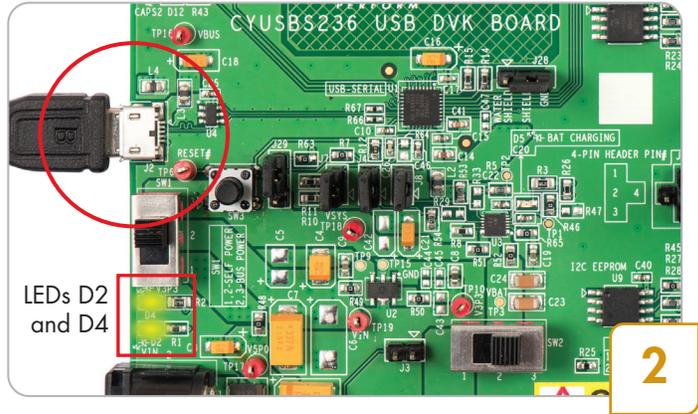


# USB-SERIAL DEVELOPMENT KIT



1



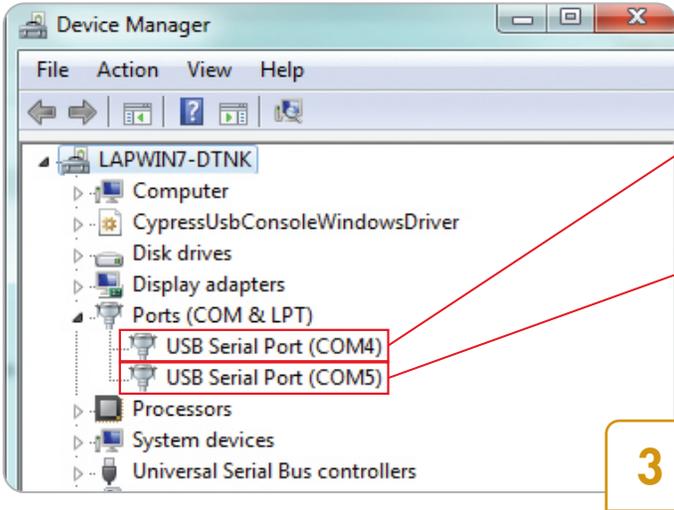
2

### Step 1: Software Installation

- Download and unzip the ISO file from [www.cypress.com/go/CYUSBS236](http://www.cypress.com/go/CYUSBS236)
- Run cyautorun.exe and follow the steps in the installer window
- Install Tera Term from the following location: <install directory>/Cypress/CYUSBS236 DVK/1.0/teraterm

### Step 2: Powering the board\*

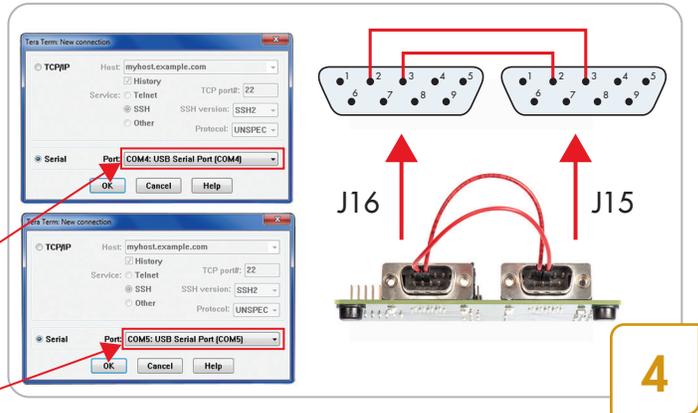
- Connect the board to the PC using the USB cable
- LEDs D2 and D4 glow to indicate that the board is powered



3

### Step 3: Enumeration

- The device appears as two **USB Serial Ports (COM#)** in the Device Manager. (To launch the Device Manager in Windows 7, click **Start** and type Device Manager in 'Search programs and files' box)

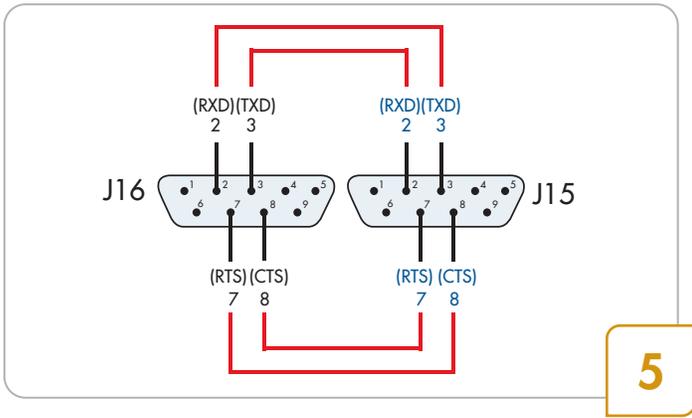


4

### Step 4: Testing basic UART functionality

- Connect J16.3 (TXD) to J15.2 (RXD) and J15.3 (TXD) to J16.2 (RXD), with the provided jumper wires
- Run 2 instances of Tera Term (**Start > All Programs > Tera Term**)
- Click **Serial** and select **Port (COM#)** in the first 'Tera Term: New Connection' window, and then click **OK**. Repeat the same for second instance of Tera Term window
- Type "HELLO WORLD" in the first terminal, the same text appears on the second terminal. Type "HELLO WORLD" in the second terminal, the same text appears on the first terminal

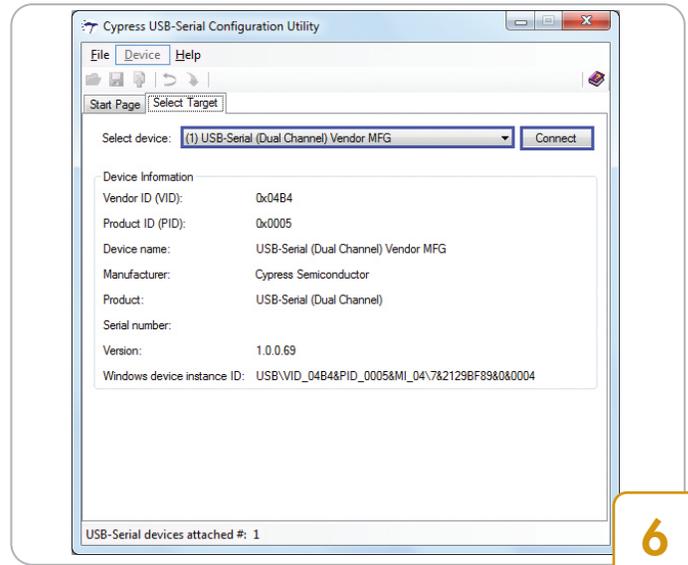
Note: \* Connect the board to PC only after software installation. For the latest software updates on Windows, Linux, MAC, and Android, visit [www.cypress.com/go/usbserial](http://www.cypress.com/go/usbserial)



5

## Step 5: 10 MB File transfer at 1 Mbps, with no Data-Loss

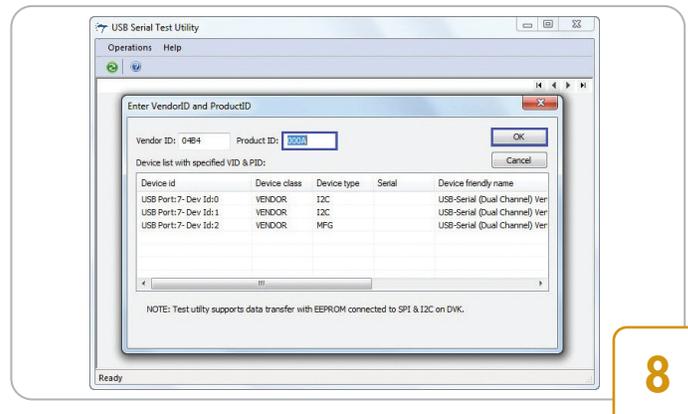
- Connect wires as above. Run 2 instances of Tera Term
- Go to **Setup > Serial Port** in the first Tera Term window, and enter 1000000 in the baud rate box. Select **Hardware** in the **Flow control** drop-down menu; go to **Setup > Terminal > Receive**, select **CR+LF**. Repeat the same in the second Tera Term window
- Enable file capture in the first Tera Term window: go to **File > Log**; uncheck **Append** and select <file name> to save the received data
- Go to **File > Send File** in the second Tera Term window. Select Test.txt file from <Install directory>\Cypress\CYUSBS236 DVK\1.0
- 'Tera Term: Send file' window shows effective data throughput
- Compare Test.txt and received file, using any file compare utility to verify data integrity



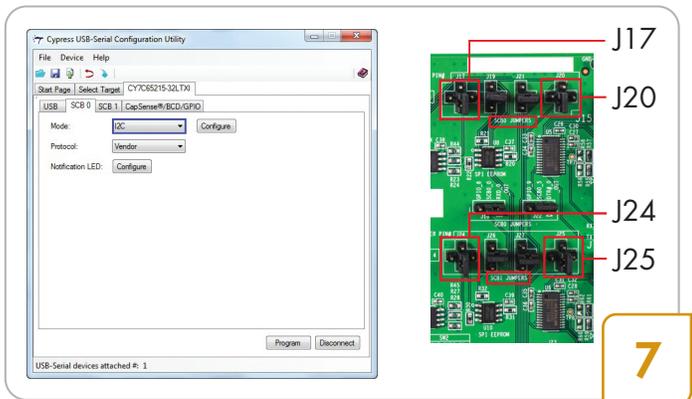
6

## Step 6: Start Configuration Utility

- Run configuration utility from **Start > All Programs > Cypress > CYUSBS236 DVK > USB Serial Configuration Utility**
- Click **Select Target** tab. Select the device **USB-Serial (Dual Channel) Vendor MFG** from the drop down menu and click **Connect**



8



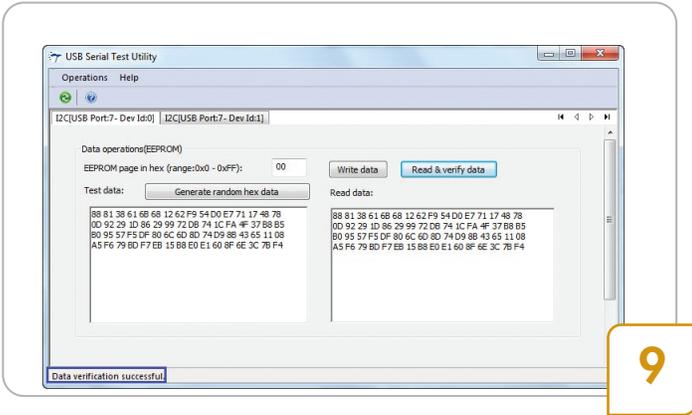
7

## Step 7: USB – I2C bridge configuration

- Click the **SCB0** tab. Select I2C from the drop-down menu and click the **Program** button. The 'Program succeeded' message appears. Click **OK** to continue
- Repeat the above by clicking the **SCB1** tab. Click the **Disconnect** button to disconnect the board from configuration utility
- Press reset switch SW3 (refer to the figure in step 13). The board enumerates as dual I2C bridge
- Set jumpers J17, J20, J24 and J25 as shown above

## Step 8: USB – I2C test utility

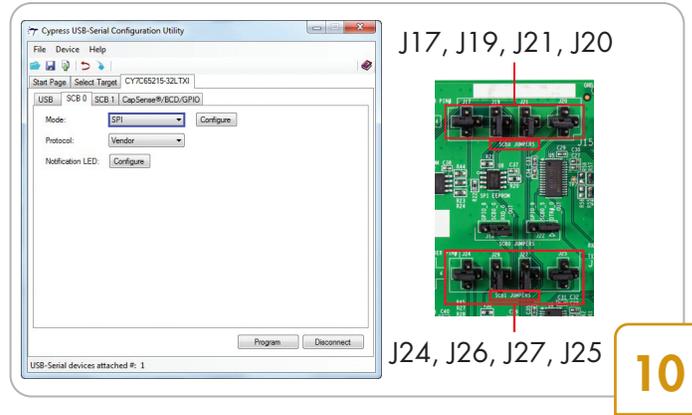
- Run the USB Serial Test Utility from **Start > All Programs > Cypress > CYUSBS236 DVK > USBSerialTestUtility**
- Change the Product ID to 000A to match the default Cypress PID. The test utility lists the I2C interfaces on the board. Click **OK** to continue



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## Step 9: USB – I2C bridge testing

- Click the **Write data** button. Data gets written at the default EEPROM page address
- Click the **Read & verify data** button. When the received and transmitted data is identical, the 'Data verification successful' message appears
- Repeat the above for SCB1 using the tab 'I2C [USB Port:7 – Dev Id:1]' to test the second I2C bridge
- This test proves successful data transfer with I2C interfaces



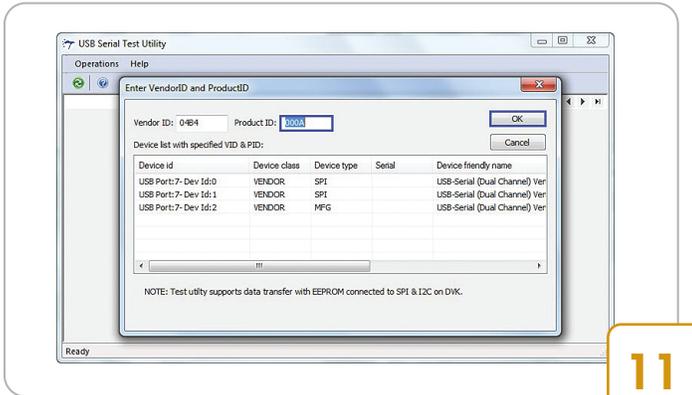
J17, J19, J21, J20

J24, J26, J27, J25

10

## Step 10: USB – SPI bridge configuration

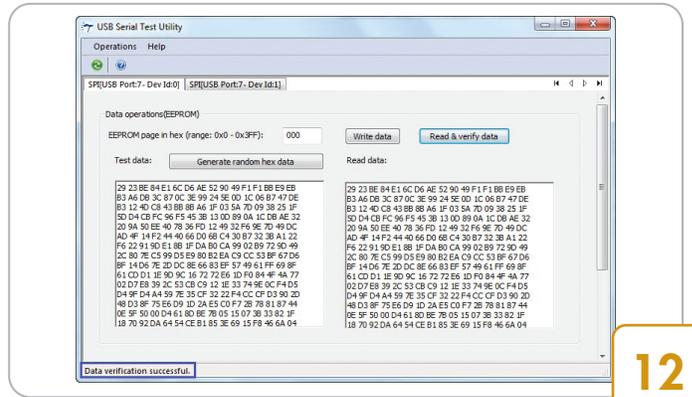
- Repeat step 6
- Click the **SCB0** tab. Select **SPI** from the drop-down menu and click the **Program** button
- Repeat the above by clicking the **SCB1** tab. Click the **Disconnect** button and press the reset switch SW3
- Set jumpers J17, J19, J20, J21, J24, J25, J26 and J27 as shown in the picture above



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## Step 11: USB – SPI test utility

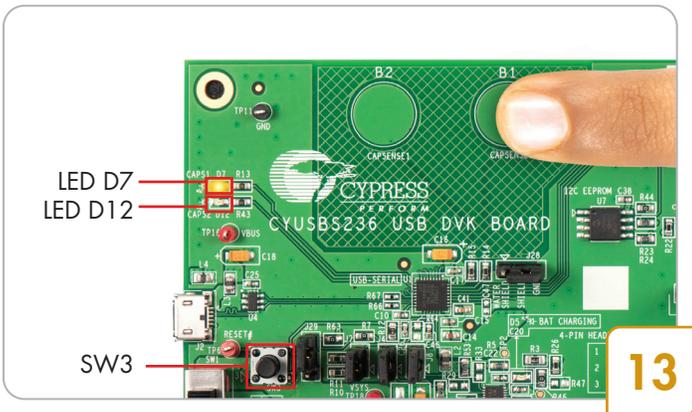
- Run the USB Serial Test Utility from **Start > All Programs > Cypress > CYUSBS236 DVK > USBSerialTestUtility**
- Change the Product ID to 000A and click **OK**



12

## Step 12: USB – SPI bridge testing

- Click the **Write data** button. Data gets written at the default EEPROM page address
- Click the **Read & verify data** button. The 'Data verification successful' message appears
- Repeat the above for SCB1 using the tab 'SPI [USB Port:7 – Dev Id:1]' to test the second SPI bridge

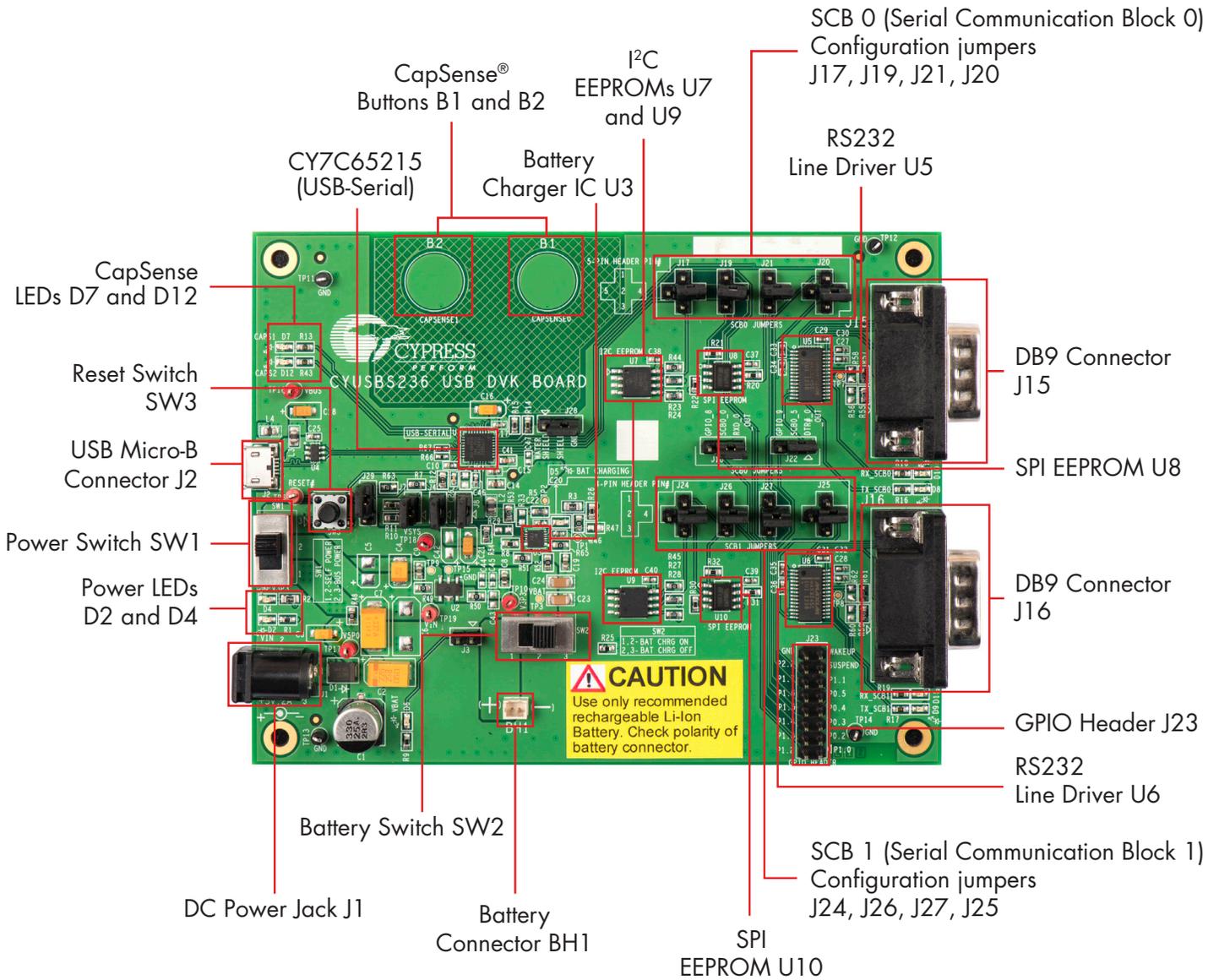


13

## Step 13: CapSense button

- Touch CapSense® button B1 as shown in the figure. The D7 LED glows to indicate that the button is sensed
- Remove the finger from CapSense button B1 and the LED turns OFF to indicate that the button is released
- Touch the CapSense button B2. The D12 LED glows to indicate that the button is sensed
- Remove the finger from CapSense button B2 and the D12 LED turns OFF to indicate that the button is released

# USB-SERIAL DEVELOPMENT KIT



Note: By default, SCB 0 and SCB 1 configuration jumpers are set for dual USB to UART bridge as shown above. Refer to the Table 3-1 in user guide for additional information on jumper settings

Kit operation: The CY7C65215, USB-Serial bridge controller can be configured as dual USB-UART bridge, dual USB-I2C bridge, or dual USB-SPI bridge. As an USB-UART bridge, data is transmitted from USB to UART (TXD). TXD-RXD loop back connection enables the data to be fed back to the UART (RXD) to USB and is displayed on the Tera Term window. The CY7C65215 controller also supports battery charger detection and configurable CapSense functionality, providing best-in-class signal-to-noise ratio (SNR) and water-tolerance

For the latest information about this kit and to download kit software and hardware files, visit [www.cypress.com/go/CYUSB236](http://www.cypress.com/go/CYUSB236)