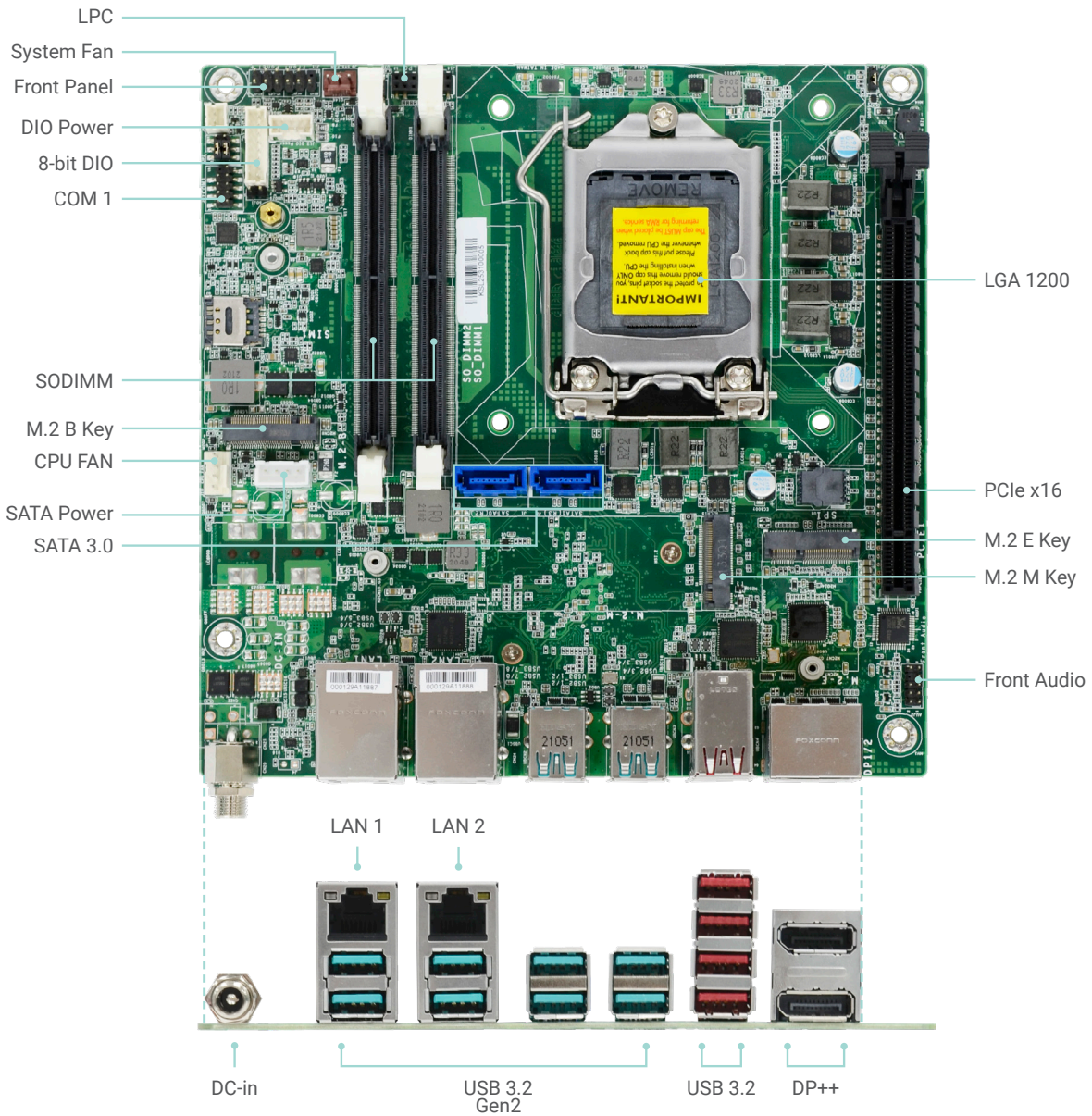


# CMS171/CMS173

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

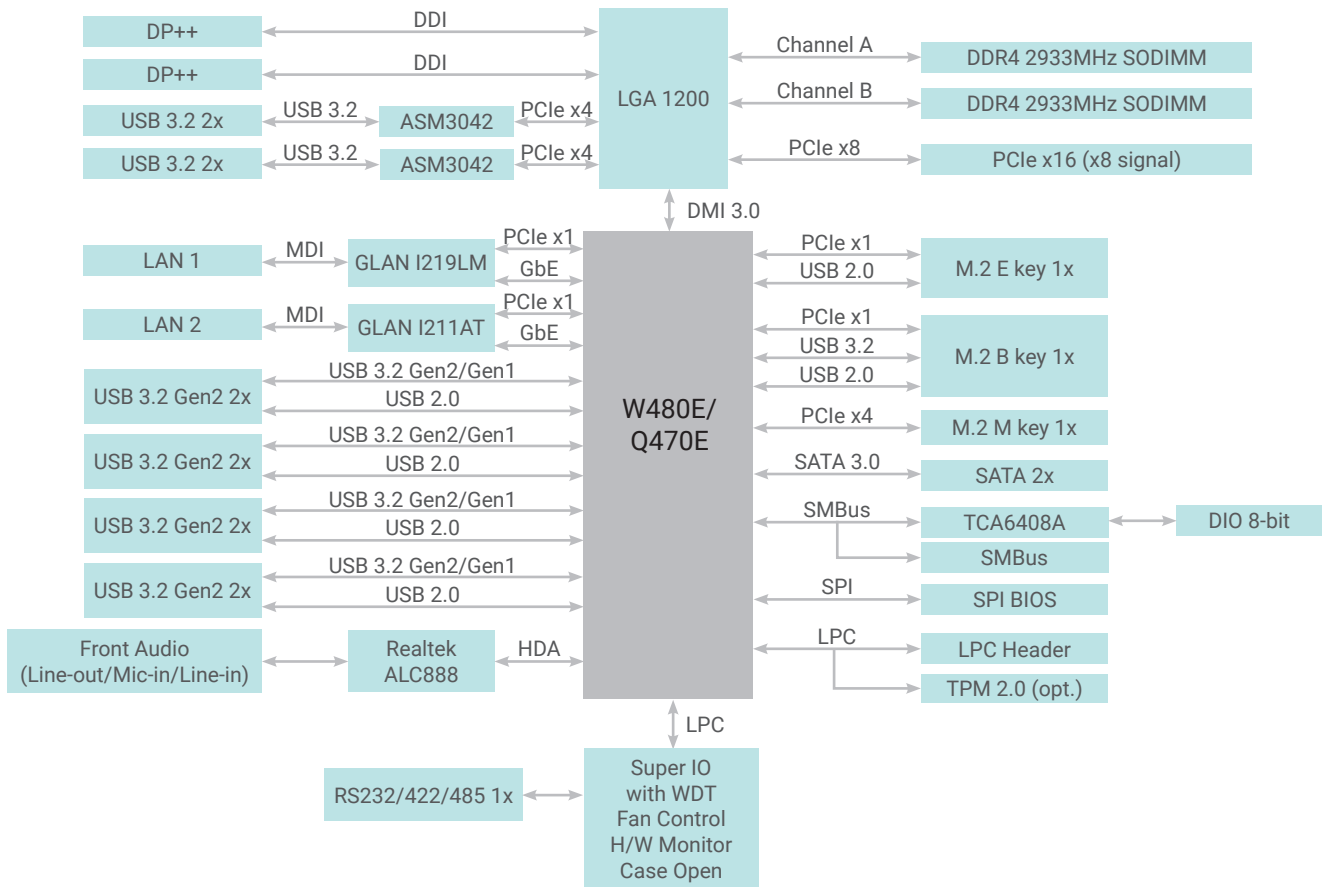
1 PCIe x16 (x8 signal),  
1 M.2 E Key, 1 M.2 M Key,  
1 M.2 B Key



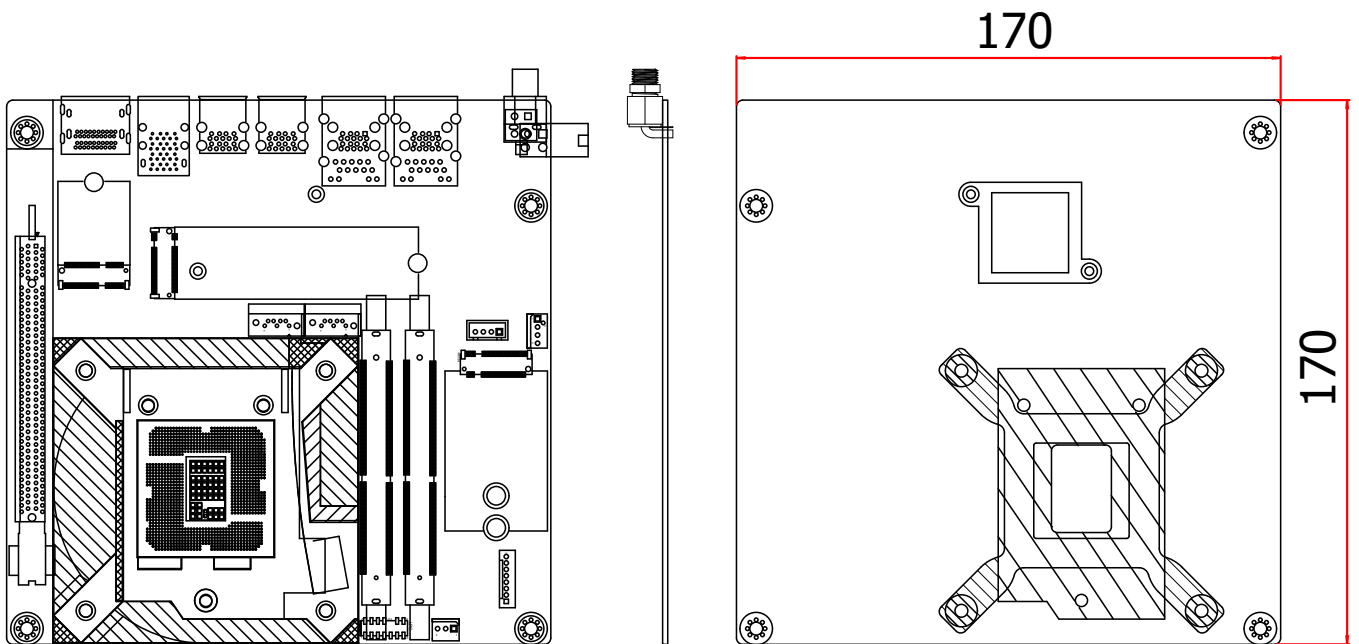
### Rich I/O

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

|                       |                              |   |   |  |
|-----------------------|------------------------------|---|---|--|
| <b>SYSTEM</b>         | <b>Processor</b>             | 10th Gen Intel® LGA 1200 Socket Processors, TDP support up to 65W<br>Intel® Xeon® W-1290TE (10 Cores, 20M Cache, up to 4.5 GHz); 35W (ECC support on W480E SKU only)<br>Intel® Xeon® W-1270TE (8 Cores, 16M Cache, up to 4.4 GHz); 35W (ECC support on W480E SKU only)<br>Intel® Xeon® W-1250TE (6 Cores, 12M Cache, up to 3.8 GHz); 35W (ECC support on W480E SKU only)<br>Intel® Core™ i9-10900E (10 Cores, 20M Cache, up to 4.7 GHz); 65W<br>Intel® Core™ i9-10900TE (10 Cores, 20M Cache, up to 4.5 GHz); 35W<br>Intel® Core™ i7-10700E (8 Cores, 16M Cache, up to 4.5 GHz); 65W<br>Intel® Core™ i7-10700TE (8 Cores, 16M Cache, up to 4.4 GHz); 35W<br>Intel® Core™ i5-10500E (6 Cores, 12M Cache, up to 4.2 GHz); 65W<br>Intel® Core™ i5-10500TE (6 Cores, 12M Cache, up to 3.7 GHz); 35W<br>Intel® Core™ i3-10100E (4 Cores, 6M Cache, 3.8 GHz); 65W (ECC support on W480E SKU only)<br>Intel® Core™ i3-10100TE (4 Cores, 6M Cache, to 3.6 GHz); 35W (ECC support on W480E SKU only)<br>Intel® Pentium® G6400E (2 Cores, 4M Cache, 3.8 GHz); 58W (Not support on W480E SKU)<br>Intel® Celeron® G5900E (2 Cores, 2M Cache, 3.2 GHz); 58W (Not support on W480E SKU)<br>Intel® Celeron® G5900TE (2 Cores, 2M Cache, 3.0 GHz); 35W (Not support on W480E SKU) |   |  |
|                       | <b>Chipset</b>               | Intel® W480E/Q470E Chipset  |   |  |
|                       | <b>Memory</b>                | Two 260-pin SODIMM up to 64GB<br>Dual Channel DDR4 2933MHz (ECC supported by W480E only)  |   |  |
|                       | <b>BIOS</b>                  | AMI SPI 256Mbit   |   |  |
|                       | <b>GRAPHICS</b>              | <b>Controller</b>   | Intel® UHD Graphics 630 (only Pentium G5400/Celeron G4900 support 610 )   |  |
|                       | <b>Feature</b>               | OpenGL 4.5, DirectX 12, OpenCL 2.1<br>HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9<br>HW Encode: AVC/H.264, MPEG2, JPEG, HEVC/H265, VP8, VP9  |   |  |
|                       | <b>Display</b>               | 2 x DP++  | DP: resolution up to 4096 x 2106 @ 60Hz   |  |
|                       | <b>Dual Displays</b>         | 2 x DP++  |   |  |
| <b>EXPANSION</b>      | <b>Interface</b>             | 1 x PCIe x16 (Gen 3) (x8 signal)<br>1 x M.2 2230 E key (PCIe/USB 2.0/Intel CNVi support) for WiFi6<br>1 x M.2 2280 M key (PCIe x4 Gen3 NVMe/SATA/Intel Optane Memory support) for SSD<br>1 x M.2 3042/3052 B key (PCIe/USB3.0) for 4G LTE/5G with SIM holder  |   |  |
|                       | <b>Audio Codec</b>           | Realtek ALC888  |   |  |
|                       | <b>ETHERNET</b>              | <b>Controller</b>   | 1 x Intel® I219LM PHY with iAMT12 and vPro (10/100/1000Mbps) (Core i7/i5 supports iAMT)<br>1 x Intel® I211AT PCIe (10/100/1000Mbps) |  |
|                       | <b>REAR I/O</b>              | <b>Ethernet</b>   | 2 x GbE (RJ-45)   |  |
| <b>Serial</b>         |                              | 1 x RS-232/422/485 (RS-232 w/ power) (DB-9)   |   |  |
| <b>USB</b>            |                              | 8 x USB 3.2 Gen2<br>4 x USB 3.2   |   |  |
| <b>Display</b>        |                              | 2 x DP++  |   |  |
| <b>INTERNAL I/O</b>   | <b>Serial</b>                | 1 x RS-232/422/485 (RS-232 w/ power) (2.0mm pitch)  |   |  |
|                       | <b>Audio</b>                 | 1 x Front Audio Header  |   |  |
|                       | <b>SATA</b>                  | 2 x SATA 3.0 (up to 6Gb/s)<br>1 x SATA Power<br>RAID 0/1  |   |  |
|                       | <b>DIO</b>                   | 1 x 8-bit DIO   |   |  |
|                       | <b>LPC</b>                   | 1 x LPC   |   |  |
|                       | <b>SMBus</b>                 | 1 x SMBus   |   |  |
| <b>WATCHDOG TIMER</b> | <b>Output &amp; Interval</b> | System Reset, Programmable via Software from 1 to 255 Seconds   |   |  |
| <b>SECURITY</b>       | <b>TPM</b>                   | Infineon TPM1.2/2.0 (optional)  |   |  |
| <b>POWER</b>          | <b>Type</b>                  | Single 12V +/-10% DC (CMS171)<br>Wide Range 15~36V (CMS173)   |   |  |
|                       | <b>Connector</b>             | DC-in Jack  |   |  |
|                       | <b>Consumption</b>           | TBD   |   |  |
|                       | <b>RTC Battery</b>           | CR2032 Coin Cell  |   |  |
| <b>OS SUPPORT</b>     | <b>Microsoft</b>             | Windows 10 IoT Enterprise LTSC 2019 RS5   |   |  |
|                       | <b>Linux</b>                 | Ubuntu 20.04  |   |  |
| <b>ENVIRONMENT</b>    | <b>Temperature</b>           | Operating: -5 to 65°C   | Storage: -40 to 85°C  |  |
|                       | <b>Humidity</b>              | Operating: 5 to 90% RH  | Storage: 5 to 90% RH  |  |
|                       | <b>MTBF</b>                  | TBD   |   |  |
| <b>MECHANISM</b>      | <b>Dimensions</b>            | Mini-ITX Form Factor  | 170mm (6.7") x 170mm (6.7")   |  |
|                       | <b>Height</b>                | PCB: 1.6mm  |   |  |
|                       |                              | Top Side: TBD   | Bottom Side: TBD  |  |

## PACKING LIST

|   |                 |
|---|-----------------|
| 1 CMS171/CMS173 motherboard   |                 |
| 1 Serial ATA data cable w/lock (Length: 500mm)                                | 332-553001-005G |
| 1 Serial ATA power Y cable<br>(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 |