VESA DisplayPort

Version 1.4

Teledyne LeCroy
Sink Display Stream Compression (DSC)
Compliance Tests MOI v1.0

August 14, 2019
Preface

Notice

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Document Revision History

1.0 August 14, 2019 – Initial version.

Contact Information

The URL for the VESA web site is: http://www.vesa.org/

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**Introduction**

Formally, each test description in the CTS contains the following sections:

- Test Objective
- Required Test Equipment
- Test Procedures

This MOI reduces the CTS test description to practice using the Teledyne LeCroy test equipment and procedures.

**Scope**

This document provides DSC Compliance testing procedures for DisplayPort 1.4 Sink devices.

**References**

The following specification is referenced in this document:

The most current version of above document is available to VESA members at the following website: [http://www.vesa.org/join-vesamemberships/member-downloads/](http://www.vesa.org/join-vesamemberships/member-downloads/)
Test Objective – Sink Tests

Refer to the DisplayPort Link Layer CTS for detailed test objectives for each test. Each section of the CTS links back to the DisplayPort Standard.

Required Test Equipment

<table>
<thead>
<tr>
<th>Item</th>
<th>Generic Equipment</th>
<th>Vendor Specific Equipment</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>DisplayPort 1.4 Protocol Analyzer</td>
<td>980 Advanced Test Platform series: 980 DisplayPort 1.4 Generator/ Protocol Analyzer module or 980 DisplayPort 1.4 USB-C/eDP Generator/ Protocol Analyzer module Hereinafter these modules will be referred to as the: “980 DisplayPort 1.4 module.” with DP DSC Compliance Test Package license option</td>
<td>1</td>
</tr>
</tbody>
</table>

Procedure

The 980 DisplayPort 1.4 Generator / Protocol Analyzer module can be installed in the 980B or 980R series Advanced Test Platforms.

Test Setup

The Pass/Fail criteria is assessed by the application with human examination.

Note: Card positioning may vary depending on configuration.

980B with DP 1.4 Video Generator/Protocol Analyzer modules
**Test Procedure**

Use the following procedure to conduct this test.

1. Connect Sink DUT to the 980 DP 1.4 module in the 980 chassis. Make the connection at the module’s port labeled Tx. Use a standard DP cable. The figures below show depictions of connections to both the 980 DP 1.4 modules in the 980B Test Platform. Please note that these modules can also reside in the 980R Test Platform (not shown).

2. Operate the Sink DUT to as specified for the specific test in the DSC Compliance Test Specification.

3. Use 980 Embedded Manager GUI (touchscreen) or invoke 980 External Manager GUI (Windows application).

   **Note:** You will not need to connect the PC shown in the figures above if you are running the compliance test through the 980’s embedded display. The PC running the 980 DP 1.4
module’s compliance test application is connected to the 980 through a standard Ethernet cable.

4  Complete the following steps:

4.1 Click on the DisplayPort icon in the Compliance Tests page of the Apps panel.
4.2 Click on the DisplayPort 1.4 DSC Sink Compliance Test icon.
4.3 Navigate to the CDF tab if not already there. If there is a saved CDF file, then click on Open and select it. Otherwise, enter the DUT’s CDF information for each tab and optionally click on Save to save the CDF.

Make the changes on the DSC tab to match the capabilities of the sink device under test.
<table>
<thead>
<tr>
<th>Option</th>
<th>Selections</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DSC Reception</strong></td>
<td>• Yes □ No</td>
</tr>
<tr>
<td><strong>DSC Rx Version</strong></td>
<td>• DSC Version 1.1 □ DSC Version 1.2</td>
</tr>
<tr>
<td><strong>DSC Rx Color</strong></td>
<td>• RGB □ 4:4:4 □ Simple 4:2:2 □ Nativo 4:2:2 □ Nativo 4:2:0</td>
</tr>
<tr>
<td><strong>DSC Rx Color Depth</strong></td>
<td>• Dc Maximum bits per component (bpc). □ 8 □ 10 □ 12</td>
</tr>
<tr>
<td><strong>DSC Rx Block Prediction</strong></td>
<td>• DSC Block Prediction supported? □ Yes □ No</td>
</tr>
<tr>
<td><strong>DSC Rx Slice</strong></td>
<td>• Supported DSC Slice. □ 1 □ 2 □ 4 □ 8 □ 10 □ 12 □ 16 □ 20 □ 24</td>
</tr>
<tr>
<td><strong>DSC Timings</strong></td>
<td>• Supported DSC Timings. □ 7680x4320p @ 100Hz □ 7680x3200p @ 60Hz □ 7680x4320p @ 30Hz □ 5120x2160p @ 120Hz □ 5120x2160p @ 60Hz □ 5120x2160p @ 30Hz □ 3840x2160p @ 120Hz □ 3840x2160p @ 60Hz □ 3840x2160p @ 30Hz □ 1920x1080p @ 120Hz □ 1920x1080p @ 60Hz □ 1920x1080p @ 30Hz</td>
</tr>
</tbody>
</table>
4.4 Click on the Test Selection tab and select the sink compliance tests that you wish to run. Refer to the sample screen below. The example below shows the Aux Chan Protocol tab with all tests selected.

4.5 Click on Test Options / Preview tab and review the list of tests. Refer to the sample screen below.
4.6 Click on Execute tests activation button to initiate the test. Refer to the sample screen below.
**Note**: You will be prompted with a dialog box to assign a name to the test results. Refer to the screen example below:

Enter a name, click OK and the test will begin.

A Test Window will appear indicating the progress of the test.

A dialog box will appear (below) indicating the test setup.

If the 980 DP Sink DSC compliance test application reports PASS or FAIL (below).