NB3W800LMNGEVB GUI Evaluation Board User's Manual



ON Semiconductor®

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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

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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 Image: Miscellaneous Parameters Image: Miscellaneous Parameters Image: DIF_1						
	V DIF_2 V DIF_6 V DIF_3 V DIF_7 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 15 REVISION CODE 0 DEVICE ID 231 LATCHED FS PIN 133 MHz * LATCHED MODE PIN LBW						
Write & Readback SMBus Registers Register bit affected for DIF_0	Upload to Device Download from Device SMBus Addr UPDATE GPI0 Image: Content of the device SMBus Addr BYTE1[1] Read the register contents from the device FIND						

Figure 1.



Figure 2.

Menu Options

• File Menu

00 C	🐠 ON Semiconductor - NB3W800L Programming GUI										
File	File Actions Options Help										
U.	Load Register File "File" Menu supports Saving a Register File and Loading an existing Register File										
	Save Register File	Register View Pinout	LOG								
	Quit (trol)	PLL Bandwidth (Register Control)	program start								
	DIF_0	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									
	REVISION CODE 0	written and read back.									
	DEVICE ID 231	"DOWNLOAD" will read the register contents from the DB800 into the "ACTIVE" column in the Register View									
		QUEUE will also be modified and the register contents will be reflected in the controls on this page.									
U	pload to Device	Download from Device SMBus Addr									
		Overwrite									
		FIND									

Figure 3.File Menu

• Actions Menu

💵 ON Semiconductor - NB3W800L Programming GUI										
File Acti	ions Option	ns Help								
1	Upload to D	evice		Using "Actions" Menu OE# and "Download from Devic	pin statu e".	us can be made eff	ective with "Uploa	d to Device"		
Pa 🕈	Download from Device			Register View Pinout	"Clea LOG	ar Log" clears the c window	content on the	0G		
- 4 7	Reset USB			PLL Bandwidth (Register Control)			program start			
	Clear Log			SMBus B/W Control HBW	•					
	IF_1 IF_5 IF_2 IF_6 IF_3 IF_7			Miscellaneous Parameters						
DIF			_	SMBUS_BYTE_COUNT 4						
ENA	NABLE ALL DISABLE ALL			Control of DB800 register pa from here.	arameter	s can be achieved				
Read-C	Read-Only Parameters			Register bits affected by eac status bar when the mouse	ch contro hovers or	l are shown in the ver the control.				
VENDO	VENDOR ID 15 A REVISION CODE 0 A DEVICE ID 231 A		A V	Changes are not automatically sent to the device until they are uploaded. Upon "UPLOAD", ALL registers are						
REVISI			A. W	written and read back.						
DEVIC				"DOWNLOAD" will read the r DB800 into the "ACTIVE" co						
LATCH	ED FS PIN	133 MHz	*	tab. If the "Overwrite" check box is checked, the OUFUE will also be modified and the register contents						
LATCH	ED MODE PIN	LBW	*	will be reflected in the control						
Upload	to Device			Download from Dev	vice	SMBus Addr				
		10			vrite	0xD8 •				
	UPDATE G	10			me	FIND				
_		_	_		_			-di		

Figure 4.Actions Menu

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