NB3W800LMNGEVB GUI Evaluation Board User's Manual



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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

1

SMBus Activities

1	🕕 ON Semiconductor - NB3W800L Programming GUI			
	File Actions Options Help			
Software Output Enable Control	Parameters OE# PIN control Register View Pinout LOG Output Enables (Register Control) PLL Bandwidth (Register Control) PLL Bandwidth (Register Control) PLL Bandwidth Image: DIF_0 Image: DIF_4 Image: SMBus B/W Control PLU Bandwidth Control Image: DIF_1 Image: DIF_5 Miscellaneous Parameters Miscellaneous Parameters Image: DIF_1			
	Image: Control of DB800 register parameters can be achieved from here. Program Help			
	Read-Only Parameters Register bits affected by each control are shown in the status bar when the mouse hovers over the control. VENDOR ID 15 REVISION CODE 0 DEVICE ID 231 LATCHED FS PIN 133 MHz * LATCHED MODE PIN IBW			
Write & Readback SMBus Registers Register bit affected for DIF_0	Upload to Device Download from Device SMBus Addr UPDATE GPIO Image: Content of the device Image: Content of the device BYTE1[1] Read the register contents from the device Image: Content of the device			

Figure 1.

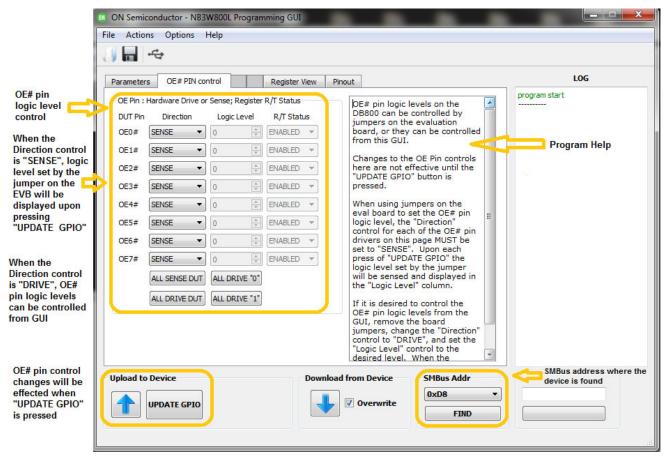


Figure 2.

Menu Options

• File Menu

🕕 ON Semiconductor - NB3W800L Programming GUI									
File	File Actions Options Help								
N.	Load Register File	File" Menu supports Saving a Register File and Loading	g an existing Register File						
	Save Register File	Register View Pinout	LOG						
	Quit (itrol)	PLL Bandwidth (Register Control)	program start						
	DIF_0 DIF_4	SMBus B/W Control HBW							
	 ✓ DIF_1 ✓ DIF_5 ✓ DIF_2 ✓ DIF_6 	Miscellaneous Parameters							
	☑ DIF_3 ☑ DIF_7	SMBUS_BYTE_COUNT 4							
	ENABLE ALL DISABLE ALL	Control of DB800 register parameters can be achieved from here.							
	Read-Only Parameters	Register bits affected by each control are shown in the status bar when the mouse hovers over the control.							
	VENDOR ID	Changes are not automatically sent to the device until they are uploaded. Upon "UPLOAD", ALL registers are written and read back.							
	REVISION CODE 0 ÷ DEVICE ID 231 ÷	"DOWNLOAD" will read the register contents from the							
	LATCHED FS PIN 133 MHz V	DB800 into the "ACTIVE" column in the Register View tab. If the "Overwrite" check box is checked, the OUEUE will also be modified and the register contents							
	LATCHED MODE PIN LBW	will be reflected in the controls on this page.							
Upload to Device Download from Device SMBus Addr									
		0xD8 -							
	UPDATE GPIO	V Overwrite							

Figure 3.File Menu

• Actions Menu

🕛 ON Semiconductor - NB3W800L Programming GUI								
File Actions Options Help								
1			Using "Actions" Menu OE# pin status can be made effectiv and "Download from Device".	e with "Upload to Device"				
Pa 🕈	Download fr	rom Device	Register View Pinout Clear Log" clears the conte LOG window LOG window LOG window	ent on the LOG				
4. -			PLL Bandwidth (Register Control)	program start				
	Clear Log		SMBus B/W Control HBW -					
		DIF_5 DIF_6	Miscellaneous Parameters					
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Image: Comparison of the state Image: Comparison of th		SMBUS_BYTE_COUNT 4					
ENA			Control of DB800 register parameters can be achieved from here.					
Read	-Only Parameter	s	Register bits affected by each control are shown in the status bar when the mouse hovers over the control.					
VEND	OR ID	15	Changes are not automatically sent to the device until they are uploaded. Upon "UPLOAD", ALL registers are					
REVIS	REVISION CODE 0 DEVICE ID 231 LATCHED FS PIN 133 MHz		written and read back.					
DEVIC			"DOWNLOAD" will read the register contents from the DB800 into the "ACTIVE" column in the Register View					
LATCH			tab. If the "Overwrite" check box is checked, the OUEUE will also be modified and the register contents					
LATCH	HED MODE PIN	LBW	will be reflected in the controls on this page.					
Linload	to Device		Download from Device SMBus Addr					
			V Overwrite					
			FIND					

Figure 4.Actions Menu

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