

CYPRESS

# CYW20732: SINGLE-CHIP BLUETOOTH LOW ENERGY-ONLY SoC



## PRODUCT OVERVIEW

### OVERVIEW

The Cypress CYW20732 is a Bluetooth Low-Energy (BLE)-only System-on-a-Chip (SoC). The CYW20732 radio has been designed to provide low power, low cost, and robust communications for applications operating in the globally available 2.4 GHz unlicensed Industrial, Scientific, and Medical (ISM) band.

The single-chip BLE SoC is a monolithic component implemented in a standard digital CMOS process and requires minimal external components to make a fully compliant Bluetooth device. The CYW20732 is available in a 32-pin, 5 mm x 5 mm 32-QFN package.

### KEY FEATURES

- BLE-compliant single-mode solution
- Integrated ARM® Cortex™-M3 microcontroller unit (MCU), radio frequency and embedded BLE stack all on a single chip
- Full software support, including GATT, profiles, stack, APIs and application software development kit
- Power optimized for single-mode coin cell operation and from 1.2V supply
- On-chip support for two serial peripheral interfaces
- Onboard 12-bit analog-to-digital converter
- Onboard wake-up timer

CYW20732	
✓	Medical Devices
✓	Sports and Fitness
✓	Security Systems
✓	Remote Controls
✓	Set-topBoxes

[www.cypress.com](http://www.cypress.com)

### APPLICATIONS

The following profiles are supported in ROM:

- Battery status
- Blood pressure monitor
- Find me
- Heart rate monitor
- Proximity
- Thermometer
- Weight scale
- Time

Additional profiles that can be supported from RAM include:

- Blood glucose monitor
- Temperature alarm
- Location

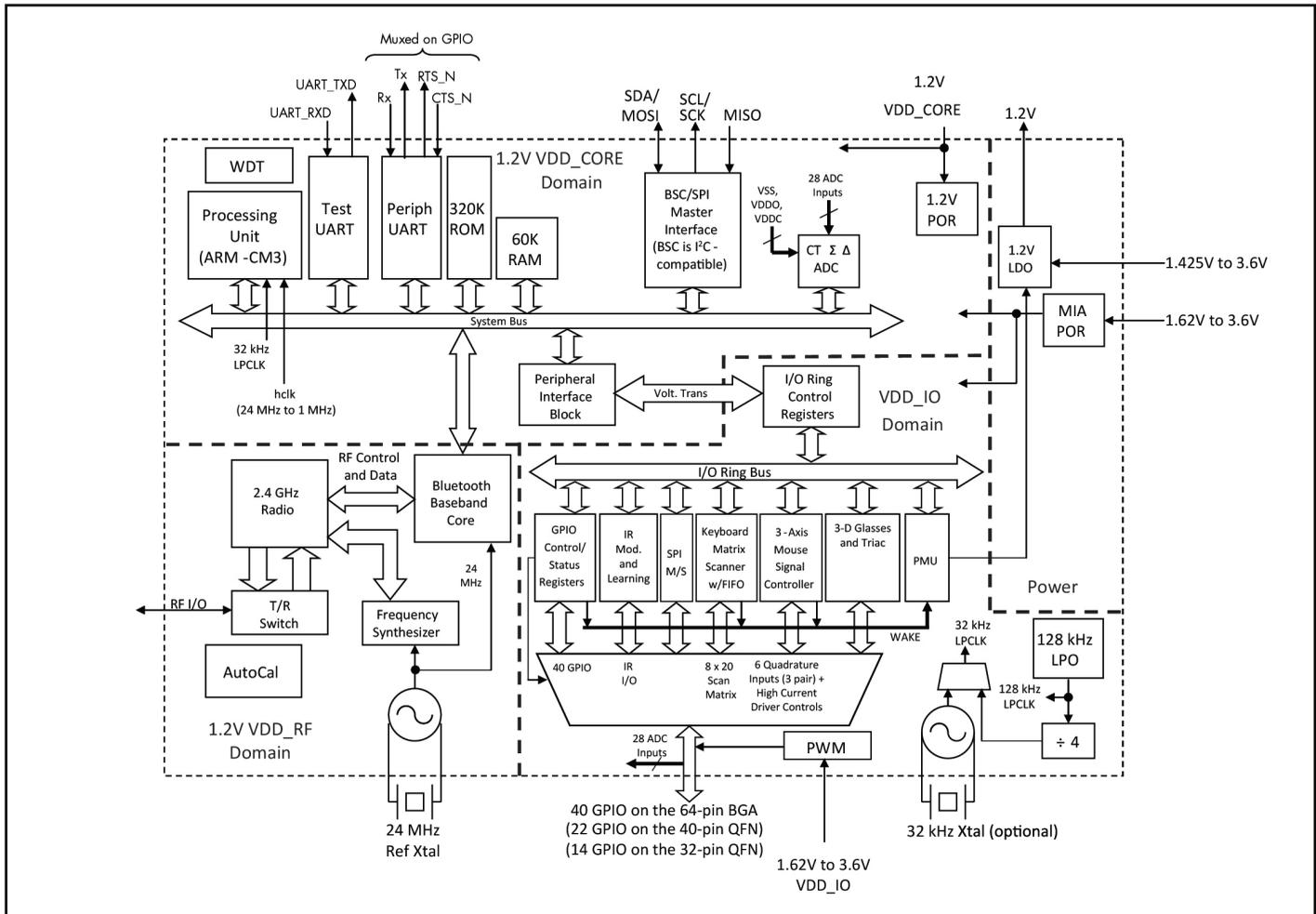
### BENEFITS

- Easy-to-use application development environment for rapid application prototyping
- Open source-based Integrated Development Environment (IDE) and toolchain
- Fully integrated with the Cypress Wireless Internet Connectivity for Embedded Devices (WICED) portfolio featuring embedded WiFi and BLE IoT solutions
- Complies with all of the relevant regulatory and manufacturing standards

### FEATURES

- BLE-compliant
- Infrared modulator
- IR learning
- Supports Adaptive Frequency Hopping
- Excellent receiver sensitivity
- 10-bit auxiliary ADC with 9 analog channels
- On-chip support for serial peripheral interface (master and slave modes)
- Cypress Serial Communications (CSC) interface (compatible with NXP® I<sup>2</sup>C slaves)
- Programmable output power control
- Integrated ARM®Cortex™-M3 based microprocessor core
- On-chip power-on reset (POR)
- Support for EEPROM and serial flash interfaces
- Integrated low-dropout regulator (LDO)
- On-chip software controlled power management unit
- RoHS compliant





CYW20732 System Block Diagram

The CYW20732 provides all the components for an integrated BLE peripheral design (MCU, RF, ADC DAC, timers, stack, and so forth) on a single piece of silicon.

The CYW20732 is also backed by a rich ecosystem of hardware, software, and application partners and leverages Cypress's world leading connectivity portfolio (Bluetooth, GPS, NFC, and WiFi) to accelerate the development of unique products that drive differentiation and increase market share.

Part number	ORDERING INFORMATION
CYW20732A1KML2G	32-pin, 5 mm x 5 mm 32-QFN package

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

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

**Cypress Semiconductor Corporation**

198 Champion Court, San Jose CA 95134  
 phone +1 408.943.2600 fax +1 408.943.6848  
 toll free +1 800.858.1810 (U.S. only) Press "1" to reach your local sales representative

© 2016-2017 Cypress Semiconductor Corporation. All rights reserved. All other trademarks are the property of their respective owners.  
 002-14836 Rev \*A

