

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 as 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 5.0 Lollipop, Microsoft Windows 10 and we support and enable Linux, through our UP Community.

UP has a standard industrial PC operating temperature range of 32-104°F/0-60°C, which makes it flexible for many applications.

UP is perfect for professional makers.

- Applications -



Drones



Education



Robotics



Media Center

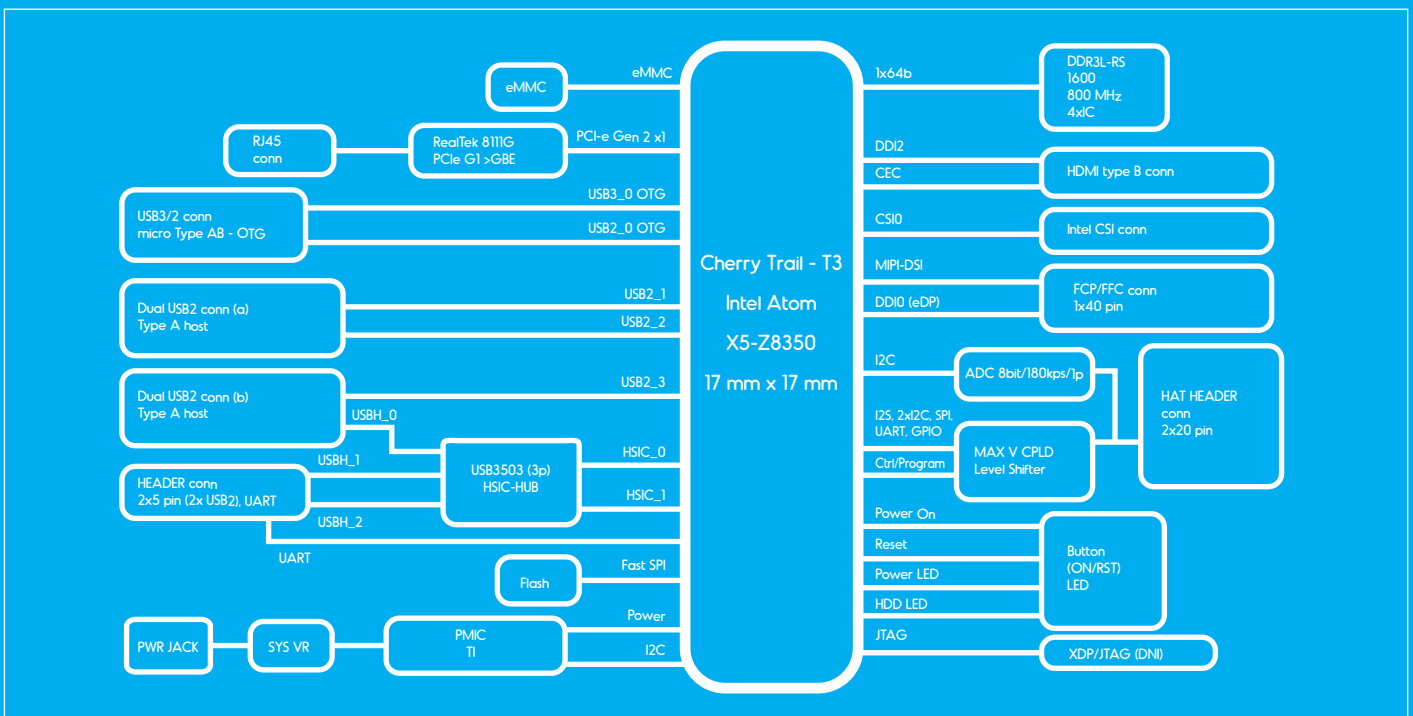


Internet of Things



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 @ 3A 5.5/2.1mm jack</p> <p>Dimensions 3.37" x 2.22" / 85.6 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 , Windows IoT Core Linux (ubinux, Ubuntu, Yocto) • Android Lollipop • Brillo</p> <p>Operating Temperature 32-140°F / 0~60°C</p> <p>Certificate CE/FCC Class A, RoHS complaint Microsoft Azure certified</p>
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UP - Pinout

2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40																				
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39																				
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

Part number :
UP-CHT01-01-16-001
UP-CHT01-02-16-001
UP-CHT01-02-32-001

1GB RAM+16GB eMMC
2GB RAM+16GB eMMC
2GB RAM+32GB eMMC

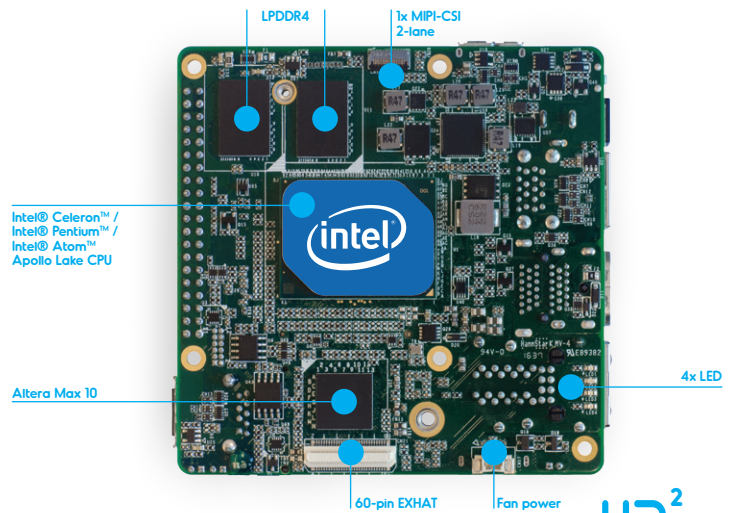
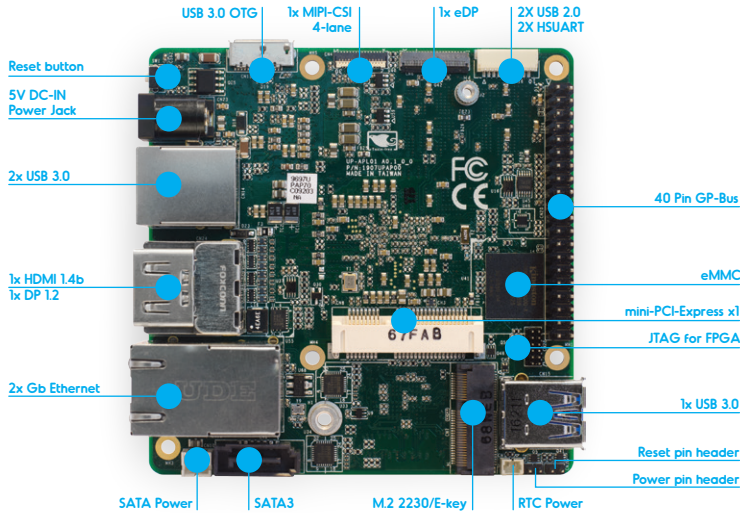
UP-CHT01-04-32-001
UP-CHT01-04-64-001

4GB RAM+32GB eMMC
4GB RAM+64GB eMMC

Included accessories
Optional accessories

Heatsink/RTC battery
Power adapter
USB3.0 OTG cable
HDMI cable

The World's Fastest x86 Maker Board



UP² (UP Squared) is world's fastest maker board with the high performance and low power consumption features of Intel® Celeron™, Pentium™ and Atom™ Processors (codename Apollo Lake).

The internal GPU is the new Intel Gen 9 HD with 12 / 18 Execution Units, supporting 4K Codec Decode and Encode for HEVC⁴, H.264 and VP8. Thanks to the Vector Units Image Processing Unit and Precision Timing Management to synchronize CPU with I/O, improved determinism (cache QoS, Intel Virtualization Technology), all the graphic processing is effortless to UP² (UP Squared).

UP² (UP Squared) comes with 2GB/4GB/8GB LPDDR4 and 32GB/64GB/128GB eMMC. A 40-pin GP-bus provides the freedom for makers to build up their module. Additionally, there is a 60-pin EXHAT for embedded applications. This allows for the exploration of more possibilities. The expansion capabilities of UP² (UP Squared) goes much further than this. Native mini-PCI-e, M.2 2230 and SATA3 are all built in on the board. What more could one desire?

The board supports Windows 10, Windows IoT Core, Ubinlinux, Ubuntu, Yocto and Android Marshmallow. It's really UP to you to decide which operating system is best for your application. Now, all you need is an UP² (UP Squared) to begin your project!

- Applications -



Drones



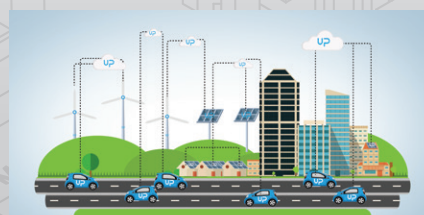
Education



Robotics



Media Center



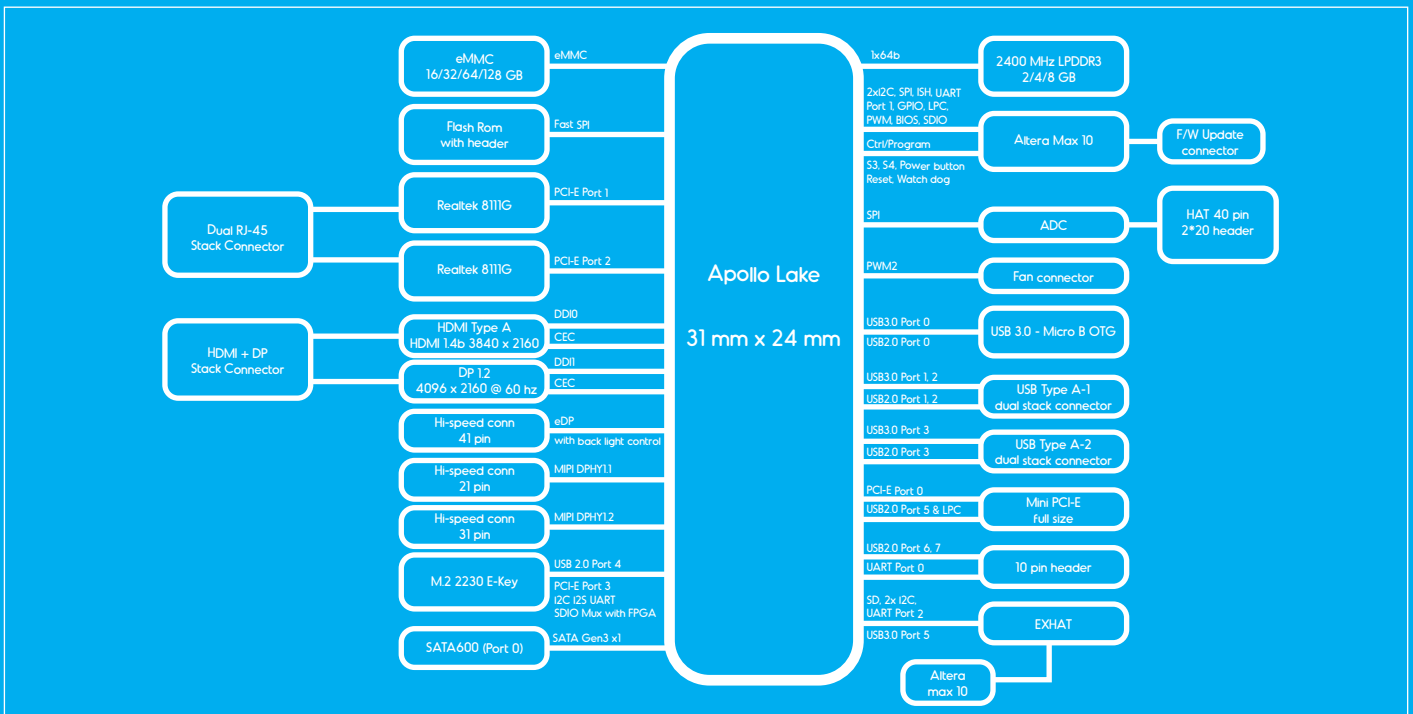
Internet of Things



Home Automation



 	<p>SOC Intel® Celeron™ N3350 (up to 2.4 GHz) Intel® Pentium™ N4200 (up to 2.5 GHz) Intel® Atom™ E3940 (up to 1.8GHz)</p> <p>Graphics Intel® Gen 9 HD, supporting 4K Codec Decode and Encode for HEVC4, H.264, VP8</p> <p>Video & Audio HDMI 1.4b x1 4K @ 30 hz + DP 1.2 1x 4K @ 60 hz I2S audio port</p> <p>Camera interface CSI 2-lane + CSI 4-lane</p> <p>Display interface eDP</p> <p>Power 5V DC-in @ 4A-6A</p> <p>Operating humidity 10%~80%RH non-condensing</p> <p>Operating Temperature 32-140°F / 0~60°C</p> <p>Altera MAX 10 FPGA 2KLE --Celeron/ Pentium 4KLE -- ATOM</p>	 	<p>Memory 2GB (single channel) LPDDR4 4GB/8GB (dual channel) LPDDR4)</p> <p>Storage Capacity 32 GB / 64 GB / 128 GB eMMC</p> <p>USB 3x UB3.0 (Type A) + 1x USB 3.0 OTG (Micro B) 2x USB2.0+2 X UART (Tx/Rx) debug port (pin header)</p> <p>Ethernet 2x Gb Ethernet (full speed) RJ-45</p> <p>RTC Yes</p> <p>Expansion 40 pin General Purpose bus 60 pin EXHAT 1xmini-PCIe , M.2 2230, SATA3</p> <p>Compatible Operating system Microsoft Windows 10 (full), Windows IOT Core, Linux (ubilinux, Ubuntu, Yocto), Android Marshmallow</p> <p>Dimensions 3.37" x 3.54" / 85.60 mm x 90 mm</p> <p>Certificate CE/FCC Class A, RoHS complaint, REACH</p>
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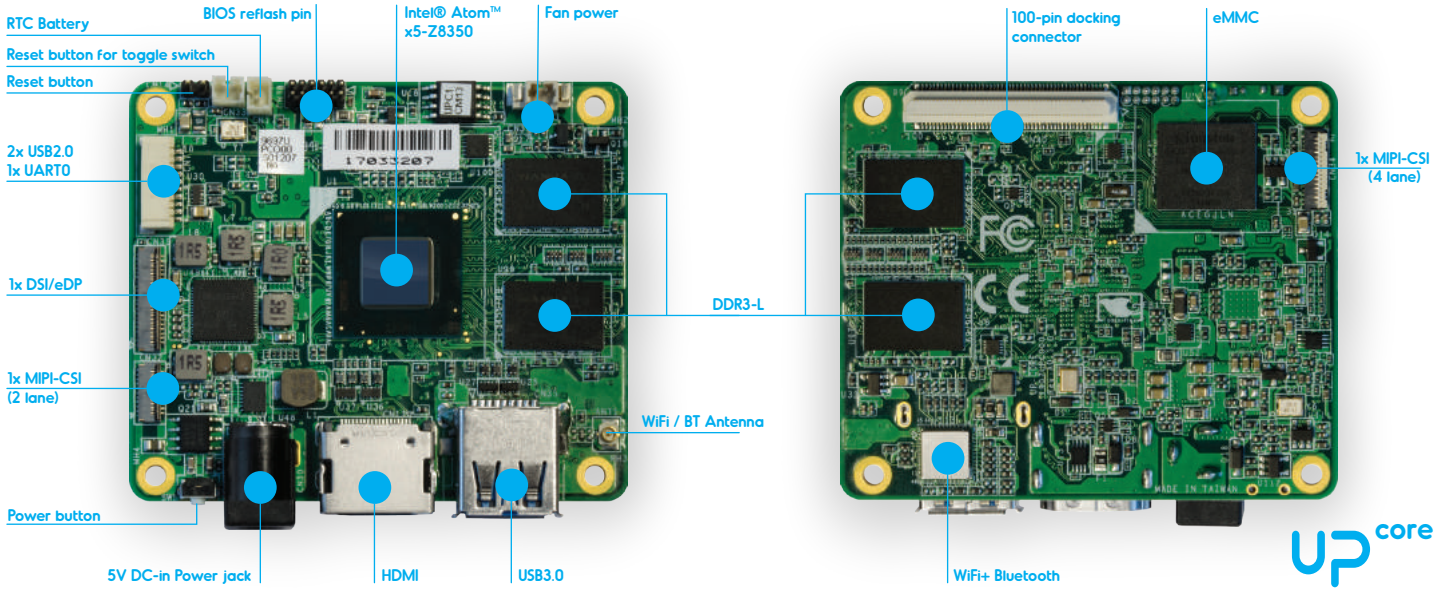


UP - Pinout

2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40
1	3	5	7	9	11	13	15	17	19	21	23	25	27	29	31	33	35	37	39
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40

* 2nd SPI and ADC will be available only with E3940 SoC

Part number : UP-APLC2-A10-0232 UP-APLC2-A10-0432 UP-APLP4-A10-0432	Intel® Celeron™ N3350 - 2 GB + 32 GB eMMC Intel® Celeron™ N3350 - 4 GB + 32 GB eMMC Intel® Pentium™ N4200 - 4 GB + 32 GB eMMC	UP-APLP4-A10-0864 UP-APLA4-A10-0432	Intel® Pentium™ N4200 - 8 GB + 64 GB eMMC Intel® Atom™ E3940 - 4 GB + 32 GB eMMC
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UP Core is a miniature 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 Core is equipped with 1GB/2GB/4GB DDR3L RAM and 16GB/32GB/64GB eMMC. With 100-pin docking connector, UP Core provides the freedom to makers to build up their carrier board. There are more interfaces available, such as 2x port USB2.0 + 1x UART on header, 1x USB 3.0 host, WiFi, Bluetooth 1x DSI/eDP port, 2x Camera (MIPI-CSI), 1x HDMI, RTC.

When it comes to security, UP Core has Intel security features needed for professional IoT applications such as Intel AES New Instructions and Intel IdentityProtection Technology.

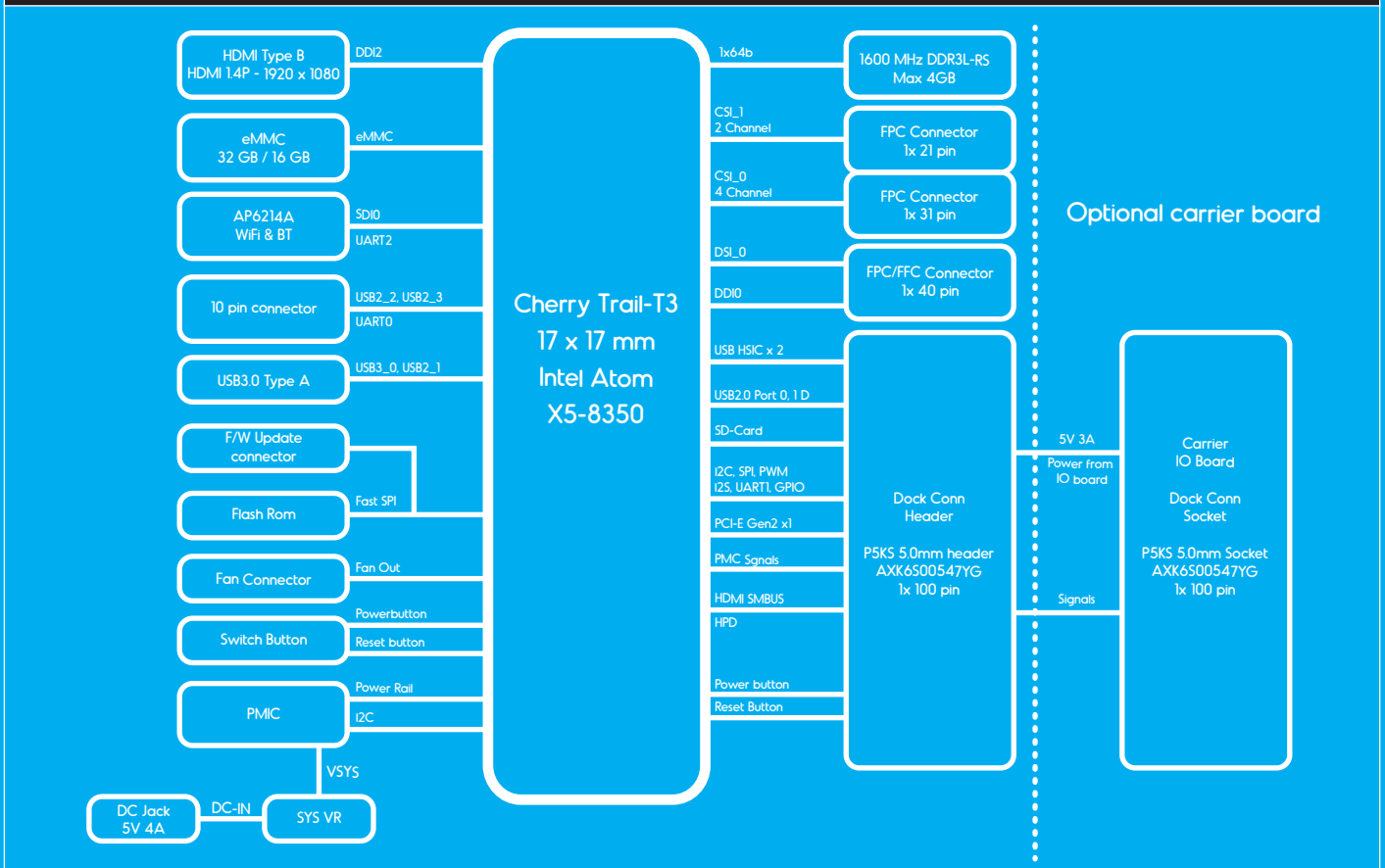
It's UP to you to choose which operation system is best for your application. The CPU is supported by Android 6, Marshmallow, Microsoft Windows 10 and we support and enable Linux, through our UP Community.

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

UP core - Specifications

 HDMI 	<p>SOC Intel® Atom™ x5-Z8350 (2M Cache, up to 1.84 GHz)</p> <p>Graphics Intel® HD 400 Graphics</p> <p>Memory 2GB / 4GB onboard DDR3L-1600</p> <p>Storage Capacity 16GB / 32GB / 64 GB eMMC</p> <p>Video & Audio 1x HDMI 1x Full eDP Audio via HDMI and I2S (from Docking)</p> <p>Camera interface 1x MIPI-CSI 2 lane 1x MIPI-CSI 4 lane</p> <p>Power 5V DC-in @ 4A 5.5/2.1mm jack</p> <p>Operating humidity 10%~80%RH non-condensing</p> <p>Operating Temperature 32-140°F / 0-60°C</p>	 	<p>USB 1x USB 3.0 Host 2x USB 2.0 pin header</p> <p>WiFi / BT WiFi 802.11 b/g/n @ 2.4 GHz Bluetooth 4.0 (BLE)</p> <p>Expansion Docking Connector 100 pin</p> <p>Compatible Operating system Microsoft Windows 10 (full), Windows IOT Core, Linux (ubinux, Ubuntu, Yocto), Android Marshmallow</p> <p>Dimensions 56.50 mm × 66 mm</p> <p>Certificate CE/FCC Class A, RoHS complaint, REACH</p>
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UP core - Block Diagram



UP core - Pin out

1 5V	21 Ground	41 RESERVE	61 PCIE_RX0_DP	81 I2C1_SOC_SCL
2 5V	22 DDI2_DDC_CLK	42 CPLD DIN/ISH_GPIO7	62 Ground	82 SD3_WP
3 5V	23 GPIO7/HAT_SPI2_MOSI	43 Ground	63 PCIE_RX0_DN	83 Ground
4 5V	24 DDI2_DDC_DAT	44 ISH_GPIO9	64 USB2_P0_DP	84 SD3_CLK
5 5V	25 GPIO8/SPI_MISO	45 GPIO18/I2S2_CLK	65 Ground	85 CPLD DOUT/ISH_I2C1_DATA
6 5V	26 HDMI_D	46 GPIO25/PWM0	66 USB2_P0_DN	86 SD3_SD0
7 5V	27 GPIO9/SPI_CLK	47 GPIO14/I2S2_FRM	67 PCIE_REFCLK0_DP	87 ISH_I2C1_CLK
8 5V	28 HDMI_R	48 GPIO13/PWM1	68 Ground	88 SD3_SD1
9 Ground	29 GPIO22/SPI_CS0N	49 GPIO27/I2S2_DATAIN	69 PCIE_REFCLK0_DN	89 Ground
10 Ground	30 DDI2_TYPE_C_HPDP	50 Ground	70 USB_OTG_R_ID	90 SD3_SD2
11 PMU_RSTBTN_N	31 GPIO23/SPI_CS1N	51 GPIO28/I2S2_DATAOUT	71 Ground	91 RESERVE
12 UART1_RTS	32 ISH_GPIO0	52 USB_HSIC_1_DATA	72 Ground	92 SD3_SD3
13 PMU_PWRBTN_N	33 Ground	53 Ground	73 I2C0_SOC_SDA	93 RESERVE
14 UART1_CTS	34 CPLD CLEAR/ISH_GPIO1	54 USB_HSIC_1_STROBE	74 SD3_CD	94 Ground
15 PMU_SLP_S0IX_N	35 RESERVE	55 PCIE_TX0_DP	75 I2C0_SOC_SCL	95 RESERVE
16 GPIO16/UART1_TX	36 ISH_GPIO2	56 Ground	76 SD3_CMD	96 CPLD_OE/GPIO_SW78
17 PCIE_CLKREQ0	37 RESERVE	57 PCIE_TX0_DN	77 Ground	97 RESERVE
18 GPIO17/UART1_RX	38 ISH_GPIO3	58 USB_HSIC_2_DATA	78 SD3_1P8_EN	98 CPLD_RST/GPIO_SUS8
19 PMC_SUSCLK0	39 RESERVE	59 Ground	79 I2C1_SOC_SDA	99 RESERVE
20 Ground	40 ISH_GPIO4	60 USB_HSIC_2_STROBE	80 SD3_PWREN	100 CPLD_STROBE/GPIO_SUS9

Part number :
Coming soon