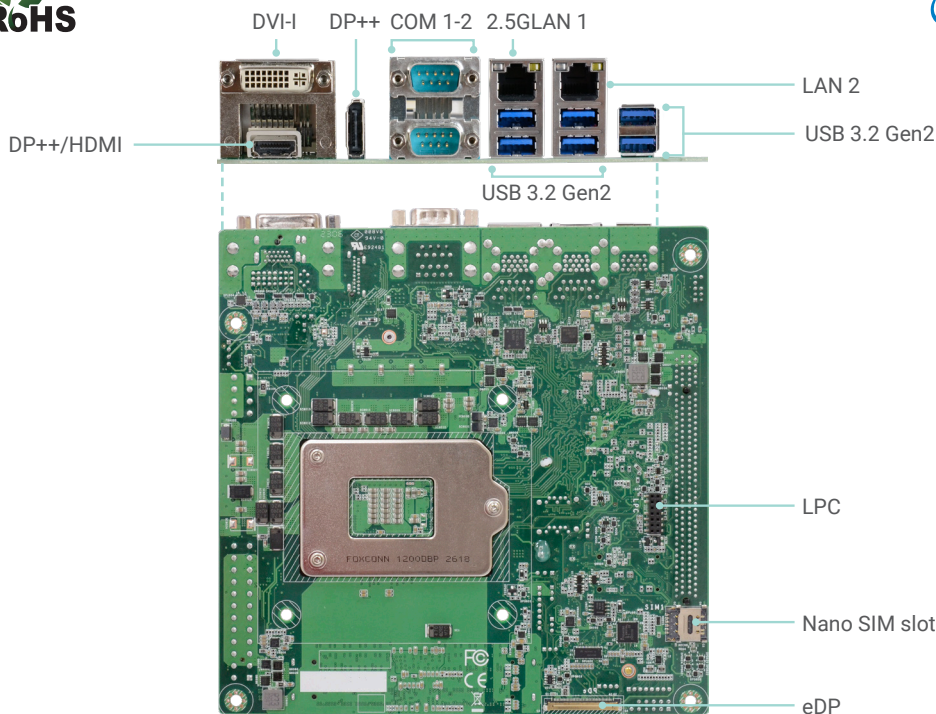


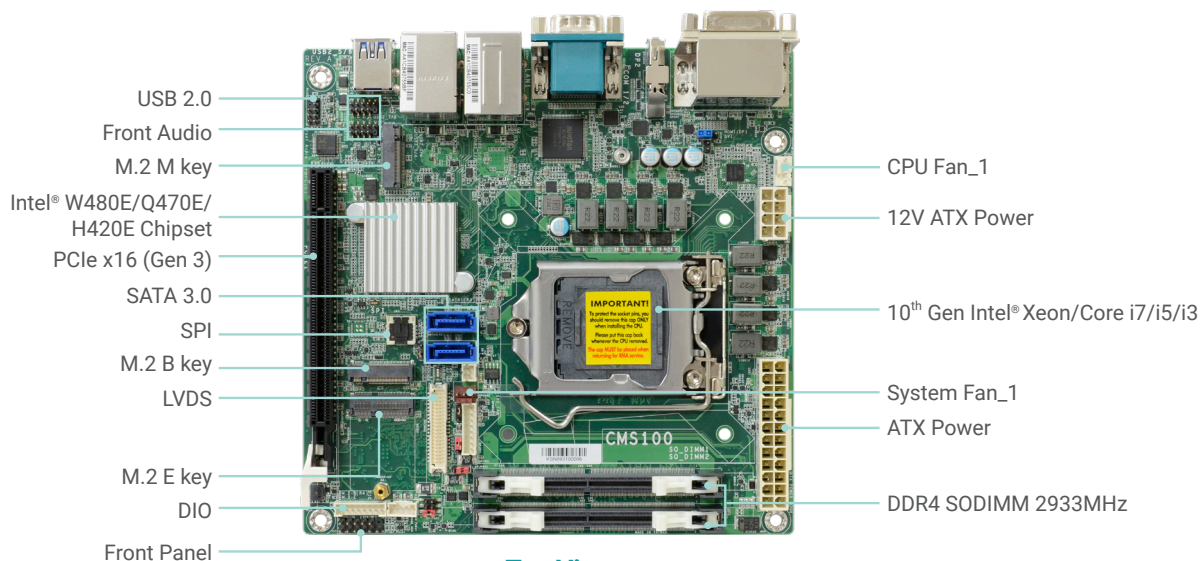
CMS100-W480E CMS100-Q470E CMS100-H420E

Desktop

10th Gen Intel® Core™
Mini-ITX



Bottom View



Top View

*The photo above refers to CMS100-Q470E

KEY FEATURES



DDR4

2 DDR4 SODIMM up to 64GB



4K High Resolution

Supports 4K/ 2K resolution



Quad Displays

DP++ + HDMI + DVI-I + LVDS/eDP, or DP++ + DP++ + DVI-I + LVDS/eDP



Multiple Expansion

1 PCIe x16,
1 M.2 2230 E Key,
1 M.2 2280 M Key,
1 M.2 2242/3042 B Key

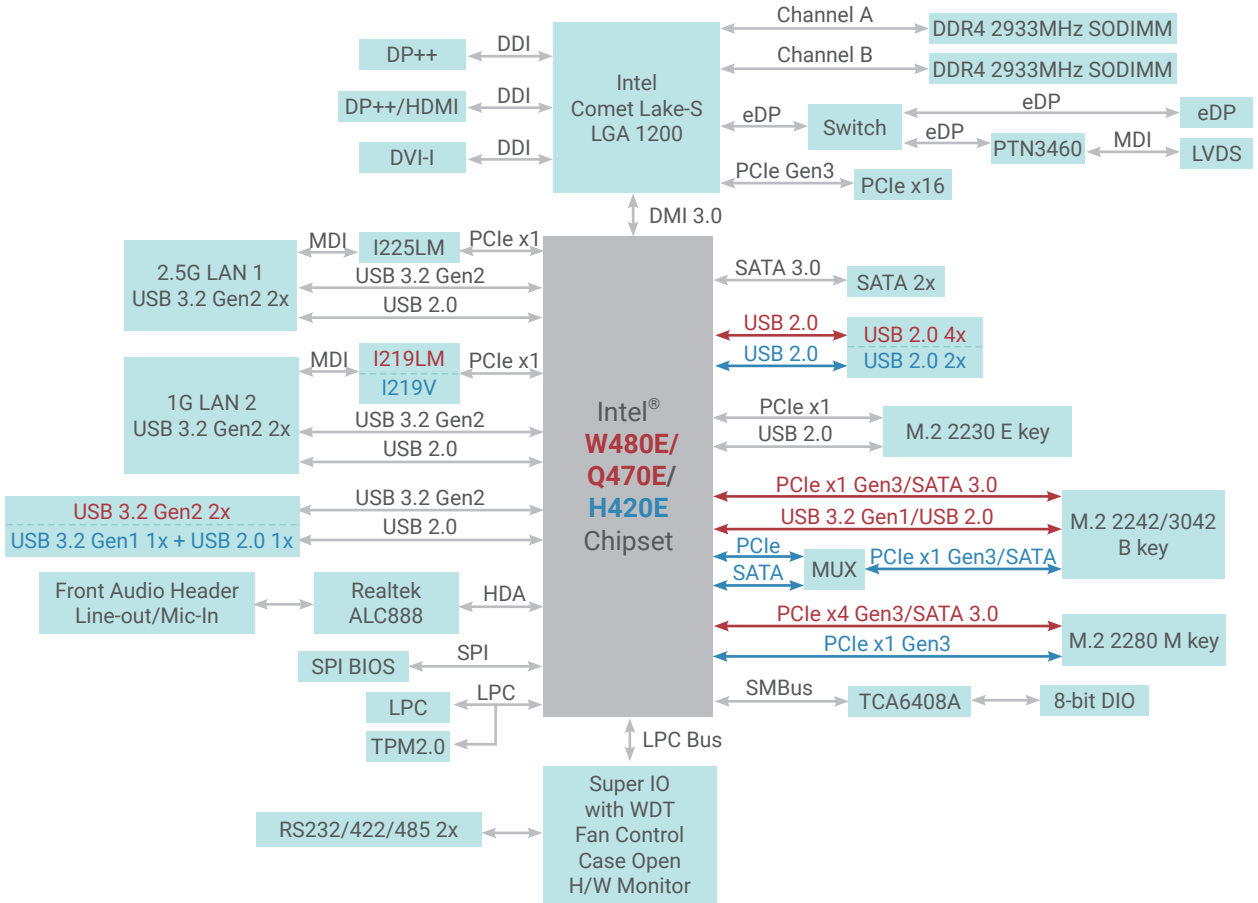


Rich I/O

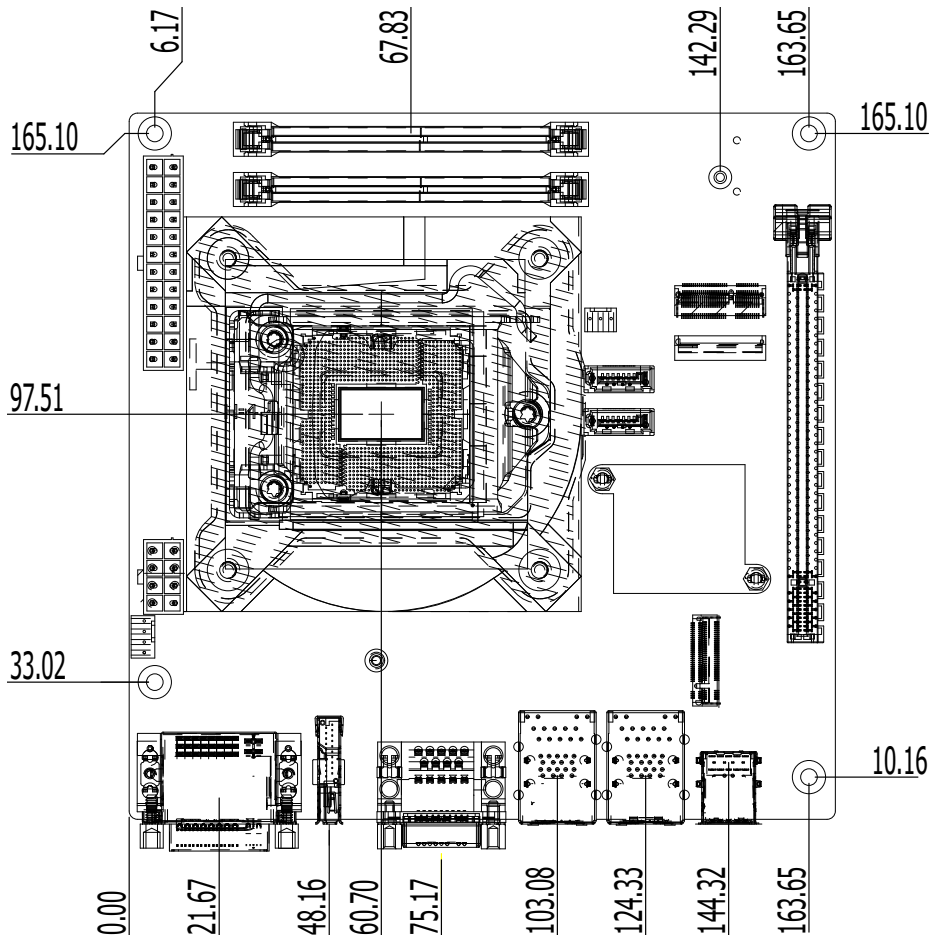
1 Intel 2.5GbE,
1 Intel GbE, 2 COM,
up to 10 USB

BLOCK DIAGRAM

● W480E/Q470E Only
 ● H420E Only



MECHANICAL DRAWING



SPECIFICATION

| Model Name | | CMS100-W480E | CMS100-Q470E | CMS100-H420E |
|------------|---------------|--|--|--|
| SYSTEM | Processor | 10th Gen Intel® Xeon/Core™/Pentium/Celeron Processors, LGA 1200 Socket, TDP up to 125W Intel® Xeon W-1290E Processor (Core 10; Max speed 4.8GHz; TDP 95W)(ECC memory supported)(W480E only)* Intel® Xeon W-1270E Processor (Core 8; Max speed 4.8GHz; TDP 80W)(ECC memory supported)(W480E only)* Intel® Xeon W-1250E Processor (Core 6; Max speed 4.7GHz; TDP 80W)(ECC memory supported)(W480E only) Intel® Xeon W-1290TE Processor (Core 10; Max speed 4.5GHz; TDP 35W)(W480E only) Intel® Xeon W-1270TE Processor (Core 8; Max speed 4.4GHz; TDP 35W)(W480E only) Intel® Xeon W-1250TE Processor (Core 6; Max speed 3.8GHz; TDP 35W)(W480E only) Intel® Core i9-10900E Processor (Core 10; Max speed 4.7GHz; TDP 65W) Intel® Core i9-10900TE Processor (Core 10; Max speed 4.5GHz; TDP 35W) Intel® Core i7-10700E Processor (Core 8; Max speed 4.5GHz; TDP 65W) Intel® Core i7-10700TE Processor (Core 8; Max speed 4.4GHz; TDP 35W) Intel® Core i5-10500E Processor (Core 6; Max speed 4.2GHz; TDP 65W) Intel® Core i5-10500TE Processor (Core 6; Max speed 3.7GHz; TDP 35W) Intel® Core i3-10100E Processor (Core 4; Max speed 3.8GHz; TDP 65W) Intel® Core i3-10100TE Processor (Core 4; Max speed 3.6GHz; TDP 35W) Intel® Pentium G6400E Processor (Core 2; Max speed 3.8GHz; TDP 65W) Intel® Pentium G6400TE Processor (Core 2; Max speed 3.2GHz; TDP 35W) Intel® Celeron G5900E Processor (Core 2; Max speed 3.2GHz; TDP 65W) Intel® Celeron G5900TE Processor (Core 2; Max speed 3.0GHz; TDP 35W) *Note: 5-year life cycle support based on Intel IOTG roadmap. | | |
| | Chipset | Intel® W480E Chipset | Intel® Q470E Chipset | Intel® H420E Chipset |
| | Memory | Two 260-pin SODIMM up to 64GB (ECC/Non-ECC) Dual Channel DDR4 2933MHz | Two 260-pin SODIMM up to 64GB (Non-ECC) Dual Channel DDR4 2933MHz | Two 260-pin SODIMM up to 64GB (Non-ECC) Dual Channel DDR4 2933MHz |
| | BIOS | AMI SPI 256Mbit | AMI SPI 256Mbit | AMI SPI 256Mbit |
| GRAPHICS | Controller | Intel® HD Gen 9 Graphics | | |
| | 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 DP++ 1 x HDMI 1.4b/DP++ 1 x LVDS/eDP 1 x DVI-I (DVI-D signal) DP++: Resolution up to 4096x2304 @60Hz HDMI 1.4b: Resolution up to 4096x2160 @30Hz LVDS: resolution up to 1920x1200 @ 60Hz eDP: resolution up to 4096x2160 @ 60Hz DVI-I: resolution up to 1920x1200 @ 60Hz | | |
| | Quad Displays | DP++ + DP++ + DVI-I + LVDS/eDP or DP++ + HDMI + DVI-I + LVDS/eDP | | |
| EXPANSION | Interface | 1 x PCIe x16 (Gen 3) 1 x M.2 2230 E Key (PCIe x1/USB 2.0) 1 x M.2 2280 M Key (PCIe x4 Gen3 or SATA) 1 x M.2 2242/3042 B Key (PCIe x1 Gen3 or SATA, USB 3.2 Gen1/USB 2.0) 1 x Nano SIM slot | | |
| AUDIO | Audio Codec | Realtek ALC888 | | |
| ETHERNET | Controller | 1 x Intel® I225LM PCIe (10/100/1000/2.5G speeds) 1 x Intel® I219LM PHY (10/100/1000 speeds), support vPro/AMT | | |
| REAR I/O | Ethernet | 1 x 2.5GbE (RJ-45) 1 x GbE (RJ-45) | | |
| | USB | 6 x USB 3.2 Gen2 (dual type-A connector) | | |
| | Display | 1 x DP++ 1 x HDMI 1.4b or 1 x DP++ 1 x DVI-I | | |
| | Serial | 2 x RS232/422/485 (DB-9) | | |

SPECIFICATION

| Model Name | | CMS100-W480E | CMS100-Q470E | CMS100-H420E |
|----------------|-------------------|---|---|---|
| INTERNAL I/O | USB | 4 x USB 2.0 (2.0mm pitch) | 4 x USB 2.0 (2.0mm pitch) | 2 x USB 2.0 (2.0mm pitch) |
| | Display | 1 x LVDS header 1 x eDP connector | 1 x LVDS header 1 x eDP connector | 1 x LVDS header 1 x eDP connector |
| | Audio | 1 x Front Audio (2.0mm pitch) | 1 x Front Audio (2.0mm pitch) | 1 x Front Audio (2.0mm pitch) |
| | SATA | 2 x SATA 3.0 (up to 6Gb/s) RAID 0/1/5/10 (w/ M.2 Key-M/B slot + 2 SATA Conn.) | 2 x SATA 3.0 (up to 6Gb/s) RAID 0/1/5/10 (w/ M.2 Key-M/B slot + 2 SATA Conn.) | 2 x SATA 3.0 (up to 6Gb/s) |
| | DIO | 1 x 8-bit DIO 1 x DIO Power | 1 x 8-bit DIO 1 x DIO Power | 1 x 8-bit DIO 1 x DIO Power |
| | LPC | 1 x LPC | 1 x LPC | 1 x LPC |
| WATCHDOG TIMER | Output & Interval | System Reset, Programmable via Software from 1 to 255 Seconds | System Reset, Programmable via Software from 1 to 255 Seconds | System Reset, Programmable via Software from 1 to 255 Seconds |
| SECURITY | TPM | fTPM(Default); dTPM(Opt.) | fTPM(Default); dTPM(Opt.) | fTPM(Default); dTPM(Opt.) |
| POWER | Type | ATX | ATX | ATX |
| | Connector | 8-pin ATX 12V power 24-pin ATX power | 8-pin ATX 12V power 24-pin ATX power | 8-pin ATX 12V power 24-pin ATX power |
| | Consumption | Idle: Intel Xeon W-1290E 95W: 12V @ 4.6A (55.2W) Max: Intel Xeon W-1290E 95W: 12V @ 11.6A (139.2W) | Idle: Intel Xeon W-1290E 95W: 12V @ 4.6A (55.2W) Max: Intel Xeon W-1290E 95W: 12V @ 11.6A (139.2W) | Idle: Intel Xeon W-1290E 95W: 12V @ 4.6A (55.2W) Max: Intel Xeon W-1290E 95W: 12V @ 11.6A (139.2W) |
| | | Idle: Intel i9-10900K 125W: 12V @ 2A (24W) Max: Intel i9-10900K 125W: 12V @ 22A (264W) | Idle: Intel i9-10900K 125W: 12V @ 2A (24W) Max: Intel i9-10900K 125W: 12V @ 22A (264W) | Idle: Intel i9-10900K 125W: 12V @ 2A (24W) Max: Intel i9-10900K 125W: 12V @ 22A (264W) |
| | | RTC Battery | CR2032 Coin Cell | CR2032 Coin Cell |
| OS SUPPORT | Microsoft | Windows 10 IoT Enterprise 64-bit Windows 11 GAC | Windows 10 IoT Enterprise 64-bit Windows 11 GAC | Windows 10 IoT Enterprise 64-bit Windows 11 GAC |
| | Linux | Linux | Linux | Linux |
| ENVIRONMENT | Temperature | Operating: -5 to 65°C Storage: -40 to 85°C | Operating: -5 to 65°C Storage: -40 to 85°C | Operating: -5 to 65°C Storage: -40 to 85°C |
| | | Humidity | Operating: 5 to 90% RH Storage: 5 to 90% RH | Operating: 5 to 90% RH Storage: 5 to 90% RH |
| | MTBF | CMS100-Q470: 591,713 hrs @ 25°C; 357,627 hrs @ 45°C; 234,022 hrs @ 60°C Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled | CMS100-Q470: 591,713 hrs @ 25°C; 357,627 hrs @ 45°C; 234,022 hrs @ 60°C Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled | CMS100-Q470: 591,713 hrs @ 25°C; 357,627 hrs @ 45°C; 234,022 hrs @ 60°C Calculation model: Telcordia Issue 4 Environment: GB, GC – Ground Benign, Controlled |
| MECHANISM | Dimensions | Mini-ITX Form Factor 170mm (6.7") x 170mm (6.7") | Mini-ITX Form Factor 170mm (6.7") x 170mm (6.7") | Mini-ITX Form Factor 170mm (6.7") x 170mm (6.7") |
| | Height | PCB: 1.6mm Top Side: 31.51 mm Bottom Side: 4.4 mm | PCB: 1.6mm Top Side: 31.51 mm Bottom Side: 4.4 mm | PCB: 1.6mm Top Side: 31.51 mm Bottom Side: 4.4 mm |
| CERTIFICATION | Certification | CE, FCC, RoHS, UKCA, UL, CB | CE, FCC, RoHS, UKCA, UL, CB | CE, FCC, RoHS, UKCA, UL, CB |

ORDERING INFORMATION

| Model Name | P/N | Memory | Rear I/O | | | Internal I/O | | | Power | Operating Temp. |
|---------------|------------------|--------|--------------------------|-----------------|------------------------------|---------------|-----------|---------|--------------|-----------------|
| | | | Display | LAN | USB | M.2 | USB | TPM | | |
| CMS100-Q470IB | 770-CMS1001-000G | 2 DDR4 | 1 DP++, 1 HDMI, 1 DVI | 1 2.5GbE, 1 GbE | 6 USB 3.2 Gen2 | M.2 M/B/E Key | 4 USB 2.0 | W/O TPM | ATX 24+8-pin | -5 to 65°C |
| CMS100-Q470IB | 770-CMS1001-100G | | 2 DP++, 1 DVI | | 6 USB 3.2 Gen2 | | 4 USB 2.0 | | | |
| CMS100-W480IB | 770-CMS1001-200G | | 1 DP++, 1 HDMI, 1 DVI | | 6 USB 3.2 Gen2 | | 4 USB 2.0 | | | |
| CMS100-W480IB | 770-CMS1001-300G | | 2 DP++, 1 DVI | | 6 USB 3.2 Gen2 | | 4 USB 2.0 | | | |
| CMS100-H420IB | 770-CMS1001-400G | | 1 DP++, 1 HDMI, 1 DVI | | 5 USB 3.2 Gen1, 1 USB 2.0 | | 2 USB 2.0 | | | |
| CMS100-H420IB | 770-CMS1001-500G | | 2 DP++, 1 DVI | | 5 USB 3.2 Gen1, 1 USB 2.0 | | 2 USB 2.0 | | | |

PACKING LIST

| | |
|--|-----------------|
| • 1 CMS100 motherboard | |
| • 1 Serial ATA data cable w/lock (Length: 500mm) | 332-553001-005G |
| • 1 COM port cable (Length: 250mm, 1 x COM port) | A81-015011-001G |
| • 1 I/O shield | |
| - w/ icon DVI/DP/DP | A49-CMS100-000G |
| - w/ icon DVI/DP/HDMI | A49-CMS100-000G |

OPTIONAL ITEMS

| | |
|---|-----------------|
| • COM port cable (Length: 250mm, 1 x COM ports) | A81-015011-001G |
| • Thermal solution (For 35W, Height: 29.5mm) | A71-103004-000G |
| • Thermal solution (For 65W, Height: 45mm) | A71-103005-000G |
| • Thermal solution (For 125W, Height: 76.6mm) | A71-101143-000G |
| • DT122 Chassis | 761-DT1220-200G |