Certified high-performance combo modules from TI for fast and easy time-to-market

**Overview**

The TI WiLink™ 8 module family enables manufacturers to easily add fully integrated 2.4- and 5-GHz versions of Wi-Fi® and dual-mode Bluetooth® 4.0 solutions to embedded applications. The new highly integrated module family offers high throughput and extended industrial temperature range with robust Wi-Fi and Bluetooth coexistence. WiLink 8 modules are perfect for power-optimized designs for home and building automation, smart energy, gateways, wireless audio, enterprise, wearables and many more industrial and Internet of Things (IoT) applications. The WiLink 8 modules and software are compatible and pre-integrated with many processors including TI's Sitara™ family of processors. As a module, less hardware and RF design is needed, making development easier and faster. Wi-Fi and Bluetooth software stacks and sample applications are provided, and the modules are FCC/IC/ETSI/Telec certified. WiLink 8 solutions also provide sample applications, API guide, user documentation and a world-class support community.

The modules are pin-to-pin compatible enabling new use cases and better user experiences including:

- Extended temperature range of –40°C to 85°C for industrial applications

### Key features and benefits

- High-performance Wi-Fi
  - 802.11a/b/g/n 2.4- and 5-GHz Radio/Baseband/MAC
  - 20- and 40-MHz channels
  - 2×2 MIMO
  - Up to 100 Mbps (UDP) of throughput
  - MRC for 1.4× extended range
  - Station and access point
  - Wi-Fi direct, multi-channel multi-role
  - Personal and enterprise security
  - Linux®, Android™ and RTOS drivers
- Dual-mode Bluetooth
  - Bluetooth and BLE (BT 4.0 compliant)
  - On-chip SBC encode and decode
  - Royalty-free certified TI Bluetooth Stack
- Wi-Fi/Bluetooth single antenna co-existence
- Built-in power management
- Direct connection to battery (integrated DC2DC)
- Advanced low-power modes
- Host interfaces
  - SDIO for Wi-Fi and UART for BT
- Temperature ranges:
  - 20°C to +70°C
  - -40°C to +85°C
- Small form factor: 13.4 × 13.3 × 2 mm

### WiLink 8 block diagram

<Diagram of WiLink 8 block diagram>

**Host processor running Linux®, Android™ or RTOS**

- Bluetooth® stack and profiles
- WPA supplicant and Wi-Fi® driver
- UART driver
- SDIO driver

**Antenna connections**

- Antenna 1: Wi-Fi/BT
- Antenna 2: Wi-Fi (optional)

**Interfaces**

- VBAT
- 32-KHz XTAL
- VIO
- 32 KHz
- Enable
- Wi-Fi
- SDIO
- BT
- UART
• 5-GHz module for high-performance solutions in a less noisy frequency band
• Wi-Fi, Bluetooth and ZigBee® coexistence for Smart energy and home gateways
• 1.4x the range and up to 100 Mbps throughput with WiLink 8 MRC (maximal ratio combining) and MIMO (multiple-input and multiple-output) technology
• Low-power applications with low idle connect current consumption
• Audio streaming with both Wi-Fi and dual-mode Bluetooth/Bluetooth low energy

Applications
• Internet of Things
• Industrial and home automation
• Home electronics
• Home appliances and white goods
• Gateways
• Wireless audio
• Video camera and security
• Wearables

WiLink 8 Wi-Fi+ Bluetooth/BLE modules

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<tr>
<td><strong>Product Number</strong></td>
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<tr>
<td>WL1801MOD</td>
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<td>WL1835MOD</td>
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<td>WL1837MOD</td>
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Development tools

<table>
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<tr>
<th>Product Number</th>
<th>Description</th>
<th>Availability</th>
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<tbody>
<tr>
<td>WL1835MODCOM8</td>
<td>The 2.4-GHz WL1835-based evaluation board is compatible with the Sitara AM335x and AM437x EVMs as well as several other TI EVMs and reference designs</td>
<td>TI store and authorized distributors</td>
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<td>WL1837MODCOM8</td>
<td>The 5-GHz WL1837-based evaluation board is compatible with Sitara AM335x and AM437x EVMs as well as several other TI EVMs and reference designs</td>
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<td>WL1837MOD Cape</td>
<td>The WiLink 8 WL1837MOD audio cape used with BeagleBone Black is a best-in-class audio solution, featuring ultra-precise audio synchronization, multi-room capabilities, support for online music services, UPnP and more. The design is also Apple AirPlay® certifiable and supports Google Cast™ audio.</td>
<td>StreamUnlimited</td>
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<tr>
<td>WL18XXCOM8SDMMC</td>
<td>The WiLink 8 SDMMC adapter board is an easy to use connector between WiLink 8 COM8 evaluation modules and a SDMMC card slot on a host processor evaluation module. The adapter card enables the WiLink 8 modules to operate over SDIO and provides UART connection for Bluetooth over a FPC connector or wire cables.</td>
<td>TI store and authorized distributors</td>
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Other tools
• TI provides a fully integrated and validated WiLink 8 add-on software for Sitara AM335x Linux ezSDK – www.ti.com/wilink8
• TI’s unique SmartConfig™ technology is a one-step Wi-Fi setup process that allows multiple in-home devices to connect to Wi-Fi networks quickly and efficiently – www.ti.com/tool/smartconfig

WiLink resources
• Learn more: www.ti.com/wilink8
• E2E Forum: www.ti.com/wiconforum
• WiLink 8 Wiki: www.ti.com/wilink8wiki

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