AmITX-SL-G

Mini-ITX Embedded Board with 6th/7th Gen Intel® Core™ i7/i5/i3 Desktop Processor

Features
- 6th/7th Gen Intel® Core™ i7/i5/i3, Intel® Pentium® and Celeron® Desktop Processor with Intel® Q170/H110 Chipset
- Up to 32GB dual channel DDR4 at 2133/2400MHz
- PCIe x16, PCIe x1 and Mini PCIe expansion
- 3 DisplayPort outputs on rear IO (Q170)
- Supports Smart Embedded Management Agent (SEMA®) functions

Specifications
- Processor & System
  - CPU: Desktop 6th Generation Intel® Core™ i7/i5/i3 and Pentium®/Celeron® Processor, LGA1151 socket
  - Intel® Core™ i7-6700 Processor, 4C, 3.4/4.0 GHz, 8M, 65W
  - Intel® Core™ i7-6700TE Processor, 4C, 2.4/3.4 GHz, 8M, 35W
  - Intel® Core™ i5-6500 Processor, 4C, 3.2/3.6 GHz, 6M, 65W
  - Intel® Core™ i5-6500TE Processor, 4C, 2.3/3.3 GHz, 6M, 35W
  - Intel® Core™ i3-6100 Processor, 2C, 3.7 GHz, 3M, 51W
  - Intel® Core™ i3-6100TE Processor, 2C, 2.7 GHz, 3M, 35W
  - Intel® Pentium® G4400 Processor, 2C, 3.3 GHz, 3M, 54W
  - Intel® Pentium® G4400TE Processor, 2C, 2.4 GHz, 3M, 35W
  - Intel® Celeron® G3900 Processor, 2C, 2.8 GHz, 2M, 51W
  - Intel® Celeron® G3900TE Processor, 2C, 2.3 GHz, 2M, 35W
  - Desktop 7th Generation Intel® Core™ i7/i5/i3 and Pentium®/Celeron® Processor, LGA1151 socket
  - Intel® Core™ i7-7700 Processor, 4C, 3.6/4.2 GHz, 8M, 65W
  - Intel® Core™ i7-7700T Processor, 4C, 2.9/3.8 GHz, 8M, 35W
  - Intel® Core™ i5-7500 Processor, 4C, 3.4/3.8 GHz, 6M, 65W
  - Intel® Core™ i5-7500T Processor, 4C, 2.7/3.3 GHz, 6M, 35W
  - Intel® Core™ i3-7101E Processor, 2C, 3.9 GHz, 3M, 54W
  - Intel® Core™ i3-7101TE Processor, 2C, 3.4GHz, 3M, 35W

- Chipset
  - Intel® Q170/H110 Chipset

- BIOS
  - AMI EFI in 16MB SPI BIOS with Intel® AMT 11.0 support (Q170 only)
  - SPI header for external BIOS, optional onboard SPI BIOS socket

- Debug Interface
  - 40-pin multipurpose flat cable connector for use in combination with DB-40 debug module providing BIOS POST code LEDs, BMC access, SPI BIOS flashing, power testpoints, debug LEDs

- Memory
  - Dual channel non-ECC 2133/2400 MHz DDR4 memory up to 32GB in dual vertical SODIM sockets

- SEMA® Support
  - Supports: voltage/current monitoring, power sequence debug support, AT/ATX mode control, logistics and forensic information, flat panel control, general purpose I2C, failsafe BIOS (dual BIOS), watchdog timer and triple Smart Fan control

I/O Interfaces
- Expansion Slots
  - 1 PCIe x16 Gen3
  - 1 PCIe x1 Gen2
  - 1x Mini-PCIe card (half size): support ing PCIe1(Gen 2)/USB 2.0 (top side)
  - 1x Mini-PCIe card (full size): support ing PCIe1(Gen 2) or mSATA/USB 2.0 (bottom side)

- Serial ATA
  - 3x SATA 6 Gbps ports (Jumper select NA/3.3V/SV for SATA1 and SATA2 to deliver power by SATA pin7; Default is NA)
  - 2x SATA power connector

- USB
  - 4x USB 3.0 and 4x USB 2.0 on rear I/O
  - 2x USB 3.0 on header (H110: USB 2.0)
  - 1x USB 3.0 on vertical connector with keep out area for dongle (H110: USB 2.0)

- KB/MS
  - 1x PS/2 internal header

- Serial Ports
  - 3x RS-232 headers, 1x RS-232/422/485 headers (Support NA (Default)/5V/12V by jumper selection)

- Digital I/O
  - 10 GPIO via onboard feature connector

- Audio
  - Audio Codec
    - Realtek® ALC886

- Interfaces
  - 7.1 channel audio via 5 jacks and S/PDIF output on rear I/O
  - 7.1 channel audio signals and S/PDIF output on internal header

Note: “Build option” indicates an alternative BOM configuration to support additional or alternative functions that are not available on the standard product. Be aware that part numbers for SKUs with “build options” will need to be created and may cause production lead times.
Specifications

● Display
  Graphics Core
  Intel® 9th generation LP graphics core architecture with up to 18 execution units supporting DirectX 11/12, OGL4.3/4.4, and up to three independent, simultaneous displays

  DisplayPort
  3x DisplayPort v1.2 with resolution up to 4096 x 2160 @ 24Hz (3x DisplayPort(Q170), 2x DisplayPort(H110))

  LVDS
  LVDS (optional): Single/dual channel 24-bit LVDS up to 1920x1080 @ 60 Hz (from eDP-to-LVDS converter)

  eDP (build option)
  eDP (optional): Supports 3840x2160 resolution @ 60Hz, 24bpp (not available concurrently with LVDS)

● Ethernet
  Intel® i219-LM (PHY) Ethernet controller (H110: i219-V)
  • Supports Intel® AMT 11.0 (Q170 only)
  • Supports Intel® vPro™ (Q170 only)
  Intel® i211AT (MAC/PHY) Ethernet controller
  10/100/1000 GbE connection

● TPM
  Atmel AT97SC3204 (optional)

● Power
  Standard Input: ATX: 12V ±5% / 5Vsb ±5%
  AT: 12V ±5%
  Peripheral Output: Onboard headers for fan and SATA power
  ATX Power Connector (14-pin)

● Mechanical and Environmental
  Dimension (mm): 170 mm x 170 mm (L x W)

  Operating Temperature
  Standard: 0˚C to +60˚C
  Storage Temperature: -20˚C to +80˚C
  Certification: CE, FCC Class B

  Relative Humidity
  40˚C @ 95% RH Non-condensing

● Operating Systems
  Standard Support
  6th Gen CPU: Windows 10/8.1/7, Linux
  7th Gen CPU: Windows 10, Linux

  Extended Support (BSP)
  6th Gen CPU: WES7, Linux, VxWorks (TBD)
  7th Gen CPU: Linux, VxWorks (TBD)

● Intelligent Middleware
  SEMA®
  Local management, control of embedded computer systems
  Extended EAPI for monitoring, controlling and analytics applications
  Multiple OS support and across platforms (x86, ARM)
Ordering Information

- AmITX-SL-G-Q170
  Mini-ITX Embedded Board with 6th/7th generation Intel® Core™ i7/i5/i3 Desktop Processor with Q170 Chipset
- AmITX-SL-G-H110
  Mini-ITX Embedded Board with 6th/7th generation Intel® Core™ i7/i5/i3 Desktop Processor with H110 Chipset

Optional Accessories

- 30-20876-0000
  COM Port Cable, 1 Port, 25cm
- 30-20873-0000
  PS/2 KB/MS Cable, 40cm
- 30-20963-0000
  USB 3.0 Cable, 2 ports, 20cm (for AmITX-SL-G-Q170)
- 30-20874-1000
  USB 2.0 Cable, 2 ports, 20cm (for AmITX-SL-G-H110)
- 32-20513-0000
  LGA1150 CPU Cooler, H=30.0mm, 45W
- 32-20512-0000
  LGA1150 CPU Cooler, H=46.05mm, 45W
- 32-20113-3000
  LGA1150 CPU Cooler, H=50.2mm, 95W
- 32-20495-0000
  LGA1150 CPU Cooler, H=61.4mm, 95W

Packing List

- 30-20872-0000
  ATX/AT Power Cable
- 30-20875-0000
  SATA Dual Power Cable
- 30-10057-0600
  SATA Cable
- 34-25314-1000
  Rear I/O Shield