

980 DATA SHEET – FUNCTIONAL TESTING OF HDR

TESTING DYNAMIC RANGE AND MASTERING ON HDR-CAPABLE ULTRA HIGH DEFINITION TVS

OVERVIEW

The 980 HDMI 2.0 Video Generator module supports functional testing of High-Dynamic Range (HDR) metadata on HDMI 2.0a sources and sinks. This application note describes the testing features of the 980 HDMI 2.0 Video Generator module for testing HDR-capable UHD TVs.

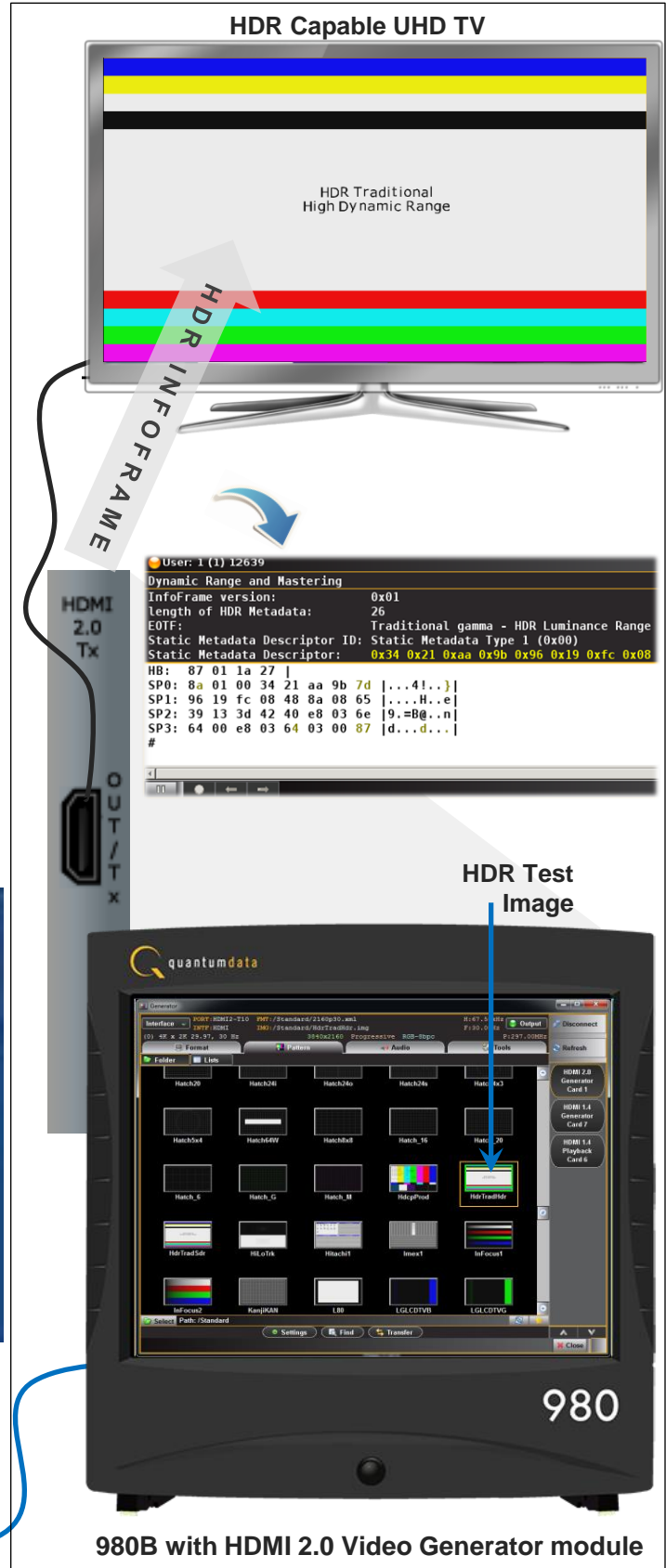
Note: The primary function of the HDR test for displays is to verify that the display processes the HDR InfoFrame correctly, the HDR image currently implemented and shown in the example (right) is not suitable for visual verification of HDR image content.

TESTING HDR-CAPABLE DISPLAYS

For testing HDR-capable displays, the 980 HDMI 2.0 Video Generator module emulates an HDR-capable UHD source. It can transmit an HDR test pattern with the necessary Dynamic Range and Mastering InfoFrame metadata. The Dynamic Range and Mastering InfoFrame carries data includes an Electro-Optical Transfer Function (EOTF) and the Static Metadata with the dynamic range of the video stream. When the HDR test image is selected on the 980 HDMI 2.0 Video Generator module, it will send the Dynamic Range and Mastering InfoFrame once per Video Field.

You can run the test through the 980 GUI Manager application either from the embedded touch screen or from a PC hosting the external 980 GUI Manager application (right). Alternatively you can initiate the test through the command line.

To initiate the HDR test via the command line, you connect to the 980 system over an Ethernet cable and establish a telnet session. The command for loading the HDR image and enabling the HDR InfoFrame are shown in the example below.



```

IMGL HDRTRADHRD // loads HDR test image
IMGU // activates HDR test image
IFTG 1166 // See Note 1 below.
IFTR 1166
HDR:EOTF 1
HDR:SMD 00 03 04 05 06 07 08 09 0a 0b 0c 0d 0e
        0f 10 11 12 13 14 15 16 17 18 19 1a
IFGU

Note 1: Add 1024 to IFTG? Value, e.g.,
        if IFTG? Returns 142, then
        142 + 1024 = 1166. Use 1166.
    
```



Ethernet cable

980 DATA SHEET – COMPLIANCE TESTING OF HDR

TESTING DYNAMIC RANGE AND MASTERING ON HDR-CAPABLE ULTRA HIGH DEFINITION TVS

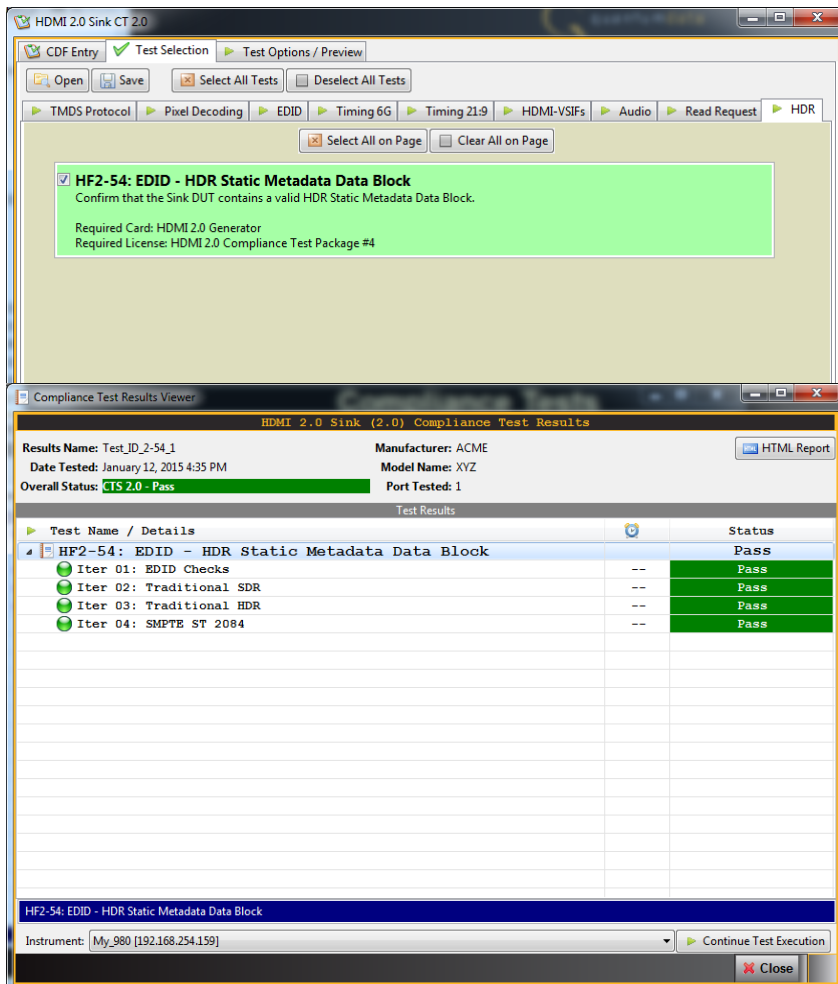
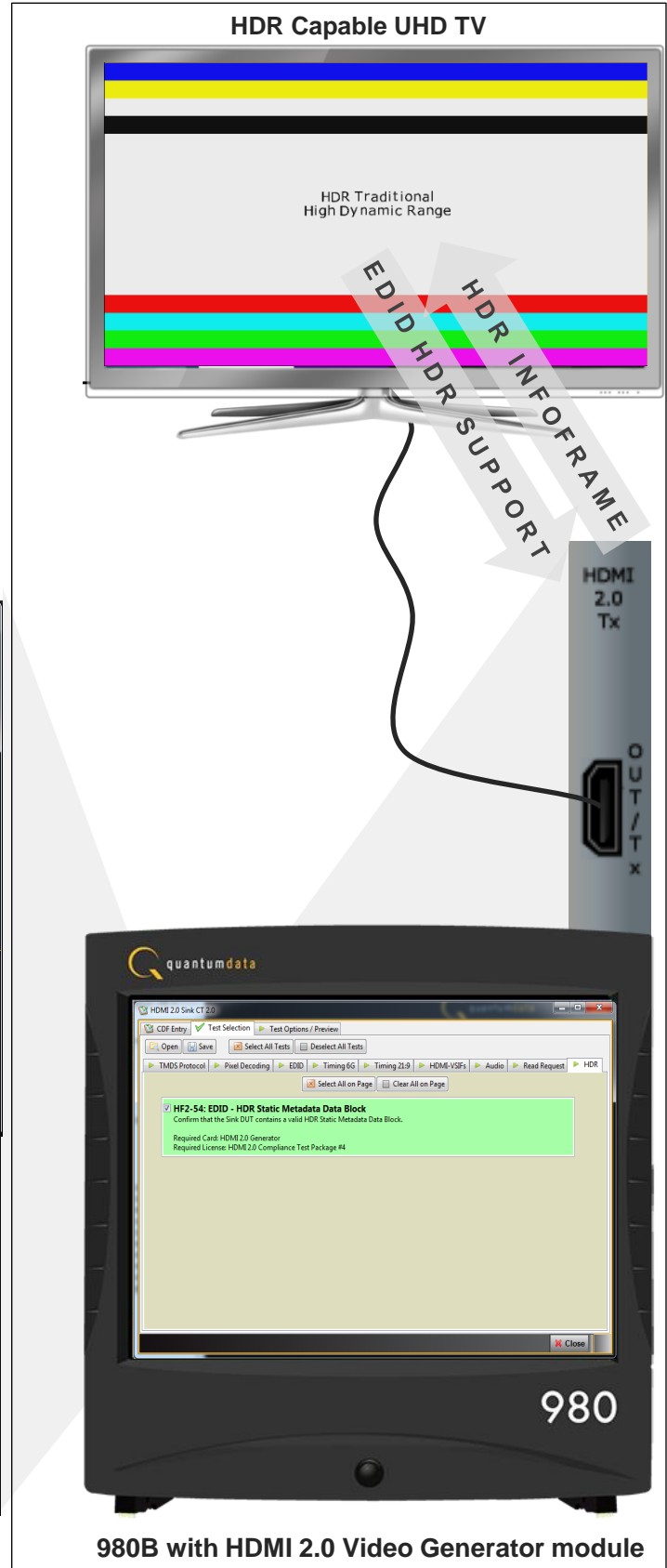
The 980 HDMI 2.0 Video Generator module supports compliance testing of High-Dynamic Range (HDR) metadata on HDMI 2.0a sinks.

COMPLIANCE TESTING HDR-CAPABLE SOURCES

For compliance testing HDR-capable sinks, the 980 HDMI 2.0 Video Generator module emulates an HDR-capable source. It transmits the HDR InfoFrame to the HDR-capable display device under test.

The operation of the compliance test application is simple and convenient. Detailed results are provided which can be shared with colleagues and other subject matter experts. An HTML report is also available. The Quantum Data compliance test solutions are ideal for pre-testing and self-testing (where permitted) and shortens time to market and reduces costs.

You can run the compliance test through the 980 GUI Manager application either from the embedded touch screen or from a PC hosting the external 980 GUI Manager application (right).



Viewing HDR Compliance Test Screens