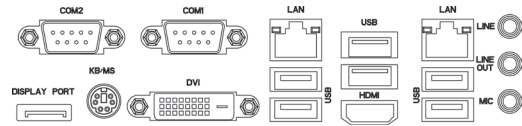
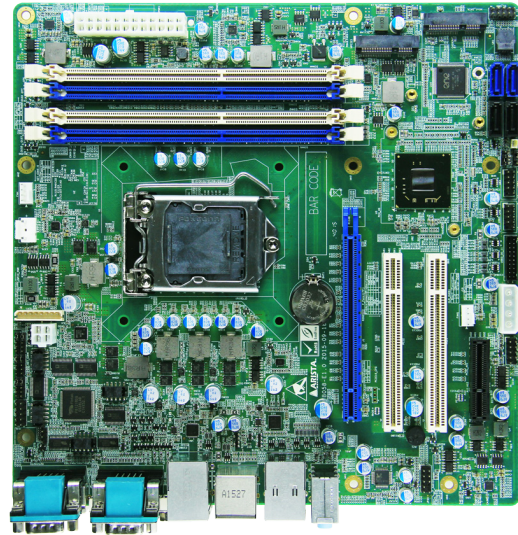
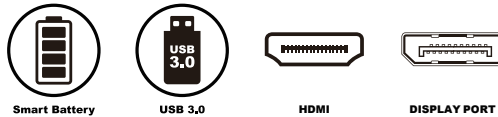


Features

- Socket LGA1155 for Intel® Core i7/i5/i3/Celeron (Ivy Bridge and Sandy Bridge).
- Intel® Q77 Chipset.
- Supports Smart Battery for portable applications.
- Supports DDR3 1600MHz, 4 x Long-DIMM, up to 32GB system memory.
- Integrated Intel® HD Graphics Built-in Visuals.
- 1 x DVI, 1 x HDMI, 1 x Display Port, 1 x Dual Channel 24-bit LVDS
- Two Gigabit LAN: 1 x Realtek RTL8111F. 1 x Intel 82579LM
- 4 x USB 3.0, 8 x USB 2.0, 2 x SATA3, 2 x SATA2, 1 x GPIO, 1 x SATA PWR.
- 2 x RS-232/422/485, 4 x RS-232
- 2 x Mini-PCIe, 1 x PCIe x8, 1 x PCIe x4, 2 x PCI
- Two RS-232/422/485, two USB 3.0, four USB 2.0, Two Gigabit LAN ports, one HDMI, one DVI, one Display Port, one Audio on board edge



Specifications



Form Factor

Dimensions	Micro-ATX (9.6 X 9.6 inch/244 X 244 mm (L X W))
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Processor system

CPU	Desktop processor socket LGA1155 for Intel Core i7/i5/i3/Celeron (Sandy Bridge and Ivy Bridge)
Core Number	(By CPU, Max 4)
Max Speed	(By CPU)
Chipset	Q77 (Panther point) , BGA package (Southbridge)
BIOS	AMI BIOS

Expansion slots

PCI	2
Mini-PCIe	2 (1 x Mini-PCIe for WLAN/Net module, 1 x Mini PCIe for mSATA)
mSATA	N/A
PCIe	1 x PCIe x8, 1 x PCIe x4
CFast Card Socket	N/A

Memory

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

Graphics

Controller	Intel HD Graphics (By CPU)
VRAM	Shared Memory
VGA	N/A
LVDS	Dual Channel 24-bit, max resolution 1920x1080@60Hz
HDMI	Supports max resolution 1920x1080
DVI	Supports max resolution 1920x1080
Display Port	Supports max resolution 2560x1600
Multi Display	YES *Support dual displays

Ethernet

Interface	10/100/1000 Mbps
Controller	GbE LAN: Realtek RTL8111F. Intel 82579LM
Connector	2x RJ-45

SATA

Max Data Transfer Rate	SATA3 (6.0Gb/s)
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Rear I/O

VGA	N/A
DVI	1
HDMI	1
DisplayPort	1
Ethernet	2
USB	6 (4 x USB 2.0, 2 x USB 3.0)
Audio	1 x Mic-in, 1 x Line-out, 1 x Line-in
Serial	2 x RS-232/422/485
eSATA	N/A
PS/2	1

Internal Connector

USB	6 (4 x USB2.0 header, 2 x USB3.0 header)
LVDS / inverter	N/A
VGA	N/A
Serial	4
SATA	4 (2 x SATA2, 2 x SATA3)
mPCIe	2
Parallel	N/A
mSATA	N/A
GPIO 8-bit	1
SATA PWR Output Con	1
Speaker Header	1
Smart Battery Header	1
SIM card	N/A
Stackable I/O	N/A
Layer1	N/A
Layer2	N/A

Watchdog Timer

Watchdog Timer	Programmable 1 - 255 sec
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Power Requirements

Power Requirement (Max)	24V DC-IN / ATX
Power Consumption (Max)	128W (CPU i7-3770, RAM 32GB)

Environment

Operating Temperature	0-60°C (32~140°F)
Storage Temperature	-40~85°C (-40~185°F)
Relative Humidity	0~95%