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› Instruction Manual: 2Set 433MHz ASK Wireless Module Kit RF Transmitter STX882+ RF Receiver SRX882 with Copper Spring Antennas

QCCAN STX882+, SRX882

Instruction Manual: 2Set 433MHz ASK Wireless Module Kit

BRAND: QCCAN

Introduction	Features	Components	Specifications	Pin
Definitions	Setup	Operation	Maintenance	Troubleshooting
				Support

1. INTRODUCTION

This manual provides detailed instructions for the QCCAN 2Set 433MHz ASK Wireless Module Kit, which includes STX882+ RF Transmitters, SRX882 RF Receivers, and Copper Spring Antennas. These modules are designed for wireless communication applications, offering a compact size, high power output, and stable performance. They are suitable for direct connection to microcontrollers, simplifying wireless product development.

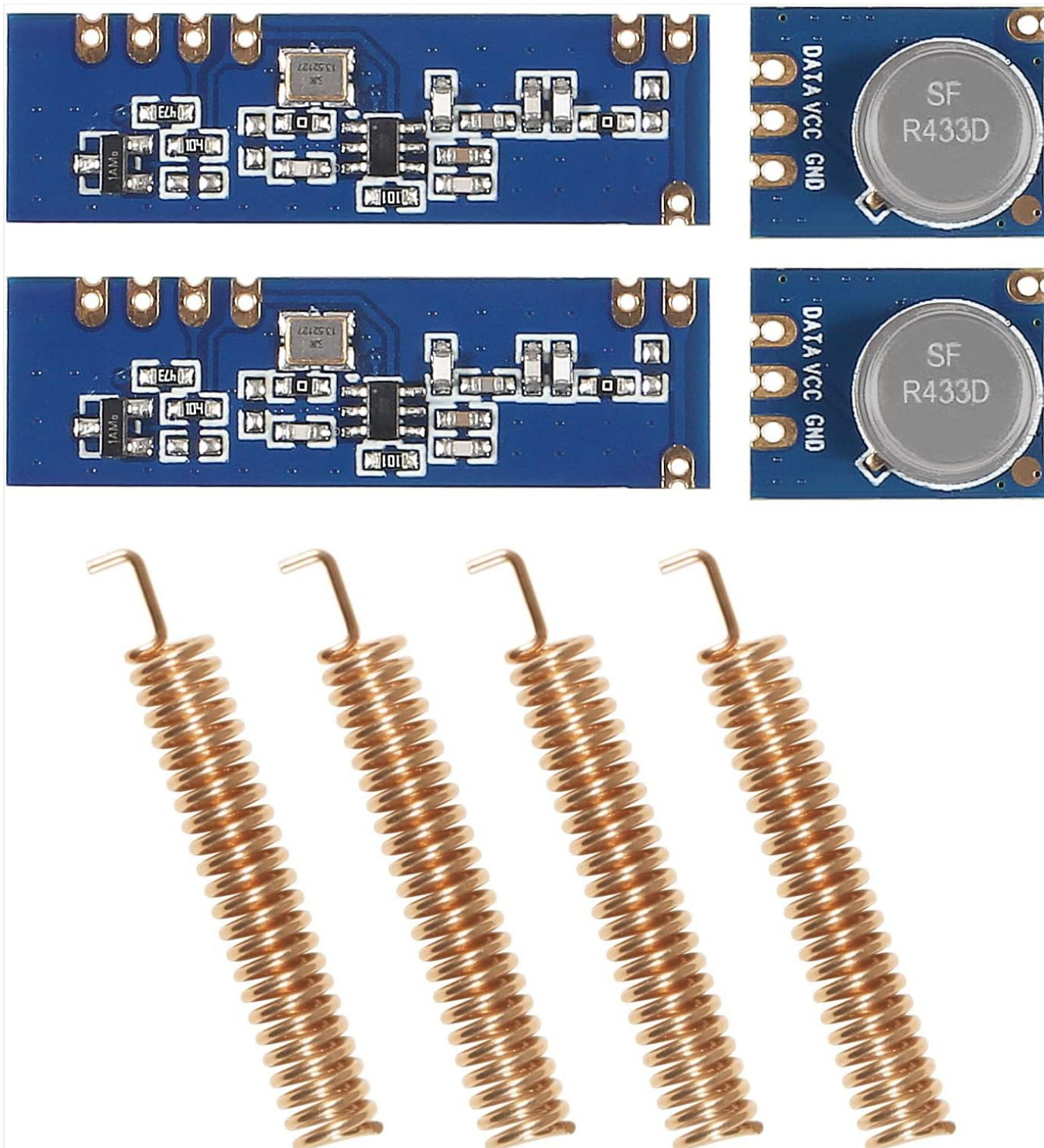


Figure 1: Complete 2Set 433MHz ASK Wireless Module Kit with Transmitters, Receivers, and Antennas.

2. KEY FEATURES

- **Frequency Range:** Operates at 433MHz (also available in 315 MHz variants).
- **Modulation Mode:** Utilizes ASK (Amplitude Shift Keying) modulation for data transmission.
- **Compact Design:** Small volume with low self-radiation, ideal for space-constrained applications.
- **High Power & Long Range (STX882+):** The STX882+ transmitter module can achieve 50mW power output at 3.6V, offering extended transmission range.
- **High Stability & Anti-interference (SRX882):** The SRX882 receiver module is a micro-power superheterodyne receiver with strong driving force, high stability, and excellent anti-interference capabilities.
- **Direct Microcontroller Connection:** Data ports on both modules can be directly connected to microcontrollers,

simplifying integration.

- **Optimized Antenna (SW433–TH32):** The included copper spring antenna is specifically designed for 433MHz wireless communication, featuring good VSWR, small size, and stable performance.
- **International Standards:** Certified by ROHS, FCC, CE, ensuring compliance with various international testing standards.

3. PACKAGE CONTENTS

Each kit contains the following components:

- 2 x STX882+ ASK Transmitter Modules
- 2 x SRX882 ASK Receiver Modules
- 4 x Copper Spring Antennas (SW433–TH32)

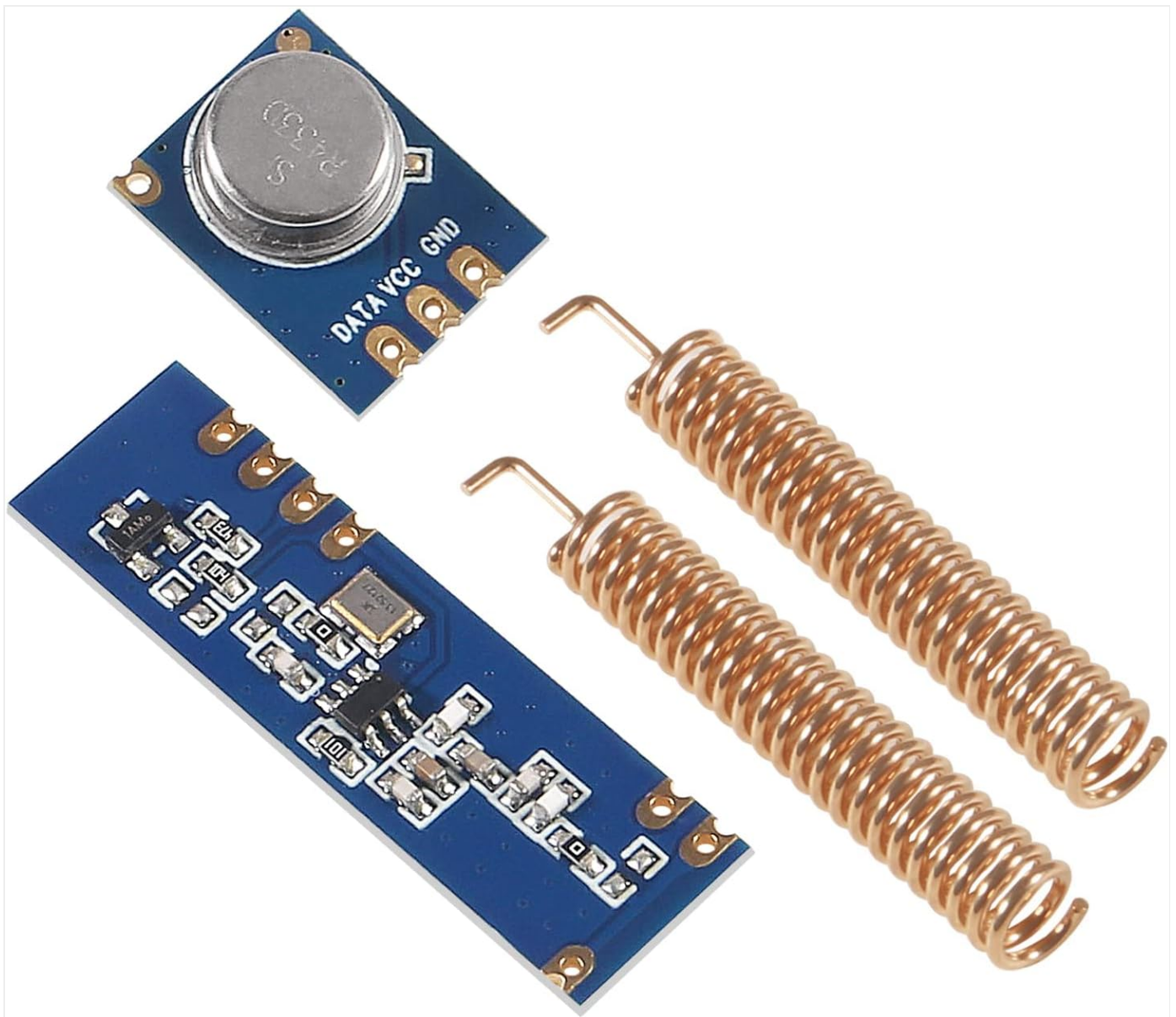


Figure 2: A single set of the wireless module kit components.

4. TECHNICAL SPECIFICATIONS

Specification	Value
Product Model	STX882+ (Transmitter), SRX882 (Receiver)
Frequency Range	433MHz (also 315MHz variants)
Modulation Type	ASK
Max Operating Voltage	3.6V DC (for optimal performance and longevity)
STX882+ Max Power Output	50mW (at 3.6V)
Antenna Type	Copper Spring Antenna (SW433–TH32)
Connectivity Technology	Wireless
Material	Copper (Antenna)
Item Weight	Approximately 0.352 ounces (total kit)
Package Dimensions	2.32 x 1.65 x 0.31 inches

5. PIN DEFINITIONS

5.1. STX882+ Transmitter Module Pinout

1. **ANT:** Antenna Input. Connect the copper spring antenna here.
2. **DATA:** Data Input. Connect this pin to the data output of your microcontroller or data source.
3. **VCC:** Power Supply Positive. Connect to the positive terminal of your power supply (Max 3.6V).
4. **GND:** Ground. Connect to the negative terminal of your power supply or common ground.

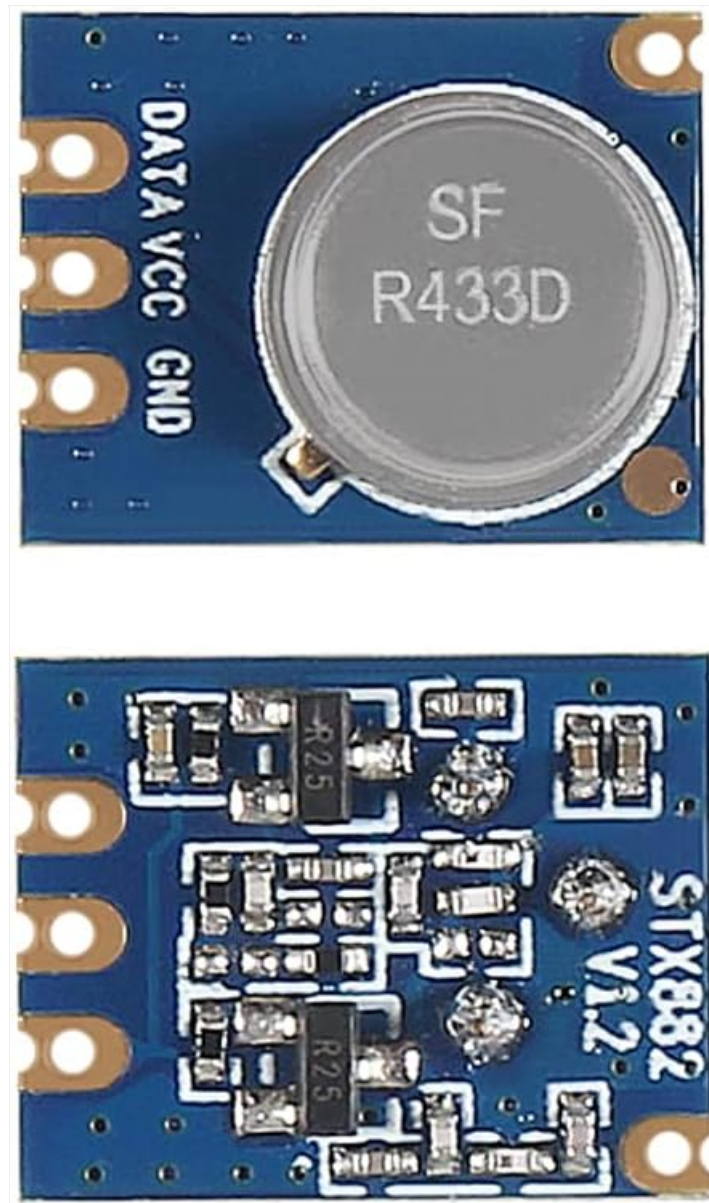


Figure 3: STX882+ Transmitter Module Pinout.

5.2. SRX882 Receiver Module Pinout

1. **ANT (1):** Antenna Connection. Connect one end of a 50 Ohm antenna here.
2. **GND (1):** Ground. Connect to the negative terminal of your power supply or common ground.
3. **VCC:** Power Supply Positive. Connect to the positive terminal of your power supply (Max 3.6V).
4. **CS:** Module Enable Pin. For normal operation, this pin should be floating or connected to a high logic level. To put the module into sleep mode, connect it to ground.
5. **DATA:** Data Output. This pin provides the received data. Connect it to the data input of your microcontroller.
6. **GND (2):** Ground. Another ground connection point.
7. **ANT (2):** Antenna Connection. Connect the other end of a 50 Ohm antenna here. Note: Only one ANT pin needs to be connected to the antenna.

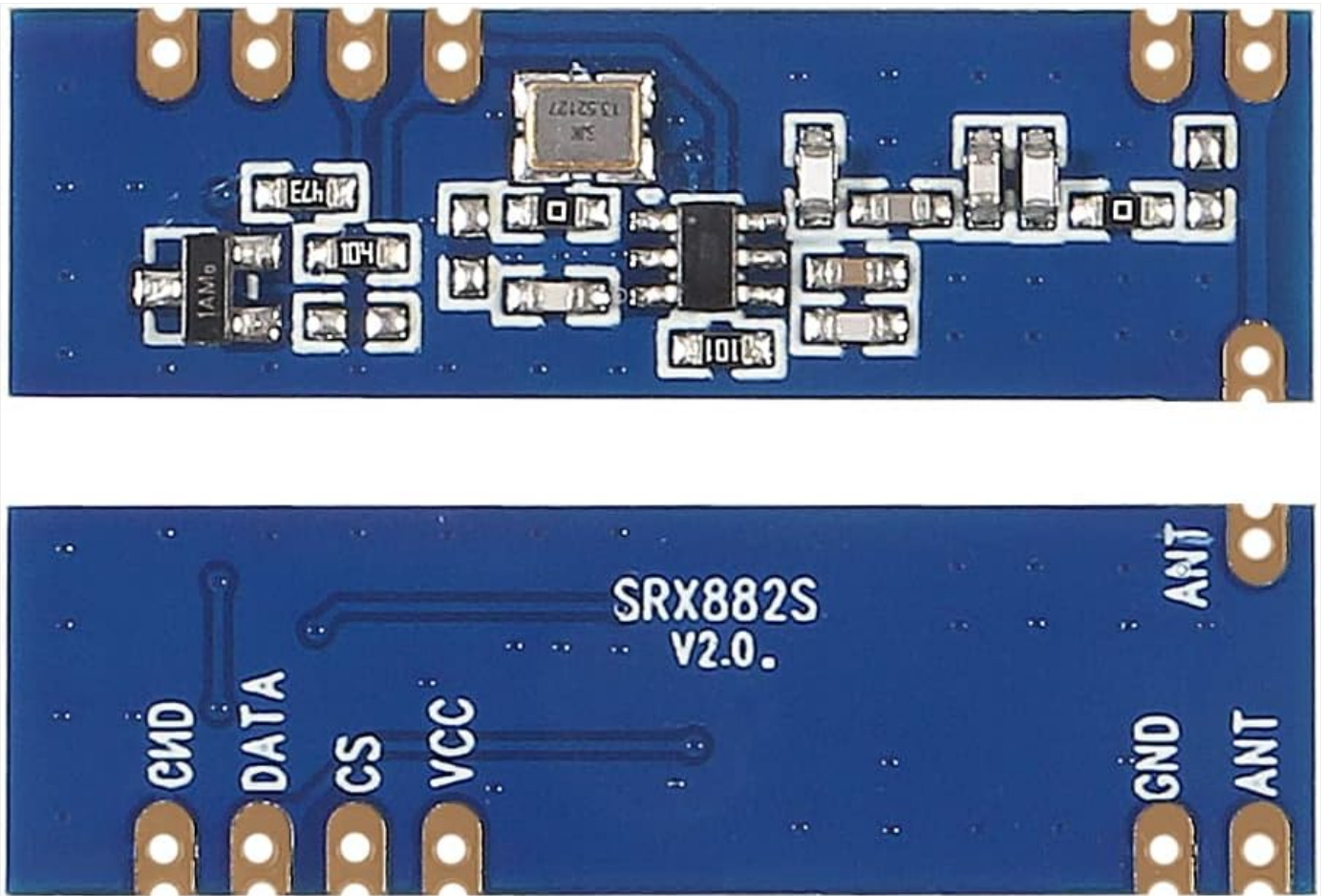


Figure 4: SRX882 Receiver Module Pinout.



Figure 5: Copper Spring Antennas (SW433–TH32).

6. SETUP INSTRUCTIONS

1. **Power Supply:** Ensure your power supply for both the STX882+ transmitter and SRX882 receiver modules does not exceed 3.6V DC. Applying higher voltages (e.g., 12V DC) will damage the modules.
2. **Antenna Connection:**
 - Connect one copper spring antenna to the ANT pin of the STX882+ transmitter module.
 - Connect another copper spring antenna to one of the ANT pins (either ANT (1) or ANT (2)) of the SRX882 receiver module.
 - For optimal range and performance, ensure the antennas are positioned vertically and are not bent excessively after soldering, as the antenna hole is close to the board edge.
3. **Data Connection:**
 - Connect the DATA pin of the STX882+ transmitter to the digital output pin of your microcontroller (e.g.,

Arduino, Raspberry Pi).

- Connect the DATA pin of the SRX882 receiver to the digital input pin of your microcontroller.

4. **Ground Connections:** Connect all GND pins of both modules to the common ground of your circuit and power supply.
5. **Module Enable (SRX882 only):** For the SRX882 receiver, ensure the CS (Chip Select/Enable) pin is either left floating or connected to a high logic level (e.g., VCC or a digital HIGH from your microcontroller) for the module to operate. Connecting CS to ground will put the module into sleep mode.

7. OPERATING INSTRUCTIONS

Once the modules are correctly wired and powered, they are ready for wireless communication. The STX882+ transmits data via ASK modulation, and the SRX882 receives it.

- **Transmitting Data:** To send data, apply digital signals (e.g., ON/OFF pulses, serial data) to the DATA input pin of the STX882+ transmitter module from your microcontroller. The module will convert these signals into 433MHz RF pulses.
- **Receiving Data:** The SRX882 receiver module will continuously listen for 433MHz ASK signals. When a signal is detected, it will output the demodulated digital data on its DATA output pin. This data can then be read and processed by your microcontroller.
- **Range Optimization:** The effective communication range depends on factors such as antenna placement, environmental interference, and power supply stability. Ensure antennas are clear of obstructions and positioned vertically for best results.

8. MAINTENANCE

These wireless modules are designed for durability and require minimal maintenance. Follow these guidelines to ensure their longevity:

- **Power Supply:** Always adhere to the specified maximum voltage of 3.6V DC. Over-voltage is the most common cause of module failure.
- **Environmental Conditions:** Store and operate the modules in a dry environment, away from extreme temperatures, humidity, and corrosive substances.
- **Physical Handling:** Handle the modules with care to avoid bending or breaking pins, especially during soldering. Be cautious when bending antenna wires near the board edge.
- **Cleaning:** If necessary, gently clean the modules with a soft, dry brush or a lint-free cloth. Avoid using liquids or harsh chemicals.

9. TROUBLESHOOTING

If you encounter issues with your wireless module kit, consider the following common problems and solutions:

- **No Data Output from Receiver:**
 - **Check Power:** Verify that the SRX882 receiver is receiving the correct voltage (max 3.6V) and is properly grounded.
 - **Check CS Pin:** Ensure the CS pin on the SRX882 is either floating or connected to a high logic level. If it's connected to ground, the module will be in sleep mode and will not output data.
 - **Transmitter Functionality:** Confirm the STX882+ transmitter is powered correctly and receiving data input.
 - **Antenna Connection:** Ensure both transmitter and receiver antennas are securely connected and positioned

vertically.

- **Frequency Match:** Verify that both transmitter and receiver modules are operating on the same frequency (e.g., both 433MHz).

- **Modules Not Powering On / Damaged:**

- **Voltage Check:** The most common cause of damage is applying excessive voltage. These modules are designed for a maximum of 3.6V DC. Do NOT apply 12V DC directly without appropriate voltage regulation.
- **Polarity:** Ensure VCC and GND connections are correct. Reverse polarity can cause immediate damage.

- **Poor Range or Intermittent Connection:**

- **Antenna Orientation:** Ensure antennas are vertical and not obstructed by metal objects or other electronics.
- **Interference:** High levels of RF noise in the environment can reduce range. Try operating in a less noisy area.
- **Soldering Quality:** Poor solder joints, especially on antenna connections, can significantly impact performance.

10. WARRANTY AND SUPPORT

QCCAN products are manufactured to high standards. For technical support, troubleshooting assistance, or inquiries regarding product functionality, please refer to the seller's contact information on the platform where the product was purchased. While specific warranty details may vary, general support for manufacturing defects is typically provided. For additional resources and community support, consider searching online forums and communities dedicated to wireless module development and microcontrollers, as these modules are widely used in DIY electronics projects.

