



# DATA SHEET

## Bluetooth™ Serial Module

Preliminary Specification  
V1.1 April, 2003

### Description

The Philips Components *Bluetooth* serial modules provide a complete HCI interface module for integration into a variety of products.

The module can provide a complete embedded *Bluetooth* solution with no external components required, including *Bluetooth* transceiver and integrated software supporting an HCI level UART interface. An integrated high performance antenna is provided, or the module can be provided with a connector for an external antenna.

### Features

- *Bluetooth* v1.1 wireless connection
- Fully integrated module with antenna
- UART interface
- No external components required
- Low power
- Can be customized for specific applications

## Bluetooth™ Serial Module

### Architecture

The module is based on the Philips Blueberry (PCF87750) baseband controller and Philips UAA3558 *Bluetooth* RF transceiver. The Blueberry includes microprocessor and flash memory, supporting an embedded *Bluetooth* lower software stack and serial (UART) HCI interface. Power management is provided on board to ensure a low power implementation and single voltage supply.

A single connector is provided for serial interface and power supply.

The module is configured with an integral high performance antenna, but can also be provided with an antenna connection for an external antenna if required.

### Specification

Bluetooth Compliance	Version 1.1
Operating Frequency	2.4 to 2.4835GHz
Transmit Output Power	Class 2 (0 dBm nominal)
Operating range	Up to 15m (with integral antenna) <sup>1</sup>
Receiver Sensitivity	Less than -80dBm @ 1E-3 BER <sup>2</sup>
Embedded Software	Embedded software stack supporting an HCI interface
Network Topology	Point to Multipoint (up to 7 slaves) Master/Slave switching supported
Interface	UART at up to 921 kbps (low voltage serial interface)
Power Supply	3 to 3.4V
Current consumption	Idle <2mA, File transfer 70mA <sup>3</sup> , Peak <100mA
Operating Temperature Range	-10 to + 55°C
Storage Temperature Range	-40 to + 85°C
Dimensions	45 x 45 x 7mm

<sup>1</sup> Dependant on final product implementation

<sup>2</sup> Room temperature (22°C ± 2°C)

<sup>3</sup> Typical

### Test and Approbation

The module is designed to meet the following standards, when embedded into a representative product:

ETS301489-17, ETS300328-2, CFR47 Part 15.247C, UL 1950, EN 60950

### Mechanical Configuration

The dimensions for a standard configuration are shown. Alternative mechanical form factors, antenna implementations and interface options are possible, including customized applications. Contact Philips Components for details.

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<b>Data sheet status</b>	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product Specification	This data sheet contains final product data.
<b>Application Information</b>	
Where application information is given, it is advisory and does not form part of the specification	

### Life Support Applications

These products are not designed for use in life support appliances, devices, or systems where malfunctions of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

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