

# 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 32 GB dual channel DDR4 at 2133MHz
- PCIe x16, PCIe x1 and Mini PCIe expansion
- 3 DisplayPort outputs on rear IO
- Supports Smart Embedded Management Agent (SEMA®) functions

Updated



### Specifications

#### • Processor & System

##### CPU

Socket LGA1151 supporting 6th/7th generation Intel® Core™ i7/i5/i3 and Intel® Pentium®/Celeron® processors up to 65W

Intel® Core™ i7-7700 Processor, 4C GT2 8M 3.6/4.2 GHz, 65W  
 Intel® Core™ i7-7700T Processor, 4C GT2 8M 2.9/3.8 GHz, 35W  
 Intel® Core™ i5-7500 Processor, 4C GT2 6M 3.4/3.8 GHz, 65W  
 Intel® Core™ i5-7500T Processor, 4C GT2 6M 2.7/3.3 GHz, 35W  
 Intel® Core™ i3-7101E Processor, 2C GT2 3M 3.9 GHz, 65W  
 Intel® Core™ i3-7101TE Processor, 2C GT2 3M 3.4 GHz, 35W  
 Intel® Core™ i7-6700 Processor, 4C GT2 8M 3.4/4.0 GHz, 65W  
 Intel® Core™ i7-6700TE Processor, 4C GT2 8M 2.4/3.4 GHz, 35W  
 Intel® Core™ i5-6500 Processor, 4C GT2 6M 3.2/3.6 GHz, 65W  
 Intel® Core™ i5-6500TE Processor, 4C GT2 6M 2.3/3.3 GHz, 35W  
 Intel® Core™ i3-6100 Processor, 2C GT2 3M, 3.70 GHz, 51W  
 Intel® Core™ i3-6100TE Processor, 2C GT2 4M 2.7 GHz, 35W  
 Intel® Pentium® G4400 Processor, 2C GT1 3M 3.3 GHz, 54W  
 Intel® Pentium® G4400TE Processor, 2C GT1 3M 2.4 GHz, 35W  
 Intel® Celeron® G3900 Processor, 2C GT1 2M 2.8 GHz, 51W  
 Intel® Celeron® G3900TE Processor 2C GT1 2M 2.3 GHz, 35W

Supports: Intel® VT, Intel® TXT, Intel® SSE4.2, Intel® HT Technology, Intel® 64 Architecture, Execute Disable Bit, Intel® Turbo Boost Technology 2.0, Intel® AVX2, Intel® AES-NI, PCLMULQDQ Instruction, Intel® Secure Key and Intel® TSX-NI

##### 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 1866/2133 MHz DDR4 memory up to 32 GB in dual vertical SODIMM 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
- 1 Mini PCIe (full size slot) supporting PCIe + USB or mSATA
- 1 Mini PCIe (half size slot) supporting PCIe + USB

##### Serial ATA

- 3x SATA 6 Gbps ports

##### USB

- 4x USB 3.0 and 4x USB 2.0 on rear I/O
- 2x USB 3.0 onboard 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

- 1x RS-232/422/485 via onboard header
- 3x RS-232 via onboard headers

##### Digital IO

- 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

## Specifications

### • Display

#### Graphics Core

Intel® Generation 9 Graphics supporting DirectX 11/12, OGL4.3/4.4, 3 independent, simultaneous displays

#### DisplayPort

3 ports with resolution up to 4096 x 2160 pixels resolution

#### LVDS

Single/dual channel 24-bit LVDS up to 1920x1200 @ 60 Hz (from eDP-to-LVDS converter)

#### eDP (build option)

Supports 4096 x 2304 resolution @ 60Hz, 24bpp (not available concurrently with LVDS)

### • Ethernet

Controller: 1x Intel® i219-LM Ethernet controller (H110: i219-V)

1x Intel® i211AT Ethernet controller

Interface: 2x PCI Express x1 Bus

Wake-on-LAN: Yes

### • TPM

Chipset: Atmel AT97SC3204

Type: TPM 1.2

### • Power

Standard Input: ATX: 12V ±5% / 5Vsb ±5%

AT: 12V ±5%

Peripheral Output: Onboard headers for fan and SATA power

### • 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

10% to 90%, 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

7th Gen CPU: Linux, VxWorks

### • Intelligent Middleware

#### SEMA®

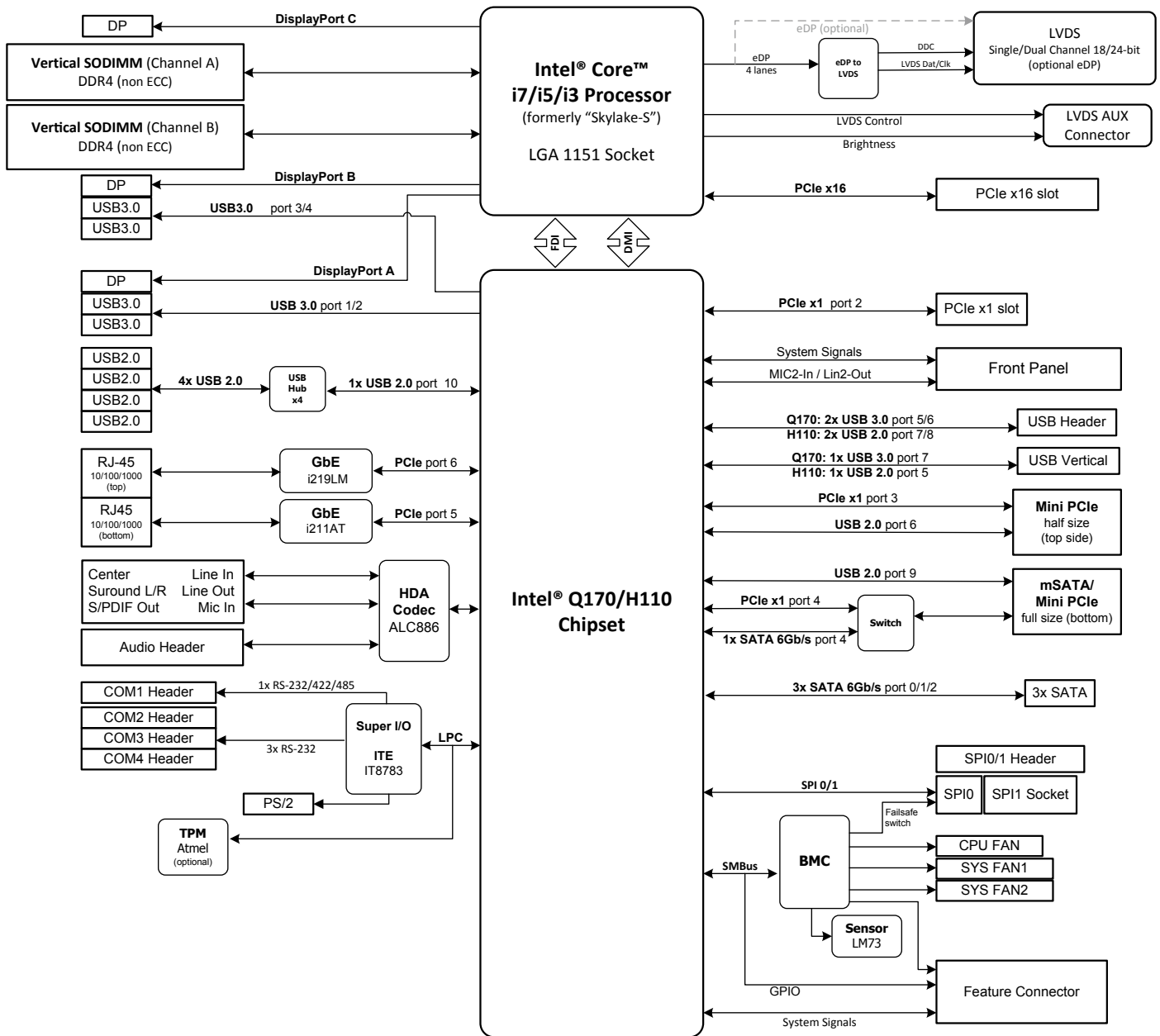
Local management, control of embedded computer systems

Extended EAPI for monitoring, controlling and analytics applications

Multiple OS support and across platforms (x86, ARM)



# Functional Diagram



## 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

## 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

## 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