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# USER MANUAL

## Free2move Evaluation Board

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## Table of contents

<b>1</b>	<b>Introduction .....</b>	<b>3</b>
<b>2</b>	<b>Included with the Evaluation board .....</b>	<b>3</b>
<b>3</b>	<b>Getting Started with Wireless UART firmware .....</b>	<b>4</b>
<b>4</b>	<b>Evaluation board interfaces .....</b>	<b>4</b>
4.1	Power supply .....	4
4.2	RS-232 .....	4
4.3	Buttons .....	4
4.4	Pin out to the OEM Bluetooth board .....	5
<b>5</b>	<b>Schematics and PCB layout. ....</b>	<b>6</b>

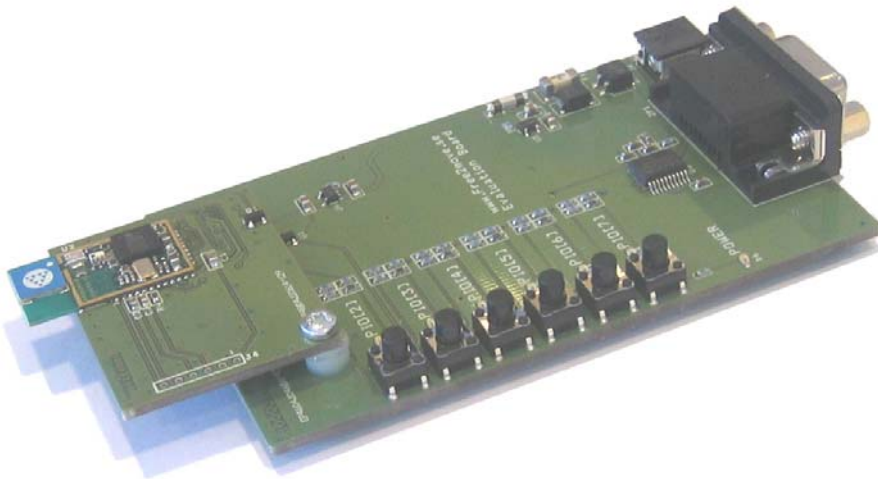
## 1 Introduction

The Free2move evaluation board is designed to make it easy for customers to start using the Free2move Bluetooth modules. By default the evaluation board is delivered with the Free2move Wireless UART (WU) firmware, but is also available with other firmware options such as headset etc. The WU implements the Bluetooth serial port profile; data flows transparent through the serial port to the remote device.

The board currently supports the F2M03C1 and F2M03AC2 modules. For convenience the Bluetooth modules are mounted on a separate exchangeable carrier board (OEM Bluetooth board).

- PCB, 1000 32 01, OEM Carrier board with F2M03C1.
- PCB, 1000 22 04, OEM Carrier board with F2M02AC2.

This document shall be read in conjunction with the Bluetooth module datasheets and the datasheet corresponding to your firmware choice.



## 2 Included with the Evaluation board

- Evaluation Board, 1000 34 01.
- OEM Bluetooth board
- 5V DC adaptor.
- Serial cable.
- CD with documentation and configuration software (WU firmware)

### 3 Getting Started with Wireless UART firmware

To use the Bluetooth serial profile, Free2move provides the Bluetooth modules with its Wireless UART firmware.

- Install the Free2move Configuration software, included on the CD, on your computer running windows (Windows 2000 or later is preferred).
- Connect the Evaluation board to your computer by using the serial cable.
- Connect the 5VDC adapter included or any other power supply delivering +5V/400mA to the power supply connector J4. There is no need to get the polarity right on the supplied power.
- Start the Configuration software. More information about the configuration software and Wireless UART is included on the CD.

### 4 Evaluation board interfaces

The evaluation board includes some external interfaces.

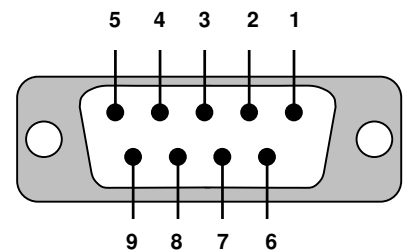
#### 4.1 Power supply

Use the included 5VDC adapter to supply power to the connector J4. Polarity of power does not matter.

#### 4.2 RS-232

The JP1 is a DB-9 RS-232 connector. Pin out is according to the specification below.

Pin	RS-232 signal	Direction
1	CD	Not connected
2	TxD	Output
3	RxD	Input
4	DSR	Not connected
5	GND	
6	DTR	Not connected
7	CTS	Input
8	RTS	Output
9	Vcc Power	Input 4-5V



Evaluation board connector (female)

#### 4.3 Buttons

There are six buttons and six LEDs connected to six different PIO lines of the module. The buttons are active high i.e. when it is pressed 3V is applied to the corresponding input of the module.

The LEDs are mainly intended to show the status of outputs and the buttons to control inputs.

There is a label for each button and LED declaring which I/O they are connected to.

The functionality of the PIO lines differs depending on which firmware version is used. Information about this functionality is included in firmware datasheet (e.g. the Wireless UART datasheet)

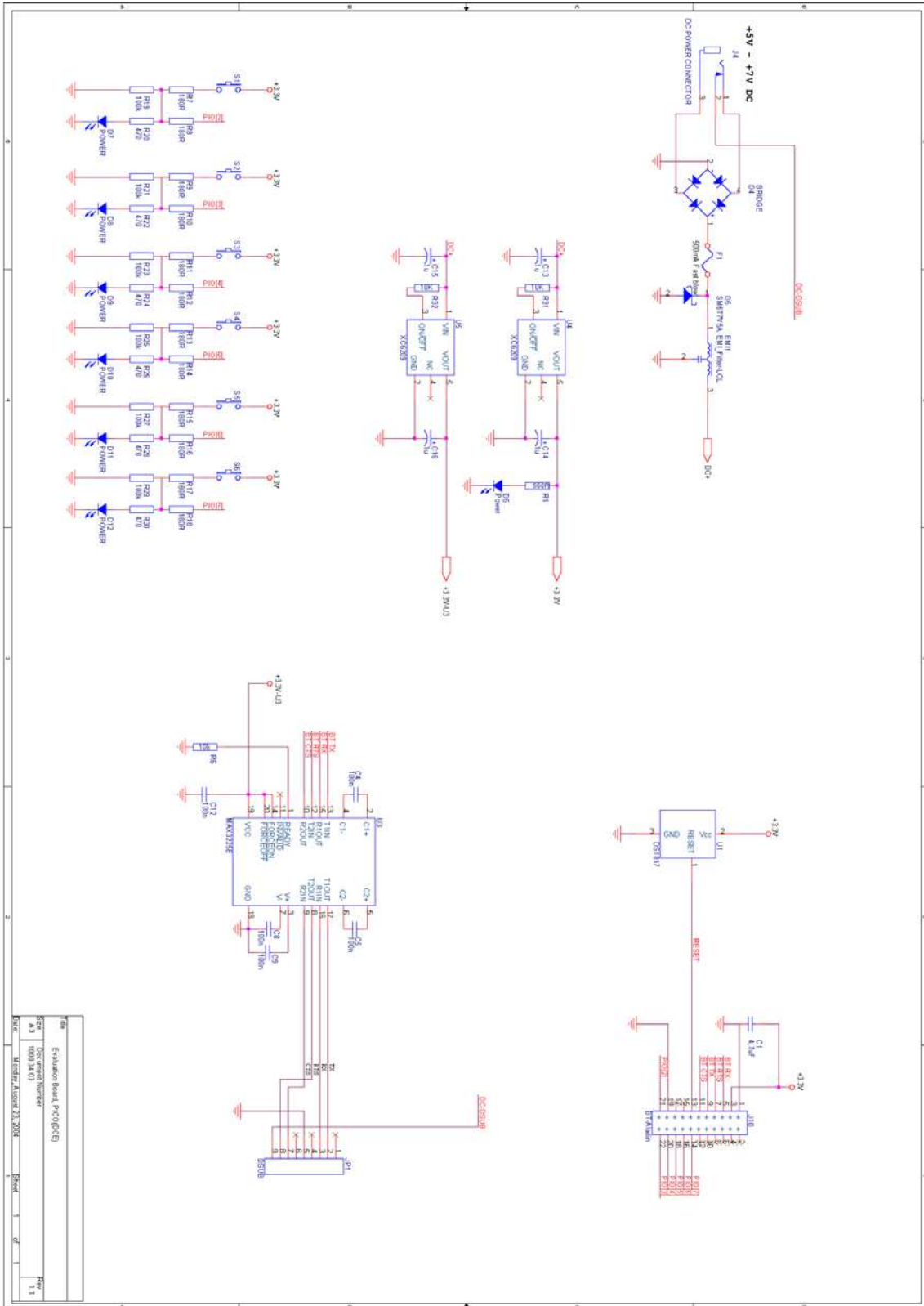
#### 4.4 Pin out to the OEM Bluetooth board.

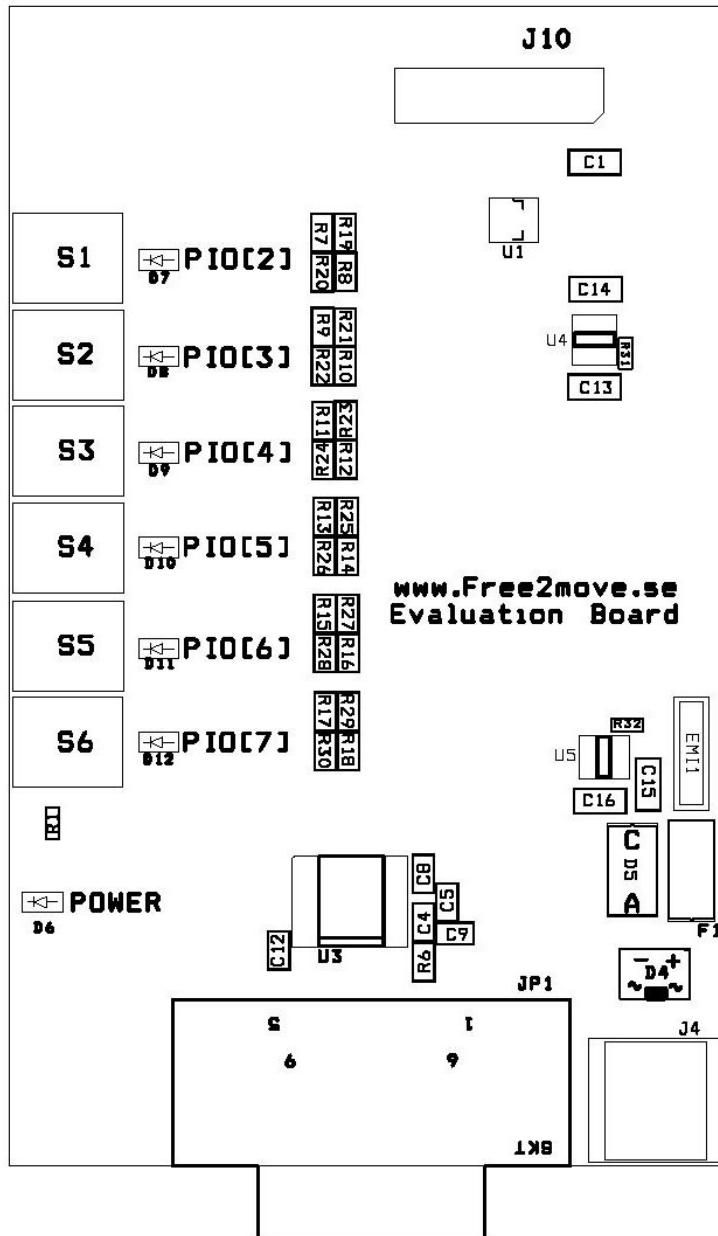
The evaluation board has a female connector, Samtec CLP-113-02-G-D.

On the OEM board it is mounted a 26-pin Samtec FTS-113-02-L-DV connector.

Pin number	Description	Signal direction
1	GND	VDD
2	PCM OUT	Output
3	+3V3	VCC
4	PCM SYNC	Input
5	BT module RX	Input
6	PCM IN	Input
7	BT module RTS	Output
8	PCM CLK	Output
9	BT module TX	Output
10	USB D+	Bi-directional
11	BT module CTS	Input
12	USB D-	Bi-directional
13	RESET	Input
14	PIO[7]	Bi-directional
15	AIO[1]	Bi-directional
16	PIO[6]	Bi-directional
17	AIO[0]	Bi-directional
18	PIO[5]	Bi-directional
19	GND	VDD
20	PIO[4]	Bi-directional
21	PIO[2]	Bi-directional
22	PIO[3]	Bi-directional
23	Free2move internal	For programming purpose (NC)
24	Free2move internal	For programming purpose (NC)
25	Free2move internal	For programming purpose (NC)
26	Free2move internal	For programming purpose (NC)

## 5 Schematics and PCB layout.







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