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

WSB-PV-D4251/D5251
Quick Installation Guide
Version 1.01

Nov. 21, 2011

Package List

WSB-PV-D4251/D5251 package includes the following items:

- 1 x WSB-PV-D4251/D5251 Single Board Computer
- 1 x Dual RS-232 Cable
- 2 x SATA Cable
- 1 x USB cable
- 1 x Mini Jumper Pack
- 1 x Utility CD(within manual)
- 1 x QIG (Quick Installation Guide)
- 1 x One Key Recovery CD

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: Intel ICH8M
- BIOS: UEFI BIOS
- System memory:

  Two 204-pin 800MHz DDR3 SDRAM SO-DIMM supported (System max. 4GB) for D525/D425

- Ethernet:

  Dual PCIe GbE by Realtek RTL8111E, LAN1 with ASF2.0 support

- Super IO: Fintek F81865
- I/O Interface:

  4 x RS-232
  1 x IDE
  3 x SATA II
  1 x FDD
  1 x CF Type II
  1 x LPT
  7 x USB 2.0 (1 on rear, 6 by pin header)
  1 x 5-pin on-board header for KB
  1 x PS/2 connector for KB/MB

- Digital I/O: 8-bit digital I/O, 4 bit input / 4bit output
- Display Out:

  Analog CRT up to 2048x1536 for D525/D425

  Support CRT Hot plug

  18-bit single channel LVDS resolution up to XGA (1024x768) & WXGA (1366x768)

- Graphic: GMA 3150

  Gen3.5 DX9, 400MHz for D525/D425

- Audio: Support 7.1 channel HD audio by IEI AC-KIT883HD kit
- TPM: 2 x 10-pin header
- SMBus: 1 x 4-pin wafer
- Watchdog Timer: Software programmable supports 1~255sec. System reset

- Power supply: 5V/12V, AT/ATX supported
- Power Consumption:

  5V@4.95A (Intel Dual Core Atom D525 1.80GHz with 1066MHz DDR3 2GBx2 Memory)

  5V@4.05A (Intel Dual Core Atom D425 1.80GHz with 1066MHz DDR3 2GBx2 Memory)
- 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

- Humidity: Operation: 5%~95% non-condensing
- Dimension: 338mm x 122mm

Ordering Information

- 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-KIT883HD-R10：
  7.1 Channel HD Audio Kit with Realtek ALC883 support Dual Audio streams
- 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
- CB-USB14-RS：4 ports USB cable
- 19FTS00032100-000001-RS: CPU Fan
- TPM-IN01-R11：20-pin INFINEON TPM module, SW management Tool, Firmware V3.17

Jumpers setting and Connectors

LABEL	FUNCTION
J_CMOS1	CMOS state setting
JCF1	CF Card setting
J_LCD_TYPE1	Panel Type Select
J_VLVDS1	LCD Power Select
VGA1	VGA 15-pin Female Connector
USB_C1	1 Port USB Connector
LAN1 LAN2	RJ45 LAN Connectors
KB_MS1	PS/2 MOUSE & KEYBOARD Connectors
KB1	Internal 5-pin Header Keyboard Connector
COM1 COM2 COM3 COM4	Internal 4 Serial Port Connectors
LPT1	Parallel Port Connector
USB1 USB2 USB3	Internal 6 Port USB Connectors
J_AUDIO1	Extend Audio Module Connector
SATA1 SATA2 SATA3	Serial ATA Connectors
IDE1	IDE Connector
IR1	IrDA Infrared Interface Connector
CPU_FAN1	Fan Connector
DIO1	Digital I/O Connector
F_PANEL1	PWR & RST Buttons and Indicators
ATXCTL1	ATX Power Control Connector
ATX1	ATX Power Source Connector
CF1	Compact Flash Slot
LVDS1	LVDS Connector
INV1	Inverter Connector
TPM1	TPM Module Connector
SMB1	SMBus Connector

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

JCF1: CF Card Setup	
JCF1	DESCRIPTION
Short 1-2 (default)	Slave
Open 2-3	Master

J_VLVDS1: Set The Panel Voltage	
J_VLVDS1	DESCRIPTION
1-2 (Default)	Set The Voltage Level Of Panel To 3.3V
2-3	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

USB_C1: USB Connector	
PIN NO.	DESCRIPTION
1	VCC
2	DATA-
3	DATA+
4	GND

KB_MS1: 6-pin Mini-DIN Keyboard Connector	
PIN NO.	DESCRIPTION
1	Keyboard Data
2	Mouse Data
3	GND
4	VCC
5	Keyboard Clock

LAN1、LAN2: RJ45 LAN Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	MDIA3-	5	MDIA1+
2	MDIA3+	6	MDIA2+-
3.	MDIA2-	7	MDIA0-
4.	MDIA1-	8	MDIA0+

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

COM1-4 : Internal Serial Port Connector	
PIN NO.	**DESCRIPTION**
1	DATA CARRIER DETECT (DCD)
2	RECEIVE DATA (RXD)
3	TRANSMIT DATA (TXD)
4	DATA TERMINAL READY (DTR)
5	GND (GND)
6	DATA SET READY (DSR)
7	REQUEST TO SEND (RTS)
8	CLEAR TO SEND (CTS)
9	RING INDICATOR (RI)
10	GND (GND)

LPT1 : Parallel Port Connector			
PIN NO.	**DESCRIPTION**	**PIN NO.**	**DESCRIPTION**
1	STROBE#	14	AUTO FORM FEED #
2	DATA0	15	ERROR#
3	DATA1	16	INITIALIZE#
4	DATA2	17	PRINTER SELECT LN#
5	DATA3	18	GND
6	DATA4	19	GND
7	DATA5	20	GND
8	DATA6	21	GND
9	DATA7	22	GND
10	ACKNOWLEDGE#	23	GND
11	BUSY	24	GND
12	PAPER EMPTY	25	GND
13	PRINTER SELECT	26	N/C

USB1, USB2, USB3: Internal USB Connector			
PIN NO.	**DESCRIPTION**	**PIN NO.**	**DESCRIPTION**
1	VCC	2	GND
3	DATA-	4	DATA+
5	DATA+	6	DATA-
7	GND	8	VCC

J_AUDIO1 : Audio Source Connector			
PIN NO.	**DESCRIPTION**	**PIN NO.**	**DESCRIPTION**
1	AC97_SYNC	2	AC97_BITCLK
3	AC97_SDOUT	4	AC97_PCBEEP
5	AC97_SDIN	6	AC97_RST#
7	AC97_VCC	8	AC97_GND
9	AC97_12V	10	AC97_GND

SATA1-3 : Serial ATA Connector			
PIN NO.	**DESCRIPTION**	**PIN NO.**	**DESCRIPTION**
1	GND	5	RX-
2	TX+	6	RX+
3	TX-	7	GND
4	GND		

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 (PWM)
3	FANIO1

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VGA1 : 15-pin Female Connector			
PIN NO.	**DESCRIPTION**	**PIN NO.**	**DESCRIPTION**
1	RED	2	GREEN
3	BLUE	4	NC
5	GND	6	CRT_PLUG#
7	GND	8	GND
9	VCC	10	GND
11	NC	12	DDCDAT
13	HSYNC	14	VSYNC
15	DDCCLK		

IDE1 : IDE Interface Connector			
PIN NO.	**DESCRIPTION**	**PIN NO.**	**DESCRIPTION**
1	RESET#	2	GND
3	DATA 7	4	DATA 8
5	DATA 6	6	DATA 9
7	DATA 5	8	DATA 10
9	DATA 4	10	DATA 11
11	DATA 3	12	DATA 12
13	DATA 2	14	DATA 13
15	DATA 1	16	DATA 14
17	DATA 0	18	DATA 15
19	GND	20	N/C
21	IDE DRQ	22	GND
23	IOW#	24	GND
25	IOR#	26	GND
27	IDE CHRDY	28	BALE – DEFAULT
29	IDE DACK	30	GND
31	INTERRUPT	32	N/C
33	SA1	34	PDIAG#
35	SA0	36	SA2
37	HDC CS0#	38	HDC CS1#
39	HDD ACTIVE#	40	GND

F_PANEL1 : PWR & RST Buttons and Indicators panel					
	PIN	**DESCRIPTION**	**PIN**	**DESCRIPTION**	
Power LED	1	VCC	2	VCC	Speaker
	3	N/C	4	N/C	
	5	GND	6	N/C	
PWRBTN	7	PWRBTSW-	8	Speaker	
	9	GND	10	N/C	RESET
HDDLED	11	VCC	12	Reset-	
	13	HDLED-	14	GND	

ATXCTL1 : ATX Power Control Connector	
PIN NO.	**DESCRIPTION**
1	5VSB
2	PS_ON#
3	GND

ATX : ATX MAIN POWER Connector			
PIN NO.	**DESCRIPTION**	**PIN NO.**	**DESCRIPTION**
1	NC	13	NC
2	NC	14	-12V
3	GND	15	GND
4	+5V	16	PS_ON
5	GND	17	GND
6	+5V	18	GND
7	GND	19	GND
8	Power Good	20	NC
9	+5V Standby	21	+5V
10	+12V	22	+5V
11	+12V	23	+5V
12	NC	24	GND

LVDS1 : LVDS Connector			
PIN NO.	**DESCRIPTION**	**PIN NO.**	**DESCRIPTION**
1	GND	2	GND
3	D0+	4	D0-
5	D1+	6	D1-
7	D2+	8	D2-
9	CLK+	10	CLK-
11	NC	12	NC
13	GND	14	GND
15	NC	16	NC
17	LCD Power	18	LCD Power
19	LCD Power	20	LCD Power

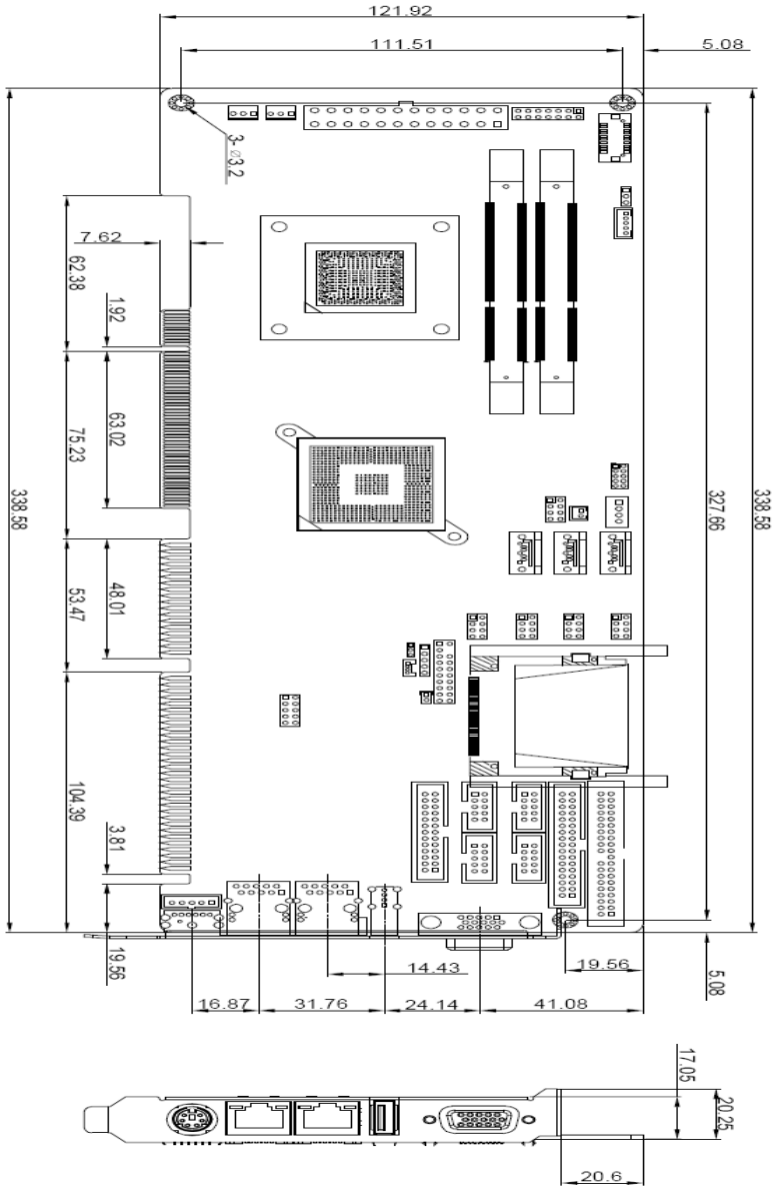
TPM1 : TPM Connector			
PIN NO.	**DESCRIPTION**	**PIN NO.**	**DESCRIPTION**
1	Clock	2	GND
3	Frame#	4	NC(KEY)
5	Reset#	6	+5V
7	LAD3	8	LAD2
9	+3.3V	10	LAD1
11	LAD0	12	GND
13	SMB CLK	14	SMB DATA
15	+3.3V Standby	16	Serial IRQ
17	GND	18	Clock Run#
19	Power Down#	20	DREQ#

INV1 : Inverter Connector	
PIN NO.	**DESCRIPTION**
1	ADJ
2	GND
3	+12V
4	GND
5	ON/OFF

SMB1: SMBus Connector	
PIN NO.	**DESCRIPTION**
1	GND
2	SMB Data
3	SMB Clock
4	+5V

FDD1 : Floppy Disk Connector			
PIN NO.	**DESCRIPTION**	**PIN NO.**	**DESCRIPTION**
1	GND	2	DENSEL#
3	GND	4	NC
5	NC	6	NC
7	GND	8	INDEX#
9	GND	10	MOTEA#
11	GND	12	NC
13	GND	14	DRVA#
15	GND	16	NC
17	GND	18	DIR#
19	GND	20	STEP#
21	GND	22	WDATA#
23	GND	24	WGATE#
25	GND	26	TRK0#
27	GND	28	WPT#
29	GND	30	RDATA#
31	GND	32	SDIE#
33	GND	34	DSKCHG#

Board Layout: Jumper and Connector Locations



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