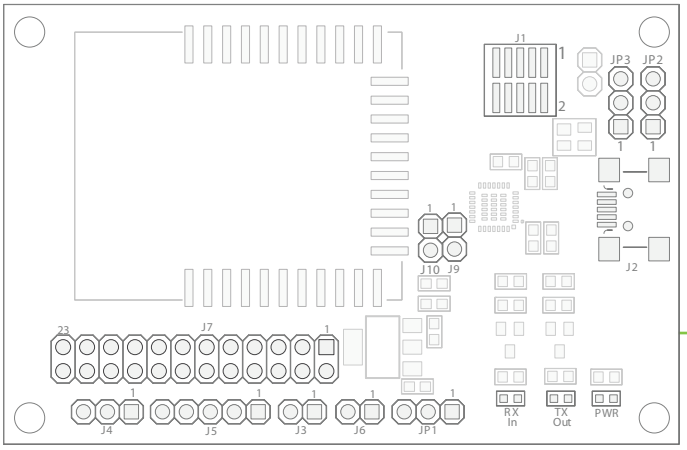
RapidSE Development Board

RSE.USB.DEV.2.0



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

The Development board offers 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 250mA

Alternate Power Connector (J6 - See I/O section)
Recommended DC Power Source
4-5VDC 250mA

Absolute Max Input Voltage
6.5VDC (*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 & JP3 jumper installed on pins 1-2
Normal USB operation

JP2 & JP3 jumper installed on pins 2-3
External TTL UART enabled on connector J4, USB disabled

I/O

J1 – Ember SIF Connection
If using the SIF connection on the Ember InSight Adapter (ISA), the "RCM Power Select" switch on the ISA must be set to "Int" to detect the RSE.USB.DEV.2.0. The Ember InSight USB Link adapter is not currently supported. Please contact us if you require USB Link support.

J2 – mini-B USB Connector

J3 – Bootloader Mode
Installed = Bootloader mode enabled

J4 – EM250 UART (3V) Connection
Pin 1 = GPIO 9 (module TX)
Pin 2 = GPIO 10 (module RX)
Pin 3 = GND

J5 – EM250 Master SPI Port
Pin 1 = GPIO 9 (MOSI)
Pin 2 = GPIO 10 (MISO)
Pin 3 = GPIO 11 (CLK)
Pin 4 = GPIO 3 (Select)
Pin 5 = GND

J6 – Alternate Power Connection
Pin 1 = Vin
Pin 2 = GND
See Power Section

J9 - CTS / RTS connector
Pin 1 = CTS (USB transceiver TTL input)
Pin 2 = RTS (USB transceiver TTL output)

J7 & J10 – EM250 GPIO

J10 Pin 1 = GPIO 0	J7 pin 12 = GPIO 11
J10 Pin 2 = GPIO 2	J7 pin 13 = GPIO 12
J7 Pin 1 = GND	J7 pin 14 = GPIO 13
J7 Pin 2 = GPIO 1	J7 pin 15 = GPIO 14
J7 pin 3 = GND	J7 pin 16 = GPIO 15
J7 pin 4 = GPIO 3	J7 pin 17 = GPIO 16
J7 pin 5 = GPIO 4	J7 pin 18 = NRESET
J7 pin 6 = GPIO 5	J7 pin 19 = SIF MOSI
J7 pin 7 = GPIO 6	J7 pin 20 = SIF LOADB
J7 pin 8 = GPIO 7	J7 pin 21 = SIF MISO
J7 pin 9 = GPIO 8	J7 pin 22 = SIF CLK
J7 pin 10 = GPIO 9	J7 pin 23 = GND
J7 pin 11 = GPIO 10	J7 pin 24 = +3.3v

MMB Research
35 Prince Arthur Ave.
Toronto, Ontario, Canada
M5R1B2
416.636.3145
info@mmbresearch.com
www.mmbresearch.com

This development board employs a radio module with FCC ID: XFFMMBPA10