980 Series & M4 Series Product Selection Guide

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980 Series – M4 Series Product Selection Guide

	980B Advanced Test Platform	M41h	M41d/NEW! M42d	980 HDMI 48G Protocol Analyzer / Generator	M41h 48G Video Analyzer / Generator	980 HDMI 18G Protocol Analyzer / Generator	980 DisplayPort 1.4 USB-C/eDP Generator / Analyzer	NEW! M42d 80G Video Analyzer / Generator	M41d HBR3 Video Analyzer / Generator	
										
Form Factor	**Description**									**Notes on Form Factor**
Compact Size	Small compact - Stackable				●			●	●	1. Also can use externally connected
Orientation	Horizontal or vertical orientation				●			●	●	
Embedded Display	Embedded display for management			●		●	●			
Remote Management	Management through external PC Host			●	●1	●	●	●1	●1	
Interface Technology / Feature	**Description**									**Notes on Interface Tech / Feature**
Tx HDMI 1.4 165MHz	Test HDMI sink devices up to 165MHz			●	●					1. Supports these data rates both through the standard DP connector and the USB-C connector. 2. Supports the UHBR rates on USB-C connector only (except 10G supported on DP standard connectors).
Tx HDMI 225 MHz	Test HDMI sink devices up to 225MHz			●	●					
Tx HDMI 300 MHz	Test HDMI sink devices up to 300MHz (9G)			●	●					
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						●1	●1	●1	
Rx DisplayPort 1.4	Test DisplayPort source devices up to HBR3 link rates						●1	●1	●1	
Tx DisplayPort 2.0	Test DisplayPort display devices up to UHBR-20 link rates							●2		
Rx DisplayPort 2.0	Test DisplayPort source devices up to UHBR-20 link rates							●2		
Compliance Tests	**Description**									**Notes on Compliance Test Support**
HDCP 1.4 HDMI Tx Tests	Supports all source compliance tests for HDCP 1.4 CTS for HDMI			●	●					1. TMDS mode only; FRL mode is future. 2. Industry approved test solution. 3. Refer to datasheets for test sections covered. 4. Read Request test are future. 5. TMDS mode only (FRL mode future). 6. DP 1.4 tests are supported both through the standard DP connector and the USB-C connector. 7. Industry approved DP 1.4 compliance tests. 8. Link Layer, DSC, FEC, MST compliance tests for DP 2.0 will be available in a future release as they are defined.
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									
HDCP 2.2 HDMI Tx Tests	Supports all source compliance tests for HDCP 2.2 CTS for HDMI			●1,2	●1,2					
HDCP 2.2 HDMI Rx Tests	Supports all sink compliance tests for HDCP 2.2 CTS for HDMI			●1,2	●1,2					
HDCP 2.2 HDMI Repeater Tests	Supports all repeater compliance tests for HDCP 2.2 CTS for HDMI			●1,2	●1,2					
HDMI 1.4 TMDS Source Tests	Supports Protocol, video, audio, DVI and advanced features source compliance tests for HDMI 1.4 CTS			●7	●					
HDMI 1.4 TMDS Sink Tests	Supports Protocol, video, audio, DVI and advanced features sink compliance tests for HDMI 1.4 CTS			●7	●					
HDMI 2.0 TMDS Source Tests	Supports Protocol, video, audio, metadata tests on source devices for HDMI 2.0 CTS			●7	●					
HDMI 2.0 TMDS Sink Tests	Supports Protocol, video, audio, metadata features tests on sink devices for HDMI 2.0 CTS			●4	●4	●2,3				
HDMI 2.1 FRL Source Tests	Supports Protocol, video, audio, metadata tests on source devices for HDMI 2.1 CTS			●7	●					
HDMI 2.1 FRL Sink Tests	Supports Protocol, video, audio, metadata features tests on sink devices for HDMI 2.1 CTS			●7	●					
HDMI 2.1 eARC Tx Test (Common Mode)	Supports common mode test for eARC Tx devices HDMI 2.1 CTS			●7	●					
HDMI 2.1 eARC Tx Test (Differential Mode)	Supports differential mode (audio) tests for eARC Tx devices HDMI 2.1 CTS			●7	●					
HDMI 2.1 eARC Rx Test (Common Mode)	Supports common mode test for eARC Rx devices HDMI 2.1 CTS			●7	●					
HDMI 2.1 eARC Rx Test (Differential Mode)	Supports differential mode (audio) tests for eARC Rx devices HDMI 2.1 CTS			●7	●					
HDMI 2.1 Gaming Source Tests	Supports Gaming compliance test for HDMI source devices HDMI 2.1 CTS			●5	●5	●				
HDMI 2.1 Gaming Sink Tests	Supports Gaming compliance test for HDMI sink devices HDMI 2.1 CTS			●5	●5					
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						●6,7	●6,7	●6,7	
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						●6,7	●6,7	●6,7	
DisplayPort 1.4 DSC/FEC Source Tests	Supports Source DSC / FEC tests for DP 1.4 CTS						●6,7	●6,7	●6,7	
DisplayPort 1.4 DSC/FEC Sink Tests	Supports Sink DSC / FEC tests for DP 1.4 CTS						●6,7	●6,7	●6,7	
DisplayPort 2.0 Link Layer Source Tests	Supports Source Link Layer and DSC/FEC and MST tests for DP 2.0 CTS							●6,7,8		
DisplayPort 2.0 Link Layer Sink Tests	Supports Sink Link Layer and DSC/FEC and MST tests for DP 2.0 CTS							●6,7,8		
Functional Tests (Sources)	**Description**									**Notes on Source Functional Tests**
Real Time Data Analysis	View incoming video, metadata and timing data from source in real time			●	●	●1	●2,5	●2,5	●2,5	1. Supports HDMI 2.0 testing up to 600MHz. 2. Supports DP 1.4 testing up to HBR3 bit rates. 3. TMDS supported; FRL supported Future. 4. Basic timing analysis only. 5. Supported both through the standard DP connector and the USB-C connector. 6. Panel Replay and LTTPR will be available in a future release.
Capture/Store Detailed Analysis	Capture/store incoming video, protocol, metadata, control data & timing from source			●	●	●1	●2,5	●2,5	●2,5	
EDID Emulation	Emulate any EDID and test source response EDIDs					●1	●2,5	●2,5	●2,5	
DP DPCD emulation and editing	Emulate DisplayPort sink DPCD; edit DPCD registers						●5	●5	●5	
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			●3	●3	●				
Aux Channel Monitoring	View DDC (HDMI) & Aux Chan & CC bus (DP) transactions and CEC message (HDMI) exchange w/ source			●	●	●	●5	●5	●5	
Timing Analyzer	View detailed timing data, compare with standard timing			●4	●4	●	●5	●5	●5	
Frame Compare Test	Test for pixel errors with “golden frame”					●	●5	●5	●5	
Aux Channel Monitoring (Emulate Sink)	View HDMI DDC message exchange passively between HDMI source & sink					●				
TMDS Gaming Fuctional Tests	Support sink emulation of the varoious HDMI 2.1 “Gaming” formats. Supoort video generation of gaming streams			●	●					
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	●5	●5	
DisplayPort 2.0 Panel Replay Source Tests	Emulate a DP 2.0 sink that supports Panel Replay to test the Panel Replay capabilities of a source							●6		
DisplayPort 2.0 LTTPR Source Tests	Emulate multiple LTTPR DisplayPort devices to test an LTTPR-capable source device							●6		
Functional Tests (Sinks)	**Description**									**Notes on Sink Functional Tests**
Video Pattern Testing	Run video tests using standard resolutions & test patterns, select resolutions, bit depths, chroma subsampling			●	●	●1	●5	●5	●5	1. Via capture and playback function. 2. Uncompressed LPCM only. 3. DSC implemented through playback of pre-captured files. 4. eDP support is limited to fast link training, alternate scrambler, ALPM and Backlight control. 5. Supported both through the standard DP connector and the USB-C connector. 6. Panel Replay and LTTPR will be available in a future release.
Audio Test Signals	Run audio tests with uncompressed and compressed formats			●	●		●2,5	●2,5	●2,5	
EDID Verification	Read sink EDID in human text			●	●	●	●5	●5	●5	
DP DPCD Verification	Read DisplayPort DPCD registers in human text						●5	●5	●5	
HDCP 1.x authentication	Verify HDCP 1.x authentication w/ HDMI or DisplayPort sinks device						●5	●5	●5	
HDCP 2.2 authentication	Verify HDCP 2.2 authentication w/ HDMI 2.0 sinks			●	●		●5	●5	●5	
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			●	●					
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			●	●					
Link Training testing	Verify link training with sink using user selectable parameters			●	●		●5	●5	●5	
DP Multi-Stream Transport	Verify Multi-Stream Transport (MST) function with MST-capable DisplayPort sink device						●5	●5	●5	
Embedded DisplayPort (eDP)	Emulate an eDP sink for fast link training additional link rates,,alternative scrambler, ALPM, Tx Backlight control						●4,5	●4,5	●4,5	
Display Stream Compression (DSC)	Generate DSC outgoing streams using playback files, select DSC parameters such as bit rate, bit depth			●3	●3		●5	●5	●5	
Aux Channel Monitoring (Emulate Source)	View DDC (HDMI) & Aux Chan & CC bus (DP) for Link Training (DP & HDMI FRL) and CEC message (HDMI) exchanges			●	●		●5	●5	●5	
HDMI CEC 1.4 Verification	Send/receive any CEC message									
HDMI CEC 1.4 Fault Testing	Test corrupt bits, bit timings changes, arbitration & nack scenarios									
DisplayPort 2.0 Panel Replay Sink Tests	Emulate a DP 2.0 source that supports Panel Replay to test the Panel Replay capabilities of a sink							●6		
DisplayPort 2.0 LTTPR Sink Tests	Emulate an LTTPR-capable source device to test a DisplayPort network of LTTPR devices							●6		
Functional Tests(Cables/Link/Passive)	**Description**									**Notes on Cable/Link Functional Tests**
Cable & Link Test (loopback)	Run pseudo-random noise and/or pixel error tests on cables or distribution networks						●	●	●	1. For DisplayPort, requires custom cable for HBR3 passive monitoring. 2. Available in a future release.
Aux Channel Passive Monitoring	View HDMI DDC events and transactions and, CEC messages. View all AuxChan (DP) transactions					●	●1	●1	●1	
NEW! DP 2.0 Main Link Passive “Probing”	Passively monitor DP 2.0 Main Link and Aux Channel					●	●1	●2	●1	

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