

# D9040EDPV eDP Electrical Performance and Characterization Test Software

Keysight D9040EDPV Software Version 1.31.0.0

Release Date:	September 06, 2024
Operating System:	Microsoft Windows 10
Instrument Software Version:	11.60.00115 (UXR-Series) 06.74.01101 (90000 Series, 90000 X-Series, 90000 Q-Series, V-Series, or Z-Series)
File Name:	SetupD9040EDPV_eDP_1.31.0.0.exe
License:	Please see the product data sheet on <a href="https://www.keysight.com">keysight.com</a>

## Addition/New Feature

- Added the "Threshold Hysteresis" configuration variable, allowing users to adjust it based on the signal characteristics that cause jitter separation issues.

## Modification

- Disabled relative informative tests if the D9020SCNA license is not available.

## Keysight D9040EDPV Software Version 1.30.5.0

Release Date:	April 7, 2023
Requirements Category (e.g., operating system):	Microsoft Windows 10
Requirements Category (e.g., instrument software version):	11.50.00601 (UXR-Series) 06.74.01101 (90000 Series, 90000 X-Series, 90000 Q-Series, V-Series, Z-Series)
File Name:	SetupInfeDP01300005.exe
License:	Please see the product data sheet on <a href="https://www.keysight.com">keysight.com</a>

### Modification

- Update Keysight License Manager 5.

## Keysight D9040EDPV Software Version 1.30.0.0

Release Date:	September 2, 2022
Requirements Category (e.g., operating system):	Microsoft Windows 10, Microsoft Windows 7
Requirements Category (e.g., instrument software version):	11.30.00202 (UXR-Series) 06.71.00202 (90000 Series, 90000 X-Series, 90000 Q-Series, V-Series, Z-Series)
File Name:	SetupInfeDP01300000.exe
License:	Please see the product data sheet on <a href="http://keysight.com">keysight.com</a>

### Additions/New Features

- Supports TPS4 test pattern for all the tests except for Rise and Fall Time Mismatch.
- Supports configurable equalizer and test pattern for all the jitter tests at the same link rate.
- Supports additional CTLE model which is 2 pole Ac Gain.
- Supports eDP 1.5 Test Specification.

### Notes/Recommendations

- After upgrading the Infiniium version to Infiniium 6.40 and above, please reinstall the eDP application.
- Keysight recommends running the eDP application with Infiniium user interface disabled. Please refer to the Online Help for more details (see **Help > Contents... > Running Tests > To Set the Run Preferences**).
- If a user is accessing the test application over a remote desktop, Keysight recommends that the remote sessions be active all the time in order to avoid any Infiniium related issues.
- Keysight recommends viewing the eDP application's HTML report with Internet Explorer.
- Project file saved in previous app version 1.2 and below will be loaded as read-only due to mask file directory update.

### Known Issues

- User will experience SICL error while running the TP3\_EQ tests at 6.48 Gbps with default CTLE settings.
- User will experience SICL error while running the Eye Diagram Test (TP3\_EQ tests).

- User might experience timeout error while running the tests with fixture de-embedding enabled (after long hour run).

Workaround:

- Please run the tests without fixture de-embedding enabled.

OR

- Please do not run the tests with fixture de-embedding for long hours.
- User might experience incorrect test status in the **Select Tests** tab after running the tests or loading the project file.
- User will observe incorrect **Set Up** tab settings - after creating a new project while keeping the switch matrix settings as is.

Workaround:

- Please do not “keep the settings for switch matrix” when creating a new project.
- The eDP application will not behave as expected when user selects “No” for reconnecting the switch matrix connection while loading the project file.
- Keysight logo and pass/fail icon images will be missing when converting the old eDP test report (from eDP application version 1.04 and below) to PDF format.

## Keysight D9040EDPV Software Version 1.20.0.0

Release Date:	February 22, 2022
Requirements Category (e.g., operating system):	Microsoft Windows 10, Microsoft Windows 7
Requirements Category (e.g., instrument software version):	11.25.00101 (UXR-Series) 06.71.00202 (90000 Series, 90000 X-Series, 90000 Q-Series, V-Series, Z-Series)
File Name:	SetupInfeDP01200000.exe
License:	Please see the product data sheet on <a href="http://keysight.com">keysight.com</a>

### Additions/New Features

- Supports MX0105A probe head.
- Supports bundled subscription license [SW00DSPP and SW02DSPP].

### Notes/Recommendations

- After upgrading the Infiniium version to Infiniium 6.40 and above, please reinstall the eDP application.
- Keysight recommends running the eDP application with Infiniium user interface disabled. Please refer to the Online Help for more details (see **Help > Contents... > Running Tests > To Set the Run Preferences**).
- If a user is accessing the test application over a remote desktop, Keysight recommends that the remote sessions be active all the time in order to avoid any Infiniium related issues.
- Keysight recommends viewing the eDP application's HTML report with Internet Explorer.

### Known Issues

- User will experience SICL error while running the TP3\_EQ tests at 6.48 Gbps with default CTLE settings.
- User will experience SICL error while running the Eye Diagram Test (TP3\_EQ tests).
- User might experience timeout error while running the tests with fixture de-embedding enabled (after long hour run).

- Workaround:
  - Please run the tests without fixture de-embedding enabled.

OR

- Please do not run the tests with fixture de-embedding for long hours.
- User might experience incorrect test status in the **Select Tests** tab after running the tests or loading the project file.
- User will observe incorrect **Set Up** tab settings - after creating a new project while keeping the switch matrix settings as is.

Workaround:

- Please do not “keep the settings for switch matrix” when creating a new project.
- The eDP application will not behave as expected when user selects “No” for reconnecting the switch matrix connection while loading the project file.
- Keysight logo and pass/fail icon images will be missing when converting the old eDP test report (from eDP application version 1.04 and below) to PDF format.

## Keysight D9040EDPV Software Version 1.10

Release Date:	December 22, 2020
Requirements Category (e.g., operating system):	Microsoft Windows 10, Microsoft Windows 7
Requirements Category (e.g., instrument software version):	10.25.01104 (UXR-Series) 06.55.00902 (90000 Series, 90000 X-Series, 90000 Q-Series, V-Series, Z-Series)
File Name:	SetupInfeDP01100000.exe
License:	Please see the product data sheet on <a href="http://keysight.com">keysight.com</a>

### New Features

- Supports Infiniium Oscilloscope Software version 10.25 for UXR-Series oscilloscope.

### Bug Fixes

- Fixed the issue of unable to run offline acquisition mode for AUX Channel Physical Layer Tests using Infiniium Oscilloscope Software version 10.20 and above.
- Fixed the issue of missing configuration variables in Configure tab.
  - o Equalizer Configuration Settings
  - o Eye Diagram Configuration Settings
  - o Jitter Configuration Settings
- Fixed the issue of eDP application unable to run with UXR-Series oscilloscope with maximum sampling rate of 256 GSa/s.
- Fixed the issue of Physical Layer Tests related configuration variables appears in Configure tab when the AUX Channel Physical Layer Tests is selected for Test Selection.

### Note

- When upgrading the Infiniium version to Infiniium 6.40 and above, please reinstall the eDP application.
- Keysight recommends running the eDP application with Infiniium user interface disabled. Please refer to Online Help for more details (see Help > Contents... > Running Tests > To Set the Run Preferences).
- Keysight recommends the user to remains active for the same session of Remote Desktop on the same machine if Remote Desktop is required.

- Keysight recommends viewing the eDP application's html report with Internet Explorer.

## Known Issue

- User will experience SICL error when running the TP3\_EQ tests if running the for 6.48Gbps with default CTLE settings.
- User will experience SICL error when running the Eye Diagram Test (TP3\_EQ) tests.
- User might experience timeout error when running the tests with fixture de-embedding enabled after long hour run.
  - o Please run the tests without fixture de-embedding enabled. Or
  - o Please do not run the tests with fixture de-embedding for long hour
- User might experience incorrect test status in the Select Test tab after running the tests or loading the project file.
- User will experience incorrect Set Up tab loaded when creating the new project while keeping the switch matrix setting.
  - o Please do not keep the setting for switch matrix when creating new project.
- The eDP Application will not behave as expected when user select "No" for reconnect of the switch matrix connection when loading the project file.
- The Keysight logo and pass/fail icon images will be missing when converting the old eDP Test Report (from eDP Application Version 1.04 and below) to PDF format.



## Keysight D9040EDPV Software Version 1.05

Release Date:	October 08, 2019
Requirements category (e.g., operating system):	Microsoft Windows 10, Microsoft Windows 7
Requirements category (e.g., minimum instrument software version):	10.11.04711 (UXR-Series) 06.55.00504 (90000 Series, 90000 X-Series, 90000 Q-Series, V-Series, Z-Series)
File Name:	SetupInfeDP01050000.exe
License:	Please see the product data sheet on keysight.com

### New Features

- Supports Infiniium Oscilloscope Software version 6.55.
- Supports Infiniium Oscilloscope Software version 10.11 for UXR-Series oscilloscope.

### Modification

- Updated the product number from “N6469A” to “D9040EDPV” to support PPKS license.
- Updated the following Configuration Variable. Please refer to Programmer’s Reference for more details (see Help > API Reference > Remote Interface).
  - o Added Configuration Variable
    - DeviceDefinitionSetupComplete, TestSetupComplete, ConnectionSetupComplete, AuxChannelAcquisitionMode, AuxMinusLane
  - o Removed Configuration Variable
    - TestMode, EnableTestPlan, pcbOfflineMode, DUTConnectivity, ConnectionSettingDiff, ConnectionSettingSingleEnded, LaneA\_4, LaneASMA\_4, UpdateList, LastTestIDRun, SwitchMatrixEnable, pcbPhysicalLayerOfflineMode, OfflineStep,
    - DMPixelClockV100, DMPixelClockV130, DMConnectionType, DMConnectionChannels, DMLaneASMA, DMLaneBSMA, DMClkPlus, DMClkMinus, DMD0Plus, DMD0Minus, DMD1Plus, DMD1Minus, DMD2Plus, DMD2Minus, DMLaneADiff, DMLaneBDiff, DMClk, DMD0, DMD1, DMD2
  - o Modified Configuration Variable Choices:

Configuration Variable	New Choices	Old Choices
TestSelection	Physical Layer Tests, AUX Channel Physical Layer Tests	Physical Layer Tests, AUX Channel Physical Layer Tests, Utility Tests

Configuration Variable	New Choices	Old Choices
AUXConnectionType	Differential Probe, Single-Ended (A-B)	Differential Probe, Single-Ended

- Updated the Instrument Name from “Scope” to “Infiniium”. Please refer to Programmer’s Reference for more details (see Help > API Reference > Remote Interface).

## Bug Fixes

- Fixed the issue of eDP application unable to launch in non-administrator account.
- Fixed the issue of incorrect switch matrix configuration during the run of the Inter Pair Skew Test.
- Fixed the issue of Lane 1/Lane 2 - Inter Pair Skew Test unable to run when switch matrix is enabled.

## Note

- When upgrading the Infiniium version to Infiniium 6.40 and above, please reinstall the eDP application.
- Keysight recommends running the eDP application with Infiniium user interface disabled. Please refer to Online Help for more details (see Help > Contents... > Running Tests > To Set the Run Preferences).
- Keysight recommends the user to remain active for the same session of Remote Desktop on the same machine if Remote Desktop is required.
- Keysight recommends viewing the eDP application’s html report with Internet Explorer.

## Known Issue

- User will experience SICL error when running the TP3\_EQ tests if running the for 6.48Gbps with default CTLE settings.
- User might experience timeout error when running the tests with fixture de-embedding enabled after long hour run.
  - o Please run the tests without fixture de-embedding enabled. Or
  - o Please do not run the tests with fixture de-embedding for long hour
- User might experience incorrect test status in the Select Test tab after running the tests or loading the project file.
- User will experience incorrect Set Up tab loaded when creating the new project while keeping the switch matrix setting.

- Please do not keep the setting for switch matrix when creating new project.
- The eDP Application will not behave as expected when user select “No” for reconnect of the switch matrix connection when loading the project file.
- The Keysight logo and pass/fail icon images will be missing when converting the old eDP Test Report (from eDP Application Version 1.04 and below) to PDF format.

## Keysight N6469A Software Version 1.04

Release Date:	May 23, 2019
Requirements category (e.g., operating system):	Microsoft Windows 10, Microsoft Windows 7
Requirements category (e.g., minimum instrument software version):	10.10.04511 (UXR-Series) 06.40.00714 (90000 Series, 90000 X-Series, 90000 Q-Series, V-Series, Z-Series)
File Name:	SetupInfeDP01040000.exe
License:	Please see the product data sheet on <a href="http://keysight.com">keysight.com</a>

### New Features

- Supports Infiniium Oscilloscope Software version 6.40.
- Supports Infiniium Oscilloscope Software version 10.10 for UXR-Series oscilloscope.

### Note

- When upgrading the Infiniium version to Infiniium 6.40 and above, please reinstall the eDP application.
- Keysight recommends running the eDP application with Infiniium user interface disabled. Please refer to Online Help for more details (see Help > Contents... > Running Tests > To Set the Run Preferences).
- Keysight recommends the user to remains active for the same session of Remote Desktop on the same machine if Remote Desktop is required.
- Keysight recommends viewing the eDP application's html report with Internet Explorer.

### Known Issue

- The Equalizer signal (CTLE or DFE) generated by Infiniium 10.10.04511 is incorrect that will impact all the TP3\_EQ tests.

## Keysight N6469A Software Version 1.03

Release Date:	February 20, 2019
Requirements category (e.g., operating system):	Microsoft Windows 10, Microsoft Windows 7
Requirements category (e.g., minimum instrument software version):	10.05.04203 (UXR-Series) 6.30.00701 (90000 Series, 90000 X-Series, 90000 Q-Series, V-Series, Z-Series)
File Name:	SetupInfeDP01030000.exe
License:	Please see the product data sheet on <a href="http://keysight.com">keysight.com</a>

### New Features

- Supports Infiniium Oscilloscope Software version 6.30.
- Supports Infiniium Oscilloscope Software version 10.05 for UXR-Series oscilloscope.
- Supports VESA Embedded DisplayPort (eDP) Standard Version 1.4b.
- Supports AUX Channel Tests.
- Supports Single-Ended Rise and Fall Time Mismatch Test.

### Modification

- Updated the Link Rate dropdown list in the Device Definition Wizard to include all the link rate in the test specification.
- Updated the default DPCD version for eDP 1.3 to DPCD 1.3 and eDP 1.4 to DPCD 1.4.
- Updated the eDP 1.3 Test Specification tests default conditions:
  - o For Eye Diagram Test:
    - Disabled the equalizer (TP3) for RBR and HBR
    - Updated the mask for RBR and HBR from dynamic mask to fixed mask
    - Updated the mask for RBR, HBR and HBR2
      - From (RBR, HBR, HBR2):

Point	A0, f0	Voltage (V)
1	Any UI location (x), where the Eye Width is open from x to x + 0.5 UI	0.0000
2	Any Passing UI location between 0.375 and 0.625 UI	0.0375
3	Point 1 + 0.5 UI	0.0000

Point	A0, f0	Voltage (V)
4	Same as Point 2	-0.0375

- To:

#### HBR2

Point	A0, f0	Voltage (V)
1	Any UI location (x), where the Eye Width is open from x to x + 0.38 UI	0.0000
2	Any Passing UI location between 0.375 and 0.625 UI	0.055
3	Point 1 + 0.38 UI	0.0000
4	Same as Point 2	-0.055

#### HBR

Point	A0, f0	Voltage (V)
1	0.246	0.0000
2	0.500	0.075
3	0.755	0.0000
4	0.500	-0.075

#### RBR

Point	A0, f0	Voltage (V)
1	0.270	0.0000
2	0.500	0.068
3	0.731	0.0000
4	0.500	-0.068

- For Jitter Test:
  - Disabled the equalizer (TP3) for RBR and HBR
- Updated the default Inter Pair Skew Pattern Search Mode from “Closest” to “Next Closest”.
- Updated the eDP Application to inform the user the test controller automation is disabled if the loaded project contains the automation enabled.

## Bug Fixes

- Fixed the issue of Session Test Details checkboxes are all checked when loading the project file.
- Fixed the issue of Session Test Details checkboxes unable to configure remotely in certain configuration.
- Fixed the issue of eDP Application crashes when the Embedded DisplayPort Test Controller dialog is minimized.
- Fixed the issue of Test Controller configure error if not “UnigrafDPTC” is selected when creating new project.
- Fixed the issue of the Standard Selection and the Test Suite do not set to default value on creating new project.
- Fixed the issue of the undefined file extension error thrown by the Transfer Function Generator if capitalized s-parameter file extension is used.
- Fixed the issue of eDP application unable to complete the jitter tests if the input signal contains too much of jitter or over-equalized.

## Note

- Keysight recommends running the eDP application with Infiniium user interface disabled. Please refer to Online Help for more details (see Help > Contents... > Running Tests > To Set the Run Preferences).
- Keysight recommends the user to remains active for the same session of Remote Desktop on the same machine if Remote Desktop is required.
- Keysight recommends viewing the eDP application’s html report with Internet Explorer.

## Keysight N6469A Software Version 1.02

Release Date:	March 27, 2017
Requirements category (e.g., operating system):	Microsoft Windows 10, Microsoft Windows 7
Requirements category (e.g., minimum instrument software version):	6.00.00624 (90000 Series, 90000 X-Series, 90000 Q-Series, V-Series, Z-Series)
File Name:	SetupInfeDP01020000.exe
License:	Please see the product data sheet on <a href="http://keysight.com">keysight.com</a>

## New Features

- Supports Infiniium Oscilloscope Software version 6.00.
- Supports Custom Control Library (AUXAUX1) Test Controller. To enable the custom control library:
  - o Copy the AUXAUX1.dll from C:\ProgramData\Keysight\Infiniium\Apps\eDPTest\app\Library\DPTCDriver folder to C:\Program Files (x86)\Keysight\Infiniium\Apps\eDPTest\app\config\DPTCDriver folder.
  - o Restart the eDP application.
  - o The “AUXAUX1” test controller will be available.
- Supports custom fixture de-embedding. To use the fixture de-embedding:
  - o Copy the s-parameter file to the "Custom" folder in the following directory and rename the file to "Custom.s2p" or "Custom.s4p".
  - o C:\ProgramData\Keysight\Infiniium\Apps\eDPTest\app\S-Parameter\Fixture\ Custom
  - o Restart the eDP application.
  - o The "Custom" fixture type will allow user to de-embed fixture now.
- Supports user configurable cable model via “CableModelType” configuration variable to allow either actual physical cable or software cable model. Please refer to Programmer’s Reference for more details (see Help > Remote Interface).
  - o For software cable model:
    - Please copy the cable model s-parameter file to the following directory:
    - *C:\ProgramData\Keysight\Infiniium\Apps\eDPTest\App\S-Parameter\Cable Model\Custom*
    - Then, specify the cable model s-parameter file name via “CustomCableModelFileName” configuration variable.
    - By default, the “Custom.s4p” will be used for the cable model s-parameter file (which is the CIC\_rev0p6.s4p file from VESA)z

## Modification

- Updated the DPCD version for eDP 1.4 Test Specification to DPCD Version 1.3.
- Updated the default CTLE settings for the 6.48 Gbps based on the HBR3 settings:
  - o From
    - Zero Frequency: 640 MHz
    - Pole 1 Frequency: 2.7 GHz
    - Pole 2 Frequency: 4.5 GHz
    - Pole 3 Frequency: 13.5 GHz

- To
  - Zero Frequency: 640 MHz
  - Pole 1 Frequency: 4.05 GHz
  - Pole 2 Frequency: 10.0 GHz
  - Pole 3 Frequency: 13.5 GHz
- Remove the cable model embedding configuration variables (“Use Custom Transfer Function”, “Custom Transfer Function File Name” and “Cable Embedding”).

## Bug Fixes

- Fixed the OutOfMemoryException error issue during the run of the test or export the HTML results.
- Fixed the issue of "Object Reference not set to an instance of an object" if the [Configure] button is clicked before the automation is enabled.
- Fixed the issue of fixture de-embedding only apply on Lane 0 but not the other lanes.
- Fixed the issue of incorrect input signal when running the tests with switch matrix enabled.
- Fixed the issue of test plan checkbox unable to unchecked with the remote API.
- Fixed the issue of incorrect DC gain loaded for the CTLE.
- Fixed the issue of error in conversion of the report image file and the report image misaligned.

## Keysight N6469A Software Version 1.01

Release Date:	April 05, 2016
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., minimum instrument software version):	5.60 (90000 Series, 90000 X-Series, 90000 Q-Series, V-Series, Z-Series)
File Name:	SetupInfeDP01010000.exe
License:	Please see the product data sheet on <a href="http://keysight.com">keysight.com</a>

## New Features

- Supports Infiniium Oscilloscope Software version 5.60.
- Supports Infiniium Oscilloscope Software version 5.60 for V-Series oscilloscope.
- Supports TCPIP Test Controller.



- Supports E2677A/B InfiniiMax, N5381A/B InfiniiMax II and N5441A InfiniiMax III Differential Solder-In Probe Head for Differential Probe connection.
- Supports “None” for “Fixture Type” of the Connection Setup dialog.
- Supports user configurable Device Definition file path via “DeviceDefinitionFilePath” configuration variable to load the Device Definition file. Please refer to Programmer’s Reference for more details (see Help > Remote Interface).
- Supports user configurable channel skew of the oscilloscope via “Channel Skew” configuration variable. Please refer to Programmer’s Reference for more details (see Help > Remote Interface).
- Supports Infiniium user interface disabled feature during the run of the test. Please refer to Online Help for more details (see Help > Contents... > Running Tests > To Set the Run Preferences).

## Modification

- Update the CTLE default setting if link rate changed to the choice value.
- Update the test plan sequence to iterate the Post-Cursor 2 Level first, follow by Pre-emphasis Level, Differential Voltage Level, Bit Rate and lastly SSC to reduce the test time.

## Bug Fixes

- Fixed the issue of undefined header when running the eDP Compliance Application without the EZJIT, EZJIT Plus, EZJIT Complete, Equalization or InfiniiSim license installed in the oscilloscope.
- Fixed the issue of DisplayPort 1.2 license error shown when running with eDP 1.3.
- Fixed the issue of Device Definition and Connection Setup do not update correctly when loading the project.
- Fixed the issue of Device Definition and Connection Setup do not update correctly when loading the Device Definition File with the same name.
- Fixed the issue of invalid default limit set for new link rate after load the Device Definition File or project.
- Fixed the issue of eye mask file content do not update after new eye mask file has been selected.
- Fixed the issue of incorrect tests shown for the 4 test lanes with “Single-Ended (A-B)” connection type and four channels.
- Fixed the issue of unable to decode the signal pattern for pattern checking if the signal amplitude low (less than 150 mV).
- Fixed the issue of incorrect data rate loaded for the clock recovery settings of the tests.

- Fixed the issue of Eye Mask file path in Agilent's ProgramData directory instead of Keysight's ProgramData directory. However, this will not impact the Eye Mask file as the eye mask content has been saved in the Device Definition file.
- Fixed the issue of inconsistent threshold set for measurement.
- Fixed the issue of Main Link Frequency Test unable to run for bps specification unit.
- Fixed the issue of the report items for Different Voltage Test (Referential) or Pre-Emphasis Level Test (Referential).
- Fixed the issue of incorrect image for the Different Voltage Test and Pre-Emphasis Level Test.

## Note

- Keysight recommends running the eDP application with Infiniium user interface disabled. Please refer to Online Help for more details (see Help > Contents... > Running Tests > To Set the Run Preferences).

## Keysight N6469A Software Version 1.00

Release Date:	December 01, 2014
Requirements category (e.g., operating system):	Microsoft Windows 7
Requirements category (e.g., minimum instrument software version):	4.60 (90000 Series, 90000 X-Series, 90000 Q-Series, Z-Series),
File Name:	SetupInfeDP01000000.exe
License:	Please see the product data sheet on <a href="http://keysight.com">keysight.com</a>

## Initial Release