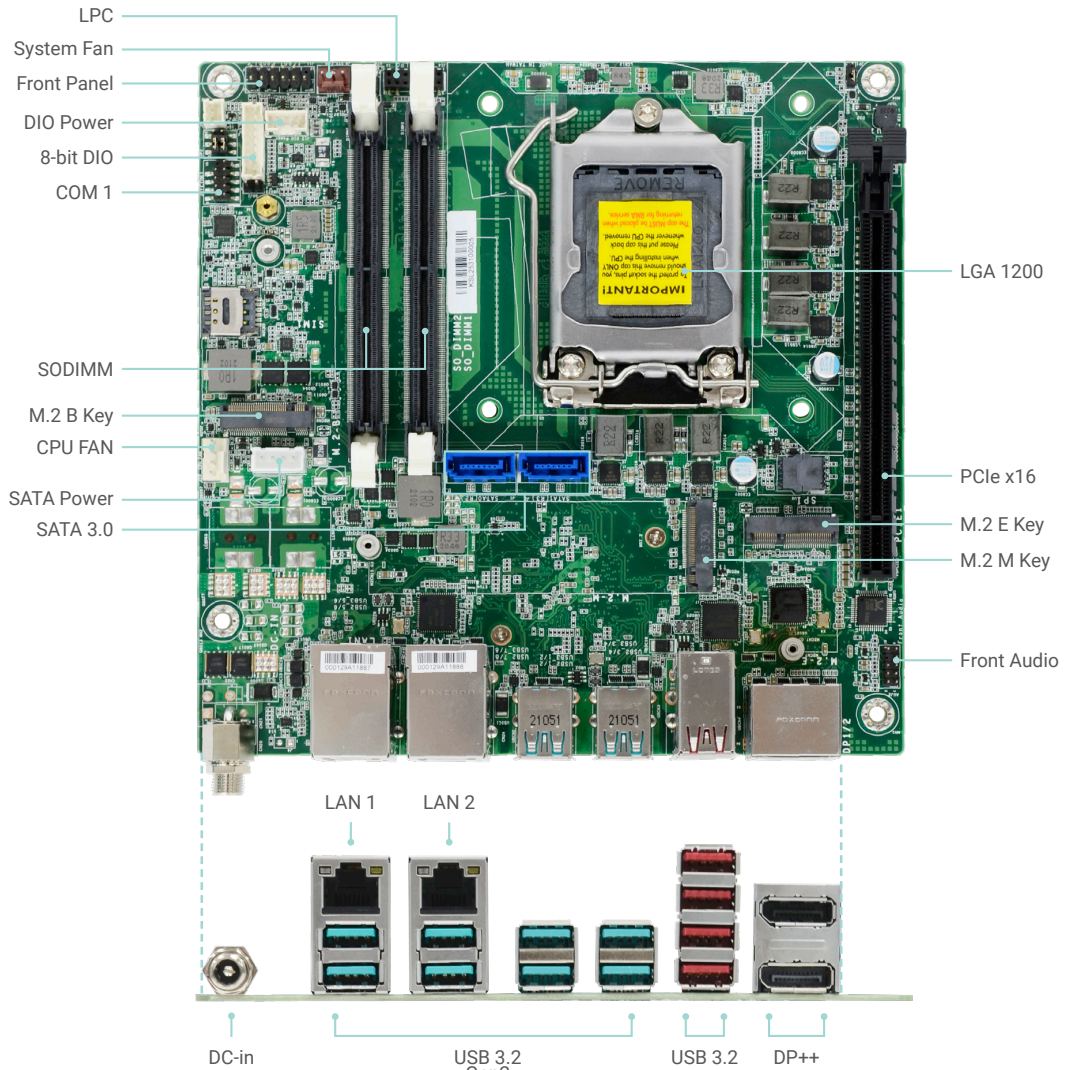


# CMS171/CMS173

10th Gen Intel® Core™  
**Desktop** Mini-ITX



Top View

## KEY FEATURES



### DDR4

2 DDR4 SODIMM up to 64GB



### 4K High Resolution

Supports 4K/ 2K resolution



### Dual Displays

2 DP++



### Multiple Expansion

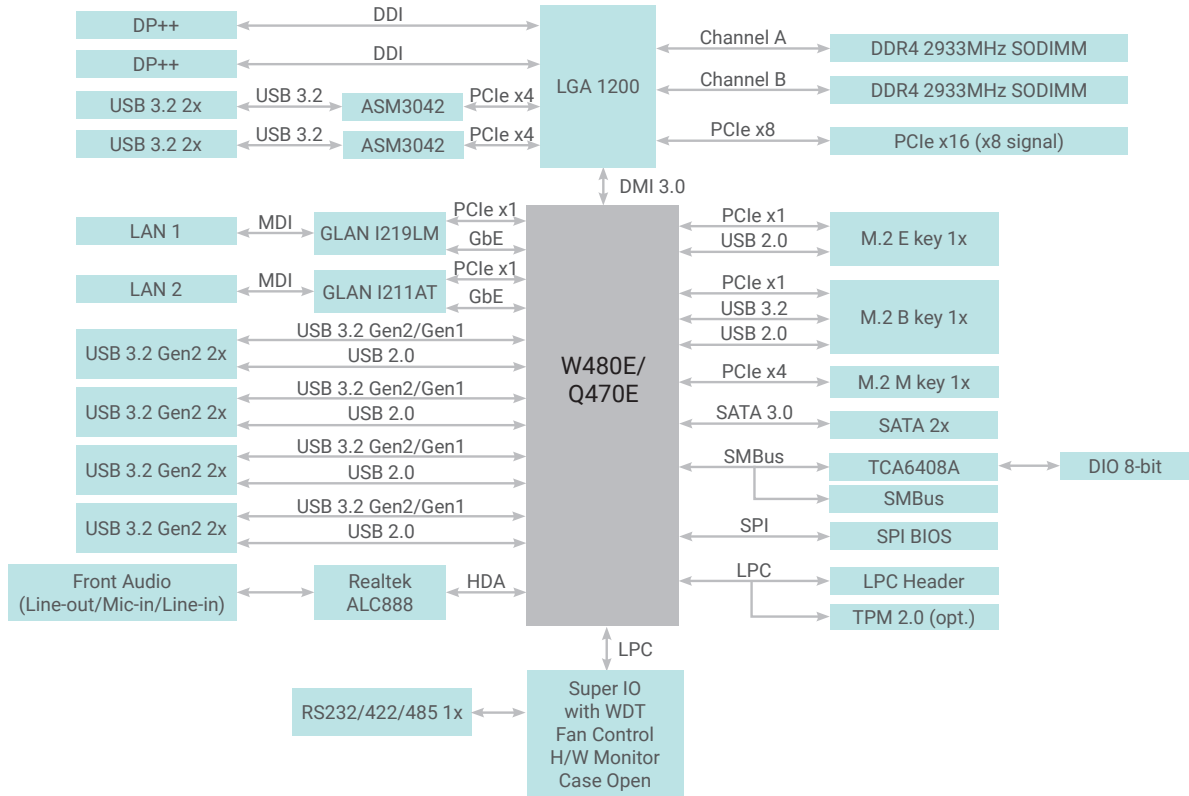
1 PCIe x16 (x8 signal),  
1 M.2 E Key, 1 M.2 M Key,  
1 M.2 B Key



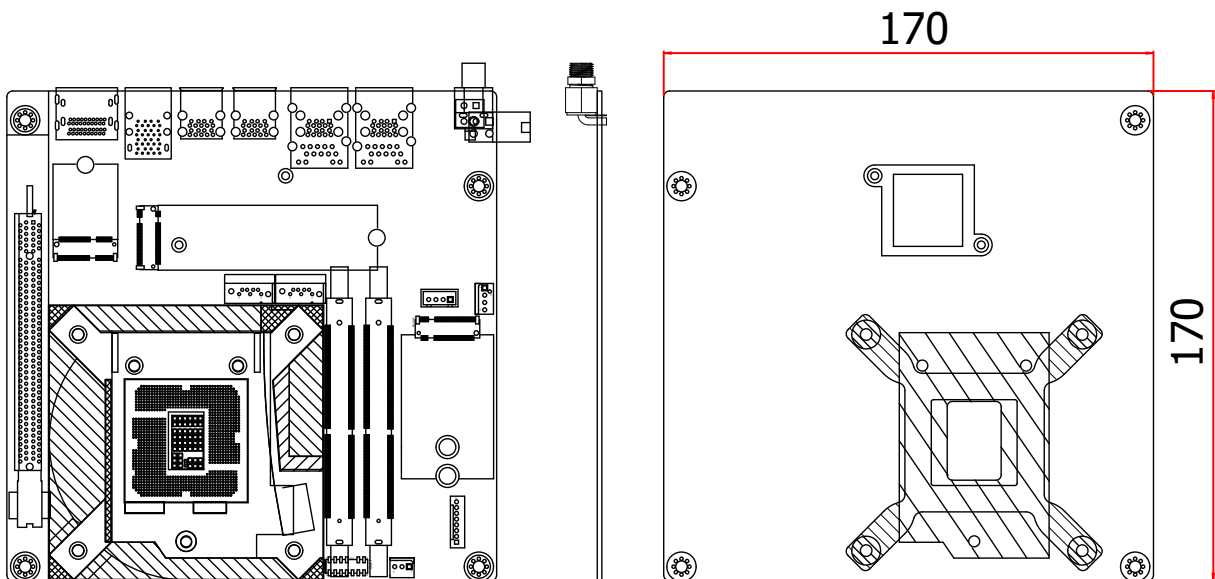
### Rich I/O

2 Intel GbE, 8 USB 3.2 Gen2, 4 USB 3.2, 2 COM, 2 SATA 3.0, 1 SATA Power

**BLOCK DIAGRAM**



**MECHANICAL DRAWING**



## SPECIFICATION

SYSTEM	Processor	10th Gen Intel® LGA 1200 Socket Processors, TDP support up to 65W Intel® Xeon® W-1290TE (10 Cores, 20M Cache, up to 4.5 GHz); 35W (ECC support on W480E SKU only) Intel® Xeon® W-1270TE (8 Cores, 16M Cache, up to 4.4 GHz); 35W (ECC support on W480E SKU only) Intel® Xeon® W-1250TE (6 Cores, 12M Cache, up to 3.8 GHz); 35W (ECC support on W480E SKU only) Intel® Core™ i9-10900E (10 Cores, 20M Cache, up to 4.7 GHz); 65W Intel® Core™ i9-10900TE (10 Cores, 20M Cache, up to 4.5 GHz); 35W Intel® Core™ i7-10700E (8 Cores, 16M Cache, up to 4.5 GHz); 65W Intel® Core™ i7-10700TE (8 Cores, 16M Cache, up to 4.4 GHz); 35W Intel® Core™ i5-10500E (6 Cores, 12M Cache, up to 4.2 GHz); 65W Intel® Core™ i5-10500TE (6 Cores, 12M Cache, up to 3.7 GHz); 35W Intel® Core™ i3-10100E (4 Cores, 6M Cache, 3.8 GHz); 65W (ECC support on W480E SKU only) Intel® Core™ i3-10100TE (4 Cores, 6M Cache, to 3.6 GHz); 35W (ECC support on W480E SKU only) Intel® Pentium® G6400E (2 Cores, 4M Cache, 3.8 GHz); 58W (Not support on W480E SKU) Intel® Celeron® G5900E (2 Cores, 2M Cache, 3.2 GHz); 58W (Not support on W480E SKU) Intel® Celeron® G5900TE (2 Cores, 2M Cache, 3.0 GHz); 35W (Not support on W480E SKU)	
	Chipset	Intel® W480E/Q470E 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® UHD Graphics 630 (only Pentium G5400/Celeron G4900 support 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	2 x DP++	DP: resolution up to 4096 x 2106 @ 60Hz
Dual Displays	2 x DP++		
EXPANSION	Interface	1 x PCIe x16 (Gen 3) (x8 signal)	
		1 x M.2 2230 E key (PCIe/USB 2.0/Intel CNVi support) for WiFi6	
		1 x M.2 2280 M key (PCIe x4 Gen3 NVMe/SATA/Intel Optane Memory support) for SSD	
		1 x M.2 3042/3052 B key (PCIe/USB3.0) for 4G LTE/5G with SIM holder	
AUDIO	Audio Codec	Realtek ALC888	
ETHERNET	Controller	1 x Intel® I219LM PHY with iAMT12 and vPro (10/100/1000Mbps) (Core i7/i5 supports iAMT)	
		1 x Intel® I211AT PCIe (10/100/1000Mbps)	
REAR I/O	Ethernet	2 x GbE (RJ-45)	
	Serial	1 x RS-232/422/485 (RS-232 w/ power) (DB-9)	
	USB	8 x USB 3.2 Gen2 4 x USB 3.2	
	Display	2 x DP++	
INTERNAL I/O	Serial	1 x RS-232/422/485 (RS-232 w/ power) (2.0mm pitch)	
	Audio	1 x Front Audio Header	
	SATA	2 x SATA 3.0 (up to 6Gb/s)	
		1 x SATA Power RAID 0/1	
	DIO	1 x 8-bit DIO	
	LPC	1 x LPC	
SMBus	1 x SMBus		
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	
SECURITY	TPM	Infineon TPM1.2/2.0 (optional)	
POWER	Type	Single 12V +/-10% DC (CMS171) Wide Range 15~36V (CMS173)	
	Connector	DC-in Jack	
	Consumption	TBD	
	RTC Battery	CR2032 Coin Cell	
OS SUPPORT	Microsoft	Windows 10 IoT Enterprise LTSC 2019 RS5	
	Linux	Ubuntu 20.04	
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	
MECHANISM	Dimensions	Mini-ITX Form Factor	170mm (6.7") x 170mm (6.7")
	Height	PCB: 1.6mm	
		Top Side: TBD	Bottom Side: TBD
CERTIFICATION	Certification	CE, FCC, RoHS, UKCA	

## PACKING LIST

1 CMS171/CMS173 motherboard	
1 Serial ATA data cable w/lock (Length: 500mm)	332-553001-005G
1 Serial ATA power Y cable (Length: 300mm, 1 x SATA POWER 15P*2 TO 4P HSG)	A81-002044-016G
1 COM port cable (Length: 250mm, 1 x COM port)	A81-015011-001G

## Assured Systems

Assured Systems is a leading technology company with over 1,500 regular clients in 80 countries, deploying over 85,000 systems to a diverse customer base in 12 years of business. We offer high-quality and innovative rugged computing, display, networking and data collection solutions to the embedded, industrial, and digital-out-of-home market sectors.

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