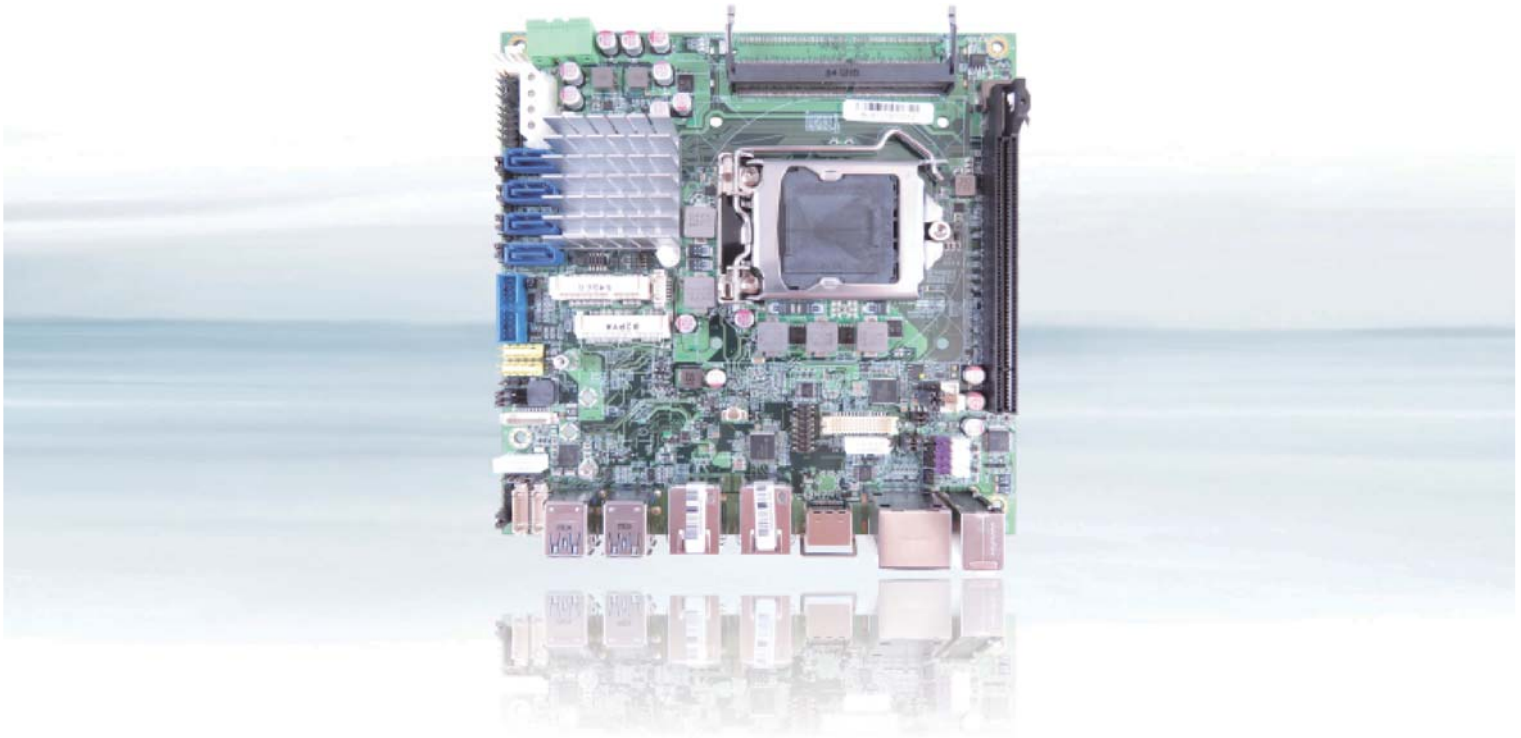


mITX-SSH-S

LOW-PROFILE REAR I/O DESIGN



LOW-PROFILE MINI-ITX INDUSTRIAL MOTHERBOARD WITH 6TH GEN INTEL® CORE™ / CELERON® S-SERIES PROCESSORS

- ▶ 1x LVDS / 1x VGA, 2x DP, 1x HDMI for display output
- ▶ 2x GbE LAN for Ethernet
- ▶ 6x USB 3.0, 4x USB 2.0, 2x RS232/422/485, 8-bit DIO for peripherals
- ▶ 4x SATA 3.0 for storage
- ▶ 2x mSATA / mPCIe, 1x PCIe x16 for SSD and expansion

mITX-SSH-S

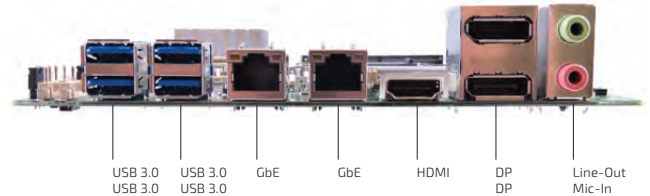
LOW-PROFILE MINI-ITX MOTHERBOARD WITH 6TH GEN INTEL® CORE™ / CELERON® S-SERIES PROCESSORS

mITX-SSH-S is a Mini-ITX industrial motherboard powered by 6th Generation Intel® Core™ / Celeron® S-Series Processors. It delivers improved graphics performance, power efficiency and wireless connectivity in comparison with the counterparts powered by the previous generation processors.

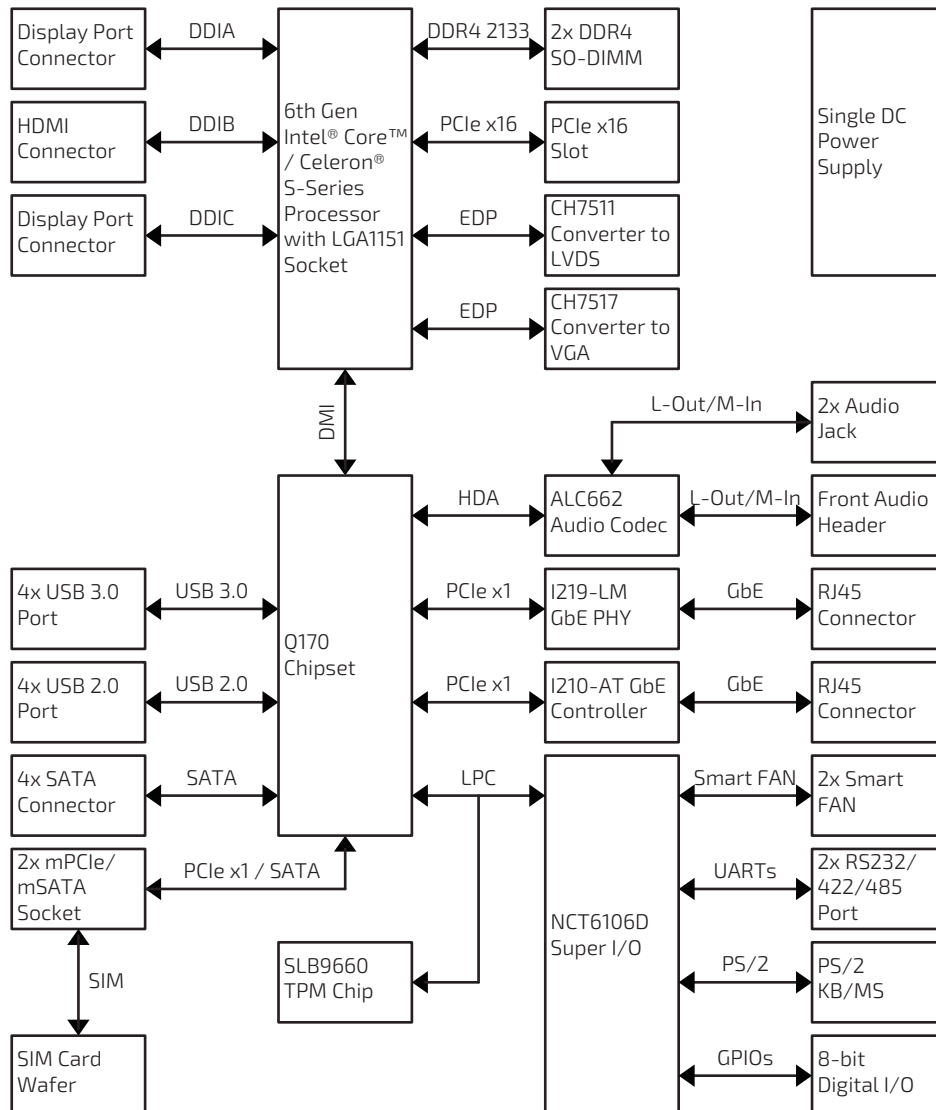
mITX-SSH-S features lower-profile rear I/O layout and horizontal type memory socket. In addition, it supports two mSATA / mPCIe combo slots for SSD installation to replace conventional 2.5" hard drive and for wireless connectivity. Thus, the board is an ideal platform for thin client devices or applications where a slim or small form factor is required.

PRODUCT HIGHLIGHTS

- ▶ 6th Gen Intel® Core™ / Celeron® S-Series CPU (FCLGA1151 Socket)
- ▶ Intel® Q170 Express Chipset
- ▶ 1x / 2x DDR4 SO-DIMM horizontal-type socket (default: 1x)
- ▶ 1x LVDS / 1x VGA, 2x DP, 1x HDMI for triple display support
- ▶ 2x GbE LAN for Ethernet
- ▶ 6x USB 3.0, 4x USB 2.0 for USB device connection
- ▶ 2x RS232/422/485 for serial device connection
- ▶ 8-bit DIO for device / signal control
- ▶ 4x SATA 3.0 for storage with RAID support
- ▶ 2x mSATA / mPCIe for SSD / WWLAN / Bluetooth / WWAN
- ▶ 1x PCIe x16 for application-specific expansion
- ▶ Low-profile rear I/O design



BLOCK DIAGRAM



► TECHNICAL INFORMATION

| | | |
|--|--|---|
| SYSTEM | PROCESSOR CHIPSET MEMORY | 6th Gen Intel® Core™ / Celeron® S-Series Processors (FCLGA1151 Socket) Intel® Q170 1x DDR4 1866 / 2133 SO-DIMM up to 64 GByte (horizontal type, default) 2x DDR4 1866 / 2133 SO-DIMM up to 64 GByte (horizontal type, optional) |
| VIDEO | GRAPHICS DISPLAY INTERFACE MULTIPLE DISPLAY | Intel® HD Graphics 530 (Core™) Intel® HD Graphics 510 (Celeron®) 1x LVDS (24-bit, 2-ch, 1920 x 1200 @ 60 Hz) 1x VGA (by header, 1920 x 1200 @ 60 Hz) 1x HDMI (on rear, 4096 x 2160 @ 24 Hz / 2560 x 1600 @ 60 Hz) 2x DP (on rear, 4096 x 2304 @ 60 Hz) Triple (LVDS and VGA are alternative each other) |
| AUDIO | AUDIO CODEC AUDIO INTERFACE | Realtek ALC662 2x Speak-Out (3 W, by header) 2x Line-out (1x on rear, 1x by header) 2x Mic-in (1x on rear, 1x by header) 1x S/PDIF (by header) |
| NETWORK CONNECTION | ETHERNET | 2x GbE LAN (RJ45 on rear, 1x Intel® I219-LM, 1x Intel® I210-AT) |
| PERIPHERAL CONNECTION | USB SERIAL PORT OTHER I/Os | 6x USB 3.0 (4x Type A on rear, 2x by header) 4x USB 2.0 (by header) 2x RS232/422/485 (by header) 1x PS/2 Keyboard/Mouse (by wafer) 1x 8-bit DIO (by wafer) |
| STORAGE & EXPANSION | SATA mSATA / mPCIe PCIe SIM CARD HOLDER | 4x SATA 3.0 (RAID 0/1/5/10 support) 2x mSATA / mPCIe (1x full size, 1x half size) 1x PCIe x16 (1x PCIe x16 & 2x PCIe x8 support) 1x SIM Card Cage (by wafer) |
| POWER | VOLTAGE CONNECTOR & INPUT | DC 12 V 1x2-pin Phoenix Connector |
| FIRMWARE | BIOS WATCHDOG H/W MONITOR REAL TIME CLOCK TPM | AMI uEFI BIOS w/ 128 Mb SPI Flash Programmable WDT to generate system reset event Input & Core Voltages, CPU & System Temperatures Chipset integrated RTC TPM 1.2 support (Infineon SLB 9660) |
| SYSTEM CONTROL & MONITORING | FP HEADER BIOS POST CODE INDICATOR | 1x Header for Reset button, HDD LED & External Speaker 1x Header for Power button, Power LED & SM bus 1x Header for mPCIe Activity LED 1x Header for Port-80 Display |
| COOLING | FAN | 1x Wafer for CPU Smart Fan 1x Wafer for System Smart Fan |
| SOFTWARE | OS SUPPORT | Windows 7, Windows 8, Windows 10, Linux |
| MECHANICAL | DIMENSION (L x W) | Mini-ITX (170 mm x 170 mm / 6.70" x 6.70") |
| ENVIRONMENTAL | OPERATION TEMPERATURE STORAGE TEMPERATURE HUMIDITY | 0 °C ~ 60 °C / 32 °F ~ 140 °F (Standard) -20 °C ~ 80 °C / -4 °F ~ 176 °F (Standard) 0 % ~ 95 % |
| CERTIFICATION | EMC & SAFETY | CE Class A, FCC Class A |

▶ ORDERING INFORMATION

| ARTICLE | DESCRIPTION |
|------------|--|
| mITX-SSH-S | 6th Gen Intel® Core™ / Celeron® S-Series Processors, Intel® Q170 Chipset, 1x DDR4 SO-DIMM Socket |