



### Power

JP1 is used to select between USB or user-provided DC power sources. To use the USB connection as a power source, the shorting jumper on JP1 should be on pins 1-2 (this is the default position). To use an external DC power source, the shorting jumper must be moved to pins 2-3. The on-board LDO will convert either USB-provided 5V or user-provided external power to 3.3V.

### USB Connection

5V up to 325mA

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

Recommended DC Power Source  
4-5VDC 62mA

### 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 (the default positions for those jumpers)

Normal USB operation

JP2 & JP3 jumper installed on pins 2-3

External TTL UART enabled on connector J4, USB disabled (Note: the device can still be powered via USB while in TTL mode)

The RapidConnect Development Board provides developers with a selection of convenient interfaces to a RapidConnect ZigBee module.

When connected via USB to a PC running RapidSE Desktop or RapidHA Desktop, the Development Board offers the same functionality as the RapidConnect USB stick. Additionally, the Development Board offers UART and SPI connectivity for integration directly with third-party hardware.

### I/O

Refer to the Ember EM357 data sheet for complete GPIO usage details and specs.

#### J1 – Ember Debug and Programming InSight Port

Pin 1 = +3.3v	Pin 6 = JCLK/SWCLK
Pin 2 = JTDO/SWO	Pin 7 = JTMS/SWDIO
Pin 3 = nJRST	Pin 8 = nReset
Pin 4 = JTDI	Pin 9 = PTE
Pin 5 = GND	Pin 10 = PTD

#### J2 – mini-B USB Connector

#### J3 – Bootloader Mode

Installed = Bootloader mode enabled

#### J4 – EM357 UART (3V) Connection

Pin 1 = PB1 (module TX)
Pin 2 = PB2 (module RX)
Pin 3 = GND

#### EM357 SPI Port (slave mode)

J7 Pin 10 = PB1 (MISO)	J7 Pin 7 = PB4 (SELECT)
J7 Pin 11 = PB2 (MOSI)	J7 Pin 1 = GND
J7 Pin 8 = PB3 (CLK)	

(Note: USB mode must be disabled before SPI can be used)

#### J5 – EM357 Spare GPIO

Pin 1 = PB1	Pin 4 = PB4
Pin 2 = PB2	Pin 5 = GND
Pin 3 = PB0	

#### 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 – EM357 GPIO

J10 Pin 1 = Reserved	J7 pin 8 = PB3	J7 pin 17 = JRST
J10 Pin 2 = Reserved	J7 pin 9 = PA6	J7 pin 18 = NRESET
J7 Pin 1 = GND	J7 pin 10 = PB1	J7 pin 19 = JTDI
J7 Pin 2 = Reserved	J7 pin 11 = PB2	J7 pin 20 = JTMS
J7 pin 3 = GND	J7 pin 12 = Reserved	J7 pin 21 = JTDO
J7 pin 4 = Reserved	J7 pin 13 = Reserved	J7 pin 22 = JTCK
J7 pin 5 = PA4	J7 pin 14 = Reserved	J7 pin 23 = GND
J7 pin 6 = PA5	J7 pin 15 = Reserved	J7 pin 24 = +3.3v
J7 pin 7 = PB4	J7 pin 16 = Reserved	

### Ordering Information

RapidConnect Development Boards are included in RapidSE or RapidHA Development Kits, but can also be purchased separately from MMB Networks or its distributors, using the SKU Z357PA31-DEV. This device is available for purchase at [Avnet](#) and [Digi-Key](#). Click link to be redirected

This development board employs a radio module with FCC ID: XFFZ357PA20