

## BOARD OFFICIAL PINOUT

⚠ All GPIO pins are +2.5V tolerant only, voltage > +2.8V may damage the module!

⚠ Absolute MAX per pin 24mA, recommended 10mA

**GPIO** GPIO0..28 are available, except GPIO25, which does not exist! GPIOs can be set as input or output (GPIO13..17 are outputs only), but they cannot be put into 3-state (high impedance or disconnected)

💡 All GPIOs are multiplexed with other functions, except GPIO24, which can be used to control SPI Flash Write Protection when looped back externally to the FLASH\_WP signal.

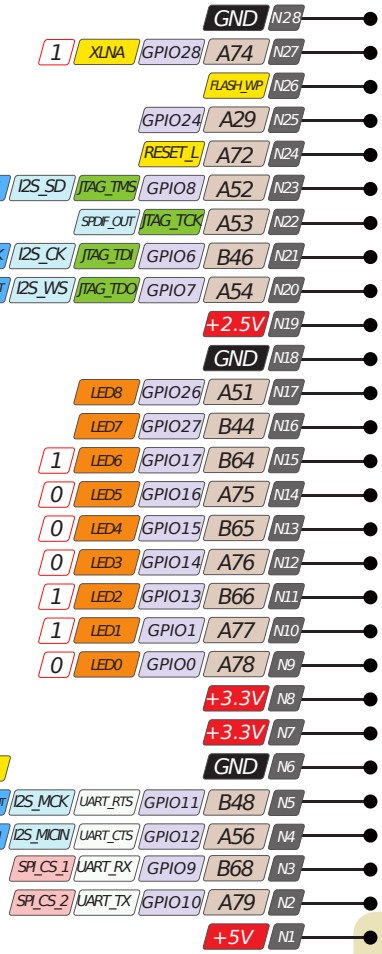
⚠ Bootstrap settings must be effective at boot time in order for the module to boot correctly.

📄 LED0..6 are also used for bootstrap settings. To avoid applying a wrong voltage on the I/O pin coming from the LED, these GPIOs should be sourcing current only, not sinking current.

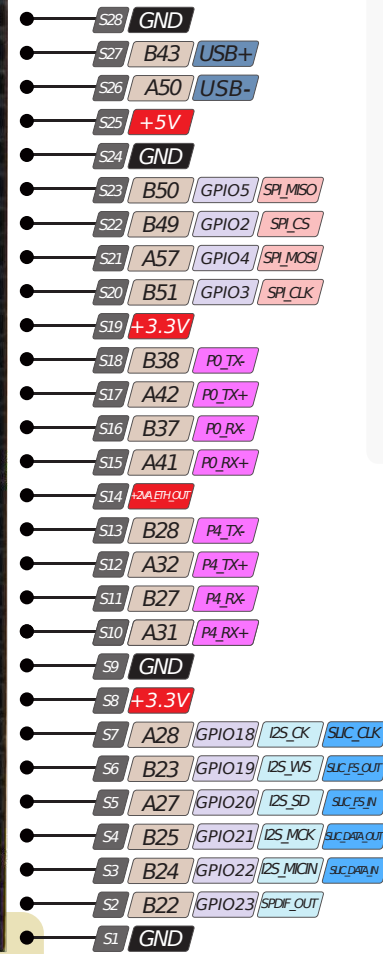
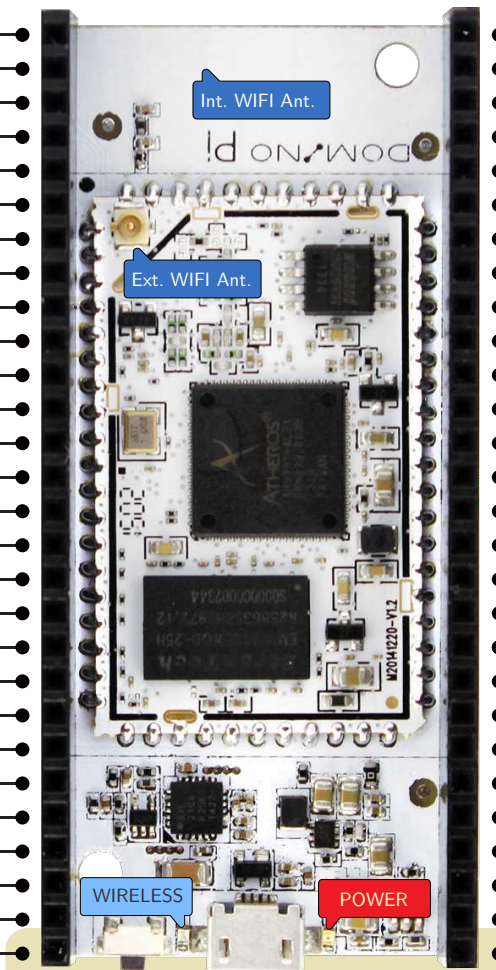
**+5V** For normal operation, both +5V pins or the Micro USB +VUSB pin must be connected to a +5V power supply

**+2.5V** **+2VA\_ETH\_OUT** The +2.5V and +2VA\_ETH\_OUT are internally generated power supplies for powering external I/O voltage translators and Ethernet transformer bias, respectively.

GPIO	Bootstrap Function	Pulled Down	Pulled Up
GPIO0	Crystal frequency	25 MHz	40 MHz
GPIO1	Boot from	ROM	SPI Flash
GPIO11	ICE interface	JTAG	CPU ICE
GPIO12	Memory type LSB	SDRAM/DDR2	DDR1
GPIO13	USB Mode	Device	Host
GPIO14	Chip Mode LSB	0	1
GPIO15	Chip Mode MSB	0	1
GPIO16	Firmware download	from USB	from MDIO
GPIO17	Ethernet	off	on
GPIO28	Memory type MSB	SDRAM/DDR1	DDR2



LED	Automatic Function
LED0	WLAN
LED1	USB
LED2	LAN1
LED3	LAN2
LED4	LAN3
LED5	LAN4
LED6	WAN
LED7	(SYS)
LED8	(WPS)



- Power
- GND
- ModulePin
- AR9331Pin
- GPIO
- Control
- JTAG
- I2S Audio
- LED
- UART
- SLIC
- Ethernet
- SPI
- USB
- Antenna
- Bootstrap

**JUMPSTART**

USB Micro-B Device Port  
Console UART / USB  
also used for powering the board