ON Semiconductor®

Test Procedure for the NB3H5150MNGEVB Evaluation Board

Software Installation

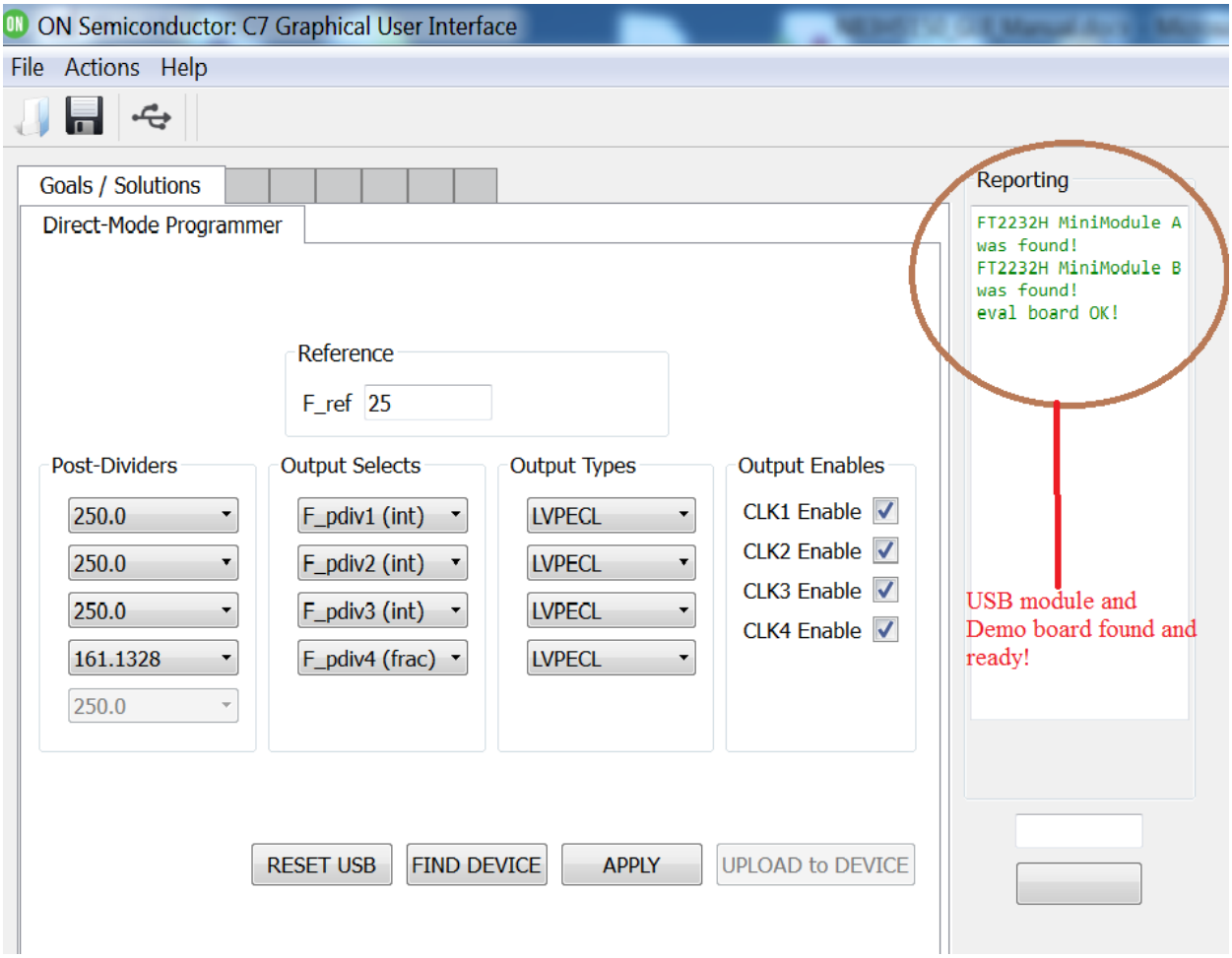
- Unzip the distribution archive "ONSEMI_NB3H5150_Customer_GUI_Opt07.zip" – all files are contained in a parent folder (ONSEMI_NB3H5150_Customer_GUI_ Opt07) which you can un-zip anywhere on your PC
- Look in the parent folder: – you will see a file: "ONSEMI_GUI.exe"..
- Make a shortcut to that file and place it on your desktop, start menu, etc.
- That's it! – there is no manipulation of the registry or PATH

ON Semiconductor®

Software Use and Hardware Initialization

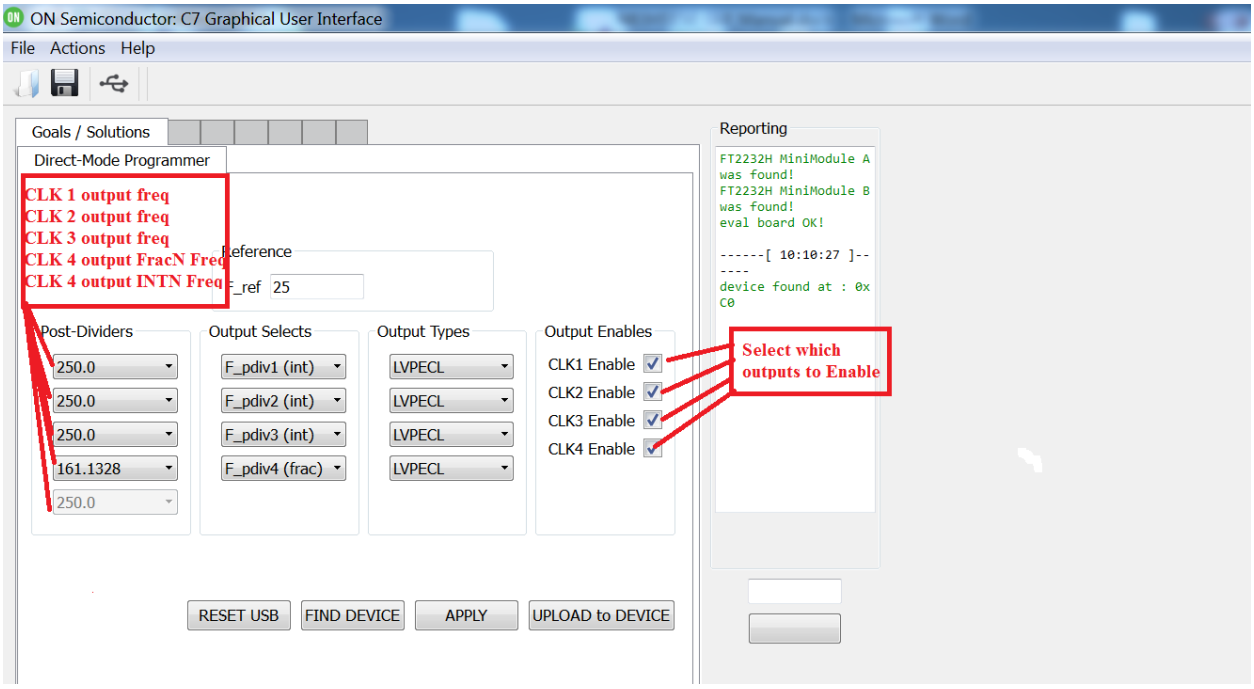
• Connect the eval board to a USB port on the PC.
• Allow Windows to install the necessary drivers for the eval board USB interface hardware…it will go out to the web to find them.
• Start the program using the shortcut that you made earlier.
• You will see that the software validates that the board connection.
• Click the “Find Device” button indicated below.
• You are now ready to program the device operation.

Board USB Connection Validation

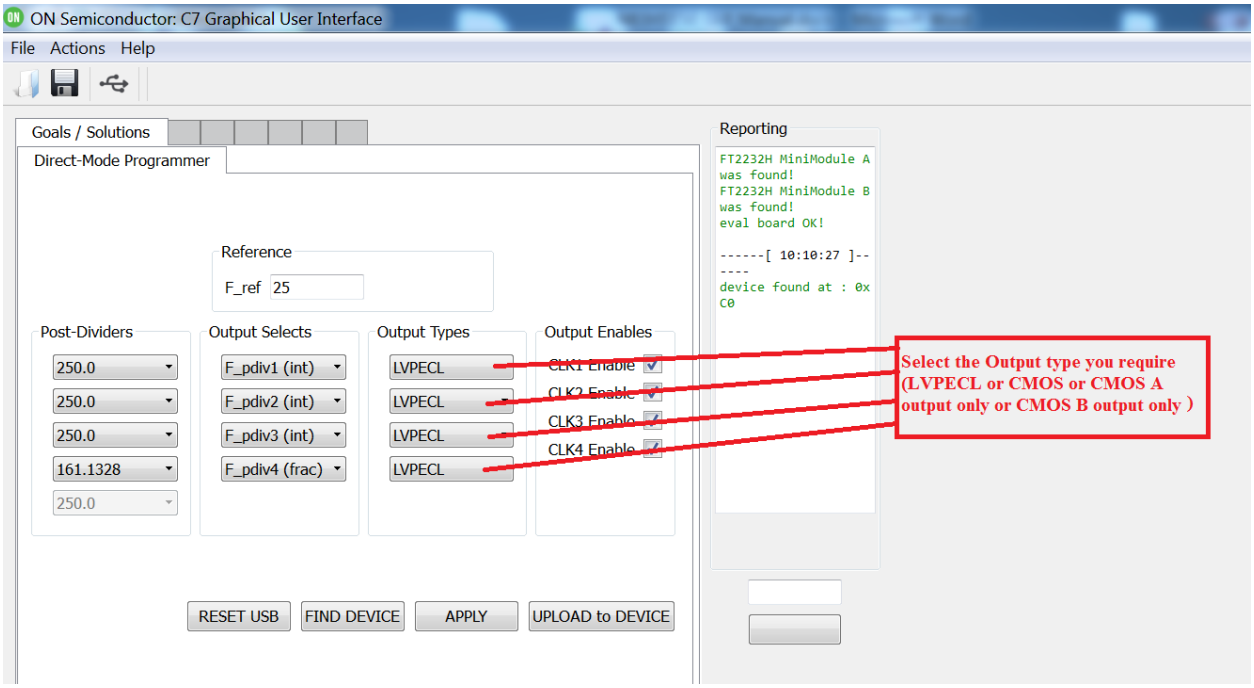


Functional Overview – I2C Activities

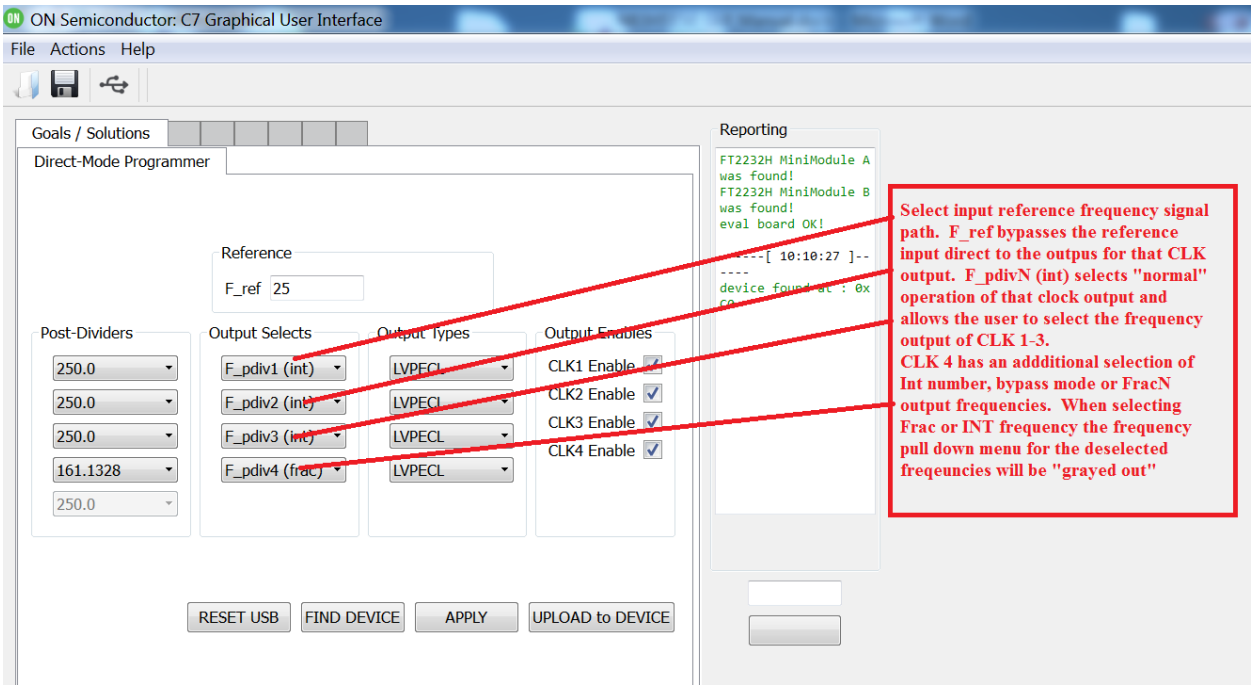
Select the output Frequency you would like for each output CLK 1-4 and Enable the outputs that you need.



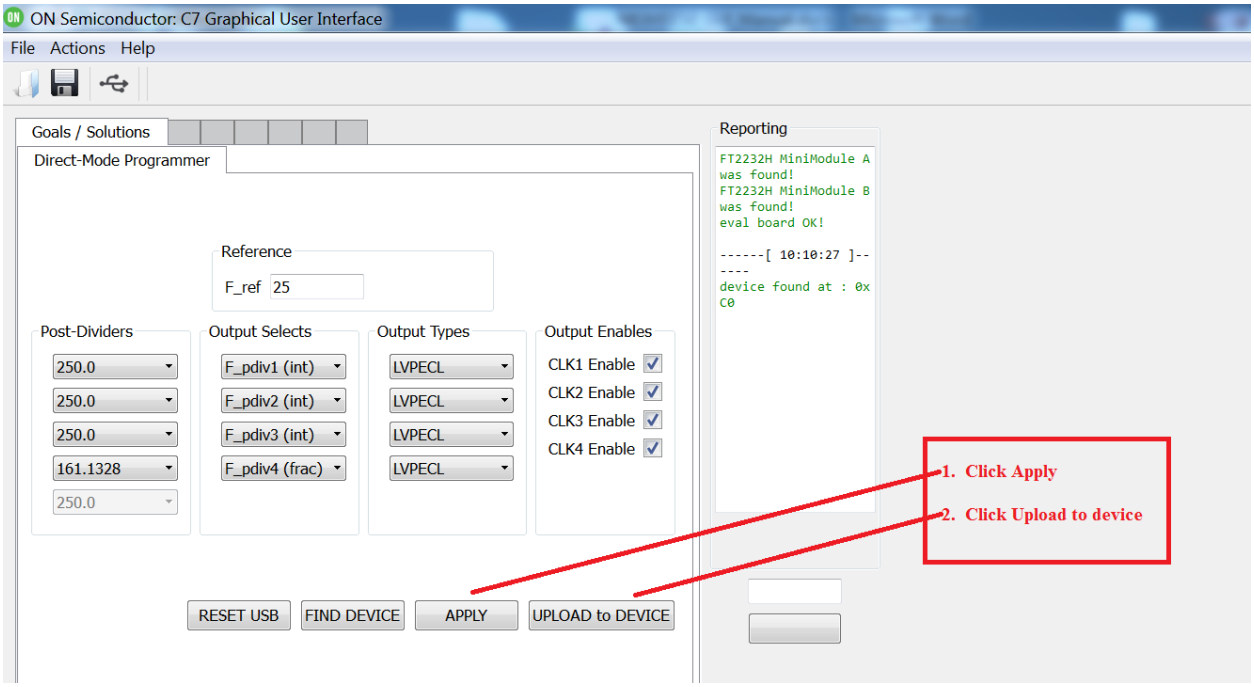
Select the output types you require LVPECL (differential), CMOS both outputs per CLKN or CMOS out A active only or CMOS out B active only. Please refer to the board manual for proper output loading configuration for the various output types.



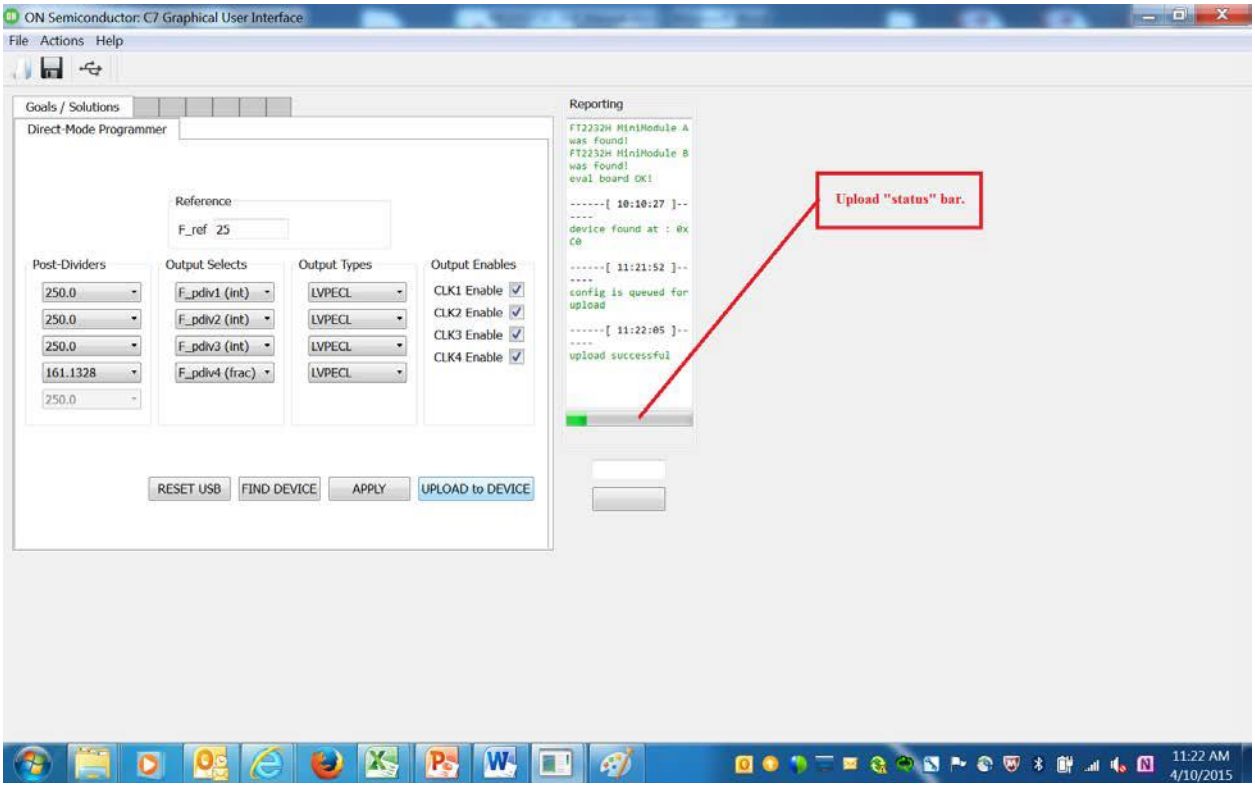
Select the input reference frequency signal path. Direct input to output mode “bypass pll” by selecting F_ref. This "bypass mode” will bring the input reference frequency to the select clock output. This can be used to verify you crystal frequency and ppm of this input.
Select F_pdivN for normal operation. This will allow to select the output frequency you require.
Clock 4 output has an additional function that allow you to select a FracN out frequency. You can select an INT or FracN mode at this step. You will notice that the frequency selection option for the deselected frequencies “INT for FracN” will be “grayed out” when not in use.



You are now ready to send your configuration to the device by clicking “APPLY” and then “UPLOAD to Device”.

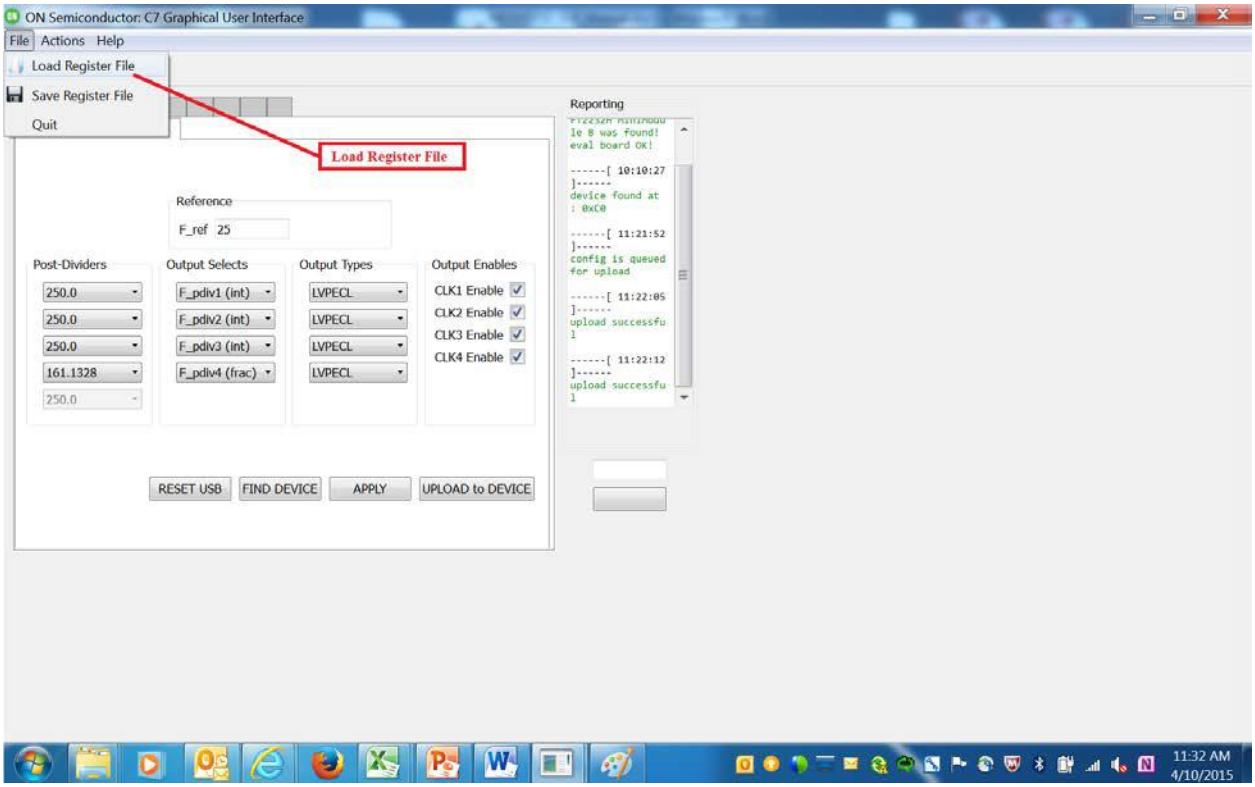


Please see the upload status bar. When the device has been completely programmed the “green” color in the status bar will disappear.



You can now see you performance selections realized in the performance of the device.

You can also load one of the saved register files from the file tab of this software. Select the file you would like to load to the device.



After selecting the file then click “FIND DEVICE” and then “UPLOAD to Device” wait for the programming to complete and then the device will be programmed. When loading from an external file the performance of the device will not be indicated on the GUI panel.