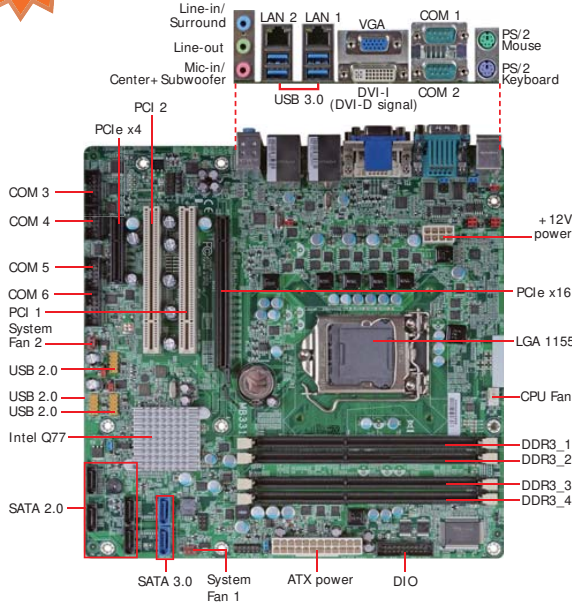


# DFI MB331-CRM microATX

Desktop

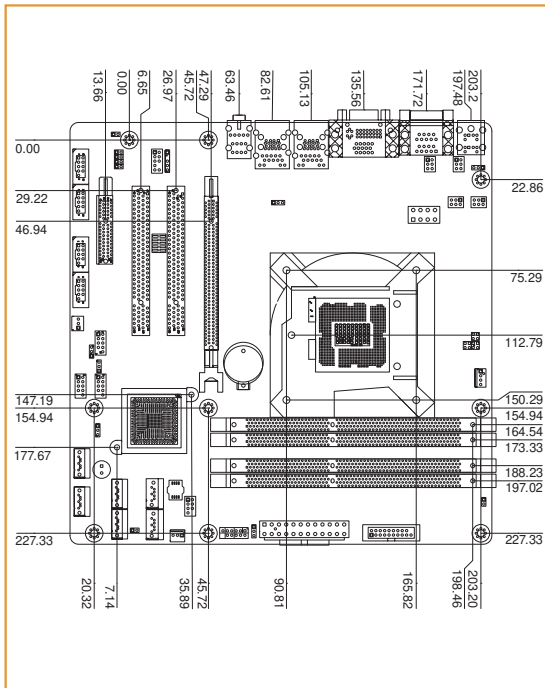
Specifications



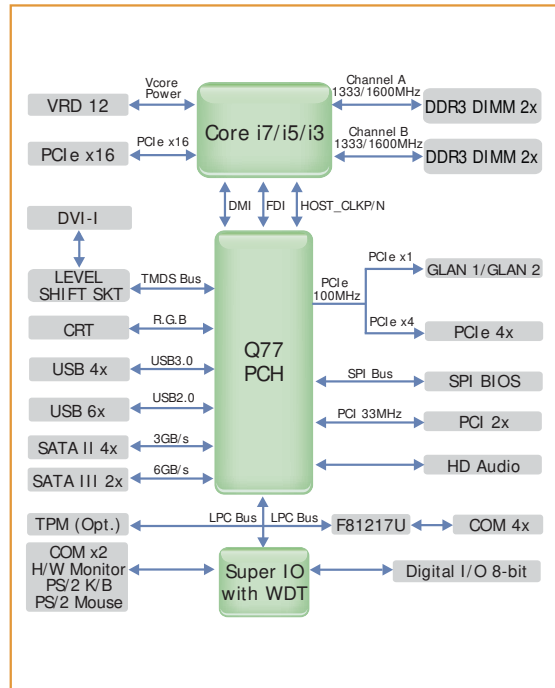
## Features

|                 |  |
|-----------------|--|
| CHIPSET         | Intel® Q77   |
| CPU             | 3rd Generation Intel® Core™ processors<br>2nd Generation Intel® Core™ processors |
| MEMORY          | 4 DDR3 DIMM up to 32GB   |
| EXPANSION       | 1 PCIe x16, 1 PCIe x4, 2 PCI   |
| DISPLAY OUTPUTS | 2 Independent Displays<br>1 DVI-I, 1 VGA   |
| LAN             | 2 Gigabit LAN ports  |
| COM             | 6 COM  |
| USB             | 10 USB: 4 USB 3.0, 6 USB 2.0   |
| STORAGE         | 6 SATA: 2 SATA 3.0, 4 SATA 2.0   |
| DIO             | 8-bit DIO  |

## Mechanical Drawing



## Block Diagram



# MB331-CRM microATX **DFI**

Industrial Motherboards  
microATX

## Specifications

### PROCESSOR

- LGA 1155 socket for:
  - 3rd generation Intel® Core™ processors (22nm process technology)
    - : Intel® Core™ i7-3770 (8M Cache, up to 3.9GHz); 77W
    - : Intel® Core™ i5-3550S (6M Cache, up to 3.7GHz); 65W
    - : Intel® Core™ i3-3220 (3M Cache, 3.3GHz); 55W
    - : Intel® Pentium® G2120 (3M Cache, 3.1 GHz); 65W
  - 2nd generation Intel® Core™ processors (32nm process technology)
    - : Intel® Core™ i7-2600 (8M Cache, up to 3.8 GHz); 95W
    - : Intel® Core™ i5-2400 (6M Cache, up to 3.4 GHz); 95W
    - : Intel® Core™ i3-2120 (3M Cache, 3.3 GHz); 65W
    - : Intel® Pentium® G850 (3M Cache, 2.9 GHz); 65W

### CHIPSET

- Intel® Q77 Express chipset

### SYSTEM MEMORY

- Four 240-pin DDR3 DIMM sockets
- Supports DDR3 1333/1600MHz (3rd generation processors)
- Supports DDR3 1066/1333MHz (2nd generation processors)
- Supports dual channel memory interface
- Supports up to 32GB system memory
- DRAM device technologies: 1Gb, 2Gb and 4Gb DDR3 DRAM technologies are supported for x8 and x16 devices, unbuffered, non-ECC

### EXPANSION SLOTS

- 1 PCIe x16 slot
  - Supports Gen 3.0 (3rd generation processors)
  - Supports Gen 2.0 (2nd generation processors)
- 1 PCIe x4 slot (PCIe 2.0)
- 2 PCI slots (PCI 2.3)

### ONBOARD GRAPHICS FEATURES

- Intel® HD Graphics 4000 (i7); HD Graphics 2500 (i5/i3/Pentium)
- Display ports: DVI-I (DVI-D signal) and VGA
- DVI display resolution up to 1920x1200
- VGA display resolution up to 2048x1536 pixels with 32-bit color at 75Hz
- Intel® Clear Video Technology
- Intel® Advanced Vector Extensions (Intel® AVX) Instructions
- Supports DirectX 11 and OGL 3.0

### ONBOARD AUDIO FEATURES

- Realtek ALC886 5.1-channel High Definition Audio
- Audio outputs: Mic-in/Center+ Subwoofer, line-in/surround and line out
- S/PDIF audio interface

### ONBOARD LAN FEATURES

- Intel® WG82579LM with iAMT8.0 Gigabit Ethernet Phy
- Realtek RTL8111DL PCI Express Gigabit Ethernet controller
- Integrated 10/100/1000 transceiver
- Fully compliant with IEEE 802.3, IEEE 802.3u, IEEE 802.3ab

### SERIAL ATA (SATA) INTERFACE

- 6 Serial ATA ports
  - 2 SATA 3.0 ports with data transfer rate up to 6Gb/s
  - 4 SATA 2.0 ports with data transfer rate up to 3Gb/s (SATA port 4 provides adequate space for SATA DOM)
- Integrated Advanced Host Controller Interface (AHCI) controller
- Supports RAID 0/1/5/10

### INTEL ACTIVE MANAGEMENT TECHNOLOGY (AMT)

- Supports iAMT8.0
- Out-of-band system access
- Remote troubleshooting and recovery
- Hardware-based agent presence checking
- Proactive alerting
- Remote hardware and software asset tracking

### TRUSTED PLATFORM MODULE (TPM) - optional

- Provides a Trusted PC for secure transactions
- Provides software license protection, enforcement and password protection

### USB INTERFACE

- XHCI Host Controller supports up to 4 super speed USB 3.0 ports

### REAR PANEL I/O PORTS

- 1 mini-DIN-6 PS/2 mouse port
- 1 mini-DIN-6 PS/2 keyboard port
- 2 DB-9 serial ports
  - Supports RS232/422/485 (RS232 and/or Power)
- 1 DB-15 VGA port
- 1 DVI-I port (DVI-D signal)
- 2 RJ45 LAN ports
- 4 USB 3.0 ports
- Line-in/surround, Line out, and Mic-in/Center+ Subwoofer jacks

### I/O CONNECTORS

- 3 connectors for 6 external USB 2.0 ports
- 4 connectors for 4 external RS232 serial ports
- 1 8-bit Digital I/O connector
- 1 front audio connector for line-out and mic-in jacks
- 1 S/PDIF connector
- 6 Serial ATA ports (2 SATA 3.0; 4 SATA 2.0)
- 1 24-pin ATX power connector
- 1 8-pin 12V power connector
- 1 chassis intrusion connector
- 1 front panel connector
- 3 fan connectors

### BIOS

- AMI BIOS
- 64Mbits SPI BIOS

### ENERGY EFFICIENT DESIGN

- Supports ErP Lot6 power saving (optional)
- ACPI v3.0 specification
- System Power Management
- Wake-On-Events include:
  - Wake-On-PS/2 KB/Mouse
  - Wake-On-USB KB/Mouse
  - Wake-On-LAN
- RTC timer to power-on the system
- CPU stopped clock control
- AC power failure recovery

### DAMAGE FREE INTELLIGENCE

- Monitors CPU/system temperature and overheat alarm
- Monitors VCore/5V/3.3V/V\_DIMM/12V/5VSB voltages and failure alarm
- Monitors CPU/system fan speed and failure alarm
- Read back capability that displays temperature, voltage and fan speed
- Watchdog timer function

### POWER CONSUMPTION

- 130.43 W with i7-2600 at 3.40GHz and 4x 2GB DDR3 DIMM

### TEMPERATURE

- Operating: 0°C to 60°C
- Storage: -20°C to 85°C

### HUMIDITY

- 10% to 90%

### DIMENSIONS

- microATX form factor
- 244mm (9.6") x 244mm (9.6")

### CERTIFICATIONS

- CE
- FCC Class B
- UL
- Rohs

## Packing List

- 1 MB331-CRM motherboard
- 2 USB port cables (with bracket)
- 2 Serial ATA data cables
- 2 COM port cables (with bracket)
- 1 I/O shield
- 1 DVD
- 1 QR (Quick Reference)

## Optional Items

- USB port cable
- Serial ATA data cable
- Serial ATA power cable
- COM port cable
- I/O shield

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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