

Technical Data for Bluetooth Application Tool Kit

Initial information

- ◆ Pre-qualified Bluetooth 1.0B Module
- ◆ RF output power class 2 (0dBm-10m range)
- ◆ FCC and ETSI approved for RF regulatory
- ◆ 460 kb/s max data rate over UART
- ◆ Multiple interface for different applications;
 - ◆ UART for data
 - ◆ PCM for voice
 - ◆ USB for data
- ◆ Manual reset possible
- ◆ All the lower layers of the Bluetooth stack included in HW, from HCI down to radio.
- ◆ Antenna included
- ◆ Point to Point Operation
- ◆ Built-in shielding
- ◆ Sideband signals for wakeup and suspend
- ◆ PC99 compliant
- ◆ Supports ACPI power management
- ◆ Firm Ware version P13A
- ◆ Baseband B version P5A
- ◆ Radio P9A
- ◆ ROK101008 version R3A

The Bluetooth Application Tool Kit only supports communication of data. Communication between the kit and the host controller is carried out using a high-speed (12 Mbps) USB interface compliant with USB Specifications 1.1 or an UART/PCM interface. When using the USB interface, the module appears as a USB slave device and therefore requires no PC resources.

ROK 101 008, the Bluetooth module onboard, is compliant with Bluetooth version 1.0B + critical errata, is a Class 2 Bluetooth Module (0 dBm) and is type-approved. The module supports all Bluetooth profiles, though the current HW in the Application tool kit, as well as the Training kit is limited to point to point connections. The next generation of the Bluetooth module used will support multipoint connections as well as master/slave switch.

The kit supports PC power management as outlined by the ACPI specification and is compatible with all ACPI-compliant operating systems. This includes support for notebook system wake-up and ACPI PMI event generation. Two side-band signals Wake-up and Detach are used to augment control of the state from which the notebook resumes. When the host is in a power down mode, Wake-up wakes the host up when the Bluetooth system receives an incoming connection. The host indicates that it is in Suspend mode by using the Detach signal.

Four signals will be provided on the UART. TxD and RxD are used for data and RTS and CTS are used for flow control. The module is a DCE.

External interface

There are three ways of communicating from the host to the kit:

- ◆ USB
- ◆ UART
- ◆ PCM

The communication is achieved using the Host Controller Interface (HCI).

USB

USB 1.1 compliant

The kit is a USB high speed class device and has the full functionality of an USB slave.



UART

Signals supported are Rx, Tx, RTS and CTS.
The module is DCE, Distributed Computing Environment.
The maximum UART speed is 460.8 kbps, default speed is 57,6 kbps

Onboard is a RS232 transceiver, i.e. communication with the UART interface is done at RS232 level so that the kit can be directly connected to the COM-port of a PC.
XON/XOFF is not support in the PC Module.
RTS/CTS should be used at default baudrate; otherwise there probably will be a drop of characters. It is not possible to recover after a lost character.

PCM

The PCM data can be:

- ◆ PCM, 13-16 bit
- ◆ μ -Law 8 bit
- ◆ A-Law 8 bit

The PCM sync is 8 kHz and the PCM clock 200 kHz - 2 MHz

Power Supply

The kit is supplied from 5 VDC, 200mA. Onboard is a DC/DC converter that supplies the Bluetooth module, ROK101008 from Ericsson, with 3,3V. The power supply can be provided via the USB-connector or via a generic header-type terminal.

SW-information

The API's in the PC Reference Stack are in C++-format and it is possible to use any C++ compiler. The accompanying application-programs are developed with Microsoft Visual C++ 6.0 so we recommend using this compiler for full support of the LIB- and header-files that are used in the programs.

Regarding the Ericsson Specific HCI-commands that exist for the Bluetooth module used in the kits, there is no support of these commands included with the kits.

Electrical parameters, normal operation

Parameter	Min	Typical	Max	Unit
Supply Voltage	4.75	5	5.25	V
Storage Temperature	-30		+85	°C
Operating Temperature	0	+25	+75	°C
Average Current Consumption, Connect Mode, (for the Bluetooth module only)		~40		mA
Peak Current Consumption, Connect/Receive Mode, (for the Bluetooth module only)		60		mA
Average Current Consumption, Standby mode, (for the Bluetooth module only)		0.55		mA
Peak Current Consumption, Standby mode, (for the Bluetooth module only)		60		mA
Current Consumption, Module off, (for the Bluetooth module only)		1		uA
Logical input high	0.7x VCC_IO		VCC_IO	V
Logical input low	0		0.3x VCC_IO	V
Logical output high	0.9x VCC_IO		VCC_IO	V
Logical output low	0		0.1x VCC_IO	V
Antenna Output Impedance		50		Ohms
Input/Output VSWR		2:1/3:1		
Frequency Range	2.402		2.495	GHz

