

E28-2G4T12S

LoRa Module E28-2G4T12S User Manual

Model: E28-2G4T12S

1. INTRODUCTION

This manual provides essential information for the proper use and operation of the E28-2G4T12S LoRa Module. The E28-2G4T12S is a 2.4G LoRa spread spectrum serial port module featuring the SX1281 chip and RSSI functionality, designed for various wireless communication applications.

Please read this manual thoroughly before operating the module to ensure optimal performance and longevity.

2. PRODUCT OVERVIEW



Figure 1: Front view of the E28-2G4T12S LoRa module, showing the metallic shield and integrated antenna.

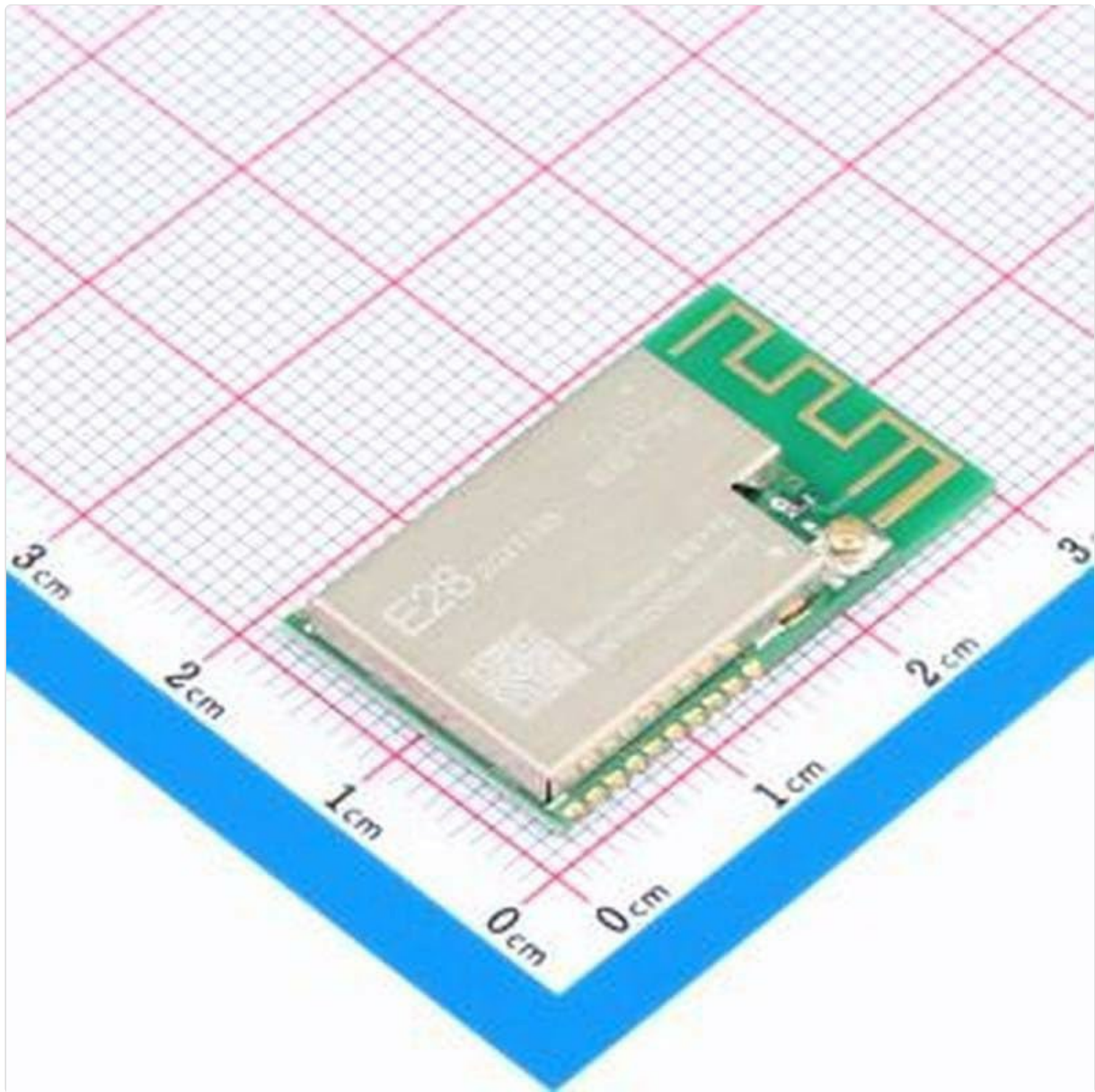


Figure 2: Angled view of the E28-2G4T12S LoRa module, illustrating its compact size of approximately 17.5x28.7mm against a measurement grid.

4. OPERATING INSTRUCTIONS

The E28-2G4T12S operates as a serial port module, allowing for easy integration into existing systems via UART communication.

4.1 Data Transmission and Reception

Data is sent to the module via its RXD pin and received from its TXD pin. The module handles the LoRa spread spectrum modulation and demodulation internally.

4.2 RSSI Functionality

The module supports RSSI (Received Signal Strength Indicator) functionality, which can be used to assess the quality of the received signal. Consult the module's datasheet for specific commands or methods to access RSSI values.

4.3 Frequency Band

This module operates in the 2.4GHz frequency band, suitable for global use, but always verify local regulations for wireless device operation.

5. MAINTENANCE

The E28-2G4T12S LoRa module is a robust electronic component, but proper handling and storage are essential for its longevity.

- **Handling:** Avoid touching the module's pins or antenna area unnecessarily. Use anti-static precautions when handling.
- **Storage:** Store the module in a dry, cool environment, away from direct sunlight and extreme temperatures. Keep it in its original anti-static packaging if not immediately used.
- **Cleaning:** If necessary, gently clean the module with a soft, dry, lint-free cloth. Do not use liquid cleaners or solvents.

6. TROUBLESHOOTING

If you encounter issues with your E28-2G4T12S module, consider the following common troubleshooting steps:

- **No Communication:**
 - Verify power supply voltage and connections.
 - Check serial port connections (TXD to RXD, RXD to TXD).
 - Confirm baud rate and serial port settings match on both the module and host device.
 - Ensure the module is correctly soldered to the PCB.
- **Poor Range/Signal:**
 - Check for obstructions between modules (e.g., walls, metal objects).
 - Ensure the integrated antenna is not obstructed or damaged.
 - Verify that both transmitting and receiving modules are operating on the same frequency and parameters.

- **Module Not Responding:**

- Perform a power cycle (turn off and on).
- Check for short circuits or incorrect wiring.

7. SPECIFICATIONS

Feature	Description
Model	E28-2G4T12S
Frequency Band	2.4 GHz (LoRa Spread Spectrum)
Chipset	SX1281
Interface	Serial Port (UART)
Functionality	RSSI (Received Signal Strength Indicator)
Form Factor	SMD (Surface Mount Device)
Dimensions	17.5mm x 28.7mm