Keysight N5413B/N5413C DDR2(+LP) Compliance Application

KEYSIGHT TECHNOLOGIES

Programmer's Reference

Notices

Manual Part Number

Version 01.23.0000

Edition

April 15, 2014

Available in electronic format only

Published by:
Keysight Technologies, Inc.
1900 Garden of the Gods Road
Colorado Springs, CO 80907 USA

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In This Book

This book is your guide to programming the Keysight Technologies N5413B/N5413C DDR2(+LP) 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 41, and Chapter 4, “Instruments,” starting on page 51 provide information specific to programming the N5413B/N5413C DDR2(+LP) 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.

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1 Introduction to Programming

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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 N5413B/N5413C DDR2(+LP) Compliance Application uses Remote Interface Revision 3.30. 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 N5413B/N5413C DDR2(+LP) 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	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".

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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".
Confgure	Burst Envelope Threshold	BurstEnvThres	(Accepts user-defined text), 0.5	Identifies the Burst Envelope Threshold.

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_DCK3, Clock_SCK0, Clock_SCK1, Clock_SCK2, Clock_SCK3, 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, Control_NCS0, Control_NCS1, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, 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, 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 connected to Channel 1 for timing tests.

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_DCK3, Clock_SCK0, Clock_SCK1, Clock_SCK2, Clock_SCK3, 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, Control_NCS0, Control_NCS1, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, 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, 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 connected to Channel 2 for timing tests.

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_DCK3, Clock_SCK0, Clock_SCK1, Clock_SCK2, Clock_SCK3, 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, Control_NCS0, Control_NCS1, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, 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, 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 connected to Channel 3 for timing tests.

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_DCK3, Clock_SCK0, Clock_SCK1, Clock_SCK2, Clock_SCK3, 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, Control_NCS0, Control_NCS1, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, 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, 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 connected to Channel 4 for Timing Tests

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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	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 Strobe Lane	AdvDbgSupport	DQS0, DQS1, DQS2, DQS3, DQS4, DQS5, DQS6, DQS7	Identifies the data strobe lane for the eye diagram tests.
Confgure	Data Strobe Source	AdvDbg_Source2	-1, 1, 2, 3, 4	Identifies the source of the data strobe for eye diagram tests.
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.
Confgure	Eye Diagram Display Style	EyeDiagramDisplayStyleOpt	EyeDispWithoutDQS, EyeDispWithDQS	Select the Display Style For Eye Diagram Test

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Eye Diagram Horizontal Position	EyeDiagHorizontalPos	(Accepts user-defined text), Auto, 0.0	Identifies the horizontal position for the eye diagram tests.
Confgure	Lower Threshold (V)	Chan1_Low_Thresh	(Accepts user-defined text), 0.00	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), 0.00	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), 0.00	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), 0.00	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. When this configuration value is set to "No", a "N/A" label will be generated at the report page under the "tWorstCase" report column info.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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 Burst Tests and Write Burst Tests
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), 0.00	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".

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Middle Threshold (V)	Chan4_Mid_Thresh	(Accepts user-defined text), 0.00	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	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 Burst Tests and Write Burst Tests except Vih(ac) for strobe, Vih(dc) for strobe, Vil(ac) for strobe, Vil(dc) for strobe, Vid, VOH(AC), VOH(DC), VOL(AC), VOL(DC), VIHDiff(AC), VIHDiff(DC), VILDiff(AC), VILDiff(DC), 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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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.
Confgure	OfflineDQSPlusFilePath(Must be hidden)	OfflineDQSPlusFilePath	(Accepts user-defined text), C:\	For supporting offline.
Confgure	OfflineDataFolder(Must be hidden)	OfflineDataFolder	(Accepts user-defined text), C:\	For supporting offline.
Confgure	OfflineDataMode(Must be hidden)	OfflineDataMode	(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 type of signal to use for Channel 1 testing.
Confgure	Option	TypeOfSignalCH2_CAT	NA, PUT, SP, LP_NA, LP_PUT, LP_SP	Identifies the type of signal to use for Channel 2 testing.
Confgure	Option	TypeOfSignalCH3_CAT	NA, PUT, SP, LP_NA, LP_PUT, LP_SP	Identifies the type of signal to use for Channel 3testing.
Confgure	Option	TypeOfSignalCH4_CAT	NA, PUT, SP, LP_NA, LP_PUT, LP_SP	Identifies the type of signal to use for Channel 4 testing.
Confgure	PUT Source	ElecDiffOutputPut_Source	1, 2, 3, 4	Identifies the source of the PUT for Differential AC Output Tests.
Confgure	PUT Source	ElecDiffVihVilPut_Source	1, 2, 3, 4	Identifies the source of the PUT for Differential VIHdiff/ VILdiff tests.
Confgure	PUT Source	ElecSEOutputPut_Source	1, 2, 3, 4	Identifies the source of the PUT for Single-Ended AC Output Tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	PUT Source	ElecSEVseh VselClockPu t_Source	1, 2, 3, 4	Identifies the source of the PUT for VSEH/VSEL Tests for Clock.
Confgure	PUT Source	ElecSEVseh VselStrobeP ut_Source	1, 2, 3, 4	Identifies the source of the PUT for VSEH/VSEL Tests for Strobe.
Confgure	PUT Source	ElecSE_Sou rce1	1, 2, 3, 4	Identifies the source of the PUT for Single-Ended AC Input Tests.
Confgure	PUT Source	OvrShtSe_S ource	1, 2, 3, 4	Identifies the source of the PUT for Single-Ended OverShoot/UnderShoot Tests.
Confgure	PUT Source	OvrShtSe_S ource2	1, 2, 3, 4	Identifies the source of the PUT for Single-Ended OverShoot/UnderShoot Tests.
Confgure	PUT Source	OvrShtSe_S ource_LPDD R2_CA	1, 2, 3, 4	Identifies the source of the PUT for Single-Ended OverShoot/UnderShoot Tests.
Confgure	PUT Source	OvrShtSe_S ource_LPDD R2_DQDM	1, 2, 3, 4	Identifies the source of the PUT for Single-Ended OverShoot/UnderShoot Tests.
Confgure	PUT Source	VihVilCA_P UT_Source_ LPDDR2	1, 2, 3, 4	Identifies the source of the PUT for VIHCA/ VILCA Tests.
Confgure	PUT Source	VihVilCKE_P UT_Source_ LPDDR2	1, 2, 3, 4	Identifies the source of the PUT for VIHCKE/ VILCKE Tests.
Confgure	PUT Source	VihVilDQ_P UT_Source_ LPDDR2	1, 2, 3, 4	Identifies the source of the PUT for VIHDQ/ VILDQ Tests.
Confgure	PUT(+) Source	ElecDIFF_So urce1	1, 2, 3, 4	Identifies the source of the PUT(+) for Differential AC Input Tests.
Confgure	PUT(+) Source	ElecDIFF_So urce4	1, 2, 3, 4	Identifies the source of the PUT(+) for Differential AC Output Tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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.
Confgure	PUT(-) Source	ElecDIFF_Source2	1, 2, 3, 4	Identifies the source of the PUT(-) for Differential AC Input Tests.
Confgure	PUT(-) Source	ElecDIFF_Source5	1, 2, 3, 4	Identifies the source of the PUT(-) for Differential AC Output Tests.
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	Pin Under Test, PUT	ElecDiffVihVilPut	LP_Strobe_DDQS0, LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3, LP_Clock_DCK	Identifies the Pin Under Test for Differential VIHdiff/ VILdiff 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	Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_DCK3, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7	Identifies the Pin Under Test for Differential AC Input Tests.
Confgure	Pin Under Test, PUT	ElecParamDiffOutput	LP_Strobe_DDQS0, LP_Strobe_DDQS1, LP_Strobe_DDQS2, LP_Strobe_DDQS3	Identifies the Pin Under Test for Differential AC output parameters.
Confgure	Pin Under Test, PUT	ElecParamDoInput	Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7	Identifies the PUT for Differential AC Output Tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Pin Under Test, PUT	ElecParamSeInput	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, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7, DM_DM0, DM_DM1, DM_DM2, DM_DM3, DM_DM4, DM_DM5, DM_DM6, DM_DM7, 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, Clock_SCK0, Clock_SCK1, Clock_SCK2, Clock_SCK3, Clock_NCK0, Clock_NCK1, Clock_NCK2, Clock_NCK3	Identifies the Pin Under Test for Single-Ended AC input parameters.
Confgure	Pin Under Test, PUT	ElecParamSeOutput	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 Single-Ended AC output parameters.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Pin Under Test, PUT	ElecSEVsehVselClockPut	LP_Clock_SCK, LP_Clock_NCK	Identifies the Pin Under Test for VSEH/VSEL Tests for Clock.
Confgure	Pin Under Test, PUT	ElecSEVsehVselStrobePut	LP_Strobe_SDQS0, LP_Strobe_SDQS1, LP_Strobe_SDQS2, LP_Strobe_SDQS3	Identifies the Pin Under Test for VSEH/VSEL Tests for Strobe.
Confgure	Pin Under Test, PUT	OvrShtSeInput	/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 Single-Ended Overshoot/Undershoot (Address, Control).
Confgure	Pin Under Test, PUT	OvrShtSeInput2	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, DQS0, DQS1, DQS2, DQS3, DQS4, DQS5, DQS6, DQS7, /DQS0, /DQS1, /DQS2, /DQS3, /DQS4, /DQS5, /DQS6, /DQS7, CK0, CK1, CK2, CK3, /CK0, /CK1, /CK2, /CK3, DM0, DM1, DM2, DM3, DM4, DM5, DM6, DM7	Identifies the Pin Under Test for Single-Ended Overshoot/Undershoot (Clock, Data, Strobe, Mask).
Confgure	Pin Under Test, PUT	OvrShtSeInput_LPDDR2_CA	CA0, CA1, CA2, CA3, CA4, CA5, CA6, CA7, CA8, CA9, CK_t, CK_c, CS_n, CKE	Identifies the Pin Under Test for Single-Ended Overshoot/Undershoot (Address, Command, Clock).
Confgure	Pin Under Test, PUT	OvrShtSeInput_LPDDR2_DQDM	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, DM0, DM1, DM2, DM3, DM0/DNV0, DM1/DNV1, DM2/DNV2, DM3/DNV3, DQS0_t, DQS1_t, DQS2_t, DQS3_t, DQS0_c, DQS1_c, DQS2_c, DQS3_c	Identifies the Pin Under Test for Single-Ended Overshoot/Undershoot (Data, Strobe, Mask).
Confgure	Pin Under Test, PUT	TypeOfSignalCH1	NA, Clock, Strobe, Data, DM, Control, LP_NA, LP_Clock, LP_Strobe, LP_Data, LP_DM, LP_Control	Identifies the parameters to use for channel 1 timing tests.
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 parameters to use for channel 2 timing tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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 parameters to use for channel 3 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 parameters to use for channel 4 timing test.
Confgure	Pin Under Test, PUT	VihVilCA_PUT_LPDDR2	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	Identifies the Pin Under Test for VIHCA/ VILCA Tests.
Confgure	Pin Under Test, PUT	VihVilDQ_PUT_LPDDR2	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, LP_DMDNV_DMDNV0, LP_DMDNV_DMDNV1, LP_DMDNV_DMDNV2, LP_DMDNV_DMDNV3	Identifies the Pin Under Test for VIHDQ/ VILDQ Tests.
Confgure	READ Latency	ReadLatency	1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 0.0	This option will only available IF 'CS' is selected. This allow user to verify the DUT with CS signal by selecting respective CL value.
Confgure	READ Separation Max Setup/Hold Time (% of UI)	InfiniiScanMaxLimitR	(Accepts user-defined text), 0.2	Identifies the upper limit for Setup Time measurement used in the InfiniiScan Measurement Mode (READ cycle). For example, 0.2 represent 20% of 1 Unit Interval and etc.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	READ Separation Min Setup/Hold Time (% of UI)	InfiniiScanMinLimitR	(Accepts user-defined text), 0.0	Identifies the lower limit for Setup Time measurement used in the InfiniiScan Measurement Mode (READ cycle).For example, 0.2 represent 20% of 1 Unit Interval and etc.
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)	TestSamplingPoints	(Accepts user-defined text), 2000000, 1000000, 500000	Specifies the sampling points to be captured in all the tests except Clock tests and Eye Digram tests. Reduce the sampling points if the read/write bursts are occuring very frequently.
Confgure	Signal selected	MyCH1_CAT	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_DCK3, Clock_SCK0, Clock_SCK1, Clock_SCK2, Clock_SCK3, 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 parameters connected to Channel 1 for control address timing tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Signal selected	MyCH2_CAT	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_DCK3, Clock_SCK0, Clock_SCK1, Clock_SCK2, Clock_SCK3, 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 parameters connected to Channel 2 for control address timing tests.
Confgure	Signal selected	MyCH3_CAT	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_DCK3, Clock_SCK0, Clock_SCK1, Clock_SCK2, Clock_SCK3, 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 parameters connected to Channel 3 for control address timing tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Signal selected	MyCH4_CAT	NA_, Clock_DCK0, Clock_DCK1, Clock_DCK2, Clock_DCK3, Clock_SCK0, Clock_SCK1, Clock_SCK2, Clock_SCK3, 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 parameters connected to Channel 4 for control address timing tests.
Confgure	Skip Connection Diagram Prompt	EnableConnectionPrompt	1, 0	By selecting "No", system will prompt for required connection diagram change when running selected tests. By selecting "Yes", system will NOT prompt for any connection diagram change when running the selected tests. This option is used to enable continuous running of tests from different test groups (that may require different scope connections) without having to respond to a pop-up connection diagram change. However, user are expected to be responsible of ensuring the correct scope connections that will be used for running all selected tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Skip Error Message	ErrorMsgOff	1, 0	By selecting "No", system will prompt error message. By selecting "Yes", system will bypass all error message that occur and continue to next test. The test result for those tests that encounter errors will be set to a default invalid value that would cause a failure. Hint: This is useful when the user wants to run multiple trials overnight.
Confgure	Supporting Pin	ElecDiffVihVilSupport	NA_, 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/ VILdiff tests.
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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin	ElecParamDiSupport	NA_, 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	Identifies the supporting pin for Differential AC Input Tests.
Confgure	Supporting Pin	ElecParamDiffOutputSupport	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.
Confgure	Supporting Pin	ElecParamDoSupport	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	Identifies the supporting pin for Differential AC Output Tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin	ElecParamSeOutputSupport	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, 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 Single-Ended AC output parameters.
Confgure	Supporting Pin	ElecParamSeSupport	NA_, 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, Strobe_DDQS0, Strobe_DDQS1, Strobe_DDQS2, Strobe_DDQS3, Strobe_DDQS4, Strobe_DDQS5, Strobe_DDQS6, Strobe_DDQS7, Strobe_SDQS0, Strobe_SDQS1, Strobe_SDQS2, Strobe_SDQS3, Strobe_SDQS4, Strobe_SDQS5, Strobe_SDQS6, Strobe_SDQS7	Identifies the required supporting pin for Single-Ended AC input parameters.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Supporting Pin	ElecSEVseh VselStrobeS upport	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	VihVilDQ_S prtPin_LPD DR2	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 VIHDQ/ VILDQ Tests.
Confgure	Supporting Pin Source	ElecDIFF_So urce3	2, -1, 1, 3, 4	Identifies the source of the supporting pin for Differential AC Input Tests.
Confgure	Supporting Pin Source	ElecDIFF_So urce6	1, 2, 3, 4	Identifies the source of the supporting pin for Differential AC Output Tests.
Confgure	Supporting Pin Source	ElecDiffOut putSupprt_ Source	1, 2, 3, 4	Identifies the source of the supporting pin for Differential AC Output Tests.
Confgure	Supporting Pin Source	ElecDiffVihV ilSupprt_So urce	NA_, 1, 2, 3, 4	Identifies the source of the supporting pin for Differential VIHdiff/ VILdiff tests.
Confgure	Supporting Pin Source	ElecDiffVixD qSupportPi nSource	1, 2, 3, 4	Identifies the source of the supporting pin for VIXDQ Test.
Confgure	Supporting Pin Source	ElecSEOutp utSupprt_S ource	1, 2, 3, 4	Identifies the source of the supporting pin for Single-Ended AC Output Tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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, 1, 2, 3, 4	Identifies the source of the supporting pin for Single-Ended AC Input Tests.
Confgure	Supporting Pin Source	VihVilDQ_SprtPin_Source_LPDDR2	1, 2, 3, 4	Identifies the source of the supporting pin for VIHDQ/ VILDQ Tests.
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".
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".

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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), 0, 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. Use 0 to display the whole burst.
Confgure	Total Unit Interval	ADM_Mem Depth	(Accepts user-defined text), 4, 5, 10, 20, 50, 100	This Unit Interval means that the total UI(ns) to be used for Eye-Diagram eye folding. Unit Interval here is represented in Bit(ns). UI here can translate to Memory Depth with following equation : Memory Depth = 20G Sampling Rate x UI(user-select) X 1 Bit Cycle(2.5ns for a 400MT/s DUT)
Confgure	Total Waveform	EyeDiagram NumOfWave	(Accepts user-defined text), 500, 1000, 1500, 3000, 5000	Select or type the total number of waveforms required for eye diagram tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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.
Confgure	Upper Threshold (V)	Chan1_Up_Thresh	(Accepts user-defined text), 0.00	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), 0.00	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), 0.00	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".
Confgure	Upper Threshold (V)	Chan4_Up_Thresh	(Accepts user-defined text), 0.00	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), 1.750, 1.800, 1.850	Identifies the input supply voltage.
Confgure	VDDCA (V)	InputVDDCA	(Accepts user-defined text), 1.750, 1.800, 1.850	Identifies the input supply voltage for command/address output.
Confgure	VDDQ (V)	InputVDDQ	(Accepts user-defined text), 1.750, 1.800, 1.850	Identifies the input supply voltage for data output.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	VIHdiff_ac (V)	InputThreshold_VIHdiff_ac	(Accepts user-defined text), 0.5	Identifies the differential ac input logic HIGH voltage.
Confgure	VIHdiff_dc (V)	InputThreshold_VIHdiff_dc	(Accepts user-defined text), 0.5	Identifies the differential dc input logic HIGH voltage.
Confgure	VILdiff_ac (V)	InputThreshold_VILdiff_ac	(Accepts user-defined text), 0.5	Identifies the differential ac input logic LOW voltage.
Confgure	VILdiff_dc (V)	InputThreshold_VILdiff_dc	(Accepts user-defined text), 0.5	Identifies the differential dc input logic LOW voltage.
Confgure	VOHdiff_ac (V)	InputThreshold_VOHdiff_ac	(Accepts user-defined text), 0.5	Identifies the differential ac output logic HIGH voltage.
Confgure	VOLdiff_ac (V)	InputThreshold_VOLdiff_ac	(Accepts user-defined text), 0.5	Identifies the differential ac output logic LOW voltage.
Confgure	Verify Selected Rank Only?	CSDQSCYC	0.0, 1.0	By choosing Yes, you will require an additional channel for Chip Select(CS). Measurement will only be done on selected Rank based on chip select signal connected to the oscilloscope.
Confgure	Vih_ac (V)	InputThreshold_Vih_ac	(Accepts user-defined text), 1.150	Identifies the ac input logic HIGH voltage.
Confgure	Vih_dc (V)	InputThreshold_Vih_dc	(Accepts user-defined text), 1.025	Identifies the dc input logic HIGH voltage.
Confgure	Vil_ac (V)	InputThreshold_Vil_ac	(Accepts user-defined text), 0.650	Identifies the ac input logic LOW voltage.
Confgure	Vil_dc (V)	InputThreshold_Vil_dc	(Accepts user-defined text), 0.775	Identifies the dc input logic LOW voltage.
Confgure	Voh_ac (V)	InputThreshold_Voh_ac	(Accepts user-defined text), 1.150	Identifies the ac output logic HIGH voltage.
Confgure	Voh_dc (V)	InputThreshold_Voh_dc	(Accepts user-defined text), 1.025	Identifies the dc output logic HIGH voltage.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	Vol_ac (V)	InputThreshold_Vol_ac	(Accepts user-defined text), 0.650	Identifies the ac output logic LOW voltage.
Confgure	Vol_dc (V)	InputThreshold_Vol_dc	(Accepts user-defined text), 0.775	Identifies the dc output logic LOW voltage.
Confgure	Vref (V)	InputRefV_Vref	(Accepts user-defined text), 0.850, 0.900, 0.950	Identifies the input reference voltage.
Confgure	WRITE Latency	WriteLatency	1.0, 1.5, 2.0, 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5, 0.0	This option will only available IF 'CS' is selected. This allow user to verify the DUT with CS signal by selecting respective CL value.
Confgure	WRITE Separation Max Setup/Hold Time (% of UI)	InfiniiScanMaxLimitW	(Accepts user-defined text), 0.6	Identifies the upper limit for Setup Time measurement used in the InfiniiScan Measurement Mode (WRITE cycle).For example, 0.6 represent 60% of 1 Unit Interval and etc.
Confgure	WRITE Separation Min Setup/Hold Time (% of UI)	InfiniiScanMinLimitW	(Accepts user-defined text), 0.4	Identifies the lower limit for Setup Time measurement used in the InfiniiScan Measurement Mode (WRITE cycle). For example, 0.4 represent 40% of 1 Unit Interval and etc.
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 of the data to be analyzed.
Confgure	tDQSCK Delay (cycle)	tDQSCKDelay	(Accepts user-defined text), 1, 2, 3	The distance from first rising strobe to Read Latency(RL) clock edge.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Confgure	terr(nper) Maximum N Width Value	nper_max	(Accepts user-defined text), 10	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), 6	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	Custom Data Rate	pcboCustomSG	(Accepts user-defined text), 400, 500, 533, 600, 650, 667, 700, 800	This option allow user to key in specific data rate.
Set Up	Device ID	pcboOverallDeviceID	(Accepts user-defined text)	This option allow user to key in related test details.
Set Up	Low Power Speed Grade	DeviceTypeLP	LPDDR2-200, LPDDR2-266, LPDDR2-333, LPDDR2-400, LPDDR2-466, LPDDR2-533, LPDDR2-667, LPDDR2-800, LPDDR2-933, LPDDR2-1066	This option allow user to select specific Low Power DDR2 speed grade.
Set Up	LowPow	chkLowPowType	0.0, 1.0	This option allow user to select Low Power.
Set Up	Speed Grade	DeviceType	DDR2-400, DDR2-533, DDR2-667, DDR2-800, DDR2-1066	This option allow user to select specific speed grade.
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
AC Input Logic High (Address,Control), VIHCA(AC)	10411	AC Input Logic High (Address,Control)
AC Input Logic High (Data, Mask), VIHDQ(AC)	10421	AC Input Logic High (Data, Mask)
AC Input Logic Low (Address,Control), VILCA(AC)	10413	AC Input Logic Low (Address,Control)
AC Input Logic Low (Data, Mask), VILDQ(AC)	10423	AC Input Logic Low (Data, Mask)
AC differential input cross point voltage, Vix	10380	AC differential cross point voltage
AC differential input voltage, Vid	10370	AC differential input voltage
AC differential output cross point voltage, Vox	10390	AC differential cross point voltage
CKE Input High Level, VIHCKE	10415	CKE Input High Level
CKE Input Low Level, VILCKE	10416	CKE Input Low Level
Clock Cross Point Voltage Test, VIXCA	10481	Clock Cross Point Voltage Test
DC Input Logic High (Address,Control), VIHCA(DC)	10412	DC Input Logic High (Address,Control)
DC Input Logic High (Data, Mask), VIHDQ(DC)	10422	DC Input Logic High (Data, Mask)
DC Input Logic Low (Address,Control), VILCA(DC)	10414	DC Input Logic Low (Address,Control)
DC Input Logic Low (Data, Mask), VILDQ(DC)	10424	DC Input Logic Low (Data, Mask)
Differential AC Input Logic High Voltage, VIHdiff(AC)	10483	Differential AC Input Logic High Voltage
Differential AC Input Logic Low Voltage, VILdiff(AC)	10485	Differential AC Input Logic Low Voltage
Differential AC Output Logic High Voltage, VOHdiff(AC)	10495	Differential AC Output Logic High Voltage

Table 4 Test IDs and Names (continued)

Name	TestID	Description
Differential AC Output Logic Low Voltage, VOLdiff(AC)	10496	Differential AC Output Logic Low Voltage
Differential DC Input Logic High Voltage, VIHdiff(DC)	10484	Differential DC Input Logic High Voltage
Differential DC Input Logic Low Voltage, VILdiff(DC)	10486	Differential DC Input Logic Low Voltage
Differential Output Falling Slew Rate (40ohm), SRQdiffF(40ohm)	10492	Differential Output Falling Slew Rate (40ohm)
Differential Output Falling Slew Rate (60ohm), SRQdiffF(60ohm)	10494	Differential Output Falling Slew Rate (60ohm)
Differential Output Rising Slew Rate (40ohm), SRQdiffR(40ohm)	10491	Differential Output Rising Slew Rate (40ohm)
Differential Output Rising Slew Rate (60ohm), SRQdiffR(60ohm)	10493	Differential Output Rising Slew Rate (60ohm)
Input signal minimum falling slew rate, SLEWf	10342	Input signal minimum falling slew rate
Input signal minimum rising slew rate, SLEWr	10341	Input signal minimum rising slew rate
Maximum AC Input Logic High, Vih(ac)	10311	Maximum AC Input Logic High
Maximum DC Input Logic Low, Vil(dc)	10322	Maximum DC Input Logic Low
Minimum AC Input Logic Low, Vil(ac)	10321	Minimum AC Input Logic Low
Minimum DC Input Logic High, Vih(dc)	10312	Minimum DC Input Logic High
Overshoot amplitude (Address, Control)	10351	Peak amplitude of AC overshoot
Overshoot amplitude (Address, Control, Clock, Chip Select, Clock Enable)	10451	Peak amplitude of AC overshoot
Overshoot amplitude (Clock, Data, Strobe, Mask)	10353	Peak amplitude of AC overshoot
Overshoot amplitude (Data, Strobe, Mask)	10453	Peak amplitude of AC overshoot

Table 4 Test IDs and Names (continued)

Name	TestID	Description
Overshoot area (Address, Control)	10352	OverShoot area above VDD
Overshoot area (Address, Control, Clock, Chip Select, Clock Enable)	10452	OverShoot area above VDDCA
Overshoot area (Clock, Data, Strobe, Mask)	10354	OverShoot area above VDDQ
Overshoot area (Data, Strobe, Mask)	10454	OverShoot area above VDDQ
Single-ended AC Output Logic High Voltage, VOH(AC)	10431	Single-ended AC Output Logic High Voltage
Single-ended AC Output Logic Low Voltage, VOL(AC)	10433	Single-ended AC Output Logic Low Voltage
Single-ended DC Output Logic High Voltage, VOH(DC)	10432	Single-ended DC Output Logic High Voltage
Single-ended DC Output Logic Low Voltage, VOL(DC)	10434	Single-ended DC Output Logic Low Voltage
Single-ended High Level Voltage, VSEH(AC)	10471	Single-ended High Level Voltage
Single-ended High Level Voltage, VSEH(AC)	10473	Single-ended High Level Voltage
Single-ended Low Level Voltage, VSEL(AC)	10472	Single-ended Low Level Voltage
Single-ended Low Level Voltage, VSEL(AC)	10474	Single-ended Low Level Voltage
Single-ended Output Falling Slew Rate (40ohm), SRQseF(40ohm)	10442	Single-ended Output Falling Slew Rate (40ohm)
Single-ended Output Falling Slew Rate (60ohm), SRQseF(60ohm)	10444	Single-ended Output Falling Slew Rate (60ohm)
Single-ended Output Rising Slew Rate (40ohm), SRQseR(40ohm)	10441	Single-ended Output Rising Slew Rate (40ohm)
Single-ended Output Rising Slew Rate (60ohm), SRQseR(60ohm)	10443	Single-ended Output Rising Slew Rate (60ohm)
Strobe Cross Point Voltage Test, VIXDQ	10482	Strobe Cross Point Voltage Test

Table 4 Test IDs and Names (continued)

Name	TestID	Description
TestToHideConfig	3	TestToHideConfig
Undershoot amplitude (Address, Control)	10361	Peak amplitude of AC undershoot
Undershoot amplitude (Address, Control, Clock, Chip Select, Clock Enable)	10461	Peak amplitude of AC undershoot
Undershoot amplitude (Clock, Data, Strobe, Mask)	10363	Peak amplitude of AC undershoot
Undershoot amplitude (Data, Strobe, Mask)	10463	Peak amplitude of AC undershoot
Undershoot area (Address, Control)	10362	UnderShoot area below VSS
Undershoot area (Address, Control, Clock, Chip Select, Clock Enable)	10462	UnderShoot area below VSSCA
Undershoot area (Clock, Data, Strobe, Mask)	10364	UnderShoot area below VSSQ
Undershoot area (Data, Strobe, Mask)	10464	UnderShoot area below VSSQ
User Defined Real-Time Eye Diagram Test For Read Cycle	20401	User Defined Real-Time Eye Diagram Test For Read Cycle
User Defined Real-Time Eye Diagram Test For Write Cycle	20402	User Defined Real-Time Eye Diagram Test For Write Cycle
tAC	30011	DQ output access time from CK,/CK.
tCH(abs) Absolute clock HIGH pulse width	2100	tCH(abs) Absolute clock HIGH pulse width
tCH(avg) Average clock HIGH pulse width	1000	tCH(avg) Average clock HIGH pulse width
tCK(abs) Absolute clock period(Falling Edge)	52	tCK(abs) Absolute clock period of Falling Edge Measurements
tCK(abs) Absolute clock period(Rising Edge)	2	tCK(abs) Absolute clock period of Rising Edge Measurements
tCK(avg) Average clock period(Falling Edge)	250	tCK(avg) Average clock period of Falling Edge Measurements
tCK(avg) Average clock period(Rising Edge)	200	tCK(avg) Average clock period of Rising Edge Measurements
tCL(abs) Absolute clock LOW pulse width	2150	tCL(abs) Absolute clock LOW pulse width

Table 4 Test IDs and Names (continued)

Name	TestID	Description
tCL(avg) Average clock LOW pulse width	1050	tCL(avg) Average clock LOW pulse width
tDH(Vref based)- Differential. For Data Mask.	30323	DQ and DM input hold time - Differential(Vref based). For Data Mask.
tDH(Vref based)- Differential. For Data.	30321	DQ and DM input hold time - Differential(Vref based). For Data.
tDH(base)- Differential. For Data Mask.	30309	DQ and DM input hold time - Differential. For Data Mask.
tDH(base)- Differential. For Data.	30302	DQ and DM input hold time - Differential. For Data.
tDH(derate)- Differential. For Data Mask.	30313	DQ and DM input hold time - Differential. For Data Mask.
tDH(derate)- Differential. For Data.	30311	DQ and DM input hold time - Differential. For Data.
tDH1(base) - Single Ended. For Data Mask.	30315	DQ and DM input hold time - Single Ended
tDH1(base) - Single Ended. For Data.	30304	DQ and DM input hold time - Single Ended
tDH1(derate)- Single Ended. For Data Mask.	30319	DQ and DM input hold time - Differential. For Data Mask.
tDH1(derate)- Single Ended. For Data.	30317	DQ and DM input hold time - Differential. For Data.
tDIPW	30306	DQ and DM input pulse width
tDQSCK	30021	DQS output access time from CK,/CK
tDQSCKDM	30025	DQSCK Delta Medium
tDQSCKDS	30024	DQSCK Delta Short
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(Vref based)- Differential. For Data Mask.	30322	DQ and DM input setup time - Differential(Vref based). For Data Mask.
tDS(Vref based)- Differential. For Data.	30320	DQ and DM input setup time - Differential(Vref based). For Data.
tDS(base)- Differential. For Data Mask.	30308	DQ and DM input setup time - Differential. For Data Mask.

Table 4 Test IDs and Names (continued)

Name	TestID	Description
tDS(base)- Differential. For Data.	30301	DQ and DM input setup time - Differential. For Data.
tDS(derate)- Differential. For Data Mask.	30312	DQ and DM input setup time - Differential. For Data Mask.
tDS(derate)- Differential. For Data.	30310	DQ and DM input setup time - Differential. For Data.
tDS1(base)- Single Ended. For Data Mask.	30314	DQ and DM input setup time - Single Ended
tDS1(base)- Single Ended. For Data.	30303	DQ and DM input setup time - Single Ended
tDS1(derate)- Single Ended. For Data Mask.	30318	DQ and DM input setup time - Differential. For Data Mask.
tDS1(derate)- Single Ended. For Data.	30316	DQ and DM input setup time - Differential. For Data.
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)	30118	tDVAC(Strobe)
tHZDQ	30101	DQ out high-impedance time from CK,/CK
tHZDQS	30117	DQS high-impedance time from CK,/CK
tIH(base)	30202	Address and control input hold time
tIH(derate)	30205	Address and control input hold time
tIHCKE	30208	CKE input hold time
tIHCKEb	30210	CKE input hold time
tIPW	30206	tIPW
tIS(base)	30201	Address and control input setup time
tIS(derate)	30204	Address and control input setup time
tISCKE	30207	CKE input setup time
tISCKEb	30209	CKE 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
tQHP	30307	Data Half Period

Table 4 Test IDs and Names (continued)

Name	TestID	Description
tQHS	30023	Data hold skew factor
tQSH	30115	DQS output high pulse width
tQSL	30116	DQS output low pulse width
tRPRE	30113	Read preamble
tRPST	30114	Read postamble
tVAC(CS,CA)	30203	tVAC(CS,CA)
tVAC(Data)	30305	tVAC(Data)
tWPRE	30111	Write preamble
tWPST	30112	Write postamble
terr(10per) Cumulative error across 10 cycles(Falling Edge)	1750	terr(10per) Cumulative error across 10 cycles of Falling Edge Measurements
terr(10per) Cumulative error across 10 cycles(Rising Edge)	1700	terr(10per) Cumulative error across 10 cycles of Rising Edge Measurements
terr(11-50per) Cumulative error across 11-50 cycles(Falling Edge)	950	terr(11-50per) Cumulative error across 11-50 cycles of Falling Edge Measurements
terr(11-50per) Cumulative error across 11-50 cycles(Rising Edge)	900	terr(11-50per) Cumulative error across 11-50 cycles of Rising Edge Measurements
terr(11per) Cumulative error across 11 cycles(Falling Edge)	1850	terr(11per) Cumulative error across 11 cycles of Falling Edge Measurements
terr(11per) Cumulative error across 11 cycles(Rising Edge)	1800	terr(11per) Cumulative error across 11 cycles of Rising Edge Measurements
terr(12per) Cumulative error across 12 cycles(Falling Edge)	1950	terr(12per) Cumulative error across 12 cycles of Falling Edge Measurements
terr(12per) Cumulative error across 12 cycles(Rising Edge)	1900	terr(12per) Cumulative error across 12 cycles of Rising Edge Measurements
terr(13-50per) Cumulative error across 13-50 cycles(Falling Edge)	2050	terr(13-50per) Cumulative error across 13-50 cycles of Falling Edge Measurements
terr(13-50per) Cumulative error across 13-50 cycles(Rising Edge)	2000	terr(13-50per) Cumulative error across 13-50 cycles of Rising Edge Measurements
terr(2per) Cumulative error across 2 cycles(Falling Edge)	450	terr(2per) Cumulative error across 2 cycles of Falling Edge Measurements

Table 4 Test IDs and Names (continued)

Name	TestID	Description
terr(2per) Cumulative error across 2 cycles(Rising Edge)	400	terr(2per) Cumulative error across 2 cycles of Rising Edge Measurements
terr(3per) Cumulative error across 3 cycles(Falling Edge)	550	terr(3per) Cumulative error across 3 cycles of Falling Edge Measurements
terr(3per) Cumulative error across 3 cycles(Rising Edge)	500	terr(3per) Cumulative error across 3 cycles of Rising Edge Measurements
terr(4per) Cumulative error across 4 cycles(Falling Edge)	650	terr(4per) Cumulative error across 4 cycles of Falling Edge Measurements
terr(4per) Cumulative error across 4 cycles(Rising Edge)	600	terr(4per) Cumulative error across 4 cycles of Rising Edge Measurements
terr(5per) Cumulative error across 5 cycles(Falling Edge)	750	terr(5per) Cumulative error across 5 cycles of Falling Edge Measurements
terr(5per) Cumulative error across 5 cycles(Rising Edge)	700	terr(5per) Cumulative error across 5 cycles of Rising Edge Measurements
terr(6-10per) Cumulative error across 6-10 cycles(Falling Edge)	850	terr(6-10per) Cumulative error across 6-10 cycles of Falling Edge Measurements
terr(6-10per) Cumulative error across 6-10 cycles(Rising Edge)	800	terr(6-10per) Cumulative error across 6-10 cycles of Rising Edge Measurements
terr(6per) Cumulative error across 6 cycles(Falling Edge)	1350	terr(6per) Cumulative error across 6 cycles of Falling Edge Measurements
terr(6per) Cumulative error across 6 cycles(Rising Edge)	1300	terr(6per) Cumulative error across 6 cycles of Rising Edge Measurements
terr(7per) Cumulative error across 7 cycles(Falling Edge)	1450	terr(7per) Cumulative error across 7 cycles of Falling Edge Measurements
terr(7per) Cumulative error across 7 cycles(Rising Edge)	1400	terr(7per) Cumulative error across 7 cycles of Rising Edge Measurements
terr(8per) Cumulative error across 8 cycles(Falling Edge)	1550	terr(8per) Cumulative error across 8 cycles of Falling Edge Measurements
terr(8per) Cumulative error across 8 cycles(Rising Edge)	1500	terr(8per) Cumulative error across 8 cycles of Rising Edge Measurements
terr(9per) Cumulative error across 9 cycles(Falling Edge)	1650	terr(9per) Cumulative error across 9 cycles of Falling Edge Measurements
terr(9per) Cumulative error across 9 cycles(Rising Edge)	1600	terr(9per) Cumulative error across 9 cycles of Rising Edge Measurements
terr(nper) Cumulative error across n cycles(Falling Edge)	1250	terr(nper) Cumulative error across n cycles of Falling Edge

Table 4 Test IDs and Names (continued)

Name	TestID	Description
terr(nper) Cumulative error across n cycles(Rising Edge)	1200	terr(nper) Cumulative error across n cycles of Rising Edge
tjit(CC) Cycle to cycle clock period jitter(Falling Edge)	150	tjit(CC) Cycle to cycle clock period jitter of Falling Edge Measurements
tjit(CC) Cycle to cycle clock period jitter(Rising Edge)	100	tjit(CC) Cycle to cycle clock period jitter of Rising Edge Measurements
tjit(duty-high) Duty cycle jitter(Rising Edge)	1100	tjit(duty-high) Duty cycle jitter of Rising Edge
tjit(duty-low) Duty cycle jitter(Falling Edge)	1150	tjit(duty-low) Duty cycle jitter of Falling Edge
tjit(per) Clock period jitter(Falling Edge)	350	tjit(per) Clock period jitter of Falling Edge Measurements
tjit(per) Clock period jitter(Rising Edge)	300	tjit(per) Clock period jitter of 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
pulsegen	81134A PulseGen
scope	The primary oscilloscope

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