Product Overview

Wireless MCUs and Zigbee ZBOSS Software Make High-Quality RF Designs More Affordable

Engineers can now add Zigbee™ technology to more products than ever before with TI's CC2340, our most affordable family of 2.4GHz wireless MCUs.

Texas Instruments has joined the ZBOSS Open Initiative (ZOI), to provide a proven, interoperable Zigbee PRO software platform on the CC2340 wireless MCUs. ZBOSS supports all roles, various cluster libraries, and leading Zigbee Smart Home ecosystems.

By bringing the ZBOSS Zigbee PRO 2023 (R23) software stack to the industry's most affordable wireless microcontroller family, CC2340, TI and DSR are creating opportunities for customers to get connected easily, with high-quality performance designs. The CC2340 was designed for cost-optimized designs, making the CC2340 affordable for engineers to add Zigbee connectivity to more products. For more information, click here.

TI is driven to support wireless applications in smart home and smart energy markets. The CC2340 family of MCUs provides high-quality RF and power performance at an affordable price, backed by unrivaled technical support and internal manufacturing capacity investments that can help meet our customers' demand for years to come.

Implement Zigbee at an Affordable Price

The CC2340 family of wireless MCUs provides exceptional flexibility for engineers with scalable memory options for application code and over-the-air download support by offering flash memory from 256KB to 512KB, and SRAM memory from 28KB to 64KB. The family also features integrated DC-DC converter and RF balun, enabling simpler designs with fewer external components which leads to system level cost savings. In addition to these affordable Zigbee wireless MCUs, Texas Instruments continues to invest in higher performance families that support greater amounts of memory, processing power, extended range, and higher security.

High-Quality RF and Power Performance to Enable Broader Adoption

With industry-leading standby currents as low as 710nA (more than 40 percent lower than competing devices), the CC2340 family is apt for battery powered applications. The reduction in standby current helps extend battery life in applications such as smart-home sensors, E-locks, and lighting switches. Additionally, CC2340 features an operating temperature range of –40ºC to 125ºC to help maintain a stable connection across applications, from lighting to outdoor environments such as smart meters. Even without an external power amplifier, CC2340 is capable of output power up to +8dBm, allowing networks to span larger distances.

Ease of Use Helps Reduce Time to Market

ZBOSS is an industry standard that is a proven software stack capable of supporting multiple architectures and a rich Zigbee feature set. Since ZBOSS is capable of running the Zigbee stack in a network co-processor configuration or running both the Zigbee stack and an application on the same SoC, customers can choose to either add to a current existing design or maintain a similar footprint and combine main application and wireless needs. Furthermore, customers can reuse software and hardware designs to scale to portfolio needs since ZBOSS is device agnostic and the CC2340 is pin-to-pin within the same package.

Packages and Availability

The CC2340 family of wireless MCUs comes in both QFN, 4x4mm and 5x5mm, and WCSP, 2.2x2.6mm, packages. The devices in this family are pin-to-pin compatible in the same package.

To get started with the CC2340 wireless MCUs, customers can order samples as well as a development kit (LP-EM-CC2340R5, LP-XDS110ET). The CC2340R21, CC2340R22, and CC2340R52 devices are in production and available on our website. CC2340R53 is expected to be in volume production in the second half of 2024.

To learn more about the new wireless MCU family, click here.

Connectivity Designs to Match Your Needs

The CC2340 family of SimpleLink™ wireless MCUs provides remarkable connectivity designs to serve the industrial, automotive, and personal electronics markets.

TI is developing affordable, quality and low-power wireless MCUs, certified modules, and transceivers, along with complete software offerings to fit any RF design need. For more information, click here.

Trademarks

Zigbee™ is a trademark of Connectivity Standards Alliance.

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