Licorice Board
(CY22150 Candy Board)

Features	Benefits
Demonstrate the CY22150 capabilities	**See actual waveforms from a JEDEC file you just created**
CyClocksRT™ Support	**Easy-to-use software configuration support, program-on-the-fly in seconds**
USB interface	**Simple plug-and-play interface**
Built-in crystal	**No external reference is required for use**
Built-in test points	**Easily accessible probe points**
Compact design	**Easily portable like a piece of candy**

Logic Block Diagram
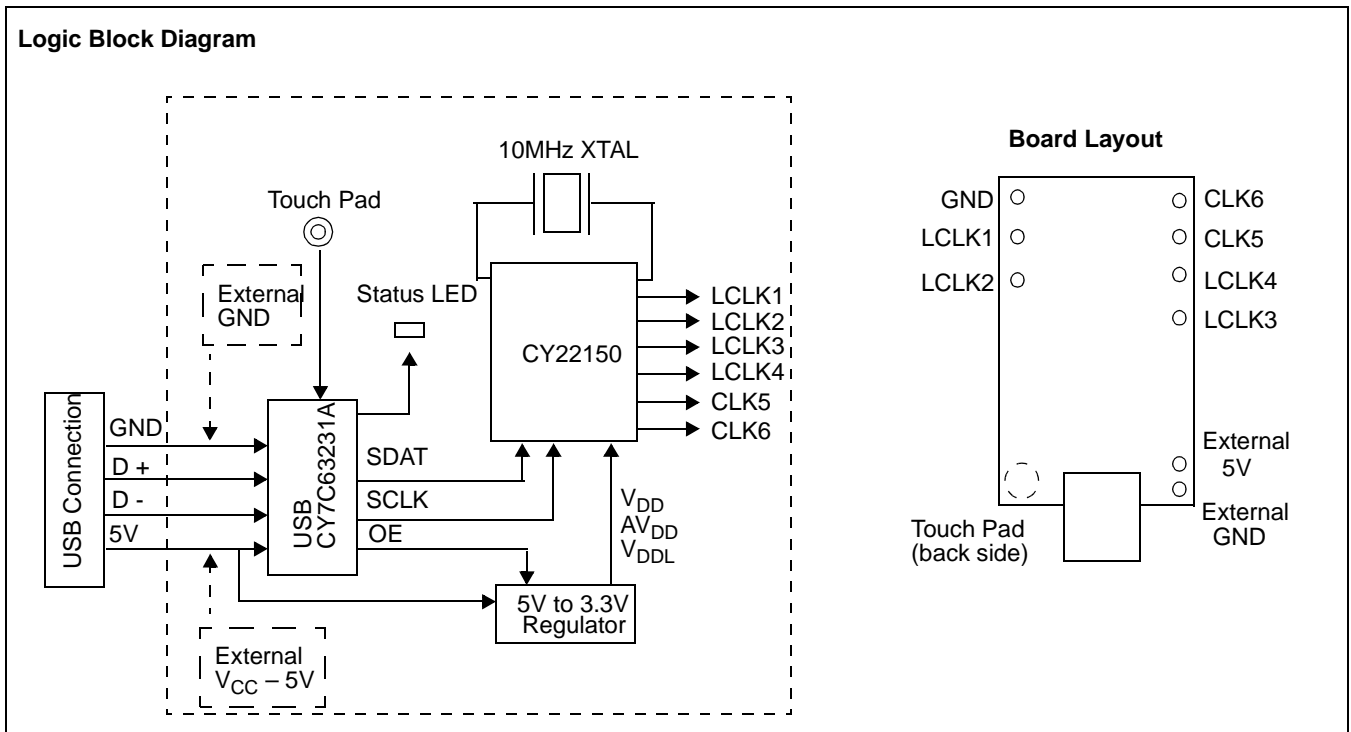
CY30700 Licorice Board

The CY30700 Licorice Board is a demo board that features Cypress's CY22150 serial-programmable clock chip. The boards are USB compatible and can run stand alone or with our CyClocksRT™ software.

The Licorice board can be used to serially program a CY22150 and measure the actual performance of your configuration. The datasheet has a broad jitter specification of typically 250 ps, but there are many configurations that will have much higher performance and others where the performance is less ideal. The Licorice board allows a prospective user to see real performance, or a systems engineer to see output phase relationships, and get a better feel for what the CY22150 is capable of doing. All the user needs is a computer running CyClocksRT with a USB connection and an oscilloscope to look at waveforms, or just an oscilloscope and 5V power supply to look at the preprogrammed configurations in the CY22150.

How to Use the Boards

In order to program the candy boards, users must have Windows™ 98 Second Edition (SE) Operating System or a later version installed on their computer. The user will need to plug in the device and Windows should be able to detect it and install the appropriate drivers. If you are using Windows 98 SE you will need the Windows installation disk to install appropriate drivers.

Each Licorice board features a preprogrammed CY22150 embedded onto the board. Once powered, the outputs should exhibit the default frequencies that were preprogrammed (see *Table 1*). The user can vary the frequencies on the outputs by using the touch pad or programming the part with CyClocksRT. When using an external power supply do not connect the board to the USB port, this may damage your computer and candyboard.

Touch Pad

Each Licorice board has a special touch pad built onto the board. This is a special touch pad that functions as a button. The touch pad enables the user to vary the frequencies on the outputs using a preprogrammed table when a computer is not available to program the part. Just squeeze the 'C' on the name Cypress (the touchpad is on the back right under the "C") and the LED should blink indicating that it has received the command, there are eight different configurations preprogrammed into the board (see *Table 1* for preprogrammed configuration).

SMA Connections

Each clock output probe point has the ground plane exposed on either side to enable a user to solder on a SMA connector. Due to space restrictions, only every other clock output can have a SMA connector.

Using CyClocksRT with Licorice Board

Users can also program the part using our CyclocksRT software that is found on the web. There are two ways the user can program the part on the candy boards. You can either open up a new or existing CY22150 JEDEC file or go under options and select candy board setup to program the part.

Using a CY22150 JEDEC File in CyClocksRT to Program the Part

The crystal embedded on the boards are 10 MHz crystals, therefore users should input 10 MHz as their REF frequency when trying to program the part on board with CyClocksRT.

With the first option, the user can program the part on the candy board by opening a new or existing CY22150 JEDEC file. Once the candy board is plugged in, a send button should appear on the bottom of the file next to the calculate button. Once the desired configuration is set, the user should click on calculate and then click on the send button to send the program to the board. The LED on the board should blink and then stop, indicating that it has received the data.

Using the Candy Board Setup in CyClocksRt to Program the Part

If the user desires to program the board with a file that is not the currently opened version, they can do so with the Candy Board Setup. Under the Options menu, select Candy Board Setup. This will bring up the Candy Board Setup window. Select the CY22150 under Candy Board List. By clicking on Load JEDEC, the user can select a file stored on the computer to program the candy board.

Table 1. Preprogrammed Configuration

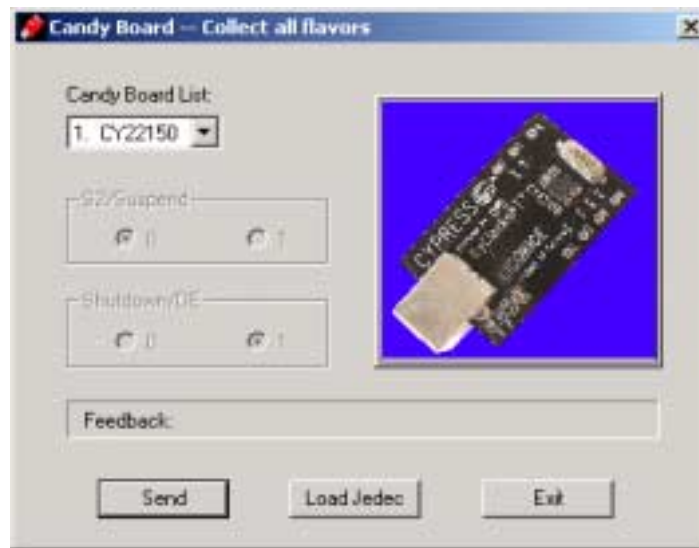|	Default 1	2	3	4	5	6	7	8
LCLK1	150	66.667	40	80	1.667	30	140	133.333
LCLK2	100	66.667	20	40	50	40	46.667	Hi-z
LCLK3	75	33.333	40	53.333	100	80	3.5	Hi-z
LCLK4	50	33.333	60	106.667	66.667	120	93.333	Hi-z
CLK5	37.5	20	off	160	33.333	80	93.333	Hi-z
CLK6	10	20	30	40	50	60	70	80

Figure 1. Candy Board Setup Window

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