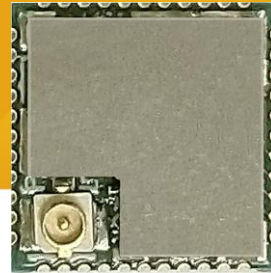


# Module Series

Multi-protocol Thread/Matter RF Module



## ITM-9100R

- Meets Bluetooth® 5.1 Low Energy and 802.15.4g Specifications, BQB Certified as a PHY component
- ARM Cortex-M3 (CM3) CPU64MHz
- Compliant with Bluetooth® 5.3 LE , ZigBee3.0
- TX Power up to10dBm
- Frequency Range: 2.402 ~2.480GHz

- Modulation: Multi-rate FSK, and OQPSK supported
- Integrated Security: SHA, AES,ECC
- HW crypto engine and security boot ; CRC,AES-CCM
- Thread/Matter supported
- For different IoT application, Command supporting for UART

The ITM-9100R is an ultra-low-power, high-performance ARM® Cortex®-M3-based Thread/Matter RF Module with multi-protocol Bluetooth Low Energy 5.3, Zigbee 3.0, Thread(IEEE®802.15.4)and proprietary 2.4G networking stacks to facilitate home & building automation, smart lighting, smart locks, sensor network applications, etc.A comprehensive mix of analog and digital peripherals are integrated with the 2.4GHz RF transceiver, which is compliant with Bluetooth Low Energy 5.3 and IEEE® 802.15.4 requirements. Ultra-low current consumption is achieved in the RF receive & transmit modes and power-down modes to support the latest IPv6-based IoT applications.

### Main Specification

| Main Chip            | Rafael RT583  |
|----------------------|---|
| CPU                  | ARM Cortex-M3   |
| RAM                  | 208KB RAM (144KB + 64KB)  |
| Program Flash        | 2MB Flash   |
| Wireless             | <ul style="list-style-type: none"> <li>• Bluetooth 5.1/5.2 low energy technology compatible</li> <li>• Bluetooth data: 2Mbps, 1Mbps, 500Kbps, 125K bps</li> <li>• Thread 1.3 (802.15.4) specifications</li> <li>• Matter 1.1</li> </ul> |
| Peripheral           | UART / SPI  |
| Standard Conformance | Bluetooth Low Energy v5.x, Zigbee 3.0, Matter 1.0 and Thread 1.3  |
| Frequency Range      | 2.402 ~ 2.480GHz  |
| FW command mode      | AT command mode<br>Transparent mode   |
| Operation Temp       | -40~105°C   |
| Interface            | 2.4G Wireless<br>1 <sup>2</sup> C: Hardware IIC<br>USARTs<br>GPIO   |
| Dimension            | 12mm(L)*12mm(W)*2.5(H) mm   |