





# 2.4GHZ BLUETOOTH TRANSCEIVER MODULE EVALUATION KIT

# BRM01

## Simple Operation

Connect a headset via the 2.5mm headset jack to each unit.

Insert 3xAAA batteries into the battery holders. Observe correct polarity.

Connect the power connect jumper JP1. The BRM will power-up and the LEDs will cycle through AMBER, AMBER-GREEN, AMBER-GREEN-RED then will settle on RED if all self-tests are passed.

Press the connect switch on the BRM PCB and the 2 units will connect and automatically set-up a SCO voice connection (duplex voice connection).

Press the "connect" button to disconnect the link.

## DC Power

The unit can be powered by either 3xAAA batteries (for mobile operation) or by a DC power supply of between +7V and +9V (300mA). If operating from 3xAAA batteries then the battery connect jumper JP1 must be fitted

## Data Connector

A 9-way D-Type connector is provided to allow access to the RS232 data port on the BRM module. The functions of the pins are as follows:

PIN Number	Function	Comments
1	N/C	
2	232-TXD	Output at RS232 level: BRM Transmit data to Host(1 start, 8 data, no parity, 1 stop, 115.2kBaud)
3	232-RXD	Input at RS232 level: BRM Transmit data from Host(1 start, 8 data, no parity, 1 stop, 115.2kBaud)
4	Vcc	Can be used to supply 4.0 – 5.5V regulated when batteries not fitted
5	GND	Ground connection for data and power
6	N/C	
7	232-CTS	Input at RS232 level: +V = BRM will not send to Host, -V = BRM may send to host
8	232-RTS	Output at RS232 level: +V = OK to send to BRM, -V = Not OK to Send to BRM. Connect to CTS on Host
9	N/C	

## Other Information

For a detailed description of the BRM Module please see the following documents:-

BRM Datasheet: DS360

BRM Programmers Guide: DS361

The SCO voice link is transparent to any data link that may be set-up. When the "connect" button is pressed the unit goes through the Bluetooth connect protocol of paging the remote unit, synchronising the hop sequences and establishing a SCO link. There is automatic power control i.e. when the units are close the transmitted RF power will be low and as they are moved apart the power will automatically increase to maintain the link.

When the RF power is at MAX (automatically) it is likely that a buzz of around 250Hz will be heard. This is due to the Audio CODEC is not being screened and is susceptible to the transmitted RF. It is possible with careful consideration to layout and decoupling to virtually eliminate this buzz.

The frequency hopping nature of the BRM will allow a link to be maintained even with severe interference.

The onboard antenna is an inverted-F type and will give a line-of-sight range of around 300M if the antennas of each unit are pointed towards each other. The range can be greatly improved if the on-board antennas are removed (by cutting the PCB along the drill holes) and a directional antenna fitted via a SMA RF connector.



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## Ordering Information

Part Number	Description
BRM-EVAL	BRM Transceiver Evaluation Kit, 2 Host PCBs only

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