



The RapidSE Development board provides developers with a selection of convenient interfaces to a RapidSE ZigBee Smart Energy module.

The Development board provides the same functionality as the RapidSE USB stick in connection with a PC running RapidSE Desktop, as well as UART and SPI connectivity for integration directly with third party hardware.

## Power

Both USB and an alternative user-provided DC connection are available. To use the alternate connection the shorting jumper on JP1 must be moved to pins 2&3. Shorting pins 1&2 will source power from USB. The onboard regulator is used to convert either USB provided 5V or user provided power, to 3.3V.

### USB Connection

5V up to 200mA

### Alternate Power Connector (J6 - See I/O section)

Recommended DC Power Source

4-12VDC 200mA

### Absolute Max Input Voltage

18VDC (Note: Higher voltage levels will result in damage to the unit).

## LEDs

Three LED indicators are provided:

**TX** – Flashes when the module transmits serial data

**RX** – Flashes when the module receives serial data

**PWR** – Lights when there is 3V power present on the board

## Connectivity

### JP2 – Connectivity Selector

Installed = Normal USB operation

USB communications with radio module enabled

Uninstalled = USB disabled

External TTL UART enabled on connector J4

## I/O

### J1 – Ember SIF Connection

J1 is the Ember Programming Connector

### J2 – mini-B USB Connector

### J3 – EM250 GPIO

J3 is an 18 pin header. This connection maps to all of the 17 GPIO pins on the EM250

Pin 1 = GPIO0

Pin 2 = GPIO1

...

Pin 17 = GPIO16

Pin 18 = GND

### J4 – EM250 UART (3V) Connection

Pin 1 = GPIO10 (RX)

Pin 2 = GPIO9 (TX)

Pin 3 = GND

### J5 – EM250 Master SPI Port

Pin 1 = GPIO9 (MOSI)

Pin 2 = GPIO10 (MISO)

Pin 3 = GPIO11 (CLK)

Pin 4 = GPIO3 (Select)

Pin 5 = GND

### J6 – Alternate Power Connection

Pin 1 = Vin

Pin 2 = GND

See Power Section

*This development board employs a radio module with FCC ID: T7VEM250B*