UCD-451

DisplayPort[™] 1.4a & HBR3 Video Generator 32GB





DP 1.4 LL CTS HDCP 2.3 CTS

8K Video Generator

UCD-451 is a video generator unit for testing DisplayPort[™] sink devices up to 8K@60 Hz (with DSC), 8K@30 Hz and 4K@120 Hz video modes with HBR3 max bit rate capability. UCD-451 offers support for DSC, FEC and LTTPR. HDCP 1.3 and HDCP 2.2/2.3 are also supported. Any video format, audio format, frame rate, video timing, and infoframes can be played by UCD-451. There are no restrictions on the output of video formats.

8K Dolby Vision[™] and Dolby Audio

Unigraf's UCD-451 is a 8K Dolby Vision[™] and Dolby Audio test tool. Compared to UCD-411, UCD-451 offers an extended 32GB memory which enables the verification of 8K Dolby Vision[™] content. With the Dolby SW package, UCD-451 is a mandatory tool for any monitor manufacturer that is willing to have a Dolby Vision[™] certificate on their products.

Validation Tool

VESA requires Link Layer and HDCP compliance testing as part of the DisplayPort testing requirement for certification. UCD-451 is a Compliance Test Tool for testing DP 1.4a Link Layer on DP Sinks and HDCP 2.2 & 2.3 on DP Receivers.

Highlights

- DP 1.4a Test Equipment
- 8K Dolby Vision™ Test Tool
- Extended Memory 32GB
- Embedded Windows PC
- DP 1.4a Link Layer CTS Tool for Sinks
- HDCP 2.2/2.3 CTS Tool for Transmitters
- HDCP 1.3 & HDCP 2.2/2.3 support
- DP 1.4a features:
 - » HBR3 output
 - » MST support (4 streams)
 - » DSC, FEC and LTTPR support
- USB-C output with supplied converter



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Link Pattern Generator Playback Audio G	enerator HDCP EDID SCDC Sink DUT Testing	
HPD	FRL Control	Sink DUT Capabilities
De-asserted	O Disable FRL	Mode -
De-asserted	3 Lanes 3 6 (Gbps)	Behavior: -
HDMI Behavior	4 Lanes 0 6 0 8 @ 10 0 12	TMDS Bit Clock Ratio -
○ 1.4 ○ 2.0 ● 2.1	LT Timeout (ms): 0	FRL Support: -
	LT Poll Timeout (ms): 0 0	VRR Support: - ALLM Support: -
Status		
Lane 0 Lane 1 Lane 2 Lane 3	FFE Max: 0 0 0 0 0 0 0 0 0 0 0	HDCP Status
Channel lock	Unk Training	1.X 2.X
Error count 0000 0000 0000 0000 Behavior HDMI 2.1	FRL Status	Active
	FRL Mode 10Gbos 4-lane	Authenticated
TMDS Control	LT Status LTS:1	
Mode: OVI ® HDMI	FLT Update	HDCP Configuration
Link Mode: G @ 3G	FLT Ready	1.X 2.X
Enable Scrambler	FRL Start	Enable Encryption
TMDS Status	FLT No Timeout	Authenticate
Mode HDMI	FRL Max	
TMDS Bit Clock Ratio 1/10 3G mode	LTP 0 0 0 0	
Video	Pattern 15 15 15 15	
Scrambling	FFE level 0 0 0 0	

Link Pattern Ger	erator Playback	A	oibu	Generat	or HDCP	EDID	SCDC	Sink DU	IT To	sting			
						🗌 Use	Timings from	m EDID	M	anage T	imings		
7680 x 4320 @ 3 8 bpc ~ ~	0Hz v					6	lor Squares				÷		
							Color Info	RGB			×		
Custom	Frame Rate			30,00	\$	Pixel Cloc	*	1019	,90		\$		
Active	768	0 0	×	4320	C Sync wid	th		32	\$	x 8	\$		
Total	776	0 0	x	4381	C Sync pol	arity		⊠ (+)		x 🗆 (-)		
Back Porch	40	÷	×	6	C Front Po	rch		8	÷	x 47	÷		
Start	72	÷	x	14	÷-				l	Apph	<i>c</i>		

UCD Console

UCD Console Software with easy-to-use GUI enables users to monitor and control all vital functionalities of DP 1.4 interface. With built-in pattern generator and video capture function you can test sink devices up to 8K@30Hz with uncompressed video. The GUI provides users with control and visual presentation of DP link status and configuration up to 4 lanes. Dolby Vision scenarios can be played back in UCD Playback integrated into UCD Console. UCD Playback can combine info frames, video frames and audio packets. They are all seperate files providing full flexibility to customize the scenario. Additional functionalities include video and audio pattern generator, data logger for AUX and metadata content, link and DPCD register monitoring and control dialogs, EDID editor, HDCP status and control functions etc.

Embedded Windows PC

UCD-451 contains an embedded Windows PC that has 32GB of memory and 500GB of SSD storage. Dolby Vision™ content can be stored on the SSD. Users will be able to operate UCD Console on the embedded PC in UCD-451 device with a monitor, keyboard and mouse of user's choice connected straight to the device.



Specifications

Product Number	066617
Output	DP 1.4a (8K@60Hz with DSC / 8K@30 Hz) (DP TX)
DP 1.4a Features	DP 1.4a LL CTS, HDCP 2.2/2.3 CTS, MST, LTTPR
Content Protection	HDCP 1.4, 2.2, 2.3
Additional features	DSC 1.2a, FEC,
Operating System	Windows 10
Software	UCD Console GUI TSI API with interface specific test sets
PC Connectors	6 x USB 3.0
	2 x Ethernet
	1 x HDMI
Power Input	AC/DC Power supply
	100 to 240 Vac 50/60 Hz input, +12 Vdc output
Module Size	329 x 188 x 215 mm
Weight	3.9 kg w/o power supply

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