Keysight D9010CPHC MIPI® C-PHY℠ Compliance Application

KEYSIGHT

PROGRAMMER'S REFERENCE

Notices

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CAUTION

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A WARNING notice denotes a hazard. It calls attention to an operating procedure, practice, or the like that, if not correctly performed or adhered to, could result in personal injury or death. Do not proceed beyond a WARNING notice until the indicated conditions are fully understood and met.

In This Book

This book is your guide to programming the Keysight Technologies D9010CPHC MIPI® C-PHY℠ 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 9, Chapter 3, “Test Names and IDs,” starting on page 53, Chapter 4, “Instruments,” starting on page 63, and Chapter 5, “Message IDs,” starting on page 65 provide information specific to programming the D9010CPHC MIPI® C-PHY℠ 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, 4, and 5 for changes.

Contents

1 Introduction to Programming

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 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/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 D9010CPHC MIPI® C-PHY℠ Compliance Application uses Remote Interface Revision 6.21. 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 D9010CPHC MIPI® C-PHY℠ 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
Configure	Acquisition Points[HS Tests] - Burst Mode	HSTestAcqPoints	(Accepts user-defined text), 100E+3, 200E+3, 300E+3, 500E+3, 1E+6, 2E+6	Enter the acquisition points for Burst signal. This config is applicable for all HS Electrical tests and Global Timing tests when "Active Probe(Differential Probe)" probing method is selected except Test 1.2.7 VOD, Test 1.2.8 VOD Mismatch and Test 1.2.9 VOHHS. Set it such that at least one complete cycle of LP to HS transition, HS burst sequence and HS to LP transition are captured within the sampling window. The actual sampling window length when running tests is determined based on this acquisition points value together with the corresponding sampling rate used. Sampling Window = [Acquisition point] / [Sampling Rate] For example: If the acqusition points is set to 1 Mpts and the sampling rate used is 20GSa/s, then the Sampling Window = 50us.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Acquisition Points[HS Tests] - Burst Mode VOD, VOHHS	HSTestVODVOHHSAcqPoints	(Accepts user-defined text), 100E+3, 200E+3, 300E+3	Enter the acquisition points for Burst signal for VOD and VOHHS tests. This config is only applicable for Test 1.2.7 VOD, Test 1.2.8 VOD Mismatch and Test 1.2.9 VOHHS when "Active Probe(Differential Probe)" probing method is selected. Set it such that the LP to HS transition and HS burst sequence in a burst are captured within the sampling window. The actual sampling window length when running tests is determined based on this acquisition points value together with the corresponding sampling rate used. Sampling Window = [Acquisition point] / [Sampling Rate] For example: If the acqusition points is set to 100 kpts and the sampling rate used is 20GSa/s, then the Sampling Window = 5us.
Configure	Acquisition Points[HS Tests] - Continuous Mode	HSTestContinuousAcqPoints	(Accepts user-defined text), 50E+3, 100E+3, 200E+3, 300E+3, 500E+3	Enter the acquisition points for continuous signal. This config is applicable for all HS Electrical tests when "Direct Connect" probing method is selected except Test 1.2.21 HS-TX Eye Diagram. The actual sampling window length when running the HS tests for continuous signal is determined based on this acquisition points value together with the corresponding sampling rate used. Sampling Window = [Acquisition point] / [Sampling Rate] For example: If the acqusition points is set to 100 kpts and the sampling rate used is 20GSa/s, then the Sampling Window = 5us.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Acquisition Points[LP Escape Tests]	LPEscapeTestAcqPoints	1E+6, 2E+6, 5E+6, 8E+6	Enter the acquisition points for all LP Escape tests. Set it such that at least one complete cycle of LP Escape sequence is captured within the sampling window. The actual sampling window length when running all the LP Escape tests is determined based on this acquisition points value together with the corresponding sampling rate used. Sampling Window = [Acquisition point] / [Sampling Rate] For example: If the acqusition points is set to 2Mpts and the sampling rate used is 20GSa/s, then the Sampling Window = 100us.
Configure	Acquisition Points[LP Tests]	LPTestAcqPoints	3.2E+3, 6.4E+3	Enter the acquisition points for all LP tests except LP Escape tests. Set it such that only one transition is captured within the sampling window. The actual sampling window length when running all the LP tests(except LP Escape tests) is determined based on this acquisition points value together with the corresponding sampling rate used. Sampling Window = [Acquisition point] / [Sampling Rate] For example: If the acqusition points is set to 3.2kpts and the sampling rate used is 20GSa/s, then the Sampling Window = 160ns.
Configure	CDR Jitter Position	JitterPosition	1, 2, 3, 4, 5	This config is used to specify the CDR Jitter position. For Example: If CDR Jitter Position = 20%, the CDR edge generated will be shifted within +/-20% of Xincrement from the exact position.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	CDR Positive Pulse Width(UI)	PosPulseRatio	(Accepts user-defined text), 0.5, 0.75	This config is used to specify the positive pulse width of CDR in terms of HS UI width. For Example: If CDR Positive Pulse Width(UI) = 0.75, the CDR waveform will be generated in terms of 0.75UI positive pulse and 0.25UI negative pulse.
Configure	CTLE Iteration Eye Source	CTLEIterationEyeSource	VABC, VAB, VBC, VCA	Specifies the eye source to be used to iterate through CTLE settings to find the optimal CTLE setting. This config is only applicable when user selected "Separated 3 eye diagram" value for "Eye Diagram Type" selection in Setup tab. This config is only applicable for Test 1.2.21 HS-TX Eye Diagram (VAB)[CTLE], Test 1.2.21 HS-TX Eye Diagram (VBC)[CTLE] and Test 1.2.21 HS-TX Eye Diagram (VCA)[CTLE].
Configure	CTLE Optimization Criterion	CTLEOptimizationCriterion	Eye Width, Eye Height, Eye Area	Specify the CTLE Optimization Criterion used to determine the optimal CTLE setting among all CTLE setting stated in CTLE Setting File. When the "Eye Width" is selected, the optimal CTLE setting will be determined based on the largest eye width. When the "Eye Height" is selected, the optimal CTLE setting will be determined based on the largest eye height. When the "Eye Area" is selected, the optimal CTLE setting will be determined based on the largest eye area where Eye Area = π x (Eye Height/2) x (Eye Width/2) By default, the option of "Eye Area" will be used. This config is applicable for 1.2.21 HS-TX Eye Diagram and 1.2.22 HS-TX UI Jitter Peak tests only.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	CTLE Setting File	CTLESettingFile	(Accepts user-defined text), StandardChannelCTLESettingFile, ShortChannelCTLESettingFile, LongChannelCTLESettingFile	Specify the CTLE Setting file to be used when performing test. This config is applicable for 1.2.21 HS-TX Eye Diagram and 1.2.22 HS-TX UI Jitter Peak tests only.
Configure	CdrCPHY Hysteresis Threshold(V)	CdrCPHY_HysThresh	(Accepts user-defined text), 10e-3, 40e-3, 100e-3	This config is used to specify the hysteresis value when finding edges' position on single-ended signal and differential signal using "CdrCPHY" User-Defined Function for Burst signal.
Configure	CdrCPHY Timeout [ms]	CdrCPHY_UDF_Timeout	(Accepts user-defined text), 1000000, 300000, 150000, 100000, 10000	Specify the timeout setting used for CdrCPHY UDF to generate CDR waveform data. This option is specify as a whole number in mili-seconds (does not accept decimal point values) with a minimum of 1000 ms.
Configure	Export Tested Waveform Data	RawDataExport	non, all, bin, wfm	Specifies whether to export waveform data that used in the test. Selecting to export will cause the tests take slightly longer time to complete.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Eye Diagram Display - Horizontal Center Position(UI)	EyeDiagramCenterPos_VOD_VOHHS	0, 0.5	This config is used to determine how the eye diagram is displayed on the screen. The C-PHY eye pattern is a triggered eye where the right side of the eye is aligned at a trigger point. The trigger point is the first zero crossing of any of the three differential waveforms (A minus B, B minus C, and C minus A) that occur at each UI boundary. By default, this value is set to 0.5UI, hence the eye will be centered on the display by shifting the trigger point 0.5UI to the right. If 0UI option is selected, the trigger point will be centered on the display. This config is only applicable for 1.2.7 HS-TX Differential Voltages(VOD), 1.2.9 HS-TX Single-Ended Output High Voltages(VOHHS) and 1.2.21 HS-TX Eye Diagram tests.
Configure	Eye Height [Eye Window Start]	EyeHeightWindowStart	(Accepts user-defined text), 50, 65	Specifies the starting point of the eye window's height. Based on user selected "CTLE Optimization Criterion" setting, the eye height measurement will be used to find the optimal CTLE setting. By default,this value is set to 65%.
Configure	Eye Height [Eye Window Stop]	EyeHeightWindowStop	(Accepts user-defined text), 50, 75	Specifies the ending point of the eye window's height. Based on user selected "CTLE Optimization Criterion" setting, the eye height measurement will be used to find the optimal CTLE setting. By default,this value is set to 75%.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	HS Differential Hysteresis[T3-PREPARE]	HSDifferentialHysteresis_T3PREPARE	(Accepts user-defined text), 0.020	This config is used to determine the hysteresis level when finding the end point of T3_PREPARE Duration. This config is useful to avoid glitch problem when finding end point of T3_PREPARE Duration using the threshold specified in "HS Differential Threshold[T3-PREPARE, TREOT]" configurable option. This config is only applicable to Test 1.2.2 T3-PREPARE Duration and Test 1.2.17 TREOT.
Configure	HS Differential Threshold[T3-POST]	HSDifferentialThreshold_T3POST	(Accepts user-defined text), 0.040, 0.070, 0.120	This config is used determine the end point of T3-POST. This config is only applicable to Test 1.2.16 T3-POST Duration.
Configure	HS Differential Threshold[T3-PREPARE, TREOT]	HSDifferentialThreshold_T3PREPARE_TREOT	(Accepts user-defined text), 0.040, 0.048, 0.070	This config is used determine the end point of T3_PREPARE Duration and start point of TREOT. This config is only applicable to Test 1.2.2 T3-PREPARE Duration and Test 1.2.17 TREOT.
Configure	HS Differential Threshold[THS-EXIT]	HSDifferentialThreshold_THSEXIT	(Accepts user-defined text), 0.040, 0.070	This config is used determine the start point of THS-EXIT. The default value is 70mV for CTS v1.0, 40mV for CTS v1.1 and 40mV for CTS v2.0. This config is only applicable to Test 1.2.18 THS-EXIT Value.
Configure	HS Single Ended Threshold	HSSingleEndedThreshold	(Accepts user-defined text), 0.225, 0.23, 0.25	This is the voltage level that will be used to identify the edges of single-ended HS signal. The default value of HS threshold is the expected Vcptx value. The C-PHY specification recommends 0.225-0.250V. This option only affects HS tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	HS Single Ended Threshold - LVHS	HSSingleEndedThresholdLVHS	(Accepts user-defined text), 0.150, 0.200, 0.255	This is the voltage level that will be used to identify the edges of single-ended HS signal in LVHS mode. The default value of HS threshold is the expected Vcptx value. The C-PHY specification recommends 0.150-0.255V. This option only affects HS tests in LVHS mode.
Configure	HS Symbol Rate Check	HSDataRateCheck	1, 0	Enable this setting to perform HS symbol rate verification when running the HS tests to ensure the measured HS Symbol Rate is within (HS Symbol Rate +/-25%) entered by user in Set Up tab. Select "Disable" to skip the HS symbol rate verification process. This option is applicable for all HS tests except Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT Value.
Configure	HSBurstStart Check	CdrCPHY_HSBurstStart_Check	1, 0	Enable this setting to perform additional checking using CPHY VC single-ended signal's LP falling edge when searching the starting location of HS burst data. Use the "VC LP Falling Edge Threshold" config to specify the threshold value used to locate the position of CPHY VC single-ended signal's LP falling edge next to the CPHY VA single-ended signal's LP falling edge at LP001 region. This config is enabled to support testing with improper terminated data signal. Disabled this feature for time efficiency.
Configure	High Threshold [Window Trigger]	WindowTriggerHighThreshold	(Accepts user-defined text), 0.6	High trigger level used.
Configure	Histogram Result	HistogramMeasResult	MODE, MEAN	Select the histogram statistical result to be used in VOL and VOH tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	InfiniiSim Method	InfiniiSimMethod	ChannelInfiniiSim, FunctionInfiniiSim	Specify the InfiniiSim method to be used when performing test. This config is applicable for 1.2.21 HS-TX Eye Diagram only.
Configure	Initial Mask Position for Trigger Points(UI)	InitialMaskPosition	(Accepts user-defined text), 0, 0.1	This config is used to determine initial mask position. By default, this value is set to "0UI" where the right most point of the eye mask will be alligned at the trigger point. If "0.1UI" option is selected, the right most point of the eye mask will be alligned at the position of 0.1UI on the left from the trigger point. The eye mask will then be moved horizontally to the left from the trigger point by increment of "Moving Mask Unit" value until a position where there's no mask hits or maximum of 0.2UI from the trigger point. Configure the "Moving Mask Unit" value using "Moving Mask Unit(UI)" configuration option. This config is only applicable for 1.2.21 HS-TX Eye Diagram tests. This config is only applicable if user selected "Specification" for "Mask Type" configuration option.
Configure	LP Data Rate	LPDataRate	(Accepts user-defined text), 10E+6	Specify the Low Power Mode Data Rate. This config will be used to calculate the zone's horizontal length for zone triggering when running all LP Escape Mode tests. The default value is 10Mbps. This config is applicable to all LP Escape Mode tests only.
Configure	LP Observations	NumLPElectricalTestObservation	(Accepts user-defined text), 10	Number of LP measurement instances to be observed.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	LP Trigger Threshold	LPTriggerThreshold	(Accepts user-defined text), 0.55	Trigger level for LP edges, set it such that it will not trigger wrongly on HS. The C-PHY specification recommends 0.550-0.740.
Configure	LP-000 To LP-111 Transition Effect Duration(s)	LP000ToLP111TransitionEffectDuration	(Accepts user-defined text), 0, 10e-9, 35e-9	This config is used to specify the value of LP-000 To LP-111 Transition Effect Duration which is useful to avoid glitch problem for TREOT and THS-EXIT measurement. Any transition on the Data Lane in this time interval will be ignored when finding last payload data bit of HS transmission burst. The default value is set to 0s. For example: If this time interval is 10e-9s, any transition within 10e-9s prior to LP-000 to LP-111 edge position found at LP Trigger Threshold will be ignored.
Configure	Low Threshold [Window Trigger]	WindowTriggerLowThreshold	(Accepts user-defined text), -0.1	Low trigger level used.
Configure	Lower Threshold[tR, tF](V)	HSTransTimeLowerThreshold	(Accepts user-defined text), -0.058	Identifies the lower threshold for rise/fall time measurement. This config is only applicable to Test 1.2.14 HS-TX Rise Time (tR) and Test 1.2.15 HS-TX Fall Time (tF).
Configure	Manual Vertical Max voltage level	MaxVoltageLevel	(Accepts user-defined text), 1.50	Determine the max voltage level for each channel. This value will be observed only when Signal Scaling Mode is MANUAL. The C-PHY specification for VOH recommends 0.95 - 1.30V. This value should be greater than VOH to allow some headroom. Default value is 1.50V.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Manual Vertical Min voltage level	MinVoltageLevel	(Accepts user-defined text), -0.40	Determine the min voltage level for each channel. This value will be observed only when Signal Scaling Mode is MANUAL. The C-PHY specification for VOL recommends -0.05 - 0.05V. This value should be greater than VOL to allow some headroom. Default value is -0.40V.
Configure	Mask	TxMaskBERType	Original(1E-12), Prorated(1E-6)	This option is used to specify the mask to be used when performing test. When the "Original(1E-12)" is selected, the mask from the C-PHY specification which is based on BER 1E-12 will be used. The mask violation must be 0 hit to be considered as PASS. When the "Prorated(1E-6)" is selected, the prorated mask from the C-PHY CTS which is based on BER 1E-6 will be used. The mask violation must be equal or less than 1 hit to be considered as PASS. This config will only be observed if "Mask Type" option is set to "Specification". This config is only applicable for 1.2.21 HS-TX Eye Diagram tests.
Configure	Mask File Path	TxEyeMaskFilePath	(Accepts user-defined text), None	This option is used specify the path of the mask template file to be used when performing test. This config will only be observed if "Mask Type" option is set to "User Defined". This config is only applicable for 1.2.21 HS-TX Eye Diagram tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Mask Shifting - Number of UI	MaskShiftingNoOfUI	(Accepts user-defined text), 3E+3, 5E+3, 10E+3	For 1.2.21 HS-TX Eye Diagram tests, the mask shifting will be performed where the eye mask will be moved horizontally to left from the trigger point by increment of "Moving Mask Unit" value until a position where there's no mask hits or maximum of 0.2UI from the trigger point. For each increment value of "Moving Mask Unit" value, new eye mask will be generated and signal will be acquired to check if there's any mask hits. This config is used to determine the total number of UI to be acquired to perform mask violation checking during mask shifting. By default, this value is set to "3000" where mask test will be executed with at least 3kUI to check the mask violation before shifting the mask to a new position. This config is only applicable for 1.2.21 HS-TX Eye Diagram tests. This config is only applicable if user selected "Specification" for "Mask Type" configuration option.
Configure	Mask Type	TxEyeMaskType	Specification, User Defined	This option is used to specify the mask type to be used when performing test. When the "Specification" is selected, the mask template from the D-PHY specification will be used. When the "User Defined" is selected, the user defined mask template will be used. This config is only applicable for 1.2.21 HS-TX Eye Diagram tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Maximum Trip-level Threshold	MaxTripLevelThreshold	(Accepts user-defined text), 0.790	Specify the maximum trip-level threshold used for pulse width and period measurement for Exclusive-OR Clock. The default value is 790mV. This config is only applicable to Test 1.1.6 LP-TX Pulse Width of Exclusive-OR Clock(TLP-PULSE-TX) and Test 1.1.7 LP-TX Period of Exclusive-OR Clock (TLP-PER-TX).
Configure	Minimum Trip-level Threshold	MinTripLevelThreshold	(Accepts user-defined text), 0.500	Specify the minimum trip-level threshold used for pulse width and period measurement for Exclusive-OR Clock. he default value is 500mV. This config is only applicable to Test 1.1.6 LP-TX Pulse Width of Exclusive-OR Clock(TLP-PULSE-TX) and Test 1.1.7 LP-TX Period of Exclusive-OR Clock (TLP-PER-TX).
Configure	Minimum VA LP-High State Length	MinVALPHighStateLength	(Accepts user-defined text), 500e-9, 1.50e-6	Specify the minimum VA LP-High State Length which will be used for Window triggering in Test 1.2.17 30%-85% Post-EoT Rise Tme(TREOT) and Test 1.2.18 THS-EXIT Value tests. The default value is 500ns. This config is only applicable to Test 1.2.17 30%-85% Post-EoT Rise Tme(TREOT) and Test 1.2.18 THS-EXIT Value tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Minimum Valid HS Length	MinValidHSLength	(Accepts user-defined text), 500e-9, 1.50e-6	Specify the minimum valid HS Length which will be used for Window triggering for all HS tests. Set this value to avoid extremely short HS stream. The default value is 1.5 µs. This config is applicable to all HS Tests except Test 1.2.17 30%-85% Post-EoT Rise Tme(TREOT) and Test 1.2.18 THS-EXIT Value tests.
Configure	Minimum Valid HS Length[Global Timing Tests]	MinValidHSLengthT3Timing Test	(Accepts user-defined text), 500e-9, 1.50e-6	Specify the minimum valid HS Length which will be used for Window triggering for Global Timing Tests. The default value is 1.5 µs. This config is applicable to Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC and Test 1.2.16 T3-POST tests only.
Configure	Moving Mask Unit(UI)	MovingMaskUnit	(Accepts user-defined text), 0.05, 0.10	This config is used to determine the moving mask unit. By default, this value is set to "0.05UI" where the eye mask will be moved horizontally to the left from the trigger point by increment of "Moving Mask Unit" value until a position where there's no mask hits or maximum of 0.2UI from the trigger point. This config is only applicable for 1.2.21 HS-TX Eye Diagram tests. This config is only applicable if user selected "Specification" for "Mask Type" configuration option.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Scope Sampling Rate	ScopeSampleRate	Auto, 10e9, 20e9, 40e9, 80e9, 8e9, 16e9, 32e9, 64e9, 128e9	Specify the Sampling Rate to use for all tests. If the value of "Auto" is selected, the Sampling Rate used is automatically set in the application based on the following criteria. For 90000 Series, 90000 X-Series, 90000 Q-Series, V-Series, Z-Series: For symbol rate less than or equal to 1 Gsps, Sampling Rate = 10 GSa/s For symbol rate less than or equal to 2 Gsps, Sampling Rate = 20 GSa/s For symbol rate higher than 2 Gsps, Sampling Rate = 40 GSa/s The Sampling rate will be set up to maximum of 40GSa/s, depending on the scope capability. For UXR-series: For symbol rate less than or equal to 1 Gsps, Sampling Rate = 16 GSa/s For symbol rate less than or equal to 2 Gsps, Sampling Rate = 32 GSa/s For symbol rate higher than 2 Gsps, Sampling Rate = 64 GSa/s The Sampling rate will be set up to maximum of 64GSa/s, depending on the scope capability. For MXR-series: Sampling Rate = 16 GSa/s The Sampling rate will be set up to maximum of 16GSa/s depending on the scope capability and Bandwidth Limit setting.
Configure	Screenshot	Screenshot	0, 1	Enable/disable screenshot capture. Enable: Application will capture screenshot for some of the tests. Disable: Application will NOT perform any screeshot when performing tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Signal Scaling Mode	SignalScalingMode	AUTO, MANUAL	Set signal scaling to AUTO or MANUAL mode. AUTO: Use the scope autoscale to determine the vertical range of each channel. Only for signals with LP and HS intervals less than 60ms. MANUAL: Set the vertical range for each channel based on the manual vertical max and min voltage level settings. "MANUAL" mode is used as default setting for Signal Scaling Mode because "AUTO" mode does not work for all test signals. For example: "AUTO" mode does not work for test signal with long HS-burst that is more than 60ms.
Configure	Single Acquisition Points	TxEyeSingleAcqPoints	(Accepts user-defined text), 40E+3, 100E+3	This option is used to set the single acquisition points. This config is only applicable for 1.2.21 HS-TX Eye Diagram tests.
Configure	Slew rate test CLoad(pF)	SlewrateCLoad	(Accepts user-defined text), 0, 5, 20, 70	Load capacitance to determine the LP Slew Rate min and max values.
Configure	Strong0 Threshold(V)	Strong0ThresLevel	(Accepts user-defined text), -0.1985	Identifies the threshold level of Strong 0 state. The default value of Strong Zero Threshold(V) = (-0.3 + (-0.097))/2 = -0.1985V. This config is only applicable to Test 1.2.14 HS-TX Rise Time (tR) and Test 1.2.15 HS-TX Fall Time (tF).
Configure	Strong1 Threshold(V)	Strong1ThresLevel	(Accepts user-defined text), 0.1985	Identifies the threshold level of Strong 1 state. The default value of Strong One Threshold(V) = (0.3 + 0.097)/2 = 0.1985V. This config is only applicable to Test 1.2.14 HS-TX Rise Time (tR) and Test 1.2.15 HS-TX Fall Time (tF).

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Total Acquisition Length [UI]	TxEyeTotalAcqUILength	(Accepts user-defined text), 10.0E+3, 1.0E+6, 2.0E+6, 3.0E+6, 5.0E+6, 10.0E+6	This option is used to set the total acquisition length in terms of UI. The actual sample points equivalent to then number of UI specified will be calculated based on the measured data rate. The default value is 3E6 UIs. This config is only applicable for 1.2.21 HS-TX Eye Diagram tests.
Configure	Transfer Function File Setting[with CTLE]	TxEyeRefChanTFFileSettingCTSv20	(Accepts user-defined text), Long Reference Channel + Package Model, Standard Reference Channel + Package Model, Short Reference Channel + Package Model, Package Model ONLY, Custom Transfer Function	This option is used to set the transfer function file that the application will be embeded when performing test. This config is only applicable for CTS v2.0 on symbol rate greater than 3.5Gsps. This config is only applicable for 1.2.21 HS-TX Eye Diagram and 1.2.22 HS-TX UI Jitter Peak tests. * By default, the transfer function file for "Standard" Reference Channel and Package Model will be embeded. * When the "Long Reference Channel + Package Model" is selected, the transfer function file for "Long" Reference Channel and Package Model will be embeded. * When the "Short Reference Channel + Package Model" is selected, the transfer function file for "Short" Reference Channel and Package Model will be embeded. * When the "Package Model ONLY" is selected, the transfer function file for Package Model will be embeded only. * When the "Custom Transfer Function" is selected, no transfer function file will be embeded.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Transfer Function File Setting[without CTLE]	TxEyeRefChanTFFileSetting	(Accepts user-defined text), Long, Standard, Short, OFF	This option is used to set the Reference Channel transfer function file that the application will be embeded when performing test. This config is only applicable for CTS v1.1 on all symbol rate and CTS v2.0 on symbol rate less than or equal to 3.5Gsps. This config is only applicable for 1.2.21 HS-TX Eye Diagram and 1.2.22 HS-TX UI Jitter Peak tests. * By default, the "Standard" Reference Channel will be embeded. * When the "Long" channel is selected, the transfer function file for "Long" Reference Channel will be embeded. * When the "Short" Channel is selected, the transfer function file for "Short" Reference Channel will be embeded. * When the "Custom Channel" is selected, no transfer function file will be embeded.
Configure	Upper Threshold[tR, tF](V)	HSTransTimeUpperThreshold	(Accepts user-defined text), 0.058	Identifies the upper threshold for rise/fall time measurement. This config is only applicable to Test 1.2.14 HS-TX Rise Time (tR) and Test 1.2.15 HS-TX Fall Time (tF).
Configure	VA(TrioA) edges(Edge)	NumVAEdgesToExclude	(Accepts user-defined text), 2, 7	Specify the number of VA(TrioA) HS edges to be excluded when perfoming HS data measurement. This config is useful to specify the length of the preamble sequence to be removed when perfoming HS data measurement. This config is applicable for all HS tests.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	VC LP Falling Edge Threshold	CdrCPHY_VCLPFallingEdgeThreshold	(Accepts user-defined text), 0.5	Specify the threshold value used to locate the position of CPHY VC single-ended signal's LP falling edge next to the CPHY VA single-ended signal's LP falling edge at LP001 region. The location of VC LP falling edge will be used to determine the correct starting location of HS burst data. This config is used to avoid finding end location of LP001 region as starting location of HS burst data on improper terminated data signal. Set it such that the VC LP falling edge is crossing this threshold at LP001 to LP000 transition and found next to the VA LP falling edge. The value of this option will be used ONLY if "HSBurstStart Check" config is enabled. This config is used to support testing with improper terminated data signal.
Configure	VIH(min)	VIHMin	(Accepts user-defined text), 0.740	VIH(min) is used to determine the ending point for TREOT. The default value for VIH(min) is 740m. Please see C-Phy specification for the allowable value. This config is only applicable to Test 1.2.17 30%-85% Post-EoT Rise Time(TREOT).
Configure	VIL(max)	VILMax	(Accepts user-defined text), 0.550	VIL(max) is used to determine: -start and end point of TLPX Duration measurement -start point of T3-PREAPARE Duration measurement -end point of THS-EXIT Value measurement The default value for VIH(min) is 550m. Please see C-Phy specification for the allowable value. This config is only applicable to Test 1.2.1 TLPX Duration, Test 1.2.2 T3-PREPARE and Test 1.2.18 THS-EXIT Value.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	VOD Histogram Window Height(V)[AUTO Mode]	VODHistogramWindowHeightAutoMode	(Accepts user-defined text), 10e-3, 5e-3	This config is only applicable for CTS v1.1 and CTS v2.0. This config is used to specify the histogram height which is used to determine the histogram window position for VOD-Strong1-Mean, VOD-Weak1-Mean, VOD-Weak0-Mean and VOD-Strong0-Mean measurement. For example: If 5e-3 V is selected, A histogram will be created with the histogram window of -Top limit: VOD-Strong1-Max value -Bottom limit: VOD-Strong1-Max value - 5mV -Left limit: (0.20+0.05)UI to the left from the trigger point -Right limit: (0.20)UI to the left from the trigger point The histogram window will then be moved vertically from top to bottom by increment of 5mV value. For each increment value of "VOD Histogram Window Height(V)[AUTO Mode]" value, the histogram window will be placed at new position to identify if there is any hits until a position where eye opening is found.(Histogram hit = 0 hit) The identified vertical position will be used as the bottom limit of histogram window for VOD-Strong1-Mean and top limit of histogram window for VOD-Weak1-Mean measurement. This config is only applicable if "AUTO" mode is selected for "VOD Histogram Window Mode" configurable option. This config is only applicable for Test 1.2.7 HS-TX Differential Voltages(VOD).

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	VOD Histogram Window Mode	VODHistogramWindowMode	AUTO, MANUAL	This config is only applicable for CTS v1.1 and CTS v2.0. This config is used to specify the method to be used to determine the histogram window position for VOD-Strong1-Mean, VOD-Weak1-Mean, VOD-Weak0-Mean and VOD-Strong0-Mean measurement. AUTO: The histogram window will be placed automatically: A histogram will be created with the histogram window of -Top limit: VOD-Strong1-Max value -Bottom limit: VOD-Strong1-Max value - Histogram height value [Histogram height value is configurable using "VOD Histogram Window Height(V)[AUTO Mode]" configurable option.] -Left limit: (0.20+0.05)UI to the left from the trigger point -Right limit: (0.20)UI to the left from the trigger point The histogram window will then be moved vertically from top to bottom by increment of "VOD Histogram Window Height(V)[AUTO Mode]" value. For each increment value of "VOD Histogram Window Height(V)[AUTO Mode]" value, the histogram window will be placed at new position to identify if there is any hits until a position where eye opening is found.(Histogram hit = 0 hit) The identified vertical position will be used as the bottom limit of histogram window for VOD-Strong1-Mean and top limit of histogram window for VOD-Weak1-Mean measurement. MANUAL: Set the histogram window manually: (i)using the "VOD(Strong1,

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	VOD Histogram Window Mode	VODHistogramWindowMode (cont'd)	AUTO, MANUAL	Weak1) Histogram Window(V)[Manual Mode]" configurable option for -bottom limit of histogram window for VOD-Strong1-Mean -top limit of histogram window for VOD-Weak1-Mean (ii)using the "VOD(Strong1, Weak1) Histogram Window(V)[Manual Mode]" configurable option for -bottom limit of histogram window for VOD-Weak0-Mean -top limit of histogram window for VOD-Strong0-Mean The "AUTO" mode is used as default setting. This config is only applicable for Test 1.2.7 HS-TX Differential Voltages(VOD).

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	VOD Histogram Window Position(UI)	VODHistogramWindowPosition	(Accepts user-defined text), 0.2, 0.3, 0.4, 0.5	This config is used to specify the histogram window position for VOD measurement. Adjust the histogram window width using "VOD Histogram Window Width(UI)" configurable option. By default, the histogram will be placed at a location that is 0.2UI before the trigger point. For example: If 0.5UI is selected for "VOD Histogram Window Position(UI)" configurable option and 0.05UI is selected for "VOD Histogram Window Width(UI)" configurable option. CTS v1.0: - the histogram will be placed at a location that is (0.50+0.05)UI to 0.50UI before the trigger point for 1.2.7 HS-TX Differential Voltages (VOD-Weak1) and 1.2.7 HS-TX Differential Voltages (VOD-Weak0) tests. - the histogram will be placed at a location that is 0.50UI to (0.50-0.05)UI before trigger point for 1.2.7 HS-TX Differential Voltages (VOD-Strong1) and 1.2.7 HS-TX Differential Voltages (VOD-Strong0) tests. CTS v1.1, v2.0: - the histogram will be placed at a location that is (0.50-0.025)UI to (0.50+0.025)UI before the trigger point for 1.2.7 HS-TX Differential Voltages (VOD) tests. This config is only applicable for Test 1.2.7 HS-TX Differential Voltages(VOD).

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	VOD Histogram Window Width(UI)	VODHistogramWindowWidth	(Accepts user-defined text), 0.01, 0.02, 0.05	This config is used to specify the histogram window width for VOD measurement. Increase the histogram window width to avoid performing VOD measurements on the vertical gap of the eye diagram generated from signal that doesn't contain dither. For example: If 0.05UI is selected for "VOD Histogram Window Width(UI)" configurable option and 0.2UI is selected for "VOD Histogram Window Position(UI)" configurable option. CTS v1.0: - the histogram will be placed at a location that is (0.20+0.05)UI to 0.20UI before the trigger point for 1.2.7 HS-TX Differential Voltages (VOD-Weak1) and 1.2.7 HS-TX Differential Voltages (VOD-Weak0) tests. - the histogram will be placed at a location that is 0.20UI to (0.20-0.05)UI before trigger point for 1.2.7 HS-TX Differential Voltages (VOD-Strong1) and 1.2.7 HS-TX Differential Voltages (VOD-Strong0) tests. CTS v1.1, v2.0: - the histogram will be placed at a location that is (0.20-0.025)UI to (0.20+0.025)UI before the trigger point for 1.2.7 HS-TX Differential Voltages (VOD) tests. This config is only applicable for Test 1.2.7 HS-TX Differential Voltages(VOD).

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	VOD(Strong0, Weak0) Histogram Window(V)[Manual Mode]	VODTestWeak0Strong0HistogramWindowManualMode	(Accepts user-defined text), -0.2	This config is only applicable for CTS v1.1 and CTS v2.0. This config is used to specify the bottom limit of the histogram window for VOD-Weak0 and top limit of the histogram window for VOD-Strong0 measurement. This config is only applicable if "AUTO" mode is selected for "VOD Histogram Window Mode" configurable option. This config is only applicable to Test 1.2.7 HS-TX VOD-Strong1 and Test 1.2.7 HS-TX VOD-Weak1.
Configure	VOD(Strong0, Weak0) Histogram Window[Bottom](V)	VODTestStrong0Weak0HistogramWindowBottom	(Accepts user-defined text), -5	This config is only applicable for CTS v1.0. This config is used to specify the bottom limit of the histogram window for VOD-Strong0 and VOD-Weak0 measurement. This config is only applicable to Test 1.2.7 HS-TX VOD-Strong0 and Test 1.2.7 HS-TX VOD-Weak0.
Configure	VOD(Strong0, Weak0) Histogram Window[Top](V)	VODTestStrong0Weak0HistogramWindowTop	(Accepts user-defined text), 0	This config is only applicable for CTS v1.0. This config is used to specify the top limit of the histogram window for VOD-Strong0 and VOD-Weak0 measurement. This config is only applicable to Test 1.2.7 HS-TX VOD-Strong0 and Test 1.2.7 HS-TX VOD-Weak0.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	VOD(Strong1, Weak1) Histogram Window(V)[Manual Mode]	VODTestStrong1Weak1HistogramWindowManualMode	(Accepts user-defined text), 0.2	This config is only applicable for CTS v1.1 and CTS v2.0. This config is used to specify the bottom limit of the histogram window for VOD-Strong1 and top limit of the histogram window for VOD-Weak1 measurement. This config is only applicable if "AUTO" mode is selected for "VOD Histogram Window Mode" configurable option. This config is only applicable to Test 1.2.7 HS-TX VOD-Strong1 and Test 1.2.7 HS-TX VOD-Weak1.
Configure	VOD(Strong1, Weak1) Histogram Window[Bottom](V)	VODTestStrong1Weak1HistogramWindowBottom	(Accepts user-defined text), 0	This config is only applicable for CTS v1.0. This config is used to specify the bottom limit of the histogram window for VOD-Strong1 and VOD-Weak1 measurement. This config is only applicable to Test 1.2.7 HS-TX VOD-Strong1 and Test 1.2.7 HS-TX VOD-Weak1.
Configure	VOD(Strong1, Weak1) Histogram Window[Top](V)	VODTestStrong1Weak1HistogramWindowTop	(Accepts user-defined text), 5	This config is only applicable for CTS v1.0. This config is used to specify the top limit of the histogram window for VOD-Strong1 and VOD-Weak1 measurement. This config is only applicable to Test 1.2.7 HS-TX VOD-Strong1 and Test 1.2.7 HS-TX VOD-Weak1.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	VOHHS Histogram Window Position(UI)	VOHHSHistogramWindowPosition	(Accepts user-defined text), 0.2, 0.3, 0.4, 0.5	This config is used to specify the histogram window position for VOHHS measurement. Adjust the histogram window width using "VOHHS Histogram Window Width(UI)" configurable option. By default, the histogram will be placed at a location that is 0.2UI before the trigger point. For example: If0.5UI is selected for "VOHHS Histogram Window Position(UI)" configurable option and 0.05UI is selected for "VOHHS Histogram Window Width(UI)" configurable option, the histogram will be placed at a location that is at (0.50 ± 0.025)UI before the trigger point. This config is only applicable to Test 1.2.9 HS-TX Single-Ended Output High Voltages(VOHHS).
Configure	VOHHS Histogram Window Width(UI)	VOHHSHistogramWindowWidth	(Accepts user-defined text), 0.01, 0.02, 0.05	This config is used to specify the histogram window width for VOHHS measurement. Increase the histogram window width to avoid performing VOHHS measurements on the vertical gap of the eye diagram generated from signal that doesn't contain dither. For example: If 0.05UI is selected for "VOHHS Histogram Window Width(UI)" configurable option and 0.2UI is selected for "VOHHS Histogram Window Position(UI)" configurable option, the histogram will be placed at a location that is at (0.20 ± 0.025)UI before the trigger point. This config is only applicable to Test 1.2.9 HS-TX Single-Ended Output High Voltages(VOHHS).

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	VOHHS Histogram Window[Bottom](V)	VOHHSTestHistogramWindowBottom	(Accepts user-defined text), 0.3	This config is used to specify the bottom limit of the histogram window for VOHHS measurement. This config is only applicable to Test 1.2.9 HS-TX Single-Ended Output High Voltages(VOHHS) tests.
Configure	VOHHS Histogram Window[Top](V)	VOHHSTestHistogramWindowTop	(Accepts user-defined text), 1.0	This config is used to specify the top limit of the histogram window for VOHHS measurement. This config is only applicable to Test 1.2.9 HS-TX Single-Ended Output High Voltages(VOHHS) tests.
Configure	Weak0 Threshold(V)	Weak0ThresLevel	(Accepts user-defined text), -0.0485	Identifies the threshold level of Weak 0 state. The default value of Weak Zero Threshold(V) = (-0.097 + 0)/2 = -0.0485V. This config is only applicable to Test 1.2.14 HS-TX Rise Time (tR) and Test 1.2.15 HS-TX Fall Time (tF).
Configure	Weak1 Threshold(V)	Weak1ThresLevel	(Accepts user-defined text), 0.0485	Identifies the threshold level of Weak 1 state. The default value of Weak One Threshold(V) = (0.097 + 0)/2 = 0.0485V. This config is only applicable to Test 1.2.14 HS-TX Rise Time (tR) and Test 1.2.15 HS-TX Fall Time (tF).
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	CTSVersion	CTSVersion	v1.0, v1.1, v2.0	Select the CTS Version. Select the CTS Version.
Set Up	CalibrationPreamble	CalibrationPreamble	0.0, 1.0	This option allow user to select Calibration Preamble. This option allow user to select Calibration Preamble.
Set Up	CalibrationPreambleFormat	CalibrationPreambleFormat	Format 1, Format 2	Select the Calibration Preamble Format. Select the Calibration Preamble Format.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	Device ID	DeviceID	(Accepts user-defined text)	This option allow user to key in related test details. Device ID
Set Up	HS Symbol Rate	HSDataRate	(Accepts user-defined text), 1100	Enter the HS Symbol Rate. The CPHY Data Rate is ~ 2.28x the HS Symbol Rate. The minimum HS Symbol Rate is 80Msps. Enter the HS Symbol Rate. The CPHY Data Rate is ~ 2.28x the HS Symbol Rate. The minimum HS Symbol Rate is 80Msps.
Set Up	HSBurstModeHSCalibrationPreambleT3TimingTest_VAWfmFile	HSBurstModeHSCalibrationPreambleT3TimingTest_VAWfmFile	(Accepts user-defined text)	Saved VA waveform file for Test 1.5.1 T3-CALPREAMBLE, Test 1.5.2 T3-ASID, Test 1.5.3 T3-CALALTSEQ and Test 1.5.4 Calibration Sequence T3-SYNC tests. This option is applicable only for Offline Mode. Saved VA waveform file for Test 1.5.1 T3-CALPREAMBLE, Test 1.5.2 T3-ASID, Test 1.5.3 T3-CALALTSEQ and Test 1.5.4 Calibration Sequence T3-SYNC tests. This option is applicable only for Offline Mode.
Set Up	HSBurstModeHSCalibrationPreambleT3TimingTest_VBWfmFile	HSBurstModeHSCalibrationPreambleT3TimingTest_VBWfmFile	(Accepts user-defined text)	Saved VB waveform file for Test 1.5.1 T3-CALPREAMBLE, Test 1.5.2 T3-ASID, Test 1.5.3 T3-CALALTSEQ and Test 1.5.4 Calibration Sequence T3-SYNC tests. This option is applicable only for Offline Mode. Saved VB waveform file for Test 1.5.1 T3-CALPREAMBLE, Test 1.5.2 T3-ASID, Test 1.5.3 T3-CALALTSEQ and Test 1.5.4 Calibration Sequence T3-SYNC tests. This option is applicable only for Offline Mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	HSBurstModeHSCalibrationPreambleT3TimingTest_VCWfmFile	HSBurstModeHSCalibrationPreambleT3TimingTest_VCWfmFile	(Accepts user-defined text)	Saved VC waveform file for Test 1.5.1 T3-CALPREAMBLE, Test 1.5.2 T3-ASID, Test 1.5.3 T3-CALALTSEQ and Test 1.5.4 Calibration Sequence T3-SYNC tests. This option is applicable only for Offline Mode. Saved VC waveform file for Test 1.5.1 T3-CALPREAMBLE, Test 1.5.2 T3-ASID, Test 1.5.3 T3-CALALTSEQ and Test 1.5.4 Calibration Sequence T3-SYNC tests. This option is applicable only for Offline Mode.
Set Up	HSBurstModeHSEntryT3TimingTest_VAWfmFile	HSBurstModeHSEntryT3TimingTest_VAWfmFile	(Accepts user-defined text)	Saved VA waveform file for Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC and Test 1.2.16 T3-POST tests. This option is applicable only for Offline Mode. Saved VA waveform file for Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC and Test 1.2.16 T3-POST tests. This option is applicable only for Offline Mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	HSBurstModeHSEntryT3TimingTest_VBWfmFile	HSBurstModeHSEntryT3TimingTest_VBWfmFile	(Accepts user-defined text)	Saved VB waveform file for Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC and Test 1.2.16 T3-POST tests. This option is applicable only for Offline Mode. Saved VB waveform file for Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC and Test 1.2.16 T3-POST tests. This option is applicable only for Offline Mode.
Set Up	HSBurstModeHSEntryT3TimingTest_VCWfmFile	HSBurstModeHSEntryT3TimingTest_VCWfmFile	(Accepts user-defined text)	Saved VC waveform file for Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC and Test 1.2.16 T3-POST tests. This option is applicable only for Offline Mode. Saved VC waveform file for Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC and Test 1.2.16 T3-POST tests. This option is applicable only for Offline Mode.
Set Up	HSBurstModeHSExitTest_VAWfmFile	HSBurstModeHSExitTest_VAWfmFile	(Accepts user-defined text)	Saved VA waveform file for Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode. Saved VA waveform file for Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	HSBurstModeHSExitTest_VBWfmFile	HSBurstModeHSExitTest_VBWfmFile	(Accepts user-defined text)	Saved VB waveform file for Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode. Saved VB waveform file for Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode.
Set Up	HSBurstModeHSExitTest_VCWfmFile	HSBurstModeHSExitTest_VCWfmFile	(Accepts user-defined text)	Saved VC waveform file for Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode. Saved VC waveform file for Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode.
Set Up	HSBurstModeTest_VAWfmFile	HSBurstModeTest_VAWfmFile	(Accepts user-defined text)	Saved VA waveform file for all HS Burst Mode test except Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC, Test 1.2.16 T3-POST, Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode. Saved VA waveform file for all HS Burst Mode test except Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC, Test 1.2.16 T3-POST, Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	HSBurstModeTest_VBWfmFile	HSBurstModeTest_VBWfmFile	(Accepts user-defined text)	Saved VB waveform file for all HS Burst Mode test except Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC, Test 1.2.16 T3-POST, Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode. Saved VB waveform file for all HS Burst Mode test except Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC, Test 1.2.16 T3-POST, Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode.
Set Up	HSBurstModeTest_VCWfmFile	HSBurstModeTest_VCWfmFile	(Accepts user-defined text)	Saved VC waveform file for all HS Burst Mode test except Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC, Test 1.2.16 T3-POST, Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode. Saved VC waveform file for all HS Burst Mode test except Test 1.2.1 TLPX, Test 1.2.2 T3-PREPARE, Test 1.2.3 T3-PREBEGIN, Test 1.2.4 T3-PROGSEQ, Test 1.2.5 T3-PREEND, Test 1.2.6 T3-SYNC, Test 1.2.16 T3-POST, Test 1.2.17 TREOT and Test 1.2.18 THS-EXIT tests. This option is applicable only for Offline Mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	HSContModeEyeDiagramTest_VAWfmFile	HSContModeEyeDiagramTest_VAWfmFile	(Accepts user-defined text)	Saved VA waveform file for HS Continuous Mode - Eye Diagram tests (Test 1.2.21). This option is applicable only for Offline Mode. Saved VA waveform file for HS Continuous Mode - Eye Diagram tests (Test 1.2.21). This option is applicable only for Offline Mode.
Set Up	HSContModeEyeDiagramTest_VBWfmFile	HSContModeEyeDiagramTest_VBWfmFile	(Accepts user-defined text)	Saved VB waveform file for HS Continuous Mode - Eye Diagram tests (Test 1.2.21). This option is applicable only for Offline Mode. Saved VB waveform file for HS Continuous Mode - Eye Diagram tests (Test 1.2.21). This option is applicable only for Offline Mode.
Set Up	HSContModeEyeDiagramTest_VCWfmFile	HSContModeEyeDiagramTest_VCWfmFile	(Accepts user-defined text)	Saved VC waveform file for HS Continuous Mode - Eye Diagram tests (Test 1.2.21). This option is applicable only for Offline Mode. Saved VC waveform file for HS Continuous Mode - Eye Diagram tests (Test 1.2.21). This option is applicable only for Offline Mode.
Set Up	HSContModeTest_VAWfmFile	HSContModeTest_VAWfmFile	(Accepts user-defined text)	Saved VA waveform file for all HS Continuous Mode test except Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode. Saved VA waveform file for all HS Continuous Mode test except Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	HSContModeTest_VBWfmFile	HSContModeTest_VBWfmFile	(Accepts user-defined text)	Saved VB waveform file for all HS Continuous Mode test except Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode. Saved VB waveform file for all HS Continuous Mode test except Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode.
Set Up	HSContModeTest_VCWfmFile	HSContModeTest_VCWfmFile	(Accepts user-defined text)	Saved VC waveform file for all HS Continuous Mode test except Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode. Saved VC waveform file for all HS Continuous Mode test except Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode.
Set Up	HSContModeVcptxTest_VAWfmFile	HSContModeVcptxTest_VAWfmFile	(Accepts user-defined text)	Saved VA waveform file for HS Continuous Mode - Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode. Saved VA waveform file for HS Continuous Mode - Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	HSContModeVcptx Test_VBWfmFile	HSContModeVcptxTest_VB WfmFile	(Accepts user-defined text)	Saved VB waveform file for HS Continuous Mode - Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode. Saved VB waveform file for HS Continuous Mode - Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode.
Set Up	HSContModeVcptx Test_VCWfmFile	HSContModeVcptxTest_VC WfmFile	(Accepts user-defined text)	Saved VC waveform file for HS Continuous Mode - Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode. Saved VC waveform file for HS Continuous Mode - Vcptx tests (Test 1.2.10, Test 1.2.11, Test 1.2.12, Test 1.2.13). This option is applicable only for Offline Mode.
Set Up	HSMode	HSMode	Normal HS, LVHS	This option allow user to select the C-PHY HS mode. This option allow user to select the C-PHY HS mode.
Set Up	LPEscapeModeTest _VAWfmFile	LPEscapeModeTest_VAWfm File	(Accepts user-defined text)	Saved VA waveform file for all LP Escape Mode tests. This option is applicable only for Offline Mode. Saved VA waveform file for all LP Escape Mode tests. This option is applicable only for Offline Mode.
Set Up	LPEscapeModeTest _VBWfmFile	LPEscapeModeTest_VBWfm File	(Accepts user-defined text)	Saved VB waveform file for all LP Escape Mode tests. This option is applicable only for Offline Mode. Saved VB waveform file for all LP Escape Mode tests. This option is applicable only for Offline Mode.
Set Up	LPEscapeModeTest _VCWfmFile	LPEscapeModeTest_VCWfm File	(Accepts user-defined text)	Saved VC waveform file for all LP Escape Mode tests. This option is applicable only for Offline Mode. Saved VC waveform file for all LP Escape Mode tests. This option is applicable only for Offline Mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	LPMode	LPMode	Normal LP, LVLP	This option allow user to select the C-PHY LP mode. This option allow user to select the C-PHY LP mode.
Set Up	LPVohTest_AllWfm Folder	LPVohTest_AllWfmFolder	(Accepts user-defined text)	Saved folder path that contain waveform filesfor Test 1.1.1 LP-TX Thevenin Output High Voltage(VOH). This option is applicable only for Offline Mode. Saved folder path that contain waveform files for Test 1.1.1 LP-TX Thevenin Output High Voltage(VOH). This option is applicable only for Offline Mode.
Set Up	LPVolTfTest_AllWf mFolder	LPVolTfTest_AllWfmFolder	(Accepts user-defined text)	Saved folder path that contain Waveform Files for Test 1.1.2 LP-TX Thevenin Output Low Voltage(VOL) and Test 1.1.4 LP-TX 15%-85% Fall Time(TRLP). This option is applicable only for Offline Mode. Saved folder path that contain Waveform Files for Test 1.1.2 LP-TX Thevenin Output Low Voltage(VOL) and Test 1.1.4 LP-TX 15%-85% Fall Time(TRLP). This option is applicable only for Offline Mode.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	OffHSContModeEyeDiagramTest_InfiniiSimOptionSet	OffHSContModeEyeDiagramTest_InfiniiSimOptionSet	On, Off	Apply InfiniiSim Embedding on Data Signals. By setting this option as (On), user have to manually configure the Reference Channel [Eye Diagram Tests] in the Configure Tab, under the HS Electrical Tests section. This option is targeted only to test 1.2.21 HS-Tx Eye Diagram (VAB)(C) 1.2.21 HS-Tx Eye Diagram (VBC)(C) 1.2.21 HS-Tx Eye Diagram (VCA)(C) 1.2.21 HS-Tx Eye Diagram (VABC)(C) and is applicable only for Offline Mode. Apply InfiniiSim Embedding on Data Signals. By setting this option as (On), user have to manually configure the Reference Channel [Eye Diagram Tests] in the Configure Tab, under the HS Electrical Tests section. This option is targeted only to test 1.2.21 HS-Tx Eye Diagram (VAB)(C) 1.2.21 HS-Tx Eye Diagram (VBC)(C) 1.2.21 HS-Tx Eye Diagram (VCA)(C) 1.2.21 HS-Tx Eye Diagram (VABC)(C) and is applicable only for Offline Mode.
Set Up	Probing Method	ProbingMethod	Active Probe (Differential Probe), Direct Connect, Direct Connect (Active Termination Adapter)	This option is used to specify the probing method. 'Active Probe(Differential Probe)' probing method supports for Burst signal. 'Direct Connect' probing method supports for Continuous signal. This option is used to specify the probing method. 'Active Probe(Differential Probe)' probing method supports for Burst signal. 'Direct Connect' probing method supports for Continuous signal.
Set Up	RSEValue	RSEValue	(Accepts user-defined text)	Enter the RSE value for N7010A Calibration Enter the RSE value for N7010A Calibration

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	RSEValueMethod	RSEValueMethod	Manual RSE, Calculated RSE	Select the method to determine the RSE value for N7010A Calibration Select the method to determine the RSE value for N7010A Calibration.
Set Up	T3PROGSEQSequence	T3PROGSEQSequence	(Accepts user-defined text)	Enter the T3-PROGSEQ symbol Sequence. Enter the T3-PROGSEQ symbol Sequence.
Set Up	TxEyeDiagramType	TxEyeDiagramType	Combined eye diagram, Separated 3 eye diagram	Select the Eye Diagram type. TxEyeDiagramType
Set Up	UseWfmFile	UseWfmFile	0.0, 1.0	This option allow user to enable offline mode. This option allow user to enable offline mode.
Set Up	User Comment	UserComment	(Accepts user-defined text)	This option allow user to key in related test detail. User Comment
Set Up	VAChan	VAChan	CHAN1, CHAN2, CHAN3, CHAN4	Identifies the oscilloscope channels probing VA signal. Identifies the oscilloscope channels probing VA signal.
Set Up	VBChan	VBChan	CHAN1, CHAN2, CHAN3, CHAN4	Identifies the oscilloscope channels probing VB signal. Identifies the oscilloscope channels probing VB signal.
Set Up	VCChan	VCChan	CHAN1, CHAN2, CHAN3, CHAN4	Identifies the oscilloscope channels probing VC signal. Identifies the oscilloscope channels probing VC signal.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	pcbInformativeTests	pcbInformativeTests	0.0, 1.0	This option allow user to enable or disable the informative tests. The informative tests include Test 1.1.1 LP-TX Thevenin Output High Level Voltage(VOH), Test 1.1.2 LP-TX Thevenin Output Low Level Voltage(VOL) and Test 1.1.4 LP-TX 15%-85% Fall Time(TFLP) tests. This option allow user to enable or disable the informative tests. The informative tests include Test 1.1.1 LP-TX Thevenin Output High Level Voltage(VOH), Test 1.1.2 LP-TX Thevenin Output Low Level Voltage(VOL) and Test 1.1.4 LP-TX 15%-85% Fall Time(TFLP) tests.
Set Up	pcbLPEscapeData	pcbLPEscapeData	0.0, 1.0	This option allow user to select LP Data Escape mode. This option allow user to select LP Data Escape mode.
Set Up	pcbT3_ProgSeq	pcbT3_ProgSeq	0.0, 1.0	This option allow user to select T3-PROGSEQ mode. This option allow user to select T3-PROGSEQ mode.
Set Up	posDataType	posDataType	HS Signal, LP Escape ONLY	This option allow user to select the C-PHY data type. This option allow user to select the C-PHY data type.

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
1.1.1 LP-TX Thevenin Output High Level Voltage (VOH) ESCAPEMODE	100	Thevenin Output High Level Voltage (VOH) ESCAPEMODE is measured as the mode of all waveform samples that are greater than 50% of the absolute peak-to-peak signal amplitude.
1.1.1 LP-TX Thevenin Output High Level Voltage (VOH)(Informative)	101	This test is an informative test.\nThevenin Output High Level Voltage (VOH) is measured as the mode of all waveform samples that are greater than 50% of the absolute peak-to-peak signal amplitude.
1.1.2 LP-TX Thevenin Output Low Level Voltage (VOL) ESCAPEMODE	200	Thevenin Output Low Level Voltage (VOL) ESCAPEMODE is measured as the mode of all waveform samples that are less than 50% of the absolute peak-to-peak signal amplitude.
1.1.2 LP-TX Thevenin Output Low Level Voltage (VOL)(Informative)	201	This test is an informative test.\nThevenin Output Low Level Voltage (VOL) is measured as the mode of all waveform samples that are less than 50% of the absolute peak-to-peak signal amplitude.
1.1.3 LP-TX 15%-85% Rise Time (TRLP) ESCAPEMODE	300	15%-85% Rise Time (TRLP) ESCAPEMODE
1.1.4 LP-TX 15%-85% Fall Time (TFLP) ESCAPEMODE	400	15%-85% Fall Time (TFLP) ESCAPEMODE
1.1.4 LP-TX 15%-85% Fall Time (TFLP)(Informative)	401	This test is an informative test.\n15%-85% Fall Time (TFLP)
1.1.5 LP-TX Slew Rate vs. CLOAD (FallEdgeMax)	503	Slew Rate vs. CLOAD (FallEdgeMax) measurement across the entire falling edge.\nNote: Please set the value of 'Slew rate test Cload' in the configuration tab before running the test.
1.1.5 LP-TX Slew Rate vs. CLOAD (FallEdgeMin)	504	Slew Rate vs. CLOAD (FallEdgeMin) measurement across 400mV-790mV regions of falling edges.
1.1.5 LP-TX Slew Rate vs. CLOAD (RiseEdgeMargin)	502	Slew Rate vs. CLOAD (RiseEdgeMargin) measurement across the 550mV-790mV region of rising edges.
1.1.5 LP-TX Slew Rate vs. CLOAD (RiseEdgeMax)	500	Slew Rate vs. CLOAD (RiseEdgeMax) measurement across the entire rising edge.\nNote: Please set the value of 'Slew rate test Cload' in the configuration tab before running the test.

Table 4 Test IDs and Names (continued)

Name	TestID	Description
1.1.5 LP-TX Slew Rate vs. CLOAD (RiseEdgeMin)	501	Slew Rate vs. CLOAD (RiseEdgeMin) measurement across the 400mV-550mV regions of rising edges.
1.1.6 LP-TX Pulse Width of Exclusive-OR Clock (TLP-PULSE-TX)	600	Pulse Width of Exclusive-OR Clock (TLP-PULSE-TX)
1.1.6 LP-TX Pulse Width of Exclusive-OR Clock (TLP-PULSE-TX) [Initial]	601	Pulse Width of Exclusive-OR Clock (TLP-PULSE-TX) [Initial]
1.1.7 LP-TX Period of Exclusive-OR Clock (TLP-PER-TX)[Falling-to-Falling]	701	Period of Exclusive-OR Clock (TLP-PER-TX)[Falling-to-Falling]
1.1.7 LP-TX Period of Exclusive-OR Clock (TLP-PER-TX)[Rising-to-Rising]	700	Period of Exclusive-OR Clock (TLP-PER-TX)[Rising-to-Rising]
1.2.1 TLPX Duration	1100	The duration of the final LP-001 state immediately before HS transmission.\nTLPX duration is measured from the time where the VA falling edge crosses below the maximum low level LP threshold,VIL,MAX(550mV) and ending at the time where the VC falling edge crosses below VIL,MAX(550mV).
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+X)	2000	Static Common-Point Voltages (VCPTX_HS_+X)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+X)(C)	2010	Static Common-Point Voltages (VCPTX_HS_+X)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+X)(LVHS)	2020	Static Common-Point Voltages (VCPTX_HS_+X)(LVHS)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+X)(LVHS)(C)	2030	Static Common-Point Voltages (VCPTX_HS_+X)(LVHS)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+Y)	2002	Static Common-Point Voltages (VCPTX_HS_+Y)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+Y)(C)	2012	Static Common-Point Voltages (VCPTX_HS_+Y)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+Y)(LVHS)	2022	Static Common-Point Voltages (VCPTX_HS_+Y)(LVHS)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+Y)(LVHS)(C)	2032	Static Common-Point Voltages (VCPTX_HS_+Y)(LVHS)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+Z)	2004	Static Common-Point Voltages (VCPTX_HS_+Z)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+Z)(C)	2014	Static Common-Point Voltages (VCPTX_HS_+Z)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+Z)(LVHS)	2024	Static Common-Point Voltages (VCPTX_HS_+Z)(LVHS)

Table 4 Test IDs and Names (continued)

Name	TestID	Description
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_+Z)(LVHS)(C)	2034	Static Common-Point Voltages (VCPTX_HS_+Z)(LVHS)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-X)	2001	Static Common-Point Voltages (VCPTX_HS_-X)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-X)(C)	2011	Static Common-Point Voltages (VCPTX_HS_-X)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-X)(LVHS)	2021	Static Common-Point Voltages (VCPTX_HS_-X)(LVHS)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-X)(LVHS)(C)	2031	Static Common-Point Voltages (VCPTX_HS_-X)(LVHS)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-Y)	2003	Static Common-Point Voltages (VCPTX_HS_-Y)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-Y)(C)	2013	Static Common-Point Voltages (VCPTX_HS_-Y)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-Y)(LVHS)	2023	Static Common-Point Voltages (VCPTX_HS_-Y)(LVHS)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-Y)(LVHS)(C)	2033	Static Common-Point Voltages (VCPTX_HS_-Y)(LVHS)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-Z)	2005	Static Common-Point Voltages (VCPTX_HS_-Z)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-Z)(C)	2015	Static Common-Point Voltages (VCPTX_HS_-Z)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-Z)(LVHS)	2025	Static Common-Point Voltages (VCPTX_HS_-Z)(LVHS)
1.2.10 HS-TX Static Common-Point Voltages (VCPTX_HS_-Z)(LVHS)(C)	2035	Static Common-Point Voltages (VCPTX_HS_-Z)(LVHS)
1.2.11 HS-TX Static Common-Point Voltage Mismatch (ΔVCPTX(HS))	2100	Static Common-Point Voltage Mismatch (ΔVCPTX(HS))
1.2.11 HS-TX Static Common-Point Voltage Mismatch (ΔVCPTX(HS))(C)	2110	Static Common-Point Voltage Mismatch (ΔVCPTX(HS))
1.2.11 HS-TX Static Common-Point Voltage Mismatch (ΔVCPTX(HS))(LVHS)	2120	Static Common-Point Voltage Mismatch (ΔVCPTX(HS))(LVHS)
1.2.11 HS-TX Static Common-Point Voltage Mismatch (ΔVCPTX(HS))(LVHS)(C)	2130	Static Common-Point Voltage Mismatch (ΔVCPTX(HS))(LVHS)
1.2.12 HS-TX Dynamic Common-Point Variations Between 50-450MHz (ΔVCPTX(LF))	2200	Dynamic Common-Point Variations Between 50-450MHz (ΔVCPTX(LF))

Table 4 Test IDs and Names (continued)

Name	TestID	Description
1.2.12 HS-TX Dynamic Common-Point Variations Between 50-450MHz (ΔVCPTX(LF))(C)	2210	Dynamic Common-Point Variations Between 50-450MHz (ΔVCPTX(LF))
1.2.13 HS-TX Dynamic Common-Point Variations Above 450MHz (ΔVCPTX(HF))	2300	Dynamic Common-Point Variations Above 450MHz (ΔVCPTX(HF))
1.2.13 HS-TX Dynamic Common-Point Variations Above 450MHz (ΔVCPTX(HF))(C)	2310	Dynamic Common-Point Variations Above 450MHz (ΔVCPTX(HF))
1.2.14 HS-TX Rise Time (tR) [1.5Gsps and below]	2400	Rise Time (tR) [1.5Gsps and below]
1.2.14 HS-TX Rise Time (tR) [above 1.5Gsps]	2401	Rise Time (tR) [above 1.5Gsps]
1.2.15 HS-TX Fall Time (tF) [1.5Gsps and below]	2500	Fall Time (tF) [1.5Gsps and below]
1.2.15 HS-TX Fall Time (tF) [above 1.5Gsps]	2501	Fall Time (tF) [above 1.5Gsps]
1.2.16 T3-POST Duration	2600	T3-POST Duration
1.2.17 30%-85% Post-EoT Rise Time (TREOT)	2700	30%-85% Post-EoT Rise Time (TREOT) is measured from the time where the differential signal last crosses (+/-70mV for CTS v1.0 and +/-40mV for CTS v1.1 and CTS v2.0), and ends where VA signal crosses VIH,MIN(740mV).
1.2.18 THS-EXIT Value	2800	The duration that the Data Lane transmitter remains in the LP-111(stop) state after exiting HS mode(THS-EXIT).\nTHS-EXIT is measured from the time where the differential signal crosses below the minimum valid HS-RX differential thershold level(+/-70mV for CTS v1.0 and +/-40mV for CTS v1.1 and CTS v2.0) and ends at the time where the VA LP-001 falling edge crosses VIL,MAX(550mV) during the next successive HS burst.
1.2.19 HS Instantaneous UI (UIINST_Max)	2900	HS Instantaneous UI (UIINST_Max)
1.2.19 HS Instantaneous UI (UIINST_Max)(C)	2910	HS Instantaneous UI (UIINST_Max)
1.2.2 T3-PREPARE Duration	1200	The duration of the final LP000 state immediately before HS transmission.\nT3-PREPARE Duration is measured from the time where the VC signal crossed below VIL,MAX(550mV) and ends at the beginning of the first HS state where the differential signal crosses above minimum valid HS-0 differential threshold level(+/-40mV).
1.2.20 HS Delta UI (ΔUI) [1Gsps and below]	3000	HS Delta UI (ΔUI) [1Gsps and below]

Table 4 Test IDs and Names (continued)

Name	TestID	Description
1.2.20 HS Delta UI (ΔUI) [1Gsps and below] (obsolete)	3002	HS Delta UI (ΔUI) [1Gsps and below] (obsolete)
1.2.20 HS Delta UI (ΔUI) [1Gsps and below](C)	3010	HS Delta UI (ΔUI) [1Gsps and below]
1.2.20 HS Delta UI (ΔUI) [1Gsps and below](C) (obsolete)	3012	HS Delta UI (ΔUI) [1Gsps and below] (obsolete)
1.2.20 HS Delta UI (ΔUI) [above 1Gsps]	3001	HS Delta UI (ΔUI) [above 1Gsps]
1.2.20 HS Delta UI (ΔUI) [above 1Gsps] (obsolete)	3003	HS Delta UI (ΔUI) [above 1Gsps] (obsolete)
1.2.20 HS Delta UI (ΔUI) [above 1Gsps](C)	3011	HS Delta UI (ΔUI) [above 1Gsps]
1.2.20 HS Delta UI (ΔUI) [above 1Gsps](C) (obsolete)	3013	HS Delta UI (ΔUI) [above 1Gsps] (obsolete)
1.2.21 HS-TX Eye Diagram (VAB)(C)	3100	Transmitter eye diagram test for VAB
1.2.21 HS-TX Eye Diagram (VAB)[CTLE][above 3.5Gsps](C)	3104	Transmitter eye diagram test with CTLE for VAB
1.2.21 HS-TX Eye Diagram (VABC)(C)	3103	Transmitter eye diagram test for VABC
1.2.21 HS-TX Eye Diagram (VABC)[CTLE][above 3.5Gsps](C)	3107	Transmitter eye diagram test with CTLE for VABC
1.2.21 HS-TX Eye Diagram (VBC)(C)	3101	Transmitter eye diagram test for VBC
1.2.21 HS-TX Eye Diagram (VBC)[CTLE][above 3.5Gsps](C)	3105	Transmitter eye diagram test with CTLE for VBC
1.2.21 HS-TX Eye Diagram (VCA)(C)	3102	Transmitter eye diagram test for VCA
1.2.21 HS-TX Eye Diagram (VCA)[CTLE][above 3.5Gsps](C)	3106	Transmitter eye diagram test with CTLE for VCA
1.2.22 HS-TX UI Jitter Peak [2.5Gsps - 3.5Gsps](C)	3201	UI Jitter Peak test for Clock [2.5Gsps - 3.5Gsps]
1.2.22 HS-TX UI Jitter Peak [CTLE][above 3.5Gsps](C)	3202	UI Jitter Peak test for Clock [above 3.5Gsps]
1.2.3 T3-PREBEGIN Duration	1300	T3-PREBEGIN Duration
1.2.4 T3-PROGSEQ Duration	1400	T3-PROGSEQ Duration
1.2.5 T3-PREEND Duration	1500	T3-PREEND Duration
1.2.6 T3-SYNC Duration	1600	T3-SYNC Duration
1.2.7 HS-TX Differential Voltages (VOD-AB-Strong0) [Mean]	1707	Mean of Differential Voltages (VOD-AB-Strong0)

Table 4 Test IDs and Names (continued)

Name	TestID	Description
1.2.7 HS-TX Differential Voltages (VOD-AB-Strong0) [Mean](C)	1743	Mean of Differential Voltages (VOD-AB-Strong0)
1.2.7 HS-TX Differential Voltages (VOD-AB-Strong0) [Min]	1703	Minimum of Differential Voltages (VOD-AB-Strong0)
1.2.7 HS-TX Differential Voltages (VOD-AB-Strong1) [Max]	1700	Maximum of Differential Voltages (VOD-AB-Strong1)
1.2.7 HS-TX Differential Voltages (VOD-AB-Strong1) [Mean]	1704	Mean of Differential Voltages (VOD-AB-Strong1)
1.2.7 HS-TX Differential Voltages (VOD-AB-Strong1) [Mean](C)	1740	Mean of Differential Voltages (VOD-AB-Strong1)
1.2.7 HS-TX Differential Voltages (VOD-AB-Weak0) [Max]	1702	Maximum of Differential Voltages (VOD-AB-Weak0)
1.2.7 HS-TX Differential Voltages (VOD-AB-Weak0) [Mean]	1706	Mean of Differential Voltages (VOD-AB-Weak0)
1.2.7 HS-TX Differential Voltages (VOD-AB-Weak0) [Mean](C)	1742	Mean of Differential Voltages (VOD-AB-Weak0)
1.2.7 HS-TX Differential Voltages (VOD-AB-Weak0)(LVHS) [Mean]	1709	Mean of Differential Voltages (VOD-AB-Weak0)(LVHS)
1.2.7 HS-TX Differential Voltages (VOD-AB-Weak0)(LVHS) [Mean](C)	1745	Mean of Differential Voltages (VOD-AB-Weak0)(LVHS)
1.2.7 HS-TX Differential Voltages (VOD-AB-Weak1) [Mean]	1705	Mean of Differential Voltages (VOD-AB-Weak1)
1.2.7 HS-TX Differential Voltages (VOD-AB-Weak1) [Mean](C)	1741	Mean of Differential Voltages (VOD-AB-Weak1)
1.2.7 HS-TX Differential Voltages (VOD-AB-Weak1) [Min]	1701	Minimum of Differential Voltages (VOD-AB-Weak1)
1.2.7 HS-TX Differential Voltages (VOD-AB-Weak1)(LVHS) [Mean]	1708	Mean of Differential Voltages (VOD-AB-Weak1)(LVHS)
1.2.7 HS-TX Differential Voltages (VOD-AB-Weak1)(LVHS) [Mean](C)	1744	Mean of Differential Voltages (VOD-AB-Weak1)(LVHS)
1.2.7 HS-TX Differential Voltages (VOD-BC-Strong0) [Mean]	1717	Mean of Differential Voltages (VOD-BC-Strong0)
1.2.7 HS-TX Differential Voltages (VOD-BC-Strong0) [Mean](C)	1753	Mean of Differential Voltages (VOD-BC-Strong0)
1.2.7 HS-TX Differential Voltages (VOD-BC-Strong0) [Min]	1713	Minimum of Differential Voltages (VOD-BC-Strong0)
1.2.7 HS-TX Differential Voltages (VOD-BC-Strong1) [Max]	1710	Maximum of Differential Voltages (VOD-BC-Strong1)

Table 4 Test IDs and Names (continued)

Name	TestID	Description
1.2.7 HS-TX Differential Voltages (VOD-BC-Strong1) [Mean]	1714	Mean of Differential Voltages (VOD-BC-Strong1)
1.2.7 HS-TX Differential Voltages (VOD-BC-Strong1) [Mean](C)	1750	Mean of Differential Voltages (VOD-BC-Strong1)
1.2.7 HS-TX Differential Voltages (VOD-BC-Weak0) [Max]	1712	Maximum of Differential Voltages (VOD-BC-Weak0)
1.2.7 HS-TX Differential Voltages (VOD-BC-Weak0) [Mean]	1716	Mean of Differential Voltages (VOD-BC-Weak0)
1.2.7 HS-TX Differential Voltages (VOD-BC-Weak0) [Mean](C)	1752	Mean of Differential Voltages (VOD-BC-Weak0)
1.2.7 HS-TX Differential Voltages (VOD-BC-Weak0)(LVHS) [Mean]	1719	Mean of Differential Voltages (VOD-BC-Weak0)(LVHS)
1.2.7 HS-TX Differential Voltages (VOD-BC-Weak0)(LVHS) [Mean](C)	1755	Mean of Differential Voltages (VOD-BC-Weak0)(LVHS)
1.2.7 HS-TX Differential Voltages (VOD-BC-Weak1) [Mean]	1715	Mean of Differential Voltages (VOD-BC-Weak1)
1.2.7 HS-TX Differential Voltages (VOD-BC-Weak1) [Mean](C)	1751	Mean of Differential Voltages (VOD-BC-Weak1)
1.2.7 HS-TX Differential Voltages (VOD-BC-Weak1) [Min]	1711	Minimum of Differential Voltages (VOD-BC-Weak1)
1.2.7 HS-TX Differential Voltages (VOD-BC-Weak1)(LVHS) [Mean]	1718	Mean of Differential Voltages (VOD-BC-Weak1)(LVHS)
1.2.7 HS-TX Differential Voltages (VOD-BC-Weak1)(LVHS) [Mean](C)	1754	Mean of Differential Voltages (VOD-BC-Weak1)(LVHS)
1.2.7 HS-TX Differential Voltages (VOD-CA-Strong0) [Mean]	1727	Mean of Differential Voltages (VOD-CA-Strong0)
1.2.7 HS-TX Differential Voltages (VOD-CA-Strong0) [Mean](C)	1763	Mean of Differential Voltages (VOD-CA-Strong0)
1.2.7 HS-TX Differential Voltages (VOD-CA-Strong0) [Min]	1723	Minimum of Differential Voltages (VOD-CA-Strong0)
1.2.7 HS-TX Differential Voltages (VOD-CA-Strong1) [Max]	1720	Maximum of Differential Voltages (VOD-CA-Strong1)
1.2.7 HS-TX Differential Voltages (VOD-CA-Strong1) [Mean]	1724	Mean of Differential Voltages (VOD-CA-Strong1)
1.2.7 HS-TX Differential Voltages (VOD-CA-Strong1) [Mean](C)	1760	Mean of Differential Voltages (VOD-CA-Strong1)
1.2.7 HS-TX Differential Voltages (VOD-CA-Weak0) [Max]	1722	Maximum of Differential Voltages (VOD-CA-Weak0)

Table 4 Test IDs and Names (continued)

Name	TestID	Description
1.2.7 HS-TX Differential Voltages (VOD-CA-Weak0) [Mean]	1726	Mean of Differential Voltages (VOD-CA-Weak0)
1.2.7 HS-TX Differential Voltages (VOD-CA-Weak0) [Mean](C)	1762	Mean of Differential Voltages (VOD-CA-Weak0)
1.2.7 HS-TX Differential Voltages (VOD-CA-Weak0)(LVHS) [Mean]	1729	Mean of Differential Voltages (VOD-CA-Weak0)(LVHS)
1.2.7 HS-TX Differential Voltages (VOD-CA-Weak0)(LVHS) [Mean](C)	1765	Mean of Differential Voltages (VOD-CA-Weak0)(LVHS)
1.2.7 HS-TX Differential Voltages (VOD-CA-Weak1) [Mean]	1725	Mean of Differential Voltages (VOD-CA-Weak1)
1.2.7 HS-TX Differential Voltages (VOD-CA-Weak1) [Mean](C)	1761	Mean of Differential Voltages (VOD-CA-Weak1)
1.2.7 HS-TX Differential Voltages (VOD-CA-Weak1) [Min]	1721	Minimum of Differential Voltages (VOD-CA-Weak1)
1.2.7 HS-TX Differential Voltages (VOD-CA-Weak1)(LVHS) [Mean]	1728	Mean of Differential Voltages (VOD-CA-Weak1)(LVHS)
1.2.7 HS-TX Differential Voltages (VOD-CA-Weak1)(LVHS) [Mean](C)	1764	Mean of Differential Voltages (VOD-CA-Weak1)(LVHS)
1.2.8 HS-TX Differential Voltage Mismatch (ΔVOD)	1800	Differential Voltage Mismatch (ΔVOD)
1.2.8 HS-TX Differential Voltage Mismatch (ΔVOD)	1801	Differential Voltage Mismatch (ΔVOD)
1.2.8 HS-TX Differential Voltage Mismatch (ΔVOD)(C)	1810	Differential Voltage Mismatch (ΔVOD)
1.2.9 HS-TX Single-Ended Output High Voltages (VOHHS(VA))	1900	Mean of Single-Ended Output High Voltages (VOHHS(VA))
1.2.9 HS-TX Single-Ended Output High Voltages (VOHHS(VA))(C)	1910	Mean of Single-Ended Output High Voltages (VOHHS(VA))
1.2.9 HS-TX Single-Ended Output High Voltages (VOHHS(VB))	1901	Mean of Single-Ended Output High Voltages (VOHHS(VB))
1.2.9 HS-TX Single-Ended Output High Voltages (VOHHS(VB))(C)	1911	Mean of Single-Ended Output High Voltages (VOHHS(VB))
1.2.9 HS-TX Single-Ended Output High Voltages (VOHHS(VC))	1902	Mean of Single-Ended Output High Voltages (VOHHS(VC))
1.2.9 HS-TX Single-Ended Output High Voltages (VOHHS(VC))(C)	1912	Mean of Single-Ended Output High Voltages (VOHHS(VC))
1.5.1 T3-CALPREAMBLE Duration (Informative)	4100	This is an informative test.\nT3-CALPREAMBLE Duration

Table 4 Test IDs and Names (continued)

Name	TestID	Description
1.5.2 T3-ASID Duration (Informative)	4200	This is an informative test.\nT3-ASID Duration
1.5.3 T3-CALALTSEQ Duration (Informative)	4300	This is an informative test.\nT3-CALALTSEQ Duration\n\nDue to the limitations of the scope's memory depth, it might not possible to capture the full length of alternate sequence.
1.5.4 Calibration Sequence T3-SYNC Duration (Informative)	4400	This is an informative test.\nCalibration Sequence T3-SYNC Duration
HS-TX Differential Voltages (VOD-ABC)(Informative)	1730	This is an informative test.\nThe purpose of this test is to generate an eye diagram using VAB, VBC and VCA differential data.
HS-TX Differential Voltages (VOD-ABC)(Informative)(C)	1770	This is an informative test.\nThe purpose of this test is to generate an eye diagram using VAB, VBC and VCA differential data.

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.

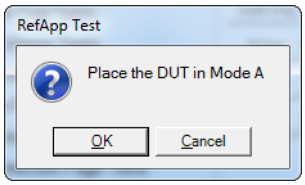
Table 6 Instrument Names

Instrument Name	Description
Infiniium	The primary oscilloscope.
scope	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 resutls	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 chagned - 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
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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