



CC3200-LAUNCHXLA User's Guide, Ver 1.1

ABSTRACT

This document describes the CC3200-LAUNCHXLA (CC3200 Launchpad). It details the features of the hardware and also explains the correct usage of the board.

FCC/IC Regulatory Compliance
FCC Part 15 Class A Compliant
IC ICES-003 Class A Compliant

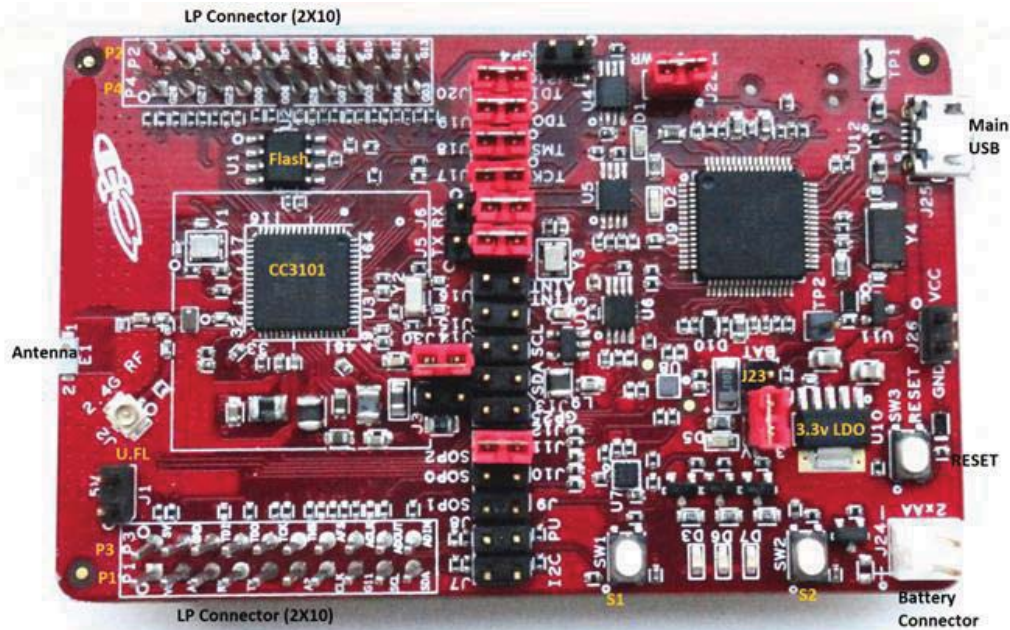
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Introduction

Board overview

This board is designed to be used as a standalone development platform for application development using the CC3200 device. It can be also used in conjunction with compatible booster-packs to enhance the peripherals available in the system. The board features on-board emulation using FTDI device and has an array of sensors for an out of the box experience. This board can be directly connected to the PC using software development platforms including CCS and IAR.



Features

CC3200 WIFI application processor

USB interface to PC for CCS/IAR using XDS ICD1 USB drivers

Flash update over the USB using Simple Link Programmer.

2x20 pin Connectors : Compatible to MCU Launch Pads with added functions.

Standalone development platform featuring sensors, LEDs and push-buttons

Power from USB for the launchpad as well as external boosterpack

Operates from 2xAA alkaline battery.

Push buttons for RESET

3 user LEDs

On-board antenna and U.FL connector selectable using a capacitor re-work.

Sensors including temperature, 3-axis accelerometer.

Hardware description

Connector description

1.1.1.1 P1 connector assignment

Pin No	Signal name	Direction w.r.t CC3200	Comments
P1.1	VCC(3.3V)	OUT	Max 100mA for peripherals
P1.2	GPIO03/ADC_CH2	IN	
P1.3	GPIO_02/UART1_RX	IN	
P1.4	GPIO_01/UART1_TX	OUT	
P1.5		OUT	UNUSED
P1.6	GPIO_04/ADC_CH3	IN	
P1.7	GPIO_14/SPI_CLK	OUT	
P1.8	GPIO_11		
P1.9	GPIO_10/GPIO_12/I2C_SCL	BD	2.2K pull-ups on board
P1.10	GPIO_11/GPIO_13/I2C_SDA	BD	2.2K pull-ups on board

1.1.1.2 P2 connector assignment

Pin No	Signal name	Direction w.r.t CC3200	Comments
P2.1	GND	PWR	
P2.2	GPIO_22	OUT	
P2.3	GPIO_17/SPI_CS	OUT	
P2.4	GPIO_28	OUT	
P2.5	RESET	OUT	Reset output from board
P2.6	GPIO_16/SPI_DOUT	OUT	
P2.7	GPIO_15/SPI_DIN	IN	
P2.8	GPIO_10	BD	
P2.9	GPIO_12	BD	
P2.10	GPIO_13	BD	

1.1.1.3 P3 connector assignment

Pin No	Signal name	Direction w.r.t CC3200	Comments
P3.1	5V		
P3.2	GND		
P3.3	GPIO_23/TDI	IN	
P3.4	GPIO_24/TDO	OUT	
P3.5	GPIO_28/TCK	IN	
P3.6	GPIO_29/TMS	IN	
P3.7	GPIO_08/AUD_SYNC	OUT	
P3.8	GPIO_30/AUD_CLK	OUT	
P3.9	GPIO_09/AUD_DOUT	OUT	
P3.10	GPIO_00/AUD_DIN	IN	

1.1.1.4 P4 connector assignment

Pin No	Signal name	Direction w.r.t CC3200	Comments
P4.1	GPIO_26	OUT	
P4.2	GPIO_27	OUT	
P4.3	GPIO_25	OUT	
P4.4	GPIO_00/GPIO_07/UART1_RTS	OUT	

P4.5	GPIO_06/UART1_CTS	IN	
P4.6	GPIO_28	I/O	
P4.7	GPIO_07/NWP_LOGGER	OUT	
P4.8	GPIO_05/WLAN_LOGGER	OUT	
P4.9	GPIO_04/WL_RS232_RX	IN	
P4.10	GPIO_03/WL_RS232_TX	OUT	

1.1.1.5 Jumper settings

1.1.1.5.1 Power

Reference	Function	Value	Comments
J22	ICDI Power	Closed	Supplies 3.3V to the ICDI
J23	Board power	2-3	Supplies 3.3V to the board from USB
		1-2	Supplies power to the board from battery

1.1.1.5.2 I2C

Reference	Function	Value	Comments
J7	Pull-up on SDA	Closed	Enable 3.3K pull-ups on the SDA
J8	Pull-up on SCL	Closed	Enable 3.3K pull-ups on the SDA
J13	SDA	Closed	Connect on-board sensors to I2C bus
J14	SCL	Closed	Connect on-board sensors to I2C bus

1.1.1.5.3 UART

Reference	Function	Value	Comments
J5	UART TX	1-2	Routes UART to 2x20 pin for Booster pack
		2-3	Routes UART to ICDI for flash programming.
J6	UART RX	1-2	Routes UART to 2x20 pin for Booster pack
		2-3	Routes UART to ICDI for flash programming

1.1.1.5.4 Operating modes (Debug)

Mode	SOP2	SOP1	SOP0
	J11	J9	J10
Functional mode with 4 Wire JTAG	0	0	0
Functional Mode with 2 Wire SWD	0	0	1
Flash programming mode over UART	1	0	0

Note : '0' indicates jumper is open

1.1.2 Power selection

The board can be powered from the USB connector using the on-board LDO (3.3V) or using an external battery (2xAA). The battery is connected to J24. There is built-in reverse polarity protection for the battery connector.

The selection between the battery and USB power is performed using the jumper J23.

J23(1-2) [Battery powered]

J23(2-3) [USB powered]

1.1.3 USB connections

The Launchpad features an USB connector labelled J25.

J25 is used to power the board and also for the JTAG emulation and UART ports. Currently only one UART port for the flash programming is provided on the board. The board requires the installation of Stellaris ICDI Drivers to be installed for proper operation. This is provided as part of the SDK release.

1.1.4 JTAGsignals

The JTAG lines are brought out on separate headers on the PCB. The jumpers are shorted to connect the CC3200 JTAG to the ICDI device on-board. To use an external emulator, these jumpers have to be un-installed and the JTAG signals to be connected on the jumpers below.

JTAG connector

Pin No	Signal	Direction
J17	TCK	In
J18	TMS	In
J19	TDO	Out

J20	TDI	In
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1.1.5 User LEDs and push-buttons

There are 3 user LEDs on the board along with 2 push buttons. The usage can be controlled by the application program.

Signal mapping

Reference	Colour	GPIO mapping	comment
D7	GREEN	GPIO_11	Glow when GPIO = 1.
D6	YELLOW	GPIO_10	Glow when GPIO = 1.
D3	RED	GPIO_09	Glow when GPIO = 1
SW1	NA	GPIO_13	High when pressed.
SW2	NA	GPIO_22	High when pressed.

1.1.6 On-board sensors

There are two sensors on the board which are connected to the I2C bus. The sensors can be isolated from the I2C bus using the jumpers J14 and J13. By default the pull-ups on the I2C are not enabled. To enable these install jumpers J7 and J8.

The sensors available on the board are listed below with their address

Reference	Part No	Type	Address
U8	TMP006	Temperature sensor	0x41
U7	BMA222	3-Axis Accelerometer	0X18

Hardware documents

LP V2.0 RevA- PG 1.11

Schematics	Schematics
Assembly diagram	Placement diagram
Bill of materials	Bill of materials
ECO List (Changes made to the sch/bom)	
Gerber Files	pcb (Gerber) files

Software Information

1.1.7 USB driver (For BP/LP)

For Windows (XP, Win7) [Link](#)

Federal Communications Commission (FCC) Statement

15.21

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

15.105(b)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1) this device may not cause harmful interference, and
- 2) this device must accept any interference received, including interference that may cause undesired operation of the device.

FCC RF Radiation Exposure Statement:

1. This Transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.
2. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with a minimum distance of 20 centimeters between the radiator and your body.

Canada, Industry Canada (IC) Notices

This Class B digital apparatus complies with Canadian ICES-003 and RSS-210.

Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Radio Frequency (RF) Exposure Information

This equipment complies with IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter

Canada, avis d'Industry Canada (IC)

Cet appareil numérique de classe B est conforme aux normes canadiennes ICES-003 et RSS-210.

Son fonctionnement est soumis aux deux conditions suivantes : (1) cet appareil ne doit pas causer d'interférence et (2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

Informations concernant l'exposition aux fréquences radio (RF)

Cet équipement est conforme avec l'exposition aux radiations IC définies pour un environnement non contrôlé. Cet équipement doit être installé et utilisé à une distance minimum de 20 cm entre le radiateur et votre corps. Cet émetteur ne doit pas être co-localisées ou opérant en conjonction avec une autre antenne ou transmetteur