



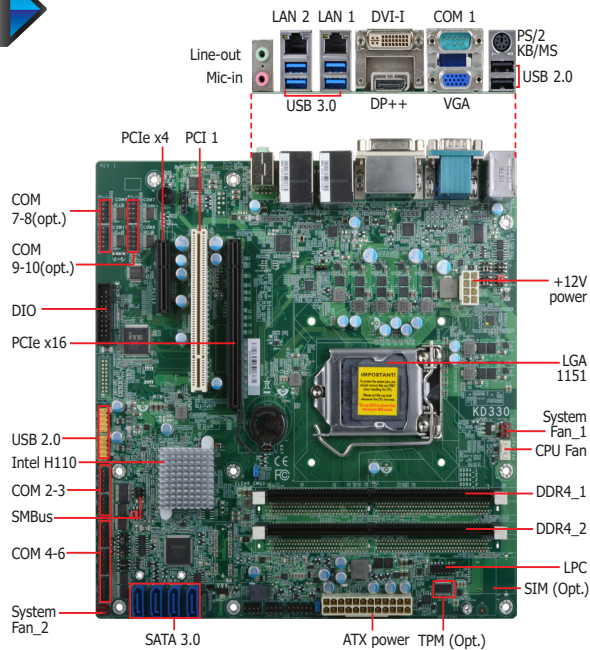
## 6th/7th Gen Intel® Core™ Processor microATX



# KD330-H110

Desktop

H110



### Features

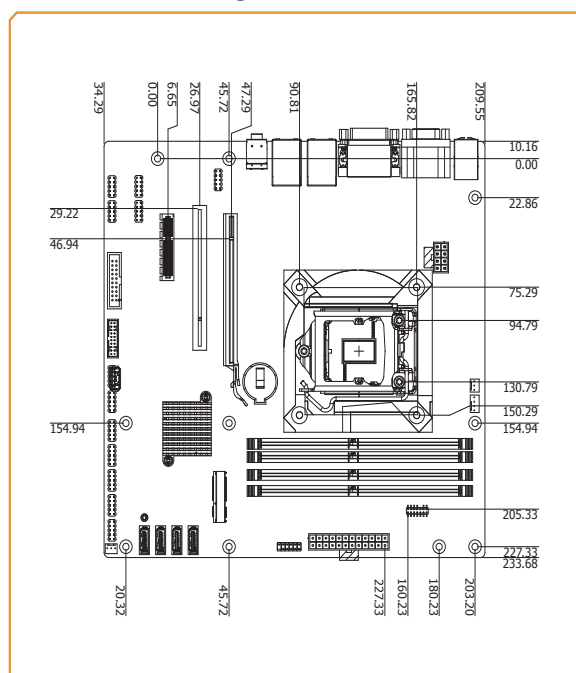
- 2 DDR4 DIMM up to 32GB
- Three display ports: VGA, DVI-D, DP++  
Supports three independent displays
- DP++ resolution up to 4096x2304 @ 60Hz  
DVI-D resolution up to 1920x1200 @ 60Hz
- Multiple expansion: 1 PCIe x16, 1 PCIe x4, 1 PCI
- Rich I/O: 2 Intel GbE, 6 COM(default), 4 COM(opt.), 4 USB 3.0,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



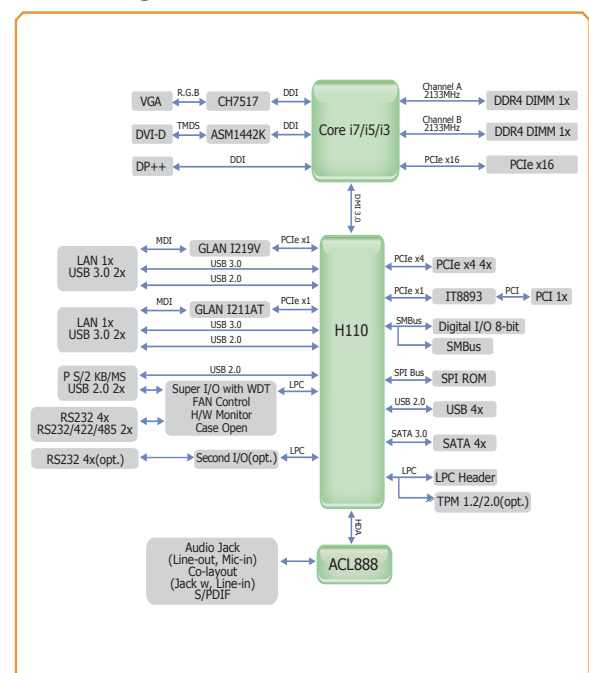
### Ordering Information

| 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

|                |                   |                                                                                                                                                                                  |
|----------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SYSTEM         | Processor         | 6th/7th Generation Intel® Core™ /Pentium®/Celeron® LGA 1151 Socket Processors with TDP up to 95W                                                                                 |
|                | Chipset           | Intel® H110 Chipset                                                                                                                                                              |
|                | Memory            | Two 288-pin DIMM up to 32GB Dual Channel DDR4 2133/2400MHz                                                                                                                       |
|                | BIOS              | Insyde SPI 128Mbit                                                                                                                                                               |
| GRAPHICS       | Controller        | Intel® HD Gen 9 Graphics                                                                                                                                                         |
|                | Feature           | 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            |
|                | Display           | 1 x VGA<br>1 x DVI-I (DVI-D signal)<br>1 x DP++<br>VGA: resolution up to 1920x1200 @ 60Hz<br>DVI-D: resolution up to 1920x1200 @ 60Hz<br>DP++: resolution up to 4096x2304 @ 60Hz |
|                | Triple Displays   | VGA + DVI-D + DP++                                                                                                                                                               |
| EXPANSION      | Interface         | 1 x PCIe x16 (Gen 3)<br>1 x PCIe x4 (Gen 2)<br>1 x PCI                                                                                                                           |
| AUDIO          | Audio Codec       | Realtek ALC888S-VD2-GR                                                                                                                                                           |
| ETHERNET       | Controller        | 1 x Intel® I211AT PCIe (10/100/1000Mbps)<br>1 x Intel® I219V PCIe (10/100/1000Mbps)                                                                                              |
| REAR I/O       | Ethernet          | 2 x GbE (RJ-45)                                                                                                                                                                  |
|                | USB               | 4 x USB 3.0<br>2 x USB 2.0                                                                                                                                                       |
|                | Serial            | 1 x RS-232/422/485 (RS-232 w/ power) (DB-9)                                                                                                                                      |
|                | PS/2              | 1 x PS/2 (mini-DIN-6)                                                                                                                                                            |
|                | Display           | 1 x VGA<br>1 x DVI-I (DVI-D signal)<br>1 x DP++                                                                                                                                  |
|                | Audio             | 1 x Line-out<br>1 x Mic-in                                                                                                                                                       |
| INTERNAL I/O   | Serial            | 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)                                                                     |
|                | USB               | 4 x USB 2.0 (2.54mm pitch)                                                                                                                                                       |
|                | Audio             | 1 x S/PDIF                                                                                                                                                                       |
|                | SATA              | 4 x SATA 3.0 (up to 6Gb/s)                                                                                                                                                       |
|                | 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 TPM2.0/1.2 (opt., MOQ required)                                                                                                                                         |
| POWER          | Type              | ATX                                                                                                                                                                              |
|                | Connector         | 8-pin ATX 12V power 24-pin ATX power                                                                                                                                             |
|                | Consumption       | Typical: i7 65W: 12V @ 1.22A (14.64 Watt)<br>Max.: i7 65W: 12V @ 6.92A (83.04 Watt)                                                                                              |
|                | RTC Battery       | CR2032 Coin Cell                                                                                                                                                                 |
| OS SUPPORT     |                   | 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.                                         |
| ENVIRONMENT    | Temperature       | Operating: 0 to 60°C Storage: -40 to 85°C                                                                                                                                        |
|                | Humidity          | Operating: 5 to 90% RH Storage: 5 to 90% RH                                                                                                                                      |
|                | MTBF              | 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                            |
| MECHANICAL     | Dimensions        | microATX form factor 244mm (9.6") x 244mm (9.6")                                                                                                                                 |
|                | Height            | PCB: TBD Top Side: TBD, Bottom Side: TBD                                                                                                                                         |
| CERTIFICATIONS |                   | 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 |

## 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.

### US

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +1 347 719 4508

Support: +1 347 719 4508

1309 Coffeen Ave  
Ste 1200  
Sheridan  
WY 82801  
USA

### EMEA

[sales@assured-systems.com](mailto:sales@assured-systems.com)

Sales: +44 (0)1785 879 050

Support: +44 (0)1785 879 050

Unit A5 Douglas Park  
Stone Business Park  
Stone  
ST15 0YJ  
United Kingdom

VAT Number: 120 9546 28

Business Registration Number: 07699660