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980 MHL CBUS Compliance Testing

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980 MHL CBUS Compliance Testing



980 Advanced Test Platform



CBUS Compliance Test Module:

- Equipped in either the Advanced Test Platform:
 - 980
 - 980B

980B Advanced Test Platform



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CBUS Compliance requires new module: 980 MHL CBUS Compliance Module

No external equipment or devices required.

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980 MHL CBUS Source Compliance Test Coverage

- MHL CBUS source compliance tests currently supported through 980 MHL CBUS Compliance Test Module:
 - CBUS compliance test support for MHL Source devices per MHL CTS 1.2 & 2.0.
 - Test 3.1.1.7: Rx Sense Impedance test (MHL 2.0).
 - Section 3.2.6: EDID and Device Capability Registers tests.
 - Section 3.2.7: RCP tests.
 - Section 3.2.10: UCP tests (MHL 2.0).
 - Sections 3.3.1 through 3.3.23: Link Layer electrical and timing tests.
 - Section 6.3.1 through 6.3.22: Common MSC & DDC tests.

980 MHL CBUS Sink & Dongle Compliance Coverage

- MHL CBUS sink and dongle compliance tests supported through 980 MHL CBUS Compliance Test Module:
 - CBUS compliance test support for Sinks and Dongles with support for MHL CTS 1.2 & 2.0.
 - Tests 4.1.1.7/5.1.1.7/8: Rx Sense Impedance test (MHL 2.0).
 - Sections 4.2.5/5.2.5: EDID and Device Capability Registers tests.
 - Sections 4.2.6/5.2.6: RCP tests.
 - Sections 4.2.9/5.2.9: UCP tests (MHL 2.0).
 - Sections 4.3.3/5.3.3 through 4.3.25/5.3.26: Link Layer electrical and timing tests.
 - Section 6.3.1 through 6.3.22: Common MSC & DDC tests.

Additional 980 MHL Compliance Test Coverage

- MHL Source and Sink Compliance Approved by MHL Consortium supported through 980 HDMI Protocol Analyzer module:
 - MHL source compliance tests in Sections 3.2.2, 3.2.3, 3.2.4 of MHL Compliance Test Specification version 1.2.
 - MHL sink/dongle compliance tests in Sections 4.2.1/5.2.1, 4.2.2/5.2.2, 4.2.3/5.2.3 of MHL Compliance Test Specification.
- Quantum Data 882EA supports HDCP compliance testing for MHL sources Sections 3.2.5 and sinks Section 4.2.4/5.2.4.



MHL CBUS Source Compliance Test Module - Benefits

- Pre-Testing Invaluable tool for ensuring that your MHL source device is compliant. Ideal solution for pre-testing prior to submission to ATC.
 No external equipment or devices required.
- Faster Time to Market Enables you to get your product to market quicker by avoiding submission delays at the ATC. And reduces expenses of submission to ATC.
- Root Cause Identification Optimized for debugging compliance test failures; Solution provides easy access to the raw MHL CBUS event data in the Event Log Plots to view the details about the failure.
- Data Portability Enables you to share test results, CBUS Log Plots and captured data with other subject matter experts without requiring a 980. Use 980 GUI Manager available from Quantum Data website.

MHL CBUS Compliance - Workflow



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• Test setup with external GUI shown below



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• Run tests through the embedded GUI.



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• Run tests through the external GUI.



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• Rear connections to CBUS module.



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🔠 Event Plot 隧 HDMI Src CT 1.	4b 🔯 CBUS Src CT 2.0 🕴 🗖 🗖
😢 CDF Entry 🧹 Test Selection	on Test Options / Preview
Copen New 🔡 Sav	e CDF File: <not saved=""></not>
 General Registers 	RCP Rcv RCP Send RCP LD Map UCP Rcv (2.0) UCP Send (2.0) Structure 3D Video (2.0)
4 2	
CDF_CTS_VERSION	CTS Version to tes ① 1.2
CDF_MFR_NAME	What is the product manufacturer's name? Acme
CDF_MODEL_NUMBER	What is the model name/number of the product? XYZ
CDF_SRC_POWERED	Can the Source drive the VBUS? Yes No
CDF_SRC_CBUS_THRESHOLD_V	Voltage at which CBUS Timing Measurements should be taken. This voltage should be halfway between the HIGH and LOW CBUS voltages for data driven by this device. This will be related to the device's VOH. 0.90 V (0.75 to 1.05)
CDF_PROC_SET_ACTIVE	Set Device into Active Mode for Discovery Tests. Edit Procedure
CDF_PROC_SET_STANDBY	Set Device into Standby-Discover Mode. Edit Procedure

CDF:

- Defines the capabilities of the device under test.
- Provides a series of tabs for each type of feature.
- Provides description of each field.
- Example: General tab.
- Determines which tests to run.

Note: You can enter helpful information using the "Edit Procedure" dialog box. The information entered into this dialog box will appear during the test and can be helpful to users running a particular test.

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🔠 Event Plot 🔯 HDMI Src CT	1.46 🔯 CBUS Src CT 2.0 🕱		- 8		
🔯 CDF Entry 🧹 Test Select	CDF Entry 🗸 Test Selection 🕨 Test Options / Preview				
CDF File: < not saved>					
General Registers	RCP Rcv RCP Send	RCP LD Map UCP Rcv (2.0) UCP Send (2.0) O 3D Video (2.0)			
	Declare the expected value of	of each of the DUT's Capability Registers.	*		
	Register: MHL_VERSION	Field: MHL_VER_MAJOR			
CDF_CK_WHL_VEK_WAJOK	1]			
CDE CR MHI VER MINOR	Register: MHL_VERSION	Field: MHL_VER_MINOR			
	0		=		
CDE CR DEV TYPE	Register: DEV_CAT Field: DEV	/_TYPE			
	🔘 (1) Sink 💿 (2) Source 🔘	(3) Dongle			
CDF CR ADOPTER ID H	Register: ADOPTER_ID_H	Field: ADOPTER_ID_H			
	0	00 - FF	_		
CDF_CR_ADOPTER_ID_L	Register: ADOPTER_ID_L	Field: ADOPTER_ID_L			
	0	00-FF	-		
CDF_CR_DEVICE_ID_H	Register: DEVICE_ID_H	Field: DEVICE_ID_H 00 - FF			
			-		
CDF_CR_DEVICE_ID_L	Register: DEVICE_ID_L	00 - FF			
	Register: BANDWIDTH	Field: RANDWIDTH	-		
CDF_CR_BANDWIDTH	15	515			
	Register: INT_STAT_SIZE	Field: INT_SIZE	-		
CDF_CR_INT_SIZE	4	415			
	Register: INT_STAT_SIZE	Field: STAT_SIZE			
	4	4.15			
CDF CR SP SIZE	Register: SCRATCHPAD_SIZE	Field: SP_SIZE			
	0	0 or 1664			

CDF:

• Example: Registers CDF tab.

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🗄 Event Plot 🔯 HDMI Src CT 1.4b 🔯 CBUS Src CT 2.0 🕱 🗧 🗉
CDF Entry V Test Selection F Test Options / Preview
CDF File: < not saved>
General Registers RCP Rcv RCP Send RCP LD Map UCP Rcv (2.0) UCP Send (2.0) 3D Video (2.0)
CDF_RCP_SEND Does the DUT send RCP? If yes, provide procedures for each supported RCP command below.
Select the RCP commands the DUT can send. Specify the procedure for each supported command so that the Test Engineer can force the DUT to output each RCP command, using these detailed steps and the DUT's user interface.
CDF_RCP_SEND_PROCEDURE_00
CDF_RCP_SEND_PROCEDURE_01 0x01: Up () Image: CDF_RCP_SEND_PROCEDURE_01 Image: CDF_RCP_SEND_PROCEDURE_01
CDF_RCP_SEND_PROCEDURE_02 0x02: Down ① Edit Procedure Edit Procedure
CDF_RCP_SEND_PROCEDURE_03 0x03: Left (1) Image: Supported in the second seco

CDF:

ullet

Example: RCP Send Tab. Note: You can enter helpful information using the "Edit Procedure" dialog box. The information entered into this dialog box will appear during the test and can be helpful to users running a particular test.

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Event Plot 🔯 HDMI Src CT 1.4b 🔯 CBUS Src CT 2.0 🛛			
CDF Entry 🗸 Test Selection 🕨 Test Options / Preview			
CDF File: < not saved>			
General Registers RCP Rcv RCP Send RCP LD Map UCP Rcv (2.0) UCP Send (2.0) SD Video (2.0)			
CDF_LOG_DEV_MAP_CHANGE © Yes © No			
Add as many settings as the DUT supports using the "Add" button below. For each, define a procedure so that the Test Engineer can force the DUT into each of these modes for further testing of each Logical Device.			
Add Kemove All			
CDF_PROC_LOG_DEV_MAP_1 X VIDEO AUDIO MEDIA TUNER RECORD SPEAKER GUI			

CDF:

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Example: RCP LD Map Tab. Note: You can enter helpful information using the "Edit Procedure" dialog box. The information entered into this dialog box will appear during the test and can be helpful to users running a particular test.

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CDF Entry 🗸 Test Selection 🕨 Test Options / Preview			
CDF File: < not saved>			
General Registers RCP Rcv RCP Send RCP LD Map UCP Rcv (2.0) UCP Send (2.0) O 3D Video (2.0)			
CDF_UCP_SEND_SUPPORT Does the DUT support sending UCP sub-commands? Ves No			
CDF_UCP_SEND_APPLICATION Edit Procedure			
UCP Commands			
+ Add (# of Entries: 1)			
Hex Byte Data:			

CDF:

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Example: UCP Send Tab. Note: You can enter helpful information using the "Edit Procedure" dialog box. The information entered into this dialog box will appear during the test and can be helpful to users running a particular test.

• Enter the UCP commands supported in the command section at the lower portion of the window.

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🗄 Event Plot 🔯 HDMI Src CT 1.4b 🔯 CBUS Src CT 2.0 🛛						
CDF Entry ✓ Test Selection ► Test Options / Preview						
CDF File: <	not saved>					
● General ● Registers ● RCP Rcv ●	RCP Send	RCP LD Map	 UCP Rcv (2.0) UCP Se 	nd (2.0)		
CDF_VIDEO_3D	CDF_VIDEO_3D Does the DUT support 3D video?					
	Supported No	rmal Mode 31	D Video Formats			
CDF_VIDEO_1280x720P_60_3D_Top_Bottom	🖲 Yes 🔘 No	(4) 1	1280x720p 59.94/60Hz,	3D, Top-Bottom		
CDF_VIDEO_1280x720P_50_3D_Top_Bottom	🖲 Yes 🔘 No	(19) 1	1280x720p 50Hz,	3D, Top-Bottom		
CDF_VIDEO_1920x1080p_24_Top_Bottom	🖲 Yes 🔘 No	(32) 1	1920x1080p 23.97/24Hz,	3D, Top-Bottom		
CDF_VIDEO_1920x1080i_60_3D_Left_Right	🔍 Yes 🔘 No	(5) 1	1920x1080i 59.94/60Hz,	3D, Left-Right		
CDF_VIDEO_1920x1080i_50_3D_Left_Right	🖲 Yes 🔘 No	(20) 1	1920x1080i 50Hz,	3D, Left-Right		
CDF_VIDEO_1280x720P_60_3D_Frame	🖲 Yes 🔘 No	(4) 1	1280x720p 59.94/60Hz,	3D, Frame-Sequential		
CDF_VIDEO_1280x720P_50_3D_Frame	🖲 Yes 🔘 No	(19) 1	1280x720p 50Hz,	3D, Frame-Sequential		
CDF_VIDEO_1920x1080p_24_Frame	Yes ONO	(32) 1	1920x1080p 23.97/24Hz,	3D, Frame-Sequential		
Supported PixelPacked Mode 3D Video Formats						
CDF_VIDEO_1280x720P_60_3D_Top_Bottom	🔘 Yes 🔘 No	(4) 1	1280x720p 59.94/60Hz,	3D, Top-Bottom		
CDF_VIDEO_1280x720P_50_3D_Top_Bottom	🔘 Yes 🔘 No	(19) 1	1280x720p 50Hz,	3D, Top-Bottom		

CDF:

- Example: 3D Video Tab.
- Indicate the 3D formats supported.

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🔂 Event Plot 🔯 HDMI Src CT 1.4b 🔯 CBUS Src CT 2.0 🛛	
CDF Entry 🗸 Test Selection 🕨 Test Options / Preview	
CDF File: Acme_XYZ_Source_CDF	
General General Registers RCP Rcv RCP Send RCP LD Map UCP Rcv (2.0) UCP Send (2.0) SD Video (2.0)	

S	Save CDF
	🖄 CDF Name
	Enter a name for the CDF
-	Acme_XYZ_Source_CDF
V	My980_Source_CDF MyCDF_Src1 SG_Phone_CDF
	Cancel Ok

CDF:

- CDF file used is shown in status area on top of panel. Indicates file used or "not saved".
- Save and reuse CDF definitions.
- Saves time of re-entering data.
- Files can be transferred to colleagues to help expedite product capability selection process in a test series.



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	🗄 Event Plot 🔯 MHL Src CT 2.0 🔯 CBUS Src CT 2.0 🕱	- 0
N	CDF Entry V Test Selection > Test Options / Preview	
	Copen 🔚 Save Select All Tests Deselect All Tests	
	► Source (3/41) ► Common (67/67) ► EDID/Registers (0/2) ► RCP (0/2) ► 3D (0/1) ► UCP (0/2)	



Test Selection:

• Open an existing Test Selection file.

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🚽 Event Plot 🕅	MHL Src CT 2.0 🔯 CBUS Src CT 2.0 🕱		
🖄 CDF Entry	V Test Selection Test Options / Preview		
📴 Open [Save Select All Tests		
Source (3/	41) Common (0/67) EDID/Registers (0/2) RCP (0/2) 3D (0/1) UCP (0/2)		\sim
▶ 3.1.1	TMDS Electrical Tests	0/1	
▶ 3.3.3	Link Layer Electrical: Absolute Maximum Voltages	2/2	
▶ 3.3.4	Link Layer Timing - DUT Output: Pre-Discovery	0/1	
> 3.3.5	Link Layer Electrical - DUT Output: Discovery	3/5	
▶ 3.3.6	Link Layer Timing - DUT Output: Discovery	0/4	
▶ 3.3.7	Link Layer Electrical - DUT Output: Arbitration/Sync/Data Signaling	0/5	
> 3.3.8	Link Layer Timing - DUT Output: Arbitration/Sync/Data in Nanoseconds	0/2	
▶ 3.3.9	Link Layer Timing - DUT Output: Arbitration/Sync/Data in Bit Times	1/2	
▶ 3.3.10	Link Layer Timing - DUT Output: Link-Level NACK	0/1	
▶ 3.3.11	Link Layer Timing - DUT Output: ACK	0/2	
▶ 3.3.12	Link Layer Timing - DUT Output: Bus Re-Arbitration	1/3	
▶ 3.3.13	Link Layer Behavior - DUT Output: III-formed packets	2/2	
▶ 3.3.14	Link Layer Timing - DUT Input: Discovery	0/3	
▶ 3.3.15	Link Layer Electrical - DUT Input: Arbitration/Sync/Data signaling	0/1	
▶ 3.3.16	Link Layer Timing - DUT Input: Arbitration	0/2	
▶ 3.3.17	Link Layer Timing - DUT Input: Data	0/1	
> 3.3.18	Link Layer Timing - DUT Input: NACK	0/1	
▶ 3.3.19	Link Layer Timing - DUT Input: ACK	0/1	
▶ 3.3.20	Link Layer Timing - DUT Input: Bus Re-Arbitration	0/1	
▶ 3.3.21	Link Layer Behavior - DUT Input: III-formed packets	0/1	
> 3.3.22	Link Layer Timing - DUT Input: Disconnect	0/3	
▶ 3.3.23	Link Layer Electrical - DUT VBUS Control	0/3	
3.3.	5.1: CBE-Source: Response to Initial Plug-in to MHL Device		^
within	n the MHL range.		Ξ
Verify	correct Source DUT behavior when Sink HIGH-Z's the CBUS to invoke a new (second or equent) CBUS Discovery, then attaches with Z[CBUS_SINK_DISCOVER] within the MHL range.		
3.3.! Verify	5.3: CBE-Source: Pre-Discovery Success Pull-up HIGH Voltage that Source DUT Pull-up Voltage has correct value when connecting Z[CBUS_SRC_DISCOVER].		

Test Selection:

- Determine which specific tests to run in a test suite.
- Select all tests or select specific test sections or particular tests within each section.
- Check box indicators inform how many tests in each section and how many are selected.
- Example: CBUS Source test tab with Link Layer Electrical
 DUT output Arbitration/ sync/data signaling.

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🖶 Event Plot	MHL Src C CBUS Src CT 2.0 🛛	- 6
🔯 CDF Entry	y 🗸 Test Se n 🕨 Test Options / Preview	
📴 Open	Gave Elect All Tests Deselect All Tests	
Source (3/41) 🕨 Common (67/67) 🕨 EDID/Registers (0/2) 🕨 RCP (0/2) 🕨 3D (0/1) 🕨 UCP (0/2)	
▶ 6.3.1	MSC - DUT Input: Device Register Space Contents; Reads 1/1	
▶ 6.3.2	MSC - DUT Output: Vendor-specific and Reserved Header Values 1/1	
▶ 6.3.3	MSC - DUT Output: Normal Commands 7/7	
▶ 6.3.4	MSC - DUT Output: NACK Packet Response to MSC_MSG 1/1	
▶ 6.3.5	MSC - DUT Output: Never Initiates Bad Commands 8/8	
▶ 6.3.6	MSC - DUT Output: Errors and Exceptions 5/5	
▶ 6.3.7	MSC - DUT Output: Disconnect 1/1	
▶ 6.3.8	MSC - DUT Input: Device Register Space Contents; Writes 2/2	
▶ 6.3.9	MSC - DUT Input: Vendor-specific and Reserved Header Values 1/1	
▶ 6.3.10	MSC - DUT Input: Normal Commands 8/8	
▶ 6.3.11	MSC - DUT Input: Errors and Exceptions 22/22	
▶ 6.3.12	MSC - DUT Input: Argument Timeouts 9/9	
▶ 6.3.13	MSC - DUT Output: Never Initiates Bad Commands 2/2	1
▶ 6.3.14	MSC - DUT Input: Normal Commands 2/2	
▶ 6.3.17	DDC - DUT Output; DUT Never Sends Illegal DDC Command 2/2	
▶ 6.3.18	DDC - DUT Output; Normal Operation 4/4	
▶ 6.3.19	DDC - DUT Output; Illegal Responses 4/4	
✓ 6.3 Veri retu Cap	B.10.1: CBM: DUT receives (0x62) GET_STATE Command ify that if DUT responds appropriately when it receives a GET_STATE. It should irn the value defined in the MHL Spec as the value stored in the DEV_STATE vability Register, which is always 0.	
✓ 6.3 Veri This	3.10.2: CBM: DUT receives (0x63) GET_VENDOR_ID Command ify that if DUT responds appropriately when it receives a GET_VENDOR_ID. s test does not check the return value.	
✓ 6.3 Veri This	5.10.3: CBM: DUT receives (0x61) READ_DEVCAP Command Ify that if DUT responds appropriately when it receives a READ_DEVCAP. s test returns the values found in the CDF in section 2.3 (MHL Capability Registers).	
✓ 6.3 Veri no 4	3.10.4: CBM: DUT Receives (0x6B) GET_MSC_ERRORCODE Command (When No Error) ify that if DUT responds appropriately when it receives a MSC_ERRORCODE when error has occurred.	
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Test Selection:

• Select "Common" tests for MSC and DDC.

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🗄 Event Plot 🥸 MHL Src CT 2.0 🔯 CBUS Src CT 2.0	
CDF Entry V Test Selection > Test Options / view	
Copen Save Select All Tests Ct All Tests	
► Source (3/41) ► Common (67/67) ► EDID/Registers (0/2) ► RCP (0/2) ► 3D (0/1) ► UCP (0/2)	
✓ 3.2.6.1: EDID Reading Test Verify that the DUT reads the EDID while the MHL link is being established and when the EDID is updated.	
✓ 3.2.6.2: Device Capability Registers Test Verify that the Device Capability Registers have accurate values.	

Test Selection:

• Select "EDID/Registers" tests.

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🔯 CDF Entry 🗸 Test Selection 🕨 Test Options / Preview	
Copen Save Select All Tests Deselect All Tests	
► Source (3/41) ► Common (67/67) ► EDID/Registers (0/2) ► RCP (0/2) ► 3D (0/1) ► UCP (0/2)	
3.2.7.1: RCP Sub-Commands Receiving Test Verify that Source DUT responds to RCP sub-commands with the expected behavior based on the definitions in the MHL Specification, for each Logical Device claimed to be supported by the Source DUT.	
3.2.7.2: RCP Sub-Commands Transmitting Test Verify that the Source DUT outputs each RCP sub-command supported as identified in the CDF, demonstrating the proper opcode and sub-command.	

Test Selection:

• Select "RCP" tests.

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🔂 Event Plot 🔯 MHL Src CT 2.0 🔯 CBUS Src CT 2.0 🙁	- 8
CDF Entry V Test Selection > Test Options / Preview	
Copen Save Select All Tests Deselect All Tests	
► Source (3/41) ► Common (67/67) ► EDID/Registers (0/2) ► RCP (0/2) ► 3D (0/1) ► UCP (0/2)	
Verify that the Source DUT requests 3D video mode support data from the connected Sink.	
(CTS 2.0 Only)	

Test Selection:

• Select "3D" test tab.

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🗄 Event Plot 🔯 MHL Src CT 2.0 🔯 CBUS Src CT 2.0 🗵	
CDF Entry V Test Selection > Test Options / Preview	
🔄 Open 🔄 Save Select All Tests Deselect All Tests	
▶ Source (3/41) ▶ Common (67/67) ▶ EDID/Registers (0/2) ▶ RCP (0/2) ▶ 3D (0/1) ▶ UCP (0/2)	
 3.2.10.1: UCP Sub-Commands Receiving Test Verify that the DUT responds to valid UCP sub-commands by displaying the character or characters sent in the UCP command, or response to invalid UCP sub-commands by displaying an error message. (CTS 2.0 Only) 	
Verify that the DUT sends valid UCP sub-commands by initiating the sending of UTF-8 characters in various formats through the user interface on the DUT.	
(CTS 2.0 Only)	

Test Selection:

• Select "UCP" test tab.

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Event Plot 🔯 MHL Src CT 2.0 🔯 CBUS Src CT 2.0 🕱	- 0)
V Test Selection Test Options / Preview	
Copen Save Select All Tests Deselect All Tests	
► Source (3/41) ► Common (67/67) ► EDID/Registers (0/2) ► RCP (0/2) ► 3D (0/1) ► UCP (0/2)	



Test Selection:

- Save and reuse Test Select definitions.
- Saves time of re-entering specific tests.

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Running the CBUS Source Compliance Tests

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Cop Entry Test Selection Test Ust Image: Copy of Test Name 3.2.6: EDID and Device Capability Register Test Image: Copy of Test Name Image: Copy of Test Name 3.2.6: EDUD and Device Capability Registers Test Image: Copy of Test Name Image: Copy of Test Name 3.2.9: 13 D Test Image: Copy of Test Name Image: Copy of Test Name 3.2.9: 13 D Video Mode Support (3D REQ) Image: Copy of Test Name Image: Copy of Test Name 3.2.10: UCP Sub-Commands Receiving Test Image: Copy of Test all supported Commands. Image: Copy of Test all supported Commands. 3.2.10: UCP Sub-Commands Transmitting Test Image: Copy of Test all supported Commands. Image: Copy of Test all supported Commands. 3.3.1: Link Laver Electrical: Absolute Maximum Positive Voltage Image: Copy of Test Name 3.3.1: Link Laver Electrical - DUT Output: Discovery Image: Copy of Test Name Image: Copy of Test Name 3.3.5: Link Laver Timing - DUT Output: Arbitration Visitin a Packet V Image: Copy of Test Name Image: Copy of Test Name 3.3.12: Link Laver Timing - DUT Output: Bus Copy of Copy of Copy of Copy of Copy of Cop	🗄 Event Plot 🔯 MHL Src CT 2.0 🔯 CBUS Src CT 2.0 🕱	
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■ 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command ✓ ■ 6.3.3.3: CBM: DUT sends (0x6B) GET MSC ERRORCODE Command ✓ ■ 6.3.3.4: CDM: DUT sends (0x6B) GET MSC ERRORCODE Command ✓	6.3.3.1: CBM: DUT sends (0x62) GET STATE command	\checkmark
6.3.3.3: CBM: DUT sends (0x6B) GET MSC ERRORCODE Command	6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command	V
	6.3.3.3: CBM: DUT sends (0x6B) GET MSC ERRORCODE Command	V .

Test Options / Preview:

- Review list of tests by Section.
- Scroll through list.
- Example: Section 3.3.x.
- Note tests in light blue are tests that are run in background mode.

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CDF Entry 🔗 Test Selection 🕨 Test Options / Preview	
Test List	
All V X Instrument: My980 [192.168.254.163]	Execute
	~
6.3.1: MSC - DUT Input: Device Register Space Contents; Reads	
6.3.1.1: CBM: Capability Regs; READ DEVCAP of Capability Register Contents	~
6.3.2: MSC - DUT OUTPUT: Vendor-Specific and Reserved Header Values	
6.2.2: NGC - DUT Output: Normal Commands	~
6 3 3 1: CBM: DUT sends (0x62) CET STATE command	1
6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command	<i>✓</i>
6.3.3.3: CBM: DUT sends (0x6B) GET MSC ERBORCODE Command	<i>✓</i>
6.3.3.4: CBM: DUT sends (0x60) SET INT/WRITE STAT Command	×
6.3.3.5: CBM: DUT sends (0x6C) WRITE BURST Command	V
6,3,3,6; CBM; DUT sends (0x68) MSC MSG Command	×
6.3.3.7: CBM: DUT sends (0x6A) GET DDC ERRORCODE Command	1
6.3.4: MSC - DUT Output: NACK Packet Response to MSC MSG	
6.3.4.1: CBM: DUT Receives NACK to MSC MSG	1
6.3.5: MSC - DUT Output: Never Initiates Bad Commands	
6.3.5.1: CBM: DUT Never Sends Reserved Commands	1
6.3.5.2: CBM: DUT Never Sends Illegal Commands	1
5.3.5.3: CBM: DUT Never Sends Data While No Command is Outstanding	\checkmark
6.3.5.4: CBM: DUT Never Sends (0x33) ACK packet While No Command is Outstand	inc
6.3.5.5: CBM: DUT Never Sends (0x34) NACK Packet While No Command is Outstand	dirV
5.3.5.6: CBM: DUT Never Sends (0x35) ABORT While No Command is Outstanding	V
6.3.5.7: CBM: DUT Never Sends (0x32) EOF While No Command is Outstanding	
5.3.5.8: CBM: DUT never sends WRITE BURST Command without First Arbitrating	V
6.3.6: MSC - DUT Output: Errors and Exceptions	
6.3.6.1: CBM: DUT Receives Bad Reply; Control instead of Data	
Control Contr	
5.3.5.3: CBM: DUT Receives Bad Reply; Control, Control instead of Control, Da	
6 2 6 5, CBM: DOT RECEIVES RESULT TIMEOUU	
■ 0.5.0.5. CEM. Verily NO Next Command Until Hold-Oll alter ABORT Seen	V
6 3 7 1: CBM: DUT Beceives Disconnect during Various Commands	1
6 2 9: MCC - DUTT Trout, Device Perioter Contents: Writes	•
• 0.3.0. Mac - Dol Input. Device Register space contents; Willes	1

Test Options / Preview:

- Review list of tests by Section.
- Tests highlighted in blue are tests that are run in background mode. Example: Section 6.3.5.x

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MHL CBUS Source Compliance - Optionally Skip Tests

CODE Entry Test Selection Test Options/Preview Image: Control of Contr	Event Plot 🔯 MHL Src CT 2.0 🔯 CBUS Src CT 2.0 🗵	- 8
TextBit P datagery / Test Name B 3.2.6.1: EDID and Device Capability Registers Test B 3.2.6.2: Device Capability Registers Test B 3.2.6.2: Device Capability Registers Test B 3.2.6.1: EDID Reading Test B 3.2.10.1: UCP Sub-Commands Receiving Test B 3.2.10.2: UCP Sub-Commands Transmitting Test B 3.3.2.10: 2: UCP Sub-Commands. B 3.3.3: Clark Laver Electrical: Absolute Maximum Positive Voltage B 3.3.5: Link Laver Electrical - DUT Output: Discovery B 3.3.5: J: CBE-Source: Response to Initial Pug-in to MHL Devi B 3.3.5: J: CBE-Source: Response to Initial Pug-into MHL Devi B 3.3.5: J: CBE-Source: Source Never Sends Fundue Notice: B 3.3.5: CBE-Source: Source Never Sends Too Many Baok-to-6a B 3.3.13: CBM Source: Source Never Sends Fundue Notice: State Name B 3.3.13: CBM Source: Source Never Sends Fundue Notice: State Name B 3.3.13: CBM Source: Source Never Sends Fundue Note: State Name B 3.3.13: CBMS	CDF Entry V Test Selection > Test Options / Preview	
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 3.3.9: Link Layer Timing - DUT Output: Arbitration/Sync/I 3.3.9.2: CBT-Source: Continuous Monitor: Bit Timing Variatio 3.3.12: Link Layer Timing - DUT Output: Bus Re-Arbitration 3.3.12: CBT Source: Source Never Sends Too Many Back-to-Ba 3.3.13: Link Layer Behavior - DUT Output: Ill-formed pack 3.3.13: CBT-Source: Source Never Sends Impulse Noise 3.3.13: CBT-Source: Source Never Sends Partial Packets 6.3.1: MSC - DUT Input: Device Register Space Contents; I 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.3.1: CBM: DUT Sends Vendor-Specific and Reserved Header 6.3.3.1: CBM: DUT sends (0x62) GET STATE command 6.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 	Description of the second seco	Execute CBUS Src Compliance Tests on Instrument: My980 @ 192.16
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 3.3.12: Link Layer Timing - DUT Output: Bus Re-Arbitratic 3.3.12: CBT Source: Source Never Sends Too Many Back-to-Ba 3.3.13: Link Layer Behavior - DUT Output: Ill-formed pack 3.3.13: CBT-Source: Source Never Sends Impulse Noise 3.3.13.1: CBT-Source: Source Never Sends Partial Packets 6.3.1: MSC - DUT Input: Device Register Space Contents; I 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.2: MSC - DUT Output: Normal Commands 6.3.3.1: CBM: DUT sends (0x62) GET STATE command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.2.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.2.2: CBM: DUT sends (0x62) CHM Mad UPDEDCOPD Command 6.3.3.2: CBM: DUT sends (0x62) CHM Mad UPDEDCOPD Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x62) CHM Mad UPDEDCOPD Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 7.5.6.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.7.	▷ 3.3.9.2: CBT-Source: Continuous Monitor: Bit Timing Variation	
 3.3.12.3: CBT Source: Source Never Sends Too Many Back-to-Ba 3.3.13: Link Laver Behavior - DUT Output: Ill-formed pack 3.3.13.1: CBT-Source: Source Never Sends Impulse Noise 3.3.13.2: CBT-Source: Source Never Sends Partial Packets 6.3.1: MSC - DUT Input: Device Register Space Contents; I 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.3.1: CBM: DUT Sends Vendor-Specific and Reserved Header 6.3.3.1: CBM: DUT Sends Vendor-Specific and Reserved Header 6.3.3.1: CBM: DUT sends (0x62) GET STATE command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 	▲ > 3.3.12: Link Layer Timing - DUT Output: Bus Re-Arbitratic	Acme_MHL_Tests
 3.3.13: Link Laver Behavior - DUT Output: III-formed pack 3.3.13.1: CBT-Source: Source Never Sends Impulse Noise 3.3.13.2: CBT-Source: Source Never Sends Partial Packets 6.3.1: MSC - DUT Input: Device Register Space Contents; I 6.3.1: CBM: Capability Regs; READ DEVCAP of Capability Reg 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.3: MSC - DUT Output: Normal Commands 6.3.3.1: CBM: DUT sends (0x62) GET STATE command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 3.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 3.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 3.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.3.3: MSC - DUT Sends VENDER Sends Partial Packets 6.3.3.3.3: MSC - DUT Sends VENDER SEND SEND SEND SEND SEND SEND SEND SEND	▶ 3.3.12.3: CBT Source: Source Never Sends Too Many Back-to-Ba	
 3.3.13.1: CBT-Source: Source Never Sends Impulse Noise 3.3.13.2: CBT-Source: Source Never Sends Partial Packets 6.3.1: MSC - DUT Input: Device Register Space Contents; I 6.3.1: CBM: Capability Regs; READ DEVCAP of Capability Reg 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.3: MSC - DUT Output: Normal Commands 6.3.3.1: CBM: DUT sends (0x62) GET STATE command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 	4 3.3.13: Link Layer Behavior - DUT Output: Ill-formed pack	05_02_2012_14_18_59
 S.3.13.2: CBT-Source: Source Never Sends Partial Packets 6.3.1: MSC - DUT Input: Device Register Space Contents; I 6.3.1: MSC - DUT Output: Device Register Space Contents; I 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.2.1: CBM: DUT Sends Vendor-Specific and Reserved Header 6.3.3: MSC - DUT Output: Normal Commands 6.3.3.1: CBM: DUT sends (0x62) GET STATE command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 	2 3.3.13.1; CBT-Source: Source Never Sends Impulse Noise	MHL_CBUS_04_30_2012_17_07_55
 6.3.1: MSC - DUT Input: Device Register Space Contents; F 6.3.1.1: CBM: Capability Regs; READ DEVCAP of Capability Reg 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.3: MSC - DUT Output: Normal Commands 6.3.3.1: CBM: DUT sends (0x62) GET STATE command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 	5.5.15.2. CBI-Source. Source Never Sends Partial Packets	I MHL_CB03_2_04_30_2012_17_07_33
 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.2.1: CBM: DUT Sends Vendor-Specific and Reserved Header 6.3.3: MSC - DUT Output: Normal Commands 6.3.3.1: CBM: DUT sends (0x62) GET STATE command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 3.13.2: CBT-Source Never Sends Partial Packets 	A C 2 1. MCC DIM Turnet, Design Designer General Contents, I	MHL CBUS 3 04 30 2012 17 07 55
• • 6.3.3: MSC - DUT Output: Normal Commands • • 6.3.3.1: CBM: DUT sends (0x62) GET STATE command • • 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command • • 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command • • 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command • • 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command • • 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command • • 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command • • 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command • • • 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command • • • 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command • • • • • • • • • • • • • • • • •	6.3.1: MSC - DUT Input: Device Register Space Contents; I	MHL_CBUS_3_04_30_2012_17_07_55
> 6.3.3.1: CBM: DUT sends (0x62) GET STATE command > 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 33.13.2: CBT-Source Never Sends Partial Packets Cancel	 6.3.1: MSC - DUT Input: Device Register Space Contents; I 6.3.1.1: CBM: Capability Regs; READ DEVCAP of Capability Reg 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.2.1: CBM: DUT Sends Vendor-Specific and Reserved Header 	MHL_CBUS_3_04_30_2012_17_07_55
> [] 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 33.13.2: CBT-Source Never Sends Partial Packets	 6.3.1: MSC - DUT Input: Device Register Space Contents; I 6.3.1.1: CBM: Capability Regs; READ DEVCAP of Capability Reg 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.2.1: CBM: DUT Sends Vendor-Specific and Reserved Header 6.3.3: MSC - DUT Output: Normal Commands 	MHL_CBUS_3_04_30_2012_17_07_55
33.13.2: CBT-Source Never Sends Partial Packets	 6.3.1: MSC - DUT Input: Device Register Space Contents; I 6.3.1.1: CBM: Capability Regs; READ DEVCAP of Capability Reg 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.2.1: CBM: DUT Sends Vendor-Specific and Reserved Header 6.3.3: MSC - DUT Output: Normal Commands 6.3.3.1: CBM: DUT sends (0x62) GET STATE command 	MHL_CBUS_3_04_30_2012_17_07_55
	 6.3.1: MSC - DUT Input: Device Register Space Contents; I 6.3.1.1: CBM: Capability Regs; READ DEVCAP of Capability Reg 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header 6.3.2.1: CBM: DUT Sends Vendor-Specific and Reserved Header 6.3.3: MSC - DUT Output: Normal Commands 6.3.3.1: CBM: DUT sends (0x62) GET STATE command 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command 	MHL_CBUS_3_04_30_2012_17_07_55

Test Options / Preview:

- Optionally, skip certain tests (red X).
- Initiate test with Execute Tests button when ready.
- You will be prompted to name the test results file.

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MHL CBUS Source Compliance – Test Execution/Setup



Test Options / Preview:

 Test Setup and special notes are provided where necessary

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	Test List		
🗸 AII 🗶 AII 🤇	Reset Status		
Category / Tes	st Name	V	Status
💢 Iter 01:		×	User Skipped
⊿ 📃 3.3.5.2:	CBE-Source: Response to Sink Priming Pulse to MHL device		Fail
b 😝 Iter 01:		×	Fail
⊿ 📃 3.3.5.3:	CBE-Source: Pre-Discovery Success Pull-up HIGH Voltage		Incomplete
💢 Iter 01:		×	User Skipped
⊿ 📃 3.3.5.4:	CBE-Source: Discovery Pulse Drive HIGH Voltage		Pass
> 😔 Iter 01:		V	Pass
⊿ 🗏 3.3.5.5:	CBE-Source: Discovery Pulse float LOW Voltage		Pass
þ 🔵 Iter 01:	•	\checkmark	Pass
🕨 🕨 3.3.9: Li	nk Layer Timing - DUT Output: Arbitration/Sync/Data in Bit Times		
▶ 📑 3.3.9.2:	CBT-Source: Continuous Monitor: Bit Timing Variation within a Packet		Pass
• ▶ 3.3.12: L	ink Layer Timing - DUT Output: Bus Re-Arbitration		
b 🖪 3.3.12.3	: CBT Source: Source Never Sends Too Many Back-to-Back Packets		Pass
• 🕨 3.3.13: L	ink Laver Behavior - DUT Output: Ill-formed packets		
b 📑 3.3.13.1	: CBT-Source: Source Never Sends Impulse Noise		Pass
b 🛃 3.3.13.2	: CBT-Source: Source Never Sends Partial Packets		Pass
• 🕨 3.3.14: L	ink Laver Timing - DUT Input: Discovery		
4 📑 3.3.14.1	: CBT-Source: Discovery; Sink Responds Correctly; Time to Source Pull-up Ch.	ange	Fail
> \varTheta Iter 01:	1	\checkmark	Fail
⊿ 📑 3.3.14.2	: CBT-Source: Discovery; Sink Responds Late		Incomplete
💥 Iter 01:		×	User Skipped
4 📑 3.3.14.3	: CBT-Source: Discovery; Sink Never Drives MHL+/- HIGH		In Progress
Iter 01:	1	V	In Progress
	Test I on		
ine	Message		
0041	most 2 2 5 5 Ttop 01 -> Dags		
0041	$r_{r_{r_{r_{r_{r_{r_{r_{r_{r_{r_{r_{r_{r$		
0042			
0043	Executing the test.		
0044	Retrieving test results.		
0045	Processing test results.		
0046	Saving the test logs.		
0047	Test 3.3.14.1 Iter 01 -> Fail		
0048	Test 3.3.14.3-01		
	Evoquting the test		

Test Execution log:

- Summary of test progress status shown on top.
- Progress arrow indicates current test.
- Detailed log of test events shown on bottom.

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<pre>Il X All All Reset Status Category / Test Name B 3.3.14.3: CBT-Source: Discovery; Sink Never Drives MHL+/- HIGH b Iter 01: 3.3.22: Link Laver Timing - DUT Input: Disconnect 3.3.22.1: CBT-Source: Remove MHL+/- Pull-ups for Less than Glitch Reject Time</pre>		Status
<pre>kategory / Test Name kategory / Test Name kate</pre>		Status
<pre> 3.3.14.3: CBT-Source: Discovery; Sink Never Drives MHL+/- HIGH</pre>		
Iter 01: 3.3.22: Link Layer Timing - DUT Input: Disconnect 3.3.22.1: CBT-Source: Remove MHL+/- Pull-ups for Less than Glitch Reject Time	2	Pass
3.3.22: Link Layer Timing - DUT Input: Disconnect 3.3.22.1: CBT-Source: Remove MHL+/- Pull-ups for Less than Glitch Reject Time	V	Fass
3.3.22.1: CBT-Source: Remove MHL+/- Pull-ups for Less than Glitch Reject Time		
		Pass
b General Iter 01:	\checkmark	Pass
🗏 3.3.22.2: CBT-Source: Remove MHL+/- Pull-up for More than Glitch Reject Time		Pass
þ 😝 Iter 01:	\checkmark	Pass
🗏 3.3.22.3: CBT-Source: Time from Disconnect until VOUT Falls		Fail
a 😝 Iter 01:	\checkmark	Fail
• DUT discovered in 3360 ms.		
simulated wide glitch: delay=499999 us; duration=3476034 us		
▲ 😔 01: DUT does enable VBUS as part of Discovery		Fail
BUS not driven by DUT		
$\triangleright \ominus$ 02: DUT does react to the long MHL glitch by floating CBUS		Pass
$_{}$ \ominus 03: DUT does stop driving VBUS within TSRC:CBUS TMDS DIS(max) from the end of the	e M	Pass
6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header Values		
🗏 6.3.2.1: CBM: DUT Sends Vendor-Specific and Reserved Header Values		Pass
6.3.3: MSC - DUT Output: Normal Commands		
SARAGE COMMANDER (0x62) GET STATE command		Pass
V Iter 01:	×	Pass
6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command		In Progress
Fiter 01:	×	In Progress
6.3.3.3: CBM: DUT sends (0x6B) GET MSC ERRORCODE Command		Not Tested

Test Execution failures:

• Detailed information when failures occur.

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CBUS Src Complian	nce Test Results			
esults Name: Acme_MHL_Tests N Date Tested: October 2, 2012 2:05 PM I verall Status: CTS 1.2 - Incomplete	lanufacturer: Acme Model Name: XYZ Port Tested: 1		HTML Re	ep
Test R	esults			
Test Name / Details		Ö	Status	
3.3.3.2: CBE-Source: VBUS Absolute Maximum	Positive Voltage		Pass	
3.3.3.3: CBE-Source: CBUS Absolute Maximum	Positive Voltage		Pass	
3.3.4.1: CBT-Source: Time from Source VBUS	Application to Disc		Fail	
3.3.5.1: CBE-Source: Response to Initial P	lug-in to MHL Device		Incomplete	
3.3.5.2: CBE-Source: Response to Sink Prim	ing Pulse to MHL dev		Fail	
3.3.5.3: CBE-Source: Pre-Discovery Success	Pull-up HIGH Voltag		Incomplete	
3.3.5.4: CBE-Source: Discovery Pulse Drive	HIGH Voltage		Pass	
3.3.5.5: CBE-Source: Discovery Pulse float	LOW Voltage		Pass	
🖪 3.3.9.2: CBT-Source: Continuous Monitor: B:	it Timing Variation		Pass	
🗏 3.3.12.3: CBT Source: Source Never Sends To	oo Many Back-to-Back		Pass	
🗏 3.3.13.1: CBT-Source: Source Never Sends In	mpulse Noise		Pass	
🗏 3.3.13.2: CBT-Source: Source Never Sends Pa	artial Packets		Pass	
3.3.14.1: CBT-Source: Discovery; Sink Resp	onds Correctly; Time		Fail	
⊿ 😝 Iter 01:			Fail	
DUT discovered in 3370 ms.				
DUT in discovery mode: measured 1654/1659/1657.4	2 mv (min/max/avg)			
DUT in on mode: measured 1513/1517/1515.91 mv (m	in/max/avg)			
• voltage change: -8.54 %				
📄 🤤 unexpected voltage change. Expected about 5 per	cent increase.			
01: Source does complete Discovery			Pass	
O2: DUT does switch its pull-up from Z	CBUS SRC DISCOVER to		Pass	
3.3.14.2: CBT-Source: Discovery; Sink Respo	onds Late		Incomplete	
3.3.14.3: CBT-Source: Discovery; Sink Neve	r Drives MHL+/- HIGH		Pass	
3.3.22.1: CBT-Source: Remove MHL+/- Pull-uj	ps for Less than Gli		Pass	
3.3.22.2: CBT-Source: Remove MHL+/- Pull-u	p for More than Glit		Pass	
5.3.22.3: CBT-Source: Time from Disconnect	until VOUT Falls		Fall	
5.3.2.1: CBM: DUT sends Vendor-Specific and	a keserved Header Va		Pass	
[] 0.3.3.1; CEM; DUT sends (UX62) GET STATE C	Unimand		Pass	
DUT SENAS (UX05) GET VENDOR .	in command		rass	
2.6.1: EDID Reading Test				
strument: My980 [192.168.254.135]		•	Continue Test Execut	ti

Test Results:

- Results tab shows summary of test results.
- Results can be saved and viewed through 980 GUI Manager.

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LBUS STC	c Compliance lest Results		
esults Name: Acme_MHL_Tests Date Tested: October 2, 2012 2:05 PM verall Status: <mark>CTS 1.2 - Incomplete</mark>	Manufacturer: Acme Model Name: XYZ Port Tested: 1		HTML R
	Test Results		
Test Name / Details		0	Status
3.3.3.2: CBE-Source: VBUS Absolute	Maximum Positive Voltage		Pass
3.3.3.3: CBE-Source: CBUS Absolute	Maximum Positive Voltage		Pass
3.3.4.1: CBT-Source: Time from Sour	rce VBUS Application to Disc		Fail
3.3.5.1: CBE-Source: Response to Ir	nitial Plug-in to MHL Device		Incomplete
3.3.5.2: CBE-Source: Response to Si	ink Priming Pulse to MHL dev		Fail
3.3.5.3: CBE-Source: Pre-Discovery	Success Pull-up HIGH Voltag		Incomplete
3.3.5.4: CBE-Source: Discovery Puls	se Drive HIGH Voltage		Pass
⊿ \varTheta Iter 01:			Pass
Running pass 1, VBUS not driven by test	ter		
Discovery pulse high measurement: 1606	mv		
Discovery pulse high measurement: 1608	mv		
Discovery pulse high measurement: 1609	mv		
Running pass 2, VBUS driven by tester			
Discovery pulse high measurement: 1627	mv		
Discovery pulse high measurement: 1628	mv		
01: HIGH voltage is greater that	an VIH CBUS{min}		Pass
3.3.5.5: CBE-Source: Discovery Puls	se float LOW Voltage		Pass
3.3.9.2: CBT-Source: Continuous Mor	nitor: Bit Timing Variation		Pass
3.3.12.3: CBT Source: Source Never	Sends Too Many Back-to-Back		Pass
3.3.13.1: CBT-Source: Source Never	Sends Impulse Noise		Pass
3.3.13.2: CBT-Source: Source Never	Sends Partial Packets		Pass
3.3.14.1: CBT-Source: Discovery; Si	ink Responds Correctly; Time		Fail
3.3.14.2: CBT-Source: Discovery; Si	ink Responds Late		Incomplete
3.3.14.3: CBT-Source: Discovery; Si	ink Never Drives MHL+/- HIGH		Pass
3.3.22.1: CBT-Source: Remove MHL+/-	- Pull-ups for Less than Gli		Pass
5.3.22.2: CBT-Source: Remove MHL+/-	- Pull-up for More than Glit		Pass
5.3.22.3: CBT-Source: Time from Dis	sconnect until VOUT Falls		Fall
5.3.2.1: CBM: DUT Sends Vendor-Spec	cillic and Reserved Header Va		Pass
[] 0.3.3.1: CBM: DUT sends (0x62) GET	STATE COMMAND		Pass
5.2.1: CBM: DUT Sends Vendor-Specific and Reserved Header Values			

Test Execution Pass Results:

• Results tab shows detail results for tests that pass and fail.

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	liance lest Results		
esults Name: Acme_MHL_Tests Date Tested: October 2, 2012 2:05 PM verall Status: <mark>CTS 1.2 - Incomplete</mark>	Manufacturer: Acme Model Name: XYZ Port Tested: 1		HTML Re
	Test Results		
Test Name / Details		Q	Status
3.3.3.2: CBE-Source: VBUS Absolute Maxim	num Positive Voltage		Pass
3.3.3.3: CBE-Source: CBUS Absolute Maxim	num Positive Voltage		Pass
3.3.4.1: CBT-Source: Time from Source VI	BUS Application to Disc		Fail
3.3.5.1: CBE-Source: Response to Initia	l Plug-in to MHL Device		Incomplete
3.3.5.2: CBE-Source: Response to Sink P	riming Pulse to MHL dev		Fail
3.3.5.3: CBE-Source: Pre-Discovery Succe	ess Pull-up HIGH Voltag		Incomplete
3.3.5.4: CBE-Source: Discovery Pulse Dr	ive HIGH Voltage		Pass
3.3.5.5: CBE-Source: Discovery Pulse flo	oat LOW Voltage		Pass
3.3.9.2: CBT-Source: Continuous Monitor	: Bit Timing Variation		Pass
🗄 3.3.12.3: CBT Source: Source Never Sends	s Too Many Back-to-Back		Pass
3.3.13.1: CBT-Source: Source Never Sends	s Impulse Noise		Pass
3.3.13.2: CBT-Source: Source Never Sends	s Partial Packets		Pass
🗐 🗏 3.3.14.1: CBT-Source: Discovery; Sink Re	esponds Correctly; Time		Fail
🛛 😝 Iter 01:			Fail
• DUT discovered in 3370 ms.			
DUT in discovery mode: measured 1654/1659/165	57.42 mv (min/max/avg)		
DUT in on mode: measured 1513/1517/1515.91 mv	v (min/max/avg)		
voltage change: -8.54 %			
unexpected voltage change. Expected about 5	percent increase.		
🥖 😡 01: Source does complete Discovery			Pass
🔵 😡 02: DUT does switch its pull-up from	n ZCBUS SRC DISCOVER to		Pass
3.3.14.2: CBT-Source: Discovery; Sink Re	esponds Late		Incomplete
3.3.14.3: CBT-Source: Discovery; Sink Ne	ever Drives MHL+/- HIGH		Pass
3.3.22.1: CBT-Source: Remove MHL+/- Pul	l-ups for Less than Gli		Pass
3.3.22.2: CBT-Source: Remove MHL+/- Pull	l-up for More than Glit		Pass
3.3.22.3: CBT-Source: Time from Disconne	ect until VOUT Falls		Fail
6.3.2.1: CBM: DUT Sends Vendor-Specific	and Reserved Header Va		Pass
6.3.3.1: CBM: DUT sends (0x62) GET STAT	E command		Pass
5.3.3.2: CBM: DUT sends (0x63) GET VEND	OR ID Command		Pass
.2.6.1: EDID Reading Test			

Test Execution failures:

 Results tab shows detail results for tests that pass and fail.

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📰 Capture Control 🕾 Navigator	- 8
🥸 Compliance 📄 ACA 🛛 💷 ED	DID 📕 Formats 🚹 🕨
	2
Name	Date / Time
🕟 🗁 HDMI EDID CT CT	
HDMI Src CT	
HDMI Sink CT	
MHL Src CT	
MHL Sink/Dongle CT	
CBUS Src CT	
D CDF	
Test Selections	
A Constant Constant of the second second	2012/05/24 10:10:15
	2012/05/24 10:19:15
MHL_CBUS_04_30_201	2012/05/24 10:19:13
A Acme MHL Tests	2012/10/02 14:31:06
	2012/10/02 14:05:49
Summary	
Details	
Log	
▶ 📃 05_02_2012_14_18_59	2012/05/24 10:19:14
CBUS Sink CT	
👂 🗁 CBUS Dongle CT	

Test Results:

 Access results at any time through Navigator/ Compliance tab.

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	EU LUY From: Acme_MHL_Tests
ine	Messare
14-05-50-260	Compliance Test Started
14:05:50:363	Initialization.
14:05:50:397	Assembling the test list.
14:05:51:295	Transferring the CDF to the Test Instrument.
14:05:51:295	FTP Connect
14:05:51:557	FTP Put
	From "C:\Users\nkendall\Desktop\980 CBUS GUI\980mgr\cbussroct\results\Acme MHL Tests\odf.txt"
	To "odf.txt"
14:05:51:919	Test 3.2.6.1-01
14:06:51:640	Configuration Change: UNKNOWN -> SRC ACTIVE
14:06:51:692	Executing the test.
14:06:51:693	exec rm -f /home/qd/cbus results.log
14:06:51:710	exec rm -f /home/qd/cbus results.log
14:06:51:900	#cbus-scope>
14:06:51:901	IN10:obus test 3.2.6.1 -o "/home/qd/" -c "/home/qd/cdf.txt"
14:06:51:910	IN10:obus test 3.2.6.1 -o "/home/qd/" -c "/home/qd/cdf.txt"
14:07:35:805	#obus-scops>
14:07:36:031	Retrieving test results.
14:07:36:031	FTP Connect
14:07:36:289	FTP Get
	From "obus results.log"
	To *C:\Users\nkendall\Desktop\980_CBUS_GUI\980mgr\cbussrcct\results\Acme_MHL_Tests\lastResult.log*
14:07:36:533	Processing test results.
14:07:36:565	Saving the test logs.
14:07:36:568	exec test -e "/home/qd/cbus_log.log" 66 echo exists
14:07:36:580	exec test -e "/home/qd/cbus_log.log" 66 echo exists
14:07:36:770	exists
	#obus-scope>
14:07:36:771	FTP Connect
14:07:37:028	FTP Get
	From "obus_log.log"
	To *C:\Uggers\nkendsll\Desktop\980 CBUS GUI\980mgr\cbussrcct\results\Acme MHL Tests\3 2 6 1 01\cbus log.log*

Test Results:

۲

Access detailed test log through Navigator/ Compliance tab.

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rteport i	enerated of: May 2, 2012 2:33 PM	CB	<u>Quantum)</u> US Src Complia CTS 1	_{Data} nce Test I.2	t Report	<u>www.quantumoa</u>
	Resu Dat Overa	lts Name: te Tested: ll Status:	05_02_2012_14_18_59 May 2, 2012 2:19 PM Fail		Manufacturer: Model Name: Port Tested:	MHLCBUS
ſ			Report Index / S	ummary		
	Test 3.2.6.1	Fail	Test 3.2.6.2	Fail	Test 3.3.4.1	Fail
N	Test 3.3.5.1	Pass	<u>Test 3.3.5.3</u>	Fail	Test 3.3.9.1	Pass
	Test 3.3.14.1	Fail	Test 3.3.14.2	Pass	Test 6.3.3.1	Fail
	Test 6.3.3.2	Fail	Test 6.3.3.3	Fail	Test 6.3.8.1	Fail
	Test 6.3.8.2	Fail	Test 6.3.11.3	Fail	Test 6.3.11.5	Fail
	Test 6.3.12.1	Pass	Test 6.3.12.3	Pass	Test 6.3.12.5	Fail
	Test 6.3.18.1	Fail	Test 6.3.18.2	Fail	Test 6.3.18.3	Fail
	CD	F	_Equipment	Info_		
			Capabilities Declarat	ion Form (CI	DF)	
			Genera	l		
\rangle	CDF_MFR_NAME					MHLCBUS
	CDF MODEL NUMBER					XYZ
	CDF_MODEL_NUM	CDF_SRC_POWERED				

HTML Test Report:

- Shows summary information and pass/fail.
- Example shows MHL 1.2 test; MHL 2.0 test results are similar in structure and content.

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	C:\Users\nkendall\Desktop\980_CBUS_GUI\980mgr\cbussrcct\results\05_02_2012_14_18_59\Repo	rt_Cdf.htm
\rightarrow	Capabilities Declaration Form (CDF)	
	General	
	CDF_MFR_NAME	MHLCBUS
	CDF_MODEL_NUMBER	XYZ
	CDF_SRC_POWERED	YES
	CDF_SRC_CBUS_THRESHOLD_V	0.90
[CDF_PROC_SET_ACTIVE	Not Specified
	CDF_PROC_SET_STANDBY	Not Specified
[CDF_RCP_RECEIVE	YES
[CDF_RCP_SEND	YES
	CDF_LOG_DEV_MAP_CHANGE	YES
\rightarrow	Capability Registers	
	CDF_CR_MHL_VER_MAJOR	1
[CDF_CR_MHL_VER_MINOR	0
[CDF_CR_DEV_TYPE	2
[CDF_CR_POW	0
[CDF_CR_ADOPTER_ID_H	0
	CDF_CR_ADOPTER_ID_L	0
[CDF_CR_SUPP_RGB444	0
[CDF_CR_SUPP_YCBCR444	0
	CDF_CR_SUPP_YCBCR422	0
[CDF_CR_SUPP_PPIXEL	0
	CDF_CR_SUPP_ISLANDS	0
[CDF_CR_SUPP_VGA	0
[CDF_CR_AUD_2CH	0
[CDF_CR_AUD_8CH	0
[CDF_CR_VT_GRAPHICS	0
[CDF_CR_VT_PHOTO	0
		🔚 Save As 🛛 💥 Clo

HTML Test Report:

• Shows Capabilities Declaration information.

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HTML View

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	C:\Users\nkendall\Desktop\980_CBUS_GUI\980mgr\cbussrcct\results\05_02_2012_14_18_59\Report_Cdf.htm	
Tes EDII	t 3.2.6.1 D Reading Test	Fail
•]	Iter 01:	Fail
	DUT discovered in 3010 ms. DUT discovered in 2470 ms. 	
	• 01: DUT reads block 0 and block 1 while MHL link is being established Pass	
	 EDID read check: bytes 0-255 were read. DUT finished reading EDID in 1060 ms. 	
	• 02: DUT reads block 0 and block 1 after EDID_CHG	
	 EDID read check: bytes 0-255 were NOT read. DUT failed to read EDID. Timed out after 8000 ms. Complete EDID not read after EDID_CHG 	
	• 03: DUT reads block 0 and block 1 after SET_HPD Fail	
	 EDID read check: bytes 0-255 were NOT read. DUT failed to read EDID. Timed out after 8000 ms. Complete EDID not read after CLB_HPD/SET_HPD 	

HTML Test Report:

• Shows detailed results for each whether pass or fail.

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Test 3.2.6.2	
Device Capability Registers Test	
• Iter 01:	
DUI discovered in 2492 ms.	
Continuous test results to follow	
 3.3.3: Lester began driving VBUS at 00090302.40; VBUS expected to be stable by 00008302.40. 3.3.3: CBUS and VBUS within Absolute Maximum voltages during entire test 	
 3.3.12.3: max incoming back to back packets: 0 (good) 	
 3.3.13.1: no narrow pulses detected 3.413.2: no had project form DUT detected 	
S.5.15.2: no bau packets from DOT defected	
• 01: MHL VERSION register matches CDF CR MHL VER MAJOR and CDF CR MHL VER MINOR	Fail
 DUT has wrong major version; wanted 1 but got 0 	
DUT minor version matches	
	Fail
- 02: DEV_11FE bit the DEV_CAT(0)[set:0x02) register is 000010:Source	
DUT DEV TYPE doesn't match CDF: wanted 2 but got 0	
· · · · · · · · · · · · · · · · · · ·	
• 03: POW in the DEV_CAT(offset:0x02) register matches the CDF_CR_POW field in CDF	Pass
 DUT POW is correct 	
• 04: ADOPTER_ID_H(0ffset:0x03) and ADOPTER_ID_L(offset:0x04) register matches the corresponding CDF_CR_ADOPTER_ID_H at	nd Pass
DUT ADOPTER_ID_H is correct	
DUT ADOPTER_ID_L is correct	
• • • • • • • • • • • • • • • • • • • •	
• 05: SUPP_RGB444, SUPP_YCBCR444, SUPP_YCBCR422, SUPP_PPIXEL, SUPP_ISLANDS and SUPP_VGA bits in the	Pass
CDF CR SUPP YCBCR422, CDF CR SUPP PPIXEL, CDF CR SUPP ISLANDS and CDF CR SUPP VGA field in the CDF	
 DUT SUPP_RGB444 is correct 	
 DUT SUPP_YCBCR444 is correct DUT SUPP_VCBCR422 is correct 	
DUT SUPP_PPIXELis correct	

HTML Test Report:

• Shows detailed results for each whether pass or fail.

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Test Equipment Information	
Instrument	
Name: Dan_980_CBUS IP Address: 192.168.254.155 Net Mask: 255.255.255.0 Gateway IP: 192.168.254.1 Version:	
Host	
UI Name: Quantum Data 980 Manager - Version 3.1.14 UI Home: platform:/base/plugins/com.quantumdata.i980.app Java Vendor: Null Java Runtime: 1.6.0_15-b03 Java Home: C:\Users\nkendall\Desktop\MHL_CBUS_Release_4_26\980mgr\jre OS: win32 OS Arch: x86 Locale: en_US	

HTML Test Report:

 Show test equipment information.

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MHL CBUS Log Plots – Source Tests

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CBUS Event Log Plot:

- View Events for each test.
- Access Event Log Plots from Navigator/Compliance panel.
- Diagnose compliance test failures.

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👉 Event Plo	ot 🖶 CBUS Plot 🛛 📃 CT F	Results				- 8)
Data: MHL_C	CBUS_2.0_121105\3_3_10_1_01					
W Rows						
	Zoom %:	0.252	Marker 1	Marker 2	€ ● →	
0:0:1.501.489	9.486					
\rightarrow						
					I	
PASS			Pas	s 1		
PACKET						
CBUS L/V						
PULSE						
CBUS DRV		DUT			DUT	DUT
VBUS DRV			Tes	ster		
VBUS LVL						
CBUS TRM	1000 ohms pulldowr	1		100 k-ohms pulldow	'n	
TMDS TRM	high z			70 ohm pullup		
RXS+						
RXS-						
0:0:1.500	0.598.325 0:0:1.501	.365.345	0:0:1.502 Time (H:M:S	2.136.797 0:0:1.502 S.ms.us.ns)	2.908.250 0:0:	:1.503.679.703

Scrolling through the graphical time line view:

• Arrow forward and back.

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Range Zoom tool.

- View a specific range of events on the Event Log Plot.
- Surround an area to zoom in.

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Range Zoom tool.

- View a specific range of events on the Event Log Plot.
- Zoom select Result.

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	🖶 Event Plo	et 🖶 CBUS Plot 🕱 🔰	CT Results						
	Data: MHL_C	BUS 2.0 121105\3 3 10 1	01						
	Rows	🕞 Segment							
		🐑 💽 Zoom %:	2.999	🔍 🭳 🔲 Marker 1	€ • €	Marker 2	€ • ₽		
)	0:0:0.612.182								
V	ĺ								
	PASS			Pass 1					
	PACKET								
	CBUS L/V								
	PULSE	wake to discover low							
	CBUS DRV	DUT		DUT		C	ਆ		
	VBUS DRV			Tester					
	VBUS LVL								
	CBUS TRM	1000 ohms pulldov	vn		100 k-ohms	pulldown			
	TMDS TRM	high z			70 ohm	pullup			
	RXS+		- Aller A						
	RXS-								
	0:0:1.490	.928.286 0:0):1.500.074.366	0:0:1.509 Time (H:M:S	.273.315 .ms.us.ns)	0:0:1.518	3.472.263	0:0:1.527.671.2	11
	TimeStamp		Туре	Description		4	2		
	0:0:1.03	6.414.600	CBUS LVL	HIGH (0:0:0.02	1.114.600)				
	0:0:1.03	6.414.600	PULSE	wake group 1 h	igh 2				66
	0:0:1.05	7.529.200	CBUS LVL	VL LOW (0:0:0.062.579.200)					
	0:0:1.05	7.529.200	PULSE	wake inter-gro	up low				
	0:0:1.12	0.108.400	CBUS LVL	HIGH (0:0:0.02	1.095.450)				
1	0:0:1.120.108.400 PU 0:0:1.141.203.850 CB			wake group 2 h	igh 1				
				L LOW (0:0:0.021.113.670)					
	0:0:1.14	1.203.850	PULSE	wake group 2 1	ow				
	0:0:1.16	2.317.520	CBUS LVL	HIGH (0:0:0.02	1.115.110)				
	0:0:1.16	2.317.520	PULSE	wake group 2 h	igh 2				\odot
	Events	🔯 Find							

CBUS Event Log Plot Timestamps:

- Specific cursor location shown on top panel status strip.
- Shown on graphical timeline view.
- Shown in the table view for each event.

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ta: MHL_CB	US_2.0_121105\6_3_11_	2_01							
	Zoom %	0.003	Q Q	V M	arker 1 🗲 💿		Marker 2	• •	
1:0:48.692.865	.664								
PASS					Pass 13				
PACKET									
CBUSIA									
PULSE	wake	to discover low							
CBUS DRV		DUT				DUT		DUT	
VBUS DRV					Tester				
VBUS LVL									
CBUS TRM	10	00 ohms pulldown				1(00 k-ohms pulldo	wn	
TMDS TRM		high z		CBUS	Event Selecti	ion			
RXS+					Туре	Count	Description		
DVC					CBUS LVL	130215	CBUS Leve	el (High or Low).	
KAD-					CBUS DRV	18635	CBUS Driv	ver (Tester or DUT)	
0:0:48.686.3	301.146 0:	0:48.694.311.245			CBUS V	0	CBUS Volt	age (V)	
					CBUS TRM	723	CBUS Term	lination	
TimeStamp		Туре	Descri		TMDS TRM	482	TMDS Term	lination	
0:0:1.506	.956.650	PULSE	1		VBUS DRV	482	VBUS Driv	ver (Tester or DUT)	
0:0:1.506	.957.160	CBUS LVL	LOW		PULSE	85435	Pulse Ann	otation	5_
0:0:1.506	.957.650	CBUS LVL	HIGH		PACKET	5621	Packet Ar	notation	
0:0:1.506	.957.650	PULSE	0		RXS+	0	RxSense+	(High or Low)	
0:0:1.506	.958.660	CBUS LVL	LOW		RXS-	0	RxSense-	(High or Low)	
0:0:1.506	.958.660	PULSE	0		VBUS LVL	0	VBUS Leve		
0:0:1.506	.959.650	CBUS LVL	HIGH		PASS	241	Test Pass	Id	
0:0:1.506	.959.650	PULSE	0		Other	0	All other	logged events.	
0:0:1.506	.960.660	CBUS LVL	LOW						
	.960.660	PULSE	0		Select	All 🔳 Sel	lect None	V Ok 🛛 🙆 Cancel	

CBUS Event Log Plot Filtering:

- Select which CBUS events to view on the plot.
- Example shows CBUS LVL and Pulse deselected.

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CBUS Event Log Plot Searching:

- Specify a CBUS event type (PACKET shown in example) to view on the plot.
- Enter text in a message (example ABORT).
- Search through the Event Log Plot forward and backward.

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MHL CBUS Sink Compliance Test

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MHL CBUS Sink Compliance Test – Setup

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• Test setup with external GUI shown below

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MHL CBUS Sink Compliance Test – Setup

• Run tests through the embedded GUI.



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MHL CBUS Sink Compliance Test – Setup

• Run tests through the external GUI.



Note: Quantum Data provides a short HDMI cable with low capacitance for these tests.

MHL CBUS Sink Compliance - CDF

뒢 Event Plot 🔤 Edid Editor 🔯 EDID CT 1.	4a 🔯 CBUS Src CT 1. 🔞 CBUS Dongle C 📴 Console 🔞 CBUS Sink CT 1 🛛 🖉 MHL Sink/Don 🥂	- 8
🖄 CDF Entry 🧹 Test Selection 🕨 Tes	t Options / Preview	
CDF File	: <not saved=""></not>	
General Registers RCP Rcv	RCP Send RCP LD Map	
\square		
CDF_MFR_NAME	What is the product manufacturer's name? Quantum Data	
CDF_MODEL_NUMBER	What is the model name/number of the product? 980	
CDF_SINK_CBUS_THRESHOLD_V	Voltage at which CBUS Timing Measurements should be taken. This voltage should be halfway between the HIGH and LOW CBUS voltages for data driven by this device. This will be related to the device's VOH. 0.90 V (0.75 to 1.05)	the
CDF_SINK_CABLE_DETECT_TO_R_DISCOVER	Time from Cable Detect until Sink presents valid Z_CBUS_SINK_DISCOVER. 60 sec. (0.0 to 300)	
CDF_HDCP_SUPPORT	Is HDCP supported on this DUT? Yes No	
CDF_PROC_SET_ACTIVE	Set Device into Active Mode for Discovery Tests. Edit Procedure	
CDF_PROC_SET_STANDBY	Set Device into Standby Mode for Discovery Tests. Standby Mode Supported? Edit Procedure	

CDF:

- Defines the capabilities of the device under test.
- Provides a series of tabs for each type of feature.
- Provides description of each field.
- Example: General tab.
- Determines which tests to run.

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MHL CBUS Sink Compliance - CDF

🖶 Event Plot 🔤 Edid Manag	🥸 HDMI Sre C 🔞 CBUS Sre CT 🔞 MHL Sre CT 🔞 MHL Sink/D 🔞 CBUS Sink C 🖄 🦳 🖱 🗖				
🖄 CDF Entry 🧹 Test Selec	tion 🕨 Test Options / Preview				
CDF File: < not saved>					
🔒 General 🔹 Registers	General Registers RCP Rcv RCP Send RCP LD Map				
CDF_RCP_RECEIVE	D • DUT receive RCP? If y rovide expected behavior for each supported RCP command below.				
	Se the RCP commands the DUT can receive. Sp/ the expected behavior for each supported command so that the Test Engineer can verify the correct behavior when each RCP command is received by the DUT.				
CDF_RCP_RCV_BEHAVIOR_00	0x00: Select (1) Required By: GUI Supported? Edit Behavior				
CDF_RCP_RCV_BEHAVIOR_01	0x01: Up (1) Required By: GUI Supported? Edit Behavior				
CDF_RCP_RCV_BEHAVIOR_02	0x02: Down (1) Required By: GUI Supported? Edit Behavior				
CDF_RCP_RCV_BEHAVIOR_03	0x03: Left (1) Required By: GUI Supported? Edit Behavior				

CDF:

• Example: RCP Rcv tab.

Note: You can enter helpful information using the "Edit Procedure" dialog box. The information entered into this dialog box will appear during the test and can be helpful to users running an particular test.

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MHL CBUS Sink Compliance - CDF

뒢 Event Plot 🏧 Edid Manag 隧	🖇 HDMI Sre C 🛛 🕲 CBUS Sre CT 🕲 MHL Sre CT 🛛 🕲 MHL Sink/D 🔯 CBUS Sink C 🕴 📃 🗖 🗖					
🕲 CDF Entry 🧹 Test Selection	n 🕨 Test Options / Preview					
🔄 Open 🙀 New 🔚 Save	CDF File: < not saved>					
🔒 General 🔍 Registers 🔍	🔒 General 🔹 Registers 🔹 RCP Rcv 🔹 RCP Send 💿 RCP LD Map					
CDF_RCP_SEND	Does the DUT send RCP? If yes, provide procedures for each supported RCP command below.					
	● Yes ○ No E					
	Select the RCP commands the DUT can send. Specify the procedure for each supported command so that the Test Engineer can force the DUT to output each RCP command, using these detailed steps and the DUT's user interface.					
	0x00: Select 🕕					
CDF_RCP_SEND_PROCEDURE_00	Supported? Edit Procedure					
	0x01: Up 🚯					
CDF_RCP_SEND_PROCEDURE_01	Supported? Edit Procedure					
	0x02: Down 📵					
CDF_RCP_SEND_PROCEDURE_02	Supported? Edit Procedure					
	0x03: Left 🕕					
CDF_RCP_SEND_PROCEDURE_03	Supported? Edit Procedure					
	0x04: Right @					
CDF_RCP_SEND_PROCEDURE_04	Supported? Edit Procedure					

CDF:

• Example: RCP Send Tab.

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MHL CBUS Sink Compliance – CDF Saving and Loading

	🔠 Event Plot 🕮 Edid Editor 隧 EDID CT 1.4a	a 🔯 CBUS Src CT 1. 🔞 CBUS I	Dongle C 📴 Console 🔯 CBUS Sink CT 1 🛽	🕉 🔯 MHL Sink/Don 📔 🗖
	🕲 CDF Entry 🧹 Test Selection 🕨 Test	Options / Preview		
	CDF File: <	<not saved=""></not>		
	General Registers RCP Rcv	RCP Send RCP LD Map		
V		~		
	CDF_MFR_NAME	Save CDF		
	CDF_MODEL_NUMBER	<u></u>	CDF Name	
	CDF SINK CBUS THRESHOLD V	Enter	a name for the CDF	build be halfway between the
		MyCDF_Sink	CDF Editor	and the lattice
	CDF_SINK_CABLE_DETECT_TO_R_DISCOVER	The name already exists.	🖄 Open CI	DF File
	CDF_HDCP_SUPPORT	WyCDF_Sink	Select a CDF to open in	n the CDF editor.
	CDF_PROC_SET_ACTIVE		WyCDF_1 WyCDF_Sink	
	CDF_PROC_SET_STANDBY			
		Cancel		
_			Cancel	Ok

CDF:

- Status of the file is shown in the header area. Either the name will be indicated or "<not saved>".
- Save and reuse CDF definitions.
- Saves time of re-entering data.
- Files can be transferred to colleagues to help expedite product capability selection process in a test series.



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Sink (21/33)	Common (68/68) EDID/Registers (0/2) RCP (2/2)			
▶ 4.3.3	Link Layer Electrical: Absolute Maximum Voltages	3/3	2	1
▶ 4.3.4	Link Layer Electrical - DUT Output: Standby Discovery Impedance	0/1		
4.3.5	Link Layer Timing - DUT Output: Pre-Discovery	1/1		
▶ 4.3.6	Link Layer Electrical - DUT Output: Arbitration/Sync/Data Signaling	4/4		
▶ 4.3.7	Link Layer Timing - DUT Output: Arbitration/Sync/Data in Nanoseconds	0/2		
4.3.8	Link Layer Timing - DUT Output: Arbitration/Sync/Data in Bit Times	2/2		
▶ 4.3.9	Link Layer Timing - DUT Output: Link Level NACK	1/1	2	
4.3.10	Link Layer Timing - DUT Output: Link Level ACK	0/2		
4.3.11	Link Layer Timing - DUT Ouput: Bus Re-Arbitration	3/4	2	1
4.3.12	Link Layer Timing - DUT Output: Ill-formed packets	2/2		
4.3.13	Link Layer Electrical - DUT Input: Discovery	1/1		
4.3.14	Link Layer Timing - DUT Input: Discovery OK	0/3		
4.3.15	Link Layer Timing - DUT Input: Discovery Reject	2/2		
4.3.16	Link Layer Electrical - DUT Input: Arbitration/Sync/Data Signaling	1/1		
4.3.17	Link Layer Timing - DUT Input: Arbitration	0/2		
4.3.18	Link Layer Timing - DUT Input: Data	1/1		
4.3.19	Link Layer Timing - DUT Input: NACK	0/1		
4.3.20	Link Layer Timing - DUT Input: ACK	1/1		
▶ 4.3.21	Link Layer Timing - DUT Input: Bus Re-Arbitration	1/1		•
4.3.1 Verify t timing	1.1: CBT-Sink: Sink uses Case 2 Regular Arbitration after NACK that Sink DUT backs off after a link-level NACK, and uses Case 2 regular arbitration to re-acquire the bus.			
 4.3.1 Verify t 4.3.1 Verify t 	 1.2: CBT-Sink: Sink Case 3 Long Re-arbitration when it Gives up the Bus that Sink DUT uses Case 3 Long Arbitration whenever it gives up the bus and later re-acquires it. 1.3: CBT-Sink: Sink Uses Case 1 Back-to-Back Timing (No Re-arbitration) that Sink DUT uses correct delay from ACK period start to Sync falling edge on 			
Case 1	back-to-back packet sends. 1.4: CBT-Sink: Sink Never Sends Too Many Back-to-Back Packets			

Test Selection:

- Determine which specific tests to run in a test suite.
- Select all tests or select specific test sections or particular tests within each section.
- Check box indicators inform how many tests in each section and how many are selected.
- Example: CBUS Sink test tab with Link Layer Timing
 DUT Output Bus Re-Arbitration.

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🖶 Event Plot 💷	Edid Editor 📁 EDID CT 1.4a 🔞 CBUS Src CT 1 🔞 CBUS Dongle 🔟 Console 🔞 CBUS Sink CT 🙁 👔 Mi	HL Sink/Don			
🔯 CDF Entry 🕚	🖉 Test Sele 🔰 🕨 Test Options / Preview				
🔄 Open 📳	Save elect All Tests Deselect All Tests				
▶ Sink (21/33)	Common (68/68) EDID/Registers (0/2) RCP (2/2)				
▶ 6.3.1	MSC - DUT Input: Device Register Space Contents; Reads	1/1			
▶ 6.3.2	MSC - DUT Output: Vendor-specific and Reserved Header Values	1/1			
▶ 6.3.3	MSC - DUT Output: Normal Commands	7/7			
▶ 6.3.5	MSC - DUT Output: Never Initiates Bad Commands	7/7			
▶ 6.3.6	MSC - DUT Output: Errors and Exceptions	5/5			
▶ 6.3.7	MSC - DUT Output: Disconnect	1/1			
▶ 6.3.8	MSC - DUT Input: Device Register Space Contents; Writes	2/2			
▶ 6.3.9	MSC - DUT Input: Vendor-specific and Reserved Header Values	1/1			
▶ 6.3.10	MSC - DUT Input: Normal Commands	8/8			
▶ 6.3.11	MSC - DUT Input: Errors and Exceptions	22/22			
▶ 6.3.12	MSC - DUT Input: Argument Timeouts	9/9			
▶ 6.3.15	MSC - DUT Output: Normal Commands	2/2			
▶ 6.3.16	MSC - DUT Input: Errors and Exceptions	2/2			
▶ 6.3.20	DDC - DUT Input; Continuous Monitors and Normal Operation	2/2			
▶ 6.3.21	DDC - DUT Input; Normal Operation	5/5			
▶ 6.3.22	DDC - DUT Input; Illegal Responses	3/3			
6.3.12 Verify the followed	1: CBM: DUT Receives (0x61) READ_DEVCAP - Offset Timeout nat if DUT does something predictable when it receives a READ_DEVCAP d by a timeout instead of an Offset.				
6.3.12.2: CBM: DUT Receives (0x60) SET_INT / WRITE_STAT - Offset Timeout Verify that if DUT does something predictable when it receives a SET_INT / WRITE_STAT followed timeout instead of an Offset.					
G.3.12 Verify the followed	2.3: CBM: DUT Receives (0x60) SET_INT - Data Timeout nat if DUT does something predictable when it receives a SET_INT d by an offset followed by a timeout waiting for the Data.				
✓ 6.3.12.4: CBM: DUT Receives (0x60) WRITE_STAT - Data Timeout Verify that if DUT does something predictable when it receives a WRITE_STAT followed by an Offset followed by a timeout instead of data.					
☑ 6.3.12	.5: CBM: DUT Receives (0x6C) WRITE_BURST - Offset Timeout		Ŧ		

Test Selection:

 Select "Common" Sink tests for MSC and DDC.

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🗄 Event Plot 🔤 Edid Editor 🔯 EDID CT 1.4a 🔯 CBUS Src CT 1 🔯 CBUS Dongle Console 🔯 CBUS Sink CT 🛛 🖄 MHL Sink/Don	
CDF Entry V Test Selection > Test Options / Preview	
Carlo Deselect All Tests Deselect All Tests	
► Sink (21/33) ► Common (68/68) ► EDID/Registers (0/2) ► RCP (2/2)	
4.2.5.1: EDID Test Verify that the DUT EDID is accessible and accurate.	
4.2.5.2: Device Capability Register Test Verify that the Device Capability Registers have accurate values.	

Test Selection:

• Select EDID Registers Tests.

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🗄 Event Plot 🔤 Edid Editor 🔯 EDID CT 1.4a 🔯 CBUS Src CT 1.2 🥸 CBUS Sink CT 1.2 🕱	
🔯 CDF Entry 🗸 Test Selection 🕨 Test Options / Preview	
Copen Save Select All Tests Deselect All Tests	
▶ Sink (0/33) ▶ Common (0/68) ▶ EDID/Registers (0/2) ▶ RCP (0/2)	
4.2.6.1: RCP Sub-Commands Receiving Test Verify that Sink DUT responds to RCP sub-commands with the expected behavior based on the definitions in the MHL Specification, for each Logical Device claimed to be supported by the Sink DUT.	
4.2.6.2: RCP Sub-Commands Transmitting Test Verify that the Sink DUT outputs each RCP sub-command supported as identified in the CDF, demonstrating the proper opcode and sub-command.	

Test Selection:

 Select "RCP" Subcommands.

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🕁 Event Plot	t 🔤 Edid Editor 🔯 EDID	0 CT 1.4a 🔯 CBUS Src CT 1 🔯 CBUS Dongle 🔯 Console 🔯	🔯 CBUS Sink CT 🗵 🔯 MHL Sink/Don 🖳 🗖
🛛 🖾 CDF Ent	ry 🗸 Test Selection 🗌	Test Options / Preview	
🔄 Open	Save Selec	t All Tests Deselect All Tests	
🕨 🕨 Sink (21	L/33) 🕨 Common (68/6	i8) EDID/Registers (0/2) RCP (2/2)	
▶ 4.3.3	Link Layer Electrical	l: Absolute Maximum Voltages	3/3 🗖 🔺
▶ 4.3.4	Link Layer Electrical	I - DUT Output: Standby Discovery Impedance	0/1
▶ 4.3.5	Link Layer Timing -	DUT Output: Pre-Discovery	1/1
▶ 4.3.6	Link Layer Electrical	I - DUT Output: Arbitration/Sync/Data Signaling	4/4
▶ 4.3.7	Link Layer Timing -	DUT Output: Arbitration/Sync/Data in Nanoseconds	0/2
▶ 4.3.8	Link Layer Tinning -	DUT Output: Arbitration/Sync/Data in Bit Times	2/2
▶ 4.3.9		CBUS Sink CT: Save Test Selections	1/1
▶ 4.3.10	g		0/2 🔳 😑
▶ 4.3.11	Link Layer Timing		3/4
▶ 4.3.12	Link Layer Timing	Test Selection File	
▶ 4.3.13	Link Layer Electrica		CBUS Sink Compliance Test
▶ 4.3.14	Link Layer Timing	Enter a file name for the Test Selec	
▶ 4.3.15	Link Layer Timing		Open Test Selection File
▶ 4.3.16	Link Layer Electrica		
▶ 4.3.17	Link Layer Timing	MySelect_Sinkkml	
▶ 4.3.18	Link Layer Timing		Select an Test Selection file to open.
▶ 4.3.19	Link Layer Timing	MySelect1.xml	
▶ 4.3.20	Link Layer Timing		
▶ 4.3.21	Link Layer Timing		MySelect1.xml
 ✓ 4. Ve tin ✓ 4. Ve 	3.11.1: CBT-Sink: S rify that Sink DUT backs o ning to re-acquire the bu 3.11.2: CBT-Sink: S rify that Sink DUT uses Ca		MySelect_Sink.xml
■ 4. Ve Ca ♥ 4. Co	3.11.3: CBT-Sink: S rify that Sink DUT uses co ise 1 back-to-back packet 3.11.4: CBT-Sink: So ontinuously monitor the C	Cancel	te Cancel Ok

Test Selection:

- Save and reuse Test Select definitions.
- Saves time of re-entering specific tests.

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Reviewing the CBUS Sink Compliance Tests

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Test Options / Preview:

- Review list of tests by Section.
- Example: Section 4.3.x.

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🔠 Event Plot 🔤 Edid Editor 🔯 EDID CT 1.4a 🔯 CBUS Src CT 1.2 🔯 CBUS Dongle CT 1.2 🔕 Console 🔯 CBUS Sink CT 1.2 😣 🔯 MHL Sink/Dongle CT 1	L.2
🔯 CDF Entry 🗹 Test Selection 🕨 Test Options / Preview	
Test List	
V All X All Instrument: My980 [192.168.254.102]	Execute Tests
Category / Test Name	× •
▲ ▶ 6.3.1: MSC - DUT Input: Device Register Space Contents: Reads	
▶ 🖪 6.3.1.1: CBM: Capability Regs; READ DEVCAP of Capability Register Contents	
▲ ► 6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header Values	
6.3.2.1: CBM: DUT Sends Vendor-Specific and Reserved Header Values	
4 > 6.3.3: MSC - DUT Output: Normal Commands	
▷ 🗄 6.3.3.1: CBM: DUT sends (0x62) GET STATE command	
▶ 6.3.3.2: CBM: DUT sends (0x63) GET VENDOR ID Command	
► 5.3.3.3: CBM: DUT sends (0x6B) GET MSC ERRORCODE Command	
5 5.3.3.4: CBM: DUT sends (0x60) SET INT/WRITE STAT Command	
► 6.3.3.5: CBM: DUT sends (0x6C) WRITE BURST Command	
$\sim = 6.3.3.6$; CBM; DUT sends (0x60) MSC MSG Command	
C 2 F. MCG DUT Sends (UXOA) GET DDC ERRORCODE Command	=E
6.3.5: MSC - DUT OUTPUT: Never Initiates Bad Commands 6.3.5.1: CBM: DUT Never Sends Reserved Commands	
► 6 3 5 2: CBM: DUT Never Sends Illegal Commands	
▶ ■ 6.3.5.3: CBM: DUT Never Sends Data While No Command is Outstanding	
▶ ■ 6.3.5.4: CBM: DUT Never Sends (0x33) ACK packet While No Command is Outstanding	
6.3.5.5: CBM: DUT Never Sends (0x34) NACK Packet While No Command is Outstanding	
6.3.5.6: CBM: DUT Never Sends (0x35) ABORT While No Command is Outstanding	
6.3.5.7: CBM: DUT Never Sends (0x32) EOF While No Command is Outstanding	
▲ ▶ 6.3.6: MSC - DUT Output: Errors and Exceptions	
6.3.6.1: CBM: DUT Receives Bad Reply; Control instead of Data	
b 5.3.6.2: CBM: DUT Receives Bad Reply; Data instead of Control	
b B 6.3.6.3: CBM: DUT Receives Bad Reply; Control, Control instead of Control, Data	
b B 6.3.6.4: CBM: DUT Receives Result Timeout	
b 5.3.6.5: CBM: Verify No Next Command Until Hold-Off after ABORT Seen	
4 6.3.7: MSC - DUT Output: Disconnect	
6.3.7.1: CBM: DUT Receives Disconnect during Various Commands	
4 > 6.3.8: MSC - DUT Input: Device Register Space Contents; Writes	
▷ 🗄 6.3.8.1: CBM: Interrupt Regs; SET INT (0x60); Valid Registers Respond	
Description: De	
▲ ► 6.3.9: MSC - DUT Input: Vendor-specific and Reserved Header Values	
43.15.1: CBT-Sink: First Discovery Pulse should be langred	

Test Options / Preview:

- Review list of tests by Section.
- Example: Section 6.3.5.x.
- Tests highlighted in blue are test that are run in background mode.

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🗄 Event Plot 🔤 Edid Editor 🔯 EDID CT 1.4a 🔯 CBUS Src CT 1.2 🔯 CBUS Dongle CT 1.2 🜆 Console 🔯 CBUS Sink CT 1.2 🛛 🔯 MHL Sink/Dongle CT 1.2	- 6
🔯 CDF Entry 🗹 Test Selection 🕨 Test Options / Preview	
Test List	
✓ All X All Instrument: My980 [192.168.254.102] ▼	Execute Tests
Category / Test Name	× _
▲ ▶ 4.2.5: EDID Test and Device Capability Register Test	
4 🛃 4.2.5.2: Device Capability Register Test	
• Iter 01:	¥ =
4 4.3.3: LINK Layer Electrical: Absolute Maximum Voltages	
• Iter 01: Continuous Background Test	
4 3.3.2: CBE-Sink: VBUS Absolute Maximum Positive Voltage	-
• Iter 01: Continuous Background Test	V
4.3.3.3: CBE-Sink: CBUS Absolute Maximum Positive Voltage	
Iter 01: Continuous Background Test	V
4 4.3.5: Link Layer Timing - DUT Output: Pre-Discovery	
4 🗏 4.3.5.1: CBT-Sink: Time from Sink-side MHL Cable Detect until Sink CBUS Leaves HIGH	
X Iter 01:	×
4 • 4.3.6: Link Layer Electrical - DUT Output: Arbitration/Sync/Data Signaling	
4.5.6.1: CBE-SINK: POST-DISCOVERY PASSIVE Pull-down Z[CBOS SINK ON] Resistance	*
4 4 3 6.2: CBE-Sink: CBUS Capacitance	
• Iter 01:	\checkmark
4 🗏 4.3.6.3: CBE-Sink: Arbitrate/Sync/Data Drive LOW Voltage	
• Iter 01:	\checkmark
🖌 📃 4.3.6.4: CBE-Sink: Arbitrate/Sync/Data Drive HIGH Voltage	
X Iter 01:	×
4 4.3.8: Link Layer Timing - DUT Output: Arbitration/Sync/Data in Bit Times	
4 🛃 4.3.8.1: CBT-Sink: Arb, Sync, Data HIGH and LOW Timing	
• Iter 01:	V
4 2 4.5.0.2: UBT-SINK: BIT TIMING VARIATION WITHIN A PACKET	1
$4 \ge 4$ 2 9. Link Lawer Timing - DUT Output: Link Lawel MACK	V
4 4.3.9.1: CBT-Sink: Response to Link Level NACK	
X Iter 01:	×
↓ ↓ 4.3.11: Link Layer Timing - DUT Ouput: Bus Re-Arbitration	
▲ 🗏 4.3.11.1: CBT-Sink: Sink uses Case 2 Regular Arbitration after NACK	
a Tter N1:	✓ ▼
Rerol:	

Test Options / Preview:

Optionally, skip certain tests (red X).

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Running the CBUS Sink Compliance Test

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CDF Entry V Test Selection V Test Options / Preview Test List V All X All Instrument: My980 [192.168.254.135] Execute Tests Category / Test Name V 4.3.3: Link Layer Electrical: Absolute Maximum Voltages V 4.3.3.1: Common Test Environment V 4.3.3.2: C CRUS Side CT Results	
Test List ✓ All X All Instrument: My980 [192.168.254.135] ► Category / Test Name ▲ ► 4.3.3: Link Layer Electrical: Absolute Maximum Voltages ► 4.3.3.1: Common Test Environment ► 4.3.3.2: C CPUE Sigh CL Basedate	1
All X All Instrument: My980 [192.168.254.135] Execute Tests Category / Test Name 4.3.3.3: Link Layer Electrical: Absolute Maximum Voltages 5.4.3.3.1: Common Test Environment 6.4.3.3.2: C CPUE Sigh CL Page/It	
Category / Test Name 4 2.3.3: Link Laver Electrical: Absolute Maximum Voltages 5 4.3.3.1: Common Test Environment 6 4.3.3.2: C CPUS Sink CL Paralte	
4 > 4.3.3: Link Layer Electrical: Absolute Maximum Voltages 9 = 4.3.3.1: Common Test Environment 9 = 4.3.3.2: C CRUS Side CL Paralte	
4.3.3.1: Common Test Environment 4.3.3.2: C CPUS Sight CT Percent	
P 1 4	
4 > 4.3.4: Link pedance	
▶ 🗄 4.3.4.1: C	
▲ ► 4.3.5: Link	
4 ≥ 4.3.6: Link	
Enter a name for the Test Results. CPUS Sink CT Perults	
▶	
▲ ▶ 4.3.7: Link	
Execute CBUS Sink Compliance Tests on Instrument: My980 @ 192.168.25	254.135
Enter a name for the Test Results	
▶ 📱 4.3.8.2: C. MyCBUS_Sink_Test1	
▲ ▶ 4.3.9: Link	
▶ □ 4.3.9.1: C	
▲ 4.3.10: Lin	
▶ 4 .3.10.2:	
▲ ▶ 4.3.11: Lin	
▶ 🗄 4.3.11.1:	
4.3.11.4: CBT-Sink: Sink Never Sends Too Many Back-	
4 > 4.3.12: Link Layer Timing - DUT Output: Ill-form	
> 4.3.12.1: CBT-Sink: Sink Never Sends Impulse Noise	
4.3.12.2: CBT-Sink: Sink Never Sends Partial Packet	

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Running the tests:

• Execute Tests.

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• Assign a name for test results file.

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Test List				
All 🗱 All 🔄 Reset Status				
Category / Test Name	×	Status		
4.3.3: Link Laver Electrical: Absolute Maximum Voltages				
E 4.3.3.1: Common Test Environment		Pass		
🛛 📃 4.3.3.2: CBE-Sink: VBUS Absolute Maximum Positive Voltage		Pass		
E 4.3.3.3: CBE-Sink: CBUS Absolute Maximum Positive Voltage		Pass		
4.3.4: Link Layer Electrical - DUT Output: Standby Discovery Impedance				
▲ 🗏 4.3.4.1: CBE-Sink: Powered-Off Z[CBUS SINK DISCOVER]		Skipped		
Iter 01: PROC_SET_STANDBY marked as not supported in the CDF: Automatic PASS(SKIP)	V	Skipped		
4.3.5: Link Laver Timing - DUT Output: Pre-Discovery				
4 [3 4.3.5.1: CBT-Sink: Time from Sink-side MHL Cable Detect until Sink CBUS Leaves HIGH	H-Z	Skipped		
▷ ● Iter 01:	V	Skipped		
4.3.6: Link Laver Electrical - DUT Output: Arbitration/Sync/Data Signaling				
• E 4.3.6.1: CBE-Sink: Post-Discovery Passive Pull-down Z[CBUS SINK ON] Resistance	4	Fall		
	V	Fall		
A.5.6.2: CBE-SINK: CBUS Capacitance	<i>_</i>	In Progress		
1 4 3 6 3: CPE-Sink: Arbitrate/Sumc/Data Drive ION Voltage	v	Not Tested		
4.3.6.4. CBF-Sink: Arbitrate/Sync/Data Drive HIGH Voltage		Not Tested		
A 3 7. Link Layer Timing - DUT Output: Arbitration/Sung/Data in Nanoseconds				
1.3.7.1: CBT-Sink: Arbitration/Sync/Data Active Drive High Duration		Not Tested		
4.3.7.2: CBT-Sink: Arbitration/Sync/Data Edge Rate		Not Tested		
4.3.8: Link Laver Timing - DUT Output: Arbitration/Sync/Data in Bit Times				
▶ 🗏 4.3.8.1: CBT-Sink: Arb, Sync, Data HIGH and LOW Timing		Not Tested		
Test Log				
e Message				
0014 Test 4.3.6.1-01				
015 Executing the test.				
016 Retrieving test results.				
1017 ** FTP Get				
** SocketTimeoutException: Read timed out				
• 0018 Test 4.3.6.1 Iter 01 -> Fail				
019 Test 4.3.6.2-01				
020 Executing the test.				

Running the tests:

- Green arrow indicates which test is being run.
- Status column provides Pass/Fail results or In Progress.
- Log panel provides detailed information about each step in the test.
- You can pause or cancel the test at any time.

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CBUS Sink Compliance Test (1.2): "MyCBUS_Sink_Test2"		(a. 8)
Test List		
📝 All 🗱 All 🔅 Reset Status		
Category / Test Name	×	Status
▶ 4.2.5: EDID Test and Device Capability Register Test		
4.2.5.1: EDID Test		In Progress
➡ Iter 01:	Image: A start of the start	In Progress
4.2.5.2: Device Capability Register Test		Not Tested
4.3.3: Link Layer Electrical: Absolute Maximum Voltages		
2 4.3.3.1: Common Test Environment		Not Tested
🗄 4.3.3.2: CBE-Sink: VBUS Absolute Maximum Positive Voltage		Not Tested
4.3.3.3: CBE-Sink: CBUS Absolute		Not Tested
► 4.3.4: Link Laver Electrical - D		
4.3.4.1: CBE-Sink: Powered-Off Z		Not Tested
Iter 01: PROC_SET_STANDBY marked as not Verify that the DUT EDD is accessible and accurate.	\checkmark	Not Tested
▶ 4.3.5: Link Laver Timing - DUT Q		
4.3.5.1: CBT-Sink: Time Connect the input of the Sink DUT to	GH-Z	Not Tested
► 4.3.6: Link Laver Electr the MHL output of the Test Instrument		
4.3.6.1: CBE-Sink: Post-Discovery as shown in the diagram below.		Not Tested
4.3.6.2: CBE-Sink: CBUS Capacitan Apply power to the sink DUI.		Not Tested
4.3.6.3: CBE-Sink: Arbitrate/Sync Use the procedure specified below to put the Sink into an active state.		Not Tested
4.3.6.4: CBE-Sink: Arbitrate/Sync		Not Tested
A.3.7: LINK Layer Timing - DUT G		Not Tostod
a 4 2 7 0 CPM-Sink: Arbitration/Sy		Not Tested
A 2 0: Tink American Difference		Not lested
Cancel Compliance Test		
		,
Castinus		
Line Message		
• 0001 Compliance Test Started.		
• 0002 Initialization.		
• 0003 Assembling the test list.		
• 0004 Transferring the CDF to the Test Instrument.		
• 0005 Test 4.2.5.1-01		
Sancel the Compliance Test > Pause Test Execution		

Running the tests:

- Review list of tests by Section.
- Example: Section 4.3.4.x.
- Instructions provided on test setup configuration.

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CBUS Sink Compliance Test (1.2): "MyCBUS_Sink_Test2"		(a.B.)
Test List		
All 🗶 All		
Category / Test Name	×	Status
▶ 4.2.5: EDID Test and Device Capability Register Test		
4.2.5.1: EDID Test		In Progress
Iter 01:	×	In Progress
🗏 4.2.5.2: Device Capability Register Test		Not Tested
4.3.3: Link Laver Electrical: Absolute Maximum Voltages		
4.3.3.1: Common Test Environment		Not Tested
4.3.3.2: CBE-Sink: VBUS Absolute Maximum Positive Voltage		Not Tested
4.3.3.3: CBE-Sink: CBUS Absolute Test Setup		Not Tested
4.3.4: Link Layer Electrical - D		Not mosted
Test 4.2.5.1, Iter-01		Not Tested
Verify that the DUT EDID is accessible and	accurate.	Not lested
4.3.5: Link Layer Timing - DUT C	HICH-7	Not Tested
Connect the input of the Sink DUI	f to	Not Tebted
4.3.6.1: CBE-Sink: Post-Discovery	nent e	Not Tested
4.3.6.2: CBE-Sink: CBUS Capacitan Apply power to the Sink DUT.		Not Tested
4.3.6.3: CBE-Sink: Arbitrate/Sync		Not Tested
5 4.3.6.4: CBE-Sink: Arbitrate/Sync	into an active state.	Not Tested
▶ 4.3.7: Link Layer Timing - DUT C	nds	
4.3.7.1: CBT-Sink: Arbitration/Sy		Not Tested
4.3.7.2: CBT-Sink: Arbitration/Sy		Not Tested
▶ 4.3.8: Link Layer Timing - DUT C	s	
		Þ
Continue		
Line Message		
• 0001 Compliance Test Started.		
• 0002 Initialization.		
• 0003 Assembling the test list.		
• 0004 Transferring the CDF to the Test Instrument.		
• 0005 Test 4.2.5.1-01		
Cancel the Compliance Test	Test Execution	
V V V		

Running the tests:

- Review list of tests by Section.
- Example: Section 6.3.5.x.

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Test List		
All 💥 All 🔄 Reset Status		
Category / Test Name	V	Status
4.2.5: EDID Test and Device Capability Register Test		
4 🗏 4.2.5.1: EDID Test		Fail
▷ 싙 Iter 01:	V	Fail
🖌 📃 4.2.5.2: Device Capability Register Test		Fail
þ 😝 Iter 01:	\checkmark	Fail
4.3.3: Link Layer Electrical: Absolute Maximum Voltages		
E 4.3.3.1: Common Test Environment E 5.3.3.1: Common Test E 5.3.3		Pass
🗈 🗏 4.3.3.2: CBE-Sink: VBUS Absolute Maximum Positive Voltage		Pass
> 🗏 4.3.3.3: CBE-Sink: CBUS Absolute Maximum Positive Voltage		Pass
4.3.4: Link Laver Electrical - DUT Output: Standby Discovery Impedance		
4 📑 4.3.4.1: CBE-Sink: Powered-Off Z[CBUS SINK DISCOVER]		Skipped
Iter 01: PROC_SET_STANDBY marked as not supported in the CDF: Automatic PASS(SKIP)	\checkmark	Skipped
4.3.5: Link Laver Timing - DUT Output: Pre-Discovery		
4.3.5.1: CBT-Sink: Time from Sink-side MHL Cable Detect until Sink CBUS Leaves	HIGH-	In Progress
🔿 Iter 01:	V	In Progress
4.3.6: Link Laver Electrical - DUT Output: Arbitration/Sync/Data Signaling	x	
4.3.6.1: CBE-Sink: Post-Discovery Passive Pull-down Z[CBUS SINK ON] Resistance		Not Tested
4.3.6.2: CBE-Sink: CBUS Capacitance		Not Tested
4.3.6.3: CBE-Sink: Arbitrate/Sync/Data Drive LOW Voltage		Not Tested
E 4.3.6.4: CBE-Sink: Arbitrate/Sync/Data Drive HIGH Voltage		Not Tested
4.3.7: Link Laver Timing - DUT Output: Arbitration/Sync/Data in Nanosecon	is	
4.3.7.1: CBT-Sink: Arbitration/Sync/Data Active Drive HIGH Duration		Not Tested
4.3.7.2: CBT-Sink: Arbitration/Sync/Data Edge Rate		Not Tested
Test Log		
ine Message		
0017 Test 4.2.5.2 Iter 01 -> Fail		
0018 Test 4.3.4.1-01		
0019 Test 4.3.4.1 Iter 01 -> Skipped		
0020 Test 4.3.5.1-01		
0021 Executing the test.		
0022 Retrieving test results.		
0023 Processing test results.		
10024 Saving the test logs		
buying the cest rogs.		

Running the tests:

- Pass/Fail indication shown under status.
 - Note that status of test
 highlighted in blue is
 provided as these background tests progress.
 Final test results for
 these tests are only
 provided when the test
 suite is completed.

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Viewing the CBUS Sink Compliance Test Results

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MHL CBUS Sink Compliance – Review Test Selections



Access test results through Navigator/Compliance panel:

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🚽 Event Plot 🔤 Edid Editor 🔯 EDID CT 1.4a 🔯 CBUS	Src CT 1.2 🔯 CBUS Sink CT 1.2 📳 CT Results 🕱	 1	
CBUS	Sink Compliance Test Results		
Results Name: MyCBUS_Sink_Test2 Date Tested: September 14, 2012 12:01 PM Overall Status: CTS 1.2 - Canceled	Manufacturer: Samsung Model Name: Unknown Port Tested: 1	HTML	Report
	Test Results		
Test Name / Details		Status	
4 2 5 1: EDID Test		 Fail	
4.2.5.2: Device Capability	Register Test	Fail	
4.3.3.1: Common Test Enviro	nment	 Pass	
4.3.3.2: CBE-Sink: VBUS Abs	olute Maximum Positive Voltad	Pass	E
4.3.3.3: CBE-Sink: CBUS Abs	olute Maximum Positive Voltad	Pass	
4.3.4.1: CBE-Sink: Powered-	Off Z[CBUS SINK DISCOVER]	Skipped	
4.3.5.1: CBT-Sink: Time fro	m Sink-side MHL Cable Detect	Skipped	
4.3.6.1: CBE-Sink: Post-Dis	covery Passive Pull-down Z[CH	Fail	
4.3.6.2: CBE-Sink: CBUS Cap	acitance	Fail	
4.3.6.3: CBE-Sink: Arbitrat	e/Sync/Data Drive LOW Voltage	Fail	
📑 4.3.6.4: CBE-Sink: Arbitrat	e/Sync/Data Drive HIGH Volta	Fail	
📑 4.3.7.1: CBT-Sink: Arbitrat	ion/Sync/Data Active Drive H1	Fail	
📑 4.3.7.2: CBT-Sink: Arbitrat	ion/Sync/Data Edge Rate	Fail	
🗏 4.3.8.1: CBT-Sink: Arb, Syn	c, Data HIGH and LOW Timing	Fail	
📃 🗐 4.3.8.2: CBT-Sink: Bit Timi	ng Variation within a Packet	Pass	
🗏 4.3.9.1: CBT-Sink: Response	to Link Level NACK	Fail	
📃 4.3.10.1: CBT-Sink: ACK Out	put Timing in Nanoseconds	Fail	
📃 4.3.10.2: CBT-Sink: ACK Dri	ve HIGH Duration	Fail	
📃 4.3.11.1: CBT-Sink: Sink us	es Case 2 Regular Arbitration	Fail	
📃 4.3.11.2: CBT-Sink: Sink Ca	se 3 Long Re-arbitration when	Fail	
4.3.11.3: CBT-Sink: Sink Us	es Case 1 Back-to-Back Timing	Fail	
4.3.11.4: CBT-Sink: Sink Ne	over Sends Too Many Back-to-Ba	Pass	
4.3.12.1: CBT-Sink: Sink Ne	ver Sends Impulse Noise	Pass	
4.3.12.2: CBT-Sink: Sink Ne	over Sends Partial Packets	Pass	
4.3.13.1: CBE-Sink: Discove	ry Sensitivity to Input Volta	Fail	
1 4.3.14.1: CBT-Sink: Valid W	ake Pulse Timing	 Fail	
[] 4.3.14.2: CBT-Sink: Valid D	iscovery Pulse Timing	 Fail	
4.3.14.3: CBT-Sink: Sink in	Standby Discovers on Wake pl	 Skipped	
[∃ 4.3.15.1: CBT-Sink: First D	iscovery Pulse should be Igno	Fail	
Instrument: Mv980 [192.168.254.135]		 Continue Test Ever	ution

View Test results:

 Pass/Fail indication provided under Status column.

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Viewing the CBUS Sink Compliance Test Report

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esults Name: MyCBUS_Sink_Test2 Manufacturer: Acme Date Tested: September 14, 2012 12:01 PM Model Name: Unknown verall Status: CTS 1.2 - Canceled Port Tested: 1		HTML Report
Test Results		_
Test Name / Details	Q	Status
🗏 4.2.5.1: EDID Test		Fail
🗏 4.2.5.2: Device Capability Register Test		Fail
🗏 4.3.3.1: Common Test Environment		Pass
🗏 4.3.3.2: CBE-Sink: VBUS Absolute Maximum Positive Voltage		Pass
🗏 4.3.3.3: CBE-Sink: CBUS Absolute Maximum Positive Voltage		Pass
<pre>4.3.4.1: CBE-Sink: Powered-Off Z[CBUS SINK DISCOVER]</pre>		Skipped
📃 4.3.5.1: CBT-Sink: Time from Sink-side MHL Cable Detect until	Sin	Skipped
📃 4.3.6.1: CBE-Sink: Post-Discovery Passive Pull-down Z[CBUS SI	NK O	Fail
4.3.6.2: CBE-Sink: CBUS Capacitance		Fail
🗏 4.3.6.3: CBE-Sink: Arbitrate/Sync/Data Drive LOW Voltage		Fail
🗏 4.3.6.4: CBE-Sink: Arbitrate/Sync/Data Drive HIGH Voltage		Fail
📃 4.3.7.1: CBT-Sink: Arbitration/Sync/Data Active Drive HIGH Du	rati	Fail
🗏 4.3.7.2: CBT-Sink: Arbitration/Sync/Data Edge Rate		Fail
🗏 4.3.8.1: CBT-Sink: Arb, Sync, Data HIGH and LOW Timing		Fail
🗏 4.3.8.2: CBT-Sink: Bit Timing Variation within a Packet		Pass
4.3.9.1: CBT-Sink: Response to Link Level NACK		Fail
🗏 4.3.10.1: CBT-Sink: ACK Output Timing in Nanoseconds		Fail
4.3.10.2: CBT-Sink: ACK Drive HIGH Duration		Fail
📳 4.3.11.1: CBT-Sink: Sink uses Case 2 Regular Arbitration afte	r NA	Fail
📳 4.3.11.2: CBT-Sink: Sink Case 3 Long Re-arbitration when it G	ives	Fail
🗏 4.3.11.3: CBT-Sink: Sink Uses Case 1 Back-to-Back Timing (No	Re-a	Fail
🗏 4.3.11.4: CBT-Sink: Sink Never Sends Too Many Back-to-Back Pa	cket	Pass
🗏 4.3.12.1: CBT-Sink: Sink Never Sends Impulse Noise		Pass
🗏 4.3.12.2: CBT-Sink: Sink Never Sends Partial Packets		Pass
4.3.13.1: CBE-Sink: Discovery Sensitivity to Input Voltages		Fail
🗏 4.3.14.1: CBT-Sink: Valid Wake Pulse Timing		Fail
🗏 4.3.14.2: CBT-Sink: Valid Discovery Pulse Timing		Fail
📳 4.3.14.3: CBT-Sink: Sink in Standby Discovers on Wake plus Di	scov	Skipped
4.3.15.1: CBT-Sink: First Discovery Pulse should be Ignored		Fail

Viewing the test results:

- Pass/Fail indication shown under status.
- Obtain an HTML report.

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] Event Plot 🔛 Edid Editor 🔯 EDIL	D CT 1.4a 🔯 CBUS Src CT 1.2 🔯 CBUS Sink CT 1.2 📃 C	T Results 🖾		
	CBUS Sink Compliance	e Test Results	_	
esults Name: MyCBUS_Sink_Test2	Manu	Ifacturer: Acme		HTML Rep
Date Tested: September 14, 2012 12	:01 PM Mod	lel Name: Unknown		
verall Status: CTS 1.2 - Canceled	Por	rt Tested: 1		
	Test Result	S		
Test Name / Details			Ø	Status
🗏 4.2.5.1: EDID Tes	st			Fail
🗏 4.2.5.2: Device (Capability Register Test			Fail
🗏 4.3.3.1: Common	Test Environment			Pass
4.3.3.2: CBE	L. INIG AL-LINE Menimum Desitio	<u>''</u> ltage		Pass
■ 4.3.3.3: CBE Genera	ate Report	ltage		Pass
4.3.4.1: CBE				Skipped
■ 4.3.5.1: CBT	HTML Report	ect until Sin		Skipped
■ 4.3.6.1: CBE	MyCBUS_Sink_Test2	Z [CBUS SINK O		Fail
4. 3	Select the desired report options.			Fail
= 4.5 E		tage		Fail
■ 4.3.6.4: ĊBE	Show Test Summary Only.	ltage		Fail
4.3.7.1: CBT	☑ Include CDE Information.	e HIGH Durati		Fail
4.3.7.2: CBT	a medde ebr mornadom			Fail
4.3.8.1: CBT		ng		Fail
■ 4.3.8.2: CBT	Cancel K	ket		Pass
4.3.9.1: CBT				Fail
4.3.10.1: CB	the second se			Fail
4.3.10.2: CBT-Sin	nk: ACK Drive HIGH Duration			Fail
4.3.11.1: CBT-Sin	nk: Sink uses Case 2 Regular Ark	oitration after NA		Fail
4.3.11.2: CBT-Sin	nk: Sink Case 3 Long Re-arbitrat	tion when it Gives		Fail
4.3.11.3: CBT-Sin	nk: Sink Uses Case 1 Back-to-Bac	ck Timing (No Re-a		Fall
4.3.11.4: CBT-Sin	nk: Sink Never Sends Too Many Ba	ack-to-Back Packet		Pass
4.3.12.1: CBT-Sin	nk: Sink Never Sends Impulse Noi	Lse		Pass
4.3.12.2: CBT-S1	nk: Sink Never Sends Partial Pac	CKets		Pass
4.3.13.1: CBE-S11	nk: Discovery sensitivity to Ing	put voltages		Fall
4.3.14.1: CBT-S1	nk: valid Wake Pulse Timing			Patt Patt
■ 4 .2 .14 .2: CBT-S11	nk: valla Discovery Pulse Timing	J Make plug Disser		Skipped
■ 4 .2 1E 1. CDm c4	nk, Sink in Standby Discovers of	i wake plus Discov	-	Enil
[4.3.15.1: CBT-S1	nk: First Discovery Pulse should	i ne Iduorea		Fall
ostrument: M.080 [102 168 254 135]				 Continue Test Execution

Viewing the test results:

- Obtain an HTML report.
- Indicate summary test report or include CDF.

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r C:\Users\nken	Jall\Desktop\980 CBUS GU\980mgr\cbussinkct\results\MyCBUS Sink `	Test2\Report Summary Cdf.htm	
erated on: September 17, 2012 5:05 PM	Quantum Data BUS Sink Compliance Test	t Report	<u>www.quantumda</u>
	CTS 1.2		
Results Name:	MyCBUS_Sink_Test2	Manufacturer:	Samsung
Date Tested:	September 14, 2012 12:01 PM	Model Name:	Unknown
	Capabilities Declaration Form (CD	F)	
	General		
CDF_MFR_NAME S			Samsung
CDF_MODEL_NUMBER Unknown			Unknown
CDF_SINK_CBUS_THRESHOLD_V 0.78			
CDF_SINK_CABLE_DETECT_TO_R_DISCOVER 60			
CDF_PROC_SET_ACTIVE Not Specified			Not Specified
CDF_PROC_SET_STANDBY Not Supported			Not Supported
CDF_RCP_RECEIVE YES		YES	
CDF_RCP_SEND			YES
CDF_LOG_DEV_MAP_CHANGE NO			NO
	Capability Registers		
CDF_CR_MHL_VER_MAJOR			1
CDF_CR_MHL_VER_MINOR 1		1	
CDF_CR_DEV_TYPE 1		1	
	CDF_CR_POW 1		
CDF_CR_POW			1
CDF_CR_POW CDF_CR_ADOPTER_ID_H			0

Viewing the HTML Test Report:

 Save report for later viewing or dissemination to colleagues.

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C:\Users\nkendall\Desktop\980_CBUS_GUI\980mgr\cbussinkct\results\MyCBUS_Sinl	k_Test2\Report_Summary_Cdf.htm
Test 4.2.5.1 EDID Test	Fail
Test 4.2.5.2 Device Capability Register Test	Fail
Test 4.3.3.1 Common Test Environment	Pass
Test 4.3.3.2 CBE-Sink: VBUS Absolute Maximum Positive Voltage	Pass
Test 4.3.3.3 CBE-Sink: CBUS Absolute Maximum Positive Voltage	Pass
Test 4.3.4.1 CBE-Sink: Powered-Off Z[CBUS_SINK_DISCOVER]	Skipped
Test 4.3.5.1 CBT-Sink: Time from Sink-side MHL Cable Detect until Sink CBUS Leaves HIGH-Z	Skipped
Test 4.3.6.1 CBE-Sink: Post-Discovery Passive Pull-down Z[CBUS_SINK_ON] Resistance	Fail
Test 4.3.6.2 CBE-Sink: CBUS Capacitance	Fail
Test 4.3.6.3 CBE-Sink: Arbitrate/Sync/Data Drive LOW Voltage	Fail
Test 4.3.6.4 CBE-Sink: Arbitrate/Sync/Data Drive HIGH Voltage	Fail
Test 4.3.7.1 CBT-Sink: Arbitration/Sync/Data Active Drive HIGH Duration	Fail
Test 4.3.7.2 CBT-Sink: Arbitration/Sync/Data Edge Rate	Fail
Test 4.3.8.1 CBT-Sink: Arb, Sync, Data HIGH and LOW Timing	Fail
Test 4.3.8.2 CBT-Sink: Bit Timing Variation within a Packet	Pass
Test 4.3.9.1 CBT-Sink: Response to Link Level NACK	Fail
Test 4.3.10.1 CBT-Sink: ACK Output Timing in Nanoseconds	Fail

Viewing the HTML Test Report:

 Save report for later viewing or dissemination to colleagues.

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	Test Equipment Information	<
	Instrument	
Name: Mv980		
IP Address: 192.168.254.	.135	
Net Mask: 255.255.255.0		
Gateway IP: 192.168.254.	.1	
Free Space: 121.08 GB of	r 144.22 GB (84.0%)	
Advanced Test pl	latform Release: 4.5.27	
MHL CBUS Protoco	ol Analyzer in slot 1:	
Gateware: [Ver	rsion: 0 Build Number: 4 (09:11:2012 121000) pcb: 23232323]	
Firmware: [Ver	rsion: 1.0.1 Build Number: 1978 (mblair 09:13:2012 09:21:52 CDT)]	
System Informati	ion:	
System SN :	[47A7D6F8C0A385A0::N/A]	
Main Board :		
CPUx4 :	[6.42.7 "Intel(R) Core(TM) i3-2100 CPU @ 3.10GHz"]	
DDR :	[3 GB + 768 MB]	
HD :	[WD1600BEVT-1]	
OS :	[Linux xpscope-81 2.6.26-2-686 #1 SMP Wed Sep 21 04:35:47 UTC 2011 i686 GNU/Linux]	
GOI manager : 1	[version 4.5.2/_39005_201209061011]	
2	[eth0 inct 192.168.254.135/24 brd 192.168.254.255 scope global eth0]	
HDMI SINK CTS:	: [3.1.7]	
HDMI SRC CTS:	[3.1.8]	
MHL SINK CTS:	[1.2.0]	
MHL SRC CTS :	[1.2.1]	
	Host	
UI Name: Quantum Data 98	30 Manager - Version 4.5.29	
UI Home: platform:/base/	/plugins/com.quantumdata.i980.app	
Java Vendor: Null		
Java Runtime: 1.6.0_15-k		
Java Home: C:\Users\nker	udall/Deskrob/as0_Kelease_2_5a/asomät/lie	
05. win52 05 Arch: x86		
Locale: en US		
-		

Viewing the HTML Test Report:

• View Test Equipment information.

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MHL CBUS Log Plots – Sink Tests Refer to <u>Source Section</u>

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MHL CBUS Dongle Compliance Test

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MHL CBUS Dongle Compliance Test – Setup

• Test setup with external GUI shown below



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MHL CBUS Dongle Compliance Test – Setup

• Run tests through the embedded GUI.



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MHL CBUS Dongle Compliance Test – Setup

• Run tests through the external GUI.



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뒢 Event Plot 🔤 Edid Editor 隧 EDID CT :	1.4a 🔯 CBUS Src CT 1.2 🔯 CBUS Dongle CT 1.2 🙁 🛛 🖪 Console 🔯 CBUS Sink CT 1.2 🔯 MHL Sink/Dongle CT 1.2 👘
🔯 CDF Entry 🧹 Test Selection 🕨 T	est Options / Preview
CDF Fi	le: <not saved=""></not>
General Registers RCP Rcv	RCP Send RCP LD Map
CDF_MFR_NAME	What is the product manufacturer's name? ^ Quantum Data
CDF_MODEL_NUMBER	What is the model name/number of the product? 980
CDF_PROC_SET_ACTIVE	Set Device into Active Mode for Discovery Tests. Edit Procedure
CDF_PROC_SET_STANDBY	Set Device into Standby Mode for Discovery Tests. Standby Mode Supported? Edit Procedure
CDF_HDCP_SUPPORT	Is HDCP supported on this DUT? O Yes No
CDF_D_CBUS_THRESHOLD_V	Voltage at which CBUS Timing Measurements should be taken. This voltage should be halfway between the HIGH and LOW CBUS voltages for data driven by this device. This will be related to the device's VOH. 0.90 V (0.75 to 1.05)
CDF_D_MAX_CBUS_CAP	Specify the Dongle's maximum capacitance on CBUS. 0.1 pF
CDF_D_MAX_STANDBY_TO_ACTIVE	Maximum time from Wake Pulses until device leaves Standby Mode. Visible as Z[CBUS_SINK_DISCOVER]. 60 sec.
CDF_D_ACCEPTS_POWER_FROM_SOURCE	Does the Dongle accept VBUS power input from the Source? Yes No
CDF_D_POWERED	Does the DUT have its own power? Ves No
CDF_D_MAX_POWER_DOWN	Specify the maximum time required for Dongle to power-down when disconnected from its own power source. 500 milliseconds
CDF_D_MAX_POWER_UP	Specify the maximum time required for Dongle to power-up when connected to its own power source.

CDF:

- Defines the capabilities of the device under test.
- Provides a series of tabs for each type of feature.
- Provides description of each field.
- Example: General tab.
- Determines which tests to run.

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뒢 Event Plot 💷 Edid Editor 🕅	👺 EDID CT 1.4a 🔯 CBUS Src CT 1.2 🔯 CBUS Dongle CT 1.2 🙁 🔤 Console 🔯 CBUS Sink CT 1.2 🔯 MHL Sink/Dongle CT 1.2 👘 🗖
💟 CDF Entry 🧹 Test Selec	tion Test Options / Preview
Copen New S	eve CDF File: <not saved=""></not>
CDF_RCP_RECEIVE	Does the DUT receive RCP? If yes, provide expected behavior for each supported RCP command below.
	Select the RCP commands the DUT can receive. Specify the expected behavior for each supported command so that the Test Engineer can verify the correct behavior when each RCP command is received by the DUT.
CDF_RCP_RCV_BEHAVIOR_00	0x00: Select () Required By: GUI Supported? Edit Behavior
CDF_RCP_RCV_BEHAVIOR_01	0x01: Up (i) Required By: GUI V Supported? Edit Behavior
CDF_RCP_RCV_BEHAVIOR_02	0x02: Down () Required By: GUI Supported? Edit Behavior
CDF_RCP_RCV_BEHAVIOR_03	0x03: Left Required By: GUI Supported? Edit Behavior
CDF_RCP_RCV_BEHAVIOR_04	0x04: Right Required By: GUI Supported? Edit Behavior
CDF_RCP_RCV_BEHAVIOR_05	0x05: Right-Up Supported? Edit Behavior
	0x06: Right-Down 🕦

CDF:

• Example: RCP Rcv tab.

Note: You can enter helpful information using the "Edit Procedure" dialog box. The information entered into this dialog box will appear during the test and can be helpful to users running an particular test.

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Event Plot 🔤 Edid Editor 🔯 EDID CT 1.4a 🔯 CBUS Src CT 1.2 🔯 CBUS Dongle CT 1.2 🖄 🖪 Console 🔯 CBUS Sink CT 1.2 🕲 MHL Sink/Dongle CT 1.2
CDF Entry 🗸 Test Selection 🕨 Test Options / Preview
CDF File: < not saved>
General Registers RCP Rcv RCP Send
Does the DUT send RCP? CDF_RCP_SEND If yes, provide procedures for each supported RCP command below. Image: Send Part of the send procedure of the send p
Select the RCP commands the DUT can send. Specify the procedure for each supported command so that the Test Engineer can force the DUT to output each RCP command, using these detailed steps and the DUT's user interface.
0x00: Select 🕕
DF_RCP_SEND_PROCEDURE_00 V Supported? Edit Procedure
0x01: Up 📵
DF_RCP_SEND_PROCEDURE_01 V Supported? Edit Procedure
0x02: Down 🚯
DF_RCP_SEND_PROCEDURE_02 V Supported? Edit Procedure
0x03: Left 🚯
DF_RCP_SEND_PROCEDURE_03 Variable Supported? Edit Procedure
0x04: Right 🕕
DF_RCP_SEND_PROCEDURE_04
0x05: Right-Up 📵
DF_RCP_SEND_PROCEDURE_05
0x06: Right-Down 🕕
DF_RCP_SEND_PROCEDURE_06

CDF:

• Example: RCP Send Tab.

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뒢 Event Plot 🔤 Edid Editor 🔯	EDID CT 1.4a 🕥	🖄 CBUS Src CT 1.2 🔯 CBUS Dongle CT 1.2 😣 🔳	Console 🔯 CBUS Sink CT 1.2	🔯 MHL Sink/Dongle CT 1.2 🛛 🖓 🗖	
😢 CDF Entry 🗹 Test Selectio	🔯 CDF Entry 🗹 Test Selection 🕨 Test Options / Preview				
🔄 Open 🔒 New 📑 Save	CDF File: < not saved>				
	. •	RCP Send RCP LD Map			
CDF_RCP_SEND	Does the DUT If yes, provide Yes No	send RCP? procedures for each supported RCP command below			
	Select the RC Specify the pr these detailed	P commands the DUT can send. rocedure for each supported command so that the Te d steps and the DUT's user interface.	st Engineer can force the DUT	to output each RCP command, using	
	ct	Save CDF			
CDF_RCP_SEND_PROCEDURE_00	▼ supp ted	🖄 CDF Name			
	0x01: Up 🕕	Enter a name for the			
CDF_RCP_SEND_PROCEDURE_01	V Supported		CDF Editor	No. 207 can used	
	0x02: Down	MySelect_Dongle		Open CDF File	
CDF_RCP_SEND_PROCEDURE_02	📝 Supported		Select a C	DF to open in the CDF editor.	
	0x03: Left 🌘		MySelect Donale		
CDF_RCP_SEND_PROCEDURE_03	V Supported				
	0x04: Right				
CDF_RCP_SEND_PROCEDURE_04	Supported				
	0x05: Right-I				
CDF_RCP_SEND_PROCEDURE_05	Supported	Cancel			
	0x06: Right-I				
CDF_RCP_SEND_PROCEDURE_06	Supported	? Edit Procedure	🛛 🔁 Cance	el 📀 Ok	
	I	2			

CDF:

- Save and reuse CDF definitions.
- Saves time of re-entering data.
- Files can be transferred to colleagues to help expedite product capability selection process in a test series.

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뒢 Event Plot 🔤 Edid Editor 🔯	EDID CT 1.4a 🔯 CBUS Src CT 1.2 🔯 CBUS Dongle CT 1.2 🗵 🧕 Console 🔯 CBUS Sink CT 1.2 🔯 MHL Sink/Dongle CT 1.2
🔯 CDF Entry 🧹 Test Selection	n 🕨 Test Options / Preview
Copen New Save	CDF File: MySelect_Dongle
CDF_RCP_SEND	Does the DUT send RCP? If yes, provide procedures for each supported RCP command below.
	Select the RCP commands the DUT can send. Specify the procedure for each supported command so that the Test Engineer can force the DUT to output each RCP command, using these detailed steps and the DUT's user interface.
CDF_RCP_SEND_PROCEDURE_00	0x00: Select () Supported? Edit Procedure
CDF_RCP_SEND_PROCEDURE_01	0x01: Up (1) V Supported? Edit Procedure
CDF_RCP_SEND_PROCEDURE_02	0x02: Down (1) V Supported? Edit Procedure
CDF_RCP_SEND_PROCEDURE_03	0x03: Left (1) V Supported? Edit Procedure
CDF_RCP_SEND_PROCEDURE_04	0x04: Right () Supported? Edit Procedure
CDF_RCP_SEND_PROCEDURE_05	0x05: Right-Up Supported? Edit Procedure
CDF_RCP_SEND_PROCEDURE_06	0x06: Right-Down (1) Supported? Edit Procedure

CDF:

 CDF saved for later reuse.

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	Test Selection Test Options / Preview			
C Open	Save Select All Tests Deselect All Tests			
▶ Dongle (32/3	38) Common (0/69) EDID (0/2) RCP (0/2)			
▶ 5.3.3	Link Laver Electrical: Absolute Maximum Voltages	3/3		-
▶ 5.3.4	Link Layer Electrical - DUT Output: Discovery Impedance	3/3		'n
▶ 5.3.5	Link Layer Timing - DUT Output: Pre-Discovery	0/1		
▶ 5.3.6	Link Layer Electrical - DUT Output: Arbitration/Sync/Data Signaling	4/4		1
▶ 5.3.7	Link Layer Timing - DUT Output: Arbitration/Sync/Data in Nanoseconds	2/2		
▶ 5.3.8	Link Layer Timing - DUT Output: Arbitration/Sync/Data in Bit Times	2/2		
▶ 5.3.9	Link Layer Timing - DUT Output: Link Level NACK	0/1		
▶ 5.3.10	Link Layer Timing - DUT Output: Link Level NACK	2/2	2	
▶ 5.3.11	Link Layer Timing - DUT Ouput: Bus Re-Arbitration	4/4		
▶ 5.3.12	Link Layer Timing - DUT Output: Ill-formed packets	2/2	2	E
▶ 5.3.13	Link Layer Electrical - DUT Input: Discovery	0/1		
▶ 5.3.14	Link Layer Timing - DUT Input: Discovery OK	3/3		
▶ 5.3.15	Link Layer Timing - DUT Input: Discovery Reject	2/2	2	
▶ 5.3.16	Link Layer Electrical - DUT Input: Arbitration/Sync/Data Signaling	1/1		
▶ 5.3.17	Link Layer Timing - DUT Input: Arbitration	0/3		
▶ 5.3.18	Link Layer Timing - DUT Input: Data	1/1	2	
▶ 5.3.19	Link Layer Timing - DUT Input: NACK	1/1	M	
▶ 5.3.20	Link Layer Timing - DUT Input: ACK	1/1		
▶ 5.3.21	Link Layer Timing - DUT Input: Bus Re-Arbitration	1/1	2	
▶ 5.3.22	Link Layer Timing - DUT Input: III-formed Packets	1/1		
▶ 5.3.23	Link Layer Timing - DUT Input: Disconnect	3/3		Ŧ
✓ 5.3.6. Verify t	1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBUS_SINK_ON] Resistance hat Dongle DUT Z[CBUS_SINK_ON] has correct value.			
✓ 5.3.6. Verify tl	2: CBE-Dongle: CBUS Capacitance hat the Dongle DUT has a low-enough input capacitance.			
5.3.6. Verify the	3: CBE-Dongle: Arbitrate/Sync/Data Drive LOW Voltage hat Dongle DUT drives Arbitration, Sync, and Data Pulses with the correct DRIVE LOW voltage.			
5.3.6 . Verify th	4: CBE-Dongle: Arbitrate/Sync/Data Drive HIGH Voltage hat Dongle DUT drives Arbitration, Sync, and Data Pulses with correct DRIVE HIGH voltage.			

Test Selection:

- Determine which specific tests to run in a test suite.
- Select all tests or select specific test sections or particular tests within each section.
- Check box indicators inform how many tests in each section and how many are selected.
- Example: CBUS Dongle test tab w/ Link Layer Electrical – DUT Output Bus Arbitration/ Sync/ Data Signaling.

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1	👉 Event Plot 🗳	e Edid Editor 🔯 EDID CT 1.4a 🔯 CBUS Src CT 1.2 🔯 CBUS Dongle CT 1.2 🛛 🔟 Console 🔯 CBUS Sink CT 1.2 🔯 MHL Sink/Dongle CT	г 1.2	² E
	💟 CDF Entry	V Test Selection 🕨 Test Options / Preview		
	🔄 Open	Saver Select All Tests Deselect All Tests		
	Dongle (32)	(38) ommon (44/69) ► EDID (0/2) ► RCP (0/2)		
	▶ 6.3.1	MS(JT Input: Device Register Space Contents; Reads	1/1	
	▶ 6.3.2	MSC - DUT Output: Vendor-specific and Reserved Header Values	1/1	
	▶ 6.3.3	MSC - DUT Output: Normal Commands	7/7	
	▶ 6.3.5	MSC - DUT Output: Never Initiates Bad Commands	7/7	
l	▶ 6.3.6	MSC - DUT Output: Errors and Exceptions	5/5	
	▶ 6.3.7	MSC - DUT Output: Disconnect	1/1	
	▶ 6.3.8	MSC - DUT Input: Device Register Space Contents; Writes	2/2	
	▶ 6.3.9	MSC - DUT Input: Vendor-specific and Reserved Header Values	1/1	
	▶ 6.3.10	MSC - DUT Input: Normal Commands	8/8	
	▶ 6.3.11	MSC - DUT Input: Errors and Exceptions	0/23	
	▶ 6.3.12	MSC - DUT Input: Argument Timeouts	9/9	
	▶ 6.3.15	MSC - DUT Output: Normal Commands	2/2	
	▶ 6.3.16	MSC - DUT Input: Errors and Exceptions	0/2	
	▶ 6.3.20	DDC - DUT Input; Continuous Monitors and Normal Operation	2/2	
	▶ 6.3.21	DDC - DUT Input; Normal Operation	5/5	
	▶ 6.3.22	DDC - DUT Input; Illegal Responses	3/3	
	✓ 6.3.6 Respo Verify charac	. 1: CBM: DUT Receives Bad Reply; Control instead of Data nd to valid MSC commands with illegal results, and observe the DUT responses. that DUT does something predictable when Tester replies to a Command with a Control ter when Data is expected.		-
	✓ 6.3.6 Respo Verify a Cont	.2: CBM: DUT Receives Bad Reply; Data instead of Control nd to valid MSC commands with illegal results, and observe the DUT responses. that DUT does something predictable when Tester replies to a Command with Data when rol character is expected.		ш
	G.3.6 Respo Verify Contro	. 3: CBM: DUT Receives Bad Reply; Control, Control instead of Control, Data nd to valid MSC commands with illegal results, and observe the DUT responses. that DUT does something predictable when Tester replies to a Command with a ol character when Data is expected.		
	G.3.6 Respo Verify	. 4: CBM: DUT Receives Result Timeout nd to valid MSC commands with illegal results, and observe the DUT responses. that DUT responds to a Timeout with an ABORT.		+

Test Selection:

 Select "Common" Sink tests for MSC and DDC.

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CDF Entry 🗸 Test Selection 🕨 Test Options / Preview	
Copen Seve Select All Tests Deselect All Tests	
▶ Dongle (32/38) ▶ Common (43/69) ▶ EDID (0/2) ▶ RCP (0/2)	
✓ 5.2.5.1: EDID Test Verify that the DUT EDID is accessible and rate.	
Verify that the Device Capability Register accurate values.	

Test Selection:

• Select EDID Registers Tests.

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🗄 Event Plot 🔤 Edid Editor 🔯 EDID CT 1.4a 🔯 CBUS Src CT 1.2 🔯 CBUS Dongle CT 1.2 🗵 🔟 Console 🔯 CBUS Sink CT 1.2 🔯 MHL Sink/Dongle CT 1.2	- 8
🔯 CDF Entry 🗸 Test Selection 🕨 Test Options / Preview	
Copen Save Select All Tests Deselect All Tests	
▶ Dongle (32/38) ▶ Common (43/69) ▶ EDID (0/2) ▶ RCP (0/2)	
5.2.6.1: RCP Sub-Commands Receiving Test Verify that DUT responds properly to all incoming RCP sub-commands, according to the logical device type of types indicated in the CDF.	
5.2.6.2: RCP Sub-Commands Transmitting Test Verify that DUT transmits properly each required RCP sub-command, according to the logical device type of types indicated for the Dongle DUT in the CDF.	

Test Selection:

 Select "RCP" Subcommands.

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	🖶 Event Plot 💷	Edid Editor 🔯 EDID C	T 1.4a 🔯 CBUS Src CT 1.2 🔯 CBUS Dong	le CT 1.2 🛛 🔯 Console 🔯 CBUS	Sink CT 1.2 🔯 MHL Sink/Dongle CT 1.2		
	💟 CDF Entry	🗸 Test Selection 🕨	Test Options / Preview				
	📴 Open 🔛	Save Select A	All Tests Deselect All Tests				
1	Dongle (32/3	38) 🕨 Common (44/6	69) EDID (0/2) RCP (0/2)				
	▶ 6.3.1	MSC - DUT Input: Dev	ice Register Space Contents; Reads			1/1	
	▶ 6.3.2	MSC - DUT Output: Ve	endor-specific and Reserved Header Values			1/1	
	▶ 6.3.3	MSC - DUT Output: N	ormal Commands			7/7 🗹	
	▶ 6.3.5	MSC - DUT Output: N	ever Initiates Bad Commands			7/7 🖬	_
	▶ 6.3.6	MSC - DUT Output: Er	rrors and Exceptions			5/5 🖬	_
	▶ 6.3.7	MSC - DUT Output: Di	isconnect			1/1	_
	▶ 6.3.8	2	CBUS Dongle CT: Save Test Selection	IS		2/2	_
	▶ 6.3.9					1/1	_
	► 6.3.10	MSC - DUT Inpüt: N	Tost Cold	stion File	-	8/8	_
	► 6.3.11 ► 6.2.12	MSC - DUT Input: Er	I Test Sere	ection File		0/23	
	► 0.3.12	MSC - DUT Input: A				9/9	
	► 6 2 16	MSC - DUT Input: E	Enter a file name fo	CBUS Dongle Compliance Test			-
	► 6 3 20	DDC - DUT Input: C			1		
	▶ 6.3.21	DDC - DUT Input; N	MySelect Donglexml	🛛 🖾 Open Te	est Selection File		
	▶ 6.3.22	DDC - DUT Input; III					
				Colort on Torr			
	☑ 6.3.6.	1: CBM: DUT Re		Select an Test	t Selection file to open.		
	Respon	d to valid MSC comm					
	Verify the	hat DUT does something		MySelect_Dongle.xml			
	Charact	er when bata is expec					
	0 636	2. CBM: DUT Po					
	Respon	d to valid MSC comm					
	Verify t	hat DUT does someth					8
	a Contr	ol character is expecte					
	☑ 6.3.6.	3: CBM: DUT Re					
	Kespon Verify t	d to valid MSC comm hat DUT does somethi					
	Control	character when Data	Cancel				
							-1
	☑ 6.3.6.	4: CBM: DUT Ree					
	Respon	d to valid MSC comman	nds with illegal results, and observe the DUT	🔀 Cancel	Ok Ok		
	Verify th	hat DUT responds to a T	imeout with an ABORT.				-
					and the second se		

Test Selection:

- Save and reuse Test Select definitions.
- Saves time of re-entering specific tests.

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Reviewing the CBUS Dongle Compliance Tests

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🔯 CDF Entry 🗹 Test Selection 🕨 Test Options / Preview	
Test List	
✓ All X All Instrument: My980 [192.168.254.102]	▼ Execute Tests
Category / Test Name	× ^
▲ ▶ 5.2.5: EDID Test and Device Capability Register Test	
▶ 5.2.5.1: EDID Test	
5.2.5.2: Device Capability Register Test	
4 > 5.3.3: Link Layer Electrical: Absolute Maximum Voltages	
5.3.3.1: Common Test Environment	
> 5.3.3.2: CBE-Dongle: VBUS Absolute Maximum Positive Voltage > 5.2.2. CBE Dongle: CBUS Absolute Maximum Positive Voltage	
5.3.3.3: CBE-Dongle: CBUS Absolute Maximum Positive Voltage	
5.3.4: LINK Layer Electrical - DUT Output: Discovery Impedance	
5.3.4.2: CBE-Dongle: VBUS-Powered Z[CBUS_SINK DISCOVER]	
5.3.4.3: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER]	
4 > 5.3.6: Link Laver Electrical - DUT Output: Arbitration/Sync/Data Signalin	a
5.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBUS SINK ON] Resistance	e
5.3.6.2: CBE-Dongle: CBUS Capacitance	
5.3.6.3: CBE-Dongle: Arbitrate/Sync/Data Drive LOW Voltage	
5.3.6.4: CBE-Dongle: Arbitrate/Sync/Data Drive HIGH Voltage	
▲ ► 5.3.7: Link Layer Timing - DUT Output: Arbitration/Sync/Data in Nanosecon	lds
5.3.7.1: CBT-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration	
5.3.7.2: CBT-Dongle: Arbitration/Sync/Data Edge Rate	
5.3.8: Link Layer Timing - DUT Output: Arbitration/Sync/Data in Bit Times	j .
5.3.8.2: CBT-Dongle: Bit Timing Variation within a Packet	
▲ ► 5.3.10: Link Laver Timing - DUT Output: Link Level NACK	
5.3.10.1: CBT-Dongle: ACK Output Timing in Nanoseconds	
5.3.10.2: CBT-Dongle: ACK Drive HIGH Duration	
▲ ► 5.3.11: Link Layer Timing - DUT Ouput: Bus Re-Arbitration	
5.3.11.1: CBT-Dongle: Dongle uses Case 2 Regular Arbitration after NACK	
▶ 5.3.11.2: CBT-Dongle: Dongle uses Case 3 Long Re-arbitration when it Gives up	the B
5.3.11.3: CBT-Dongle: Dongle uses Case 1 Back-to-Back Timing (No Re-arbitratio	n)
5.3.11.4: CBT-Dongle: Dongle Never Sends Too Many Back-to-Back Packets	
4 5.3.12: Link Layer Timing - DUT Output: Ill-formed packets	
5.3.12.1: CBT-Dongle: Dongle Never Sends Impulse Noise	

Test Options / Preview:

- Review list of tests by Section.
- Example: Section 5.3.x.
- Tests highlighted in blue are tests that are run in the background mode.

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👉 E	ivent Plot 🔤 Edid Editor 🔯 EDID CT 1.4a 🔯 CBUS Src CT 1.2 🔯 CBUS Dongle CT 1.2 🜆 Console 🔯 CBUS Sink CT 1.2 😣 🔯 MHL Sink/Dongle CT 1.2	
1	CDF Entry 🗸 Test Selection 🕨 Test Options / Preview	
	Test List	
	✓ All X All Instrument: My980 [192.168.254.102]	cute Tests
	Category / Test Name	× ^
4	6.3.1: MSC - DUT Input: Device Register Space Contents; Reads	
	▷	
4	6.3.2: MSC - DUT Output: Vendor-specific and Reserved Header Values	
	▷ ➡ 6.3.2.1: CBM: DUT Sends Vendor-Specific and Reserved Header Values	
4	6.3.3: MSC - DUT Output: Normal Commands	
	▷ = 6.3.3.1: CBM: DUT sends (0x62) GET STATE Command ▷ = 6.3.3.1: CBM: DUE conds (0x62) CEE VENDOR ID Command	
	► The sends (0x65) GET VENDOR ID Command	
	\sim = 6.3.3.4: CBM: DUT sends (0x60) SET INT/WRITE STAT Command	
	▶ ■ 6.3.3.5: CBM: DUT sends (0x6C) WRITE BURST Command	
	▶ ■ 6.3.3.6: CBM: DUT sends (0x68) MSC MSG Command	
	5 6.3.3.7: CBM: DUT sends (0x6A) GET DDC ERRORCODE Command	-
⊿	6.3.5: MSC - DUT Output: Never Initiates Bad Commands	=
	6.3.5.1: CBM: DUT Never Sends Reserved Commands	
	6.3.5.2: CBM: DUT Never Sends Illegal Commands	
	6.3.5.3: CBM: DUT Never Sends Data While No Command is Outstanding	
7	▷ 5.3.5.4: CBM: DUT Never Sends (0x33) ACK packet While No Command is Outstanding	
	▷ ■ 6.3.5.5: CBM: DUT Never Sends (0x34) NACK Packet While No Command is Outstanding	
	\rightarrow 6.3.5.6: CBM: DUT Never Sends (0x35) ABORT While No Command is Outstanding	
	5 3 6.3.5.7: CBM: DUT Never Sends (0x32) EOF While No Command is Outstanding	
4	6.3.6: MSC - DUT OUTPUT: Errors and Exceptions 6.3.6.1: CPM: DUT Receives Rad Peoply: Control instead of Data	
	▶ ■ 6.3.6.2: CBM: DUT Receives Bad Reply; Control Instead of Control	
	▶ ■ 6.3.6.3; CBM: DUT Receives Bad Reply; Control. Control instead of Control. Data	
	▶ ■ 6.3.6.4: CBM: DUT Receives Result Timeout	
	6.3.6.5: CBM: Verify No Next Command Until Hold-Off after ABORT Seen	
4	6.3.7: MSC - DUT Output: Disconnect	
	6.3.7.1: CBM: DUT Receives Disconnect during Various Commands	
4	6.3.8: MSC - DUT Input: Device Register Space Contents; Writes	
	▷ ► 6.3.8.1: CBM: Interrupt Regs; SET INT (0x60); Valid Registers Respond	
	▷ [] 6.3.8.2: CBM: Status Regs; WRITE STAT (0x60); Valid Registers Respond	
4	6.3.9: MSC - DUT Input: Vendor-specific and Reserved Header Values	-
4.3	151: CBT-Sink: First Discovery Pulse should be Ignored	

Test Options / Preview:

- Review list of tests by Section.
- Example: Section 6.3.x.

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🕲 CDF Entry 🗹 Test Selection 🕨 Test Options / Preview	
Test List	
✓ All X All Instrument: My980 [192.168.254.102] ▼	Execute Tests
Category / Test Name	× ^
5.2.5: EDID Test and Device Capability Register Test	
⊿ <u>5.2.5.1</u> : EDID Test	
X Iter 01:	×
🔺 📑 5.2.5.2: Device Capability Register Test	
• Iter 01:	V
 5.3.3: Link Layer Electrical: Absolute Maximum Voltages 5.3.3.1: Common Test Environment 	
• Iter 01: Continuous Background Test	\checkmark
🔺 📑 5.3.3.2: CBE-Dongle: VBUS Absolute Maximum Positive Voltage	
• Iter 01: Continuous Background Test	V
▲ 🗄 5.3.3.3: CBE-Dongle: CBUS Absolute Maximum Positive Voltage	
• Iter U1: Continuous Background Test	V
Impedance 5.3.4: Link Layer Electrical - DUT Output: Discovery Impedance Impedance	
Iter 01: PROC SET STANDBY marked as not supported in the CDF: Automatic PASS(SKIP)	×C
5.3.4.2: CBE-Dongle: VBUS-Powered Z[CBUS SINK DISCOVER]	
• Iter 01:	V
5.3.4.3: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER]	
💥 Iter 01: The Dongle is not powered: Automatic PASS(SKIP)	×
 5.3.6: Link Layer Electrical - DUT Output: Arbitration/Sync/Data Signaling 5.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBUS SINK ON] Resistance 	
• Iter 01:	V
🖌 📑 5.3.6.2: CBE-Dongle: CBUS Capacitance	
💥 Iter 01:	×
🔺 📃 5.3.6.3: CBE-Dongle: Arbitrate/Sync/Data Drive LOW Voltage	
X Iter 01:	×
▲ 📑 5.3.6.4: CBE-Dongle: Arbitrate/Sync/Data Drive HIGH Voltage	
	V
5.3.7: LINK Layer Timing - DUT Output: Arbitration/Sync/Data in Nanoseconds [5.3.7.1: CBT-Dongle: Arbitration/Sync/Data Active Drive HICH Duration	
• Iter 01:	V
5.3.7.2: CBT-Dongle: Arbitration/Sync/Data Edge Rate	•
a Tter N1.	
lter 01:	

Test Options / Preview:

Optionally, skip certain tests (red X).

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Running the CBUS Dongle Compliance Test

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CDF Entry 🗸 Test Selection 🕨 Test Options / Preview	
Test List	
✓ All X All Instrument: My980 [192.168.254.102]	Execute Tests
Category / Test Name	
5.2.5: EDID Test and Device Capability Registe	r Test
4 5.2.5.1: EDID Test	
	X
▲ 5.2.5.2: Device Capability Register Test	
• Iter 01:	
5.3.3: LINK Layer Electrical: ADSOLUTE MAXIMUM	voltages
• Iter 01: Continuous Background Test	
↓ 5.3.3.2: CBE-Dongle: VBUS Absolute Maximum Positi	ve Voltage
 Iter 01: Continuous Background Test 	V
▲ 🛛 5.3.3.3: CBE-Dongle: CBUS Absolute Maximum Positi	ve Voltage
Iter 01: Continuous Background Test	CBUS Dongle CT Results
5.3.4: Link Layer Electrical - DUT Output: Dis	
⊿ 📃 5.3.4.1: CBE-Dongle: Powered-Off Z[CBUS SINK DIS	Test Results Name
X Iter 01: PROC_SET_STANDBY marked as not supported in the C	
▲ 🛃 5.3.4.2: CBE-Dongle: VBUS-Powered Z[CBUS SINK DI	Execute CBUS Donale Compliance Tests on Instrument: Mv980 @ 192.168.254.1
• Iter 01:	
▲ 📑 5.3.4.3: CBE-Dongle: Locally-Powered Z[CBUS SINK	Enter a name for the Test Results.
A Iter UI: The Dongle is not powered: Automatic PASS(SKIP)	
4 5.3.6: Link Layer Electrical - DUT Output: Art 5.3.6 1: CPE Dengle: Dest-Discovery Dessive Pull	Dongle_Test_1
Tter 01:	
4 5 3 6 2: CBE-Dongle: CBUS Capacitance	
X Iter 01:	
5.3.6.3: CBE-Dongle: Arbitrate/Sync/Data Drive L	
X Iter 01:	
🛛 📕 5.3.6.4: CBE-Dongle: Arbitrate/Sync/Data Drive H	
• Iter 01:	
5.3.7: Link Laver Timing - DUT Output: Arbitra	
4 🗄 5.3.7.1: CBT-Dongle: Arbitration/Sync/Data Activ	
▲ 🔄 5.3.7.2: CBT-Dongle: Arbitration/Sync/Data Edge 1	
Iter III	

Executing tests:

Assign name to test results file.

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Executing the tests:

- Example: Section 5.3.4.x.
- Instructions provided on test setup configuration.

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V AII Reset Status		
Category / Test Name	V	Status
▷	\checkmark	Fail
4 🗏 5.2.5.2: Device Capability Register Test		Fail
▷ ● Iter 01:	\checkmark	Fail
5.3.3: Link Laver Electrical: Absolute Maximum Voltages		
> 📑 5.3.3.1: Common Test Environment		Pass
> 🗏 5.3.3.2: CBE-Dongle: VBUS Absolute Maximum Positive Voltage		Pass
> 📙 5.3.3.3: CBE-Dongle: CBUS Absolute Maximum Positive Voltage		Pass
5.3.4: Link Laver Electrical - DUT Output: Discovery Impedance		
[5.3.4.1: CBE-Dongle: Powered-Off Z[CBUS SINK DISCOVER]		Skipped
Iter 01: PROC_SET_STANDBY marked as not supported in the CDF: Automatic PASS(SKIP)	\checkmark	Skipped
▲ 🗏 5.3.4.2: CBE-Dongle: VBUS-Powered Z[CBUS SINK DISCOVER]		Pass
▶	\checkmark	Pass
5.3.4.3: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER]		Pass
▷ 😝 Iter 01:	\checkmark	Pass
5.3.5: Link Laver Timing - DUT Output: Pre-Discovery		
E 5.3.5.1: CBT-Dongle: Time from Dongle Power applied until Dongle CBUS leader	ves Hl	Fail
b	V	Fail
5.3.6: Link Laver Electrical - DUT Output: Arbitration/Sync/Data Sic	nalin	
I E 2 6 1, CDE Donglo, Doot Diggovery Doggive Dulldown 7 [CDUC CINK ON] Dog	atomad	Pass
■ 5.5.6.1: CBE-Doligie: Post-Discovery Passive Pulldown Z[CB05 SINK ON] Kest	Stance	
► S.S.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Res.		Pass
<pre>> S.S.C.F. CBE-Dongle: Post-Discovery Passive Pulldown 2[CBOS SINK ON] Res ></pre>		Pass In Progress
<pre>> S.S.C.I: CBE-Dongle: Post-Discovery Passive Pulldown 2[CBOS SINK ON] Res. ></pre>		Pass In Progress In Progress
<pre>> S.S.6.1: CBE-Dongle: Post-Discovery Passive Pulldown 2[CBOS SINK ON] Kest ></pre>	✓ ✓	Pass In Progress In Progress
<pre>> S.S.6.1: CBC-Dongle: Post-Discovery Passive Pulldown 2[CBOS SINK ON] Res. ></pre>		Pass In Progress In Progress
<pre>> S.S.6.1: CBC-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest ></pre>		Pass In Progress In Progress
<pre>> S.S.S.I: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest ></pre>		Pass In Progress In Progress
S.S.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Rest		Pass In Progress In Progress
<pre>> S.S.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest ></pre>		Pass In Progress In Progress
<pre>> S.S.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest ></pre>		Pass In Progress In Progress
2 ■ 5.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest > ● Iter 01: 2 ■ 5.3.6.2: CBE-Dongle: CBUS Capacitance > ● Iter 01: TestLog Iter 01: Test 5.3.6.1-01 0040 Test 5.3.6.1-01 0041 Executing the test. 0042		Pass In Progress In Progress
2 S.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest > ● Iter 01: 2 5.3.6.2: CBE-Dongle: CBUS Capacitance > ● Iter 01: Iter 01: TestLog Ine Message 0040 Test 5.3.6.1-01 0041 Executing the test. 0042 Retrieving test results. 0043		Pass In Progress In Progress
2 S.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest > ● Iter 01: 2 5.3.6.2: CBE-Dongle: CBUS Capacitance > ● Iter 01: Iter 01: 1 = 5.3.6.2: CBE-Dongle: CBUS Capacitance Image: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest Iter 01: Image: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest Iter 01: Image: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest Iter 01: Image: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest Iter 01: Image: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest Iter 01: Image: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest Image: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest		Pass In Progress In Progress
2 ■ 5.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Kest > ● Iter 01: > ■ Iter 01: ■ ■ ■ Iter 01: ■ ■ ■ Iter 01: ■ ■ ■ ■ Iter 01: <		Pass In Progress In Progress
2 ■ 5.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Rest > ● Iter 01: > ■ Iter 01:		Pass In Progress In Progress
> S.S. 5.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Resigned > Iter 01: Iter		Pass In Progress In Progress
> S.S. 5.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBOS SINK ON] Resignation > Iter 01: > Iter 01:		Pass In Progress In Progress

Executing the tests:

- Tests highlighted in blue are tests that are run in background mode.
 Example: Section 5.3.3.x.
- Pass/Fail results provided under status.
- Detailed Test Log on lower panel.
- Cancel or Pause test at any time.

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Test List		
All 🙀 All 🤄 Reset Status		
Category / Test Name	×	Status
▶ \varTheta Iter 01:	V	Pass
6.3.5: MSC - DUT Output: Never Initiates Bad Commands		
E 6.3.5.1: CBM: DUT Never Sends Reserved Commands		Pass
E 6.3.5.2: CBM: DUT Never Sends Illegal Commands		Pass
E 6.3.5.3: CBM: DUT Never Sends Data While No Command is Outstanding		Pass
▷	standi)	Pass
b E 6.3.5.5: CBM: DUT Never Sends (0x34) NACK Packet While No Command is Out	stand:	Pass
🗉 📃 6.3.5.6: CBM: DUT Never Sends (0x35) ABORT While No Command is Outstandi	ing	Fail
a 😝 Iter 01: Continuous Background Test	\checkmark	Fail
😝 6.3.21.2: At 01067298.50 us, DUT sent unexpected ABORT		
😝 6.3.21.2: At 04137449.22 us, DUT sent unexpected ABORT		
😝 6.3.21.2: At 07207399.58 us, DUT sent unexpected ABORT		
😝 6.3.21.2: At 10277341.05 us, DUT sent unexpected ABORT		
● 6.3.21.2: DUT sent 4 unexpected ABORTs		
😝 6.3.21.3: At 01067263.21 us, DUT sent unexpected ABORT		
● 6.3.21.3: At 04137660.33 us, DUT sent unexpected ABORT		
😝 6.3.21.3: At 07207665.35 us, DUT sent unexpected ABORT		
😝 6.3.21.3: At 10277580.78 us, DUT sent unexpected ABORT		
● 6.3.21.3: DUT sent 4 unexpected ABORTs		
😝 6.3.21.4: At 01067252.66 us, DUT sent unexpected ABORT		
😝 6.3.21.4: At 04137408.50 us, DUT sent unexpected ABORT		
😝 6.3.21.4: At 07207421.03 us, DUT sent unexpected ABORT		
😝 6.3.21.4: At 10277348.73 us, DUT sent unexpected ABORT		
	· · · · · · · · · · · · · · · · · · ·	
i est Log		
ne Message		
0638 Saving the test logs.		
0639 Test 6.3.22.2 Iter 01 -> Pass		
0640 Test 6.3.22.3-01		
0641 Executing the test.		
0642 Retrieving test results.		
0643 Processing test results.		
0644 Saving the test logs.		
0645 Test 6.3.22.3 Iter 01 -> Pass		

Executing the tests:

- Pass/Fail results provided under status.
- Details provided for failurs. Example: Section 6.3.5.6.
- Test Complete message provided.

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Viewing the CBUS Dongle Compliance Test Results

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MHL CBUS Dongle Compliance – Viewing Test Results



Reviewing Test Results:

 Test results accessible in Navigator view.

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MHL CBUS Dongle Compliance – Viewing Test Results

🗄 Event Plot 🔤 Edid Editor 🔞 EDID CT 1.4a 🕲 CBUS Src CT 1.2 🕲 CBUS Dongle CT 1.2 📃 CT Results 🛛				
CBUS Dongle Compliance and the second s				
Results Name: Dongle_Test_1 Manufacturer: QD Date Tested: September 13, 2012 4:24 PM Model Name: XYZ Overall Status: CTS 1.2 - Fail Port Tested: 1				
Test Results				
Fest Name / Details	Ø	Status		
5.2.5.1: EDID Test		Fail		
🗏 5.2.5.2: Device Capability Register Test		Fail		
5.3.3.1: Common Test Environment		Pass		
🖪 5.3.3.2: CBE-Dongle: VBUS Absolute Maximum Positive Voltage		Pass		
🗏 5.3.3.3: CBE-Dongle: CBUS Absolute Maximum Positive Voltage		Pass		
5.3.4.1: CBE-Dongle: Powered-Off Z[CBUS SINK DISCOVER]		Skipped		
5.3.4.2: CBE-Dongle: VBUS-Powered Z[CBUS SINK DISCOVER]		Pass		
5.3.4.3: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER]		Pass		
🗏 5.3.5.1: CBT-Dongle: Time from Dongle Power applied until Dongle CBUS leaves HIGH-		Fail		
5.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBUS SINK ON] Resistance		Pass		
5.3.6.2: CBE-Dongle: CBUS Capacitance		Fail		
5.3.6.3: CBE-Dongle: Arbitrate/Sync/Data Drive LOW Voltage		Pass		
5.3.6.4: CBE-Dongle: Arbitrate/Sync/Data Drive HIGH Voltage		Pass		
5.3.7.1: CBT-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration		Pass		
🗏 5.3.7.2: CBT-Dongle: Arbitration/Sync/Data Edge Rate		Pass		
🗏 5.3.8.1: CBT-Dongle: Arb, Sync, Data HIGH and LOW Timing		Pass		
5.3.8.2: CBT-Dongle: Bit Timing Variation within a Packet		Fail		
5.3.9.1: CBT-Dongle: Response to Link Level NACK		Pass		
5.3.10.1: CBT-Dongle: ACK Output Timing in Nanoseconds		Pass		
5.3.10.2: CBT-Dongle: ACK Drive HIGH Duration		Pass		
🗏 5.3.11.1: CBT-Dongle: Dongle uses Case 2 Regular Arbitration after NACK		Pass		
5.3.11.2: CBT-Dongle: Dongle uses Case 3 Long Re-arbitration when it Gives up the		Pass		
5.3.11.3: CBT-Dongle: Dongle uses Case 1 Back-to-Back Timing (No Re-arbitration)		Pass		
5.3.11.4: CBT-Dongle: Dongle Never Sends Too Many Back-to-Back Packets		Pass		
5.3.12.1: CBT-Dongle: Dongle Never Sends Impulse Noise		Pass		
5.3.12.2: CBT-Dongle: Dongle Never Sends Partial Packets		Pass		
5.3.13.1: CBE-Dongle: Discovery Sensitivity to Input Voltages		Fail		
5.3.14.1: CBT-Dongle: Valid Wake Pulse Timing		Pass		
5.3.14.2: CBT-Dongle: Valid Discovery Pulse Timing		Pass		
Instrument: My980 [192.168.254.135]		Continue Test Execution		

Reviewing Test Results:

 Test Results tab appears in may panel.

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Viewing the CBUS Dongle Compliance Test Report

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MHL CBUS Dongle Compliance – View HTML Test Report

Test Name / Details Test Name / Details Solution Test Name / Details Solution Solution Test Environment Solution Solut		
<pre>v Test Name / Details</pre>		
<pre> 5.2.5.1: EDID Test 5.2.5.2: Device Capability Register Test 5.3.3.1: Common Test Environment 5.3.3.2: CBE-Dongle: VBUS Absolute Maximum Positive Voltage 5.3.3.3: CBE-Dongle: CBUS Absolute Maximum Positive Voltage 5.3.4.2: CBE-Dongle: CBUS Absolute Maximum Positive Voltage 5.3.4.2: CBE-Dongle: CBUS Absolute Maximum Positive Voltage 5.3.4.2: CBE-Dongle: VBUS-Powered Z[CBUS SINK DISCOVER] 5.3.6.1: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER] 5.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBUS SINK ON] Resistance 5.3.6.2: CBE-Dongle: CBUS Capacitance 5.3.6.2: CBE-Dongle: Arbitrate/Sync/Data Drive LOW Voltage 5.3.6.1: CBE-Dongle: Arbitrate/Sync/Data Drive LOW Voltage 5.3.6.2: CBE-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration 5.3.7.2: CBT-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration 5.3.8.2: CBT-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration 5.3.10.1: CBT-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration 5.3.10.1: CBT-Dongle: Ack Drive HIGH Duration 5.3.11.1: CBT-Dongle: Ack Drive HIGH Duration 5.3.11.3: CBT-Dongle: Dongle uses Case 1 Back-to-Back TI 5.3.11.4: CBT-Dongle: Dongle Never Sends Tom Many Back- 5.3.12.1: CBT-Dongle: Dongle Never Sends Partial Packet 5.3.12.1: CBT-Dongle: Dongle Never Sends Partial Packet 5.3.14.2: CBT-Dongle: Valid Discovery Pulse Timing 5.3.14.2: CBT-Dongle: Valid Discovery Pulse</pre>		Status
<pre>S 5.2.5.2: Device Capability Register Test S 5.3.3.1: Common Test Environment S 5.3.3.2: CBE-Dongle: VBUS Absolute Maximum Positive Voltage S 5.3.3.3: CBE-Dongle: CBUS Absolute Maximum Positive Voltage S 5.3.3.3: CBE-Dongle: Deverd-Off Z[CBUS SINK DISCOVER] S 5.3.4.1: CBE-Dongle: VBUS-Powered Z[CBUS SINK DISCOVER] S 5.3.4.3: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER] S 5.3.4.3: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER] S 5.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBUS SINK ON] Resistance S 5.3.6.1: CBE-Dongle: Arbitrate/Sync/Data Drive LOW Voltage S 5.3.6.4: CBE-Dongle: Arbitration/Sync/Data Drive HIGH Voltage S 5.3.6.4: CBE-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration S 5.3.7.1: CBT-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration S 5.3.6.2: CBT-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration S 5.3.6.2: CBT-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration S 5.3.7.1: CBT-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration S 5.3.10.1: CBT-Dongle: Arbitration/Sync/Data Edge Rate S 5.3.10.1: CBT-Dongle: AcK Output Timing in Nanoseconds S 5.3.10.2: CBT-Dongle: Dongle uses Case 2 Regular Arbitration S 5.3.11.2: CBT-Dongle: Dongle uses Case 3 Long Re-arbitration S 5.3.11.2: CBT-Dongle: Dongle uses Case 3 Long Re-arbitration S 5.3.12.1: CBT-Dongle: Dongle Never Sends Too Many Back-15 S.3.12.2: CBT-Dongle: Dongle Never Sends Too Many Back-15 S.3.12.2: CBT-Dongle: Dongle Never Sends Partial Packets S 5.3.14.1: CBT-Dongle: Discovery Sensitivity to Input Vo S 5.3.14.1: CBT-Dongle: Valid Wake Pulse Timing S 5.3.14.2: CBT-Dongle: Valid Discovery Pulse Timing</pre>		Fail
<pre>[5.3.3.1: Common Test Environment [5.3.3.1: Common Test Environment [5.3.3.2: CBE-Dongle: VBUS Absolute Maximum Positive Voltage [5.3.3.3: CBE-Dongle: CBUS Absolute Maximum Positive Voltage [5.3.4.1: CBE-Dongle: Powered-Off Z[CBUS SINK DISCOVER] [5.3.4.1: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER] [5.3.4.2: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER] [5.3.5.1: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER] [5.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBUS SINK ON] Resistance [5.3.6.2: CBE-Dongle: Arbitrate/Sync/Data Drive LOW Voltage [5.3.6.3: CBE-Dongle: Arbitrate/Sync/Data Drive HIGH Voltage [5.3.6.4: CBE-Dongle: Arbitrate/Sync/Data Active Drive HIGH Duration [5.3.7.2: CBT-Dongle: Arbitration/Sync/Data Edge Rate [5.3.8.1: CBT-Dongle: Arbitration/Sync/Data Edge Rate [5.3.9.1: CBT-Dongle: Arbitration/Sync/Data Edge Rate [5.3.10.1: CBT-Dongle: AcK Output Timing in Nanoseconds [5.3.10.2: CBT-Dongle: Dongle uses Case 2 Regular Arbitra [5.3.11.3: CBT-Dongle: Dongle uses Case 3 Long Re-arbitra [5.3.11.4: CBT-Dongle: Dongle uses Case 3 Long Re-arbitra [5.3.11.4: CBT-Dongle: Dongle Never Sends Too Many Back- [5.3.12.2: CBT-Dongle: Dongle Never Sends Partial Packet [5.3.14.1: CBT-Dongle: Dongle Never Sends Partial Packet [5.3.14.1: CBT-Dongle: Valid Wake Pulse Timing [5.3.14.2: CBT-Dongle: Valid Discovery Pulse Timing</pre>		Fail
 5.3.3.2: CBE-Dongle: VBUS Absolute Maximum Positive Voltage 5.3.3.3: CBE-Dongle: CBUS Absolute Maximum Positive Voltage 5.3.4.1: CBE-Dongle: Powered-Off Z[CBUS SINK DISCOVER] 5.3.4.2: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER] 5.3.4.3: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER] 5.3.4.3: CBE-Dongle: Time from Dongle Power applied until Dongle CBUS leaves HIGI 5.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBUS SINK ON] Resistance 5.3.6.2: CBE-Dongle: Arbitrate/Sync/Data Drive HIGH Voltage 5.3.6.3: CBE-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration 5.3.7.1: CBT-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration 5.3.7.2: CBT-Dongle: Arbitration/Sync/Data Edge Rate 5.3.8.1: CBT-Dongle: Arbitration/Sync/Data Edge Rate 5.3.8.1: CBT-Dongle: Arbitration/Sync/Data Edge Rate 5.3.10.1: CBT-Dongle: Bit Timing Variation within a Pack 5.3.10.2: CBT-Dongle: ACK Drive HIGH Duration 5.3.11.2: CBT-Dongle: Dongle uses Case 1 Back-to-Back T 5.3.11.2: CBT-Dongle: Dongle uses Case 1 Back-to-Back T 5.3.11.2: CBT-Dongle: Dongle Never Sends Too Many Back- 5.3.11.2: CBT-Dongle: Dongle Never Sends Too Many Back- 5.3.11.2: CBT-Dongle: Dongle Never Sends Partial Packets 5.3.11.1: CBT-Dongle: Dongle Never Sends Partial Packets 5.3.11.2: CBT-Dongle: Dongle Never Sends Partial Packets 5.3.11.2: CBT-Dongle: Discovery Sensitivity to Input Voi 5.3.11.1: CBT-Dongle: Dongle Never Sends Partial Packets 5.3.11.2: CBT-Dongle: Dongle Never Sends Partial Packets 5.3.11.2: CBT-Dongle: Valid Wake Pulse Timing 5.3.11.2: CBT-Dongle: Valid Wake Pulse Timing 		Pass
<pre>5 5.3.3.3: CBE-Dongle: CBUS Absolute Maximum Positive Voltage 5.3.4.1: CBE-Dongle: Powered-Off Z[CBUS SINK DISCOVER] 5.3.4.2: CBE-Dongle: VBUS-Powered Z[CBUS SINK DISCOVER] 5.3.4.3: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER] 5.3.4.3: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER] 5.3.5.1: CBT-Dongle: Post-Discovery Passive Pulldown Z[CBUS SINK ON] Resistance 5.3.6.1: CBE-Dongle: CBUS Capacitance 5.3.6.2: CBE-Dongle: Arbitrate/Sync/Data Drive HOW Voltage 5.3.6.4: CBE-Dongle: Arbitrate/Sync/Data Drive HOW Voltage 5.3.6.4: CBE-Dongle: Arbitrate/Sync/Data Drive HIGH Voltage 5.3.6.4: CBE-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration 5.3.7.2: CBT-Dongle: Arbitration/Sync/Data Edge Rate 5.3.8.1: CBT-Dongle: Arb, Sync, Data HIGH and LOW Timing 5.3.10.2: CBT-Dongle: Never Sends Too Many Back- 5.3.11.4: CBT-Dongle: Dongle uses Case 1 Back-to-Back T: 5.3.11.4: CBT-Dongle: Dongle Never Sends Too Many Back- 5.3.12.1: CBT-Dongle: Dongle Never Sends Too Many Back- 5.3.12.1: CBT-Dongle: Dongle Never Sends Too Many Back- 5.3.12.2: CBT-Dongle: Dongle Never Sends Too Many Back- 5.3.14.1: CBT-Dongle: Discovery Sensitivity to Input Voi 5.3.14.1: CBT-Dongle: Valid Wake Pulse Timing 5.3.14.2: CBT-Dongle: Valid Discovery Pulse Timing </pre>		Pass
<pre>5.3.4.1: CBE-Dongle: Powered-Off Z[CBUS SINK DISCOVER] 5.3.4.2: CBE-Dongle: VBUS-Powered Z[CBUS SINK DISCOVER] 5.3.4.3: CBE-Dongle: Locally-Powered Z[CBUS SINK DISCOVER] 5.3.4.3: CBE-Dongle: Time from Dongle Power applied until Dongle CBUS leaves HIG 5.3.6.1: CBE-Dongle: Post-Discovery Passive Pulldown Z[CBUS SINK ON] Resistance 5.3.6.2: CBE-Dongle: Arbitrate/Sync/Data Drive HOW Voltage 5.3.6.4: CBE-Dongle: Arbitrate/Sync/Data Drive HIGH Voltage 5.3.6.4: CBE-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration 5.3.7.1: CBT-Dongle: Arbitration/Sync/Data Active Drive HIGH Duration 5.3.8.2: CBT-Dongle: Arbitration/Sync/Data Edge Rate 5.3.8.1: CBT-Dongle: Arbitration/Sync/Data Edge Rate 5.3.8.2: CBT-Dongle: Bit Timing Variation within a Packet 5.3.10.1: CBT-Dongle: ACK Output Timing in Nanoseconds 5.3.11.4: CBT-Dongle: Dongle uses Case 2 Regular Arbitrate 5.3.11.4: CBT-Dongle: Dongle uses Case 3 Long Re-arbitra 5.3.11.4: CBT-Dongle: Dongle uses Case 1 Back-to-Back Ti 5.3.11.4: CBT-Dongle: Dongle Never Sends Too Many Back- 5.3.12.1: CBT-Dongle: Dongle Never Sends Too Many Back- 5.3.13.1: CBE-Dongle: Dongle Never Sends Partial Packet 5.3.14.1: CBT-Dongle: Valid Wake Pulse Timing 5.3.14.2: CBT-Dongle: Valid Discovery Pulse Timing </pre>		Pass
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5.3.14.2: CBT-Dongle: Valid Discovery Pulse Timing	ude CDF Informat	tion.
trument h4.000 [102 169 254 125]		
suqueur [million [157:10:274:25]	l í	A OK

Reviewing Test Report:

- Test Report accessible from Test Results tab.
- Indicate if you wish to view report including CDF.

Quantum Data Inc.

2111 Big Timber Road

Elgin, IL 60123-1100 USA

Phone: (847) 888-0450



MHL CBUS Dongle Compliance – View HTML Test Report

C:\Users\nkend	all\Desktop\980_CBUS_GUI\980mgr\cbusdonglect\results\Dongle_Test_1\Re	port_Summary_Cdf.htm	
012 4:50 PM	Quantum Data		www.quantumdata.
	<u>Quantum Data</u>		
CBL	IS Dongle Compliance Test I	Report	
020			
	CTS 1.2		
Results Name:	Dongle_Test_1	Manufacturer:	QD
Date Tested:	September 13, 2012 4:24 PM	Model Name:	XYZ
Overall Status:	Fail	Port Tested:	
	C:\Users\nkend 012 4:50 PM CBU Results Name: Date Tested:	C:\Users\nkendall\Desktop\980_CBUS_GUI\980mgr\cbusdonglect\results\Dongle_Test_1\Re Quantum Data CBUS Dongle Compliance Test CTS 1.2 Results Name: Dongle_Test_1 Date Tested: September 13, 2012 4:24 PM	C:\Users\nkendall\Desktop\980_CBUS_GUI\980mgr\cbusdonglect\results\Dongle_Test_1\Report_Summary_Cdf.htm Quantum Data CBUS Dongle Compliance Test Report CTS 1.2 Results Name: Dongle_Test_1 Manufacturer: Date Tested: September 13, 2012 4:24 PM Model Name:

General	
CDF_MFR_NAME	QD
DF_MODEL_NUMBER	XYZ
CDF_D_CBUS_THRESHOLD_V	0.90
CDF_D_MAX_CBUS_CAP	0.1
CDF_D_POWERED	YES
CDF_D_MAX_POWER_DOWN	500
CDF_D_MAX_POWER_UP	500
CDF_D_MAX_STANDBY_TO_ACTIVE	60
CDF_PROC_SET_ACTIVE	Not Specified
CDF_PROC_SET_STANDBY	Not Supported
CDF_RCP_RECEIVE	NO
CDF_RCP_SEND	NO
CDF_LOG_DEV_MAP_CHANGE	NO
Capability Registe	ers
CDF_CR_MHL_VER_MAJOR	1
CDE CD MUL VED MINOD	

Review HTML test report:

- View Capabilities
 Declaration Form (CDF).
- Save report for later viewing and dissemination to colleagues.

Quantum Data Inc.

Elgin, IL 60123-1100 USA



MHL CBUS Dongle Compliance – Review Test Selections

Test 5.3.23.2	Fail	Test 5.3.23.3	Fail	Test 5.3.24.1	Pass
Test 5.3.25.1	Skipped	Test 5.3.26.1	Skipped	Test 6.3.1.1	Fail
Test 6.3.2.1	Pass	Test 6.3.3.1	Pass	Test 6.3.3.2	Pass
Test 6.3.3.3	Pass	Test 6.3.3.4	Pass	Test 6.3.3.5	Pass
Test 6.3.3.6	Pass	Test 6.3.3.7	Pass	Test 6.3.5.1	Pass
Test 6.3.5.2	Pass	Test 6.3.5.3	Pass	Test 6.3.5.4	Pass
Test 6.3.5.5	Pass	Test 6.3.5.6	Fail	<u>Test 6.3.5.7</u>	Pass
Test 6.3.6.1	Pass	Test 6.3.6.2	Pass	Test 6.3.6.3	Pass
Test 6.3.6.4	Pass	Test 6.3.6.5	Fail	<u>Test 6.3.7.1</u>	Pass
Test 6.3.8.1	Pass	Test 6.3.8.2	Pass	Test 6.3.9.1	Pass
Test 6.3.10.1	Pass	Test 6.3.10.2	Pass	Test 6.3.10.3	Pass
Test 6.3.10.4	Pass	Test 6.3.10.5	Pass	Test 6.3.10.6	Pass
Test 6.3.10.7	Pass	Test 6.3.10.8	Pass	Test 6.3.11.1	Pass
Test 6.3.11.2	Pass	Test 6.3.11.3	Pass	Test 6.3.11.4	Pass
Test 6.3.11.5	Pass	Test 6.3.11.6	Pass	Test 6.3.11.7	Fail
Test 6.3.11.8	Pass	Test 6.3.11.9	Pass	Test 6.3.11.10	Pass
Test 6.3.11.11	Pass	Test 6.3.11.12	Pass	Test 6.3.11.13	Pass
Test 6.3.11.14	Pass	Test 6.3.11.15	Fail	Test 6.3.11.16	Pass
Test 6.3.11.17	Pass	Test 6.3.11.19	Pass	Test 6.3.11.20	Pass
Test 6.3.11.21	Fail	Test 6.3.11.22	Pass	Test 6.3.11.23	Pass
Test 6.3.11.24	Pass	Test 6.3.12.1	Fail	Test 6.3.12.2	Fail
Test 6.3.12.3	Fail	Test 6.3.12.4	Fail	Test 6.3.12.5	Pass
Test 6.3.12.6	Pass	Test 6.3.12.7	Pass	Test 6.3.12.8	Pass
Test 6.3.12.9	Pass	Test 6.3.15.1	Skipped	Test 6.3.15.2	Skipped
Test 6.3.16.1	Skipped	Test 6.3.16.2	Skipped	Test 6.3.20.2	Pass
Test 6.3.20.3	Pass	Test 6.3.21.1	Pass	Test 6.3.21.2	Pass
Test 6.3.21.3	Pass	Test 6.3.21.4	Pass	Test 6.3.21.5	Fail
Test 6.3.22.1	Pass	Test 6.3.22.2	Pass	Test 6.3.22.3	Pass
CI	DF	Equipme	ent Info		

Review HTML test report:

View Pass/Fail results.

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MHL CBUS Dongle Compliance – Review Test Selections

	Test Equipment Information
	Instrument
Name: My980	
IP Address: 192.168.254.135	
Net Mask: 255.255.255.0 Geteway TD: 192 168 254 1	
Free Space: 121.08 GB of 144.	.22 GB (84.0%)
Version:	
Advanced Test platfor	m Release: 4.5.27
MHL CBUS Protocol Ana	lyzer in slot 1:
Gateware: [Version:	0 Build Number: 4 (09:11:2012 121000) pcb: 23232323]
Firmware: [version: System Information:	1.0.1 Build Number: 19/8 (mblair 09:13:2012 09:21:52 CD1)]
System SN : [47A	17D6F8C0A385A0::N/A]
SN : [318	383010000::11120010c]
Main Board : ["DP67DE"]
CPUx4 : [6.42.7 "Intel(R) Core(TM) 13-2100 CPU (3.10GHz"]
HD - [WD1	(G0 + /65 MB) (600 F VT - 1)
OS : [Lin	uux xpscope-81 2.6.26-2-686 #1 SMP Wed Sep 21 04:35:47 UTC 2011 i686 GNU/Linux]
GUI manager : [Ver	csion 4.5.27_39005_201209061011]
1 : [10	inet 127.0.0.1/8 scope host lo]
2 : [eth	10 inet 192.168.254.135/24 brd 192.168.254.255 scope global eth0]
HDMI SINK CIS. [3. HDMI SRC CTS: [3.1	1.7]
MHL SINK CTS: [1.2	
MHL SRC CTS : [1.2	1.1]
	Host
UI Name: Quantum Data 980 Man	mager - Version 4.5.29
UI Home: platform:/base/plugi	.ns/com.quantumdata.i980.app
Java Vendor: Null	
Java Runtime: 1.6.0_15-DUS Java Home: C:\Users\nkendall\	Desiton QRO Delesse 5 29 QROmortire
OS: win32	pcoxoop(500_Actempt_0_25(500mgt()16
OS Arch: x86	
Locale: en_US	
Free Space: 13 80 GB of 453 6	(6 GB (3 0%)

Review HTML test report:

 View Test Equipment information.

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MHL CBUS Log Plots – Dongle Tests Refer to <u>Source Section</u>

Quantum Data Inc.

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The Quantum Data 980 MHL CBUS Compliance Module...



... your solution for testing MHL source, sink, dongle devices for CBUS compliance.

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