.80GHz with 1GB 1066 DDR3 memory)
- ◆ Temperature
 - 20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
 - 20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor
 - 20°C ~ 70°C with free air, -20°C ~ 75°C with force air for N455 processor
- ◆ Humidity
 - Operation: 5% ~ 95% non-condensing
- ◆ Weight
 - GW: 1000g / NW: 250g



One Key Recovery

Features

1. PCISA CPU card support PCI and ISA bus expansion
2. Support Intel® Atom™ D525/ D425 /N455 processor
3. Support VGA and 18-bit single channel LVDS with dual display
4. Support 800MHz DDR3 SDRAM SO-DIMM up to 2GB
5. Support four COM, six USB 2.0, three SATA II, IDE and CF type II
6. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Packing List

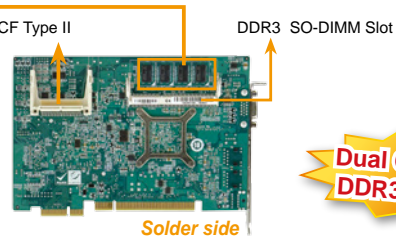
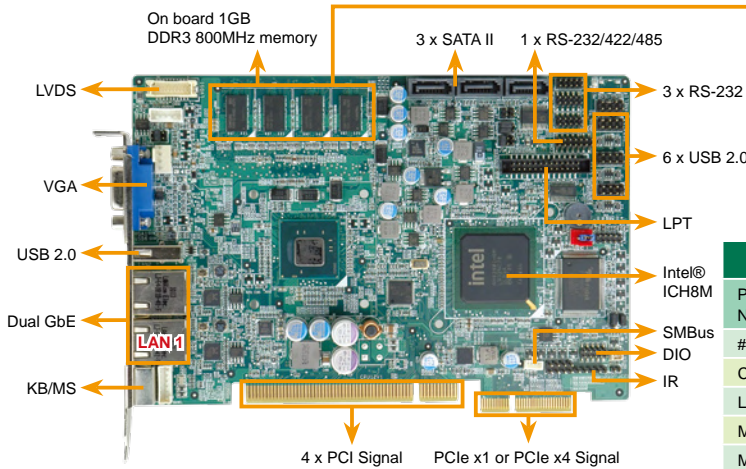
1 x PCISA-PV-D4251/N4551/D5251 single board computer	
1 x LPT/RS232 cable (P/N: 19800-000027-RS)	
3 x SATA cable (P/N: 32000-062800-RS)	
1 x USB cable (P/N: CB-USB02-RS)	1 x Mini jumper pack
1 x QIG	1 x Utility CD

Ordering Information

Part No.	Description
PCISA-PV-D5251-R10	Half-size PCISA CPU card with Intel® Dual Core Atom™ D525 1.80GHz/1MB L2 cache, VGA/LVDS, Dual PCIe GbE, USB 2.0, 4 COM, 3 SATA II and audio, RoHS
PCISA-PV-D5251T-R10	Half-size PCISA CPU card with Intel® Dual Core Atom™ D525 1.80GHz/1MB L2 cache, VGA/LVDS, Dual PCIe GbE, USB 2.0, 4 COM, 3 SATA II and audio, TPM, RoHS
PCISA-PV-D4251-R10	Half-size PCISA CPU card with Intel® Single Core Atom™ D425 1.80GHz/512KB L2 cache, VGA/LVDS, Dual PCIe GbE, USB 2.0, 4 COM, 3 SATA II and audio, RoHS
PCISA-PV-D4251T-R10	Half-size PCISA CPU card with Intel® Single Core Atom™ D425 1.80GHz/512KB L2 cache, VGA/LVDS, Dual PCIe GbE, USB 2.0, 4 COM, 3 SATA II and audio, TPM, RoHS
PCISA-PV-N4551-R10	Half-size PCISA CPU card with Intel® Single Core Atom™ N455 1.66GHz/512KB L2 cache, VGA/LVDS, Dual PCIe GbE, USB 2.0, 4 COM, 3 SATA II and audio, RoHS
PCISA-PV-N4551T-R10	Half-size PCISA CPU card with Intel® Single Core Atom™ N455 1.66GHz/512KB L2 cache, VGA/LVDS, Dual PCIe GbE, USB 2.0, 4 COM, 3 SATA II and audio, TPM, RoHS
19800-000075-RS	KB/MS cable with bracket
32200-000058-RS	FDD cable
32102-000100-200-RS	SATA power cable
32200-000052-RS	IDE cable
19800-000111-RS	Audio cable
19FTS00032100-000001-RS	CPU fan

PIC0e-PV-D4251 N4551 D5251

Half-size PCIe CPU Card with Intel® Atom™ D425/N455/D525, DDR3, 1 GB Memory on board, VGA/LVDS, Dual PCIe GbE, USB 2.0, SATA II, Audio and RoHS



Intel® Atom™ Comparison Table for PIC0e-PV SKUs				
Processor Name	Intel® Atom™ D525	Intel® Atom™ N455	Intel® Atom™ D425	Intel® Atom™ D510
# of Cores	2	1	1	2
Clock Speed	1.80 GHz	1.66 GHz	1.80 GHz	1.66 GHz
L2 Cache	1 MB	512 KB	512 KB	1 MB
Max TDP	13 W	6.5 W	10 W	13 W
Memory	DDR3 800MHz	DDR3 800MHz	DDR3 800MHz	DDR2 667/800

Specifications

- ◆ CPU
 - Intel® Atom™ Dual Core D525 Processor (1.80GHz with 1MB L2 cache)
 - Intel® Atom™ Single Core N455 Processor (1.66GHz with 512K L2 cache)
 - Intel® Atom™ Single Core D425 Processor (1.80GHz with 512K L2 cache)
- ◆ System Chipset ICH8M
- ◆ BIOS UEFI BIOS
- ◆ Memory
 - One 204-pin 800MHz DDR3 SDRAM SO-DIMM supported (System max. 2GB)
 - On-board 1 GB DDR3 800 MHz memory
- ◆ Graphic Engine
 - GMA 3150
 - Gen3.5 DX9, 400MHz for D525/D425
 - Gen3.5 DX9, 200MHz for N455
- ◆ Ethernet
 - Dual PCIe GbE by Realtek RT8111E, LAN1 supports ASF2.0
- ◆ Display Interface
 - Analog CRT up to 2048x1536 for D525/D425, 1400x1050 for N455
 - Support for CRT hot plug
 - Single Channel 18-bit LVDS support resolution up to XGA (1024x768) & WXGA (1366x768)
- ◆ I/O Interfaces
 - 3 x RS-232 1 x RS-232/422/485 with Auto Flow control
 - 1 x LPT 1 x PS/2 for KB/MS
 - 1 x CF Type II 1 x 6-pin wafer header for KB/MS
 - 3 x SATA II 7 x USB 2.0 (6 by header, 1 on rear side)
- ◆ Digital I/O
 - 8-bit digital I/O, 4-bit input / 4-bit output
- ◆ Super IO
 - Fintek F81865
- ◆ Infrared Interface
 - 1 x 5-pin header
- ◆ TPM (Optional)
 - On board INFINEON SLB9635TT1.2
- ◆ SMBus
 - 1 x 4-pin wafer connector
- ◆ FAN Connector
 - 1 x 4-pin fan connector
- ◆ Expansion
 - 4 x PCI
 - 4 x PCIe x1 or 1 x PCIe x4
- ◆ Audio
 - Support 7.1 channel HD audio by IEI AC-KIT883HD kit
- ◆ Watchdog Timer
 - Software programmable support 1~255 sec. system reset
- ◆ Power Consumption
 - 12V@0.54A, 5V@3.38A (Intel® Atom™ Dual Core D525 1.80GHz with 1GB DDR3 800MHz Memory on board)
- ◆ Power Supply
 - 5V/12V, AT/ATX support
- ◆ Temperature
 - 20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
 - 20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor
 - 20°C ~ 70°C with free air, -20°C ~ 75°C with force air for N455 processor
- ◆ Humidity
 - Operation: 5% ~ 95%, non-condensing
- ◆ Dimensions
 - 185 mm x 122 mm
- ◆ Weight
 - GW: 1000g / NW: 250g

On-board memory

Features

1. PCIe CPU card supports four PCIe x1 or one PCIe x4 and four PCI expansions
2. Intel® Atom™ D525/ D425/ N455 processor
3. 1GB of DDR3 800MHz SDRAM on board and one expansion SO-DIMM slot support
4. Support VGA and 18-bit single channel LVDS with dual display support
5. I/O include three RS-232, one RS-232/422/485, seven USB 2.0 and three SATA II
6. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Packing List

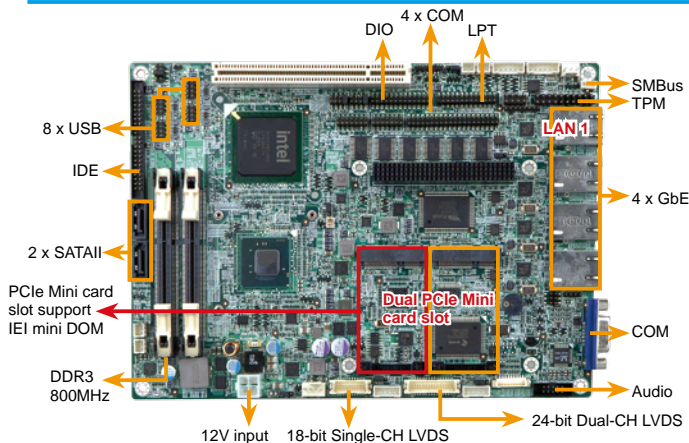
1 x PIC0e-PV-D4251/N4551/D5251 single board computer	
1 x Dual RS-232 cable (P/N:19800-000051-RS)	
3 x SATA cable (P/N:32000-0628000-RS)	
1 x KB/MS Y cable (P/N: 32000-133200-RS)	
1 x USB cable (P/N: CB-USB02-RS)	1 x Utility CD
1 x Mini jumper pack	1 x QIG

Ordering Information

Part No.	Description
PIC0e-PV-D5251-R10	Half-size PCIe CPU Card with Intel® Atom™ Dual Core D525 1.80GHz/1MB L2, 1GB Memory on board, VGA/LVDS, Dual PCIe GbE, USB 2.0, SATA II and audio, RoHS
PIC0e-PV-D5251T-R10	Half-size PCIe CPU Card with Intel® Atom™ Dual Core D525 1.80GHz/1MB L2, 1GB Memory on board, VGA/LVDS, Dual PCIe GbE, USB 2.0, SATA II and audio, TPM, RoHS
PIC0e-PV-N4551-R10	Half-size PCIe CPU Card with Intel® Atom™ Single Core N455 1.66GHz/512K L2, 1GB Memory on board, VGA/LVDS, Dual PCIe GbE, USB 2.0, SATA II and audio, RoHS
PIC0e-PV-N4551T-R10	Half-size PCIe CPU Card with Intel® Atom™ Single Core N455 1.66GHz/512K L2, 1GB Memory on board, VGA/LVDS, Dual PCIe GbE, USB 2.0, SATA II and audio, TPM, RoHS
PIC0e-PV-D4251-R10	Half-size PCIe CPU Card with Intel® Atom™ Single Core D425 1.80GHz/512K L2, 1GB Memory on board, VGA/LVDS, Dual PCIe GbE, USB 2.0, SATA II and audio, RoHS
PIC0e-PV-D4251T-R10	Half-size PCIe CPU Card with Intel® Atom™ Single Core D425 1.80GHz/512K L2, 1GB Memory on board, VGA/LVDS, Dual PCIe GbE, USB 2.0, SATA II and audio, TPM, RoHS
AC-KIT883HD-R10	7.1 channel HD Audio kit with Realtek ALC883 support dual audio streams
19800-000075-RS	KB/MS cable with bracket
32102-000100-200-RS	SATA power cable
32200-015100-RS	LPT cable
19FTS00032100-000001-RS	CPU fan

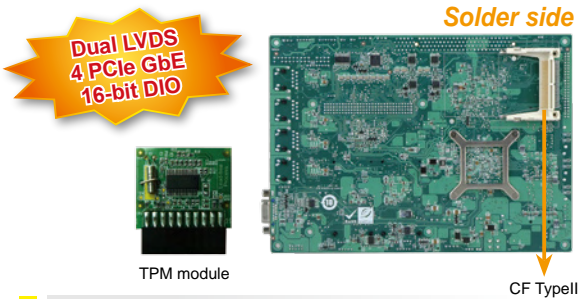
NOVA-PV-D4251 D5251

5.25" SBC, Intel® Atom™ D425/D525, DDR3, 18-bit+48-bit LVDS/ VGA, Dual PCIe Mini, Quad PCIe GbE, USB 2.0, SATA II, Audio, RoHS



Specifications

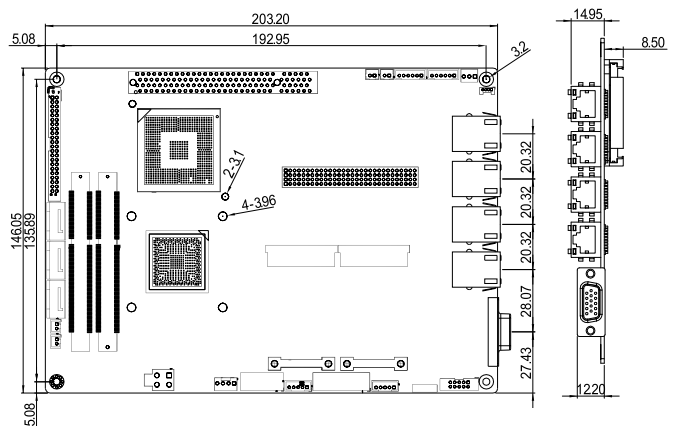
- ◆ CPU
Intel® Dual Core Atom™ D525 Processor 1.8GHz/1MB L2 cache
Intel® Single Core Atom™ D425 Processor 1.8GHz / 512KB L2 cache
- ◆ System Chipset
Intel® ICH8M
- ◆ BIOS
UEFI BIOS
- ◆ Memory
Two 204-pin 800MHz DDR3 SDRAM SO-DIMMs supported (System max. 4GB) for D525/D425
- ◆ Ethernet
Four PCIe Realtek RTL8111E GbE controller, LAN1 with ASF2.0 support
- ◆ Graphic
GMA 3150
Graphic core speed 400MHz for D525/ D425
- ◆ I/O Interface
4 x RS-232 2 x RS-232/422/485 with Auto Flow control
8 x USB2.0 2 x SATA II
1 x LPT 1 x IDE
1 x CF Type II 1 x 6-pin header for KB/MS
- ◆ Expansion
1 x PCI-104
2 x PCIe Mini card slot, one support IEI mini DOM
1 x PCI
- ◆ Digital I/O
16-bit digital I/O, 8-bit input / 8-bit output
- ◆ Infrared Interface
1x 5-pin Infrared Interface by pin header
- ◆ Super IO
Fintek F81865
- ◆ Display Interface
Analog CRT up to 2048x1536 for D525/ D425
Support for CRT hot plug
18-bit single-channel LVDS, resolution support up to WXGA 1366x768 or XGA 1024x768
24-bit dual-channel LVDS by Novatek 68667UFG, resolution support up to 1920x1080
- ◆ Audio
Realtek ALC 888 HD codec
- ◆ Watchdog Timer
Software programmable support 1~255 sec. system reset
- ◆ TPM
2 x 10-pin pinheader
- ◆ SMBus
1 x 4-pin wafer
- ◆ DC connector
1 x 4-pin CPU fan connector
1 x 3-pin system fan connector
2pcs 1 x 2-pin wafer for SATA power 5V connector
- ◆ Power Supply
12V only
- ◆ Power Consumption
12V@1.46A (Intel® Atom™ D525 1.8GHz with DDR3 1GB*2)
- ◆ Temperature
-20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
-20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor
- ◆ Humidity
Operation: 5% ~ 95%, non-condensing
- ◆ Dimensions
203 mm x 146 mm
- ◆ Weight
GW: 1000g / NW: 400g



Features

1. 5.25" SBC Support Intel® Atom™ D525 / D425 processor
2. DDR3 800/1066 MHz supports up to 4GB
3. VGA/ 18-bit single-channel/ 24-bit dual-channel LVDS for dual independent display support
4. Quad PCIe Ethernet, three SATA II, and six RS-232 serial port connectors
5. TPM V1.2 hardware security function support by TPM module
6. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Dimensions (mm)



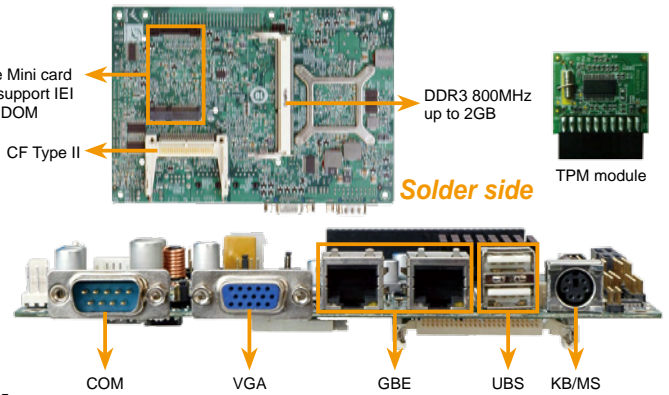
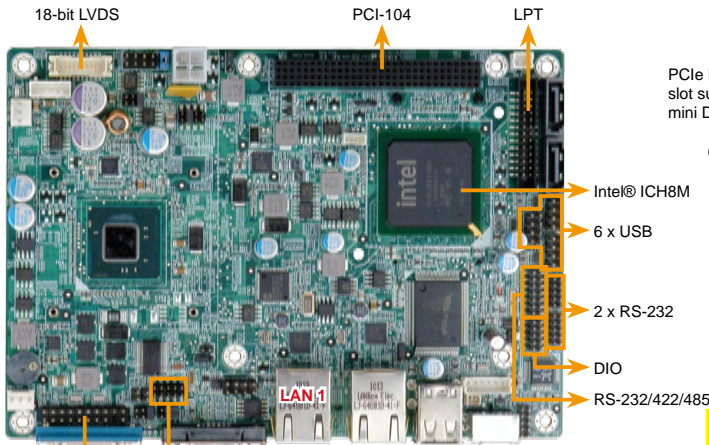
Packing List

1 x NOVA-PV-D4251/D5251 single board computer	
1 x KB/MS Y cable (P/N: 32000-023800-RS)	
1 x VGA cable (P/N: 32000-033804-RS)	
1 x Audio cable (P/N: 32000-072100-RS)	
1 x Quad RS-232 cable (PN: 32200-025401-RS)	
1 x SATA with Power cable kit (P/N: 32801-000201-100-RS)	
1 x USB cable (PN: 32000-070301-RS)	1 x Mini jumper pack
1 x QIG	1 x Utility CD

Ordering Information

Part No.	Description
NOVA-PV-D5251-G4-R10	5.25" SBC, Intel® Dual Core Atom™ D525 1.8GHz, DDR3, 18 bits LVDS/ VGA, Dual PCIe Mini, Quad PCIe GbE, USB2.0, SATAII, audio, RoHS
NOVA-PV-D4251-G2L2-R10	5.25" SBC, Intel® Dual Core Atom™ D425 1.8GHz, DDR3, 18+48-bits LVDS/ VGA, Dual PCIe Mini, Dual PCIe GbE, USB2.0, SATAII, audio, RoHS
NOVA-PV-D5251-G2L2-R10	5.25" SBC, Intel® Dual Core Atom™ D525 1.8GHz, DDR3, 18+48 bits LVDS/ VGA, Dual PCIe Mini, Dual PCIe GbE, USB2.0, SATAII, audio, RoHS
32200-000009-RS	44 pin 2.5" IDE cable
32200-015100-RS	LPT cable
32205-000300-100-RS	RS-232/422/485 cable
19FTS00032100-000001-RS	CPU fan
TPM-IN01-R11	20-pin INFINEON TPM Module, S/W management Tool, Firmware V3.17

epic NANO-PV-D4251 N4551 D5251 EPIC with Intel® Atom™ D425 / N455 / D525, DDR3, VGA/LVDS, Dual GbE, USB 2.0, CF II, Audio and SATA II, RoHS



Features

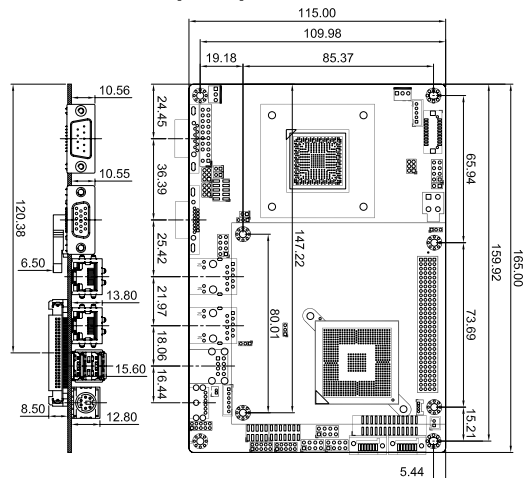
1. EPIC SBC with Intel® Atom™ D525 / D425 / N455 processor
2. DDR3 800MHz SDRAM support up to 2GB max.
3. Support VGA and 18-bit single-channel LVDS with Dual display
4. Support PCI-104, PCIe Mini card slot
5. Support five COM, eight USB, two SATA II and CF Type II socket
6. TPM V1.2 hardware security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

Specifications

- ◆ CPU
 - Intel® Atom™ D525 dual-core processor 1.8GHz/1MB L2 cache
 - Intel® Atom™ D425 single-core processor 1.8GHz/512KB L2 cache
 - Intel® Atom™ N455 single-core processor 1.66GHz/512KB L2 cache
- ◆ Chipset
 - Intel® ICH8M
- ◆ BIOS
 - UEFI BIOS
- ◆ Memory
 - One 204-pin 800MHz DDR3 SDRAM SO-DIMM supported (System max. 2GB)
- ◆ Graphic
 - GMA 3150
 - Graphic core speed 400MHz for D525/ D425
 - Graphic core speed 200MHz for N455
- ◆ Display Out
 - Analog CRT up to 2048x1536 for D525/ D425, 1400x1050 for N455
 - Support for CRT hot plug
 - 18-bit single-channel LVDS, resolution support up to WXGA 1366x768 or XGA 1024x768
- ◆ Super IO
 - Fintek F81865
- ◆ LAN
 - Dual PCIe GbE by Realtek RT8111E, LAN1 with support ASF2.0
- ◆ I/O Interface

4 x RS-232	1 x RS232/422/485 (COM3) with Auto Flow control
1 x LPT	8 x USB 2.0
2 x KB/MS	1 x CF Type II socket 2 x SATA II
- ◆ Audio
 - Realtek ALC888 HD codec
- ◆ Expansion
 - 1 x PCI-104 slot
 - 1 x PCIe Mini card slot (PCIe + USB + SATA signal) support IEI mini DOM
- ◆ SMBus
 - 1 x 4-pin wafer connector
- ◆ TPM
 - 1 x 20-pin LPC pin header
- ◆ Watchdog Timer
 - Software programmable supports 1~255 sec. system reset by Super I/O
- ◆ Digital I/O
 - 8-bit digital I/O, 4-bit input / 4-bit output
- ◆ FAN Connector
 - 1 x 3-pin CPU fan, 1 x 3-pin system fan
- ◆ Power Supply
 - 12V only, AT/ATX support
- ◆ Power Consumption
 - 12V@2.21A (Intel® Atom™ D525 1.8GHz with DDR3 1GB)
- ◆ Temperature
 - 20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
 - 20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor
 - 20°C ~ 70°C with free air, -20°C ~ 75°C with force air for N455 processor
- ◆ Humidity
 - Operation: 5% ~ 95% non-condensing
- ◆ Weight
 - GW: 670g / NW: 350g

Dimensions (mm)



Packing List

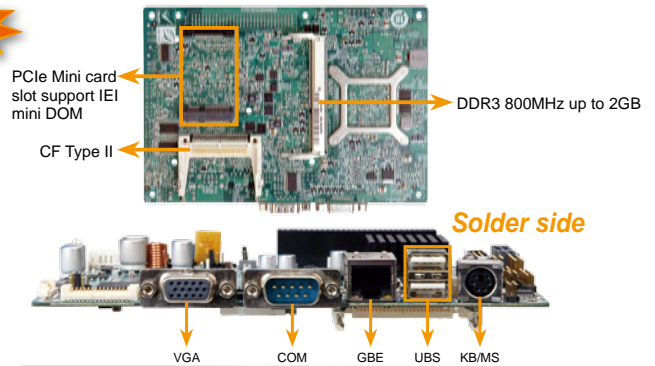
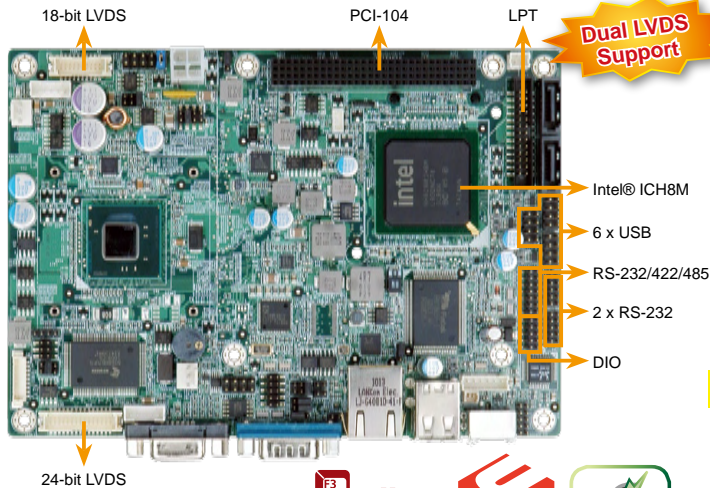
1 x NANO-PV-D4251/N4551/D5251 single board computer	
2 x RS-232 cable (P/N: 32200-000049-RS)	
1 x SATA with 5V output cable (P/N: 32801000201-100-RS)	
1 x KB/MS Y cable (P/N: 32000-133200-RS)	
1 x USB cable (P/N: 32000-044300-RS)	1 x Power cable (P/N: 32100-087100-RS)
1 x Audio cable (P/N: 32000-072100-RS)	1 x Mini jumper pack
1 x QIG (Quick installation guide)	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 II, audio and SATA II, RoHS
NANO-PV-D4251-R10	EPIC with Intel® Atom™ D425 1.8GHz, DDR3, VGA/LVDS, Dual GbE, USB 2.0, CF II, audio and SATA II, RoHS
NANO-PV-N4551-R10	EPIC with Intel® Atom™ N455 1.66GHz, DDR3, VGA/LVDS, Dual GbE, USB 2.0, CF II, audio and SATA II, RoHS
32200-015100-RS	LPT cable
32000-062800-RS	SATA cable
32205-000300-100-RS	RS-232/422/485 cable
19FTS00032100-000001-RS	CPU fan
TPM-IN01-R11	20-pin INFINEON TPM Module, S/W management Tool, Firmware V3.17

epic NANO-PV-D4252 N4552 D5252

EPIC SBC with Intel® Atom™ D425/N455/D525, DDR3, VGA/ Dual LVDS, PCIe GbE, CF Type II, SATA II



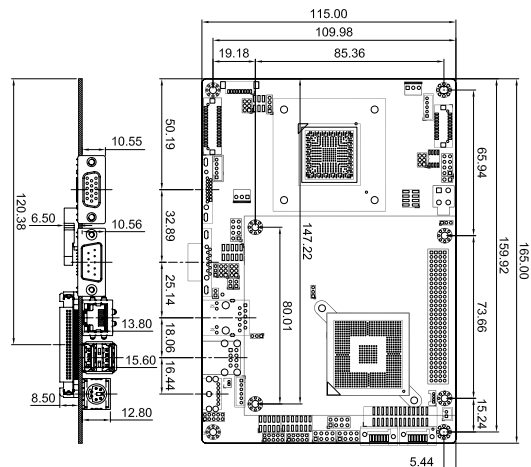
Specifications

- ◆ CPU
Intel® Atom™ D525 dual-core processor 1.8GHz/1MB L2 cache
Intel® Atom™ D425 single-core processor 1.8GHz/512KB L2 cache
Intel® Atom™ N455 single-core processor 1.66GHz/512KB L2 cache
- ◆ Chipset
Intel® ICH8M
- ◆ BIOS
UEFI BIOS
- ◆ Memory
One 204-pin 800MHz DDR3 SDRAM SO-DIMM supported (System max. 2GB)
- ◆ Graphic
GMA 3150
Graphic core speed 400MHz for D525/ D425
Graphic core speed 200MHz for N455
- ◆ Display Out
Analog CRT up to 2048x1536, support for CRT hot plug
18-bit single-channel LVDS, resolution support up to 1366x768
18/24-bit single/dual-channel LVDS by Novatek NT68667UFG resolution support up to 800x600, 1024x768, 1280x1024, 1366 x768, 1920x1080
- ◆ LAN
Realtek RTL8111E PCIe GbE controller with ASF2.0 support
- ◆ Super IO
Fintek F81865
- ◆ I/O Interface
4 x RS-232 1 x RS232/422/485 (COM3) with Auto Flow control
1 x LPT 2 x KB/MS
1 x CF Type II 2 x SATA II
8 x USB 2.0
- ◆ Audio
Realtek ALC888 HD codec
- ◆ Expansion
1 x PCI-104 slot
1 x PCIe Mini card slot (PCIe + USB + SATA signal) support IEL mini DOM
- ◆ TPM (Optional)
On board INFINEON SLB9635TT1.2
- ◆ Watchdog Timer
Software programmable supports 1~255 sec. system reset by Super I/O
- ◆ Digital I/O
8-bit digital I/O, 4-bit input / 4-bit output
- ◆ FAN Connector
1 x 3-pin CPU fan
1 x 3-pin system fan
- ◆ Power supply
12V only, AT/ATX support
- ◆ Power Consumption
12V@2.16A (Intel® Atom™ D525 1.8GHz with DDR3 1GB)
- ◆ Temperature
-20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
-20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor
-20°C ~ 70°C with free air, -20°C ~ 75°C with force air for N455 processor
- ◆ Humidity
Operation: 5% ~ 95% non-condensing
- ◆ Weight
GW: 650g / NW: 340g

Features

1. EPIC SBC with Intel® Atom™ D525 / D425 / N455 processor and DDR3 solution
2. 12V only Single Voltage design for AT/ATX mode
3. Support dual LVDS
4. Support PCI-104, PCIe Mini card slot
5. Support five COM, two SATA II and CF Type II socket
6. IEL One Key Recovery solution allows you to create rapid OS backup and recovery

Dimensions (mm)



Packing List

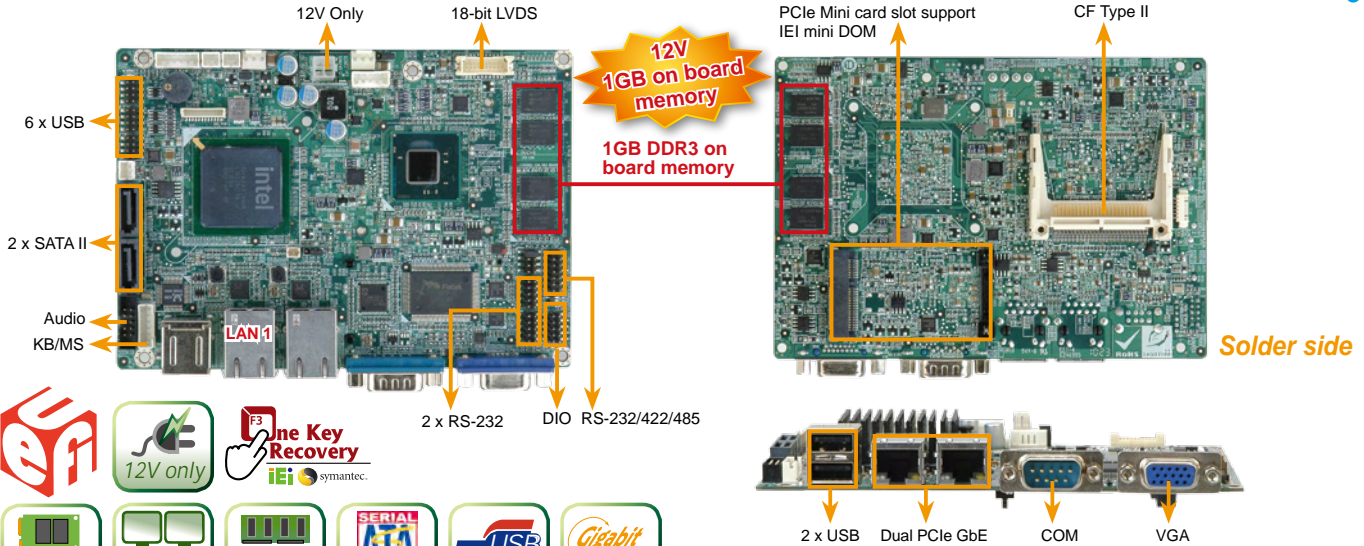
1 x NANO-PV-D4252/N4552/D5252 single board computer	
2 x RS-232 cable (P/N: 32200-000049-RS)	
1 x SATA with 5V output cable (P/N: 32801000201-100-RS)	
1 x KB/MS Y cable (P/N: 32000-133200-RS)	
1 x Power cable (P/N: 32100-087100-RS)	1 x USB cable (P/N: 32000-044300-RS)
1 x Audio cable (P/N: 32000-072100-RS)	1 x Mini jumper pack
1 x QIG (Quick installation guide)	1 x Utility CD

Ordering Information

Part No.	Description
NANO-PV-D5252-R10	EPIC SBC with Intel® Atom™ D525 1.8GHz/1MB L2, VGA/Dual LVDS, PCIe GbE, CF type II, SATA II
NANO-PV-D5252-T-R10	EPIC SBC with Intel® Atom™ D525 1.8GHz/1MB L2, VGA/Dual LVDS, PCIe GbE, CF type II, SATA II, TPM
NANO-PV-D4252-R10	EPIC SBC with Intel® Atom™ D425 1.8GHz/512KB L2, VGA/Dual LVDS, PCIe GbE, CF type II, SATA II
NANO-PV-D4252-T-R10	EPIC SBC with Intel® Atom™ D425 1.8GHz/512KB L2, VGA/Dual LVDS, PCIe GbE, CF type II, SATA II, TPM
NANO-PV-N4552-R10	EPIC SBC with Intel® Atom™ N455 1.66GHz/512KB L2, VGA/Dual LVDS, PCIe GbE, CF type II, SATA II
NANO-PV-N4552-T-R10	EPIC SBC with Intel® Atom™ N455 1.66GHz/512KB L2, VGA/Dual LVDS, PCIe GbE, CF type II, SATA II, TPM
32200-015100-RS	LPT cable
32000-062800-RS	SATA cable
32205-000300-100-RS	RS-232/422/485 cable
19FTS00032100-000001-RS	CPU fan

WAFER-PV-D4251 N4551 D5251

3.5" SBC with Intel® Atom™ D425/N455/D525, DDR3 1GB Memory on board, VGA/LVDS, Dual GbE, USB 2.0 and SATA II, Audio, RoHS



Specifications

- ◆ CPU
 - Intel® Atom™ D525 dual-core processor 1.8GHz/1MB L2 cache
 - Intel® Atom™ D425 single-core processor 1.8GHz/512KB L2 cache
 - Intel® Atom™ N455 single-core processor 1.66GHz/512KB L2 cache
- ◆ Chipset ICH8M
- ◆ BIOS UEFI BIOS
- ◆ Memory On board DDR3 800MHz 1GB SDRAM
- ◆ Graphic GMA 3150
 - Graphic core speed 400MHz for D525/ D425
 - Graphic core speed 200MHz for N455
- ◆ Display Interface
 - Analog CRT up to 2048x1536 for D525/ D425, 1400x1050 for N455
 - Support for CRT hot plug
 - Single-channel 18-bit LVDS, resolution support up to WXGA 1366x768 or XGA 1024x768
- ◆ Ethernet Dual GbE by Realtek RTL8111E, LAN1 with ASF2.0 support
- ◆ I/O Interfaces
 - 3 x RS-232 1 x RS-232/422/485 with Auto Flow control
 - 1 x KB/MS 2 x SATA II
 - 8 x USB 2.0 1 x CF Type II
- ◆ Digital I/O 8-bit digital I/O, 4-bit input / 4-bit output
- ◆ Expansion 1 x PCIe Mini card slot (PCIe + USB + SATA signal) support IEL mini DOM
- ◆ Audio Realtek ALC888 HD codec
- ◆ Watchdog Timer Software programmable support 1~255 sec. system reset by Super I/O
- ◆ Power Supply 12V input only AT/ATX mode select 2x2 pin power connector
- ◆ Super IO Fintek F81865
- ◆ FAN Connector 1 x 3-pin CPU fan 1 x 3-pin system fan
- ◆ Power Consumption 12V@1.68A (Intel® Atom™ D525 1.8GHz with DDR3 1GB)
- ◆ Temperature
 - 20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
 - 20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor
 - 20°C ~ 70°C with free air, -20°C ~ 75°C with force air for N455 processor
- ◆ Humidity Operation: 5% ~ 95%, non-condensing
- ◆ Dimensions 146 mm x 102 mm
- ◆ Weight GW: 650g / NW: 170g

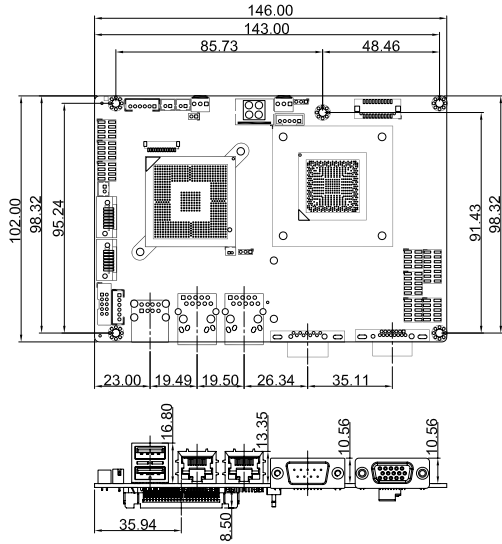
Packing List

1 x WAFER-PV-D4251/N4551/D5251 single board computer	
1 x Power cable (P/N: 32100-087100-RS)	
1 x KB/MS cable (P/N: 32000-023800-RS)	
1 x SATA with 5V output cable Kit (P/N:32801-000201-100-RS)	
1 x Audio cable (P/N: 32000-072100-RS)	1 x Mini jumper pack
1 x QIG	1 x Utility CD

Features

1. 3.5" form factor with Intel® Atom™ D525 / D425 /N455 processor support DDR3 memory
2. 12V only Single Voltage design for AT/ATX power
3. On board DDR3 800 MHz 1GB SDRAM
4. Support VGA and 18-bit single-channel LVDS with dual-display support
5. Complete I/O with eight USB, two SATA II, one CF II, four COM and audio
6. IEL One Key Recovery solution allows you to create rapid OS backup and recovery

Dimensions (mm)

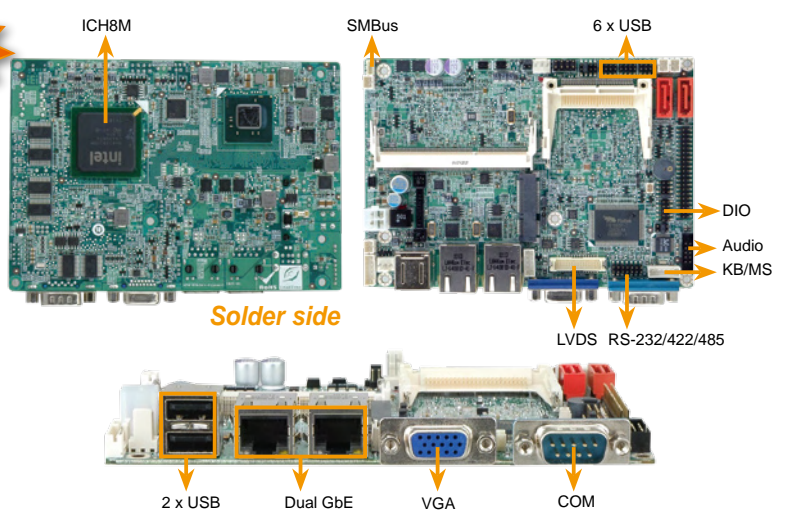
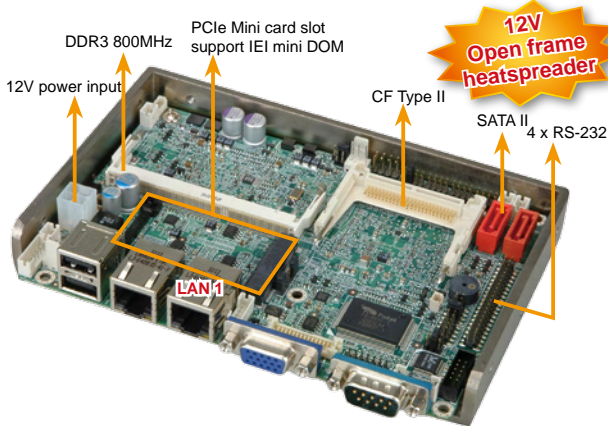


Ordering Information

Part No.	Description
WAFER-PV-D5251-R10	3.5" SBC with Intel® Atom™ D525 1.8GHz, DDR3 1GB Memory on board, VGA/LVDS, Dual GbE, USB2.0 and SATA II, audio, RoHS
WAFER-PV-D4251-R10	3.5" SBC with Intel® Atom™ D425 1.8GHz, DDR3 1GB Memory on board, VGA/LVDS, Dual GbE, USB2.0 and SATA II, audio, RoHS
WAFER-PV-N4551-R10	3.5" SBC with Intel® Atom™ N455 1.66GHz, DDR3 1GB Memory on board, VGA/LVDS, Dual GbE, USB2.0 and SATA II, audio, RoHS
32000-070301-RS	Dual Port USB cable
32000-062800-RS	SATA cable
32205-000300-100-RS	RS-232/422/485 cable
19FTS00032100-000001-RS	CPU fan

WAFER-PV-D4252 N4552 D5252

3.5" SBC with Intel® Atom™ D425/N455/D525, DDR3, VGA/LVDS, Dual GbE, USB 2.0 and SATA II, Audio, RoHS



Specifications

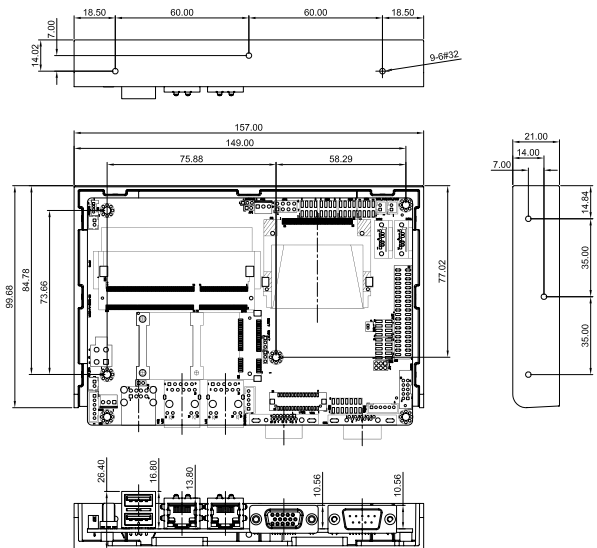
- ◆ CPU
 - Intel® Atom™ D525 dual-core processor 1.8GHz / 1MB L2 cache
 - Intel® Atom™ D425 single-core processor 1.8GHz / 512KB L2 cache
 - Intel® Atom™ N455 single-core processor 1.66GHz / 512KB L2 cache
- ◆ Chipset
 - Intel® ICH8M
- ◆ BIOS
 - UEFI BIOS
- ◆ Memory
 - One 204-pin 800MHz DDR3 SDRAM SO-DIMM supported (System max. 2GB)
- ◆ Graphic
 - GMA 3150
 - Graphic core speed 400MHz for D525/ D425
 - Graphic core speed 200MHz for N455
- ◆ Display Interface
 - Analog CRT up to 2048x1536 for D525/ D425, 1400x1050 for N455
 - Support for CRT hot plug
 - Single-channel 18-bit LVDS
- ◆ Ethernet
 - Dual GbE by Realtek RTL8111E, LAN1 with ASF2.0 support
- ◆ I/O Interfaces
 - 5 x RS-232 1 x RS-232/422/485 with Auto Flow control
 - 1 x KB/MS 2 x SATA II
 - 8 x USB 2.0 1 x CF Type II
- ◆ Digital I/O
 - 8-bit digital I/O, 4-bit input / 4-bit output
- ◆ Expansion
 - 1 x PCIe Mini card slot (PCIe + USB + SATA signal) support IEI mini DOM
- ◆ Audio
 - Realtek ALC888 HD Codec
- ◆ Watchdog Timer
 - Software programmable support 1~255 sec. system reset by Super I/O
- ◆ Power Supply
 - 12V only, AT/ATX support
- ◆ Super IO
 - Fintek F81865F
- ◆ FAN Connector
 - 1 x 3-pin CPU fan
 - 1 x 3-pin system fan
- ◆ SMBus
 - 1 x 4-pin wafer connetor
- ◆ Power Consumption
 - 12V@1.79A (Intel® Atom™ D525 1.8GHz with DDR3 1GB)
- ◆ Temperature
 - 20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
 - 20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor
 - 20°C ~ 70°C with free air, -20°C ~ 75°C with force air for N455 processor
- ◆ Humidity
 - Operation: 5% ~ 95%, non-condensing
- ◆ Weight
 - GW: 600g / NW: 250g



Features

1. 3.5" form factor with Intel® Atom™ D525 / D425 / N455 processor support DDR3 memory
2. 12V only Single Voltage design for AT/ATX Power
3. Open frame heatsink thermal design for fanless solution
4. Support VGA and 18-bit single-channel LVDS with dual-display support
5. Complete I/O with eight USB, two SATA II, one CF II, six COM and audio
6. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Dimensions (mm)



Ordering Information

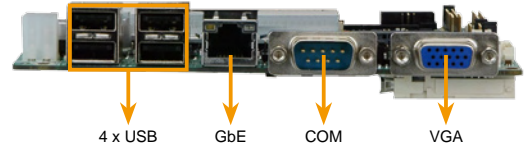
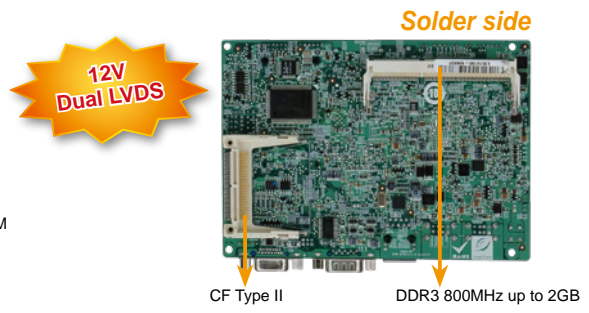
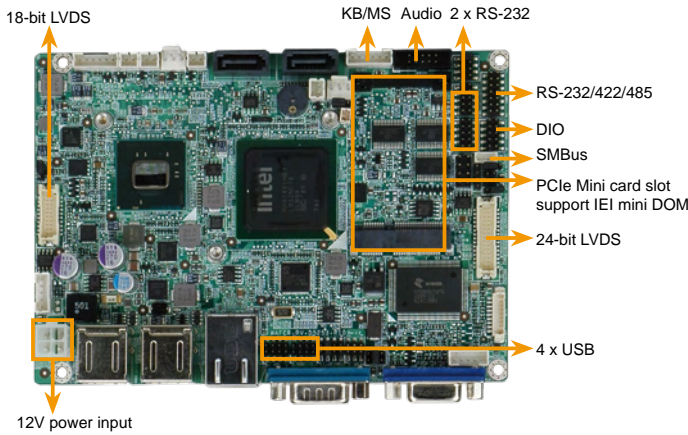
Part No.	Description
WAFER-PV-D5252-R10	3.5" SBC with Intel® Atom™ D525 1.8GHz, DDR3, VGA/LVDS, Dual GbE, USB2.0 and SATA II, audio, RoHS
WAFER-PV-D4252-R10	3.5" SBC with Intel® Atom™ D425 1.8GHz, DDR3, VGA/LVDS, Dual GbE, USB2.0 and SATA II, audio, RoHS
WAFER-PV-N4552-R10	3.5" SBC with Intel® Atom™ N455 1.66GHz, DDR3, VGA/LVDS, Dual GbE, USB2.0 and SATA II, audio, RoHS
32000-070301-RS	Dual port USB cable
32205-000300-100-RS	RS-232/RS422/485 cable

Packing List

1 x WAFER-PV-D4252/N4552/D5252 single board computer	
1 x KB/MS cable (P/N: 32000-023800-RS)	
1 x Audio cable (P/N: 32000-072100-RS)	
1 x SATA with 5V output cable Kit (P/N: 32801-000201-100-RS)	
1 x Quad RS-232 cable (P/N: 32200-025401-RS)	
1 x Power cable (P/N: 32100-087100-RS)	
1 x Enclosure heatsink	1 x Mini jumper pack
1 x QIG	1 x Utility CD

WAFER-PV-D4253 N4553 D5253

3.5" SBC with Intel® Atom™ D425/N455/D525, DDR3, VGA/18-bit+48-bit LVDS, GbE, USB 2.0 and SATA II, Audio, RoHS



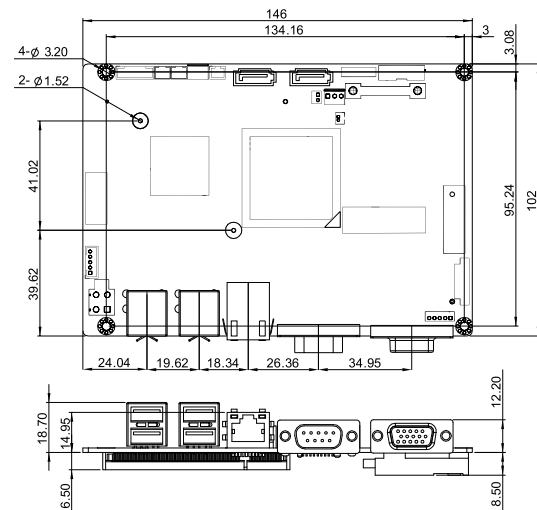
Specifications

- ◆ CPU
 - Intel® Atom™ D525 dual-core processor 1.8GHz / 1MB L2 cache
 - Intel® Atom™ D425 single-core processor 1.8GHz / 512KB L2 cache
 - Intel® Atom™ N455 single-core processor 1.66GHz / 512KB L2 cache
- ◆ Chipset
 - Intel® ICH8M
- ◆ BIOS
 - UEFI BIOS
- ◆ Memory
 - One 204-pin 800MHz DDR3 SDRAM SO-DIMM supported (System max. 2GB)
- ◆ Graphic
 - GMA 3150
 - Graphic core speed 400MHz for D525/ D425
 - Graphic core speed 200MHz for N455
- ◆ Display Interface
 - Analog CRT up to 2048x1536 for D525 / D425, 1400 x 1050 for N455
 - Support for CRT hot plug
 - Dual-channel 24-bit LVDS by scaler chip Novatek 68667UFG, resolution support up to 1920x1080
 - Single-channel 18-bit LVDS, resolution support up to WXGA 1366x768 or XGA 1024x768
- ◆ Ethernet
 - Single GbE by Realtek RTL8111E with ASF2.0 support
- ◆ I/O Interfaces
 - 3 x RS-232 1 x RS-232/422/485 with Auto Flow control
 - 1 x KB/MS 2 x SATA II
 - 8 x USB 2.0 1 x CF Type II
- ◆ Digital I/O
 - 8-bit digital I/O, 4-bit input / 4-bit output
- ◆ Expansion
 - 1 x PCIe Mini card slot (PCIe + USB + SATA signal) support IEI mini DOM
- ◆ Audio
 - Realtek ALC888 HD Codec
- ◆ Watchdog Timer
 - Software programmable support 1~255 sec. system reset by Super I/O
- ◆ Power Supply
 - 12V only, AT/ATX support
- ◆ Super IO
 - Fintek F81865
- ◆ FAN Connector
 - 1 x 3-pin CPU fan
 - 1 x 3-pin system fan
- ◆ SMBus
 - 1 x 4-pin wafer connector
- ◆ Power Consumption
 - 12V@1.66A (Intel® Atom™ D525 1.8GHz with DDR3 1GB)
- ◆ Temperature
 - 20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
 - 20°C ~ 65°C with free air, -20°C ~ 70°C with force air for D425 processor
 - 20°C ~ 70°C with free air, -20°C ~ 75°C with force air for N455 processor
- ◆ Humidity
 - Operation: 5% ~ 95%, non-condensing
- ◆ Weight
 - GW: 600g / NW: 180g

Features

1. 3.5" form factor with Intel® Atom™ D525 / D425 / N455 processor
2. 12V only single voltage design for AT/ATX power
3. Support 24-bit dual-channel LVDS resolution up to 1920x1080
4. Complete I/O with eight USB, two SATA II, one CF II, four COM and audio
5. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Dimensions (mm)



Ordering Information

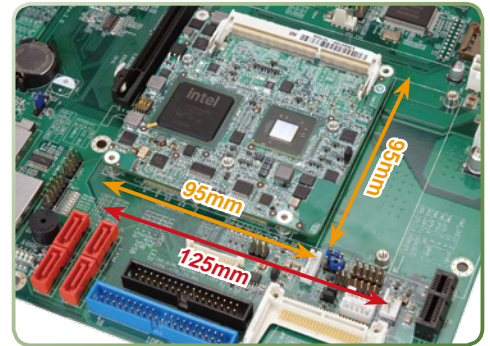
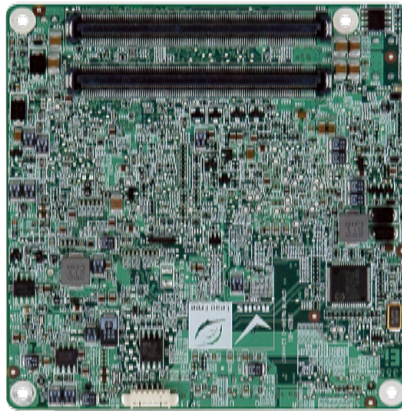
Part No.	Description
WAFER-PV-D5253-R10	3.5" SBC with Intel® Atom™ D525 1.8GHz, DDR3, VGA/18-bit + 48-bit LVDS, GbE, USB 2.0 and SATA II, audio, RoHS
WAFER-PV-D4253-R10	3.5" SBC with Intel® Atom™ D425 1.8GHz, DDR3, VGA/18-bit + 48-bit LVDS, GbE, USB 2.0 and SATA II, audio, RoHS
WAFER-PV-N4553-R10	3.5" SBC with Intel® Atom™ N455 1.66GHz, DDR3, VGA/18-bit + 48-bit LVDS, GbE, USB 2.0 and SATA II, audio, RoHS
32000-070301-RS	Dual Port USB cable
32000-0628000-RS	SATA cable
32205-000300-100-RS	RS-232/RS422/485 cable

Packing List

1 x WAFER-PV-D4253/N4553/D5253 single board computer	
1 x Power cable (P/N: 32100-087100-RS)	
1 x KB/MS cable (P/N: 32000-023800-RS)	
1 x SATA with 5V output cable Kit (P/N:32801-000201-100-RS)	
1 x Audio cable (P/N: 32000-072100-RS)	1 x Mini jumper pack
1 x Utility CD	1 x QIG

ICE-PV-N4551 D5251

COM Express Basic Type 2 Module, Intel® Atom™ N455/D525 Processor, DDR3, VGA/LVDS, GbE, SATA, USB and Audio, RoHS



The compact CPU module (95x95mm) is backward compatible with IEI carrier board ICE-DB-9S-R10

One Key Recovery



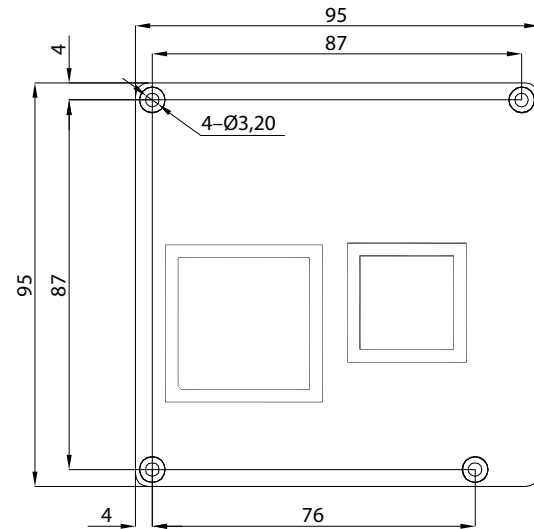
Specifications

- ◆ CPU
 - Intel® Atom™ N455 single-core processor 1.66GHz / 512KB L2 cache
 - Intel® Atom™ D525 dual-core processor 1.8GHz/1MB L2 cache
- ◆ System Chipset
 - Intel® ICH8M
- ◆ BIOS
 - UEFI BIOS
- ◆ Memory
 - One 204-pin 800MHz DDR3 SDRAM SO-DIMM supported (System max. 2GB)
- ◆ GMA
 - GMA 3150
 - Graphic core speed 400MHz for D525
 - Graphic core speed 200MHz for N455
- ◆ Display Interface
 - Analog CRT(VGA) Integrated in Intel® N455/D525 (Signal to base board)
 - 18-bit single-channel LVDS signal (To base board)
- ◆ Ethernet
 - Intel® 82567V Gbe Ethernet PHY
- ◆ I/O Interface
 - 1 x IDE channel (Signal to base board)
 - 3 x SATA II (to base board)
 - 8 x USB 2.0 (to base board)
- ◆ Expansions
 - 4 x PCIe x1 signal to base board
 - 4 x PCI, 32-bit / 33MHz PCI bus to Base base board
- ◆ Watchdog Timer
 - Software programmable support 1~255 sec. system reset by F75111R
- ◆ Power Supply
 - 12V only, AT/ATX mode support
- ◆ Power Consumption
 - 12V@1.25A (Intel® Atom™ D525 1.8GHz with DDR3 1GB)
- ◆ Temperature
 - 20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
 - 20°C ~ 70°C with free air, -20°C ~ 75°C with force air for N455 processor
- ◆ Humidity
 - Operation: 5% ~ 95%, non-condensing
- ◆ Dimensions
 - 95mm x 95mm
- ◆ Weight
 - GW: 600g / NW:200g

Features

1. COM Express Type 2 basic module with compact size 95x95mm
2. Intel® Atom™ N455/D525 processor support
3. DDR3 800MHz SO-DIMM socket support up to 2GB
4. Support eight USB 2.0, three SATA II and one IDE
5. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

Dimensions (mm)



Packing List

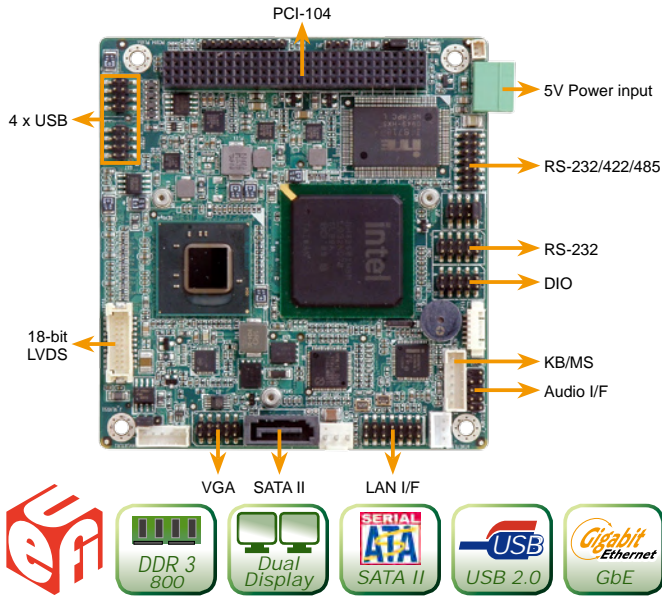
1 x ICE-PV-N4551/D5251 single board computer	
1 x Heat spreader	
1 x QIG (Quick installation guide)	1 x Utility CD

Ordering Information

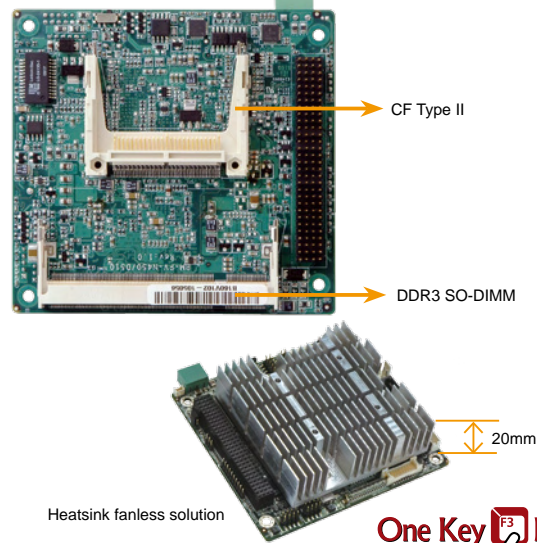
Part No.	Description
ICE-PV-D5251-R10	COM Express Basic Type 2 Module, Intel® Atom™ D525 Processor, DDR3, VGA/LVDS, GbE, SATA, USB and audio, RoHS
ICE-PV-N4551-R10	COM Express Basic Type 2 Module, Intel® Atom™ N455 Processor, DDR3, VGA/LVDS, GbE, SATA, USB and audio, RoHS
ICE-DB-9S-R10	Base board for COM Express Type II modules

PM-PV-N4551 D5251

PC/104 SBC with Intel® Atom™ N455/D525, DDR3, VGA/LVDS, GbE, USB 2.0, SATA II and CF II, RoHS



Solder Side



Specifications

- ◆ CPU
Intel® Atom™ N455 single-core processor 1.66GHz / 512KB L2 cache
Intel® Atom™ D525 dual-core processor 1.8GHz/1MB L2 cache
- ◆ Chipset
Intel® ICH8M
- ◆ BIOS
UEFI BIOS
- ◆ Memory
One 204-pin 800MHz DDR3 SDRAM SO-DIMM supported (System max. 2GB)
- ◆ Graphic
GMA 3150
Graphic core speed 400MHz for D525
Graphic core speed 200MHz for N455
- ◆ Display interface
Analog CRT up to 2048x1536 for D525, 1400x1050 for N455
Support for CRT hot plug
Single Channel 18-bit LVDS, resolution support up to WXGA 1366x768 or XGA 1024x768
- ◆ Ethernet
Intel® 82567V GbE Ethernet PHY
- ◆ I/O Interface
4 x USB 2.0 1 x SATA II
1 x RS-232 1 x RS-232/422/485
1 x KB/MS 1 x CF card slot
- ◆ Digital I/O
8-bit digital I/O, 4-bit input / 4-bit output
- ◆ Expansion
1 x PCI-104 Slot
- ◆ Audio
7.1 channel HD audio kit with Realtek ALC883 codec supports dual audio streams
- ◆ Watchdog Timer
Software programmable support 1~255 sec. system reset by Super I/O
- ◆ Power Supply
5V power input, AT/ATX support
- ◆ Super I/O
ITE IT8718F
- ◆ Power Consumption
5V@3.31A, 12V@0.09A, 5Vsb@0.03A (Intel® Atom™ D525 1.8GHz with DDR3 1GB)
- ◆ Temperature
-20°C ~ 60°C with free air, -20°C ~ 70°C with force air for D525 processor
-20°C ~ 70°C with free air, -20°C ~ 75°C with force air for N455 processor
- ◆ Humidity
Operation: 5% ~ 95% non-condensing
- ◆ Dimensions
96mm x 90mm

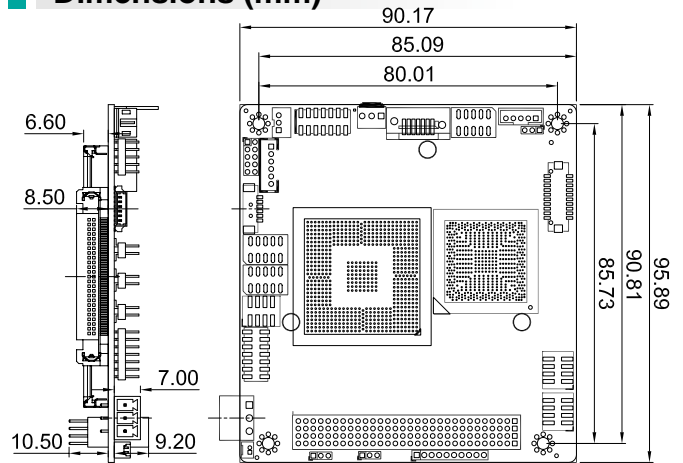
Packing List

1 x PM-PV-N4551/D5251 single board computer	
1 x PS/2 KB/MS cable (P/N: 32000-023800-RS)	
1 x Dual ports USB cable (P/N: 32000-070301-RS)	
1 x VGA cable (P/N: 32000-033804-RS)	1 x LAN cable (P/N: 32013-000400-100-RS)
1 x Power cable (P/N: 32000-130300-RS)	1 x Mini jumper pack
1 x QIG	1 x Utility CD

Features

1. Intel® Atom™ N455/D525 processor with DDR3 solution
2. Single 5V power design, 12V for LCD/fan
3. Single channel 18-bit LVDS/ VGA output for display support
4. Support two COM, four USB, SATA II and CF type II socket
5. IEI One Key Recovery solution allows you to create rapid OS backup and recovery

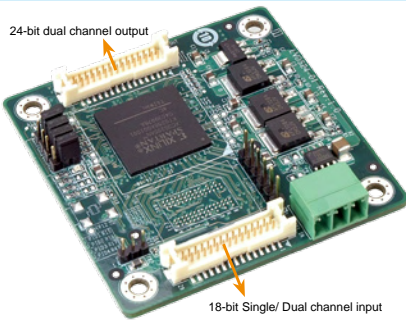
Dimensions (mm)



Ordering Information

Part No.	Description
PM-PV-D5251-R10	PC/104 SBC with Intel® Atom™ D525 1.8GHz, DDR3, VGA/LVDS, GbE, USB 2.0, SATA II and CF II, RoHS
PM-PV-N4551-R10	PC/104 SBC with Intel® Atom™ N455 1.66GHz, DDR3, VGA/LVDS, GbE, USB 2.0, SATA II and CF II, RoHS
32200-000049-RS	RS-232 cable
32205-000300-100-RS	RS-232/422/485 cable
32000-062800-RS	SATA cable
32102-000100-200-RS	SATA power cable
AC-KIT-883HD-R10	7.1 channel HD Audio Kit with Realtek ALC883 support dual audio streams
CF-PV4010-R10	CPU Fan (40 x 40 x 10mm)

LVDS24-01

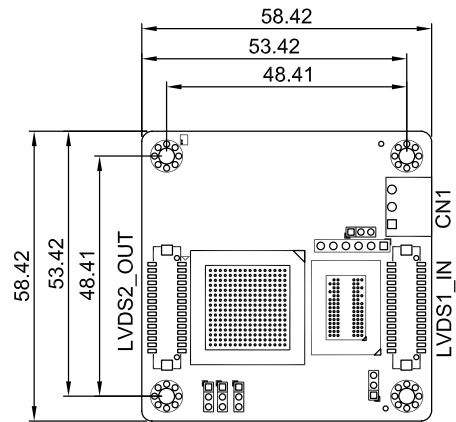
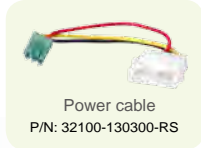


• 18-bit to 24-bit LVDS converter board

Support below configuration:

- ◆ Single 18 bits to single 24 bits
- ◆ Single 18 bits to dual 24 bits
- ◆ Dual 18 bits to dual 24 bits

**Note: the module do not support dual channel 18-bit covert to single channel 24-bit.*



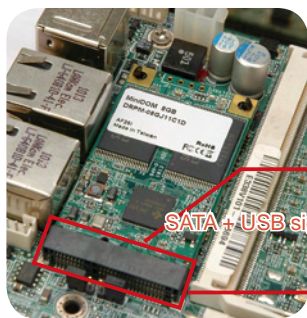
Packing List

1 x 18-bit to 24-bit LVDS converter board	1 x QIG
1 x Power cable (P/N: 32100-130300-RS)	

Ordering Information

Part No.	Description	Part No.	Description
LVDS24-01-R10	18-bit to 24-bit LVDS converter board	32602-007900-100-RS	Single Channel 18-bit 20-pin to 24-bit LVDS 30-pin connection cable
32600-004900-RS	30-pin LVDS connection cable for evaluation	32602-008000-100-RS	Dual Channel 18-bit 30-pin to 24-bit 30-pin LVDS connection cable

IEI Mini DOM – IPE 5200C



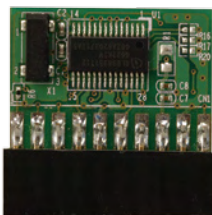
IPE 5200C/W Pin Definition			
Signal Name	Pin #	Pin #	Signal Name
SATA_TX(B+)	51	52	+3.3 Vaux
SATA_TX(B-)	49	50	GND
SATA_RX(A-)	47	48	NC
SATA_RX(A+)	45	46	NC
GND	43	44	NC
+3.3 Vaux	41	42	NC
+3.3 Vaux	39	40	GND
GND	37	38	USB_D+
GND	35	36	USB_D-

Capacities	SLC: 2GB~16GB
Interface	Mini PCIe <SATA II & USB2.0>
Data Transfer Rate	SATA- Read: 100MB/sec. Write: 50MB/sec. (Max.) USB- Read: 30MB/sec. Write: 20MB/sec.(Max.)
Operation Temp.	0°C ~ +70°C (Standard Grade)
Storage Temp.	-55°C ~ +95°C
DC Input Voltage	3.3V Single power supply
Vibration	20G (7~2000Hz)
Shock	1500G/0.5ms
Power Consumption	250mA (Max.)
Dimensions	30x50.95x3.4mm (WxLxH)
Certificate	CE/FCC/ROHS

Ordering Information

Model Name	Description
IPE-5200C-XXX	IEI mini DOM 2 GB ~ 16 GB support

IEI Trusted Platform Module (TPM)



INFINEON
SLB9635 TT1.2

Model Support list

IMBA-G410, IMBA-G412ISA, KINO-HM551, NANO-HM551,
WSB-PV-D4251/D5251, NOVA-PV-D4251/D5251,
NANO-PV-D4251/ N4551/ D5251

TPM OS Supported List

OS Supported	Infineon
Windows®	Windows® XP SP2 , Windows® 7 , Vista
Linux	Fedora 6 (Kernel 2.6.8 or above)

Ordering Information

Model Name	Description
TPM-IN01-R11	20-pin INFINEON TPM Module, S/W management Tool, Firmware V3.17

IEI Riser Card

PCIe x 1 Riser Card PCIER-K101L-R10

Dimensions: 135x 31mm



Compatible model list KINO-PVN-D4251/D5251, KINO-PV-D4252/D5252

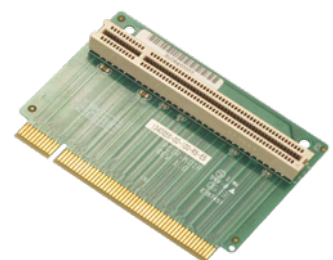
Packing List

1 x PCIe x1 riser card	1 x QIG
------------------------	---------

PCI Riser Card PCIR-K01R-R10

1-slot PCI riser card

Dimensions: 89.1 x 62.8 x 16 mm
PCI 2.2 standard
with 32-bit 5V support

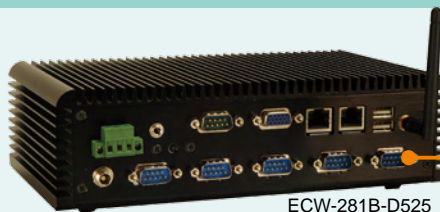


ECW-281B/B2-D525

Fanless Embedded System for Intel® Atom™ Dual core D525



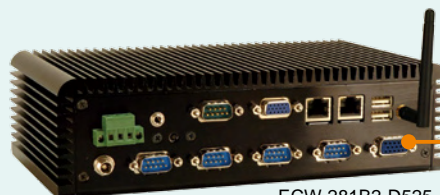
Extended Temperature



6 COM

COM2 for ECW-281B-D525

ECW-281B-D525



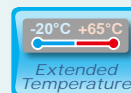
Dual VGA

2nd VGA for ECW-281B2-D525

ECW-281B2-D525

Features

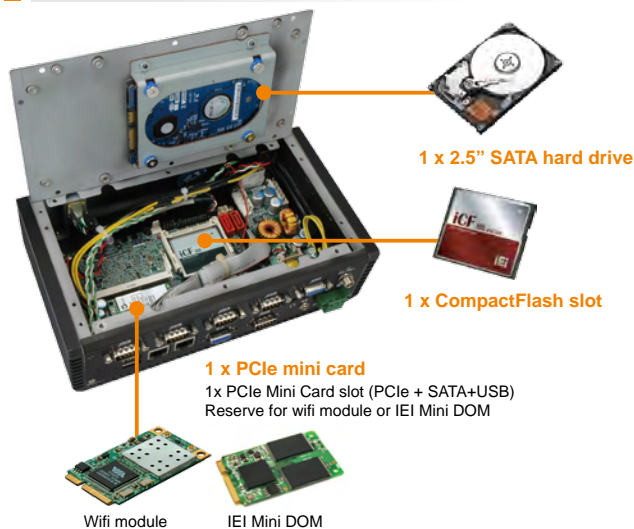
- ◆ Fanless system with
 - » 1.8 GHz Intel® Atom™ D525 dual-core CPU
- ◆ Supports four USB 2.0 ports and six COM ports
- ◆ Dual GbE LAN ideal for high speed network applications
- ◆ Supports CompactFlash®, 2.5" SATA HDD and SSD storage devices
- ◆ 12 VDC and 9 VDC - 36 VDC power input models available
- ◆ Supports dual VGA display (B2 model only)



Specifications

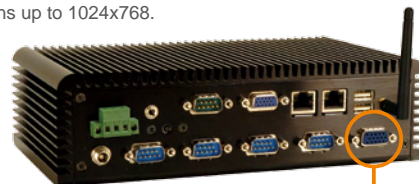
Model Name	ECW-281B-D525 ECW-281B2-D525 (Dual VGA)
Dimensions	229 x 132 x 64mm
Chassis Construction	Aluminum alloy with heavy duty metal
Processor CPU	Intel® Atom™ D525 Processor 1.8GHz /1MB L2 cache
System Memory	1 x 204-pin 1GB DDR3 SODIMM (2GB for optional)
Hard Drive	1 x 2.5" SATA HDD space
Compact Flash	1 x Compact Flash type II slot
USB 2.0	4
Ethernet	2 x PCIe Realtek RTL8111E GbE
Serial Port	6 RS232 ports for ECW-281B-D525 (COM2: Default RS232, RS422/485 optional) 5 RS232 ports for ECW-281B2-D525
Display Interface	1 x VGA for ECW-281B-D525 2 x VGA for ECW-281B2-D525 1st VGA resolution up to 2048x1536 2nd VGA resolution up to 1024x768
Audio	1 x speaker out
Wireless	1 x 802.11 b/g/n (support by wifi models)
PCIe Mini Card	1 x PCIe Mini Card Slot (reserve for wifi module, optional for IEI mini DOM)
Power input	9~36V DC (WD model) 12 VDC model ship with 60W power adapter
Mounting	DIN mount, VESA 75 mount, wall mount
Operating Temperature	-20°C~65°C (SATA SSD) with Air flow* -10°C~50°C (wifi model with SATA HDD) with Air Flow* *Ambient air speed pre IEC-68-2-2 standard
Operating Shock	Half sine wave 3G; 11ms 3axis
Operating Vibration	Meet MIL-STD-810F 514.5C-1 / MIL-STD-810F 514.5C-2
Weight (Net/Gross)	2.1kg/3.9kg

Storage & Expansions



Dual Display

The models of the ECW-281B series, either with Intel® Atom™ N270 single-core processor or D525 dual-core processor, all support dual VGA display through the optional LVDS to VGA converter module. The first VGA output signal is from on-board chipset and supports resolutions up to 2048x1536 (D525) while the second display output is made through the LVDS to VGA converter board (LVDS-VGA-R10) via the LVDS interface and supports resolutions up to 1024x768.



LVDS-VGA-R10

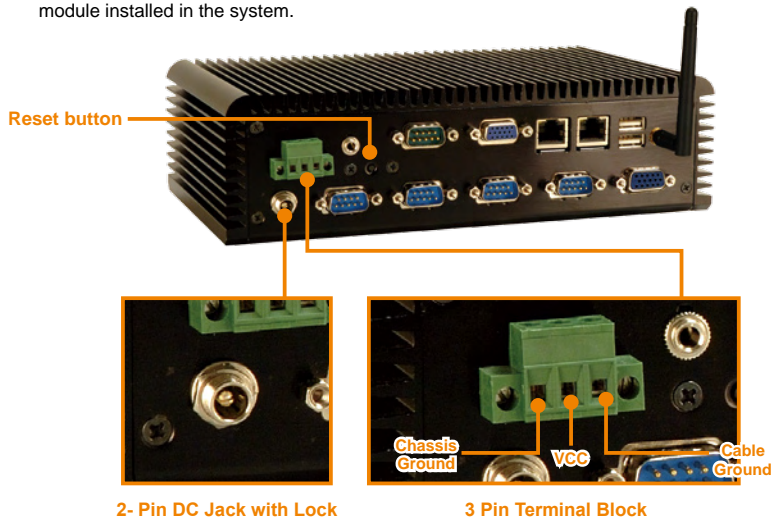
Install in ECW-281B2 series

- » Provide 2nd VGA option for Dual VGA display
- » Resolution adjustable by BIOS
- » Supports 800x600 or 1024x768
- » 18 bit LVDS to VGA Converter board



Extended Voltage Input

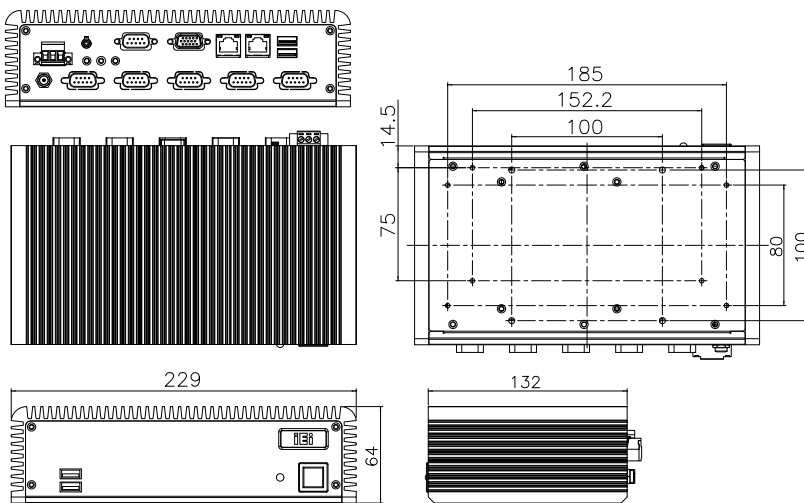
The ECW-281B rear panel has two types of power input connectors which support either single 12 V DC input or 9–36 V DC input depending on the power module installed in the system.



IDD-936260

- » Install in 9–36V DC in model (ECW-281BWD series)
- » Input range: 9-36VDC
- » Output:
 - 12 V @ 3 A (Max.)
 - 5 V @ 10 A (Max.)
 - 5 VSB @ 0.5 A (Max.)

Dimensions (unit:mm)



DIN Mount



Adjustable to fit with different rail width

Packing List

1 x QIG
1 x Screw set
1 x Din mount
1 x Hard drive thermal pad
2 x wall mount bracket
1 x Driver & user manual CD
1 x Power adapter P/N:63000-FSP060DBAB1552-RS (optional for WD model)
1 x Power cord (optional for WD model) European standard P/N: 32000-089900-RS (Default) USA standard P/N:32000-000025-RS
1 x wireless antenna (for wireless model)
1 x SATA with power output cable (P/N: 32000-114000-RS)

Ordering Information

D525	12V DC input	ECW-281B-R10/D525/1GB	Fanless embedded system , with dual core Intel® Atom™ D525 1.8G, with 6 serial ports, with 1GB DDR3 memory, 12VDC in, 60W power adapter with ERP and PSE certificates, black, RoHS
		ECW-281BW-R10/D525/1GB	Fanless embedded system , with dual core Intel® Atom™ D525 1.8G, with 6 serial ports, built-in 802.11b/g/n wireless, with 1GB DDR3 memory, 12VDC in, 60W power adapter with ERP and PSE certificates, black, RoHS
9–36V DC input		ECW-281B2-R10/D525/1GB	Fanless embedded system , with dual core Intel® Atom™ D525 1.8G, with dual VGA display and 5 serial ports, with 1GB DDR3 memory, 12VDC in, 60W power adapter with ERP and PSE certificates, black, RoHS
		ECW-281B2W-R10/D525/1GB	Fanless embedded system , with dual core Intel® Atom™ D525 1.8G, with dual VGA display and 5 serial ports, built-in 802.11b/g/n wireless, with 1GB DDR3 memory, 12VDC in, 60W power adapter with ERP and PSE certificates, black, RoHS
		ECW-281BWD-R10/D525/1GB	Fanless embedded system , with dual core Intel® Atom™ D525 1.8G, with 6 serial ports, with 1GB DDR3 memory, 9-36VDC in, w/o power adapter, black, RoHS
		ECW-281BWDW-R10/D525/1GB	Fanless embedded system , with dual core Intel® Atom™ D525 1.8G, with 6 serial ports, built-in 802.11b/g/n wireless, with 1GB DDR3 memory, 9-36VDC in, w/o power adapter, black, RoHS
		ECW-281B2WD-R10/D525/1GB	Fanless embedded system , with dual core Intel® Atom™ D525 1.8G, with dual VGA display and 5 serial ports, with 1GB DDR3 memory, 9-36VDC in, w/o power adapter, black, RoHS
		ECW-281B2WDW-R10/D525/1GB	Fanless embedded system , with dual core Intel® Atom™ D525 1.8G, with dual VGA display and 5 serial ports, built-in 802.11b/g/n wireless, with 1GB DDR3 memory, 9-36VDC in, w/o power adapter, black, RoHS

ECN-581A for HM55/D525

Embedded Compact Chassis for NANO series

ECN-581A-HM55

- ◆ Socket G1 for Intel® 32nm mobile Core processor
- ◆ VGA +HDMI Dual display
- ◆ One 204-pin DDR3 SO-DIMM SDRAM supported up to 4GB

ECN-581A-D525

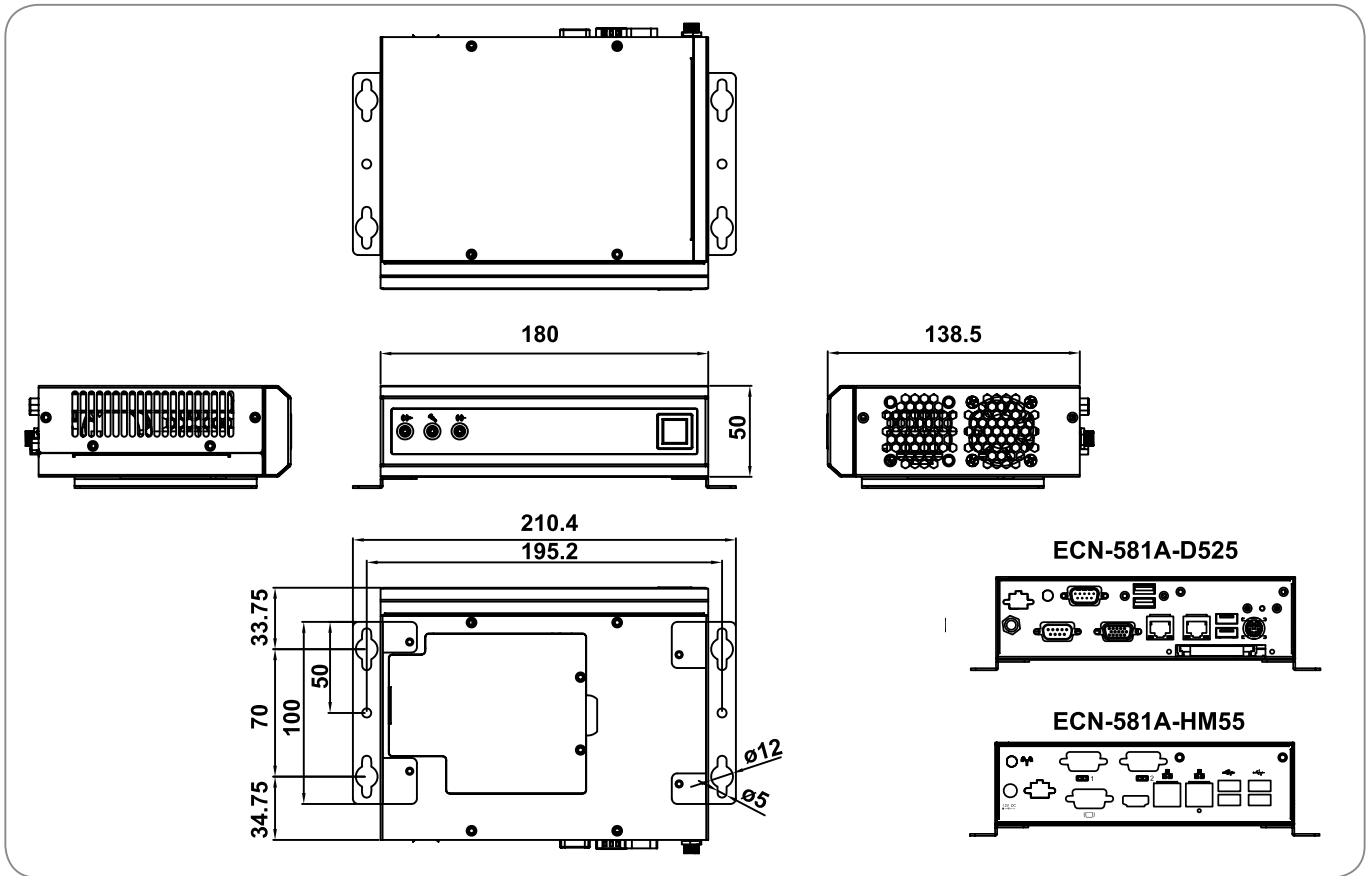
- ◆ Intel® Atom™ Processor D525 1.8GHz/1 MB L2 Cache
- ◆ One 204-pin DDR3 SO-DIMM SDRAM , system support up to 2GB



Specifications

Model Name		ECN-581A-R10-D5251 Fanless	ECN-581A-R10-HM551
Chassis	Color	Cool Gray+Blue	Cool Gray+Blue
	Dimensions	180 x 138 x 50mm	180 x 138 x 50mm
	System FAN	N/A	2 x 4cm
	Chassis Construction	Heavy duty metal	Heavy duty metal
Motherboard	Motherboard Model	NANO-PV-D5251	NANO-HM551
	M/B Size	EPIC (165 x 115mm)	EPIC (165 x 115mm)
	Processor CPU	Intel®Atom™ D525	Intel®Core™ i3-330 Celeron P4500
	Chipset	ICH8M	HM55
System Memory	1 x 204-pin DDR3 SODIMM support up to 2GB	1 x 204-pin DDR3 SODIMM support up to 4GB	
Storage	Hard Drive	1 x 2.5" SATA HDD space	1 x 2.5" SATA HDD space
	Compact Flash	1	N/A
System Function	PS2 (KB/MS)	1/1	N/A
	USB 2.0	4	4
	Ethernet	2 x PCIe Realtek RTL8111E GbE	2 x PCIe Realtek RTL8111E GbE
	Serial Port	1 x RS232 1 x RS232/422/485 (Default RS232)	1 x RS232 1 x RS232/422/485 (Default RS232)
	Display	1 x VGA	1 x VGA+ 1 x HDMI
	Resoluiton	2048 x 1536 @ 60 Hz	2048 x1536 @ 60 Hz (VGA) 1080 p (HDMI)
	Audio	1 x mic in, 1 x line out, 1 x line in	1 x mic in, 1 x line out, 1 x line in
	PCIe Mini Card	1 x PCIe Mini Card slot (PCIe + SATA+USB) Reserve for wifi or IEI Mini DOM	1 x PCIe Mini Card slot (PCIe + SATA+USB) Reserve for wifi or IEI Mini DOM
Power	Power Input	12 VDC in	12 VDC in
Reliability	Mounting	Desk top, wall mount, VESA mount	Desk top, wall mount, VESA mount
	Operating Temperature	-20°C~50°C (SATA SSD/CF) with Air flow* -10°C~50°C (wifi model with SATA SSD/CF) with Air Flow* *Ambient air speed pre IEC-68-2-2 standard	-20°C~50°C (SATA SSD) with Air flow* -10°C~50°C (wifi model with SATA SSD) with Air Flow* *Ambient air speed pre IEC-68-2-2 standard
	Operating Shock	Half sine wave 3G; 11ms 3axis	Half sine wave 3G; 11ms 3axis
	Operating Vibration	Meet MIL-STD-810F 514.5C-1 with SATA HDD MIL-STD-810F 514.5C-2 with SATA SSD/CF	Meet MIL-STD-810F 514.5C-1 with SATA HDD MIL-STD-810F 514.5C-2 with SATA SSD
	Weight (Net/Gross)	1.1kg/2kg	1.1kg/2kg

Dimensions (unit: mm)

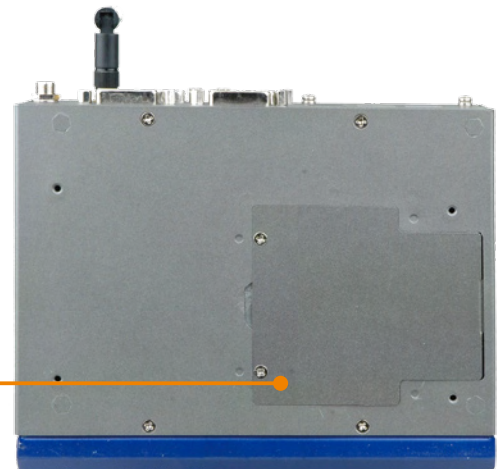


Packing List

1 x QIG
1 x Screw set
2 x Wall mount bracket
1 x Driver CD
1 x 12V DC 60W power adaptor (with ErP and PSE certificates)
1 x Power cord
1 x 2dbi wireless antenna (for wireless model only)



1 x 2.5" SATA HDD space



Ordering Information

Part No.	Description
ECN-581A-R10-HM551	Embedded chassis for NANO-HM551, Support Intel® Core i5/ i3/ Celeron® Processor, with VGA+HDMI dual display, DDR3 SO-Dimm memory, 12VDC, 60W power adaptor with ERP and PSE certificates, Reflex Blue C + 8403C, RoHS
ECN-581AW-R10-HM551	Embedded chassis for NANO-HM551, Support Intel® Core i5/ i3/ Celeron® Processor, with VGA+HDMI dual display, DDR3 SO-Dimm memory, 802.11b/g/n wireless, 12VDC, 60W power adaptor with ERP and PSE certificates, Reflex Blue C + 8403C, RoHS
CF-989A-RS-R11	CPU cooler for mobile socket-G (PGA988) up to 55W processor, Copper, 60x60x27.6mm ,RoHS
ECN-581A-R10-D5251	Embedded chassis for NANO-PV-D5251, Support Intel® Atom™ D525 Processor, with VGA, DDR3 SO-Dimm memory, 12VDC, 60W power adaptor with ERP and PSE certificates, Reflex Blue C + 8403C, RoHS
ECN-581AW-R10-D5251	Embedded chassis for NANO-PV-D5251, Support Intel® Atom™ D525 Processor, with VGA, DDR3 SO-Dimm memory, 802.11b/g/n wireless, 12VDC, 60W power adaptor with ERP and PSE certificates, Reflex Blue C + 8403C, RoHS

Note: Above Part No. is for chassis only without MB.



TANK-101B-D525-N455

Fanless Embedded Controller with Dual Core Intel® Atom™ D525

- ◆ Dual core Intel® Atom™ D525 inside
- ◆ Wide range 9~36VDC power input with insulation protection
- ◆ Isolation protected COM and CAN communication
- ◆ Extended temperature fanless design support -20°C ~ 70°C (N455)



TANK-101B is designed with all the functions and protections compliant with targeting transport market. TANK-101B provides not only the dual core computing power delivered by Intel® Atom™ D525, its onboard memory with CompactFlash/SATA DOM solid-state storage can withstand the severe operating environment on board. With typical voltage at 24VDC, TANK-101B can take wide range DC input from 9V to 36V as power source. It also has COM port and CANBus with isolation protection for device control, dual Intel® GbE LAN and 802.11b/g/n for high speed communication. TANK-101B supports all these versatile functions in a compact enclosure yet support fanless operation.

**It is self-validated by IEI inside lab.*

Isolation Protection

An integrated circuit (IC) connected to external ports is susceptible to damaging electrostatic discharge (ESD) pulses from the operating environment and peripherals. Additional protection can violate stringent signaling requirements, leaving design engineers with the need to balance performance and reliability.

Protection	ESD	±15KV
	Isolation	3000VDC

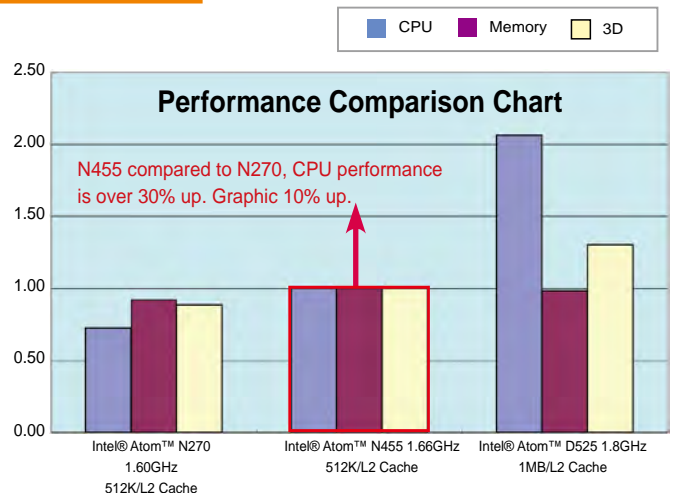
Wide Range Power Input: 9-36 VDC

CAN bus: Isolated DB-9
Isolated protection : 2500 Vrms on CAN site

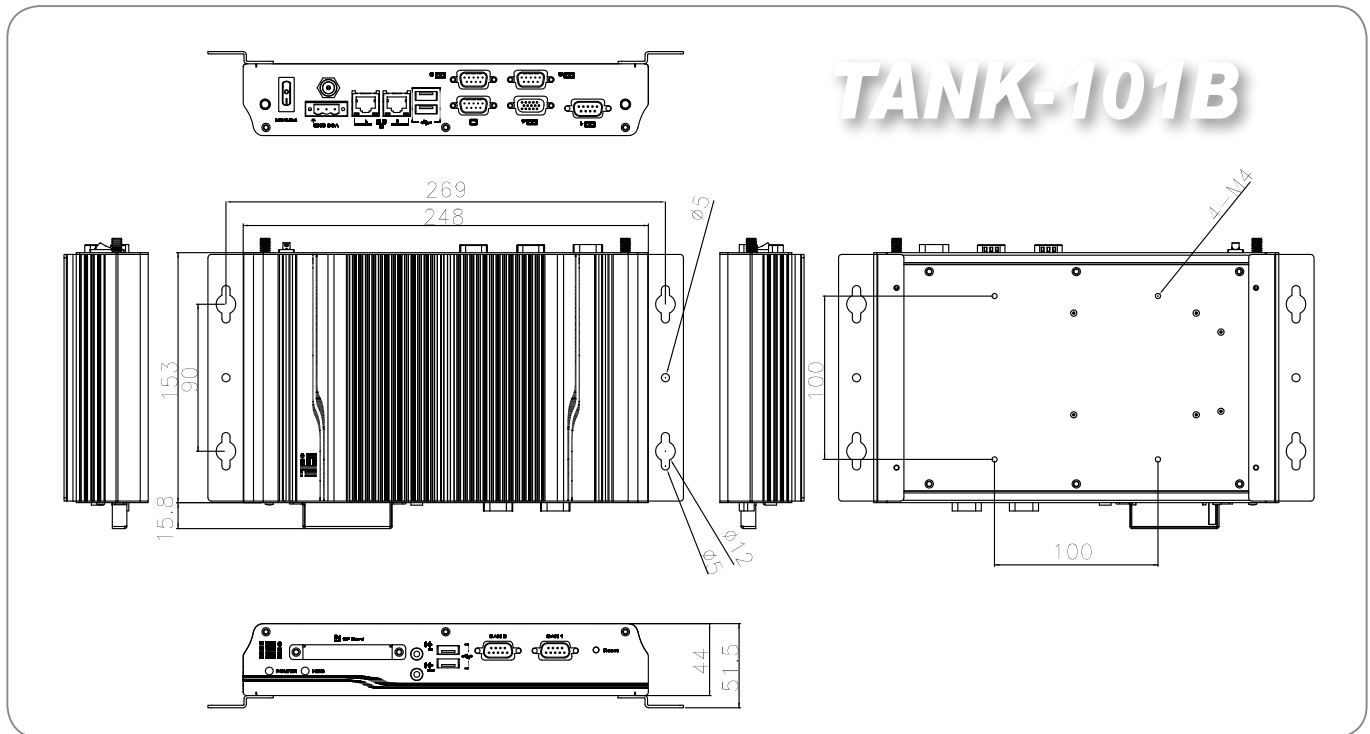
New Dual Core Intel® Atom™ D525

Luna Pier Refresh is the new generation two chip dual core solution of Intel® Atom™ family. Empowered by 45nm process technology:

- 45nm process technology delivers more performance at lower TDP
- Provides mobile single core to desktop dual-core scalability
- 3rd generation graphic core with 400MHz render clock speed



Dimensions (unit: mm)



Specifications

Model Name		TANK-101B
Platform		Intel®
Chassis	Color	Cool Gray+Blue
	Dimensions	248 x 138 x 44 mm
	Chassis Construction	Aluminum Alloy with heavy duty metal
Motherboard	Processor CPU	Intel® Atom™ D525 processor 1.8 GHz /1 MB L2 cache Intel® Atom™ N455 processor 1.66 GHz /512 KB L2 cache
	Chipset	ICH8M
	System Memory	1 GB DDR3 memory on board One expansion 204-pin DDR3 slot (Support up to 2GB)
Storage	Hard Drive	1 x 2.5" SATA HDD space
	Compact Flash	1
System Function	USB 2.0	4
	Ethernet	2 x Realtek 8111E PCIe GbE
	RS232	4 (COM 2 with isolation)
	RS232/422/485	RS232/422/485 Default RS422 with isolation
	Display	1 x VGA
	Resoluition	Up to 2048 x 1536 @ 60 Hz
	Audio	1 x Mic in, 1 x Speaker out
	Other	2 x CAN with isolation
	Wireless	1 x 802.11 b/g/n
Power	Wide Range Power In	9~36 V DC
Reliability	Mounting	DIN mount (optional), wall-mount
	Operating Temperature	-20°C ~ 60°C (D525 model with CompactFlash®/SSD) -20°C ~ 70°C (model with CompactFlash® /SSD)
	Operating Shock	*Ambient air speed pre IEC-68-2-2 standard -10°C ~ 50°C with WI-FI
	Operating Vibration	Half sine wave 3G; 11ms 3axis
	Weight (Net/Gross)	Meet MIL-STD-810F 514.5C-1 with SATA HDD MIL-STD-810F 514.5C-2 with SATA SSD/CF

Packing List

1 x QIG
1 x Driver CD
1 x Screw set
2 x Wireless antenna (For wireless model only)
1 x SATA hard drive cable
2 x Wall mount bracket

Ordering Information

Part No.	Description
TANK-101B-R10/D525/1GB	Extend temperture fanless embedded system with dual core Intel® Atom™ Processor D525 1.8GHz CPU with two isolated CAN, two isolated Serial Ports, 1GB DDR3 memory onboard, 9~36V DC in, Pantone 287C + Cool Gray 2C, -20°C ~ 60°C, RoHS
TANK-101B-R10/N455/1GB	Extend temperture fanless embedded system with Intel® Atom™ Processor N455 1.66GHz CPU with two isolated CAN, two isolated Serial Ports, 1GB DDR3 memory onboard, 9~36V DC in, Pantone 287C + Cool Gray 2C, -20°C ~ 70°C, RoHS
TANK-101BW-R10/D525/1GB	Fanless embedded system with dual core Intel® Atom™ Processor D525 1.8GHz CPU with two isolated CAN, two isolated Serial Ports, built-in 802.11b/g/n wireless, 1GB DDR3 memory onboard, 9~36V DC in, Pantone 287C + Cool Gray -10°C ~ 50°C, RoHS
DK-84MB	DIN mount kit for embedded system, black, RoHS

Embedded OS support

TANK-101B-XPE-1GB	Windows® XP Embedded OS image, for TANK-101B, with 1GB CompactFlash memory card, RoHS
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* For other CompactFlash® capacity, please contact with IEI for customization.

FUTURE IS TODAY

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