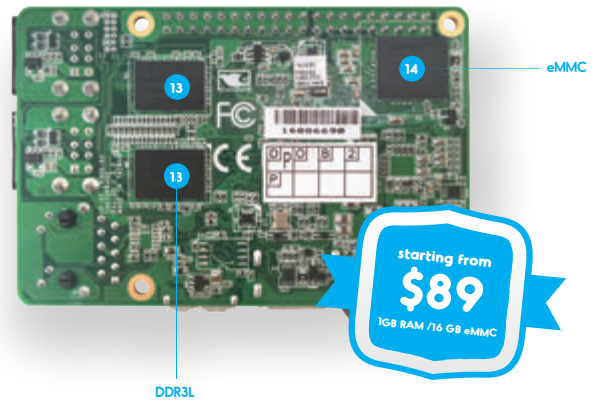
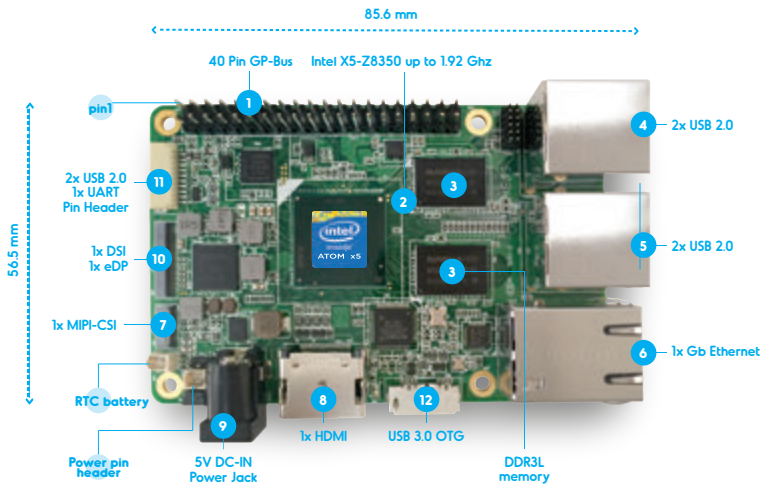




bridge  
the gap

# 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.

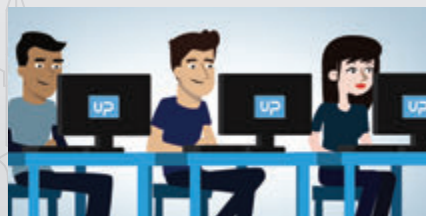
UP has a standard **industrial PC operating temperature** range of **32-140°F/0-60°C**, which makes it flexible for many applications.

**UP is perfect for professional makers.**

## UP - Applications



Drones



Education



Robotics























Media Center

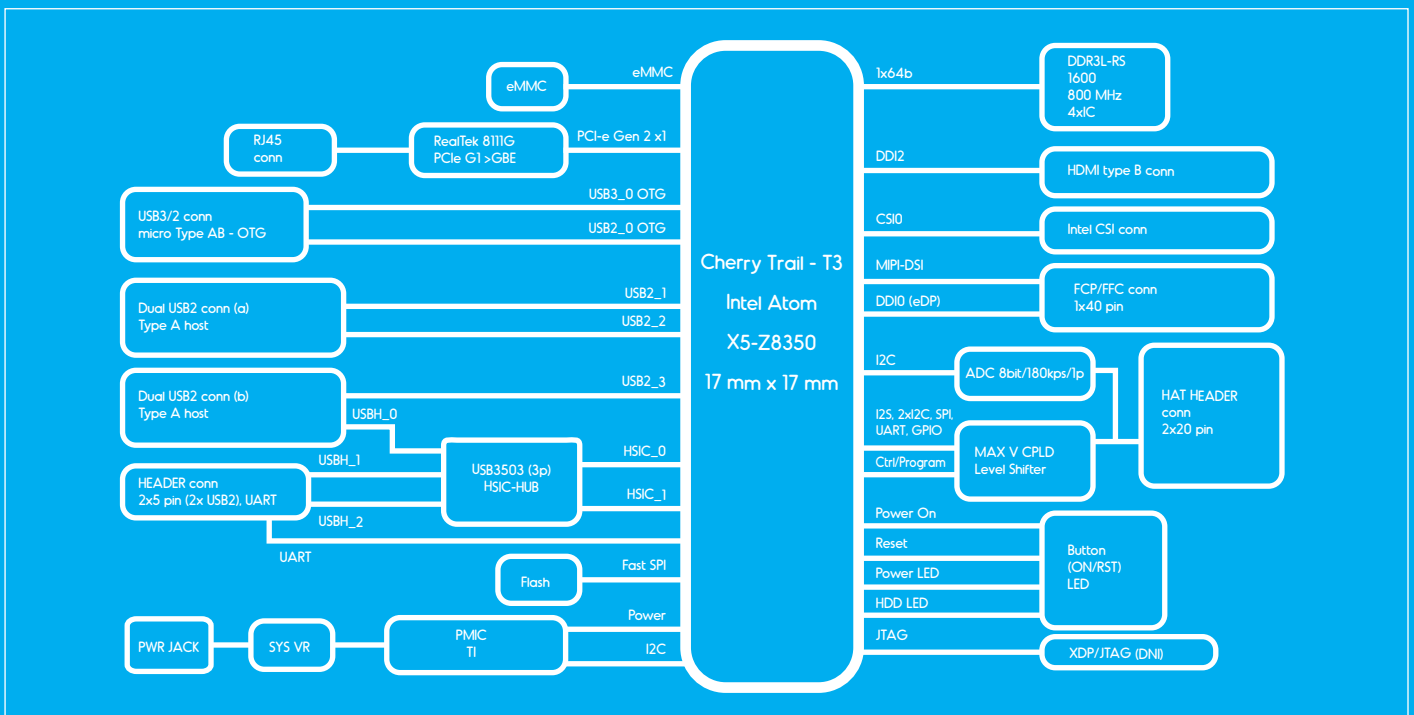


Internet of Things



Home Automation

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