

# ASRock IMB-781 Motherboard datasheet

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Socket LGA1150 for Intel Core i7/i5/i3/Celeron (Haswell)

Intel® Q87 Chipset

Integrated Intel® HD Graphics Built-in Visuals

Supports DDR3 1600MHz, 4 x Long-DIMM, up to 32GB system memory

2 x COM (RS-232/422/485), 4 x COM (RS-232)

1 x D-Sub, 1 x HDMI, 1 x DisplayPort

4 x USB 3.0, 10 x USB 2.0, 5 x SATA3

4 x PCI, 1 x mSATA, 3 x PCIe (x16/x4/x1),

1 x CFast Card Socket (option)

Gigabit LAN : 1 x Intel I217LM (with v-Pro support), 1 x Intel I210

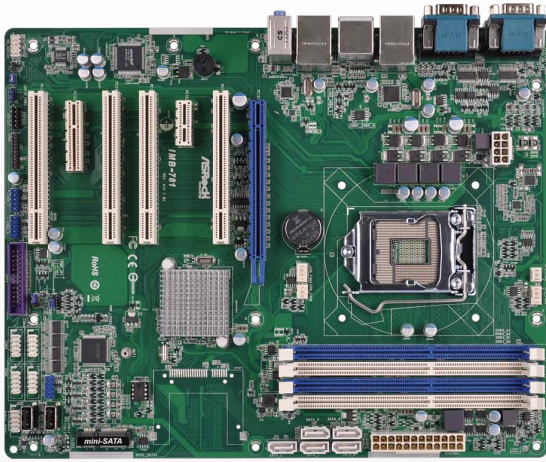
1 x TPM Header

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## IMB-781

ATX Motherboard



## Spotlight Features

- Socket LGA1150 for Intel Core i7/i5/i3/Celeron (Haswell)
- Intel® Q87 Chipset
- Integrated Intel® HD Graphics Built-in Visuals
- Supports DDR3 1600MHz, 4 x Long-DIMM, up to 32GB system memory
- 2 x COM (RS-232/422/485), 4 x COM (RS-232)
- 1 x D-Sub, 1 x HDMI, 1 x DisplayPort
- 4 x USB 3.0, 10 x USB 2.0, 5 x SATA3
- 4 x PCI, 1 x mSATA, 3 x PCIe (x16/x4/x1),  
1 x CFast Card Socket (option)
- Gigabit LAN : 1 x Intel I217LM (with v-Pro support), 1 x Intel I210
- 1 x TPM Header

## Specifications

## Processor System

Dimension	ATX (9.6-in x 12-in)
CPU	Socket LGA1150 for Intel Core i7/i5/i3/Celeron (Haswell)
Core Number	(By CPU Max 4)
Max Speed	( By CPU)
L3 Cache	(By CPU)
Chipset	Q87
BIOS	UEFI

## Expansion Slot

PCI	4
Mini-PCIe	0
mSATA	1
PCIe	1 (x16)+1 (x4)+ 1 ( x1)
CFast Card Socket	1 ( optional)

## Memory

Technology	Dual Channel DDR3 1066/1333/1600 MHz SDRAM
Max.	32GB
Socket	4 x Long-DIMM

## Graphics

Controller	Intel HD Graphics (By CPU)
VRAM	Shared Memory
VGA	Supports max resolution 2048 x 1536
LVDS	No
HDMI	Supports HDMI 1.4a, max resolution 1920 x 1200
DVI	No
Display Port	Supports max resolution 2560 x1 600
Multi Display	Yes (Three Display)

## Ethernet

Interface	10/100/1000 Mbps
Controller	GbE LAN1: Intel I210, LAN2: Intel I217LM (with v-Pro support)
Connector	2 x RJ-45

## SATA

Max Data Transfer Rate	SATA2 (3.0Gb/S), SATA3 (6.0Gb/S), Supports RAID 0/1/5/10
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## Rear I/O

VGA	1
HDMI	1
DVI-I/D	0
Display Port	1
Ethernet	2
USB	6 (4 x USB 3.0 compliant, 2 x USB 2.0 compliant)
Audio	3 (Mic-In, Line-Out, Line-In)
Serial	2 (RS-232/422/485)
PS/2	1 (Combo)

## Internal Connector

USB	6 (3 x USB Header 2.54mm pitch,) 2 Vertical Type A USB Connector
LVDS/Inverter	0
VGA	0
Serial	4 (RS-232)
SATA	5 x SATA3 (6.0Gb/s), Support RAID 0/1/5/10
m-SATA	1
Mini-PCIe	0
Parallel	1
IrDA	0
GPIO	4 x GPI + 4 x GPO
SATA PWR Output Con	0
Speaker Header	0

## Watchdog Timer

Output	Output from super I/O to drag RESETCON#
Interval	256 Segments, 0,1,2...255 Sec/Min

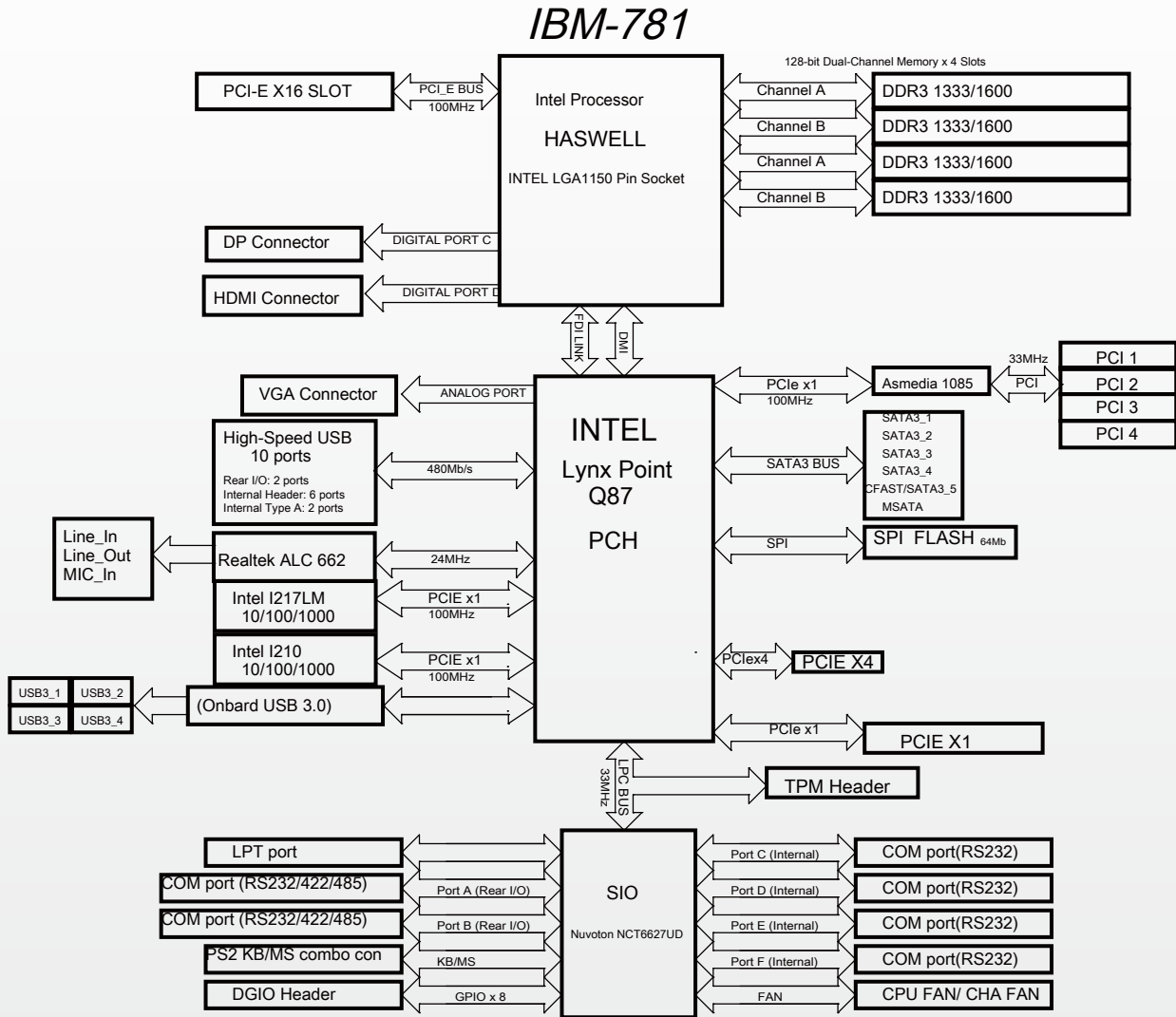
## Power Requirements

Input PWR	ATX PWR (8 + 24)
Power On	AT/ATX Supported AT : Directly PWR on as power input ready ATX : Press button to PWR on after power input ready

## Environment

Operating Temperature	0°C – 60°C
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Board Diagram



IPC Motherboards Focused Markets

ASRock IMB solutions can be widely used for industrial applications, such as process control, data acquisition, and so on. IMB-PCs are typically panel mounted and often incorporate touch screens for user interaction.



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