Keysight U7231B/U7231C DDR3 Compliance Application

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Programmer's Reference

Notices

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In This Book

This book is your guide to programming the Keysight Technologies U7231B/U7231C DDR3 Compliance Application.

- Chapter 1, “Introduction to Programming,” starting on page 7, describes compliance application programming basics.
- Chapter 2, “Configuration Variables and Values,” starting on page 11, Chapter 3, “Test Names and IDs,” starting on page 61, and Chapter 4, “Instruments,” starting on page 69, provide information specific to programming the U7231B/U7231C DDR3 Compliance Application.

How to Use This Book

Programmers who are new to compliance application programming should read all of the chapters in order. Programmers who are already familiar with this may review chapters 2, 3, and 4 for changes.

Contents

1 Introduction to Programming

This chapter introduces the basics for remote programming a compliance application. The programming commands provide the means of remote control. Basic operations that you can do remotely with a computer and a compliance app running on an oscilloscope include:

- Launching and closing the application.
- Configuring the options.
- Running tests.
- Getting results.
- Controlling when and were dialogs get displayed
- Saving and loading projects.

You can accomplish other tasks by combining these functions.

Remote Programming Toolkit

The majority of remote interface features are common across all the Keysight Technologies, Inc. family of compliance applications. Information on those features is provided in the N5452A Compliance Application Remote Programming Toolkit available for download from Keysight here: "www.keysight.com/find/scope-apps-sw". The U7231B/U7231C DDR3 Compliance Application uses Remote Interface Revision 3.40. The help files provided with the toolkit indicate which features are supported in this version.

In the toolkit, various documents refer to "application-specific configuration variables, test information, and instrument information". These are provided in Chapters 2, 3, and 4 of this document, and are also available directly from the application's user interface when the remote interface is enabled (View>Preferences::Remote tab::Show remote interface hints). See the toolkit for more information.

Licensing

To enable programming of compliance applications on your oscilloscope, please visit "www.keysight.com/find/scope-apps" to purchase an N5452A remote programming option license.

2 Configuration Variables and Values

The following table contains a description of each of the U7231B/U7231C DDR3 Compliance Application options that you may query or set remotely using the appropriate remote interface method. The columns contain this information:

- GUI Location – Describes which graphical user interface tab contains the control used to change the value.
- Label – Describes which graphical user interface control is used to change the value.
- Variable – The name to use with the SetConfig method.
- Values – The values to use with the SetConfig method.
- Description – The purpose or function of the variable.

For example, if the graphical user interface contains this control on the **Set Up** tab:

- Enable Advanced Features

then you would expect to see something like this in the table below:

Table 1 Example Configuration Variables and Values

GUI Location	Label	Variable	Values	Description
Set Up	Enable Advanced Features	EnableAdvanced	True, False	Enables a set of optional features.

and you would set the variable remotely using:

```
ARSL syntax
-----------
arsl -a ipaddress -c "SetConfig 'EnableAdvanced' 'True'"
```

```
C# syntax
---------
remoteAte.SetConfig("EnableAdvanced", "True");
```

Here are the actual configuration variables and values used by this application:

NOTE Some of the values presented in the table below may not be available in certain configurations. Always perform a "test run" of your remote script using the application's graphical user interface to ensure the combinations of values in your program are valid.

NOTE The file, ""ConfigInfo.txt"", which may be found in the same directory as this help file, contains all of the information found in the table below in a format suitable for parsing.

Table 2 Configuration Variables and Values

GUI Location	Label	Variable	Values	Description
Confgure	/CS Pin Source For Rank Separation	CS_Source_ DiffDQSVih VilPut	-1, 1, 2, 3, 4	Identifies the source of the /CS for Rank Separation for Differential VIHdiff.DQS/ VILdiff.DQS tests.
Confgure	/CS Pin Source For Rank Separation	CS_Source_ DiffOutput	-1, 1, 2, 3, 4	Identifies the source of the /CS for Rank Separation for Differential AC Output Tests.
Confgure	/CS Pin Source For Rank Separation	CS_Source_ InputSlew	-1, 1, 2, 3, 4	Identifies the source of the /CS for Rank Separation for "Input Slew Rate tests" test group.
Confgure	/CS Pin Source For Rank Separation	CS_Source_ VIX	-1, 1, 2, 3, 4	Identifies the source of the /CS for Rank Separation for Differential Input Cross Point Voltage for Strobe Test.
Confgure	/CS Pin Source For Rank Separation	CS_Source_ VihVilDQDM	-1, 1, 2, 3, 4	Identifies the source of the /CS for Rank Separation for "VIH/VIL for DQ and DM" test group.
Confgure	/CS Pin Source For Rank Separation	CS_Source_ VixDq	-1, 1, 2, 3, 4	Identifies the source of the /CS for Rank Separation for "Strobe Cross Point Voltage Test" test group.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	/CS Pin Source For Rank Separation	CS_Source_VohVolOutputSlew	-1, 1, 2, 3, 4	Identifies the source of the /CS for Rank Separation for "VOH/VOL and Output Slew Rate tests" test group.
Confgure	/CS Pin Source For Rank Separation	CS_Source_VsehVselStrobe	-1, 1, 2, 3, 4	Identifies the source of the /CS for Rank Separation for VSEH/VSEL Tests for Strobe.
Confgure	A12-BC Channel	A12BCDigChannel	NA, DIGital0, DIGital1, DIGital2, DIGital3, DIGital4, DIGital5, DIGital6, DIGital7, DIGital8, DIGital9, DIGital10, DIGital11, DIGital12, DIGital13, DIGital14, DIGital15	Identifies the channel source selection of the A12-BC digital signal to be analyzed for burst length detection.
Confgure	Base Ratio	BurstTriggerBaseRatio_Chan1	(Accepts user-defined text), 0.20	Specify the value of the base ratio used when triggering for the READ/WRITE burst data. The value set here is applicable ONLY when the "Threshold Mode" option is set to "TopBaseRatio".
Confgure	Base Ratio	BurstTriggerBaseRatio_Chan2	(Accepts user-defined text), 0.20	Specify the value of the base ratio used when triggering for the READ/WRITE burst data. The value set here is applicable ONLY when the "Threshold Mode" option is set to "TopBaseRatio".
Confgure	Base Ratio	BurstTriggerBaseRatio_Chan3	(Accepts user-defined text), 0.20	Specify the value of the base ratio used when triggering for the READ/WRITE burst data. The value set here is applicable ONLY when the "Threshold Mode" option is set to "TopBaseRatio".
Confgure	Base Ratio	BurstTriggerBaseRatio_Chan4	(Accepts user-defined text), 0.20	Specify the value of the base ratio used when triggering for the READ/WRITE burst data. The value set here is applicable ONLY when the "Threshold Mode" option is set to "TopBaseRatio".

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Burst Envelope Threshold	BurstEnvThres	(Accepts user-defined text), 0.5	This setting is used to determine the Data Strobe burst sensitivity level when performing the READ/WRITE burst separation process. Setting this option to a smaller value will increase the sensitivity of the algoritm. This option can be used to detect and identify the smallest valid READ/WRITE Data Strobe burst within a data acquisition if there are significant difference in amplitude between the Data Strobe bursts. However, setting this option too small may cause noise to be interpreted as valid burst data.
Confgure	Burst Length Limit	MaxBurstLenLimit	(Accepts user-defined text), 4, 8, 10000	This value is used to limit the maximum number of bits used in a valid data burst found when generating an eye diagram(Read or Write). For example, when this value is set to '8', the maximum number of bits used in a data burst to generate an eye diagram is limit to the first 8 data bit. User can specify custom value for this option.
Confgure	Burst Length Stimulus Mode	BurstLengthStimulusMode	FixedBurstLength, A12BCOnTheFly	This configuration for the selection of burst length stimulus mode. For "Fixed Burst Length" selection, application will assume all the burst occurance have the same length of sub-burst. For "A12-BC Signal(Support On-The-Fly)" selection, the burst length of a sub-burst is depend on the logic state of BC signal at the moment Read/Write command queried.
Confgure	CAS Channel	CASDigChannel	DIGital0, DIGital1, DIGital2, DIGital3, DIGital4, DIGital5, DIGital6, DIGital7, DIGital8, DIGital9, DIGital10, DIGital11, DIGital12, DIGital13, DIGital14, DIGital15	Identifies the channel source selection of the CAS digital signal to be analyzed for MSOx Logic Triggering.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	CKE Channel	CKEDigChannel	Ignore, DIGital0, DIGital1, DIGital2, DIGital3, DIGital4, DIGital5, DIGital6, DIGital7, DIGital8, DIGital9, DIGital10, DIGital11, DIGital12, DIGital13, DIGital14, DIGital15	Identifies the channel source selection of the CKE digital signal to be analyzed for MSOx Logic Triggering.
Confgure	CS Channel	CSDigChannel	DIGital0, DIGital1, DIGital2, DIGital3, DIGital4, DIGital5, DIGital6, DIGital7, DIGital8, DIGital9, DIGital10, DIGital11, DIGital12, DIGital13, DIGital14, DIGital15	Identifies the channel source selection of the CS digital signal to be analyzed for MSOx Logic Triggering.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Channel 1	MyCH1	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_SCK0, Clock_SCK1, Clock_SCK2, Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, Control_NCS0, Control_NCS1, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_DDQS8, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, Strobe_SDQS8, DM_DM0, DM_DM1, DM_DM2, DM_DM3, DM_DM4, DM_DM5, DM_DM6, DM_DM7, LP_NA_, LP_Clock_DCK, LP_Clock_SCK, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21,	Please select the signal parameter connected to Channel 1

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Channel 1	MyCH1 (cont'd)	LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31, LP_Control_NCS, LP_Strobe_DDQS0, LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3, LP_Strobe_SDQS0, LP_Strobe_SDQS1, LP_Strobe_SDQS2, LP_Strobe_SDQS3, LP_DM_DM0, LP_DM_DM1, LP_DM_DM2, LP_DM_DM3	Please select the signal parameter connected to Channel 1

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Channel 2	MyCH2	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_SCK0, Clock_SCK1, Clock_SCK2, Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, Control_NCS0, Control_NCS1, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_DDQS8, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, Strobe_SDQS8, DM_DM0, DM_DM1, DM_DM2, DM_DM3, DM_DM4, DM_DM5, DM_DM6, DM_DM7, LP_NA_, LP_Clock_DCK, LP_Clock_SCK, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21,	Please select the signal parameter connected to Channel 2

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Channel 2	MyCH2 (cont'd)	LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31, LP_Control_NCS, LP_Strobe_DDQS0, LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3, LP_Strobe_SDQS0, LP_Strobe_SDQS1, LP_Strobe_SDQS2, LP_Strobe_SDQS3, LP_DM_DM0, LP_DM_DM1, LP_DM_DM2, LP_DM_DM3	Please select the signal parameter connected to Channel 2

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Channel 3	MyCH3	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_SCK0, Clock_SCK1, Clock_SCK2, Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, Control_NCS0, Control_NCS1, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_DDQS8, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, Strobe_SDQS8, DM_DM0, DM_DM1, DM_DM2, DM_DM3, DM_DM4, DM_DM5, DM_DM6, DM_DM7, LP_NA_, LP_Clock_DCK, LP_Clock_SCK, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21,	Please select the signal parameter connected to Channel 3

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Channel 3	MyCH3 (cont'd)	LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31, LP_Control_NCS, LP_Strobe_DDQS0, LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3, LP_Strobe_SDQS0, LP_Strobe_SDQS1, LP_Strobe_SDQS2, LP_Strobe_SDQS3, LP_DM_DM0, LP_DM_DM1, LP_DM_DM2, LP_DM_DM3	Please select the signal parameter connected to Channel 3

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Channel 4	MyCH4	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_SCK0, Clock_SCK1, Clock_SCK2, Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, Control_NCS0, Control_NCS1, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_DDQS8, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, Strobe_SDQS8, DM_DM0, DM_DM1, DM_DM2, DM_DM3, DM_DM4, DM_DM5, DM_DM6, DM_DM7, LP_NA_, LP_Clock_DCK, LP_Clock_SCK, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21,	Please select the signal parameter connected to Channel 4

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Channel 4	MyCH4 (cont'd)	LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31, LP_Control_NCS, LP_Strobe_DDQS0, LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3, LP_Strobe_SDQS0, LP_Strobe_SDQS1, LP_Strobe_SDQS2, LP_Strobe_SDQS3, LP_DM_DM0, LP_DM_DM1, LP_DM_DM2, LP_DM_DM3	Please select the signal parameter connected to Channel 4
Confgure	Chip Select Source	AdvDbg_Source3	-1, 1, 2, 3, 4	Identifies the source of the Chip Select signal for eye diagram tests(Rank separation option ONLY).
Confgure	Clock Lane	AdvDbgSupportClockMSOxLogicTrig	CK0, CK1, CK2	Identifies the Clock lane for the eye diagram tests using MSOX Logic input.
Confgure	Clock Pin Source For MSOx Logic Triggering	Clock_Source_DiffDQSVihVilPut	-1, 1, 2, 3, 4	Identifies the source of the Clock for MSOx Logic Triggering for Differential VIHdiff.DQS/ VILdiff.DQS tests.
Confgure	Clock Pin Source For MSOx Logic Triggering	Clock_Source_DiffOutput	-1, 1, 2, 3, 4	Identifies the source of the Clock for MSOx Logic Triggering for Differential AC Output Tests.
Confgure	Clock Pin Source For MSOx Logic Triggering	Clock_Source_InputSlew	-1, 1, 2, 3, 4	Identifies the source of the Clock for MSOx Logic Triggering for "Input Slew Rate tests" test group.
Confgure	Clock Pin Source For MSOx Logic Triggering	Clock_Source_VIX	-1, 1, 2, 3, 4	Identifies the source of the Clock for MSOx Logic Triggering for Differential Input Cross Point Voltage for Strobe Test.
Confgure	Clock Pin Source For MSOx Logic Triggering	Clock_Source_VihVilDQDM	-1, 1, 2, 3, 4	Identifies the source of the Clock for MSOx Logic Triggering for "VIH/VIL for DQ and DM" test group.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Clock Pin Source For MSOx Logic Triggering	Clock_Source_VixDq	-1, 1, 2, 3, 4	Identifies the source of the Clock for MSOx Logic Triggering for "Strobe Cross Point Voltage Test" test group.
Confgure	Clock Pin Source For MSOx Logic Triggering	Clock_Source_VohVolOutputSlew	-1, 1, 2, 3, 4	Identifies the source of the Clock for MSOx Logic Triggering for "VOH/VOL and Output Slew Rate tests" test group.
Confgure	Clock Pin Source For MSOx Logic Triggering	Clock_Source_VsehVselStrobe	-1, 1, 2, 3, 4	Identifies the source of the Clock for MSOx Logic Triggering for VSEH/VSEL Tests for Strobe.
Confgure	Clock Source	AdvDbg_SourceClockMSOxLogicTrig	-1, 1, 2, 3, 4	Identifies the source of the Clock for eye diagram tests using MSOX Logic input.
Confgure	Clocking Method	ClockingMethod	1, 2, 3, 4	This option is used to select the clocking method used in the selected PUT(under the Command and Address Timing tests section). The clocking method is typically determined by the memory controller where it could use "1T Timing" or "2T Timing" method on the address and command buses. This clocking method option will ONLY affect tIS and tIS(derate) tests.
Confgure	DQ to DQS phase shift for Read(%)	Read_Phase	(Accepts user-defined text), 20	This setting allow user to modify the expected phase shift of DQ-DQS for specific case. The number represent the % of phase shift expected for Read cycle.
Confgure	DQ to DQS phase shift for Write(%)	Write_Phase	(Accepts user-defined text), 40	This setting allow user to modify the expected phase shift of DQ-DQS for specific case. The number represent the % of phase shift expected for Write cycle.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Data Lane	AdvDbgInputDataMSOxLogicTrig	DQ0, DQ1, DQ2, DQ3, DQ4, DQ5, DQ6, DQ7, DQ8, DQ9, DQ10, DQ11, DQ12, DQ13, DQ14, DQ15, DQ16, DQ17, DQ18, DQ19, DQ20, DQ21, DQ22, DQ23, DQ24, DQ25, DQ26, DQ27, DQ28, DQ29, DQ30, DQ31, DQ32, DQ33, DQ34, DQ35, DQ36, DQ37, DQ38, DQ39, DQ40, DQ41, DQ42, DQ43, DQ44, DQ45, DQ46, DQ47, DQ48, DQ49, DQ50, DQ51, DQ52, DQ53, DQ54, DQ55, DQ56, DQ57, DQ58, DQ59, DQ60, DQ61, DQ62, DQ63, DQ64, DQ65, DQ66, DQ67, DQ68, DQ69, DQ70, DQ71	Identifies the Data lane for the eye diagram tests using MSOX Logic input.
Confgure	Data Lane	AdvDbgInput_Eye	DQ0, DQ1, DQ2, DQ3, DQ4, DQ5, DQ6, DQ7, DQ8, DQ9, DQ10, DQ11, DQ12, DQ13, DQ14, DQ15, DQ16, DQ17, DQ18, DQ19, DQ20, DQ21, DQ22, DQ23, DQ24, DQ25, DQ26, DQ27, DQ28, DQ29, DQ30, DQ31, DQ32, DQ33, DQ34, DQ35, DQ36, DQ37, DQ38, DQ39, DQ40, DQ41, DQ42, DQ43, DQ44, DQ45, DQ46, DQ47, DQ48, DQ49, DQ50, DQ51, DQ52, DQ53, DQ54, DQ55, DQ56, DQ57, DQ58, DQ59, DQ60, DQ61, DQ62, DQ63, DQ64, DQ65, DQ66, DQ67, DQ68, DQ69, DQ70, DQ71	Identifies the data lane for the eye diagram tests.
Confgure	Data Source	AdvDbg_Source1	1, 2, 3, 4	Identifies the source of the data to be analyzed for eye diagram tests.
Confgure	Data Source	AdvDbg_SourceDataMSOxLogicTrig	1, 2, 3, 4	Identifies the source of the Data for eye diagram tests using MSOX Logic input.
Confgure	Data Strobe Lane	AdvDbgSupport	DQS0, DQS1, DQS2, DQS3, DQS4, DQS5, DQS6, DQS7, DQS8	Identifies the data strobe lane for the eye diagram tests.
Confgure	Data Strobe Lane	AdvDbgSupportStrobeMSOxLogicTrig	DQS0, DQS1, DQS2, DQS3, DQS4, DQS5, DQS6, DQS7, DQS8	Identifies the Data Strobe lane for the eye diagram tests using MSOX Logic input.
Confgure	Data Strobe Source	AdvDbg_Source2	-1, 1, 2, 3, 4	Identifies the source of the data strobe for eye diagram tests.
Confgure	Data Strobe Source	AdvDbg_SourceStrobeMSOxLogicTrig	-1, 1, 2, 3, 4	Identifies the source of the Data Strobe for eye diagram tests using MSOX Logic input.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Debug Info Logging	EnableDebugLogging	0, 1	This option enables/disables additional debug information logging during test run. This option is ONLY used for internal debugging purposes and should not be enable during normal test run.
Confgure	Derated Limit Method	DeratedLimitMethod	0, 1	This option is used to select the method to determine the derating values used in calculation of the dynamic test limit for tests that support derating [tDS-Diff(derate),tDH-Diff(derate),tIS(derate),tIH(derate)]. When the "Nominal Method" option is selected, the nominal slew rates of the relevant test signals(DQ or ADD/CMD) will be used to determine the derating value. Otherwise if "Tangent Method" option is selected, the slew rates of a tangent line to the actual test signals(DQ or ADD/CMD) will be used to determine the derating value instead.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Double CS Low Handling	DoubleCSLowHandleMethod	2, 0, 1	This value is used ONLY when the "Rank Separation" option is enabled. The value is used in the process to identify and eliminate bubble states(if any) from a valid back-to-back data burst found when generating an eye diagram. The chip select(CS) logic state at the READ/WRITE latency specified from the expected first data bit of a burst will be checked as part of the process to identify if any bubble states exist within the back-to-back data burst. In the event where the CS are held low for 2 clock cycles or more for a data burst, the value selected in this option will determine the algorithm flow to handle that particular back-to-back data burst. By default, all the data bits in the burst will be cropped from the point where the double CS low state is found(after delayed by the READ/WRITE latency). User have the options to always use the first/second CS low as the reference state to continue with the bubble search process for all the data bits in the burst.
Confgure	Edge Type for HoldTime measurements	CAEdgeOfInterest_HoldTime	0, 1, 2	This option is used to select the type of CA signal edge (Rising/Falling/Both) that will be processed when performing the hold time measurements for Command and Address Timing tests section. This option will ONLY affect tIH and tIH(derate) tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Edge Type for SetupTime measurements	CAEdgeOfInterest_SetupTime	0, 1, 2	This option is used to select the type of CA signal edge (Rising/Falling/Both) that will be processed when performing the setup time measurements for Command and Address Timing tests section. This option will ONLY affect tIS and tIS(derate) tests.
Confgure	Eye Diagram Display Style	EyeDiagramDisplayStyleOpt	EyeDispWithoutDQS, EyeDispWithDQS	Select the Display Style For Eye Diagram Test
Confgure	Eye Diagram Horizontal Position	EyeDiagHorizontalPos	(Accepts user-defined text), Auto, 0.0	Identifies the horizontal position of the Data(DQ) for the eye diagram tests.
Confgure	Fixed Burst Length	FixBurstLength	4, 8	This value is used ONLY when the "Rank Separation" option is enabled. The value is used in the process to identify and eliminate bubble states(if any) from a valid back-to-back data burst found when performing the Data Strobe Timing and Data Timing tests. For example, when this value is set to '8', all the data burst that has more than 8 data bit long will be scan for any bubble states within the data burst. It is assume that all the multiple data bursts will have the same fixed data length(in this example, 8 data bit). User can select from the available values for this option.
Confgure	Fixed Burst Length	FixedBurstLength_LogicMSOx	NA, 4, 8	This value is to define the Fix Burst Length of sub-burst. The value is used to determine the continuity of the sub-burst to the next sub-burst according to the Logic Pattern.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Lower Threshold (V)	Chan1_Low_Thresh	(Accepts user-defined text), -0.50	Specify the lower measurement threshold used for Channel 1. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".
Confgure	Lower Threshold (V)	Chan2_Low_Thresh	(Accepts user-defined text), -0.50	Specify the lower measurement threshold used for Channel 2. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".
Confgure	Lower Threshold (V)	Chan3_Low_Thresh	(Accepts user-defined text), 0.55	Specify the lower measurement threshold used for Channel 3. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".
Confgure	Lower Threshold (V)	Chan4_Low_Thresh	(Accepts user-defined text), 0.55	Specify the lower measurement threshold used for Channel 4. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".
Confgure	Mark Worst Case Cycles	MarkWorstCaseCycles	true, false	Places markers around the worst case cycles (test-dependent). Slows runtime performance.
Confgure	Max Acqusition Count	MaxAcqCount	(Accepts user-defined text), 5, 10, 20, 50	Determine the maximum number of acquisition that the app will used to try and achieved the required READ/WRITE measurement burst count(as specified in the "Multi Burst Count" option) when performing the tests. *Note: This option is applicable to all READ /WRITE burst related tests in the Electrical Tests group and Timing Tests group.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Max Measurement Count	MaxNumOfEdgeCount	(Accepts user-defined text), 1, 10, 100, 1000	Determine the maximum number of measurement edge count (including both rising and falling edges of the selected Command and Address signal) that the app will used when performing the Command and Address Timing Tests(tIS, tIH, etc)
Confgure	Middle Threshold (V)	Chan1_Mid_Thresh	(Accepts user-defined text), 0.00	Specify the middle measurement threshold used for Channel 1. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".
Confgure	Middle Threshold (V)	Chan2_Mid_Thresh	(Accepts user-defined text), 0.00	Specify the middle measurement threshold used for Channel 2. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".
Confgure	Middle Threshold (V)	Chan3_Mid_Thresh	(Accepts user-defined text), 0.75	Specify the middle measurement threshold used for Channel 3. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".
Confgure	Middle Threshold (V)	Chan4_Mid_Thresh	(Accepts user-defined text), 0.75	Specify the middle measurement threshold used for Channel 4. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".
Confgure	Minimum Data Amplitude	DataVoltRange	(Accepts user-defined text), 0.5	Determine the minimum amplitude of a Data burst (DQ/DM) that can be identified as a valid READ/WRITE burst data. If the actual amplitude of a burst data is lower than the value specified in this option, then that particular burst data will be ignored.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Multi Burst Count	MultiBurstCount	(Accepts user-defined text), 1, 10, 100, 1000	Determine the number of READ/WRITE measurement burst(s) that is required when performing the tests. *Note: This option is applicable to all READ /WRITE burst related tests in the Electrical Tests group and Timing Tests group with the exception of VOH(AC), VOH(DC), VOL(AC), VOL(DC), VIHDiff(AC), VILDiff(AC), VOHDiff(AC) and VOLDiff(AC) tests.
Confgure	OfflineCAFilePath(Must be hidden)	OfflineCAFilePath	(Accepts user-defined text), C:\	For supporting offline.
Confgure	OfflineCSFilePath(Must be hidden)	OfflineCSFilePath	(Accepts user-defined text), C:\	For supporting offline.
Confgure	OfflineClockFilePath(Must be hidden)	OfflineClockFilePath	(Accepts user-defined text), C:\	For supporting offline.
Confgure	OfflineClockMinusFilePath(Must be hidden)	OfflineClockMinusFilePath	(Accepts user-defined text), C:\	For supporting offline.
Confgure	OfflineClockPlusFilePath(Must be hidden)	OfflineClockPlusFilePath	(Accepts user-defined text), C:\	For supporting offline.
Confgure	OfflineDQFilePath(Must be hidden)	OfflineDQFilePath	(Accepts user-defined text), C:\	For supporting offline.
Confgure	OfflineDQSFilePath(Must be hidden)	OfflineDQSFilePath	(Accepts user-defined text), C:\	For supporting offline.
Confgure	OfflineDQSMinusFilePath(Must be hidden)	OfflineDQSMinusFilePath	(Accepts user-defined text), C:\	For supporting offline.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	OfflineDQS PlusFilePath(Must be hidden)	OfflineDQS PlusFilePath	(Accepts user-defined text), C:\	For supporting offline.
Confgure	OfflineData Folder(Must be hidden)	OfflineData Folder	(Accepts user-defined text), C:\	For supporting offline.
Confgure	OfflineData Mode(Must be hidden)	OfflineData Mode	(Accepts user-defined text), 0.0, 1.0	For supporting offline
Confgure	Option	TypeOfSignalCH1_CAT	NA, PUT, SP, LP_NA, LP_PUT, LP_SP	Identifies the signal to use for Chanel 1 Command and Address Timing Test.
Confgure	Option	TypeOfSignalCH2_CAT	NA, PUT, SP, LP_NA, LP_PUT, LP_SP	Identifies the signal to use for Channel 2 Command and Address Timing Test.
Confgure	Option	TypeOfSignalCH3_CAT	NA, PUT, SP, LP_NA, LP_PUT, LP_SP	Identifies the signal to use for Channel 3 Command and Address Timing Test.
Confgure	Option	TypeOfSignalCH4_CAT	NA, PUT, SP, LP_NA, LP_PUT, LP_SP	Identifies the signal to use for Channel 4 Command and Address Timing Test.
Confgure	PUT Source	ElecDiffCKVihVilPut_Source	1, 2, 3, 4	Identifies the source of the PUT for Differential VIHdiff.CK/ VILdiff.CK tests.
Confgure	PUT Source	ElecDiffDQSVihVilPut_Source	1, 2, 3, 4	Identifies the source of the PUT for Differential VIHdiff.DQS/ VILdiff.DQS tests.
Confgure	PUT Source	ElecDiffOutputPut_Source	1, 2, 3, 4	Identifies the source of the PUT for Differential AC Output Tests.
Confgure	PUT Source	ElecSEVsehVselClockPut_Source	1, 2, 3, 4	Identifies the source of the PUT for VSEH/VSEL Tests for Clock.
Confgure	PUT Source	ElecSEVsehVselStrobePut_Source	1, 2, 3, 4	Identifies the source of the PUT for VSEH/VSEL Tests for Strobe.
Confgure	PUT Source	ElecSE_Source1	1, 2, 3, 4	Identifies the source of the PUT for "VOH/VOL and Output Slew Rate tests" test group.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	PUT Source	ElecSE_Source1_CA	1, 2, 3, 4	Identifies the source channel of the PUT for "VIH/VIL for Command and Address" test group.
Confgure	PUT Source	ElecSE_Source1_DQ	1, 2, 3, 4	Identifies the source channel of the PUT for "VIH/VIL for DQ and DM" test group.
Confgure	PUT Source	ElecSE_Source1_InputSlew	1, 2, 3, 4	Identifies the source channel of the PUT for "Input Slew Rate tests" test group.
Confgure	PUT Source	ElecSE_Source1_InputSlewCA	1, 2, 3, 4	Identifies the source channel of the PUT for "Input Slew Rate tests" test group.
Confgure	PUT Source	OvrShtSeCA_LP_Source	1, 2, 3, 4	Identifies the source channel of the PUT for Overshoot/Undershoot (Address, Control, Clock, Chip Select, Clock Enable) tests.
Confgure	PUT Source	OvrShtSeDQ_LP_Source	1, 2, 3, 4	Identifies the source channel of the PUT for Overshoot/Undershoot (Data, Strobe, Mask) tests.
Confgure	PUT Source	OvrShtSe_Source	1, 2, 3, 4	Identifies the source channel of the PUT for Overshoot/Undershoot (Address, Control) tests.
Confgure	PUT Source	OvrShtSe_Source2	1, 2, 3, 4	Identifies the source channel of the PUT for Overshoot/Undershoot (Clock, Data, Strobe, Mask) tests.
Confgure	PUT(+) Source	ElecDIFF_Source1	1, 2, 3, 4	Identifies the source channel of the PUT(+) for Differential Input Cross Point Voltage for Strobe Test.
Confgure	PUT(+) Source	ElecDiffVixCaPutSourcePlus	1, 2, 3, 4	Identifies the source of the PUT(+) for VIXCA Test.
Confgure	PUT(+) Source	ElecDiffVixDqPutSourcePlus	1, 2, 3, 4	Identifies the source of the PUT(-) for VIXDQ Test.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	PUT(+) Source	VixClock_SourcePlus	1, 2, 3, 4	Identifies the source channel of the PUT(+) for Differential Input Cross Point Voltage for Clock Test.
Confgure	PUT(-) Source	ElecDIFF_Source2	1, 2, 3, 4	Identifies the source channel of the PUT(-) for Differential Input Cross Point Voltage for Strobe Test.
Confgure	PUT(-) Source	ElecDiffVixCaPutSourceMinus	1, 2, 3, 4	Identifies the source of the PUT(-) for VIXCA Test.
Confgure	PUT(-) Source	ElecDiffVixDqPutSourceMinus	1, 2, 3, 4	Identifies the source of the PUT(-) for VIXDQ Test.
Confgure	PUT(-) Source	VixClock_SourceMinus	1, 2, 3, 4	Identifies the source channel of the PUT(-) for Differential Input Cross Point Voltage for Clock Test.
Confgure	Pin Under Test, PUT	ElecDiffCKVihVilPut	Clock_DCK0, Clock_DCK1, Clock_DCK2, LP_Clock_DCK	Identifies the Pin Under Test for Differential VIHdiff.CK/ VILdiff.CK tests.
Confgure	Pin Under Test, PUT	ElecDiffDQSVihVilPut	Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_DDQS8, LP_Strobe_DDQS0, LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3	Identifies the Pin Under Test for Differential VIHdiff.DQS/ VILdiff.DQS tests.
Confgure	Pin Under Test, PUT	ElecDiffVixDqPut	LP_Strobe_DDQS0, LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3	Identifies the Pin Under Test for VIXDQ Test.
Confgure	Pin Under Test, PUT	ElecParamDiInput	Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_DDQS8	Identifies the Pin Under Test for Differential Input Cross Point Voltage for Strobe Test parameters.
Confgure	Pin Under Test, PUT	ElecParamDiffOutput	Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_DDQS8, LP_Strobe_DDQS0, LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3	Identifies the Pin Under Test for Differential AC output parameters.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Pin Under Test, PUT	ElecParamSelnput	Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, Strobe_SDQS8, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21, LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31, LP_Strobe_SDQS0, LP_Strobe_SDQS1, LP_Strobe_SDQS2, LP_Strobe_SDQS3	Identifies the Pin Under Test for "VOH/VOL and Output Slew Rate tests" test group.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Pin Under Test, PUT	ElecParamSeInput_CA	Control_NRAS, Control_NWE, Control_NCAS, Control_NCS0, Control_NCS1, Control_CKE0, Control_CKE1, Control_ODT0, Control_ODT1, Address_A0, Address_A1, Address_A2, Address_A3, Address_A4, Address_A5, Address_A6, Address_A7, Address_A8, Address_A9, Address_A10, Address_A11, Address_A12, Address_A13, Address_A14, Address_A15, Control_BA0, Control_BA1, Control_BA2, LP_CommandAddress_CA0, LP_CommandAddress_CA1, LP_CommandAddress_CA2, LP_CommandAddress_CA3, LP_CommandAddress_CA4, LP_CommandAddress_CA5, LP_CommandAddress_CA6, LP_CommandAddress_CA7, LP_CommandAddress_CA8, LP_CommandAddress_CA9, LP_Control_NCS, LP_Control_CKE	Identifies the Pin Under Test for "VIH/VIL for Command and Address" test group.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Pin Under Test, PUT	ElecParamSeInput_DQ	Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, DM_DM0, DM_DM1, DM_DM2, DM_DM3, DM_DM4, DM_DM5, DM_DM6, DM_DM7, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21, LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31, LP_DM_DM0, LP_DM_DM1, LP_DM_DM2, LP_DM_DM3	Identifies the Pin Under Test for "VIH/VIL for DQ and DM" test group.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Pin Under Test, PUT	ElecParamSeInput_Slew	DM_DM0, DM_DM1, DM_DM2, DM_DM3, DM_DM4, DM_DM5, DM_DM6, DM_DM7, Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, Strobe_SDQS8, Strobe_NDQS0, Strobe_NDQS1, Strobe_NDQS2, Strobe_NDQS3, Strobe_NDQS4, Strobe_NDQS5, Strobe_NDQS6, Strobe_NDQS7, Strobe_NDQS8, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21, LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28,	Identifies the Pin Under Test for "Input Slew Rate tests" test group.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Pin Under Test, PUT	ElecParamSeInput_Slew (cont'd)	LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31, LP_DM_DM0, LP_DM_DM1, LP_DM_DM2, LP_DM_DM3, LP_Strobe_SDQS0, LP_Strobe_SDQS1, LP_Strobe_SDQS2, LP_Strobe_SDQS3, LP_Strobe_NDQS0, LP_Strobe_NDQS1, LP_Strobe_NDQS2, LP_Strobe_NDQS3	Identifies the Pin Under Test for "Input Slew Rate tests" test group.
Confgure	Pin Under Test, PUT	ElecParamSeInput_SlewCA	Control_NRAS, Control_NWE, Control_NCAS, Control_NCS0, Control_NCS1, Control_CKE0, Control_CKE1, Control_ODT0, Control_ODT1, Control_BA0, Control_BA1, Control_BA2, Address_A0, Address_A1, Address_A2, Address_A3, Address_A4, Address_A5, Address_A6, Address_A7, Address_A8, Address_A9, Address_A10, Address_A11, Address_A12, Address_A13, Address_A14, Address_A15, Clock_SCK0, Clock_SCK1, Clock_SCK2, Clock_NCK0, Clock_NCK1, Clock_NCK2, LP_Clock_DCK, LP_Clock_SCK, LP_Control_NCS, LP_Control_CKE, LP_CommandAddress_CA0, LP_CommandAddress_CA1, LP_CommandAddress_CA2, LP_CommandAddress_CA3, LP_CommandAddress_CA4, LP_CommandAddress_CA5, LP_CommandAddress_CA6, LP_CommandAddress_CA7, LP_CommandAddress_CA8, LP_CommandAddress_CA9, LP_Clock_SCK, LP_Clock_NCK	Identifies the Pin Under Test for "Input Slew Rate tests" test group.
Confgure	Pin Under Test, PUT	ElecSEVsehVselClockPut	Clock_SCK0, Clock_SCK1, Clock_SCK2, Clock_NCK0, Clock_NCK1, Clock_NCK2, LP_Clock_SCK, LP_Clock_NCK	Identifies the Pin Under Test for VSEH/VSEL Tests for Clock.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Pin Under Test, PUT	ElecSEVseh VselStrobeP ut	Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, Strobe_SDQS8, Strobe_NDQS0, Strobe_NDQS1, Strobe_NDQS2, Strobe_NDQS3, Strobe_NDQS4, Strobe_NDQS5, Strobe_NDQS6, Strobe_NDQS7, Strobe_NDQS8, LP_Strobe_SDQS0, LP_Strobe_SDQS1, LP_Strobe_SDQS2, LP_Strobe_SDQS3, LP_Strobe_NDQS0, LP_Strobe_NDQS1, LP_Strobe_NDQS2, LP_Strobe_NDQS3	Identifies the Pin Under Test for VSEH/VSEL Tests for Strobe.
Confgure	Pin Under Test, PUT	OvrShtSeCA _LP_Input	CKE, CS_n, ODT, CA0, CA1, CA2, CA3, CA4, CA5, CA6, CA7, CA8, CA9, CK_t, CK_c	Identifies the Pin Under Test for Overshoot/Undershoot (Address, Control, Clock, Chip Select, Clock Enable) parameters.
Confgure	Pin Under Test, PUT	OvrShtSeD Q_LP_Input	DQ0, DQ1, DQ2, DQ3, DQ4, DQ5, DQ6, DQ7, DQ8, DQ9, DQ10, DQ11, DQ12, DQ13, DQ14, DQ15, DQ16, DQ17, DQ18, DQ19, DQ20, DQ21, DQ22, DQ23, DQ24, DQ25, DQ26, DQ27, DQ28, DQ29, DQ30, DQ31, DQS0_t, DQS1_t, DQS2_t, DQS3_t, DQS0_c, DQS1_c, DQS2_c, DQS3_c, DM0, DM1, DM2, DM3	Identifies the Pin Under Test for Overshoot/Undershoot (Data, Strobe, Mask) parameters.
Confgure	Pin Under Test, PUT	OvrShtSeIn put	/RAS, /WE, /CAS, /CS0, /CS1, CKE0, CKE1, ODT0, ODT1, A0, A1, A2, A3, A4, A5, A6, A7, A8, A9, A10, A11, A12, A13, A14, A15, BA0, BA1, BA2	Identifies the Pin Under Test for Overshoot/Undershoot (Address, Control) parameters.
Confgure	Pin Under Test, PUT	OvrShtSeIn put2	DQ0, DQ1, DQ2, DQ3, DQ4, DQ5, DQ6, DQ7, DQ8, DQ9, DQ10, DQ11, DQ12, DQ13, DQ14, DQ15, DQ16, DQ17, DQ18, DQ19, DQ20, DQ21, DQ22, DQ23, DQ24, DQ25, DQ26, DQ27, DQ28, DQ29, DQ30, DQ31, DQ32, DQ33, DQ34, DQ35, DQ36, DQ37, DQ38, DQ39, DQ40, DQ41, DQ42, DQ43, DQ44, DQ45, DQ46, DQ47, DQ48, DQ49, DQ50, DQ51, DQ52, DQ53, DQ54, DQ55, DQ56, DQ57, DQ58, DQ59, DQ60, DQ61, DQ62, DQ63, DQ64, DQ65, DQ66, DQ67, DQ68, DQ69, DQ70, DQ71, DQS0, DQS1, DQS2, DQS3, DQS4, DQS5, DQS6, DQS7, DQS8, DQS0/, DQS1/, DQS2/, DQS3/, DQS4/, DQS5/, DQS6/, DQS7/, DQS8/, CK0, CK1, CK2, /CK0, /CK1, /CK2, DM0, DM1, DM2, DM3, DM4, DM5, DM6, DM7	Identifies the Pin Under Test for Overshoot/Undershoot (Clock, Data, Strobe, Mask) parameters.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Pin Under Test, PUT	TypeOfSignalCH2	NA, Clock, Strobe, Data, DM, Control, LP_NA, LP_Clock, LP_Strobe, LP_Data, LP_DM, LP_Control	Identifies the signal to use for Channel2 timing test.
Confgure	Pin Under Test, PUT	TypeOfSignalCH3	NA, Clock, Strobe, Data, DM, Control, LP_NA, LP_Clock, LP_Strobe, LP_Data, LP_DM, LP_Control	Identifies the signal to use for Channel3 timing test.
Confgure	Pin Under Test, PUT	TypeOfSignalCH4	NA, Clock, Strobe, Data, DM, Control, LP_NA, LP_Clock, LP_Strobe, LP_Data, LP_DM, LP_Control	Identifies the signal to use for Channel4 timing test.
Confgure	Pin Under Test, PUT	VixClock_Input	Clock_DCK0, Clock_DCK1, Clock_DCK2	Identifies the Pin Under Test for Differential Input Cross Point Voltage for Clock Test parameters.
Confgure	Pin Under Test, PUT Parameters for Channel 1	TypeOfSignalCH1	NA, Clock, Strobe, Data, DM, Control, LP_NA, LP_Clock, LP_Strobe, LP_Data, LP_DM, LP_Control	Identifies the signal to use for Channel 1 timing tests.
Confgure	RAS Channel	RASDigChannel	DIGital0, DIGital1, DIGital2, DIGital3, DIGital4, DIGital5, DIGital6, DIGital7, DIGital8, DIGital9, DIGital10, DIGital11, DIGital12, DIGital13, DIGital14, DIGital15	Identifies the channel source selection of the RAS digital signal to be analyzed for MSOx Logic Triggering.
Confgure	READ Latency	ReadLatency	1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0, 13.0, 14.0, 15.0, 16.0, 17.0, 18.0, 19.0, 20.0, 21.0, 22.0, 23.0, 24.0, 25.0, 26.0, 27.0, 28.0, 29.0, 30.0, 31.0, 32.0, 33.0, 34.0, 35.0, 36.0, 37.0, 38.0, 39.0, 40.0, 41.0, 42.0, 43.0, 44.0, 45.0, 46.0, 47.0, 48.0, 49.0, 50.0, 51.0, 52.0, 53.0, 54.0, 55.0, 56.0, 57.0, 58.0, 59.0, 60.0, 61.0, 62.0, 63.0, 64.0, 65.0, 66.0, 67.0, 68.0, 69.0, 70.0, 71.0, 72.0, 73.0, 74.0, 75.0, 76.0, 77.0, 78.0, 79.0, 80.0, 81.0, 82.0, 83.0, 84.0, 85.0, 86.0, 87.0, 88.0, 89.0, 90.0, 91.0, 92.0, 93.0, 94.0, 95.0, 96.0, 97.0, 98.0, 99.0, 100.0	This value is used ONLY when the "Rank Separation" option is enabled. This allow user to specify the overall Read latency(RL) value to be used in performing the Data Strobe Timing and Data Timing tests when the "Rank Separation" option is enabled. By definition, the Read Latency (RL) = Additive Latency (AL) + CAS Latency (CL); RL = AL + CL.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Rank Separation	CSDQSCYC	0.0, 1.0	Enable/disable the rank separation option when running the Data Strobe Timing and Data Timing tests. When this option is enabled, an additional channel for Chip Select(CS) signal will be required. Measurements will only be done on selected Rank based on the Chip Select signal connected to the oscilloscope. This Rank Separation mode is also used to handle a valid back-to-back data burst found when running the selected Data Strobe Timing and Data Timing tests. The bubble states(if any) that exist during a valid back-to-back data burst will be identified and ignored based on the Chip Select signal with reference to the "READ/WRITE Latency" and "Fix Burst Length" settings.
Confgure	Re-scale Test Mask	ReScaleMask	true, false	Enable/disable horizontal re-scaling of selected test mask to be loaded in the eye diagram tests.
Confgure	Sampling Points (Pts) Electrical and Timing Tests Only	SamplingPoints	(Accepts user-defined text), 2000000, 1000000, 500000	Specifies the sampling points to be captured in all the tests except Clock Timing tests and Eye Digram tests. Reduce the sampling points if the read/write bursts are occuring very frequently.
Confgure	Sampling Points (Pts) Eye Diagram Tests using MSOx Logic Triggering	SamplingPointsLynxEye Diagram	(Accepts user-defined text), 8000000, 2000000, 1000000	Specifies the sampling points to be captured in Eye Diagram Test which using MSOx Logic Triggering. Reduce the sampling points if the read/write bursts are occuring very frequently.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Signal selected	MyCH1_CAT	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_SCK0, Clock_SCK1, Clock_SCK2, Control_NCS0, Control_NCS1, Control_BA0, Control_BA1, Control_BA2, Control_NRAS, Control_NWE, Control_NCAS, Control_CKE0, Control_CKE1, Control_ODT0, Control_ODT1, Address_A0, Address_A1, Address_A2, Address_A3, Address_A4, Address_A5, Address_A6, Address_A7, Address_A8, Address_A9, Address_A10, Address_A11, Address_A12, Address_A13, Address_A14, Address_A15, LP_Clock_DCK, LP_Clock_SCK, LP_Control_NCS, LP_Control_CKE, LP_CommandAddress_CA0, LP_CommandAddress_CA1, LP_CommandAddress_CA2, LP_CommandAddress_CA3, LP_CommandAddress_CA4, LP_CommandAddress_CA5, LP_CommandAddress_CA6, LP_CommandAddress_CA7, LP_CommandAddress_CA8, LP_CommandAddress_CA9	Please select the signal parameter connected to Channel 1 for Command and Address Timing tests.
Confgure	Signal selected	MyCH2_CAT	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_SCK0, Clock_SCK1, Clock_SCK2, Control_NCS0, Control_NCS1, Control_BA0, Control_BA1, Control_BA2, Control_NRAS, Control_NWE, Control_NCAS, Control_CKE0, Control_CKE1, Control_ODT0, Control_ODT1, Address_A0, Address_A1, Address_A2, Address_A3, Address_A4, Address_A5, Address_A6, Address_A7, Address_A8, Address_A9, Address_A10, Address_A11, Address_A12, Address_A13, Address_A14, Address_A15, LP_Clock_DCK, LP_Clock_SCK, LP_Control_NCS, LP_Control_CKE, LP_CommandAddress_CA0, LP_CommandAddress_CA1, LP_CommandAddress_CA2, LP_CommandAddress_CA3, LP_CommandAddress_CA4, LP_CommandAddress_CA5, LP_CommandAddress_CA6, LP_CommandAddress_CA7, LP_CommandAddress_CA8, LP_CommandAddress_CA9	Please select the signal parameter connected to Channel 2 for Command and Address Timing tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Signal selected	MyCH3_CAT	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_SCK0, Clock_SCK1, Clock_SCK2, Control_NCS0, Control_NCS1, Control_BA0, Control_BA1, Control_BA2, Control_NRAS, Control_NWE, Control_NCAS, Control_CKE0, Control_CKE1, Control_ODT0, Control_ODT1, Address_A0, Address_A1, Address_A2, Address_A3, Address_A4, Address_A5, Address_A6, Address_A7, Address_A8, Address_A9, Address_A10, Address_A11, Address_A12, Address_A13, Address_A14, Address_A15, LP_Clock_DCK, LP_Clock_SCK, LP_Control_NCS, LP_Control_CKE, LP_CommandAddress_CA0, LP_CommandAddress_CA1, LP_CommandAddress_CA2, LP_CommandAddress_CA3, LP_CommandAddress_CA4, LP_CommandAddress_CA5, LP_CommandAddress_CA6, LP_CommandAddress_CA7, LP_CommandAddress_CA8, LP_CommandAddress_CA9	Please select the signal parameter connected to Channel 3 for Command and Address Timing tests.
Confgure	Signal selected	MyCH4_CAT	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_SCK0, Clock_SCK1, Clock_SCK2, Control_NCS0, Control_NCS1, Control_BA0, Control_BA1, Control_BA2, Control_NRAS, Control_NWE, Control_NCAS, Control_CKE0, Control_CKE1, Control_ODT0, Control_ODT1, Address_A0, Address_A1, Address_A2, Address_A3, Address_A4, Address_A5, Address_A6, Address_A7, Address_A8, Address_A9, Address_A10, Address_A11, Address_A12, Address_A13, Address_A14, Address_A15, LP_Clock_DCK, LP_Clock_SCK, LP_Control_NCS, LP_Control_CKE, LP_CommandAddress_CA0, LP_CommandAddress_CA1, LP_CommandAddress_CA2, LP_CommandAddress_CA3, LP_CommandAddress_CA4, LP_CommandAddress_CA5, LP_CommandAddress_CA6, LP_CommandAddress_CA7, LP_CommandAddress_CA8, LP_CommandAddress_CA9	Please select the signal parameter connected to Channel 4 for Command and Address Timing tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin	ElecDiffDQS VihVilSupport	Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21, LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31	Identifies the required supporting pin for Differential VIHdiff.DQS/ VILdiff.DQS tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin	ElecDiffVixDqSupportPin	LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21, LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31	Identifies the supporting pin for VIXDQ Test.
Confgure	Supporting Pin	ElecParamDiSupport	Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71	Identifies the supporting pin for Differential Input Cross Point Voltage for Strobe Test parameters.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin	ElecParamDiffOutputSupport	Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21, LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31	Identifies the required supporting pin for Differential AC output parameters.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin	ElecParamSeSupport	Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_DDQS8, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, Strobe_SDQS8, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21, LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31, LP_Strobe_DDQS0,	Identifies the required supporting pin for "VOH/VOL and Output Slew Rate tests" test group.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin	ElecParamSeSupport (cont'd)	LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3, LP_Strobe_SDQS0, LP_Strobe_SDQS1, LP_Strobe_SDQS2, LP_Strobe_SDQS3	Identifies the required supporting pin for "VOH/VOL and Output Slew Rate tests" test group.
Confgure	Supporting Pin	ElecParamSeSupport_DQ	Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_DDQS8, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, Strobe_SDQS8, LP_Strobe_DDQS0, LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3, LP_Strobe_SDQS0, LP_Strobe_SDQS1, LP_Strobe_SDQS2, LP_Strobe_SDQS3	Identifies the required supporting pin for "VIH/VIL for DQ and DM" test group.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin	ElecParamSeSupport_InputSlew	N/A, Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_DDQS8, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, Strobe_SDQS8, Strobe_NDQS0, Strobe_NDQS0, Strobe_NDQS0, Strobe_NDQS0, Strobe_NDQS4, Strobe_NDQS5, Strobe_NDQS6, Strobe_NDQS7, Strobe_NDQS8, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21, LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24,	Identifies the required supporting pin for "Input Slew Rate tests" test group.(This option is ONLY applicable if PUT is a DQS signal.)

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin	ElecParamSeSupport_InputSlew (cont'd)	LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31, LP_Strobe_DDQS0, LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3, LP_Strobe_SDQS0, LP_Strobe_SDQS1, LP_Strobe_SDQS2, LP_Strobe_SDQS3, LP_Strobe_NDQS0, LP_Strobe_NDQS1, LP_Strobe_NDQS2, LP_Strobe_NDQS3	Identifies the required supporting pin for "Input Slew Rate tests" test group.(This option is ONLY applicable if PUT is a DQS signal.)

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin	ElecSEVsehVselStrobeSupport	Data_DQ0, Data_DQ1, Data_DQ2, Data_DQ3, Data_DQ4, Data_DQ5, Data_DQ6, Data_DQ7, Data_DQ8, Data_DQ9, Data_DQ10, Data_DQ11, Data_DQ12, Data_DQ13, Data_DQ14, Data_DQ15, Data_DQ16, Data_DQ17, Data_DQ18, Data_DQ19, Data_DQ20, Data_DQ21, Data_DQ22, Data_DQ23, Data_DQ24, Data_DQ25, Data_DQ26, Data_DQ27, Data_DQ28, Data_DQ29, Data_DQ30, Data_DQ31, Data_DQ32, Data_DQ33, Data_DQ34, Data_DQ35, Data_DQ36, Data_DQ37, Data_DQ38, Data_DQ39, Data_DQ40, Data_DQ41, Data_DQ42, Data_DQ43, Data_DQ44, Data_DQ45, Data_DQ46, Data_DQ47, Data_DQ48, Data_DQ49, Data_DQ50, Data_DQ51, Data_DQ52, Data_DQ53, Data_DQ54, Data_DQ55, Data_DQ56, Data_DQ57, Data_DQ58, Data_DQ59, Data_DQ60, Data_DQ61, Data_DQ62, Data_DQ63, Data_DQ64, Data_DQ65, Data_DQ66, Data_DQ67, Data_DQ68, Data_DQ69, Data_DQ70, Data_DQ71, LP_Data_DQ0, LP_Data_DQ1, LP_Data_DQ2, LP_Data_DQ3, LP_Data_DQ4, LP_Data_DQ5, LP_Data_DQ6, LP_Data_DQ7, LP_Data_DQ8, LP_Data_DQ9, LP_Data_DQ10, LP_Data_DQ11, LP_Data_DQ12, LP_Data_DQ13, LP_Data_DQ14, LP_Data_DQ15, LP_Data_DQ16, LP_Data_DQ17, LP_Data_DQ18, LP_Data_DQ19, LP_Data_DQ20, LP_Data_DQ21, LP_Data_DQ22, LP_Data_DQ23, LP_Data_DQ24, LP_Data_DQ25, LP_Data_DQ26, LP_Data_DQ27, LP_Data_DQ28, LP_Data_DQ29, LP_Data_DQ30, LP_Data_DQ31	Identifies the supporting pin for VSEH/VSEL Tests for Strobe.
Confgure	Supporting Pin Source	ElecDIFF_Source3	1, 2, 3, 4	Identifies the source channel of the supporting pin for Differential AC Input Tests.
Confgure	Supporting Pin Source	ElecDiffDQSVihVilSupprt_Source	1, 2, 3, 4	Identifies the source of the supporting pin for Differential VIHdiff.DQS/ VILdiff.DQS tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin Source	ElecDiffOutputSupprt_Source	1, 2, 3, 4	Identifies the source of the supporting pin for Differential AC Output Tests.
Confgure	Supporting Pin Source	ElecDiffVixDqSupportPinSource	1, 2, 3, 4	Identifies the source of the supporting pin for VIXDQ Test.
Confgure	Supporting Pin Source	ElecSEVsehVselStrobeSupport_Source	1, 2, 3, 4	Identifies the source of the supporting pin for VSEH/VSEL Tests for Strobe.
Confgure	Supporting Pin Source	ElecSE_Source2	1, 2, 3, 4	Identifies the source of the supporting pin for "VOH/VOL and Output Slew Rate tests" test group.
Confgure	Supporting Pin Source	ElecSE_Source2_DQ	-1, 1, 2, 3, 4	Identifies the source channel of the supporting pin for "VIH/VIL for DQ and DM" test group.
Confgure	Supporting Pin Source	ElecSE_Source2_InputSlew	-1, 1, 2, 3, 4	Identifies the source channel of the supporting pin for "Input Slew Rate tests" test group.(This option is ONLY applicable if PUT is a DQS signal.)
Confgure	Threshold Mode	ThreshSetMode	1, 0	By selecting "TopBaseRatio", the system will automatically determine the threshold settings that are used for the READ/WRITE burst triggering and identification using the TopRatio and BaseRatio specified for a particular channel input. Setting "Custom Threshold" allows user to directly set the threshold settings used instead.
Confgure	Top Ratio	BurstTriggerTopRatio_Chan1	(Accepts user-defined text), 0.80	Specify the value of the top ratio used when triggering for the READ/WRITE burst data. The value set here is applicable ONLY when the "Threshold Mode" option is set to "TopBaseRatio".

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Top Ratio	BurstTriggerTopRatio_Chan2	(Accepts user-defined text), 0.80	Specify the value of the top ratio used when triggering for the READ/WRITE burst data. The value set here is applicable ONLY when the "Threshold Mode" option is set to "TopBaseRatio".
Confgure	Top Ratio	BurstTriggerTopRatio_Chan3	(Accepts user-defined text), 0.80	Specify the value of the top ratio used when triggering for the READ/WRITE burst data. The value set here is applicable ONLY when the "Threshold Mode" option is set to "TopBaseRatio".
Confgure	Top Ratio	BurstTriggerTopRatio_Chan4	(Accepts user-defined text), 0.80	Specify the value of the top ratio used when triggering for the READ/WRITE burst data. The value set here is applicable ONLY when the "Threshold Mode" option is set to "TopBaseRatio".
Confgure	Total Bit Display(cycle)	myDisBit	(Accepts user-defined text), 2, 4, 10, 20, 50	This option allows the user to select how many data bits to be displayed by end of the test.More bits selected will enable user to have a clearer view of the whole burst of signals.
Confgure	Total Waveform	EyeDiagramNumOfWave	(Accepts user-defined text), 500, 1000, 1500, 3000, 5000	Select or type the total number of waveforms required for eye diagram tests.
Confgure	Trigger timeout (ms)	TimeOut_Compliance	(Accepts user-defined text), 5000, 10000, 15000, 20000, 30000	Identifies the trigger time out value. This represent the time taken to terminate the test when the scope unable to trigger any signal.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Triggering READ Latency	TriggeringReadLatency	1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0, 13.0, 14.0, 15.0, 16.0, 17.0, 18.0, 19.0, 20.0, 21.0, 22.0, 23.0, 24.0, 25.0, 26.0, 27.0, 28.0, 29.0, 30.0, 31.0, 32.0, 33.0, 34.0, 35.0, 36.0, 37.0, 38.0, 39.0, 40.0, 41.0, 42.0, 43.0, 44.0, 45.0, 46.0, 47.0, 48.0, 49.0, 50.0, 51.0, 52.0, 53.0, 54.0, 55.0, 56.0, 57.0, 58.0, 59.0, 60.0, 61.0, 62.0, 63.0, 64.0, 65.0, 66.0, 67.0, 68.0, 69.0, 70.0, 71.0, 72.0, 73.0, 74.0, 75.0, 76.0, 77.0, 78.0, 79.0, 80.0, 81.0, 82.0, 83.0, 84.0, 85.0, 86.0, 87.0, 88.0, 89.0, 90.0, 91.0, 92.0, 93.0, 94.0, 95.0, 96.0, 97.0, 98.0, 99.0, 100.0	This value is used ONLY when the "Logic Triggering" option is enabled. This allow user to specify the overall Read latency(RL) value to be used to determine the burst location from event of Read Burst logic pattern.
Confgure	Triggering WRITE Latency	TriggeringWriteLatency	1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0, 13.0, 14.0, 15.0, 16.0, 17.0, 18.0, 19.0, 20.0, 21.0, 22.0, 23.0, 24.0, 25.0, 26.0, 27.0, 28.0, 29.0, 30.0, 31.0, 32.0, 33.0, 34.0, 35.0, 36.0, 37.0, 38.0, 39.0, 40.0, 41.0, 42.0, 43.0, 44.0, 45.0, 46.0, 47.0, 48.0, 49.0, 50.0, 51.0, 52.0, 53.0, 54.0, 55.0, 56.0, 57.0, 58.0, 59.0, 60.0, 61.0, 62.0, 63.0, 64.0, 65.0, 66.0, 67.0, 68.0, 69.0, 70.0, 71.0, 72.0, 73.0, 74.0, 75.0, 76.0, 77.0, 78.0, 79.0, 80.0, 81.0, 82.0, 83.0, 84.0, 85.0, 86.0, 87.0, 88.0, 89.0, 90.0, 91.0, 92.0, 93.0, 94.0, 95.0, 96.0, 97.0, 98.0, 99.0, 100.0	This value is used ONLY when the "Logic Triggering" option is enabled. This allow user to specify the overall Write latency(WL) value to be used to determine the burst location from event of Write Burst logic pattern.
Confgure	Upper Threshold (V)	Chan1_Up_Thresh	(Accepts user-defined text), 0.50	Specify the upper measurement threshold used for Channel 1. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".
Confgure	Upper Threshold (V)	Chan2_Up_Thresh	(Accepts user-defined text), 0.50	Specify the upper measurement threshold used for Channel 2. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".
Confgure	Upper Threshold (V)	Chan3_Up_Thresh	(Accepts user-defined text), 0.95	Specify the upper measurement threshold used for Channel 3. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Upper Threshold (V)	Chan4_Up_Thresh	(Accepts user-defined text), 0.95	Specify the upper measurement threshold used for Channel 4. The value set here is applicable ONLY when the "Threshold Mode" option is set to "Custom Threshold".
Confgure	VDD (V)	InputVDD	(Accepts user-defined text), 1.575, 1.500, 1.425	Identifies the input supply voltage.
Confgure	VDDCA (V)	InputVDDCA	(Accepts user-defined text), 1.575, 1.500, 1.425	Identifies the input supply voltage for command address signal.
Confgure	VDDQ (V)	InputVDDQ	(Accepts user-defined text), 1.575, 1.500, 1.425	Identifies the input supply voltage for data signal.
Confgure	VIH.CA_AC (V)	InputThreshold_Vih_ac_CA	(Accepts user-defined text), 0.925	Identifies the ac input logic HIGH voltage for Address and Command inputs.
Confgure	VIH.CA_DC (V)	InputThreshold_Vih_dc_CA	(Accepts user-defined text), 0.85	Identifies the dc input logic HIGH voltage for Address and Command inputs.
Confgure	VIH.DQ_AC (V)	InputThreshold_Vih_ac_DQ	(Accepts user-defined text), 0.925	Identifies the ac input logic HIGH voltage for DQ and DM inputs.
Confgure	VIH.DQ_DC (V)	InputThreshold_Vih_dc_DQ	(Accepts user-defined text), 0.85	Identifies the dc input logic HIGH voltage for DQ and DM inputs.
Confgure	VIHdiff.CK_AC (V)	VIHdiff_ac_CK	(Accepts user-defined text), 0.5	Differential input high. Affects only differential CK only.
Confgure	VIHdiff.DQS_AC (V)	VIHdiff_ac_DQS	(Accepts user-defined text), 0.5	Differential input high. Affects only differential DQS only.
Confgure	VIHdiff_min /VIHdiff_DC (V)	VIHdiff_min	(Accepts user-defined text), 0.2	Minimum differential input high. This value is used solely to define a differential signal slew rate. Affects only differential DQS and CK.
Confgure	VIL.CA_AC (V)	InputThreshold_Vil_ac_CA	(Accepts user-defined text), 0.575	Identifies the ac input logic LOW voltage for Address and Command inputs.
Confgure	VIL.CA_DC (V)	InputThreshold_Vil_dc_CA	(Accepts user-defined text), 0.65	Identifies the dc input logic LOW voltage for Address and Command inputs.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	VIL.DQ_AC (V)	InputThreshold_Vil_ac_DQ	(Accepts user-defined text), 0.575	Identifies the ac input logic LOW voltage for DQ and DM inputs.
Confgure	VIL.DQ_DC (V	InputThreshold_Vil_dc_DQ	(Accepts user-defined text), 0.65	Identifies the dc input logic LOW voltage for DQ and DM inputs.
Confgure	VILdiff.CK_AC (V)	VILdiff_ac_CK	(Accepts user-defined text), -0.5	Differential input high. Affects only differential CK only.
Confgure	VILdiff.DQS_AC (V)	VILdiff_ac_DQS	(Accepts user-defined text), -0.5	Differential input high. Affects only differential DQS only.
Confgure	VILdiff_max /VILdiff_DC (V)	VILdiff_max	(Accepts user-defined text), -0.2	Maximum differential input low. This value is used solely to define a differential signal slew rate. Affects only differential DQS and CK.
Confgure	VOH_AC (V)	InputThreshold_Voh_ac	(Accepts user-defined text), 0.90	Identifies the ac output logic HIGH voltage.
Confgure	VOH_DC (V)	InputThreshold_Voh_dc	(Accepts user-defined text), 1.20	Identifies the dc output logic HIGH voltage.
Confgure	VOHdiff_AC (V)	VOHdiff_ac	(Accepts user-defined text), 0.30	Differential output high. Affects only differential DQS only.
Confgure	VOL_AC (V)	InputThreshold_Vol_ac	(Accepts user-defined text), 0.60	Identifies the ac output logic LOW voltage.
Confgure	VOL_DC (V)	InputThreshold_Vol_dc	(Accepts user-defined text), 0.30	Identifies the dc output logic LOW voltage.
Confgure	VOLdiff_AC (V)	VOLdiff_ac	(Accepts user-defined text), -0.30	Differential output high. Affects only differential DQS only.
Confgure	VRef A12-BC Signal(V)	InputRefV_VrefA12BCLogic	(Accepts user-defined text), NA, 0.735, 0.750, 0.765	Identifies the A12-BC reference voltage for MSOx Logic Triggering.
Confgure	VRef CAS Signal(V)	InputRefV_VrefCASLogic	(Accepts user-defined text), 0.735, 0.750, 0.765	Identifies the CAS reference voltage for MSOx Logic Triggering.
Confgure	VRef CKE Signal(V)	InputRefV_VrefCKELogic	(Accepts user-defined text), NA, 0.735, 0.750, 0.765	Identifies the CKE reference voltage for MSOx Logic Triggering.
Confgure	VRef CS Signal(V)	InputRefV_VrefCSLogic	(Accepts user-defined text), 0.735, 0.750, 0.765	Identifies the CS reference voltage for MSOx Logic Triggering.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	VRef RAS Signal(V)	InputRefV_VrefRASLogic	(Accepts user-defined text), 0.735, 0.750, 0.765	Identifies the RAS reference voltage for MSOx Logic Triggering.
Confgure	VRef WE Signal(V)	InputRefV_VrefWELogic	(Accepts user-defined text), 0.735, 0.750, 0.765	Identifies the WE reference voltage for MSOx Logic Triggering.
Confgure	VRefCA (V)	InputRefV_VrefCA	(Accepts user-defined text), 0.735, 0.750, 0.765	Identifies the input reference voltage for Address and Command inputs.
Confgure	VRefDQ (V)	InputRefV_VrefDQ	(Accepts user-defined text), 0.735, 0.750, 0.765	Identifies the input reference voltage for DQ and DM inputs.
Confgure	VTT (V)	InputRefV_VTT	(Accepts user-defined text), 0.735, 0.750, 0.765	Identifies the output reference voltage for data outputs.
Confgure	WE Channel	WEDigChannel	DIGital0, DIGital1, DIGital2, DIGital3, DIGital4, DIGital5, DIGital6, DIGital7, DIGital8, DIGital9, DIGital10, DIGital11, DIGital12, DIGital13, DIGital14, DIGital15	Identifies the channel source selection of the WE digital signal to be analyzed for MSOx Logic Triggering.
Confgure	WRITE Latency	WriteLatency	1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 12.0, 13.0, 14.0, 15.0, 16.0, 17.0, 18.0, 19.0, 20.0, 21.0, 22.0, 23.0, 24.0, 25.0, 26.0, 27.0, 28.0, 29.0, 30.0, 31.0, 32.0, 33.0, 34.0, 35.0, 36.0, 37.0, 38.0, 39.0, 40.0, 41.0, 42.0, 43.0, 44.0, 45.0, 46.0, 47.0, 48.0, 49.0, 50.0, 51.0, 52.0, 53.0, 54.0, 55.0, 56.0, 57.0, 58.0, 59.0, 60.0, 61.0, 62.0, 63.0, 64.0, 65.0, 66.0, 67.0, 68.0, 69.0, 70.0, 71.0, 72.0, 73.0, 74.0, 75.0, 76.0, 77.0, 78.0, 79.0, 80.0, 81.0, 82.0, 83.0, 84.0, 85.0, 86.0, 87.0, 88.0, 89.0, 90.0, 91.0, 92.0, 93.0, 94.0, 95.0, 96.0, 97.0, 98.0, 99.0, 100.0	This value is used ONLY when the "Rank Separation" option is enabled. This allow user to specify the overall Write latency(WL) value to be used in performing the Data Strobe Timing and Data Timing tests when the "Rank Separation" option is enabled. By definition, the Write Latency (WL) = Additive Latency (AL) + CAS Write Latency (CWL); WL = AL + CWL.
Confgure	Waveform File Type	WfmFileType	.wfm, .h5	By selecting ".wfm", the application will save the waveform in wfm format for measurement. While selecting ".h5", the application will save the waveform in h5 format for measurement.
Confgure	Waveform Source	Source	1, 2, 3, 4	Identifies the source Channel of the data to be analyzed.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Write Preamble Pattern	WritePreambePattern	DDR3, DDR2	This option is used to indicate the expected Write Preamble pattern so that the correct first edge of a burst can be identified.
Confgure	tDQSCK Delay (cycle)	tDQSCKDelay	(Accepts user-defined text), 1, 2, 3, 4, 5, 6	The distance from first rising strobe to Read Latency(RL) clock edge.
Confgure	terr(nper) Maximum N Width Value	nper_max	(Accepts user-defined text), 50	Sets the upper bound (inclusive) of the inner sliding window for the terr(nper) series.
Confgure	terr(nper) Minimum N Width Value	nper_min	(Accepts user-defined text), 13	Sets the lower bound (inclusive) of the inner sliding window for the terr(nper) series.
Run Tests	Event	RunEvent	(None), Fail, Margin < N, Pass	Names of events that can be used with the StoreMode=Event or RunUntil RunEventAction options
Run Tests	RunEvent= Margin < N: Minimum required margin %	RunEvent_Margin < N_MinPercent	Any integer in range: 0 <= value <= 100	Specify N using the 'Minimum required margin %' control.
Set Up	Burst Triggering Method	BurstTrigMethod	DQS-DQ Phase Difference, MSOx Logic Triggering	This option allow user to select burst triggering method.
Set Up	Custom Data Rate	pcboCustomSG	(Accepts user-defined text), 800, 1066, 1333, 1600, 1866, 2133	This option allow user to key in specific data rate.
Set Up	DDR3L	chkDDR3LType	0.0, 1.0	This option allow user to select DDR3L SDRAM Type.
Set Up	Device ID	pcboOverallDeviceID	(Accepts user-defined text)	This option allow user to key in related test details.
Set Up	LPDDR3	chkLPDDR3	0.0, 1.0	This option allow user to select LPDDR3 SDRAM Type.
Set Up	Speed Grade	DeviceType	DDR3-800, DDR3-1066, DDR3-1333, DDR3-1600, DDR3-1866, DDR3-2133	This option allow user to select specific speed grade.
Set Up	Speed Grade	DeviceType LPDDR3	LPDDR3-1333, LPDDR3-1600, LPDDR3-1866, LPDDR3-2133	This option allow user to select specific speed grade.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	Speed Grade	DeviceType LowPower	DDR3L-800, DDR3L-1066, DDR3L-1333, DDR3L-1600, DDR3L-1866	This option allow user to select specific speed grade.
Set Up	Test Mode	AcLevels_CA	125, 135, 150, 160, 175	This option allow user to select test mode.
Set Up	Test Mode	AcLevels_DQ	130, 135, 150, 160, 175	This option allow user to select test mode.
Set Up	Test Mode	TestMode	Compliance, Custom	This option allow user to select test mode.
Set Up	User Comment	txtOverallUserComment	(Accepts user-defined text)	This option allow user to key in related test detail.
Set Up	User Description	pcboOverallDeviceDescription	(Accepts user-defined text)	This option allow user to key in test detail.

3 Test Names and IDs

The following table shows the mapping between each test's numeric ID and name. The numeric ID is required by various remote interface methods.

- Name – The name of the test as it appears on the user interface **Select Tests** tab.
- Test ID – The number to use with the RunTests method.
- Description – The description of the test as it appears on the user interface **Select Tests** tab.

For example, if the graphical user interface displays this tree in the **Select Tests** tab:

- All Tests
  - Rise Time
  - Fall Time

then you would expect to see something like this in the table below:

Table 3 Example Test Names and IDs

Name	Test ID	Description
Fall Time	110	Measures clock fall time.
Rise Time	100	Measures clock rise time.

and you would run these tests remotely using:

```
ARSL syntax
-----------
arsl -a ipaddress -c "SelectedTests '100,110'"
arsl -a ipaddress -c "Run"

C# syntax
---------
remoteAte.SelectedTests = new int[]{100,110};
remoteAte.Run();
```

Here are the actual Test names and IDs used by this application:

NOTE The file, ""TestInfo.txt"", which may be found in the same directory as this help file, contains all of the information found in the table below in a format suitable for parsing.

Table 4 Test IDs and Names

Name	TestID	Description
DummyTestToShowDQSDQPhaseConfig1	3	DummyTestToShowDQSDQPhaseConfig1
DummyTestToShowDQSDQPhaseConfig2	4	DummyTestToShowDQSDQPhaseConfig2
DummyTestToShowLogicTrigConfig	5	DummyTestToShowLogicTrigConfig
Eye Diagram Test For Read Cycle	20401	User Defined Real-Time Eye Diagram Test For Read Cycle
Eye Diagram Test For Read Cycle	20403	User Defined Real-Time Eye Diagram Test For Read Cycle (MSOX version)
Eye Diagram Test For Write Cycle	20402	User Defined Real-Time Eye Diagram Test For Write Cycle
Eye Diagram Test For Write Cycle	20404	User Defined Real-Time Eye Diagram Test For Write Cycle (MSOX version)
Overshoot amplitude (Address, Control)	10351	Peak amplitude of AC overshoot
Overshoot amplitude (Address, Control, Clock, Chip Select, Clock Enable)	10355	Peak amplitude of AC overshoot
Overshoot amplitude (Clock, Data, Strobe, Mask)	10353	Peak amplitude of AC overshoot
Overshoot amplitude (Data, Strobe, Mask)	10357	Peak amplitude of AC overshoot
Overshoot area (Address, Control)	10352	OverShoot area above VDDQ
Overshoot area (Address, Control, Clock, Chip Select, Clock Enable)	10356	OverShoot area above VDDCA
Overshoot area (Clock, Data, Strobe, Mask)	10354	OverShoot area above VDDQ
Overshoot area (Data, Strobe, Mask)	10358	OverShoot area above VDDQ
SLEWf(Control, Command, Address, Clock)	10344	Input signal minimum falling slew rate

Table 4 Test IDs and Names (continued)

Name	TestID	Description
SLEWf(Data, Strobe, Data Mask)	10342	Input signal minimum falling slew rate
SLEWr(Control, Command, Address, Clock)	10343	Input signal minimum rising slew rate
SLEWr(Data, Strobe, Data Mask)	10341	Input signal minimum rising slew rate
SRQdiffF	11414	Differential Output Falling Slew Rate
SRQdiffR	11413	Differential Output Rising Slew Rate
SRQseF	11342	Output signal minimum falling slew rate
SRQseR	11341	Output signal minimum rising slew rate
Undershoot amplitude (Address, Control)	10361	Peak amplitude of AC undershoot
Undershoot amplitude (Address, Control, Clock, Chip Select, Clock Enable)	10365	Peak amplitude of AC undershoot
Undershoot amplitude (Clock, Data, Strobe, Mask)	10363	Peak amplitude of AC undershoot
Undershoot amplitude (Data, Strobe, Mask)	10367	Peak amplitude of AC undershoot
Undershoot area (Address, Control)	10362	UnderShoot area below VSSQ
Undershoot area (Address, Control, Clock, Chip Select, Clock Enable)	10366	UnderShoot area below VSS
Undershoot area (Clock, Data, Strobe, Mask)	10364	UnderShoot area below VSSQ
Undershoot area (Data, Strobe, Mask)	10368	UnderShoot area below VSS
VIH.CA(AC)	10311	AC Input Logic High
VIH.CA(DC)	10312	DC Input Logic High
VIH.DQ(AC)	10313	AC Input Logic High
VIH.DQ(DC)	10314	DC Input Logic High
VIHdiff.CK	10419	Differential Input Logic High Voltage
VIHdiff.CK(AC)	10411	Differential AC Input Logic High Voltage
VIHdiff.CK(DC)	10415	Differential DC Input Logic High Voltage

Table 4 Test IDs and Names (continued)

Name	TestID	Description
VIHdiff.DQS	10421	Differential Input Logic High Voltage
VIHdiff.DQS(AC)	10413	Differential AC Input Logic High Voltage
VIHdiff.DQS(DC)	10417	Differential DC Input Logic High Voltage
VIL.CA(AC)	10321	AC Input Logic Low
VIL.CA(DC)	10322	DC Input Logic Low
VIL.DQ(AC)	10323	AC Input Logic Low
VIL.DQ(DC)	10324	DC Input Logic Low
VILdiff.CK	10420	Differential Input Logic Low Voltage
VILdiff.CK(AC)	10412	Differential AC Input Logic Low Voltage
VILdiff.CK(DC)	10416	Differential DC Input Logic Low Voltage
VILdiff.DQS	10422	Differential Input Logic Low Voltage
VILdiff.DQS(AC)	10414	Differential AC Input Logic Low Voltage
VILdiff.DQS(DC)	10418	Differential DC Input Logic Low Voltage
VIX for Clock	10383	AC differential input cross point voltage(Clock)
VIX for Strobe	10380	AC differential input cross point voltage(Strobe)
VIXCA	10381	Clock Cross Point Voltage Test
VIXDQ	10382	Strobe Cross Point Voltage Test
VOH(AC)	11311	AC Output Logic High
VOH(DC)	11312	DC Output Logic High
VOHdiff(AC)	11411	Differential AC Output Logic High Voltage
VOL(AC)	11321	AC Output Logic Low
VOL(DC)	11322	DC Output Logic Low
VOLdiff(AC)	11412	Differential AC Output Logic Low Voltage
VSEH(Clock)	10333	Single-ended High Level Voltage
VSEH(Strobe)	10331	Single-ended High Level Voltage for Strobes
VSEL(Clock)	10334	
VSEL(Strobe)	10332	Single-ended Low Level Voltage for Strobes
tCH Average High Measurements	2000	tCH Average High Measurements
tCH(abs) Absolute clock HIGH pulse width	2200	tCH(abs) Absolute clock HIGH pulse width

Table 4 Test IDs and Names (continued)

Name	TestID	Description
tCK(abs) Period Rising Edge Measurements	1	tCK Period Rising Edge Measurements
tCK(abs) Rising Edge Measurements	2	tCK(abs) Rising Edge Measurements
tCK(avg) Rising Edge Measurements	200	tCK(avg) Rising Edge Measurements
tCKE	30206	CKE Minimum Pulse Width
tCL Average Low Measurements	2050	tCL Average LowMeasurements
tCL(abs) Absolute clock LOW pulse width	2250	tCL(abs) Absolute clock LOW pulse width
tDH(base)	30302	DQ and DM input hold time - Differential
tDH-Diff(derate)	30304	DQ and DM input hold time - Differential
tDIPW	30305	DQ and DM input pulse width
tDQSCK	30021	DQS output access time from CK,/CK
tDQSH	30107	DQS input high pulse width
tDQSL	30108	DQS input low pulse width
tDQSQ	30104	DQS-DQ skew for DQS and associated DQ signals
tDQSS	30106	DQS latching transition to associated clock edge
tDS(base)	30301	DQ and DM input setup time - Differential
tDS-Diff(derate)	30303	DQ and DM input setup time - Differential
tDSH	30110	DQS falling edge hold time from CK
tDSS	30109	DQS falling edge to CK setup time
tDVAC(Clock)	30022	tDVAC(Clock)
tDVAC(Strobe)	30117	tDVAC(Strobe)
tHZDQ	30101	DQ out high-impedance time from CK,/CK
tHZDQS	30118	DQS high-impedance time from CK,/CK
tIH(base)	30202	Address and control input hold time
tIH(derate)	30204	Address and control input hold time
tIHCA(base)	30212	Address and control input hold time
tIHCA(derate)	30216	Address and control input hold time
tIHCKE	30219	CKE input hold time

Table 4 Test IDs and Names (continued)

Name	TestID	Description
tIHCS(base)	30213	CS_n input hold time
tIHCS(derate)	30217	CS_n input hold time
tIPW	30207	tIPW
tIPWCA	30208	tIPWCA
tIPWCS	30209	tIPWCS
tIS(base)	30201	Address and control input setup time
tIS(derate)	30203	Address and control input setup time
tISCA(base)	30210	Address and control input setup time
tISCA(derate)	30214	Address and control input setup time
tISCKE	30218	CKE input setup time
tISCS(base)	30211	CS_n input setup time
tISCS(derate)	30215	CS_n input setup time
tLZDQ	30102	DQ low-impedance time from CK,/CK
tLZDQS	30103	DQS low-impedance time from CK,/CK
tQH	30105	DQ/DQS output hold time from DQS
tQSH	30115	DQS output high time
tQSL	30116	DQS output low time
tRPRE	30113	Read preamble
tRPST	30114	Read postamble
tVAC(CS,CA)	30205	tVAC(CS,CA)
tVAC(Data)	30306	tVAC(Data)
tWPRE	30111	Write preamble
tWPST	30112	Write postamble
terr(10per) Rising Edge Measurements	1200	terr(10per) Rising Edge Measurements
terr(11per) Rising Edge Measurements	1300	terr(11per) Rising Edge Measurements
terr(12per) Rising Edge Measurements	1400	terr(12per) Rising Edge Measurements
terr(2per) Rising Edge Measurements	400	terr(2per) Rising Edge Measurements

Table 4 Test IDs and Names (continued)

Name	TestID	Description
terr(3per) Rising Edge Measurements	500	terr(3per) Rising Edge Measurements
terr(4per) Rising Edge Measurements	600	terr(4per) Rising Edge Measurements
terr(5per) Rising Edge Measurements	700	terr(5per) Rising Edge Measurements
terr(6per) Rising Edge Measurements	800	terr(6per) Rising Edge Measurements
terr(7per) Rising Edge Measurements	900	terr(7per) Rising Edge Measurements
terr(8per) Rising Edge Measurements	1000	terr(8per) Rising Edge Measurements
terr(9per) Rising Edge Measurements	1100	terr(9per) Rising Edge Measurements
terr(nper) Rising Edge Measurements	3000	terr(nper) Rising Edge Measurements
tjit(CC) Rising Edge Measurements	100	tjit(CC) Rising Edge Measurements
tjit(duty-high) Jitter Average High Measurements	2100	tjit(duty-high) Jitter Average High Measurements
tjit(duty-low) Jitter Average Low Measurements	2150	tjitduty-low Jitter Average LowMeasurements
tjit(per) Rising Edge Measurements	300	tjit(per) Rising Edge Measurements

4 Instruments

The following table shows the instruments used by this application. The name is required by various remote interface methods.

- Instrument Name — The name to use as a parameter in remote interface commands.
- Description — The description of the instrument.

For example, if an application uses an oscilloscope and a pulse generator, then you would expect to see something like this in the table below:

Table 5 Example Instrument Information

Name	Description
scope	The primary oscilloscope.
Pulse	The pulse generator used for Gen 2 tests.

and you would be able to remotely control an instrument using:

```
ARSL syntax (replace [description] with actual parameter)
------------------------------------------------------------------------
arsl -a ipaddress -c "SendScpiCommandCustom 'Command=[scpi
command];Timeout=100;Instrument=pulsegen'"

arsl -a ipaddress -c "SendScpiQueryCustom 'Command=[scpi
query];Timeout=100;Instrument=pulsegen'"


C# syntax (replace [description] with actual parameter)
------------------------------------------------------------------------
SendScpiCommandOptions commandOptions = new SendScpiCommandOptions();
commandOptions.Command = "[scpi command]";
commandOptions.Instrument = "[instrument name]";
commandOptions.Timeout = [timeout];
remoteAte.SendScpiCommand(commandOptions);

SendScpiQueryOptions queryOptions = new SendScpiQueryOptions();
queryOptions.Query = "[scpi query]";
queryOptions.Instrument = "[instrument name]";
```

```
queryOptions.Timeout = [timeout];
remoteAte.SendScpiQuery(queryOptions);
```

Here are the actual instrument names used by this application:

NOTE The file, ""InstrumentInfo.txt"", which may be found in the same directory as this help file, contains all of the information found in the table below in a format suitable for parsing.

Table 6 Instrument Names

Instrument Name	Description
scope	The primary oscilloscope

Index