The following document contains information on Cypress products. Although the document is marked with the name "Broadcom", the company that originally developed the specification, Cypress will continue to offer these products to new and existing customers.

CONTINUITY OF SPECIFICATIONS

There is no change to this document as a result of offering the device as a Cypress product. Any changes that have been made are the result of normal document improvements and are noted in the document history page, where supported. Future revisions will occur when appropriate, and changes will be noted in a document history page.

CONTINUITY OF ORDERING PART NUMBERS

Cypress continues to support existing part numbers. To order these products, please use only the Cypress Ordering Part Number listed in the table.

Broadcom Ordering Part Number	Cypress Ordering Part Number
BCM20736S	CYW20736S

FOR MORE INFORMATION

Please visit our website at www.cypress.com or contact your local sales office for additional information about Cypress products and services.

OUR CUSTOMERS

Cypress is for true innovators – in companies both large and small.

Our customers are smart, aggressive, out-of-the-box thinkers who design and develop game-changing products that revolutionize their industries or create new industries with products and solutions that nobody ever thought of before.

ABOUT CYPRESS

Founded in 1982, Cypress is the leader in advanced embedded system solutions for the world's most innovative automotive, industrial, home automation and appliances, consumer electronics and medical products. Cypress's programmable systems-on-chip, general-purpose microcontrollers, analog ICs, wireless and USB-based connectivity solutions and reliable, high-performance memories help engineers design differentiated products and get them to market first.

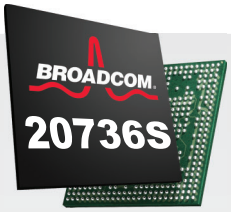
Cypress is committed to providing customers with the best support and engineering resources on the planet enabling innovators and out-of-the-box thinkers to disrupt markets and create new product categories in record time. To learn more, go to www.cypress.com.

WIRELESS CONNECTIVITY

BCM20736S

Bluetooth Smart Module with Wireless Charging

Low-Power Integrated Bluetooth 4.1 BLE SIP Module with Wireless Charging



- Provides all the components for an integrated Bluetooth SMART peripheral design (MCU, RF, ADC, DAC, Timers, Stack, etc.) on a single piece of silicon.
- Supports wireless charging. Reference designs are available.
- CMOS process technology delivers lower power consumption than other Bluetooth 4.1 solutions.
- Backed by a rich ecosystem of hardware, software, and application partners.
- Leverages Broadcom's world leading connectivity portfolio (Bluetooth, GPS, NFC, and Wi-Fi) to accelerate the development of unique products that drive differentiation and increase market share.
- Industrial temperature (–40°C to +85°C)
- Complete solution, including passives, crystal, antenna, and certification, is available in an ultra-low form factor of 6.5 mm × 6.5 mm with 1 mm thickness (48-pin LGA).

BCM20736	
✓	Sports and fitness
✓	Medical
✓	Security and home automation
✓	Entertainment
✓	Wireless charging
✓	Wearables

OVERVIEW

The Broadcom BCM20736S is a member of the Broadcom low-power Bluetooth Smart module family of solutions in the WICED portfolio. The BCM20736S enables market-leading Bluetooth Smart solutions at competitive price points and lower power consumption than comparable solutions on the market. Its powerful set of features includes, among others, wireless charging, capacitive switch, and PWM.

The BCM20736S Bluetooth Smart module integrates key peripherals and components that are commonly used in sensors, medical devices, wearables, and other devices in the Internet of Things (IOT) domain to enable more devices to deliver an enhanced user experience at affordable price points. With the addition of wireless charging, the BCM20736S is first of its kind to deliver a complete Bluetooth Smart solution, including wireless charging, for wearable devices.

The rising popularity of smartphones and Bluetooth SMART READY devices and associated Internet-based applications is driving more diverse form factors and use cases in medicine, fitness, entertainment, home and industrial automation, toys, and wearables. As the smartphone ecosystem evolves, it continues to foster integrated connectivity between peripherals and smart portable devices to leverage smartphone capabilities and take advantage of Web-based ubiquitous connectivity.

The BCM20736S was created to enable a new generation of Bluetooth SMART devices, with support for wireless charging. With a smaller size, a higher level of integration, and 65 nm CMOS process technology, the BCM20736S delivers lower power consumption than other Bluetooth 4.1 solutions for longer battery life and a more satisfying user experience.

FEATURES

- Compatible with Bluetooth SMART READY host devices.
- Complies with Bluetooth Core Specification version 4.1.
- On-chip support for common keyboard and mouse interfaces.
- Powerful ARM Cortex-M3 32-bit processor:
  - Eliminates the need for an external processor.
  - Reduces overall bill of materials (BOM) cost for wireless peripheral products.
  - Offers significantly higher MIPS.
  - Supports advanced applications at lower power than the 8-bit and 16-bit processors offered by most competitive solutions.
- Full support for wireless charging, including onboard support for A4WP and reference designs for end-to-end charging solutions.
- Integrated programmable key-scan matrix interface, with up to 5 × 5 key-scanning matrices with configurable macro and micro debounce along with built-in ghost detection.
- Superior receiver sensitivity maximizes the range and coverage for Bluetooth peripherals.
- Supports UART, SPI, and I²C for interfacing to external nonvolatile memories, peripheral ICs, and sensors.
- On-chip, multichannel ADC for measuring sensor inputs, battery level, and more.
- Onboard stack with several profiles embedded into the ROM means no external stack is required.

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BENEFITS

- Easy-to-use software development environment for rapid application prototyping.
- Open source-based Integrated Development environment and toolchain.
- Fully integrated with the Broadcom Wireless Internet Connectivity for Embedded Devices (WICED) portfolio featuring embedded Wi-Fi and Bluetooth SMART solutions for the "Internet of Things".
- Complies with all of the relevant regulatory and manufacturing standards.

Ordering Information

Contact your local Broadcom representative.

Support

General WICED support is available to registered users within the Broadcom Support Community forums online:
http://community.broadcom.com/welcome.

For more information, visit:
www.broadcom.com

ABOUT **BROADCOM**

Broadcom Corporation (NASDAQ: BRCM), a FORTUNE 500® company, is a global leader and innovator in semiconductor solutions for wired and wireless communications. Broadcom® products seamlessly deliver voice, video, data, and multimedia connectivity in the home, office, and mobile environments. With the industry's broadest portfolio of state-of-the- art system-on-a-chip and embedded software solutions, Broadcom is changing the world by Connecting everything®. For more information, go to www.broadcom.com.

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