

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 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



**SOC**  
Intel® Atom™ x5-Z8350 (2M Cache, up to 1.84 GHz)

**Graphics**  
Intel® HD 400 Graphics

**Memory**  
2GB / 4GB onboard DDR3L-1600

**Storage Capacity**  
16GB / 32GB / 64 GB eMMC

**Video & Audio**  
1x HDMI  
1x Full eDP  
Audio via HDMI and I2S (from Docking)

**Camera interface**  
1x MIPI-CSI 2 lane  
1x MIPI-CSI 4 lane

**Power**  
5V DC-in @ 4A 5.5/2.1mm jack

**Operating humidity**  
10%~80%RH non-condensing

**Operating Temperature**  
32-140°F / 0-60°C



**USB**  
1x USB 3.0 Host  
2x USB 2.0 pin header



**WiFi / BT**  
WiFi 802.11 b/g/n @ 2.4 GHz  
Bluetooth 4.0 (BLE)



**Expansion**  
Docking Connector 100 pin



**Compatible Operating system**  
Microsoft Windows 10 (full), Linux (ubinux, Ubuntu, Yocto), Android Marshmallow



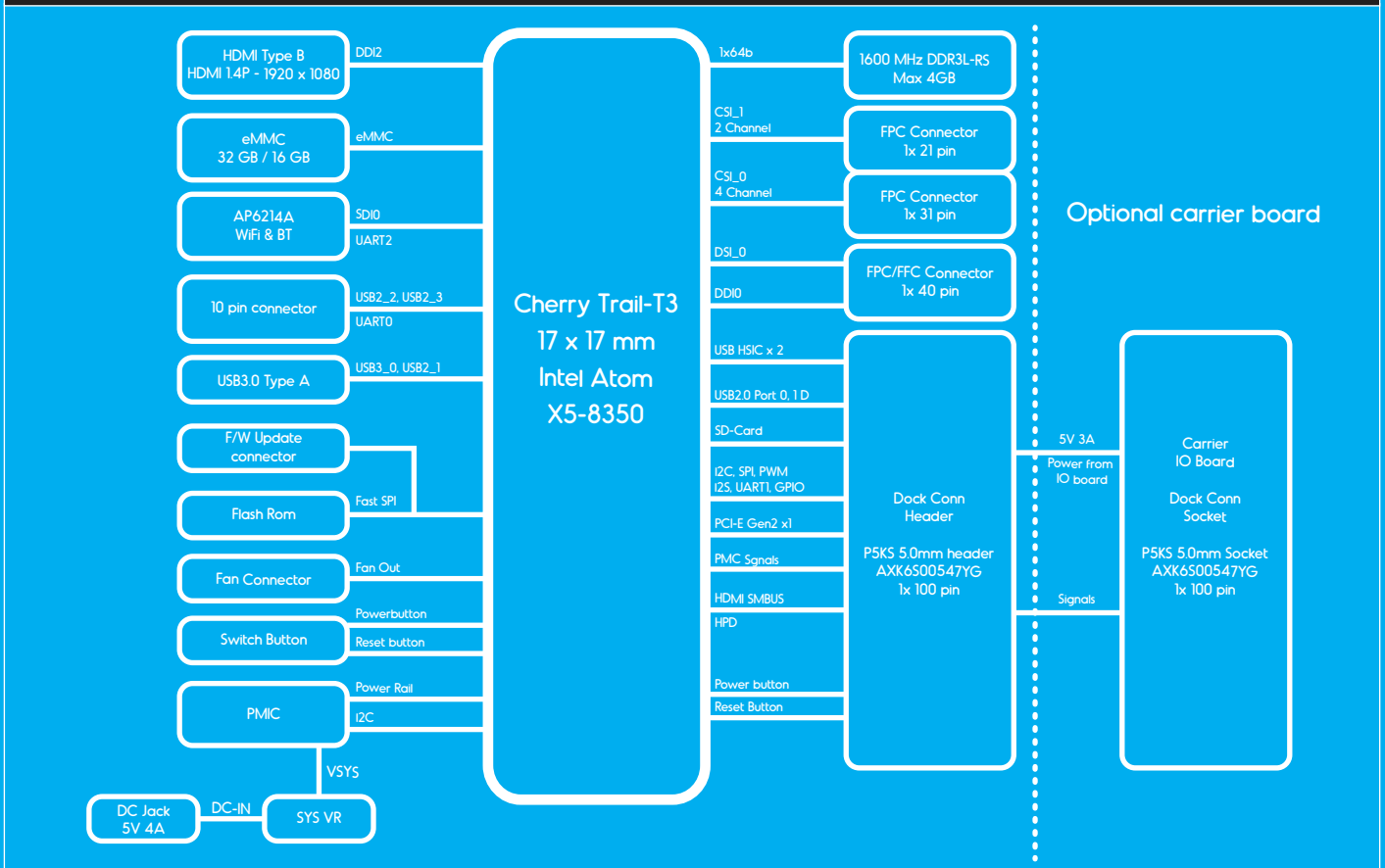
**Dimensions**  
56.50 mm × 66 mm



**Certificate**  
CE/FCC Class A, RoHS complaint, REACH



# 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