<table>
<thead>
<tr>
<th>System</th>
<th>UP</th>
<th>UP Squared</th>
<th>UP Core</th>
<th>UP Core Plus</th>
<th>UP Xtreme</th>
</tr>
</thead>
<tbody>
<tr>
<td>Processor</td>
<td>Intel Atom™ x5-Z8500 (up to 2.12 GHz)</td>
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</tr>
<tr>
<td>Number of cores</td>
<td>Quad Core</td>
<td>Intel Atom™ x5-Z8500 (up to 2.12 GHz)</td>
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<td>CPU</td>
<td>Intel Atom™ x5-Z8500 (up to 2.12 GHz)</td>
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<tr>
<td>FPGA</td>
<td>-</td>
<td>-</td>
<td>-</td>
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<td>-</td>
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<tr>
<td>GPU</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Memory</td>
<td>1GB / 2GB / 16GB</td>
<td>1GB / 2GB / 16GB</td>
<td>1GB / 2GB / 16GB</td>
<td>1GB / 2GB / 16GB</td>
<td>1GB / 2GB / 16GB</td>
</tr>
<tr>
<td>Storage</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>OS</td>
<td>Windows 10</td>
<td>Windows 10</td>
<td>Windows 10</td>
<td>Windows 10</td>
<td>Windows 10</td>
</tr>
<tr>
<td>Power consumption</td>
<td>19W</td>
<td>19W</td>
<td>19W</td>
<td>19W</td>
<td>19W</td>
</tr>
<tr>
<td>Dimensions (LxWxH)</td>
<td>85.8 x 56.8mm</td>
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</tr>
<tr>
<td>Operating temperature</td>
<td>0°C - 40°C</td>
<td>0°C - 40°C</td>
<td>0°C - 40°C</td>
<td>0°C - 40°C</td>
<td>0°C - 40°C</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40°C - 60°C</td>
<td>-40°C - 60°C</td>
<td>-40°C - 60°C</td>
<td>-40°C - 60°C</td>
<td>-40°C - 60°C</td>
</tr>
<tr>
<td>Operating humidity</td>
<td>5% ~ 95% relative humidity, non-condensing</td>
<td>5% ~ 95% relative humidity, non-condensing</td>
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</tr>
<tr>
<td>MBT (Hours)</td>
<td>720,000 Hours</td>
<td>720,000 Hours</td>
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<td>720,000 Hours</td>
</tr>
<tr>
<td>Certification</td>
<td>CE, FCC Class A</td>
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</table>

**Display**

- HDMI: 1 (HDMI 1.4a)
- DP: 1 (DP 1.2) 4K @ 60 Hz
- MIPISI x8P: MIPISI x8P

**I/O**

- USB port: 4 x USB 2.0 port Type A, 2 x USB 2.0 pin header, 1 x USB 3.0 OTG Micro B
- LAN: 2 x UAN/I (1x10) socket pin (pin header)
- I/O interface: 1 x SATA 3.0
- Expansion slot: 1 x PCIe

**Connectivity**

- Ethernet: 1 x GigLAN (Realtek RTL8111S-GC)
- WiFi: optional Wi-Fi kit (via M.2 2230)
- Bluetooth: optional BT kit (via M.2 2230)
- LTE/4G: optional via expansion module (via mPCIe)
- Cooling: fanless, active

FOR MORE INFORMATION VISIT: www.up-board.org / www.up-shop.org / www.up-community.org
UP Carrier board expansions

UP board / UP Squared
- UPS HAT with LiPo battery support
- Audio Expansion with 2x speaker and buzzer
- mPCI-e Expansion with micro SIM, RS323 water box
- PoE Expansion with RJ-45 in/out
- Monarco HAT with 4x DIO, 2x analog in/out

UP Core
- Low speed carrier board
  - MaxIO for HAT 40 pin setting
  - 1x USB to RS232
  - 1x jumper for RS-232/422/485
  - 1x Power LED (bottom side)
  - 1x RS-232/422/485 Connector (DB9)
  - 1x 12-24V Power input (+10%)
  - 1x 5-pin for HAT 1010 pins
  - 1x 20 pin for FPGA MAX10

- High speed carrier board
  - 1x 2-channel PCIe Switch
  - 1x HSIC to USB to 3x USB
  - 1x MiniCard
  - 1x uSIM Card Reader
  - 1x Power LED
  - 1x RJ45 Ethernet port
  - 2x USB 2.0 and 1 Connector
  - 1x SD Card

UP Core Plus / UP Xtreme
- Net Plus carrier board *
  - 4x Intel Z111-AT
  - 1x EEPROM on i2C0 4Kb
  - 1x mPCI-e / Mria card, mSATA
  - 1x uSIM Card Reader
  - 1x SAT (vertical)
  - 2x Docking connector
  - 1x Docking connector
  - 1x RJ45 Gigabit Ethernet port
  - 1x USB3.0

- Al Plus carrier board *
  - Intel® Cyclone™ 10GX F672
  - MAX 10 V36 PWR Sequence
  - 1GB DDR3 Single Channel x32
  - 1x SPI-Flash 512 Mb
  - 1x Gb Ethernet (Realtek 8111E)
  - 1x HDMI IN, 1x DP IN, 1x LVDS IN
  - 1x MPCI-C5 (4 lanes)
  - 1x USB 3.0 Type A, 1x USB 3.1 Type C
  - 1x Mini card full-size SATA-PCI-e x1 slot
  - 2x Docking connector 100-pin

UP AI Accelerators with Intel® Movidius™ Myriad™ X VPU 2485
- AI Core X mPCI-e with 1x VPU
- AI Core XM m.2 2280 S+M with 2x VPU
- Vision Plus *
  - 100-pin with 3x VPU
  - for UP core Fox & UP Xtreme
- AI Core XP4 / XP8
  - PCIe x4 with 4 / 8 VPU

* Limited support for UP Xtreme, please refer to UP Shop for more information

www.up-board.org / www.up-shop.org / www.up-community.org