980 Product Selection Guide

TELEDYNE LECROY

quantumdata

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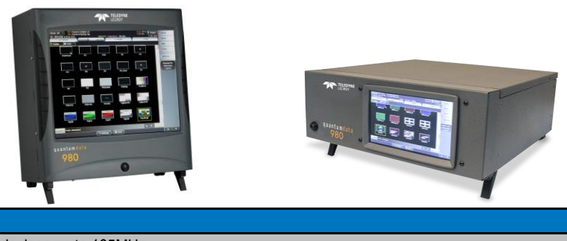

Interface Technology / Feature	Description	980B/980R Advanced Test Platforms	HDMI 48G Protocol Analyzer / Generator	HDMI 9G Protocol Analyzer / Generator	HDMI 18G Protocol Analyzer / Generator	HDMI 2.0 Video Generator	DisplayPort 1.4 USC-C/eDP Generator / Analyzer	12G-SDI Video Generator / Analyzer
Tx HDMI 1.4 165MHz	Tests HDMI sink devices up to 165MHz		●	●1		●		
Tx HDMI 225 MHz	Tests HDMI sink devices up to 225MHz		●	●1		●		
Tx HDMI 300 MHz	Test HDMI sink devices up to 300MHz (9G)		●	●1		●		
Tx HDMI 600 MHz	Test HDMI sink devices up to 600MHz (18G)		●			●		
Tx HDMI 1500 MHz	Test HDMI FRL sink devices up to 1500MHz (48G)		●					
Rx HDMI 225 MHz	Test HDMI source devices up to 225MHz		●	●	●			
Rx HDMI 300 MHz	Test HDMI source devices up to 300MHz		●	●	●			
Rx HDMI 600 MHz	Test HDMI source devices up to 600MHz		●	●	●			
Rx HDMI 1500 MHz	Test HDMI FRL source devices up to 1500MHz (48G)		●					
Tx DisplayPort 1.4	Test DisplayPort display devices up to HBR3 link rates						●2	
Rx DisplayPort 1.4	Test DisplayPort source devices up to HBR3 link rates						●2	
Tx Single Link SDI	Test SDI, HD-SDI, 3G-SDI, 6G-SDI and 12G-SDI displays on for distinct Tx ports							●
Tx Dual Link SDI	Test dual link HD-SDI and dual link 3G-SDI displays on two physical Tx ports							●
Tx Quad Link SDI	Test quad link HD-SDI and quad link 3G-SDI displays on four physical Tx ports							●
Rx Single Link SDI	Test SDI, HD-SDI, 3G-SDI, 6G-SDI and 12G-SDI sources on for distinct Rx ports							●
Rx Dual Link SDI	Test dual link HD-SDI and dual link 3G-SDI sources on two physical Rx ports							●
Rx Quad Link SDI	Test quad link HD-SDI and quad link 3G-SDI sources on four physical Rx ports							●
Compliance Tests	**Description**							
HDCP 1.4 HDMI Tx Tests	Supports all source compliance tests for HDCP 1.4 CTS for HDMI			●				
HDCP 1.4 HDMI Rx Tests	Supports all sink compliance tests for HDCP 1.4 CTS for HDMI							
HDCP 1.4 HDMI Repeater Tests	Supports all repeater compliance tests for HDCP 1.4 CTS for HDMI		●1					
HDCP 2.2 HDMI Tx Tests	Supports all source compliance tests for HDCP 2.2 CTS for HDMI		●1	●				
HDCP 2.2 HDMI Rx Tests	Supports all sink compliance tests for HDCP 2.2 CTS for HDMI		●1	●				
HDCP 2.2 HDMI Repeater Tests	Supports all repeater compliance tests for HDCP 2.2 CTS for HDMI		●1	●				
HDMI 1.4 TMDS Source Tests	Supports Protocol, video, audio, DVI and advanced features source compliance tests for HDMI 1.4 CTS		●1	●				
HDMI 1.4 TMDS Sink Tests	Supports Protocol, video, audio, DVI and advanced features sink compliance tests for HDMI 1.4 CTS		●1	●				
HDMI 2.0 TMDS Source Tests	Supports Protocol, video, audio, metadata tests on source devices for HDMI 2.0 CTS		●1	●2,3		●2,3		
HDMI 2.0 TMDS Sink Tests	Supports Protocol, video, audio, metadata features tests on sink devices for HDMI 2.0 CTS		●1	●2,3	●2,3			
HDMI 2.1 FRL Source Tests	Supports Protocol, video, audio, metadata tests on source devices for HDMI 2.1 CTS		●					
HDMI 2.1 FRL Sink Tests	Supports Protocol, video, audio, metadata features tests on sink devices for HDMI 2.1 CTS		●					
HDMI 2.1 eARC Tx Test (Common Mode)	Supports common mode test for eARC Tx devices HDMI 2.1 CTS		●					
HDMI 2.1 eARC Tx Test (Differential Mode)	Supports differential mode (audio) tests for eARC Tx devices HDMI 2.1 CTS		●					
HDMI 2.1 eARC Rx Test (Common Mode)	Supports common mode test for eARC Rx devices HDMI 2.1 CTS		●					
HDMI 2.1 eARC Rx Test (Differential Mode)	Supports differential mode (audio) tests for eARC Rx devices HDMI 2.1 CTS		●					
HDMI 2.1 Gaming Source Tests	Supports Gaming compliance test for HDMI source devices HDMI 2.1 CTS in TMDS and FRL mode		●4					
HDMI 2.1 Gaming Sink Tests	Supports Gaming compliance test for HDMI sink devices HDMI 2.1 CTS in TMDS and FRL mode		●4					
DisplayPort 1.4 Link Layer Source Tests	Supports Source Link Layer (link train., EDID/DPCD, link main., video, power mgt, audio, FEC) tests for DP 1.4 CTS						●5	
DisplayPort 1.4 Link Layer Sink Tests	Supports Sink Link Layer (link train., EDID/DPCD, link main., video, power mgt, audio, FEC tests for DP 1.4 CTS						●5	
DisplayPort 1.4 DSC/FEC Source Tests	Supports Source DSC / FEC tests for DP 1.4 CTS						●5	
DisplayPort 1.4 DSC/FEC Sink Tests	Supports Sink DSC / FEC tests for DP 1.4 CTS						●5	
Functional Tests (Sources)	**Description**							
Real Time Data Analysis	View incoming video, metadata and timing data from source in real time		●3	●	●1		●2,6	●
Capture/Store Detailed Analysis	Capture/store incoming video, protocol, metadata, control data & timing from source			●	●1		●2,6	
EDID Emulation	Emulate any EDID and test source response EDIDs			●	●1		●2,6	
DP DPCD emulation and editing	Emulate DisplayPort sink DPCD; edit DPCD registers						●6	
DP Multi-Stream Transport emulation	Emulate DisplayPort sink Multi-Stream Transport (MST)						●	
HDCP 1.x authentication	Verify HDCP 1.x authentication w/ HDMI, MHL or DP source device		●	●	●3			
HDCP 2.2 authentication	Verify HDCP 2.2 authentication w/ HDMI 2.0 source device			●	●			
Aux Channel Monitoring	View DDC (HDMI) & Aux Chan & CC bus (DP) transactions and CEC message (HDMI) exchange w/ source		●	●	●		●6	
Timing Analyzer	View detailed timing data, compare with standard timing		●4	●	●		●6	
Frame Compare Test	Test for pixel errors with “golden frame”			●	●		●6	
Aux Channel Monitoring (Emulate Sink)	View HDMI DDC message exchange passively between HDMI source & sink			●	●			
TMDS Passive Monitor (ELA)	View HDMI TMDS stream passively between HDMI source & sink with Encrypted Link Analyzer (ELA)			●				
TMDS Gaming Fuctional Tests	Support sink emulation of the varoious HDMI 2.1 “Gaming” formats. Supoort video generation of gaming streams		●5					
eARC Rx Common mode	Initiate eARC common mode transmission and monitor transactions and events in Aux Channel Analyzer (ACA)		●					
eARC Rx Differential mode	Generate uncompressed and compressed eARC audio		●					
Embedded DisplayPort (eDP)	Emulate an eDP source for fast link training additional link rates,,alternative scrambler, ALPM, PSR (limited)						●	
Display Stream Compression (DSC)	Capture DSC incoming streams, show PPS, VBE flags, ind of chunk, show DSC Frames, show image in real time		●5				●6	
Functional Tests (Sinks)	**Description**							
Video Pattern Testing	Run video tests using standard resolutions & test patterns, select resolutions, bit depths, chroma subsampling		●	●1		●	●	●
Audio Test Signals	Run audio tests with uncompressed and compressed formats		●	●1		●	●2	●2
EDID Verification	Read sink EDID in human text		●	●	●	●	●4	
DP DPCD Verification	Read DisplayPort DPCD registers in human text						●4	
HDCP 1.x authentication	Verify HDCP 1.x authentication w/ HDMI or DisplayPort sinks device			●		●	●4	
HDCP 2.2 authentication	Verify HDCP 2.2 authentication w/ HDMI 2.0 sinks			●		●		
View SCDC registers (HDMI)	Verify SCDC registers of HDMI 2.0 sinks					●		
TMDS Gaming Fuctional Tests	Support source emulation of the varoious HDMI 2.1 “Gaming” formats. Supoort capturing of incoming gaming streams		●3					
eARC Tx Common mode	Respond to eARC common mode transmission and monitor transactions and events in Aux Channel Analyzer (ACA)		●					
eARC Tx Differential mode	Respond to eARC incoming audio, show eARC metadata, eject out through SPDIF		●					
DP Link Training testing	Verify link training with DP sink using user selectable parameters						●4	
DP Multi-Stream Transport	Verify Multi-Stream Transport (MST) function with MST-capable DisplayPort sink device						●4	
Embedded DisplayPort (eDP)	Emulate an eDP sink for fast link training additional link rates,,alternative scrambler, ALPM, Tx Backlight control							
Display Stream Compression (DSC)	Generate DSC outgoing streams using playback files, select DSC parameters such as bit rate, bit depth		●3				●4	
Aux Channel Monitoring (Emulate Source)	View DDC (HDMI) & Aux Chan & CC bus (DP) for Link Training (DP & HDMI FRL) and CEC message (HDMI) exchanges		●			●	●4	
Playback Capture	Capture a file from source and replay to test sink			●				
CEC Verification	Send/receive any CEC message			●	●	●		
CEC Fault Testing	Test corrupt bits, bit timings changes, arbitration & nack scenarios					●		
Functional Tests (Cables/Links)	**Description**							
Cable & Link Test (loopback)	Run pseudo-random noise and/or pixel error tests on cables or distribution networks			●			●	
Aux Channel Passive Monitoring	View HDMI DDC evetns and transactions and, CEC messages. View all AuxChan (DP) transactions			●	●		●1	

Notes on Interface Technology / Feature

1. Via capture and playback function.
2. Supports these data rates both through the standard DP connector and the USB-C connector.

Notes on Compliance Test Support

1. Future.
2. Industry approved test solution.
3. Refer to datasheets for test sections covered.
4. Future.
5. Supported both through the standard DP connector and the USB-C connector..

Notes on Source Functional Tests

1. Supports HDMI 2.0 testing up to
2. Supports DP 1.4 testing up to HBR3 bit rates.
3. TMDS supported; FRL supported Future.
4. Basic timing analysis only.
5. DP currently suppoted; HDMI is Future.
6. Supported both through the standard DP connector and the USB-C connector.

Notes on Sink Functional Tests

1. Via capture and playback function.
2. Uncompressed LPCM only.
3. DP currently suppoted; HDMI is Future.
4. Supported both through the standard DP connector and the USB-C connector.

Notes on Cables/Links) Functional Tests

1. For DisplayPort, requires custom cable for HBR3 passive monitoring.

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