



# CYW20822 Bluetooth® LE Module

## Low power and long-range Bluetooth® LE 5.0 module

Infineon's CYW20822-P4TAI040 module offers seamless integration, enhanced performance with Bluetooth® Low-Energy Long-Range (LE-LR) support, and exceptional reliability for a wide range of applications.

With the right combination of low power and high performance, CYW20822-P4TAI040 is designed to support the entire spectrum of Bluetooth® LE-LR use cases including Industrial IoT applications, Smart home, Asset tracking, Beacons and Sensors, and Medical devices.

This module offers high performance with:

- -101 dBm LE sensitivity @ 125 Kbps
- Active RX @ 1 Mbps & -95 dBm: 1.3 mA
- Active TX @ 1 Mbps & 0 dBm: 3 mA
- LE Coded PHY(LE/LR): 500 Kbps, 125 Kbps
- 2 uA Deep Sleep Mode with 32 KB RAM retention
- 0.8 uA Hibernate Mode with no retention

This module is Bluetooth SIG qualified along with certifications with USA FCC, Europe CE, Japan MIC and Canada ISED.

The CYW20822-P4TAI040 is pre-programmed via the EZ-Serial Firmware, which eliminates need for customer programming, and helps accelerate the time-to-deployment for Bluetooth®-enabled IoT solutions.

The CYW20822-P4TAI040 module has trace antenna and a very low active power consumption of 1.3 mA (Rx @ -95 dBm) and 3 mA (Tx @ 0 dBm), sleep current consumption is 2 µA with 32 KB RAM retention.

For more Information visit <https://www.infineon.com/CYW20822-P4TAI040>.

### Key features

- Qualification and Certification
  - Bluetooth® SIG QDID, FCC, CE, MIC, and ISED
- High Performance with Rich MCU Peripherals
  - Integrated 1 MB Flash, 128 KB RAM, 256KB ROM
  - 2 UART, 2 SPI, 2 I2C, 8 PWM, 12 GPIO
- High Reliability, Low Power BLE
  - -101 dBm LE sensitivity
  - Active RX @ -95dBm: 1.3mA, Active TX @ 0dBm: 3mA
  - Low Energy/Long Range (LE/LR)
  - 2 uA retention
  - 0.8 uA hibernate
- Small Footprint
  - 20.2 x 10.5 x 2.3 mm, 27-SMT
  - 1.7 to 3.3 V supply voltage range
  - Operating temperature -40 to 85°C
  - EZ-Serial Firmware

### Key benefits

- Superior Bluetooth® Connectivity
  - Reliable, long-range Bluetooth®
  - Fine-tuned RF performance
  - Ultralow current consumption
- Easy interfacing with host MCU
  - Integrated flash, analog and digital components
- Reduce time-to-market
  - Qualification and Certification
  - Preprogrammed with EZ-Serial firmware
  - No development needed

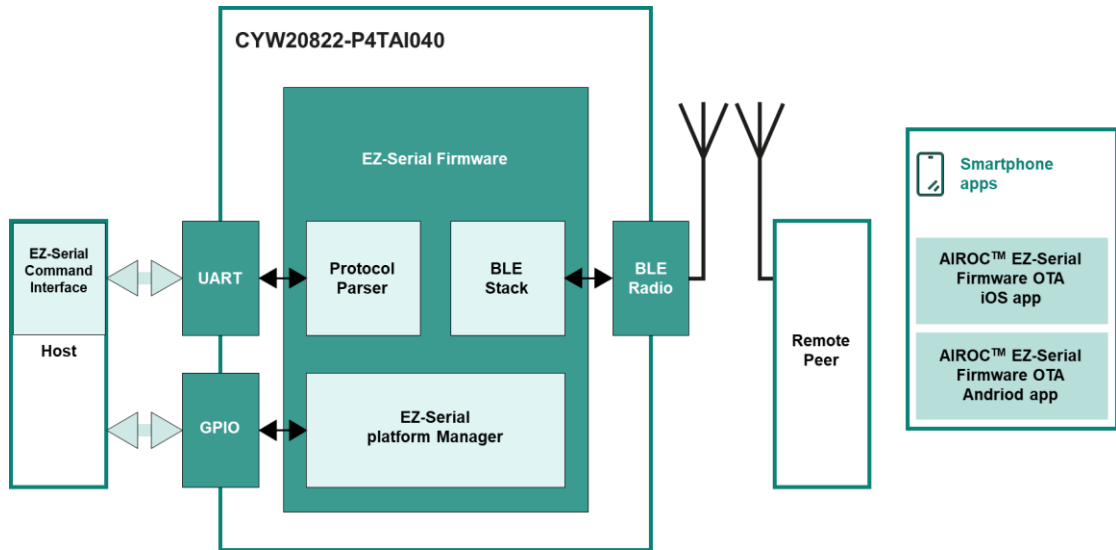
**PRODUCT BRIEF**

**Key Applications**

Industrial	Beacons and Sensors, Asset tracking, 2-Way IoT sensors
Smart Home	Home Automation, Sensors, Nodes
Healthcare	Medical devices, Asset Tracking Tags

**Product Summary**

PN	CPU Core	Max CPU Speed	SRAM [KB]	Flash	Antenna	Package	Temp [C]
CYW20822P4TAI040UMA1	ARM® Cortex® M0	16 MHz	128-KB	1-MB	Trace	20.2 x 10.5 x 2.3 mm, 27-SMT	-40 to 85
CYW20822P4EPI040XUMA1	ARM® Cortex® M0	16 MHz	128-KB	1-MB	External	20.2 x 10.5 x 2.3 mm, 27-SMT	-40 to 85



[www.infineon.com](http://www.infineon.com)

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