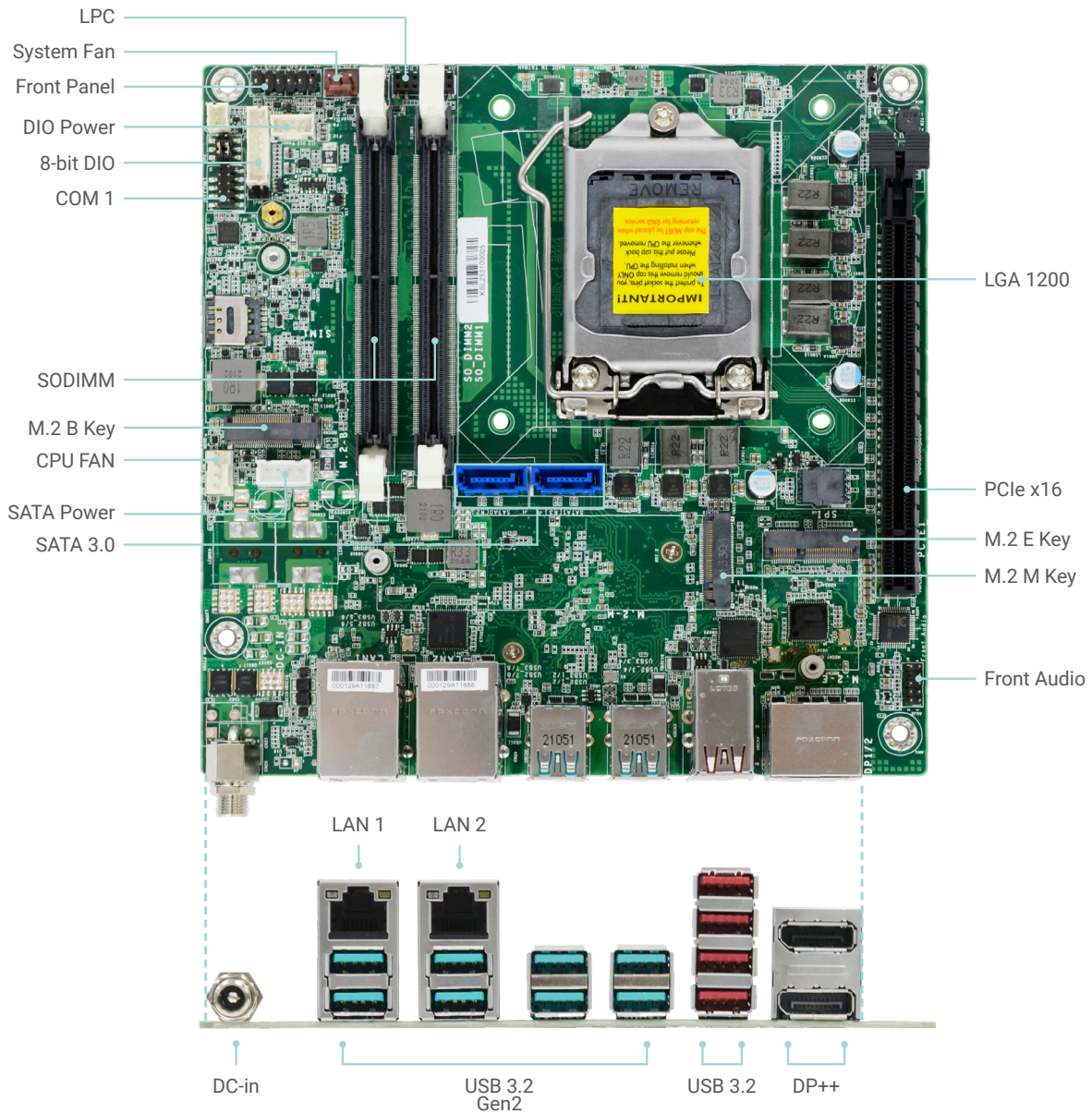


CMS171/CMS173-W480E CMS171/CMS173-Q470E

Desktop

10th Gen Intel® Core™
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

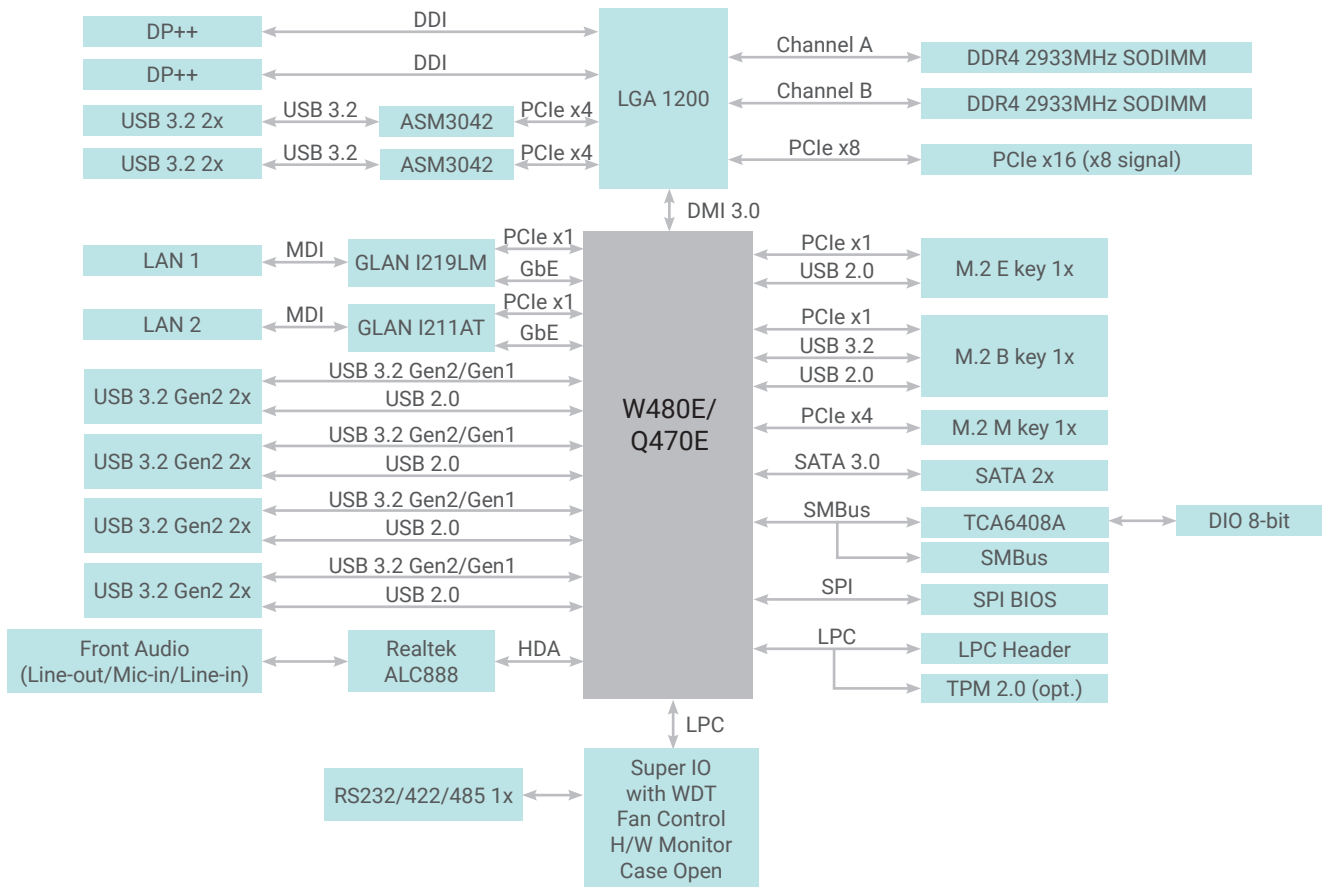
1 PCIe x16 (x8 signal),
1 M.2 E Key, 1 M.2 M Key,
1 M.2 B Key



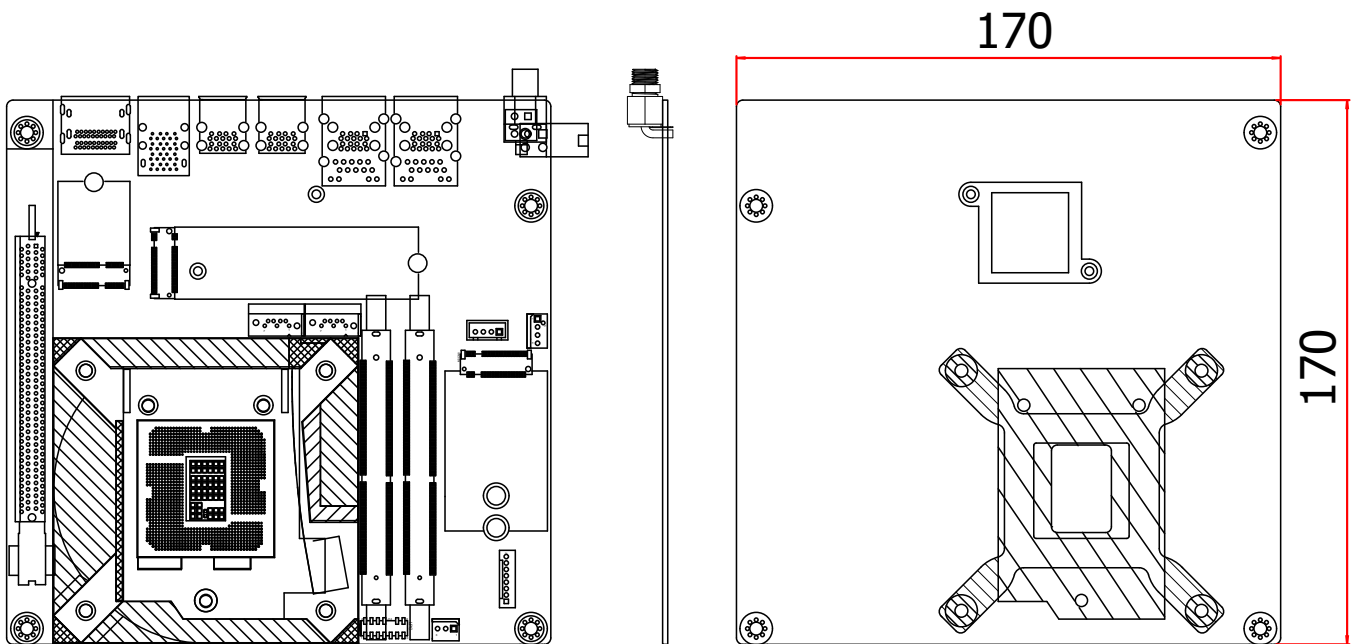
Rich I/O

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

Model Name		CMS171/CMS173-W480E	CMS171/CMS173-Q470E
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 (Q470E only) Intel® Celeron® G5900E (2 Cores, 2M Cache, 3.2 GHz); 58W (Q470E only) Intel® Celeron® G5900TE (2 Cores, 2M Cache, 3.0 GHz); 35W (Q470E only)	
	Chipset	Intel® W480E Chipset	Intel® Q470E 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
	BIOS	AMI SPI 256Mbit	AMI SPI 256Mbit
GRAPHICS	Controller	Intel® UHD Graphics 630 (only Pentium G5400/ Celeron G4900 support 610)	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	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	2 x DP++ DP: resolution up to 4096 x 2106 @ 60Hz
	Dual Displays	2 x DP++	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	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
		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)	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)
AUDIO	Audio Codec	Realtek ALC888	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)	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)	2 x GbE (RJ-45)
	Serial	1 x RS-232/422/485 (RS-232 w/ power) (DB-9)	1 x RS-232/422/485 (RS-232 w/ power) (DB-9)
	USB	8 x USB 3.2 Gen2 4 x USB 3.2	8 x USB 3.2 Gen2 4 x USB 3.2
	Display	2 x DP++	2 x DP++
INTERNAL I/O	Serial	1 x RS-232/422/485 (RS-232 w/ power) (2.0mm pitch)	1 x RS-232/422/485 (RS-232 w/ power) (2.0mm pitch)
	Audio	1 x Front Audio Header	1 x Front Audio Header
	SATA	2 x SATA 3.0 (up to 6Gb/s) 1 x SATA Power RAID 0/1	2 x SATA 3.0 (up to 6Gb/s) 1 x SATA Power RAID 0/1
	DIO	1 x 8-bit DIO	1 x 8-bit DIO
	LPC	1 x LPC	1 x LPC
	SMBus	1 x SMBus	1 x SMBus
WATCHDOG TIMER	Output & Interval	System Reset, Programmable via Software from 1 to 255 Seconds	System Reset, Programmable via Software from 1 to 255 Seconds
SECURITY	TPM	Infineon TPM1.2/2.0 (optional)	Infineon TPM1.2/2.0 (optional)
POWER	Type	CMS171: Single 12V +/-10% DC CMS173: Wide Range 15~36V	CMS171: Single 12V +/-10% DC CMS173: Wide Range 15~36V
	Connector	DC-in Jack	DC-in Jack
	Consumption	TBD	TBD
	RTC Battery	CR2032 Coin Cell	CR2032 Coin Cell
OS SUPPORT	Microsoft	Windows 10 IoT Enterprise LTSC 2019 RS5	Windows 10 IoT Enterprise LTSC 2019 RS5
	Linux	Ubuntu 20.04	Ubuntu 20.04
ENVIRONMENT	Temperature	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	TBD	TBD

SPECIFICATION

Model Name		CMS171/CMS173-W480E	CMS171/CMS173-Q470E
MECHANISM	Dimensions	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: TBD Bottom Side: TBD	PCB: 1.6mm Top Side: TBD Bottom Side: TBD
CERTIFICATION	Certification	CE, FCC, RoHS, UKCA	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