Mixer example project
1.20

Features

- Mixer Type: Up Mixer
- LO Source: Internal
- LO Frequency: 150kHz

General Description

This example project demonstrates the Mixer component operation for Multiply or Up mixer.

Development kit configuration

1. This project is written for a 2X16 LCD display as the one available in the Cypress kit CY8CKIT-001.
2. Build the project and program the hex file on to the target device using MiniProg3.
3. Connect pins as described below and power cycle the device.
4. Observe the configuration register values on the LCD.
5. Observe the output waveform using an oscilloscope as described below.

Project configuration

The example project consists of the Mixer and Char LCD components. The top design schematic is shown in **Figure 1**. The Character LCD component is used for displaying the Mixer configuration register values.

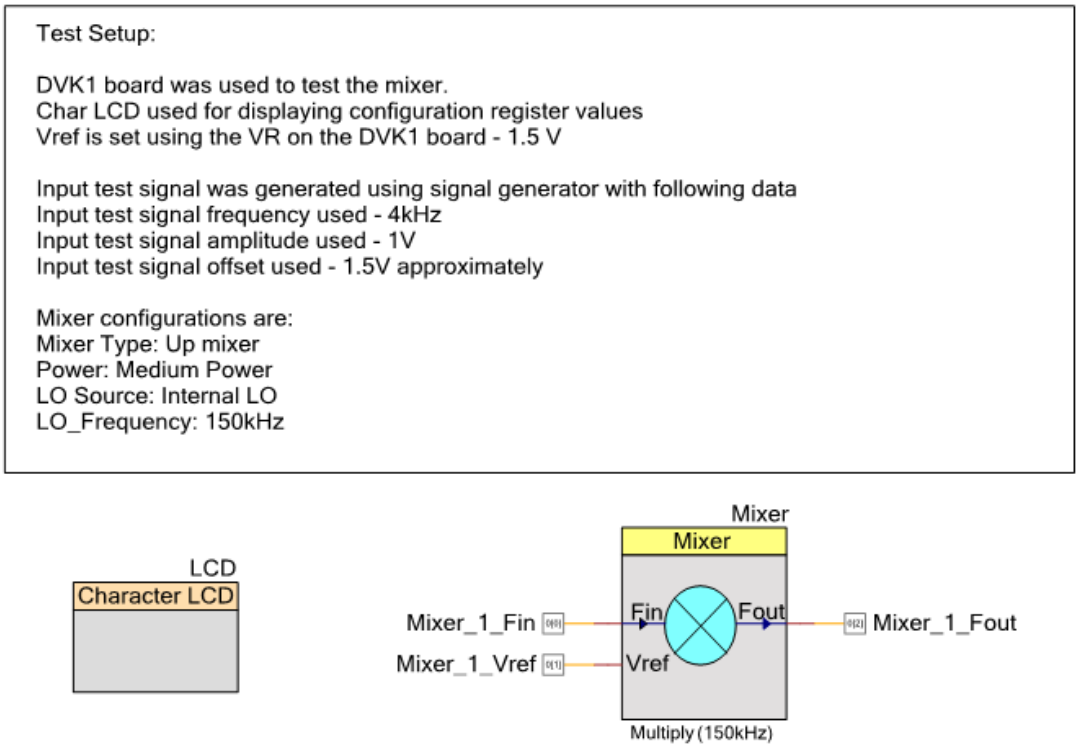

Figure 1. Top design schematic.

The Character LCD component has the default configuration. The Mixer component is configured with Mixer type Up Mixer, LO Source as Internal and LO_Frequency as 150kHz.

Project description

In the main function all the components are started. For the proper Character LCD component usage please refer to the corresponding component datasheet.

In this project, Mixer is configured as Multiply or Up Mixer mode. A sinusoidal signal with 4 kHz frequency was generated using a signal generator and is used as the mixer input signal. A clock with 150 kHz signal is used as the carrier signal. The project setup is as mentioned in the Figure 1 above. An oscilloscope is used to observe the resultant output signal.

Expected Results

Connect the output of Mixer which is mapped to port P0[2] of DVK1 board to an oscilloscope to observe the output waveform. Below is the snapshot of observed output waveform.

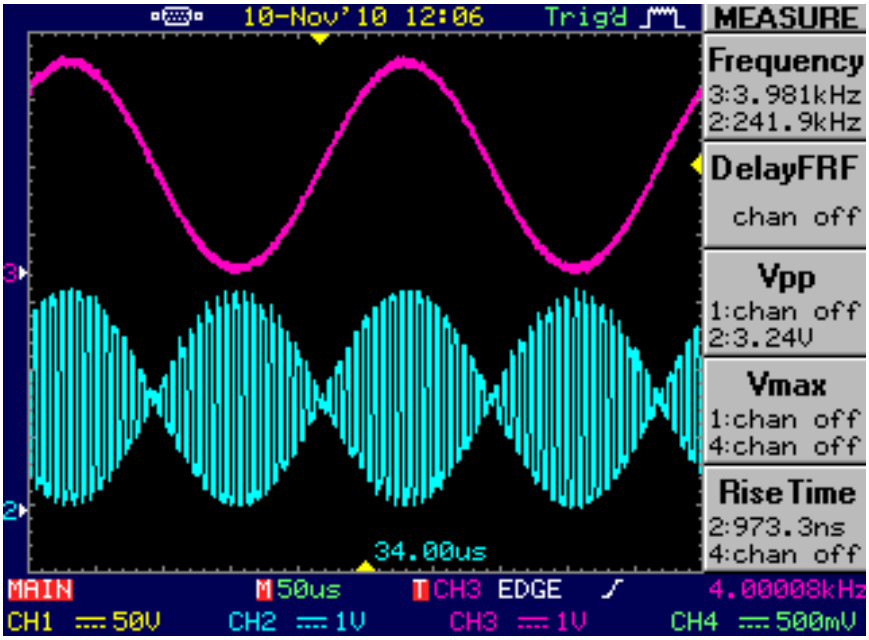

Figure 2. Mixer output waveform for Upmixer.

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