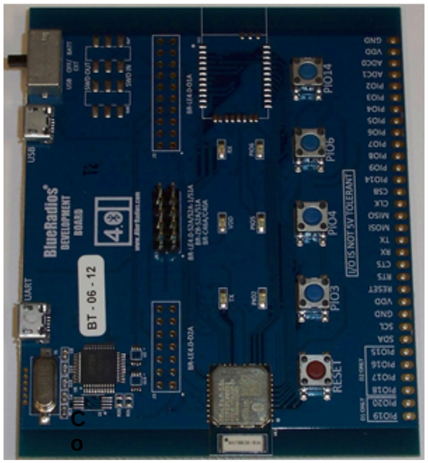
Bluetooth® 4.0 Single Mode Low Energy *nano* ampere *network* Development Board

*n*Blue™ BR-DEV-LE4.0-S2A (CC2540)
BR-DEV-LE4.0-S3A (CC2541)

- *AT HOME. AT WORK. ON THE ROAD.* ***USING BLUETOOTH LOW ENERGY WIRELESS TECHNOLOGY MEANS TOTAL FREEDOM FROM THE CONSTRAINTS AND CLUTTER OF WIRES IN YOUR LIFE.***
- **FCC, IC, CE, RoHS, *and Bluetooth*® 4.0 Certified ISM 2.4GHz module.**
- **Utilizes the TI CC254X SoC with 256K Flash, 8K RAM.**
- **Includes integrated software stack, profiles, and AT modem like commands *(requires no host MCU stack*)**
- **Code space for client applications (130kB Flash / 50kB w/parser, 2.5kB RAM)**
- **USB, CR2032 coin battery, or external power options. A USB Male-to-Mini B Male 1meter cable included**
- **Embedded *Bluetooth* Stack Protocols and Profiles (Master/Slave) include: GAP, GATT, SMP, ATT, L2CAP, BAS, BLP, BLS, DIS, FMP, ANP, HIDS, HOGP, HID HTP, HTS, HRP, HRS, IOP, IAS, LLS, PASP, PXP, SCPP, SCPS, TIP, TP**



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***n*Blue BR-LE4.0-S#A module**

FEATURES

- Integrated AT.s command stack for external control via UART or RF, with master/slave support and serial (BRSP) and battery (BAS) profiles. BRSP allows the user to stream data over LE similar to the way SPP works on Classic *Bluetooth* devices, but at a much lower maximum data rate.

- Available AT.e SDK for custom embedded applications on the module with approximately 130kB Flash and 2.5kB RAM available to the client application.

- Over-the-Air (OTA) firmware programming or over two wire UART interface
- UART (2 or 4 wire with CTS/RTS, 9600 to 460.8K baud), Default 115.2kbps.
- +150 meter (500 feet) distance
- 0-3.3Vdc logic levels to breakout header
- LED status indicators: USB Power (red), PIO2 *Bluetooth* Connection (blue), PIO4 reset (orange), and PIO5 Slave status (green)

- Module easily configured to advertise as iBeacons to support immediate, near, and far proximity ranges.
- Free iOS & Android libraries and applications.

FIRMWARE OPTIONS:

1. AT.s Command Set for external control via UART or RF.
2. AT.e SDK for custom embedded applications, which requires the IAR Systems Compiler.

PINOUT

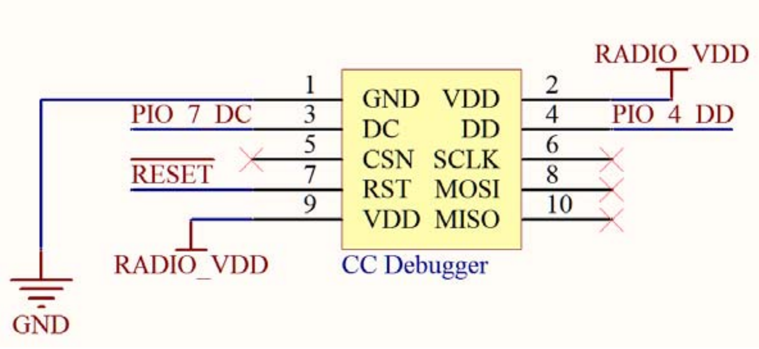
Pin	Pin Name	Pin	Pin Name
1	GND	17	USB_DP
2	NC	18	USB_DM
3	RESET (Active Low)	19	PIO_14
4	ADC_1	20	GND
5	SPI_MISO	21	ADC_0
6	SPI_CSB	22	PIO_9
7	SPI_CLK	23	PIO_2 (20mA)
8	SPI_MOSI	24	PIO_5 (20mA)
9	VDD (2.0-3.6V)	25	PIO_6
10	GND	26	PIO_3
11	UART_CTS	27	PIO_8
12	UART_RTS	28	PIO_4 (DD)
13	UART_TX	29	PIO_7 (DC)
14	UART_RX	30	GND
15	USB_VBUS	31	NC (RF Test Antenna)
16	USB_GND	32	NC (RF Test Ground)

DEBUGGING

PIO_4 and PIO_7 also function as the Debug Data (DD) and Debug Clock (DC) lines, allowing the modules to be connected to a TI CC-Debugger for debugging and programming. See the CC Debugger User’s Guide for more information: http://www.ti.com/tool/cc-debugger

An ***n*Blue** Interace Board (IB) is also available and allows the user to debug, program, update firmware and have UART communications with any of the ***n*Blue** modules through a single or double row 10 pin header. See the ***n*Blue** Module User’s Guide for more information.

A CC-DEBUGGER is only needed for writing a custom application for a module and not using the AT.s command set, AT.s firmware can be updated without a debugger.


RADIO_VDD
1
2
PIO_7_DC
3
GND
VDD
4
PIO_4_DD
DC
DD
5
6
RESET
CSN
SCLK
7
8
RST
MOSI
9
10
VDD
MISO
RADIO_VDD
CC Debugger
GND