

RF-star Unveils New CC2340R5 Bluetooth 5.3 Modules with Affordable Wireless Innovation

New CC2340 Series Family — CC2340R5 Bluetooth 5.3 Low Energy Modules RF-BM-2340B1I, RF-BM-2340A2, RF-BM-2340A2I and RF-BM-2340C2 Are In Stock Now!

SHENZHEN, GUANGDONG, CHINA, January 31, 2024 /EINPresswire.com/ -- RF-star, a leading RF wireless modules manufacturer, is thrilled to announce the arrival of the new CC2340R5 [Bluetooth 5.3 Low Energy \(BLE\) modules](#). Four types are in stock now—RF-BM-2340B1I, RF-BM-2340A2, RF-BM-2340A2I and [RF-BM-2340C2](#). The alternative RF antennas and small different packages allow CC2340R5 modules to deliver industrial-grade performance, ultra-low-power consumption and robust connection for medical devices, building automation, consumer electronics, energy storage systems, and even vehicles.

The introduction of these four items further extends the CC2340 series family, starting with the initial release of the CC2340R5 module RF-BM-2340B1 in 2023. In the marketing of RF-BM-2340B1 modules, they have gained recognition and favor among global customers and developers.

Delving into why the [CC2340 series modules](#) are gaining popularity, let's explore their key features and benefits, including an optimized 2.4GHz RF transceiver, industrial-grade performance, rich resources, user-friendly design, and easy-to-use software and tools.



Now in Stock

New CC2340R5 Bluetooth LE Modules



New CC2340R5 Bluetooth LE Modules - Now in Stock

Part Number	RF-BM-2340B1	RF-BM-2340B1I	RF-BM-2340A2	RF-BM-2340A2I	RF-BM-2340C2
IC	CC2340R5				
Core	48 MHz ARM® Cortex®-M0+				
RAM	36 KB				
Flash	512 KB				
Protocols	BLE5.3, ZigBee, SimpleLink™ TI 15.4-stack, Proprietary systems				
Power Supply	1.8 V ~ 3.8 V, recommend to 3.3 V				
Frequency	2.4 GHz				
Max. TX Power	+8 dBm				
Receiving Sensitivity	-98 dBm @ 802.15.4 (2.4 GHz) -102 dBm @ 125 kbps BLE Coded PHY				
Working Temperature	-40 °C ~ +85 °C				
Storage Temperature	-40 °C ~ +125 °C				
Package	1.27-mm pitch halfhole				
OTA	✓				
Bluetooth Mesh	✓				
Long Range	✓				
2Mbps PHY	✓				
AoA/AoD	✓				
UART Protocol	Master-Slave (BLE5.0)				
Antenna	PCB	IPEX halfhole ANT RF Pin	PCB	IPEX halfhole ANT RF Pin	CHIP halfhole ANT RF Pin
Transmission Range	130 m @ 1M PHY 180 m @ LE Coded PHY	150 m @ 1M PHY (external PCB antenna), 220 m @ LE Coded PHY (external PCB antenna)	130 m @ 1M PHY 180 m @ LE Coded PHY	150 m @ 1M PHY (external PCB antenna), 220 m @ LE Coded PHY (external PCB antenna)	50 m @ 1M PHY, 80 m @ LE Coded PHY
GPIO	24		12		
Dimension (mm)	22.5 x 15.55 x 2.1		16.6 x 11.2 x 1.7	15.2 x 11.2 x 1.7	8.0 x 8.0 x 1.5

Comparison Table of RF-star CC2340 Bluetooth LE Modules

Optimized 2.4GHz RF Transceiver

- Bluetooth Low Energy 5.3: 2M PHY, LE Coded PHY, BLE mesh, Direction Finding, HADM
- Proprietary 2.4GHz
- IEEE 802.15.4 ZigBee, Thread, Matter

Industrial-grade Performance

- TX power: up to + 8 dBm with temperature
- Industry-leading standby current: less than 710 nA
- RX sensitivity: -98 dBm @ 802.15.4 (2.4 GHz); -102 dBm @ 125 kbps Bluetooth (LE Coded PHY)
- Working temperature range: -40 °C ~ +85 °C
- 1.8V – 3.8V supply range

Rich Resources

- ARM Cortex-M0+ MCU @ 48MHz
- Up to 512KB of in-system programmable flash
- 36KB of ultra-low leakage SRAM
- Integrated Balun
- Supports over-the-air upgrade (OTA)
- Support peripherals including ADC, UART, SPI, I2C, RTC
- Channel sounding will be integrated with CC2340 modules soon.

User-Friendly Design

- Flexible RF output modes: PCB antenna, IPEX connector, Chip antenna, half-hole ANT RF pin
- Available dimension with stamp half-hole package: small, compact and mini sizes are optional.

Easy-to-Use Software and Tools

- BLE5.0 transparent transmission protocol (serial port transmission) with UART function: master-slave mode, slave mode, master mode, beacon mode.
- More AT commands: observer function with filter; UUID configuration; pairing functions; automatic connection, etc.
- RF-star CC2340 series development board with USB-to-UART IC to support the tests and development.
- UART assistant: the powerful tool with strong practicability to assist in debugging and monitoring communication over serial ports.



The graphic features the RF-star logo in the top right corner. The main text reads "RELIABLE IoT SOLUTION PROVIDER" in a bold, blue font. Below this, there are several icons representing different IoT protocols: Bluetooth, WiFi, ZigBee, LoRa, Sub-1GHz, Thread, and UWB. To the right of these icons is a large, stylized image of a microchip with "5.0" and a Bluetooth symbol on its surface. The background is a light blue gradient with faint circuit-like patterns.

RF-star: Reliable IoT Solution Provider

For more detailed differences among them, please check the below table of CC2340 Bluetooth LE modules.

Economical Wireless Solutions

While the CC2340 modules boast a plethora of optimized features, the best part is that their prices remain affordable, making them accessible across industries.

Hence, RF-star CC2340 series modules cater to multiple burgeoning fields by their versatility, such as:

- **Medical Devices:** The CC2340 modules' cost-effectiveness, low power consumption, and robust RF performance position them as an attractive choice for designs like CGMs (continuous glucose monitors), insulin pumps, blood glucose monitors, medical sensor patches and wearable fitness.
- **Building Automation:** The impressive output power of up to +8 dBm and multiprotocol including BLE 5.3, ZigBee 3.0, SimpleLink™TI 15.4-stack, and Proprietary systems make the RF modules perform well in wireless environmental sensors, fire safety systems, electronic smart lock, etc.
- **Consumer Electronics:** The small size of BLE modules enhances the aesthetics of the final products. The exceptionally low power consumption ensures prolonged and stable operation after one charge. At the same time, the affordable price adds an enticing allure for seamlessly integrating CC2340R5 modules into personal electronics, for example, keyboards and keypads, electronic and robotic toys, and smart trackers.
- **Energy Storage:** The imminent release of the Thread and Zigbee SDK, coupled with the existing BLE stack, will open up new horizons for the energy storage industry. As a result, the CC2340R5 module serves as an ideal cost-effective wireless connectivity solution for EV chargers, Battery Management Systems (BMS), and microinverters.

Furthermore, the upcoming automotive-grade module RF-BM-2340QB1 based on the TI CC2340R5-Q1 chipset, meets the highest +125°C and AEC-Q100 standards and will be available soon.

For more information and inquiries, visit www.rfstariot.com or reach out to us at info@szrfstar.com.

Explore further:

Similarities&Differences Between CC2340 Bluetooth LE modules:

https://www.rfstariot.com/blog/what-are-similarities-differences-between-rf-star-cc2340-bluetooth-le-modules_b58

Introduction of CC2340 Series Ultra-Low Power BLE Module RF-BM-2340B1:

https://www.rfstariot.com/blog/on-sale-rf-star-cc2340-series-ultra-low-power-ble-module-rf-bm-2340b1_b45

About RF-star

Shenzhen RF-star Technology Co., Ltd (RF-star) is a leading global provider of wireless communication modules and solutions, specializing in low-power modules for IoT, industrial, automotive, and consumer applications. With over a decade of engagement in Bluetooth and IoT communication technology and extensive expertise, we are capable of bringing reliable, convenient, secure and intelligent connectivity service to every industry, enriching smart life with a perfect wireless experience.

RF-star's product portfolio ranges from BLE modules, ZigBee modules, WiFi modules, Sub-1Ghz modules, Matter modules, Thread Modules, UWB modules Wi-SUN modules and customized service. As the official third-party IDH of TI and a trusted partner for customers worldwide, RF-star is committed to delivering cutting-edge wireless solutions.

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