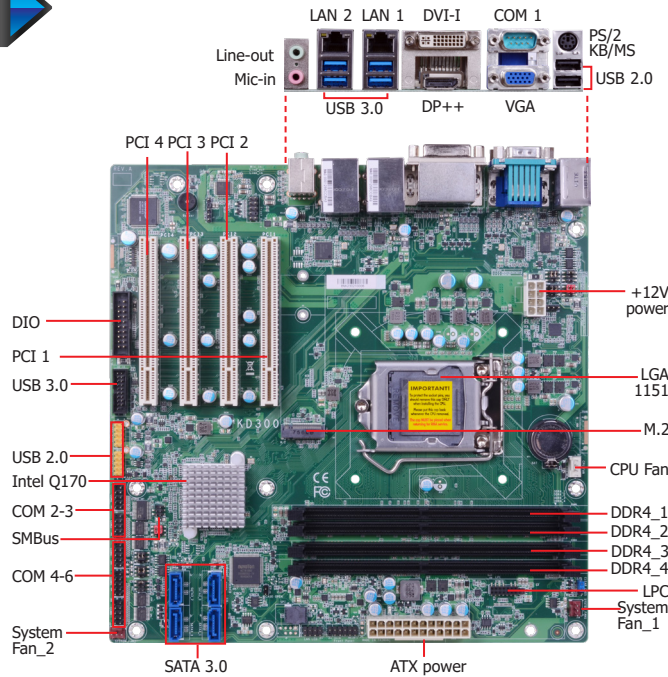




# KD300-Q170

Desktop

Q170



## Features

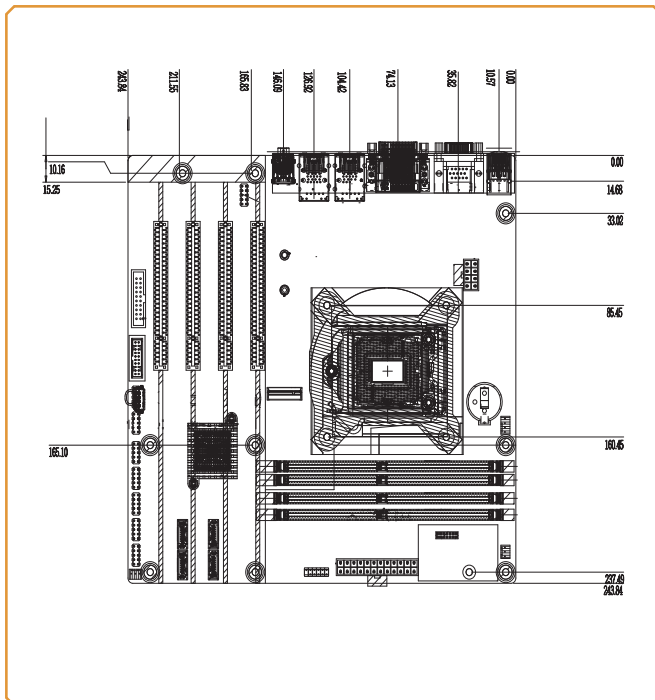
- 4 DDR4 DIMM up to 64GB
- Three display ports: VGA, DVI-D, DP++ Supports three independent displays
- DP++ resolution up to 4096x2160 @ 60Hz  
DVI-D resolution up to 1920x1200 @ 60Hz
- Multiple expansion: 4 PCI, 1 M.2
- Rich I/O: 2 Intel GbE, 6 COM, 6 USB 3.0, 6 USB 2.0



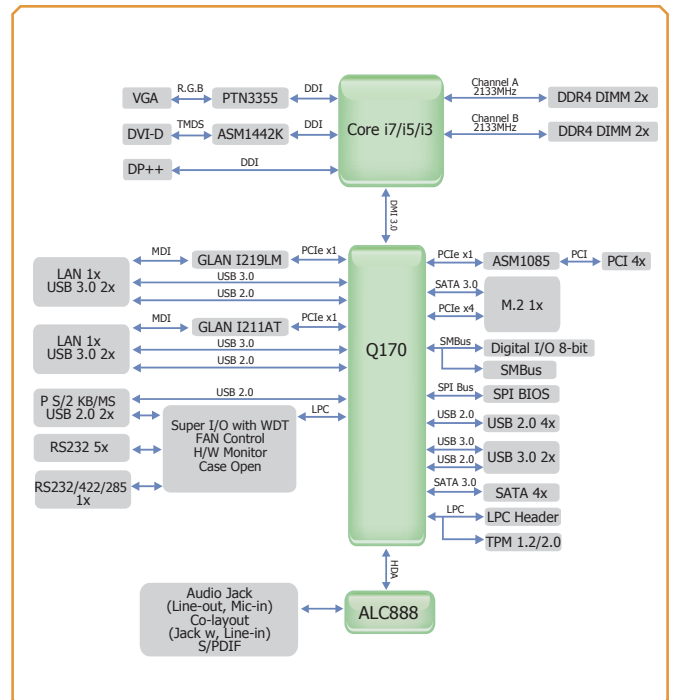
## Ordering Information

| Model Name    | P/N             | Memory | GbE | RS-232/422/485 | RS-232 | USB 3.0 | USB 2.0 | Power                      | Thermal | Temp.     |
|---------------|-----------------|--------|-----|----------------|--------|---------|---------|----------------------------|---------|-----------|
| KD300-Q170CRM | 770-KD3002-100G | 4 DIMM | 2   | 2              | 4      | 6       | 6       | 24-pin ATX / 8-pin ATX 12V | Active  | 0 to 60°C |

## Mechanical Drawing



## Block Diagram



## Specifications

|                       |                        |   |   |
|-----------------------|------------------------|---|---|
| <b>SYSTEM</b>         | <b>Processor</b>       | 6th/7th Generation Intel® Core™ /Pentium®/Celeron® LGA 1151 Socket Processors with TDP up to 95W  |   |
|                       | <b>Chipset</b>         | Intel® Q170 Chipset   |   |
|                       | <b>Memory</b>          | 4 288-pin DIMM up to 64GB   | Dual Channel DDR4 2133/2400MHz  |
|                       | <b>BIOS</b>            | Insyde SPI 128Mbit  |   |
| <b>GRAPHICS</b>       | <b>Controller</b>      | Intel® HD Gen 9 Graphics  |   |
|                       | <b>Feature</b>         | OpenGL 5.0, DirectX 12, OpenCL 2.1<br>HW Decode: AVC/H.264, MPEG2, VC1/WMV9, JPEG/MJPEG, HEVC/H265, VP8, VP9<br>HW Encode: MPEG2, AVC/H264, JPEG, HEVC/H265, VP8, VP9 |   |
|                       | <b>Display</b>         | 1 x VGA<br>1 x DVI-I (DVI-D signal)<br>1 x DP++   | VGA: resolution up to 1920x1200 @ 60Hz<br>DVI-D: resolution up to 1920x1200 @ 60Hz<br>DP++: resolution up to 4096x2160 @ 60Hz |
|                       | <b>Triple Displays</b> | VGA + DVI-D + DP++  |   |
| <b>EXPANSION</b>      | <b>Interface</b>       | 4 x PCI<br>1 x M.2 2260/2280 M key (SATA3.0/PCIe Gen3 x4 NVMe)  |   |
| <b>AUDIO</b>          | <b>Audio Codec</b>     | Realtek ALC888S-VD2-GR  |   |
| <b>ETHERNET</b>       | <b>Controller</b>      | 1 x Intel® I211AT PCIe (10/100/1000Mbps)<br>1 x Intel® I219LM PCIe with iAMT 11.6 (10/100/1000Mbps) (only core i7/i5 supports iAMT)                                   |   |
| <b>REAR I/O</b>       | <b>Ethernet</b>        | 2 x GbE (RJ-45)   |   |
|                       | <b>USB</b>             | 4 x USB 3.0   | 2 x USB 2.0   |
|                       | <b>Serial</b>          | 1 x RS-232/422/485 (RS-232 w/ power) (DB-9)   |   |
|                       | <b>PS/2</b>            | 1 x PS/2 (mini-DIN-6)   |   |
|                       | <b>Display</b>         | 1 x VGA<br>1 x DVI-I (DVI-D signal)<br>1 x DP++   |   |
|                       | <b>Audio</b>           | 1 x Line-out<br>1 x Mic-in<br>1 x Line-in (opt., MOQ required)  |   |
|                       | <b>INTERNAL I/O</b>    | <b>Serial</b>   | 1 x RS-232/422/485 (RS-232 w/ power) (2.54mm pitch)<br>4 x RS-232 (default)   |
| <b>USB</b>            |                        | 2 x USB 3.0 (2.00mm pitch)<br>1 x vertical USB 2.0 (opt.)   | 4 x USB 2.0 (2.54mm pitch)  |
| <b>Audio</b>          |                        | 1 x S/PDIF<br>1 x Front Audio   |   |
| <b>SATA</b>           |                        | 4 x SATA 3.0 (up to 6Gb/s)  | RAID 0/1/5/10   |
| <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 TPM2.0/1.2 (optional)  |   |
| <b>POWER</b>          | <b>Type</b>            | ATX   |   |
|                       | <b>Connector</b>       | 8-pin ATX 12V power   | 24-pin ATX power  |
|                       | <b>Consumption</b>     | TBD   |   |
|                       | <b>RTC Battery</b>     | CR2032 Coin Cell  |   |
| <b>OS SUPPORT</b>     |                        | Windows 7 32/64-bit<br>Windows 8.1 64-bit<br>Windows 10 64-bit<br>Ubuntu 16.04<br>Note: 7th Gen CPU SKU ONLY support Windows 10 64-bit & Ubuntu 16.04.                |   |
| <b>ENVIRONMENT</b>    | <b>Temperature</b>     | Operating: 0 to 60°C  | Storage: -40 to 85°C  |
|                       | <b>Humidity</b>        | Operating: 5 to 90% RH  | Storage: 5 to 90% RH  |
|                       | <b>MTBF</b>            | TBD   |   |
| <b>MECHANICAL</b>     | <b>Dimensions</b>      | microATX form factor  | 244mm (9.6") x 244mm (9.6")   |
|                       | <b>Height</b>          | PCB: TBD  | Top Side: TBD, Bottom Side: TBD   |

## Packing List

|   |                 |
|---|-----------------|
| • 1 KD300-Q170 motherboard                        |                 |
| • 1 COM port cable (Length: 300mm, 2 x COM ports) | A81-015026-023G |
| • 1 Serial ATA data cable (Length: 500mm)         | 332-553001-005G |
| • 1 I/O shield                                    | A49-KD6000-000G |
| • 1 QR  | 933-KD3001-000G |

## Optional Items

|   |                 |
|---|-----------------|
| • USB 2.0 port cable (Length: 350/398mm)        | A81-001066-016G |
| • COM port cable (Length: 300mm, 2 x COM ports) | A81-015026-023G |
| • Serial ATA data cable (Length: 500mm)         | 332-553001-005G |
| • Thermal solution (For 35W, Height: 37.3mm)    | A71-103004-000G |
| • Thermal solution (For 65W, Height: 72.8mm)    | 552-200049-000G |
| • Thermal solution (For 95W, Height: 69.3mm)    | 761-103001-000G |
| • USB 3.0 port cable (Length: 320mm)            | A81-001052-023G |
| • DP to HDMI Dongle                             | 612-D2H13M-000G |