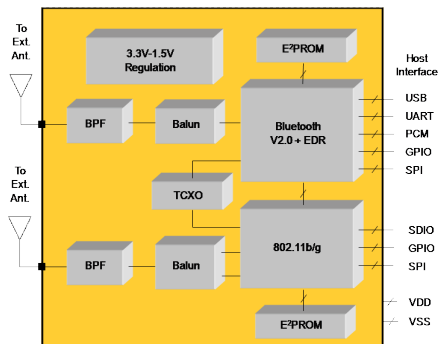




Wireless 2 Wireless

## W2CBW003 - 802.11 b/g +Bluetooth™ System-in-Package

The W2CBW003 is a complete 802.11 b/g plus Bluetooth v2.0 + EDR radio solution based on the industry standard Marvell 8686 and Cambridge Silicon Radio architectures. Designed for handheld or portable warehousing/logistics, medical, consumer and industrial applications, it is a complete WiFi/BT solution that includes an LDO for single rail operation, all crystals, all filtering, local memory for MAC address storage, and diagnostics capability. A full array of certifications have been performed on this device, making the certification process for the final systems design much easier and less costly. Full driver support is available for most OSs for the Marvell PXA family processors, as well as many other ARM-9 based processors using a Linux OS.



## Features

- Small form factor SiP solution, 12mm x 12mm x 1.6mm, 100 Pin LGA, 1mm pitch
- Low power consumption and power save mode
- Full support for 802.11 e(QoS) and 802.11i (Security)
- Integrated RF-friendly LDO for single rail operation
- Integrated PA, EEPROM, Balun, and clocking
- Optimized front-end design for receive sensitivity, plus full coexistence support
- Full driver support for popular OSs for the Marvell PXA processor family, Linux support for many other ARM-9 based processors
- Includes both an SDIO and a GSPI interface for WiFi, and a USB and UART interface for BT
- RoHS compliant
- 7 GPIOs for WiFi, 2 GPIOs for BT

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## Applications

- Warehousing and logistics handhelds
- Automotive aftermarket
- Medical equipment
- Industrial handhelds
- M2M applications
- POS terminals
- Internet-enabled consumer devices
- VoFi and other smartphones
- WiFi enabled security cameras

## Ordering Information

W2CBW003-TR - WiFi/BT SiP, Tape and Reel  
W2CBW003-T - WiFi/BT SiP, Tray  
W2CBW003-001: Designates UART BT Int  
W2CBW003-SAM - WiFi/BT SiP Sample Pack  
W2CBW003-DEV - WiFi/BT SiP Evaluation Kit  
(Note: please specify GSPI or SDIO interface will be used)

## W2CBW003 - Specifications

### Package Dimensions

- 12mm (L) x 12mm(W) x 1.6mm(H)

### Package Type

- 100-pin BGA, 1 mm pitch

### Power Ratings

- Supply Voltage : 3.3VDC, regulated to 1.5V
- Peak Current: 275 mA
- (continuous transmit, 802.11g and BT)
- IEEE Power Save Mode: 10 mA
- Standby mode (both radios): 30 mA
- Deep Sleep Mode: 2mA

### Temperature Range

- Operating: -20° C to + 75° C
- Storage: -40° C to + 85° C
- Humidity: 5% to 95%, Non-condensing

### Data Rates

- CCK: 1,2,5.5, and 11Mb/s
- OFDM: 6,9,12,18,24,36,48, and 54 Mb/s
- BT v2.0: up to 1Mbps
- BT EDR: 2,3 Mbps

### Interfaces - WiFi

- SDIO 1 bit and 4 bit, GSPI

### Interfaces - BT

- USB (default) or UART

### Transmit Power

- +15dBm typical for both 802.11 b and g
- BT v 2.0: +3dBm, EDR: -1dBm

### Security

- WEP, TKIP, WPA and WPA2, AES/CCMP per 802.11 i

### Baseband Modulation - WiFi

- 802.11g: OFDM
- 802.11b: DSSS/CCK

### Baseband Modulation - BT

- v2.0: GFSK
- Bluetooth EDR:  $\pi/4$  DQPSK, 8DPSK

### Receiver Sensitivity - BT

- 1 Mb/s @ -84 dBm GFSK
- 2 Mb/s @ -87 dBm  $\pi/4$  DQPSK
- 3 Mb/s @ -80 dBm 8DPSK

### Receiver Sensitivity - WiFi

- 54 Mb/s @ -74 dBm OFDM
- 6Mb/s @ -90 dBm OFDM
- 11Mb/s @ -88 dBm CCK
- 1Mb/s @ -90 dBm DSSS

### Quality of Service

- 802.11 e EDCF

### Host Processors/OS With Driver Support

- Marvell PXA Family - most OSs
- Freescale i.MX21 and 31 - Linux OS, SDIO
- Samsung SC2443, 2412 - Linux (SDIO), WinCE WinMobile (GSPI)
- X86 - Vista, XP, and Linux
- Please contact your Wi2Wi sales rep if your processor is not listed!

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