

EM9304 **BLUETOOTH®** MODULE FACTSHEET

DESCRIPTION

The MD9304Q-2V1 SD-SP EM9304 *Bluetooth®* low energy module from CMAX Asia Ltd. (CMAX part number CMM-9304-V2.1SP) is small size module embedding the EM9304 *Bluetooth®* low energy chip from EM Microelectronic. It has a built-in highly efficient PCB antenna and boasts one of the best power consumption characteristics combined with outstanding *Bluetooth®* low energy performances.

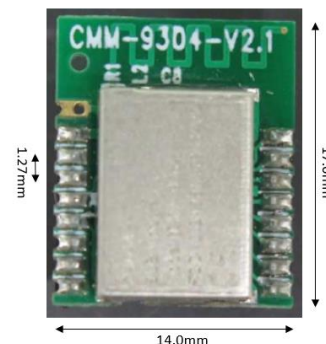
The EM9304 is a tiny, low-power, integrated circuit (IC) optimized for *Bluetooth® 5.0* low energy enabled products. The flexible architecture of the EM9304 allows it to act as a companion IC to any ASIC or MCU-based product, or as a complete System-on-Chip (SoC).
<https://www.emmicroelectronic.com/product/standard-protocols/em9304>

The module offers various methods for control via a simple SPI/UART interface: Host Controller Interface (HCI) with the internal *Bluetooth® v5.0* link layer; proprietary Application Controller Interface (ACI) with the in-built *Bluetooth® v4.2* stack, several profiles, and firmware over-the-air (FOTA) updating routines.

The CMM-9304-V2.1SP Module can be used with the EMDVK9304 and the EMDVK9304SOC.

FEATURES

- Step down configuration (supply from 1.9V to 3V)
- Small size: 14mm x 17mm
- Low current consumption (values on a 3V supply)
 - 3.0mA typical peak receiver current
 - 5.2mA typical peak transmitter current @0.4dBm
 - 1.0uA connect sleep mode current
 - 0.005uA disable mode current
- High sensitivity : -93dBm typical receiver sensitivity
- Programmable RF output power from -34dBm to +6.1dBm (typical)
- SPI interface/UART interface to external micro-controller
- Integrated PCB antenna
- FCC certified 2ABBX179304V21
- Based on *Bluetooth® 5.0* chip (QDID 93999)
- Based on *Bluetooth® 4.2* stack (QDID 84268)
- *Bluetooth®* certified module (D055174)



FCC Warning Statement

FEDERAL COMMUNICATIONS COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body
This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter

ORDERING INFORMATION

The products below are considered standards and should be readily available. Please make sure to give the complete part number when ordering.

Part Number	Description	Container	Units per Container
MD9304Q-2V1 SD-SP	EM9304 Module CMAX Part number: CMM-9304-V2.1SP	-	1