
Keysight D9050DDRC DDR5 Compliance Test Application

Notices

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CAUTION

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In This Book

This book is your guide to programming the Keysight Technologies D9050DDRC DDR5 Compliance Test Application.

- **Chapter 1**, “Introduction to Programming,” starting on page 7, describes compliance application programming basics.
- **Chapter 2**, “Configuration Variables and Values,” starting on page 9, **Chapter 3**, “Test Names and IDs,” starting on page 39, **Chapter 4**, “Instruments,” starting on page 47, and **Chapter 5**, “Message IDs,” starting on page 49 provide information specific to programming the D9050DDRC DDR5 Compliance Test 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, 4, and 5 for changes.

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1 Introduction to Programming

Remote Programming Toolkit / 8

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

- Launching and closing the application.
- Configuring the options.
- Running tests.
- Getting results.
- Controlling when and where 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/test 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/rpi. The D9050DDRC DDR5 Compliance Test Application uses Remote Interface Revision 7.12. 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.

2 Configuration Variables and Values

The following table contains a description of each of the D9050DDRC DDR5 Compliance Test 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
Configure	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.
Configure	Cl_max	Cl_max	0, 1	Select the Cl_max that may affect the test limits of the CA (Command Address) tests.
Configure	CheckScpiErrorMode	optCheckScpiErrorMode	Normal, Dual, Always	[For Internal debugging use ONLY] Specify the Sicl method where the app send Scpi command to the scope. The "Normal" method is the typical option used where the DualOutput and Output Sicl methods both execute Output. In "Dual" method, the DualOutput executes CheckOutput, while the Output executes Output. In "Always" method, DualOutput and Ouptut both execute CheckOutput.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Control Script Location	ScriptLoc	(Accepts user-defined text), Default	Set the location for all the DUT Automation control scripts. Default will run the scripts installed with the application. Please make sure to use the same script names as installed by the app. Do not use the word "Default" in the path name. Format of path should be C:\Temp\MyScriptDir
Configure	DQ delay offset mode	DQDelayOffsetMode	0, 1	Select the method of DQ Skew Mode for tDQS2DQ correction. In "Auto" mode, application will perform tDQS2DQ measurement then use the result for DQ delay offset. In "Manual" mode, application will use the value in config of "DQ delay offset".
Configure	DQ delay offset(ps)	DQDelayOffset	(Accepts user-defined text), 0, 100, 200, 300	Identifies the user defined tDQS2DQ level for DQ skew shifting of the write burst test. The value set here is applicable ONLY when the "DQ delay offset mode" option is set to "Manual".
Configure	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.
Configure	DutAuto_DelaySignalCheck (ms)	DutAuto_DelaySignalCheck	(Accepts user-defined text), 0, 5000, 10000, 15000, 20000, 30000, 60000	Delay to be applied prior to performing signal amplitude check when running DUT Automation. This represent the delay time after all the automation scripts have been executed.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	DutAuto_EnableOutputOnAllDQ	DutAuto_EnableOutputOnAllDQ	true, false	[For Internal debugging use ONLY] Select true to enable all DQ pins to output a toggle signal. When this setting is set to false, only customized DQ pins will output a toggle signal while the rest of the DQ pins will remain at logic high all the time.
Configure	EyeTest_ApplyDFE_Mode	EyeTest_ApplyDFE_Mode	Off, Auto, Manual	Enable/disable the DFE feature option when performing the Write Eye Diagram tests. When set to "Auto" mode, the app will automatically determine the DFE settings using the scope 'Auto Set...' feature when running the Write Eye Diagram tests. When set to "Manual" mode, the actual DFE settings used when running the Write Eye Diagram tests is manually specified using the "EyeTest_DFE_TapX" config options.
Configure	EyeTest_DFE_BW_DQ	EyeTest_DFE_BW_DQ	(Accepts user-defined text), 3.2e9	Set the bandwidth limit for VGA. *Note: Reference receiver value is 2.4G
Configure	EyeTest_DFE_CTL E	EyeTest_DFE_CTL E	Off, On	Enable/disable the use of CTLE feature to model the variable gain amplifier (VGA) before the DFE in an actual DDR5 DUT. When this option is enabled, the EyeTest_DFE_VGA_Gain config is used to specify the actual DFE_VGA Gain value setting for the Write Eye Diagram tests.
Configure	EyeTest_DFE_LTarget	EyeTest_DFE_LTarget	(Accepts user-defined text), -1	Specify the DFE Lower Target value setting for Write Eye Diagram tests. This option is only applicable when the EyeTest_ApplyDFEMode option is enabled in Manual mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	EyeTest_DFE_Tap1	EyeTest_DFE_Tap1	(Accepts user-defined text), -0.015, -0.01, -0.005, 0, 0.005, 0.01, 0.015	This is the Tap1 setting (unitless) for Write Eye Diagram tests. This option is only applicable when the EyeTest_ApplyDFEMode option is enabled in Manual mode.
Configure	EyeTest_DFE_Tap2	EyeTest_DFE_Tap2	(Accepts user-defined text), -0.015, -0.01, -0.005, 0, 0.005, 0.01, 0.015	This is the Tap2 setting (unitless) for Write Eye Diagram tests. This option is only applicable when the EyeTest_ApplyDFEMode option is enabled in Manual mode.
Configure	EyeTest_DFE_Tap3	EyeTest_DFE_Tap3	(Accepts user-defined text), -0.015, -0.01, -0.005, 0, 0.005, 0.01, 0.015	This is the Tap3 setting (unitless) for Write Eye Diagram tests. This option is only applicable when the EyeTest_ApplyDFEMode option is enabled in Manual mode.
Configure	EyeTest_DFE_Tap4	EyeTest_DFE_Tap4	(Accepts user-defined text), -0.015, -0.01, -0.005, 0, 0.005, 0.01, 0.015	This is the Tap4 setting (unitless) for Write Eye Diagram tests. This option is only applicable when the EyeTest_ApplyDFEMode option is enabled in Manual mode.
Configure	EyeTest_DFE_UTarget	EyeTest_DFE_UTarget	(Accepts user-defined text), 1	Specify the DFE Upper Target value setting for Write Eye Diagram tests. This option is only applicable when the EyeTest_ApplyDFEMode option is enabled in Manual mode.
Configure	EyeTest_DFE_VGA_Gain	EyeTest_DFE_VGA_Gain	(Accepts user-defined text), -6, -4, -2, 0, 2, 4, 6	Specify the DFE_VGA Gain value setting for the Write Eye Diagram tests. This option is only applicable when the EyeTest_ApplyDFEMode option and the EyeTest_DFE_CTLLE option is enabled.
Configure	First DQ Transition Search Range (UI)	FirstDQSearchRange	(Accepts user-defined text), 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0	Specify the search range in Unit Interval (UI) to look for the first DQ transition bit. This config ONLY affects tDQS2DQ test.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	JitterTest Scope RJrms (s)	JitterTest_ScopeRJrms	(Accepts user-defined text), 200E-15	Specify the actual oscilloscope random jitter value that should be removed when running the jitter tests. This is applicable only when the "RemoveScopeRJ_Mode" config option is set to "Manual".
Configure	JitterTest_BER_Level	JitterTest_BER_Level	E6, E7, E8, E9, E10, E11, E12, E13, E14, E15, E16, E17, E18	Specify the BER Level setting to be used when performing the Jitter tests.
Configure	JitterTest_ISI_Filter_Lag	JitterTest_ISI_Filter_Lag	(Accepts user-defined text), 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Specify the ISI Filter Lag value that will be used when the "PatLen_Method" config is set to "Arbitrary".
Configure	JitterTest_ISI_Filter_Lead	JitterTest_ISI_Filter_Lead	(Accepts user-defined text), 0, -1, -2, -3, -4	Specify the ISI Filter Lead value that will be used when the "PatLen_Method" config is set to "Arbitrary".
Configure	JitterTest_MaxUIWidthAllowed (UI)	JitterTest_MaxUIWidthAllowed	(Accepts user-defined text), 1.5, 2.0	Specify the maximum allowable UI width in the test signal when running the jitter tests. This is applicable only when the "JitterTest_UIWidthCheck" config option is set to "On".
Configure	JitterTest_NumOfAcqToCheck	JitterTest_NumOfAcqToCheck	(Accepts user-defined text), 10, 50, 100, 150	Specify the number of acquisition needed to perform the UI width checking routine when running the jitter tests. This is applicable only when the "JitterTest_UIWidthCheck" config option is set to "On".
Configure	JitterTest_NumOfUI_PerAcq	JitterTest_NumOfUI_PerAcq	(Accepts user-defined text), 1000000, 100000, 500000	Set the minimum number of UI per acquisition value when performing the Jitter test.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	JitterTest_NumOfUI_PerTest	JitterTest_NumOfUI_PerTest	(Accepts user-defined text), 1000000, 5000000, 10000000, 100000000, 1000000000	Set the minimum number of UI per test value when performing the Jitter test. The application may make multiple acquisition when performing the actual jitter measurement algorithm. The minimum number of UI in each acquisition is specified in the JitterTest_NumOfUI_PerAcq config option.
Configure	JitterTest_PatLen_Method	JitterTest_PatLen_Method	Periodic, Arbitrary	Specify the Pattern Length Method setting to be used when performing the Jitter tests. The "Periodic" method is typically used on waveforms with repeating data patterns. The repeating data pattern will be automatically detected in the app. The "Arbitrary" method should be used on waveforms with non-repeating patterns. When using the "Arbitrary" method, the ISI Filter values specified in the ISI_Filter_Lead and ISI_Filter_Lag config options will be used.
Configure	JitterTest_RJ_Method	JitterTest_RJ_Method	SPECTRAL, BOTH	Specify the RJ Method setting to be used when performing the Jitter tests.
Configure	JitterTest_RJ_Report	JitterTest_RJ_Report	SPECTRAL, TAILFIT	This option is applicable ONLY when the JitterTest_RJ_Method is set to Spectral & Tail Fit. It specifies the report method used when performing the Jitter tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	JitterTest_RemoveScopeRJ_Mode	JitterTest_RemoveScopeRJ_Mode	Off, Manual, Auto	Enable/disable the removal of oscilloscope random jitter option when performing the jitter tests. When set to "Manual" mode, the actual oscilloscope random jitter value that should be removed when running the jitter tests is specified using the "Scope RJrms" config option. When set to "Auto" mode (*not supported in Offline test mode), the app will need to perform some oscilloscope jitter calibration procedures when running the jitter tests. User will be prompt to disconnect and reconnect the test signal from the scope channel of interest. The actual oscilloscope random jitter value that should be removed when running the jitter tests will automatically be determined by the app. *Note: The "Auto" mode is not supported in Offline test mode. For single-ended DQS or CK input signals, only (CH1,CH3) or (CH2,CH4) signal sources pair is supported for the "Auto" mode in order for the scope 'Differential Mode Channels' feature to be applicable.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	JitterTest_UIWidthCheck	JitterTest_UIWidthCheck	Off, On	Enable/disable the UI width checking option when performing the jitter tests. When set to "On" mode, the maximum allowable UI width in the test signal is specified using the "JitterTest_MaxUIWidthAllowed" config option. The number of acquisition needed to perform the UI width checking routine is specified using the "JitterTest_NumOfAcqToCheck" config option.
Configure	Mask Height of Rhombus Shape Mask	EyeTestCA_MaskHeight	(Accepts user-defined text), 0.100	Identifies the mask height of rhombus shape mask for Eye Diagram tests.
Configure	Mask Height of Rhombus Shape Mask	EyeTest_MaskHeight	(Accepts user-defined text), 0.100	Identifies the mask height of rhombus shape mask for Write Eye Diagram tests.
Configure	Mask Vertical Level Mode	EyeTestCA_MaskVerticalMode	0, 1	Select the method of mask level evaluation for Eye Diagram tests for Command Address.
Configure	Mask Vertical Level Mode	EyeTest_MaskVerticalMode	0, 1	Select the method of mask level evaluation for Write Eye Diagram tests.
Configure	Mask Width of Rhombus Shape Mask (ps)	EyeTestCA_MaskWidth	(Accepts user-defined text), 100	Identifies the mask height of rhombus shape mask for Eye Diagram tests.
Configure	Mask Width of Rhombus Shape Mask (ps)	EyeTest_MaskWidth	(Accepts user-defined text), 100	Identifies the mask height of rhombus shape mask for Write Eye Diagram tests.
Configure	Mask horizontal location mode	EyeTestCA_MaskHorizontalMode	0, 1	Select the method of mask horizontal evaluation for Eye Diagram tests.
Configure	Mask horizontal location mode	EyeTest_MaskHorizontalMode	0, 1	Select the method of mask horizontal evaluation for Write Eye Diagram tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	MaxDutAutoAttempt	MaxDutAutoAttempt	(Accepts user-defined text), 1, 5, 10, 15, 20, 25, 30	Specify the maximum number of attempt to perform the DUT automation procedures when no output signal is detected from the DUT.
Configure	Padding for First DQ Bit	DQPaddingBit	0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Specify the number of DQ bit(s) to pad/skip in a valid Write burst in order to identify the first valid DQ bit in a burst when performing the tDQS2DQ test. For example, if the Padding for First DQ Bit is set to 2, the app will skip 2 UI before performing the test. This config ONLY affects tDQS2DQ test.
Configure	Pause for Debug	PausedForDebug	true, false	[For Internal debugging use ONLY] Select true to pause the application for debug.
Configure	SESTest Scope RJrms (s)	SESTest_ScopeRJrms	(Accepts user-defined text), 200E-15	Specify the actual oscilloscope random jitter value that should be removed when running the stressed eye tests. This is applicable only when the "SES_RemoveScopeRJ_Mode" config option is set to "Manual".
Configure	SESTest Scope RNrms LO (V)	SESTest_ScopeRNrms_LO	(Accepts user-defined text), 50E-6	Specify the actual oscilloscope random noise value that should be removed when running the stressed eye tests. This is applicable only when the "RemoveScopeRN_Mode" config option is set to "Manual".

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	SESTest Scope RNrms L1 (V)	SESTest_ScopeRNrms_L1	(Accepts user-defined text), 50E-6	Specify the actual oscilloscope random noise value that should be removed when running the stressed eye tests. This is applicable only when the "RemoveScopeRN_Mode" config option is set to "Manual".
Configure	SESTest_ApplyDFE_Mode	SESTest_ApplyDFE_Mode	Off, Auto, Manual	Enable/disable the DFE feature option when performing the stressed eye tests. When set to "Auto" mode, the app will automatically determine the DFE settings using the scope 'Auto Set...' feature when running the Stressed Eye tests. When set to "Manual" mode, the actual DFE settings used when running the stressed eye tests is manually specified using the "SESTest_DFE_TapX" config options. *Note: This feature is not applicable when the operation mode of the DQ source signal is set to 'Continuous1010'. It requires the DQ operation mode to be set to the 'DataPattern' option.
Configure	SESTest_BER_Level	SESTest_BER_Level	E6, E7, E8, E9, E10, E11, E12, E13, E14, E15, E16, E17, E18	Specify the BER Level setting to be used when performing the Stressed Eye tests.
Configure	SESTest_DFE_BW_DQ	SESTest_DFE_BW_DQ	(Accepts user-defined text), 3.2e9	Set the bandwidth limit for VGA. *Note: Reference receiver value is 2.4G
Configure	SESTest_DFE_CTLE	SESTest_DFE_CTLE	Off, On	Enable/disable the use of CTLE feature to model the variable gain amplifier (VGA) before the DFE in an actual DDR5 DUT. When this option is enabled, the SESTest_DFE_VGA_Gain config is used to specify the actual DFE_VGA Gain value setting for Stressed Eye test.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	SESTest_DFE_LTarget	SESTest_DFE_LTarget	(Accepts user-defined text), -1	Specify the DFE Lower Target value setting for Stressed Eye test. This option is only applicable when the SESTest_ApplyDFEMode option is enabled in Manual mode.
Configure	SESTest_DFE_SetupOnly_SamplingPoints	SESTest_DFE_SetupOnly_SamplingPoints	(Accepts user-defined text), 2000000, 1000000, 500000, 250000, 100000	Specifies the sampling points to be used when performing the CTLE/DFE setup in Stressed Eye tests.
Configure	SESTest_DFE_Tap1	SESTest_DFE_Tap1	(Accepts user-defined text), -0.015, -0.01, -0.005, 0, 0.005, 0.01, 0.015	This is the Tap1 setting (unitless) for Stressed Eye test. This option is only applicable when the SESTest_ApplyDFEMode option is enabled in Manual mode.
Configure	SESTest_DFE_Tap2	SESTest_DFE_Tap2	(Accepts user-defined text), -0.015, -0.01, -0.005, 0, 0.005, 0.01, 0.015	This is the Tap2 setting (unitless) for Stressed Eye test. This option is only applicable when the SESTest_ApplyDFEMode option is enabled in Manual mode.
Configure	SESTest_DFE_Tap3	SESTest_DFE_Tap3	(Accepts user-defined text), -0.015, -0.01, -0.005, 0, 0.005, 0.01, 0.015	This is the Tap3 setting (unitless) for Stressed Eye test. This option is only applicable when the SESTest_ApplyDFEMode option is enabled in Manual mode.
Configure	SESTest_DFE_Tap4	SESTest_DFE_Tap4	(Accepts user-defined text), -0.015, -0.01, -0.005, 0, 0.005, 0.01, 0.015	This is the Tap4 setting (unitless) for Stressed Eye test. This option is only applicable when the SESTest_ApplyDFEMode option is enabled in Manual mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	SESTest_DFE_UTarget	SESTest_DFE_UTarget	(Accepts user-defined text), 1	Specify the DFE Upper Target value setting for Stressed Eye test. This option is only applicable when the SESTest_ApplyDFEMode option is enabled in Manual mode.
Configure	SESTest_DFE_VGA_Gain	SESTest_DFE_VGA_Gain	(Accepts user-defined text), -6, -4, -2, 0, 2, 4, 6	Specify the DFE_VGA Gain value setting for Stressed Eye test. This option is only applicable when the SESTest_ApplyDFEMode option and the SESTest_DFE_CTLE option is enabled.
Configure	SESTest_ISI_Filter_Lag	SESTest_ISI_Filter_Lag	(Accepts user-defined text), 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10	Specify the ISI Filter Lag value that will be used when the "PatLen_Method" config is set to "Arbitrary".
Configure	SESTest_ISI_Filter_Lead	SESTest_ISI_Filter_Lead	(Accepts user-defined text), 0, -1, -2, -3, -4	Specify the ISI Filter Lead value that will be used when the "PatLen_Method" config is set to "Arbitrary".
Configure	SESTest_NumOfUI_PerAcq	SESTest_NumOfUI_PerAcq	(Accepts user-defined text), 1000000, 100000, 500000	Set the minimum number of UI per acquisition value when performing the Stressed Eye test.
Configure	SESTest_NumOfUI_PerTest	SESTest_NumOfUI_PerTest	(Accepts user-defined text), 1000000, 5000000, 10000000, 100000000, 1000000000	Set the minimum number of UI per test value when performing the Stressed Eye test. The application may make multiple acquisition when performing the actual Stressed Eye measurement algorithm. The minimum number of UI in each acquisition is specified in the SESTest_NumOfUI_PerAcq config option.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	SESTest_PatLen_Method	SESTest_PatLen_Method	Periodic, Arbitrary	Specify the Pattern Length Method setting to be used when performing the Stressed Eye tests. The "Periodic" method is typically used on waveforms with repeating data patterns. The repeating data pattern will be automatically detected in the app. The "Arbitrary" method should be used on waveforms with non-repeating patterns. When using the "Arbitrary" method, the ISI Filter values specified in the ISI_Filter_Lead and ISI_Filter_Lag config options will be used.
Configure	SESTest_RJ_Method	SESTest_RJ_Method	SPECTRAL, BOTH	Specify the RJ Method setting to be used when performing the Stressed Eye Width tests.
Configure	SESTest_RJ_Report	SESTest_RJ_Report	SPECTRAL, TAILFIT	This option is applicable ONLY when the SESTest_RJ_Method is set to Spectral & Tail Fit. It specifies the report method used when performing the Stressed Eye Width tests.
Configure	SESTest_RN_Method	SESTest_RN_Method	SPECTRAL, BOTH	Specify the RN Method setting to be used when performing the Stressed Eye Height tests.
Configure	SESTest_RN_Report	SESTest_RN_Report	SPECTRAL, TAILFIT	This option is applicable ONLY when the SESTest_RN_Method is set to Spectral & Tail Fit. It specifies the report method used when performing the Stressed Eye Height tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	SESTest_RemoveScopeRJ_Mode	SESTest_RemoveScopeRJ_Mode	Off, Manual, Auto	Enable/disable the removal of oscilloscope random jitter option when performing the stressed eye tests. When set to "Manual" mode, the actual oscilloscope random jitter value that should be removed when running the stressed eye tests is specified using the "SES Scope RJrms" config option. When set to "Auto" mode (*not supported in Offline test mode), the app will need to perform some oscilloscope jitter calibration procedures when running the jitter tests. User will be prompt to disconnect and reconnect the test signal from the scope channel of interest. The actual oscilloscope random jitter value that should be removed when running the stressed eye tests will automatically be determined by the app.
Configure	SESTest_RemoveScopeRN_Mode	SESTest_RemoveScopeRN_Mode	Off, Manual	Enable/disable the removal of oscilloscope random noise option when performing the stressed eye tests. When set to "Manual" mode, the actual oscilloscope random noise value that should be removed when running the stressed eye tests is specified using the "Scope RNrms Level0" and "Scope RNrms Level1" config options.
Configure	Sampling Rate (GSa/s)	SamplingRate	MAX, 80, 40, 20, 10, 128, 64, 32, 16, 8	Specifies the sampling rate for the signal acquisition of all tests. If the selected sampling rate is higher than oscilloscope capability, application will set maximum sampling rate during runtime.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Screenshot Mode	ScreenshotMode	1, 0	Used to enable or disable screenshot capture for applicable measurement in the test report. Setting it to "Off" may improve the overall test execution time. However, the related measurement screenshot information will not be available for that particular test trial run.
Configure	ShowSimGraphDisplay	ShowISimGraphDisplay	0, 1	This option enables/disables the display of the InfiniiSim graph during test run when the InfiniiSim feature is used. This option is ONLY used for internal debugging purposes.
Configure	TcIVW	WindowWidth_tCIVW	(Accepts user-defined text), 0.200	This value multiplied with the Clock Rate is the width of the mask to measure tCIVW. The value set here is applicable ONLY when the "TcIVW/VcIVW setup mode" option is set to "Custom".
Configure	TcIVW/VcIVW setup mode	TcIVW_VcIVW_SetupMode	0, 1	In "Auto" setup mode, the application will automatically configure the TcIVW and VcIVW settings based on the DDR data rate used. In "Custom" setup mode, the application will use the "TcIVW" and "VcIVW (V)" configuration options as the TcIVW and VcIVW settings.
Configure	Total CA Waveform	EyeDiagramCANumOfWave	(Accepts user-defined text), 500, 1000, 1500, 3000, 5000	Select or type the total number of waveforms required for CA eye diagram tests.
Configure	Total Waveform	EyeDiagramNumOfWave	(Accepts user-defined text), 500, 1000, 1500, 3000, 5000	Select or type the total number of waveforms with valid burst data to be processed for the eye diagram generated in the tTx_DQS2DQ test.
Configure	Tpkg_Delay_CA	Tpkg_Delay_CA	0, 1, 2	Select the Tpkg_Delay_CA that may affect the test limits of the CA (Command Address) tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Trigger timeout (ms)	TimeOut_Compliance	(Accepts user-defined text), 5000, 10000, 15000, 20000, 30000, 60000, 120000, 600000	Identifies the trigger time out value. This represent the time taken to terminate the test when the scope unable to trigger any signal.
Configure	User Defined Display Vertical Offset (V)	ClockJitter_UserDefinedDisplayVerticalOffset	(Accepts user-defined text), 0	Identifies the display vertical offset value of the Clock signal for the Clock Jitter Tests.
Configure	User Defined Display Vertical Scale (V)	ClockJitter_UserDefinedDisplayVerticalScale	(Accepts user-defined text), 1.0	Identifies the display vertical scale value of the Clock signal for the Clock Jitter Tests.
Configure	User Defined HW Vertical Offset (V)	ClockJitter_UserDefinedHWVerticalOffset	(Accepts user-defined text), 0	Identifies the acquisition HW vertical offset value of the Clock signal for the Clock Jitter Tests.
Configure	User Defined HW Vertical Scale (V)	ClockJitter_UserDefinedHWVerticalScale	(Accepts user-defined text), 1.0	Identifies the acquisition HW vertical scale value of the Clock signal for the Clock Jitter Tests.
Configure	User Defined Mask Horizontal Location (ps)	EyeTestCA_UserDefinedMaskHorizontalLocation	(Accepts user-defined text), 0	Identifies the user defined mask horizontal location for Eye Diagram tests. The value set here is applicable ONLY when the "Mask horizontal location Mode" option is set to "User defined mask horizontal location".
Configure	User Defined Mask Horizontal Location (ps)	EyeTest_UserDefinedMaskHorizontalLocation	(Accepts user-defined text), 0	Identifies the user defined mask horizontal location for Write Eye Diagram tests. The value set here is applicable ONLY when the "Mask horizontal location Mode" option is set to "User defined mask horizontal location".
Configure	User Defined Mask Vertical Level	EyeTestCA_UserDefinedMaskVerticalLevel	(Accepts user-defined text), 0.800	Identifies the user defined mask vertical level for Eye Diagram tests. The value set here is applicable ONLY when the "Mask Vertical Level Mode" option is set to "User defined Mask Vertical Level".

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	User Defined Mask Vertical Level	EyeTest_UserDefinedMaskVerticalLevel	(Accepts user-defined text), 0.800	Identifies the user defined mask vertical level for Write Eye Diagram tests. The value set here is applicable ONLY when the "Mask Vertical Level Mode" option is set to "User defined Mask Vertical Level".
Configure	User Defined Vcent (CA)	UserDefinedVcent_CA	(Accepts user-defined text), 0.800	Identifies the user defined Vcent level for shifting of the tCIVW/vCIVW mask. The value set here is applicable ONLY when the "Vcent Evaluation Mode (CA)" option is set to "User defined Vcent".
Configure	User Defined Vcent (DQ)	UserDefinedVcent_DQ	(Accepts user-defined text), 0.800	Identifies the user defined Vcent level for shifting of the tDIVW/vDIVW mask. The value set here is applicable ONLY when the "Vcent Evaluation Mode" option is set to "User defined Vcent".
Configure	VcIVW (V)	InputThreshold_VcIVW	(Accepts user-defined text), 0.140, 0.130	Identifies the voltage CA input valid window. The value set here is applicable ONLY when the "TcIVW/VcIVW setup mode" option is set to "Custom".
Configure	Vcent Evaluation Mode (CA)	VcentEvalMode_CA	0, 1	Select the method of Vcent level evaluation for shifting of the tCIVW/vCIVW mask.
Configure	Vcent Evaluation Mode (DQ)	VcentEvalMode_DQ	0, 1	Select the method of Vcent level evaluation for shifting of the tDIVW/vDIVW mask.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Vertical Scaling Mode	ClockJitter_VerticalScaling Mode	0, 1	Select the method of vertical scaling for Clock Jitter Tests. If the "Auto" option was chosen, the vertical scale and offset level of the oscilloscope display value will be set Automatic. While, the option "User defined" was selected, the vertical scale and offset level of the oscilloscope display will be set by the values input by user.
Configure	VrefDQ_ThresMode	ContData_VrefDQ_ThresMode	UseVrefDQ_Cfg, Auto	Set the method for determining the VrefDQ measurement threshold that is applicable to the DQ Jitter tests and Stressed Eye tests. When set to "Auto" mode, the app will automatically determine the VrefDQ measurement threshold. When set to "UseVrefDQ_Cfg" mode, the VrefDQ measurement threshold is manually specified using the "VrefDQ" config option under the Measurement Setup window.
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 <= 99	Specify N using the 'Minimum required margin %' control.
Set Up	App Test Mode	optAppTestMode	Live Signal, Offline	Set the application test mode. Available options include [Live Signal] or [Offline]
Set Up	Burst Identification Method	optBurstIDMethod	DQS-DQ Phase Difference, Rd or Wrt ONLY, CA4 + Burst Latency	Set Burst Identification Method

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	CK (Diff) operation mode	optSignalSrcOpMode_CK_Diff	Burst, Continuous	Set the operation mode of the CK (Diff) source signal. Available options include [Burst] or [Continuous]
Set Up	CK_SE_HighV	InputThreshold_CLK_SE_High	(Accepts user-defined text), 0.7	CK_SE_HighV
Set Up	CK_SE_LowV	InputThreshold_CLK_SE_Low	(Accepts user-defined text), 0.5	CK_SE_LowV
Set Up	CmdBatchScriptType (Debug ONLY)	optDutAutoSetup_CmdBatchScriptType	DQS_JitterTests, DQ_JitterTests, StressedEyeTests, DebugOnly_Data, DebugOnly_1010	Set the CmdBatchFile that will be used when running the 'Apply DCA Setting' procedures.
Set Up	DCA AutoOptiType	optDCAAutoOptiType	Basic, Advance, MultiStep	Set the DCA auto-optimization type. Available options include [Basic] or [Advance]
Set Up	DCA Mode for DQ	optDCAMode_DQ	Disable, Auto, Manual	Set the DCA mode for DQ signal. Available options include [Disable], [Auto] or [Manual]
Set Up	DCA Mode for DQS	optDCAMode_DQS	Disable, Auto, Manual	Set the DCA mode for DQS signal. Available options include [Disable], [Auto] or [Manual]
Set Up	DCAOffset_DQ	optDCAOffset_DQ	(Accepts user-defined text)	DCA Offset list for DQ
Set Up	DCAOffset_DQS	optDCAOffset_DQS	(Accepts user-defined text)	DCA Offset list for DQS
Set Up	DCAstep_AutoList_DQS_IBCLK	optDCAStep_AutoList_DQS_IBclk	(Accepts user-defined text)	DCA Step iteration list for DQS IBCLK
Set Up	DCAstep_AutoList_DQS_QBCLK	optDCAStep_AutoList_DQS_QBclk	(Accepts user-defined text)	DCA Step iteration list for DQS QBCLK
Set Up	DCAstep_AutoList_DQS_QCLK	optDCAStep_AutoList_DQS_Qclk	(Accepts user-defined text)	DCA Step iteration list for DQS QCLK
Set Up	DCAstep_AutoList_DQ_IBCLK	optDCAStep_AutoList_DQ_IBclk	(Accepts user-defined text)	DCA Step iteration list for DQ IBCLK
Set Up	DCAstep_AutoList_DQ_QBCLK	optDCAStep_AutoList_DQ_QBclk	(Accepts user-defined text)	DCA Step iteration list for DQ QBCLK

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	DCAstep_AutoList_DQ_QCLK	optDCAstep_AutoList_DQ_Qclk	(Accepts user-defined text)	DCA Step iteration list for DQ QCLK
Set Up	DCAstep_DQS_IBCLK	optDCAstep_Manual_DQS_IBclk	-7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7	DCA Step for DQS IBCLK
Set Up	DCAstep_DQS_QBCLK	optDCAstep_Manual_DQS_QBclk	-7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7	DCA Step for DQS QBCLK
Set Up	DCAstep_DQS_QBCLK	optDCAstep_Manual_DQS_Qclk	-7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7	DCA Step for DQS QBCLK
Set Up	DCAstep_DQ_IBCLK	optDCAstep_Manual_DQ_IBclk	-3, -2, -1, 0, 1, 2, 3	DCA Step for DQ IBCLK
Set Up	DCAstep_DQ_QBCLK	optDCAstep_Manual_DQ_QBclk	-3, -2, -1, 0, 1, 2, 3	DCA Step for DQ QBCLK
Set Up	DCAstep_DQ_QBCLK	optDCAstep_Manual_DQ_Qclk	-3, -2, -1, 0, 1, 2, 3	DCA Step for DQ QBCLK
Set Up	DDR Data Rate - User Defined	optDDRDataRate	(Accepts user-defined text), 3200, 3600, 4000, 4400, 4800, 5200, 5600, 6000, 6400	Set DDR Data Rate based on user defined values.
Set Up	DDR5 READ Postamble Mode	optReadBurstPostambleMode	DDR5_0.5tCK, DDR5_1.5tCK	Set the expected Read Postamble Mode.
Set Up	DDR5 READ Preamble Mode	optReadBurstPreambleMode	DDR5_1tCK, DDR5_2tCK_0010, DDR5_2tCK_1110, DDR5_3tCK, DDR5_4tCK	Set the expected Read Preamble Mode.
Set Up	DDR5 Signal Source	optDDRSigalSrc	CK (Diff), DQS (Diff), DQ, CA, CK (Diff), DQS (Diff), DQ, DQS (Diff), DQ, CA, DQS (Diff), DQ, CK (Diff), CA, CK (Diff), DQS (Diff), CK_t (Single Ended), CK_c (Single Ended), DQS_t (Single Ended), DQS_c (Single Ended), DQ, DQS_t (Single Ended), DQS_c (Single Ended), DQ, CA	Set DDR5 Signal Source.
Set Up	DDR5 WRITE Postamble Mode	optWriteBurstPostambleMode	DDR5_0.5tCK, DDR5_1.5tCK	Set the expected Write Postamble Mode.
Set Up	DDR5 WRITE Preamble Mode	optWriteBurstPreambleMode	DDR5_2tCK, DDR5_3tCK, DDR5_4tCK	Set the expected Write Preamble Mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	DIMM Channel	optDutAutoSetup_DimmChan	Channel A, Channel B	Set the DIMM Channel. Available options include [Channel A] or [Channel B]
Set Up	DIMM Rank	optDutAutoSetup_DimmRank	Rank0, Rank1	Set the DIMM Rank. Available options include [Rank0] or [Rank1]
Set Up	DQ	optDutAutoSetup_DQNum	DQL0, DQL1, DQL2, DQL3, DQL4, DQL5, DQL6, DQL7, DQU0, DQU1, DQU2, DQU3, DQU4, DQU5, DQU6, DQU7	Set the DQ to test. This affect the local DCA mode registers setting.
Set Up	DQ operation mode	optSignalSrcOpMode_DQ	DataPattern, Continuous1010	Set the operation mode of the DQ source signal. Available options include [DataPattern] or [Continuous1010]
Set Up	DQS (Diff) operation mode	optSignalSrcOpMode_DQS_Diff	Burst, Continuous	Set the operation mode of the DQS (Diff) source signal. Available options include [Burst] or [Continuous]
Set Up	DQS_SE_HighV	InputThreshold_DQS_SE_High	(Accepts user-defined text), 0.7	DQS_SE_HighV
Set Up	DQS_SE_LowV	InputThreshold_DQS_SE_Low	(Accepts user-defined text), 0.5	DQS_SE_LowV
Set Up	DUT Automation	optDutAutomation	0.0, 1.0	Enable or disable the DUT Automation mode.
Set Up	Data source for CA live signal	optSignalSrc_Live_CA	Channel1, Channel2, Channel3, Channel4	Data source for CA live signal
Set Up	Data source for CA offline waveform	optSignalSrc_Offline_CA	(Accepts user-defined text)	Data source for CA offline waveform
Set Up	Data source for CK (Diff) live signal	optSignalSrc_Live_CK_Diff	Channel1, Channel2, Channel3, Channel4	Data source for CK (Diff) live signal
Set Up	Data source for CK (Diff) offline waveform	optSignalSrc_Offline_CK_Diff	(Accepts user-defined text)	Data source for CK (Diff) offline waveform
Set Up	Data source for CK_c live signal	optSignalSrc_Live_CK_c_SE	Channel1, Channel2, Channel3, Channel4	Data source for CK_c live signal

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	Data source for CK_c offline waveform	optSignalSrc_Offline_CK_c_SE	(Accepts user-defined text)	Data source for CK_c offline waveform
Set Up	Data source for CK_t live signal	optSignalSrc_Live_CK_t_SE	Channel1, Channel2, Channel3, Channel4	Data source for CK_t live signal
Set Up	Data source for CK_t offline waveform	optSignalSrc_Offline_CK_t_SE	(Accepts user-defined text)	Data source for CK_t offline waveform
Set Up	Data source for DQ live signal	optSignalSrc_Live_DQ	Channel1, Channel2, Channel3, Channel4	Data source for DQ live signal
Set Up	Data source for DQ offline waveform	optSignalSrc_Offline_DQ	(Accepts user-defined text)	Data source for DQ offline waveform
Set Up	Data source for DQS (Diff) live signal	optSignalSrc_Live_DQS_Diff	Channel1, Channel2, Channel3, Channel4	Data source for DQS (Diff) live signal
Set Up	Data source for DQS (Diff) offline waveform	optSignalSrc_Offline_DQS_Diff	(Accepts user-defined text)	Data source for DQS (Diff) offline waveform
Set Up	Data source for DQS_c live signal	optSignalSrc_Live_DQS_c_SE	Channel1, Channel2, Channel3, Channel4	Data source for DQS_c live signal
Set Up	Data source for DQS_c offline waveform	optSignalSrc_Offline_DQS_c_SE	(Accepts user-defined text)	Data source for DQS_c offline waveform
Set Up	Data source for DQS_t live signal	optSignalSrc_Live_DQS_t_SE	Channel1, Channel2, Channel3, Channel4	Data source for DQS_t live signal
Set Up	Data source for DQS_t offline waveform	optSignalSrc_Offline_DQS_t_SE	(Accepts user-defined text)	Data source for DQS_t offline waveform
Set Up	DoInitDimm_Debug	optDutAutoSetup_DoInitDimm	0.0, 1.0	Enable / disable the full DUT initialization when running the 'Apply DCA Setting' procedures.
Set Up	Expected Burst Data	optExpectedBurstDataType	ReadAndWrite, ReadOnly, WriteOnly	Set the expected burst data type available in test signal.
Set Up	InfiniiSim Threshold Mode	optThreshSetMode_ISim	Auto, Manual	InfiniiSim Threshold Mode
Set Up	Lower Threshold [ISim] for CA	optLowerThres_InfiniiSim_CA	(Accepts user-defined text), 0.5	Lower Threshold [ISim] for CA

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	Lower Threshold [ISim] for CK (Diff)	optLowerThres_InfiniiSim_C K_Diff	(Accepts user-defined text), -0.3, -0.2, -0.15	Lower Threshold [ISim] for CK (Diff)
Set Up	Lower Threshold [ISim] for CK_c (Single Ended)	optLowerThres_InfiniiSim_C K_c_SE	(Accepts user-defined text), 0.5	Lower Threshold [ISim] for CK_c (Single Ended)
Set Up	Lower Threshold [ISim] for CK_t (Single Ended)	optLowerThres_InfiniiSim_C K_t_SE	(Accepts user-defined text), 0.5	Lower Threshold [ISim] for CK_t (Single Ended)
Set Up	Lower Threshold [ISim] for DQ	optLowerThres_InfiniiSim_D Q	(Accepts user-defined text), 0.5	Lower Threshold [ISim] for DQ
Set Up	Lower Threshold [ISim] for DQS (Diff)	optLowerThres_InfiniiSim_D QS_Diff	(Accepts user-defined text), -0.3, -0.2, -0.15	Lower Threshold [ISim] for DQS (Diff)
Set Up	Lower Threshold [ISim] for DQS_c (Single Ended)	optLowerThres_InfiniiSim_D QS_c_SE	(Accepts user-defined text), 0.5	Lower Threshold [ISim] for DQS_c (Single Ended)
Set Up	Lower Threshold [ISim] for DQS_t (Single Ended)	optLowerThres_InfiniiSim_D QS_t_SE	(Accepts user-defined text), 0.5	Lower Threshold [ISim] for DQS_t (Single Ended)
Set Up	Lower Threshold for CA	optLowerThres_CA	(Accepts user-defined text), 0.5	Lower Threshold for CA
Set Up	Lower Threshold for CK (Diff)	optLowerThres_CK_Diff	(Accepts user-defined text), -0.3, -0.2, -0.15	Lower Threshold for CK (Diff)
Set Up	Lower Threshold for CK_c (Single Ended)	optLowerThres_CK_c_SE	(Accepts user-defined text), 0.5	Lower Threshold for CK_c (Single Ended)
Set Up	Lower Threshold for CK_t (Single Ended)	optLowerThres_CK_t_SE	(Accepts user-defined text), 0.5	Lower Threshold for CK_t (Single Ended)
Set Up	Lower Threshold for DQ	optLowerThres_DQ	(Accepts user-defined text), 0.5	Lower Threshold for DQ
Set Up	Lower Threshold for DQS (Diff)	optLowerThres_DQS_Diff	(Accepts user-defined text), -0.3, -0.2, -0.15	Lower Threshold for DQS (Diff)
Set Up	Lower Threshold for DQS_c (Single Ended)	optLowerThres_DQS_c_SE	(Accepts user-defined text), 0.5	Lower Threshold for DQS_c (Single Ended)

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	Lower Threshold for DQS_t (Single Ended)	optLowerThres_DQS_t_SE	(Accepts user-defined text), 0.5	Lower Threshold for DQS_t (Single Ended)
Set Up	Middle Threshold [ISim] for CA	optMiddleThres_InfiniiSim_CA	(Accepts user-defined text), 0.6	Middle Threshold [ISim] for CA
Set Up	Middle Threshold [ISim] for CK (Diff)	optMiddleThres_InfiniiSim_CK_Diff	(Accepts user-defined text), 0	Middle Threshold [ISim] for CK (Diff)
Set Up	Middle Threshold [ISim] for CK_c (Single Ended)	optMiddleThres_InfiniiSim_CK_c_SE	(Accepts user-defined text), 0.6	Middle Threshold [ISim] for CK_c (Single Ended)
Set Up	Middle Threshold [ISim] for CK_t (Single Ended)	optMiddleThres_InfiniiSim_CK_t_SE	(Accepts user-defined text), 0.6	Middle Threshold [ISim] for CK_t (Single Ended)
Set Up	Middle Threshold [ISim] for DQ	optMiddleThres_InfiniiSim_DQ	(Accepts user-defined text), 0.6	Middle Threshold [ISim] for DQ
Set Up	Middle Threshold [ISim] for DQS (Diff)	optMiddleThres_InfiniiSim_DQS_Diff	(Accepts user-defined text), 0	Middle Threshold [ISim] for DQS (Diff)
Set Up	Middle Threshold [ISim] for DQS_c (Single Ended)	optMiddleThres_InfiniiSim_DQS_c_SE	(Accepts user-defined text), 0.6	Middle Threshold [ISim] for DQS_c (Single Ended)
Set Up	Middle Threshold [ISim] for DQS_t (Single Ended)	optMiddleThres_InfiniiSim_DQS_t_SE	(Accepts user-defined text), 0.6	Middle Threshold [ISim] for DQS_t (Single Ended)
Set Up	Middle Threshold for CA	optMiddleThres_CA	(Accepts user-defined text), 0.6	Middle Threshold for CA
Set Up	Middle Threshold for CK (Diff)	optMiddleThres_CK_Diff	(Accepts user-defined text), 0	Middle Threshold for CK (Diff)
Set Up	Middle Threshold for CK_c (Single Ended)	optMiddleThres_CK_c_SE	(Accepts user-defined text), 0.6	Middle Threshold for CK_c (Single Ended)
Set Up	Middle Threshold for CK_t (Single Ended)	optMiddleThres_CK_t_SE	(Accepts user-defined text), 0.6	Middle Threshold for CK_t (Single Ended)
Set Up	Middle Threshold for DQ	optMiddleThres_DQ	(Accepts user-defined text), 0.6	Middle Threshold for DQ
Set Up	Middle Threshold for DQS (Diff)	optMiddleThres_DQS_Diff	(Accepts user-defined text), 0	Middle Threshold for DQS (Diff)

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	Middle Threshold for DQS_c (Single Ended)	optMiddleThres_DQS_c_SE	(Accepts user-defined text), 0.6	Middle Threshold for DQS_c (Single Ended)
Set Up	Middle Threshold for DQS_t (Single Ended)	optMiddleThres_DQS_t_SE	(Accepts user-defined text), 0.6	Middle Threshold for DQS_t (Single Ended)
Set Up	MultiStep_DQS_Base_IBCLK	optMultiStep_DQS_Base_IBclk	-7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7	Initial Base DCA setting for DQS IBCLK
Set Up	MultiStep_DQS_Base_QBCLK	optMultiStep_DQS_Base_QBclk	-7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7	Initial Base DCA setting for DQS QBCLK
Set Up	MultiStep_DQS_Base_QBCLK	optMultiStep_DQ_Base_QBclk	-3, -2, -1, 0, 1, 2, 3	Initial Base DCA setting for DQS QBCLK
Set Up	MultiStep_DQS_Base_QCLK	optMultiStep_DQS_Base_Qclk	-7, -6, -5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5, 6, 7	Initial Base DCA setting for DQS QCLK
Set Up	MultiStep_DQ_Base_IBCLK	optMultiStep_DQ_Base_IBclk	-3, -2, -1, 0, 1, 2, 3	Initial Base DCA setting for DQ IBCLK
Set Up	MultiStep_DQ_Base_QBCLK	optMultiStep_DQ_Base_Qbclk	-3, -2, -1, 0, 1, 2, 3	Initial Base DCA setting for DQ QBCLK
Set Up	Read Burst Latency - User Defined	optReadBurstLatency	(Accepts user-defined text), 26, 28, 30	Set read burst latency value.
Set Up	Read Burst Preamble and Postamble Lower threshold - User Defined	optReadBurst_Vsw1	(Accepts user-defined text), -0.24	Set read burst Preamble and Postamble Lower threshold.
Set Up	Read Burst Preamble and Postamble Upper threshold - User Defined	optReadBurst_Vsw2	(Accepts user-defined text), -0.06	Set read burst Preamble and Postamble Upper threshold.
Set Up	Upper Threshold [ISim] for CA	optUpperThres_InfiniiSim_CA	(Accepts user-defined text), 0.7	Upper Threshold [ISim] for CA
Set Up	Upper Threshold [ISim] for CK (Diff)	optUpperThres_InfiniiSim_CK_Diff	(Accepts user-defined text), 0.3, 0.2, 0.15	Upper Threshold [ISim] for CK (Diff)
Set Up	Upper Threshold [ISim] for CK_c (Single Ended)	optUpperThres_InfiniiSim_CK_c_SE	(Accepts user-defined text), 0.7	Upper Threshold [ISim] for CK_c (Single Ended)

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	Upper Threshold [ISim] for CK_t (Single Ended)	optUpperThres_InfiniiSim_CK_t_SE	(Accepts user-defined text), 0.7	Upper Threshold [ISim] for CK_t (Single Ended)
Set Up	Upper Threshold [ISim] for DQ	optUpperThres_InfiniiSim_DQ	(Accepts user-defined text), 0.7	Upper Threshold [ISim] for DQ
Set Up	Upper Threshold [ISim] for DQS (Diff)	optUpperThres_InfiniiSim_DQS_Diff	(Accepts user-defined text), 0.3, 0.2, 0.15	Upper Threshold [ISim] for DQS (Diff)
Set Up	Upper Threshold [ISim] for DQS_c (Single Ended)	optUpperThres_InfiniiSim_DQS_c_SE	(Accepts user-defined text), 0.7	Upper Threshold [ISim] for DQS_c (Single Ended)
Set Up	Upper Threshold [ISim] for DQS_t (Single Ended)	optUpperThres_InfiniiSim_DQS_t_SE	(Accepts user-defined text), 0.7	Upper Threshold [ISim] for DQS_t (Single Ended)
Set Up	Upper Threshold for CA	optUpperThres_CA	(Accepts user-defined text), 0.7	Upper Threshold for CA
Set Up	Upper Threshold for CK (Diff)	optUpperThres_CK_Diff	(Accepts user-defined text), 0.3, 0.2, 0.15	Upper Threshold for CK (Diff)
Set Up	Upper Threshold for CK_c (Single Ended)	optUpperThres_CK_c_SE	(Accepts user-defined text), 0.7	Upper Threshold for CK_c (Single Ended)
Set Up	Upper Threshold for CK_t (Single Ended)	optUpperThres_CK_t_SE	(Accepts user-defined text), 0.7	Upper Threshold for CK_t (Single Ended)
Set Up	Upper Threshold for DQ	optUpperThres_DQ	(Accepts user-defined text), 0.7	Upper Threshold for DQ
Set Up	Upper Threshold for DQS (Diff)	optUpperThres_DQS_Diff	(Accepts user-defined text), 0.3, 0.2, 0.15	Upper Threshold for DQS (Diff)
Set Up	Upper Threshold for DQS_c (Single Ended)	optUpperThres_DQS_c_SE	(Accepts user-defined text), 0.7	Upper Threshold for DQS_c (Single Ended)
Set Up	Upper Threshold for DQS_t (Single Ended)	optUpperThres_DQS_t_SE	(Accepts user-defined text), 0.7	Upper Threshold for DQS_t (Single Ended)
Set Up	User Comment	txtOverallUserComment	(Accepts user-defined text)	This option allow user to key in related test detail.
Set Up	VDD	InputVDD	(Accepts user-defined text), 1.1	VDD

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	VDDQ	InputVDDQ	(Accepts user-defined text), 1.1	VDDQ
Set Up	VIH_CA_AC	InputThreshold_Vih_ac_CA	(Accepts user-defined text), 0.7	VIH_CA_AC
Set Up	VIH_CA_DC	InputThreshold_Vih_dc_CA	(Accepts user-defined text), 0.7	VIH_CA_DC
Set Up	VIH_DQ_AC	InputThreshold_Vih_ac_DQ	(Accepts user-defined text), 0.7	VIH_DQ_AC
Set Up	VIH_DQ_DC	InputThreshold_Vih_dc_DQ	(Accepts user-defined text), 0.7	VIH_DQ_DC
Set Up	VIHdiff_CK	VIHdiff_ac_CK	(Accepts user-defined text), 0.3	VIHdiff_CK
Set Up	VIHdiff_DQS	VIHdiff_ac_DQS	(Accepts user-defined text), 0.3	VIHdiff_DQS
Set Up	VIL_CA_AC	InputThreshold_Vil_ac_CA	(Accepts user-defined text), 0.5	VIL_CA_AC
Set Up	VIL_CA_DC	InputThreshold_Vil_dc_CA	(Accepts user-defined text), 0.5	VIL_CA_DC
Set Up	VIL_DQ_AC	InputThreshold_Vil_ac_DQ	(Accepts user-defined text), 0.5	VIL_DQ_AC
Set Up	VIL_DQ_DC	InputThreshold_Vil_dc_DQ	(Accepts user-defined text), 0.5	VIL_DQ_DC
Set Up	VILdiff_CK	VILdiff_ac_CK	(Accepts user-defined text), -0.3	VILdiff_CK
Set Up	VILdiff_DQS	VILdiff_ac_DQS	(Accepts user-defined text), -0.3	VILdiff_DQS
Set Up	VOH_DQ_AC	InputThreshold_Voh_ac	(Accepts user-defined text), 0.7	VOH_DQ_AC
Set Up	VOH_DQ_DC	InputThreshold_Voh_dc	(Accepts user-defined text), 0.7	VOH_DQ_DC
Set Up	VOHdiff_DQS	VOHdiff_ac_DQS	(Accepts user-defined text), 0.3	VOHdiff_DQS
Set Up	VOL_DQ_AC	InputThreshold_Vol_ac	(Accepts user-defined text), 0.5	VOL_DQ_AC
Set Up	VOL_DQ_DC	InputThreshold_Vol_dc	(Accepts user-defined text), 0.5	VOL_DQ_DC

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	VOLdiff_DQS	VOLdiff_ac_DQS	(Accepts user-defined text), -0.3	VOLdiff_DQS
Set Up	VTT	InputRefV_VTT	(Accepts user-defined text), 0.6	VTT
Set Up	VrefCA	InputRefV_VrefCA	(Accepts user-defined text), 0.6	VrefCA
Set Up	VrefDQ	InputRefV_VrefDQ	(Accepts user-defined text), 0.6	VrefDQ
Set Up	Write Burst Latency - User Defined	optWriteBurstLatency	(Accepts user-defined text), 20, 22, 24	Set write burst latency value.
Set Up	Write Burst Preamble and Postamble Lower threshold - User Defined	optWriteBurst_Vsw1	(Accepts user-defined text), -0.24	Set write burst Preamble and Postamble Lower threshold.
Set Up	Write Burst Preamble and Postamble Upper threshold - User Defined	optWriteBurst_Vsw2	(Accepts user-defined text), -0.06	Set write burst Preamble and Postamble Upper threshold.

2 Configuration Variables and Values

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. Listed at the end, you may also find:

- Deprecated IDs and their replacements.
- Macro IDs which may be used to select multiple related tests at the same time.

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
CA VIH(ac)	12010	CA VIH(ac) voltage must meet or exceed VIH at any time in the UI (with not time requirement above VIH)
Eye Diagram for Command Address	12050	Eye Diagram for Command Address
Overshoot amplitude (CK_c)	11050	Peak amplitude of AC overshoot
Overshoot amplitude (CK_t)	11000	Peak amplitude of AC overshoot
Overshoot area above VDD Abs Max(CK_c)	11060	OverShoot area above VDD Absolute Max
Overshoot area above VDD Abs Max(CK_t)	11010	OverShoot area above VDD Absolute Max
Overshoot area between VDD and VDD Abs Max(CK_c)	11070	OverShoot area between VDD and VDD Absolute Max
Overshoot area between VDD and VDD Abs Max(CK_t)	11020	OverShoot area between VDD and VDD Absolute Max
SRIN_cIVW	12020	Measures rising and falling slew rates over vCIVW
SRIdiffF_CK	10105	CK Differential Input Slew Rate for Clock Falling
SRIdiffF_DQS	13005	Differential Input Falling Slew Rate
SRIdiffR_CK	10100	CK Differential Input Slew Rate for Clock Rising
SRIdiffR_DQS	13000	Differential Input Rising Slew Rate
SRQdiffF	13505	Differential Output Falling Slew Rate
SRQdiffR	13500	Differential Output Rising Slew Rate
SRQseF	13545	Output signal minimum falling slew rate
SRQseR	13540	Output signal minimum rising slew rate
TxEH_DQ_SES_1UI	18010	Eye Height specified at the transmitter with a skew between DQ and DQS of 1UI
TxEH_DQ_SES_2UI	18020	Eye Height specified at the transmitter with a skew between DQ and DQS of 2UI

Table 4 Test IDs and Names (continued)

Name	TestID	Description
TxEH_DQ_SES_3UI	18030	Eye Height specified at the transmitter with a skew between DQ and DQS of 3UI
TxEH_DQ_SES_4UI	18040	Eye Height specified at the transmitter with a skew between DQ and DQS of 4UI
TxEH_DQ_SES_5UI	18050	Eye Height specified at the transmitter with a skew between DQ and DQS of 5UI
TxEW_DQ_SES_1UI	18015	Eye Width specified at the transmitter with a skew between DQ and DQS of 1UI
TxEW_DQ_SES_2UI	18025	Eye Width specified at the transmitter with a skew between DQ and DQS of 2UI
TxEW_DQ_SES_3UI	18035	Eye Width specified at the transmitter with a skew between DQ and DQS of 3UI
TxEW_DQ_SES_4UI	18045	Eye Width specified at the transmitter with a skew between DQ and DQS of 4UI
TxEW_DQ_SES_5UI	18055	Eye Width specified at the transmitter with a skew between DQ and DQS of 5UI
Undershoot amplitude (CK_c)	11055	Peak amplitude of AC undershoot
Undershoot amplitude (CK_t)	11005	Peak amplitude of AC undershoot
Undershoot area below VSS(CK_c)	11065	UnderShoot area below VSS
Undershoot area below VSS(CK_t)	11015	UnderShoot area below VSS
VIHdiff.CK(AC)	10000	Differential AC Input Logic High Voltage
VIHdiff.CK(DC)	10005	Differential DC Input Logic High Voltage
VILdiff.CK(AC)	10010	Differential AC Input Logic Low Voltage
VILdiff.CK(DC)	10015	Differential DC Input Logic Low Voltage
VOH(AC)	13520	AC Output Logic High
VOH(DC)	13525	DC Output Logic High
VOHdiff(AC)	13510	Differential AC Output Logic High Voltage
VOL(AC)	13530	AC Output Logic Low
VOL(DC)	13535	DC Output Logic Low
VOLdiff(AC)	13515	Differential AC Output Logic Low Voltage
Vix_CK_ratio	11100	Clock Cross Point Voltage Ratio Test
Vix_DQS_ratio	19100	DQS Cross Point Voltage Ratio Test
Write Eye Diagram	14090	Eye Diagram for write burst.

Table 4 Test IDs and Names (continued)

Name	TestID	Description
tCIPW	12030	Command Address Input Pulse Width
tCIVW Margin	12000	Command Address Valid Window Margin
tCK	15000	DRAM Reference clock frequency
tCK_10UI_Dj_NoBUJ	15410	Dj pp value of 10-UI Jitter without BUJ
tCK_10UI_Rj_NoBUJ	15310	Rj RMS value of 10-UI Jitter without BUJ
tCK_10UI_Tj_NoBUJ	15510	Tj value of 10-UI Jitter without BUJ
tCK_11UI_Dj_NoBUJ	15411	Dj pp value of 11-UI Jitter without BUJ
tCK_11UI_Rj_NoBUJ	15311	Rj RMS value of 11-UI Jitter without BUJ
tCK_11UI_Tj_NoBUJ	15511	Tj value of 11-UI Jitter without BUJ
tCK_12UI_Dj_NoBUJ	15412	Dj pp value of 12-UI Jitter without BUJ
tCK_12UI_Rj_NoBUJ	15312	Rj RMS value of 12-UI Jitter without BUJ
tCK_12UI_Tj_NoBUJ	15512	Tj value of 12-UI Jitter without BUJ
tCK_13UI_Dj_NoBUJ	15413	Dj pp value of 13-UI Jitter without BUJ
tCK_13UI_Rj_NoBUJ	15313	Rj RMS value of 13-UI Jitter without BUJ
tCK_13UI_Tj_NoBUJ	15513	Tj value of 13-UI Jitter without BUJ
tCK_14UI_Dj_NoBUJ	15414	Dj pp value of 14-UI Jitter without BUJ
tCK_14UI_Rj_NoBUJ	15314	Rj RMS value of 14-UI Jitter without BUJ
tCK_14UI_Tj_NoBUJ	15514	Tj value of 14-UI Jitter without BUJ
tCK_15UI_Dj_NoBUJ	15415	Dj pp value of 15-UI Jitter without BUJ
tCK_15UI_Rj_NoBUJ	15315	Rj RMS value of 15-UI Jitter without BUJ
tCK_15UI_Tj_NoBUJ	15515	Tj value of 15-UI Jitter without BUJ
tCK_16UI_Dj_NoBUJ	15416	Dj pp value of 16-UI Jitter without BUJ
tCK_16UI_Rj_NoBUJ	15316	Rj RMS value of 16-UI Jitter without BUJ
tCK_16UI_Tj_NoBUJ	15516	Tj value of 16-UI Jitter without BUJ
tCK_17UI_Dj_NoBUJ	15417	Dj pp value of 17-UI Jitter without BUJ
tCK_17UI_Rj_NoBUJ	15317	Rj RMS value of 17-UI Jitter without BUJ
tCK_17UI_Tj_NoBUJ	15517	Tj value of 17-UI Jitter without BUJ
tCK_18UI_Dj_NoBUJ	15418	Dj pp value of 18-UI Jitter without BUJ
tCK_18UI_Rj_NoBUJ	15318	Rj RMS value of 18-UI Jitter without BUJ
tCK_18UI_Tj_NoBUJ	15518	Tj value of 18-UI Jitter without BUJ
tCK_19UI_Dj_NoBUJ	15419	Dj pp value of 19-UI Jitter without BUJ

Table 4 Test IDs and Names (continued)

Name	TestID	Description
tCK_19UI_Rj_NoBUJ	15319	Rj RMS value of 19-UI Jitter without BUJ
tCK_19UI_Tj_NoBUJ	15519	Tj value of 19-UI Jitter without BUJ
tCK_1UI_Dj_NoBUJ	15401	Dj pp value of 1-UI Jitter without BUJ
tCK_1UI_Rj_NoBUJ	15301	Rj RMS value of 1-UI Jitter without BUJ
tCK_1UI_Tj_NoBUJ	15501	Tj value of 1-UI Jitter without BUJ
tCK_20UI_Dj_NoBUJ	15420	Dj pp value of 20-UI Jitter without BUJ
tCK_20UI_Rj_NoBUJ	15320	Rj RMS value of 20-UI Jitter without BUJ
tCK_20UI_Tj_NoBUJ	15520	Tj value of 20-UI Jitter without BUJ
tCK_21UI_Dj_NoBUJ	15421	Dj pp value of 21-UI Jitter without BUJ
tCK_21UI_Rj_NoBUJ	15321	Rj RMS value of 21-UI Jitter without BUJ
tCK_21UI_Tj_NoBUJ	15521	Tj value of 21-UI Jitter without BUJ
tCK_22UI_Dj_NoBUJ	15422	Dj pp value of 22-UI Jitter without BUJ
tCK_22UI_Rj_NoBUJ	15322	Rj RMS value of 22-UI Jitter without BUJ
tCK_22UI_Tj_NoBUJ	15522	Tj value of 22-UI Jitter without BUJ
tCK_23UI_Dj_NoBUJ	15423	Dj pp value of 23-UI Jitter without BUJ
tCK_23UI_Rj_NoBUJ	15323	Rj RMS value of 23-UI Jitter without BUJ
tCK_23UI_Tj_NoBUJ	15523	Tj value of 23-UI Jitter without BUJ
tCK_24UI_Dj_NoBUJ	15424	Dj pp value of 24-UI Jitter without BUJ
tCK_24UI_Rj_NoBUJ	15324	Rj RMS value of 24-UI Jitter without BUJ
tCK_24UI_Tj_NoBUJ	15524	Tj value of 24-UI Jitter without BUJ
tCK_25UI_Dj_NoBUJ	15425	Dj pp value of 25-UI Jitter without BUJ
tCK_25UI_Rj_NoBUJ	15325	Rj RMS value of 25-UI Jitter without BUJ
tCK_25UI_Tj_NoBUJ	15525	Tj value of 25-UI Jitter without BUJ
tCK_26UI_Dj_NoBUJ	15426	Dj pp value of 26-UI Jitter without BUJ
tCK_26UI_Rj_NoBUJ	15326	Rj RMS value of 26-UI Jitter without BUJ
tCK_26UI_Tj_NoBUJ	15526	Tj value of 26-UI Jitter without BUJ
tCK_27UI_Dj_NoBUJ	15427	Dj pp value of 27-UI Jitter without BUJ
tCK_27UI_Rj_NoBUJ	15327	Rj RMS value of 27-UI Jitter without BUJ
tCK_27UI_Tj_NoBUJ	15527	Tj value of 27-UI Jitter without BUJ
tCK_28UI_Dj_NoBUJ	15428	Dj pp value of 28-UI Jitter without BUJ
tCK_28UI_Rj_NoBUJ	15328	Rj RMS value of 28-UI Jitter without BUJ

Table 4 Test IDs and Names (continued)

Name	TestID	Description
tCK_28UI_Tj_NoBUJ	15528	Tj value of 28-UI Jitter without BUJ
tCK_29UI_Dj_NoBUJ	15429	Dj pp value of 29-UI Jitter without BUJ
tCK_29UI_Rj_NoBUJ	15329	Rj RMS value of 29-UI Jitter without BUJ
tCK_29UI_Tj_NoBUJ	15529	Tj value of 29-UI Jitter without BUJ
tCK_2UI_Dj_NoBUJ	15402	Dj pp value of 2-UI Jitter without BUJ
tCK_2UI_Rj_NoBUJ	15302	Rj RMS value of 2-UI Jitter without BUJ
tCK_2UI_Tj_NoBUJ	15502	Tj value of 2-UI Jitter without BUJ
tCK_30UI_Dj_NoBUJ	15430	Dj pp value of 30-UI Jitter without BUJ
tCK_30UI_Rj_NoBUJ	15330	Rj RMS value of 30-UI Jitter without BUJ
tCK_30UI_Tj_NoBUJ	15530	Tj value of 30-UI Jitter without BUJ
tCK_3UI_Dj_NoBUJ	15403	Dj pp value of 3-UI Jitter without BUJ
tCK_3UI_Rj_NoBUJ	15303	Rj RMS value of 3-UI Jitter without BUJ
tCK_3UI_Tj_NoBUJ	15503	Tj value of 3-UI Jitter without BUJ
tCK_4UI_Dj_NoBUJ	15404	Dj pp value of 4-UI Jitter without BUJ
tCK_4UI_Rj_NoBUJ	15304	Rj RMS value of 4-UI Jitter without BUJ
tCK_4UI_Tj_NoBUJ	15504	Tj value of 4-UI Jitter without BUJ
tCK_5UI_Dj_NoBUJ	15405	Dj pp value of 5-UI Jitter without BUJ
tCK_5UI_Rj_NoBUJ	15305	Rj RMS value of 5-UI Jitter without BUJ
tCK_5UI_Tj_NoBUJ	15505	Tj value of 5-UI Jitter without BUJ
tCK_6UI_Dj_NoBUJ	15406	Dj pp value of 6-UI Jitter without BUJ
tCK_6UI_Rj_NoBUJ	15306	Rj RMS value of 6-UI Jitter without BUJ
tCK_6UI_Tj_NoBUJ	15506	Tj value of 6-UI Jitter without BUJ
tCK_7UI_Dj_NoBUJ	15407	Dj pp value of 7-UI Jitter without BUJ
tCK_7UI_Rj_NoBUJ	15307	Rj RMS value of 7-UI Jitter without BUJ
tCK_7UI_Tj_NoBUJ	15507	Tj value of 7-UI Jitter without BUJ
tCK_8UI_Dj_NoBUJ	15408	Dj pp value of 8-UI Jitter without BUJ
tCK_8UI_Rj_NoBUJ	15308	Rj RMS value of 8-UI Jitter without BUJ
tCK_8UI_Tj_NoBUJ	15508	Tj value of 8-UI Jitter without BUJ
tCK_9UI_Dj_NoBUJ	15409	Dj pp value of 9-UI Jitter without BUJ
tCK_9UI_Rj_NoBUJ	15309	Rj RMS value of 9-UI Jitter without BUJ
tCK_9UI_Tj_NoBUJ	15509	Tj value of 9-UI Jitter without BUJ

Table 4 Test IDs and Names (continued)

Name	TestID	Description
tCK_Duty_UI_Error	15020	Duty Cycle Error
tCK_Duty_UI_High	15010	Duty Cycle (High)
tCK_Duty_UI_Low	15015	Duty Cycle (Low)
tDQS2DQ	14050	Delay of any data lane relative to the DQS_t/DQS_c crossing.
tDQSCK	14500	DQS output access time from CK,/CK
tDQSH_pre	14060	Write preamble
tDQSL2PRE	14081	DQS_t, DQS_c differential initial low pulse width during WRITE Preamble (2tCK Preamble)
tDQSL3PRE	14082	DQS_t, DQS_c differential initial low pulse width during WRITE Preamble (3tCK Preamble)
tDQSL4PRE	14083	DQS_t, DQS_c differential initial low pulse width during WRITE Preamble (4tCK Preamble)
tDQSL_pre	14070	Write preamble
tDSH	14010	DQS falling edge hold time from CK
tDSS	14000	DQS falling edge to CK setup time
tHZDQS	14520	DQS high-impedance time from CK,/CK
tLZDQS	14510	DQS low-impedance time from CK,/CK
tRPRE	14530	Read preamble
tRPST	14540	Read postamble
tTX_DQS_1UI_Dj_NoBUJ	16401	Dj pp value of 1-UI Jitter without BUJ
tTX_DQS_1UI_Rj_NoBUJ	16301	Rj RMS value of 1-UI Jitter without BUJ
tTX_DQS_2UI_Dj_NoBUJ	16402	Dj pp value of 2-UI Jitter without BUJ
tTX_DQS_2UI_Rj_NoBUJ	16302	Rj RMS value of 2-UI Jitter without BUJ
tTX_DQS_3UI_Dj_NoBUJ	16403	Dj pp value of 3-UI Jitter without BUJ
tTX_DQS_3UI_Rj_NoBUJ	16303	Rj RMS value of 3-UI Jitter without BUJ
tTX_DQS_4UI_Dj_NoBUJ	16404	Dj pp value of 4-UI Jitter without BUJ
tTX_DQS_4UI_Rj_NoBUJ	16304	Rj RMS value of 4-UI Jitter without BUJ
tTX_DQ_1UI_Dj_NoBUJ	17401	Dj pp value of 1-UI Jitter without BUJ
tTX_DQ_1UI_Rj_NoBUJ	17301	Rj RMS value of 1-UI Jitter without BUJ
tTX_DQ_2UI_Dj_NoBUJ	17402	Dj pp value of 2-UI Jitter without BUJ
tTX_DQ_2UI_Rj_NoBUJ	17302	Rj RMS value of 2-UI Jitter without BUJ
tTX_DQ_3UI_Dj_NoBUJ	17403	Dj pp value of 3-UI Jitter without BUJ

Table 4 Test IDs and Names (continued)

Name	TestID	Description
tTX_DQ_3UI_Rj_NoBUJ	17303	Rj RMS value of 3-UI Jitter without BUJ
tTX_DQ_4UI_Dj_NoBUJ	17404	Dj pp value of 4-UI Jitter without BUJ
tTX_DQ_4UI_Rj_NoBUJ	17304	Rj RMS value of 4-UI Jitter without BUJ
tTx_DQS_Duty_UI	16000	Strobe Duty Cycle Error
tTx_DQ_Duty_UI	17000	DQ Duty Cycle Error
tWPRE_2	14031	Write preamble
tWPRE_3	14032	Write preamble
tWPRE_4	14033	Write preamble
tWPST_0_5	14041	Write postamble
tWPST_1_5	14042	Write postamble
vCIVW Margin	12005	vCIVW Margin

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.

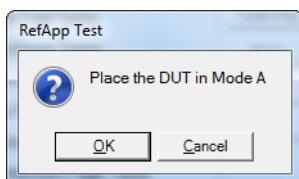
Table 6 Instrument Names

Instrument Name	Description
Infiniium	The primary oscilloscope

5 Message IDs

During the normal course of operation, an application displays multiple message prompts. The application's remote interface exposes a callback capability which enables remote clients to receive the text found in the prompt and to programmatically select the desired response (OK, Cancel, etc.). In order to determine which message is being received, the remote program could parse the message and look for key words. However, because message text is subject to change, a more reliable approach is to use the "message ID" that is attached to the more frequently-seen messages. The following table shows the IDs of the messages that this application may prompt during nominal operation.

For example, if the application may display the following prompt:



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

Message	ID	Responses	Usage
DUT mode message	313AEE2F-9EF0-476f-A2EB-29A5C7DE686F	OK=action completed and proceed, Cancel = abort test	App

- Message – A summary of the message in the prompt.
- ID – A unique code that will never change for this prompt, even if the message text changes (assuming the underlying purpose is maintained).
- Responses – The buttons on the prompt and their actions.
- Usage – The scope of the message:
 - "Common" – This message/ID may be used by other apps.

- "App" – This message/ID is unique to this app.
- "<testID>" – This message/ID is unique to this test ID.

A remote client would then structure the code in its message callback handler as shown below to manage message identification:

```
private static void OnSimpleMessage(object sender, MessageEventArgs e)
{
    if (e.ID == "313AEE2F-9EF0-476f-A2EB-29A5C7DE686F")
    {
        // Add code here to set the DUT in Mode A

        e.Response = DialogResult.OK;
    }
}
```

Here are actual message IDs used by this application:

NOTE

The file, "MessageInfo.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 7 Message IDs

Message	ID	Responses	Usage
Acq Limit: Can't determine minimum bandwidth	25A86458-151E-413D-B890-FC30CFD5ECAA	OK	Instrument
Activating limit will conflict with existing results	31A39751-6019-41de-89DF-59DB239DF978	OK=delete conflicting results, Cancel=cancel activation	Instrument
Already running tests	022467B0-6E08-40eb-B4D4-BBB018FBFBC7	OK	Instrument
App startup aborted	C2B67F67-E5D5-4845-8B63-443781223010	OK	Instrument
Can't set memory depth	FFFF1129-BD83-4318-993E-64C94033CEC4	OK=skip step and continue, Cancel=abort test	Instrument
Channel Setup: Unknown scope channel	CDE944EB-F440-4CB1-AFDC-7596461BCD86	OK	Instrument
Compliance/Debug mode change	9C72A970-8D7D-4b37-9787-48AEEA5DC3F1	OK=change mode, Cancel=abort action	Instrument
Confirmation Required	37437505-160C-4cc8-BA06-093C12994C1E	OK=continue, Cancel=abort test	Instrument
Connection change	879629E6-78FA-4a87-B247-A9DB4F0D7330	Abort=abort run, Retry=connection changed - continue run, Ignore=connection not changed - continue run	Instrument

Table 7 Message IDs (continued)

Message	ID	Responses	Usage
Debug pause (messages vary)	50B66A97-A6A9-413f-8329-76DFAC492FD6	OK=resume, Cancel=abort run	Instrument
End of run summary	602F9866-F975-42b7-842C-D8447E5E3FCB	OK	Instrument
End of run summary (test aborted)	124580E4-4486-42d4-B908-C6D0FB2AEE93	OK	Instrument
Error during CSV file generation	C88B1C64-8334-4b15-8727-81F5E2BA2ED4	OK	Instrument
Error during app exit	81112706-F720-4787-81D3-B22A9B692B41	OK	Instrument
Expected signal not found	86C74779-322E-4585-A07A-26A2C8FAAC84	Abort=abort test, Retry=retry failed action, Ignore=skip failed step	Instrument
Expected signal not found	7957D5B8-E62D-4224-A7DD-70361E816A43	Retry=retry failed action, Cancel=abort test	Instrument
InfiniiSim: Not available because scope default prevented	B8461A2C-9F5F-4AF3-94C1-DF77080D517A	OK	Instrument
InfiniiSim: Scope doesn't support settings found in project	C9BC2205-8041-448b-AF31-CF602183E989	OK	Instrument
InfiniiSim: Unknown scope channel	4E5ECAf6-867C-47B3-982D-5F07E2090703	OK	Instrument
Measurement Server no Measure Workers declared	54A8428D-8E22-4286-AC88-7495821ABA77	OK=retry, Cancel=abort run	Instrument
No test selected	B5D233AD-9EB4-4ac2-A443-A30A13643978	OK	Instrument
PrecisionProbe and InfiniiSim controllers turned off after config change	B4477006-D6D1-4375-9FF7-D8177FFC1BF9	OK	Instrument
PrecisionProbe/PrecisionCable: Not available because scope default prevented	6E60C9F8-8FBF-419C-B70A-B666FBDE3677	OK	Instrument
PrecisionProbe/PrecisionCable: Scope doesn't support settings found in project	2FC3B6FA-E28C-4700-9F46-4ABBA86A0D90	OK	Instrument
PrecisionProbe/PrecisionCable: Switch Controller is enabled	22F46DA8-89AE-4370-A57C-571DCF5BB87E	OK	Instrument
PrecisionProbe/PrecisionCable: Unknown scope channel	6788685B-9E88-47E6-BAE6-862F5BF3C9BA	OK	Instrument

Table 7 Message IDs (continued)

Message	ID	Responses	Usage
Project loaded as read-only (reason)	98C785F8-D24F-4758-A18D-1CCE61F25371	OK	Instrument
Project loaded with errors	58AD7A02-1E63-4d77-BC6C-6EF3E37AAD5B	OK	Instrument
Project not loaded	B2615E9C-5ED7-4db7-AEAF-2BC25C62B656	OK	Instrument
Project save failed (unauthorized access)	89DCC194-6254-4902-AE63-B7CCD12C8B2A	OK	Instrument
Run paused	FE2CF871-6D4A-4080-8FF9-770075590D9F	OK=resume, Cancel=abort run	Instrument
Setting change requires result deletion	8732A3AB-142C-47e5-86EA-DB737F415DDE	OK=delete results; Cancel=abort change	Instrument
Store mode change requires result deletion	884CDFDE-605E-4d04-B8FD-9B181E7FA468	OK=delete results, Cancel=abort change	Instrument
Switch Matrix controller turned off after config change	FC95EBAA-F33F-4eae-90BB-6A6A8F16E2DF	OK	Instrument
Switch Matrix: Auto mode unavailable after config change	6E5589DC-E073-4818-9E8A-782A75898475	OK	Instrument
Switch Matrix: Auto mode unavailable for model, all settings will be reset	F78BD2E2-BF29-42e0-98F8-23B6CE565B08	OK=go auto do reset, Cancel=abort action	Instrument
Switch Matrix: Confirm Auto mode	D5E1A12E-6218-4416-8451-5F9415D924BF	OK=go auto, Cancel=stay manual	Instrument
Switch Matrix: Obsolete items in settings discarded	0C45BD20-E0C2-481e-A3B6-9C1A26C2103A	OK	Instrument
Switch Matrix: Reconnect drivers	047FE44F-B251-49fa-B3C7-5590317230CD	Yes=use saved addresses, No=prompt for new addresses, Cancel=reset all settings	Instrument
Switch Matrix: Remove all InfiniiSim settings	C5560182-73BE-4901-941E-3DAEC9F07B33	OK=remove, Cancel=abort action	Instrument
Switch Matrix: User cancelled settings load	50F3FB70-AA6B-488e-8CFA-62CDA756F746	OK	Instrument
SwitchMatrix: Correction reset due to application route change	95FEA629-3BE1-4288-BA34-426516018B07	OK=Accept new routing, Cancel=Reset switch matrix settings	Instrument
SwitchMatrix: Instrument already connected to another driver	08556148-4D63-4edd-B894-22916F39849A	OK	Instrument

Table 7 Message IDs (continued)

Message	ID	Responses	Usage
SwitchMatrix: Max num drivers exceeded	7D8994AB-FCC2-4294-87B3-19B972BB6510	OK	Instrument
SwitchMatrix: Reset after drive reconnect fail	CF3E93B6-77FA-4FD7-B656-D286BE1C7C75	OK	Instrument
SwitchMatrix: Reset after drive reconnect fail	D298A4B8-F077-49BE-9CB2-AE6C14FB4705	OK	Instrument
SwitchMatrix: Unexpected multi-SPDT module	2723591D-55A9-44F3-9318-B732995D9427	OK	Instrument
SwitchMatrix: Unknown current switch state	ECE6535B-5C1A-4688-9E45-FB255435CC92	OK	Instrument
SwitchMatrix: Will reset due to requested change	420FCEA9-0FF4-4088-B47A-3189413EA0AD	OK=Allow the reset, Cancel=Abort the original requested change	Instrument
Unknown EEyeLocation parameter	FCA1C61B-D2EA-4671-AD48-9C080A6C6039	OK	Instrument
Upgrade app to open project	794C6148-ADF4-4b24-895D-74D94B76F8AE	OK	Instrument

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