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## **USER MANUAL**

### **Free2move Evaluation Board**

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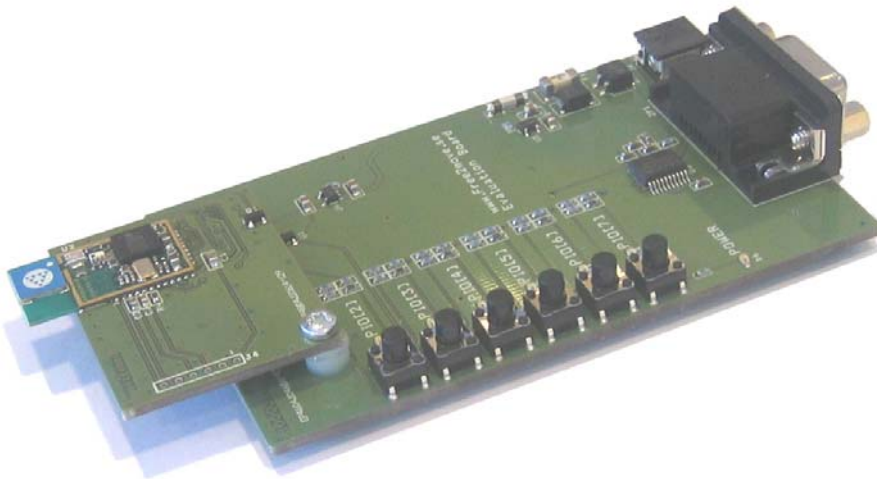
## 1 Introduction

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.

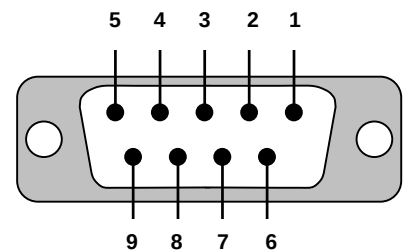
#### 4.1 Power supply

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)

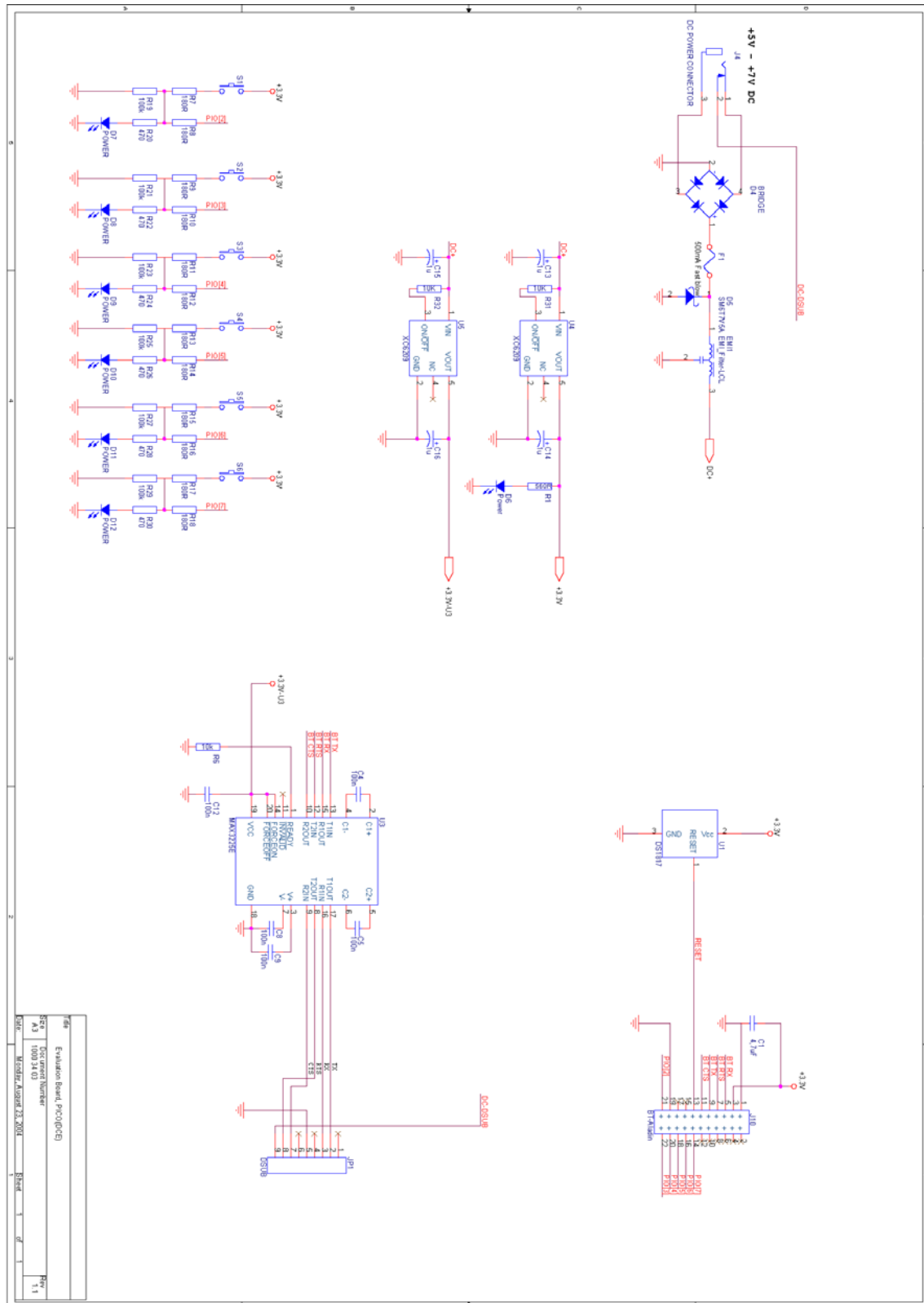
#### 4.4 Pin out to the OEM Bluetooth board.

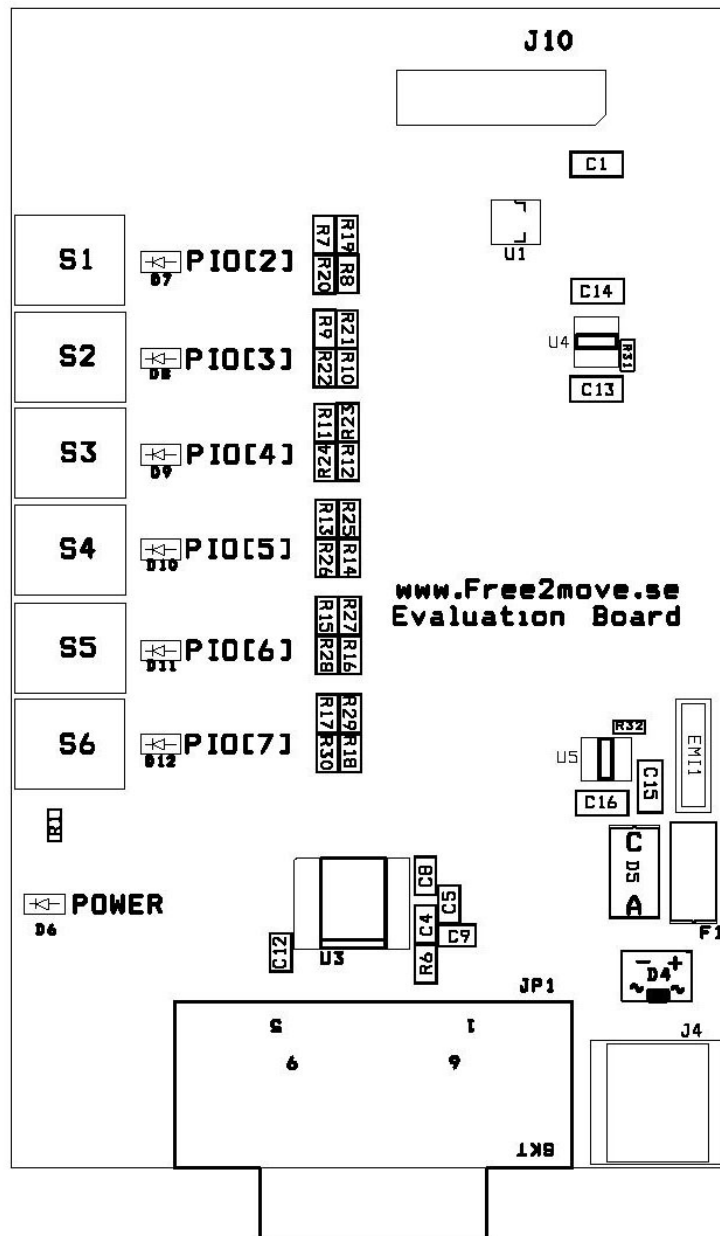
The evaluation board has a female connector, Samtec CLP-113-02-G-D.

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.





## Contact information

For support questions please contact your local dealer

For other purposes use: [info@free2move.se](mailto:info@free2move.se)

Website: [www.free2move.se](http://www.free2move.se)

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