

KwikBlue™ 4 Module

with Bluetooth® Wireless Technology

Embed *Bluetooth* 2.0 + EDR into Your Device

The KwikBlue™ family features small form factor modules used to integrate *Bluetooth* technology into devices such as printers and mobile computers supporting the Windows Mobile 2003/2003SE/5.0/6.0 or Windows CE 4.2/5.0 operating systems.



The KwikBlue 4 Module is based on the CSR BlueCore™4-Ext (BC04-Ext) chipset which implements the *Bluetooth* 2.0+EDR system. *Bluetooth* 2.0 features EDR (Enhanced Data Rate), AFH (Adaptive Frequency Hopping) and eSCO (Extended SCO) support. The module is a Class 1 *Bluetooth* device with a radio range of up to 100 meters/300 feet. The KwikBlue 4 Module comes in a 40-pin SMD format. It is packaged with an on-board antenna or external antenna connection point.

Small But Powerful

The KwikBlue 4 contains a complete transceiver radio and baseband controller section including 16 bit RISC processor, 48k bytes RAM and 8 Mbits Flash memory. Power management includes digital shut down, wake up commands with an integrated low power oscillator for ultra-low power Park/Sniff/Hold mode. Protocol software is preloaded into the integrated Flash memory and interfaces to the Host Controller Interface (HCI) layer on an appropriate host system.

Customized for Specific Bluetooth Profiles

The standard KwikBlue 4 Module provides the HCI layer to an external *Bluetooth* stack. A VM (Virtual Machine) version is available; it supports a specific *Bluetooth* profile like Serial Port Profile (SPP), for example. It can be further customized with parameters such as baud rate. The KwikBlue 4 Module and Socket stack are *Bluetooth* SIG certified as subsystems; devices incorporating either or both of these will have to be *Bluetooth* SIG certified as end products by the customer.

KwikBlue Module Development Kit

Socket offers the fully-supported Development Kit which provides a reference for Socket's KwikBlue modules. It enables the module to communicate through either an RS-232 serial or USB interface. With Socket's carrier board reference designs, developers can supplement the module with a 20-pin connector; this form factor can be used to drop the module into existing KwikBlue solutions.

DEVELOPMENT BOARD

- RoHS- and WEEE-compliant
- *Bluetooth* 2.0+EDR certified
- CSR BC04-EXT chipset
- Multiple interfaces: Serial UART (BCSP of H:4) or USB 1.1 (OHCI and UHCI)
- PCM interface for audio data
- FCC modular approval
- Basis for the Socket Virtual Machine (VM) product—same hardware
- Device compatibility requirements:
 - OS: Windows Mobile 2003/2003SE/5.0/6.0 or Windows CE 4.2/5.0
 - Processor: ARMV4, ARMV41, MIPSII, MIPSIV, SH4 and X86

BLUETOOTH 2.0 + EDR

- EDR (Enhanced Data Rate): UART – 1.5 Mbps max (vs. 721 Kbps with *Bluetooth* 1.1), USB – 12 Mbps max
- Lower power consumption through shorter duty cycles
- AFH (Adaptive Frequency Hopping) for better WLAN 802.11 co-existence in the 2.4 GHz radio spectrum
- eSCO (Extended Synchronous Connections) support improves voice quality of audio links by allowing retransmissions of corrupted packets
- Backwards compatible to *Bluetooth* 1.x specifications

SUPPORTED PROFILES

- Software development tools including Application Program Interfaces (APIs), demos, CSR's BlueSuite software utilities and development files for Windows CE.NET devices.

*Speaker output designed to drive a 600 Ohm load.

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KwikBlue Module Developers Kit



The Socket OEM Group offers the KwikBlue Module Developers Kit to companies interested in designing *Bluetooth* functionality into their products. The Dev Kit includes the KwikBlue 4 Module, a development board and CDs containing the Socket *Bluetooth* Stack for Windows Mobile and Windows CE as well as software development tools.

Developers must qualify their design concept with the OEM Group to participate in this program. For more information on the qualification process, please contact:
www.socketmobile.com/contact



Sales Offices
Corporate Headquarters:
 39700 Eureka Drive
 Newark, CA 94560 USA

Web: socketmobile.com

Phone: +1-510-933-3000

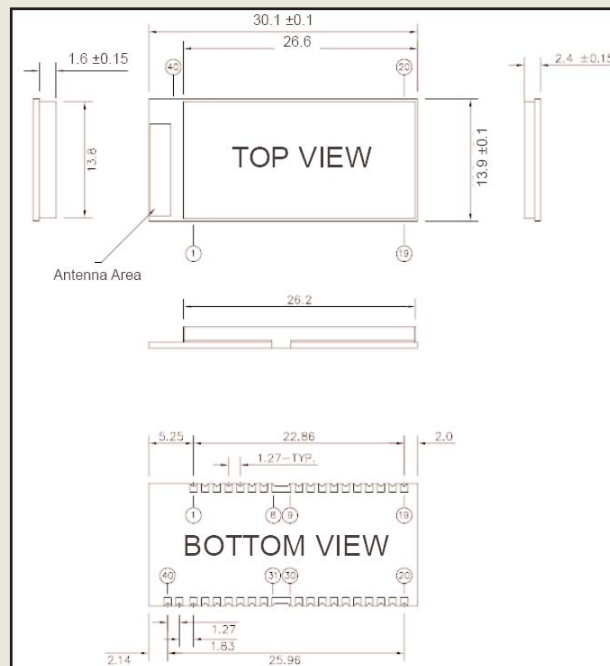
USA & Canada Toll Free: 800-552-3300

Fax: +1-510-933-3030

Online: socketmobile.com/contact

SPECIFICATIONS	
Antenna	On-board or external connection
Physical Connection	Board-to-board connection, 40-pin SMD or 20-pin module connector
Dimensions	30.1 x 13.9 x 2.4 mm
Operating Frequency	2.402 - 2.480 GHz
Operating Temperature	-20° to +85°C
Storage Temperature	-40° to +85°C
Supply Voltage, VCC	3.0 to 3.6 V if UART interface, 3.1 to 3.6 V if USB interface
Absolute Max Ratings Supply Voltage	VCC : -0.4 V ~ +3.6 V
Output Power	16 dBm max
Program Memory	8 Mbits (512K x 16 bits) Flash
RAM	48 Kb
Reference Oscillator	Built-in
Sub-Clock Oscillator	Built-in
Audio Interface	PCM A-Law, i-Law (CVSD)
Serial Interface	UART (BCSP or H:4)
USB Interface	USB 1.1 (OHCI and UHCI)

PIN OUTs	
Pin#	Contents
1	GND
2	PA3.3V
3	GND
4	AIO_0
5	AIO_1
6	PIO_2
7	PIO_3
8	GND
9	GND
10	UART_RX
11	UART_TX
12	UART_CTS
13	UART_RTS
14	USB_DP
15	USB_DN
16	PIO_10
17	3.3V
18	PIO_11
19	GND
20	GND
21	SPI_CSB
22	SPI_MISO
23	SPI_CLK
24	SPI_MOSI
25	RESET#
26	PCM_OUT
27	PCM_SYNC
28	PCM_IN
29	PCM_CLK
30	GND
31	GND
32	PIO_7
33	PIO_6
34	PIO_5
35	PIO_4
36	PIO_9
37	PIO_8
38	GND
39	ANT_GND
40	EXT_ANT_OUT



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