SimpleLink™ Wi-Fi® CC3000 Module

Self-contained Wi-Fi solution enables easy-to-implement Internet connectivity

TEXAS INSTRUMENTS

Overview

TI continues to advance Wi-Fi technology solutions for the Internet of Things (IoT) with the enhancement of the self-contained SimpleLink CC3000 module. The CC3000 features enhanced software designed to dramatically simplify design and development of connected devices while advancing the user experience. It is an ideal solution for developers of health and fitness, home automation, smart metering, security and safety applications.

To support connected devices in the IoT, the cloud-enabled CC3000 has multiple options for cloud solutions. One example is the Exosite IoT cloud platform, which provides cloud server access for remote sensor data monitoring and control through the Internet. TI's SimpleLink CC3000 users receive free service for one CC3000 device when registering at the Exosite web site.
**http://processors.wiki.ti.com/index.php/CC3000_and_Exosite**

The CC3000 is a certified module by TI that reduces development time, lowers manufacturing costs, saves board space and minimizes RF expertise required. Additionally, it is provided as a complete platform solution including software drivers, sample applications, API guide, user documentation and a world-class support community.
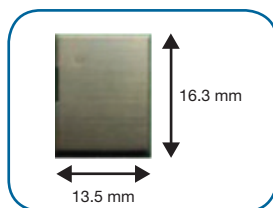
Key Features and Benefits

- Wireless network processor
  - IEEE 802.11 b/g
  - Embedded IPv4 TCP/IP stack
- Best-in-class radio performance
  - Tx power: +18dBm, 11Mbps
  - Rx sensitivity: –88dBm, 11Mbps
- Single power supply 2.7V to 4.8V
- Pair with low-MIPS, low-cost MCUs with compact memory footprint
- FCC/IC/CE/TELEC certified reference design with chip antenna
- Small form factor module
  - 16.3mm × 13.5mm × 2mm
- Temperature range –20°C to +70°C
- SmartConfig™ technology enables simple Wi-Fi configuration using a smartphone, tablet or PC
- Proven Wi-Fi interoperability based on TI's seventh generation Wi-Fi solution
- Complete platform solution including user and porting guides, API guide, sample applications and support community

16.3 mm

13.5 mm

TI CC3000 module shown.
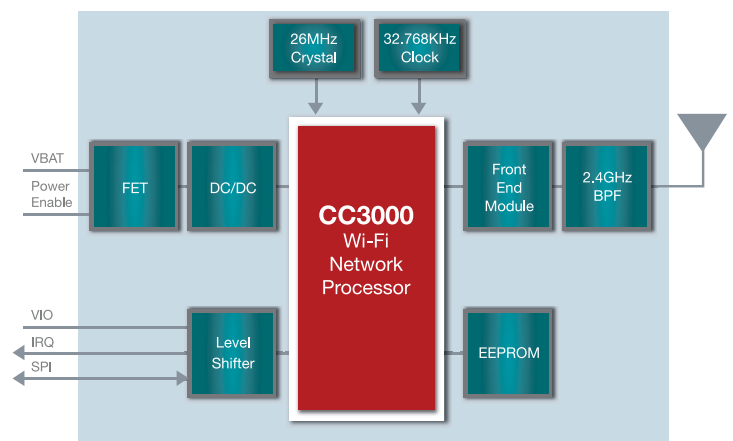
CC3000 module diagram.

Development Tools and Software

CC3000EM

The CC3000 Evaluation Module (EM) board aids evaluation and development. The EM board contains the CC3000 module and standard RF1 and RF2 headers that allow the user to connect to many microcontroller (MCU) platforms such as TI's ultra-low power MSP430™ MCU and Tiva™ C Series MCUs Experimenter board.

CC3000BOOST

This board, called a BoosterPack, aids in the evaluation and development of CC3000 solutions. It contains the CC3000 module and standard BoosterPack headers that connect to TI's low-cost LaunchPad evaluation kits that feature TI's MCU portfolio. **www.ti.com/launchpad**

Additionally, these evaluation modules are offered with a complete reference design that can be copy and pasted directly into your design. See our Wiki for these details: **http://processors.wiki.ti.com/index.php/CC3000**

Individual/Bundled Kits		Kit Contents	Order
	CC3000 Evaluation Module (CC3000EM)	• 1 TI CC3000 Evaluation Module • Compatible Experimenter boards (sold separately): MSP-EXP430F5529, MSP-EXPF430FR5739, TM4C123G	$35.00 USD **Available at TI eStore** and TI distributors
	CC3000 BoosterPack (CC3000BOOST) **See Board Tour Video User Guide**	• 1 TI CC3000 BoosterPack • Compatible LaunchPads (sold separately) – MSP-EXP430G2, EK-TM4C123GXPL	$35.00 USD **Available at TI eStore** and TI distributors

	SimpleLink CC3000 BoosterPack and MSP430 LaunchPad Bundle (MSP-EXP430G2-CC3000BOOST)	• Soft bundle
		  – 1 CC3000 BoosterPack
		  – 1 MSP-EXP430G2 LaunchPad
			$40.99 USD
			
			Available at TI eStore only

	SimpleLink CC3000 BoosterPack and Tiva™ C Series LaunchPad EK-TM4C123GXL-CC3000BOOST	• Soft bundle
		  – 1 CC3000 BoosterPack
		  – 1 EK-TM4C123GXL LaunchPad
			$43.99 USD
			
			Available at TI eStore only

	SimpleLink CC3000 Evaluation Module and MSP-EXP430FR5739 Experimenter Board Bundle (MSP-EXP430FR5739-CC3000EM)	• Soft bundle
		  – 1 CC3000 EM board
		  – 1 MSP-EXP430FR5739 Experimenter board
			$57.00 USD
			
			Available at TI eStore only

TI's SimpleLink™ software and tools

TI's SimpleLink CC3000 Wi-Fi® module is a self-contained wireless network processor that simplifies the implementation of Internet connectivity for a seamless Wi-Fi design process. The CC3000 provides complete platform solutions including SmartConfig™ technology, one-step set-up and with the tool (Patch Programmer) to update driver and firmware patches, and single SDK with drivers and sample applications such as **home automation**, **Internet time** and **email** among others. These applications will help shorten the design process and give you a greater range of options for end-use cases.

TI's SimpleLink quick configuration tool

To create a quicker user experience, TI has created Smart-Config technology – a one-step and one-time process to connect a CC3000-enabled device to the home wireless network. This greatly stands apart from other Wi-Fi configuration solutions that require multiple steps to configure a device onto the network. **www.ti.com/tool/smartconfig**

TI's SimpleLink CC3000 Patch Programmer

TI provides the Patch Program Service Pack to distribute fixes to CC3000. The TI released Service Pack is burned into the CC3000 EEPROM using CC3000 Host Driver APIs.

Applications
- Home automation
- Home security
- Connected appliances
- Smart energy
- M2M communication

CC3000 Resources
- Learn more at: **www.ti.com/cc3000**
- E2E™ Forum: **www.ti.com/wiconforum**
- Wireless Connectivity Wiki: **www.ti.com/cc3000wiki**

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