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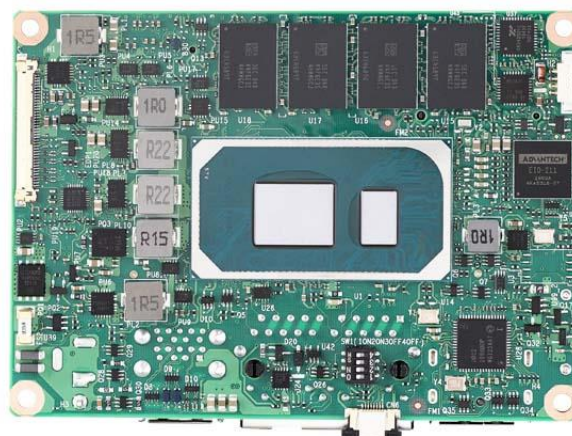
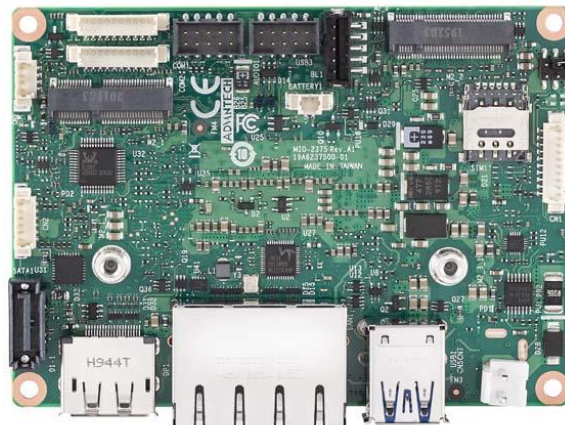


Datasheet

ADVANTECH

MIO-2375

2,5" Industrial Embedded Single-Board Computer with
11th Gen. Intel® Tiger Lake Core® i & Celeron® U-Series Processor

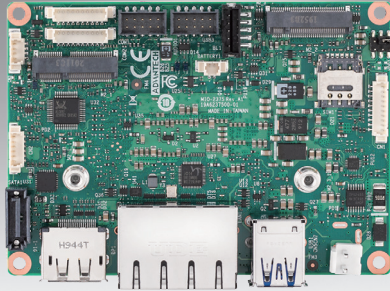


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MIO-2375

11th Gen. Intel® Core™ i7/i5/i3 U-series Pico-ITX SBC

Preliminary



Features

- 11th Gen. Intel® Core™ Processor with Quad/Dual Cores, TDP 15W
- On-board LPDDR4x-4267 up to 32G with IB ECC for Industrial Sku
- Dual independent display: eDP/MIPI-DSI, DP up to 8K
- 2 GbE, 2 USB 3.2, COM Port, SMBus/I2C
- Expansion: M.2 E-Key, M.2 B-Key/M-Key NVMe x2
- Supports iManager & Software APIs, WISE-DeviceOn

Software APIs:

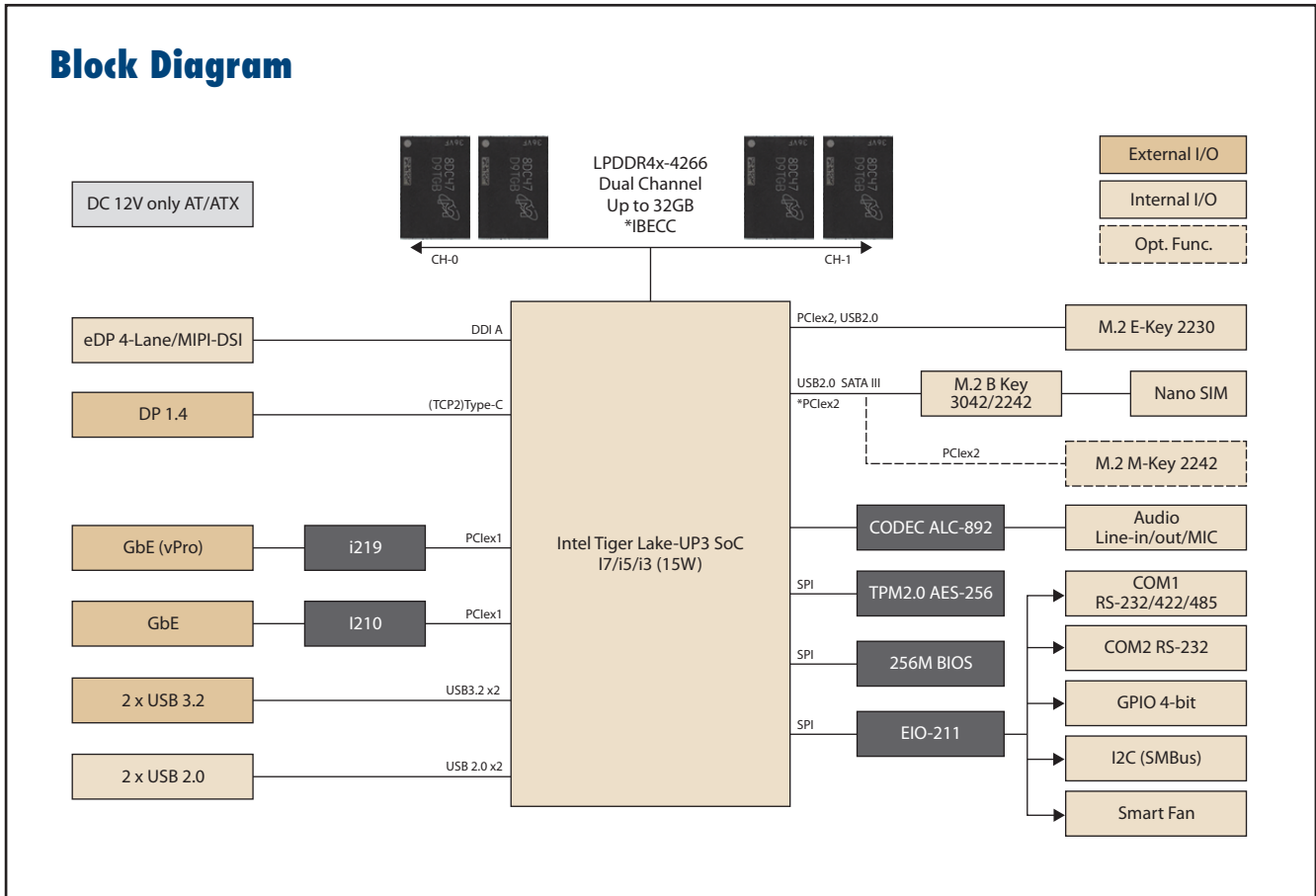


Specifications

| | Processor | i7-1185G7E | i7-1185GRE | i5-1145G7E | i3-1115G4E |
|---------------|----------------------|---|------------|------------|------------|
| Platform | Max. Frequency | 4.40 GHz | 4.40 GHz | 4.10 GHz | 3.90 GHz |
| | Base Frequency | 1.80 GHz | 1.80 GHz | 1.50 GHz | 2.20 GHz |
| | Core/Tread | 4/8 | 4/8 | 4/8 | 2/4 |
| | LLC | 12MB | 12MB | 8MB | 6MB |
| | CPU TDP | 15W | 15W | 15W | 15W |
| | Chipset | Intel 300 Series Chipset (SoC Integrated) | | | |
| | BIOS | AMI EFI 256Mbit | | | |
| | Technology | LPDDR4x-4267 | | | |
| Memory | Max. Capacity | Up to 32GB | | | |
| | Channel/Socket | Dual Channels / Onboard | | | |
| | ECC Support | No | Yes | No | No |
| | Controller | Integrated Intel® Iris® Xe Graphics | | | |
| Graphics | Max. Frequency | 1.35 GHz | 1.35 GHz | 1.30 GHz | 1.25 GHz |
| | Base Frequency | TBU | TBU | TBU | TBU |
| | Graphics Memory | TBU | TBU | TBU | TBU |
| | 3D/HW Acceleration | DX12, OGL4.0, OCL1.2, HW Encode: H.265/HEVC, H.264, MPEG2, HW Decode: H.264 | | | |
| Display I/F | LCD | eDP1.4 HBR3, up to 4096x2304x36bpp@60Hz; with DSC 7680x4320x30bpp@60 Hz Optional MIPI-DSI 2.5GHz, up to 3200x2000x24bpp@60Hz; with DSC 5120x3200x24bpp@60 Hz | | | |
| | HDMI/DP | 1 x DP1.4 (DP++), up to 4096x2304x36bpp@60Hz; with DSC 7680x4320x30bpp@60 Hz | | | |
| | Multiple Display | Dual simultaneous displays by eDP/MIPI-DSI + DP | | | |
| Ethernet | Controller | LAN1: Intel 219LM, LAN2: Intel 210AT/IT | | | |
| | Speed | 10/100/1000 Mbps | | | |
| External I/O | Ethernet | 2 x RJ-45 | | | |
| | VGA/HDMI/DP | -/-/1 | | | |
| | USB3.2/USB2.0 | 2/- | | | |
| | Power DC-Jack | Optional | | | |
| Internal I/O | SATA | 1 x SATA GenIII 6.0Gbps | | | |
| | USB2.0 | 2 | | | |
| | Serial Bus | I2C (default), SMBus* (optional) | | | |
| | COM Port | 1 x RS-232/422/485, 1 x RS-232 | | | |
| | GPIO | 4-bit general purpose input output I/O | | | |
| | Audio | Realtek ALC892, Line-in/Line-out/MIC | | | |
| | Inverter | 12V | | | |
| | Fan | 12V, 1A (4-wire) | | | |
| | Front Panel Control | Power-on, Reset, Buzzer, SATA LED, CaseOpen | | | |
| | Watchdog Timer | 65536 level, 0-65535 sec | | | |
| | Board Feature | TPM | TPM2.0 | | |
| iManager 3.0 | | SW API for Hardware Monitor, Smart Fan Control, Brightness Control, I2C, GPIO, WDT | | | |
| M.2 E-Key | | 1 x E-Key 2230 (PCIe x1, USB2.0) | | | |
| Expansion | M.2 B-Key/ M.2 M-Key | 1 x B-Key 3042/2242 (SATA x1, USB2.0 x1) w/ Nano-SIM *Optional 1 x M-Key 2242 (PCIe x2 NVMe) | | | |
| | Supply Voltage | Vin: DC 12V ± 10%; RTC Battery: Lithium 3V/210mAh | | | |
| Power | Connector | ATX 2pin 180D, optional DC-Jack | | | |
| | Power Management | AT, ATX | | | |
| | Max. Consumption | TBU | | | |
| | Idle Consumption | TBU | | | |
| Environment | Temperature | Operating: Standard: 0 ~ 60 °C (32 ~ 140 °F) Operating: Extend: -40 ~ 85 °C (-40 ~ 185 °F) for Industrial Sku Storage: -40 ~ 85 °C (-40 ~ 185 °F) | | | |
| | Humidity | Operating: 40 °C @ 95% relative humidity, non-condensing Storage: 60 °C @ 95% relative humidity, non-condensing | | | |
| | Vibration Resistance | 3.5 Grms | | | |
| Certification | EMC | CE, FCC Class B | | | |
| | Dimensions | 100 x 72 mm (3.9" x 2.8") | | | |
| Mechanical | Net Weight | 80g | | | |

*Note: Support by request

Block Diagram



Ordering Information

| Part No. | CPU | Max. Frequency | Core | Memory | Sim Holder | TPM | Thermal Solution | Operating Temperature |
|----------|------------|----------------|------|--------|------------|-----|------------------|-----------------------|
| TBD | i7-1185G7E | TBC | 4 | 16GB | Yes | Yes | Active | 0 ~ 60 °C |
| TBD | i7-1185GRE | TBC | 4 | 16GB | Yes | Yes | Active | -40 ~ 85° C |
| TBD | i5-1145G7E | TBC | 4 | 16GB | Yes | Yes | Active | 0 ~ 60 °C |
| TBD | i3-1115G4E | TBC | 2 | 16GB | Yes | Yes | Active | 0 ~ 60 °C |

Packing List

| Part No. | Description | Quantity |
|---------------|-------------------------------------|----------|
| | MIO-2375 SBC | |
| | Startup Manual | |
| 1700006291 | SATA cable 30cm | 1 |
| 1700027546-01 | A CABLE SATA 15P/1*4P-2.5 35cm | 1 |
| 1700030406-01 | M Cable 2*5P-2.0/USB-A 4P(F)*2 20cm | 1 |
| 1700030404-01 | RS-232 9P(M)/1*10P-1.25 20cm | 2 |
| 1700019584 | A Cable 2*5P-2.0/Audio JACK*3 20cm | 1 |
| | AT power cable 12 cm | 1 |

Optional Accessories

| Part No. | Description |
|----------|-------------|
| | |
| | |

Embedded OS/API

| OS | Part No. | Description |
|------------------|---------------------|-------------------------|
| WIN10 | TBD | 64-bit (UEFI mode only) |
| Ubuntu 20.04 LTS | TBD | |
| Software API | Download by website | |
| Yocto BSP | | |

Rear I/O View



Our company network supports you worldwide with offices in Germany, Austria, Switzerland, the UK and the USA. For more information please contact:

Headquarters

Germany



FORTEC Elektronik AG

Augsburger Str. 2b
82110 Germering

Phone: +49 89 894450-0
E-Mail: info@fortecag.de
Internet: www.fortecag.de

Fortec Group Members

Austria



Distec GmbH Office Vienna

Nuschinggasse 12
1230 Wien

Phone: +43 1 8673492-0
E-Mail: info@distec.de
Internet: www.distec.de

Germany



Distec GmbH

Augsburger Str. 2b
82110 Germering

Phone: +49 89 894363-0
E-Mail: info@distec.de
Internet: www.distec.de

Switzerland



ALTRAC AG

Bahnhofstraße 3
5436 Würenlos

Phone: +41 44 7446111
E-Mail: info@altrac.ch
Internet: www.altrac.ch

United Kingdom



Display Technology Ltd.

Osprey House, 1 Osprey Court
Hichingbrooke Business Park
Huntingdon, Cambridgeshire, PE29 6FN

Phone: +44 1480 411600
E-Mail: info@displaytechnology.co.uk
Internet: www.displaytechnology.co.uk

USA



Apollo Display Technologies, Corp.

87 Raynor Avenue,
Unit 1 Ronkonkoma,
NY 11779

Phone: +1 631 5804360
E-Mail: info@apolloDisplays.com
Internet: www.apolloDisplays.com