Keysight D9010CPHC MIPI® C-PHY℠ Compliance Application

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Programmer's
Reference

Notices

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In This Book

This book is your guide to programming the Keysight Technologies 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 47, and Chapter 4, “Instruments,” starting on page 55, 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, and 4 for changes.

Contents

1 Introduction to Programming

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

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

You can accomplish other tasks by combining these functions.

Remote Programming Toolkit

The majority of remote interface features are common across all the Keysight Technologies, Inc. family of compliance applications. Information on those features is provided in the N5452A Compliance Application Remote Programming Toolkit available for download from Keysight here: www.keysight.com/find/rpi. The D9010CPHC MIPI® C-PHY℠ Compliance Application uses Remote Interface Revision 6.00. 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	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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	CdrCPHY Timeout [ms]	CdrCPHY_UDF_Timeout	(Accepts user-defined text), 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.
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.

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 and 40mV for CTS v1.1. 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 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	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.
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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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.
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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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. The 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	Reference Channel Transfer Function File Setting	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. * By default, the "Standard" Channel will be used. * When the "Long" channel is selected, the "Long" Channel will be used. * When the "Short" Channel is selected, the "Short" channel will be used. * When the "Custom Channel" is selected, no transfer function file will be embeded when performing test. * This config is only applicable for 1.2.21 HS-TX Eye Diagram tests.
Configure	Scope Sampling Rate	ScopeSampleRate	10e9, 20e9, 40e9, 8e9, 16e9, 32e9, 64e9	The scope sampling rate.
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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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).
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	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	UseWfmFile(Must be hidden)	UseWfmFile	(Accepts user-defined text), 0.0, 1.0	For supporting offline
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. 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. 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, Weak1) Histogram

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	VOD Histogram Window Mode	VODHistogramWindowMode (cont'd)	AUTO, MANUAL	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: - 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: - 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. 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. 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, if 0.5UI 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	Select the CTS Version. Select the CTS Version.
Set Up	Device ID	DeviceID	(Accepts user-defined text)	This option allow user to key in related test details. Device ID

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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	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.
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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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.
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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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.
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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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.
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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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.
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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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.
Set Up	HSContModeVcptxTest_VBWfmFile	HSContModeVcptxTest_VBWfmFile	(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	HSContModeVcptxTest_VCWfmFile	HSContModeVcptxTest_VCWfmFile	(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	LPEscapeModeTest_VAWfmFile	LPEscapeModeTest_VAWfmFile	(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_VBWfmFile	(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.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	LPEscapeModeTest_VCWfmFile	LPEscapeModeTest_VCWfmFile	(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.
Set Up	LPVohTest_AllWfmFolder	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_AllWfmFolder	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:

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.
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)

Table 4 Test IDs and Names (continued)

Name	TestID	Description
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_+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_+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_-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_-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_-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)
1.2.11 HS-TX Static Common-Point Voltage Mismatch (∆VCPTX(HS))	2100	Static Common-Point Voltage Mismatch (∆VCPTX(HS))

Table 4 Test IDs and Names (continued)

Name	TestID	Description
1.2.11 HS-TX Static Common-Point Voltage Mismatch (ΔVCPTX(HS))(C)	2110	Static Common-Point Voltage Mismatch (ΔVCPTX(HS))
1.2.12 HS-TX Dynamic Common-Point Variations Between 50-450MHz (ΔVCPTX(LF))	2200	Dynamic Common-Point Variations Between 50-450MHz (ΔVCPTX(LF))
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 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 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)

Table 4 Test IDs and Names (continued)

Name	TestID	Description
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]
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) [above 1Gsps]	3001	HS Delta UI (ΔUI) [above 1Gsps]
1.2.20 HS Delta UI (ΔUI) [above 1Gsps](C)	3011	HS Delta UI (ΔUI) [above 1Gsps]
1.2.21 HS-TX Eye Diagram (VAB)(C)	3100	Transmitter eye diagram test 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 (VBC)(C)	3101	Transmitter eye diagram test for VBC
1.2.21 HS-TX Eye Diagram (VCA)(C)	3102	Transmitter eye diagram test for VCA
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)
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)

Table 4 Test IDs and Names (continued)

Name	TestID	Description
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-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-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)
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-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-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)

Table 4 Test IDs and Names (continued)

Name	TestID	Description
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)
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-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)
1.2.8 HS-TX Differential Voltage Mismatch (∆VOD)	1800	Differential Voltage Mismatch (∆VOD)
1.2.8 HS-TX Differential Voltage Mismatch (∆VOD)	1801	Differential Voltage Mismatch (∆VOD)
1.2.8 HS-TX Differential Voltage Mismatch (∆VOD)(C)	1810	Differential Voltage Mismatch (∆VOD)
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))

Table 4 Test IDs and Names (continued)

Name	TestID	Description
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	Infiniium
scope	The primary oscilloscope.

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