

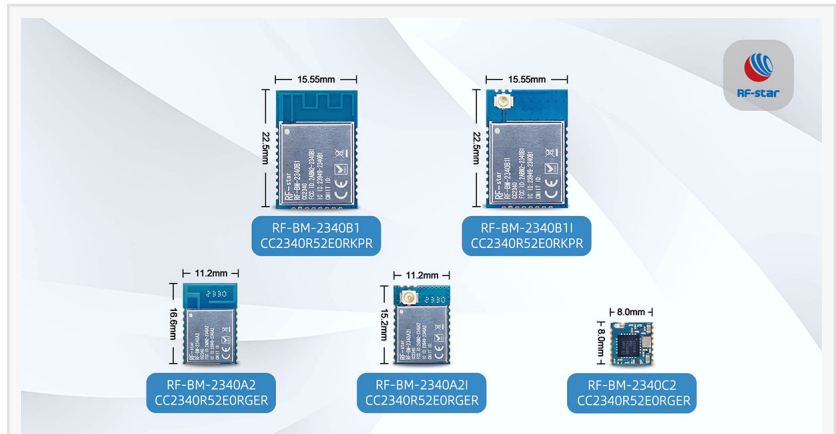
# New Bluetooth LE CC2340 Modules Enable Industries with High-Quality RF and Power Performance

*RF-star today rolled out its new BLE CC2340 modules with high-quality RF and power performance for smart homes, medical devices, automobiles&more applications.*

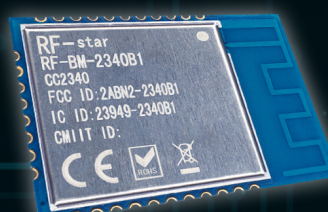
SASKATOON, SASKATCHEWAN,  
CANADA, August 16, 2023

/EINPresswire.com/ -- RF-star today rolled out its [BLE module](#) portfolio based on TI's new CC2340 MCUs, offering high-quality and cost-effective Bluetooth Low Energy (BLE) modules. These modules have superior standby current and RF performance, making them suitable for ultra-low-power wireless applications like smart homes, medical devices, industrial sensors, and automotive applications. With a lower price, engineers can now easily integrate Bluetooth LE modules into their products.

Last year, Texas Instruments(TI) announced its fourth-generation BLE Wireless MCUs: CC2340 family. The CC2340 device family includes CC2340R5 and CC2340R2 versions, providing a highly integrated wireless connectivity function with support for Bluetooth 5.3 Low Energy, ZigBee, and proprietary 2.4GHz protocols.



CC2340R5 module series



**✓ Ultra-low power consumption**

- 5.3 mA RX and 5.0 mA TX at 0 dBm
- Standby current<710nA (with RTC and RAM retention), around 40% lower than the market average
- Output power up to +8 dBm
- Receiving sensitivity: -96 dBm for 1 Mb/s

**✓ High performance**

- Arm® Cortex®-M0+
- 512KB Flash and 36KB SRAM
- Integrated Balun, ADC
- UART, SPI, I<sup>2</sup>C

**✓ Cost-effective**

- Integrated Balun for reduced BOM board layout

RF-BM-2340B1 Modules Features

The CC2340R2 MCU provides 256 KB Flash, 28 KB SRAM, and 12 I/O pads, while the advanced version — CC2340R5 offers an in-system programmable flash of 512 KB, an ultra-low leakage SRAM of 36 KB, and up to 26 I/O pads. Additionally, both of them share the same MCU architecture to support OTA and a wide selection of peripherals communication interfaces such as UART, SPI, I2C, timer, temperature sensor, battery monitor, analog comparator, and ADC analog-to-digital converter, etc.



Based on TI's new-level MCUs, RF-star [CC2340 modules](#) are designed for the market. Let's have a quick preview of the irresistible features of RF-star CC2340 modules.

### CC2340 Modules with High-Quality RF and Power Performance at An Affordable Price

The CC2340 BLE modules have an industry-leading standby current of less than 710 nA, which is 40% lower than competing devices. Up to 10 years of service life on a coin cell battery can be achieved in wireless applications such as electronic shelf labels and tire pressure monitoring systems (TPMS).

Meanwhile, the Bluetooth LE modules also allow engineers to expand RF performance and connection range with an output power of up to +8 dBm. The different RF output modes, such as half-hole ANT RF pin and IPEX connector, enable different needs of the applications with a wide range of choices on antennas.

Additionally, the CC2340 modules feature an integrated RF balun, enabling a simpler design with fewer external components. Hence, it is a piece of good news for those who are making use of a cost-effective strategy.

Even more, the CC2340 BLE modules can operate over an industrial temperature range of -40°C to 85°C. Although these BLE modules are placed in complex and harsh working environments, they also ensure a highly stable and reliable wireless connection.

What's most important is the following CC2340 modules based on CC2340R5-Q1 meet the requirements of the Automotive Electronics Council (AEC)-Q100. The kind of Bluetooth LE module is quite suitable for automotive applications.

### Tiny Size Is Good for Micro Integration Design

The CC2340 modules are smaller in size than ever before. The RF-BM-2340Ax BLE5.3 module based on CC2340R5 is available in a 16.6/15.2 mm × 11.2 mm stamp half-hole package, and the RF-BM-2340Cx module based on CC2340R2 may offer a tinier size with an 8 mm × 8 mm stamp half-hole package. The compact package and integrated balun easily help fit any space-constrained application design.

## Broader Application of CC2340 BLE Modules

With the increased memory, longer battery life, wider temperature range, and smaller size at a friendly price, engineers can adopt RF-star CC2340 modules to seamlessly connect everyday applications such as:

### 1. Automotive Industry: TPMS&PEPS Systems

No matter whether Tire Pressure Monitoring System (TPMS) or Passive Entry and Passive Start (PEPS) systems, you can benefit from these systems integrated with CC2340 modules:

Support AEC-Q100 certification in the following plan.

More than 10-year coin battery life with excellent power management.

Support BLE long-range communication of coded physical layer (PHY).

Up to +8 dBm of output power and industry-leading -102 dBm receiving sensitivity.

Support various wake-up methods (timer, external GPIO wake-up).

Compatible with mobile phone Bluetooth, providing compatibility test reports and related test tools accordingly.

High-Security features such as safety induction with a trusted root.

Meet the needs of the Internet of Vehicles (IoV).

### 2. Medical Device, Building Automation, and Consumer Electronics

Medical devices: The friendly price, low power consumption, and RF performance of the CC2340 modules make them attractive for those designs such as CGM (continuous glucose monitor), insulin pumps, and medical sensor patches.

Building automation: Smart home hubs can take full advantage of up to +8 dBm of output power and the CC2340 modules supporting multiple protocols that include BLE 5.3, ZigBee 3.0, SimpleLink™TI 15.4-stack, and Proprietary systems.

Consumer Electronics: The compact size of the BLE modules makes the final goods cuter and more fashionable. The extremely low power consumption enables long-term stable operation after one charge and the affordable price offers a more enticing highlight for the daily products to integrate BLE modules.

RF-BM-2340B1, RF-BM-2340B1I, RF-BM-2340Ax, and RF-BM-2340Cx based on CC2340R5 and

CC2340R2 MCUs are the latest members of our CC2340 modules family, which will serve the industrial, automotive and consumer electronics markets.

RF-star is a leading manufacturer of wireless RF solutions and low-power modules with an excellent industry reputation and credibility. As the official third-party IDH of Texas Instruments for more than a decade and a trusted partner for customers worldwide, RF-star delivers expertise in design, manufacturing, production, and customized development to provide a full set of solutions, including BLE, Wi-Fi, Matter, Wi-SUN, Sub-1G, ZigBee, Thread, etc. For more information or CC2340 samples, visit [www.rfstariot.com](http://www.rfstariot.com) or contact us at [info@szrfstar.com](mailto:info@szrfstar.com).

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