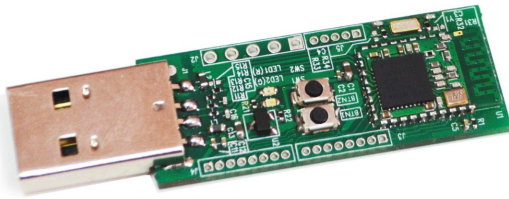


UDK-CC2540

Bluetooth Low Energy USB Dongle Development Kit



UDK-CC2540, USB Dongle is a development kit for user to design Bluetooth Low Energy (BLE) application with integrated USB to the system with existing USB host. UDK-CC2540 USB Dongle contains a Bluetooth module BT02-2 using TI Bluetooth low energy controller CC2540. TI CC2540 is a world-leading chip in Bluetooth Low Energy 4.0 and offers variety of peripherals such as USB, UART, SPI and Timer.

UDK-CC2540 USB Dongle also embeds a High-PSRR 300mA LDO, Buttons and LEDs, and General Purpose I/O Test Points. The Dongle can let user focus on their project development and verify the project easily and rapidly.

FEATURES:

. BT02-2 Bluetooth Module with TI CC2540

- Bluetooth version 4.0 low energy (LE, single mode) compliant
- High-performance and low-power 8051 Microcontroller core with code prefetch
- In-system-programmable flash, 256KB
- 12-Bit ADC with eight channels and configurable resolution
- 21 general purpose I/O
- Full-Speed USB Interface
- Power USARTs with support for several serial protocols
- On board PCB Antenna and Crystal
- Module dimension: 14.8 x 10mm

. LDO

- Fast Ultra High-PSRR, Low-Noise 300mA CMOS LDO
- 3.3V Output Voltage

. Variety of Individual Pin Header Sections

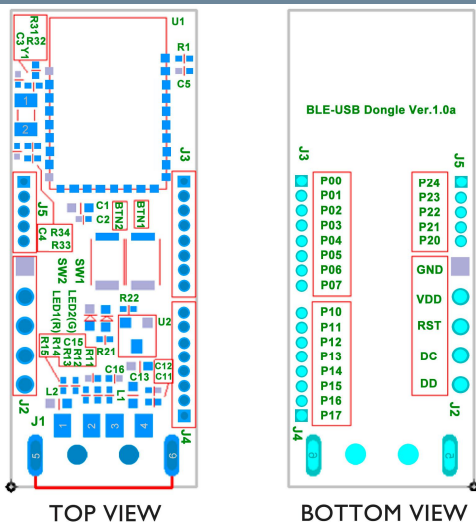
- Flash Programming and Debugging
- General Purpose I/O (GPIO)

. Buttons and LEDs

- Input / output function control

. Dongle Dimension: 16mm x 41mm (PCBa) ; 16mm x 56mm (including USB connector)

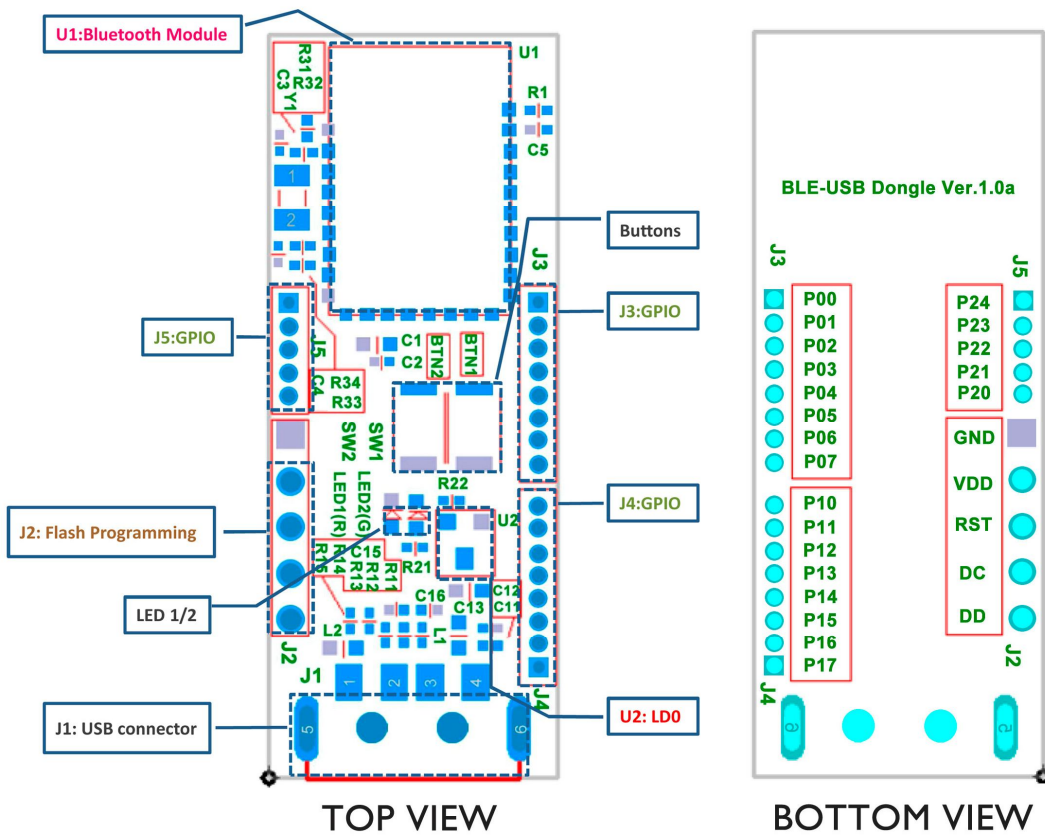
HARDWARE PLACEMENT



Note:

- a. The Dongle designs for variety of TI Bluetooth Low Energy chips.
 - e.g., Digimore Bluetooth Module LE 4.0, BT02-2 embeds TI CC2540
 - Digimore Bluetooth Module LE 4.2&5.0, BT02-3 embeds TI CC2540T
 (The BT02-3 modules is in PVT stage and the part no. may change.)
- b. In this document, it will illustrate Dongle using CC2540

HARDWARE DEFINITION



Flash Programming and Debugging

Marking Name	Description	Note
J3	<p>Contain 5 pins for Flash Programming and Debugging of CC2540. Marking Pins (BOTTOM VIEW) are GND, VDD, RST, DC and DD.</p> <p>** GND: Ground Pin for CC2540</p> <p>** VDD: Power Supply Pin for CC2540 (Fix 3.3V by LDO)</p> <p>** RST: RESET_N pin of CC2540</p> <p>** DC: Debug Clock (Port 2.2) Pin of CC2540</p> <p>** DD: Debug Data (Port 2.1) Pin of CC2540</p>	<ol style="list-style-type: none"> Operate With TI CC Debugger Refer to user's manual of Chapter 6.3 for details In pitch 2.54mm

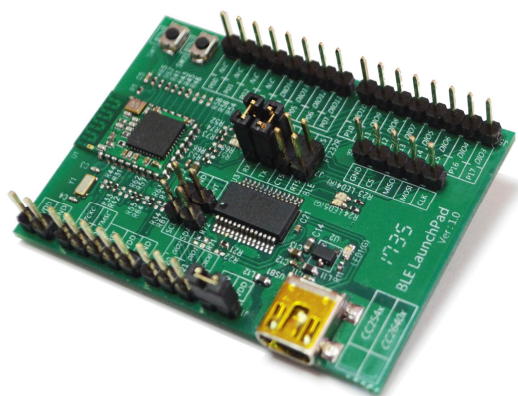
GPIO

Marking Name	Description	Note
J3	<p>Contain I/O Port 0.0 to Port 0.7 of CC2540</p> <p>Marking Pins (BOTTOM VIEW) are P00 to P07</p>	In pitch 1.27mm
J4	<p>Contain I/O Port 1.0 to Port 1.7 of CC2540</p> <p>Marking Pins (BOTTOM VIEW) are P10 to P17</p>	Itch 1.27mm
J5	<p>Contain I/O Port 2.0 to Port 2.4 of CC2540</p> <p>Marking Pins (BOTTOM VIEW) are P20 to P24</p> <p>** For I/O Port 2.3 and Port 2.4, they are used for Crystal 32.768K Hz while shipped.</p>	Itch 1.27mm

Buttons		
Marking Name	Description	Note
BTN1 (SW1)	Button Input for User Application. ** BTN1 connects to Port 1.2 of CC2540 ** Active Low.	-
BTN2 (SW2)	Button Input for User Application ** BTN2 connects to Port 1.3 of CC2540 ** Active Low.	-

LEDs		
Marking Name	Description	Note
LED 1 (R)	LED Operation for User Application ** LED1 connects to Port 1.1 of CC2540 ** Active High ** In color Red	In demonstrated HostTestRelease FW, LED1(R) configures as Active High (On)
LED 2 (G)	LED Operation for User Application. ** LED2 connects to Port 0.0 of CC2540 ** Active Low ** In color Green	

Auxiliary Units		
Marking Name	Description	Note
U1	Bluetooth Module BT02-2 with TI CC2540 ** Dimension: 14.8mm x 10mm.	-
U2	Fast Ultra High-PSRR, Low-Noise 300mA CMOS LDO 3.3V Output Voltage	-
J1	USB Type A Plug (Male) Connector	-



EVK-CC2541, Bluetooth 4.0 LaunchPad/
Development Kit also available

* Features and specification are subject to change without notice.