



ADB922S-P02 Arduino Shield Product Brief

V.1.0.5



Product Specification

Parameter	Typical	Condition/Note
Operating supply voltage	DC 2.2 ~ 3.6V	
Frequency	920.6MHz~928MHz	
Frequency accuracy	±10KHz	
Modulation	LoRa	
Transmit power	+2 ~ +13+-0.5dBm	Output power programmable
TX current consumption	< 80mA	Po= 13dBm
Rx current consumption	< 20mA	
Sleep State current consumption	< 3uA	Refer to IC operation states
Data rate	0.244 ~ 18.2Kbps(LoRa) 300Kbps(FSK)	Programmable
Spurious emissions and harmonics	< -30dBm	TX power +20dBm
Communication distance	10Km	0.244Kbps Baud data rata, BW=125K Output power = +20dBm.
Antenna impedance	50ohm	
Operating temperature	0°C ~ +40 °C	
Storage temperature range	-10°C ~ +50°C	
Dimension	68mm×53mm×22.8mm	

Test operating conditions : Ta=25°C · VCC=3.3V if nothing else stated.

Note :

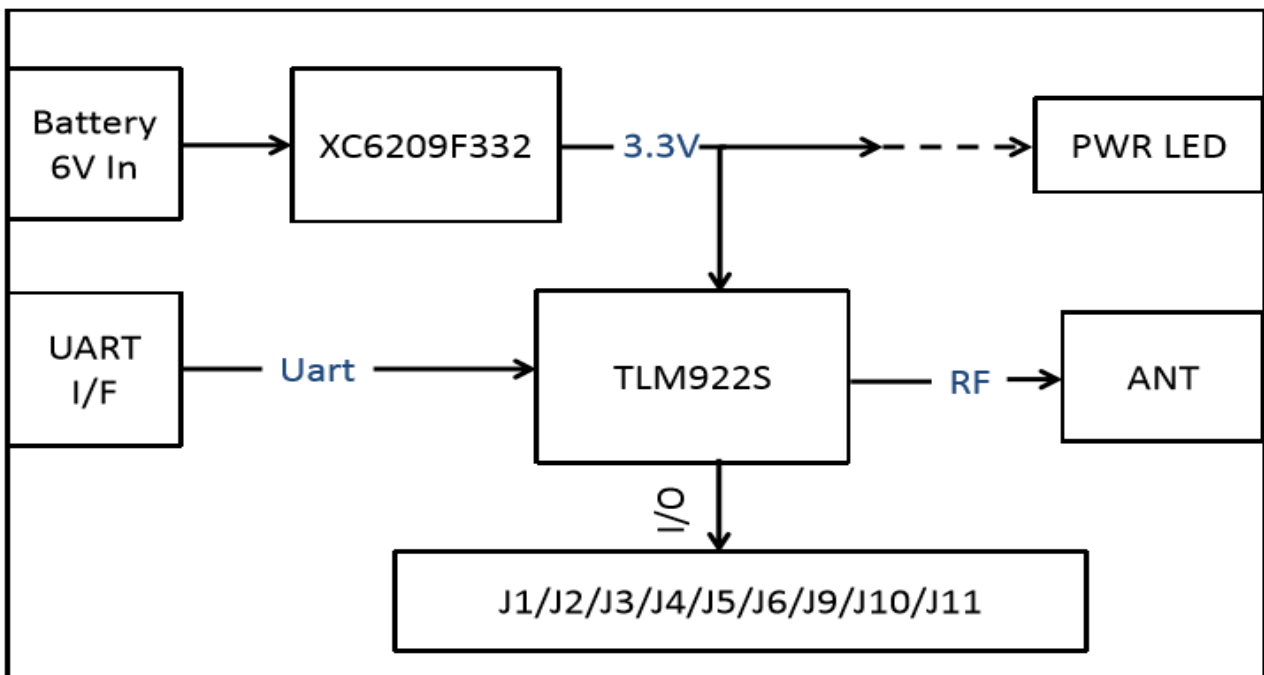
1. The module transmission data rate will affect transmission distance, the higher the data rate, the closer the distance, and the lower the receiving sensitivity.
2. The supply voltage to the module will affect TX power, in the operating supply voltage range, the lower the voltage to get the lower the TX power.
3. The antenna will strongly affect the communication distance, please select matched antenna and connect it correctly.

Introduction

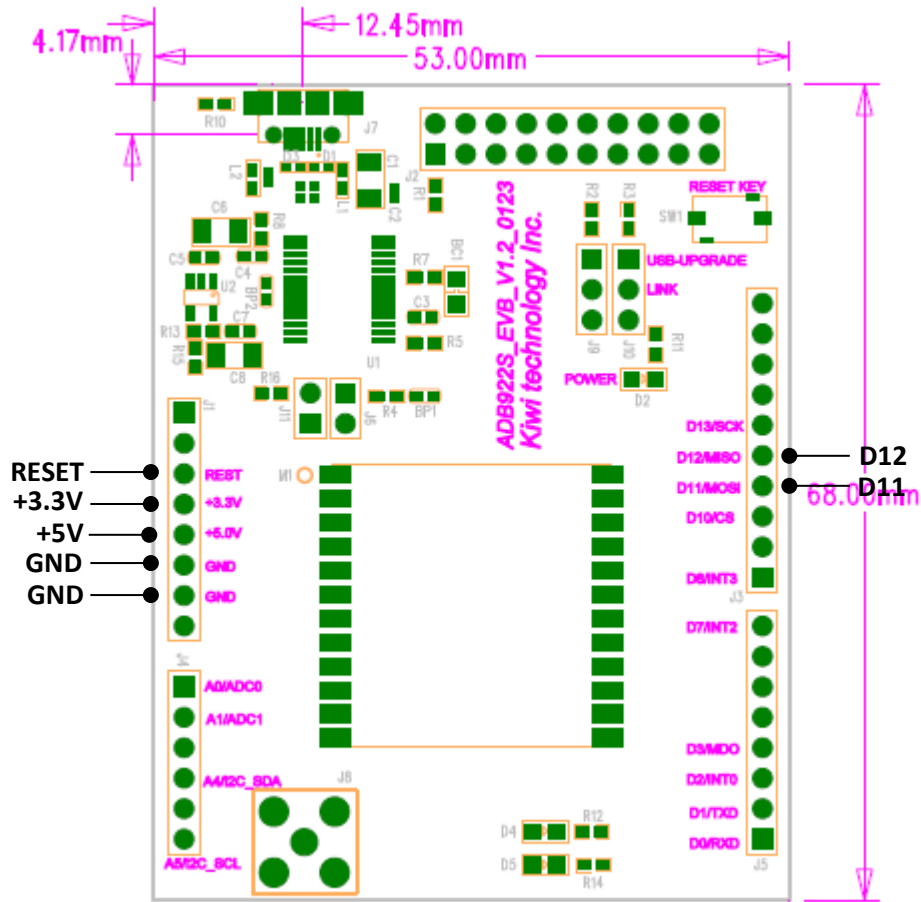
ADB922S Arduino Shield is designed for engineers to develop and evaluate LoRa technology in an open and flexible environment. It is based on Kiwi technology's TLM922S Lora module, a small size and ultra-low power UHF wireless module based on LoRa technology of Semtech. TLM922S module integrates a 32bit MCU, Cypress S6E1C32, and a single-chip radio transmitter, Semtech SX1272, designed for high performance at very low-power and low-voltage operation in cost-effective wireless systems.

ADB922S is mainly intended for the ISM (Industrial, Scientific, and Medical) frequency bands at 920.6-928 MHz. The module integrated many RF functions and PA to make the maximum output power up to +20dBm and signal coverage can reach up 10km.

PCB Block Diagram



PCB Description



Pin Configuration

PIN NAME	Description
GND	System ground
GND	System ground
+5V	5V Power Input
+3.3V	3.3V Power Input
D11	UART interface, UART_TX
D12	UART interface, UART_RX
RESET	External Reset Input pin with internal RC timing control circuit, active low

Note:

1. Other pin headers are open and not used.

How to Use ADB922S Arduino Shield

ADB922S Arduino Shield equips with a USB-UART bridge and can be powered by USB. Figure 1 and following table depict this module and its connector.

- | | |
|----------------------|-----------------|
| 1. Antenna Connector | 3. Reset Button |
| 2. TLM922S | |



Figure 1 ADB922S Arduino Shield

The usual use of this shield is mounted on Arduino, as Figure 2 shown. Figure 3 illustrates the pinout of Arduino shield.

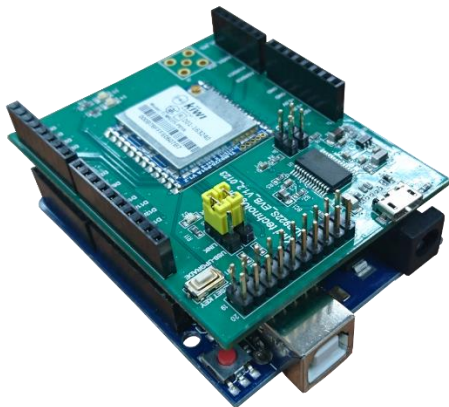


Figure 2 Mount on Arduino Uno

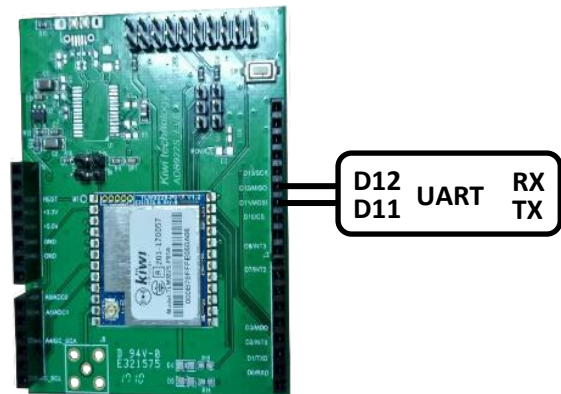


Figure 3 Pinout