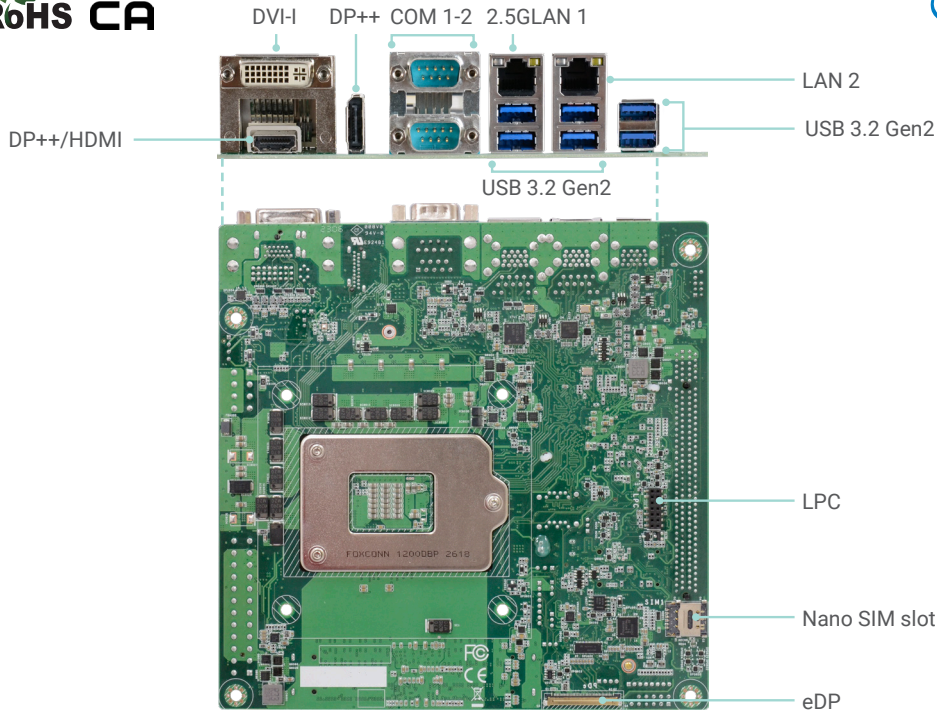
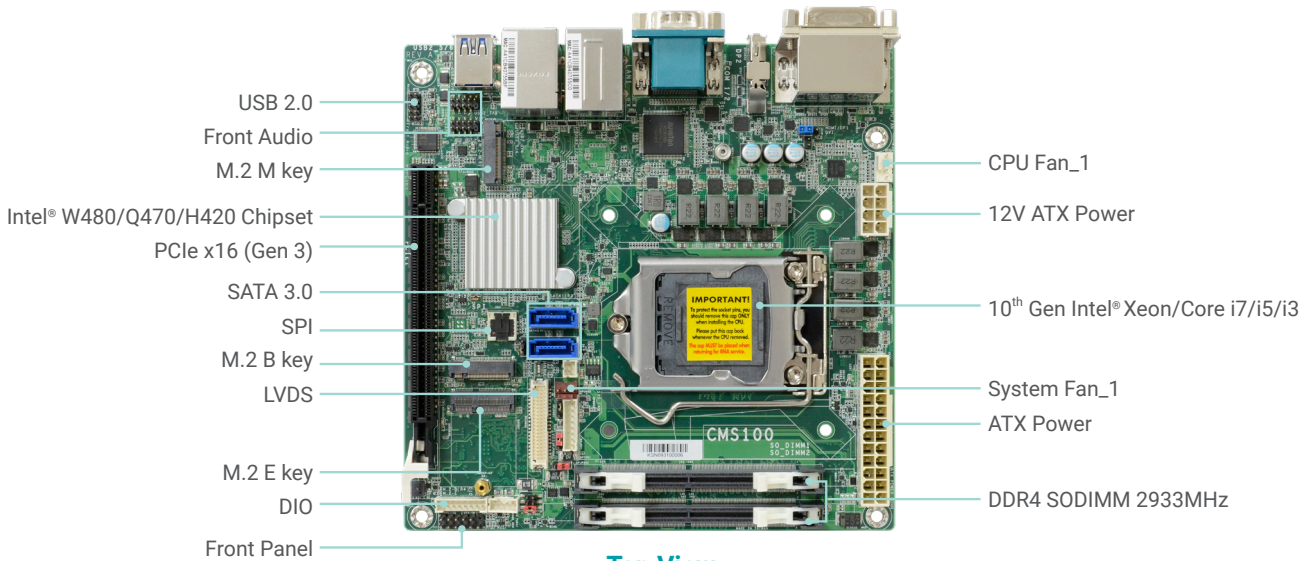


CMS100

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

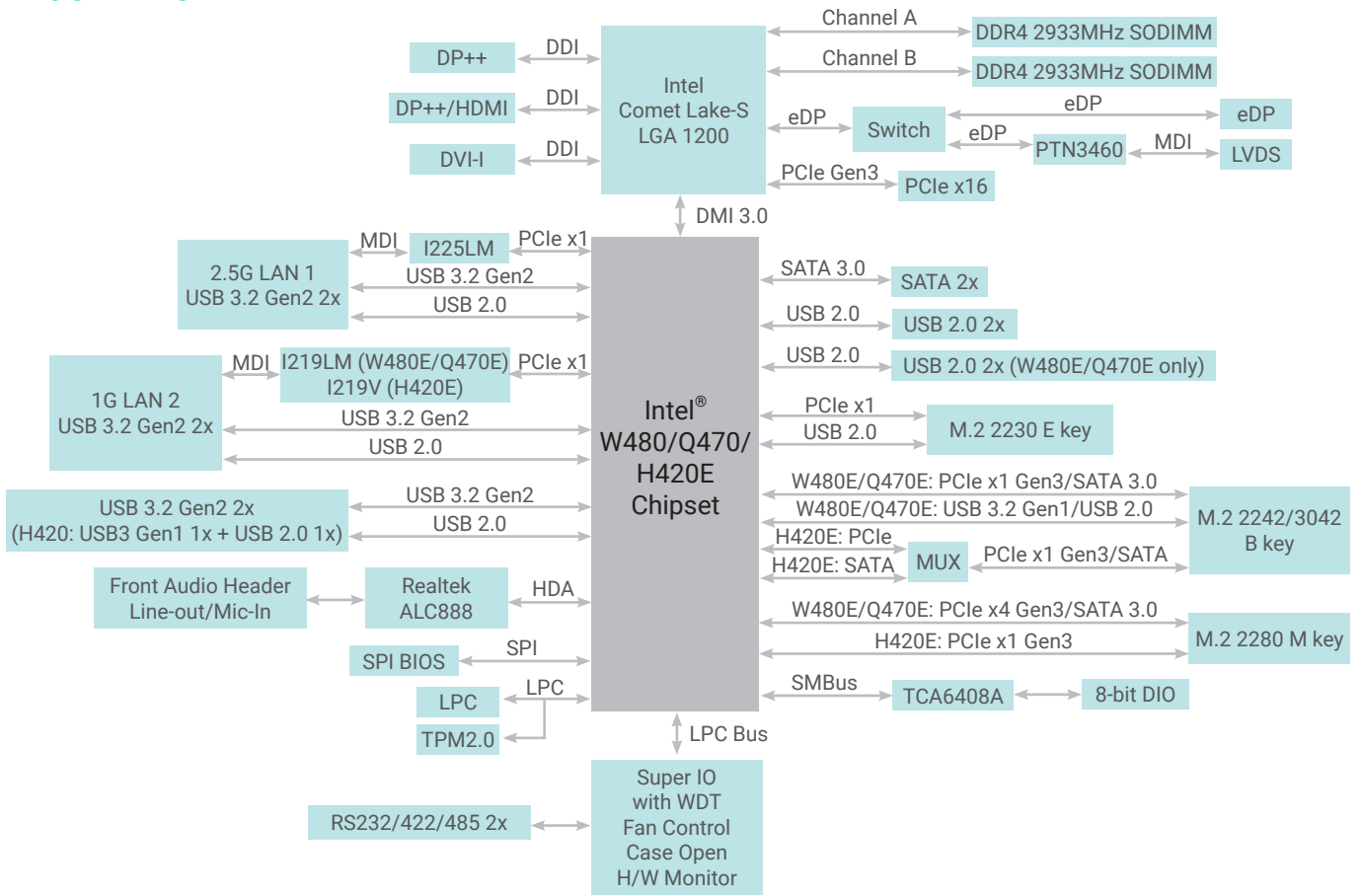
1 PCIe x16,
1 M.2 2230 E Key,
1 M.2 2280 M Key,
1 M.2 2242/3042 B Key



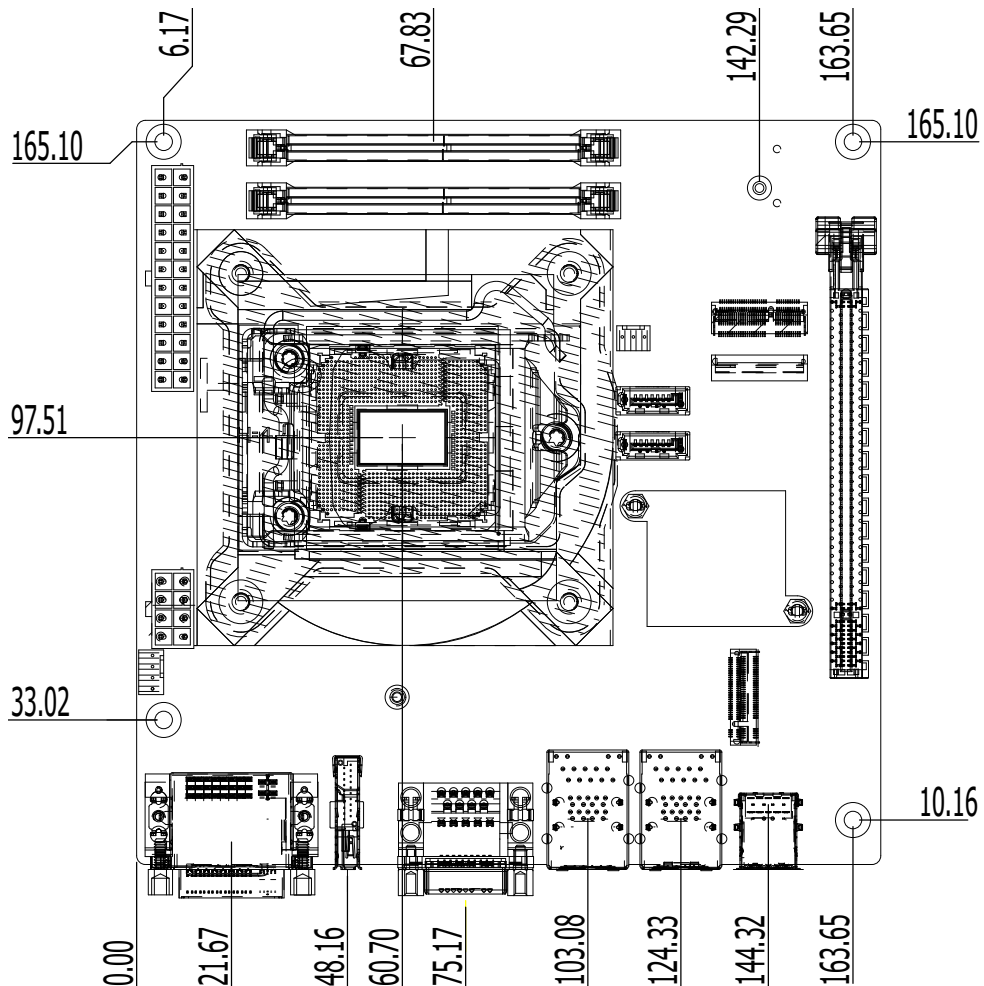
Rich I/O

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

BLOCK DIAGRAM



MECHANICAL DRAWING



SPECIFICATION

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/Q470E/H420E Chipset	
	Memory	Two 260-pin SODIMM up to 64GB	Dual Channel DDR4 2933MHz (ECC supported by W480E only)
	BIOS	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, H420E supports PCIe x1 signal only) 1 x M.2 2242/3042 B Key (W480E/Q470E: PCIe x1 Gen3 or SATA, USB 3.2 Gen1/USB 2.0) 1 x Nano SIM slot	
AUDIO	Audio Codec	Realtek ALC888	
ETHERNET	Controller	W480E/Q470E: 1 x Intel® I225LM PCIe(10/100/1000/2.5G speeds) 1 x Intel® I219LM PHY(10/100/1000 speeds), support vPro/AMT	
		H420E: 1 x Intel® I225LM PCIe(10/100/1000/2.5G speeds) 1 x Intel® I219V PHY(10/100/1000 speeds)	
REAR I/O	Ethernet	1 x 2.5GbE (RJ-45) 1 x GbE (RJ-45)	
	USB	W480E/Q470E: 6 x USB 3.2 Gen2 (dual type-A connector) H420E: 5 x USB 3.2 Gen1 + 1 x USB 2.0 (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)	
INTERNAL I/O	USB	W480E/Q470E: 4 x USB 2.0 (2.0mm pitch) H420E: 2 x USB 2.0 (2.0mm pitch)	
	Display	1 x LVDS header 1 x eDP connector	
	Audio	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., W480E/Q470E only)	
	DIO	1 x 8-bit DIO 1 x DIO Power	
	LPC	1 x LPC	
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	TPM	fTPM(Default); dTPM(Opt.)	

SPECIFICATION

POWER	Type	ATX	
	Connector	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 i9-10900K 125W: 12V @ 2A (24W) Max: Intel i9-10900K 125W: 12V @ 22A (264W)	
RTC Battery	CR2032 Coin Cell		
OS SUPPORT	Microsoft	Windows 10 IoT Enterprise 64-bit	
	Linux	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	CS100-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")
	Height	PCB: 1.6mm Top Side: 31.51 mm Bottom Side: 4.4 mm	
CERTIFICATION	Certification	CE, FCC, RoHS, UKCA	

ORDERING INFORMATION

Model Name	P/N	Description
CMS100-Q470IB	770-CMS1001-000G	2 DDR4, Rear I/O (1 DP++, 1 HDMI, 1 DVI, 1 2.5GbE LAN, 1 GbE LAN, 6 USB 3.2 Gen2), Internal I/O (M.2 M/B/E Key, 4 USB 2.0, W/O TPM), Power ATX 24+8-pin, -5 to 65°C
CMS100-Q470IB	770-CMS1001-100G	2 DDR4, Rear I/O (2 DP++, 1 DVI, 1 2.5GbE LAN, 1 GbE LAN, 6 USB 3.2 Gen2), Internal I/O (M.2 M/B/E Key, 4 USB 2.0, W/O TPM), Power ATX 24+8-pin, -5 to 65°C
CMS100-W480IB	770-CMS1001-200G	2 DDR4, Rear I/O (1 DP++, 1 HDMI, 1 DVI, 1 2.5GbE LAN, 1 GbE LAN, 6 USB 3.2 Gen2), Internal I/O (M.2 M/B/E Key, 4 USB 2.0, W/O TPM), Power ATX 24+8-pin, -5 to 65°C
CMS100-W480IB	770-CMS1001-300G	2 DDR4, Rear I/O (1 DP++, 1 HDMI, 1 DVI, 1 2.5GbE LAN, 1 GbE LAN, 6 USB 3.2 Gen2), Internal I/O (M.2 M/B/E Key, 4 USB 2.0, W/O TPM), Power ATX 24+8-pin, -5 to 65°C
CMS100-H420IB	770-CMS1001-400G	2 DDR4, Rear I/O (1 DP++, 1 HDMI, 1 DVI, 1 2.5GbE LAN, 1 GbE LAN, 5 USB 3.2 Gen1, 1 USB2.0), Internal I/O (M.2 M/B/E Key, 2 USB 2.0, W/O TPM), Power ATX 24+8-pin, -5 to 65°C
CMS100-H420IB	770-CMS1001-500G	2 DDR4, Rear I/O (2 DP++, 1 DVI, 1 2.5GbE LAN, 1 GbE LAN, 5 USB3 Gen2, 1 USB 2.0), Internal I/O (M.2 M/B/E Key, 2 USB 2.0, W/O TPM), Power ATX 24+8-pin, -5 to 65°C

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: 37.3mm)	A71-103004-000G
Thermal solution (For 65W, Height: 72.8mm)	A71-103005-000G
Thermal solution (For 125W, Height: 68mm)	761-103001-000G
DT122 Chassis	761-DT1220-200G