



WSR601 – Wireless USB Single Chip



Key Features

- Single-die CMOS chip with integrated WUSB, MAC, baseband and RF transceiver
- Interfaces: USB2.0, SDIO 2.0
- Enhanced power save modes
- Numeric and cable association models
- Detect & avoid mitigation technology
- USB-IF certified



Overview

The WSR601 is a single-die CMOS chip that delivers a low-cost, low-power, and small-size solution for Wireless USB applications.

Combining PHY, MAC and WUSB subsystems in a small form factor, the WSR601 is suitable for a wide range of applications such as notebook PChs, PC peripherals, consumer electronics, and portable devices.

As Wisair's third-generation Ultra Wideband (UWB) chip, the WSR601 combines high-performance with a small footprint, making it a cost-effective choice for Wireless USB manufacturers.

Certified Wireless USB

The Certified Wireless USB WSR601 chip supports both host-side and device-side implementations, including Host Wire Adapter (HWA), Device Wire Adapter (DWA), and 'native' device. It features an integrated Wireless USB subsystem, eliminating the need for external USB components. Advanced power management capabilities enable multiple operational modes, minimizing power consumption in battery-powered devices.

Delivered with sample code, software drivers and a range of reference designs, the WSR601 also minimizes integration efforts and speeds time to market.

High Performance

Designed for high performance, the WSR601 chip is implemented with a performance optimized hardware/software partitioning. It includes WUSB/MAC hardware accelerators, Direct Memory Access (DMA) engines and a 32-bit ARM subsystem for mostly control functions.

The WSR601 chip incorporates Wisair's mature PHY technology, with outstanding throughput and coverage. The single chip supports one or two antennas and provides co-existence with Bluetooth and 802.11—both in close proximity and when embedded in the same product, module or PCB. The WSR601 RF subsystem incorporates an on-chip RF band pass filter (BPF), a broadband receiver with a wide dynamic range, an ultra-fast hopping broadband synthesizer with on-chip VCO, and a programmable power amplifier to ensure maximum authorized output power under all conditions.

Cost Effective Solutions

As a CMOS single chip, the WSR601 is designed to reduce the bill of materials, system cost and production risk. It includes an integrated RAM and boot loader, thereby eliminating the need for external memory components. A low passive component count further reduces system cost.

Finally, the WSR601 Detect & Avoid technology enables the support of worldwide regulation with single SKU products.

www.wisair.com

USA
(408) 399-7747
wisusa@wisair.com

Germany
+49 170 184 3871
mdeppermann@redtree-solutions.com

Japan
+81 45 461 1999
wisjapan@wisair.com

Korea
+82-2-2026-1700
+82-2-852-8654
wiskorea@wisair.com

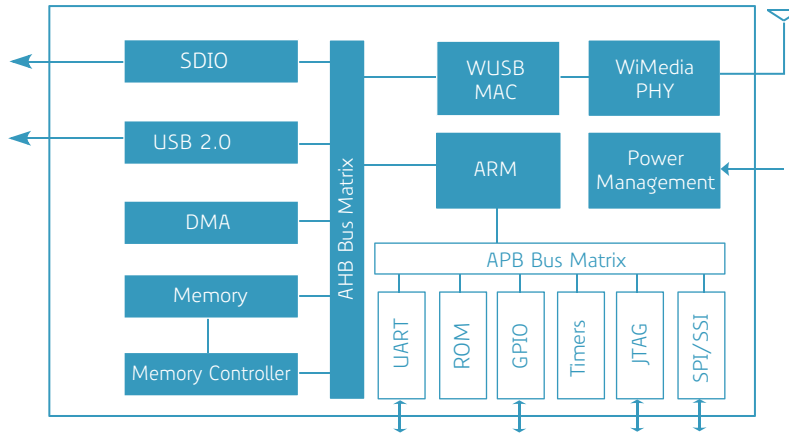
Singapore
+65-62932003
sales@sabre.com.sg

Taiwan
+886 (2) 2698-8696
wistaiwan@wisair.com

Corporate Hdqtr (Israel)
+972-3-7676606
info@wisair.com



WSR601 – Wireless USB Single Chip



WSR601 Block Diagram

About Wisair

Wisair is a fabless semiconductor company providing Ultra Wideband (UWB) and Wireless USB solutions based on its CMOS single chip.

Recognized for their superior coverage and throughput, Wisair's solutions offer the best combination of performance, price, and power consumption for Wireless USB.

Specifications

Wireless USB and MAC

- WiMedia and USB-IF certified
- Supports native Wireless USB device, Host Wire Adapter (HWA), Device Wire Adapter (DWA)
- Cable and numeric association models
- Internal packet memory
- Power management
- AES-128 encryption

Interfaces

- USB 2.0
- SDIO 2.0

Package

- TFBGA 13x13

PHY

- Standard WiMedia PHY
- WiMedia data rates 53.3 to 480 Mbps
- 3.1 to 4.8GHz frequency range
- Time frequency codes 9-12 (TFI), 13-15 (FFI)
- Detect & Avoid (DAA) technology
- Single or dual antenna with diversity
- Co-existence with Bluetooth, 802.11, WiMAX and WWAN

General

- External memory options: SPI/SSI, serial flash/EEPROM, SD-RAM
- Boot options: Internal ROM with boot loader software, by application processor, serial flash/EEPROM

www.wisair.com

© Wisair 2009. Wisair is a registered trademark of Wisair Ltd. All other product or service names are the property of their respective owners. P/N PB601.07

USA
(408) 399-7747
wisusa@wisair.com

Germany
+49 170 184 3871
mdeppermann@redtree-solutions.com

Japan
+81 45 461 1999
wisjapan@wisair.com

Korea
+82-2-2026-1700
+82-2-852-8654
wiskorea@wisair.com

Singapore
+65-62932003
sales@sabre.com.sg

Taiwan
+886 (2) 2698-8696
wistaiwan@wisair.com

Corporate Hdqtr (Israel)
+972-3-7676606
info@wisair.com