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ITX-QM77

Industrial Mini-ITX Intel QM77 Ivy Bridge Mobile Motherboard Support 3rd Generation Core i7 / i5 / i3 Mobile Processor

Datasheet

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- » Intel Ivy Bridge (IVB) 3rd Generation Core i3 / i5 / i7 / Celeron Mobile Processors
- » HDMI, DVI, LVDS, Dual Intel Gigabit Ethernet, SATA-III 6Gbit/s, USB 3.0 Ports
- » Three Internal RS-232 COM Ports with +5V/+12V DC Power Output
- » PCIe/USB MiniCard Socket and x16 PCI Express Expansion Slot
- » Industrial 1U Copper-based Dual Ball-Bearing CPU Cooler
- » Meet Ultra Low Profile 1U / 1.75 inches Height System Configuration



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Overview

Secu6 ITX-QM77 series is an industrial Mini-ITX motherboard, features Intel Ivy Bridge (IVB) Mobile computing platform, supports Intel Gen 3 Core i3 / i5 / i7 mobile processors and Gen 2 Core i3 / i5 / i7 mobile processors, 16 GB of memory capacity, onboard dual Intel Gbit Ethernet, HDMI, DVI, HD audio, SATA-III 6 Gbit/s and SuperSpeed USB 3.0 ports, x16 PCI Express slot, Mini-PCIe / USB MiniCard socket. Based on the features of Mini-ITX SFF (Small Form Factor), Intel Ivy Bridge Mobile computing platform, the ITX-QM77 meets the demand of industrial embedded applied computing applications including the industrial PC platform, digital signage, transaction and multimedia workstation, car PC, slim-type server, STB (Set-Top-Box), DVR, PVR, networking server and industrial embedded computing platform.



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Key Features

Secu6 ITX-QM77 Mini-ITX motherboard is based on Intel Ivy Bridge Mobile computing platform, offers VGA, HDMI, DVI, LVDS, dual Gbit Ethernet, SATA-III 6Gbit/s, USB 3.0, GPIO, x16 PCI Express expansion slot and MiniCard socket.

- Small Form Factor (SFF) Mini-ITX motherboard with 170 x 170 mm or 6.7 x 6.7 inches of dimension (W x L).
- Intel Chief River mobile computing platform supports Intel Ivy Bridge (Gen3) and Sandy Bridge (Gen2) Core i3 / i5 / i7 / Celeron mobile processors.
- Dual DDR3 So-DIMM sockets support up to 16 GB of memory capacity.
- Intel Ivy Bridge mobile processor built-in Intel HD Graphics 4000 GPU with 650MHz of base frequency, support Microsoft DirectX 11, OpenGL 3.1, and OpenCL 1.1.
- Onboard 2*24-bit LVDS interface supports up to 1600x1200 of resolution.
- External DVI port supports up to 1920x1200 of resolution.
- Supports dual SATA-III 6Gbit/s ports and three SATA-II 3Gbit/s ports.
- Onboard Dual Intel Gbit Ethernet ports.
- Onboard SuperSpeed USB 3.0 ports.
- Onboard TPM with Infineon SLB9635 controller.
- Four RS-232 COM ports with three internal RS-232 ports with +5V/+12V power output.
- 8-bit programmable GPIO port.
- Support SmartFan function on both of CPU fan and system fan.
- Mini-PCIe / USB MiniCard Socket.
- x16 PCI Express expansion slot supports graphics model and I/O mode of add-on cards.
- PCI Express rev. 3.0 compliant with Intel Ivy Bridge Core-i7 and Core-i5 mobile processors.
- 1U copper-based dual ball-bearing CPU cooler
- Meet 1U height system configuration



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Specification

Form Factor	Mini-ITX / Mini-FlexATX form factor at 170 x 170 mm of dimension
Platform Chipset	Intel Chief River mobile computing platform with Panther Point QM77 PCH (Platform Control Hub)
CPU	<p>Intel Socket G2 μPGA988 / FCPGA988 / rPGA988B / FC-PGA10</p> <p>Ivy Bridge Core i3 / i5 / i7 / Celeron mobile processors</p> <p>Sandy Bridge Core i3 / i5 / i7 / Celeron mobile processors</p> <p>Power design supports up to 45W CPUs</p> <p>Intel Embedded Ivy Bridge μPGA988B / FCPGA988 Processor</p> <ul style="list-style-type: none">• Intel Core i7-3610QE 4-Core / 8-Thread / 2.3 GHz / 6MB / 45W• Intel Core i5-3610ME 2-Core / 4-Thread / 2.7 GHz / 3MB / 35W• Intel Core i3-3120ME 2-Core / 4-Thread / 2.4 GHz / 3MB / 35W <p>Intel Embedded Sandy Bridge μPGA988B / FCPGA988 Processor</p> <ul style="list-style-type: none">• Intel Core i7-2710QE 4-Core / 8-Thread / 2.1 GHz / 6MB / 45W• Intel Core i5-2510E 2-Core / 4-Thread / 2.5GHz / 3MB / 35W• Intel Core i3-2330E 2-Core / 4-Thread / 2.2GHz / 3MB / 35W• Intel Celeron B810 2-Core / 2-Thread / 1.6GHz / 2MB / 35W
DRAM	<p>Two vertical type 204-pin So-DIMM sockets</p> <p>Supports dual channel DDR3-1333/1066 non-ECC SDRAM</p> <p>Memory Capacity supports up to 16 GBytes</p>
BIOS	AMI BIOS in 64Mb SPI flash
Power Management	<p>Support S1 / S3 / S4 / S5 of power state</p> <p>Support WoL (Wake-on-LAN) and WoR (Wake-on-Ring)</p>
Watchdog Timer	System reset with 1 to 255 sec./min. of timeout value
TPM	Support TPM 1.2 with onboard Infineon SLB9635
Expansion Bus Interface	<p>PCI Express Expansion Slot</p> <ul style="list-style-type: none">• One 16-lane PCI Express expansion slot with 16-lane PCI Express bus interface



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	<ul style="list-style-type: none">• Support x1 / x8 / x16 PCI Express graphics mode add-on card• Support x1 / x4 / x8 / x16 PCI Express I/O mode add-on card• PCI Express 3.0 / 2.0 compliant with Intel Gen3 Core i7 / i5 CPU (i7-3610QE, i5-3610ME)• PCI Express 2.0 compliant with all Intel Gen3 Core i3 and Gen2 Core CPUs <p>MiniCard (Mini PCI Express) Socket</p> <ul style="list-style-type: none">• One MiniCard (Mini PCI Express / Mini PCIe) socket with one USB and 1-lane PCI Express bus interface• USB 2.0 / PCI Express 2.0 compliant
SATA Ports	<p>Intel QM77 PCH built-in SATA controller</p> <p>Onboard 2 SATA-III 6Gbit/s ports with red connectors</p> <p>Onboard 3 SATA-II 3Gbit/s ports with black connectors</p> <p>Supports RAID 0, 1, 0+1 (10), 5</p>
Video Interface	<p>Intel Ivy Bridge CPU built-in Intel HD Graphics 4000/2500 GPU core with 650MHz of base frequency, Microsoft DirextX 11 support.</p> <p>Intel Sandy Bridge CPU built-in Intel HD Graphics 3000/2000 GPU core supports Microsoft DirectX 10.1, OpenGL 3.0, Clone, Twin and Extended DT display modes</p> <p>Shared Video memory supports up to 1.7 GBytes</p> <p>VGA Interface</p> <ul style="list-style-type: none">• External VGA port with DB15 female connector on rear I/O panel• Supports up to 2048 x 1536 of resolution. <p>DVI Interface</p> <ul style="list-style-type: none">• External DVI port with DVI-I connector on rear I/O panel• Supports up to 1920 x 1200 of resolution <p>HDMI Interface</p> <ul style="list-style-type: none">• External HDMI 1.3 port with HDMI connector on rear I/O panel• Supports up to 1920 x 1080 of resolution <p>LVDS Interface</p>



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	<ul style="list-style-type: none">Internal dual channel 24-bit LVDS interfaceSupports 1920x1200 of resolutionOnboard backlight connector
Audio Interface	Onboard Realtek ACL892 HD audio codec External Line-in, Line-out, Mic-in audio jacks Internal front audio pin header
Ethernet Interface	Onboard dual Intel Gbit Ethernet interfaces 10/100/1000BASE-TX auto-switching, IEEE802.3U compliant 1st Gbit Ethernet with Intel 82579LM controller 2nd Gbit Ethernet with Intel 82583V controller External dual RJ45 8P8C connectors on rear I/O panel
USB Ports	Intel QM77 PCH built-in USB controller Support SuperSpeed USB 3.0 interface with 5Gbps of data transfer bandwidth External 4 USB 3.0 / 2.0 ports on rear I/O panel Internal 8 USB 2.0 ports pin headers NOTE : The Intel USB 3.0 eXtensible Host Controller Driver is ONLY supported on Windows 7 (both 32-bit and 64-bit versions).
Super-I/O Port	Nuvoton NCT6776F Super-I/O controller <ul style="list-style-type: none">4 RS-232 COM port including 1 external RS-232 port and 3 internal RS-232 port with +5V/+12V power outputExternal PS/2 keyboard and mouse portInternal 8-bit programmable GPIO port with 4-bit input and 4-bit output
Rear I/O Panel	<ul style="list-style-type: none">PS/2 Keyboard and Mouse PortsRS232 COM and HDMI PortsVGA and DVI Ports1st Gbit Ethernet RJ45 8P8C and Dual USB 3.0 Ports2nd Gbit Ethernet RJ45 8P8C and Dual USB 3.0 PortsHD Audio Line-in, Line-out, Mic-in Ports



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Environment	<ul style="list-style-type: none">• Power Requirement : ATX power input with onboard 20-pin ATX power connector and 4-pin +12V aux power connector.• Board Dimension : 170 x 170 mm (L x W)• Operating Temperature : 0 ~ 60°C (32 ~ 140°F)• Storage Temperature : -40 ~ 85°C (-40 ~ 185°F)• Operating Humidity : 10 ~ 90% relative humidity, non-condensing.
Packing List	<ul style="list-style-type: none">• 1 x ITX-QM77 motherboard• 1 x DVD-ROM disc contains OS drivers and user's manual• 2 x COM cables (9-pin)• 2 x SATA cable (2 in 1, 7-pin)• 1 x I/O shield• 1 x Startup Manual



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Ordering Guide

Ordering Code	Features
ITX-QM77	Mini-ITX Intel QM77 μPGA988 Ivy Bridge Mobile Motherboard Support Intel Gen3 / Gen2 Core-i3 / i5 / i7 / Celeron Mobile CPU with VGA, DVI, HDMI, LVDS, Dual Intel Gigabit Ethernet, HD Audio, SATA-III 6Gbit/s, SuperSpeed USB 3.0, 4 COM, 8-bit GPIO Ports, MiniCard Socket, and x16 PCI Express Expansion Slot with CPC-1500C 1U Copper-based / Dual Ball Bearing CPU Cooler

For the further information about ITX-QM77 Industrial Mini-ITX Intel QM77 Ivy Bridge Mobile motherboard, please visit the website at <http://www.secu6.com.tw> or email to sales@secu6.com.tw .