Quectel HCM010S

BLE 5.4 Module
Compact LCC + DIP Package

20.0 mm

15.6 mm

2.35 mm
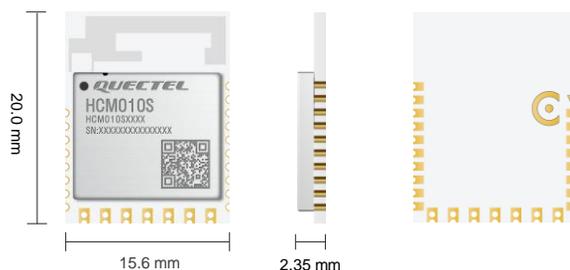
HCM010S is a high-performance MCU Bluetooth module launched by Quectel. It boasts a ARM Cortex-M33 processor with a frequency of up to 80 MHz, and supports BLE 5.4 and BLE Mesh. The module features built-in 64 KB SRAM and 768 KB flash, ensuring efficient performance.

HCM010S is in a LCC + DIP form factor with an ultra-compact size of 20.0 mm × 15.6 mm × 2.35 mm, which optimizes the size and cost for end-products and is compatible with diverse designs.

HCM010S supports up to 20 GPIOs for UART, SPI, I2C and other functions in QuecOpen® solution, features an superior sensitivity of -104 dBm and transmit power of up to +20 dBm and Bluetooth low power mode, which provide flexibility and versatility for a range of applications.

HCM010S supports standard Bluetooth mesh networking, increasing network scalability and node counts with mesh topology, which is suitable for BLE devices that enables many-to-many communications, smart lighting, smart buildings and home smart wireless networks. And the module offers an enhanced security option, Secure Vault, featuring a higher level of IoT security.

Key Features

- ✔ BLE 5.4
- ✔ 64 KB SRAM and 768 KB flash
- ✔ Bluetooth mesh networking
- ✔ 20 GPIOs for I2C, UART, SPI, I2S functions in QuecOpen® solution
- ✔ Operating temperature range: -40 °C to +105 °C
- ✔ PCB antenna

BLE 5.4

LCC + DIP Form Factor

Compact Size

Multiple Interfaces

Operating Temperature Range: -40 °C to +105 °C

BLE 5.4	HCM010S
Bluetooth Protocol	BLE 5.4
Encryption Mode	AES128/256, SHA-1, SHA-2 (up to 256 bits), ECC (up to 256 bits), ECDSA (up to 256 bits), ECDH, J-Pak, TRNG, secure boot
Operating Mode	BLE (Bluetooth Low Energy)
Bluetooth Antenna	PCB antenna
Kernel	ARM Cortex-M33 (up to 80 MHz)
SRAM	64 KB
Flash	768 KB
Dimensions	20.0 mm × 15.6 mm × 2.35 mm
Weight	Approx. 1.14 g
Temperature Range	
Operating Temperature Range	-40 °C to +105 °C
Storage Temperature Range	-45 °C to +115 °C
Certifications	
Regulatory	**Europe:** CE **America:** FCC **Canada:** IC **China:** SRRC **Australia/New Zealand:** RCM
Interfaces	
Interfaces[①]	I2C/ UART/ SPI/ I2S, etc.
Electrical Features	
Power Supply Voltage	1.71–3.8 V, Typ. 3.3 V
RF Performance	

		Receiver Sensitivity	Transmit Power
BLE	**1 Mbps**	-97.5 dBm ±2 dB	≤ 20 dBm
	2 Mbps	-94.4 dBm ±2 dB	≤ 20 dBm

Ordering Code	Flash	Transmit Power	Operating Temperature Range	Antenna	Development Board (Only for Debugging)
HCM010SAAMD-0P	768 KB	≤ 20 dBm	-40 °C to +105 °C	PCB antenna	HCM010SAATB-0P
HCM010SABMD-0P	768 KB	≤ 10 dBm	-40 °C to +105 °C	PCB antenna	HCM010SABTB-0P

NOTE：

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

QUECTEL