Notices

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4 Using OIF-CEI 28G VSR/SR plug-in User Interface

Modes of Operation 30
Configuration 30
Calibration and Tests 33

GUI Elements 35
Toolbar 35
Parameters 36
Connection Diagram 36
Calculated Results 37
Logger 37
Measurement History 38
Status Indicator 39

5 Calibrations and Tests

Performing the Calibrations and Tests 42

Compliance Boards (for VSR Calibrations and Tests) 43

VSR Calibrations 44
Crosstalk Amplitude 44
Crosstalk Transition Time 46
Amplitude 47
UUGJ 48
UBHRJ 49
SJ 50
Stressed Eye 51

VSR Host Tests 54
Stressed Input 54
Voltage Tolerance 56
## SR Calibrations

- Amplitude Direct Connection 57
- Amplitude 59
- UUGJ 61
- UBHRJ 61
- SJ 62
- Transmitter Common Mode Noise 63
- Integrated Crosstalk Noise 64

## SR Tests

- Stressed Input 65
- Voltage Tolerance 67

6 Remote Programming/SCPI Plug-in Interface

### SCPI Commands

- Executing a SCPI through M8070A SCPI Editor 82
1 Introduction

Overview / 8
Description of terms used in OIF-CEI / 9
Related Documents / 10
Contacting Keysight Technologies / 11
Overview

The Optical Internetworking Forum (OIF) has developed Interoperability Agreements (IAs) focused on the development and deployment of new common electrical interfaces (CEI) applicable to higher speed optical systems. The common Electrical I/O implementation has a number of agreements but Keysight OIF-CEI 28G VSR/SR plug-in provides only 28G-SR and 28G-VSR Host compliance tests.

The OIF-CEI 28G VSR/SR plug-in must be installed separately on top of the M8070A system software.
Description of terms used in OIF-CEI

CEI 28G -Short Reach (SR) Interface

The CEI 28G-SR is a high speed electrical interface with low voltage logic. It is applicable for data lane(s) that supports the bit rates from 19.90 to 28.05 Gsym/s using NRZ coding over printed circuit boards. The transmission range is from 0 to 300 mm up to one connector and its signaling is unidirectional. In 28G-SR interface, the electrical interface connections are point to point in balanced differential pairs. Its electrical IAs are based on loss and jitter budget. It defines the characteristics required to communicate between CEI-28G-SR transmitter and a CEI-28G-SR receiver using copper signal traces on a printed circuit board. For more details, refer to "Implementation Agreement OIF-CEI-03.1" - Clause 10 CEI 28G -Short Reach (SR) Interface.

CEI 28G -Very Short Reach (VSR) Interface

The CEI 28G-VSR is a high speed chip-to-module electrical interface with low voltage logic. It is applicable for data lane(s) that supports the bit rates from 19.60 to 28.10 Gsym/s using NRZ coding over printed circuit boards. The transmission range has a minimum value of 100 mm for host PCB trace plus one connector and has a minimum value of 50 mm PCB trace module. In 28G-VSR interface, the electrical interface connections are point-to-point in balanced differential pairs. It defines the characteristics required to communicate between CEI-28G-VSR transmitter and a CEI-28G-VSR receiver using copper signal traces on a printed circuit board. For more details, refer to "Implementation Agreement OIF-CEI-03.1" - Clause 13 CEI 28G -Very Short Reach (SR) Interface."
1 Introduction

Related Documents

- Implementation Agreement OIF-CEI-03.1
- M8070A documentation
  For more information about M8070A software, refer to the M8070A documentation.
  To locate the M8070A documents, click Start > All Programs > Keysight M8070A > Keysight M8070A Documentation. Alternatively, you may also visit www.keysight.com/find/M8070A to find the latest versions of the M8070A manuals.
Contacting Keysight Technologies

For more information on products, applications or services associated with Keysight Technologies, contact your local Keysight office. The complete list is available at: www.keysight.com/find/contactus.
1 Introduction
2 System Requirements

Hardware Requirements / 14
Software Requirements / 15
License Requirements / 16
Hardware Requirements

The following are the recommended hardware for running the OIF-CEI 28G VSR/SR plug-in:

- For VSR testing, two sets of the following modules must be installed in two different M9505A AXIe 5-Slot Chassis:
  - M8041A
  - M8062A
  One set of modules acts as the Victim Generator while the other set acts as the Crosstalk Generator.
- SR testing requires just one set of the M8041A and M8062A modules installed in an M9505A AXIe 5-slot chassis
- As an alternative to the above hardware requirement, use the M8045A and M8046A modules combination installed in a 5-slot AXIe chassis.
- M8195A AWG – This instrument acts as the Noise Generator for SR testing.
- 86100D Infiniium DCA-X Wide-Bandwidth Oscilloscope (required for both VSR and SR testing). The 86100D Infiniium Oscilloscope should be equipped with 86108B Precision Waveform Analyzer plug-in.
Software Requirements

The following are the software requirements for installing the OIF-CEI 28G VSR/SR plug-in:

- M8070A software (version 3.6 or above)
  You can download the software from the following link: http://www.keysight.com/find/M8070A.
- FlexDCA software (version A.05.61 or above)
- MATLAB Runtime.
  You can download the 64-bit installer of the version 9.0 of the MATLAB runtime from the following link: http://www.mathworks.com/supportfiles/downloads/R2015b/deploym ent_files/R2015b/installers/win64/MCR_R2015b_win64_installer.exe
License Requirements

The OIF-CEI 28G VSR/SR plug-in is a licensed feature. To be able to use the plug-in in the recommended hardware and software arrangements, the following licenses are required:

### Table 1  License Option for M8070A System Software

<table>
<thead>
<tr>
<th>Product</th>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8070A-0TP</td>
<td>OTP</td>
<td>System Software for M8000 Series of BER Test Solutions, Transportable, Perpetual License</td>
</tr>
</tbody>
</table>

### Table 2  License Options for M8041A

<table>
<thead>
<tr>
<th>Product</th>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8041A-G16</td>
<td>G16</td>
<td>Pattern Generator one Channel, Data Rate up to 16 Gb/s (Upgrade: U16)</td>
</tr>
<tr>
<td>M8041A-C16</td>
<td>C16</td>
<td>BERT one Channel, Data Rate up to 16 Gb/s (Upgrade: UED)</td>
</tr>
<tr>
<td>M8041A-0G2</td>
<td>0G2</td>
<td>Second Channel for Pattern Generator, License</td>
</tr>
<tr>
<td>M8041A-0A2</td>
<td>0A2</td>
<td>Second Channel for Analyzer, License</td>
</tr>
<tr>
<td>M8041A-0G3</td>
<td>0G3</td>
<td>Advanced Jitter Sources for Receiver Characterization, Module-wide License</td>
</tr>
</tbody>
</table>

### Table 3  License Options for M8062A

<table>
<thead>
<tr>
<th>Product</th>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8062A-C32</td>
<td>C32</td>
<td>32 Gb/s BERT front-end</td>
</tr>
<tr>
<td>M8062A-G32</td>
<td>G32</td>
<td>32 Gb/s Pattern generator front-end</td>
</tr>
<tr>
<td>M8062A-0G4</td>
<td>0G4</td>
<td>Multi-tap De-emphasis License</td>
</tr>
<tr>
<td>M8062A-0A4</td>
<td>0A4</td>
<td>Clock Recovery up to 32 Gb/s</td>
</tr>
</tbody>
</table>
### Table 4  License Options for M8045A

<table>
<thead>
<tr>
<th>License</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8045A-G32</td>
<td>G32 Pattern generator one channel NRZ, data rate up to 32 Gbaud (requires remote head, M8057A)</td>
</tr>
<tr>
<td>M8045A-G02</td>
<td>G02 Second channel, hardware and license (requires remote head, M8057A)</td>
</tr>
<tr>
<td></td>
<td>(For VSR Crosstalk)</td>
</tr>
<tr>
<td>M8045A-G03</td>
<td>G03 Advanced Jitter Sources for Receiver Characterization, Module-wide License</td>
</tr>
<tr>
<td>M8045A-G04</td>
<td>G04 De-emphasis, module-wide license</td>
</tr>
</tbody>
</table>

### Table 5  License Options for M8046A

<table>
<thead>
<tr>
<th>License</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M8046A-A32</td>
<td>A32 Analyzer, one channel, data rate up to 32 Gbaud, NRZ</td>
</tr>
</tbody>
</table>

### Table 6  License Options for the 86100D Infiniium DCA-X Oscilloscope

<table>
<thead>
<tr>
<th>License</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>86100D-ETR</td>
<td>Enhanced trigger, 13 GHz BW, pattern and module trigger</td>
</tr>
<tr>
<td>86100D-200</td>
<td>Enhanced Jitter Analysis Software</td>
</tr>
<tr>
<td>86100D-201</td>
<td>Advanced Waveform Analysis Software (software equalizers such as CTLE)</td>
</tr>
<tr>
<td>86100D-SIM</td>
<td>InfiniiSim-DCA Waveform Transformation Toolset (embedding/de-embedding of cables or fixtures)</td>
</tr>
</tbody>
</table>

### Table 7  License Options for 86108B Precision Waveform Analyzer

<table>
<thead>
<tr>
<th>License</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>86108B-HBW</td>
<td>50 GHz Bandwidth, 2 Channel Electrical</td>
</tr>
<tr>
<td>86108B-232</td>
<td>Supported input rates: 50 Mb/s to 32 Gb/s</td>
</tr>
<tr>
<td>86108B-JSA</td>
<td>Jitter Spectrum Analysis and SW Clock Recovery Emulation</td>
</tr>
</tbody>
</table>
### System Requirements

<table>
<thead>
<tr>
<th>License</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>86108B-PT2</td>
<td>Two Phase Trimmers for external skew adjustment, 2.4 mm (Optional)</td>
</tr>
<tr>
<td>86108B-CA2</td>
<td>Matched Cable Pair, 2.4mm - 2.4mm 24 inch (Optional)</td>
</tr>
<tr>
<td>86108B-DC2</td>
<td>Two DC Block 2.4mm 16V 50KHz - 50 GHz (Optional)</td>
</tr>
</tbody>
</table>

**Table 8** License Options for the OIF-CEI 28G VSR/SR Plug-in

<table>
<thead>
<tr>
<th>License</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>M80922BXA-1FP</td>
<td>M8070A Plugin RX Cal and Test for CEI-28G-VSR Host and CEI-28G-SR (Perpetual node-locked license)</td>
</tr>
<tr>
<td>M80922BXA-1FT</td>
<td>Temporary license</td>
</tr>
</tbody>
</table>
3 Setting Up the System

Installing the OIF-CEI 28G VSR/SR Plug-in / 20
Starting the OIF-CEI 28G VSR/SR Plug-in / 22
Setting Up the System for VSR Host Testing / 23
Setting Up the System for SR Testing / 26
Setting Up the System

Installing the OIF-CEI 28G VSR/SR Plug-in

The installer for the OIF-CEI 28G VSR/SR plug-in can be downloaded from the Keysight website. Download the plug-in file from:
www.keysight.com/find/m8000

The **Plug-in Manager** window allows you to install a plug-in.

Perform the following steps:

1. Click on **Install Plug-in from File** button. A Window’s standard **Open** dialog appears.
2. Locate the OIF-CEI plug-in file (*.M8KP) to install and click **OK**.
3. On the successful installation of OIF-CEI plug-in, the following message appears:

![Installation Successful](image)

4. Restart the software. Once you restart the software, the plug-in state will change to **Loaded**.
5. If an older version of OIF-CEI plug-in is already installed in M8070A system software and you want to update the plug-in with the latest installer:
   a. Click on **Install Plug-in from File** button.
   b. Locate the OIF-CEI plug-in file (*.M8KP) to install, a dialog box similar to the following is displayed:

NOTE

The system must have M8070A software (version 3.6 or above) installed on it. Refer to the “Software Requirements” section for the complete set of software requirements for the plug-in.
c Click **Yes** if you want to update the plug-in otherwise click **No**. Once you restart of the M8070A system software, the old plug-in is replaced by the new plug-in.

**NOTE**

Ensure to restart the M8070A software for the changes to take effect.
Starting the OIF-CEI 28G VSR/SR Plug-in

To access the installed OIF-CEI 28G VSR/SR plug-in, perform the following steps:

1. Click **Start** > **All Programs** > **Keysight M8070A** > **Keysight M8070A**. The user interface for the M8070A system software is displayed.
2. From the M8070A user interface menu, click **Application** to view the list of all installed plug-ins.
3. Select the **OIF-CEI-03.1** plug-in.
4. The OIF-CEI user interface appears as shown below:
Setting Up the System for VSR Host Testing

This section describes the cabling arrangements and M8070A system setup for VSR Host Testing.

**CAUTION**

Before executing any measurement, ensure that the System Connections are made properly with all necessary Setups.

Cabling for VSR Host Testing

For VSR Host Testing, connect the instruments as follows:

1. Connect both the M9505A AXIe chassis frames equipped with M8041A+M8062A module combination with USB to your computer. One set of hardware acts as the victim generator while the other set acts as the crosstalk generator.
   Alternatively, connect the M9505A AXIe chassis frames equipped with M8045A+M8046A module combination with USB to your computer.
2. Connect DCA/X 86100D oscilloscope via GPIB to your computer, or connect it on a LAN that is accessible to your computer.

Setting up the M8070A Software

For VSR Host Testing, create two desktop shortcuts to configure the M8070A software to operate with the two sets of hardware, the victim generator and the crosstalk generator. Perform the following steps:

1. To create a shortcut for the instance of M8070A software controlling the Victim Generator and hosting the OIF-CEI 28G VSR/SR plug-in:
   1. Drag the Keysight M8070A entry from the Start menu to the desktop. This enables you to create a shortcut to the M8070A software on the desktop.
   2. Right-click the shortcut and select Properties.
3 Add the command-line argument "/chassisid 1" to the Target text field as shown below:

2 For the second M8070A shortcut controlling the Crosstalk generator, add command line argument "/chassisid 2 /workspace xtalk" to the Target text field.

3 Start the first M8070A software instance for controlling the Victim signal generation. Wait until it is fully up and running.

4 Start the second M8070A software instance for Crosstalk signal generation.

5 Within the Victim Generator M8070A software instance start the OIF-CEI 28G VSR/SR plug-in by selecting Application -> OIF-CEI-03.1.

6 Click Configure.

The following figure illustrates the recommended arrangement.
Setting Up the System
Setting Up the System for SR Testing

This section describes the cabling arrangements and M8070A system setup for SR Testing.

**CAUTION**
Before executing any measurement, ensure that the System Connections are made properly with all necessary Setups.

Cabling for SR Host Testing

Connect the instruments as follows:
1. Connect the M9505A AXIe Chassis frame equipped with the M8041A+M8062A module combination with USB to your computer. This set of hardware acts as the victim generator. Alternatively, connect the M9505A AXIe chassis frames equipped with M8045A+M8046A module combination with USB to your computer.
2. Connect M8195A AWG with USB to your computer. The AWG acts as the Noise Generator.
3. Connect DCA/X 86100D oscilloscope via GPIB to your computer or connect it on a LAN that is accessible to your computer.

Setting up the M8070A Software

For SR Host Testing, perform the following steps:
1. Create a desktop shortcut to the M8070A software with argument "/chassisid 1" for controlling the Victim signal generation.
2. Start the M8070A software for controlling the Victim signal generation. Wait until it is fully up and running.
3. Start the M8195A software.
4. Within the Victim Generator M8070A instance, start the OIF-CEI 28G VSR/SR plug-in by selecting **Application -> OIF-CEI**.
5. Click **Configure**.

The following figure illustrates the recommended arrangement.
4 Using OIF-CEI 28G VSR/SR plug-in User Interface

Modes of Operation / 30
GUI Elements / 35
Modes of Operation

The OIF-CEI 28G VSR/SR plug-in operates in the following three modes:

- **Configuration**: This is the initial mode. Set up the basic parameters in this mode, for example, the connection to the Cross Talk Generator and the Oscilloscope.
- **Calibration**: Calibrate all the parameters of the Victim Generator and Cross Talk Generator in this mode.
- **Test**: Perform the actual tests in this mode.

**Configuration**

![Configuration Interface]

Click on 'Configure' on top left to select required configuration.
Click **Configure** to get the configuration parameters:

![Configuration Interface]

You must perform an initial configuration. The parameters are logically grouped into the following categories:

- **Setup**: This category comprises the following parameters:
  - **Standard**: Select the standard against which the testing must be performed. The available options include: CEI-28G-VSR Host and CEI-28G-SR
• Mode: Select either the Compliance (default) or Debug mode. Compliance mode sets all parameters as defined in the OIF standard. If you want to characterize your device, select Debug mode. In the Debug mode, you can modify the values of the parameters.

• Target Error Ratio: Specify the target error ratio to determine if a test has passed or failed.

• Target Confidence Level: The level of confidence for Target Error Ratio expressed in percentage to determine whether a test has passed or failed.

• Baud Rate for Testing: Specify the baud rate for calibrations and testing the device.

• Baud Rate Maximum: The maximum baud rate supported by the device.

• Lane Mode: Specify if you want to test a single lane or multiple lane device.

• Instrument Setup: This category enables you to specify parameters for connecting to the oscilloscope and cross-talk generator. Additionally, the cable from the oscilloscope to the HCB/MB can be de-embedded by specifying their s-parameters. This category comprises the following parameters:
  - Visa Address of 86100D Oscilloscope
  - Visa Address of M8020 Cross-Talk Generator
    To determine the visa address of the Cross Talk Generator, go to the Cross Talk Generator’s M8070 software instance. Select Utilities->SCPI Server Information. Copy the HiSLIP address from the SCPI Server Information box and paste in this field.
  - Victim Ch1 De-Embedding S-Parameter: Victim Ch1 De-embedding of cabling from the oscilloscope to the HCB/MB’s measure point.
  - Victim Ch1 De-Embedding S-Parameter: Victim Ch2 De-embedding of cabling from the oscilloscope to the HCB/MB’s measure point.
  - Cross Talk Ch1 De-Embedding S-Parameter: Cross Talk Ch1 De-embedding of cabling from the oscilloscope to the HCB/MB’s measure point.
  - Cross Talk Ch2 De-Embedding S-Parameter: Cross Talk Ch2 De-embedding of cabling from the oscilloscope to the HCB/MB’s measure point.

Click OK to set up the Calibrations and Tests according to the configuration parameters.
Calibration and Tests

From the toolbar, you can select either a calibration or test and run it or control its some other aspects.

Select **Calibration** to get the calibration parameters on the right.

The calibration parameters are logically grouped into the following categories:

- **Setup**: This category comprises the following parameters:
• **Mode**: Select the standard (VSR Host or SR) and if you want to test for Compliance (default) or if you want to characterize your device. Compliance mode sets all parameters as defined in the OIF standard. Selecting the Debug mode enables you to modify the parameters and hence, characterize your device.

• **Baud Rate**: Select the Baud Rate.

• **Test Setup**: This category comprises the parameters specific to the selected calibration.

Similarly, you can select tests, modify their parameters, and run them.
GUI Elements

Toolbar

The toolbar enables you to run the selected calibration or test and control some other aspects of the selected calibration or test. Additionally, the toolbar provides the following shortcuts:

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start</td>
<td>Starts a calibration or test.</td>
</tr>
<tr>
<td>Stop</td>
<td>Stops a running calibration or test.</td>
</tr>
<tr>
<td>Enable/Disable Run History</td>
<td>Enables or disables the calibration or test run history.</td>
</tr>
<tr>
<td>Clear History</td>
<td>Clears the calibration or test run history.</td>
</tr>
</tbody>
</table>
Parameters

On the right hand side, you can view and modify the parameters of the selected calibration or test. In Compliance mode, the values are fixed according to the standard. In the Debug mode you can set other values.

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copy History Parameters</td>
<td>Copies the calibration or test history properties to the currently active calibration or test. This enables re-running a calibration or test with the exact same parameters.</td>
</tr>
<tr>
<td>Reset Parameters</td>
<td>Resets the active calibration or test parameters to their default values.</td>
</tr>
<tr>
<td>Status Indicator</td>
<td>The status indicator shows the current state of a test. There can be various states of a test such as Not Started, Running, Stop, and Finished. The image shows the status indicator while the test is running.</td>
</tr>
</tbody>
</table>

Connection Diagram

This area displays a graphical overview of how to cable the instruments.
Calculated Results

This area displays the results of the calibration/test.

Logger

The Logger shows details about the progress of the calibration or test. The Logger Window displays description of errors, warnings, and information messages along with the applications from where they were generated and their time stamps.
Measurement History

This area maintains the history of the executed tests along with their time stamp. This enables you to refer to the previously run calibration or test and compare their results.

The topmost entry displays details about the currently active test or calibration. You can select a previous test or calibration to view the results of that run.

Click the Enable/Disable Run History icon present on the toolbar to view or hide the measurement run history. Additionally, click the Copy History Parameters icon to copy the properties of a previously run measurement to the currently running measurement.
Status Indicator

The status indicator shows the current state of the selected test or calibration. It shows the following type of status:

**Not Started**

Indicates that the test or calibration has not started yet.

![Not Started](image)

**Running**

Indicates that the current test or calibration is running.

![Running](image)

**Stopped**

Indicate that the running test or calibration has been stopped before completion.

![Test Incomplete Stopped](image)

**Finished**

Indicates that the test or calibration has finished.

![Finished](image)
Using OIF-CEI 28G VSR/SR plug-in User Interface
5  

Calibrations and Tests

Performing the Calibrations and Tests  /  42
Compliance Boards (for VSR Calibrations and Tests)  /  43
VSR Calibrations  /  44
VSR Host Tests  /  54
SR Calibrations  /  57
SR Tests  /  65
Performing the Calibrations and Tests

Perform the following steps to execute the calibrations and tests:

1. Click Configure to select the standard (28G-VSR Host or 28G-SR) and set the basic parameters in the Configuration window.
2. Select the Calibration or Test to be performed.
3. Verify the parameters used in the Parameters window. If you want to change a parameter, you might need to select the Debug mode.
4. Follow the cabling instructions in the Connection Diagram.
5. Start the Calibration or Test with the Run icon on the toolbar.
6. Examine the result under the Calculated Results tab.
7. For details about the run, inspect the Logger tab.
8. Select the next Calibration or Test and repeat the above steps.
Compliance Boards (for VSR Calibrations and Tests)

Use of compliance boards for testing is assumed for several parameters defined in Implementation Agreement OIF-CEI-03.1.

Compliance boards are reference test fixtures that are used to access the electrical specification parameters. The output of the Host Compliance Board (HCB) provides access to the host-to-module electrical signal (host electrical output) defined at TP1a. Additional module electrical input specifications, for host-to-module communication, are defined at TP1, the input of the Module Compliance Board (MCB). The output of the Module Compliance Board (MCB) provides access to the module to host electrical signal (module electrical output) defined at TP4. Additional host electrical input specifications, for module-to-host communication, are defined at TP4a, the input of the Host Compliance Board (HCB).
VSR Calibrations

This section describes all the VSR calibrations.

Before performing the tests, calibrate all the related parameters. Execute the calibrations in the listed order.

Calibrate the oscilloscope before performing the calibrations.

1. Disconnect all the cables from the oscilloscope.
2. Select Tools->Calibrate in the oscilloscope.
3. Perform the calibrations.

If the calibrations are not performed, warning messages are logged for each calibration performed from the M8070A software.

Crosstalk Amplitude

Calibrates the crosstalk amplitude.

Connection Diagram

Connect the instruments as shown below.
Figure 1    Connection Diagram using M8041A, M8062A modules combination

Figure 2    Connection Diagram using M8045A, M8046A modules combination
5 Calibrations and Tests

Dependencies
This calibration depends on the values configured for the following settings:
  • Crosstalk Ch1 De-Embedding S-Parameter
  • Crosstalk Ch2 De-Embedding S-Parameter

Procedure
This calibration uses the PRBS-9 pattern.

Parameters
You can modify the following parameters for this calibration:
  • Amplitude
  • Baud Rate

Result
This calibration displays the results - Set Amplitude Vs Measured Crosstalk Amplitude in tabular as well as graphical format.

Crosstalk Transition Time
Calibrates the crosstalk transition time.

Connection Diagram
Refer to the connection diagram for "Crosstalk Amplitude".

Dependencies
This calibration depends on the values configured for the following settings:
  • Crosstalk Ch1 De-Embedding S-Parameter
  • Crosstalk Ch2 De-Embedding S-Parameter

Procedure
According to OIF-CEI 3.1 Chapter 13.3.10, the Transition Time is measured using a PRBS-9 pattern. The transitions within sequences of five zeros and four ones, and nine ones and five zeros, respectively, are measured. Transition Time is tuned by using pre and post cursor.

Parameters
You can modify the following parameters for this calibration:
Calibrations and Tests

- Transition Time
- Amplitude
- Baud Rate

**Result**

This calibration displays the following values:
- Crosstalk Transition Time
- Deemphasis (Pre and Post Cursor values)
- Amplitude

Perform the following troubleshooting steps if this calibration fails:
- Ensure that the cable to the oscilloscope is de-embedded.
- Reduce the target transition time.
- Reduce the target amplitude.

**Amplitude**

Calibrates the victim generator’s amplitude for the Voltage Tolerance Test.

**Connection Diagram**

Connect the instruments as shown below.

---

Figure 3: Connection Diagram using M8041A, M8062A modules combination
Dependencies

This calibration depends on the values configured for the following settings:

- Victim Ch1 De-Embedding S-Parameter
- Victim Ch2 De-Embedding S-Parameter

Procedure

The victim generator’s amplitude is set and measured for multiple amplitude values. The PRBS-9 pattern is used for this calibration.

Parameters

You can modify the following parameter for this calibration:

- Baud Rate

Result

This calibration displays the results - Set Amplitude Vs Measured Amplitude in tabular as well as graphical format.

UUGJ

Calibrates the Uncorrelated Unbounded Gaussian Jitter (UUGJ).

Connection Diagram

Refer to the connection diagram for “Amplitude”.
Dependencies

This calibration depends on the values configured for the following settings:
- Victim Ch1 De-Embedding S-Parameter
- Victim Ch2 De-Embedding S-Parameter

Procedure

In this calibration, the victim generator’s random jitter (RJ) is set until the desired UUGJ value is measured. This calibration uses the PRBS-9 pattern.

Parameters

You can modify the following parameters for this calibration:
- UUGJ
- Baud Rate

Result

This calibration displays the results - Set RJ vs Measured UUGJ in tabular as well as graphical format.

UBHPJ

This calibration measures the Uncorrelated Bounded High Probability Jitter (UBHPJ).

Connection Diagram

Refer to the connection diagram for "Amplitude".

Dependencies

This calibration depends on the values configured for the following settings:
- Victim Ch1 De-Embedding S-Parameter
- Victim Ch2 De-Embedding S-Parameter

Procedure

In this calibration, the victim generator’s Bounded Uncorrelated Jitter (BUJ) is set until the desired UBHPJ is measured. This calibration uses the 1010... toggle pattern.
Parameters
You can modify the following parameters for this calibration:
- UBHPJ
- Baud Rate

Result
This calibration displays the results - Set BUJ vs Measured UBHPJ in tabular as well as graphical format.

SJ
Calibrates the sinusoidal jitter.

Connection Diagram
Refer to the connection diagram for "Amplitude".

Dependencies
This calibration depends on the values configured for the following settings:
- Victim Ch1 De-Embedding S-Parameter
- Victim Ch2 De-Embedding S-Parameter

Procedure
In this calibration, the victim generator’s PJ1 is set until the desired SJ is measured. This calibration uses the 1010... toggle pattern.

Parameters
You can modify the following parameters for this calibration:
- SJ
- Baud Rate

Result
This calibration displays the results - Set PJ1 vs Measured SJ in tabular as well as graphical format.
Stressed Eye

To test the tolerance of a receiver a stressed signal or eye is defined which when applied to the receiver must be received with the defined Bit Error Rate.

Connection Diagram

Connect the instruments as shown below.
Dependencies

As a prerequisite for this calibration, run all the previous calibrations listed above.

Further, this calibration depends on the values configured for the following settings:

- Victim Ch1 De-Embedding S-Parameter
- Victim Ch2 De-Embedding S-Parameter

Procedure

This calibration uses the PRBS-9 pattern.
Parameters
You can modify the following parameters for this calibration:
• Eye Height @ 1e-15
• Eye Width @ 1e-15
• Baud Rate
• All the base parameters for the UUGJ, UBHPJ, and SJ calibrations.

Result
RJ, Amplitude
VSR Host Tests

This section describes the VSR Host tests supported by the OIF-CEI 28G VSR/SR plug-in.

Stressed Input

The stressed input test tests the ability of the host input to tolerate the sinusoidal jitter with specified limit. The test signal is applied at TP4a using a Host Compliance Board (HCB). The recommended test setup is shown in the Connection Diagram.

Connection Diagram

Figure 7 Connection Diagram using M8041A, M8062A modules combination
Dependencies

As a prerequisite, run all the VSR calibrations before running this test.

This test also depends on the values configured for the following settings:
- Target Error Ratio
- Confidence Level

Procedure

This test uses the PRBS-31 pattern.

Parameters

You can modify the following parameters for this test:
- Low Frequency SJ Frequency
- Low Frequency SJ Amplitude
- Steps to High SJ Frequency
- High Frequency SJ Frequency
- High Frequency SJ Amplitude
- Steps above High SJ Frequency
- Baud Rate
- Lane Mode
Calibrations and Tests

Result
The results display Pass/Fail for each SJ Amplitude/Frequency point.

NOTE
Status "<No Data>" means the run is not yet completed or stopped unexpectedly.

Voltage Tolerance
The input voltage tolerance tests the acceptance of differential input pk-pk amplitudes produced by the extremes of operation from the transmitter.

Connection Diagram
Refer to the Connection Diagram for "Stressed Input".

Dependencies
As a prerequisite, run the Amplitude calibration before running this test.
This test also depends on the values configured for the following settings:
• Target Error Ratio
• Confidence Level

Procedure
This test uses the PRBS-31 pattern.

Parameters
You can modify the following parameters for this test:
• Minimum Amplitude
• Maximum Amplitude
• Baud Rate

Result
The test results display Pass/Fail for each value of Amplitude.

NOTE
Status "<No Data>" means the run is not yet completed or stopped unexpectedly.
SR Calibrations

This section describes all the SR calibrations.
Before performing the tests, calibrate all the related parameters. Execute the calibrations in the listed order.

Calibrate the oscilloscope before performing the calibrations.
1 Disconnect all the cables from the oscilloscope.
2 Select Tools->Calibrate in the oscilloscope.
3 Perform the calibrations.

If the calibrations are not performed, warning messages are logged for each calibration performed from the M8070A software.

Amplitude Direct Connection

Calibrates the amplitude for the Voltage Tolerance Test.

Connection Diagram

Connect the instruments as shown below.

![Connection Diagram](image-url)
Calibrations and Tests


Figure 10 Connection Diagram using M8045A, M8046A modules combination

**Dependencies**

This calibration depends on the values configured for the following settings:

- Victim Ch1 De-Embedding S-Parameter
- Victim Ch2 De-Embedding S-Parameter

**Procedure**

In this calibration, the victim generator’s amplitude is set and measured for multiple values of amplitude. This calibration uses the PRBS-9 pattern.

**Parameters**

You can modify the following parameter for this calibration:

- Baud Rate

**Result**

This calibration displays the results - Set Amplitude Vs Measured Amplitude in tabular as well as graphical format.
Amplitude

Calibrates the amplitude for the stressed input test.

Connection Diagram

Connect the instruments as shown below.
Calibrations and Tests

Dependencies

This calibration depends on the values configured for the following settings:

- Victim Ch1 De-Embedding S-Parameter
- Victim Ch2 De-Embedding S-Parameter

Procedure

In this calibration, the victim generator’s amplitude is set and measured for multiple values of amplitude. This calibration uses the PRBS-9 pattern.

Parameters

You can modify the following parameters for this calibration:

- Baud Rate
- Amplitude
- C-1
- C0
- C1
Result
Displays the calibrated amplitude for the specified combination of Amplitude, C-1, C0, and C1.

UUGJ
Calibrates the Uncorrelated Unbounded Gaussian Jitter (UUGJ).

Connection Diagram
Refer to the connection diagram for “Amplitude”.

Dependencies
As a prerequisite for this calibration, perform the Amplitude calibration. Further, this calibration depends on the values configured for the following settings:
- Victim Ch1 De-Embedding S-Parameter
- Victim Ch2 De-Embedding S-Parameter

Procedure
In this calibration, the victim generator’s random jitter (RJ) is set until the desired UUGJ value is measured. This calibration uses the PRBS-9 pattern.

Parameters
You can modify the following parameters for this calibration:
- Baud Rate
- UUGJ

Result
This calibration displays the results - Set RJ vs Measured UUGJ in tabular as well as graphical format.

UBHPJ
Calibrates Uncorrelated Bounded High Probability Jitter (UBHPJ).

Connection Diagram
Refer to the connection diagram for “Amplitude”.
Dependencies

As a prerequisite for this calibration, perform the Amplitude calibration.

Further, this calibration depends on the values configured for the following settings:
- Victim Ch1 De-Embedding S-Parameter
- Victim Ch2 De-Embedding S-Parameter

Procedure

In this calibration, the victim generator’s BUJ is set until the desired UBHPJ value is measured. This calibration uses the 1010... toggle pattern.

Parameters

You can modify the following parameters for this calibration:
- Baud Rate
- UBHPJ

Result

This calibration displays the results - Set BUJ vs Measured UBHPJ in tabular as well as graphical format.

SJ

Calibrates the sinusoidal jitter.

Connection Diagram

Refer to the connection diagram for “Amplitude”.

Dependencies

As a prerequisite for this calibration, perform the Amplitude calibration.

Further, this calibration depends on the values configured for the following settings:
- Victim Ch1 De-Embedding S-Parameter
- Victim Ch2 De-Embedding S-Parameter

Procedure

In this calibration, the victim generator’s PJ1 is set until the desired SJ is measured. This calibration uses the 1010... toggle pattern.
Parameters
You can modify the following parameters for this calibration:
• Baud Rate
• SJ

Result
This calibration displays the results - Set PJ1 vs Measured SJ in tabular as well as graphical format.

Transmitter Common Mode Noise
Calibrates the transmitter’s common mode noise.

Connection Diagram
Refer to the connection diagram for “Amplitude”.

Dependencies
As a prerequisite for this calibration, perform the Amplitude calibration.
Further, this calibration depends on the values configured for the following settings:
• Victim Ch1 De-Embedding S-Parameter
• Victim Ch2 De-Embedding S-Parameter

Procedure
This calibration uses the PRBS-9 pattern. For the underlying implementation principles, see Clause 12.3 of the Implementation Agreement OIF-CEI-03.1.

Parameters
You can modify the following parameters for this calibration:
• Baud Rate
• Common Mode Noise (rms)

Result
This calibration displays the results - Set AWG Amplitude vs Measured Transmitter Common Mode Noise in tabular as well as graphical format.
Integrated Crosstalk Noise

Calibrates the integrated crosstalk noise.

Connection Diagram

Refer to the connection diagram for “Amplitude”.

Dependencies

As a prerequisite for this calibration, perform the Transmitter Common Mode Noise calibration.

This calibration depends on the values configured for the following settings:

- Victim Ch1 De-Embedding S-Parameter
- Victim Ch2 De-Embedding S-Parameter
- Noise Ch1 De-Embedding S-Parameter
- Noise Ch2 De-Embedding S-Parameter

Procedure

This calibration uses the PRBS-9 pattern. The Board Trace S-Parameter Normal and Baud Rate Maximum parameters are used to calculate Insertion Loss, which, in turn, is calculated into Integrated Crosstalk Noise at Testpoint R according to Clause 10.2.6.6 of the Implementation Agreement OIF-CEI-03.1. Subsequently, Integrated Crosstalk Noise at Testpoint T is calculated.

Parameters

You can modify the following parameters for this calibration:

- Board Trace S-Parameter Normal
- Baud Rate Maximum

Result

Integrated Crosstalk Noise at Testpoint T
SR Tests

This section describes the SR tests supported by the OIF-CEI 28G VSR/SR plug-in.

Stressed Input

The stressed input test tests the ability of the host input to tolerate the sinusoidal jitter with specified limit.

Connection Diagram

Figure 13 Connection Diagram using M8041A, M8062A modules combination
Dependencies

As a prerequisite, run all the SR calibrations before running this test. This test also depends on the values configured for the following settings:

- Target Error Ratio
- Confidence Level

Procedure

This test uses the SSPR pattern.

Parameters

You can modify the following parameters for this test:

- Low Frequency SJ Frequency
- Low Frequency SJ Amplitude
- Steps to High SJ Frequency
- High Frequency SJ Frequency
- High Frequency SJ Amplitude
Calibrations and Tests

- Steps above High SJ Frequency
- Baud Rate
- Lane Mode

### Result

The results display Pass/Fail for each SJ Amplitude/Frequency point.

### NOTE

Status “<No Data>” means the run is not yet completed or stopped unexpectedly.

### Voltage Tolerance

The input voltage tolerance tests the acceptance of differential input pk-pk amplitudes produced by the extremes of operation from the transmitter.

### Connection Diagram

Figure 15  Connection Diagram using M8041A, M8062A modules combination
Dependencies

As a prerequisite, run the Amplitude direct connection calibration before running this test.

This test also depends on the values configured for the following settings:

- Target Error Ratio
- Confidence Level

Procedure

This test uses the SSPR pattern.

Parameters

You can modify the following parameters for this test:

- Minimum Voltage
- CO Minimum Voltage
- Maximum Voltage
- CO Maximum Voltage
- Baud Rate
Result

The test results display Pass/Fail for each value of Amplitude.

NOTE

Status “<No Data>” means the run is not yet completed or stopped unexpectedly.
6 Remote Programming/SCPI Plug-in Interface

SCPI Commands / 72
Executing a SCPI through M8070A SCPI Editor / 82
SCPI Commands

For each GUI control there is a corresponding SCPI command / query. Therefore, the SCPI programming reference contains only simple descriptions for each command / query. For full detail, refer to the corresponding GUI sections of this User Guide.

<table>
<thead>
<tr>
<th>Command</th>
<th>Description under</th>
</tr>
</thead>
<tbody>
<tr>
<td>:PLUGin:OCEI:CATalog?</td>
<td>For details, see &quot;PLUGin:OCEI:CATalog?&quot; on page 73..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:CONFigure</td>
<td>For details, see &quot;PLUGin:OCEI:CONFigure&quot; on page 73..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:CONNection:CDEScription?</td>
<td>For details, see &quot;PLUGin:OCEI:CONNection:CDEScription?&quot; on page 73..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:CONNection:DIAGram?</td>
<td>For details, see &quot;PLUGin:OCEI:CONNection:DIAGram?&quot; on page 74..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:CONNection:WiRing?</td>
<td>For details, see &quot;PLUGin:OCEI:CONNection:WiRing?&quot; on page 74..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:DElete</td>
<td>For details, see &quot;PLUGin:OCEI:DElete&quot; on page 74..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:FETCh:RESult[:VALue]?</td>
<td>For details, see &quot;PLUGin:OCEI:FETCh:RESult[:VALue]?&quot; on page 75..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:GRAPH?</td>
<td>For details, see &quot;PLUGin:OCEI:GRAPH?&quot; on page 76..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:LIST?</td>
<td>For details, see &quot;PLUGin:OCEI:LIST?&quot; on page 77..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:NEW</td>
<td>For details, see &quot;PLUGin:OCEI:NEW&quot; on page 77..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:PARameter:LIST?</td>
<td>For details, see &quot;PLUGin:OCEI:PARameter:LIST?&quot; on page 77..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:PARameter[:VALue]</td>
<td>For details, see &quot;PLUGin:OCEI:PARameter[:VALue]&quot; on page 78..</td>
</tr>
<tr>
<td>:PLUGin:OCEI:RESet</td>
<td>For details, see &quot;PLUGin:OCEI:RESet&quot; on page 78..</td>
</tr>
<tr>
<td>:PLUGin:OCEI[:STATus]?</td>
<td>For details, see &quot;PLUGin:OCEI[:STATus]?&quot; on page 80..</td>
</tr>
</tbody>
</table>
PLUGin:OCEI:CATalog?

**Query Syntax**: :PLUGin:OCEI:CATalog?

**Input Value**: None

**Description**: This query returns the names of all the active or closed instances of the OIF-CEI 28G VSR/SR plug-in in the current session of the M8070A software.

**Example**: :PLUGin:OCEI:CATalog?

"OIF-CEI 1","OIF-CEI 2"

---

PLUGin:OCEI:CONFigure

**Command**: :PLUGin:OCEI:CONFigure ['<Identifier>']

**Input Value**: (Optional) OIF-CEI 28G VSR/SR plug-in instance name

**Description**: This command configures the plug-in according to the specified parameter values.

**Example**: :PLUGin:OCEI:CONFigure 'OIF-CEI 1'

---

PLUGin:OCEI:CONNection:CDEScription?

**Query Syntax**: :PLUGin:OCEI:CONNection:CDEScription? '<Identifier>'

**Input Value**: The calibration / test name in the OIF-CEI 28G VSR/SR plug-in instance in the format 'Plug-inName#Calibration/Test name'. Note that the # symbol is part of the syntax and is inserted as a separator.

**Description**: This command returns the information related to the required instrument connections for the active test or calibration.

**Example**: :PLUGin:OCEI:CONNection:CDEScription? 'OIF-CEI 1#Stressed Input'

<- #3383- Set Device to Loopback
- Victim Generator via blocking capacitor to Power Combiner
- Noise Generator Data Out 1 to Power Combiner of Victim Generator Data Out
- Noise Generator Data Out 4 to Power Combiner of Victim Generator Data Out N
- Power Combiner of Data Out / Data Out N to Test point T P/N
- Victim Analyzer Data In / Data In N to Test point of looped back signal P/N

**PLUGin:OCEI:CONNection:DIAGram?**

**Query Syntax**
:PLUGin:OCEI:CONNection:DIAGram? '<Identifier>',[PNG],[width],[height]]

**Input Values**
Identifier is the OIF-CEI 28G VSR/SR plug-in instance name of the test or calibration. Width/height: Desired width and height of the image.

**Description**
Returns binary block of bitmap image data of the connection diagram. Only PNG format is supported as image format parameter at this moment.

**Example**
:PLUGin:OCEI:CONNection:DIAGram? 'OIF-CEI 1#Crosstalk Amplitude'

**PLUGin:OCEI:CONNection:WiRing?**

**Query Syntax**
:PLUGin:OCEI:CONNection:[WiRing]? '<Identifier>'

**Input Value**
The calibration / test name in the OIF-CEI 28G VSR/SR plug-in instance in the format '<Plug-inInstanceName>#<Calibration/Test name>'. Note that the # symbol is part of the syntax and is inserted as a separator.

**Description**
Returns an integer value corresponding to the wiring for Test/Calibration. Return 0 if no specific wiring is required. Use :PLUGin:OCEI:CONNection:CDEscription? '<Identifier>' to get wiring description.

**Example**
:PLUGin:OCEI:CONNection:WiRing? 'OIF-CEI 1#Stressed Eye'
3

**PLUGin:OCEI:DELete**

**Command**
:PLUGin:OCEI:DELete '<Identifier>'

**Input Value**
OIF-CEI 28G VSR/SR plug-in instance name to be deleted.

**Description**
This command deletes the specified instance of the OIF-CEI 28G VSR/SR plug-in.
Example: \texttt{PLUGin:OCEI:DELete \textquoteleft OIF-CEI 1\textquoteright}

\texttt{PLUGin:OCEI:FETCh:RESult:PFResult?}

\textbf{Query Syntax}: \texttt{PLUGin:OCEI:FETCh:RESult:PFResult?}

\textbf{Input Value}: None

\textbf{Description}: This command returns the name and execution status of the active test or calibration. The status of the test could be either \texttt{PASS}, \texttt{FAIL} or \texttt{UNKNOWN}. The status \texttt{Unknown} appears if the selected calibration / test has not been run yet.

\textbf{Example}: \texttt{PLUGin:OCEI:FETCh:RESult:PFResult?} 
"Crosstalk Amplitude", \texttt{FAIL}

\texttt{PLUGin:OCEI:FETCh:RESult[:VALue]?

\textbf{Query Syntax}: \texttt{PLUGin:OCEI:FETCh:RESult[:VALue]? \textquoteright <Identifier>\textquoteright}

\textbf{Input Value}: The calibration / test name in the OIF-CEI 28G VSR/SR plug-in instance in the format \texttt{\textless Plug-inInstanceName\textgreater \textless Calibration/Test name\textgreater}. Note that the \# symbol is part of the syntax and is inserted as a separator.

\textbf{Description}: This command returns all the test parameters and the result of the active test or calibration in XML format.

\textbf{Example}: \texttt{PLUGin:OCEI:FETCh:RESult:VALue?}

\texttt{<?xml version=\textquoteleft 1.0\textquoteright encoding=\textquoteleft utf-16\textquoteright?>}

\texttt{<ResultReporting>}

\texttt{<Parameters>}

\texttt{<Parameter>}

\texttt{<Location>Crosstalk Amplitude</Location>}

\texttt{<Status>Fail</Status>}

\texttt{<Target>0.9</Target>}

\texttt{<Measured>NaN</Measured>}

\texttt{<Error>NaN</Error>}

\texttt{<ErrorLimit>NaN</ErrorLimit>}

\texttt{<Nominal>0.9</Nominal>}

\texttt{</Parameter>}

\texttt{</Parameters>}

\texttt{</ResultReporting>
**PLUGin:OCEI:GRAPH?**

**Query Syntax**

`:PLUGin:OCEI:GRAPH? 'Identifier[,DesiredWidth][,DesiredHeight][,<CURR | WHIT>][,<PNG>][,1 | 0][,'TabName']`

**Input Values**
The first parameter, i.e., the name of the plug-in instance, is mandatory and the remaining parameters are optional. The optional parameters include the desired width of the image, desired height of the image, whether user wants to capture in current theme or wants to capture in white background (WHIT), the format of the image, which defaults to PNG (only PNG is supported at the moment), whether to capture the graph with legends or not, and the tab name on which the graph must be captured. If the graph is not present on that tab, an error occurs.

**Description**
Returns the binary block of bitmap image data for the chart view of the plugin in specified format. This is query only SCPI.

**Example**

`:PLUGin:OCEI:GRAPH? 'OIF-CEI 1',1000,800,CURR,PNG,1,Graph`

---

**PLUGin:OCEI:HISTory:CATalog?**

**Query Syntax**

`:PLUGin:OCEI:HISTory:CATalog? '<Identifier>'`

**Input Value**
The calibration / test name in the OIF-CEI 28G VSR/SR plug-in instance in the format '<Plug-inInstanceName>#<Calibration/Test name>'. Note that the # symbol is part of the syntax and is inserted as a separator.

**Description**
Returns a comma separated list of a test/calibration run.

**Example**

`:PLUGin:OCEI:HISTory:CATalog? 'OIF-CEI 1#Crosstalk Amplitude'

"Crosstalk Amplitude_2","Crosstalk Amplitude_1"
PLUGin:OCEI:LIST?

**Query Syntax**

:PLUGin:OCEI:LIST? 'Identifier'

**Identifier**
The name of the OIF-CEI 28G VSR/SR plug-in instance.

**Description**
This command lists all the calibrations and tests for the selected standard (CEI-28G-VSR Host or CEI-28G-SR) in the specified plug-in instance.

**Example**

:PLUGin:OCEI:LIST? 'OIF-CEI 1'

"Crosstalk Amplitude","Crosstalk Transition Time","Amplitude","UUGJ","UBHPJ","SJ","Stressed Eye","Stressed Input","Voltage Tolerance"

PLUGin:OCEI:NEW

**Command**

:PLUGin:OCEI:NEW '<Identifier>[, <ON | OFF | 1 | 0>]'

**Input Values**
The name for the new OIF-CEI 28G VSR/SR plug-in instance. Optionally when using OFF or 0 as second argument it can be prevented to automatically open a View in the GUI.

**Description**
This command opens a new instance of the OIF-CEI 28G VSR/SR plug-in.

**Example**

:PLUGin:OCEI:NEW 'OIF-CEI 2'

PLUGin:OCEI:PARameter:LIST?

**Query Syntax**


**Input Value**
The calibration / test name in the OIF-CEI 28G VSR/SR plug-in instance in the format '<Plug-inInstanceName>#<Calibration/Test name>'. Note that the # symbol is part of the syntax and is inserted as a separator.

**Description**
This command returns the set of parameters along with their values for the selected test or calibration.

**Example**

:PLUGin:OCEI:PARameter:LIST?

".M1.System&Test
Setup.CrosstalkAmplitude","0.90000000000000002",".M1.System&Acquisition
Parameters.PropertiesEditable","1",".M1.System&Setup.SymbolRate","257
80000000",".M1.System&Setup.Mode","Compliance"
**PLUGin:OCEI:PARameter[:VALue]**

**Command**

:PLUGin:OCEI:PARameter[:VALue][?]

`'UserNameOfPlugin#SubModelID:Location&FunctionalBlock.Parameter', "Value"`

**Input Values**
The parameter name associated with a specific calibration or test in the OIF-CEI 28G VSR/SR plug-in instance in the format

`'UserNameOfPlugin#SubModelID:Location&FunctionalBlock.Parameter'`, as it appears when :PLUGin:OCEI:PARameter:LIST? query is run; "Value" indicates the value to be set. Note that the # symbol is part of the syntax and is inserted as a separator.

**Description**

Gets or sets a value of parameter.

**Example**


"Compliance"

**PLUGin:OCEI:RESet**

**Command**

:PLUGin:OCEI:RESet '<Identifier>'

**Input Value**

OIF-CEI 28G VSR/SR plug-in instance name

**Description**

This command resets the state of OIF-CEI 28G VSR/SR plug-in to its default values.

**Example**

:PLUGin:OCEI:RESet 'OIF-CEI 1'

**PLUGin:OCEI:RUN:HISTory:CLEar**

**Command**

:PLUGin:OCEI:RUN:HISTory:CLEar

**Description**

This command clears the measurement history.

**Example**

:PLUGin:OCEI:RUN:HISTory:CLEar

**PLUGin:OCEI:RUN:HISTory:[::STATE]**

**Command**

:PLUGin:OCEI:RUN:HISTory:[::STATE][?]

`'UserNameOfPlugIn#ChildModelId', "Value"`

**Input Values**

The calibration / test name in the OIF-CEI 28G VSR/SR plug-in instance in the format `'UserNameOfPlugin#<Calibration/Test name>'`. Note that the # symbol is part of the syntax and is inserted as a separator.
Description: Gets or sets whether the history is enabled or not.

Example:

:PLUGin:OCEI:RUN:HISTory:STATe? 'OIF-CEI 1#Amplitude'
Returns 0 or 1

PLUGin:OCEI:RUN:LOG?

Query Syntax: :PLUGin:OCEI:RUN:LOG?

Input Values: Not available

Description: This query returns the logs for the selected test or calibration.

Example:

:PLUGin:OCEI:RUN:LOG?

PLUGin:OCEI:RUN:MESSage?


Input Value: The Identifier is of the format 'Plug-inInstanceName#<Calibration/Test name>'. Note that the # symbol is part of the syntax and is inserted as a separator.

Description: This command returns a string describing the current state of the test or calibration. The return values include NotStarted | Running | Finished | Error | Stopped.

Example:

:PLUGin:OCEI:RUN:MESSage? '1'
"Error"

PLUGin:OCEI:RUN:PROGress?


Input Value: The Identifier is of the format 'Plug-inInstanceName#<Calibration/Test name>'. Note that the # symbol is part of the syntax and is inserted as a separator.

Description: This query returns a number in the range of 0.0 to 1.0 to indicate the progress of the current test or calibration. A '0.0' indicates that the plug-in is idle and '1.0' indicates that the plug-in execution has been finished.
Example

:PLUGin:OCEI:RUN:PROGress?

0.000000000E+00

PLUGin:OCEI:RUN[:STATus]?

Query Syntax :PLUGin:OCEI:RUN[:STATus]? 'Identifier'

Input Value The Identifier is of the format 'Plug-inInstanceName#<Calibration/Test name>'. Note that the # symbol is part of the syntax and is inserted as a separator.

Description This query returns the running status of a test or calibration. A '0' indicates the test or calibration is not running and a '1' indicates that the test or calibration execution has been finished.

Example :PLUGin:OCEI:RUN:STATus? 'OIF-CEI 1#Stressed Input'

0

PLUGin:OCEI:SELect

Syntax :PLUGin:OCEI:SELect? '<Identifier>'

:PLUGin:OCEI:SELect '<Identifier>'

Input Values For the query, OIF-CEI 28G VSR/SR plug-in instance name is the identifier. For the other command, the Identifier is of the format 'Plug-inInstanceName#<Calibration/Test name>'. Note that the # symbol is part of the syntax and is inserted as a separator.

Description Gets or sets the selected test/calibration.

Example :PLUGin:OCEI:SELect? 'OIF-CEI 1' returns "Crosstalk Amplitude"

:PLUGin:OCEI:SELect 'OIF-CEI 1#Stressed Input' sets Stressed Input as the selected test.

PLUGin:OCEI:STARt

Command :PLUGin:OCEI:STARt '<Identifier>'

Input Value OIF-CEI 28G VSR/SR plug-in instance name

Description This command is used to start the test or calibration addressed by the identifier.

Example :PLUGin:OCEI:STARt 'OIF-CEI 1'
**PLUGINS:OCEI:STOP**

<table>
<thead>
<tr>
<th>Command</th>
<th>:PLUGINS:OCEI:STOP ‘&lt;Identifier&gt;’</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Value</td>
<td>OIF-CEI 28G VSR/SR plug-in instance name</td>
</tr>
<tr>
<td>Description</td>
<td>This command is used to stop the test or calibration addressed by the identifier.</td>
</tr>
<tr>
<td>Example</td>
<td>:PLUGINS:OCEI:STOP ‘OIF-CEI 1’</td>
</tr>
</tbody>
</table>

Executing a SCPI through M8070A SCPI Editor

The section describes how a SCPI command can be executed using M8070A SCPI Editor.

Perform the following steps:
1. From the M8070A user interface, select Utilities -> SCPI Editor.

The SCPI Editor user interface is displayed as shown below.

Figure 17 SCPI Editor
2 Select the SCPI from the given list. You can also type the SCPI in the text box above the SCPI list to expedite the command search. Use the proper SCPI command syntax along with the command separators.

3 Click **Execute**. The output of the SCPI command is displayed in the History pane as shown below.

![Figure 18 Executing SCPI Command](image)

- Click the Clear History icon to clear the contents of the History pane.
Remote Programming/SCPI Plug-in Interface