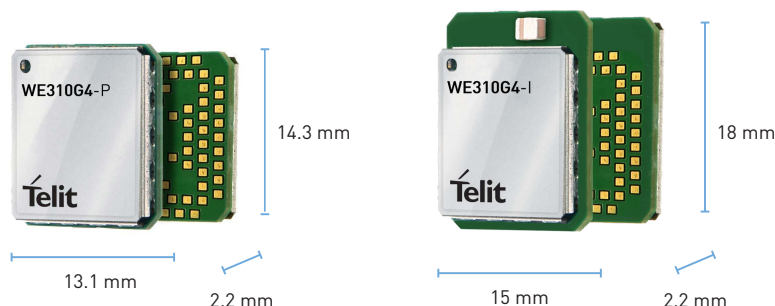


# WE310G4

Wi-Fi 802.11 a/b/g/n BLE5



## Product Description

The WE310G4 is a fully integrated, dual-band, combination Wi-Fi (802.11 a/b/g/n) and Bluetooth® Low Energy (BLE) 5.0 module. It provides an easy, cost-effective way for manufacturers to add wireless connectivity to their products. The module is based on an integrated dual-core system on chip, composed by:

- A high-performance application processor (running on ARM® Cortex®-M33)
- A low-power MCU (ARM Cortex-M23) for Wi-Fi and BLE

The module also integrates 4MB of internal flash with wide array of peripherals (SDIO, SPI, UART, ADC, PWM, GPIO, I2S, I2C, USB).

The WE310G4 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.

Furthermore, the module can be implemented as a hostless (stand-alone) solution. It offers up to 456 Kb of SRAM dedicated to customer application development.

The WE310G4 is ideal for organizations with limited Wi-Fi/BLE or RF expertise or those seeking a faster time to market. It reduces RF design time and removes testing and certification burdens. The module is IEEE 802.11 a/b/g/n and Bluetooth certified and complies with Wi-Fi Alliance and BT SIG-v5 requirements.

The module is self-contained with full Wi-Fi, BLE and TCP/IP networking stacks. It supports a complete security feature suite with modes that include (among others):

- Secure Boot
- TrustZone-M
- WPA3 Personal and Enterprise
- Upper-layer security protocols (e.g., TLS-1.3/SSL and HTTPS)

The module can be set up (provisioning) from a smartphone or laptop through the innovative Limited AP mode or BLE.

The WE310G4 module is easily designed into embedded systems. It allows customers to develop devices and appliances that connect to other local devices or the internet over Wi-Fi.

Finally, the WE310G4 is pin-to-pin compatible with the Telit WE310F5 (single-band module alternative). This compatibility guarantees effortless hardware and software migration.

## Key Features

- Dual-band 2.4 GHz/5 GHz Wi-Fi and BLE5 combination module, based on Realtek RTL8720 SoC
- Ease of system integration, pin-to-pin compatible with WE310F5 (single-band module alternative)
- Low power consumption
- Serial-to-Wi-Fi hosted implementation
- Telit IoT AppZone IDE for hostless customer application development
- Wide range of peripherals (including UART, SPI and SDIO)
- Advanced security features (including WPA3) with integrated crypto hardware
- Industrial-grade temperature range (-40 °C to +85 °C)
- Variants with (WE310G4-I) and without (WE310G4-P) antenna
- Certified modules

### AVAILABLE FOR

North America

EMEA

Japan\*

China\*

Korea\*

Taiwan\*

Brazil\*

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

## Target Applications

### Smart Home

- Home automation
- Home appliances
- Home security and alarm
- IP cameras/speakers
- Smart lighting

### Industrial and commercial

- Industrial automation
- Energy management
- Robotics
- Building automation
- Smart city

### Health Care & Medical

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

### Others Applications

- Aftermarket OEM telematics
- Fleet management
- Smart parking
- Printers
- Asset management



# WE310G4

Wireless Specification	Wi-Fi - 802.11 a/b/g/n (2.4 GHz, 5 GHz), BLE-5 (2.4 GHz)	
Solution Architecture	Hosted IoT module (AT command) or Standalone (hostless)	
Host Interface	UART, SPI, SDIO	
Other Interface	I2C, ADC (12-bit), DAC, I2S, SWD, USB, GPIOs	
Wi-Fi Modes	Wi-Fi AP (Access Point) STA (Client) Wi-Fi (AP + STA) Concurrent Mode Wi-Fi Direct (P2P)*	
BLE Modes	Central Peripheral Concurrent	
Security Features	WPA/WPA2 (Personal) WPA3 (Personal/Enterprise)* HTTPS server & client Secure eFuse	HW crypto accelerators TLS-1.2/TLS-1.3* Secure Boot* TrustZone*
Coexistence	Built-in Wi-Fi/BLE	
Provisioning (Through web-apps and native apps)	BLE-enabled Wi-Fi HTTPS-enabled Wi-Fi	
Cloud Agent	Amazon AWS IoT* Microsoft Azure*	
Firmware Upgrade	FOTA	
Dimension	Integrated antenna (WE310G4-I): 18 x 15 mm (LGA package) – WE310F5-I P2P compatible External antenna (WE310G4-P): 14.3 x 13.1 mm (LGA package) – WE310F5-P P2P compatible	
Wi-Fi Tx output power	18 dBm @ 2.4 GHz 19 dBm @ 5.0 GHz	
BLE Tx output power	8 dBm (TBC)	
Internal Flash	4 MB	
Operating Temperature	-40 °C to +85 °C (industrial grade)	
Operating Voltage	3.3 V	
Compliance	Wi-Fi Alliance BT SIG	
Environmental Compliance	RoHS, REACH	

\* Not available in first release

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