

**Half-size PCIe CPU Card with Intel® Atom™
D425/N455/D525, 1GB Memory on board, VGA/LVDS, Dual
PCIe GbE, 7 USB2.0, 4 COM and 3 SATA II and Audio, RoHS**

PIC0e-PV-D4251/N4551/D5251

Quick Installation Guide

Version 1.1

July 11, 2011

Package List

PIC0e-PV-D4251/N4551-D5251 package includes the following items:

- 1 x PIC0e-PV-D4251/N4551-D5251 Single Board Computer
- 1 x Dual RS-232 Cable
- 3 x SATA Cable
- 1 x KB/MS Y Cable
- 1 x USB cable
- 1 x Mini Jumper Pack
- 1 x Utility CD(within manual)
- 1 x QIG (Quick Installation Guide)



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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)

- System Chipset: Intel ICH8M

- BIOS: UEFILabel

- System memory:

On-board 1GB DDR3 800MHz Memory;

One 204-pin 800MHz DDR3 SDRAM SO-DIMM supported
(system max. 2GB)

- Ethernet:

Dual PCIe GbE by Realtek RTL8111E, LAN1 supports ASF2.0

- Super IO: Fintek F81865

- I/O Interface:

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 6-pin wafer header for KB/MS

1 x IrDA

7 x USB2.0 (6 by pin-header, 1 on rear side)

3 x SATA II

1 x CF type II

- Digital I/O: 8-bit digital 4 bit input / 4bit output (from Super IO)

- Display Out:

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)

- Graphic: GMA3150

- Audio: Support 7.1 channel HD audio by IEI AC-KIT883HD kit

- Front Panel: Power button / Reset / Power LED / HDD LED

- TPM: On board INFINEON SLB9635TT1.2

- SMBus: 1 x 4-pin wafer, pitch=1.25MM

- WDT: Software programmable supports 1~255sec System reset, Support by Fintek F81865
- Power supply: 5V/12V, AT/ATX supported
- Power Consumption:
5V@1.49A, 12V@0.47A
(CPU:D525,DDR3 1066MHz,1GB),(Windows XP, 3D mark®2001)
- Temperature: Operation:
-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
- Dimension: 185mm x 122mm

Ordering Information

- AC-KIT888HD-R10 :
7.1 Channel HD Audio Kit with Realtek ALC888 support Dual Audio streams
- PICOe-PV-D5251-R11 :
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, audio, RoHS
- PICOe-PV-D5251T-R11 :
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, audio, TPM, RoHS
- PICOe-PV-D4251-R11 :
Half-size PCIe CPU Card with Intel® Atom™ Single Core D425 1.80GHz/512KB L2, 1GB Memory on board, VGA/LVDS, Dual PCIe GbE, USB 2.0, SATA II, audio, RoHS
- PICOe-PV-D4251T-R11 :
Half-size PCIe CPU Card with Intel® Atom™ Single Core D425 1.80GHz/512KB L2, 1GB Memory on board, VGA/LVDS, Dual PCIe GbE, USB 2.0, SATA II, audio, TPM, RoHS
- PICOe-PV-N4551-R11 :
Half-size PCIe CPU Card with Intel® Atom™ Single Core N455

1.66GHz/512KB L2, 1GB Memory on board, VGA/LVDS, Dual PCIe GbE, USB 2.0, SATA II, audio, RoHS

- PICOe-PV-N4551T-R11 :
Half-size PCIe CPU Card with Intel® Atom™ Single Core N455
1.66GHz/512KB L2, 1GB Memory on board, VGA/LVDS, Dual PCIe GbE, USB 2.0, SATA II, audio, TPM, RoHS
- 19800-000075-RS : KB/MS Cable with Bracket
- 32200-015100-RS : LPT Cable
- 32102-000100-200-RS : SATA Power Cable
- 19FTS00032100-000001-RS: CPU Fan

Jumpers setting and Connectors

LABEL	FUNCTION
J_CMOS1	CMOS State Setting jumper
JCF1	CF Card Master/Slave Setting jumper
J_VLVDS1	LCD Voltage Selector jumper
JP1	PCIE Status Selector jumper
ATXCTL1	AT/ATX Power Mode Setting connector
J1	RS232/RS422 or RS485 Type Select Jumper
J2	RS422 or RS485 Type Select Jumper
J3	RS485 Termination select
J4	RS422 Termination select
LVDS1	LVDS Panel Connector
COM1 COM2 COM4	Internal Serial Port Connectors (RS-232)
COM3	RS232/RS422/RS485 Pin Header
SPI1	Flash SPI ROM Connector
LAN1 LAN2	RJ-45 LAN Connector
USB0_1 USB2_3 USB4_5	Internal USB Connectors
USB6	USB Port
J_AUDIO1	External Audio Module Connector
LPT1	Parallel Port Connector
VGA1	VGA Connectors
DIO1	Digital I/O Connector
KB_MS1	6-pin Header Keyboard/Mouse Connector
PT1	Keyboard/Mouse Connector
INV1	LVDS Panel Voltage Supply Connector
CPU_FAN1	Fan Connector
IR1	IrDA Infrared Interface Connector
BAT1	Battery connector
F_PANEL1	PWR & RST Buttons and Indicators
SATA1 SATA2 SATA3	Serial ATA Connectors
LAN1/LAN2	RJ-45 LAN Connectors
CN1	SMBUS Connector

J_CMOS1: Clear CMOS Setup	
J_CMOS1	DESCRIPTION
1-2 (Default)	Keep CMOS Setup (Normal Operation)
2-3	Clear CMOS Setup

JCF1: CF Card Setup	
JCF1	DESCRIPTION
Short	Master
Open (Default)	Slave

J_VLVDS1: Set The Panel Voltage	
J_VLVDS1	DESCRIPTION
1-2	Set The Voltage Level Of Panel To 3.3V
3-4	5V
5-6	12V

JP1: PCIe interface Setup	
J_PCIE1	DESCRIPTION
1-2 Short (Default)	Set up the interface of PCIe is x1
1-2 Open	Set up the interface of PCIe is x4

ATXCTL1: AT/ATX1 mode setting	
PIN	DESCRIPTION
SHORT2-3	AT MODE
USE &5VSB CABLE	ATX mode

J1: RS232/RS422 or RS485 Type Selector	
JCF1	DESCRIPTION
1-2	RS232
3-4	RS422
5-6	RS485

J2: RS422 or RS485 Type Selector	
J_PCIE1	DESCRIPTION
1-3 2-4	RS422
3-5 4-6	RS485

J4: RS422 Termination Selector	
J_PCIE1	DESCRIPTION
1-2 Short (Default)	120ohm Termination
1-2 Open	No 120ohm Termination

J3: RS485 Termination select	
J_PCIE1	DESCRIPTION
1-2 Short (Default)	120ohm Termination
1-2 Open	No 120ohm Termination

LVDS1: LVDS LCD Connector

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	LVDSA_DATA0	4	LVDSA_DATA#0
5	LVDSA_DATA1	6	LVDSA_DATA#1
7	LVDSA_DATA2	8	LVDSA_DATA#2
9	LVDSA_CLK	10	LVDSA_CLK#
11	NC	12	NC
13	GND	14	GND
15	L_DDC_DATA	16	L_DDC_CLK
17	VCC_LCD	18	VCC_LCD
19	VCC_LCD	20	VCC_LCD

COM1, COM2, COM4: Internal Serial Port Connector

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	DCD#	6	CTS#
2	DSR#	7	DTR#
3	RXD#	8	RI#
4	RTS#	9	GND
5	TXD#	10	N/A

COM3: Internal Serial Port Connector

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	NDCD3	6	NCTS3
2	NDSR3	7	NDTR3
3	NRX3	8	NR13
4	NRTS3	9	GND
5	NTX3	10	N/A
11	TX3+	12	TX3-
13	RX3+	14	RX3-

SPI1: SPI Connector (PINHEADER2*3,6PIN,180,P:2.0MM)

PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	SPI_VCC	2	GND
3	SPI_CS	4	SPI_CLK
5	SPI_SO	6	SPI_SI

USB0_1/USB2_3/USB4_5: USB Connector (PINHEADER2*4,8PIN,180,P:2.54MM)			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	VCC	2	GND
3	DATA0_N	4	DATA1_P
5	DATA0_P	6	DATA1_N
7	GND	8	VCC

USB6: 1USB Connector (USB PORT,4PIN,90,p:2.00MM)			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	VCC	2	DATA6_N
3	DATA6_P	4	GND
5	GND	6	GND
7	GND	8	GND

J_AUDIO1: External Audio Module Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	HDA_SYNC	2	HDA_BITCLK
3	HDA_SDOUT	4	SB_SPKR
5	HDA_SDIN0	6	HDA_RST#
7	VCC	8	GND
9	VCC12	10	GND

LPT1: Parallel Port Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	STB	2	AUTO FORM FEED #
3	PTD0	4	ERROR#
5	PTD 1	6	INITIALIZE#
7	PTD 2	8	SLIN
9	PTD 3	10	GND
11	PTD 4	12	GND
13	PTD 5	14	GND
15	PTD 6	16	GND
17	PTD 7	18	GND
19	ACK	20	GND
21	BUSY	22	GND
23	PAPER EMPTY	24	GND
25	SLCT	26	N/C

VGA1: D-SUB VGA,15PIN,90°,2.29MM			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	RED	2	GREEN
3	BLUN	4	NA
5	GND	6	GND
7	GND	8	GND
9	CRT_VCC	10	DISPLAY_GND
11	NA	12	5VDDCDA
13	HSY	14	NSY
15	5VDDCLK	16	GND
17	GND		

DIO1: 10-pin Digital I/O Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	2	+5V
3	OUTPUT3	4	OUTPUT2
5	OUTPUT1	6	OUTPUT0
7	INPUT3	8	INPUT2
9	INPUT1	10	INPUT0

KB_MS1:6-pin Header Keyboard/Mouse Connector	
PIN	DESCRIPTION
1	VCC(+5V)
2	L_MDAT
3	L_MCLK
4	L_KDAT
5	L_KCLK
6	GND

PT1:MINIDIN JACK,6PIN,90°, Keyboard/Mouse Connector	
PIN	DESCRIPTION
1	L_KDAT
2	L_MDAT
3	GND
5	PS2V5
6	L_KCLK

INV1: 5-pin Header Inverter Connector	
PIN	DESCRIPTION
1	L_BKLTCTL
2	GND
3	+12V
4	GND
5	BACKLIGHT ENABLE

IR1: IrDA connector	
PIN NO.	DESCRIPTION
1	VCC
2	NC
3	IR-RX
4	GND
5	IR-TX

CPU_FAN1: CPU Fan Connector	
PIN	DESCRIPTION
1	GND
2	+12V
3	FANIO1
4	FANPWM1

BAT1 :Battery Connector	
PIN	DESCRIPTION
1	BAT+
2	BAT-(GND)

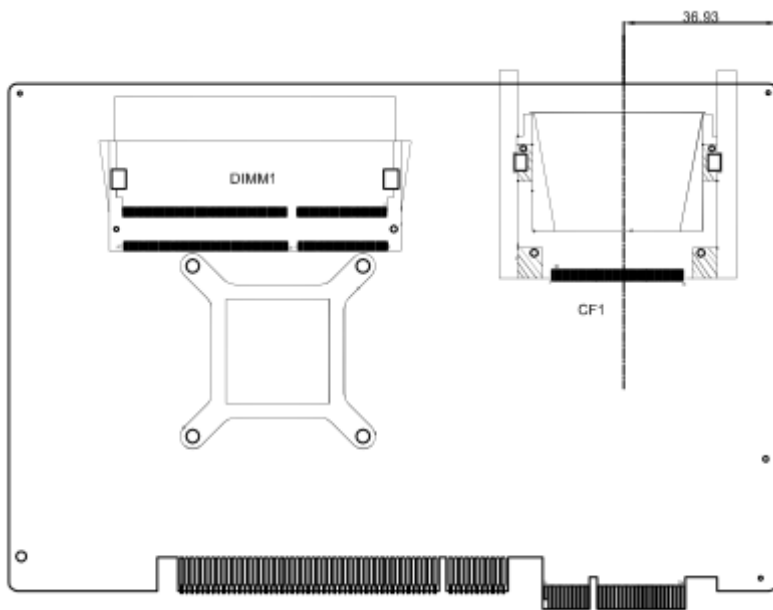
F_PANEL1 : External Switches and Indicators panel			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	PWR_BTN+	2	PWR_LED+
3	PWR_BTN-	4	PWR_LED-
5	HDD_LED+	6	RESET+
7	HDD_LED-	8	RESET-

SATA1/SATA2/SATA3 : SATA WITH FRAME,7PIN,180°			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	2	SATATXP1
3	SATATXN1	4	GND
5	SATARXN1	6	SATARXP1
7	GND		

LAN1/LAN2: 1PORT RJ-45 JACK W/GIGAW/LEDMAGNETICS,12PIN,90D,P:2			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	LAN1_MDI0+	2	LAN1_MDI0-
3	LAN1_MDI1+	4	LAN1_MDI1-
5	GND	6	GND
7	LAN1_MDI2+	8	LAN1_MDI2-
9	LAN1_MDI3+	10	LAN1_MDI3-
11	LAN1_LINK100	12	AN1_LINK1000
13	LAN1_LED0	14	VCC3DUA
15	GND	16	GND
17	NA	18	NA

CN1: SMBUS Connector	
PIN	DESCRIPTION
1	GND
2	SMBDATA
3	SMBCLK
4	5V

Board Layout: Jumper and Connector Locations



(Unit:mm)