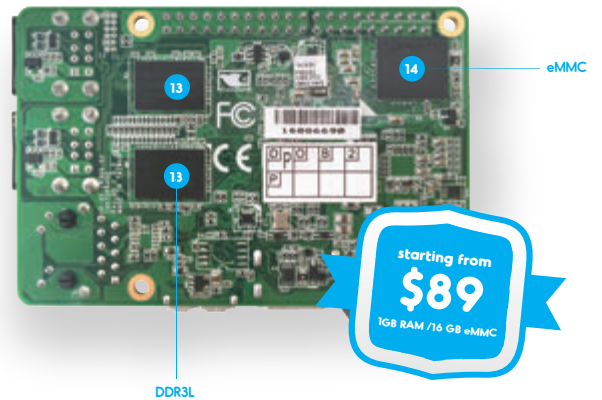
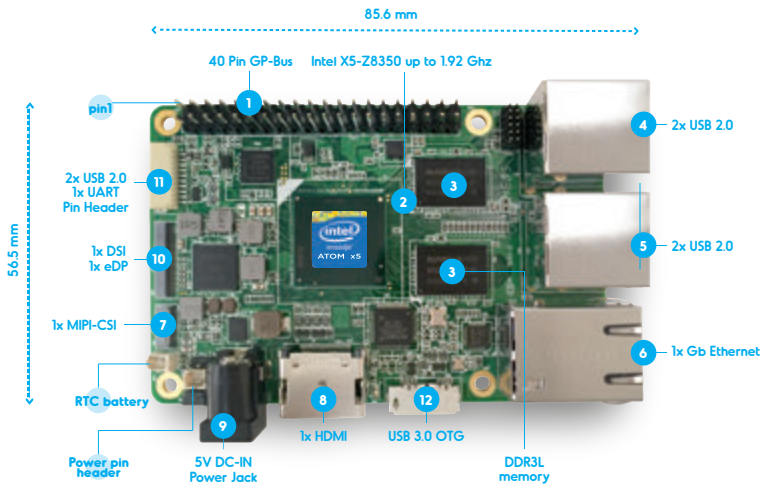




bridge
the gap

specification



UP is a credit card size board with the high performance and low power consumption features of the latest tablet technology: the **Intel® Atom™ x5 Z8350 Processors (codename Cherry Trail) 64 bits up to 1.92GHz**. The internal GPU is the new **Intel Gen 8 HD 400 with 12 Execution Units up to 500MHz** to deliver extremely high **3D graphic** performance. UP is equipped with **1GB/2GB/4GB DDR3L RAM** and **16GB/32GB/64GB eMMC**.

UP has **40-pin General Purpose bus** which provides the freedom to makers to build up their shield. There are more interfaces available, such as **4x port USB2.0 on connectors, 2x port USB2.0 + 1x UART on header, 1x USB 3.0 OTG, 1x Gbit Ethernet (full speed), 1x DSI/eDP port, 1x Camera (MIPI-CSI), 1x HDMI, RTC**.

When it comes to security, UP has **Intel security features** needed for professional IoT applications such **Intel AES New Instructions and Intel Identity Protection Technology**.

It's UP to you to choose which operation system is best for your application. The CPU is supported by **Android 6.Marshmallow, Microsoft Windows 10** and we support and enable **Linux**, through our UP Community.

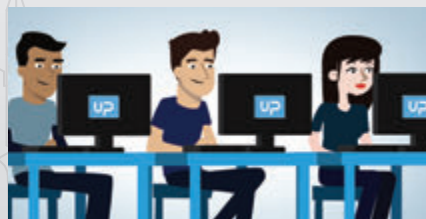
UP has a standard **industrial PC operating temperature** range of **32-140°F/0-60°C**, which makes it flexible for many applications.

UP is perfect for professional makers.

UP - Applications



Drones



Education



Robotics






















Media Center

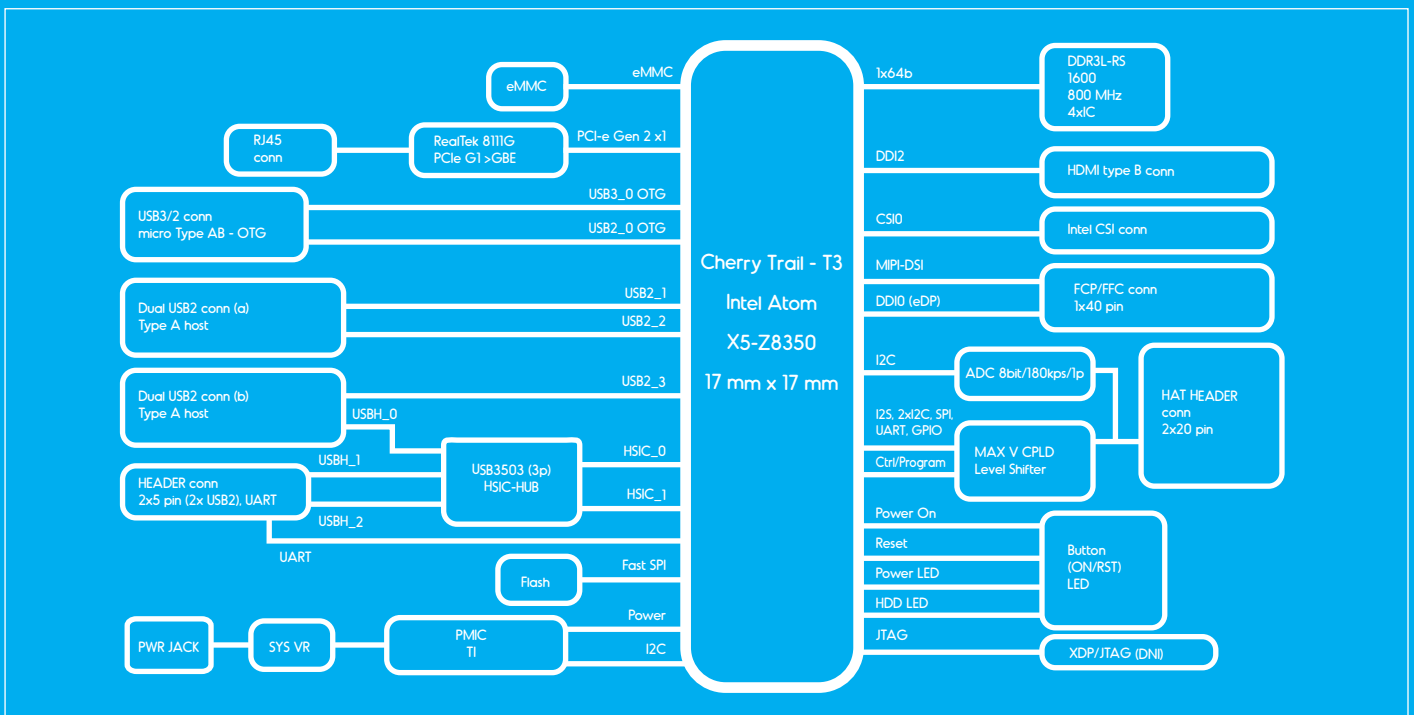


Internet of Things



Home Automation

| | | | |
|---|---|---|---|
|          | <p>SOC Intel® Atom™ x5-Z8350 Processor (2M Cache, 1.44 GHz up to 1.92 GHz) CPU with 64 bit architecture; Quad Core</p> <p>Graphics Intel® HD 400 Graphics ,12 EU GEN 8, up to 500MHz Support DX*11.1/12, Open GL*4.2, Open CL*1.2 OGL ES3.0, H.264, HEVC(decode), VP8</p> <p>Video & Audio HDMI 1.4b I2S audio port</p> <p>Camera interface CSI (4 Mega pixel)</p> <p>USB 2.0 4x UB2.0 2x USB 2.0 pin header (10 pins in total)</p> <p>RTC Yes</p> <p>Power 5V DC-in @ 4A 5.5/2.1mm jack</p> <p>Dimensions 3.37" x 2.22" / 85.60 mm x 56.5 mm</p> <p>Operating humidity 10%~80%RH non-condensing</p> |           | <p>Memory 1GB / 2GB / 4GB DDR3L-1600</p> <p>Storage Capacity 16GB eMMC / 32 GB / 64 GB eMMC</p> <p>Display interface DSI / eDP</p> <p>Ethernet 1x Gb Ethernet (full speed) RJ-45</p> <p>USB 3.0 1x UB3.0 OTG</p> <p>Expansion 40 pin General Purpose bus, supported by Altera Max V. ADC 8-bit@188ksos</p> <p>Compatible Operating system Microsoft Windows 10 full version Linux (ublinux, Ubuntu, Yocto) • Android Marshmallow</p> <p>Operating Temperature 32-140°F / 0-60°C</p> <p>Certificate CE/FCC Class A, RoHS complaint Microsoft Azure certified, REACH</p> |
|---|---|---|---|



UP - Pinout



| | | | | |
|--------------------|-------------------|----------------------|--------------------|-----------------------|
| 1 3V3 | 2 5V | 3 GPIO0/I2C_SDA | 4 5V | 5 GPIO1/I2C1_SCL |
| 6 Ground | 7 GPIO2/ADC-input | 8 GPIO15/UART_TX | 9 Ground | 10 GPIO16/UART_RX |
| 11 GPIO3 | 12 GPIO17/I2S_CLK | 13 GPIO4 | 14 Ground | 15 GPIO5 |
| 16 GPIO18 | 17 3V3 | 18 GPIO19 | 19 GPIO6/SPI_MOSI | 20 Ground |
| 21 GPIO7/SPI_MISO | 22 GPIO20 | 23 GPIO8/SPI_CLK | 24 GPIO21/SPI_CS0N | 25 Ground |
| 26 GPIO22/SPI_CS1N | 27 GPIO9/I2C0_SDA | 28 GPIO23/I2C0_SCL | 29 GPIO10 | 30 Ground |
| 31 GPIO11 | 32 GPIO24/PWM0 | 33 GPIO12/PWM1 | 34 Ground | 35 GPIO13/I2S_FRM |
| 36 GPIO25 | 37 GPIO14 | 38 GPIO26/I2S_DATAIN | 39 Ground | 40 GPIO27/I2S_DATAOUT |

| | | | | | |
|---|--|--|--|--|---|
| <p>Part number :</p> <p>UP-CHT01-A10-0116 UP-CHT01-A10-0216 UP-CHT01-A10-0232</p> | <p>1GB RAM+16GB eMMC 2GB RAM+16GB eMMC 2GB RAM+32GB eMMC</p> | <p>UP-CHT01-A10-0432 UP-CHT01-A10-0464</p> | <p>4GB RAM+32GB eMMC 4GB RAM+64GB eMMC</p> | <p>Included accessories Optional accessories</p> | <p>Heatsink/RTC battery Power adapter USB3.0 OTG cable HDMI cable</p> |
|---|--|--|--|--|---|