

## DSD TECH HM-19

# DSD TECH HM-19 Bluetooth 5.0 BLE Module User Manual

Model: HM-19

Brand: DSD TECH

## INTRODUCTION

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The DSD TECH HM-19 is a Bluetooth 5.0 BLE module designed for integration into various DIY projects and products. It features the Texas Instruments CC2640R2F chip, offering enhanced data transfer rates and a larger Maximum Transmission Unit (MTU) compared to previous Bluetooth 4.0 modules. This manual provides essential information for setting up, operating, and troubleshooting your HM-19 module.

## PRODUCT OVERVIEW

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The HM-19 module is an advanced Bluetooth Low Energy (BLE) solution.

### Key Features

- Bluetooth 5.0 BLE protocol
- Main IC: Texas Instruments CC2640R2F
- Faster transfer rate and larger MTU
- Compatible with HM-11 and HM-10 AT commands
- 6-pin base board for easy integration (VCC, GND, TX, RX, STATE, EN)

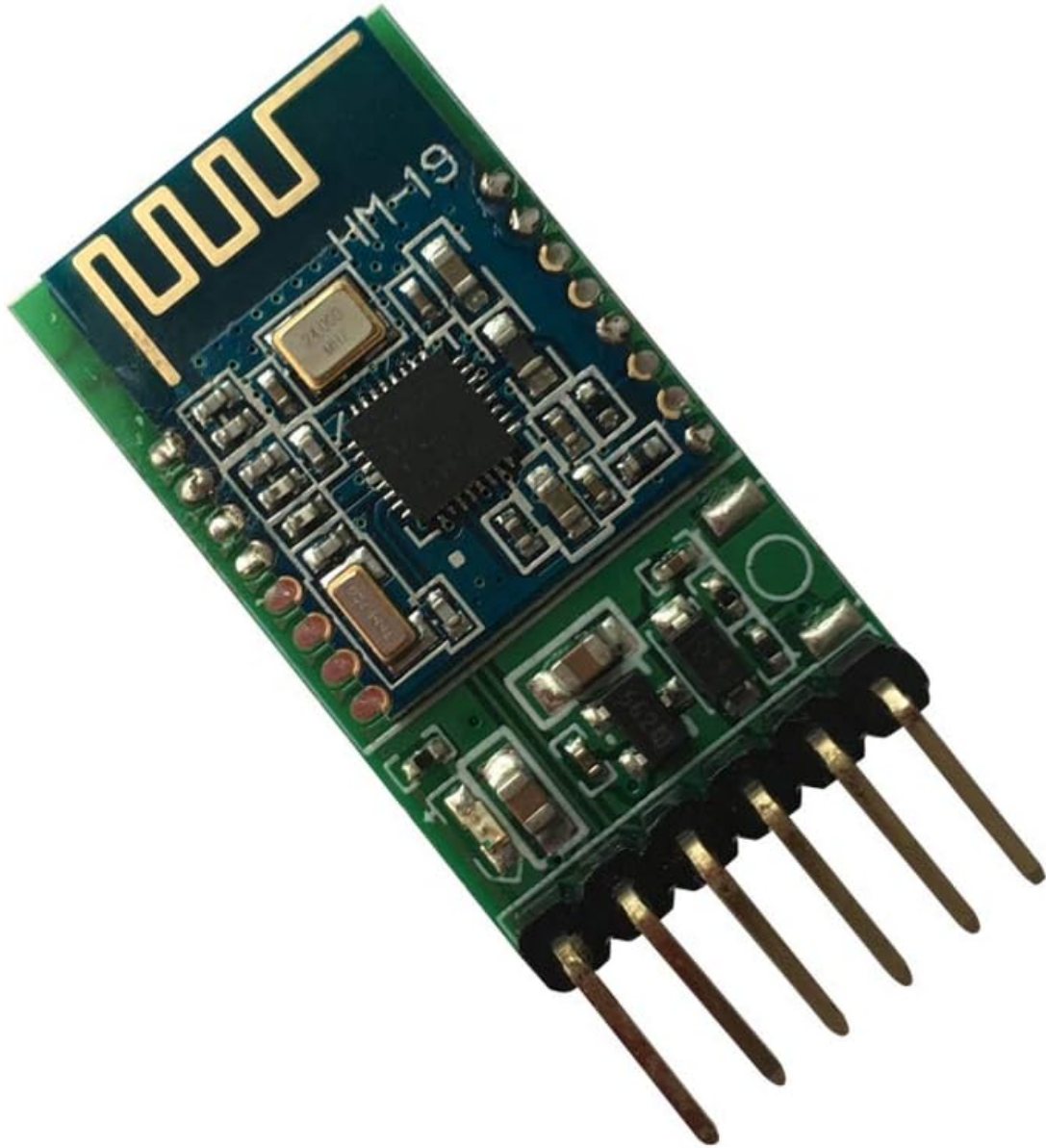


Image 1: Top-down view of the DSD TECH HM-19 Bluetooth 5.0 BLE Module. This image displays the compact design of the module, highlighting the integrated antenna and the main components on the circuit board.

## SPECIFICATIONS

Feature	Detail
Model	HM-19
Bluetooth Protocol	5.0 BLE
Main IC	TI CC2640R2F
Work Voltage (VCC)	3.6V to 6V
TTL Logic Level (TX, RX)	3.3V
Dimensions	1.4 x 0.6 x 0.1 inches
Item Weight	0.2 ounces

## SETUP

## Pinout Description

The HM-19 module features a 6-pin base board for easy connection.

# Bluetooth 5.0 BLE Module

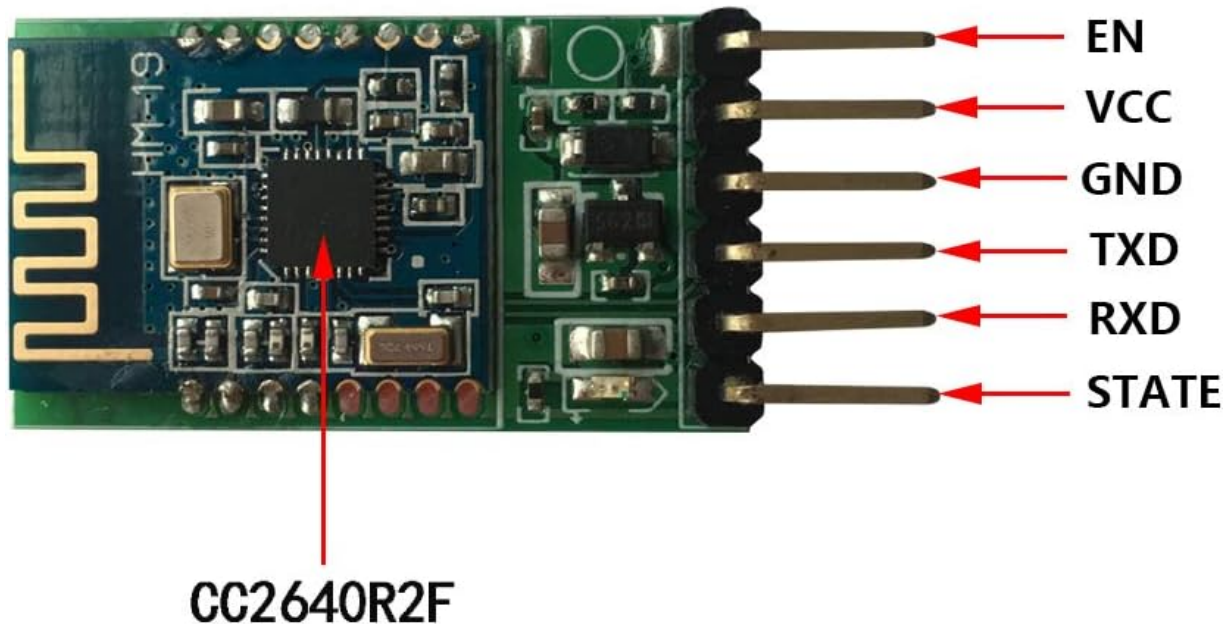


Image 2: Detailed pinout diagram of the DSD TECH HM-19 Bluetooth 5.0 BLE Module. This image clearly labels the EN, VCC, GND, TXD, RXD, and STATE pins, essential for connecting the module to a development board or circuit.

- **EN (Enable):** Used to enable or disable the module.
- **VCC (Voltage Common Collector):** Power supply input. Connect to a 3.6V to 6V DC source.
- **GND (Ground):** Ground connection for the module.
- **TXD (Transmit Data):** Transmits serial data from the module. Connect to the RX pin of your microcontroller.
- **RXD (Receive Data):** Receives serial data for the module. Connect to the TX pin of your microcontroller.
- **STATE:** Indicates the connection status of the Bluetooth module.

## Initial Connection

1. Connect the VCC pin of the HM-19 module to a 3.6V-6V power supply.
2. Connect the GND pin of the HM-19 module to the ground of your power supply and microcontroller.
3. Connect the TXD pin of the HM-19 to the RX pin of your microcontroller (e.g., Arduino).
4. Connect the RXD pin of the HM-19 to the TX pin of your microcontroller. Ensure your microcontroller's TX/RX pins operate at 3.3V logic levels. If not, a logic level converter may be required.
5. The STATE pin can be connected to an LED or a digital input on your microcontroller to monitor the Bluetooth connection status.

## OPERATING

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## AT Commands

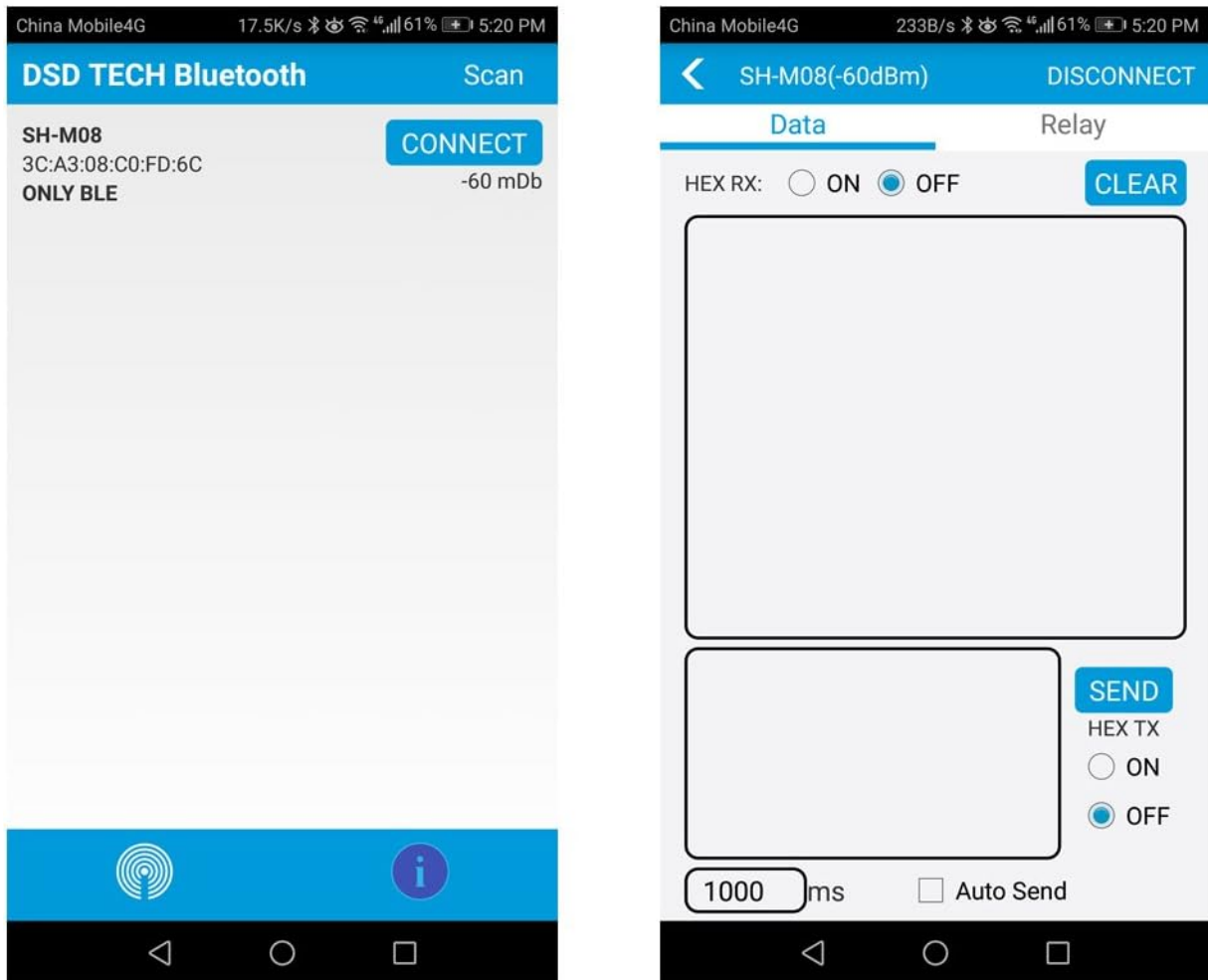
The HM-19 module is configured using AT commands, which are compatible with HM-11 and HM-10 modules. These commands are sent via a serial interface (TX/RX pins).

To enter AT command mode, typically the module needs to be powered on, and commands sent via a serial terminal. Refer to the specific AT command set documentation for detailed commands and their functions.

## DSD TECH Bluetooth App

DSD TECH provides a free application to facilitate quick integration and testing of the module with Android and iOS devices.

# Free APP for Android

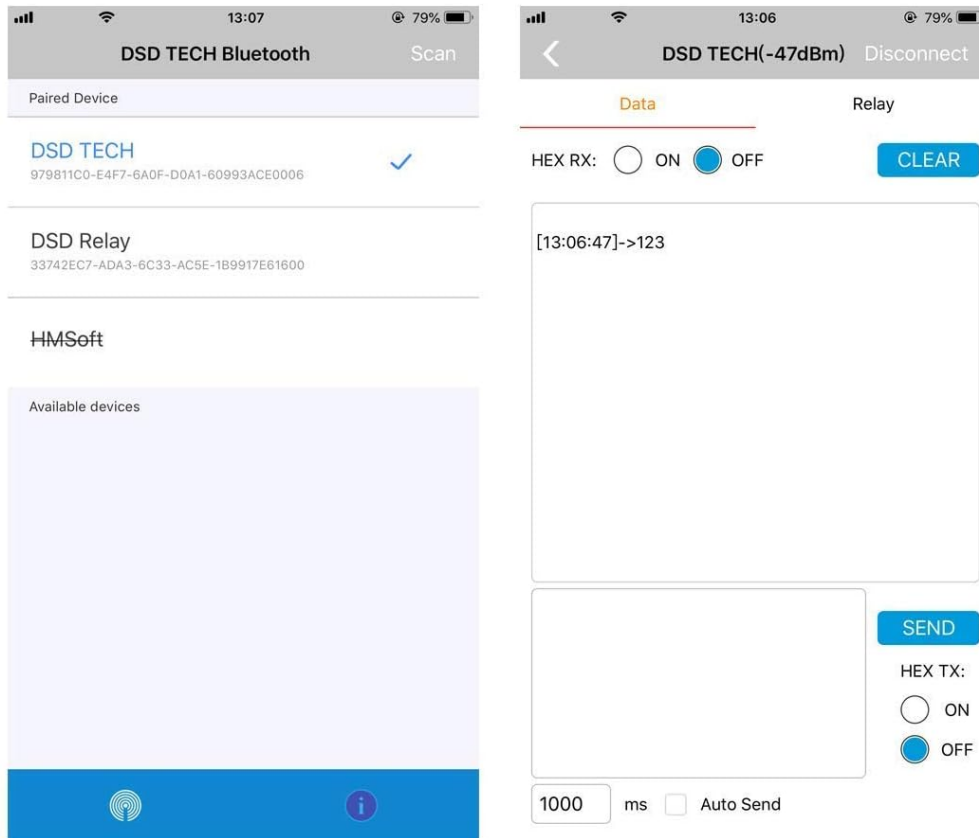


## You can install "DSD TECH Bluetooth" APP on Google Play

Image 3: Screenshot of the DSD TECH Bluetooth application interface for Android devices. This image shows the app's scan and data transmission screens, demonstrating how users can connect to and interact with the HM-19 module.

- **For Android:** Search for "DSD TECH Bluetooth" in the Google Play Store.
- **For iOS:** Search for "DSD TECH Bluetooth" in the Apple App Store.

# Free App for iOS Devices



## Scan the QR code above to install the "DSD TECH Bluetooth" App

Image 4: Screenshot of the DSD TECH Bluetooth application interface for iOS devices. This image illustrates the app's device pairing and data communication features on an iPhone.

You can also scan the QR code below to install the DSD TECH Bluetooth App for iOS devices:



Image 5: QR code for direct download of the DSD TECH Bluetooth app from the Apple App Store. Scanning this code provides a convenient way for iOS users to access the application.

Direct link for iOS App: [DSD TECH Bluetooth App \(iOS\)](#)

## MAINTENANCE

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The DSD TECH HM-19 module is designed for durability and requires minimal maintenance.

- Keep the module clean and free from dust and moisture.
- Avoid exposing the module to extreme temperatures or direct sunlight.
- Ensure proper ventilation if enclosed in a casing.
- Handle with care to prevent damage to pins or components.

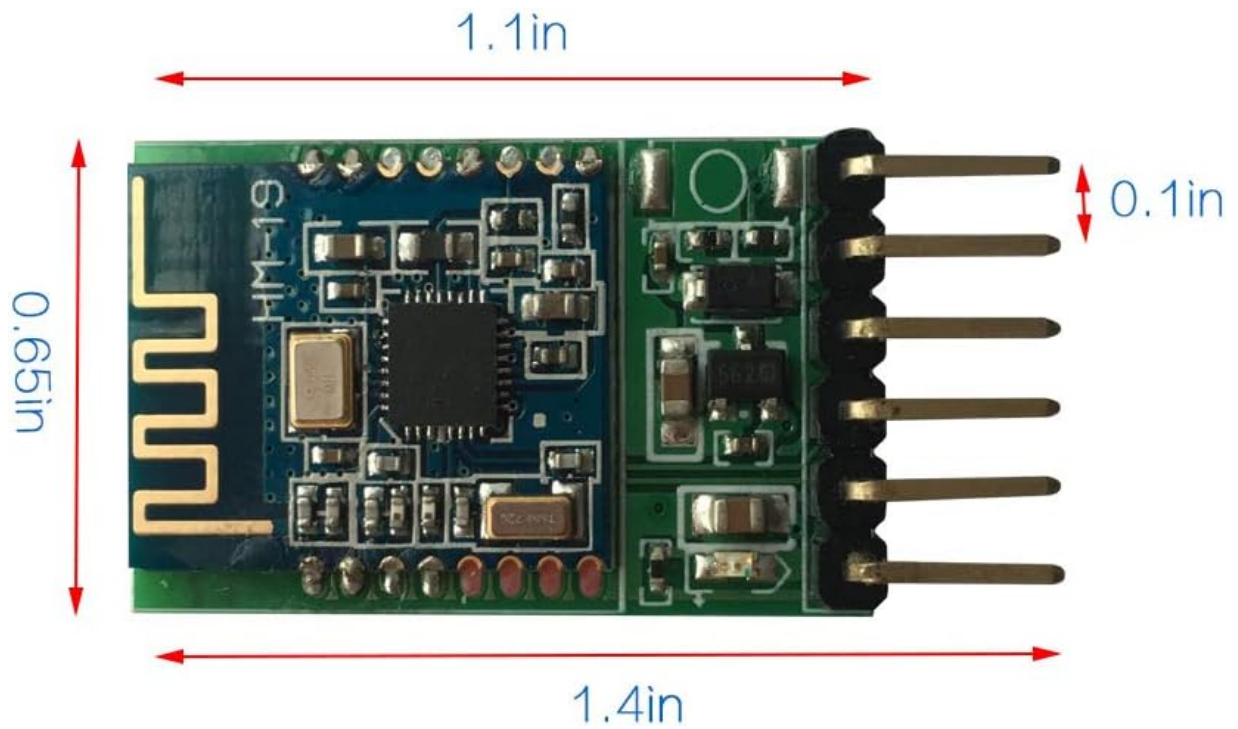


Image 6: Dimensional drawing of the DSD TECH HM-19 module. This image provides precise measurements (1.4in x 0.65in x 0.1in) for integration into custom enclosures or projects.



Image 7: The HM-19 module being inserted into a clear protective casing. This demonstrates how the module can be protected from environmental factors.

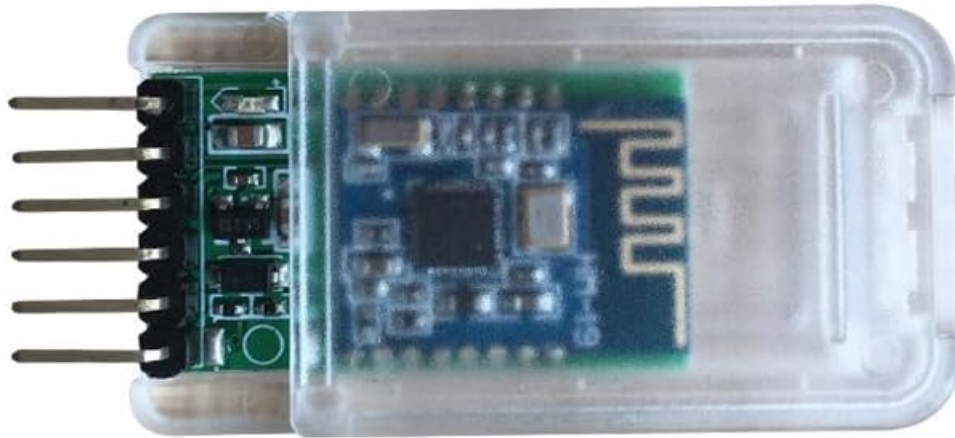


Image 8: Top and bottom views of the HM-19 module fully enclosed in its protective casing. This shows the module's appearance when housed, with pins exposed for connection.

## TROUBLESHOOTING

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If you encounter issues with your DSD TECH HM-19 module, consider the following troubleshooting steps:

- **No Power:** Ensure VCC and GND connections are correct and within the specified voltage range (3.6V to 6V).
- **No Bluetooth Connection:**
  - Verify the module is powered on (check STATE pin if connected to an LED).
  - Ensure your host device's Bluetooth is enabled and scanning.
  - Check the distance between the module and the host device.
  - Restart both the module and the host device.
- **Communication Errors (AT Commands/Data):**
  - Confirm TXD and RXD connections are correctly cross-wired (TX to RX, RX to TX).
  - Verify the serial baud rate settings on your microcontroller or serial terminal match the module's default or configured baud rate.
  - Ensure logic levels are compatible (3.3V for TX/RX). Use a logic level converter if necessary.
  - Check for any interference from other wireless devices.
- **Module Unresponsive:** Power cycle the module. If issues persist, contact DSD TECH customer support.

## WARRANTY AND SUPPORT

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DSD TECH provides a **ONE YEAR WARRANTY** for the HM-19 Bluetooth 5.0 BLE module.

For technical assistance or warranty claims, please contact DSD TECH customer support. All inquiries will be addressed within 24 hours.

DSD TECH also offers permanent technical support for its products.



Image 9: The DSD TECH company logo, representing the brand's commitment to quality and support.