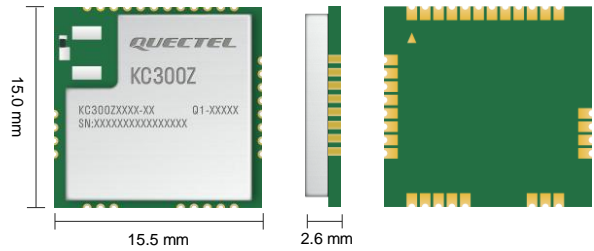


# Quectel KC300Z

## Stand-alone LoRa Module Compact LCC Package



KC300Z, a high-performance LoRa module by Quectel, is designed for long-range wireless transmission applications requiring ultra-low power consumption. It integrates an ARM Cortex-M4 core and supports multiple modulation schemes such as LoRa, DTS, FHSS and FSK. Additionally, KC300Z adheres to LoRaWAN standard protocol and operates within the global CN470, EU868 and US915 LoRa frequency bands, and it incorporates AES hardware encryption for enhanced security.

KC300Z boasts a compact form factor of 15.0 mm × 15.5 mm × 2.6 mm with an LCC package, ensuring seamless integration into size-constrained applications and reliable connectivity.

KC300Z connects wirelessly to local and global IoT networks, enabling secure end-to-end communication, mobility, and localized services for IoT applications. Its strong anti-interference, high sensitivity, stable network connection and easy deployment ensure reliable low-cost data transmission. This versatility makes KC300Z ideal for a wide range of applications, such as smart locks, door sensors, gas and water leak detection, pet tracking, indoor and outdoor air quality monitoring, HVAC systems, smart parking and traffic monitoring, utility metering, waste management, as well as asset management and tracking.



## Key Features

- ✓ Transmission distance: 2–5 km in towns, 10–15 km in suburbs
- ✓ Ultra-low power consumption
- ✓ LoRa modulation technology
- ✓ Compact and cost-effective: 15.0 mm × 15.5 mm profile
- ✓ Stable network connection, strong anti-interference, high penetration, reliable data transmission
- ✓ Simplified integration: LCC package for easier soldering and testing
- ✓ 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

LoRa		KC300Z	
LoRa Protocol		LoRaWAN	
LoRa Frequency Bands		CN470, EU868, US915	
Modulation		LoRa, DTS, FHSS, FSK	
Operating Mode		Class A/ Class B/ Class C	
Hardware Encryption		AES-256 bit	
Antenna		Pin antenna interface	
Core		32-bit ARM Cortex-M4 CPU	
Flash		256 KB	
RAM		64 KB	
Dimensions		15.0 mm × 15.5 mm × 2.6 mm	
Weight		Approx. 1.01 g	
Temperature Range			
Operating temperature		-40 °C to +85 °C	
Storage temperature		-45 °C to +95 °C	
Certifications			
Regulatory		Europe: CE America: FCC Canada: IC Australia/New Zealand: RCM	
Interface			
Peripheral Interfaces <sup>①</sup>		USART/ LPUART/ SWD/ JTAG/ I2C/ SPI	
Electrical Features			
Power Supply Voltage		VDD: 1.8–3.6 V, Typ. 3.3 V	
Power Consumption		135 mA	
LoRa Performance			
		Receiver Sensitivity (Typ.)	Transmit Power (Typ.)
CN470	BW = 125 kHz, SF = 7	-122 dBm	20 dBm
	BW = 125 kHz, SF = 12	-136 dBm	20 dBm
	BW = 500 kHz, SF = 7	-116 dBm	20 dBm
EU868	BW = 125 kHz, SF = 7	-122 dBm	14 dBm
	BW = 125 kHz, SF = 12	-136 dBm	14 dBm
	BW = 500 kHz, SF = 7	-116 dBm	14 dBm
US915	BW = 125 kHz, SF = 7	-122 dBm	20 dBm
	BW = 125 kHz, SF = 12	-136 dBm	20 dBm
	BW = 500 kHz, SF = 7	-116 dBm	20 dBm

Ordering Code	Operating Temperature Range	Antenna	Frequency Band	Development Board (Only for Debugging)
KC300ZAAMD-0L	-40 °C to +85 °C	Pin antenna interface	CN470	KC300ZAATB-0L
KC300ZABMD-0L	-40 °C to +85 °C	Pin antenna interface	EU868	KC300ZABTB-0L
KC300ZACMD-0L	-40 °C to +85 °C	Pin antenna interface	US915	KC300ZACTB-0L
KC300ZADMD-0L	-40 °C to +85 °C	Pin antenna interface	EU868	KC300ZADTB-0L

**NOTE:**  
①: The module supports 23 GPIOs by default, which can be multiplexed into multiple application interfaces in QuecOpen® solution. See hardware design manual for details of the module interfaces.