

**ATX Motherboard supports LGA1155 Intel® Core™ i7/i5/i3,
Pentium®, Celeron® CPU per Intel® H61, DDR3,
VGA/DVI-D, Dual Realtek PCIe GbE, USB 2.0, SATA 3Gb/s,
HD Audio and RoHS**

IMBA-H610

Quick Installation Guide

Version 1.0

Aug. 13, 2013

Package List

IMBA-H610 package includes the following items:

- 1 x IMBA-H610 Single Board Computer
- 4 x SATA Cable
- 1 x I/O Shielding
- 1 x Mini Jumper Pack
- 1 x Utility CD (within manual)
- 1 x QIG (Quick Installation Guide)
- 1 x One Key Recovery CD



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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 SDRAM
Unbuffered DIMM support (system max. 32GB)
- Ethernet:
Dual Realtek RTL8111E PCIe GbE controllers, LAN1 with ASF2.0 support
- Super IO: Fintek F81866
- I/O Interface:
5 x RS-232
1 x RS-422/485
4 x SATA 3Gb/s
1 x LPT
10 x USB 2.0 (4 on rear, 6 by pin header)
1 x PS/2 KB/MB
- Expansion:
1 x PCIe x16 slot
2 x PCIe x1 slots
4 x PCI slots
- Digital I/O: 8-bit Programmable I/O
- Display Output:
VGA/ DVI-D Integrated in the Intel® H61
- Graphic Engine:
Intel® HD Graphics 2000 / 3000 (Base on CPU type)
Support for DX10.1 and OpenGL3.0
Full MPEG2, VC1, AVC Decode
- Audio: Realtek ALC662 HD Audio Codec (Line-in, Line-out, Mic)
- Front Audio: 10-pin (2x5) header
- TPM: 20-pin (2x10) header

- SMBus: 4-pin (1x4) wafer
- I2C: 4-pin (1x4) wafer
- Watchdog Timer:
Software programmable supports 1~255sec. System reset
- Power supply: AT/ATX supported
- Power Consumption:
3.3V@1.65A, 5V@6.31A, 12V@0.18A, Vcore@7.88A,
5VSb@0.15 (Intel® Core™ i5-2400 3.10GHz CPU with 1333MHz
DDR3 4GB x 4 memory)
- Temperature: Operation: -10°C~60°C
- Humidity: Operation: 5%~95% non-condensing
- Dimensions: 244mm x 305mm

Ordering Information

- IMBA-H610-R10 :
ATX Motherboard supports LGA1155 Intel® Core™ i7/i5/i3, Pentium®,
Celeron® CPU per Intel® H61, DDR3, VGA/DVI-D, Dual Realtek
PCIe GbE, USB 2.0, SATA 3Gb/s, HD Audio and RoHS
- 19800-003100-100-RS : Dual ports USB cable with bracket
- 32200-074800-RS : RS-422/485 cable, 200mm
- 19800-000051-RS : RS-232 cable, 230mm
- 32102-000100-200-RS : SATA power Cable
- 19800-000049-RS : LPT Cable
- CF-1156A-RS : High performance LGA1155/LGA1156 Cooler kit, 1U
Chassis compatible, 73W
- CF-1156B-RS : High performance LGA1155/LGA1156 Cooler kit, 95W
- CF-1156C-RS : High performance LGA1155/LGA1156 Cooler kit, 1U
Chassis compatible, 45W
- CF-1156D-RS : High performance 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

LABEL	FUNCTION
J_CMOS1	CMOS State Setting
J_AUTO1	AT mode or ATX mode Selection
SATA1,2,5,6	Serial ATA 3Gb/s Connector
F_PANEL1	Front Panel connector
JSPI1	SPI Flash Program Connector
TPM1	Trusted Platform Module connector
COM3,5,6	Internal Serial Port DB-9 Connectors
LPT1	Parallel Port Connector
DIO1	Digital I/O Connector
SYS_FAN1~2	System FAN Connector
FP_AUDIO1	Front Panel Audio Connector
ATX1	24Pin ATX Power Supply Connector
CPU12V1	+12V Power Source Connector
CPU_FAN1	CPU FAN
I2C_1	I2C connector
SMBUS_1	SMBUS connector
USB1~4	Internal USB2.0 Connectors
KB_MS2	PS/2 MOUSE & KEYBOARD Connector
COM1	External Serial Port DB-9 Connectors
LAN1_USB01_1	RJ45 LAN and USB2.0 Connector
LAN2_USB23_1	RJ45 LAN and USB2.0 Connector
AUDIO_CV1	Audio Connector
COM4	Internal Serial Port RS422/RS485 Connectors

J_COMS1 : Clear CMOS Setup	
PIN NO.	DESCRIPTION
Short 1-2	Keep CMOS Setup(default)
Short 2-3	Clear CMOS Setup

J_AUTO1: ATX mode or AT mode Selection	
PIN NO.	DESCRIPTION
OPEN	AT Mode
SHORT	ATX Mode

CPU_FAN 1: CPU Fan Connector	
PIN	DESCRIPTION
1	GND
2	+12V
3	FANIO1
4	PWM

SYS_FAN1 · SYS_FAN2 : System Fan Connector	
PIN NO.	DESCRIPTION
1	FANIO
2	+12V (PWM)
3	GND

SATA1,2,5,6 : Serial ATA 3Gb/s Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	5	RXN_A
2	TXP_A	6	RXP_A
3	TXN_A	7	GND
4	GND	8	GND
9	TXP_B	10	TXN_B
11	GND	12	RXN_B
13	RXP_B	14	GND

COM3,5,6 : Internal Serial Port Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	-NDCD1	6	-NCTS1
2	-NDSR1	7	-NDTR1
3	NSIN1	8	-XRI1
4	-NRTS1	9	GND
5	NSOUT1	10	GND

F_PANEL1 : PWR & RST Buttons and Indicators panel					
	PIN	DESCRIPTION	PIN	DESCRIPTION	
PWR_LED	1	ACPILED	2	BEEP_PWR	BUZZER
	3	NC	4	NC	
	5	GND	6	NC	
PWR_BTN	7	PWRBTN_SW#_C	8	PC_BEEP	RESET
	9	GND	10	NC	
HDD_LED	11	IDELED	12	EXTRST-	
	13	IDELED-	14	GND	

JSPI1: Flash SPI ROM Connector			
USB01, USB23, USB45			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3.3V	2	GND
3	CS0	4	CLK
5	SO0	6	SI
7	NC	8	NC

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#

AUDIO_CV1: Audio input and output connector	
PIN NO.	DESCRIPTION
Line-in	CD/DVD or other audio source input port
Line_ot	Connect this port to headphone or speaker
Microphone	Connect this port to microphone

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

DIO1 : Digital Input / Output Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	GND	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

FP_AUDIO1 : Audio Source Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	LMIC2_L	2	AUD GND
3	LMIC2_R	4	PRESENCE#
5	LLINE2-R	6	MIC2-JD
7	F_SENSE	8	NC
9	LLINE2-L	10	LINE2-JD

COM4	
PIN	DESCRIPTION
1	RXD485#
2	RXD485+
3	TXD485+
4	TXD485#

I2C_1	
PIN	DESCRIPTION
1	+5V_DUAL
2	PCH_GP38_PU
3	PCH_GP39_PU
4	GND

ATX1: 20Pin ATX Power Supply Connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	+3.3Vdc	11	+3.3Vdc
2	+3.3Vdc	12	-12Vdc
3	GND	13	GND
4	+5Vdc	14	PS-ON
5	GND	15	GND
6	+5Vdc	16	GND
7	GND	17	GND
8	PWR-OK	18	-5Vdc
9	+5VSby	19	+5Vdc
10	+12Vdc	20	+5Vdc

ATX12V1 : +12V MAIN POWER Connector	
PIN	DESCRIPTION
1	+5V
2	GND
3	GND
4	+12V

SMBus :	
PIN	DESCRIPTION
1	+5V_DUAL
2	SMBCLK
3	SMBDATA
4	GND

USB1-4: Internal USB Connectors			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	VCC	2	GND
3	DATA-	4	DATA+
5	DATA+	6	DATA-
7	GND	8	VCC

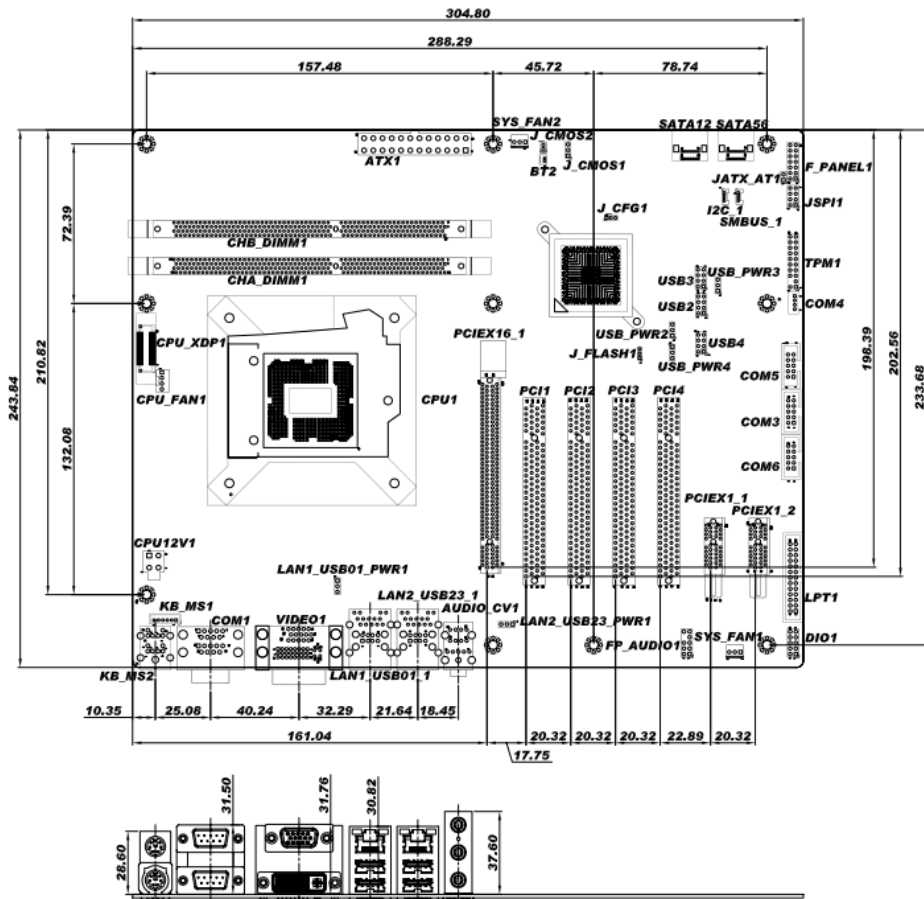
KB_MS2 : Mouse & Keyboard Connector			
PIN	DESCRIPTION	PIN	DESCRIPTION
1	Keyboard Data	7	Mouse Data
2	NC	8	NC
3	GND	9	GND
4	VCC	10	VCC
5	Keyboard Clock	11	Mouse Clock
6	NC	12	NC

COM1: External Serial Port Connector	
PIN	DESCRIPTION
1	DATA CARRIER DETECT (DCD1)
2	RECEIVE DATA (RXD1)
3	TRANSMIT DATA (TXD1)
4	DATA TERMINAL READY (DTR1)
5	GND (GND1)
6	DATA SET READY (DSR1)
7	REQUEST TO SEND (RTS1)
8	CLEAR TO SEND (CTS1)
9	RING INDICATOR (RI1)

LAN1 · LAN2 : LAN port connector			
PIN NO.	DESCRIPTION	PIN NO.	DESCRIPTION
1	MDIA3-	2	MDIA3+
3	MDIA2-	4	MDIA1-
5	MDIA1+	6	MDIA2+
7	MDIA0-	8	MDIA0+

USB 2.0 : USB 2.0 port connector	
PIN NO.	DESCRIPTION
1	VCC
2	DATA-
3	DATA+
4	GND

Board Layout: Jumper and Connector Locations



(Unit:mm)