Rabbit-based applications now have even more ways to communicate. Rabbit Semiconductor has added Bluetooth® support for selected core modules, the BL2500 and the BL2600 single board computers. Based on the EmbeddedBlue™ eb506-AHC-IN *Bluetooth* Radio Module from A7 Engineering, Bluetooth capability is available in a complete Application Kit or as an Add-On Kit.

All components of the Bluetooth stack are implemented on-board so additional host processor code is not required. Once a connection to another Bluetooth device has been established, the link has the appearance of a cabled serial connection eliminating the need for special wireless protocol knowledge. UART communication facilitates the interface between the host processor and the radio module. This UART interface may be used to discover, connect, and communicate with other Bluetooth devices. An LED indicator for connection status is provided as a standard feature.

Features and Benefits

- Bluetooth radio modules plug directly into supported RCMs and SBCs
- Simple serial UART communications and control
- Seamless connectivity with any Bluetooth device
- 2.4 GHz FHSS (Frequency Hopping Spread Spectrum) technology ensures high reliability and is robust to interference
- Low current consumption for long battery life
- Complete with sample applications and source code
- Internal Surface-mount antenna.

Bluetooth Application Kit

The Bluetooth Application Kit provides all of the hardware and software necessary to develop a Bluetooth application. The Application Kit includes an RCM3100, EmbeddedBlue eb506-AHC-IN Bluetooth Radio Module, prototyping board, and miscellaneous cables and hardware. The Application Kit also includes the Dynamic C Integrated Development Environment, Bluetooth drivers, libraries, sample programs, and manuals.

Bluetooth Add-On Kit

Bluetooth Add-On Kits include only the EmbeddedBlue eb506-AHC-IN Bluetooth Radio Module, Bluetooth Drivers, sample programs, and radio module manual.

Bluetooth Add-On Kits are available for the following product families:

➢ RCM3000
➢ RCM3100
➢ RCM3200
➢ RCM3300
➢ RCM3360
➢ BL2500
➢ BL2600

A7 Engineering

A7 Engineering is an engineering and design firm specializing in connectivity and interoperability solutions for the embedded marketplace. A7 provides services ranging from engineering assistance to custom features and complete designs. A7's EmbeddedBlue line of products provides industry leading simplicity in an affordable, standardized, and easy to integrate wireless solution across 8, 16, and 32 bit systems.

EmbeddedBlue Radio Module
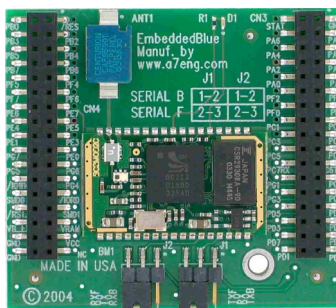
Top View   Bottom View

Bluetooth module is included in both the application kit and the add-on kit.

EmbeddedBlue eb506-AHC-IN Bluetooth Radio Module		
Features	**EmbeddedBlue eb506-ACH-IN**	
Transmit Power	4dBm (max) class 2 operation	
Open Field Range	More than 50 meters (164 feet)	
Receiver Sensitivity	-85dBm	
Operating Temperature	0° to 70° C	
Supply Power	3.3 VDC	
Current Consumption	115.2 kbps data transfer: 35 mA 38.4 kbps data transfer: 24 mA 9.6 kbps data transfer: 25 mA No connection: 3 mA Shutdown mode: 1.5 µA	
Interfaces	3.3 V logic level UART Baud rate: 9.6 k – 230.4 k	
Connectors	Two 17-pin 2 mm headers	
Antenna	Internal surface mount	
Bluetooth Support	Version 1.2 compliant with profiles L2CAP, RFCOMM, SDP, SPP	
Firmware	Upgradeable via PC application	
Part Numbers **Price**	US Application Kit 101-1040 **$339**	Int'l Application Kit 101-1041 **$339**	Add-On Kit 101-1042 **$99**

RCM3100 is included only in the application kit.

RabbitCore RCM3100 Specifications	
Features	**RCM3100**
Microprocessor	Rabbit 3000 at 29.4 MHz
EMI Reduction	Spectrum spreader for reduced EMI (radiated emissions)
Flash	512K (2 x 256K)
SRAM	512K
Backup Battery	Connection for user-supplied battery (to support RTC and SRAM)
General Purpose I/O	54 digital I/O: • 46 configurable I/O • 4 fixed inputs • 4 fixed outputs
Additional Inputs	2 Startup Mode, Reset In
Additional Outputs	Status, Reset Out
Auxiliary I/O Bus	8 data and 6 address (shared with I/O), plus I/O Read-Write
Serial Ports	6 CMOS-compatible • 6 configurable as asynchronous (with IrDA), 4 as clocked serial (SPI), and 2 as SDLC/HDLC (with IrDA) • 1 asynchronous clocked serial port dedicated for programming • Support or MIR/SIR IrDA transceiver
Serial Rate	Max. asynchronous baud rate = CLK/8
Slave Interface	Slave Port permits use as master or intelligent peripheral with Rabbit-based or other master controller
Real-Time Clock	Yes
Timers	Ten 8-bit timers (6 casacadable from the first) and one 10-bit timer with 2 match registers
Watchdog/Supervisor	Yes
Pulse-Width Modulators	10-bit free-running counter and four pulse-width registers
Input Capture	2-channel input capture can be used to time input signals form various port pins.
Quadrature Decoder	2-channel quadrature decoder accepts inputs from external incremental encoder modules.
Power	3.15-3.45 V DC 75 mA @ 3.3 V
Operating Temp.	-40° to +85°C
Humidity	5-95%, non-condensing
Connectors	Two 2 x 17 (2 mm pitch)
Board Size	1.85" x 1.65" x 0.55" (47 x 42 x 14 mm)

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Rabbit Semiconductor](#):
  [101-1040](#) [101-1042](#)