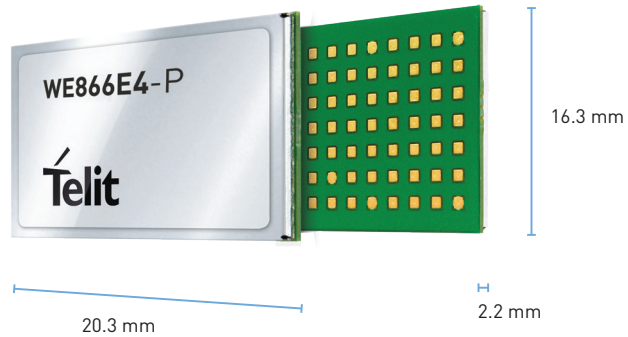




# WE866E4-P

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



## Product Description

The WE866E4-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 with an extremely small footprint (285 sq mm) that provides an easy, cost-effective way for manufacturers to add wireless connectivity to their products. Module comes up with 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 WE866E4-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 smartphone or laptop through the innovative Limited AP mode or with BLE

The WE866E4-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

### Industrial /Commercial

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

### Healthcare & Medical

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

### Others

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

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



## 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.



# WE866E4-P

<b>RF Operating Frequency</b>	Wi-Fi - 802.11 a/b/g/n (2.4GHz, 5GHz), BLE5 (2.4GHz)
<b>Supported Data Rates</b>	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)
<b>Power Save</b>	WMM & WMM QoS Support
<b>Modes</b>	Wi-Fi AP (Access Point), STA (Client), Wi-Fi + STA Concurrent Mode, Wi-Fi Direct (P2P)*, Bluetooth Low Energy (Server, Client), Wi-Fi + BLE Concurrent Mode (*), BLE Mesh (*)
<b>Stack</b>	Wi-Fi Stack: Integrated IP Stack: Integrated 16 simultaneous TCP/UDP sockets 4 simultaneous TLS-1.2 sockets BLE Stack & Profiles: Integrated
<b>Solution</b>	Hosted IoT Module (Host Interface: UART/SPI/SDIO) Standalone (Hostless) IoT Module (Dedicated CPU - CortexM4 for IoT applicaton)
<b>Host Interface</b>	UART, SPI, SDIO
<b>Application Throughput (TCP/UDP)</b>	~30+Mbps
<b>Security Features</b>	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
<b>Networking Protocols</b>	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
<b>I/O Interface</b>	SPI (Master and Slave), UART, SDIO 2.0 (Slave), I2C, I2S, GPIO (13), 12 bit ADC, JTAG, PWM, USB (for manufacturing only)
<b>Radio Regulatory Certification</b>	Wi-Fi: FCC, IC, RED, TELEC, KC BLE: FCC, IC, RED, TELEC, KC
<b>Compliance</b>	Wi-Fi: Wi-Fi Alliance BT-SIGv5
<b>Environmental Compliance</b>	RoHS, REACH, CMRT
<b>Antenna Option</b>	External Antenna (RF Pads)
<b>Internal Flash</b>	4 MB
<b>Outline Dimension</b>	16.3mm x 20.3mm (WE866 Telit Form Factor)
<b>Operating Voltage</b>	3.3V
<b>Radio Charateristics</b>	Tx Power: 19 dBm (with 802.11b) Rx Sensitivity: -96 dBm (with 802.11b)
<b>Operating Temperature</b>	-40°C to +85°C (Industrial Grade)

\*Not available in first release

## QUESTIONS? VISIT [WWW.TELIT.COM/CONTACT-US](http://WWW.TELIT.COM/CONTACT-US)

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