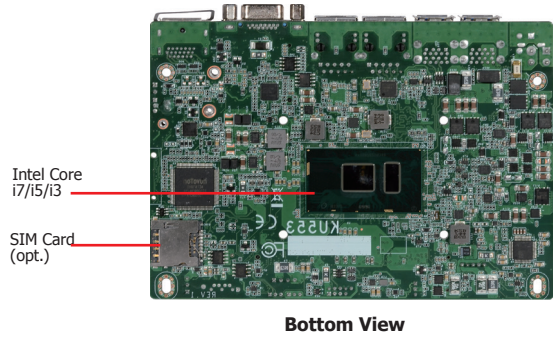
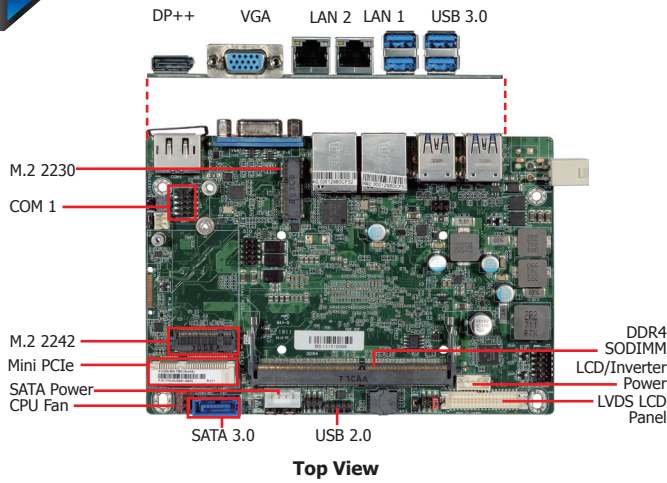


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ULT

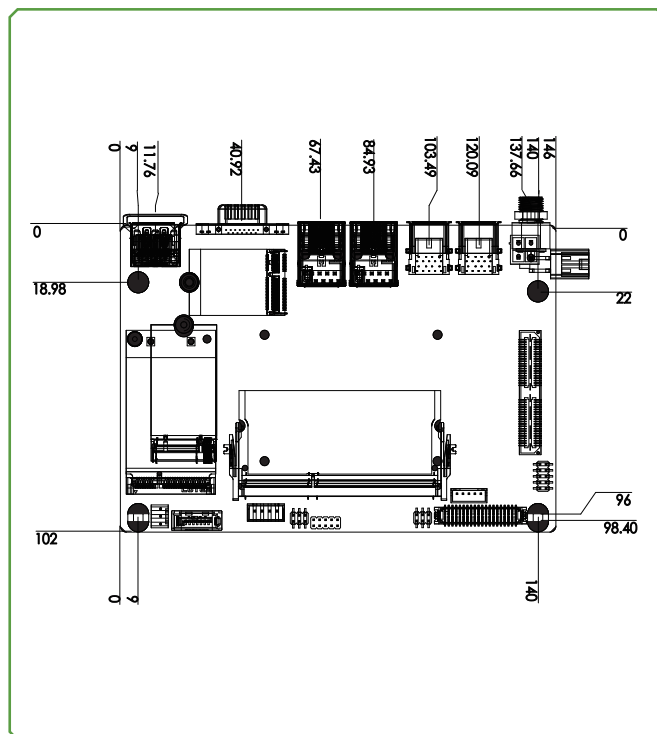


Features

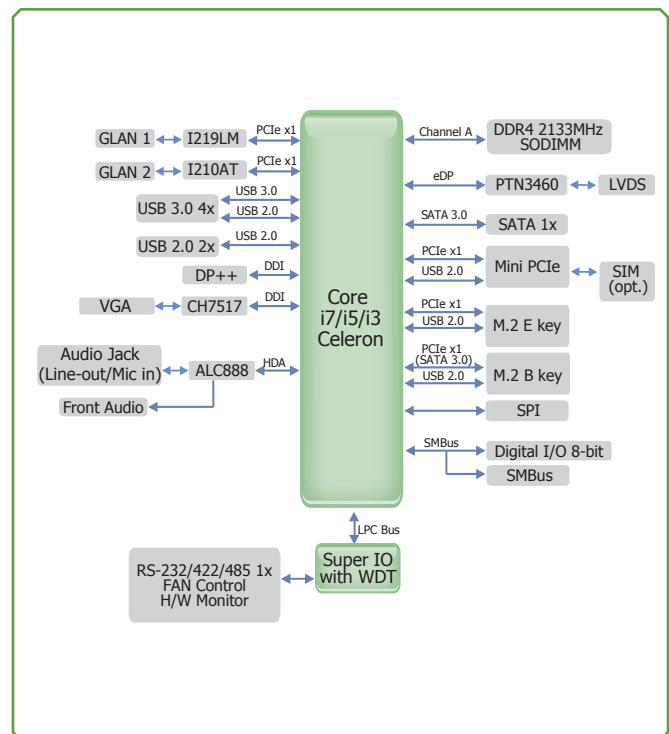
- 1 DDR4 SODIMM up to 16GB
- Three independent displays: VGA + LVDS + DP++
- DP++ resolution up to 4096x2304 @ 60Hz
- Multiple expansion: 1 M.2 B Key, 1 M.2 E Key, 1 Mini PCIe
- Rich I/O: 2 Intel GbE, 4 USB 3.0, 2 USB 2.0



Mechanical Drawing



Block Diagram



► Specifications

| | | | |
|-----------------------|------------------------------|--|---|
| SYSTEM | Processor | 7th Generation Intel® Core™ Processors, BGA 1356 Intel® Core™ i7-7600U Processor, Dual Core, 4M Cache, 2.8GHz (3.9GHz), 15W Intel® Core™ i5-7300U Processor, Dual Core, 3M Cache, 2.6GHz (3.5GHz), 15W Intel® Core™ i3-7100U Processor, Dual Core, 3M Cache, 2.4GHz, 15W Intel® Celeron® Processor 3965U, Dual Core, 2M Cache, 2.2GHz, 15W | |
| | Memory | One 260-pin SODIMM up to 16GB | Single Channel DDR4 1866/2133MHz |
| | BIOS | Insyde SPI 128Mbit | |
| GRAPHICS | Controller | Intel® HD Graphics GT Series | |
| | Feature | OpenGL 5.0, 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 | 1 x VGA 1 x LVDS/eDP 1 x DP++ | VGA: resolution up to 1920x1200 @ 60Hz LVDS: dual channel 48-bit, resolution up to 1920x1200 @ 60Hz DP++: resolution up to 4096x2304 @ 60Hz |
| | Triple Displays | VGA + LVDS + DP++ | |
| EXPANSION | Interface | 1 x Full-size Mini PCIe (PCIe/USB2.0/USB3.1 Gen1 (option)) with SIM slot (option) 1 x M.2 B key 2242 (PCIe Gen3/USB2.0/SATA3.0) 1 x M.2 E key 2230 (PCIe/USB2.0) | |
| AUDIO | Audio Codec | Realtek ALC888S | |
| ETHERNET | Controller /Phy | Core™ Processors: 1 x Intel® I210AT PCIe (10/100/1000Mbps) or 1 x Intel® I210IT PCIe (10/100/1000Mbps) 1 x Intel® I219LM PCIe with iAMT11.6 (10/100/1000Mbps) Celeron® Processor: 1 x Intel® I210AT PCIe (10/100/1000Mbps) or 1 x Intel® I210IT PCIe (10/100/1000Mbps) 1 x Intel® I219V PCIe with iAMT11.6 (10/100/1000Mbps) | |
| REAR I/O | Ethernet | 2 x GbE (RJ-45) | |
| | USB | 4 x USB 3.0 | |
| | Display | 1 x VGA 1 x DP++ | |
| INTERNAL I/O | Serial | 1 x RS-232/422/485 (2.0mm pitch) | |
| | USB | 2 x USB 2.0 (2.0mm pitch) | |
| | Display | 1 x LVDS LCD Panel Connector | 1 x LCD/Inverter Power |
| | Audio | 1 x Audio (Line-out/Mic-in) | |
| | SATA | 1 x SATA 3.0 (up to 6Gb/s) | 1 x SATA Power |
| | DIO | 1 x 8-bit DIO | |
| | SMBus | 1 x SMBus | |
| WATCHDOG TIMER | Output & Interval | System Reset, Programmable via Software from 1 to 255 Seconds | |
| SECURITY | TPM | fTPM 2.0 | |
| POWER | Type | Wide Range 9~36VDC | |
| | Connector | Right Angle Connector (4-pin) | DC Jack (available upon request) Vertical Type Connector (4-pin) (available upon request) |
| | Consumption | Idle: i7-7600U: 12V @ 0.43A (5.16W) Max: i7-7600U: 12V @ 3.16A (37.92W) | |
| | RTC Battery | CR2032 Coin Cell | |
| OS SUPPORT | Microsoft | Windows 10 IoT Enterprise 64-bit | |
| | Linux | Ubuntu 16.04 | |
| ENVIRONMENT | Temperature | Operating: 0 to 60°C (Opt. -20 to 70°C) | Storage: -40 to 85°C |
| | Humidity | Operating: 5 to 90% RH | Storage: 5 to 90% RH |
| | MTBF | 606, 151 hrs @ 25°C; 394, 265 @ 45°C; 267, 894 @ 60°C | |
| MECHANICAL | Dimensions | 3.5" SBC Form Factor | 146mm (5.75") x 102mm (4.02") |
| | Height | PCB: 1.6mm | Top Side: 16.3mm, Bottom Side: 4.0 mm |
| CERTIFICATIONS | CE, FCC, RoHS | | |

► Ordering Information

| Model Name | P/N | Processor | Memory | GbE | RS-232/422/485 | USB 3.0 | USB 2.0 | Power | Thermal | Temp. |
|-----------------------|-----------------|-----------|----------|-----|----------------|---------|---------|---------------------|---------|-------------|
| KU553-BN-7600U | 770-KU5531-000G | i7-7600U | 1 SODIMM | 2 | 1 | 4 | 2 | 9~36V (Right Angle) | Fanless | 0 to 60°C |
| KU553-BN-7300U | 770-KU5531-100G | i5-7300U | 1 SODIMM | 2 | 1 | 4 | 2 | 9~36V (Right Angle) | Fanless | 0 to 60°C |
| KU553-BN-7100U | 770-KU5531-200G | i3-7100U | 1 SODIMM | 2 | 1 | 4 | 2 | 9~36V (Right Angle) | Fanless | 0 to 60°C |
| KU553-BN-3965U | 770-KU5531-300G | 3965U | 1 SODIMM | 2 | 1 | 4 | 2 | 9~36V (Right Angle) | Fanless | 0 to 60°C |
| KU553-EN-7600U | 770-KU5531-400G | i7-7600U | 1 SODIMM | 2 | 1 | 4 | 2 | 9~36V (Right Angle) | Fanless | -20 to 70°C |

► Packing List

| | |
|--|------------------------------------|
| • 1 KU553 board | |
| • 1 COM port cable (Length: 300mm) | 332-753040-000G |
| • 1 Serial ATA data cable (Length: 500mm) | 332-553001-205G |
| • 1 Serial ATA power cable (Length: 250mm) | A81-004041-016G |
| • 1 Heat sink (Height: 26mm) or (Height: 31mm) | A71-011080-010G or A71-011081-010G |

► Optional Items

| | |
|----------------------------------|-----------------|
| • USB port cable (Length: 200mm) | A81-001032-016G |
| • Power adapter (60W, 12V) | 671-106012-000G |
| • 4 pin to DC jack cable | A81-004051-016G |
| • Heat spreader (Height: 11mm) | A71-011078-000G |
| • Audio cable (Length: 160mm) | A81-022007-016G |