

NB3W800LMNGEVB

NB3W800LMNGEVB GUI Evaluation Board User's Manual



ON Semiconductor®

www.onsemi.com

EVAL BOARD USER'S MANUAL

Devices Supported:

NB3W800L (QFN48)

Introduction

The NB3W800L is a low-power 8-output differential buffer that meets all the performance requirements of the DB800ZL specification. The NB3W800L is capable of distributing the reference clocks for Intel® QuickPath Interconnect (Intel QPI), PCIe Gen1/Gen2/Gen3, SAS, SATA, and Intel Scalable Memory Interconnect (Intel SMI) applications. A fixed, internal feedback path maintains low drift for critical QPI applications.

ON Semiconductor has developed a GUI that can be used with the device Eval Board NB3W800LMNGEVB to control NB3W800L device register parameters. Its operation is covered in this manual.

Software Installation

- Unzip the distribution archive “DB800_GUI_revC.zip”
 - ◆ All files are contained in the parent folder DB800_GUI_revC which you can un-zip anywhere on your PC

- Look in the parent folder
 - ◆ You will see a file “NB3W800L_Programming_GUI.exe”
- Make a short cut to that file and place it on your desktop, start menu etc.
- That's it
 - ◆ There is no manipulation of the registry or path variables
 - ◆ To un-install just delete the files

Software Use and Initialization

- Connect the Eval Board NB3W800LMNGEVB to a USB port of a PC
- Allow Windows® to install the necessary drivers for the Evaluation board USB interface hardware .. it will go out to the web to find them
- Start the program using the short cut you made earlier

NB3W800LMNGEVB

SMBus Activities

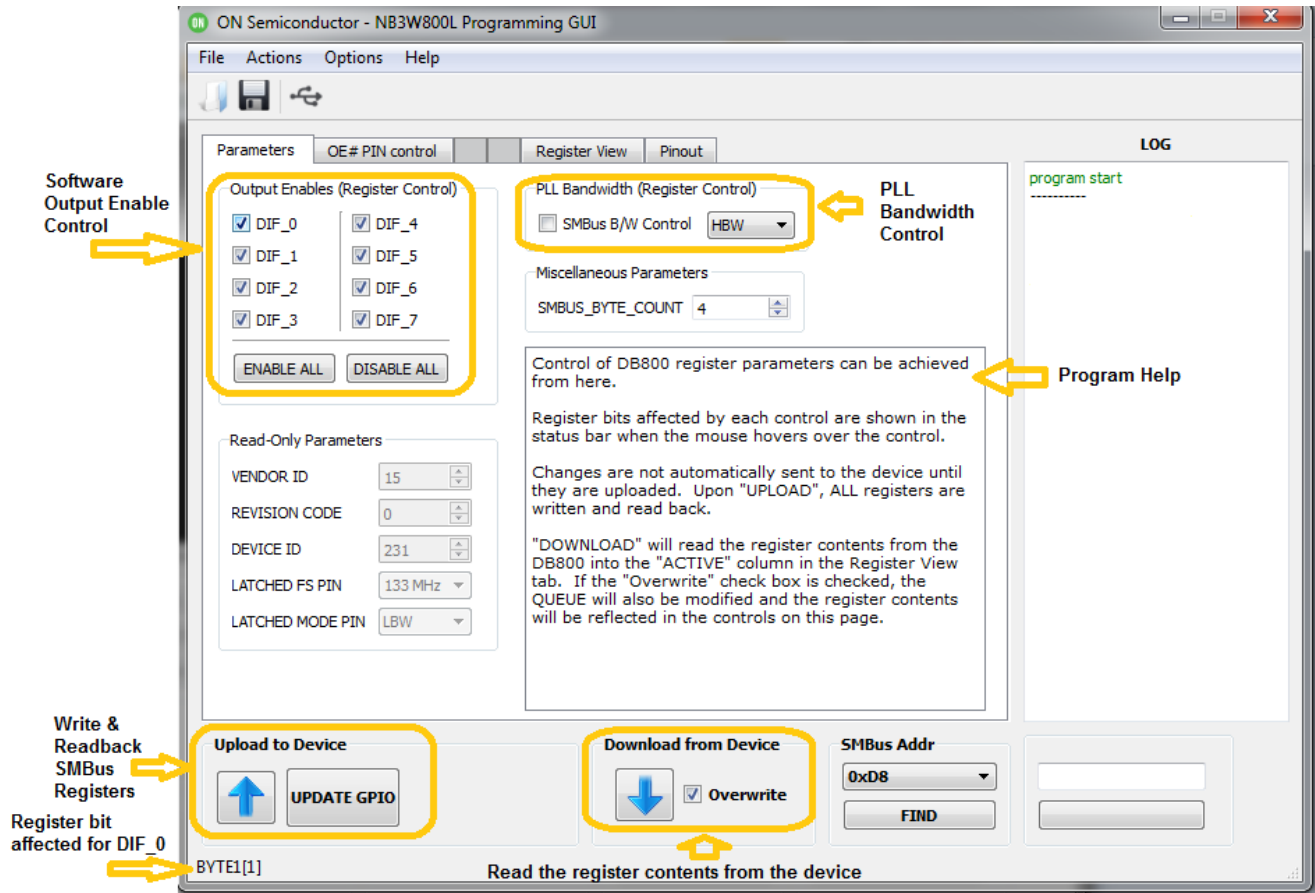


Figure 1.

NB3W800LMNGEVB

The screenshot shows the 'ON Semiconductor - NB3W800L Programming GUI' with the 'OE# PIN control' tab selected. The interface includes a menu bar (File, Actions, Options, Help), a toolbar, and a main content area with a table of OE# pins, a help text area, and a log area. Annotations with yellow arrows point to specific features:

- OE# pin logic level control:** Points to the 'Logic Level' column in the table.
- When the Direction control is "SENSE", logic level set by the jumper on the EVB will be displayed upon pressing "UPDATE GPIO":** Points to the 'Direction' column in the table.
- When the Direction control is "DRIVE", OE# pin logic levels can be controlled from GUI:** Points to the 'Logic Level' column in the table.
- Program Help:** Points to the help text area.
- SMBus address where the device is found:** Points to the 'SMBus Addr' dropdown menu.
- OE# pin control changes will be effected when "UPDATE GPIO" is pressed:** Points to the 'UPDATE GPIO' button.

DUT Pin	Direction	Logic Level	R/T Status
OE0#	SENSE	0	ENABLED
OE1#	SENSE	0	ENABLED
OE2#	SENSE	0	ENABLED
OE3#	SENSE	0	ENABLED
OE4#	SENSE	0	ENABLED
OE5#	SENSE	0	ENABLED
OE6#	SENSE	0	ENABLED
OE7#	SENSE	0	ENABLED

Buttons at the bottom include: Upload to Device (with an arrow icon), UPDATE GPIO, Download from Device (with a downward arrow icon), Overwrite (checkbox), SMBus Addr (dropdown menu showing 0xD8), and FIND.

Figure 2.

NB3W800LMNGEVB

Menu Options

- File Menu

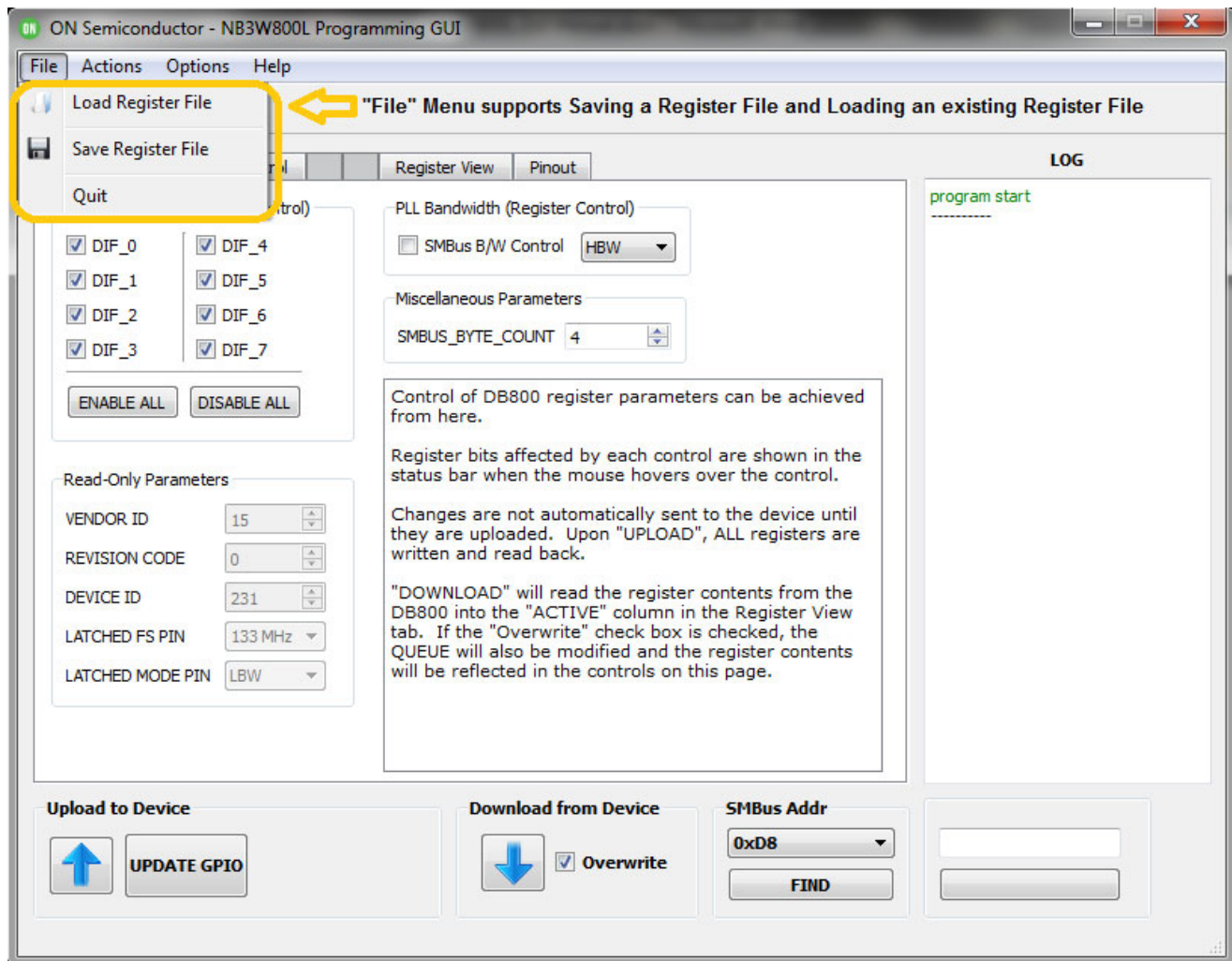


Figure 3. File Menu

NB3W800LMNGEVB

- Actions Menu

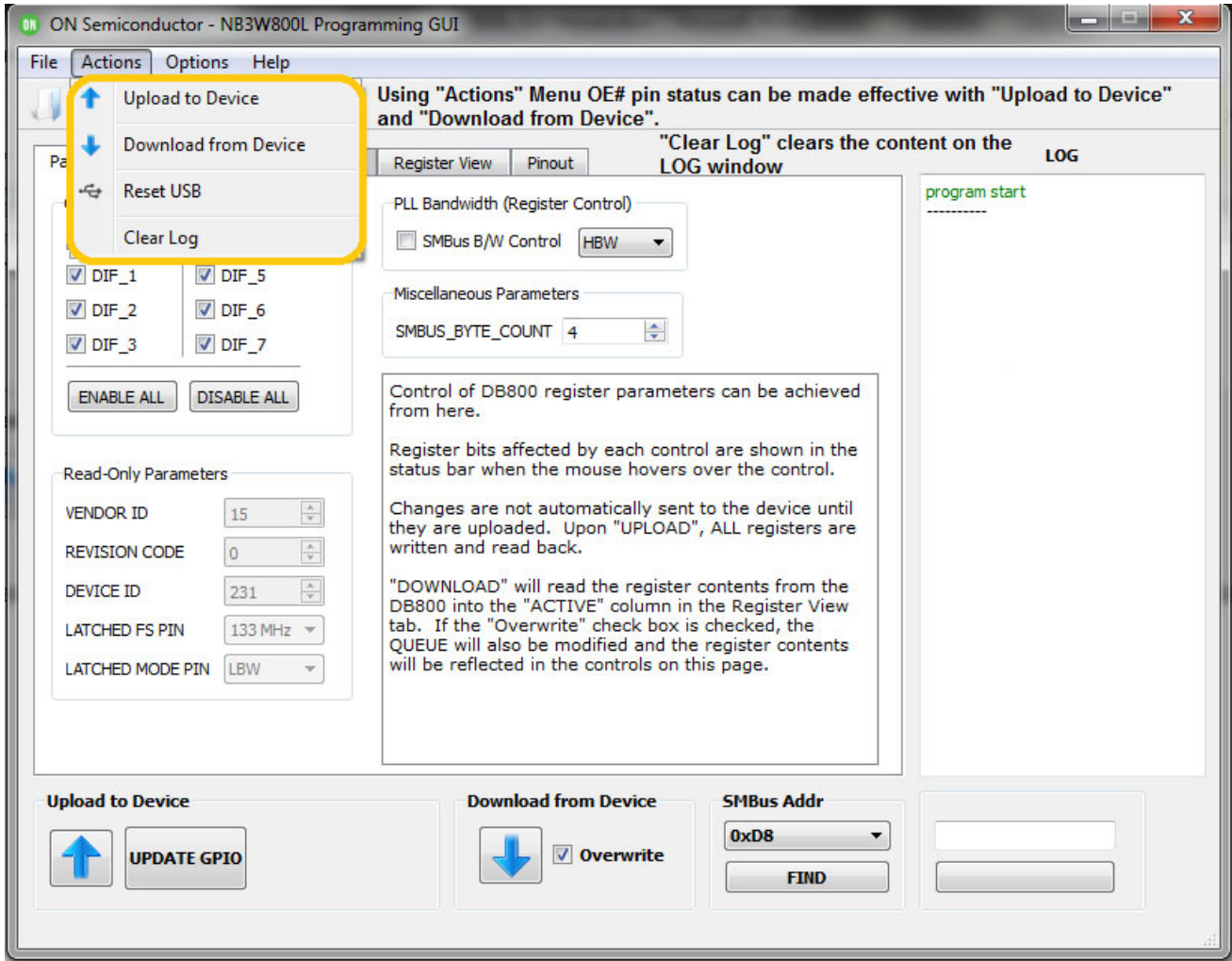


Figure 4.Actions Menu

ON Semiconductor and the ON Semiconductor logo are trademarks of Semiconductor Components Industries, LLC dba ON Semiconductor or its subsidiaries in the United States and/or other countries. ON Semiconductor owns the rights to a number of patents, trademarks, copyrights, trade secrets, and other intellectual property. A listing of ON Semiconductor's product/patent coverage may be accessed at www.onsemi.com/site/pdf/Patent-Marking.pdf. ON Semiconductor is an Equal Opportunity/Affirmative Action Employer. This literature is subject to all applicable copyright laws and is not for resale in any manner.

The evaluation board/kit (research and development board/kit) (hereinafter the "board") is not a finished product and is as such not available for sale to consumers. The board is only intended for research, development, demonstration and evaluation purposes and should as such only be used in laboratory/development areas by persons with an engineering/technical training and familiar with the risks associated with handling electrical/mechanical components, systems and subsystems. This person assumes full responsibility/liability for proper and safe handling. Any other use, resale or redistribution for any other purpose is strictly prohibited.

The board is delivered "AS IS" and without warranty of any kind including, but not limited to, that the board is production-worthy, that the functions contained in the board will meet your requirements, or that the operation of the board will be uninterrupted or error free. ON Semiconductor expressly disclaims all warranties, express, implied or otherwise, including without limitation, warranties of fitness for a particular purpose and non-infringement of intellectual property rights.

ON Semiconductor reserves the right to make changes without further notice to any board.

You are responsible for determining whether the board will be suitable for your intended use or application or will achieve your intended results. Prior to using or distributing any systems that have been evaluated, designed or tested using the board, you agree to test and validate your design to confirm the functionality for your application. Any technical, applications or design information or advice, quality characterization, reliability data or other services provided by ON Semiconductor shall not constitute any representation or warranty by ON Semiconductor, and no additional obligations or liabilities shall arise from ON Semiconductor having provided such information or services.

The boards are not designed, intended, or authorized for use in life support systems, or any FDA Class 3 medical devices or medical devices with a similar or equivalent classification in a foreign jurisdiction, or any devices intended for implantation in the human body. Should you purchase or use the board for any such unintended or unauthorized application, you shall indemnify and hold ON Semiconductor and its officers, employees, subsidiaries, affiliates, and distributors harmless against all claims, costs, damages, and expenses, and reasonable attorney fees arising out of, directly or indirectly, any claim of personal injury or death associated with such unintended or unauthorized use, even if such claim alleges that ON Semiconductor was negligent regarding the design or manufacture of the board.

This evaluation board/kit does not fall within the scope of the European Union directives regarding electromagnetic compatibility, restricted substances (RoHS), recycling (WEEE), FCC, CE or UL, and may not meet the technical requirements of these or other related directives.

FCC WARNING – This evaluation board/kit is intended for use for engineering development, demonstration, or evaluation purposes only and is not considered by ON Semiconductor to be a finished end product fit for general consumer use. It may generate, use, or radiate radio frequency energy and has not been tested for compliance with the limits of computing devices pursuant to part 15 of FCC rules, which are designed to provide reasonable protection against radio frequency interference. Operation of this equipment may cause interference with radio communications, in which case the user shall be responsible, at its expense, to take whatever measures may be required to correct this interference.

ON Semiconductor does not convey any license under its patent rights nor the rights of others.

LIMITATIONS OF LIABILITY: ON Semiconductor shall not be liable for any special, consequential, incidental, indirect or punitive damages, including, but not limited to the costs of requalification, delay, loss of profits or goodwill, arising out of or in connection with the board, even if ON Semiconductor is advised of the possibility of such damages. In no event shall ON Semiconductor's aggregate liability from any obligation arising out of or in connection with the board, under any theory of liability, exceed the purchase price paid for the board, if any.

For more information and documentation, please visit www.onsemi.com.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:

Email Requests to: orderlit@onsemi.com

ON Semiconductor Website: www.onsemi.com

TECHNICAL SUPPORT

North American Technical Support:

Voice Mail: 1 800-282-9855 Toll Free USA/Canada

Phone: 011 421 33 790 2910

Europe, Middle East and Africa Technical Support:

Phone: 00421 33 790 2910

For additional information, please contact your local Sales Representative