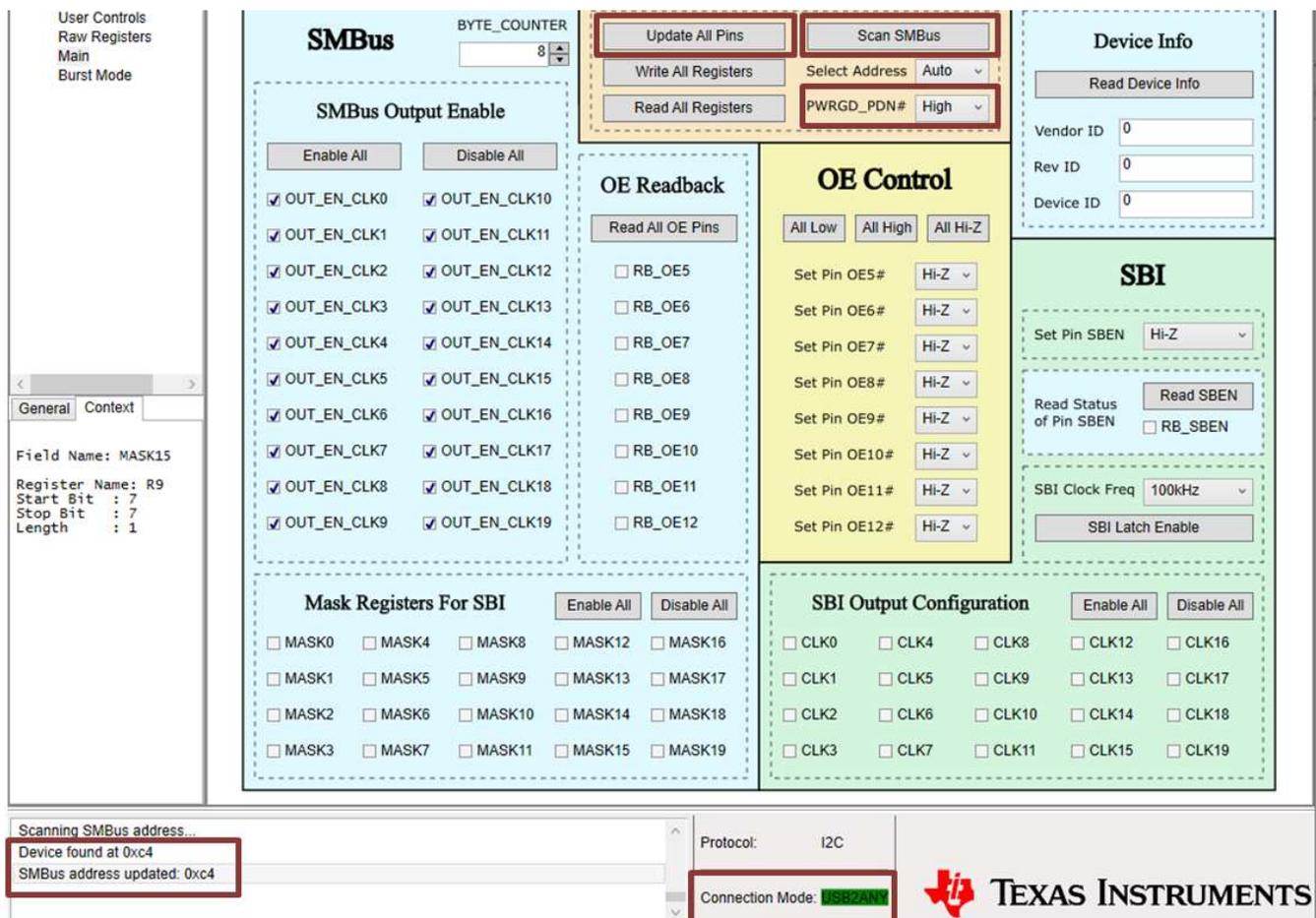


# CDCDB2000 User's Guide

## 1 Quick Start

1. Request and download the Ticspro software on <http://www.ti.com/tool/TICSPRO-SW>.
2. In the tool bar, go to "Select Device" -> "Clock Distribution with Divider" -> "CDCDB2000".
3. Connect the board to computer using a USB micro-B cable. "Connection Mode" at the bottom of GUI will turn green.
4. Set "PWRGD\_PDN#" to high, then click "Update All Pins". Alternatively, in the tool bar, select "Default configuration" and then click the latest default setting.
5. Click "Scan SMBus"; the device is found at 0xc4. The device is now ready for evaluation.



The screenshot displays the CDCDB2000 GUI interface. On the left, a sidebar shows navigation options: User Controls, Raw Registers, Main, and Burst Mode. Below this, a 'General' tab is active, displaying register information for MASK15: Register Name: R9, Start Bit: 7, Stop Bit: 7, Length: 1.

The main area is divided into several functional panels:

- SMBus:** Includes a 'BYTE\_COUNTER' set to 8, and buttons for 'Update All Pins', 'Scan SMBus', 'Write All Registers', 'Read All Registers', and 'Select Address' (set to Auto). A 'PWRGD\_PDN#' dropdown is set to 'High'.
- SMBus Output Enable:** A grid of checkboxes for OUT\_EN\_CLK0 through OUT\_EN\_CLK19, all of which are checked.
- OE Readback:** A 'Read All OE Pins' button and a list of checkboxes for RB\_OE5 through RB\_OE12, all of which are unchecked.
- OE Control:** 'All Low', 'All High', and 'All Hi-Z' buttons. A list of 'Set Pin OE#' dropdowns for pins 5 through 12, all set to 'Hi-Z'.
- Device Info:** 'Read Device Info' button and input fields for Vendor ID (0), Rev ID (0), and Device ID (0).
- SBI:** 'Set Pin SBEN' dropdown set to 'Hi-Z', 'Read Status of Pin SBEN' button, 'Read SBEN' button, and 'RB\_SBEN' checkbox (unchecked). 'SBI Clock Freq' is set to 100kHz and 'SBI Latch Enable' is present.
- Mask Registers For SBI:** 'Enable All' and 'Disable All' buttons, and a grid of checkboxes for MASK0 through MASK19, all of which are unchecked.
- SBI Output Configuration:** 'Enable All' and 'Disable All' buttons, and a grid of checkboxes for CLK0 through CLK19, all of which are unchecked.

At the bottom, a status bar shows 'Scanning SMBus address...' with a message box indicating 'Device found at 0xc4' and 'SMBus address updated: 0xc4'. To the right, 'Protocol: I2C' and 'Connection Mode: USB2ANV' (highlighted in green) are displayed. The Texas Instruments logo is in the bottom right corner.

Figure 1. CDCDB2000 GUI Quick Start Diagram

## 2 Output Control

There are three ways to control the outputs of CDCDB2000: register control through SMBus, pin control through OE# (Output Enable active low) pins, or SBI (Side Band Interface) control. For details, refer to the CDCDB2000 data sheet.

### 2.1 SMBus Control

In the "SMBus Output Enable" region, check or uncheck the boxes to enable or disable corresponding outputs. Two shortcuts are available to enable all outputs or disable all outputs.

### 2.2 OE Control

In the "OE control" region, select the status of corresponding OE# pins. Three pin status are available: low, high, or high impedance. Shortcuts are available to set status for all OE# pins.

### 2.3 SBI Control

In order to enable SBI control, set the SBEN pin to high first. Read back the SBEN pin status to make sure that it is set to high. In the "SBI Output Configuration" region, check or uncheck the boxes to enable or disable corresponding outputs. Set SBI Clock Freq to 1 kHz, then click the "SBI Latch Enable" button. The SBI registers are loaded and outputs are enabled or disabled.

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