Manuals+ — User Manuals Simplified.

ARCTECH WS2G4
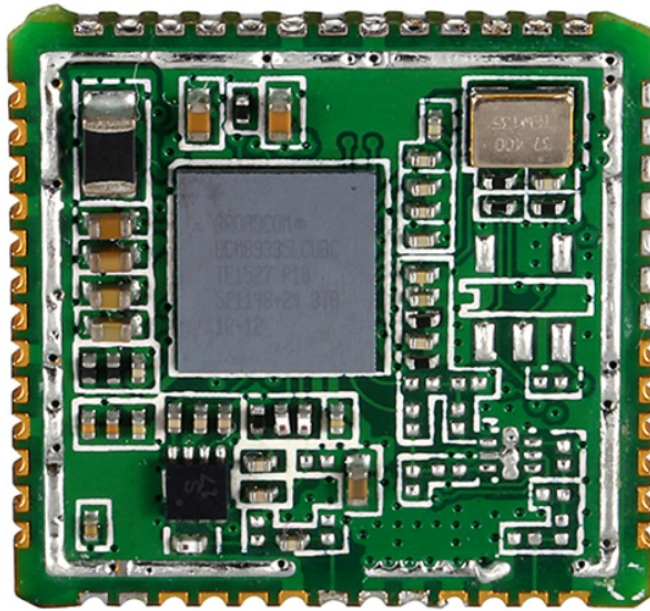2.4G LoRa Wireless
Module

ARCTECH WS2G4 2.4G LoRa Wireless Module User Manual

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ARCTECH WS2G4 2.4G LoRa Wireless Module

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Product Usage Instructions

Introduction
The 2.4G LoRa WS2G4 wireless module is designed for long-distance serial communication. It features a built-in MCU and PA, supporting user parameter power-off storage and automatic filtering of module configuration messages. The module is suitable for serial port communication between control and communication boxes, as well as other products with long-distance serial port communication requirements.

Appearance Diagram and Pin Definition

Dimensional Appearance
[Include dimensional appearance diagram here]

Pin Definition

Pin Name	Pin Function
5V	Device power supply, connect to the 5V supply voltage
GND	Supply ground
TX	Serial port data out pin
RX	Serial port data in pin
AUX	Alternate function pin

Forwarding Performance
[Include forwarding performance data table here]

Frequently Asked Questions (FAQ)

- **Can the module be used for communication over long distances?**

  Yes, the module supports communication distances of up to approximately 800 meters.

- **What baud rates are supported by the module?**

  The module supports various serial baud rates including 9600bps, 19200bps, 38400bps, 57600bps, and 115200bps.

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INTRODUCTION

The 2.4G LoRa WS2G4 wireless module is a transparent wireless serial port module developed by the Arctech Solar, based on the SEMTECH integrated 2.4G LoRa transceiver chip SX1280. It provides long-distance serial communication and features built-in MCU and PA, as well as support for user parameter power-off storage and automatic filtering of module configuration messages. Additionally, it supports user transparent messages and wireless configuration parameters of other modules.

Application

- Serial port communication between control box and communication box
- Other products with long-distance serial port communication requirements

SPECIFICATION PARAMETER

SPECIFICATION		performance
Supply voltage		5V～6V
Operating temperature		-30～60°C
Dimension		L 5.9cm × W 3.6cm
Antenna interface		RP-SMA
Operating wireless frequency		2402MHz～2479Mhz
Power dissipation	TX	Max 115mA@5V
	RX	TYP 15mA@5V
E-Field level		Max 100.43dBμV/m
Receiving sensitivity		Typ -111dBm
Communication rate	Air rate(LoRa)	10Kbps
		20Kbps/30Kbps
		40Kbps/50Kbps
	Serial baud rate	9600bps
		19200bps
		38400bps
		57600bps
		115200bps
Wireless subcontract size		32、64、128、240(bytes)
Serial port cache size		1024 bytes
Communication distance		Typ 800m

APPEARANCE DIAGRAM AND PIN DEFINITION
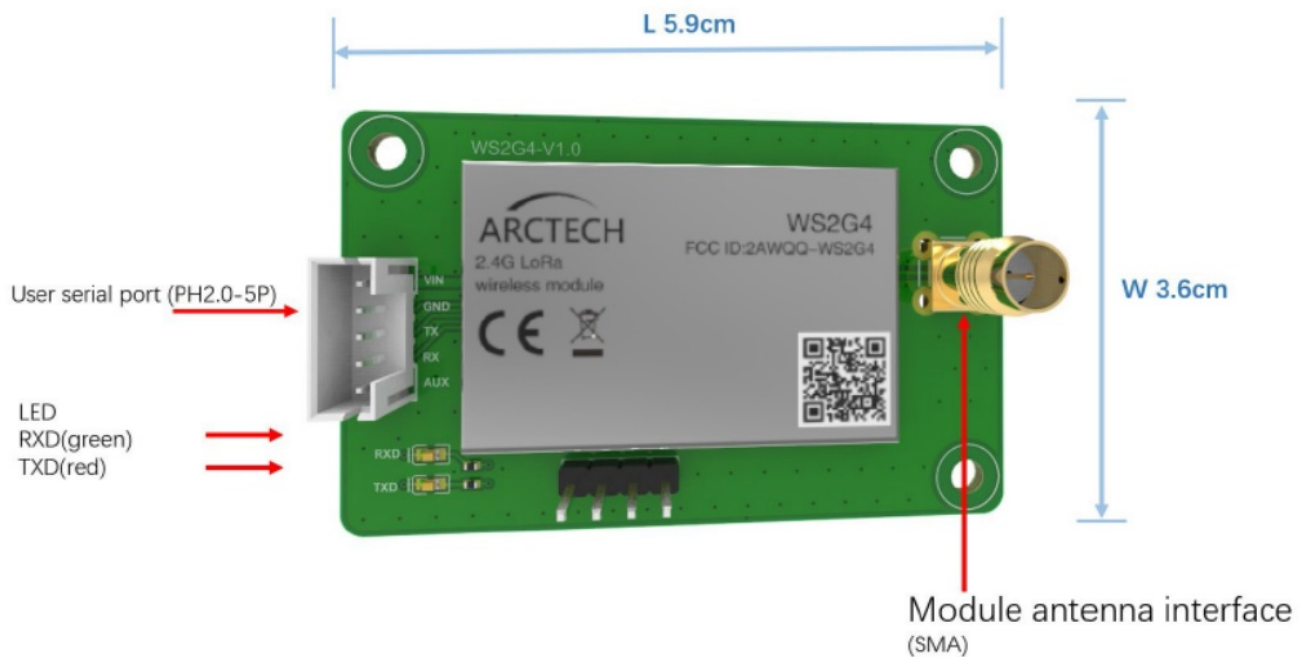
Dimensional appearance

Pin definition

Pin name	Pin function
5V	Device power supply, connect to the 5Vsupply voltage
GND	Supply ground
TX	Serial port data out pin
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AUX	Alternate function pin

FORWARDING PERFORMANCE

Air Rate (bps)	Serial baud rate (bps)	240bytes Transmission time (±1ms)
	9600	722
	19200	472
10K	28400	346
	57600	304
	115200	262
	9600	614
	19200	363
20K/30K	38400	237
	57600	195
	115200	153
	9600	559
	19200	308
40K/50K	38400	182
	57600	141
	115200	99

Caution
Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and

2. This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not

installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

OEM Guidance

Applicable FCC rules
This device complies with part 15.249 of the FCC Rules.

The specific operational use conditions
This module can be used in IoT devices. The input voltage to the module is nominally 5V DC. The operational ambient temperature of the module is -30 °C ~ 60 °C. the external antenna is allowed, such as Sucker antenna.

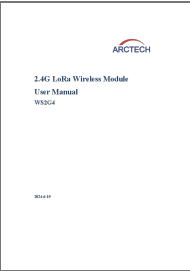### Limited module procedures
N/A

Trace antenna designs
N/A

RF exposure considerations
The equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

Documents / Resources

ARCTECH 2.4G LoRa Wireless Module User Manual WS2G4 2024.05	**ARCTECH WS2G4 2.4G LoRa Wireless Module** [pdf] User Manual 2AWQQ-WS2G4, 2AWQQWS2G4, WS2G4 2.4G LoRa Wireless Module, WS2G4, 2.4G LoRa Wireless Module, LoRa Wireless Module, Wireless Module, Module

References

- **User Manual**