SBC-4227-Q170
Intel® Core™ i5/i7 processor based on PCIMG 1.3 SHB with DDR4 SDRAM, HDMI, DVI-I, Dual Gigabit Ethernet Audio and USB

Features
- Supports Intel® Core™ i5/i7 processors in LGA1150 package
- Supports Intel® Core™ i5/i7 processors in LGA 1151 package
- Delivers up to 32GB maximum DDR4 2133 non-ECC DIMM on two sockets
- Supports multiple display by DVI-I (DVI-D+VGA) and HDMI
- High speed dual Gigabit Ethernet based on PCI express x1, high bandwidth I/O interface
- On-board six SATAIII ports
- Rich I/O connections such as four serials ports, USB 3.0/2.0, SATA III ports

Overview
SBC-4227-Q170 is based on Intel® Q170 chipset and desktop processors. Built with Flexible PCI Expansion the SBC-4227-Q170 is suitable for Medical, Industrial/Factory Automation, and Digital Signage applications.

Specification
Processor
Intel® Core™ i5/i7 processors up to 3.4 GHz (35~65W) with (8MB) Cache in LGA-1151 package

DMI x4 Link: 5.0GT/s
Support Intel® Turbo Boost, Hyper-Threading, Virtualization, Thermal Monitoring, Trusted Execution and SpeedStep Technology (depends on CPU sku)

Chipset
Intel® Q170 PCH

BIOS
AMI uEFI BIOS (SPI ROM)

Memory
Supports up to 32GB DDR4 2133/1866 SDRAM on two 288-pin DIMM sockets
Supports non-ECC

Storage Devices
Support 6x SATA III drives (Dual ports via Backplane)
RAID Options 0, 1, 5 and 10

Watchdog Timer
Programmable via S/W from 0.5 sec. to 254.5 sec.

Hardware Monitoring
System monitor (Voltage, Fan Speed and Temperature)

Expansion Interface
From CPU (Core i5/i7): 1x PCI Express x16 or 2x PCI Express x8 or 1x PCI Express x8 + 2x PCI Express x4 by jumper setting (Gen3 up to 8.0 GT/s)
From PCH: 1x PCI Express x4 or 4x PCI Express x1 by different bios support (Gen 3 up to 8.0 GT/s)

Super I/O
ITE IT8528E

Audio
Intel® PCH built-in High Definition Audio up to 192-kHz 32-bit
Realtek ALC886-GR HDA codec, 5.1 channels
one on-board audio pin header

Ethernet
Intel® WGI219LM + WGI210AT gigabit Ethernet controller
Dual 10BASE-T / 100BASE-TX / 1000BASE-T Ethernet
PCI Express x1 interface based on gigabit Ethernet
Dual RJ-45 connector with two LED indicators

Serial Port
2x RS232 ports
2x RS232/422/485 selectable
LPC to COM port IC: Fintek F81216DG

USB
2x USB 2.0 ports (through backplane)
480Mbps bus capable of high-speed/full-speed/low-speed data ranges
10x USB 3.0 ports on board (eight ports on board, dual ports on bracket)
5Gbps bus capable of high-speed/full-speed/low-speed data ranges

All systems are fully integrated and are configurable to meet your application requirements

Keyboard & Mouse
2x USB 3.0 ports on bracket dedicated to keyboard & mouse (on bracket)
1x 10 pin box header for external PS/2 keyboard/mouse

GPIO
On board programmable 8-bit Digital I/Os

Graphic Controller
Intel® Core™ i5/i7 processors integrated graphics engine
Provides improved 3D multimedia capabilities including Microsoft DirectX 12, OCL 2.x and OpenGL 4.3/4.4

Display Interface
Support independent triple display by
CRT on bracket: Resolution up to 1920x1200 @60Hz
DVI-D on bracket: up to 1920x1200 @60Hz
HDPI on bracket by bracket: up to 4096x2160 @24Hz

Dimension
338.5(L) x 126.39(W) mm; 13.33"(L) x 4.98"(W)

Power Supply
Typical: +12V, +5V
Supports ATX mode

Environment
Operation Temperature: 0~60 °C
Storage Temperature: -20~80 °C
Relative Humidity: 5~90%, non-condensing

MTBF
Over 100,000 hours at 40°C

Packing List
Standard
SATA III cable (Black)
Cable kit for FDD+PRN with bracket
Dual head COM port cable with bracket
DVI-D + VGA cable
PICMG SBC Handling and Installation Notice
Installation CD

Optional
PS/2 Keyboard / Mouse Cable with bracket
USB port cable with bracket
USB 3.0 cable with bracket
PA-M1AU Multiple Media kit

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