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Flaircomm Microelectronics, Inc.

FLC- BTM101 Low Energy Evaluation Kit User Manual

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Document Type: BTM Low Energy EVK User Manual
Document Number: FLC- BTM101 LEEVK-UM
Document Version: V1.0
Release Date: 2012-06-29

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Release Record

Version	Release Date	Comments
V1.0	2012-06-29	Release



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1. Introduction

FLC-BTM 101 is a tiny, low power and highly economic Bluetooth radio module that allows OEM to add wireless capability to their products. This Evaluation Kit can be used to test the performance of BTM101.

1.1 Features

- BT 4.0
- Support BT 4.0 profiles host stack, including ATT, GATT, SMP, L2CAP and GAP
- UART
- I2C
- Debug SPI



2. Hardware Description

2.1 Evaluation Board

Figure 1 shows the top view of FLC-BTM101 EV Board. Figure 2 shows the top view of Carrier board.

BTM101 can be connected to Evaluation Board via Carrier Board.

Power Supply Selection:

1. Battery Supply: Use a jumper to connect J3.1 with J3.2 on evaluation board. (See Figure 1 “J3: Power Supply Selection” the two pins on right side)
2. USB power supply: USB 5V is reduced to 3.3V by a LDO in the USB to UART converter chipset. A jumper to connect J3.2 and J3.3 on evaluation board is used to select this power supply mode. (See Figure 1 “J3: Power Supply Selection” the two pins on left side)

The SPI port can be used to debug software, or it can be used to set the chipset for testing. A jumper to connect J2.1 and J2.2 on the carrier board is used to enable SPI port. (See Figure 2 “J2:SPI_PIO_SEL”)

There is a dual-line connector (J1 in the schematics) in EV Board (in the lower part of Figure 1). Upper row connects to carrier board. Any pin of BTM101 can be achieved with J1 in EV Board. Lower row of the connector is used to connect to circuits on evaluation board. Jumpers to connect the pins in upper and lower rows are used to select circuit on EV Board.

There are 4 sensors on the evaluation board, including temperature-humidity sensor, pressure sensor, acceleration transducer and photosensitive sensor. 3*3 keyboard and on/off button are digital input. Potentiometer is analogue input. LED is digital and analogue input. You can select all or select only parts of the circuits to evaluate by the jumpers in J1.

FT232RL is used for USB to connect with UART port.

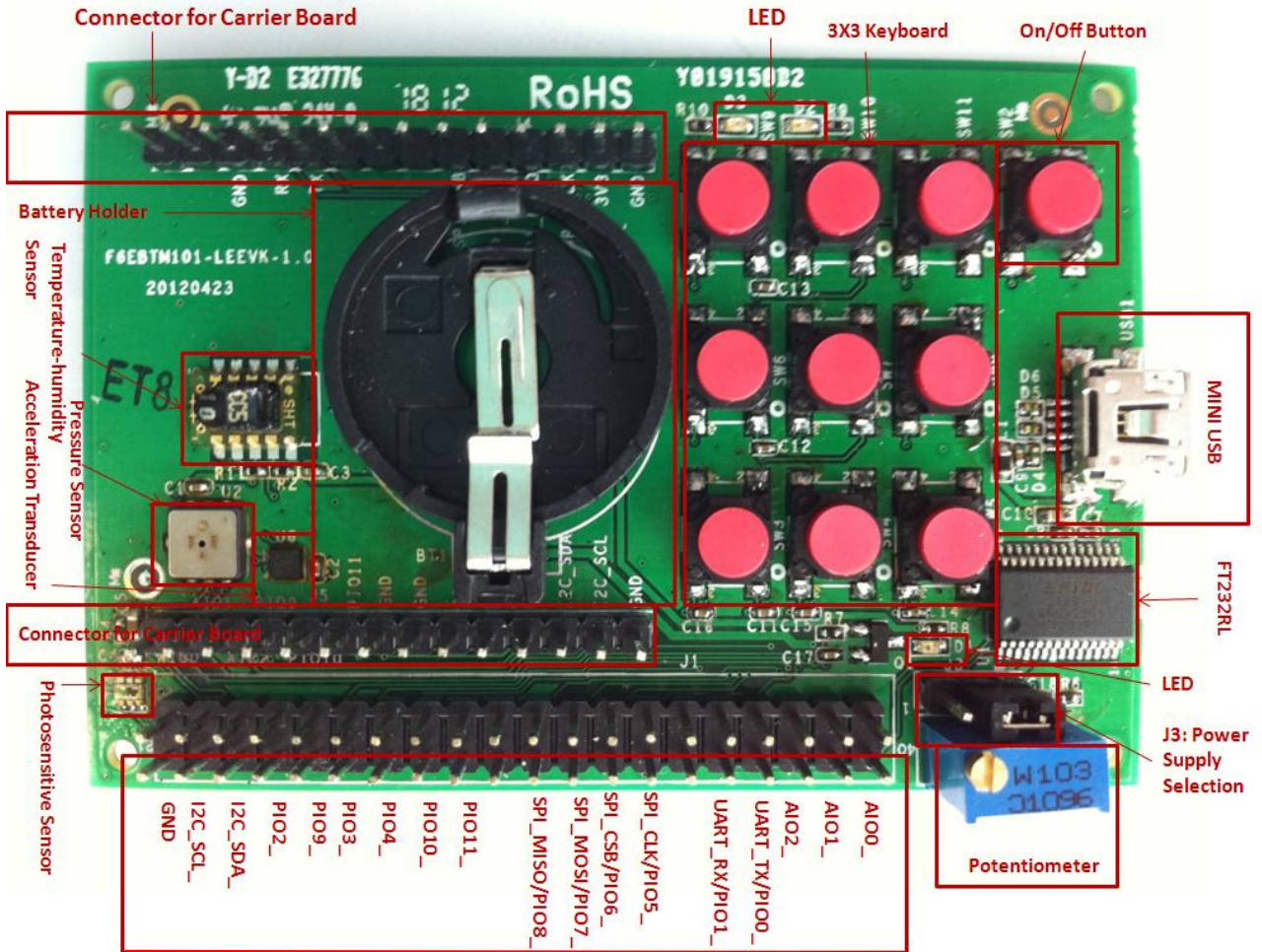


Figure 1: Top View of the EVK Board

2.2 Carrier Board

Figure 2 shows the top view of Carrier board.

Use a jumper to connect J1.1 with J1.2 on carrier board(See Figure 2 J1: WAKE), the module is in wake mode.

Use a jumper to connect J2.1 with J2.2 (See Figure 2 J2:SPI_PIO_SEL), PIO[8:5] provides the SPI debug interface.

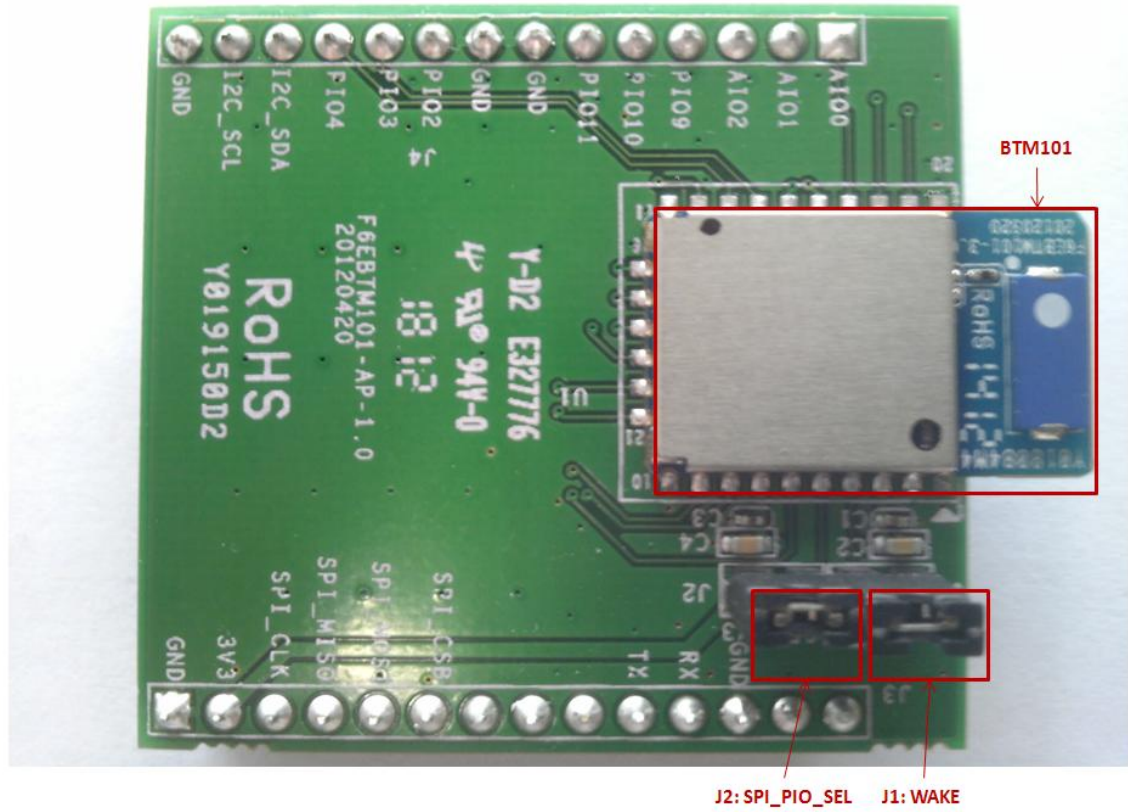


Figure 2: Top View of Carrier Board



2.3 Full Evaluation Kit

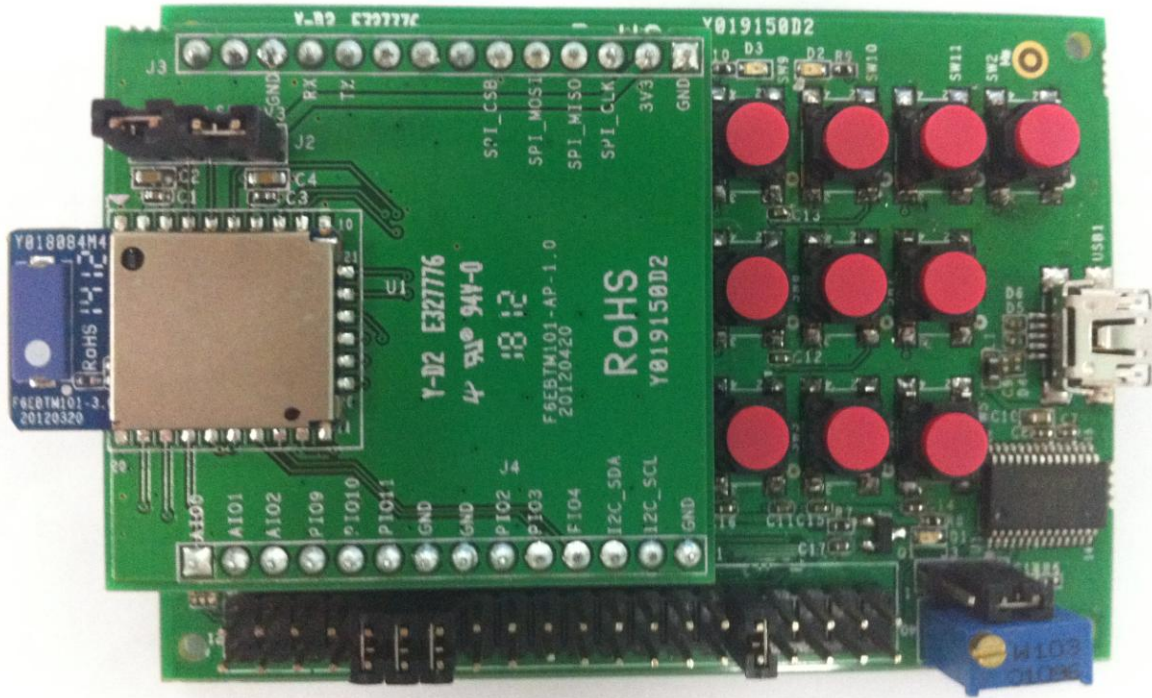


Figure 3: Full Evaluation Kit (Carrier on EV Board)



3. Schematics

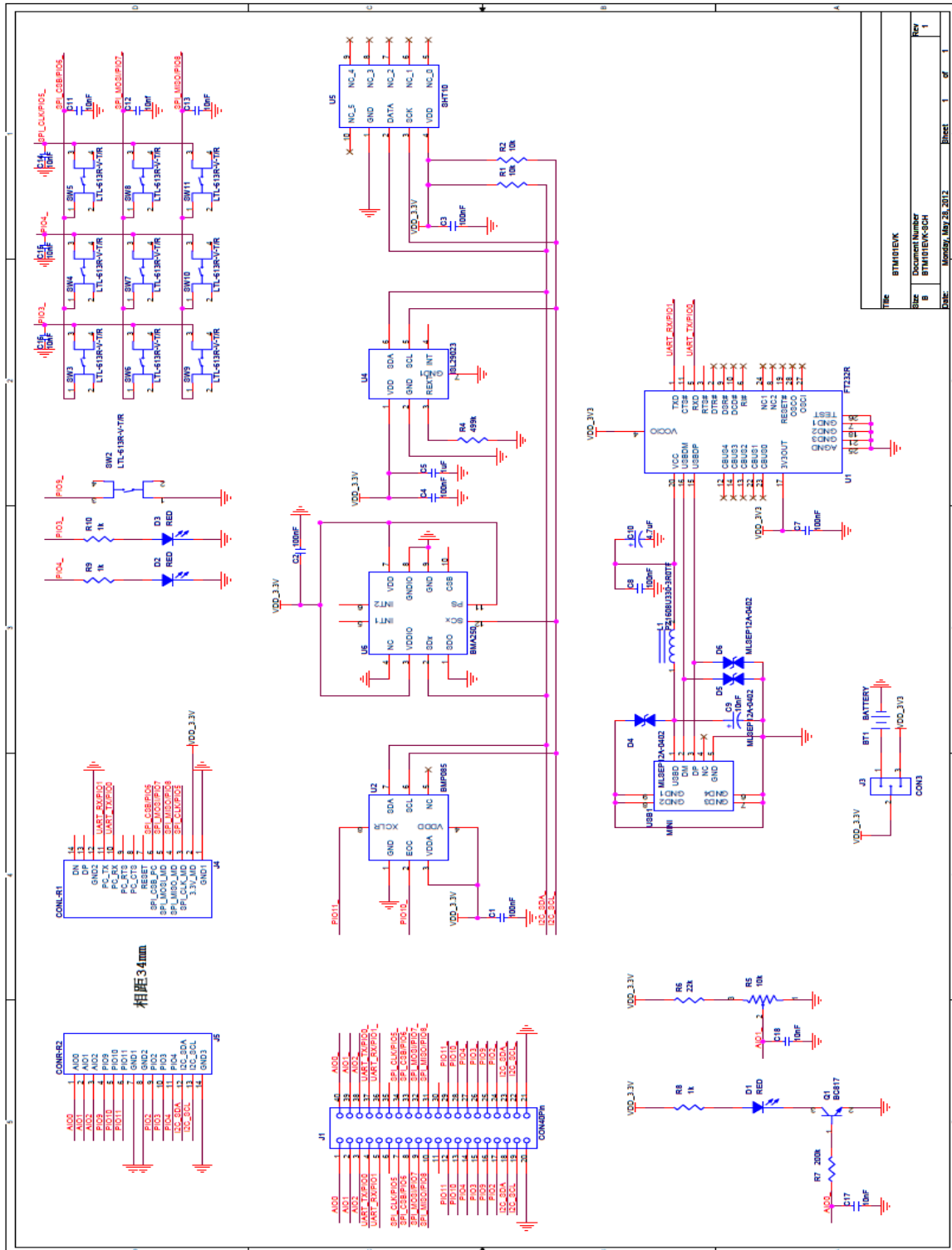
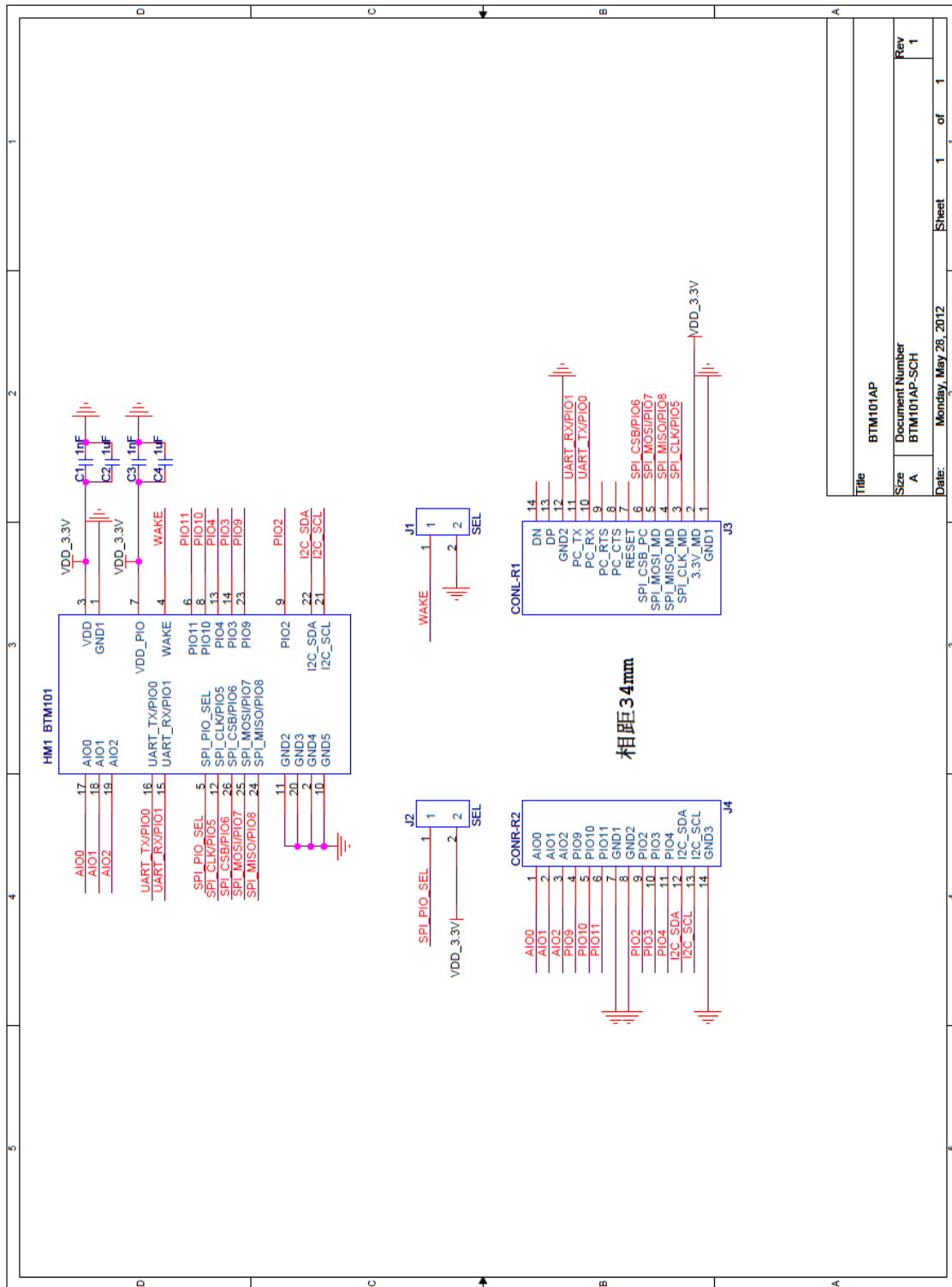




Figure 4: Evaluation Board Schematics



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Figure 5: Carrier Board Schematics