

**ATX Motherboard Intel® LGA775 Core™2 Duo/Quad with a  
1333/1066/800MHz FSB, Dual Intel® GbE, SATA II with  
RAID, USB2.0, COM ports and HD Audio**

# **IMBA-Q454**

## **Quick Installation Guide**

**Version 1.0**

Feb. 12, 2009

### **Package Contents**

IMBA-Q454 package includes the following items:

- 1 x IMBA-Q454 Single Board Computer
- 2 x Dual RS-232 cable with bracket
- 6 x SATA cable
- 1 x Mini Jumper Pack
- 1 x I/O Shielding
- 1 x Utility CD
- 1 x QIG (Quick Installation Guide)



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## Specifications

- CPU: Intel® Core™ 2 Duo/Quad, Pentium® 4/D, Celeron®  
D Processor with a 1333/1066/800MHz FSB
- System Chipset: Intel® Q45+ ICH10DO
- BIOS: AMI BIOS label
- System memory: 4 x 240pin Dual-Channel DDR2 800/667 MHz  
SDRAM DIMMs support up to 8GB
- Ethernet:  
PCIe interface Intel® 82567LM GbE controller(iAMT 5.0 support)  
PCIe interface Intel® 82574L GbE controller
- I/O Interface:  
6 x RS-232 (1 on rear, 5 by pin header)  
12 x USB2.0 (4 on rear, 8 by pin header)  
6 x SATA II support RAID 0, 1, 10, 5  
1 x FDD  
1 x LPT  
1 x PS/2 for KB/MS
- Infrared interface: 1 x 5-pin pin header
- SPDIF: 1 x 5-pin pin header
- Expansion: 1 x PCIe x16 Slot  
1 x PCIe x4 Slot  
4 x PCI Slot
- Super I/O: First Super I/O: ITE IT8718F  
Second Super I/O: Fintek F81216
- Digital I/O: 8-bit Digital I/O ( 4-bit input / 4-bit output)
- Display: Support by Intel® GMA4500 Integrated in Intel® Q45  
Analog CRT
- Audio: Realtek ALC888 supports 7.1 channel HD Audio Codec
- TPM: iTPM1.2
- Watchdog timer: Software programmable 1-255 sec. by Second  
super I/O: Fintek F81216
- Power supply: ATX
- Power Consumption:  
3.3V@ 2.64A, 5V@ 5.4A, 12V@ 0.28A (Intel® Core™ 2 Duo

E8500 3.16GHz with DDR2 800MHz 2GB DRAM x4) 3D Mark 2001SE

- Operating Temperature: 0 ~ 60°C( 32 ~ 140°F)
- Operating Humidity: 5%~95% non-condensing
- Dimension: 305mm x 244mm
- Weight: GW:1200g, NW:600g

## **Ordering Information**

### **IMBA-Q454-R10:**

ATX Motherboard Intel® LGA775 Core™2 Duo/Quad with a 1333/1066/800MHz FSB, Dual Intel® GbE, SATA II with RAID, USB2.0, COM ports and HD Audio

### **SDVO-100VGA-R10:**

PClex16 VGA output SDVO Card support dual display(IEI board only)

### **SDVO-100DVI-R10:**

PClex16 DVI output SDVO Card support dual display(IEI board only)

**CF-775A-RS:** CPU Cooler

**CF-520-RS:** CPU Cooler

**32200-000017-RS:** FDD Cable

**32100-088600-RS:** SATA Power Cable

**CB-USB02-RS:** Dual Ports USB Cable with Bracket

**CB-USB14-RS:** 4 Ports USB Cable with Bracket

## **NOTICE**

1) Before removing the DDR2 DRAM module, make sure the AC power is completely turned off. Incorrect usage may cause permanently damage to the IMBA-Q454 or the DRAM module. This is because the IMBA-Q454 supports iAMT feature and need to provide power to the DRAM module when the IMBA-Q454 is off.

2) Do not disconnect the ATX connector when the IMBA-Q454 is powered on and running. Please make sure to switch off the ATX power supply prior to disconnect the ATX connector. Incorrect usage may cause permanently damage to the IMBA-Q454.

3) If the IMBA-Q454 fails to boot due to improper usage, please clear the CMOS by disconnect the battery from the connector.

## Jumpers setting and Connectors

<b>LABEL</b>	<b>FUNCTION</b>
J_CMOS1	CMOS state setting jumper
KB_MS1	External PS/2 KB/MS Connector
3IN1_DSUB1	External VGA/COM1/LPT connectors
LAN1_USB01 LAN2_USB23	External LAN And USB Connectors
AUDIO_CV1	External Audio Connector
FP_AUDIO1	Front Audio Connector
SPDIF1	Internal SPDIF Connector
COM2 ~ 6	Internal Serial Port Connectors (RS-232)
JSPI1	Flash SPI ROM connector
USB45 USB67 USB89 USB1011	Internal 8 Port USB Connectors
SATA1 ~ 6	Serial ATA Connectors
FDD1	FDD Connector
IR1	Infrared Interface Connector
CPU_FAN1 NB_FAN1	Smart Fan Connectors for CPU and NB
SYS_FAN1	System Fan Connector
DIO1	Digital I/O Connector
F_PANEL1	PWR · RST Buttons · Indicators and Speaker
CPU12V1	ATX-12V CPU Power Source Connector
PCIEX_12V1	PCIe Power Source Connector
ATX1	ATX Power Source Connector
BAT1	Coin Battery holder
DIMM1 ~ 4	DDR2 Slots
PCIEX16_1	PCIe x 16 Slot
PCIEX4_1	PCIe x 4 Slot
PCI1 ~ 4	PCI Slot

<b>J_CMOS1 : Clear CMOS Setup</b>	
<b>J_CMOS1</b>	<b>DESCRIPTION</b>
<b>1-2 (default)*</b>	<b>Keep CMOS Setup (Normal Operation)</b>
Short 2-3	Clear CMOS Setup

<b>JTPM1 &amp; JTPM2 : Enable iTPM</b>		
<b>JTPM1</b>	<b>JTPM2</b>	<b>DESCRIPTION</b>
<b>Short (default*)</b>	<b>Short (default*)</b>	<b>Enable iTPM</b>
Short	Open	Disable iTPM
Open	Short	
Open	Open	

<b>FP_AUDIO1 : Front Audio Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	MIC_L	2	GND
3	MIC_R	4	Audio Detect
5.	LINE Out-R	6	GND
7	Jack Detection	8	N/C
9	LINE Out-L	10	GND

<b>IR1: Infrared Interface Connector</b>	
<b>PIN</b>	<b>DESCRIPTION</b>
1	VCC(+5V)
2	NC
3	IR-RX
4	GND
5	IR-TX

<b>SPDIF1 : Internal SPDIF connector</b>	
<b>PIN</b>	<b>DESCRIPTION</b>
1	5V
2	N/C
3	SPDIFOUT
4	GND
5	SPDIFIN

<b>USB45 · USB67 · USB89 · USB1011 : Internal USB Connectors</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	VCC(+5V)	2	GND
3	DATA-	4	DATA+
5	DATA+	6	DATA-
7	GND	8	VCC(+5V)

<b>COM2 ~ COM6 : Internal Serial Port Connectors (RS-232)</b>			
<b>PIN</b>	<b>DESCRIPTION</b>	<b>PIN</b>	<b>DESCRIPTION</b>
1	DCD#	2	DSR#
3	RXD	4	RTS#
5	TXD	6	CTS#
7	DTR#	8	RI#
9	GND	10	NC

<b>F_PANEL1 : PWR · RST Buttons · Indicators and Speaker</b>					
	<b>PIN</b>	<b>DESCRIPTION</b>	<b>PIN</b>	<b>DESCRIPTION</b>	
Power LED	1	Power LED+	2	Speaker+	Speaker
	3	N/C	4	N/C	
	5	Power LED-	6	N/C	
PWRBTN	7	PWRBTN+	8	Speaker-	RESET
	9	PWRBTN-	10	N/C	
HDDLLED	11	HDLED+	12	Reset+	RESET
	13	HDLED-	14	Reset -	

<b>CPU_FAN1 · NB_FAN1: Smart fan Connectors</b>	
<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	Ground
2	+12V
3	Rotation Signal
4	Control

<b>SYS_FAN1: fan Connectors</b>	
<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	Ground
2	+12V
3	Rotation Signal

<b>DIO1 : Digital Input / Output Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	Ground	2	VCC(+5V)
3	Output 3	4	Output 2
5	Output 1	6	Output 0
7	Input 3	8	Input 2
9	Input 1	10	Input 0

<b>JSPI1 : SPI Flash Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	3.3V	2	GND
3	CS0#	4	CLK
5	SO0	6	SI
7	N/C	8	N/C

<b>PCIE_12V1: PCIe Power Source Connector</b>	
<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	VCC +5V
2	GND
3	GND
4	VCC +12V

<b>BAT1 : Coin battery holder</b>	
<b>PIN</b>	<b>DESCRIPTION</b>
1	BAT+
2	BAT-(GND)

<b>CPU12V1 : CPU POWER Source Connector</b>			
<b>PIN NO.</b>	<b>DESCRIPTION</b>	<b>PIN NO.</b>	<b>DESCRIPTION</b>
1	GND	2	GND
3	+12V	4	+12V

# Board Layout: Jumper and Connector Locations

