

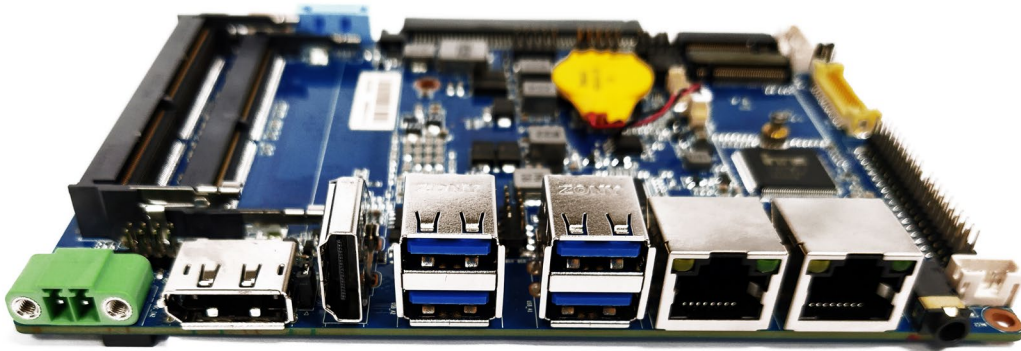
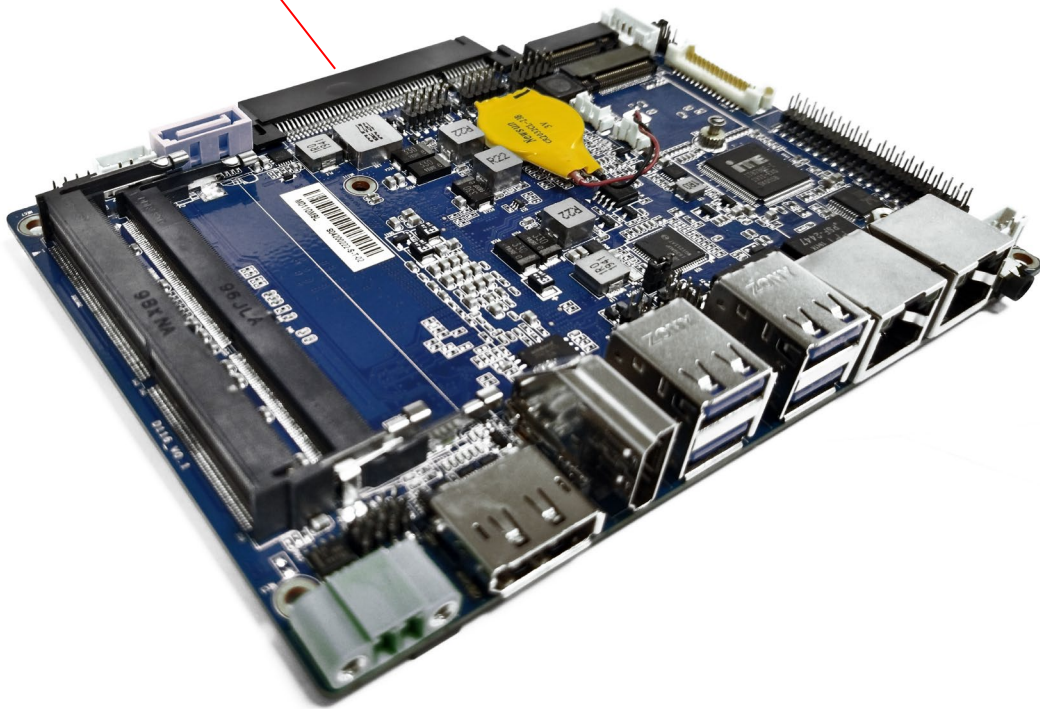
Nano-U8FL2C6 Tech Manual



Chassis can be customized with different front and back I/O, connectors.

1.1 Motherboard

PCIe 3.0 8x Slot for custom front I/O

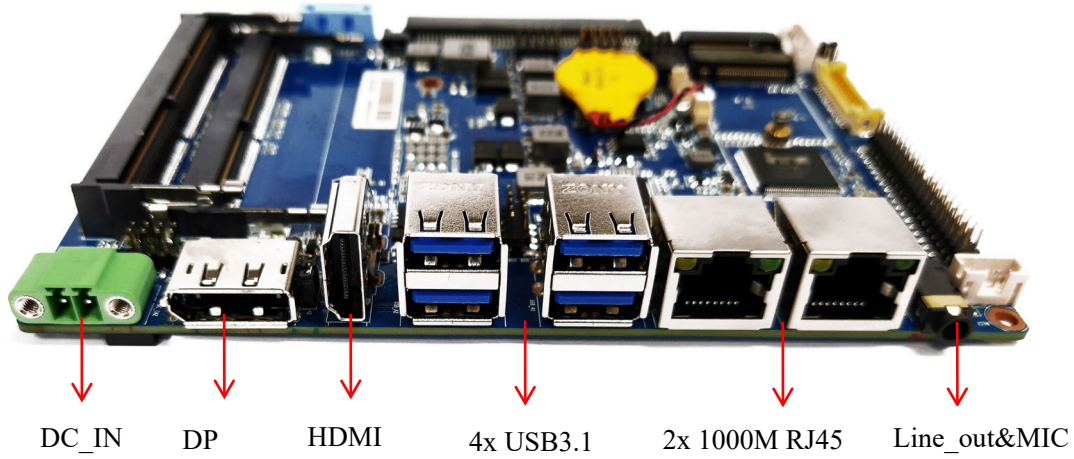


Specifications

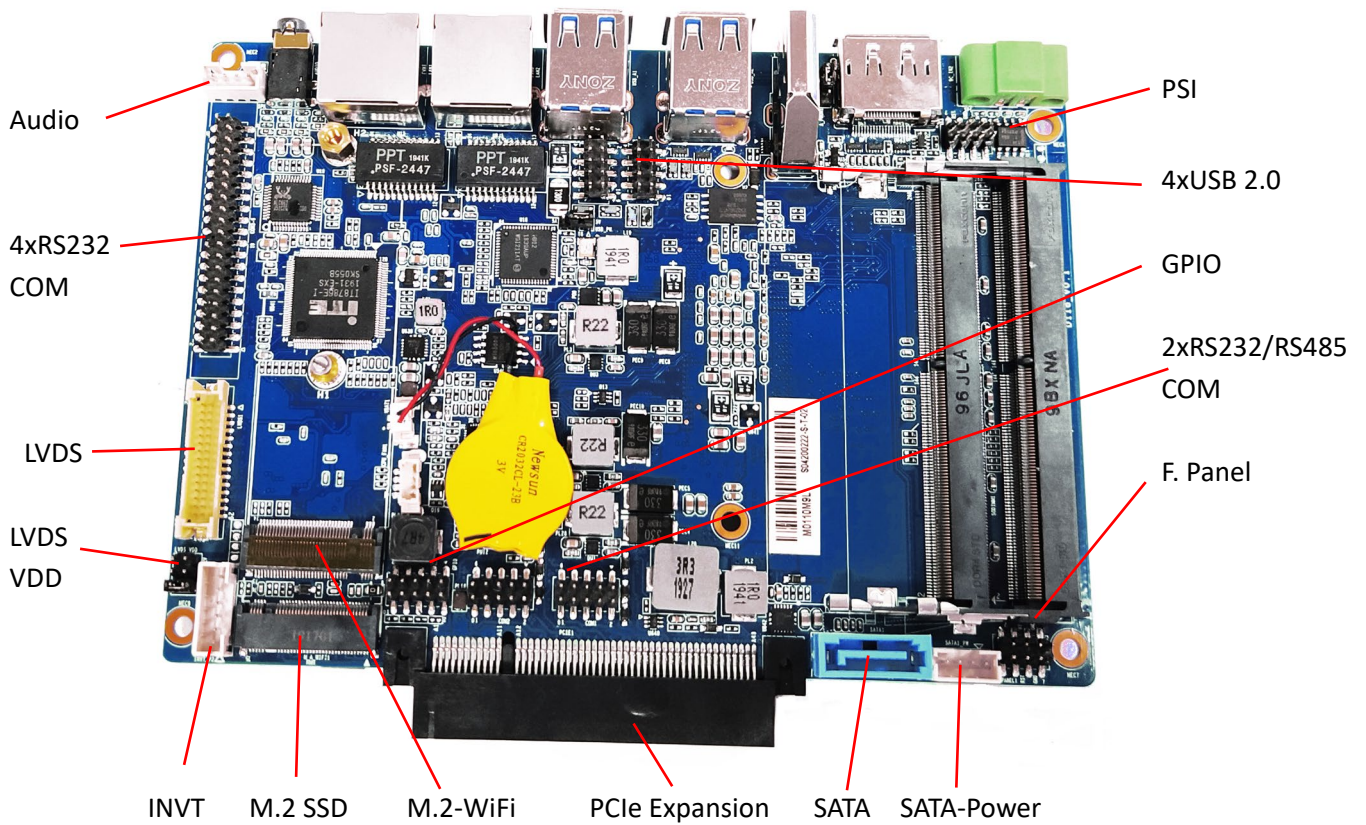
Processor	<ul style="list-style-type: none"> Intel® Core™ i7-8565U 1.80/4.60GHz 4C/8T 8M 10/15/25W Intel® Core™ i5-8365U 1.60/4.10GHz 4C/8T 6M 10/15/25W Intel® Core™ i5-8265U 1.60/3.90GHz 4C/8T 6M 10/15/25W Intel® Core™ i3-8145U 2.10/3.90GHz 2C/4T 4M 10/15/25W Intel® Celeron® 4305U 0.80/2.20GHz 2C/2T 2M 12.5/15W Intel® Celeron® 4205U 0.80/1.80GHz 2C/2T 2M 12.5/15W Optional 10th Gen Comet Lake-u series Intel® 12.5/15W 	Internal I/O	<ul style="list-style-type: none"> 2 x 9 pin USB 2.0 headers (Taken by Front USB) 1 x LVDS header (Option: Replace with 1 x eDP) 1 x 40 pin COM header 4x RS232, Taken by Front COM ports 2 x 5 pin COM headers 2x RS232/RS485, by Front COM ports
Chipset	<ul style="list-style-type: none"> Intel® Whiskey Lake-u Platform (SOC) 	Other I/O	<ul style="list-style-type: none"> 2 x RS232/RS485 COM ports (Front) 2 x RS232 COM ports (Front) 6 x USB 2.0 ports (Front) Optional 1 x LAN port (Front)
Graphics	<ul style="list-style-type: none"> Intel® UHD 620/610 (based on CPU) Support 3 Displays 1 x HDMI, supporting a maximum resolution of 1920x1080 Support for HDMI 1.4 version and HDCP 2.2 1 x DP 1.2, 4K 60Hz 1 x LVDS/eDP header 	System BIOS	<ul style="list-style-type: none"> Watchdog supported
Memory	<ul style="list-style-type: none"> 2 x DDR4 SO-DIMM 2400/2133MHz unbuffered non-ECC (Dual Channel I/O) Supports up to 32GB 	Chassis	<ul style="list-style-type: none"> Nano-F11B Chassis Dimensions: 7.79"(W) x 5.71"(D) x 2.41"(H), Weight: 3.5 lb. 5.5 lb. (gross with packaging) Color: Black, custom colors available with special order Supports VESA, wall mount or rackmount brackets
Network	<ul style="list-style-type: none"> 1 or 2 x Intel® i211A Gigabit (10/100/1000 Mb/s) LAN 1 x Intel® i219LM Gigabit (10/100/1000 Mb/s) LAN M.2 2230 (Taken by WiFi+BT Module) Wake on LAN, PXE boot (Diskless) supported 	Power	<ul style="list-style-type: none"> Power: DC9V to DC36V Power Adapter 2 Pole plug (UL/CE/FCC Certified) Power Cord: Standard US Power Cord included; European Power Cord available as option Energy Star Compliance, Idle mode at <1W
Expansion Slot	<ul style="list-style-type: none"> 1 x M.2 2230 (for WiFi+BT or Other Module) 1 x M.2 2280 (for SATA-6GB/s or PCIe x4 NVMe) Option: 1 x PCIe x8 slot (for custom PoE, USB, Serial, LAN and other custom I/O modules) 	OS Support	<ul style="list-style-type: none"> Windows 8.1, Windows 10, Linux
Storage	<ul style="list-style-type: none"> 1 x SATA 6Gb/s 1 x M.2 2280 (for SATA-6GB/s or PCIe x4 NVMe) 	Application	<ul style="list-style-type: none"> Set Top Box, Network Appliance, Digital Signage, POS/Kiosk, IoT/Edge System, etc.
Audio	<ul style="list-style-type: none"> Realtek® ALC662 6-channel (5.1) 1 x 3.5mm Audio/Mic Combo jack 	Environment	<ul style="list-style-type: none"> Operating Temperature: -20 to +60 C Non-operating temperature: -40 to +75 C Vibration - Operating: 9.8 m/s²(1.0G) 5 to 500Hz Vibration - Non operating: 49 m/s²(5.0G) 15 to 500Hz Shock - Operating: 3,920 m/s² (400G) 2ms Shock - Non-Operating: 8,820 m/s² (900G) 1ms Operating Relative Humidity: 8% to 90% (non-condensing) Non-operating Relative Humidity: 5% to 95% (non-condensing)
Back I/O	<ul style="list-style-type: none"> 4 x USB 3.1 ports 1 x HDMI port 1 x DP 1.2 2 x LAN ports 1 x 3.5mm Audio/Mic Combo jack 1 x DC-In 2 Pole Power Connector 		<ul style="list-style-type: none"> MTBF: 100,000 Hours FCC, CE, RoHS Certified

Motherboard I/O

2.1 Back I/O



2.2 Internal I/O

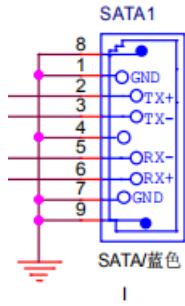


2.3 Header I/O Pin definitions

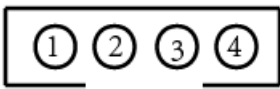
2.3.0 Front USB 2.0 Pin-out (FUSB2~4, F_USB4):

Pin#	Signal	Pine#	Signal
1	+5V	2	+5V
3	USB0_N	4	USB1_N
5	USB0_P	6	USB1_P
7	GND	8	GND
9		10	GND

2.3.1 SATA3.0 (SATA1、SATA2)

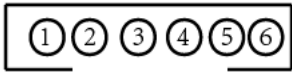


2.3.2 SATA_PWR (SATA1_PWR1、SATA1_PWR2)



Pin	1	2	3	4
Signal	NA	GND	GND	+5V

2.3.3 INVT_P2 (LVDS)

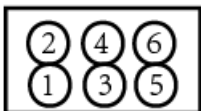


Pin	1	2	3	4	5	6
Signal	VCC_INVT		BKLT _EN	BKLT_ ADJ	GND	

2.3.4 LVDS1(LVDS pin-out)

Pin#	Signal	Pin#	Signal
1	LVDS_VDD	2	LVDS_VDD
3	LLCK_A_Edp_AUX_P	4	LLC_B_P
5	LLCK_A_Edp_AUX_N	6	LLC_B_N
7	GND	8	GND
9	LDC_A_Edp_OP	10	LDC_B_OP
11	LDC_A_Edp_ON	12	LDC_B_ON
13	GND	14	GND
15	LDC_A_Edp_1P	16	LDC_B_1P
17	LDC_A_Edp_1N	18	LDC_B_1N
19	GND	20	GND
21	LDC_A_Edp_2P	22	LDC_B_2P
23	LDC_A_Edp_2N	24	LDC_B_2N
25	LVDS_EN	26	GND
27	LDC_A_Edp_3P	28	LDC_B_3P
29	LDC_A_Edp_3N_HPD	30	LDC_B_3N

2.3.5 LVDS_VDD (LVDS Power、Jumper settings)

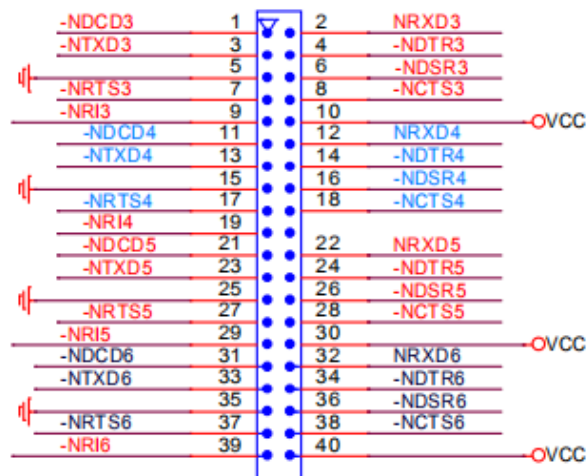


Pin	Function
1-2	12V Output
3-4	5V Output
5-6	3.3V Output

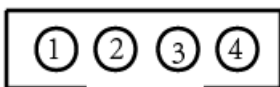
2.3.6 COM1、COM2 (COM RS232)

Pin#	Signal	Pin#	Signal
1	DCD	2	RXD
3	TXD	4	DTR
5	GND	6	DSR
7	RTS	8	CTS
9	RI	10	

2.3.7 COM (COM3~6)



2.3.8 SPK Header (SPK Internal Audio Output)



Pin	1	2	3	4
Signal	R-	R+	L-	L+

2.3.9 SPI

Pin#	Signal	Pin#	Signal
1	5VSB	2	SPI1_CLK
3	GND	4	SPI1_MISO
5	SPK	6	SPI1_MOSI
7	SLP_S3	8	SPI1_CS0_N

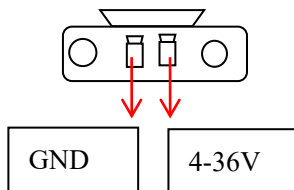
2.3.10 GPIO (GPIO)

Pin#	Signal	Pin#	Signal
1	5VSB	2	GND
3	GPIO_IC_1	4	GPIO_IC_5
5	GPIO_IC_2	6	GPIO_IC_6
7	GPIO_IC_3	8	GPIO_IC_7
9	GPIO_IC_4	10	GPIO_IC_8

2.3.11 Front Panel Header (F_PANEL)

Pin#	Signal	Pin#	Signal
1	+HDLED	2	PLED+
3	-HDLED	4	PLED-
5	RESET	6	Power_BT
7	GND	8	GND

2.3.12 DC_IN (DC_IN2)



2.3.13 Auto-Power On Jumper Settings (A_Power)

Pin#	Signal
1-2	Auto Power On
2-3	NC