# ZL30250 Evaluation Software User Manual

## Version 1.1.1

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Microsemi®

# Contents

# *Figures*

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# Introduction

## Purpose

This document describes the software interface and tools provided with the ZL30250 Evaluation System. Please note that although the document refers to the ZL30250, the evaluation system it describes also supports ZL30251, ZL30252, ZL30253, ZL30151 and ZL30169 devices.

## Related Documents

1. ZL30250 Evaluation Board Hardware User Manual.
2. Applicable device datasheet (as this software supports several devices, refer to the applicable datasheet for complete descriptions of supported features and device configurations).

## Software Overview

The ZL30250 Evaluation Software package is fully supported on Windows XP and Windows 7. It may also work on older Windows versions. The software package is comprised of:

1. Device drivers for the FTDI USB interface IC on the evaluation board
2. Graphical user interface (GUI) software for easy configuration and monitoring of the device
3. Installation .EXE for the GUI and the FTDI device driver
4. Evaluation Software User Manual (this document).

The software GUI (graphical user interface) provides on-screen graphical controls for all features of the devices listed in the Purpose section above.

## Target Audience and Prerequisites

This document is targeted towards development engineers who will install, configure and operate the ZL30250 Evaluation Board. Users should be familiar with timing and PLL-related terminology and methodology, and the features and operation of the device to be evaluated. Uses for the GUI software include:

- Demonstration of the ZL30250 and related devices, with or without an evaluation board.
- Device configuration and the creation of configuration files.

This guide only shows the on-screen controls and status displays available in the GUI. Users should refer to the appropriate device data sheet to understand what a specific control or status display actually does.

# Evaluation Software Installation

Before connecting the ZL30250 Evaluation Board to the Host PC, it is best to install both the Microsemi ZL30250 GUI software and the device driver for the evaluation board's USB interface chip.

## *Software Installation*

The installation package for the GUI is typically delivered in a .ZIP file. In this .ZIP file, double click on the `ZL30250_GUI_[version]_Setup.exe` file. The software will guide you through the installation process.

NOTE: With the GUI installed, the evaluation software can be used in an "offline" mode, that is, without any connection to an evaluation board. Working offline is covered in more detail in the *Using the Evaluation Software* GUI section.

NOTE: Windows regional settings must be set to English in order to correctly display frequency values.

## *Device Driver Installation*

At the end of GUI installation, the GUI installer gives the option to install the device driver for the evaluation board's FTDI USB interface IC. When this option is selected, the GUI installer runs the device driver installer. On most systems this transition from one installer to another happens automatically with no error. However, on some Windows variants, device driver installers have to be run with administrator privilege or Windows gives an error message. If such an error does occur, try these alternatives:

1. Run the device driver installer (CDM20830_Setup.exe) from the folder where the GUI was installed. This location is "C:\Program Files (x86)\Microsemi\ZL30250" unless a different location was specified during GUI installation.

2. To force this file to be run with administrator privilege, right-click on `CDM20830_Setup.exe` and select **Run as administrator**.

## *Windows Settings that May Need Adjustment*

Some users have font display problems in Windows 7 when the display magnification is larger than 100%. To change this Windows property to 100%, go to the **Control Panel → Display** and change **Make it easier to read what's on your screen** to **Smaller – 100% (default)**.

# Launching the Evaluation Software GUI

During the software installation, access to the ZL30250 GUI will have been added to the "All Programs" list in the Windows Start menu under the **Microsemi ZL30250** program group (unless otherwise changed by the user during installation). To launch the GUI, click the **ZL30250** link in this group. Refer to the sections below for further details on all features available.

# Using the Evaluation Software GUI

## Startup Window

Below is the initial “splash” window that appears when the program is launched. The only menu items available at startup are **File** and **Connection**. Before any of the other items are made available, a connection must be made to a ZL30250 board, or the Work Offline option selected (see the next section). Note: Your software installation may show a different version number.


**Figure 1: Startup Window**

## Connection Menu

By clicking **Connection** in the menu bar, the following Device Selection window appears:

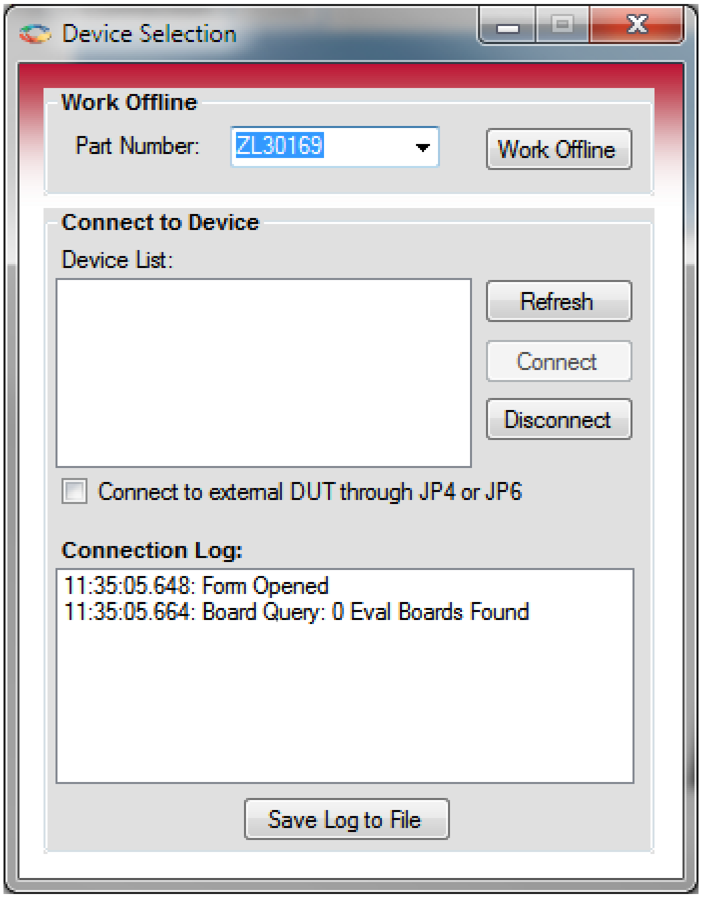


**Figure 2: Device Selection Window**

The GUI software can be used with or without an evaluation board connected.

## Working Offline (No Evaluation Board Connected)

To work offline, select the desired device in the **Part Number** dropdown box and click the **Work Offline** button. The GUI then formats the GUI main window for the selected device and displays the **Initial Configuration Window**). The main purpose of working offline is to allow the user to set up a desired configuration, then save the configuration using the **File** menu. These settings can then be loaded back into the GUI and optionally into a device on an evaluation board at a later time.

## Connecting to a Device

The **Connect to Device** frame in the **Device Selection** window shows a list of all compatible evaluation boards attached to the PC's USB port(s). If an expected board does not appear in the list, verify the USB cable connection and power supply to the evaluation board, then click the **Refresh** button to the right of the list several times waiting about 5 seconds between clicks. It may take a few seconds after a connection or power up for Windows to negotiate the USB connection and find the device. If the expected device is still not found, see Appendix A.

Click an entry in the device list to select it then click the **Connect** button. The GUI then takes a few seconds to read in device information and configure the main window.

## Initial Configuration Window

After a successful connection has been made (or a device has been selected for Work Offline mode), the GUI displays the main window for the connected or selected device. On top of the main window the GUI displays the Initial Configuration form shown in Figure 3.

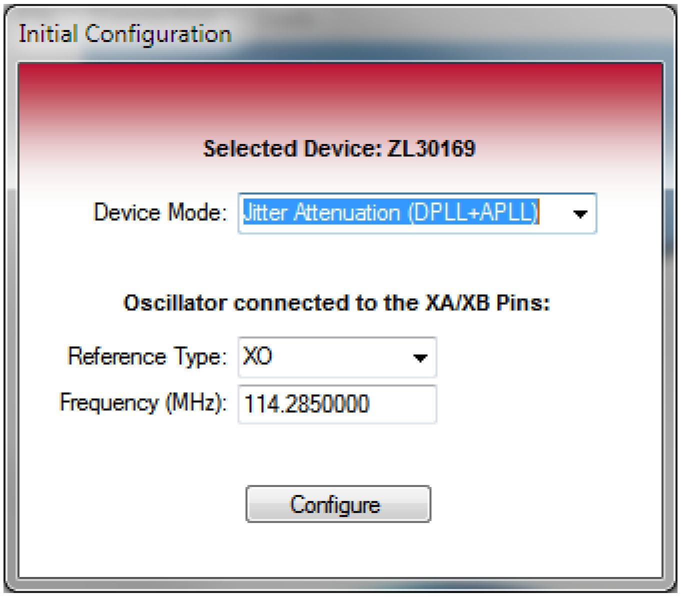


**Figure 3: Initial Configuration Window**

The Initial Configuration form asks the user to specify the starting device mode (see *Specifying the Device Mode* below) and describe the oscillator or crystal connected to the device's XA/XB pins on the evaluation board. When the GUI is connected to an evaluation board it is critical that the XA/XB information match the actual evaluation board configuration. When the GUI is operating in Work Offline mode, the XA/XB information must match the intended application if the GUI is used to generate configuration files.

Figure 4 shows the main control window for a ZL30169 device in its jitter attenuation device mode. Other devices will look similar, but some control elements may or may not be present. A yellow "Working Offline" indicator will be displayed at the top of the window, as shown in Figure 4, when the software is in Work Offline mode.

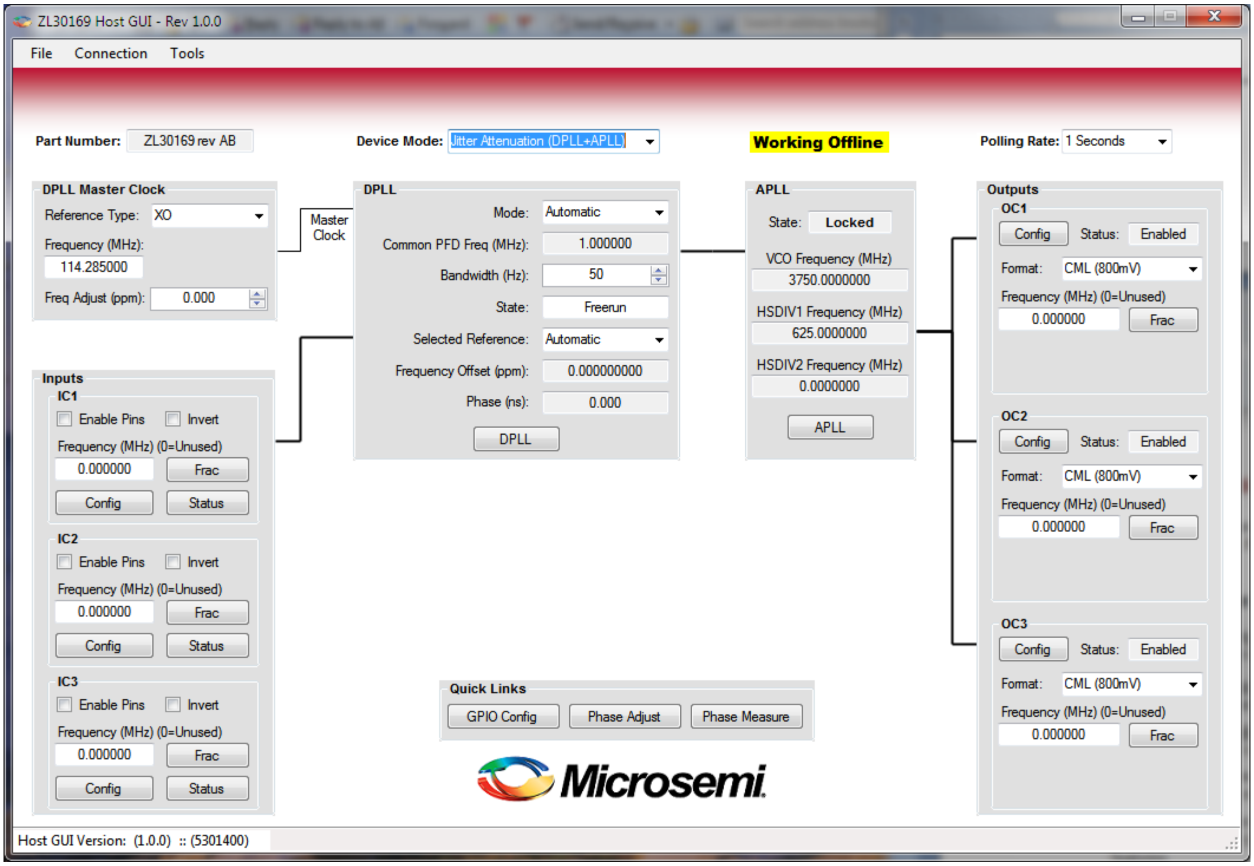


**Figure 4: Main Control Window**

## On-Screen Controls and Status Displays

Device controls are grouped according to function in the main window, and follow a signal progression from the inputs on the left, through the DPLL controls, to the APLL and outputs on the right.

### Specifying the Device Mode

The device's main operating mode can be changed using the **Device Mode** control at the top of the main window. Microsemi devices supported by this software have various combinations of four device modes:

- Frequency Synthesis mode, which uses the APLL for frequency multiplication or frequency conversion
- Numerically Controlled Oscillator (NCO) mode, which is a frequency synthesis mode that has high-resolution software steering of the device's fractional frequency offset
- Spread Spectrum mode, in which the device can be configured to modulate its output clock frequency to reduce system EMI

- Jitter Attenuator mode, which uses the digital PLL (DPLL) in front of the APLL to provide low bandwidths for jitter attenuation, holdover, controlled reference switching and other features

## Specifying the Reference Type and Frequency

In DPLL, NCO and spread spectrum device modes, the device requires a master clock signal on its XA/XB pins. The type and frequency of the master clock can be specified in the **Master Clock** box in the upper-left corner of the main window. Valid frequency ranges for XO and crystal reference types vary with device mode. If an invalid frequency is entered the GUI displays the valid frequency range.

In frequency synthesis device mode, a master clock is not required. A crystal connected to the XA/XB pins or a clock signal connected to the XA pin becomes a fourth input clock to the APLL in this mode.

## Connection Lines on the Main Window

The main window dynamically displays lines to show connections among blocks in the device. Examples include which input clock is the selected reference for the DPLL and which of the APLL's high-speed dividers (HSDIV1, HSDIV2) is the source for each output clock.

## Input Configuration

### *Enable and Invert*

The **Enable Pins** checkbox for each input enables and disables the device's receiver logic. When checked, the **Invert** checkbox adds a signal inversion in the input clock path.

### *Frequency*

Each input has a **Frequency** box on the main window. For each input that is used in the device configuration, enter the frequency in MHz in the box. For inputs that are not used, enter 0 in the frequency box.

The following constraints must be met for input clock frequencies:

In Jitter Attenuation (DPLL) device mode:

- The input frequencies must be divisible to a common DPLL PFD frequency ≥ 1kHz. Each input clock can be divided by any integer. The software shows the common PFD frequency it chose in the main window DPLL box.
- The common PFD frequency must be > 20 times the DPLL bandwidth.

In Frequency Synthesis (APLL) device mode:

- The input frequencies must be divisible to a common APLL PFD frequency between 9.72MHz and 156.25MHz. Each ICx input clock can be divided by 1, 2, 4 or 8.
- The XA pin behaves as a fourth input when the XA/XB Frequency is not 0. The XA input does not have an internal divider. Therefore, when XA is enabled as an input its frequency is the common APLL PFD frequency.

### Help with Fractional Frequencies

Some frequencies used in communication systems and other applications make use of clock frequencies that can only be exactly expressed as ratios of integers. For example, a common forward error correction rate in communication systems is 155.52MHz * 255 / 237. This frequency cannot be expressed exactly as a single decimal number because the digits to the right of the decimal never terminate.

When the **Frac** button to the right of each input frequency box is pressed, the software opens a window in which a frequency can be expressed as a **Base Frequency** multiplied by one or more numerator integers **N1**, **N2**, etc. and divided by one or more denominator integers **D1**, **D2**, etc.

### DPLL Input Monitor Configuration

In jitter attenuation device mode each ICx input has a **Config** button displayed. When this button is pressed, an **ICx Configuration** window appears. At the top of this window are read-only indicators of how the software has set the input clock's high-speed and 20-bit input dividers. The rest of the window allows the user to configure activity and frequency monitors for the input.

Here are some notes about the monitor settings available in this window:

- **Monitor State** = "ON (High Gap Tolerance)" configures the monitor so that gaps (i.e. missing cycles) in the input clock can be tolerated (i.e. ignored). As an example, in communication systems, some OTN demapper functions create such gapped clocks as a digital frequency conversion technique. In DPLL device mode the device can accept such gapped clocks and output smooth, non-gapped clocks.
- In the **Monitor Mode** selections, frequency monitoring < 500ppm (only available in ZL30151 and ZL30169 devices) has both accept and reject thresholds that can be set with approximately 1ppm resolution. Using separate accept and reject thresholds provides hysteresis which many applications require to avoid excessive input reference switching. When the **Disable Hysteresis** checkbox is checked, the reject threshold is removed and the accept threshold becomes the one single threshold. In all frequency monitoring there is a tradeoff between reaction speed and accuracy. The longer a signal can be averaged the more accurate its frequency can be determined, but longer averaging time mean slower reaction time. The **PPM Monitor Mode** control allows the user to specify a preference for faster reaction time or higher accuracy.
- In the **Monitor Mode** selections, frequency monitoring >=1% is faster than any PPM monitoring mode but is correspondingly less accurate. This mode is used for applications where the only concern is to invalidate the input if it is grossly off frequency, i.e. by 1% or more.

### DPLL Input Monitor Status

In jitter attenuation device mode each ICx input has a **Status** button displayed. When this button is pressed, an **ICx Status and Monitoring** window appears. This window provides several status indicators and shows the device's internal logic that combines these statuses into the overall valid/invalid status for an input clock.

Here are some notes about the fields in this window:

- The **Validation Timer** specifies an amount of time that the input monitor and LOS source must indicate that input clock is valid before the device actually declares it valid.

- **LOS Source** specifies a GPIO pin as a loss-of-signal input. This GPIO pin could be connected to the LOS output of an Ethernet PHY, for example. This allows the PHY to very quickly cause the disqualification of the input clock signal when the PHY receiver is no longer receiving a valid signal.
- The **Loss-of-Signal Latency** control allows the user to specify how long it takes for the PHY to declare loss-of-signal on the GPIO pin after the event occurs.

## DPLL Configuration and Status

DPLL configuration and status are available in the DPLL box in the main software window and also in the DPLL window, which can be opened by pressing the **DPLL** button in the main window.

In the main software window, the **Mode** control can be set to **Automatic** to allow the DPLL to automatically switch among freerun, tracking and holdover states, or the DPLL can be forced to the freerun or holdover states. The DPLL bandwidth can also be set in the main software window.

The DPLL's read-only **State** box indicates whether the DPLL is in freerun, tracking or holdover states, and, while in the tracking state, whether the DPLL is locked or unlocked according to the lock criteria set in the DPLL window.

The DPLL's **Selected Reference** can be set to **Automatic** to automatically select the best reference based on the priority and validity of the input clocks, or the selected reference can be forced.

The real-time fractional frequency offset and phase of the DPLL are displayed in the **Frequency Offset** and **Phase** boxes, respectively.

Here are some notes about the fields in the DPLL window:

- When **External Switching Mode** is enabled by selecting a GPIO pin to control it, DPLL input reference selection is simplified to a 2:1 mux controlled by the GPIO pin. See the external reference switching mode section of the device data sheet before using this mode.
- The **User Priorities** controls for IC1 through IC3 allow the user to express the relative priority of the inputs for use as the DPLL's selected reference. To the right of these priority boxes, the read-only **Selected Reference, Priority 1** and **Priority 2** boxes indicate the real-time prioritization that the device's selection logic is making based on which inputs are valid.
- See the device data sheet for a description of the **Averaging Window** and **Throw Away Window** controls (available only in the ZL30151 and ZL30169 devices).
- The **Holdover Offset** box displays the fractional frequency offset the DPLL will use when it enters holdover (available only in the ZL30151 and ZL30169 devices).
- The **Loss of Lock Set Delay** specifies the length of time during which the DPLL must not meet its **Phase Lock Criteria** in order to declare it is unlocked (i.e. loss-of-lock).
- The **Loss of Lock Clear Delay** specifies the length of time during which the DPLL must meet its **Phase Lock Criteria** in order to declare it is locked.
- The **Phase Lock Timeout** control specifies the length of time the DPLL will remain unlocked in the tracking state before it declares the selected reference invalid. A value of 0 means do not declare the reference invalid due to failure to lock.
- The **Lock Alarm Timeout** control specifies the length of time that an input previously declared invalid due to phase lock timeout will remain invalid.

- The hitless switching **Phase Averaging Window** is the length of time the DPLL measures the phase difference it must absorb before performing the hitless switch (available only in the ZL30151 and ZL30169 devices).

## APLL Configuration

The configuration of the APLL is handled almost entirely by the software. The software chooses the APLL VCO frequency and HSDIV1 and HSDIV2 divider values needed to create the OCx output clock frequencies specified by the user.

In frequency synthesis device mode, the APLL box in the main window provides controls to specify the input reference clock to the APLL. When **External Switching Mode** is disabled, the APLL's reference is specified by the **Source** control. When **External Switching Mode** is enabled, the GPIO specified by **External Switching Mode Control Signal** selects the input specified by **Source** when the GPIO is low and selects the input specified by **Alternate Source** when the GPIO is high.

Clicking the **APLL** button opens the **APLL Configuration** window. At the top of this window are read-only indicators of how the software has set the APLL's HSDIV1 and HSDIV2 high-speed dividers. The rest of the window has **APLL Phase Adjustment** controls. These controls provide a fine phase increment or decrement for all output clocks simultaneously.

## Output Configuration

### *Format and Status*

In the software main window, each output has a **Status** box. This box displays **Disabled** when the **Format** control is set to **Disabled** and displays **Enabled** when the **Format** control is set to any other setting. The Status box also displays **Stopped** when the output has been stopped using the stop controls in the **OCx Configuration** window.

In the output **Format** box, **CML (800mV)** is standard CML signal format. **CML (400mV)** is a half-swing mode that reduces output power consumption. The **1 CMOS-N** option enables the OCxN pin as a CMOS output while OCxP remains high-impedance. The **1 CMOS-P** option is similar, with OCxP enabled as a CMOS output and OCxN high impedance. The **2 CMOS-Comp** option enables both OCxP and OCxN as CMOS outputs with OCxP inverted. The **2 CMOS** option enables both pins as CMOS outputs in-phase with one another.

In the **OCx Configuration** window, an optional inversion can be added to the output clock path by checking the **Invert** box. The device can be configured to automatically squelch (i.e. stop) the output clock when the DPLL has no selected reference by checking the **Auto-Squelch** box.

An output's duty cycle can optionally be set to something other than 50% nominal using the **Pulse Width** controls. The desired high pulse width is entered into the **Requested** box, and software displays the closest achievable pulse width in the **Actual** box.

An output's phase relative to the other outputs can be set using the **Output Phase Alignment** controls. The desired phase is entered into the **Requested Phase** box, and software displays the closest achievable phase in the **Actual Phase** box.

An output can also be configured to stop when a GPIO pin or a register bit changes state. Outputs can stop low, high or high-impedance.

### *Frequency*

Each output has a **Frequency** box on the main window. For each output that is used in the device configuration, enter the frequency in MHz in the box. For outputs that are not used, enter 0 in the frequency box.

The following constraints must be met for output clock frequencies:

- Output frequencies must be integer divisors of one of the APLL's high-speed divider frequencies.
- The HSDIV1 and HSDIV2 frequencies must have a common multiple in the VCO frequency range, which is 3715MHz to 4180MHz. The HSDIV1 and HSDIV2 dividers can each divide by integers from 4 through 15 and half divides from 4.5 through 7.5.

The outputs have a **Frac** button and window to help specify frequencies that can only be specified exactly as ratios of integers. See *Help with Fractional Frequencies* in the Input Configuration section above for details.

In the **Frequency** section of the **OCx Configuration** window the "frequency trail" is shown, starting with the high-speed divider that is the source for the clock then the medium-speed and low-speed divider values, then the final output frequency.

# *Main Window Menus*

## File Menu

The GUI has the following options under its **File** menu:

- Load Configuration
- Save Configuration
- EEPROM
    - Create EEPROM Image File
    - Write Image to EEPROM
    - Dump DUT EEPROM to File
    - Verify Board EEPROM against File
- Register Dump File
- Exit

These options are further explained below.

### *Load Configuration*

There are two file types that can be loaded: a GUI configuration file and a DUT configuration file. These configuration files can be created by the **Save Configuration** menu option described below. See below for descriptions of these file types.

### *Save Configuration*

Two types of configuration files can be saved by the GUI: GUI configuration files and DUT configuration files.

*GUI configuration files* are text files that contain all the information necessary to configure both the GUI and the DUT.

*DUT configuration files* (also known as **mfg** files because they use a ".mfg" file extension) are text files that contain an ordered sequence of write commands and wait commands that can be followed to configure a device. These mfg files can be easily converted to a format usable in a customer's system, and system software can execute the commands to configure the Microsemi device during system start-up. DUT configuration files can also be used as input for the creation of an EEPROM image file as described below.

Both of these file types can be loaded back into the GUI at a later time using the **Load Configuration** menu option. It is not necessary to understand anything about the content of these files to use them.

### *Create EEPROM Image File*

Microsemi part numbers ZL30251, ZL30253, ZLZ30151 and ZL30169 device have internal EEPROM and can automatically configure themselves at reset from this internal EEPROM. ZL30250 and ZL30252 devices can, as a design option, auto-configure themselves from an external SPI EEPROM. Up to four device configurations can be stored in EEPROM memory and selected by the state of the AC[1:0] pins during reset.

An EEPROM image file is a text file that lists the contents of the entire EEPROM memory. When **Create EEPROM Image File** is selected from the **File** menu, the GUI opens a window in which the user can specify up to four DUT configuration files (.**mfg** files) as input files and an EEPROM image file as an output file. When the **Create** button is pressed, the GUI automatically combines the input files and creates the image file.

In this window the GUI fixes the **EEPROM Size** value to 2kbyte and the **EEPROM SCLK Frequency** value to 5MHz for parts with internal EEPROM. For parts with optional external EEPROM these values can be set by the user.

The GUI can create three different output formats: Intel HEX, Motorola S-record, and "ASCII" format, which has one 2-digit hex value per line arranged in order from EEPROM address 0 to max EEPROM address. The format is specified in the Browse dialog for the EEPROM image file in the **Save as type** field.

### *Write Image to EEPROM*

After an EEPROM image file has been created as described above, the **Write Image to EEPROM** option in the **File** menu can be used to write the file's contents to the EEPROM in the DUT (ZL30251, ZL30253, ZLZ30151, ZL30169) or a separate EEPROM on the evaluation board (for use with ZL30250 or ZL30252). The GUI automatically verifies the data after writing.

### *Dump DUT EEPROM to File*

This GUI function reads the contents of the DUT EEPROM and writes the information to an EEPROM image file.

### *Register Dump File*

This function creates a file containing a complete register dump of the DUT.

## Tools Menu

The **Tools** menu has the following items:

- Manual Output Frequency Configuration
- GPIO Configuration
- Register View
- Power Estimate
- Documentation

These options are further explained below.

### *Manual Output Frequency Configuration*

For most applications the user simply enters the desired output frequencies in the GUI’s main window, and the GUI automatically calculates all internal settings to produce those output frequencies. Since many output frequency combinations can be produced with multiple device configurations, the GUI has an internal algorithm for selecting one of these configurations. The GUI typically makes an acceptable choice. However, for applications involving phase adjustment and/or output pulse widths other than 50% duty cycle, the exact settings of the device’s medium-speed and low-speed dividers can be important to get the desired resolution and/or range for phase and/or pulse width.

The manual output frequency configuration form provides users two different levels of control. When the **Select a solver solution** radio button is pressed, the GUI allows the user to explore all solutions found by the output frequency solver algorithm and choose one of those solutions. In this mode the GUI provides combo boxes for VCO frequency, HSDIV1 and HSDIV2 divider values, and OC1 through OC3 MSDIV and LSDIV divider values. In this mode the output frequencies are fixed, and the GUI automatically changes lower-speed divider values in response to the user’s choices of VCO frequency and higher-speed divider values.

When the **Manually enter a solution** radio button is pressed, the GUI provides full manual control. In this mode VCO frequency and all HSDIV, MSDIV and LSDIV divider values can be set to any number supported by the device. In this mode the output frequencies are not fixed but rather are automatically recalculated in response to the user’s choices of VCO frequency and divider values. It is the user’s responsibility to ensure that the internal settings chosen actually produce the desired output frequencies.

While the user is selecting a solver solution or manually entering a solution, fields at the bottom of the window show the ranges of possible phase adjustment, negative and positive and the range of possible pulse widths for each of the OC1 through OC3 outputs.

It is important to note that the desired output frequencies should be entered in the GUI main window before opening the Manual Output Frequency Configuration window and changing the radio buttons to **Select a solver solution** or **Manually enter a solution**.

It is also important to note that manual output frequency configuration is not transferred to the main GUI window until the **Load** button is pressed in the Manual Output Frequency Configuration window.

### GPIO Configuration

When this menu item is selected the GUI opens the **GPIO Configuration** window. In this window the DUT's GPIO pins can be configured as input, output low, output high or status outputs. Status outputs can be configured to follow any status register bit in the device. Status outputs can also be configured for normal or inverted polarity and push-pull or open-drain behavior.

### Register View

This menu item opens the GUI's **Register View** window. This window shows the current values for every register in the device. Tabs at the top of the window group registers by type and section of the device. Most of the window provides an array where the names, addresses and values of the register are displayed. When the user clicks a register in this array the bit fields of that register are displayed at the bottom of the window. Byte values of registers can be written in the register array, and bit values of fields can be written at the bottom of the window.

Some device register fields span multiple addresses. The multi-register fields can be written all at once by clicking one of the field's registers in the register array part of the window and then double-clicking the name of the field in the bit field display at the bottom of the window. For example, to write the AFBDIV field all at once, in the **APLL** tab click the **AFBDIV1** register then at the bottom of the window double-click **AFBDIV[7:0].** A window appears in which the entire AFBDIV value can be entered.

**Warning**: Writing registers directly can cause unexpected results and should be avoided. Whenever possible users should control register values through other GUI fields rather than through the Register View window.

### Power Estimate

This menu item opens a power estimate window. In this window the GUI shows typical and max current and power consumption values for both 1.8V and 3.3V supply rails. It also shows total power consumption.

### Documentation

This menu items allows the user to open several helpful documents including:

- This GUI manual
- GUI release notes
- Evaluation board quick-start guide

# Appendix A: FTDI Driver Removal and Reinstallation

The FTDI USB interface IC is often used on evaluation boards. As evaluation software and boards from various manufacturers are added to and removed from a PC, occasionally a driver problem will arise.

If the PC running the ZL30250 software is connected to a powered evaluation board but nothing is listed in the **Device List** box in the **Device Selection** form (or there is a listing of random characters) then the first step is to wait 5 seconds then click the **Refresh** button. Wait and click several times before going on to the other steps in this Appendix.

If multiple clicks of the **Refresh** button don't cause **0: Dual RS232-HS A** to be listed in the **Device List** box then it is likely there is an FTDI driver problem. Follow the steps below to completely remove and reinstall the FTDI driver.

1. Disconnect the evaluation board from the PC.
2. Go to http://www.ftdichip.com/Support/Utilities.htm.
3. Scroll down to the heading **CDM Uninstaller 1.4.**
4. Click the **Download CDM Uninstaller** link.
5. Open the downloaded ZIP and the folder inside that.
6. Double-click **CDMuninstallerGUI.exe** to run it.
7. In the pop-up with options "Extract all" and "Run" and "Cancel" click **Run**.
8. In the **CDM Uninstaller** window change **Product ID** from 6001 to 6010.
9. Click the **Add** button.
10. `VID_0403 PID_6010` is displayed. Click on it to highlight it.
11. Click the **Remove Devices** button.
12. After several seconds you should get a pop-up saying "Device removed from system."
13. Close the CDM Uninstaller.
14. You may get a Windows pop-up saying "This program might not have installed correctly." If so, click **This program installed correctly**.
15. Reinstall the ZL30250 software. In the last step titled **Completing the ZL30250_GUI Setup Wizard**, check the checkbox **Install evaluation board device driver** and click **Finish.**
16. Allow the device driver installer to run, then click **Extract**.
17. Connect the ZL30250 evaluation board to the PC using a USB cable.
18. Run the ZL30250 GUI executable.
19. In the Device Selection window you should see an item in the **Device List** box, such as **0: Dual RS232-HS A**. If not, click the **Refresh** button every 5 seconds until you do.
20. Click the **Connect** button.

# Appendix B: Troubleshooting

## Log is Full Error

If this error occurs follow the steps listed below. So far Microsemi has only seen this with Windows XP.

- Go to the Windows Control Panel then click **Administrative Tools** then **Event Viewer**.
- In Event Viewer in the left panel, right-click on **Application** and select **Properties**.
- In Application Properties, General tab, under **When maximum log size is reached**: click the **Overwrite events as needed** radio button and click **OK**.

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