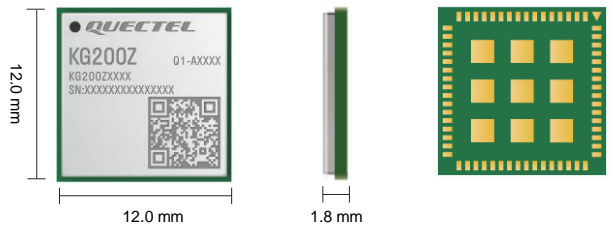


# Quectel KG200Z

## 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  $\mu$ 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.