

# Module Series

Bluetooth® 5.0 Module



## ITM-8412

- Bluetooth® 5, IEEE 802.15.4-2006, 2.4 GHz transceiver
- ARM® Cortex®-M4 32-bit processor with FPU, 64 MHz
- ARM® TrustZone® Cryptocell 310 security subsystem
- Secure erase / Flexible power management
- 1 MB+2MB flash and 256 KB RAM
- Advanced on-chip interfaces

ITM-8412 module features a fully integrated 2.4GHz radio transceiver and baseband processor for Bluetooth 5.0 applications. It can be used as a standalone application-specific communication processor or as a wireless data link in hosted MCU systems where ultra-low power is critical. It supports flexible memory architecture for storing profiles, stacks and custom application codes, and can be updated using Over-The-Air (OTA) technology.

ITM-8412 module uses SCLCI04M05 SiP (Silicon-in-Package) which integrates Nordic nRF52840, 2MB SPI flash, 32MHz crystal and passive component inside. It combines the excellent performance of a leading RF transceiver with a low-power ARM Cortex-M4 and rich powerful supporting features and peripherals. It also contains 256KB RAM, and 1MB+2MB flash memory.

- Nordic SoftDevice ready with support for concurrent multiprotocol
- 12-bit, 200 ksps ADC-8 configurable channels with programmable gain
- 64 level comparator / Temperature sensor
- 15 level low-power comparator with wake-up from System OFF mode

### General Specification

Main Chip	SCLCI04M05
Type	BLE Module
Memory	1 MB+2MB flash and 256 KB RAM
Modulation	Bluetooth 5 (2Mbps/1Mbps/500kbps/125kbps) IEEE 802.15.4-2006 (250kbps) Proprietary 2.4 GHz (2Mbps/1Mbps)
Host Interface	USB/UART/SPI
Application	Low-power Wireless IOT Product
Antenna_Type	On-board chip antenna
Tx Power	28.0 dBm
Rx Sensitivity	LE 1Mbps: -95 dBm LE 2Mbps : -92 dBm LE 125Kbps: -103 dBm LE 500Kbps: -99 dBm
Operation Temp	-40~85°C
Dimension	10.5mm(L)*15.5mm(W)*1.9(H) mm
Power Supply	3.3VDC