RapidConnect Socket Board

RapidConnect™

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

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.

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).

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.

Compatibility

Fixture SKU	Compatible Module SKU
SBPA-DV1	BSB03PA1X, CSB04PA1X

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 appying jumpers between pins 1-2, 3-4, 5-6 and 7-8. External flash support is only
available on CSB04PA1X modules.

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.

I/O

J9 - Minisimplicity Debug and Programming Port

Pin 1 = 3V3	Pin 6 = SWO
Pin 2 = GND	Pin 7 = SWDIO
Pin 3 = RST	Pin 8 = SWCLK
Pin 4 = VCOM-RX	Pin 9 = PTI-FRAME
Pin 5 = VCOM-TX	Pin 10 = PTI-DATA

J10 - Socket/ Module Pins

Pin 1 = GND	Pin 6 = UART TX
Pin 2 = GPIO3	Pin 7 = VIO
Pin 3 = GPIO4	Pin 8 = GPIO14
Pin 4 = GPIO5	Pin 9 = PTI DATA
Pin 5 = UART RX	Pin 10 = GND

J11 - Socket/ Module Pins

Pin 1 = PTI FRAME	Pin 5 = 3V3
Pin 2 = GPIO15	Pin 6 = GND
Pin 3 = GPIO16	Pin 7 = GPIO20
Pin 4 = GND	Pin 8 = GPIO21

J12 - Socket/ Module Pins

Pin 1 = GND	Pin 4 = SWDIO
Pin 2 = RST	Pin 5 = SWO
Pin 3 = SWCLK	Pin 6 = GND

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