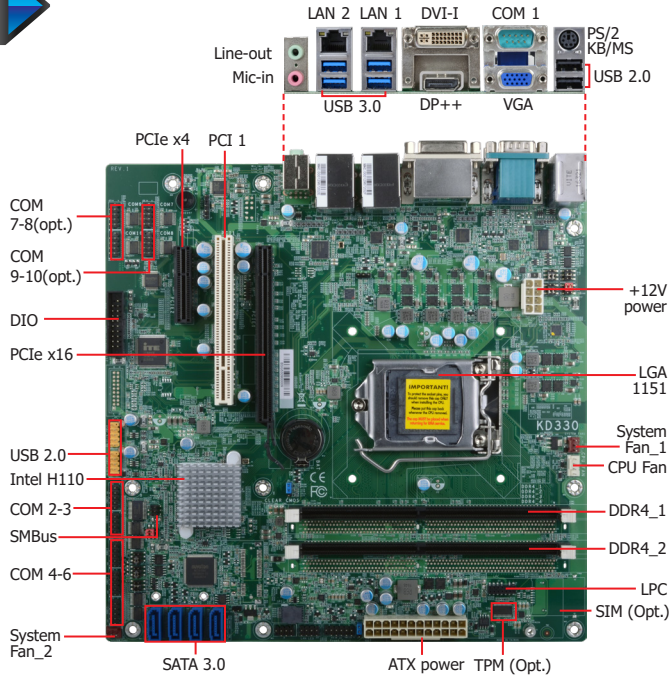


## KD330-H110

Desktop

H110



### Features

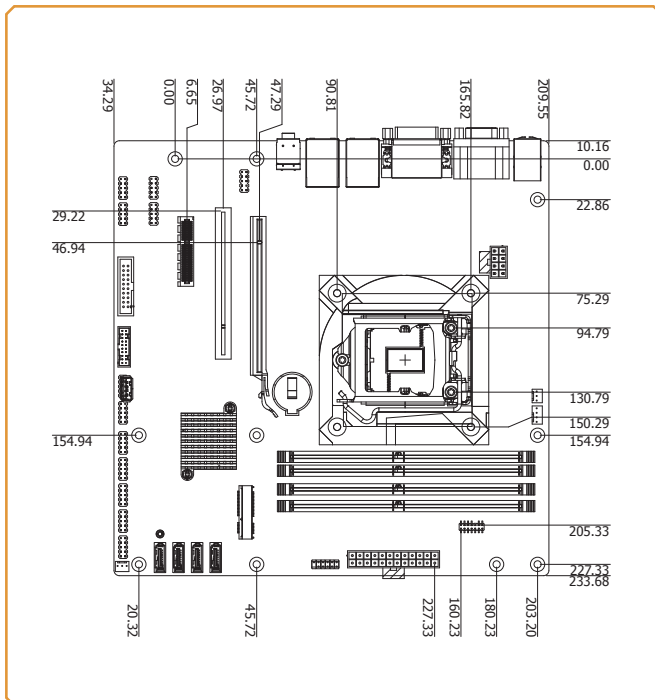
- 2 DDR4 DIMM up to 32GB
- Three display ports: VGA, DVI-D, DP++ Supports three independent displays
- DP++ resolution up to 4096x2304 @ 60Hz DVI-D resolution up to 1920x1200 @ 60Hz
- Multiple expansion: 1 PCIe x16, 1 PCIe x4, 1 PCI
- Rich I/O: 2 Intel GbE, 6 COM(default), 4 COM(opt.), 4 USB 3.0, 6 USB 2.0



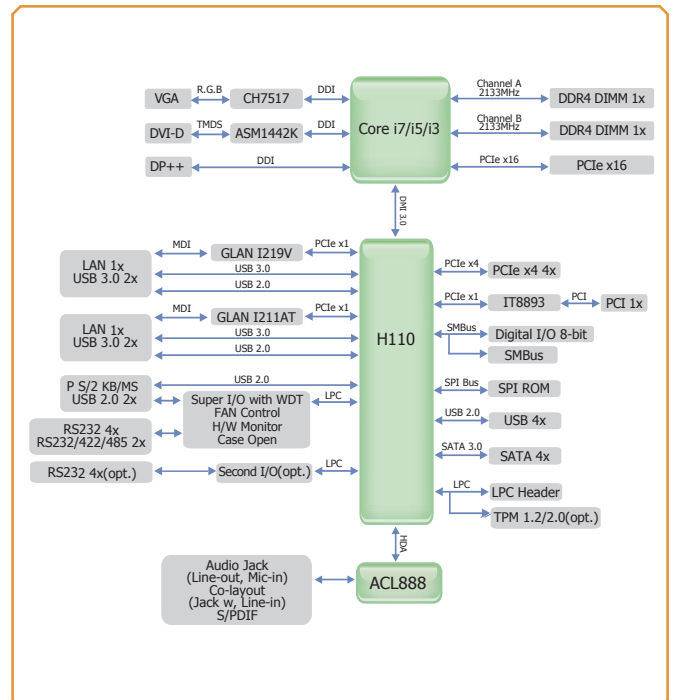
### Ordering Information

| Model Name  | P/N             | Memory | GbE | RS-232/422/485 | RS-232 | USB 3.0 | USB 2.0 | Power                      | Thermal | Temp.     |
|-------------|-----------------|--------|-----|----------------|--------|---------|---------|----------------------------|---------|-----------|
| KD330-H110C | 770-KD3302-000G | 2 DIMM | 2   | 2              | 8      | 4       | 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® H110 Chipset   |   |
|                       | <b>Memory</b>                | Two 288-pin DIMM up to 32GB   | 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 4096x2304 @ 60Hz |
|                       | <b>Triple Displays</b>       | VGA + DVI-D + DP++  |   |
| <b>EXPANSION</b>      | <b>Interface</b>             | 1 x PCIe x16 (Gen 3)<br>1 x PCIe x4 (Gen 2)<br>1 x PCI  |   |
| <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® I219V PCIe (10/100/1000Mbps)   |   |
| <b>REAR I/O</b>       | <b>Ethernet</b>              | 2 x GbE (RJ-45)   |   |
|                       | <b>USB</b>                   | 4 x USB 3.0<br>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  |   |
|                       | <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), 4 x RS-232 (opt., MOQ required)                  |
| <b>USB</b>            |                              | 4 x USB 2.0 (2.54mm pitch)  |   |
| <b>Audio</b>          |                              | 1 x S/PDIF  |   |
| <b>SATA</b>           |                              | 4 x SATA 3.0 (up to 6Gb/s)  |   |
| <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 (opt., MOQ required)  |   |
| <b>POWER</b>          | <b>Type</b>                  | ATX   |   |
|                       | <b>Connector</b>             | 8-pin ATX 12V power   | 24-pin ATX power  |
|                       | <b>Consumption</b>           | Typical: i7 65W: 12V @ 1.22A (14.64 Watt)<br>Max.: i7 65W: 12V @ 6.92A (83.04 Watt)   |   |
|                       | <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>Linux<br>Note: 7th Gen CPU SKU ONLY support Windows 10 64-bit & Linux.                              |   |
| <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>                  | 392,639 hrs @ 25°C; 227,309 hrs @ 45°C; 144,160 hrs @ 60°C<br>Calculation Model: Telcordia Issue 2<br>Environment: GB, GC – Ground Benign, Controlled                 |   |
| <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   |
| <b>CERTIFICATIONS</b> | CE, FCC, RoHS                |   |   |

## Packing List

|   |                 |
|---|-----------------|
| • 1 KD330-H110 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-SD3300-001G |

## Optional Items

|  |                 |
|--|-----------------|
| • USB 2.0 port cable (Length: 350/398mm)     | A81-001066-016G |
| • D-SUB cable (Length: 300mm, 2 DB9)         | 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 |
| • DP to HDMI Dongle                          | 612-D2H13M-000G |