CYPRESS

CYW20736S:Bluetooth Smart Module with Wireless Charging

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

OVERVIEW

The Cypress CYW20736S is a member of the Cypress low-power Bluetooth Smart module family of solutions in the WICED portfolio. The CYW20736S 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 CYW20736S 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 CYW20736S 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 CYW20736S was created to enable a newgeneration of Bluetooth SMART devices, with support for wireless charging. With a smaller size, a higher level of integration, and 65nm CMOS process technology, the CYW20736S delivers lower power consumption than other Bluetooth 4.1 solutions for longer battery life and a more satisfying user experience.

KEY FEATURES

- 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 4.1solutions.
- Backed by a rich ecosystem of hardware, software, and application partners.
- Leverages Cypress'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 × 6.5mm with 1 mm thickness (48-pin LGA).

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 inter-face, 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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CYW20736S	
✓	Sports and fitness
✓	Medical
✓	Security and home automation
✓	Entertainment
✓	Wireless charging
✓	Wearables

BENEFITS

- Easy-to-use software development environment for rapid application prototyping.
- Open source-based Integrated Development environment and tool chain.
- Fully integrated with the Cypress 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 Cypress Representative

For additional information on WICED modules currently in production, go to:

http://community.cypress.com/community/wicedwifi

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