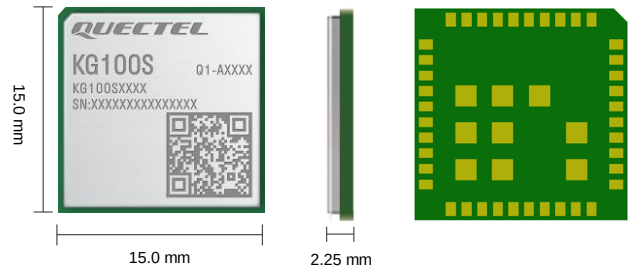


Quectel KG100S

Wireless Module for Amazon Sidewalk Compact LGA Package



Quectel KG100S is a low-power and cost-effective wireless module for Amazon Sidewalk applications. Amazon Sidewalk is a secure community network that uses Amazon Sidewalk Bridges, such as compatible Amazon Echo and Ring devices, to provide cloud connectivity for IoT devices. Amazon Sidewalk enables low-bandwidth and long-range connectivity at home and beyond using Bluetooth LE for short-distance communication and LoRa and FSK radio protocols at 900 MHz frequencies to cover longer distances.

Quectel KG100S has an energy-friendly micro controller with a high performance 2.4 GHz radio transceiver for BLE, and a built-in long-range low power Sub-1 GHz CSS and FSK transceiver. A compact profile of 15.0 mm × 15.0 mm × 2.25 mm and LGA form factor ensure that it can be easily embedded into size-constrained applications and provide reliable connectivity with these applications.

Quectel KG100S integrates all the hardware and software resources required for Amazon Sidewalk applications. It is suitable for low flow control and data acquisition applications such as home intelligent terminal, industrial application.



Key Features

- ✓ BLE 5.1
- ✓ Built-in Sub-1 GHz CSS and FSK transceiver
- ✓ 96 KB RAM, 1 MB Flash
- ✓ UART, I2C*, SPI, JLINK, PTI and GPIOs
- ✓ Easier soldering and testing process with LGA package
- ✓ Faster time to market: simple design minimizes design-in time and development efforts



Ultra-compact Size



LGA Form Factor



BLE 5.1



Operating Temperature
Range: -40 °C to +85 °C



Low Power
Consumption

Quectel KG100S

Wireless Module for Amazon Sidewalk			KG100S		
Frequency Band			Sub-1 GHz CSS/FSK: 863–928 MHz BLE: 2.402–2.480 GHz		
Modulation			FSK, GFSK, CSS		
Bluetooth Protocol			BLE 5.1		
Bluetooth Operating Mode			BLE (Bluetooth LE)		
Kernel			ARM Cortex®-M33 (up to 80 MHz)		
RAM			96 KB		
Flash			1 MB		
Dimension (mm)			15.0 × 15.0 × 2.25		
Weight (g)			Approx. 0.94 g		
Interfaces					
Antenna Interfaces			Sub-1 GHz CSS/FSK antenna interface × 1, BLE antenna interface × 1		
Other Interfaces ^①			UART/ JLINK/ SPI/ PTI/ I2C*/ GPIOs		
Temperature Range					
Operating Temperature Range			-40 °C to +85 °C		
Storage Temperature Range			-45 °C to +95 °C		
Electrical Features					
Power Supply Voltage			VSYS: 3.0–3.6 V, Typ. 3.3 V VMCU: 1.71–3.6 V, Typ. 1.8/ 3.3 V		
Certification					
Regulatory			Europe: CE America: FCC Canada: IC		
Others			Bluetooth		
RF Performance					
			Receiver Sensitivity (Typ.)		Transmit Power (Typ.)
BLE	1 Mbps		-93 dBm		10 dBm
	2 Mbps		-93 dBm		10 dBm
CSS	BW_L = 125 kHz, SF = 7		-122 dBm		22 dBm
	BW_L = 500 kHz, SF = 7		-115 dBm		22 dBm
	BW_L = 500 kHz, SF = 11		-128 dBm		22 dBm
FSK	50 kbps		-104 dBm		22 dBm
	150 kbps		-98 dBm		22 dBm
	250 kbps		-95 dBm		22 dBm

Ordering Code	Flash	Operating Temperature Range	Antenna	Development Board (Only for Debugging)
KG100SABMD	1 MB	-40 °C to +85 °C	External antenna pin	KG100SABEV

NOTE:

1. ① : See hardware design documents for details of the module interfaces.
2.*: Under development.