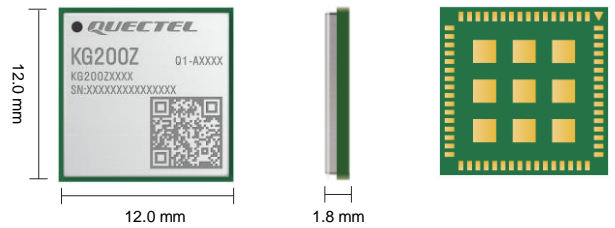


Quectel KG200Z

Stand-alone LoRa Module Compact LGA Package



KG200Z is a high-performance LoRa module launched by Quectel, which supports ultra-low power consumption and long-range wireless transmission applications. It integrates an ARM Cortex-M4 core with the modulations of LoRa, (G)FSK, (G)MSK and BPSK, supporting LoRaWAN standard protocol and 470–510 MHz, 862–928 MHz LoRa frequency bands. Additionally, it incorporates AES hardware encryption for enhanced security.

KG200Z features a compact form factor of 12.0 mm × 12.0 mm × 1.8 mm and an LGA package to ensure seamless embedding of the module into size-constrained applications and reliable connectivity with these applications.

KG200Z connects to IoT devices via wireless internet from a local to a worldwide network, which offers secure end-to-end communication, mobility, and localized services for IoT applications. It has the advantages of strong anti-interference, high sensitivity, stable network connection, good transmission performance, low cost and easy deployment and can be used across a diverse range of applications such as smart locks, door sensors, gas and water leak detection, pet tracking, indoor air quality sensors, HVAC monitoring, smart parking and traffic monitoring, utility metering, waste management, air quality monitoring, as well as assets management tracking.



Key Features

- ✓ Long transmission distance: 2–5 km in towns, 10–15 km in suburbs
- ✓ Ultra-low power consumption (1.7 μ A in deep sleep mode)
- ✓ LoRa modulation technology, high receiver sensitivity (-138 dBm)
- ✓ Compact profile of 12.0 mm × 12.0 mm, cost-effective
- ✓ Stable network connection, strong anti-interference, strong penetration, reliable data transmission
- ✓ Easier soldering and testing process with LGA package
- ✓ Multiple interfaces
- ✓ Operating temperature: -40 °C to +85 °C



Long-range
Wireless
Transmission



Ultra-low Power
Consumption



LoRaWAN
Standard Protocol



Cost Effective



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



Multiple
Interfaces

Quectel KG200Z

LoRa		KG200Z	
LoRa Protocol		LoRaWAN	
LoRa Frequency Bands		470–510 MHz; 862–928 MHz	
Modulation		LoRa, (G)FSK, (G)MSK, BPSK	
Operating Mode		LoRa/FSK	
Hardware Encryption		AES-256 bit	
Core		32-bit ARM Cortex-M4 CPU	
Flash		256 KB	
RAM		64 KB	
Dimensions		12.0 mm × 12.0 mm × 1.8 mm	
Weight		Approx. 0.56 g	
Temperature Range			
Operating temperature		-40 °C to +85 °C	
Storage temperature		-45 °C to +95 °C	
Certifications			
Regulatory (Planning)		Europe: CE America: FCC Canada: IC Brazil: Anatel South Korea: KC Japan: TELEC Australia/New Zealand: RCM	
Interface ①			
Peripheral Interfaces		DMA/ADC/DAC/USART/SPI/I2C/LPUART (low-power)	
Electrical Features			
Power Supply Voltage		1.8–3.6 V	
Power Consumption		1.7 μA (Deep Sleep Mode)	
LoRa Performance			
		Receiver Sensitivity (Typ.)	Transmit Power (Typ.)
125 kHz, SF12		-138 dBm	21 dBm

Ordering Code	Operating Temperature Range	Frequency Band	Development Board (Only for Debugging)
KG200ZAAMD	-40 °C to +85 °C	470–510 MHz	KG200ZAATB
KG200ZABMD	-40 °C to +85 °C	862–928 MHz	KG200ZABTB

NOTE:
①: See hardware design manual for details of the module interfaces.

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