

Full-size PICMG 1.0 CPU card supports 32nm LGA1155
Intel® Core™ i7/i5/i3 CPU per Intel® H61, DDR3,
VGA/DVI-D, Dual Realtek PCI e GbE, USB 2.0, SATA 3Gb/s,
COM, HD Audio and RoHS

WSB-H610

Quick Installation Guide

Version 1.10

May 22, 2015.

Package Contents

WSB-H610 package includes the following items:

- 1 x WSB-H610 Single Board Computer
- 1 x Dual RS-232 Cable (P/N:19800-000051-RS)
- 1 x KB/MS Y cable(P/N: 32000-133200-RS)
- 2 x SATA Cable (P/N:32000-0628000-RS)
- 1 x USB Cable (P/N: CB-USB02-RS)
- 1 x DVI and USB Kit (P/N:IO-KIT-001-R20)(DVI SKU only)
- 1 x Mini Jumper Pack
- 1 x Utility CD
- 1 x QIG (Quick Installation Guide)



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Specifications

- CPU
LGA1155 socket supports Intel® Core™ i7/i5/i3/Pentium® /Celeron® processor
- System Chipset: Intel® H61
- BIOS: UEFI BIOS
- System Memory:
Two 240-pin 1333/1066MHz dual-channel DDR3 & DDR3L(1.35V) DIMMs supported.(system max. 16GB)
- Graphic: VGA Integrated in Intel® H61
- Display Output:
1 x VGA
1 x DVI-D (DVI SKU only)
(2 x 13-pin pin header via IO-KIT-001-R20 DVI-D/USB Module)
- Ethernet:
Dual Realtek RTL8111E PCIe GbE controllers, LAN1 with ASF2.0 supported
Super I/O: Fintek F81866
- I/O Interface:
2 x RS-232
1 x RS-422/485
1 x LPT
1 x FDD
1 x PS/2 KB/MS 1 x 6-pin wafer for KB & MS
7 x USB 2.0 (1 on rear, 6 by pin header)
4 x SATA 3Gb/s
- Digital I/O: 8-bit Digital I/O (4-bit input, 4-bit output)
- Infrared Interface: 1 x 5-pin infrared connector
- Audio: Supports by IEI AC-KIT-888HD Audio Kit
- Front Audio: 2 x 5-pin pin header
- TPM: 2 x 10-pin pin header
- SMBus: 1 x 4-pin wafer
- I2C: 1 x 4-pin wafer
- Infrared Interface: 1 x 5-pin pin header

- Expansion:
PCI signal and ISA signal via golden finger
1 x Mini PCIe
- Watchdog Timer: software Programmable support 1~255 sec.
System reset
- FAN connector: 1 x 4-pin Smart FAN Connector
- Power Supply: 5V/12V, AT/ATX support
Power Consumption: 5V@4.53A, 12V@0.19A,
Vcore_12V@7.81A, 5VSB@0.18A (3.4GHz Intel® Core™
i7-2600K with two 2GB 1333MHz DDR3 memory)
- Operation Temperature: -10 ~ 60°C(14°F ~ 140°F)
- Operation Humidity: 5% ~ 95%, non-condensing
- Dimensions: 338mm X 126mm
- Weight: 1.2Kg

Ordering Information

WSB-H610-R11: Full-size PICMG 1.0 CPU card supports 32nm LGA1155 Intel® Core™ i7/i5/i3 CPU per Intel® H61, DDR3, VGA, Dual Realtek PCIe GbE, USB 2.0, SATA 3Gb/s, COM, HD Audio and RoHS

WSB-H610-DVI-R10 : Full-size PICMG 1.0 CPU card supports 32nm LGA1155 Intel® Core™ i7/i5/i3 CPU per Intel® H61, DDR3, VGA/DVI-D, Dual Realtek PCIe GbE, USB 2.0, SATA 3Gb/s, COM, HD Audio and RoHS

32200-074800-RS: RS-422/485 cable, 200mm

19800-000075-RS: KB/MS cable with Bracket

SAIDE-KIT01-R10: SATA to IDE/CF Converter board

IO-KIT-001-R20: DVI and four USB 1.1/2.0 translation daughter board

32102-000100-200-RS: SATA Power Cable

32200-000017-RS: FDD flat cable

32200-015100-RS: LPT Cable

AC-KIT-888HD-R10: 7.1 channel HD Audio kit with Realtek ALC888 support dual audio streams

AC-KIT08R-R10: 5.1 channel AC'97 audio kit with Realtek ALC655

CPU-DT-i5-2500T: Intel® Core™ i5-2500T processor, LGA1155, Quad core 2.3GHz, 6M Cache, 45W, compatible with CF-1156C-RS CPU cooler

CPU-DT-i5-2390T: Intel® Core™ i5-2390T processor, LGA1155, Dual core 2.7GHz, 3M Cache, 35W, AMT, compatible with CF-1156C-RS CPU cooler

CPU-DT-i3-2100T: Intel® Core™ i3-2100T processor, LGA1155, Dual core 2.5GHz, 3M Cache, 35W, compatible with CF-1156C-RS CPU cooler

CPU-DT-P-G620T: Intel® Pentium G620T processor, LGA1155, Dual core 2.2GHz, 3M Cache, 35W, compatible with CF-1156C-RS CPU cooler

CPU-DT-C-G440: Intel® Celeron G440 processor, LGA1155, Single core 1.6GHz, 1M Cache, 35W, compatible with CF-1156C-RS CPU cooler

CF-1156A-RS-R10: High-performance LGA1155/LGA1156 cooler kit, 1U chassis compatible, 73W

CF-1156B-RS-R10: High-performance LGA1155/LGA1156 cooler kit, 95W

CF-1156C-RS: LGA1155/LGA1156 cooler kit, 1U chassis compatible, 45W

CF-1156D-RS: LGA1155/LGA1156 cooler kit, 1U chassis compatible, 65W

TPM-IN01-R11: 20-Pin Infineon TPM module, software management tool, firmware V3.17

Jumpers setting and Connectors

Table of Jumpers

LABEL	FUNCTION
J_CMOS1	CMOS state setting
JAUTO1	Power Mode Setting
JLAN_PWR1	WOL Setting
J_FLASH	Flash Descriptor Security Override/ME Debug Mode

Table of Connectors

LABEL	FUNCTION
VGA1	VGA 15-pin Female Connector
USB_C1 USB_C2	USB Port Connector
LAN1、LAN2	RJ45 LAN Connector
KB_MS1	Internal PS/2 KEYBOARD/MOUSE Connector
COM1 COM2	Internal Serial Port DB-9 Connectors
COM3	RS422/485 Serial Port
USB1 USB2 USB3	Internal USB Connectors
J_AUDIO1	Extend Audio Module Connector
SATA1 SATA2 SATA3 SATA4	Serial ATA Connectors
IR1	IrDA Infrared Interface Connector
FDD1	Internal FDD Connector
LPT1	Internal LPT Connector
DVI1	DVI-D connector
CPU_FAN1	Fan Connector
DIO1	Digital I/O Connector
F_PANEL1	PWR & RST Buttons and Indicators
CPU12V1	ATX-12V CPU Power Source
MINI-PCIE1	PCI-E Mini Card
TPM1	TPM Connector(80 port CONN)

Jumper setting

J_CMOS1 : Clear CMOS setting Jumper	
J_CMOS1	DESCRIPTION
1-2 (Default)	Normal
2-3	Clear CMOS Data

J_ATXCTL1 : Set The Power mode	
JATX_AT1	DESCRIPTION
1-2 (ON)	ATX Power Mode (Default)
1-2 (OFF)	AT Power Mode

JLAN_PWR1 : WOL enable jumper			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3.3V_DUAL	2	+3.3V_DUAL
3	+V3.3LAN2	4	+V3.3LAN1
5	+3.3V	6	+3.3V

JLAN_PWR1	DESCRIPTION
1-3	LAN 2 WOL Enable(Default)
2-4	LAN 1 WOL Enable(Default)
3-5	LAN 2 WOL Disable
4-6	LAN 1 WOL Disable

J_FLASH : Flash Descriptor Security Override/ ME Debug Mode	
J_FLASH	DESCRIPTION
1-2	Disabled (Default)
2-3	Enable

Connector

VGA1 : 15-pin Female Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	RED	2	GREEN
3	BLUE	4	NC
5	GND	6	GND
7	GND	8	GND

9	VCC	10	GND
11	NC	12	DCCDAT
13	HSYNC	14	VSYNC
15	DCCCLK		

USB_C1,USB_C2	
PIN NO.	DESCRIPTION
1	VCC
2	DATA-
3	DATA+
4	GROUND

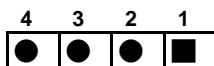
LAN1、LAN2: RJ45 LAN Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	MDIA3-	5	MDIA1+
2	MDIA3+	6	MDIA2+-
3.	MDIA2-	7	MDIA0-
4.	MDIA1-	8	MDIA0+

MS/KB1: Internal 6-pin Keyboard Connector	
PIN	DESCRIPTION
1	VCC
2	Mouse Data
3	Mouse Clock
4	Keyboard Data
5	Keyboard Clock
6	Ground

COM1,COM2: Internal Serial Port Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	DCD#	6	DSR#
2	RXD	7	RTS#
3	TXD	8	CTS#
4	DTR#	9	RI#
5	GND	10	NC

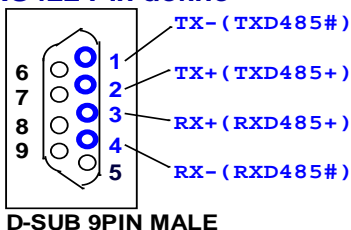
COM3: External Serial Port Connector (RS422/485)	
PIN NO.	DESCRIPTION
1	TXD485#
2	TXD485+

3	RXD485+
4	RXD485#

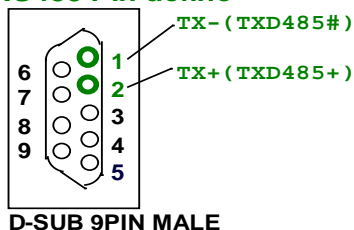


RS422/485

RS422 Pin define



RS485 Pin define



USB1-USB3: Internal USB Connector

PIN	DESCRIPTION	PIN	DESCRIPTION
1	VCC	2	GND
3	DATA-	4	DATA+
5	DATA+	6	DATA-
7	GND	8	VCC

J_AUDIO1 : External Audio Module Connector

PIN	DESCRIPTION	PIN	DESCRIPTION
1	ACZ_SYNC	2	ACZ_BITCLK
3	ACZ_SDOUT	4	ACZ_PCBEEP
5	ACZ_SDIN	6	ACZ_RST#
7	ACZ_VCC	8	ACZ_GND
9	ACZ_12V	10	ACZ_GND

SATA1-SATA4 : Serial ATA Connector

PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	5	RX-
2	TX+	6	RX+
3	TX-	7	GND
4	GND	8	N/C

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

FDD1: Floppy Disk Drive Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	GND	2	REDUCE WRITE
3	GND	4	N/C
5	N/C	6	N/C
7	GND	8	INDEX#
9	GND	10	MOTOR ENABLE A#
11	GND	12	DRIVE SELECT B#
13	GND	14	DRIVE SELECT A#
15	GND	16	MOTOR ENABLE B#
17	GND	18	DIRECTION#
19	GND	20	STEP#
21	GND	22	WRITE DATA#
23	GND	24	WRITE GATE#
25	GND	26	TRACK 0#
27	GND	28	WRITE PROTECT#
29	GND	30	READ DATA#
31	GND	32	SIDE 1 SELECT#
33	GND	34	DISK CHANGE#

LPT1 : Parallel Port Connector			
PIN	DESCRIPTION	PIN	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		

DVI1 : DVI Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	Data 2-	14	VCC
2	Data 2+	15	GND
3	GND	16	Hot Plug Detect.
4	N/C	17	Data 0-
5	N/C	18	Data 0+
6	DDC Clock	19	GND
7	DDC Data	20	N/C
8	N/C	21	N/C
9	Data 1-	22	GND
10	Data 1+	23	Clock +
11	GND	24	Clock -
12	N/C	25	GND
13	N/C		

CPU_FAN1 : CPU Fan Connector	
PIN NO.	DESCRIPTION
1	Ground
2	+12V
3	Rotation Signal
4	Control

DIO1 : Digital Input / Output Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	Ground	2	VCC
3	Output 3	4	Output 2
5	Output 1	6	Output 0
7	Input 3	8	Input 2
9	Input 1	10	Input 0

F_PANEL1 : External Switches and Indicators panel					
	PIN	DESCRIPTION	PIN	DESCRIPTION	
Power LED	1	+5V	2	+5V	Speaker
	3	N/C	4	N/C	
	5	GROUND	6	N/C	
PWRBTN	7	PWRBTN+	8	Speaker	RESET
	9	PWRBTN-	10	N/C	
HDDLED	11	+5V	12	Reset-	RESET
	13	HDLED-	14	GND	

CPU12V1: CPU Power Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	2	GND
3	+12V	4	+12V

MINI-PCIE1 : PCI-E Mini Card Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	PCIE_WAKE#	2	VCC3
3	N/C	4	GND
5	N/C	6	1.5V
7	CLKREQ#	8	LFRAME#
9	GND	10	LAD3
11	CLK-	12	LAD2
13	CLK+	14	LAD1
15	GND	16	LAD0
17	PCIRST#	18	GND
19	LPC	20	VCC3
21	GND	22	PCIRST#
23	PERN2	24	3VDual
25	PERP2	26	GND
27	GND	28	1.5V
29	GND	30	SMBCLK

31	PETN2	32	SMBDATA
33	PETP2	34	GND
35	GND	36	USB-
37	N/C	38	USB+
39	N/C	40	GND
41	N/C	42	N/C
43	N/C	44	RF_LINK#
45	N/C	46	BLUELED#
47	N/C	48	1.5V
49	N/C	50	GND
51	N/C	52	VCC3

TPM1: TPM Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	CLK	2	GND
3	FRAME#	4	NC
5	RERST#	6	+5V
7	AD3	8	AD2
9	+3V	10	AD1
11	AD0	12	GND
13	SMB_CLK	14	SMB_DATA
15	SB3V	16	SERIRQ
17	GND	18	CLKRUN#
19	PM_SUS_STAT#	20	DRQ#

