CC32xx SPI Demo

# CC32xx SPI Demo

## Overview

The Serial Peripheral Interface (SPI) is synchronous serial interface the allows full duplex communication with an external SPI compliant Master or slave device. SPI devices operate in master-slave mode, where master initiates the communication, and can operate in two mode 4 wire or 3 wire mode. SPI specifies following four signal:

SCLK: Serial clock from Master to Slave
MOSI: Serial data from master to slave
MISO: Serial Data from slave to master
CS: Chip select(Only in 4 wire mode)

## **Application details**

The demo application focuses on showing the required initialization sequence to enable the CC3200 SPI module in full duplex 4-wire master and slave mode(s).

## Source Files briefly explained

- main.c Initializes the SPI module in either master or slave 4 wire mode based on macro
- **pinmux.c** Generated by Pinmux utility to mux out the SPI module signal to chip boundary.
- uart\_if.c Implements the UART terminal.
- startup\_ewarm.c Implements interrupt vector table when using IAR ewarm tool chain
- startup\_css.c Implements interrupt vector table when using CC tool chain

# **Usage**

• Interconnect two LP board as shown below, where one LP board acts as SPI master and other as SPI slave.

LP 1 Pin	LP 2 Pin	Signal Name
P1.7	P1.7	SCLK
P2.3	P2.3	CS
P2.6	P2.6	MOSI
P2.7	P2.7	MISO
P2.1	P2.1	GND

• Setup a serial communication application (HyperTerminal/TeraTerm) with following settings for both the LP(s). For detail info visit Terminal setup

- **Port**: Enumerated COM port

- Baud rate: 115200

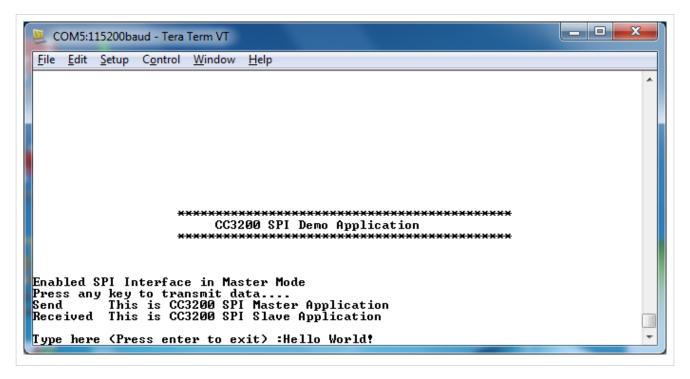
- Data: 8 bit- Parity: None- Stop: 1 bit

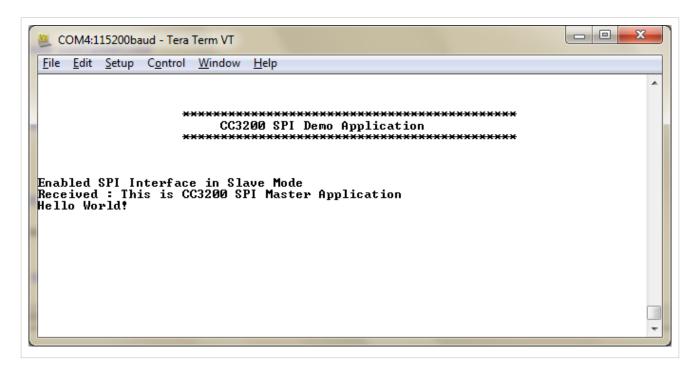
- Flow control: None

• Run the application (by flashing the bin/IAR/CCS) on both the LPs, one compiled for master mode and another for slave mode by changing the following macro definition:

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• Follow the instruction on the UART terminal.





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Limitations/Known Issues
• User should always execute master application followed by slave application to avoid slave SPI receiving garbage.

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CC32xx SPI Demo Source: http://processors.wiki.ti.com/index.php?oldid=178068 Contributors: Codycooke, Jitgupta, Malokyle

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