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KEYSIGHT TECHNOLOGIES

Programmer's Reference

Notices

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CAUTION

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In This Book

This book is your guide to programming the Keysight Technologies U7243C USB3.1 Test Application.

- Chapter 1, “Introduction to Programming,” starting on page 7, describes compliance application programming basics.
- Chapter 2, “Configuration Variables and Values,” starting on page 9, Chapter 3, “Test Names and IDs,” starting on page 23, and Chapter 4, “Instruments,” starting on page 35, provide information specific to programming the U7243C USB3.1 Test Application.

How to Use This Book

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

Contents

1 Introduction to Programming

Remote Programming Toolkit / 8

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 U7243C USB3.1 Test Application uses Remote Interface Revision 5.70. 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 U7243C USB3.1 Test Application options that you may query or set remotely using the appropriate remote interface method. The columns contain this information:

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

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

- Enable Advanced Features

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

Table 1 Example Configuration Variables and Values

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

and you would set the variable remotely using:

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

C# syntax
```

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

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

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

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

Table 2 Configuration Variables and Values

GUI Location	Label	Variable	Values	Description
Configure	Auto Save Waveform	AutoSave	SINGLE, OFF, ON	Choose SINGLE to auto save the most recent test run. Each successive test run will overwrite the saved waveform so that only the most recent test run waveform will be saved in the project folder. Choose ON to auto save waveforms. The software will automatically save captured waveforms for all tests into the project folder. Choose OFF to disable auto save waveforms. *Warning*: Repeatedly saving waveforms for many tests will quickly fill up hard drive memory. If saving a lot of waveforms for regression testing it is recommended to save to a non-Windows hard drive partition or external drive.
Configure	Automate Test Pattern Change	TestPatternAutomation	AUTO, MANUAL	Select "AUTO" to let the application automatically change the DUT's test pattern. Select "MANUAL" to manually change the DUT's test pattern.
Configure	Choose the starting Adc gain (SigTest Only)	DFELoop	0, -1, -2, -3, -4, -5, -6	Select the starting Adc gain instead of starting from 0 dB(SigTest Only)

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Clock recovery damping factor	CRDampFactor	(Accepts user-defined text), 0.707	Select or enter the damping factor for clock recovery.
Configure	Clock recovery loop bandwidth	CRLoopBW	(Accepts user-defined text), 4.9E+6	Select or enter the loop bandwidth for clock recovery.
Configure	Clock recovery nominal data rate	CRDataRate	(Accepts user-defined text), 5.0E+9	Select or enter the nominal data rate for clock recovery.
Configure	Connection Type	AddinTxConnectionType	1, 2, 3, 4, 7, 8	Identifies the channels to process. For Direct Connect, connect the first channel to the + signal and the second channel to the - signal.
Configure	DFE Tap Mode	DFEMode	AUTO, MANUAL	Choose the test mode for DFE Tap (If select "AUTO", SigTest will select the best DFE value, else if select "MANUAL", user may need to specify the DFE tap value)
Configure	DFE Tap Value (SigTest only)	DFEValue	(Accepts user-defined text), 50e-3, 45e-3, 40e-3, 35e-3, 30e-3, 25e-3, 20e-3, 15e-3, 10e-3, 5e-3	Make sure you had select "MANUAL" from the DFE Tap Mode selection. Then select the preferred DFE tap value
Configure	DFE upper target and lower target(SDA only only)	DFETarget	(Accepts user-defined text), 25e-3, 30e-3, 35e-3, 40e-3, 45e-3, 50e-3	Select upper target value and lower target value in DFE Setup (SDA only only)
Configure	DNWfmFileCP0	DNWfmFileCP0	(Accepts user-defined text), None	Saved CP0 D- signal.
Configure	DNWfmFileCP1	DNWfmFileCP1	(Accepts user-defined text), None	Saved CP1 D- signal.
Configure	DNWfmFileCP15	DNWfmFileTxEQ	(Accepts user-defined text), None	Saved CP15 D- signal.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	DPWfmFileCP0	DPWfmFileCP0	(Accepts user-defined text), None	Saved CP0 D+ signal.
Configure	DPWfmFileCP1	DPWfmFileCP1	(Accepts user-defined text), None	Saved CP1 D+ signal.
Configure	DPWfmFileCP15	DPWfmFileTxEQ	(Accepts user-defined text), None	Saved CP15 D+ signal.
Configure	De-emphasis test pattern	DeemphasisPattern	CP0, CP7, CP7/CP8	Select the test pattern to measure de-emphasis level. If only CP7 or CP0 is used, it is assumed the signal contains de-emphasis/pre-emphasis levels. If CP7/CP8 is selected, it is assumed the CP7 signal is the de-emphasised signal whereas the CP8 signal is the full swing signal.
Configure	De-emphasis test setup	DeemMsg	default, custom	De-emphasis test message prompt
Configure	DiffWfmFileCP0	DiffWfmFileCP0	(Accepts user-defined text), None	Saved CP0 differential signal.
Configure	DiffWfmFileCP1	DiffWfmFileCP1	(Accepts user-defined text), None	Saved CP1 differential signal.
Configure	DiffWfmFileCP15	DiffWfmFileTxEQ	(Accepts user-defined text), None	Saved CP15 differential signal.
Configure	Disable Pop-up Dialogs	DisablePopup	FALSE, TRUE	Select TRUE to disable pop-up dialogs that prompts user to change test pattern.
Configure	Horizontal scaling for 10G LFPS signal	LFPSScale	(Accepts user-defined text), 40e-6, 50e-6, 80e-6, 100e-6	Horizontal scaling for 10G LFPS signal, including SCD1 and LFPS signal

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Horizontal scaling for LBPM test	LBPMHor	(Accepts user-defined text), 30e-6, 50e-6, 80e-6, 100e-6, 150e-6, 200e-6, 250e-6	Please select the horizontal scaling for the LBPM test
Configure	Horizontal scaling for SCD test	SCDHor	(Accepts user-defined text), 50e-6, 80e-6, 100e-6, 150e-6, 200e-6, 250e-6	Please select the horizontal scaling for the LBPM test
Configure	LFPS Test Mode	LFPSMode	FALSE, TRUE	Set to true if want to run the LFPS test with SigTest tool
Configure	LFPS Trigger Level	LFPSTrigLevel	(Accepts user-defined text), 400.0E-3, 350.0E-3, 300.0E-3, 250.0E-3, 200.0E-3, 150.0E-3, 100.0E-3, 50.0E-3	Select the trigger level to capture LFPS signal. The unit is in V , if select "400e-3", the trigger level is 400mV.
Configure	Measurement Bandwidth for 10G Signal, GHz	NoiseBWSSP	25.0E+9, 24.0E+9, 23.0E+9, 22.0E+9, 21.0E+9, 20.0E+9, 19.0E+9, 18.0E+9, 17.0E+9, 16.0E+9	(Limited availability*) Specify the bandwidth limit to use for all tests.
Configure	Measurement Bandwidth for 5G Signal, GHz	NoiseBandwidth	13.0E+9, 12.5E+9, 12.0E+9, 10.0E+9, 8.0E+9, 7.0E+9, 6.5E+9, 6.0E+9, 5.5E+9, 5.0E+9, 4.5E+9, 4.0E+9, 3.5E+9, 3.0E+9, 2.5E+9, 2.0E+9, 1.5E+9, 1.0E+9	(Limited availability*) Specify the bandwidth limit to use for all tests.
Configure	Measurement Threshold	MeasThresh	0.01, 0.015, 0.02, 0.025, 0.03, 0.035, 0.04, 0.045, 0.05, 0.055, 0.06, 0.065, 0.07, 0.075, 0.08, 0.085, 0.09, 0.095, 0.10, 0.105, 0.11, 0.115, 0.12, 0.125	Select the measurement threshold level (upper/mid/lower).

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Measurement Trend cut-off frequency	CutOffFreq	1.98e+6, 1.5e+6, 825e+3, 633e+3, 73.8e+3	Select the cut off frequency to use for the measurement trend plot.
Configure	Measurement Trend cut-off frequency For Modulation Rate Test	CutOffFreqModRate	1.98e+6, 1.5e+6, 825e+3, 633e+3, 221.4e+3, 147.6e+3, 73.8e+3	Select the cut off frequency to use for the measurement trend plot for modulation rate test only.
Configure	Method to power cycle DUT	LFPSReset	FALSE, TRUE	Choose the method to power cycle DUT
Configure	Number of UI for Adc Eye Test	NumUIAdc	3.0E+6, 2.0E+6, 1.0E+6, 500.0E+3, 250.0E+3, 100.0E+3, 50.0E+3	This is the minimum number of unit intervals used when perform eye test using different Adc gain.
Configure	Number of UI for USB3 Gen1 testing	NumUIGen1Test	3.0E+6, 2.0E+6, 1.0E+6, 500.0E+3, 250.0E+3, 100.0E+3, 50.0E+3	This is the minimum number of unit intervals used in the Eye-Width, TJ at BER-12, Maximum DJ , RMS RJ and Template tests. These measurements should be made using the compliance pattern at a sample size of at least 1E+6 (1,000,000) UI as specified in the USB 3.0 Specification Rev. 1.0. Specifying a greater number of UI will increase the test time and accuracy of the tests.
Configure	Number of UI for USB3 Gen2 testing	NumUIGen2Test	3.0E+6, 2.0E+6, 1.0E+6, 500.0E+3, 250.0E+3, 100.0E+3, 50.0E+3	This is the minimum number of unit intervals used in the Eye-Width, TJ at BER-12, Maximum DJ , RMS RJ and Template tests. These measurements should be made using the compliance pattern at a sample size of at least 1E+6 (1,000,000) UI as specified in the USB 3.0 Specification Rev. 1.0. Specifying a greater number of UI will increase the test time and accuracy of the tests.
Configure	Number of retries to toggle patterns	RepeatToToggle	(Accepts user-defined text), 16	Number of retries to toggle patterns

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Option IP or SICL address for 81134A	PGIPorSICL	(Accepts user-defined text), IP, SICL	Option IP or SICL address for 81134A
Configure	Option IP or SICL address for 81150A	PFAIPorSICL	(Accepts user-defined text), IP, SICL	Option IP or SICL address for 81150A
Configure	Option IP or SICL address for JBert	JBertIPorSICL	(Accepts user-defined text), IP, SICL	Option IP or SICL address for JBert
Configure	Option IP or SICL address for M8020A	MBertIPorSICL	(Accepts user-defined text), IP, SICL	Option IP or SICL address for M8020A
Configure	Option to deembed fixture (10G)	FixtureOpt10G	(Accepts user-defined text), N7015A, USBIF	Option to deembed fixture (used in 10G test only)
Configure	Option to deembed fixture (5G)	FixtureOpt5G	(Accepts user-defined text), U7242A, N7015A, USBIF	Option to deembed fixture(used in 5G test only)
Configure	RJ Bandwidth	RJBW	NARR, WIDE	Select the RJ bandwidth.
Configure	RJ DJ ISI Filter Lag	RJDJISILag	(Accepts user-defined text), 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25	Select or enter the RJ DJ ISI Filter Lag.
Configure	RJ DJ ISI Filter Lead	RJDJISILead	(Accepts user-defined text), 0, -1, -2, -3, -4, -5, -6, -7, -8, -9	Select or enter the RJ DJ ISI Filter Lead.
Configure	RJ DJ Jitter BER Level	RJDJBER	E6, E7, E8, E9, E10, E11, E12, E13, E14, E15, E16, E17, E18	Select the RJ DJ Jitter BER level.
Configure	RJ DJ Jitter BER Level for 10G	RJDJBERSSP	E6, E7, E8, E9, E10, E11, E12	Select the RJ DJ Jitter BER level for 10G.
Configure	RJ DJ Pattern Length	RJDJPattLength	ARBITRARY, AUTO	Select the RJ DJ Pattern Length.
Configure	SSC Test Mode	SSCMode	FALSE, TRUE	Set to true if want to run the SSC test with SigTest tool

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	SavedSignalPattern	SavedSignalPattern	CP0/CP1, CP9/CP10, SCD, LBPM, LFPS, TxEQ	Signal pattern of the saved signal.
Configure	SavedSignalType	SavedSignalType	Differential, Single-ended	Signal type of the saved signal.
Configure	Set 10G Channel setting	DeEmbedOpt10G	(Accepts user-defined text), Std A to Std B, Std A to Micro B, C to C, Captive Device, None (HW channel)	Set 10G Channel setting
Configure	Set 5G Channel setting	DeEmbedOpt	(Accepts user-defined text), Std A to Std B, Std A to Micro B, Tethered, C to C, Micro AB, None (HW channel)	Set 5G Channel setting
Configure	Set IP address for 81134A	txtIPAddrPG	(Accepts user-defined text), 192.168.0.2	Set IP address for 81134A
Configure	Set IP address for 81150A	txtIPAddrPFA	(Accepts user-defined text), 192.168.0.2	Set IP address for 81150A
Configure	Set IP address for JBert	txtIPAddrJBert	(Accepts user-defined text), 192.168.0.2	Set IP address for JBert
Configure	Set IP address for M8020A	txtIPAddrMBert	(Accepts user-defined text), 192.168.0.2	Set IP address for M8020A
Configure	Set SICL address for 33250A	txtSICLAddrFA	(Accepts user-defined text), gpib3, 13	Set SICL address for 33250A
Configure	Set SICL address for 81134A	txtSICLAddrPG	(Accepts user-defined text), gpib3, 13	Set SICL address for 81134A
Configure	Set SICL address for 81150A	txtSICLAddrPFA	(Accepts user-defined text), gpib3, 13	Set SICL address for 81150A

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Configure	Set SICL address for E3631A	txtSICLAddrPS	(Accepts user-defined text), gpib3, 13	Set SICL address for E3631A
Configure	Set SICL address for JBert	txtSICLAddrJBert	(Accepts user-defined text), gpib3, 13	Set SICL address for JBert
Configure	Set SICL address for M8020A	txtSICLAddrMBert	(Accepts user-defined text), gpib3, 13	Set SICL address for M8020A
Configure	Signal Check	EnableSignalCheck	1.0, 0.0	When signal check is enabled, the input signal is pre-tested and verified to be within a reasonable range of timing and voltage limits. This can be useful for detecting problems like cabling errors before a test is run.
Configure	Test Pattern	TestPattern	CP0, CP1, Both	Select the test pattern to use. When "Both" is selected, CP1 is used for RJ measurement and CP0 is used for DJ measurement. In Gen2 test, CP10 is used for Rj measurement, CP9 is used for EH/EW measurement
Configure	Toggle Type	ToggleType	AC, SOSC, TRIGOUT, DPUL, HFOSC, ONE, 81150A, 33250A, 81134A, JBert, MBert, N7018A	Toggle Option
Configure	Toggle option during remote	ManToggle	0.0, 1.0	Toggle Option when run remotely. Set to true to continuous ping for the signal
Configure	Total SCD Pattern	TotalSegment	(Accepts user-defined text), 4, 8, 12, 16, 20, 24, 28, 32	Select the total pattern for SCD1 and SCD2
Configure	TxEQ Test Mode	TxEQMode	FALSE, TRUE	Set to true if want to run the TxEQ test for 10G using SigTest tool
Run Tests	Event	RunEvent	(None), Fail, Margin < N, Pass	Names of events that can be used with the StoreMode=Event or RunUntil RunEventAction options

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
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	CC Line	CC1	0.0, 1.0	CC1 connect to CC, CC2 connect to Vconn CbCC1
Set Up	CC Line Flip	CC2	0.0, 1.0	CC2 connect to CC, CC1 connect to Vconn CbCC2
Set Up	Check box to enable PDC Automation	EnableAutomation	0.0, 1.0	Check box to enable PDC Automation EnablePDC Automation
Set Up	Check box to enable PDC Setting	EnablePDC	0.0, 1.0	Check box to enable PDC Setting EnablePDC
Set Up	Check box to select PDO combination in Consumer Power Profile	PDOC1	0.0, 1.0	Check box to select PDO combination in Consumer Power Profile PDOC1
Set Up	Check box to select PDO combination in Consumer Power Profile	PDOC2	0.0, 1.0	Check box to select PDO combination in Consumer Power Profile PDOC2
Set Up	Check box to select PDO combination in Consumer Power Profile	PDOC3	0.0, 1.0	Check box to select PDO combination in Consumer Power Profile PDOC3
Set Up	Check box to select PDO combination in Provider Power Profile	PDOP1	0.0, 1.0	Check box to select PDO combination in Provider Power Profile PDOP1
Set Up	Check box to select PDO combination in Provider Power Profile	PDOP2	0.0, 1.0	Check box to select PDO combination in Provider Power Profile PDOP2
Set Up	Check box to select PDO combination in Provider Power Profile	PDOP3	0.0, 1.0	Check box to select PDO combination in Provider Power Profile PDOP3
Set Up	DNWfmFileCP0	DNWfmFileCP0	(Accepts user-defined text)	Load CP0 D- signal waveform. Load CP0 D- signal waveform.
Set Up	DNWfmFileCP1	DNWfmFileCP1	(Accepts user-defined text)	Load CP1 D- signal waveform. Load CP1 D- signal waveform.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	DNWfmFileTxEQ	DNWfmFileTxEQ	(Accepts user-defined text)	Load CP15 D- signal waveform. Load CP15 D- signal waveform.
Set Up	DPWfmFileCP0	DPWfmFileCP0	(Accepts user-defined text)	Load CP0 D+ signal waveform. Load CP0 D+ signal waveform.
Set Up	DPWfmFileCP1	DPWfmFileCP1	(Accepts user-defined text)	Load CP1 D+ signal waveform. Load CP1 D+ signal waveform.
Set Up	DPWfmFileTxEQ	DPWfmFileTxEQ	(Accepts user-defined text)	Load CP15 D+ signal waveform. Load CP15 D+ signal waveform.
Set Up	DUT Orientation	DutOrientation	Normal, Inverted	DUT Orientation DutOrientation
Set Up	DeEmbedOpt	DeEmbedOpt	Std A to Std B, Std A to Micro B, Tethered, None (HW channel)	Select whether to embed/de-embed signal or none. Select whether to embed/de-embed signal or none.
Set Up	DeEmbedOpt10G	DeEmbedOpt10G	C to C, Captive Device, None (HW channel)	Select whether to embed/de-embed 10G Signal. Select whether to embed/de-embed 10G Signal.
Set Up	DiffWfmFileCP0	DiffWfmFileCP0	(Accepts user-defined text)	Load CP0 differential signal waveform. Load CP0 differential signal waveform.
Set Up	DiffWfmFileCP1	DiffWfmFileCP1	(Accepts user-defined text)	Load CP1 differential signal waveform. Load CP1 differential signal waveform.
Set Up	DiffWfmFileTxEQ	DiffWfmFileTxEQ	(Accepts user-defined text)	Load CP15 differential signal waveform. Load CP15 differential signal waveform.
Set Up	FixtureOpt10G	FixtureOpt10G	N7015A, USBIF	Select the fixture. Select the fixture.
Set Up	FixtureOpt5G	FixtureOpt5G	U7242A, N7015A, USBIF	Select the fixture. Select the fixture.
Set Up	JBertIPorSICL	JBertIPorSICL	IP Address, SICL Address	IP address or SICL address. IP address or SICL address.
Set Up	MBertIPorSICL	MBertIPorSICL	IP Address, SICL Address	IP address or SICL address. IP address or SICL address.
Set Up	OffPatt	OffPatt	CP0/CP1, CP9/CP10, SCD, LBPM, LFPS, TxEQ	Select the type of compliance pattern. Select the type of compliance pattern.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	PFAIPorSICL	PFAIPorSICL	IP Address, SICL Address	IP address or SICL address. IP address or SICL address.
Set Up	PGIPorSICL	PGIPorSICL	IP Address, SICL Address	IP address or SICL address. IP address or SICL address.
Set Up	Product Under Test	DeviceUSBrev	Device, Host, Hub-Upstream, Hub-Downstream	This option allow user to select Product Under Test.
Set Up	RepeatToggle	RepeatToggle	(Accepts user-defined text), 16	RepeatToggle. RepeatToggle.
Set Up	SavedSignalType	SavedSignalType	Single-ended, Differential	Select the type of signal. Select the type of signal.
Set Up	Select tests peformed at the far end transmitter.	TestPoint_FarEndEye	0.0, 1.0	Select tests peformed at the far end transmitter. TestPoint_FarEndEye
Set Up	TypeOFDUT	TypeOFDUT	Gen 1, Gen 2	Select type of DUT. Is either Gen 1 or Gen 2 DUT. This selection will decide the type of LFPS test required.
Set Up	cbToggleChoices	cbToggleChoices	Probe Comp, 100MHz Clock, TRIG OUT, Double Pulse, Demo Clock, 1 to 0 to 1, 81150A, 81134A, N4903B, M8020A, 33250A, N7018A	Toggle Choice. Toggle Choice.
Set Up	optRefClock	RefClockOpt	SSC, Radio Friendly SSC, Clean Clock	Select reference clock for USB 3.0 test signal.
Set Up	txtIPAddrJBert	txtIPAddrJBert	(Accepts user-defined text), 192.168.0.2	JBert IP address. JBert IP address.
Set Up	txtIPAddrMBert	txtIPAddrMBert	(Accepts user-defined text), 192.168.0.2	M8020A IP address. M8020A IP address.
Set Up	txtIPAddrPFA	txtIPAddrPFA	(Accepts user-defined text), 192.168.0.2	81150A IP address. 81150A IP address.

Table 2 Configuration Variables and Values (continued)

GUI Location	Label	Variable	Values	Description
Set Up	txtIPAddrPG	txtIPAddrPG	(Accepts user-defined text), 192.168.0.2	81134A IP address. 81134A IP address.
Set Up	txtSICLAddrFA	txtSICLAddrFA	(Accepts user-defined text), gpib3, 13	33250A Gpib address. 33250A Gpib address.
Set Up	txtSICLAddrJBert	txtSICLAddrJBert	(Accepts user-defined text), gpib3, 13	JBert SICL address. JBert SICL address.
Set Up	txtSICLAddrMBert	txtSICLAddrMBert	(Accepts user-defined text), gpib3, 13	M8020A SICL address. M8020A SICL address.
Set Up	txtSICLAddrPFA	txtSICLAddrPFA	(Accepts user-defined text), gpib3, 13	81150A SICL address. 81150A SICL address.
Set Up	txtSICLAddrPG	txtSICLAddrPG	(Accepts user-defined text), gpib3, 13	81134A Gpib address. 81134A Gpib address.
Set Up	txtSICLAddrPS	txtSICLAddrPS	(Accepts user-defined text), gpib3, 13	Power Supply Gpib address. Power Supply Gpib address.
*Limited availability: Availability of this setting depends upon the oscilloscope model and installed license options.				

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
10G Far End Differential Output Voltage (SDA)	26419	The purpose of this test is to verify that the differential output voltage measured at TP1 meets the minimum eye height as specified in Table 6-19 of the USB 3.1 specification.
10G Far End Differential Output Voltage (SDA)(CTLE ON)	23418	The purpose of this test is to verify that the differential output voltage measured at TP1 meets the minimum eye height as specified in Table 6-19 of the USB 3.1 specification.
10G Far End Maximum Deterministic Jitter (CTLE ON)	26920	The purpose of this test is to verify that the measured deterministic jitter, Dj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
10G Far End Maximum Deterministic Jitter (SDA)	26929	The purpose of this test is to verify that the measured deterministic jitter, Dj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
10G Far End Maximum Deterministic Jitter (SDA)(CTLE ON)	23928	The purpose of this test is to verify that the measured deterministic jitter, Dj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
10G Far End Template Test (CTLE ON)	26100	The purpose of this test is to perform an eye mask test at TP1 using the eye mask template as specified in table 6-19 of the USB 3.1 specification.
10G Far End Template Test (SDA)	26109	The purpose of this test is to perform an eye mask test at TP1 using the eye mask template as specified in table 6-19 of the USB 3.1 specification.
10G Far End Template Test (SDA)(CTLE ON)	23108	The purpose of this test is to perform an eye mask test at TP1 using the eye mask template as specified in table 6-19 of the USB 3.1 specification.
10G Far End Total Jitter at BER-6 (CTLE ON)	26960	The purpose of this test is to verify that the measured total jitter, Tj measured at TP1 is within the limits as specified in Table 6-18 of the USB 3.1 specification.
10G Far End Total Jitter at BER-6 (SDA)	26969	The purpose of this test is to verify that the measured total jitter, Tj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.

Table 4 Test IDs and Names (continued)

Name	TestID	Description
10G Far End Total Jitter at BER-6 (SDA)(CTLE ON)	23968	The purpose of this test is to verify that the measured total jitter, Tj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
10G LBPS tLFPS_0	2170	The purpose of this test is to measure tLFPS-0 as specified in table 6-32 of the USB 3.1 specification.
10G LBPS tLFPS_1	2180	The purpose of this test is to measure tLFPS-1 as specified in table 6-32 of the USB 3.1 specification.
10G LBPS tPWM	2160	The purpose of this test is to measure tPWM as specified in table 6-32 of the USB 3.1 specification.
10G LFPS AC Common Mode Voltage	12140	The purpose of this test is to verify that the maximum voltage from Txp + Txn for both time and amplitude is within the limits as specified in Table 6-28 of the USB 3.1 specification
10G LFPS Burst Width (tBurst)	12110	The purpose of this test is to verify that the burst width (tBurst) of the Polling.LFPS signal is within the conformance limits specified in Table 6-29 of the USB 3.1 Specification, version 1.0
10G LFPS Duty cycle	12130	The purpose of this test is to verify that the duty cycle of the LFPS signal is within the conformance limits specified in Table 6-28 of the USB 3.1 Specification, version 1.0
10G LFPS Fall Time	12125	The purpose of this test is to verify that the fall time of the LFPS signal is within the conformance limits specified in Table 6-28 of the USB 3.1 Specification, version 1.0
10G LFPS Peak-Peak Differential Output Voltage	12100	The purpose of this test is to verify that the peak-to-peak differential output voltage of the LFPS signal is within the conformance limits specified in Table 6-28 of the USB 3.1 Specification, version 1.0
10G LFPS Period (tPeriod)	12105	The purpose of this test is to verify that the period of the LFPS signal is within the conformance limits specified in Table 6-28 of the USB 3.1 Specification, version 1.0
10G LFPS Repeat Time Interval (tRepeat)	12115	The purpose of this test is to verify that the time interval when the next LFPS burst is transmitted (tRepeat) is within the conformance limits specified in Table 6-29 of the USB 3.1 Specification, version 1.0
10G LFPS Rise Time	12120	The purpose of this test is to verify that the rise time of the LFPS signal is within the conformance limits specified in Table 6-28 of the USB 3.1 Specification, version 1.0

Table 4 Test IDs and Names (continued)

Name	TestID	Description
10G Near End Differential Output Voltage (SDA)	25469	The purpose of this test is to verify that the differential output voltage measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-17 of the USB 3.1 specification.
10G Near End Maximum Deterministic Jitter (SDA)	25929	The purpose of this test is to verify that the measured deterministic jitter, Dj measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-18 of the USB 3.1 specification.
10G Near End Template Test (SDA)	25169	The purpose of this test is to perform an eye mask test at the near end of the transmitter (TP0) using the specifications in section 6.7.1 tables 6-17 and 6-18 of the USB 3.1 specification.
10G Near End Total Jitter at BER-6 (SDA)	25969	The purpose of this test is to verify that the measured total jitter, Tj measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-18 of the USB 3.1 specification.
10G Random Jitter	26820	The purpose of this test is to verify that the measured random jitter, Rj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
10G Random Jitter (SDA)	23828	The purpose of this test is to verify that the measured random jitter, Rj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
10G Random Jitter (SDA)	26829	The purpose of this test is to verify that the measured random jitter, Rj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
10G Random Jitter (SDA)	25829	The purpose of this test is to verify that the measured random jitter, Rj measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-18 of the USB 3.1 specification.
10G SCD Common Mode Voltage	2208	The purpose of this test is to verify that the SCD Common Mode as specified section 6.7.1, Table 6-18 of the USB 3.1 specification.
10G SCD Differential Voltage	2207	The purpose of this test is to verify that the SCD differential voltage as specified section 6.7.1, Table 6-17 of the USB 3.1 specification.
10G SCD Duty Cycle	2203	The purpose of this test is to verify that the SCD Duty Cycle as specified section 6.9, Table 6-28 of the USB 3.1 specification.
10G SCD Fall Time	2202	The purpose of this test is to verify that the SCD Fall Time as specified section 6.9, Table 6-28 of the USB 3.1 specification.

Table 4 Test IDs and Names (continued)

Name	TestID	Description
10G SCD Period	2204	The purpose of this test is to verify that the SCD Period as specified section 6.9, Table 6-28 of the USB 3.1 specification.
10G SCD Rise Time	2201	The purpose of this test is to verify that the SCD Rise Time as specified section 6.9, Table 6-28 of the USB 3.1 specification.
10G SCD tBurst	2206	The purpose of this test is to verify that the SCD tBurst as specified section 6.9, Table 6-29 of the USB 3.1 specification.
10G SCD tRepeat	2205	The purpose of this test is to verify that the SCD tRepeat as specified section 6.9, Table 6-29 of the USB 3.1 specification.
10G SSC Modulation Rate	12308	The purpose of this test is to verify that the measured SSC modulation rate is within the conformance limits specified in Table 6-16 of the USB 3.1 Specification.
10G SSC df/dt	2512	The purpose of this test is to verify that the maximum df/dt is never exceeded as specified in Table 6-17 of the USB 3.1 Specification.
10G Short Channel Differential Output Voltage	42241	The purpose of this test is to verify that the differential output voltage measured at TP1 meets the minimum eye height as specified in Table 6-19 of the USB 3.1 specification.
10G Short Channel Extrapolated Eye Height	42292	The purpose of this test is to measure the extrapolated eye height
10G Short Channel Minimum Eye Width	42296	The purpose of this test is to measure the Eye Width
10G Short Channel Template Test	42210	The purpose of this test is to perform an eye mask test at TP1 using the eye mask template as specified in table 6-19 of the USB 3.1 specification.
10G SuperSpeedPlus Capability Declaration (SCD1)	2150	The purpose of this test is to verify that the SCD pattern as specified section 6.9.4.2 of the USB 3.1 specification. The SCD pattern is 0010.
10G SuperSpeedPlus Capability Declaration (SCD2)	2190	The purpose of this test is to verify that the SCD pattern as specified section 6.9.4.2 of the USB 3.1 specification. The SCD pattern is 1101
10G TSSC-Freq-Dev-Max	12311	The purpose of this test is to verify that the measured SSC deviation is within the conformance limits specified in Table 6-16 of the USB 3.1 Specification.

Table 4 Test IDs and Names (continued)

Name	TestID	Description
10G TSSC-Freq-Dev-Min	12307	The purpose of this test is to verify that the measured SSC deviation is within the conformance limits specified in Table 6-16 of the USB 3.1 Specification.
10G Unit Interval	12300	The purpose of this test is to verify that the unit interval measured at the near end of the transmitter (TP0) when no SSC is present is within the conformance limits specified in Table 6-17 of the USB 3.1 Specification.
5G Far End Differential Output Voltage	2241	The purpose of this test is to verify that the differential output voltage measured at TP1 meets the minimum eye height as specified in Table 6-19 of the USB 3.1 specification.
5G Far End Differential Output Voltage (CTLE ON)	22410	The purpose of this test is to verify that the differential output voltage measured at TP1 meets the minimum eye height as specified in Table 6-19 of the USB 3.1 specification.
5G Far End Differential Output Voltage (SDA)	22419	The purpose of this test is to verify that the differential output voltage measured at TP1 meets the minimum eye height as specified in Table 6-19 of the USB 3.1 specification.
5G Far End Differential Output Voltage (SDA)(CTLE ON)	22418	The purpose of this test is to verify that the differential output voltage measured at TP1 meets the minimum eye height as specified in Table 6-19 of the USB 3.1 specification.
5G Far End Maximum Deterministic Jitter	2292	The purpose of this test is to verify that the measured deterministic jitter, Dj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G Far End Maximum Deterministic Jitter (CTLE ON)	22920	The purpose of this test is to verify that the measured deterministic jitter, Dj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G Far End Maximum Deterministic Jitter (SDA)	22929	The purpose of this test is to verify that the measured deterministic jitter, Dj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G Far End Maximum Deterministic Jitter (SDA)(CTLE ON)	22928	The purpose of this test is to verify that the measured deterministic jitter, Dj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.

Table 4 Test IDs and Names (continued)

Name	TestID	Description
5G Far End Template Test	2210	The purpose of this test is to perform an eye mask test at TP1 using the eye mask template as specified in table 6-19 of the USB 3.1 specification.
5G Far End Template Test (CTLE ON)	22100	The purpose of this test is to perform an eye mask test at TP1 using the eye mask template as specified in table 6-19 of the USB 3.1 specification.
5G Far End Template Test (SDA)	22109	The purpose of this test is to perform an eye mask test at TP1 using the eye mask template as specified in table 6-19 of the USB 3.1 specification.
5G Far End Template Test (SDA)(CTLE ON)	22108	The purpose of this test is to perform an eye mask test at TP1 using the eye mask template as specified in table 6-19 of the USB 3.1 specification.
5G Far End Total Jitter at BER-12	2296	The purpose of this test is to verify that the measured total jitter, Tj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G Far End Total Jitter at BER-12 (CTLE ON)	22960	The purpose of this test is to verify that the measured total jitter, Tj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G Far End Total Jitter at BER-12 (SDA)	22969	The purpose of this test is to verify that the measured total jitter, Tj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G Far End Total Jitter at BER-12 (SDA)(CTLE ON)	22968	The purpose of this test is to verify that the measured total jitter, Tj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G LFPS AC Common Mode Voltage	2140	The purpose of this test is to verify that the maximum voltage from Txp + Txn for both time and amplitude is within the limits as specified in Table 6-28 of the USB 3.1 specification
5G LFPS Burst Width (tBurst)	2110	The purpose of this test is to verify that the burst width (tBurst) of the Polling.LFPS signal is within the conformance limits specified in Table 6-29 of the USB 3.1 Specification, version 1.0
5G LFPS Duty cycle	2130	The purpose of this test is to verify that the duty cycle of the LFPS signal is within the conformance limits specified in Table 6-28 of the USB 3.1 Specification, version 1.0
5G LFPS Fall Time	2125	The purpose of this test is to verify that the fall time of the LFPS signal is within the conformance limits specified in Table 6-28 of the USB 3.1 Specification, version 1.0

Table 4 Test IDs and Names (continued)

Name	TestID	Description
5G LFPS Peak-Peak Differential Output Voltage	2100	The purpose of this test is to verify that the peak-to-peak differential output voltage of the LFPS signal is within the conformance limits specified in Table 6-28 of the USB 3.1 Specification, version 1.0
5G LFPS Period (tPeriod)	2105	The purpose of this test is to verify that the period of the LFPS signal is within the conformance limits specified in Table 6-28 of the USB 3.1 Specification, version 1.0
5G LFPS Repeat Time Interval (tRepeat)	2115	The purpose of this test is to verify that the time interval when the next LFPS burst is transmitted (tRepeat) is within the conformance limits specified in Table 6-29 of the USB 3.1 Specification, version 1.0
5G LFPS Rise Time	2120	The purpose of this test is to verify that the rise time of the LFPS signal is within the conformance limits specified in Table 6-28 of the USB 3.1 Specification, version 1.0
5G Near End Differential Output Voltage	2346	The purpose of this test is to verify that the differential output voltage measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-17 of the USB 3.1 specification.
5G Near End Differential Output Voltage (SDA)	23469	The purpose of this test is to verify that the differential output voltage measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-17 of the USB 3.1 specification.
5G Near End Maximum Deterministic Jitter	2392	The purpose of this test is to verify that the measured deterministic jitter, Dj measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-18 of the USB 3.1 specification.
5G Near End Maximum Deterministic Jitter (SDA)	23929	The purpose of this test is to verify that the measured deterministic jitter, Dj measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-18 of the USB 3.1 specification.
5G Near End Template Test	2316	The purpose of this test is to perform an eye mask test at the near end of the transmitter (TP0) using the specifications in section 6.7.1 tables 6-17 and 6-18 of the USB 3.1 specification.
5G Near End Template Test (SDA)	23169	The purpose of this test is to perform an eye mask test at the near end of the transmitter (TP0) using the specifications in section 6.7.1 tables 6-17 and 6-18 of the USB 3.1 specification.

Table 4 Test IDs and Names (continued)

Name	TestID	Description
5G Near End Total Jitter at BER-12	2396	The purpose of this test is to verify that the measured total jitter, Tj measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-18 of the USB 3.1 specification.
5G Near End Total Jitter at BER-12 (SDA)	23969	The purpose of this test is to verify that the measured total jitter, Tj measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-18 of the USB 3.1 specification.
5G Random Jitter	2282	The purpose of this test is to verify that the measured random jitter, Rj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G Random Jitter	2382	The purpose of this test is to verify that the measured random jitter, Rj measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-18 of the USB 3.1 specification.
5G Random Jitter (CTLE ON)	22820	The purpose of this test is to verify that the measured random jitter, Rj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G Random Jitter (SDA)	22829	The purpose of this test is to verify that the measured random jitter, Rj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G Random Jitter (SDA)(CTLE OFF)	23829	The purpose of this test is to verify that the measured random jitter, Rj measured at the near end of the transmitter (TP0) is within the limits as specified in Table 6-18 of the USB 3.1 specification.
5G Random Jitter (SDA)(CTLE ON)	22828	The purpose of this test is to verify that the measured random jitter, Rj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G SSC Modulation Rate	2308	The purpose of this test is to verify that the measured SSC modulation rate is within the conformance limits specified in Table 6-16 of the USB 3.1 Specification.
5G SSC Slew Rate	2310	The purpose of this test is to ensure the combination of SSC and all other jitter sources within the bandwidth of the CDR must not exceed the allowed slew rate as listed in Table 6-17.
5G Short Channel Differential Output Voltage	32241	The purpose of this test is to verify that the differential output voltage measured at TP1 meets the minimum eye height as specified in Table 6-19 of the USB 3.1 specification.

Table 4 Test IDs and Names (continued)

Name	TestID	Description
5G Short Channel Maximum Deterministic Jitter	32292	The purpose of this test is to verify that the measured deterministic jitter, Dj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G Short Channel Random Jitter	32282	The purpose of this test is to verify that the measured random jitter, Rj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G Short Channel Template Test	32210	The purpose of this test is to perform an eye mask test at TP1 using the eye mask template as specified in table 6-19 of the USB 3.1 specification.
5G Short Channel Total Jitter at BER-12	32296	The purpose of this test is to verify that the measured total jitter, Tj measured at TP1 is within the limits as specified in Table 6-19 of the USB 3.1 specification.
5G TSSC-Freq-Dev-Max	2311	The purpose of this test is to verify that the measured SSC deviation is within the conformance limits specified in Table 6-16 of the USB 3.1 Specification. If Radio Friendly SSC option is turned on, this test will verify SSC deviation is within the conformance limits specified in ECN 018 of USB3.0 specification.
5G TSSC-Freq-Dev-Min	2307	The purpose of this test is to verify that the measured SSC deviation is within the conformance limits specified in Table 6-16 of the USB 3.1 Specification.
5G Unit Interval	2300	The purpose of this test is to verify that the unit interval measured at the near end of the transmitter (TP0) when no SSC is present is within the conformance limits specified in Table 6-17 of the USB 3.1 Specification.
CTLE_Adc Selection	90001	The purpose of this test is to run the eye folding and select the best DC gain for eye opening
De-emphasis Ratio	2410	The purpose of this test is to measure the transmitter de-emphasis ratio.
De-emphasis calibration	3200	The purpose of this test is to calibrate the N4903B/N4916A to set 3dB de-emphasis level.
Deemphasis	3010	The purpose of this test is to measure the transmitter Deemphasis
Extrapolated Eye Height	90002	The purpose of this test is to measure the extrapolated eye height
HF Sinusoidal Jitter Calibration	3220	The purpose of this test is to calibrate the N4903B to set the required RJ values.

Table 4 Test IDs and Names (continued)

Name	TestID	Description
LF Sinusoidal Jitter Calibration	3210	The purpose of this test is to calibrate the N4903B to set the required SJ values.
LFPS Response VTX-DIFF-PP-LFPS 1000mV, Duty Cycle 40%	3120	The purpose of this test is to verify that the DUT low frequency periodic signal receiver recognizes LFPS signalling with voltage swings and duty cycle that are at the limits of what the specification allows.
LFPS Response VTX-DIFF-PP-LFPS 1000mV, Duty Cycle 60%	3130	The purpose of this test is to verify that the DUT low frequency periodic signal receiver recognizes LFPS signalling with voltage swings and duty cycle that are at the limits of what the specification allows.
LFPS Response VTX-DIFF-PP-LFPS 1200mV, Duty Cycle 50%	3110	The purpose of this test is to verify that the DUT low frequency periodic signal receiver recognizes LFPS signalling with voltage swings and duty cycle that are at the limits of what the specification allows.
LFPS Response VTX-DIFF-PP-LFPS 800mV, Duty Cycle 50%	3100	The purpose of this test is to verify that the DUT low frequency periodic signal receiver recognizes LFPS signalling with voltage swings and duty cycle that are at the limits of what the specification allows.
Minimum Eye Width	90003	The purpose of this test is to measure the Eye Width
Peak-peak Differential Output Voltage Using CP8	2400	The purpose of this test is to measure the peak-to-peak differential voltage swing using compliance pattern CP8.
Preshoot	3011	The purpose of this test is to measure the transmitter Preshoot
Tx AC Common Mode Voltage Active	2420	The purpose of this test is to verify that the maximum mismatch from Txp + Txn for both time and amplitude is within the limits as specified in Table 6-18 of the USB 3.1 specification

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
FAGenerator	FAGenerator
Infiniium	Infiniium
JBert	JBert
MBert	MBert
PFAGenerator	PFAGenerator
pulsegen	pulsegen
pwrsupply	pwrsupply

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