Telit

WL865E4-P

Wi-Fi 802.11 **a/b/g/n** **BLE 5**

24.4 mm

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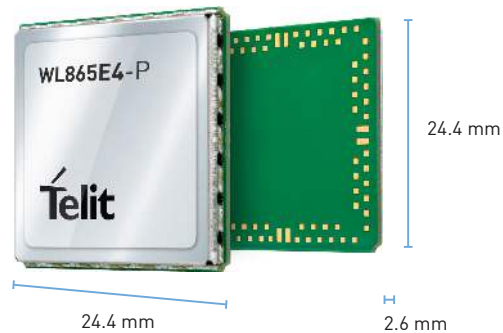
2.6 mm

Product Description

The WL865E4-P is a fully integrated dual band, dual mode, combo Wi-Fi (802.11 a/b/g/n) / Bluetooth Low Energy (BLE) 5.0 module that provides an easy, cost-effective way for manufactur-ers to add wireless connectivity to their products. The module is based on an integrated tri-core system-on-chip, with dedicated CPU's for IoT application, Wi-Fi and BLE. The IoT application processor runs on ARM Cortex-M4F @128 MHz with 300KB of dedicated SRAM. Module also integrates 4MB of internal flash with wide array of peripherals (SDIO, SPI, UART, ADC, PWM, GPIO, I2S, I2C, USB-for manufacturing only).

This module also provides a low-cost, high-speed serial to Wi-Fi/BLE connection to an embedded design built on an 8/16/32-bit microcontroller, through UART, SPI, or SDIO interfaces.

The WL865E4-P is an ideal solution for organizations with limited Wi-Fi/BLE or RF expertise or for those seeking faster time to market, as it reduces RF design time and removes the burden of testing and certification. The Module is IEEE 802.11 a/b/g/n & Bluetooth certified and comply with Wi-Fi Alliance & BT SIG-v5 requirements.

The Module is self contained with full Wi-Fi, BLE and TCP/IP networking stacks. It supports a complete suite of security features such as Secured Boot, Flash encryption, Copy Protection, WPA/WPA2 Personal and Enterprise security* modes along with upper layer security protocols such as TLS-1.2/SSL and HTTPS.

Easy to provision, the module can be set up from a smart-phone or laptop through the innovative Limited AP mode or with BLE

The WL865E4-P module is easily designed into embedded systems, allowing customers to develop a broad array of devices and appliances that connect to other local devices or to the Internet over Wi-Fi. Applications include:

Smart Home
- Home Automation
- Home Appliances
- Home Security and Alarm
- IP Cameras/Speakers
- Smart Lighting

Healthcare & Medical
- Remote Patient Monitoring
- Healthcare Devices
- Wellness Devices
- Pet/Animal Trackers
- Medical Wearables

Industrial /Commercial
- Industrial Automation
- Energy Management
- Robotics
- Building Automation
- Smart City

Others
- After Market OEM Telematics
- Fleet management
- Smart Parking
- Printers
- Asset Management

Key Benefits

- Dual band (2.4GHz/5GHz) Wi-Fi module for high bandwidth IoT applications.
- Bluetooth Low Energy (BLE5) qualified for easy sensor integration, configuration (provisioning), management and diagnostics.
- Low Power consumption
- Dedicated CPU (Cortex-M4) for IoT application.
- Wide range of peripherals
- Advanced security features with integrated crypto hardware
- Ease of system integration
- Industrial grade temperature range
- Certified Modules reduces development time, testing and certification, accelerating time to market.

AVAILABLE FOR

EMEA
North America
Japan*
Korea*

**Complete,
Ready to Use Access**
to the Internet of Things

IoT Modules   IoT Connectivity   IoT Platforms

Connecting the world
from the **inside out**

WL865E4-P

RF Spec	Wi-Fi - 802.11 a/b/g/n (2.4GHz, 5GHz), BLE5 (2.4GHz)
Supported Data Rates	MCS 0-7 (802.11n, 2.4GHz/5GHz) 54,48,36,24,18,12,9,6 Mbps (802.11a, 5GHz) 54,48,36,24,18,12,9,6 Mbps (802.11g, 2.4GHz) 11,5.5,2,1 Mbps (802.11b, 2.4GHz)
Power Save	WMM & WMM Q0S Support
Modes	Wi-Fi AP (Access Point), STA (Client), Wi-Fi (AP + STA) Concurrent Mode, Wi-Fi Direct (P2P)*, Bluetooth Low Energy (Central & Peripheral), Wi-Fi + BLE Concurrent Mode (*), BLE Mesh (*)
Solution	Hosted IoT Module (Host Interface: UART/SPI/SDIO) Standalone (Hostless) IoT Module (Dedicated CPU - CortexM4 for IoT applicaton)
Host Interface	UART, SPI, SDIO
Application Throughput (TCP/UDP)	~30+Mbps
Security Features	Secured Boot, Flash encryption, Copy Protection, Hardware crypto engine for advances security, WPA/WPA2 - Personal, WPA/WPA2 - Enterprise, WEP, TLS-1.2, Client and Server
Networking Protocols	IPv4, IPv6*, TCP, UDP, DHCP (Server & Client), DNS (Server & Client), SNTP, HTTP/S (Server & Client), MQTT, Web-sockets, mDNS, DNS-SD, XML/JSON* parser, DTLS Client*, CoAP Client*, IGMP
I/O Interface	SPI (Master and Slave), UART, SDIO 2.0 (Slave), I2C, I2S, GPIO, 12 bit ADC, JTAG, PWM, USB (for manufacturing only)
Radio Regulatory Certfication	Wi-Fi/BLE: FCC, IC, RED, TELEC*, KCC*
Compliance	Wi-Fi: Wi-Fi Alliance BT-SIGv5
Environmental Compliance	RoHS, REACH
Antenna Option	External Antenna (RF Pads)
Internal Flash	4 MB
Outline Dimension	24.4mm x 24.4mm x 2.6 mm (Telit 865 Form Factor)
Operating Voltage	3.3V
Radio Charateristics	Tx Power: 19 dBm (with 802.11b) Rx Sensitivity: -96 dBm (with 802.11b)
Operating Temperature	-40°C to +85°C (Industrial Grade)

*Not available in first release

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