

**RapidConnect Socket Board**

The RapidConnect socket board provides developers with a selection of convenient interfaces for programming, debugging, and developing with a RapidConnect Zigbee/Thread/BLE module.

**Simple Path to Market****Better Performance****Developer Friendly**

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## 1. Power

### J1 - Mini-B USB Connector

The USB connector enables UART communication to the module and supplies 5 V power to the board. The power requirement is 5 V, 500 mA max.

### J2 - Alternate Power Connection

Pin 1 = VIN

Pin 2 = GND

Absolute maximum user-provided input voltage: 3.6V.

When supplying power on J2, move the J3 jumper from pins 1-2 to pins 2-3. This will disconnect power from the USB-powered voltage regulator and connect the user's external power supply instead.

### J3 - Power selection header

J3 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 J3 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. User-provided external power supplies should be nominally 3.3 V with an operating range of 2.0 - 3.6 V.

### J4 - Current Measurement

J4 is a current measurement header. An ammeter connected here can be used to measure the current consumed by the MMB radio module separate from current used by the rest of the board.

## 2. LEDs

### D4 - Regulator power

Indicates that the board's USB powered 3.3 V regulator is enabled and supplying power.

### D5 - Board power

Indicates that the SBPA-DV1 is receiving power from either the onboard regulator or the user's external power supply.

### D6 - RX

Flashes when the module receives serial data.

### D7 - TX

Flashes when the module transmits serial data.

### D8 - PTID

Flashes when valid RF data packets are received or transmitted.

### D9 - PTIF

Flashes when there is any RF activity (transmit or receive).

### 3. Connectivity

During normal USB operation, module TX/RX pins are connected to the USB interface. A UART console header, J8, provides observation access to these signals. It is not recommended to connect the TX pin of an external UART device to J8.

Pin1: Module TX output to USB interface.

Pin2: GND

Pin3: Module RX input from USB interface.

### 4. Compatibility

Fixture SKU	Compatible Module SKU
SBPA-DV1	BSB03PA1X, CSB04PA1X

### 5. External Flash

A 16 Megabit SPI flash is present on board the RapidConnect socket board. If the external flash is not required then resistor network, RN2, can be depopulated. Alternatively the external flash can be connected to the module by populating a header on J7 and applying jumpers between pins 1-2, 3-4, 5-6 and 7-8. External flash support is only available on CSB04PA1X modules.

### 6. External LFXO

A footprint for an external 32.768kHz LFXO, Y1, is available on board the RapidConnect socket board to characterize BLE low power modes. BLE is only available on CSB04PA1X modules.

### 7. I/O

#### J9 - Minisimplicity Debug and Programming Port

Pin 1 = 3V3

Pin 2 = GND

Pin 3 = RST

Pin 4 = VCOM-RX

Pin 5 = VCOM-TX

Pin 6 = SWO

Pin 7 = SWDIO

Pin 8 = SWCLK

Pin 9 = PTI-FRAME

Pin 10 = PTI-DATA

#### J10 - Socket/ Module Pins

Pin 1 = GND

Pin 2 = GPIO3

Pin 3 = GPIO4

Pin 4 = GPIO5

Pin 5 = UART RX

Pin 6 = UART TX

Pin 7 = VIO

Pin 8 = GPIO14

Pin 9 = PTI DATA

Pin 10 = GND

## J11 - Socket/ Module Pins

Pin 1 = PTI FRAME  
Pin 2 = GPIO15  
Pin 3 = GPIO16  
Pin 4 = GND

Pin 5 = 3V3  
Pin 6 = GND  
Pin 7 = GPIO20  
Pin 8 = GPIO21

## J12 - Socket/ Module Pins

Pin 1 = GND  
Pin 2 = RST  
Pin 3 = SWCLK

Pin 4 = SWDIO  
Pin 5 = SWO  
Pin 6 = GND

All other connections and headers are reserved. For a full schematic and/or placement drawing please contact your sales representatives.

## 9. Revision History

Revision	Date	Comments
1.1	2019/08/23	Rebranded material
1.0	2019/05/28	Initial version



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