Tektronix®

USB4 Receiver Test

Application Help

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Tektronix, Inc. - 13725 SW Karl Braun Drive - P.O. Box 500 - Beaverton, OR 97077 - US

For product information, sales, service, and technical support visit *tek.com* to find contacts in your area. For warranty information visit *tek.com/warranty*.

Contents

Welcome

The USB4 Rx application performs the test as per the Gen 2 / Gen 3 USB4 Electrical Compliance Test Specification Revision 1.03.

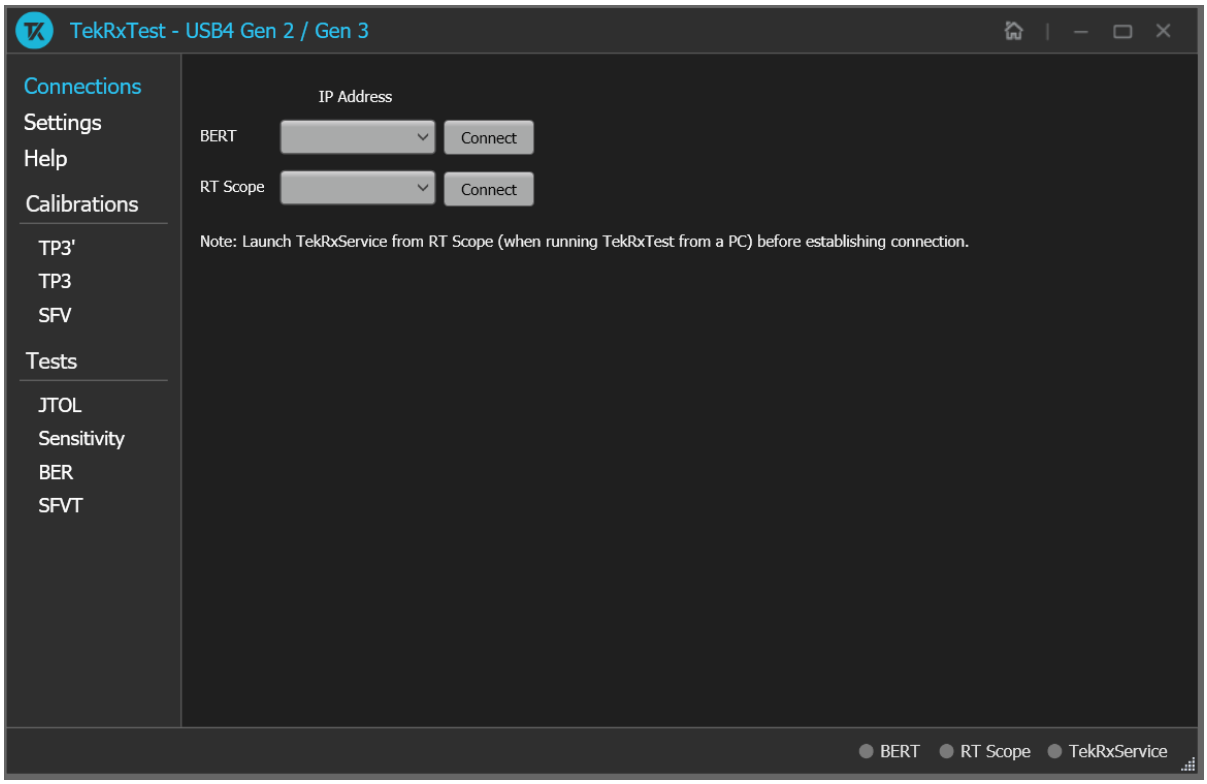


Figure 1: TekRxTest - USB4 Gen 2 / Gen 3 Rx application

Key features and benefits

- Calibration and Compliance Testing comes as a part of the receiver solution.
- Automated Calibration procedure is handy along with the ability to reload and rerun older Calibration files.
- Receiver BER, Signal Frequency Variations Training (SFVT), Jitter Tolerance (JTOL), and Sensitivity test for the DUT using the Electrical Testing Tool (ETT) from USB-IF.
- Jointly with Anritsu BERT MP1900A series, the receiver solution provides the tools and flexibility required to visualize and control the impairments, observe real-time eye performance for USB4 devices at 10 and 20 Gbps .
- The solution showcases the eye diagram at TP3' and TP3 endpoints.
- Reliable and accurate results reduce the test execution time and minimize the skillset required to perform calibration and testing.
- Available tests can be run at TP3' (Case 1) and TP3 (Case 2) test points and come with crosstalk feature.
- Detailed reports are at one's disposal for all calibration and test modules.

Getting help and support

Related documentation

The following documentation is available as part of the **USB4 Gen 2 / Gen 3 Rx** receiver test application.

Table 1: Product documentation

Item	Purpose	Location
Application Help	Application operation and User Interface details	Help panel of the application

Technical support

Tektronix values your feedback on our products. To help us serve you better, please send us your suggestions, ideas, or comments on your application or Real Time Oscilloscope. Contact Tektronix through mail, telephone, or the Web site. See *Contacting Tektronix*.

When you contact Tektronix Technical Support, please include the following information (be as specific as possible):

General information

- All instrument model numbers
- Hardware options, if any
- Modules used
- Your name, company, mailing address, phone number, and FAX number
- Please indicate if you would like to be contacted by Tektronix about your suggestion or comments.

Application specific information

- Software version number
- Description of the problem such that technical support can duplicate the problem
- If possible, save the setup files for all the instruments used and the application.

Getting started

Required equipment and accessories

This section lists the accessories and test fixtures required to perform the tests.

Table 2: Required equipment and accessories

Equipment	Vendor	Type	R/O	Qty	Description
MP1900A	Anritsu	Equipment	Required	1	BERT
DPO72304SX or DPO72304DX or Oscilloscope of higher bandwidth	Tektronix	Equipment	Required	1	Tektronix Real time Oscilloscope Bandwidth ≥21 GHz, ≥2 - channel oscilloscope
CIO – DPOJET plugin	Tektronix	Software	Required	1	Pre-req option for USB4
DIA-DPOJET Advanced option	Tektronix	Software	Required	1	Pre-req option for USB4
SDLA64	Tektronix	Software	Required	1	Pre-req option for USB4
PMCABLE1M	Tektronix	Accessory	Required	3	Precision Phase Matched Cable Pair, 1m
PMCABLE0.5M	Tektronix	Accessory	Required	6	Precision Phase Matched Cable Pair, 1m
640-0961-000	Wilder	Equipment	Required	1	USB4 controller and fixture (USB4-TPA-UC-K)
ST2643	Fairview Microwave	Accessory	Required	4	SMP terminators
SM8852	Fairview Microwave	Accessory	Required	6	2.92mm (female) to SMP (female) Cable or Adapter
PCIe Gen4 ISI Fixture	PCI-SIG	Accessory	Required	1	This will be replaced when an approved version is made available by USB-IF
0.8 m and 2 m USB Type-C cables	Any USB-IF approved cable	Accessory	Required	1 each	USB Type C Cables
RXSW-NLP-USB4 or	Tektronix	Software	Required	1	License; USB4 Receiver automation software for TEK scopes and Anritsu BERT; Perpetual; Node-Locked
RXSW-NL1-USB4 or					License; USB4 Receiver automation software for TEK scopes and Anritsu BERT; 1 year subscription; Node-Locked
RXSW-FLP-USB4 or					License; USB4 Receiver automation software for TEK scopes and Anritsu BERT; Perpetual; Floating
RXSW-FL1-USB4					License; USB4 Receiver automation software for TEK scopes and Anritsu BERT; 1 year subscription; Floating

Installing the software

Follow the below steps to download and install the latest USB4 Gen 2 / Gen 3 TekRxTest application.

1. Go to *www.tek.com*.
2. Click **Downloads**. In the Download menu, select DOWNLOAD TYPE as Software and enter **USB4 Gen 2 / Gen 3 Rx** in the MODEL OR KEYWORD field and click **SEARCH**.
3. Select the latest version of the software and follow the instructions to download.
4. Copy the executable file into the instrument to install the software (Real-time oscilloscope or PC).
5. Follow the installation instructions that is available in the website. The software is installed at `C:\ProgramFiles\Tektronix\BERTScope\RxTest60`.
6. Click the shortcut icon on the desktop to launch the application.

Note:

- The USB4 Gen 2 / Gen 3 TekRxTest application can be installed on a Tektronix real-time oscilloscope or a PC (Optional).
- You must install the TekRxService application in the real-time oscilloscope to successfully connect the application with the real-time oscilloscope.

Operating basics

Launch the application

To launch the USB4 Gen 2 / Gen 3 TekRxTest application, click the shortcut icon **TekRxTest** on the desktop and select **USB4 Gen 2 / Gen 3** in the application window.

Close the application

To exit the application, click ✕ on the application title bar. Follow on-screen instructions to save the unsaved session or test setup.

⚠ **Note:** Using other methods to exit the application may result in abnormal termination of the application.

Launch Real-Time Oscilloscope

The TekVISA Socket Server application on the oscilloscope provides the necessary connectivity between the TekRxTest application and scope. Although it is launched in the background when the scope boots up and the socket is initialized for communication, it is recommended to verify the status by clicking on the Desktop Tray —› TekVISA LAN Server Control as shown in the image below. If it is ready to exchange data, then a wizard would appear as in the below image.

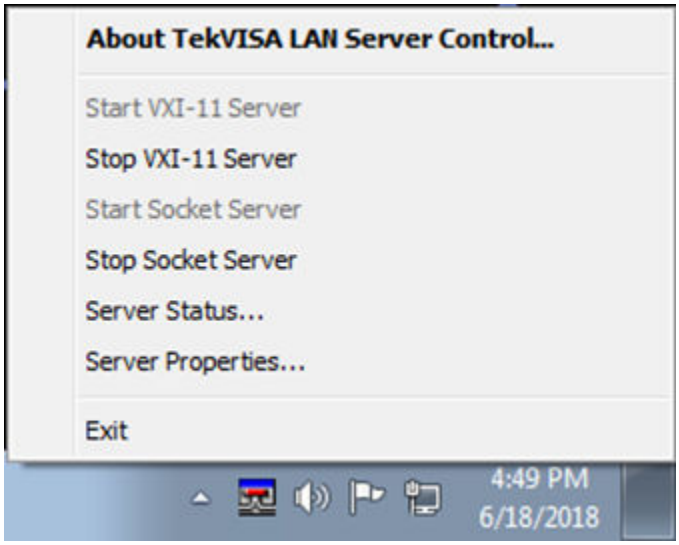


Figure 2: Launch Real-Time Oscilloscope

Note: In the unlikely event when the socket is not initialized, the process can be started by clicking on “Start Socket Server” which gets enabled during such a scenario.

Launch TekRxService

The USB4 Gen 2 / Gen 3 TekRxTest application interfaces with the oscilloscope for data acquisition, analysis, and data retrieval utilizing TekRxService application. TekRxService should be launched from the oscilloscope before initiating a connection between the oscilloscope and TekRxTest application.

Application panels

Application panels overview

The USB4 Gen 2 / Gen 3 USB4 receiver test application uses panels to group the configurations and settings. Click on any panel to configure the associated settings. A panel may have one or more tabs that lists the selections available in that panel. Controls in a tab may change depending on the settings made in the same tab or another tab.

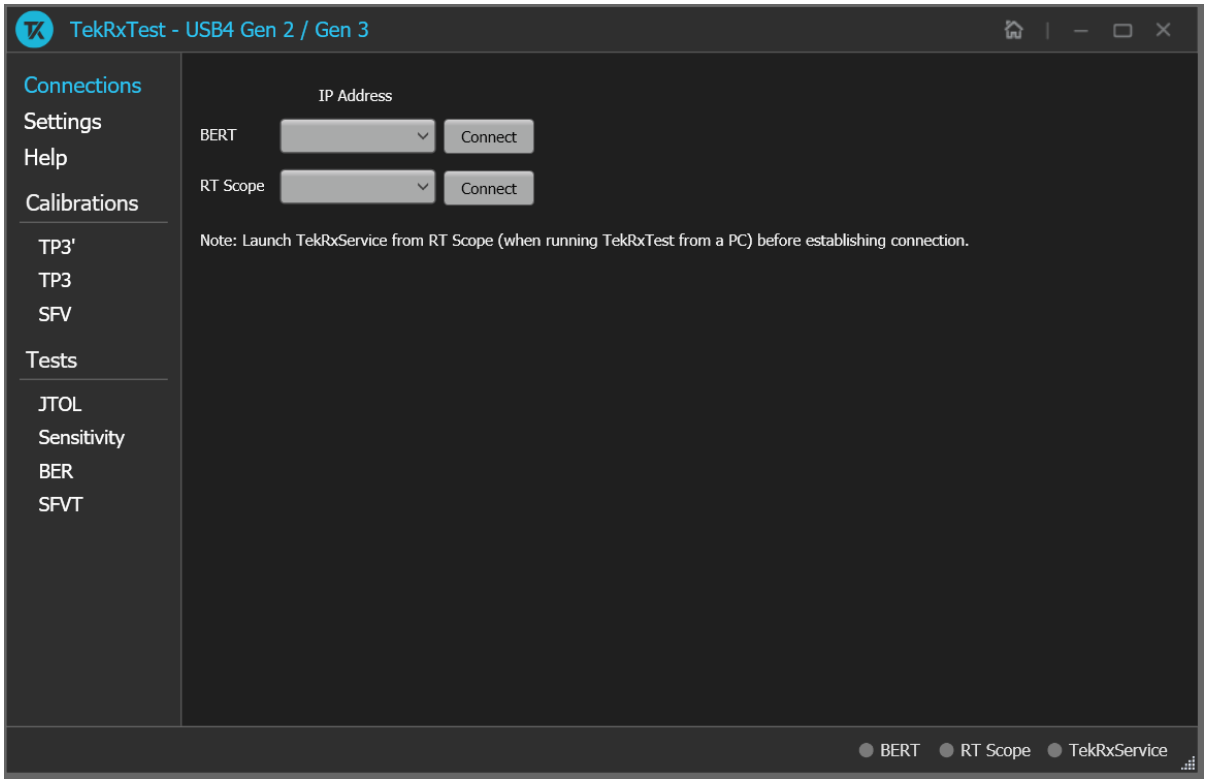


Figure 3: Application panels overview

Table 3: Application panels overview

Parameter	Description
Connections	This panel displays the Real-Time Oscilloscope and Bit Error Rate Tester (BERT) connection settings. You can connect to a real-time oscilloscope and BERT by entering the IP address of the instruments.
Settings	This panel allows configuring various settings for the RT Scope, Analysis Tool, and the Remote Access.
Help	This panel displays the application help.
Calibrations	This panel allows you to configure the calibration parameters for TP3', TP3, and SFV and save the results.
Tests	This panel allows you to configure the JTOL, Sensitivity, BER, and SFVT test settings and view the results.

Connections panel

The Connections panel allows you to connect to a real-time oscilloscope and BERT with the USB4 Gen 2 / Gen 3 USB4 TekRxTest application. Enter the IP address of these instruments and click **Connect** to establish the connection.

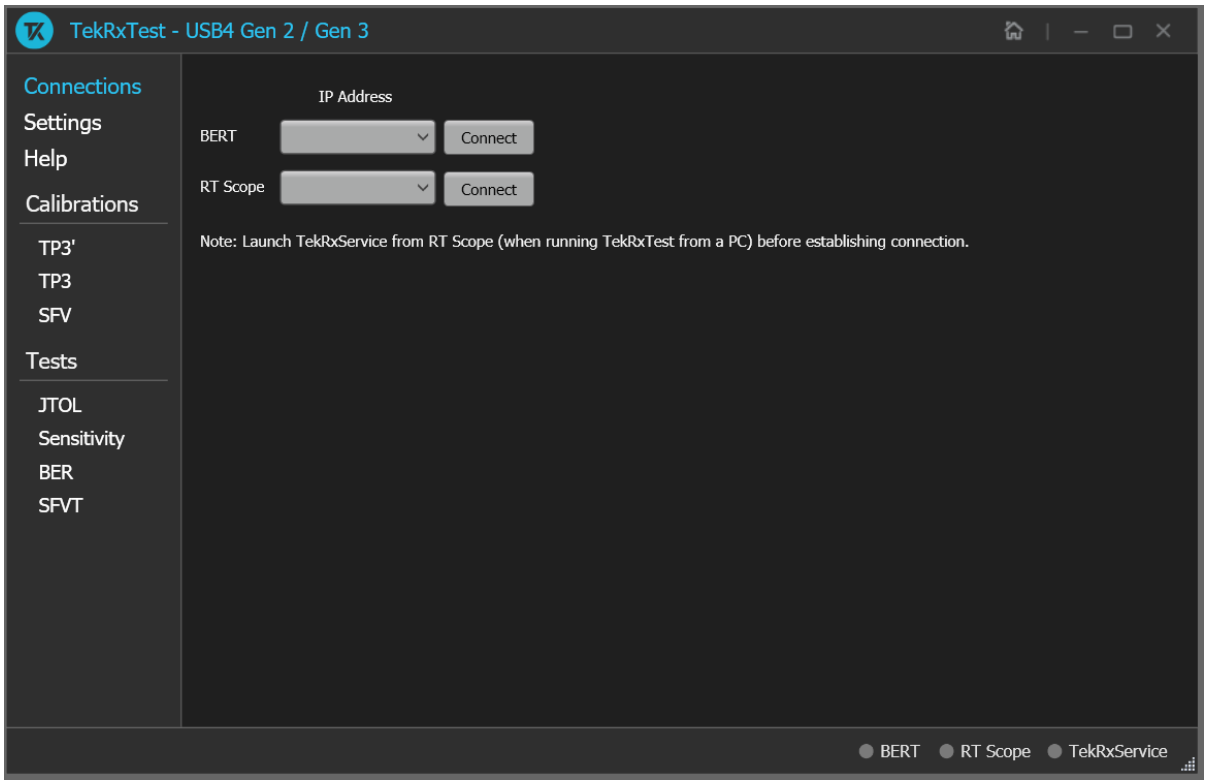


Figure 4: Connections panel

Table 4: Connections panel

Connections	Description
BERT	Enter the BERT IP address in the address field and click **Connect**. When the **BERT** is connected successfully, the circle next to BERT in the right end corner turns green. **Note:** It is recommended to launch the MP1900A software in the administrator mode to use the TekRxTest Application.
RT Scope	Enter the RT Scope IP address in the address field and click Connect. When the RT Scope is connected successfully, the circle next to RT Scope and TekRxService in the right end corner turns green. **Note:** Before you click **Connect**, you must launch the TekRxService in the real-time oscilloscope.

Settings panel

The Settings panel allows you to configure the settings for instruments, analysis tool, and remote access. Click on any tab to configure the associated settings.

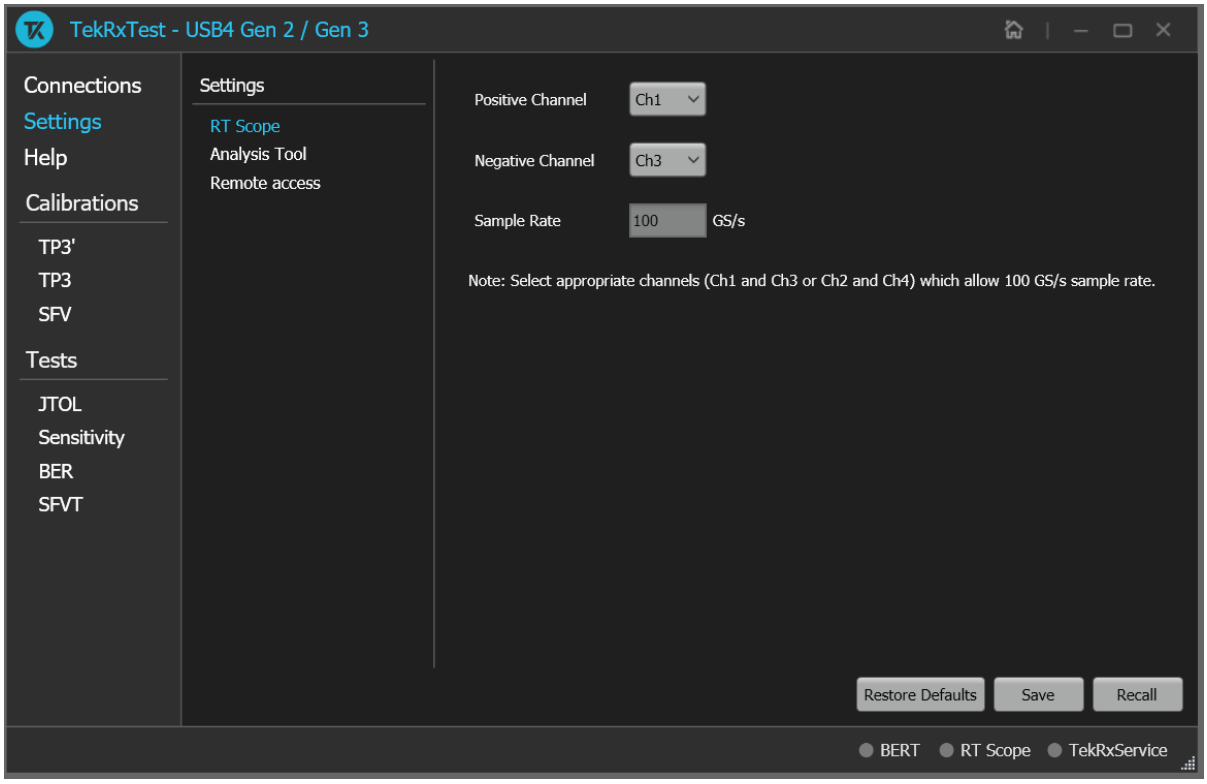


Figure 5: Settings panel

Table 5: Settings panel configurations

Parameter	Description
Restore Defaults	Restores the application with default settings.
Save	Saves the current test setup.
Recall	Recalls the saved test setup.

Basic settings

The basic settings display the parameters for RT Scope, Analysis Tool, and Remote access.

RT Scope

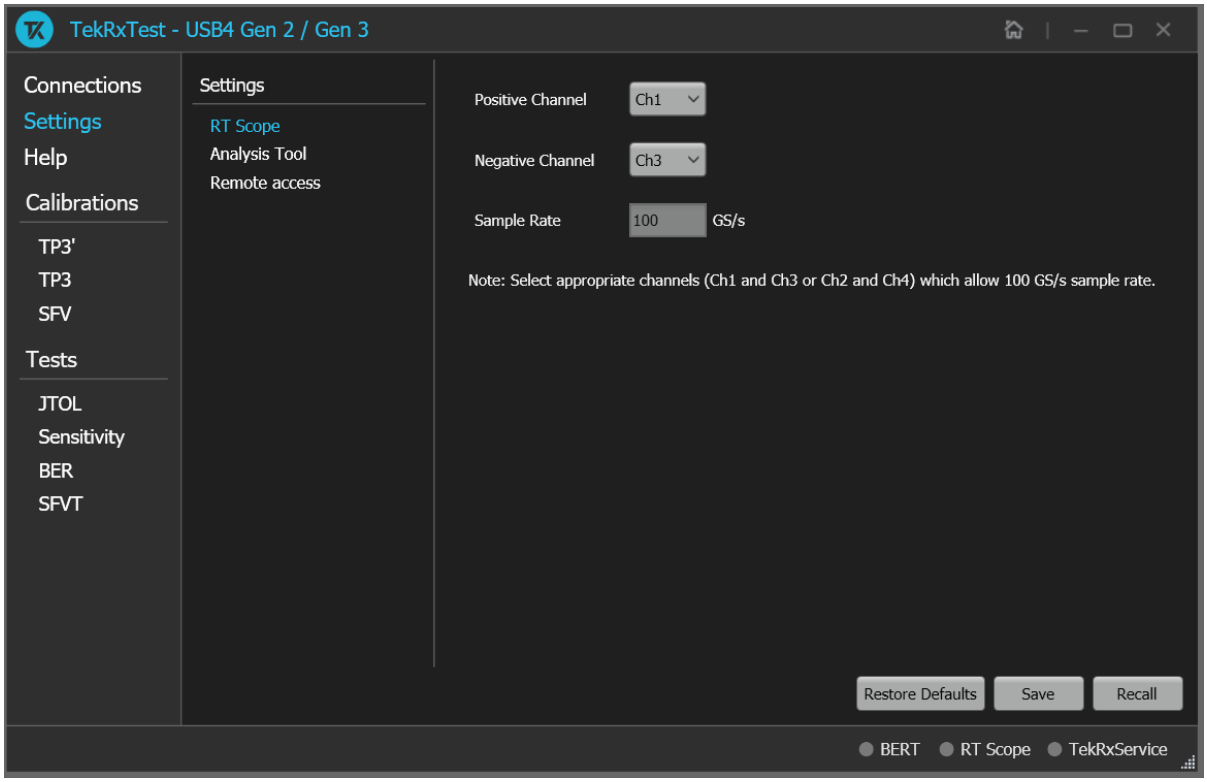


Figure 6: RT Scope

Table 6: RT Scope

Parameter	Description
Positive Channel	Select the generator data positive channel from BERT.
Negative Channel	Select the generator data negative channel from BERT.
Sample Rate	Displays the sample rate in GS/s used for the selected channels.
Deskew	Displays the deskew in ps used for the selected channels.

Note: Select appropriate channels (Ch1 and Ch3 or Ch2 and Ch4) which allow 100 GS/s sample rate.

Analysis Tool

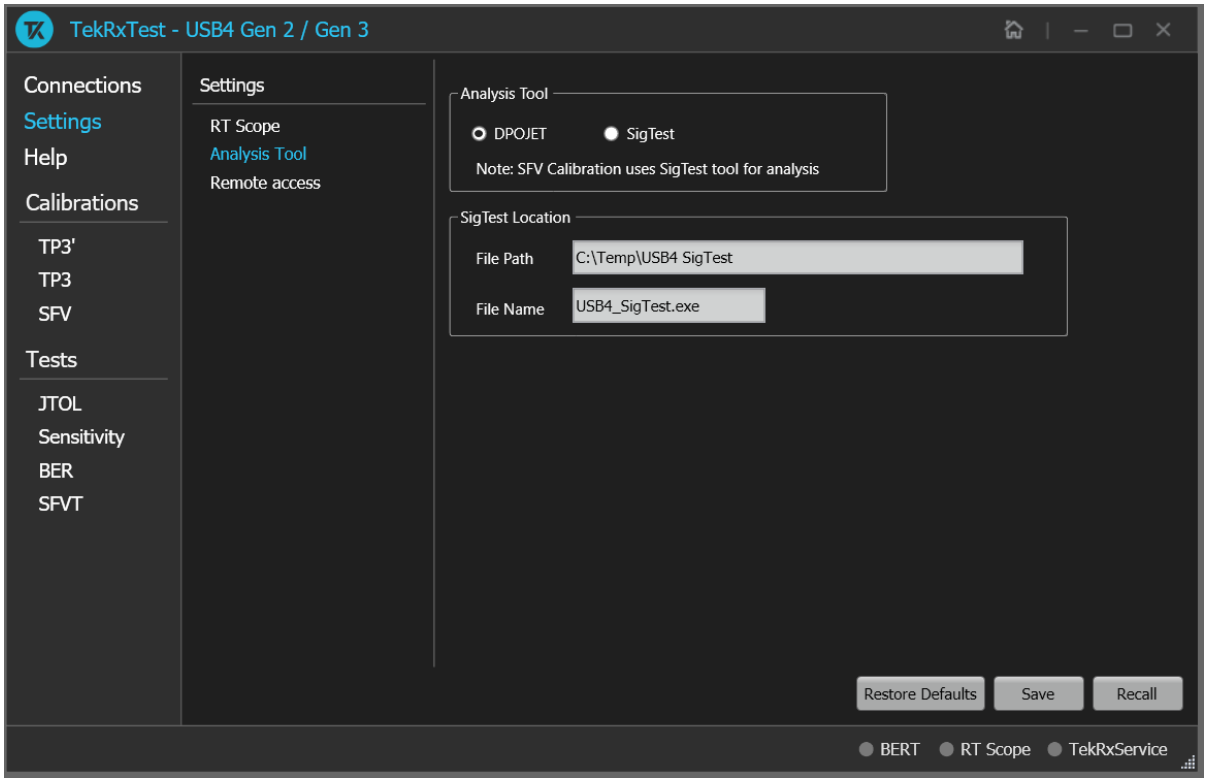


Figure 7: Analysis Tool

Table 7: Analysis Tool

Parameter	Description
DPOJET	Displays the jitter and eye measurements in TP3' and TP3 calibration.
SigTest	Displays the signal quality measurements captured using a real-time oscilloscope. You need to provide a valid file path for the USB4 Sigtest executable in the Text box **File Path** and the name of the executable in the Text box **File Name**. **Note:** TekRxTest application supports the usage of SigTest Analysis for TP3 Calibration.

Remote access

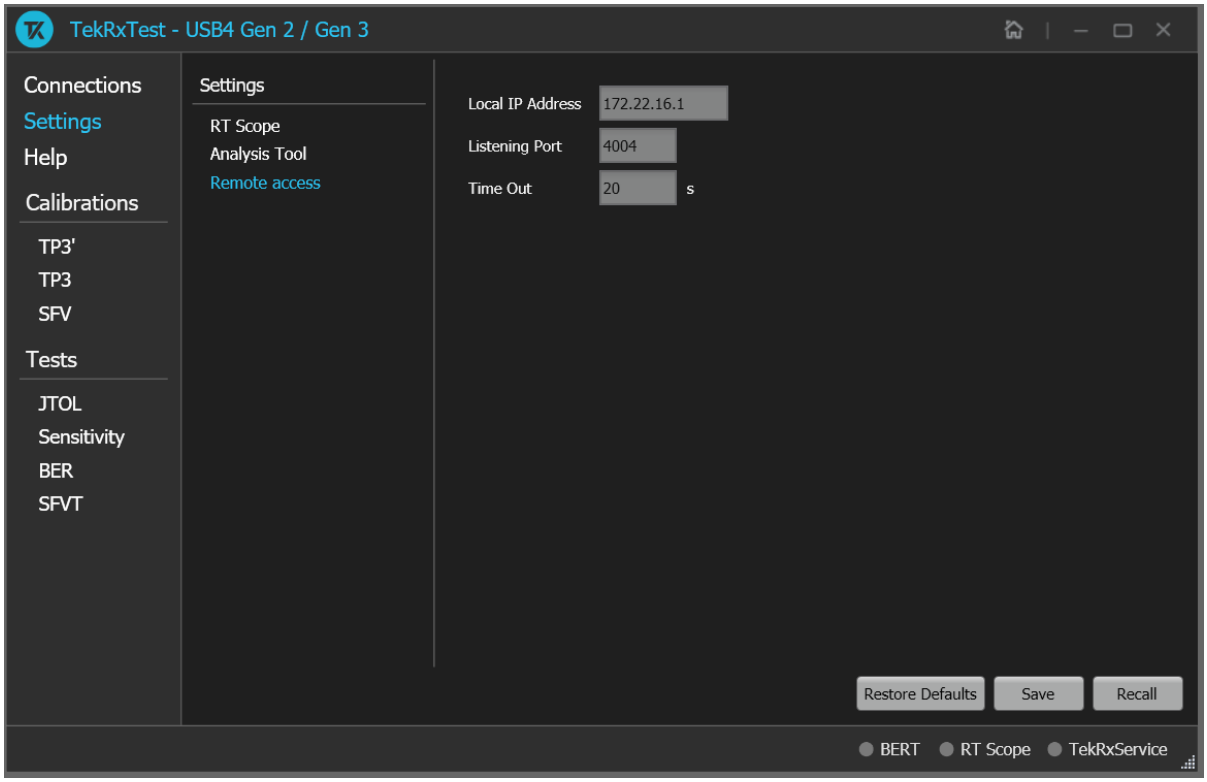


Figure 8: Remote access

Table 8: Remote access

Parameter	Description
Local IP Address	Displays the IP address for connecting to the application over socket server.
Listening Port	Displays the TCP/IP port number of the port that the socket server is listening through. Default Value: **4004**
Time Out	Displays the timeout value used when communicating with the socket server. Default Value: **20 Seconds**

Help panel

The help panel launches the USB4 Gen 2 / Gen 3 USB4 TekRxTest application help document.

Calibrations panel

Complete TP3', TP3, and SFV calibrations before you start the DUT testing using the USB4 Gen 2 / Gen 3 TekRxTest application. Follow the instructions in the calibration wizards to automate the calibration for the TP3' and TP3 calibration points. After calibrating these points, you can save the results.

TP3' Calibration

The TP3' calibration panel allows you to perform TP3' calibration for 10 Gbps, 10.3125 Gbps, 20 Gbps, 20.625 Gbps and save the results.

You must perform TP3' calibration before you start performing the calibration for TP3.

TP3' Calibration Procedure

Click on TP3' under the Calibrations tab to view the previously run calibration reports. At this stage, you can choose the data rate (10 Gbps, 10.3125 Gbps, 20 Gbps, 20.625 Gbps) , the run calibration reports for the selected generation will be populated in the results table. When you click on  , the TP3' wizard will be launched for the selected generation. This wizard will guide you through the sequential procedure to perform the calibration.

During this process, the TekRxTest application calibrates the following items:

1. **Eye Height Calibration:** A nominal differential amplitude of 700 mV is calibrated to be used in other calibration modules.
2. **DDJ Calibration:** The preset with the least data dependent jitter is found and used in further modules.
3. **ACCM Calibration:** The AC Common Mode Interference is required to be calibrated to 100 mVp-p at a frequency of 400 MHz.
4. **RJ Calibration:** The Random Jitter is to be calibrated to a nominal value of 0.14 UI p-p.
5. **PJ Calibration:** The periodic jitter at frequencies of 1, 2, 10, 50 and 100 MHz is calibrated to a nominal value of 0.17 UI p-p.
6. **TJ Calibration:** The Total Jitter at the predefined frequencies of 1, 2, 10, 50 and 100 MHz is calibrated be in the range of 0.3375 – 0.3625 UI p-p 10.00 Gbps (Gen2 rounded), 10.3125 Gbps (Gen2 legacy), 20.0 Gbps (Gen3 rounded) and 20.625 Gbps (Gen3 legacy) and 0.355 – 0.405 UI p-p (Gen3 – 20 Gbps) .
7. **Input Eye Diagram:** In this step of calibration, it is ensured that the signal, with all the calibrated stresses, meets the Eye Height (700 mV for 10.00 Gbps (Gen2 rounded), 10.3125 Gbps (Gen2 legacy), 20.0 Gbps (Gen3 rounded) and 20.625 Gbps (Gen3 legacy)) requirements for 1, 2, 10, 50 and 100 MHz with the help of a predefined mask, ensuring that there are no mask hits.

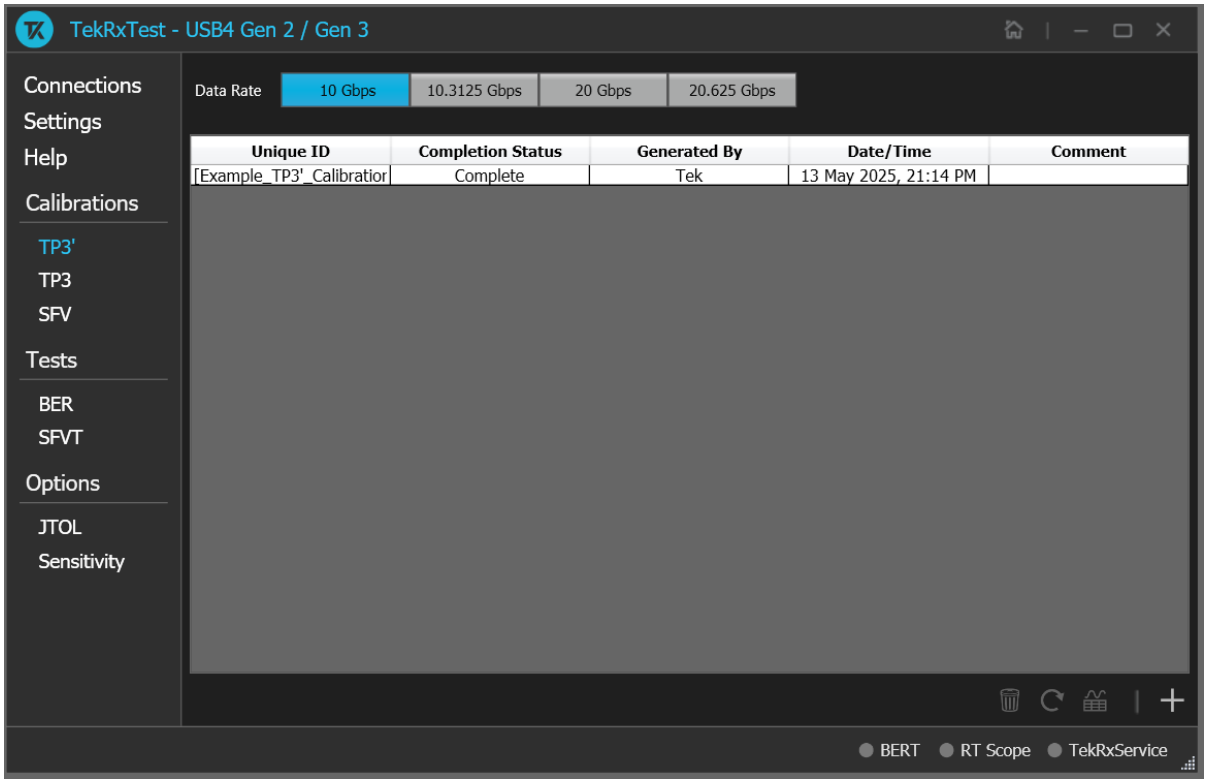


Figure 9: TP3' Calibration Panel

1. **Connection Diagram:** This page displays the connection diagram for the TP3' setup.

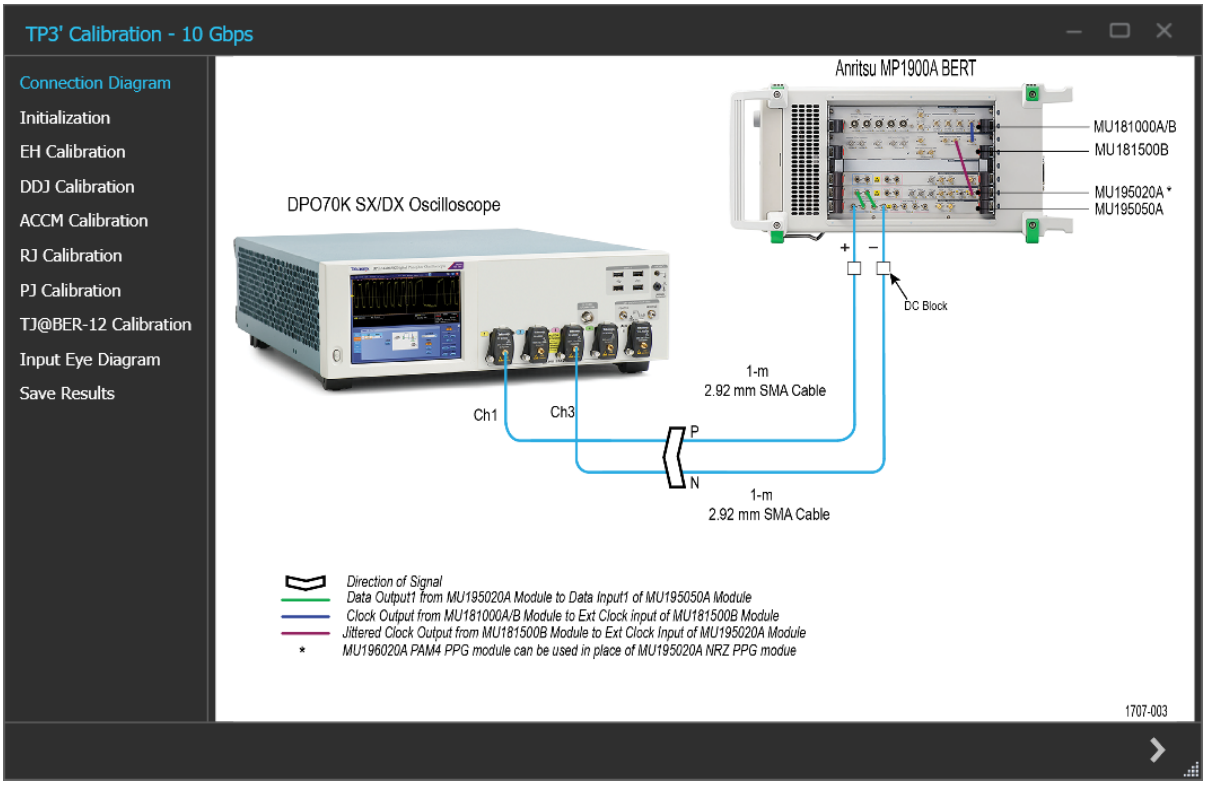


Figure 10: TP3' Calibration-Connection Diagram

Click to move to the next step in the calibration process.

2. **Initialization:** This page displays the description and allows you to initialize the equipment. Click **Initialize Equipment** to complete the initialization process.

   You can click **Automatic Calibration** to perform the automatic calibration with the default settings for amplitude, Tx equalization presets, ACCM, RJ, and PJ parameters without user intervention.

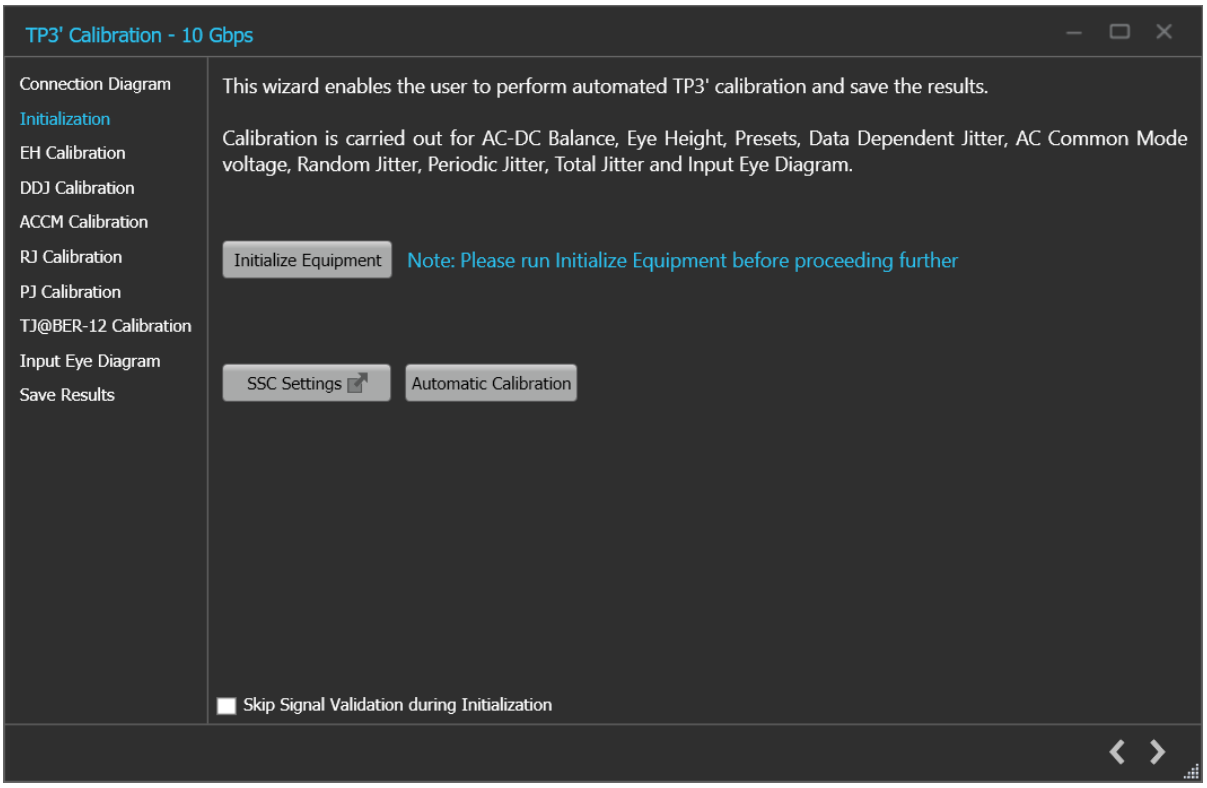


Figure 11: TP3' Calibration-Initialization

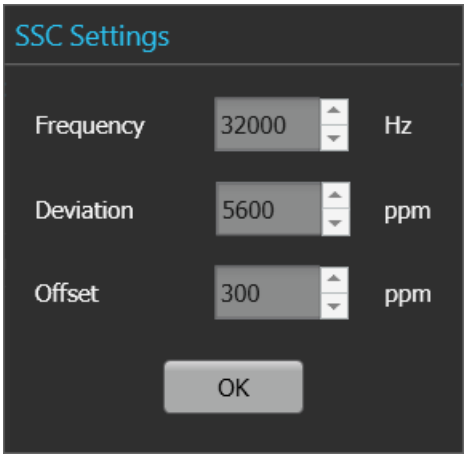


Figure 12: SSC Settings

SSC Settings: You can configure the SSC settings at the beginning of TP3' calibration.

Note: The profile of the SSC is down spread

Table 9: SSC Settings

Parameter	Description
Frequency	Enter the frequency in MHz for SSC to be used for all calibration and test modules.
Deviation	Enter the deviation in ppm for SSC to be used.

Click to move to the next step in calibration process.

3. **EH Calibration:** This page displays the graph plots of Eye Height (EH) calibration.

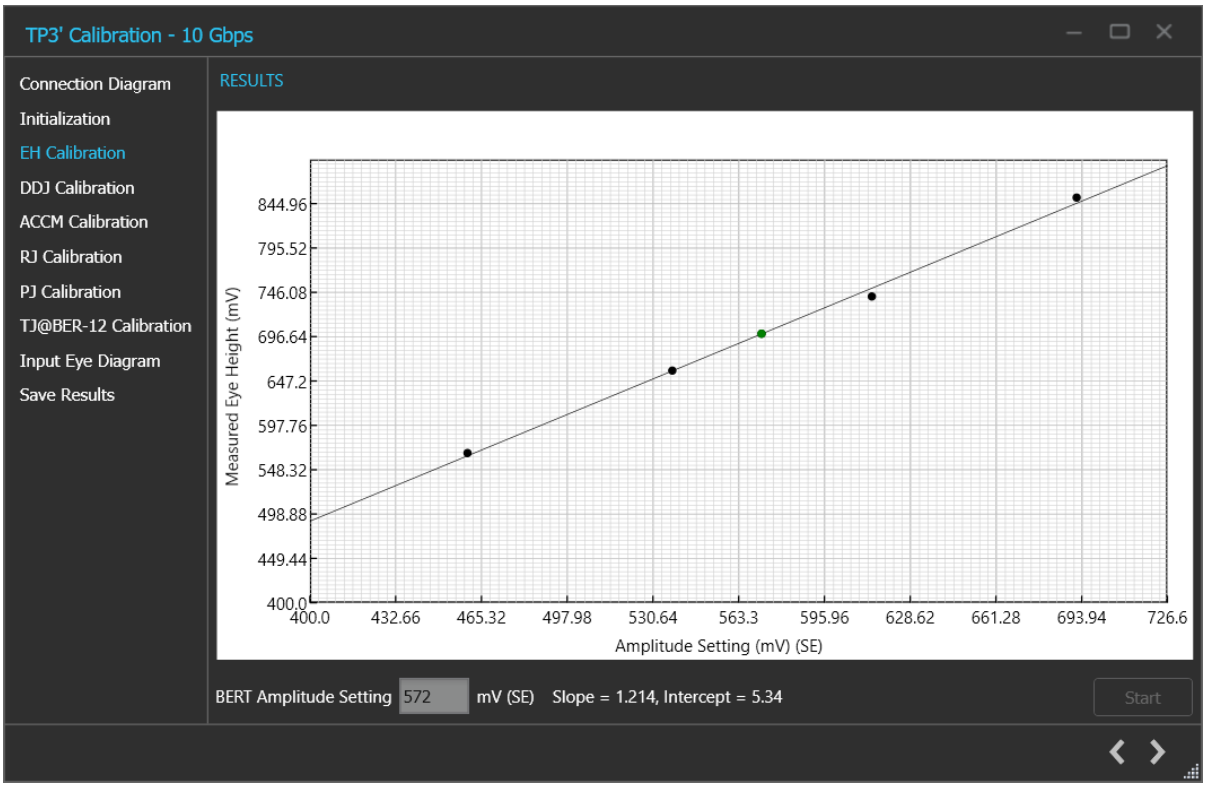


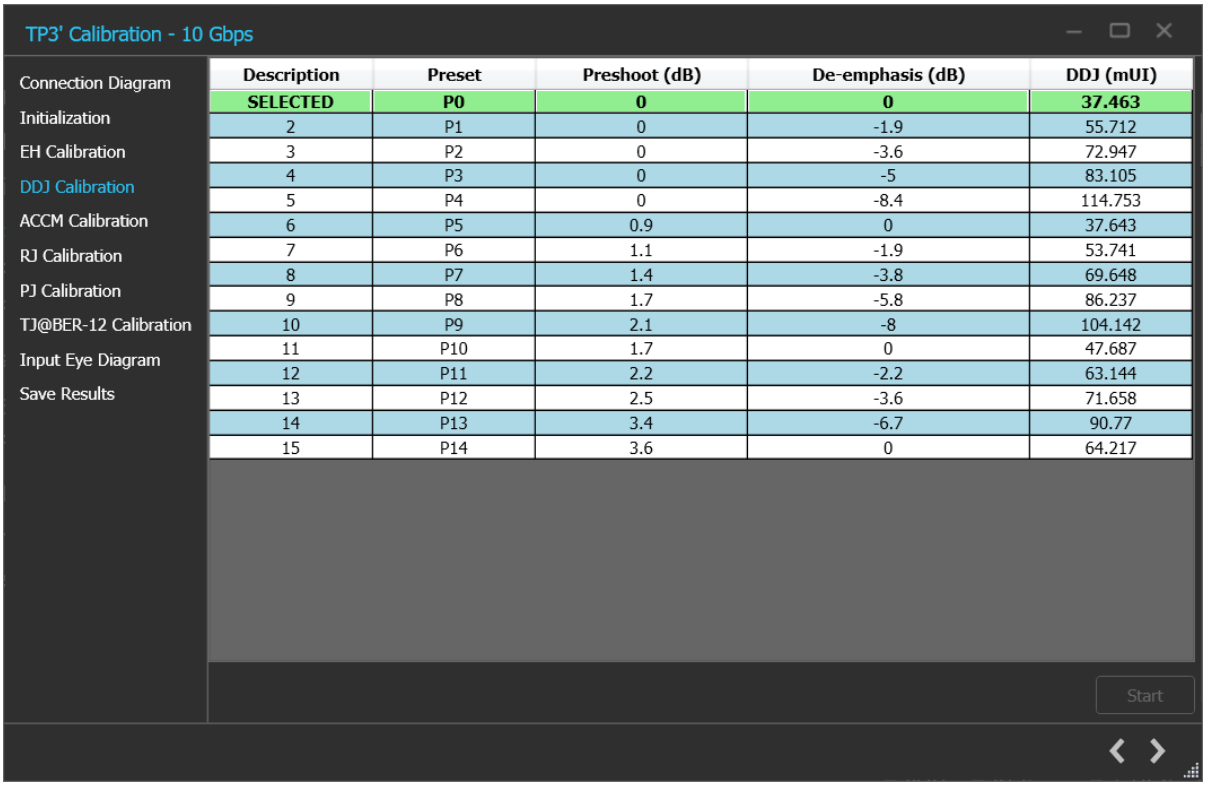
Figure 13: TP3' Calibration-EH Calibration

Table 10: TP3' Calibration: EH Calibration

Parameter	Description
BERT Amplitude Setting	Displays the calibrated amplitude corresponding to the nominal Eye Height.
Start	Click **Start** to run the measurement.
Cancel	Click **Cancel** to stop the calibration.

Click to move to the next step in calibration process.

4. **DDJ Calibration:** This page displays a summarized table for the data dependent jitter calculated for the calibrated preshoot and de-emphasis values set on the BERT.



Description	Preset	Preshoot (dB)	De-emphasis (dB)	DDJ (mUI)
SELECTED	P0	0	0	37.463
2	P1	0	-1.9	55.712
3	P2	0	-3.6	72.947
4	P3	0	-5	83.105
5	P4	0	-8.4	114.753
6	P5	0.9	0	37.643
7	P6	1.1	-1.9	53.741
8	P7	1.4	-3.8	69.648
9	P8	1.7	-5.8	86.237
10	P9	2.1	-8	104.142
11	P10	1.7	0	47.687
12	P11	2.2	-2.2	63.144
13	P12	2.5	-3.6	71.658
14	P13	3.4	-6.7	90.77
15	P14	3.6	0	64.217

Figure 14: TP3' Calibration-DDJ Calibration

Table 11: TP3' Calibration: DDJ Calibration

Parameter	Description
Start	Click **Start** to run the measurement.
Cancel	Click **Cancel** to stop the calibration.

Click  to move to the next step in calibration process.

5. **ACCM Calibration:** This page displays the graph plot for ACCM calibration.

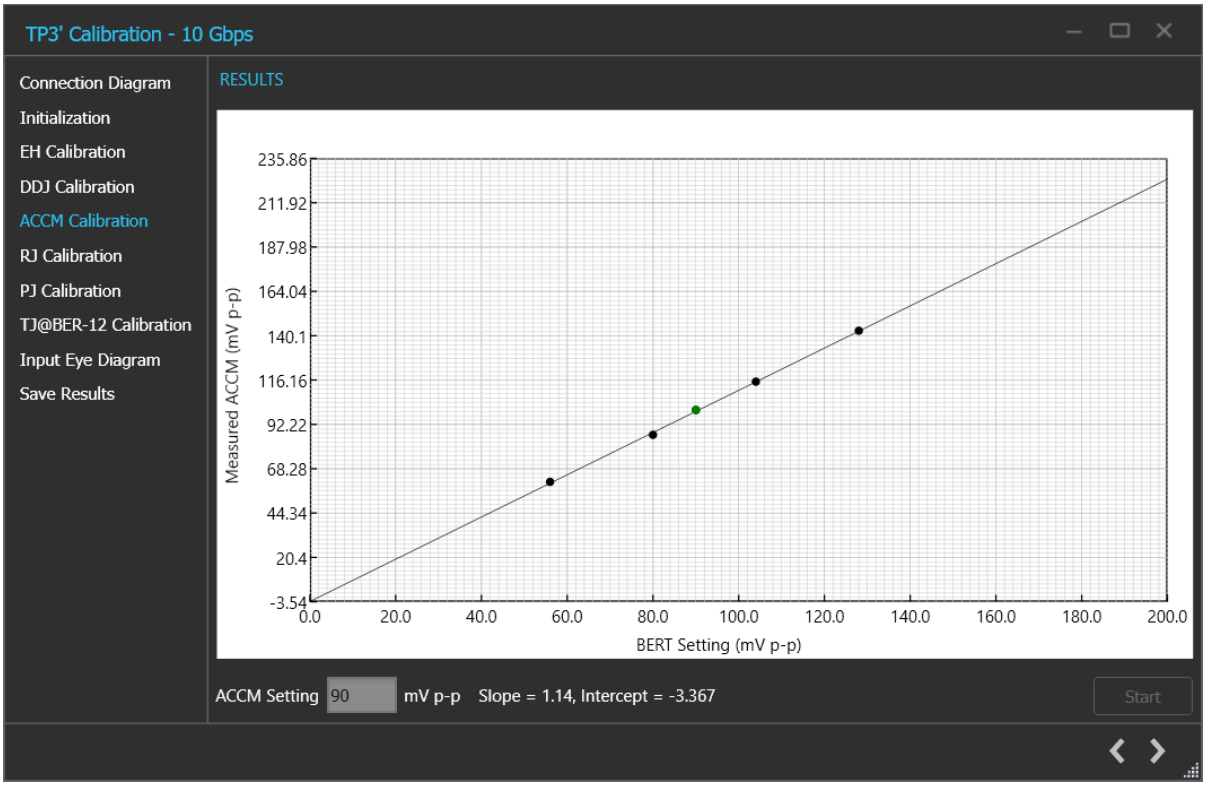


Figure 15: TP3' Calibration-ACCM Calibration

Table 12: TP3' Calibration: ACCM Calibration

Parameter	Description
ACCM Setting	Displays the calibrated ACCM value corresponding to the nominal value.
Start	Click **Start** to run the measurement.
Cancel	Click **Cancel** to stop the calibration.

Click ❯ to move to the next step in calibration process.

6. **RJ Calibration:** This page displays the graph plot for RJ calibration.

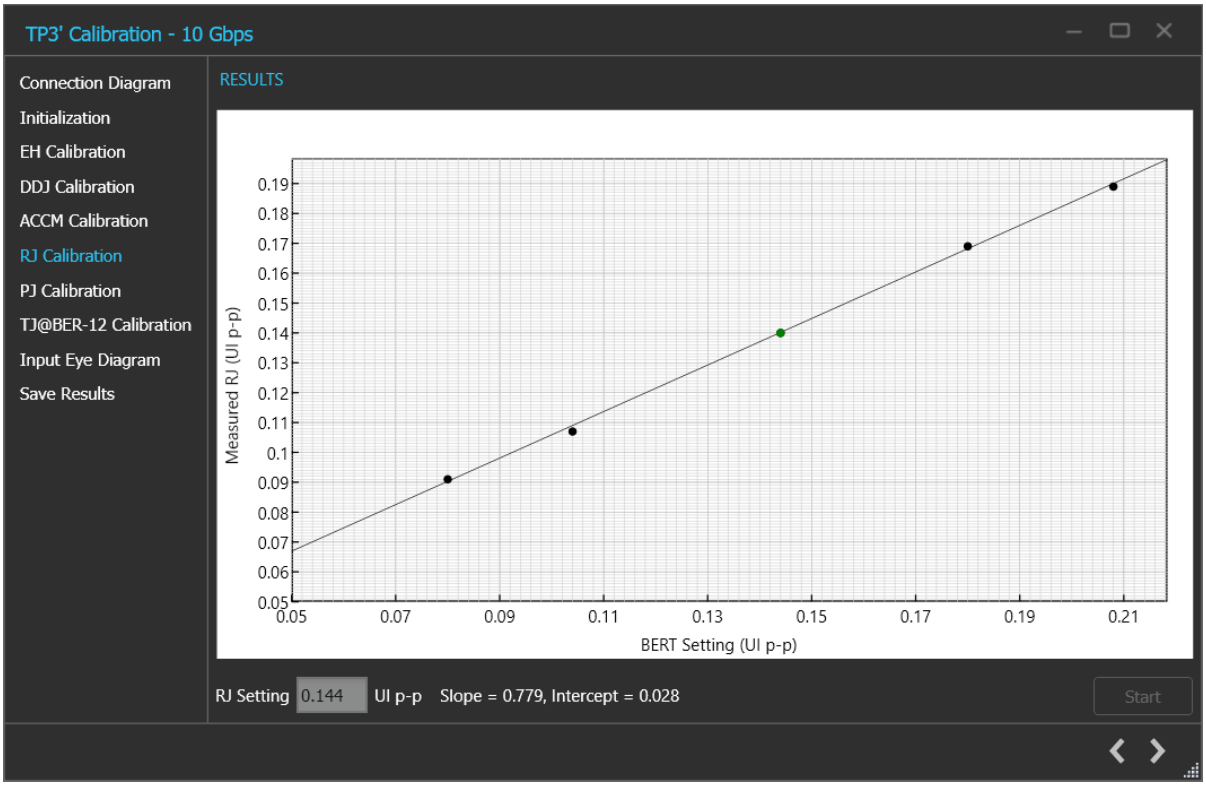


Figure 16: TP3' Calibration-RJ Calibration

Table 13: TP3' Calibration: RJ Calibration

Parameter	Description
RJ Setting	Displays the calibrated RJ value corresponding to the nominal value.
Start	Click **Start** to run the measurement.
Cancel	Click **Cancel** to stop the calibration.

Click to move to the next step in calibration process.

7. **PJ Calibration:** This page displays the graph plots for PJ calibration for the frequencies of 1, 2, 10, 50 and 100 MHz.

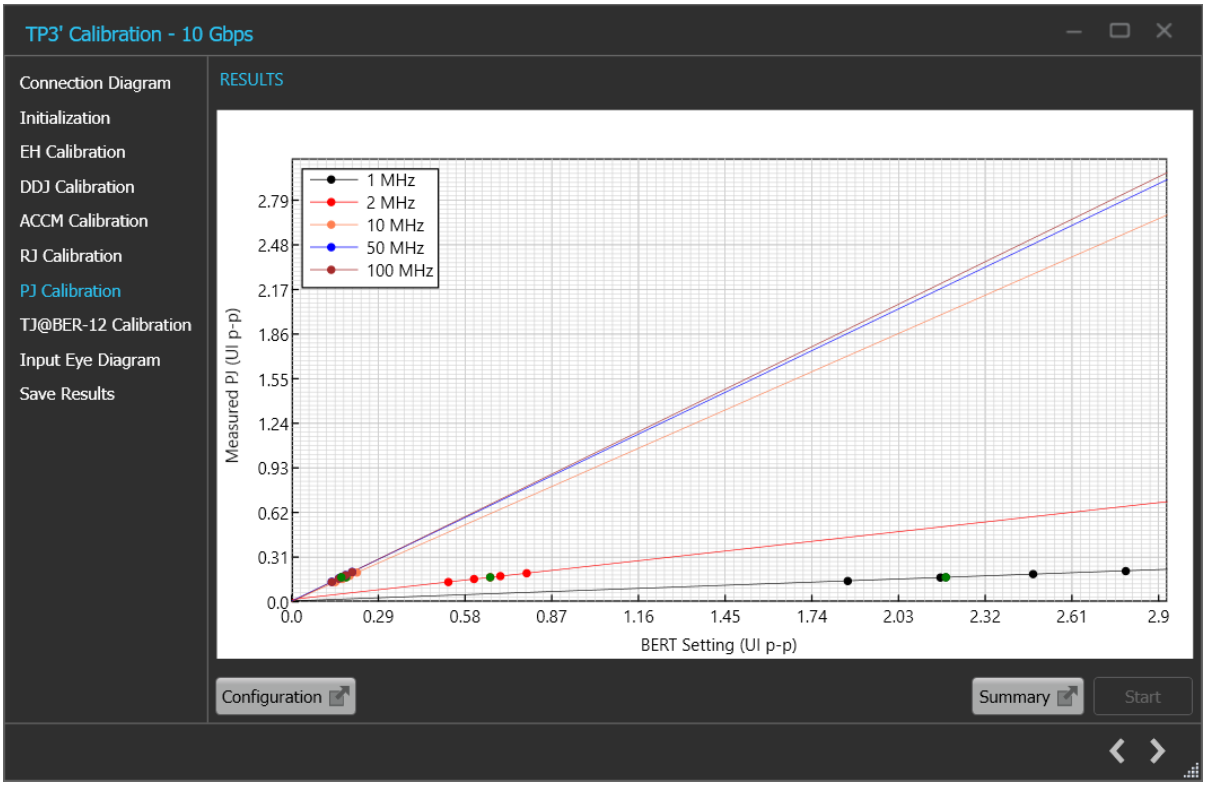


Figure 17: TP3' Calibration-PJ Calibration

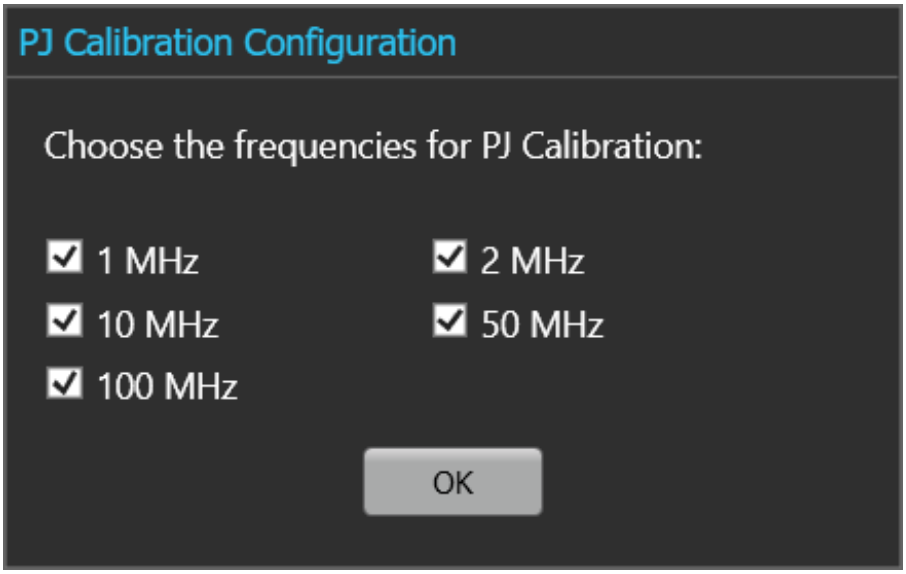


Figure 18: TP3' Calibration - PJ Calibration - Configuration

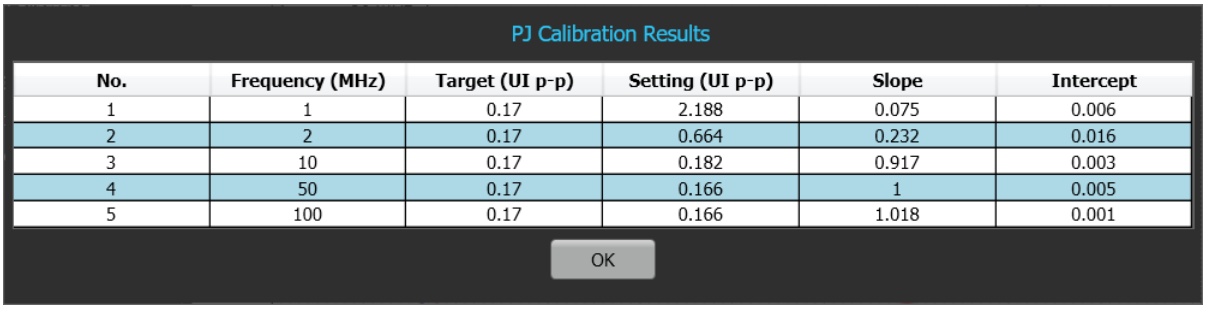


Figure 19: TP3' Calibration - PJ Calibration - Summary

Table 14: TP3' Calibration: PJ Calibration

Parameter	Description
Summary	Displays a summary of the calibrated PJ value corresponding to the nominal value for the frequencies of 1, 2, 10, 50 and 100 MHz.
Start	Click **Start** to run the measurement.
Cancel	Click **Cancel** to stop the calibration.

Click  to move to the next step in calibration process.

8. **TJ Calibration:** This page displays a table for the RJ and PJ value set on the BERT for the random and periodic jitter and the total jitter corresponding to that combination for the frequencies of 1, 2, 10, 50 and 100 MHz.

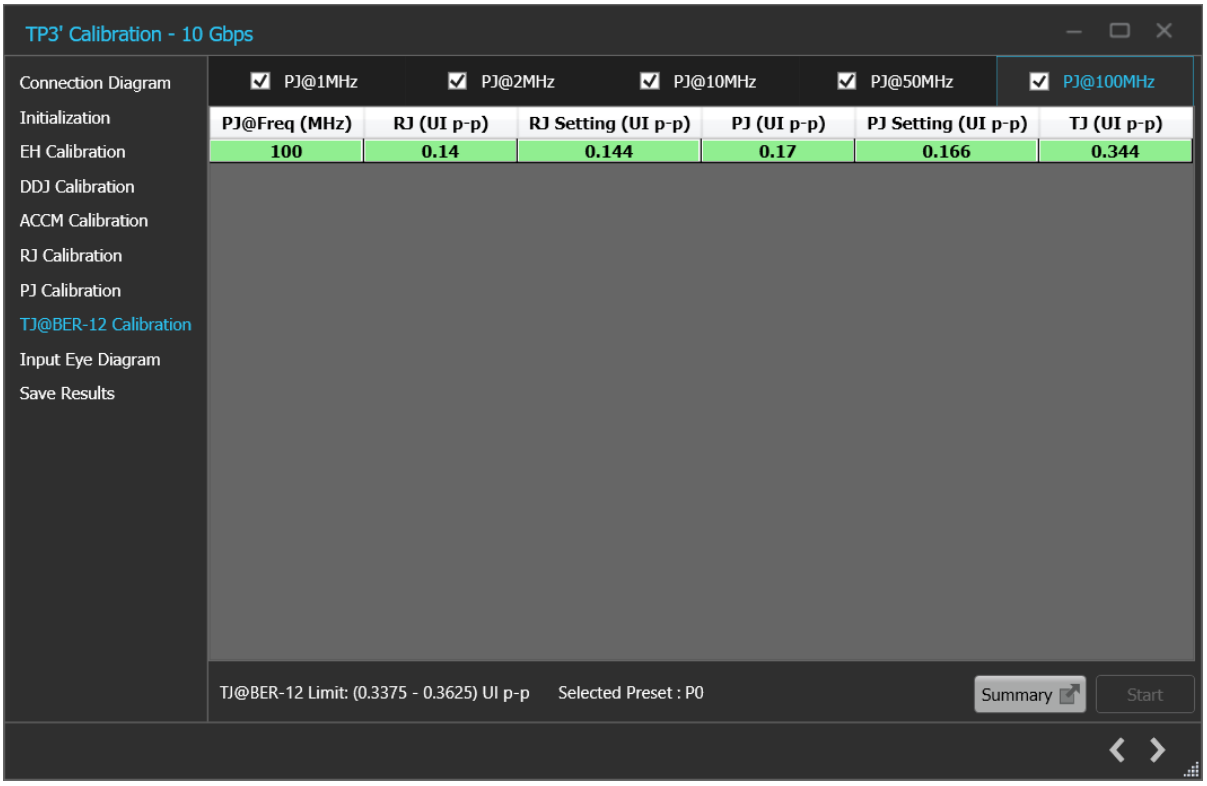


Figure 20: TP3' Calibration-TJ Calibration

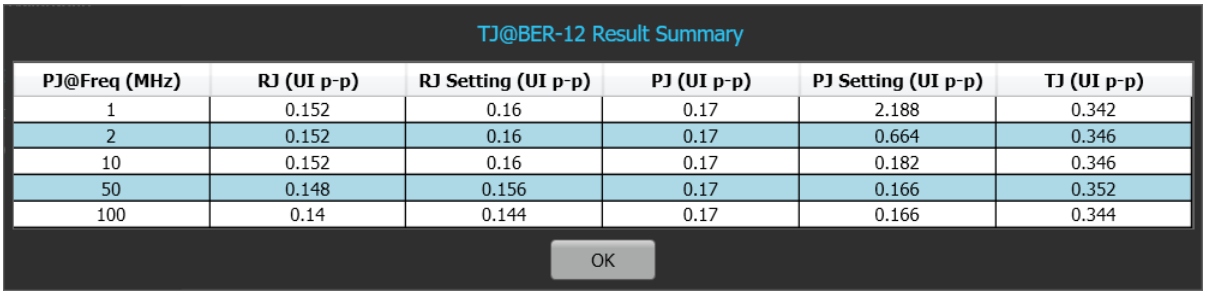


Figure 21: TP3' Calibration-TJ Calibration-Summary

Table 15: TP3' Calibration: TJ Calibration

Parameter	Description
TJ Range	Displays the TJ range in UI p-p. **Note:** TJ range for Gen 2: 0.3375 - 0.3625 UI p-p. TJ range for Gen 3: 0.355 - 0.405 UIp-p.
Selected Preset	Displays the preset with the lowest DDJ used to calibrate TJ.
Summary	Displays a summarized table for the combination of RJ and PJ where the TJ is in range for a given frequency.
Start	Click **Start** to run the measurement.
Cancel	Click **Cancel** to stop the calibration.

Click to move to the next step in calibration process.

9. **Input Eye Diagram:** This page displays the combination of stresses and amplitude and the measured Eye Height, Eye Width and the Mask Hit Status in a tabular format.

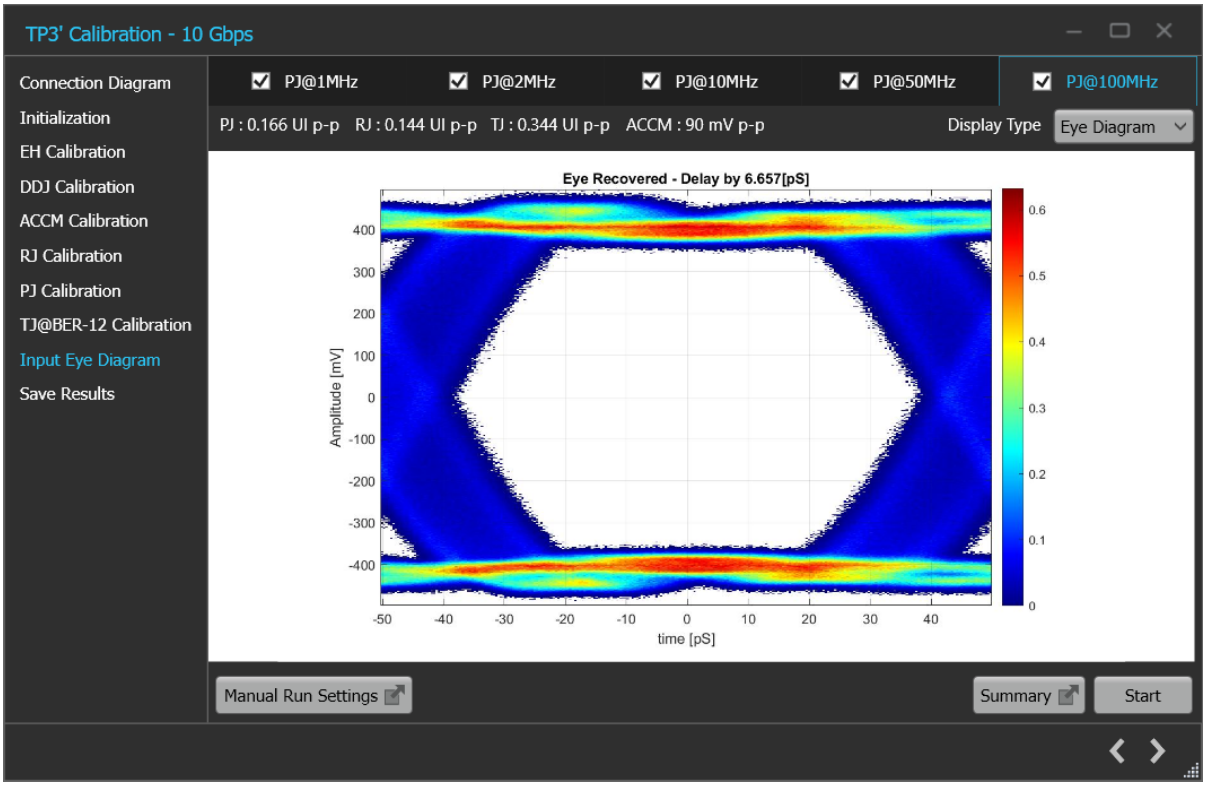


Figure 22: TP3' Calibration-Input Eye Diagram-Eye Diagram

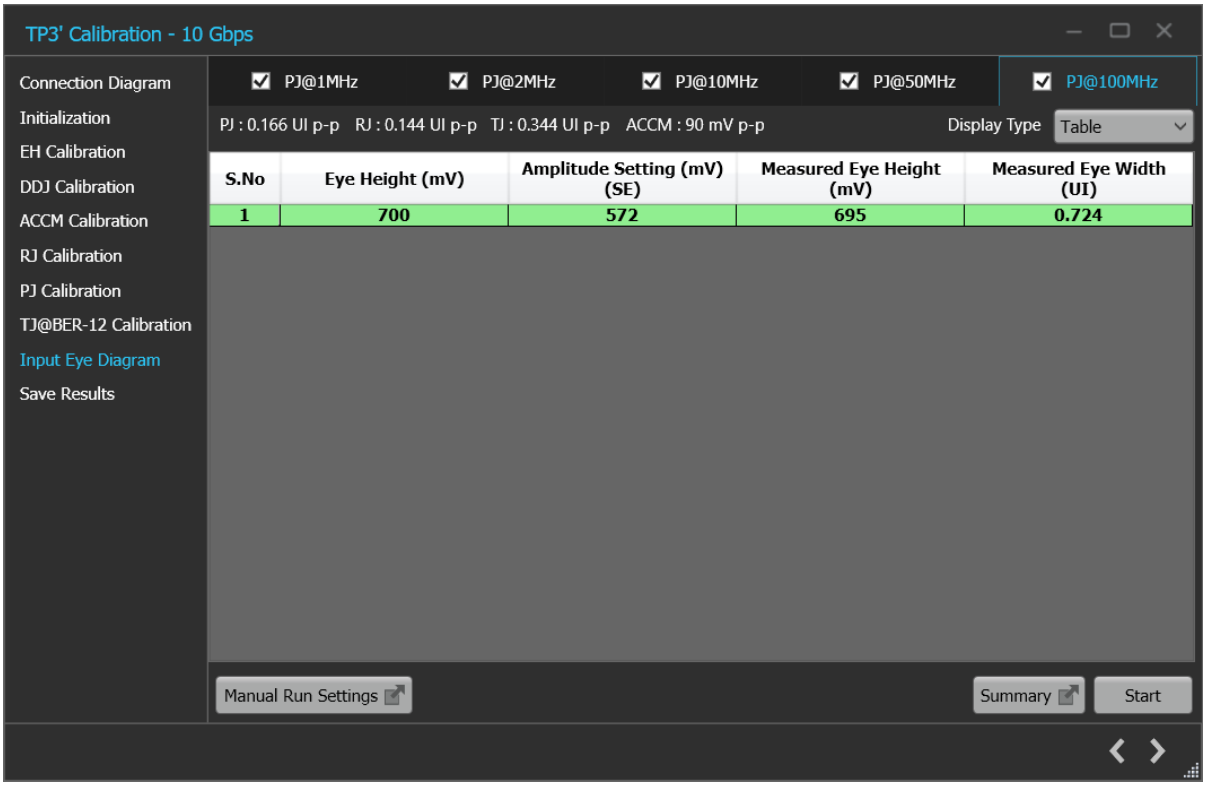


Figure 23: TP3' Calibration-Input Eye Diagram-Table

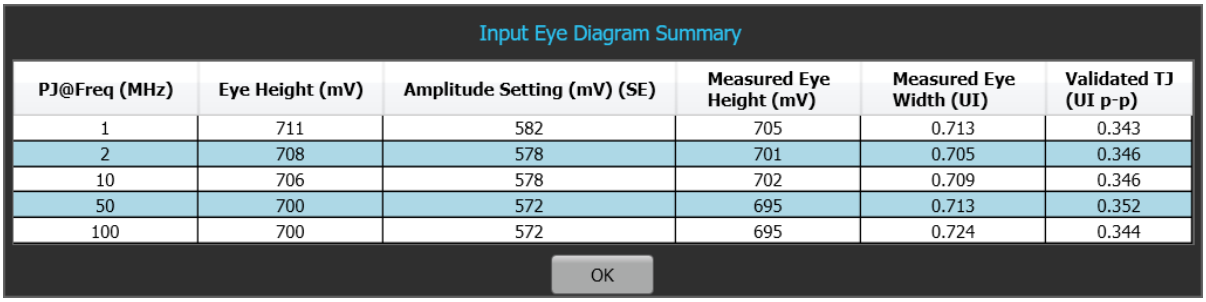


Figure 24: TP3' Calibration-Input Eye Diagram-Summary

Table 16: TP3' Calibration: Input Eye Diagram

Parameter	Description
Display Type	Select the required display type form the drop down list. Table: Showcases the amplitude and stresses set on the BERT and the corresponding Eye Height, Eye Width and the Mask Hit Status with respect to a predefined mask. Eye Diagram: Shows the real time eye measurements against the predefined mask.
Summary	Displays a summarized table for the Eye Height, Amplitude Setting, Measured Eye Height, and Measured Eye Width for which a successful mask hit status has been achieved for the run frequencies.
Start	Click **Start** to run the measurement.
Cancel	Click **Cancel** to stop the calibration.
Manual Run Settings	
Eye Height	Displays the Eye Height value for the selected PJ frequency.
Start	Click **Start** to initiate the manual run with the given the Eye Height

Click  to move to the next step in calibration process.

10. **Save Results:** This page allows you to save the TP3' calibration results.

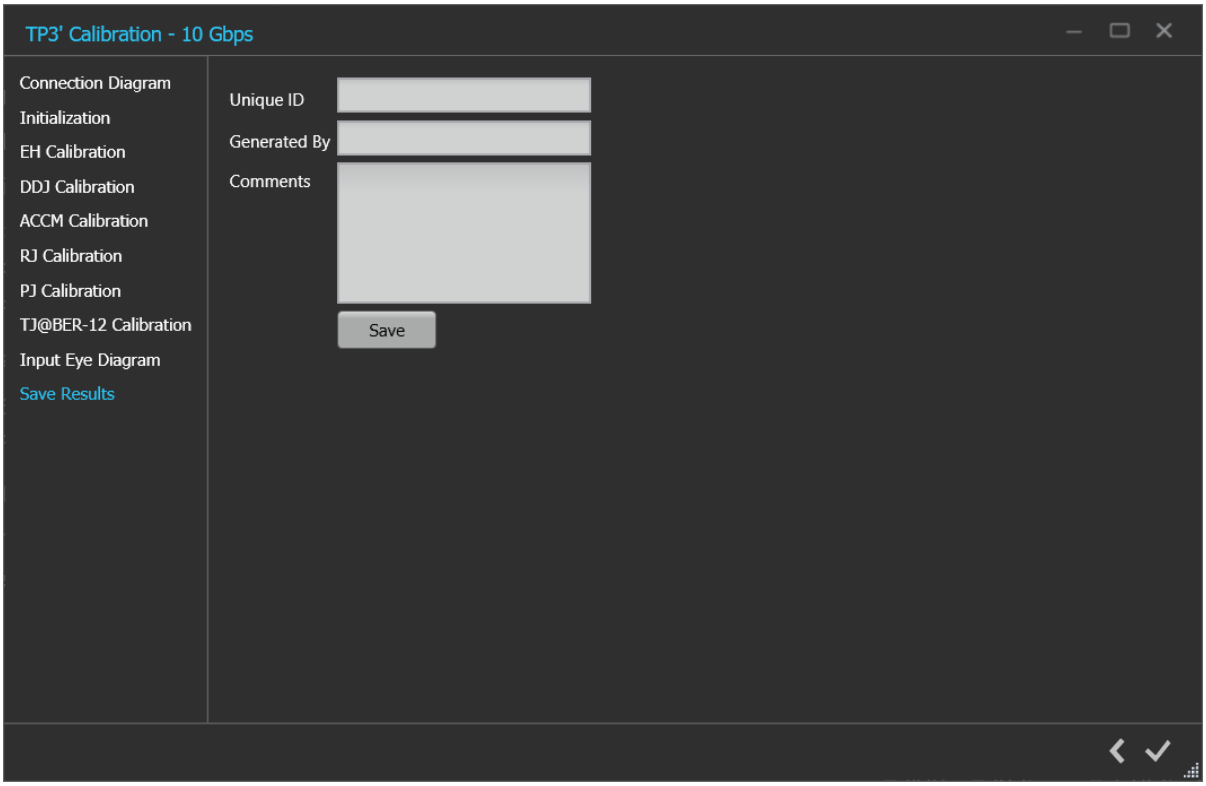


Figure 25: TP3' Calibration-Save Results

Table 17: TP3' Calibration: Save Results

Parameter	Description
Unique ID	Enter the Unique ID of the calibrated equipment in the text box.
Generated By	Enter the user name in the text box.
Comments	Enter the required comments in the comment box (Optional).
Save	Click to save the results.

Click ✔ to complete the TP3' calibration and close the wizard.

Note: Upon completion of the TP3' calibration process or in the event of cancellation of the process, the BERT data generator will be turned off automatically by the USB4 Gen 2 / Gen 3 TekRxTest application.

TP3 Calibration

The TP3 Calibration panel allows you to perform calibration at the TP3 endpoint for 10 Gbps, 10.3125 Gbps, 20 Gbps, 20.625 Gbps and save the results.

TP3 Calibration Procedure

Click on TP3 under the Calibrations tab to view the previously run calibration reports. At this stage, you can choose the Data rate (10.00 Gbps (Gen2 rounded), 10.3125 Gbps (Gen2 legacy), 20.0 Gbps (Gen3 rounded) and 20.625 Gbps (Gen3 legacy)), the run calibration reports for the selected generation will be populated in the results table. When you click on ✚, the TP3 wizard will be launched for the selected generation. This wizard will guide you through the sequential procedure to perform the calibration.

During this process, the TekRxTest application calibrates the following items:

1. **Insertion Loss:** In this step, the channel loss between the BERT and Receptacle Fixture-2 is computed to be within the range of 13-18 dB (data rate (10 Gbps or 10.3125 Gbps or 20 Gbps or 20.625 Gbps). The right ISI pair needs to be connected along with de-embedding the loss incurred for the phase matched cables to get the loss in the specified range.
2. **CTLE Selection:** The process is carried out for the frequencies of 1, 2, 10, 50 and 100 MHz where the user can choose between the CTLE indices (CTLE 0-9) and preset to be used. The optimum CTLE is chosen to give the maximum eye area. The user needs to take note that the choice of CTLE indices and number of acquisitions is only available when the configured Analysis Tool is DPOJET.
3. **Stressed Eye:** In the case where CTLE selection provides the eye parameters to be in range, this step can be skipped. As a part of this method, the jitter (Periodic Jitter for frequencies of 1, 2, 10, 50 and 100 MHz), and amplitude are swept to attain the Eye Width of 0.515-0.565 UI (Data rate (10.00 Gbps (Gen2 rounded), 10.3125 Gbps (Gen2 legacy), 20.0 Gbps (Gen3 rounded) and 20.625 Gbps (Gen3 legacy))) and an Eye Height of 96-116 mV (Data rate (10.00 Gbps (Gen2 rounded), 10.3125 Gbps (Gen2 legacy), 20.0 Gbps (Gen3 rounded) and 20.625 Gbps (Gen3 legacy))) .

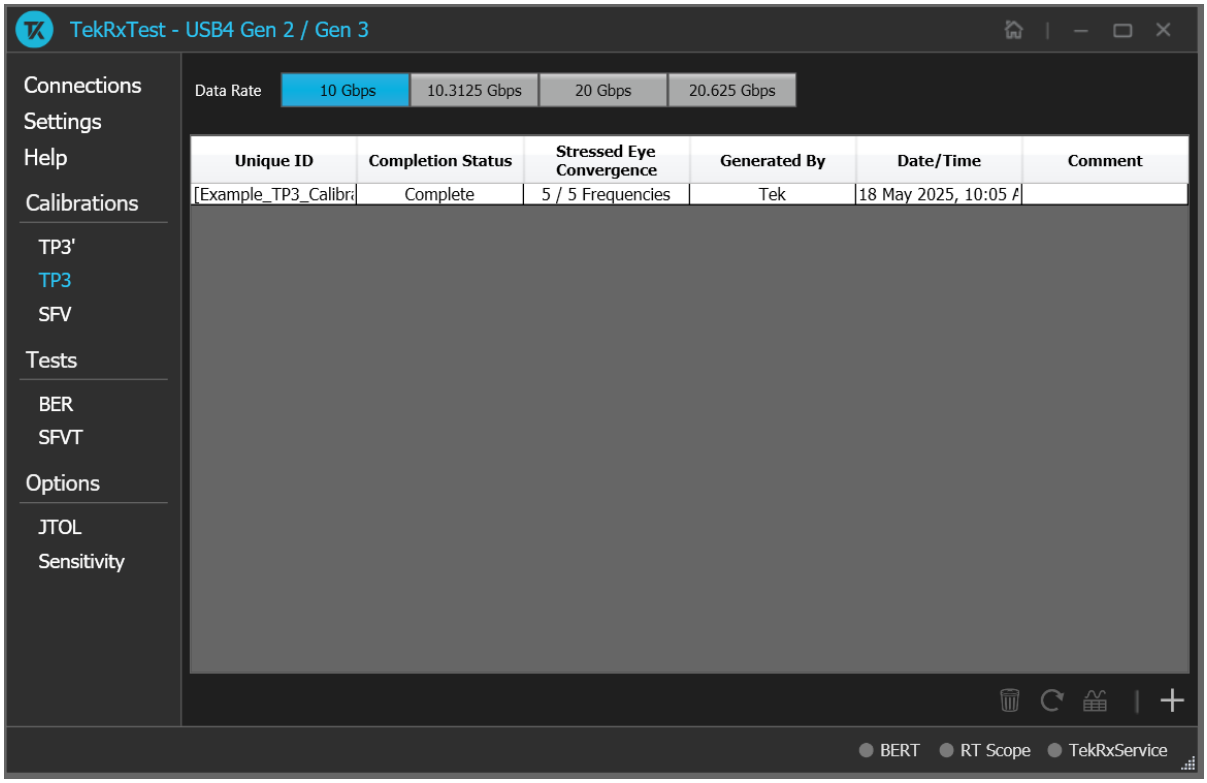


Figure 26: TP3 Calibration Panel

1. **Connection Diagram:** This page displays the connection diagram for the TP3 setup.

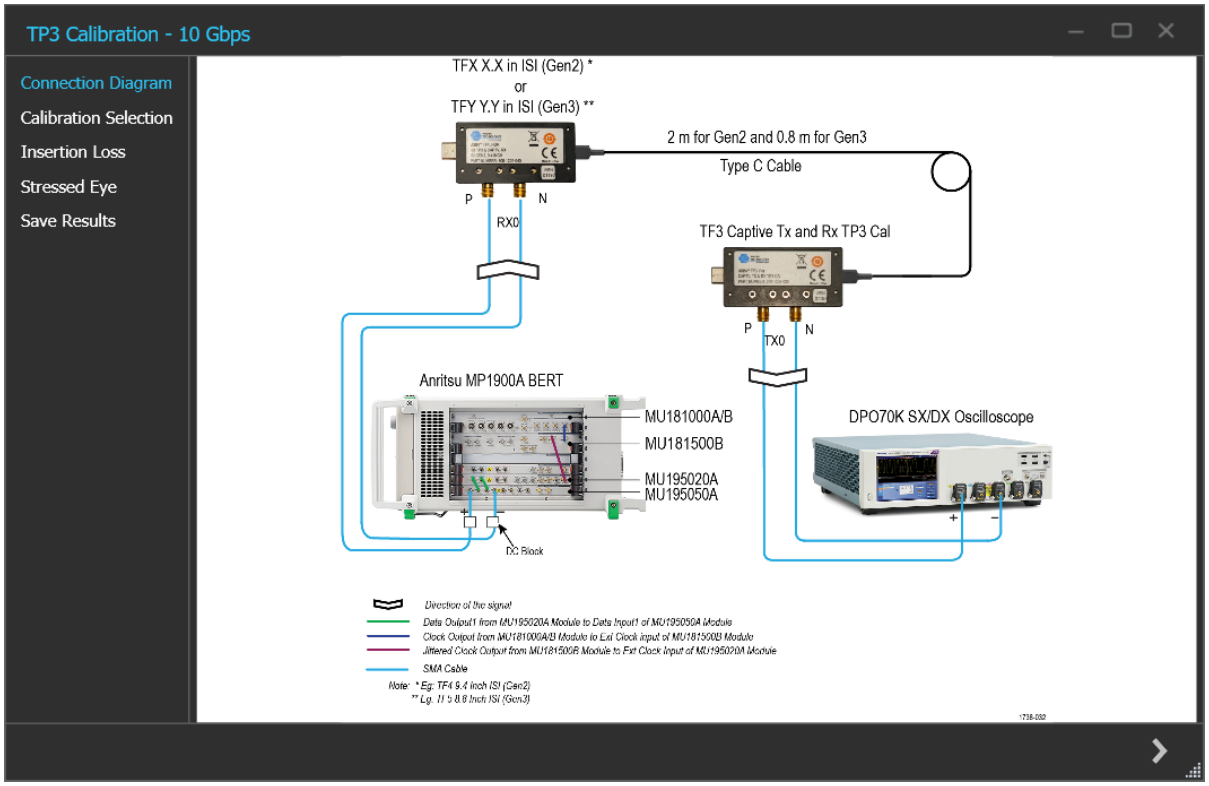


Figure 27: TP3 Calibration-Connection Diagram

Click ❯ to move to the next step in calibration process.

2. **Calibration Selection:** This page allows you to select a completed TP3 Calibration file from the drop-down list. Click **Initialize Equipment** to complete the initialization process.

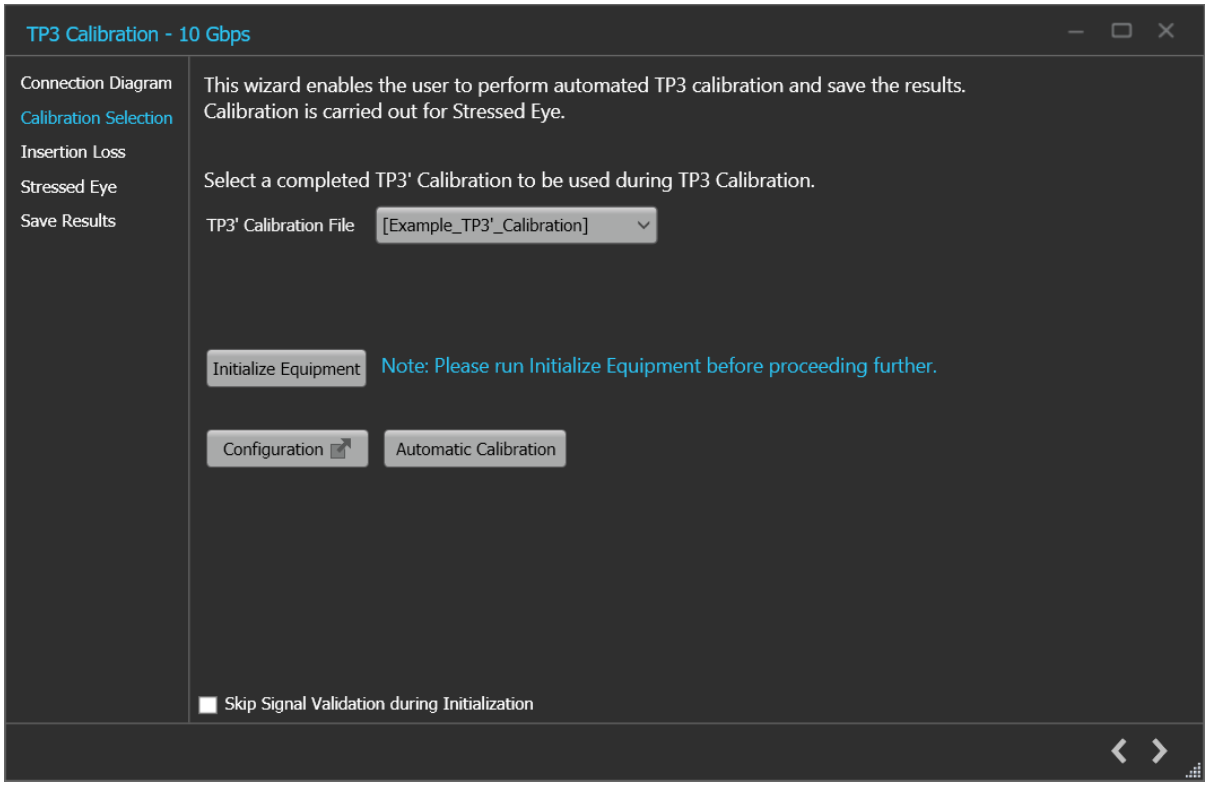


Figure 28: TP3 Calibration-Calibration Selection

You can click **Automatic Calibration** to perform the automatic calibration with the default settings without user intervention.

Click on **Configuration** to add de-embedding filter files for positive and negative channels. You can enter the manual loss, if already known.

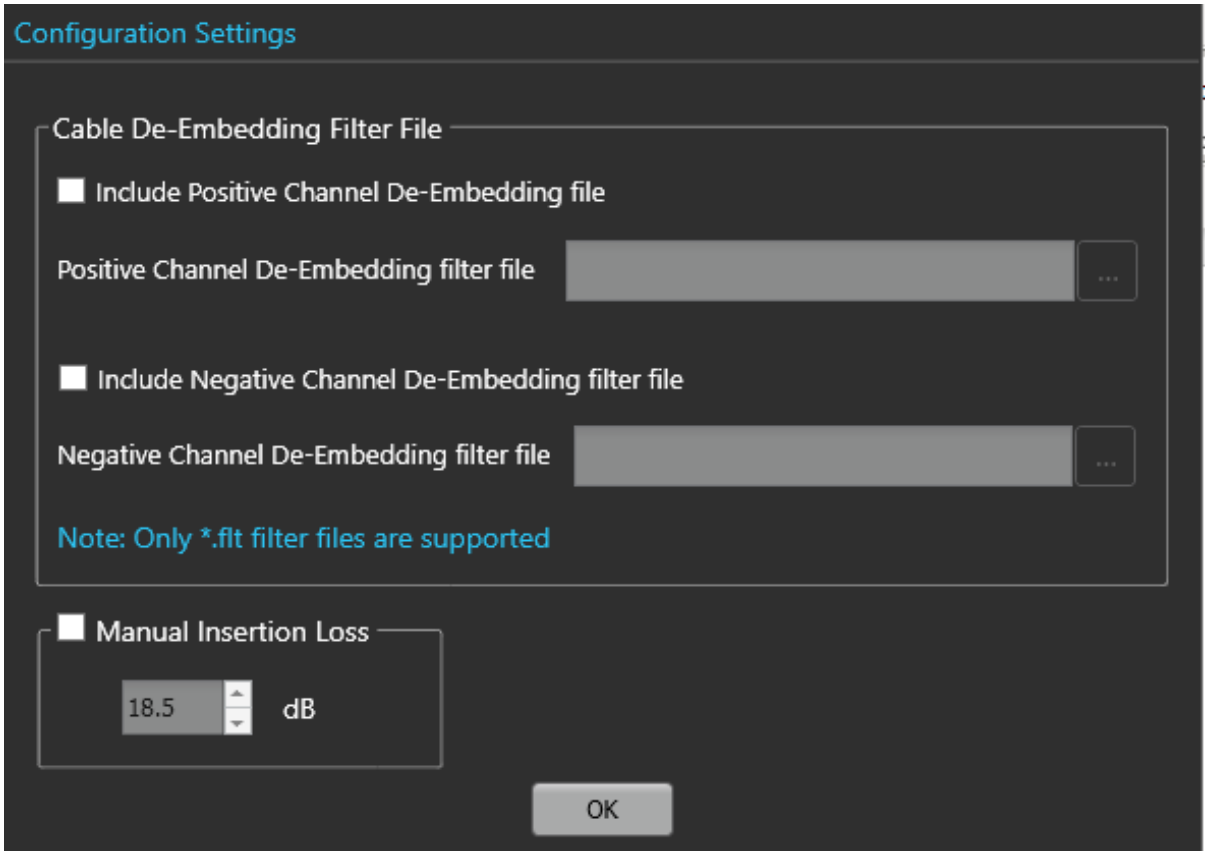


Figure 29: TP3 Calibration-Configuration Settings

Click to move to the next step in calibration process.

3. **Insertion Loss:** This page displays the automated procedure to compute the channel loss from the BERT to receptacle fixture-2. The user can also enter the loss value in the Manual Loss section if the loss in the channel is already known, skipping this step altogether.

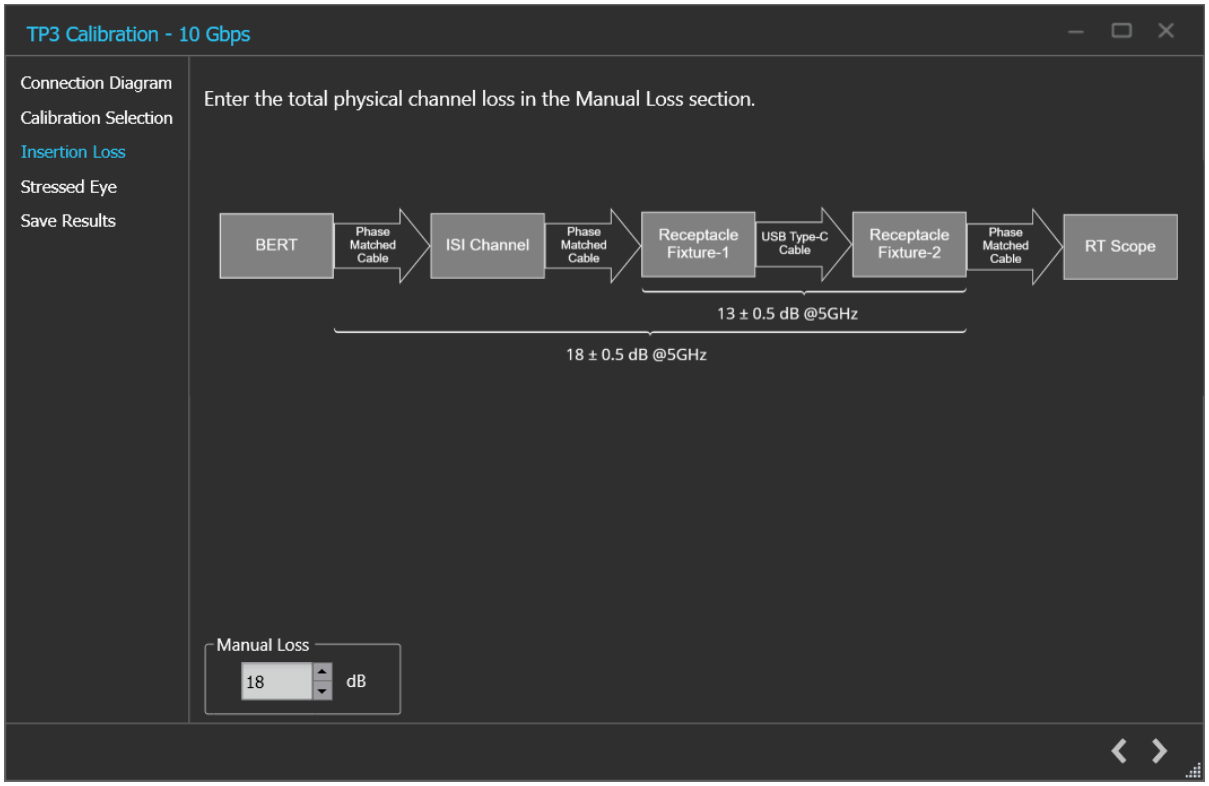


Figure 30: TP3 Calibration-Insertion Loss

Table 18: TP3 Calibration: Insertion Loss

Parameter	Description
Manual Loss	Allows user to enter the manual loss if already known. This field updates with the loss value once the loss in the given setup is computed.
# Scope acqs	Allows user to enter the number of acquisitions in a single waveform.
# Acqs	Allows user to enter the number of waveforms acquired for averaging before passing for analysis.
Start	Click **Start** to run the measurement.
Cancel	Click **Cancel** to stop the calibration.

Click to move to the next step in calibration process.

4. **Stressed Eye:** This page displays the stresses, amplitude, CTLE index and preset applied on the BERT to get the measured Eye Height and Eye Width for the PJ frequencies of 1,2, 10, 50 and 100 MHz.

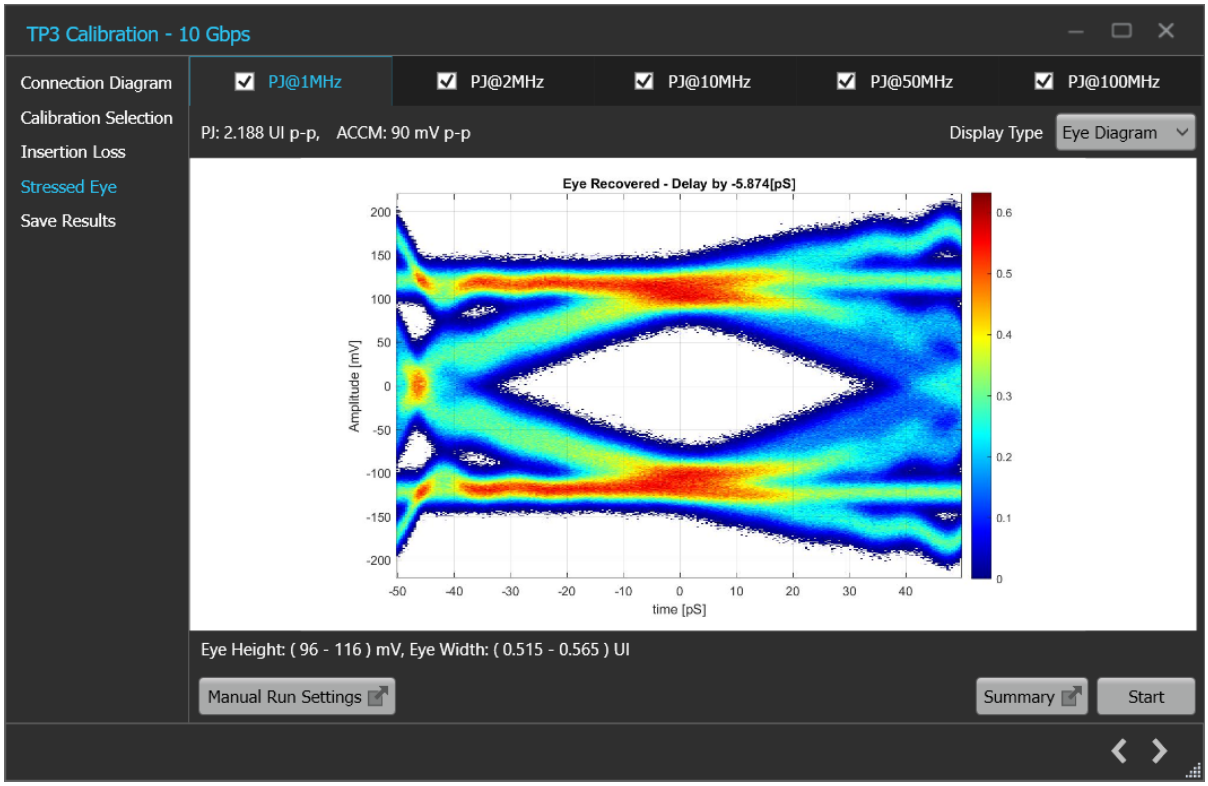
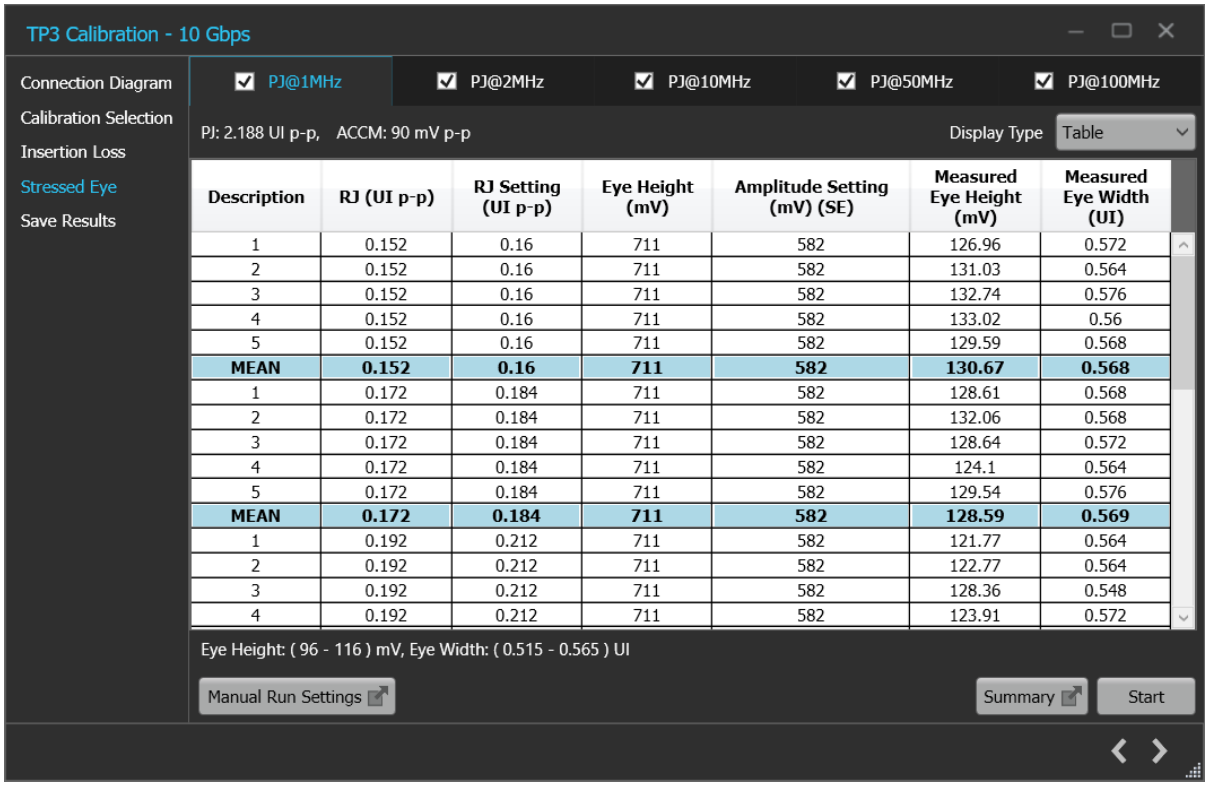


Figure 31: TP3 Calibration-Stressed Eye-Eye Diagram



Description	RJ (UI p-p)	RJ Setting (UI p-p)	Eye Height (mV)	Amplitude Setting (mV) (SE)	Measured Eye Height (mV)	Measured Eye Width (UI)
1	0.152	0.16	711	582	126.96	0.572
2	0.152	0.16	711	582	131.03	0.564
3	0.152	0.16	711	582	132.74	0.576
4	0.152	0.16	711	582	133.02	0.56
5	0.152	0.16	711	582	129.59	0.568
MEAN	**0.152**	**0.16**	**711**	**582**	**130.67**	**0.568**
1	0.172	0.184	711	582	128.61	0.568
2	0.172	0.184	711	582	132.06	0.568
3	0.172	0.184	711	582	128.64	0.572
4	0.172	0.184	711	582	124.1	0.564
5	0.172	0.184	711	582	129.54	0.576
MEAN	**0.172**	**0.184**	**711**	**582**	**128.59**	**0.569**
1	0.192	0.212	711	582	121.77	0.564
2	0.192	0.212	711	582	122.77	0.564
3	0.192	0.212	711	582	128.36	0.548
4	0.192	0.212	711	582	123.91	0.572

Figure 32: TP3 Calibration-Stressed Eye-Table

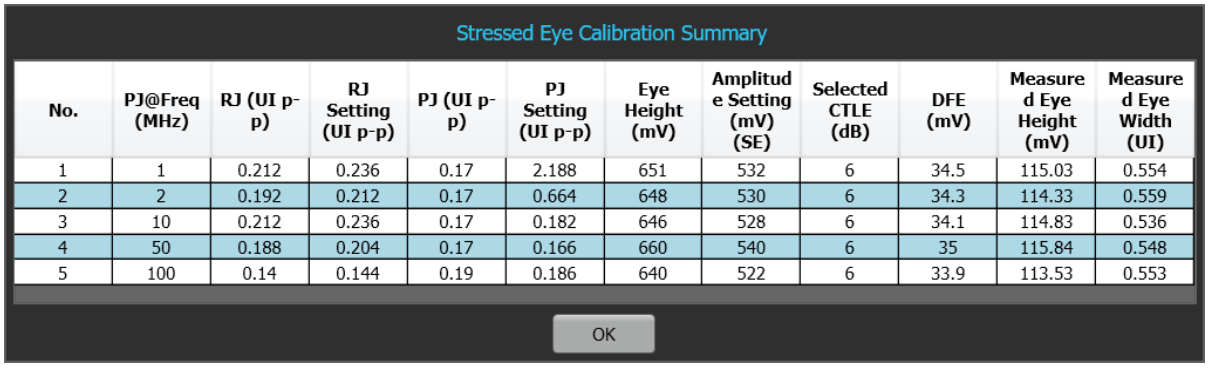


Figure 33: TP3 Calibration-Stressed Eye-Calibration-Summary

Table 19: TP3 Calibration: Stressed Eye

Parameter	Description
Display Type	Select the required display type form the drop down list. Table: Showcases the amplitude and stresses set on the BERT and the corresponding Eye Height, Eye Width. Eye Diagram: Shows the real time eye diagram for the set stresses and amplitude.
Summary	Displays a summarized version of the stresses, amplitude, measured Eye Height and Measured Eye Width for the run frequencies.
Start	Click **Start** to run the measurement.
Manual Run Settings	
Eye Height	Allows the user to configure the eye height for the selected PJ frequency.
RJ/PJ	Allows you to configure the RJ value for PJ frequencies of 1,2,10 and 50 MHz and PJ value for PJ frequency of 100 MHz.
Start	Click **Start** to run an instance with the configured manual settings.

Click to move to the next step in calibration process.

5. **Save Results:** This page allows you to save the TP3 calibration results.

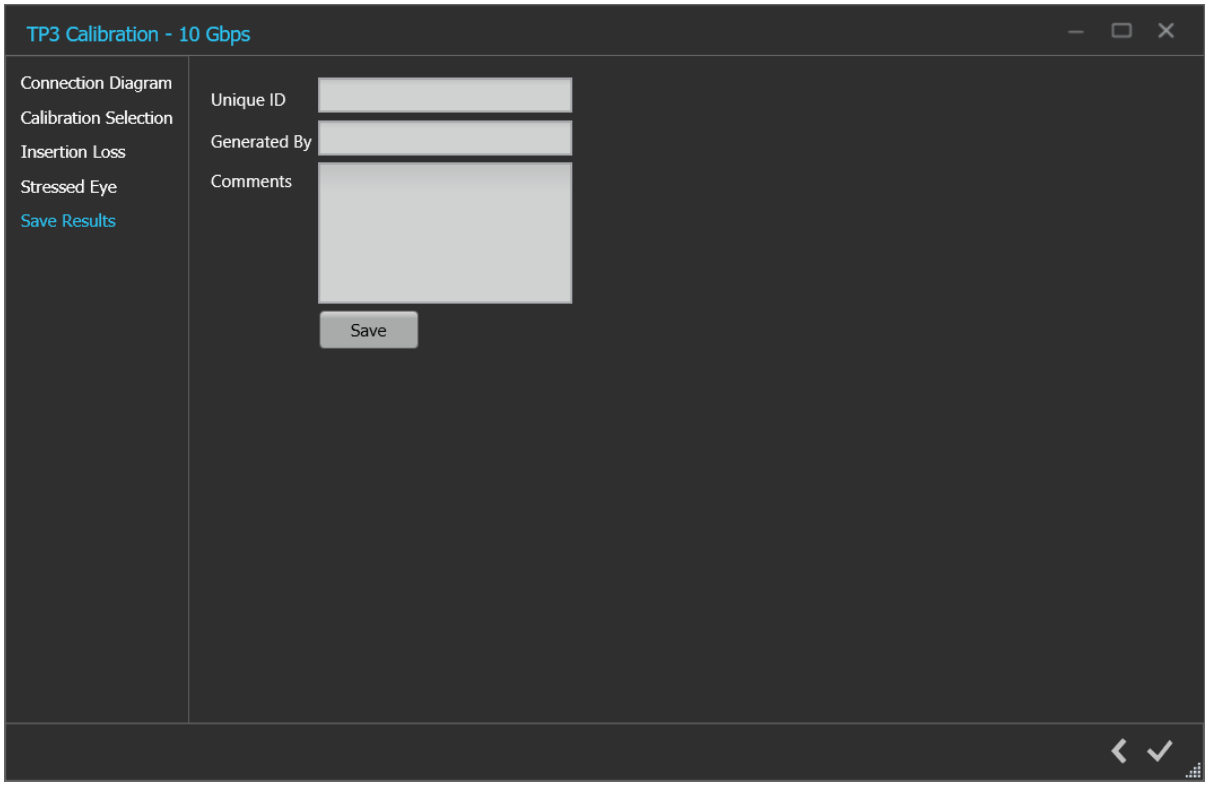


Figure 34: TP3 Calibration-Save Results

Table 20: TP3 Calibration: Save Results

Parameter	Description
Unique ID	Enter the Unique ID of the calibrated equipment in the text box.
Generated By	Enter the user name in the text box.
Comments	Enter the required comments in the comment box (Optional).
Save	Click to save the results.

Click ☑ to complete the TP3 calibration and close the wizard.

Note: Upon completion of the TP3 calibration process or in the event of cancellation of the process, the BERT data generator will be turned off automatically by the USB4 Gen 2 / Gen 3 TekRxTest application.

SFV Calibration

The SFV Calibration Panel allows you to perform Signal Frequency Variations Calibration at the calibration points of TP3' and TP3 for Gen2 and Gen3 and save the results.

You must perform calibration for the chosen calibration point before performing the SFV calibration.

SFV Calibration Procedure

Click on SFV under the Calibrations tab to view the previously run calibration reports. At this stage, you can select the generation (10, 10.3125, 20, and 20.625 Gbps) and then run the calibration reports for the chosen generation, which then appear in the results table.

When you click on , the SFV wizard opens for the selected data rate. This wizard guides you through the sequential procedure to perform the calibration.

During this process, the TekRx Test application calibrates the SSC parameters of Initial Frequency, Frequency Overshoot, Delta Frequency 200ns, and Delta Frequency 1000ns.

1. **Calibration Selection**: This page allows you to choose the calibration point at which the Signal Frequency Variations should be performed. All the completed calibration files for the selected calibration point can be found by clicking on the drop-down menu.

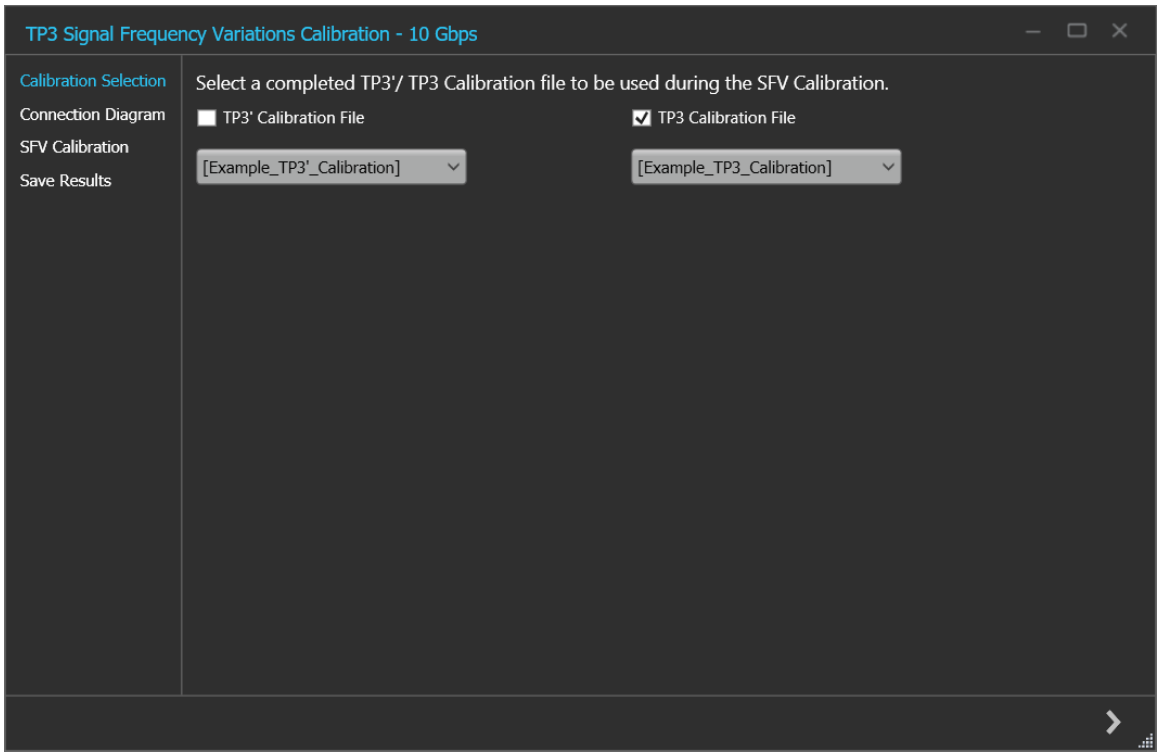


Figure 35: SFV Calibration-Calibration Selection

Click to move to the next step in the calibration process.

2. **Connection Diagram**: This page displays the connection diagram for the SFV calibration based on the selection made on the previous page.

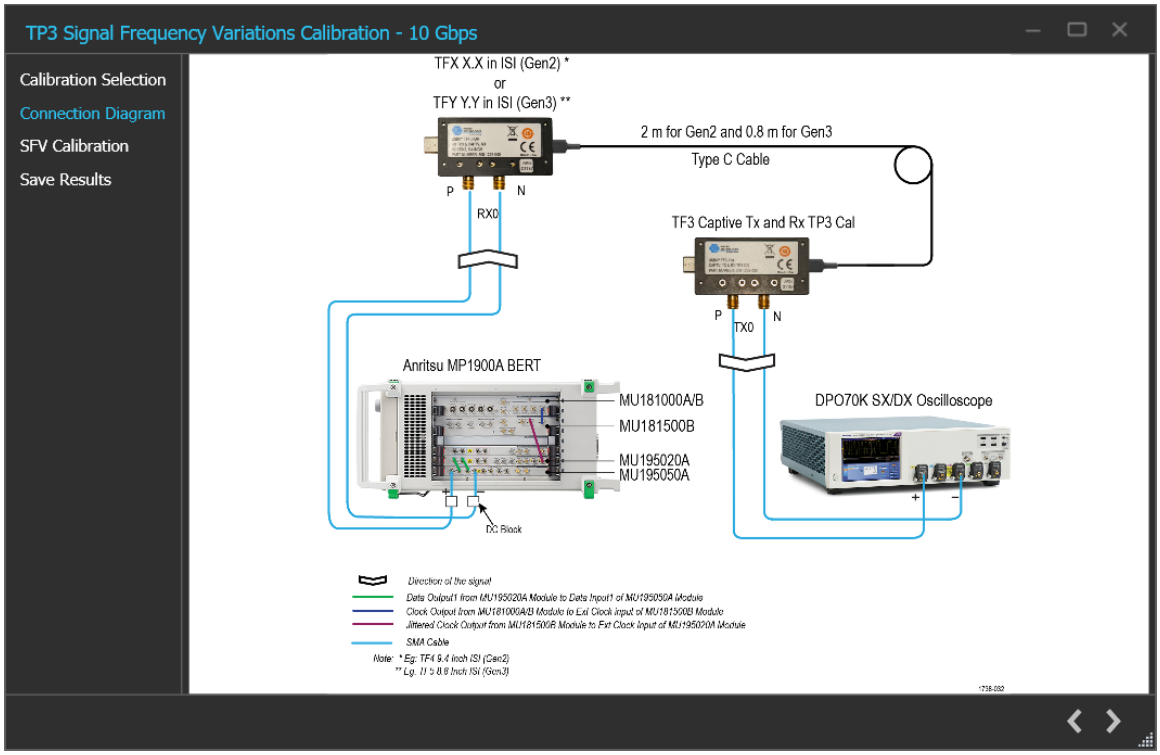


Figure 36: SFV Calibration-Connection Diagram

Click ❯ to move to the next step in the calibration process.

3. **SFV Calibration**: This page displays tabular data for the SSC parameters set on the BERT and their respective measured values for the PJ@100MHz. Once the parameters are in the range, as indicated in the lower section, the calibration is complete and the row is highlighted.

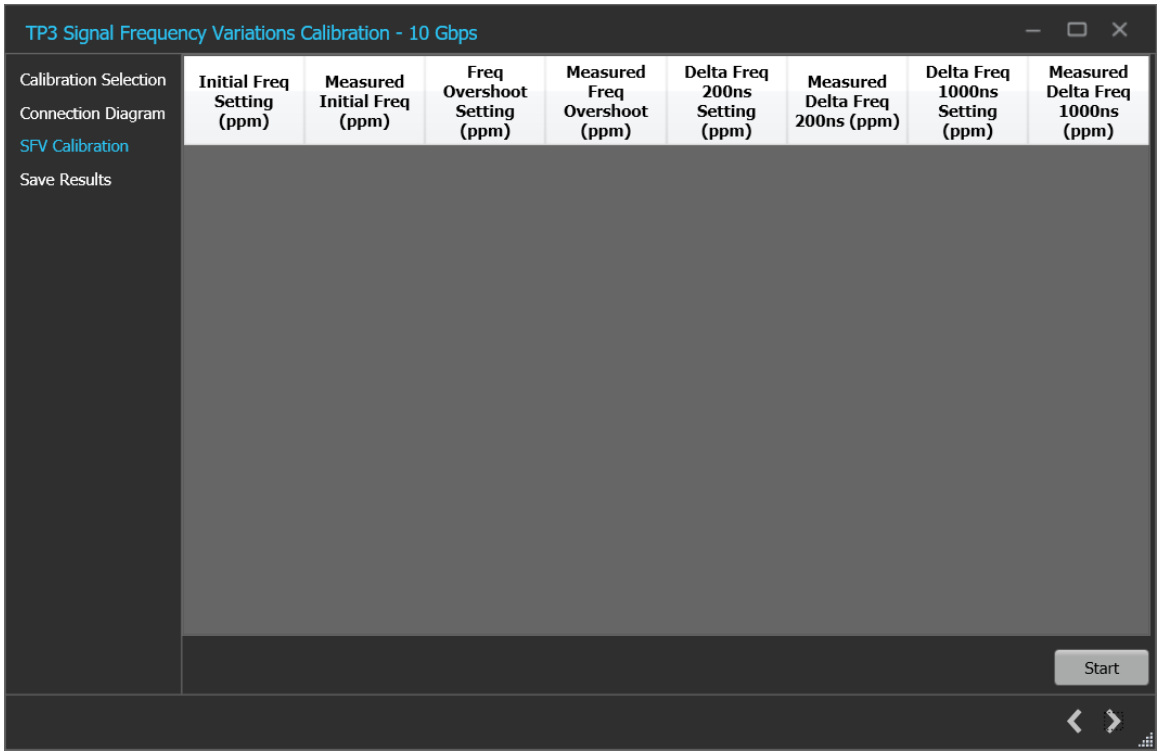


Figure 37: SFV Calibration

Click ❯ to move to the next step in the calibration process.

4. **Save Results**: This page allows you to save the SFV calibration results.

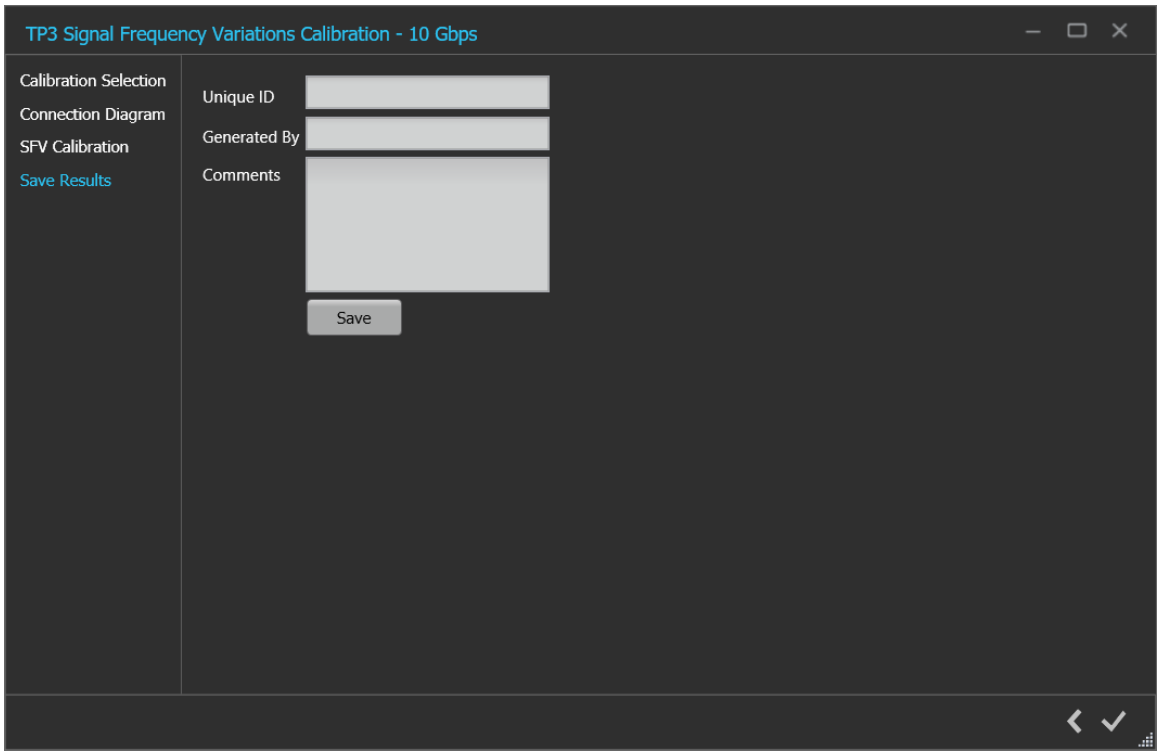


Figure 38: SFV Calibration-Save Results

Table 21: SFV Calibration: Save Results

Parameter	Description
Unique ID	Enter the Unique ID of the calibrated equipment in the text box.
Generated By	Enter the user name in the text box.
Comments	Enter the required comments in the comment box (Optional).
Save	Click to save the results.

Click to complete the SFV and close the wizard.

Note: Upon completion or cancellation of the SFV calibration process, the BERT data generator is automatically turned off by theUSB4 Gen 2 / Gen 3 TekRxTest application.

Tests panel

JTOL Test

To test the DUT error tolerance for PJ at frequencies of 1, 2, 10, 50 and 100 MHz, you can choose either TP3' (Case 1) or TP3 (Case 2) as test points. You can sweep the PJ amplitude for the frequencies and find the threshold point of the DUT.

The stresses used are loaded from the chosen calibration file (TP3' or TP3). If the selected frequency was not calibrated for, then the nearest calibrated frequency data will be used for running the JTOL test.

JTOL Test procedure

Click on **JTOL** under the Tests tab to view the previously completed results. At this stage, you can choose the generation for which the DUT tolerance needs to be performed. Upon clicking a generation, all the previously completed results for that generation get populated in the results table. Click on at the right end corner of the application to launch the JTOL test wizard. The wizard will guide you through the sequential procedure to perform the test.

1. **Calibration Selection:** This page allows to select the test point at which the tolerance test needs to be performed. You can find all the completed calibration files for the selected test point by clicking on the drop-down.

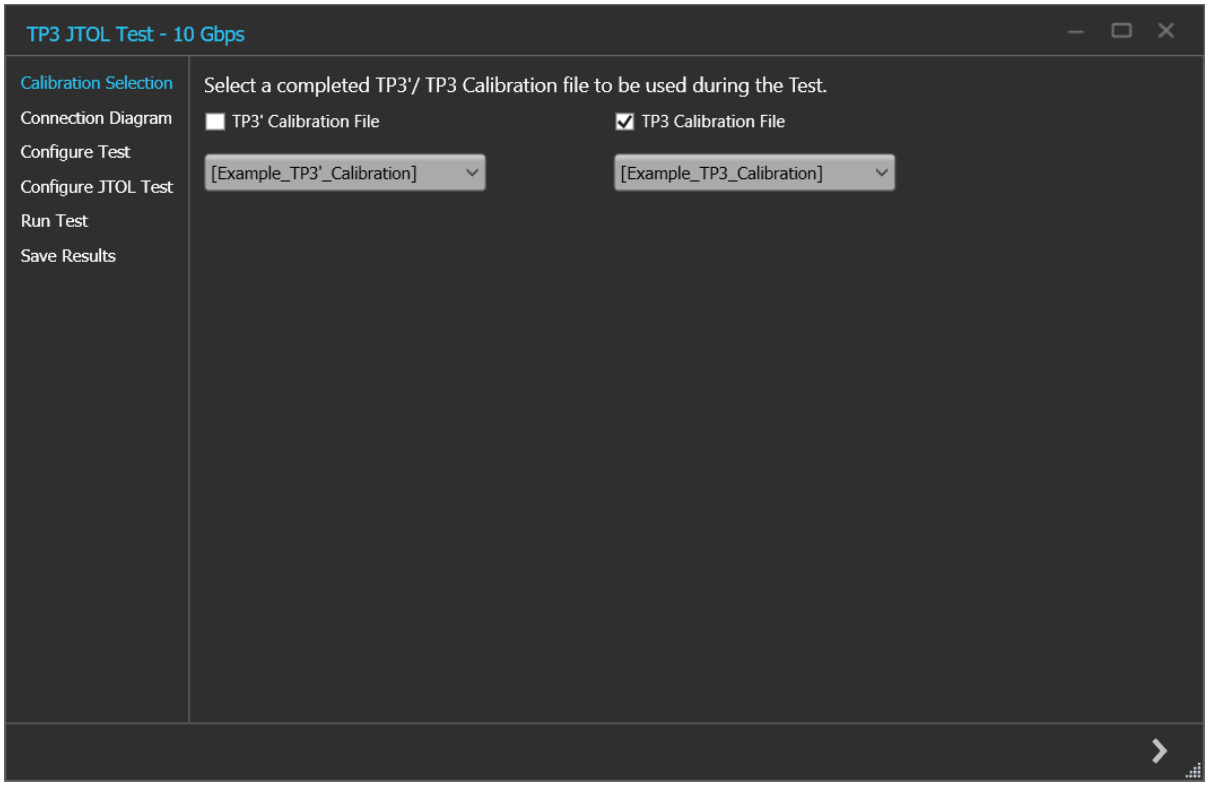


Figure 39: JTOL Test-Calibration Selection

Click to move to the next step in test process.

2. **Connection Diagram:** This page displays the connection diagram for the JTOL test for the selected test point in the previous page.

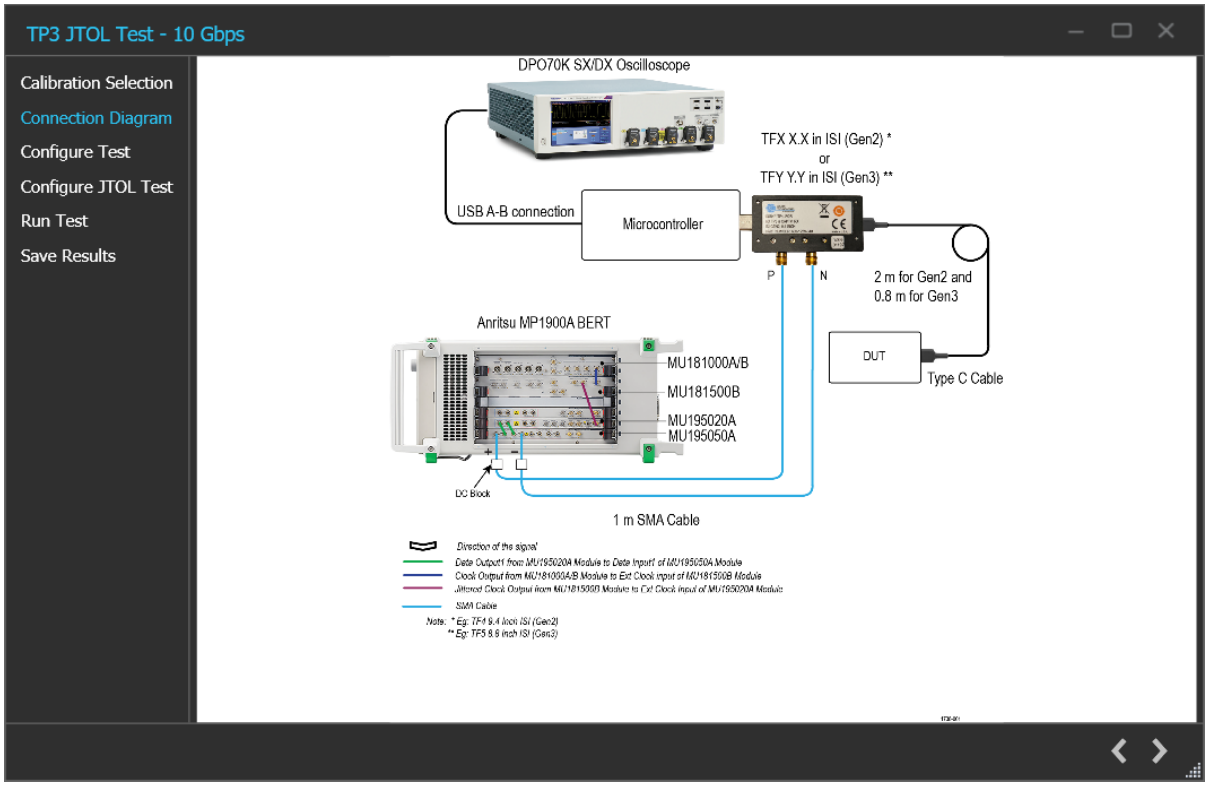


Figure 40: JTOL Test-Connection Diagram

Click to move to the next step in test process.

3. **Configure Test:** This page allows you to configure the test settings.

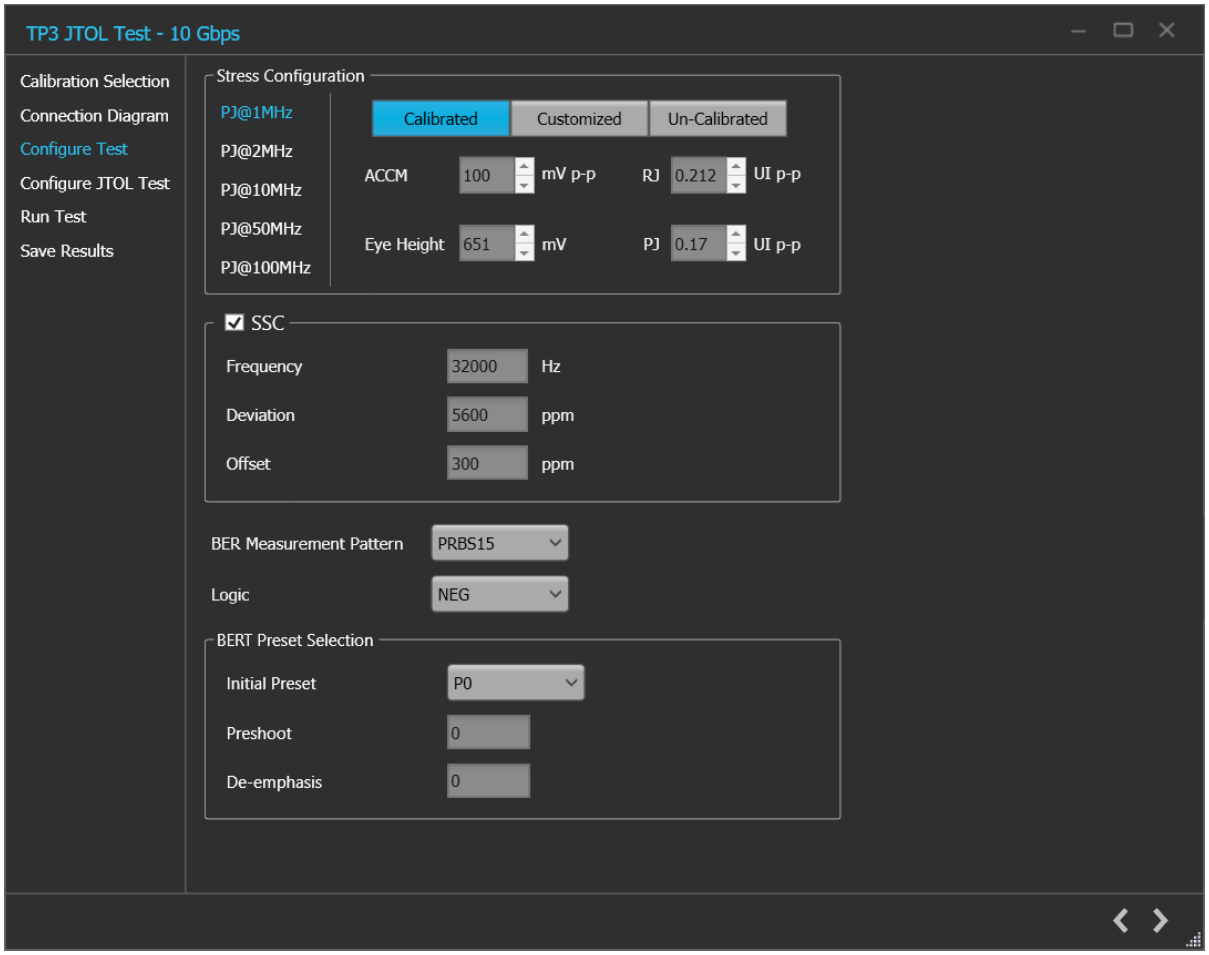


Figure 41: JTOL Test-Configure Test

Table 22: JTOL Test: Configure Test

Parameter	Description
Stress Configuration	Displays the calibrated stress parameters for the frequencies 1, 2, 10, 50 and 100 MHz. You can configure the stress parameters for each frequency using the following options: • Calibrated • Customized • Un-Calibrated **Note:** If a particular frequency was not calibrated for in the chosen calibration file, the stress parameters showcased are that of the nearest calibrated frequency.
ACCM	Displays the calibrated ACCM value in mVp-p / For Un-Calibrated and Customized selections, enter the desired ACCM value to be used in the test.
RJ	Displays the calibrated RJ value in UIp-p / For Un-Calibrated and Customized selections, enter the desired RJ value to be used in the test.

Table continued…

Parameter	Description
Amplitude	For Un-Calibrated amplitude value in mV(SE), enter the desired amplitude value to be used in the test.
Eye Height	Displays the calibrated Eye Height in mV.
PJ	Displays the calibrated PJ value in UIp-p.
SSC	Click the check box to enable SSC during the test.
Frequency	Displays the SSC frequency configured during calibration.
Deviation	Displays the SSC deviation configured during calibration.
BER Measurement Pattern	Select the required BER measurement pattern from the drop-down list.
Logic	Select the polarity or logic for the selected BER Measurement pattern from the drop-down list.
BERT Preset Selection	
Initial Preset	Select the preset to be set on the BERT PPG right before Preset Negotiation from the drop-down list.
Preshoot	Displays the Preshoot corresponding to the selected Initial Preset.
De-emphasis	Displays the De-emphasis corresponding to the selected Initial Preset.
Crosstalk	
Near-end	If checked, the DUT produces crosstalk internally while running the test.
Far-end	If checked, you can select the source of the far-end crosstalk. Data2: The BERT Data2 acts as a source of far-end crosstalk, you can configure the amplitude of the aggressor signal in this case. Other Sources: You can use any other external device to provide far-end crosstalk.

Click  to move to the next step in test process.

4. **Configure JTOL Test:** This page allows you to configure the JTOL test settings.

Figure 42: JTOL Test-Configure JTOL Test

Table 23: JTOL Test: Configure JTOL Test

Parameter	Description
Frequency Settings	
PJ@Freq (MHz)	Displays the list of frequencies in MHz for which JTOL test is to be performed.
Lower Amplitude Limit (UI p-p)	Enter the lower amplitude limit of PJ at which JTOL test will start for the corresponding frequency.
Higher Amplitude Limit (UI p-p)	Enter the higher amplitude limit of PJ at which JTOL test will end for the corresponding frequency.
Default	Click to view the table populated with default amplitude limits for the frequencies 1, 2, 10, 50 and 100 MHz.
Custom Mask	Define the PJ amplitude values for the frequencies 1, 2, 10, 50 and 100 MHz. Upon enabling the JTOL Custom Mask, the configured mask will be generated on the plot.
PJ@Freq (MHz)	Displays the table of frequencies for the mask.
Amplitude (UI p-p)	Enter the amplitude of PJ at each frequency.
Upward Search	Select the required search algorithm from the drop-down for JTOL test.

Table continued…

Parameter	Description
# Points	Enter the number of points between the lower and higher amp limit in case of Linear and Log search.
ETT Configuration	
Tested Port	Configure the port to run JTOL test on for the ETT tool (0 - 63).
Test Duration	Configure the test duration in seconds. **Note:** The default test duration for data rates(10.00 Gbps (Gen2 rounded), 10.3125 Gbps (Gen2 legacy)) and data rates(20.0 Gbps (Gen3 rounded) and 20.625 Gbps (Gen3 legacy)) is 400s and 200s respectively
Link	Select the required link for ETT tool (Single Lane or Dual Lane).
DUT Type	Select the DUT type used during the test from the drop-down list.
Tested Lane	Select the lane on which the JTOL test will run.
Swap Lane	Select the required swap lane for ETT tool.
Exe Path	Enter the path for the ETT tool executable file in the RT Scope.
TigerLake	Enable if the DUT you are testing is a TigerLake device.

Click to move to the next step in test process.

5. **Run Test:** This page displays a graphical representation of JTOL test result. It includes the result table tab which displays the JTOL test results in a tabular form.

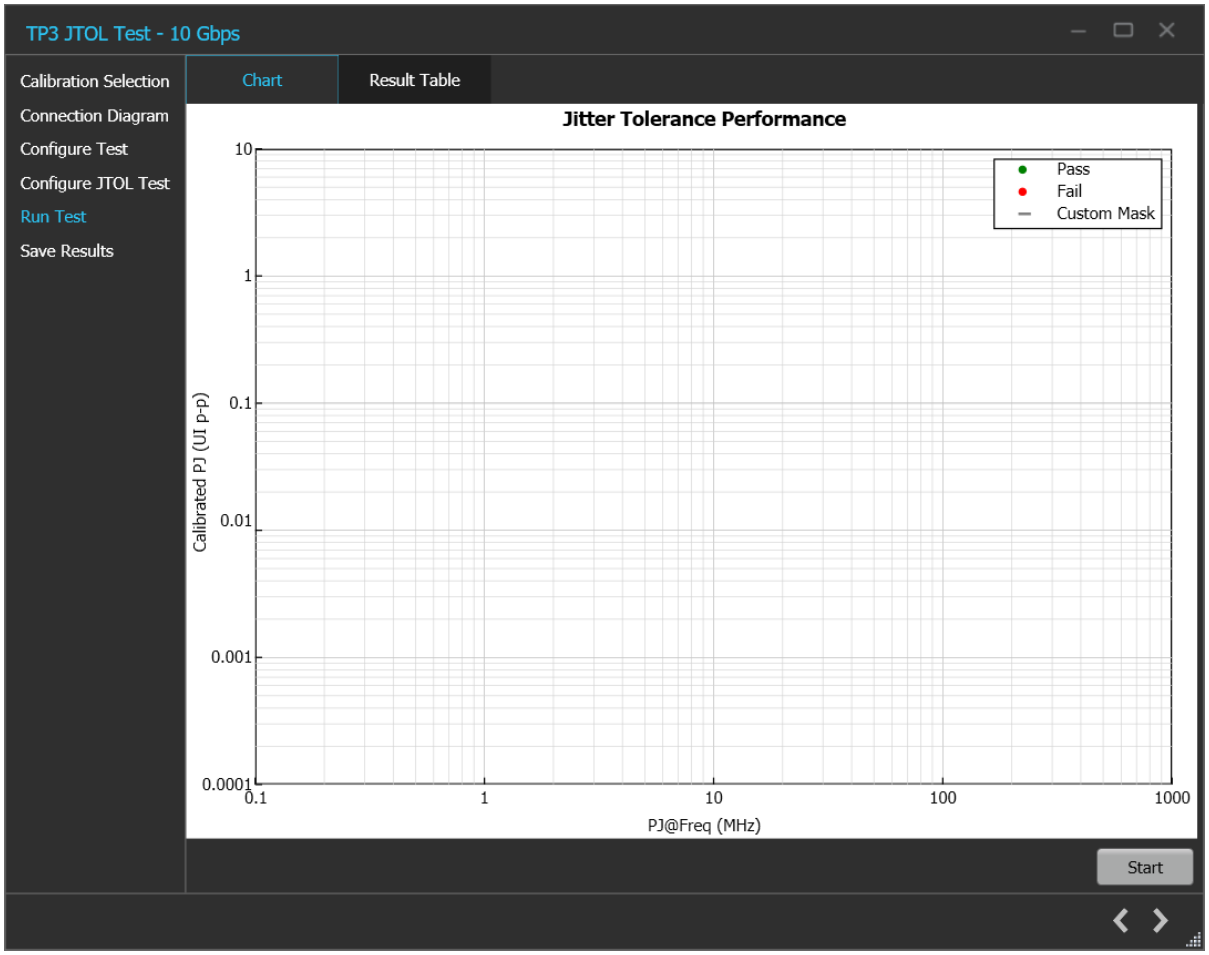


Figure 43: JTOL Test-Run Test

Table 24: JTOL Test: Run Test

Parameter	Description
Start	Click **Start** to initiate the test.
Cancel	Click **Cancel** to stop the test.

Click ❯ to move to the next step in test process.

6. **Save Results:** This page allows you to save the JTOL test results.

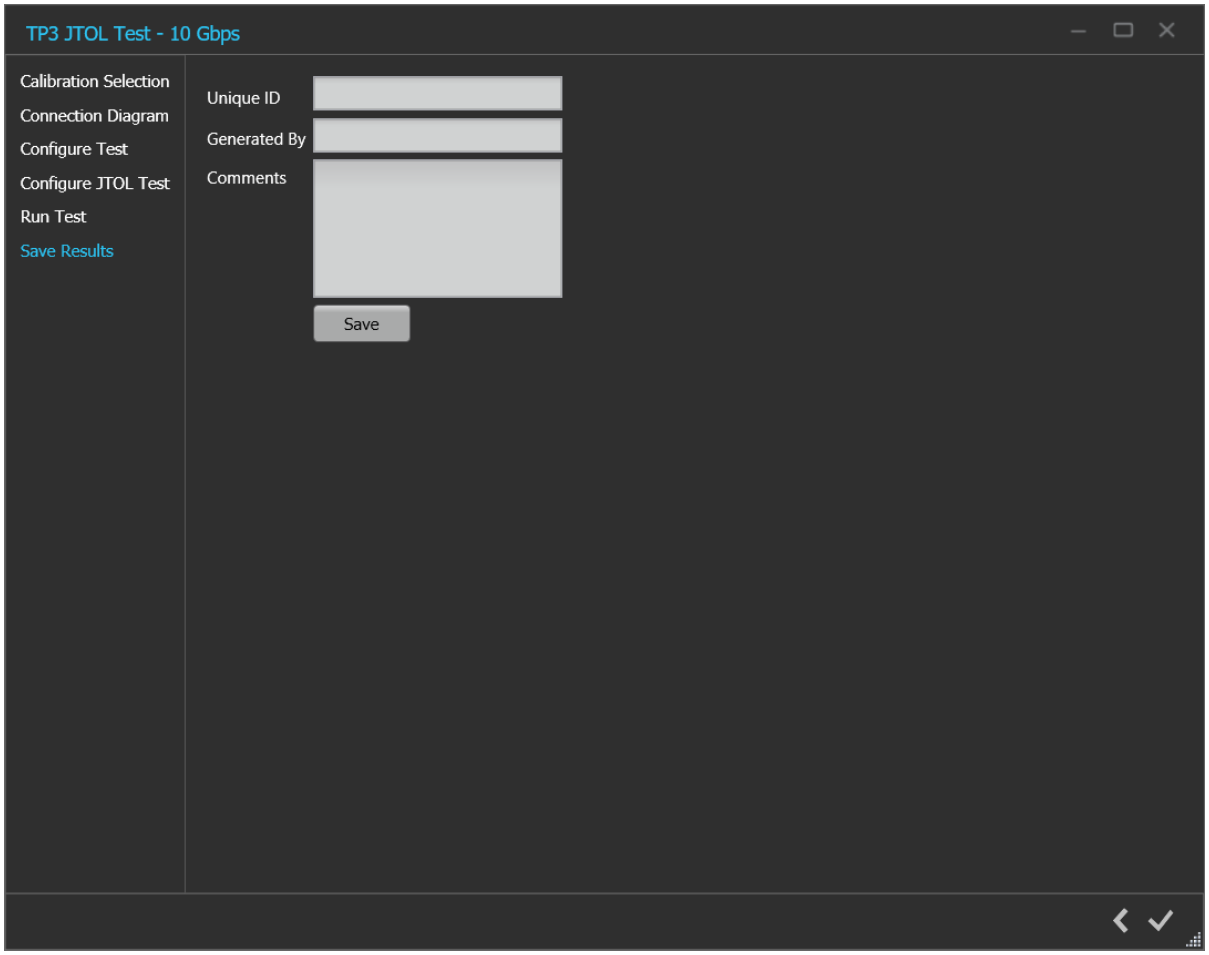


Figure 44: JTOL Test-Save Results

Table 25: JTOL Test: Save Results

Parameter	Description
Unique ID	Enter the Unique ID of the calibrated equipment in the text box.
Generated By	Enter the user name in the text box.
Comments	Enter the required comments in the comment box (Optional).
Save	Click to save the results.

Click ☑ to complete the JTOL Test and close the wizard.

Sensitivity Test

To test the DUT error tolerance for Eye Height at frequencies of 1, 2, 10, 50 and 100 MHz, you can choose either TP3' (Case 1) or TP3 (Case 2) as test points. You can sweep the amplitude for the given frequencies and find the tolerance of the DUT.

The stresses used are loaded from the chosen calibration file (TP3' or TP3). If the selected frequency was not calibrated for, then the nearest calibrated frequency data will be used for running the Sensitivity test.

Sensitivity Test procedure

Click on **Sensitivity** under the Tests tab to view the previously completed results. At this stage, you can choose the generation for which the DUT tolerance test needs to be performed. Upon clicking a generation, all the previously completed results for that generation get populated in the results table. Click on + at the right end corner of the application to launch the Sensitivity test wizard. The wizard will guide you through the sequential procedure to perform the test.

1. **Calibration Selection:** This page allows to select the test point at which the tolerance test needs to be performed. You can find all the completed calibration files for the selected test point by clicking on the drop-down.

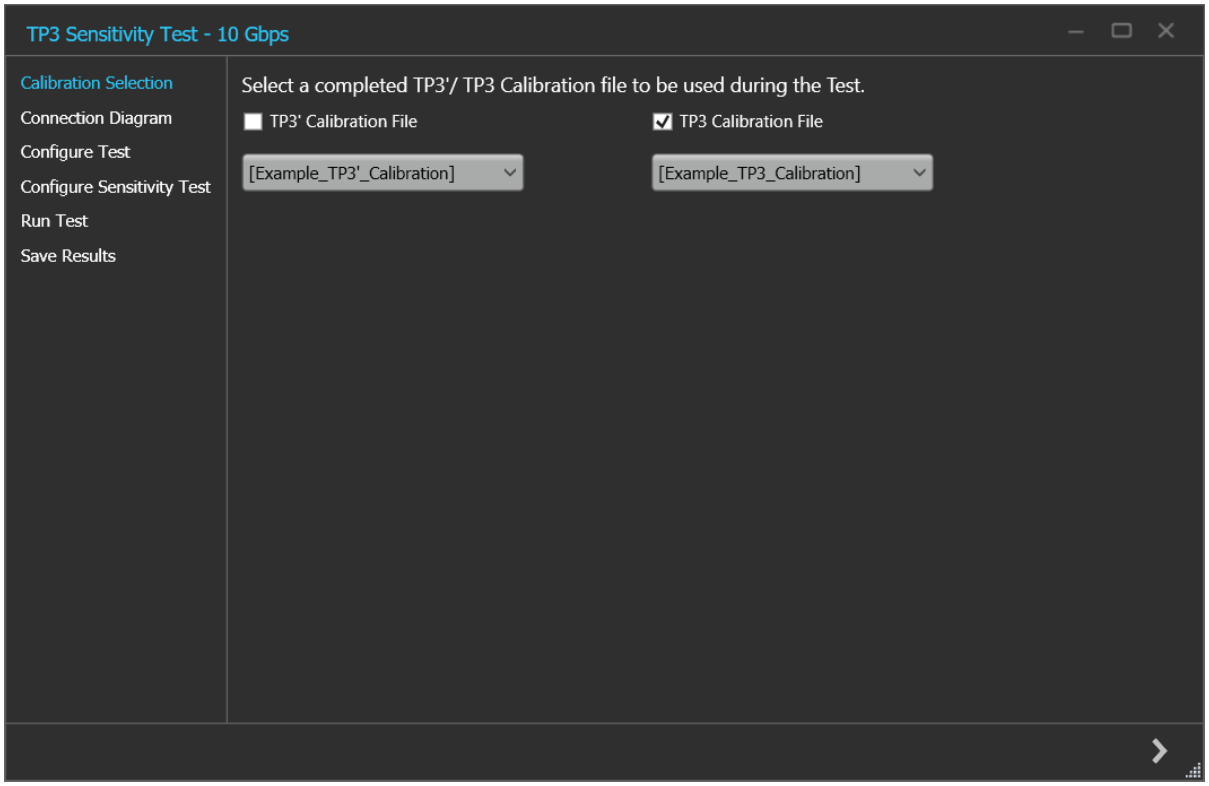


Figure 45: Sensitivity Test-Calibration Selection

Click › to move to the next step in test process.

2. **Connection Diagram:** This page displays the connection diagram for the Sensitivity test for the chosen test point in the previous page.

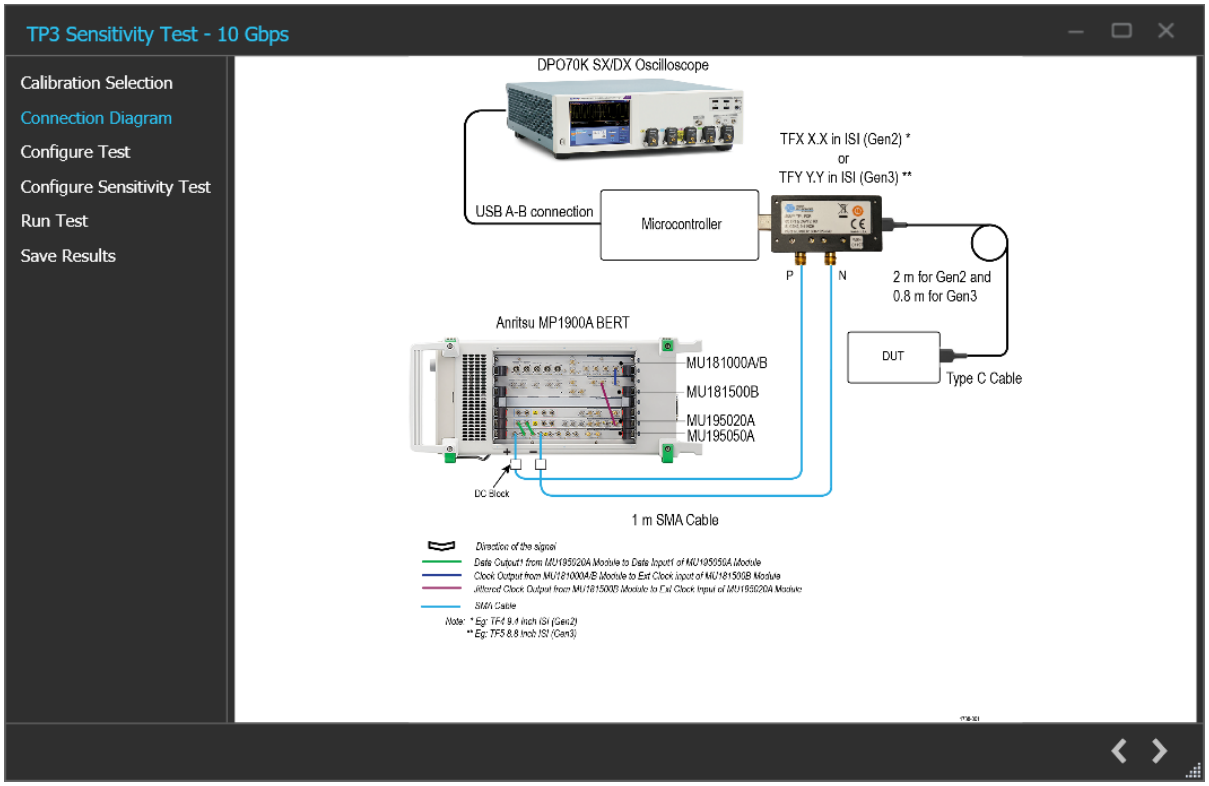


Figure 46: Sensitivity Test-Connection Diagram

Click ❯ to move to the next step in test process.

3. **Configure Test:** This tab allows you to configure the test settings.

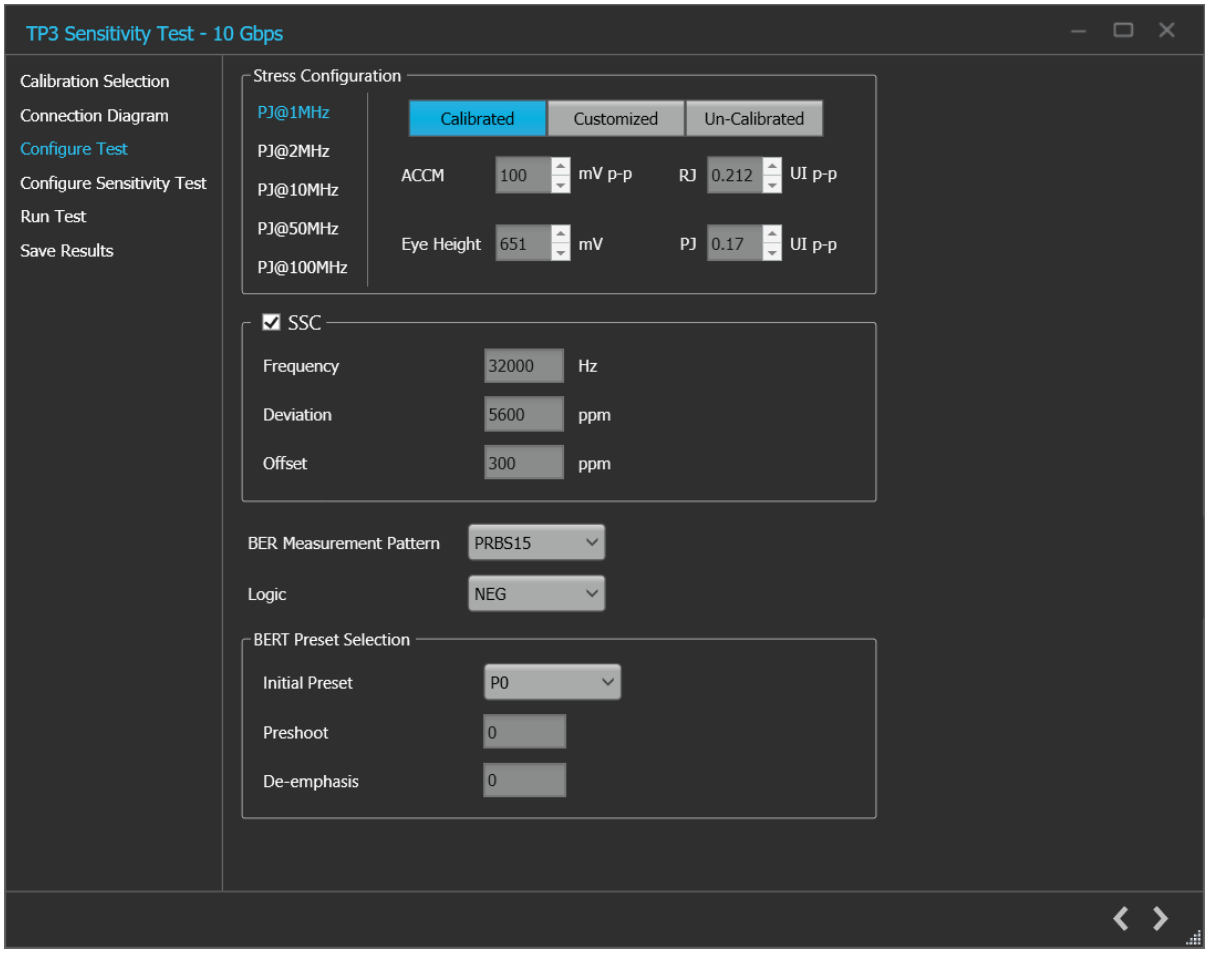


Figure 47: Sensitivity Test-Configure Test

Table 26: Sensitivity Test: Configure Test

Parameter	Description
Stress Configuration	Displays the calibrated stress parameters for the frequencies 1, 2, 10, 50 and 100 MHz. You can configure the stress parameters for each frequency using the following options: • Calibrated • Customized • Un-Calibrated **Note:** If a particular frequency was not calibrated for in the chosen calibration file, the stress parameters showcased are that of the nearest calibrated frequency.
ACCM	Displays the calibrated ACCM value in mVp-p / For Un-Calibrated and Customized selections, enter the desired ACCM value to be used in the test.
RJ	Displays the calibrated RJ value in UIp-p / For Un-Calibrated and Customized selections, enter the desired RJ value to be used in the test.

Table continued…

Parameter	Description
Amplitude	For Un-Calibrated amplitude value in mV(SE), enter the desired amplitude value to be used in the test.
Eye Height	Displays the calibrated Eye Height in mV.
PJ	Displays the calibrated PJ value in UIp-p.
SSC	Click the check box to enable SSC during the test.
Frequency	Displays the SSC frequency configured during calibration.
Deviation	Displays the SSC deviation configured during calibration.
BER Measurement Pattern	Select the required BER measurement pattern from the drop-down list.
Logic	Select the polarity or logic for the selected BER Measurement pattern from the drop-down list.
BERT Preset Selection	
Initial Preset	Select the preset to be set on the BERT PPG right before Preset Negotiation from the drop-down list.
Preshoot	Displays the Preshoot corresponding to the selected Initial Preset.
De-emphasis	Displays the De-emphasis corresponding to the selected Initial Preset.
Crosstalk	
Near-end	If checked, the DUT produces crosstalk internally while running the test.
Far-end	If checked, you can select the source of the far-end crosstalk. Data2: The BERT Data2 acts as a source of far-end crosstalk, you can configure the amplitude of the aggressor signal in this case. Other Sources: You can use any other external device to provide far-end crosstalk.

Click  to move to the next step in test process.

4. **Configure Sensitivity Test:** This page allows you to configure the sensitivity test settings.

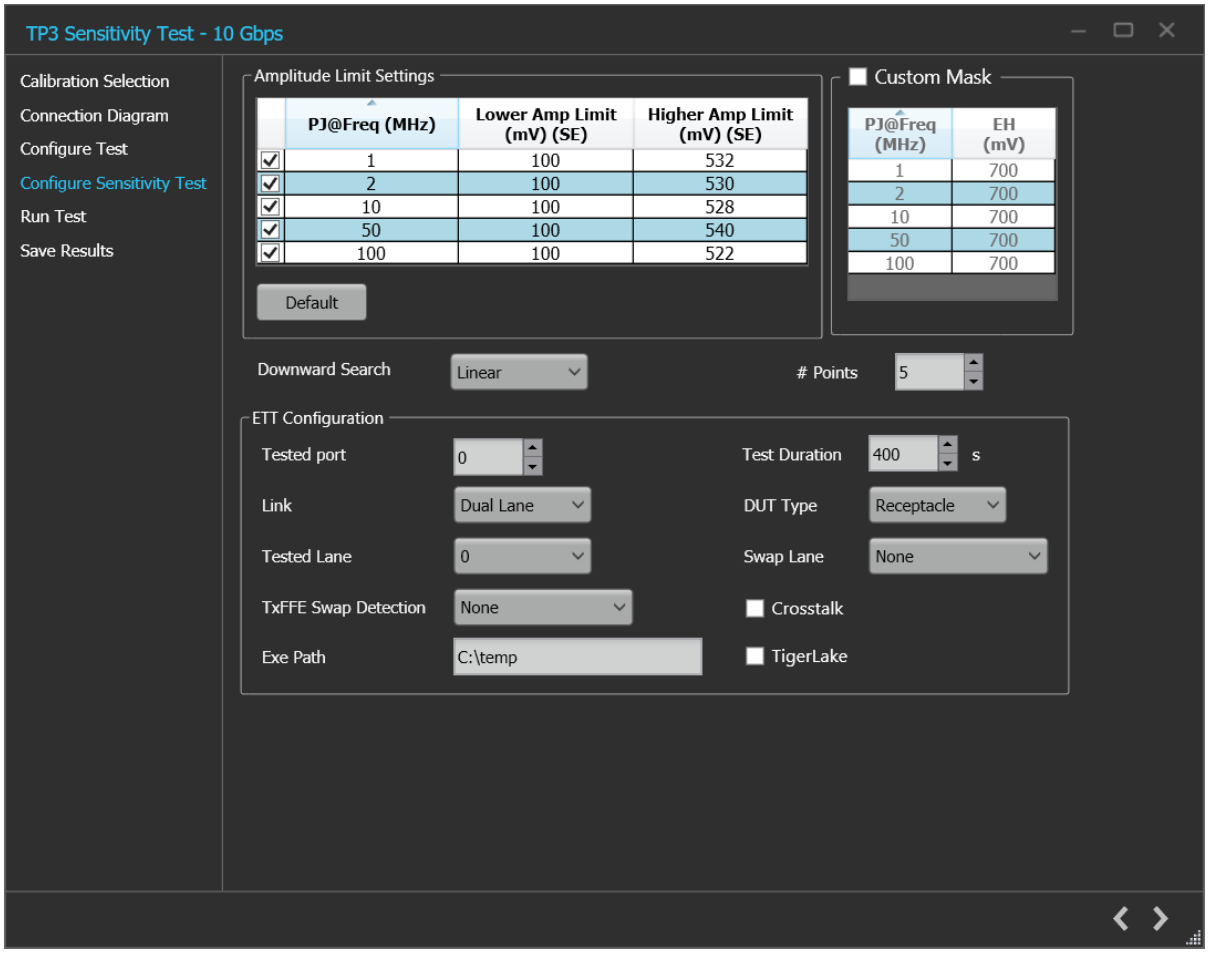


Figure 48: Sensitivity Test-Configure Sensitivity Test

Table 27: Sensitivity Test: Configure Sensitivity Test

Parameter	Description
Amplitude Limit Settings	
PJ@Freq (MHz)	Displays the list of frequencies in MHz for which Sensitivity test is to be performed.
Lower Amplitude Limit (UI p-p)	Enter the lower amplitude limit of PJ at which Sensitivity test will end for the corresponding frequency.
Higher Amplitude Limit (UI p-p)	Enter the higher amplitude limit of PJ at which Sensitivity test will start for the corresponding frequency.
Default	Click to view the table populated with default amplitude limits for the frequencies 1, 2, 10, 50 and 100 MHz.
Custom Mask	Define the PJ amplitude values for the frequencies 1, 2, 10, 50 and 100 MHz. Upon enabling the Sensitivity Custom Mask, the configured mask will be generated on the plot.
PJ@Freq (MHz)	Displays the table of frequencies for the mask.
Eye Height	Enter the amplitude of PJ at each frequency.
Downward Search	Select the required search algorithm from the drop-down for JTOL test.

Table continued…

Parameter	Description
# Points	Enter the number of points between the lower and higher amp limit in case of Linear and Log search.
ETT Configuration	
Tested Port	Configure the port to run Sensitivity test on for the ETT tool (0 - 63).
Test Duration	Configure the test duration in seconds. **Note:** The default test duration for Gen 2 and Gen 3 is 400s and 200s respectively.
Link	Select the required link for ETT tool (Single Lane or Dual Lane).
DUT Type	Select the DUT type used during the test from the drop-down list.
Tested Lane	Select the lane on which the Sensitivity test will run.
Swap Lane	Select the required swap lane for ETT tool.
Exe Path	Enter the path for the ETT tool executable file in the RT Scope.
TigerLake	Enable if the DUT you are testing is a TigerLake device.

Click to move to the next step in test process.

5. **Run Test:** This page displays a graphical representation of the Sensitivity Test result. It includes the result table tab which displays the sensitivity test results in a tabular form.

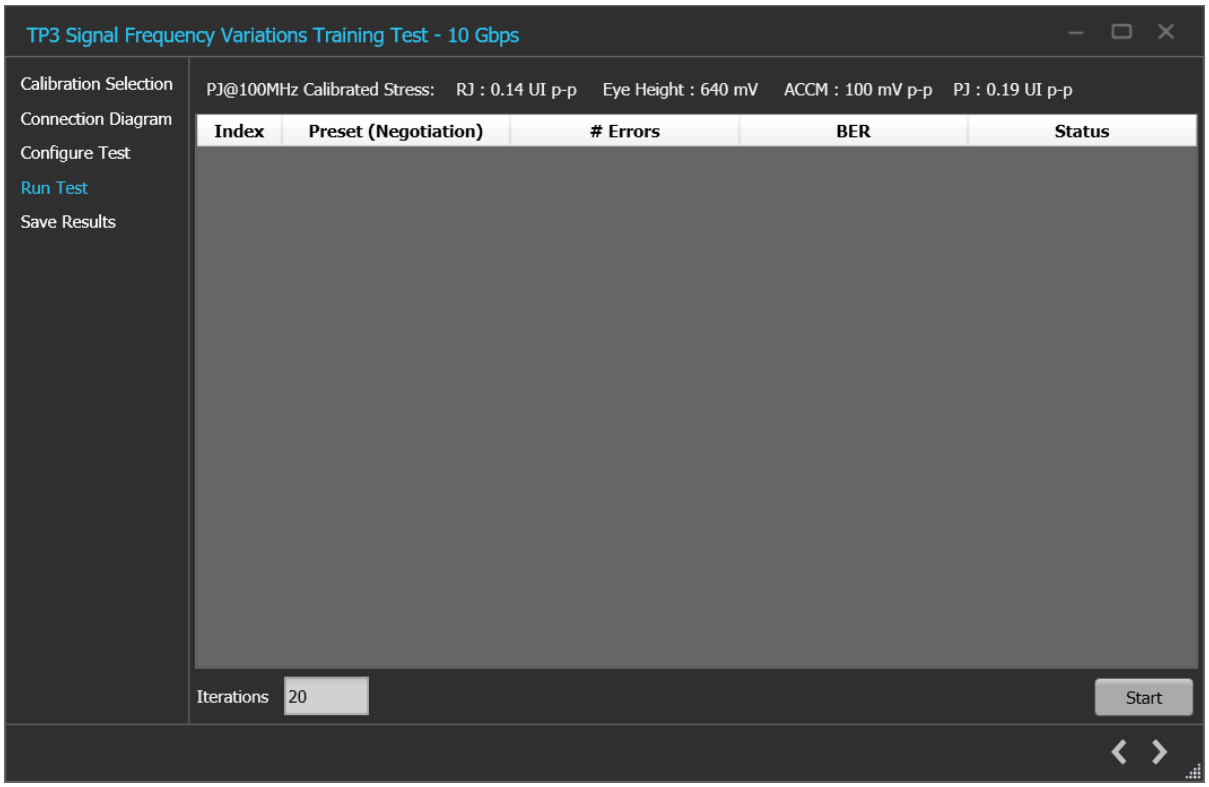


Figure 49: Sensitivity Test-Run Test

Table 28: Sensitivity Test: Run Test

Parameter	Description
Start	Click **Start** to initiate the test.
Cancel	Click **Cancel** to stop the test

Click to move to the next step in test process.

6. **Save Results:** This page allows you to save the sensitivity test results.

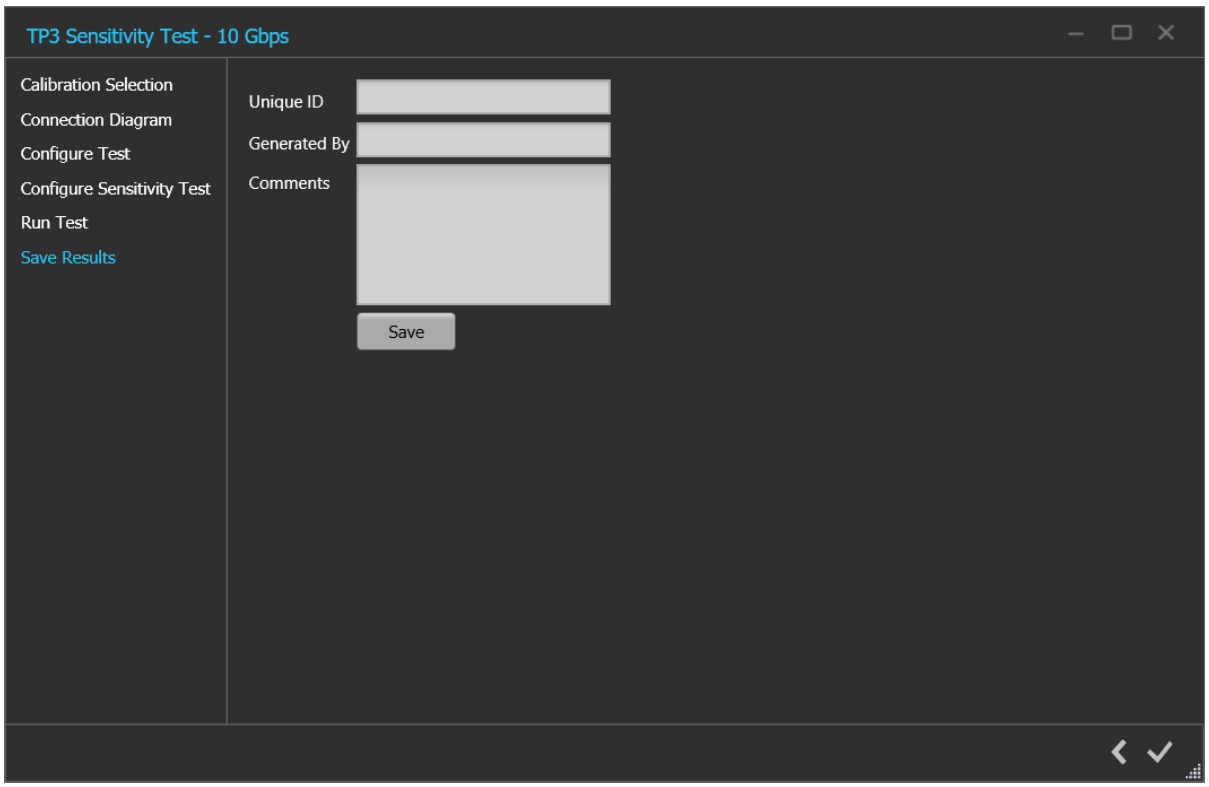


Figure 50: Sensitivity Test-Save Results

Table 29: Sensitivity Test: Save Results

Parameter	Description
Unique ID	Enter the Unique ID of the calibrated equipment in the text box.
Generated By	Enter the user name in the text box.
Comments	Enter the required comments in the comment box (Optional).
Save	Click to save the results.

Click to complete the Sensitivity Test and close the wizard.

BER Test

To find the DUT Bit Error Rate for the defined duration (400 sec in data rate(10 Gbps, 10.3125 Gbps) and 200 sec in data rate(20 Gbps, 20.625 Gbps)) using the stress conditions calibrated during TP3' (Case 1) or TP3 (Case 2).

BER Test procedure

Click on **BER** under the Tests tab to view the measurement results. At this stage, you can choose the generation for which the DUT BER test needs to be performed. Upon clicking a generation, all the measurement results for that generation get populated in the results table.

Click on + at the right end corner of the application to launch the BER test wizard. The wizard will guide you through the sequential procedure to perform the test.

1. **Calibration Selection:** This page allows to select the test point at which the BER test needs to be performed. You can find all the completed calibration files for the selected test point by clicking on the drop-down.

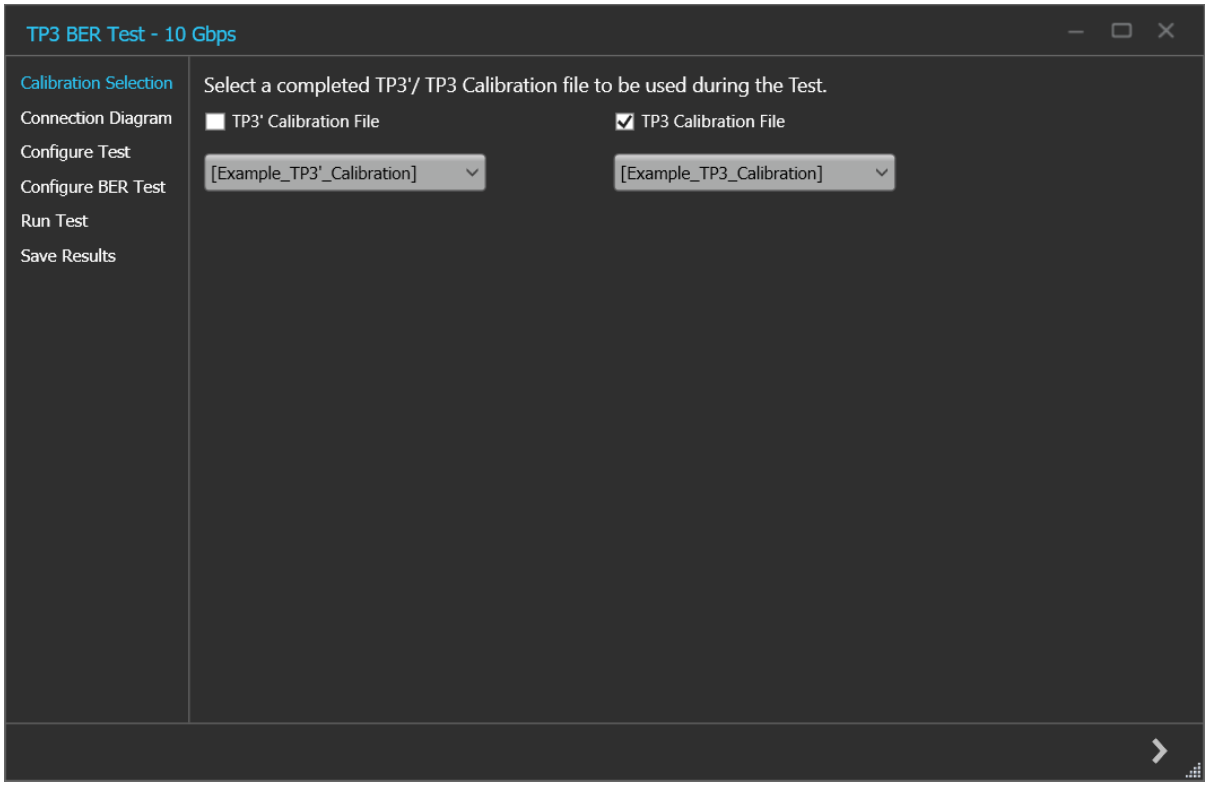


Figure 51: BER Test-Calibration Selection

Click › to move to the next step in test process.

2. **Connection Diagram:** This page displays the connection diagram for BER test for the selected test point in the previous page.

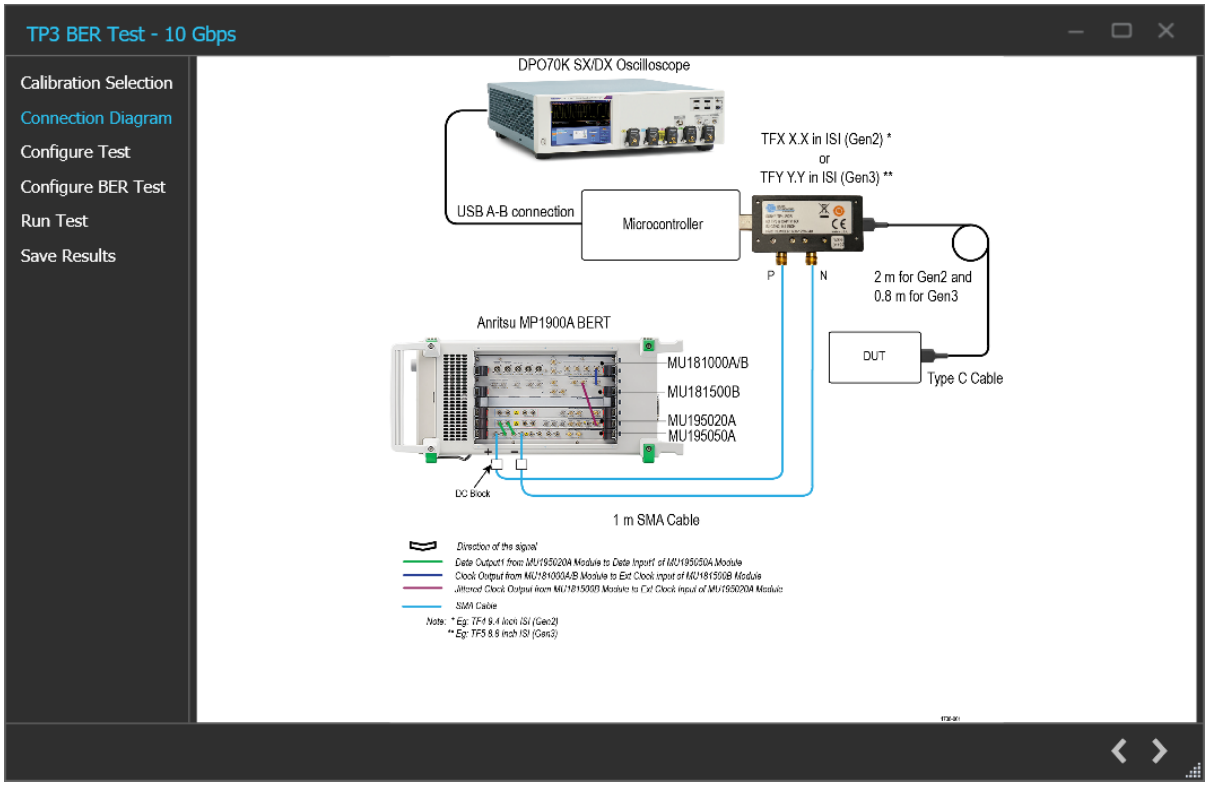


Figure 52: BER Test-Connection Diagram

Click to move to the next step in test process.

3. **Configure Test:** This page allows you to configure the test settings.

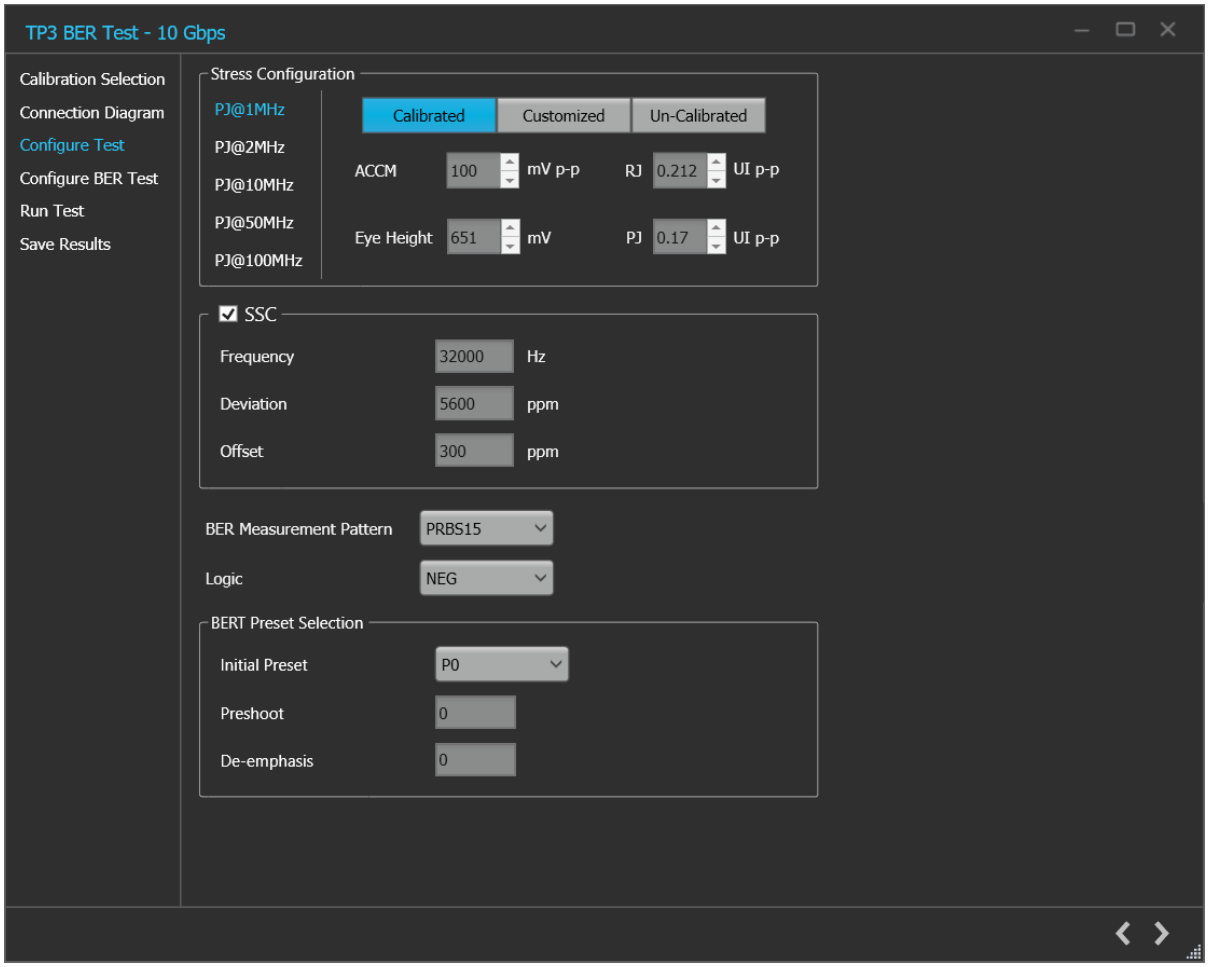


Figure 53: BER Test-Configure Test

Table 30: BER Test: Configure Test

Parameter	Description
Stress Configuration	Displays the calibrated stress parameters for the frequencies 1, 2, 10, 50 and 100 MHz. You can configure the stress parameters for each frequency using the following options: • Calibrated • Customized • Un-Calibrated **Note:** If a particular frequency was not calibrated for in the chosen calibration file, the stress parameters showcased are that of the nearest calibrated frequency.
ACCM	Displays the calibrated ACCM value in mVp-p / For Un-Calibrated and Customized selections, enter the desired ACCM value to be used in the test.

Table continued…

Parameter	Description
RJ	Displays the calibrated RJ value in UIp-p / For Un-Calibrated and Customized selections, enter the desired RJ value to be used in the test.
Amplitude	For Un-Calibrated amplitude value in mV(SE), enter the desired amplitude value to be used in the test.
Eye Height	Displays the calibrated Eye Height in mV.
PJ	Displays the calibrated PJ value in UIp-p.
SSC	Click the check box to enable SSC during the test.
Frequency	Displays the SSC frequency configured during calibration.
Deviation	Displays the SSC deviation configured during calibration.
BER Measurement Pattern	Select the required BER measurement pattern from the drop-down list.
Logic	Select the polarity or logic for the selected BER Measurement pattern from the drop-down list.
BERT Preset Selection	
Initial Preset	Select the preset to be set on the BERT PPG right before Preset Negotiation from the drop-down list.
Preshoot	Displays the Preshoot corresponding to the selected Initial Preset.
De-emphasis	Displays the De-emphasis corresponding to the selected Initial Preset.
Crosstalk	
Near-end	If checked, the DUT produces crosstalk internally while running the test.

Click  to move to the next step in test process.

4. **Configure BER Test:** This page allows you to configure the BER test settings.

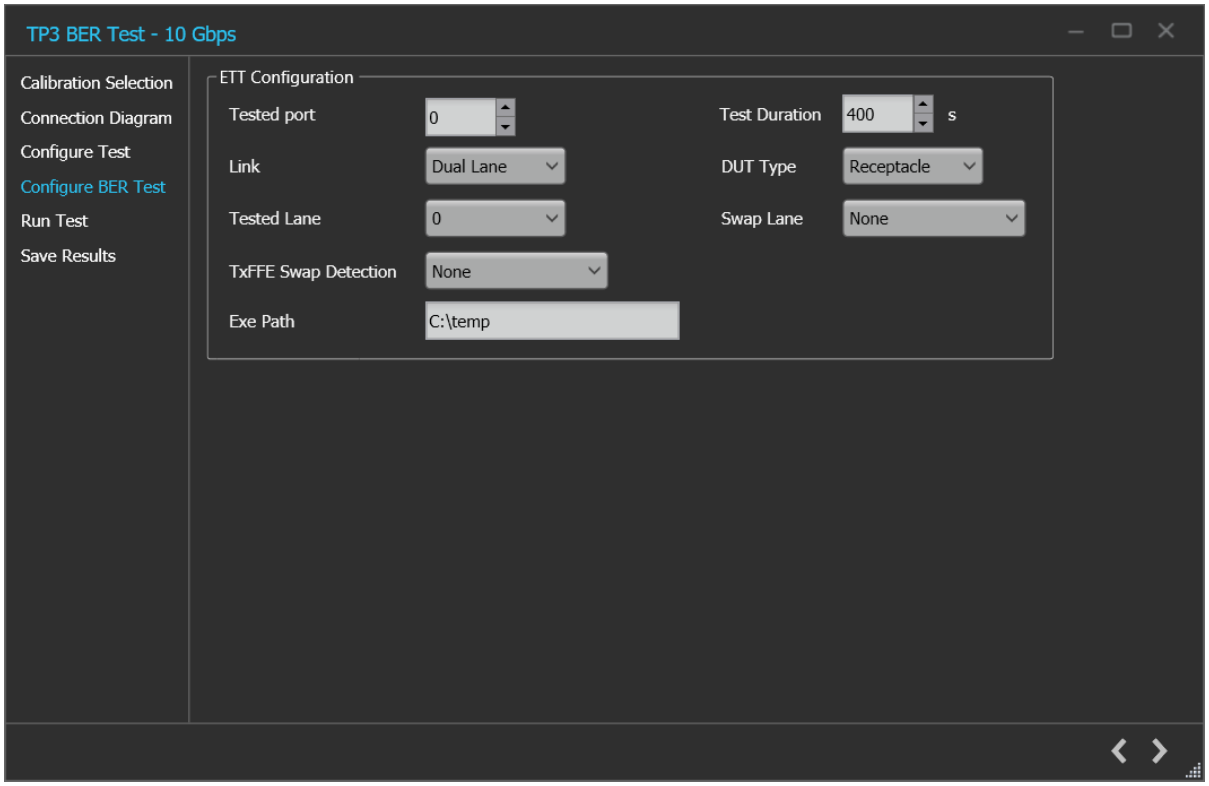


Figure 54: BER Test-Configure BER Test

Table 31: BER Test: Configure BER Test

Parameter	Description
ETT Configuration	
Tested Port	Configure the port to run BER test on for the ETT tool (0 - 63).
Test Duration	Configure the test duration in seconds. **Note:** The default test duration for data rate(10 Gbps, 10.3125 Gbps) and (20 Gbps, 20.625 Gbps) is 400s and 200s respectively.
Link	Select the required link for ETT tool (Single Lane or Dual Lane).
DUT Type	Select the DUT type used during the test from the drop-down list.
Tested Lane	Select the lane on which the BER test will run.
Swap Lane	Select the required swap lane for ETT tool.
Exe Path	Enter the path for the ETT tool executable file in the RT Scope.
TigerLake	Enable if the DUT you are testing is a TigerLake device.

Click to move to the next step in test process.

5. **BER Test:** This page displays a tabular representation of the BER test result. The table gets populated in real time as the test runs for the selected frequencies.

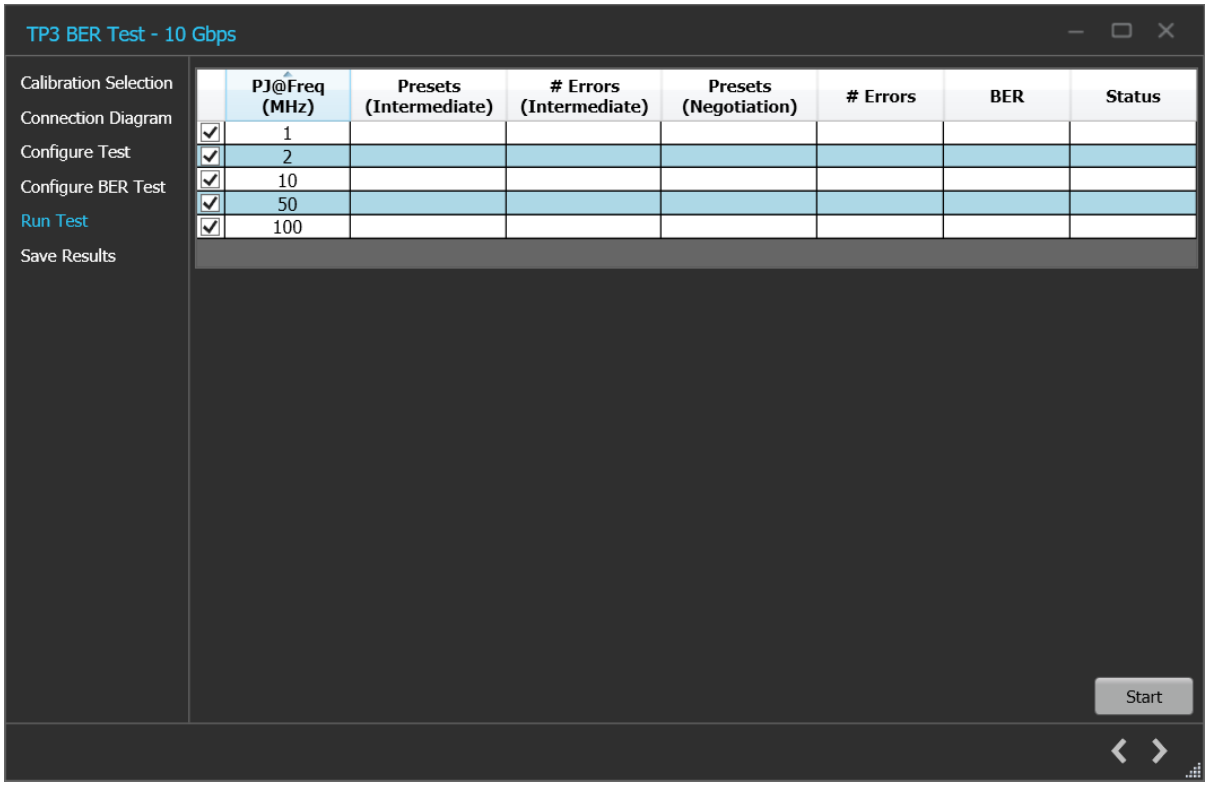


Figure 55: BER Test-Run Test

Table 32: BER Test: Run Test

Parameter	Description
Presets (Intermediate)	Updates the last preset from the preset negotiation between DUT and BERT.
#Errors (Intermediate)	Updates the errors after running BER test for 10 seconds after each preset negotiation.
Preset (Negotiation)	Updates the last preset from the preset negotiation before running the BER test for data rate(10 Gbps, 10.3125 Gbps) and (20 Gbps, 20.625 Gbps) is 400s and 200s.
#Errors	Updates the number of errors after the test has completed.
BER	Updates the BER value after the test has completed.
Status	Updates the Pass/Fail after test completion.
Start	Click **Start** to run the measurement.
Cancel	Click **Cancel** to stop the test.

Click to move to the next step in test process.

6. **Save Results:** This page allows you to save the BER test results.

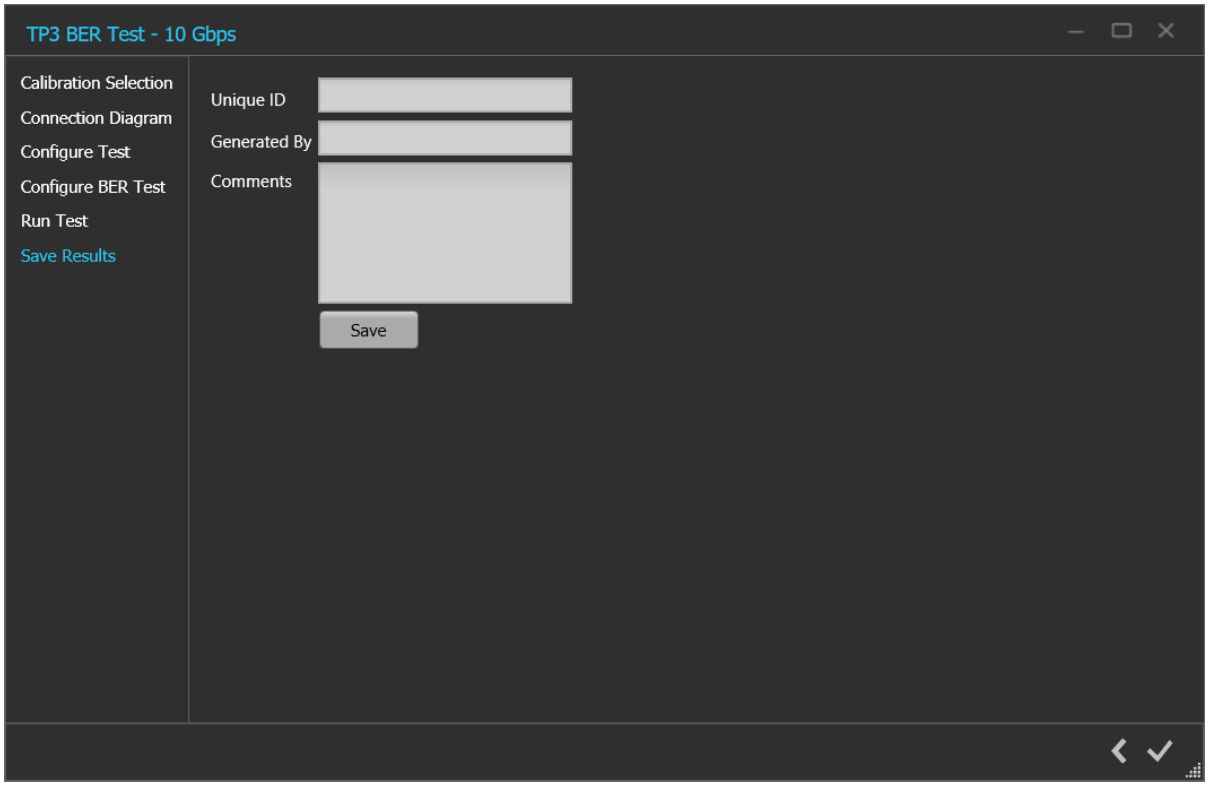


Figure 56: BER Test-Save Results

Table 33: BER Test: Save Results

Parameter	Description
Unique ID	Enter the Unique ID of the calibrated equipment in the text box.
Generated By	Enter the user name in the text box.
Comments	Enter the required comments in the comment box (Optional).
Save	Click to save the results.

Click ☑ to complete the BER Test and close the wizard.

SFVT Test

To test the DUT error tolerance upon frequency variation at PJ@100MHz. You can perform the test at the TP3' (Case1) or TP3 (Case 2) test point at which the SFV calibration has already been performed. The stresses calibrated for PJ@100MHz in the chosen calibration file are used while performing the SFVT test.

SFVT Test procedure

Click on SFVT under the Tests tab to view the test results. At this stage, you can choose the generation for which the DUT tolerance test needs to be performed. Upon clicking a generation, all the test results for that generation get populated in the results table. Click on the right end corner of the application to launch the SFVT test wizard. The wizard guides you through the sequential procedure to perform the test.

1. **Calibration Selection:** This page allows you to select the completed SFV calibration file which can be used while performing the SFVT test at the TP3' or TP3 test point. You can select the calibration file from the drop-down list.

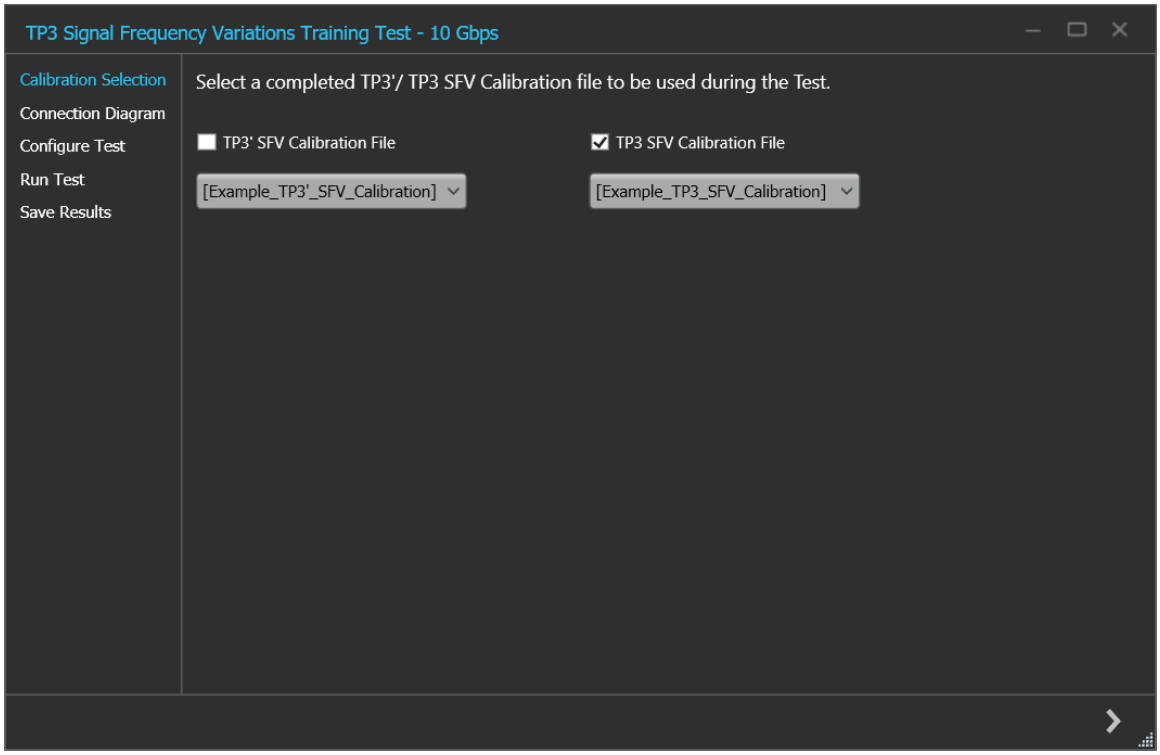


Figure 57: SFVT Test-Calibration Selection

Click  to move to the next step in the test process.

2. **Connection Diagram:** This page displays the connection diagram for the SFVT test based on the selection made on the previous page.

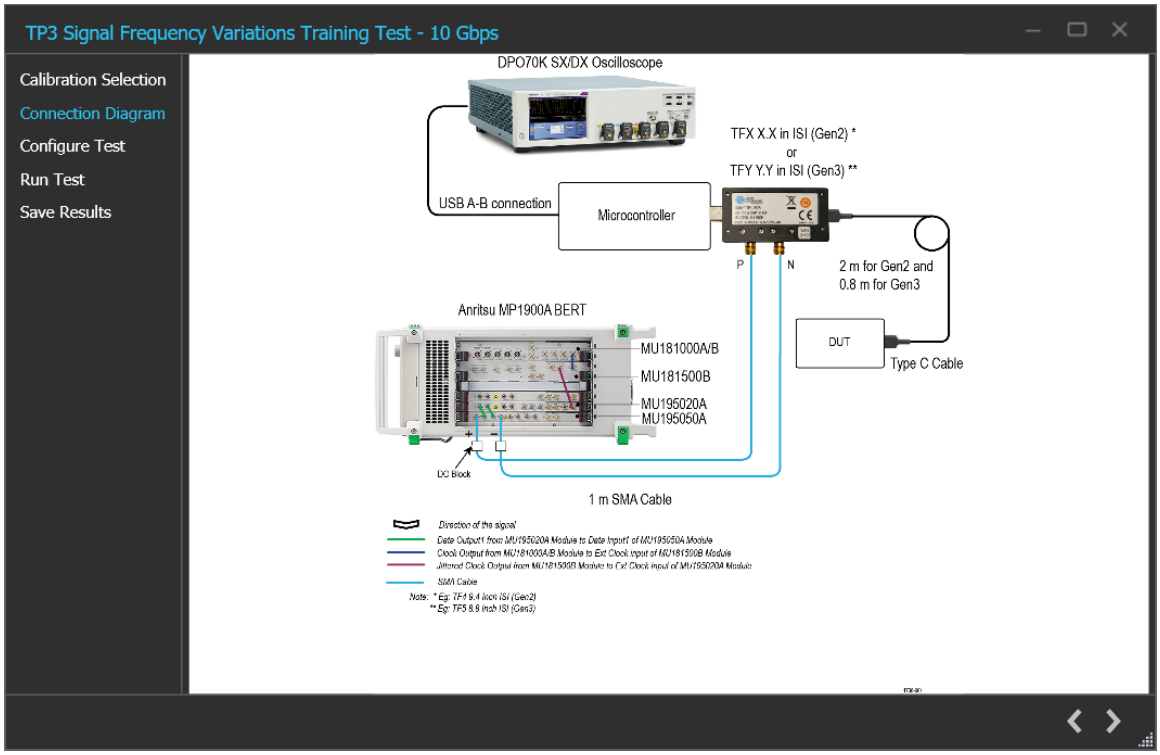


Figure 58: SFVT Test-Connection Diagram

Click ❯ to move to the next step in the test process.

3. **Configure Test:** This page allows you to configure the test settings.

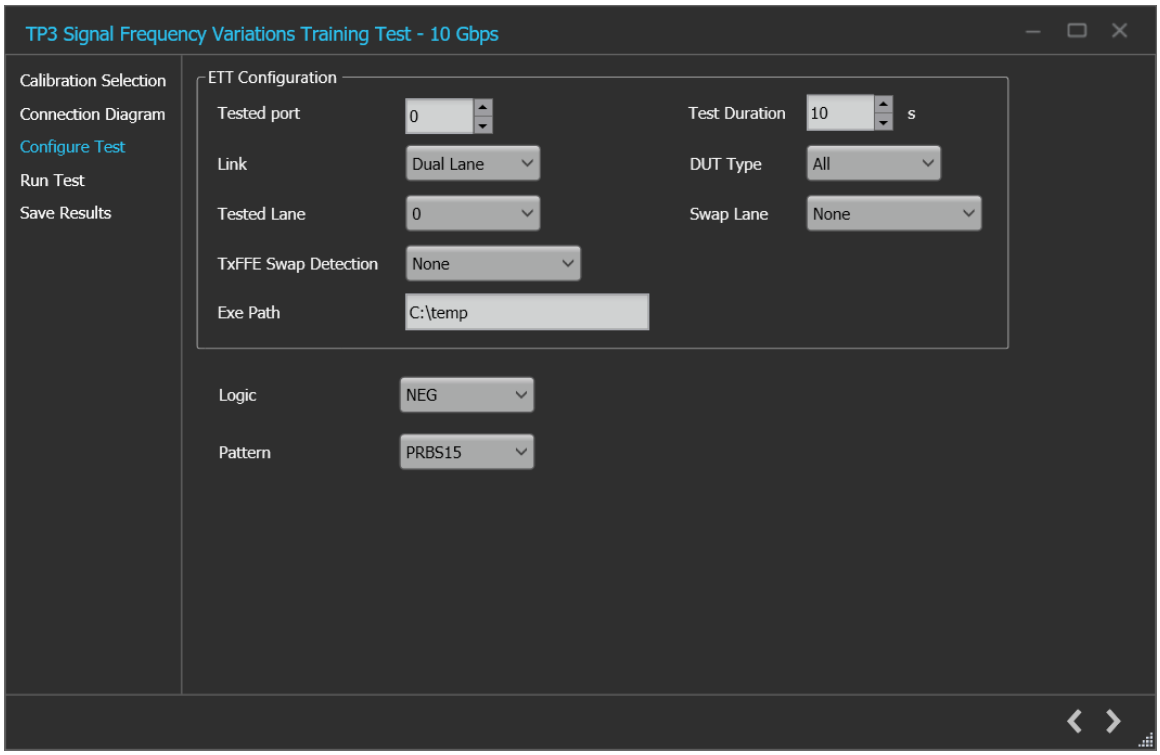


Figure 59: SFVT Test-Run Test

Table 34: SFVT Test: Configure Test

Parameter	Description
ETT Configuration	
Tested Port	Configure the port to run SFVT test on for the ETT tool (0 - 63).
Test Duration	Configure the test duration in seconds. **Note:** The default test duration for Gen2/3 is 400s and 200s respectively.
Link	Select the required link for ETT tool (Single Lane or Dual Lane).
DUT Type	Select the DUT type used during the test from the drop-down list.
Tested Lane	Select the lane on which the SFVT test can run.
Swap Lane	Select the required swap lane for ETT tool.
Exe Path	Enter the path for the ETT tool executable file in the RT Scope.
TigerLake	Enable if the DUT you are testing is a TigerLake device.

Click to move to the next step in the test process.

4. **Run Test** This page displays a tabular representation of the SFVT test result.

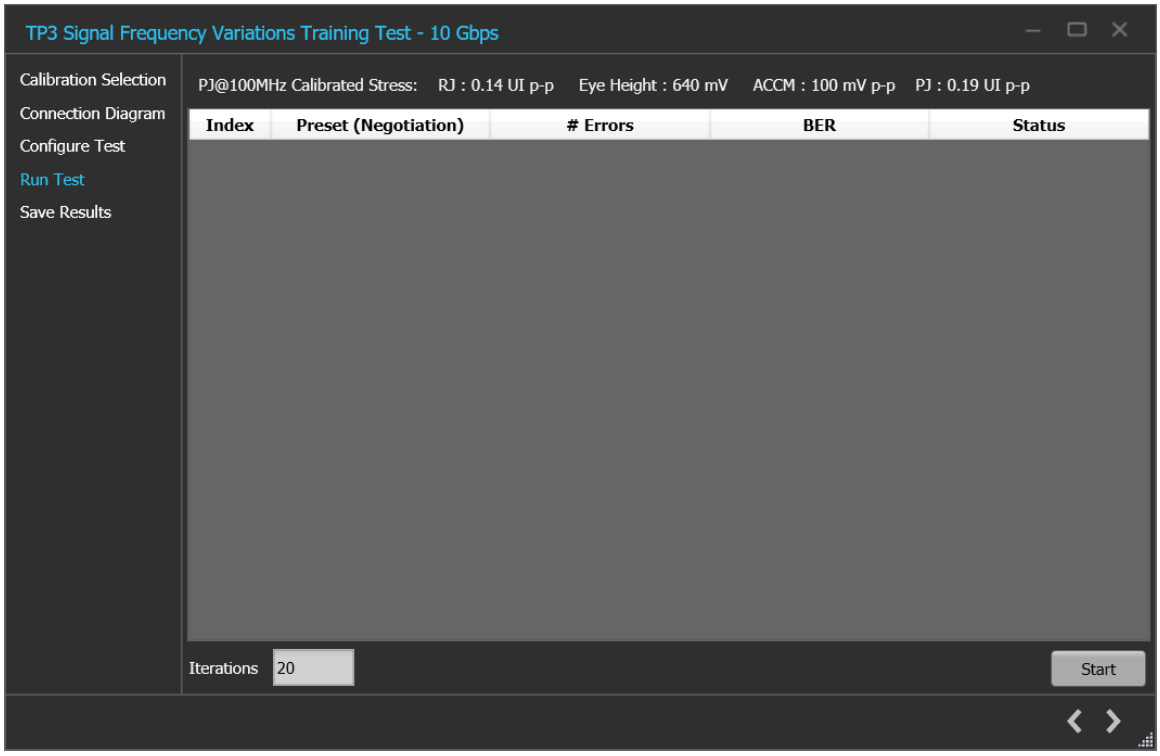


Figure 60: SFVT Test-Run Test

Table 35: SFVT Test: Run Test

Parameter	Description
Start	Click **Start** to run the measurement.
Cancel	Click **Cancel** to stop the test.

Table continued…

Parameter	Description
Iterations	Select the number of times the SFVT test needs to be run for. **Note:** You can go up to 20 iterations.

Click to move to the next step in the test process.

5. **Save Results:** This page allows you to save the SFVT test results.

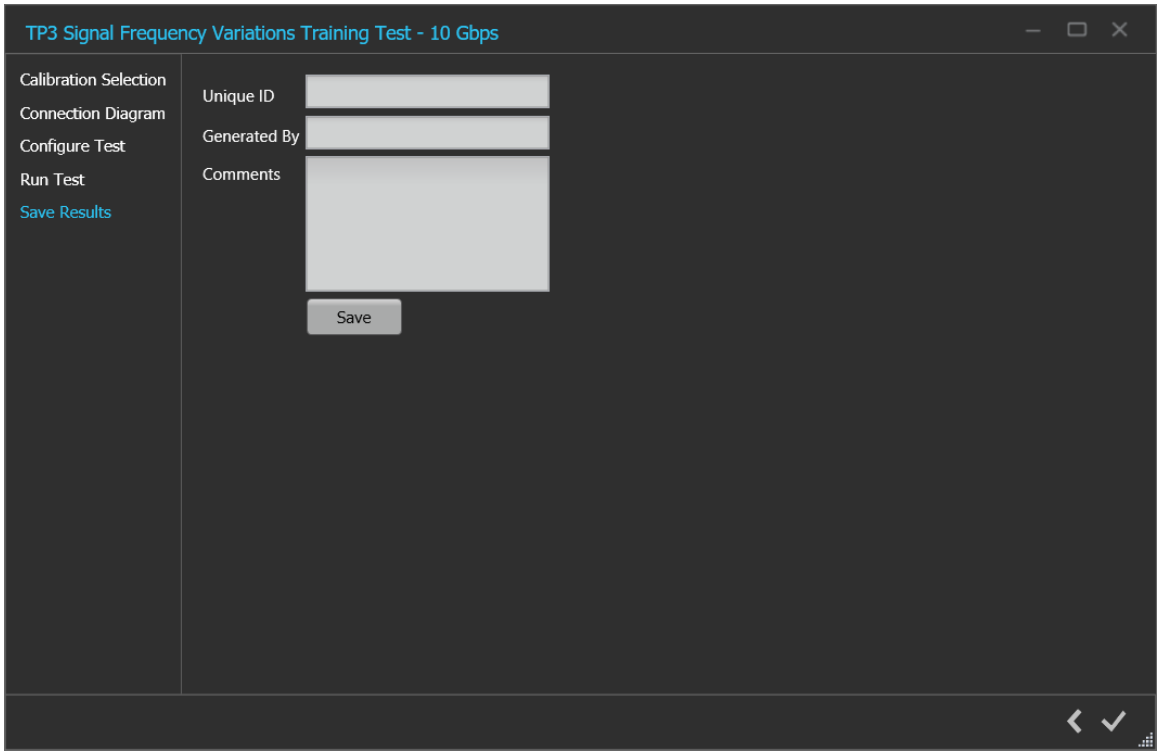


Figure 61: SFVT Test-Save Results

Table 36: SFVT Test: Save Results

Parameter	Description
Unique ID	Enter the Unique ID of the calibrated equipment in the text box.
Generated By	Enter the user name in the text box.
Comments	Enter the required comments in the comment box (Optional).
Save	Click to save the results.

Click to complete the SFVT Test and close the wizard.

Programmatic interface commands

TEKRXTEST:SELECT:HOME

This command selects the home button.

Syntax

```
TEKRXTEST:SELECT:HOME
```

Inputs

NA

Outputs

NA

TEKRXTEST:SELECT:USB4

This command selects the USB4 application.

Syntax

```
TEKRXTEST:SELECT:USB4
```

Inputs

NA

Outputs

NA

SETTINGS:ANALYSIS:TOOL

This command selects the analysis tool.

Syntax

```
SETTINGS:ANALYSIS:TOOL <bool>
```

Inputs

<bool>

1 - SigTest

Outputs

<bool>

Returns the index of the selected analysis tool

SETTINGS:RECALL

This command recalls the settings as per the specified file.

Syntax

`SETTINGS:RECALL <filename>`

Inputs

<filename>

Outputs

NA

SETTINGS:RECALL:STATUS

This command queries the status of the recent recall command execution.

Syntax

`SETTINGS:RECALL:STATUS?`

Inputs

NA

Outputs

<string>

SETTINGS:RESTORE

This command restores the application defaults.

Syntax

`SETTINGS:RESTORE`

Inputs

NA

Outputs

NA

SETTINGS:RESTORE:STATUS

This command returns the status of the recent restore command execution.

Syntax

```
SETTINGS:RESTORE:STATUS?
```

Inputs

NA

Outputs

<string>

SETTINGS:RTS:NEGATIVECHANNEL

This command sets and queries real time scope setting for negative channel.

Syntax

```
SETTINGS:RTS:NEGATIVECHANNEL?
SETTINGS:RTS:NEGATIVECHANNEL <int>
```

Inputs

<int>

0 - CH1

1 - CH2

2 - CH3

3 - CH4

Outputs

<int>

SETTINGS:RTS:POSITIVECHANNEL

This command sets and queries real time scope setting for positive channel.

Syntax

```
SETTINGS:RTS:POSITIVECHANNEL?
SETTINGS:RTS:POSITIVECHANNEL <int>
```

Inputs

<int>

0 - CH1

1 - CH2

2 - CH3

3 - CH4

Outputs

<int>

SETTINGS:RTS:SAMPLERATE

This command returns sample rate of Real Time scope.

Syntax

```
SETTINGS:RTS:SAMPLERATE?
```

Inputs

NA

Outputs

<int>

Range: 50 - 200 GS/s

SETTINGS:SAVE

This command saves the settings into the specified file.

Syntax

```
SETTINGS:SAVE
```

Inputs

NA

Outputs

NA

SETTINGS:SAVE:STATUS

This command returns the status of the recent save command execution.

Syntax

```
SETTINGS:SAVE:STATUS?
```

Inputs

NA

Outputs

<string>

SETTINGS:SIGTEST:FILENAME

This command sets and queries filename of the SigTest executable.

Syntax

```
SETTINGS:SIGTEST:FILENAME <string>
SETTINGS:SIGTEST:FILENAME?
```

Inputs

<string>

Outputs

<string>

SETTINGS:SIGTEST:FILEPATH

This command sets and queries the file path for the SigTest executable.

Syntax

```
SETTINGS:SIGTEST:FILEPATH <string>
SETTINGS:SIGTEST:FILEPATH?
```

Inputs

<string>

Outputs

<string>

TP3PRIME:ACCM:RUN

This command sets the ACCM calibration run status.

Syntax

```
TP3PRIME:ACCM:RUN <1|0>
```

Inputs

<1 | 0>

1 - Start the ACCM calibration run.

0 - Stop the ACCM calibration run.

Outputs

NA

TP3PRIME:ACCM:SETTING

This command returns the ACCM calibrated value in mV p-p.

Syntax

`TP3PRIME:ACCM:SETTING?`

Inputs

NA

Outputs

<double>

TP3PRIME:ACCM:STATUS

This command returns the ACCM calibration status.

Syntax

`TP3PRIME:ACCM:STATUS?`

Inputs

NA

Outputs

{InProgress | Done}

TP3PRIME:DDJ:STATUS

This command returns the DDJ calibration status.

Syntax

`TP3PRIME:DDJ:STATUS?`

Inputs

NA

Outputs

{InProgress | Done}

TP3PRIME:DDJ:RUN

This command sets the DDJ calibration run status.

Syntax

```
TP3PRIME:DDJ:RUN <1|0>
```

Inputs

<1 | 0>

1 - Start the DDJ calibration run.

0 - Stop the DDJ calibration run.

Outputs

NA

TP3PRIME:EYEDIAGRAM:PJ@FREQ

This command enables and disables the check box for each frequencies.

Syntax

```
TP3PRIME:EYEDIAGRAM:PJ@FREQ <FREQ 1/2/10/50/100> <1|0>
TP3PRIME:EYEDIAGRAM:PJ@FREQ <FREQ 1/2/10/50/100>?
```

Inputs

<int> for frequency

<1|0>

Outputs

<1|0>

TP3PRIME:EYEDIAGRAM:RUN

This command sets the Eye Diagram calibration run status.

Syntax

```
TP3PRIME:EYEDIAGRAM:RUN <1/0>
```

Inputs

<1 | 0>

1 - Start the Input Eye Diagram run

0 - Stop the Input Eye Diagram run

Outputs

NA

TP3PRIME:EYEDIAGRAM:STATUS

This command returns the Eye Diagram calibration status.

Syntax

```
TP3PRIME:EYEDIAGRAM:STATUS?
```

Inputs

NA

Outputs

{InProgress | Done}

TP3PRIME:EYEDIAGRAM:TYPE

This command sets and returns display type.

Syntax

```
TP3PRIME:EYEDIAGRAM:TYPE <0|1>
TP3PRIME:EYEDIAGRAM:TYPE?
```

Inputs

<0|1>

0 indicates Table

1 indicates Eye Diagram

Outputs

<0|1>

TP3PRIME:PJ:RUN

This command sets the PJ calibration run status.

Syntax

```
TP3PRIME:PJ:RUN <1|0>
```

Inputs

<1 | 0>

1 - Start the PJ calibration run.

0 - Stop the PJ calibration run.

Outputs

NA

TP3PRIME:PJ:STATUS

This command returns the PJ calibration status.

Syntax

```
TP3PRIME:PJ:STATUS?
```

Inputs

NA

Outputs

{InProgress | Done}

TP3PRIME:PJ:PJ@FREQ <FREQ> <1/0>

This command enables and disables the check box for each frequencies.

Syntax

```
TP3PRIME:PJ:PJ@FREQ <FREQ> <1/0>
```

Inputs

<1 | 0>

1 - Start the PJ calibration run.

0 - Stop the PJ calibration run.

Outputs

NA

TP3PRIME:RJ:RUN

This command sets the RJ calibration run status.

Syntax

`TP3PRIME:RJ:RUN <1|0>`

Inputs

<1 | 0>

1 - Start the RJ calibration run.

0 - Stop the RJ calibration run.

Outputs

NA

TP3PRIME:RJ:SETTING

This command returns the RJ calibrated value.

Syntax

`TP3PRIME:RJ:SETTING?`

Inputs

NA

Outputs

<double>

TP3PRIME:RJ:STATUS

This command returns the RJ calibration status.

Syntax

`TP3PRIME:RJ:STATUS?`

Inputs

NA

Outputs

{InProgress | Done}

TP3PRIME:TJ:RUN

This command sets the TJ calibration run status.

Syntax

```
TP3PRIME:TJ:RUN <1|0>
```

Inputs

<1 | 0>

1 - Start the TJ calibration run.

0 - Stop the TJ calibration run.

Outputs

NA

TP3PRIME:TJ:STATUS

This command returns the TJ calibration status.

Syntax

```
TP3PRIME:TJ:STATUS?
```

Inputs

NA

Outputs

{InProgress | Done}

TP3PRIME:TJ:PJ@FREQ <FREQ> <1/0>

This command enables and disables the check box for each frequencies.

Syntax

```
TP3PRIME:TJ:PJ@FREQ <FREQ> <1/0>
```

Inputs

<1 | 0>

1 - Start the TJ calibration run.

0 - Stop the TJ calibration run.

Outputs

NA

TP3PRIME:EH:STATUS

This command returns the EH calibration status.

Syntax

`TP3PRIME:EH:STATUS?`

Inputs

NA

Outputs

{InProgress | Done}

TP3PRIME:AUTOCAL

This command sets the TP3' automatic calibration run status.

Syntax

`TP3PRIME:AUTOCAL <1|0>`

Inputs

<1 | 0>

1 - Start the TP3' automatic calibration run.

0 - Stop the TP3' automatic calibration run.

Outputs

NA

TP3PRIME:DELETE

This command deletes the selected TP3' calibration file.

Syntax

`TP3PRIME:DELETE`

Inputs

NA

Outputs

NA

TP3PRIME:EQUIP:STATUS

This command returns the status of equipment initialization.

Syntax

```
TP3PRIME:EQUIP:STATUS?
```

Inputs

NA

Outputs

{InProgress | Done}

TP3PRIME:EQUIP:INIT

This command sets the equipment initialization of BERT and RT Scope.

Syntax

```
TP3PRIME:EQUIP:INIT <1|0>
```

Inputs

<1 | 0>

1 - Start the equipment initialization run.

0 - Stop the equipment initialization run.

Outputs

NA

TP3PRIME:EH:RUN

This command sets the Input EH calibration run status.

Syntax

```
TP3PRIME:EH:RUN <1/0>
```

Inputs

<1 | 0>

1 - Start the EH calibration run.

0 - Stop the EH calibration run.

Outputs

NA

TP3PRIME:EH:SETTING

This command returns the EH calibrated value.

Syntax

```
TP3PRIME:EH:SETTING?
```

Inputs

NA

Outputs

<double>

TP3PRIME:OPEN

This command opens the TP3' calibration panel.

Syntax

```
TP3PRIME:OPEN
```

Inputs

NA

Outputs

NA

TP3PRIME:REPORT

This command generates the report for the selected TP3' calibration.

Syntax

```
TP3PRIME:REPORT
```

Inputs

NA

Outputs

NA

TP3PRIME:SAVE

This command saves the current TP3' calibration to the database.

Syntax

```
TP3PRIME:SAVE <string>
```

Inputs

<string>

Outputs

NA

TP3PRIME:SAVE:COMMENTS

This command sets or returns the comments given to save the report in database for TP3' calibration.

Syntax

```
TP3PRIME:SAVE:COMMENTS <string>
TP3PRIME:SAVE:COMMENTS?
```

Inputs

<string>

Outputs

<string>

TP3PRIME:SAVE:GENERATEDBY

This command sets or returns the name of the person who generated the report in database for TP3' calibration.

Syntax

```
TP3PRIME:SAVE:GENERATEDBY <string>
TP3PRIME:SAVE:GENERATEDBY?
```

Inputs

<string>

Outputs

<string>

TP3PRIME:SAVE:ID

This command sets or returns the unique identifier used as key to save the report in database for TP3' calibration.

Syntax

```
TP3PRIME:SAVE:ID <string>
TP3PRIME:SAVE:ID?
```

Inputs

<string>

Outputs

<string>

TP3PRIME:WIZARD:CLOSE

This command closes the TP3' calibration wizard.

Syntax

```
TP3PRIME:WIZARD:CLOSE
```

Inputs

NA

Outputs

NA

TP3PRIME:WIZARD:OPEN

This command opens the TP3' calibration wizard.

Syntax

```
TP3PRIME:WIZARD:OPEN
```

Inputs

NA

Outputs

NA

TP3PRIME:SSC:DEVIATION

This command sets and return the SSC deviation value.

Syntax

```
TP3PRIME:SSC:DEVIATION <int>
TP3PRIME:SSC:DEVIATION?
```

Inputs

NA

Outputs

<int>

TP3PRIME:SSC:FREQ

This command sets or return the SSC frequency value.

Syntax

```
TP3PRIME:SSC:FREQ <int>
TP3PRIME:SSC:FREQ?
```

Inputs

NA

Outputs

<int>

TP3PRIME:SSC:OFFSET

This command sets or return the SSC offset value.

Syntax

```
TP3PRIME:SSC:OFFSET <int>
TP3PRIME:SSC:OFFSET?
```

Inputs

NA

Outputs

<int>

USB4:GEN

This command gets and sets generation in USB4.

Syntax

```
USB4:GEN <0 | 1 | 2 | 3>
USB4:GEN?
```

Inputs

0 indicates 10 Gbps

1 indicates 10.3125 Gbps

2 indicates 20 Gbps

3 indicates 20.625 Gbps

Outputs

<0 | 1 | 2 | 3>

TP3CAL:AUTOCAL

This command sets the TP3 automatic calibration run status.

Syntax

```
TP3CAL:AUTOCAL <1|0>
```

Inputs

<1 | 0>

1 - Start the TP3 automatic calibration run.

0 - Stop the TP3 automatic calibration run.

Outputs

NA

TP3CAL:DELETE

This command deletes the selected TP3 calibration file.

Syntax

```
TP3CAL:DELETE
```

Inputs

NA

Outputs

NA

TP3CAL:ENABLENEGDEEMBED

This enables or disables de-embedding on the negative channel.

Syntax

```
TP3CAL:ENABLENEGDEEMBED <1|0>
TP3CAL:ENABLENEGDEEMBED?
```

Inputs

<1 | 0>

1 enables the check box

0 disables the check box

Outputs

<1 | 0>

TP3CAL:ENABLEPOSDEEMBED

This enables or disables de-embedding on the positive channel

Syntax

```
TP3CAL:ENABLEPOSDEEMBED <1|0>
TP3CAL:ENABLEPOSDEEMBED?
```

Inputs

<1 | 0>

1 enables the check box

0 disables the check box

Outputs

<1 | 0>

TP3CAL:EQUIP:STATUS

This command returns the status of equipment initialization.

Syntax

```
TP3CAL:EQUIP:STATUS?
```

Inputs

NA

Outputs

{InProgress | Done}

TP3CAL:EQUIP:INIT

This command sets the equipment initialization of BERT and RT Scope.

Syntax

```
TP3CAL:EQUIP:INIT <1|0>
```

Inputs

<1 | 0>

1 - Start the equipment initialization run.

0 - Stop the equipment initialization run.

Outputs

NA

TP3CAL:IL:ACQS

This command sets and returns # acqs.

Syntax

```
TP3CAL:IL:ACQS <int>
```

```
TP3CAL:IL:ACQS?
```

Inputs

<int>

Range: 1 - 10

Outputs

<int>

TP3CAL:IL:SCOPEACQS

This command sets and returns # scope acqs.

Syntax

```
TP3CAL:IL:SCOPEACQS <int>
TP3CAL:IL:SCOPEACQS?
```

Inputs

<int>

Outputs

<int>

TP3CAL:MANUALIL

This command sets and returns manual IL value.

Syntax

```
TP3CAL:MANUALIL <double>
TP3CAL:MANUALIL?
```

Inputs

<double>

Outputs

<double>

TP3CAL:NEGDEEMBEDFILE

This command gets and sets negative de-embed file.

Syntax

```
TP3CAL:NEGDEEMBEDFILE <string>
TP3CAL:NEGDEEMBEDFILE?
```

Inputs

<string>

Outputs

<string>

TP3CAL:OPEN

This command opens the TP3 calibration panel.

Syntax

```
TP3CAL:OPEN
```

Inputs

NA

Outputs

NA

TP3CAL:POSDEEMBEDFILE

This command gets and sets positive de-embed file.

Syntax

```
TP3CAL:POSDEEMBEDFILE <string>
TP3CAL:POSDEEMBEDFILE?
```

Inputs

<string>

Outputs

<string>

TP3CAL:REPORT

This command generates the report for the selected TP3 calibration.

Syntax

```
TP3CAL:REPORT
```

Inputs

NA

Outputs

NA

TP3CAL:SAVE

This command saves the current TP3 Calibration file to the database.

Syntax

```
TP3CAL:SAVE
```

Inputs

NA

Outputs

NA

TP3CAL:SAVE:COMMENTS

This command sets or returns the comments given to save the report in database for TP3 calibration.

Syntax

```
TP3CAL:SAVE:COMMENTS <string>
TP3CAL:SAVE:COMMENTS?
```

Inputs

<string>

Outputs

<string>

TP3CAL:SAVE:GENERATEDBY

This command sets or returns the name of the person who generated the report in database for TP3 calibration.

Syntax

```
TP3CAL:SAVE:GENERATEDBY <string>
TP3CAL:SAVE:GENERATEDBY?
```

Inputs

<string>

Outputs

<string>

TP3CAL:SAVE:ID

This command sets or returns the unique identifier used as key to save the report in database for TP3 calibration.

Syntax

```
TP3CAL:SAVE:ID <string>
TP3CAL:SAVE:ID?
```

Inputs

<string>

Outputs

<string>

TP3CAL:SELECT:TP3PRIME

This command sets or returns the TP3' file used.

Syntax

```
TP3CAL:SELECT:TP3PRIME <String>
TP3CAL:SELECT:TP3PRIME?
```

Inputs

<string>

Outputs

<string>

TP3CAL:STRESSEDEYE:ACQS

This command sets and returns stressed eye acquisition value.

Syntax

```
TP3CAL:STRESSEDEYE:ACQS <int>
TP3CAL:STRESSEDEYE:ACQS?
```

Inputs

<int>

Range: 1 - 5

Outputs

<int>

TP3CAL:STRESSEDEYE:FREQ

This command returns information for the particular frequency.

Syntax

```
TP3CAL:STRESSEDEYE:FREQ <FREQ 1/2/10/50/100>?
```

Inputs

<FREQ> indicates the frequency

Outputs

<string>

TP3CAL:STRESSEDEYE:PJ@FREQ

This command enables and disables the check box for each frequencies.

Syntax

```
TP3CAL:STRESSEDEYE:PJ@FREQ <FREQ 1/2/10/50/100> <1|0>
TP3CAL:STRESSEDEYE:PJ@FREQ <FREQ 1/2/10/50/100>?
```

Inputs

<FREQ> indicates the frequency

<1/0>, 1 for enable and 0 for disable

Outputs

<1 | 0>

TP3CAL:STRESSEDEYE:RUN

This command sets the Stressed Eye calibration run status.

Syntax

```
TP3CAL:STRESSEDEYE:RUN <1|0>
```

Inputs

<1 | 0>

1 - Start the Stressed Eye calibration run.

0 - Stop the Stressed Eye calibration run.

Outputs

NA

TP3CAL:STRESSEDEYE:STATUS

This command returns the Stressed Eye calibration status.

Syntax

```
TP3CAL:STRESSEDEYE:STATUS?
```

Inputs

NA

Outputs

{InProgress | Done}

TP3CAL:STRESSEDEYE:TYPE

This command sets and returns the display type.

Syntax

```
TP3CAL:STRESSEDEYE:TYPE <1|0>
TP3CAL:STRESSEDEYE:TYPE?
```

Inputs

<1 | 0>

1 for Table

0 for Eye Diagram

Outputs

<1 | 0>

TP3CAL:WIZARD:CLOSE

This command closes the TP3 calibration wizard.

Syntax

```
TP3CAL:WIZARD:CLOSE
```

Inputs

NA

Outputs

NA

TP3CAL:WIZARD:OPEN

This command opens the TP3 calibration wizard.

Syntax

```
TP3CAL:WIZARD:OPEN
```

Inputs

NA

Outputs

NA

JTOLTEST:AMP:HIGH

This command reads and edits the higher amplitude for different frequencies.

Syntax

```
JTOLTEST:AMP:HIGH <FrequencyIndex 0|1|2|3|4> <double>
JTOLTEST:AMP:HIGH <FrequencyIndex 0|1|2|3|4>?
```

Inputs

<FrequencyIndex 0|1|2|3|4> corresponds to the index of the frequency in frequency settings grid.

<double> corresponds to higher amplitude value for corresponding frequency.

Outputs

<double>

JTOLTEST:AMP:LOW

This command reads and edits the lower amplitude for different frequencies.

Syntax

```
JTOLTEST:AMP:LOW <FrequencyIndex 0|1|2|3|4> <double>
JTOLTEST:AMP:LOW <FrequencyIndex 0|1|2|3|4>?
```

Inputs

<FrequencyIndex 0|1|2|3|4> corresponds to the index of the frequency in frequency settings grid.

<double> corresponds to lower amplitude value for corresponding frequency.

Outputs

<double>

JTOLTEST:CUSTOM:MASK

This command sets or returns the enable or disable status of configuring user-defined mask for the JTOL test.

Syntax

```
JTOLTEST:CUSTOM:MASK <0|1>
JTOLTEST:CUSTOM:MASK?
```

Inputs

<0 | 1>

0 - Indicates that custom mask is disabled.

1 - Indicates that custom mask is enabled.

Outputs

<0 | 1>

JTOLTEST:DELETE

This command deletes the JTOL test report for unique name mentioned.

Syntax

```
JTOLTEST:DELETE <UniqueName>
```

Inputs

<UniqueName>

Outputs

NA

JTOLTEST:DUTTYPE

This command sets and returns the DUT Type in ETT configuration.

Syntax

```
JTOLTEST:DUTTYPE <int>
JTOLTEST:DUTTYPE?
```

Inputs

<int>

0 - Router

1 - All

2 - Receptacle

Outputs

<int>

JTOLTEST:FREQ:DEFAULT

This command sets all frequencies settings to default values.

Syntax

```
JTOLTEST:FREQ:DEFAULT
```

Inputs

NA

Outputs

NA

JTOLTEST:FREQCHK

This command sets to select and unselect different frequencies in the frequency settings table.

Syntax

```
JTOLTEST:FREQCHK <FrequencyIndex 0|1|2|3|4> <0|1>
JTOLTEST:FREQCHK <FrequencyIndex 0|1|2|3|4>?
```

Inputs

<0 | 1>

<FrequencyIndex> corresponds to the index of the frequency in frequency settings grid.

1 - Selects the frequency

0 - Unselects the frequency

Outputs

<0 | 1>

JTOLTEST:LINK

This command sets and gets the link in ETT Configuration.

Syntax

```
JTOLTEST:LINK <int>
JTOLTEST:LINK?
```

Inputs

<int>

0 - Dual Lane

1 - Single Lane

Outputs

<int>

JTOLTEST:MASK:AMP

This command reads and edits the amplitude values for different frequencies.

Syntax

```
JTOLTEST:MASK:AMP <FrequencyIndex 0|1|2|3|4> <double>
JTOLTEST:MASK:AMP <FrequencyIndex 0|1|2|3|4>?
```

Inputs

<FrequencyIndex> corresponds to the index of the frequency in frequency settings grid.

<double> corresponds to amplitude value for corresponding frequency.

Outputs

<double>

JTOLTEST:OPEN

This command opens the JTOL test panel.

Syntax

```
JTOLTEST:OPEN
```

Inputs

NA

Outputs

NA

JTOLTEST:REPORT

This command generates the report for unique name mentioned.

Syntax

```
JTOLTEST:REPORT <UniqueName>
```

Inputs

<UniqueName>

Outputs

NA

JTOLTEST:RESULT

This command gets the JTOL test run results.

Syntax

```
JTOLTEST:RESULT <FREQ 1/2/10/50/100>?
```

Inputs

<FREQ 1/2/10/50/100>

Outputs

String

JTOLTEST:RESULT:DISPLAYTYPE

This command sets the chart or table view for the result.

Syntax

```
JTOLTEST:RESULT:DISPLAYTYPE <0|1>
```

Inputs

<0 | 1>

1 - indicates the table

0 - indicates the chart

Outputs

NA

JTOLTEST:RUN

This commands runs or cancels the JTOL test.

Syntax

```
JTOLTEST:RUN <0|1>
```

Inputs

<1 | 0>

0 - Stop the JTOL test run.

1 - Start the JTOL test run.

Outputs

NA

JTOLTEST:RUN:STATUS

This command returns the JTOL test run status.

Syntax

```
JTOLTEST:RUN:STATUS?
```

Inputs

NA

Outputs

{InProgress | Done}

JTOLTEST:SAVE

This command saves the JTOL test report.

Syntax

```
JTOLTEST:SAVE
```

Inputs

NA

Outputs

NA

JTOLTEST:SAVE:COMMENTS

This command sets or returns the comments given to save the JTOL test report in database.

Syntax

```
JTOLTEST:SAVE:COMMENTS <string>
JTOLTEST:SAVE:COMMENTS?
```

Inputs

<string>

Outputs

<string>

JTOLTEST:SAVE:GENERATEDBY

This command sets or returns the name of the person who generated the JTOL test report in database.

Syntax

```
JTOLTEST:SAVE:GENERATEDBY <string>
JTOLTEST:SAVE:GENERATEDBY?
```

Inputs

<string>

Outputs

<string>

JTOLTEST:SAVE:ID

This command sets or returns the unique identifier used as key to save the JTOL test report in database.

Syntax

```
JTOLTEST:SAVE:ID <string>
JTOLTEST:SAVE:ID?
```

Inputs

<string>

Outputs

<string>

JTOLTEST:SWAPLANE

This command sets or gets the required swap lane for ETT tool.

Syntax

```
JTOLTEST:SWAPLANE <int>
JTOLTEST:SWAPLANE?
```

Inputs

<int>

Outputs

<int>

JTOLTEST:TESTEDLANE

This command sets or gets the lane on which the JTOL test will run in the ETT Configuration.

Syntax

```
JTOLTEST:TESTEDLANE <int>
JTOLTEST:TESTEDLANE?
```

Inputs

<int>

Outputs

<int>

JTOLTEST:WIZARD:OPEN

This command opens the JTOL test wizard.

Syntax

```
JTOLTEST:WIZARD:OPEN
```

Inputs

NA

Outputs

NA

SENSITIVITY:AMP:HIGH

This command reads and edits the higher amplitude for different frequencies.

Syntax

```
SENSITIVITY:AMP:HIGH <FrequencyIndex 0|1|2|3|4> <double>
SENSITIVITY:AMP:HIGH <FrequencyIndex 0|1|2|3|4>?
```

Inputs

<FrequencyIndex> corresponds to the index of the frequency in frequency settings grid.

<int> corresponds to higher amplitude value for corresponding frequency.

Outputs

<double>

SENSITIVITY:AMP:LOW

This command reads and edits the lower amplitude for different frequencies.

Syntax

```
SENSITIVITY:AMP:LOW <FrequencyIndex 0|1|2|3|4> <double>
SENSITIVITY:AMP:LOW <FrequencyIndex 0|1|2|3|4>?
```

Inputs

<FrequencyIndex> corresponds to the index of the frequency in frequency settings grid.

<int> corresponds to lower amplitude value for corresponding frequency.

Outputs

<double>

SENSITIVITY:CUSTOM:MASK

This command sets or returns the enable or disable status of configuring user-defined mask for the Sensitivity test.

Syntax

```
SENSITIVITY:CUSTOM:MASK <0|1>
SENSITIVITY:CUSTOM:MASK?
```

Inputs

<0 | 1>

0 - Indicates that custom mask is disabled.

1 - Indicates that custom mask is enabled.

Outputs

<0 | 1>

SENSITIVITY:DELETE

This command deletes the Sensitivity test report for unique name mentioned.

Syntax

```
SENSITIVITY:DELETE <UniqueName>
```

Inputs

<string>

Outputs

NA

SENSITIVITY:DUTTYPE

This command sets and returns DUT Type in ETT Configuration.

Syntax

```
SENSITIVITY:DUTTYPE <int>
SENSITIVITY:DUTTYPE?
```

Inputs

<int>

Outputs

<int>

SENSITIVITY:FREQ:DEFAULT

This command sets all frequencies settings to default values.

Syntax

```
SENSITIVITY:FREQ:DEFAULT
```

Inputs

NA

Outputs

NA

SENSITIVITY:FREQCHK

This command sets to select and unselect different frequencies in the frequency settings table.

Syntax

```
SENSITIVITY:FREQCHK <FrequencyIndex 0|1|2|3|4> <0|1>
SENSITIVITY:FREQCHK <FrequencyIndex 0|1|2|3|4>?
```

Inputs

<FrequencyIndex> corresponds to the index of the frequency in frequency settings grid.

<double>

Outputs

<0 | 1>

SENSITIVITY:LINK

This command sets and gets the link in ETT configuration.

Syntax

```
SENSITIVITY:LINK <int>
SENSITIVITY:LINK?
```

Inputs

<int>

Outputs

<int>

SENSITIVITY:MASK:AMP

This command reads and edits the amplitude values for different frequencies.

Syntax

```
SENSITIVITY:MASK:AMP <FrequencyIndex 0|1|2|3|4> <double>
SENSITIVITY:MASK:AMP <FrequencyIndex 0|1|2|3|4>?
```

Inputs

<FrequencyIndex> corresponds to the index of the frequency in custom mask grid

<double> corresponds to amplitude value for corresponding frequency.

Outputs

<int>

SENSITIVITY:OPEN

This command opens the Sensitivity test panel.

Syntax

```
SENSITIVITY:OPEN
```

Inputs

NA

Outputs

NA

SENSITIVITY:REPORT

This command generates the report for Sensitivity test for unique name mentioned.

Syntax

```
SENSITIVITY:REPORT <UniqueName>
```

Inputs

<String>

Outputs

NA

SENSITIVITY:RESULT

This command queries the sensitivity results of a particular frequency.

Syntax

```
SENSITIVITY:RESULT <FREQ 1/2/10/50/100>?
```

Inputs

<int> Frequency

Outputs

<string>

SENSITIVITY:RESULT:DISPLAYTYPE

This command sets the chart or table view for the result.

Syntax

```
SENSITIVITY:RESULT:DISPLAYTYPE <0|1>
```

Inputs

<0 | 1>

1 - indicates the table

0 - indicates the chart

Outputs

<0 | 1>

SENSITIVITY:RUN

This commands sets the runs or cancels the Sensitivity test..

Syntax

```
SENSITIVITY:RUN <0|1>
```

Inputs

<0 | 1>

1 - Start the Sensitivity test run.

0 - Stop the Sensitivity test run.

Outputs

NA

SENSITIVITY:RUN:STATUS

This command returns the Sensitivity test status.

Syntax

```
SENSITIVITY:RUN:STATUS?
```

Inputs

NA

Outputs

{InProgress | Done}

SENSITIVITY:SAVE

This command saves the Sensitivity test report.

Syntax

```
SENSITIVITY:SAVE
```

Inputs

NA

Outputs

NA

SENSITIVITY:SAVE:COMMENTS

This command sets or returns the comments given to save the Sensitivity test report in database.

Syntax

```
SENSITIVITY:SAVE:COMMENTS <string>
SENSITIVITY:SAVE:COMMENTS?
```

Inputs

<string>

Outputs

<string>

SENSITIVITY:SAVE:GENERATEDBY

This command sets or returns the name of the person who generated the Sensitivity test report in database.

Syntax

```
SENSITIVITY:SAVE:GENERATEDBY <string>
SENSITIVITY:SAVE:GENERATEDBY?
```

Inputs

<string>

Outputs

<string>

SENSITIVITY:SAVE:ID

This command sets or returns the unique identifier used as key to save the Sensitivity test report in database.

Syntax

```
SENSITIVITY:SAVE:ID <string>
SENSITIVITY:SAVE:ID?
```

Inputs

<string>

Outputs

<string>

SENSITIVITY:SWAPLANE

This command sets or returns the required swap lane for ETT tool.

Syntax

```
SENSITIVITY:SWAPLANE <int>
SENSITIVITY:SWAPLANE?
```

Inputs

<int>

Outputs

<int>

SENSITIVITY:TESTEDLANE

This command sets or returns the lane on which the Sensitivity test will run.

Syntax

```
SENSITIVITY:TESTEDLANE <int>
SENSITIVITY:TESTEDLANE?
```

Inputs

<int>

Outputs

<int>

SENSITIVITY:WIZARD:OPEN

This command opens the Sensitivity test wizard.

Syntax

```
SENSITIVITY:WIZARD:OPEN
```

Inputs

NA

Outputs

NA

BERTEST:DELETE

This command deletes the BER test report.

Syntax

```
BERTEST:DELETE <UniqueName>
```

Inputs

<UniqueName>

Outputs

NA

BERTEST:DUTTYPE

This command sets and returns the DUT Type in ETT Configuration.

Syntax

```
BERTEST:DUTTYPE <int>
BERTEST:DUTTYPE?
```

Inputs

<int>

Outputs

<int>

BERTEST:LINK

This command sets or returns the Link in ETT Configuration.

Syntax

```
BERTEST:LINK <int>
BERTEST:LINK?
```

Inputs

<int>

Outputs

<int>

BERTEST:OPEN

This command opens the BER test panel.

Syntax

```
BERTEST:OPEN
```

Inputs

NA

Outputs

NA

BERTEST:PJ@FREQ

This command enables and disables the check box for each frequencies.

Syntax

```
BERTEST:PJ@FREQ <FREQ 1/2/10/50/100> <1|0>
BERTEST:PJ@FREQ <FREQ 1/2/10/50/100>?
```

Inputs

<FREQ> indicates the frequency

<1 | 0>, 1 for enable and 0 for disable

Outputs

<1 | 0>

BERTEST:REPORT

This command generates the report for BER test.

Syntax

```
BERTEST:REPORT <UniqueName>
```

Inputs

<UniqueName>

Outputs

NA

BERTEST:RUN

This commands sets the run status of BER test.

Syntax

```
BERTEST:RUN <1|0>
```

Inputs

<1 | 0>

1 - Start the BER test run.

0 - Stop the BER test run.

Outputs

<1 | 0>

BERTEST:RUN:STATUS

This commands gets the BER Test run status.

Syntax

```
BERTEST:RUN:STATUS?
```

Inputs

NA

Outputs

{InProgress | Done}

BERTEST:SAVE

This commands saves the current BER calibration to the database added.

Syntax

```
BERTEST:SAVE
```

Inputs

NA

Outputs

NA

BERTEST:SAVE:ID

This command sets or returns the unique identifier used as key to save the BER test report in database.

Syntax

```
BERTEST:SAVE:ID <string>
BERTEST:SAVE:ID?
```

Inputs

<string>

Outputs

<string>

BERTEST:SAVE:COMMENTS

This command sets or returns the comments given to save the BER test report in database.

Syntax

```
BERTEST:SAVE:COMMENTS <string>
BERTEST:SAVE:COMMENTS?
```

Inputs

<string>

Outputs

<string>

BERTEST:SAVE:GENERATEDBY

This command sets or returns the name of the person who generated the BER test report in database.

Syntax

```
BERTEST:SAVE:GENERATEDBY <string>
BERTEST:SAVE:GENERATEDBY?
```

Inputs

<string>

Outputs

<string>

BERTEST:SWAPLANE

This command sets or returns the required swap lane for ETT tool.

Syntax

```
BERTEST:SWAPLANE <int>
BERTEST:SWAPLANE?
```

Inputs

<int>

Outputs

<int>

BERTEST:TESTEDLANE

This command sets or returns the lane on which the BER test will run.

Syntax

```
BERTEST:TESTEDLANE <int>
BERTEST:TESTEDLANE?
```

Inputs

<int>

Outputs

<int>

BERTEST:WIZARD:OPEN

This command opens the BER test wizard.

Syntax

```
BERTEST:WIZARD:OPEN
```

Inputs

NA

Outputs

NA

RXTEST:BERT:DEEMPHASIS

This command gets the BERT De-emphasis for the chosen Initial Preset.

Syntax

```
RXTEST:BERT:DEEMPHASIS?
```

Inputs

NA

Outputs

Returns the de-emphasis set on the BERT for the selected preset in double.

RXTEST:BERT:PRESET

This command sets or gets the BER initial preset.

Syntax

```
RXTEST:BERT:PRESET <INDEX>
RXTEST:BERT:PRESET?
```

Inputs

<int> preset index

Outputs

<int>

RXTEST:BERT:PRESHOOT

This command gets the BERT Preshoot for the chosen Initial Preset.

Syntax

```
RXTEST:BERT:PRESHOOT?
```

Inputs

NA

Outputs

Returns the preshoot set on the BERT for the selected preset in double.

RXTEST:CALSEL:TP3

This command selects the TP3 calibration file from combobox to be used during the test.

Syntax

```
RXTEST:CALSEL:TP3 <CALNAME>
RXTEST:CALSEL:TP3?
```

Inputs

<string> Unique ID of the cal file

Outputs

<string>

RXTEST:CALSEL:TP3CALCHECK

This command selects or unselects TP3 as a test point for the receiver test.

Syntax

`RXTEST:CALSEL:TP3CALCHECK <1|0>`

`RXTEST:CALSEL:TP3CALCHECK?`

Inputs

<1 | 0>

1 selects the file

0 unselects the file

Outputs

<1 | 0>

RXTEST:CALSEL:TP3PRIME

This command selects the TP3' calibration file from combobox to be used during the test.

Syntax

`RXTEST:CALSEL:TP3PRIME <CALNAME>`

`RXTEST:CALSEL:TP3PRIME?`

Inputs

<string> Unique ID of the cal file

Outputs

<string>

RXTEST:CALSEL:TP3PRIMECALCHECK

This command selects or unselects TP3' as a test point for the receiver test.

Syntax

`RXTEST:CALSEL:TP3PRIMECALCHECK <1|0>`

`RXTEST:CALSEL:TP3PRIMECALCHECK?`

Inputs

<1 | 0>

1 selects the file

0 unselects the file

Outputs

<1 | 0>

RXTEST:CONFIGTEST:ACCM

This command gets or sets the ACCM value for particular frequency.

Syntax

```
RXTEST:CONFIGTEST:ACCM <FREQUENCY 1/2/10/50/100> <ACCM>
RXTEST:CONFIGTEST:ACCM <FREQUENCY 1/2/10/50/100>?
```

Inputs

<int> for frequency

<int> for ACCM value

Outputs

<int>

RXTEST:CONFIGTEST:AMP

This command gets or sets the amplitude value for particular frequency.

Syntax

```
RXTEST:CONFIGTEST:AMP <FREQUENCY 1/2/10/50/100> <AMPLITUDE>
RXTEST:CONFIGTEST:AMP <FREQUENCY 1/2/10/50/100>?
```

Inputs

<int> for frequency

<int> for amplitude value

Outputs

<int>

RXTEST:CONFIGTEST:PJ

This command gets or sets the PJ value for particular frequency.

Syntax

```
RXTEST:CONFIGTEST:PJ <FREQUENCY 1/2/10/50/100> <PJ>
RXTEST:CONFIGTEST:PJ <FREQUENCY 1/2/10/50/100>?
```

Inputs

<int> for frequency

<double> for PJ value

Outputs

<double>

RXTEST:CONFIGTEST:PJ@FREQ

This command selects the PJ with different frequencies.

Syntax

```
RXTEST:CONFIGTEST:PJ@FREQ <1/2/10/50/100> <1|0>
RXTEST:CONFIGTEST:PJ@FREQ <1/2/10/50/100>?
```

Inputs

<int> for frequency

<1|0> to enable/disable the selected frequency

Outputs

<1|0>

RXTEST:CONFIGTEST:RJ

This command gets or sets the RJ value for particular frequency.

Syntax

```
RXTEST:CONFIGTEST:RJ <FREQUENCY 1/2/10/50/100> <RJ>
RXTEST:CONFIGTEST:RJ <FREQUENCY 1/2/10/50/100>?
```

Inputs

<int> for frequency

<double> for RJ value

Outputs

<double>

RXTEST:CONFIGTEST:STRESSCONFIG

This command selects the particular stress configuration.

Syntax

```
RXTEST:CONFIGTEST:STRESSCONFIG <FREQUENCY 1/2/10/50/100> <0/1/2>
RXTEST:CONFIGTEST:STRESSCONFIG <FREQUENCY 1/2/10/50/100>?
```

Inputs

<int> for frequency

0 for Calibrated, 1 for Customized and 2 for Un-Calibrated

Outputs

<0|1|2>

RXTEST:CROSSTALK:AMP

This command sets or gets the crosstalk amplitude value.

Syntax

```
RXTEST:CROSSTALK:AMP <int>
RXTEST:CROSSTALK:AMP?
```

Inputs

<int> for amp,when far-end crosstalk is enabled and the source is Data 2.

Outputs

Returns int value of the amp set.

RXTEST:CROSSTALK:SOURCE

This command configures the source of far-end crosstalk.

Syntax

```
RXTEST:CROSSTALK:SOURCE <0/1>
RXTEST:CROSSTALK:SOURCE?
```

Inputs

<0 | 1>

0 checks other sources

1 checks Data 2

Outputs

<0 | 1>

RXTEST:CROSSTALK:FAREND

This command checks or unchecks the crosstalk far-end.

Syntax

```
RXTEST:CROSSTALK:FAREND <0|1>
RXTEST:CROSSTALK:FAREND?
```

Inputs

<0 | 1>

0 unchecks far-end

1 checks far-end

Outputs

<0 | 1>

RXTEST:CROSSTALK:NEAREND

This command checks or unchecks the crosstalk near-end.

Syntax

```
RXTEST:CROSSTALK:NEAREND <0|1>
RXTEST:CROSSTALK:NEAREND?
```

Inputs

<0 | 1>

0 unchecks near-end

1 checks near-end

Outputs

<0 | 1>

RXTEST:DURATION

This command gets and sets the test duration.

Syntax

```
RXTEST:DURATION <int>
RXTEST:DURATION?
```

Inputs

Range: 1 to 1000 seconds

Outputs

<int>

RXTEST:EXEPATH

This command gets or sets the directory path for the ETT executable.

Syntax

```
RXTEST:EXEPATH <string>
RXTEST:EXEPATH?
```

Inputs

<string>

Outputs

<string>

RXTEST:LOGIC

This command gets or sets the logic for the chosen BERT Measurement Pattern.

Syntax

```
RXTEST:LOGIC <INDEX>
RXTEST:LOGIC?
```

Inputs

<int>

Outputs

<int>

RXTEST:PATTERN

This command sets or gets the BER measurement pattern.

Syntax

```
RXTEST:PATTERN <INDEX>
RXTEST:PATTERN?
```

Inputs

Index of the pattern from the drop-down list in <int>.

Outputs

Index of the pattern from the drop-down list in <int>.

RXTEST:PORT

This command gets or sets the test port.

Syntax

```
RXTEST:PORT <int>
RXTEST:PORT?
```

Inputs

<int>

Outputs

<int>

RXTEST:SSC

This command checks and unchecks the SSC check box.

Syntax

```
RXTEST:SSC <0|1>
RXTEST:SSC?
```

Inputs

<0|1>

0 - unchecks the SSC check box

1 - unchecks the SSC check box

Outputs

<0|1>

RXTEST:SSC:DEVIATION

This command gets the SSC configured during calibration.

Syntax

```
RXTEST:SSC:DEVIATION?
```

Inputs

NA

Outputs

<int>

RXTEST:TIGERLAKE

This command checks or unchecks the Tigerlake.

Syntax

```
RXTEST:TIGERLAKE <0|1>
RXTEST:TIGERLAKE?
```

Inputs

<0|1>

1 - checks the Tigerlake

0 - Unchecks the Tigerlake

Outputs

<0|1>

RXTEST:WIZARD:CLOSE

This command closes the Rx test wizard (common for all tests).

Syntax

```
RXTEST:WIZARD:CLOSE
```

Inputs

NA

Outputs

NA

SFVTTEST:CROSSTALK

This commands enables or disables near-end crosstalk.

Syntax

```
SFVTTEST:CROSSTALK <1|0>
```

Inputs

<1 | 0>

1- Enables the crosstalk.

0 - Disables the crosstalk.

Outputs

NA

SFVTTEST:DELETE

This command deletes the SFVT test report for unique name mentioned.

Syntax

```
SFVTTEST:DELETE <UniqueName>
```

Inputs

<UniqueName>

Outputs

NA

SFVTTEST:DUTTYPE

This command sets and returns the DUT type in ETT configuration.

Syntax

```
SFVTTEST:DUTTYPE <int>
SFVTTEST:DUTTYPE?
```

Inputs

<int>

Outputs

<int>

SFVTTEST:ITERATIONS

This commands sets or gets for which the test has to be done.

Syntax

```
SFVTTEST:ITERATIONS <int>
SFVTTEST:ITERATIONS?
```

Inputs

<int>

Outputs

<int>

SFVTTEST:LINK

This command sets and gets the link number in ETT Configuration.

Syntax

```
SFVTTEST:LINK <int>
SFVTTEST:LINK?
```

Inputs

<int>

Outputs

<int>

SFVTTEST:OPEN

This command opens the SFVT test panel.

Syntax

```
SFVTTEST:OPEN
```

Inputs

NA

Outputs

NA

SFVTTEST:REPORT

This command generates the report for unique name mentioned.

Syntax

```
SFVTTEST:REPORT <UniqueName>
```

Inputs

<UniqueName>

Outputs

NA

SFVTTEST:RUN

This commands runs or cancels the SFVT test.

Syntax

```
SFVTTEST:RUN <0|1>
```

Inputs

<1 | 0>

0 - Stop the SFVT test run.

1 - Start the SFVT test run.

Outputs

NA

SFVTTEST:RUN:STATUS

This command returns the SFVT test run status.

Syntax

```
SFVTTEST:RUN:STATUS?
```

Inputs

NA

Outputs

{InProgress | Done}

SFVTTEST:SAVE

This command saves the SFVT test report.

Syntax

```
SFVTTEST:SAVE
```

Inputs

NA

Outputs

NA

SFVTTEST:SAVE:COMMENTS

This command sets or returns the comments given to save the SFVT test report in database.

Syntax

```
SFVTTEST:SAVE:COMMENTS <string>
SFVTTEST:SAVE:COMMENTS?
```

Inputs

<string>

Outputs

<string>

SFVTTEST:SAVE:GENERATEDBY

This command sets or returns the name of the person who generated the SFVT test report in database.

Syntax

```
SFVTTEST:SAVE:GENERATEDBY <string>
SFVTTEST:SAVE:GENERATEDBY?
```

Inputs

<string>

Outputs

<string>

SFVTTEST:SAVE:ID

This command sets or returns the unique identifier used as key to save the SFVT test report in database.

Syntax

```
SFVTTEST:SAVE:ID <string>
SFVTTEST:SAVE:ID?
```

Inputs

<string>

Outputs

<string>

SFVTTEST:SWAPLANE

This command sets or gets the required swap lane for ETT tool.

Syntax

```
SFVTTEST:SWAPLANE <int>
SFVTTEST:SWAPLANE?
```

Inputs

<int>

Outputs

<int>

SFVTTEST:TESTEDLANE

This command sets or gets the lane on which the SFVT test will run.

Syntax

```
SFVTTEST:TESTEDLANE <int>
SFVTTEST:TESTEDLANE?
```

Inputs

<int>

Outputs

<int>

SFVTTEST:WIZARD:OPEN

This command opens the SFVT test wizard.

Syntax

```
SFVTTEST:WIZARD:OPEN
```

Inputs

NA

Outputs

NA

SFV:CALSEL:TP3 <CALNAME>

This command selects the TP3 calibration file from Combobox.

Syntax

```
SFV:CALSEL:TP3 <CALNAME>
```

Inputs

<string>

Outputs

<string>

SFV:CALSEL:TP3CALCHECK <0/1>

This command selects TP3 calibration file for the SFVC.

Syntax

```
SFV:CALSEL:TP3CALCHECK <0/1>
```

Inputs

```
<string>
```

Outputs

```
<string>
```

SFV:CALSEL:TP3PRIME <CALNAME>

This command selects the TP3' calibration file from Combobox.

Syntax

```
SFV:CALSEL:TP3PRIME <CALNAME>
```

Inputs

<string>

Outputs

<string>

SFV:CALSEL:TP3PRIMECALCHECK <0/1>

This command selects TP3' calibration file for the SFVC.

Syntax

```
SFV:CALSEL:TP3PRIMECALCHECK <0/1>
```

Inputs

<string>

Outputs

<string>

SFV:OPEN

This command opens the SFV Test panel.

Syntax

```
SFV:OPEN
```

Inputs

NA

Outputs

NA

SFV:REPORT

This command opens the SFVC Report.

Syntax

```
SFV:REPORT
```

Inputs

NA

Outputs

NA

SFV:RUN <1/0>

This command Runs/Cancels the SFV Calibration based on the input.

Syntax

```
SFV:RUN <1/0>
```

Inputs

<string>

Outputs

<string>

SFV:RUN:STATUS

This command gets the SFV calibration run status.

Syntax

```
SFV:RUN:STATUS
```

Inputs

<string>

Outputs

<string>

SFV:SAVE:COMMENTS [string]

This command Gets/Sets the COMMENTS field for SFVC.

Syntax

```
SFV:SAVE:COMMENTS [string]
```

Inputs

<string>

Outputs

<string>

SFV:SAVE:GeneratedBy [string]

This command Gets/Sets the Generated By field for SFVC.

Syntax

```
SFV:SAVE:GeneratedBy [string]
```

Inputs

<string>

Outputs

<string>

SFV:SAVE:ID [string]

This command Gets/Sets the Save ID for SFVC.

Syntax

```
SFV:SAVE:ID [string]
```

Inputs

<string>

Outputs

<string>

SFV:Save:Status

This command returns the status of the SFVC recent save command execution.

Syntax

```
SFV:Save:Status
```

Inputs

NA

Outputs

<string>

SFV:WIZARD:CLOSE

This command closes the SFV calibration Wizard.

Syntax

```
SFV:WIZARD:CLOSE
```

Inputs

NA

Outputs

NA

USB_SFV:DELETE

This command delete the selected SFV Calibration for USB.

Syntax

```
USB_SFV:DELETE
```

Inputs

NA

Outputs

NA

USB_SFV:WIZARD:OPEN

This command opens the SFV calibration Wizard for USB.

Syntax

```
USB_SFV:WIZARD:OPEN
```

Inputs

NA

Outputs

NA

JTOLTEST:TXFFESWAP

This command sets and gets the TxFFE Swap Detection in ETT Configuration.

Syntax

```
JTOLTEST:TXFFESWAP <int>
JTOLTEST:TXFFESWAP?
```

Inputs

<int>

0 - None

1 - Detect

2 - Use Last Detection

3 - Force Swap

4 - Force NO Swap

Outputs

<int>

SENSITIVITY:TXFFESWAP

This command sets and gets the TxFFE Swap Detection in ETT Configuration.

Syntax

```
SENSITIVITY:TXFFESWAP <int>
SENSITIVITY:TXFFESWAP?
```

Inputs

<int>

0 - None

1 - Detect

2 - Use Last Detection

3 - Force Swap

4 - Force NO Swap

Outputs

<int>

BERTEST:TXFFESWAP

This command sets and gets the TxFFE Swap Detection in ETT Configuration.

Syntax

```
BERTEST:TXFFESWAP <int>
BERTEST:TXFFESWAP?
```

Inputs

<int>

0 - None

1 - Detect

2 - Use Last Detection

3 - Force Swap

4 - Force NO Swap

Outputs

<int>

SFVTTEST:TXFFESWAP

This command sets and gets the TxFFE Swap Detection in ETT Configuration.

Syntax

```
SFVTTEST:TXFFESWAP <int>
SFVTTEST:TXFFESWAP?
```

Inputs

<int>

0 - None

1 - Detect

2 - Use Last Detection

3 - Force Swap

4 - Force NO Swap

Outputs

<int>

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