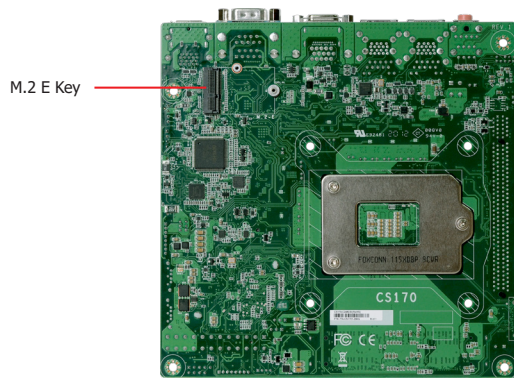
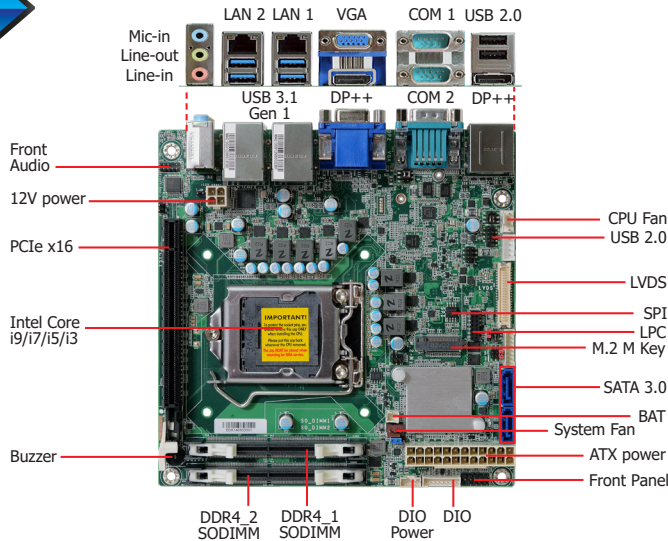


CS170-H310

Desktop

H310

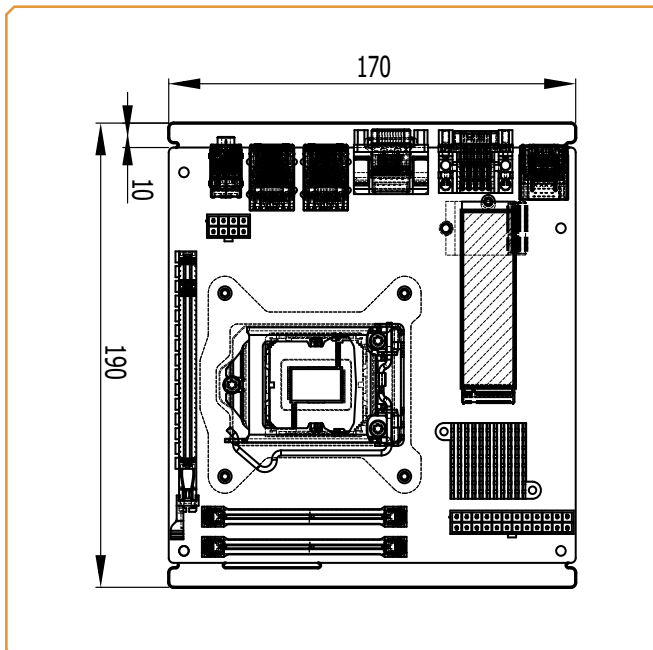


Features

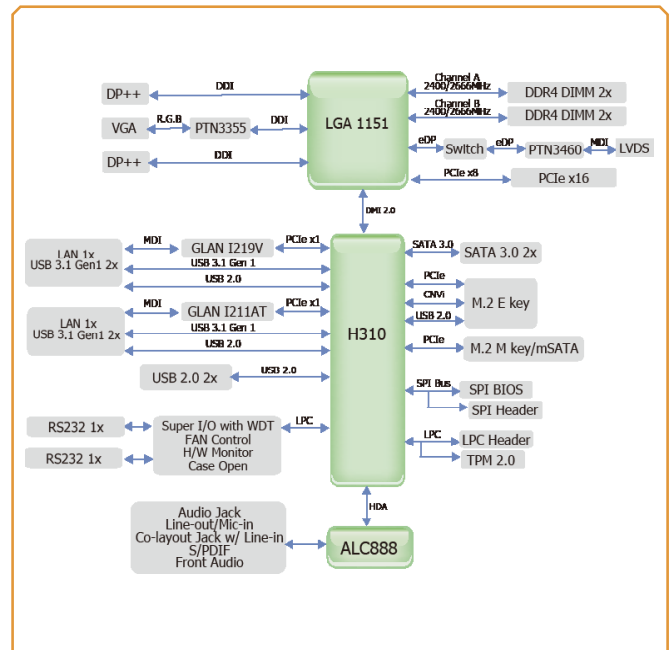
- 2 DDR4 2400/2666MHz SODIMM up to 32GB
- Dual independent display: LVDS + VGA, LVDS + DP++, VGA + DP++, DP++ + DP++
- DP++ resolution supports up to 4096x2304 @ 60Hz
- Multiple Expansions:
1 PCIe x16 Gen 3, 1 M.2 2230 E Key, 1 M.2 2280 M Key
- Storage: 2 SATA 3.0
- Rich I/O: 2 Intel GbE, 2 COM, 4 USB 3.1 Gen 1, 2 USB 2.0



Mechanical Drawing



Block Diagram



Specifications

| | | | | |
|-----------------------|------------------------|--|--|--|
| SYSTEM | Processor | 9th Generation Intel® Core™ Processors, LGA 1151 Socket, TDP up to 95W Intel® Xeon E-2278GE Processor (Core 8; Max speed 4.7 GHz; TDP 80W) (support ECC memory) Intel® Core i9-9900K Processor (Core 8; Max speed 5.0 GHz; TDP 95W) Intel® Core i7-9700E Processor (Core 8; Max speed 4.4 GHz; TDP 65W) Intel® Core i7-9700TE Processor (Core 8; Max speed 3.8 GHz; TDP 35W) Intel® Core i5-9500E Processor (Core 6; Max speed 4.2 GHz; TDP 65W) Intel® Core i5-9500TE Processor (Core 6; Max speed 3.6 GHz; TDP 35W) Intel® Core i3-9100E Processor (Core 4; Max speed 3.7 GHz; TDP 65W) (support ECC memory) Intel® Core i3-9100TE Processor (Core 4; Max speed 3.2 GHz; TDP 35W) (support ECC memory) 8th Generation Intel® Core™ Processors, LGA 1151 Socket, TDP up to 95W Intel® Xeon E-2176G Processor (Core 6; Max speed 4.7 GHz; TDP 80W) (support ECC memory) Intel® Core™ i7-8700 Processor (Core 6; Max speed 4.6 GHz; TDP 65W) Intel® Core™ i7-8700T Processor (Core 6; Max speed 4.0 GHz; TDP 35W) Intel® Core™ i5-8500 Processor (Core 6; Max speed 4.1 GHz; TDP 65W) Intel® Core™ i5-8500T Processor (Core 6; Max speed 3.5 GHz; TDP 35W) Intel® Core™ i3-8100 Processor (Core 4; Max speed 3.6 GHz; TDP 65W) (support ECC memory) Intel® Core™ i3-8100T Processor (Core 4; Max speed 3.1 GHz; TDP 35W) (support ECC memory) Intel® Pentium G5400 Processor (Core 2; Max speed 3.7 GHz; TDP 58W) (support ECC memory) Intel® Celeron G4900 Processor (Core 2; Max speed 3.1 GHz; TDP 54W) (support ECC memory) | | |
| | Memory | Dual Channel DDR4 2400/2666MHz Two 260-pin non-ECC SODIMM up to 32GB | | |
| | Chipset | Intel® H310 Chipset | | |
| | BIOS | AMI SPI 128Mbit | | |
| | GRAPHICS | Controller | Intel® UHD Graphics 630 (Pentium G5400 and Celeron G4900 support Intel® UHD Graphics 610) | |
| | Feature | OpenGL 4.5, DirectX 12, OpenCL 2.1 HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9 HW Encode: AVC/H.264, MPEG2, JPEG, HEVC/H265, VP8, VP9 | | |
| | Display | 1 x LVDS 1 x VGA 2 x DP++ | LVDS: resolution up to 1920x1200 @ 60Hz VGA: resolution up to 1920x1200 @ 60Hz DP++: resolution up to 4096x2304 @ 60Hz | |
| | Dual Displays | LVDS + VGA, LVDS + DP++, VGA + DP++, DP++ + DP++ | | |
| EXPANSION | Interface | 1 x PCIe x16 (Gen 3) 1 x M.2 2280 M Key (PCIe) (support NVMe) 1 x M.2 2230 E Key (USB/PCIe) | | |
| AUDIO | Audio Codec | Realtek ALC888S-VD2-GR | | |
| ETHERNET | Controller | 1 x Intel® I219LM PHY (10/100/1000Mbps) 1 x Intel® I210AT PCIe (10/100/1000Mbps) | | |
| REAR I/O | Ethernet | 2 x GbE (RJ-45) | | |
| | USB | 4 x USB 3.1 Gen1 2 x USB 2.0 | | |
| | Display | 1 x VGA (DB-15) 2 x DP++ | | |
| | Serial | 2 x RS-232 (DB-9) | | |
| | Audio | 1 x Line-out, 1 x Mic-in | 1 x Line-in (available upon request) | |
| INTERNAL I/O | Display | 1 x LVDS | 1 x LCD/Inverter Power | |
| | Audio | 1 x Front Audio (2.00mm pitch) | | |
| | USB | 2 x USB 2.0 (2.00mm pitch) | | |
| | SATA | 2 x SATA 3.0 (up to 6Gb/s) | RAID 0/1/5 | |
| | DIO | 1 x 8-bit DIO | 1 x DIO Power | |
| | LPC | 1 x LPC | | |
| | SMBus | 1 x SMBus | | |
| | WATCHDOG TIMER | Output & Interval | System Reset, Programmable via Software from 1 to 255 Seconds | |
| SECURITY | TPM | dTPM2.0 (available upon request) | | |
| POWER | Type | ATX | | |
| | Connector | 4-pin ATX 12V power | 24-pin ATX power | |
| | RTC Battery | CR2032 Coin Cell | | |
| | Consumption | TBD | | |
| OS SUPPORT | Microsoft/Linux | Windows 10 IoT Enterprise 64-bit | Linux | |
| ENVIRONMENT | Temperature | Operating: -5 to 65°C | Storage: -40 to 85°C | |
| | Humidity | Operating: 5 to 90% RH | Storage: 5 to 90% RH | |
| | MTBF | TBD | | |
| MECHANICAL | Dimensions | Mini-ITX Form Factor | 170mm (6.7") x 170mm (6.7") | |
| | Height | PCB: 1.6mm | Top Side: 20mm, Bottom Side: 3mm | |
| CERTIFICATIONS | | CE, FCC Class B, RoHS | | |

Packing List

| | |
|---|-----------------|
| • 1 CS170 motherboard | |
| • 1 Serial ATA data cable (Length: 500mm) | 332-553001-005G |
| • 1 I/O shield | A49-CVL000-A10G |

Optional Items

| | |
|--|-----------------|
| • USB port cable (Length: 200mm) | A81-001032-016G |
| • Serial ATA data cable (Length: 500mm) | 332-553001-005G |
| • Thermal solution (For 35W, Height: 37.3mm) | A71-103004-000G |
| • Thermal solution (For 65W, Height: 72.8mm) | 552-200049-000G |
| • Thermal solution (For 80W, Height: 77.1mm) | 761-103001-000G |