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## Introduction

This user's guide documents the MHL Source/Sink Module (MHL-CTB-SOSI) as used with the CTS testing of MHL 2.0 products. The MHL Source/Sink Module can be used as a MHL CBus sink via the MHL IN connector when used with a MHL-TPA-P-WOSO for source testing. The MHL Source/Sink Module can also be used as a MHL CBus source via the MHL OUT connector when used with a MHL-TPA-P-WOSI for sink testing. This version also supports PackedPixel mode which is controlled via an external jumper. More details on PackedPixel mode can be found in the MHL 2.0 Specification.

NOTE: PackedPixel mode is required for 1080p operation. PackedPixel mode is enabled via a single jumper between pins 1 and 3 of the GPIO connector. (The supplied jumper may be "parked" between pins 1 and 2 of the GPIO connector when PackedPixel mode is not enabled.)



Figure 1. The MHL Source/Sink Module.

Also provided with each MHL-CTB-SOSI MHL Source/Sink Module (not pictured):

- (1) 1.5 meter MHL cable for connection to the DUT.
- (1) 2.0 meter HDMI Type-A to HDMI Type-A cable.
- (1) Plug-in AC adapter and cord for powering the MHL Source/Sink Module.
- (1) Jumper.

## Product Inspection

Upon receiving the MHL Source/Sink Module from Wilder Technologies, perform the following product inspection:

- Inspect the outer shipping container, foam-lined storage container, and product for damage. Retain the outer cardboard shipping container until the contents of the shipment have been inspected for completeness and the product has been checked mechanically and electrically. Use the foam-lined container for storage of the Wilder Technologies MHL Source/Sink Module when not in use.
- Locate the shipping list and verify that all items ordered were received.
- In the unlikely event that the product is defective or incomplete, the “Limited Warranty” section discusses how to contact Wilder Technologies for technical assistance and/or how to package the product for return.

## The MHL Source/Sink Module Care and Handling Precautions

When using the MHL Source/Sink Module with MHL and/or HDMI cables, careful handling is required to avoid damage. Improper handling techniques, or using too small a cable bend radius, can damage the MHL or HDMI connectors within the module housing or the HDMI or MHL cables themselves. This can occur at any point along the cable. To achieve optimum performance and to prolong the MHL Source/Sink Module and MHL cable's life, observe the following handling precautions:

- **CAUTION 1: Avoid Torque Forces (Twisting)**  
Twisting the MHL or HDMI cable as a unit, with one end held stationary, in excess of +/- 180° may damage or severely degrade performance. Adherence to Caution 5 (below) helps to avoid exceeding twist limits.
- **CAUTION 2: Avoid Sharp Cable Bends**  
Never bend MHL or HDMI cables into a radius of 26 mm (1-inch) or less. Single or multiple cable bends must be kept within this limit. Bending cables less than a 26mm (1-Inch) radius may permanently damage or severely degrade test performance.
- **CAUTION 3: Avoid Cable Tension (Pull Forces)**  
Never apply tension (pull forces) to an individual cable that is greater than 2.3 kg (5 lbs.). To avoid applying tension, always place accessories and equipment on a surface that allows adjustment to eliminate tension on the MHL and HDMI cables. Use adjustable elevation stands or apparatus to accurately place and support the test setup.
- **CAUTION 4: Connect the MHL and HDMI Cables First**  
To prevent twisting, bending, or applying tension to the MHL and HDMI connections when connecting a MHL Source/Sink Module, always attach the MHL cable to the device under test (DUT) before attaching to the MHL Source/Sink Module. Always attach the HDMI cable to the HDMI source or sink test equipment, before attaching to the MHL Source/Sink Module. Carefully align the MHL and HDMI connectors and then gently push the connectors together until fully seated.

If the MHL Source/Sink Module must be turned or twisted to make connection to the DUT, avoid using the MHL Source/Sink housing alone to make this occur. Try to distribute the torque forces along the length of the test setup and cabling. If this is not possible, it is recommended to disconnect the HDMI and MHL connections at the MHL Source/Sink Module, remove any twists or unnecessary bends in the cables, and make the connection to the MHL cable going to the DUT and then attach the test equipment HDMI cable.

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**NOTE: Always grip the MHL Source/Sink Module when removing MHL and/or HDMI cables or power cable.**

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- **CAUTION 5: Independently Support Instrumentation Cables or Accessories**  
Excessive weight from instrument cables and/or accessories connected to the MHL Source/Sink Module can cause damage or affect the module performance. Be sure to provide appropriate means to support and stabilize all test set-up components.

## General Module, Cable, and Connector

Observing simple precautions can ensure accurate and reliable measurements.

### Handling and Storage

Before each use of the MHL Source/Sink Module, ensure that all connectors are clean. Handle all cables carefully and store the MHL Source/Sink Module and the associated accessories in the foam-lined storage container when not in use, if possible. Do not set connectors contact-end down.

### Visual Inspection

Be sure to inspect all cable connectors carefully before making a connection. Inspect all cables for metal particles, scratches, deformed threads, dents, or bent, broken, or misaligned SMA connector center conductors. Do not use damaged cables.

### Cleaning

If necessary, clean the connectors using low-pressure (less than 60 PSI) compressed air or nitrogen with an effective oil-vapor filter and condensation trap. Clean MHL and HDMI connector surfaces, if necessary, using a lint-free swab or cleaning cloth moistened with isopropyl alcohol. Always completely dry a connector before use. Do not use abrasives to clean the connectors. Re-inspect connectors, making sure no particles or residue remains.

### Making Connections

Before making any connections, review the “Care and Handling Precautions” section. Follow these guidelines when making connections:

- Align cables carefully
- Make preliminary connections lightly
- Do not apply bending force to cables beyond minimum limits
- Do not force connections
- Avoid twisting cables

## Electrostatic Discharge Information

Protection against electrostatic discharge (ESD) is essential while connecting, inspecting, or cleaning the MHL Source/Sink Module and connectors as they are a static-sensitive circuit.

Electrostatic discharge can damage or destroy electronic components. Be sure to perform all work on electronic assemblies at a static-safe work station, using two types of ESD protection:

- Conductive table-mat and wrist-strap combination
- Conductive floor-mat and heel-strap combination

When used together, both of these types provide a significant level of ESD protection. Used alone, the table-mat and wrist-strap combination provide adequate ESD protection. To ensure user safety, the static-safe accessories must provide at least 1 M $\Omega$  of isolation from ground. Acceptable ESD accessories may be purchased from a local supplier.

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**WARNING: These techniques for a static-safe work station should not be used when working on circuitry with a voltage potential greater than 500 volts.**

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## Mechanical and Environmental Specifications

**NOTE: All specifications in this manual are subject to change.**

**Table 1. General Specifications**

ITEM	DESCRIPTION
Usage Environment	Controlled indoor environment
Test Adapter Length x Width x Height	159.4 mm (6.28 in) x 95.3 mm (3.75 in) x 25.4 mm (1.00 in)
Operating Temperature	0°C to +55°C (32°F to +131°F) (Characteristic)
Storage Temperature	-40°C to +70°C (-40°F to +158°F) (Characteristic)

### MHL Source/Sink Module Pin-out

The MHL Source/Sink Module has four high-speed connectors and three low-speed connectors. The four high-speed connectors are a MHL output connector (μUSB receptacle) and its corresponding HDMI input connector (HDMI type A receptacle) and a MHL input connector (HDMI type A receptacle) and its corresponding HDMI output connector (HDMI type A receptacle). See Figures 2 and 3.

Of the three low-speed connectors, one is for GPIO access (to support future needs), one for each of the source and sink bridges for I<sup>2</sup>C access and programming. Labels clearly mark each of the connectors. The module also has an input power jack, a power switch, and three LEDs. One power LED, one MHL IN status LED, and one MHL OUT status LED (lit indicates operational). See Figures 2 and 3.



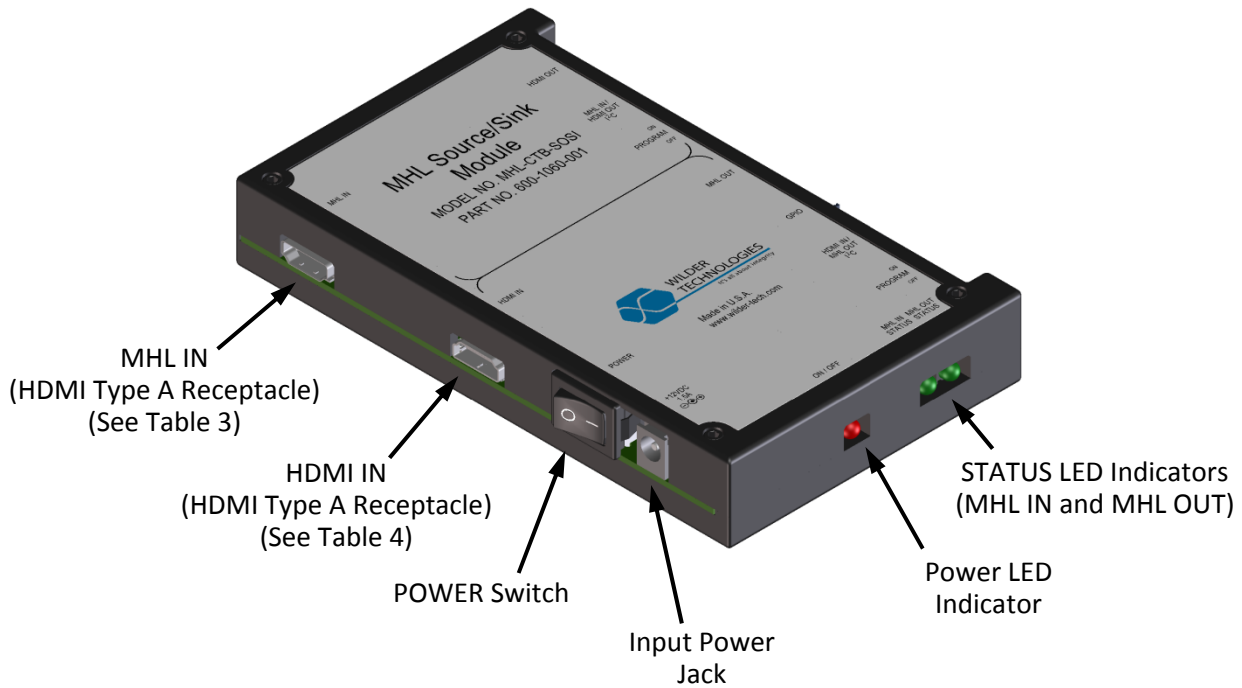


Figure 2. Front Surface Connectors and Switch, Side Indicators (MHL Source/Sink Module shown)

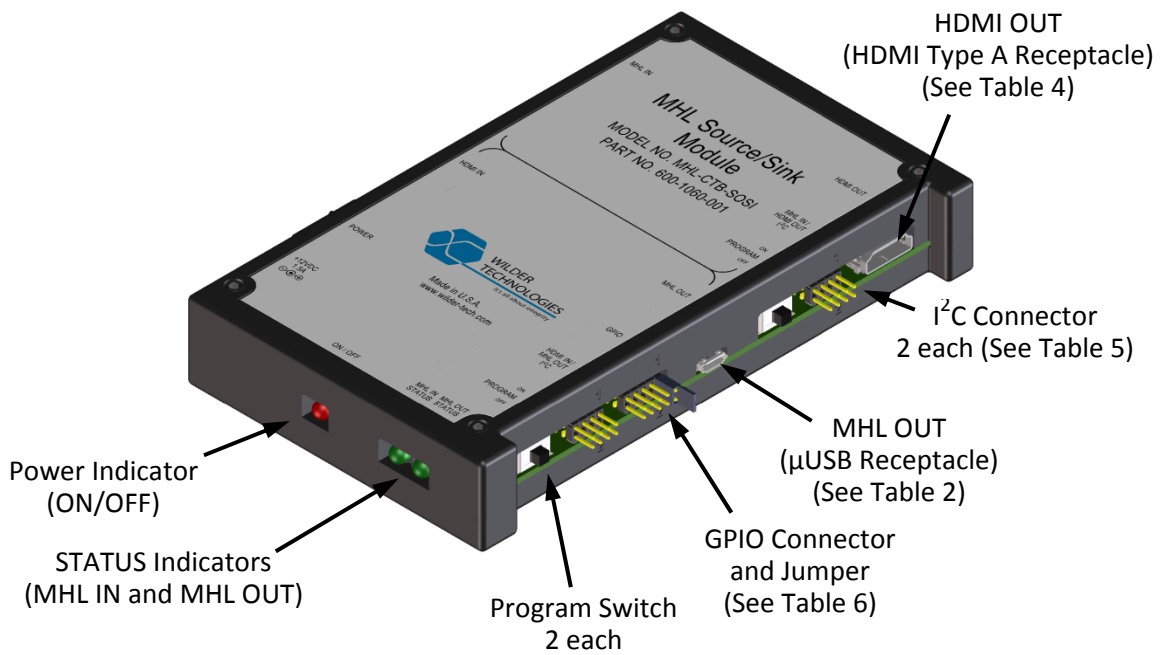


Figure 3. Rear Surface Connectors, Switches, Side Indicators (MHL Source/Sink Module shown)

**Table 2. Pin Assignments for MHL OUT (μUSB Receptacle)**

SIGNAL IDENTIFICATION	PIN	DESCRIPTION
VBus	μUSB receptacle pin 1	
Negative MHL signal	μUSB receptacle pin 2	This is the signal from the HDMI based source.
Positive MHL signal	μUSB receptacle pin 3	This is the signal from the HDMI based source.
CBus	μUSB receptacle pin 4	
GND	μUSB receptacle pin 5	RF Ground

**Table 3. Pin Assignments for MHL IN (HDMI Type A Receptacle)**

SIGNAL IDENTIFICATION	PIN	DESCRIPTION
CD sense	HDMI receptacle pin 2	For pulling up 3.3K Ohm to CD pull-up
Positive MHL signal	HDMI receptacle pin 7	This is the signal to the HDMI based sink.
Negative MHL signal	HDMI receptacle pin 9	This is the signal to the HDMI based sink.
CEC	HDMI receptacle pin 13	Consumer Electronics Control
CD pull-up	HDMI receptacle pin 15	For detection of 3.3K Ohm to CD sense
VBus	HDMI receptacle pin 18	
CBus	HDMI receptacle pin 19	
GND	HDMI receptacle pins 5, 8, 11, 17	RF Ground

Table 4. Pin Assignments for HDMI IN and HDMI OUT (HDMI type A Receptacles)

SIGNAL IDENTIFICATION	PIN	DESCRIPTION
TMDS Data2+	1	D2+
Ground	2	Ground
TMDS Data2-	3	D2-
TMDS Data1+	4	D1+
Ground	5	Ground
TMDS Data1-	6	D1-
TMDS Data0+	7	D0+
Ground	8	Ground
TMDS Data0-	9	D0-
TMDS Clock+	10	CLK+
Ground	11	Ground
TMDS Clock-	12	CLK-
CEC	13	Consumer Electronics Control
Reserved	14	
SCL	15	I <sup>2</sup> C Serial Clock for DDC
SDA	16	I <sup>2</sup> C Serial Data for DDC
DDC/CEC Ground	17	
+5V POWER	18	Power
HPD	19	Hot Plug Detect

Table 5. Pin Assignments for I<sup>2</sup>C Connectors

SIGNAL IDENTIFICATION	PIN	DESCRIPTION
RXD IN	1	Bit stream from Programmer
GND	2	Ground
TXD OUT	3	Bit stream to Programmer
NC	4	Isolated from +5V
NC	5	Isolated from +5V
I <sup>2</sup> C CL	6	I <sup>2</sup> C Clock
GND	7	Ground
I <sup>2</sup> C DA	8	I <sup>2</sup> C Data

Table 6. Pin Assignments for GPIO

SIGNAL IDENTIFICATION	PIN	DESCRIPTION
GND	1	Ground
GND	2	Ground (jumpered to pin 1 for Park)
GPIO0_MCU	3	General purpose connection to uC (jumpered to pin 1 for PackedPixel mode)
Test Point	4	Internal test point connection
GPIO0_MCU	5	General purpose connection to uC
Test Point	6	Internal test point connection
GPIO0_MCU	7	General purpose connection to uC
Test Point	8	Internal test point connection
GNT#	9	Interrupt Grant from uC
REQ IN	10	Interrupt Request to uC

## Electrical Specifications

**NOTE: All specifications in this manual are subject to change.**

**Table 7. MHL Source/Sink Module Electrical Specifications**

SPECIFICATION	MINIMUM	TYPICAL	MAXIMUM	NOTES
Vcc (V)		+12		
Icc (A)			1.5	

## MHL Source/Sink Module User Models

MHL Source/Sink Module contains a HDMI to MHL bridge for sink testing and a MHL to HDMI bridge for source testing. The following example and figures shows MHL sink testing.

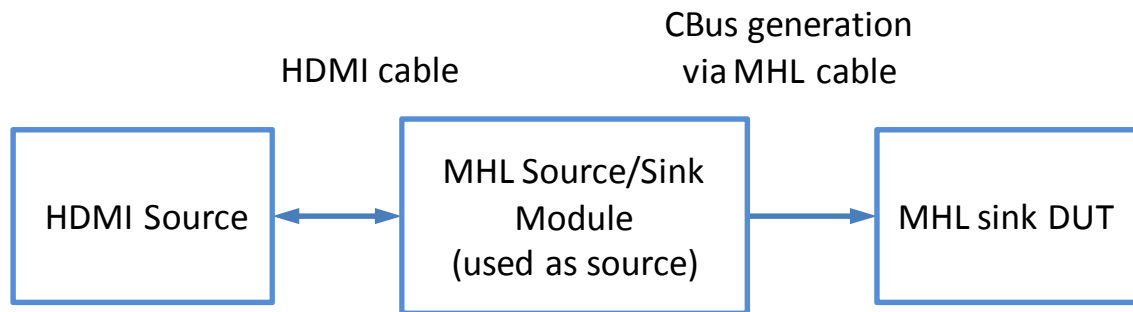


Figure 4. MHL Source/Sink Module Acting as a Source for MHL Sink Testing.

**WARNING: The MHL Source/Sink Module is designed for voltages less than 42 V RMS. It is not to be used for Hipot testing.**

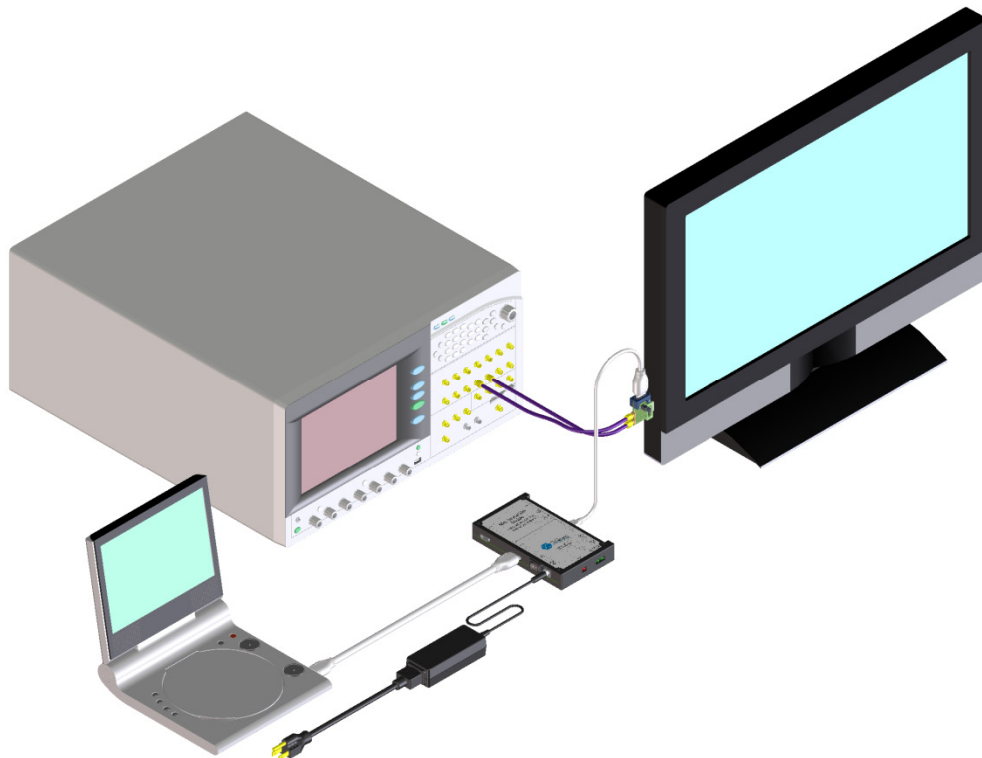


Figure 5. MHL Source/Sink Module Acting as a Source for MHL Sink Testing. (Agilent Configuration)

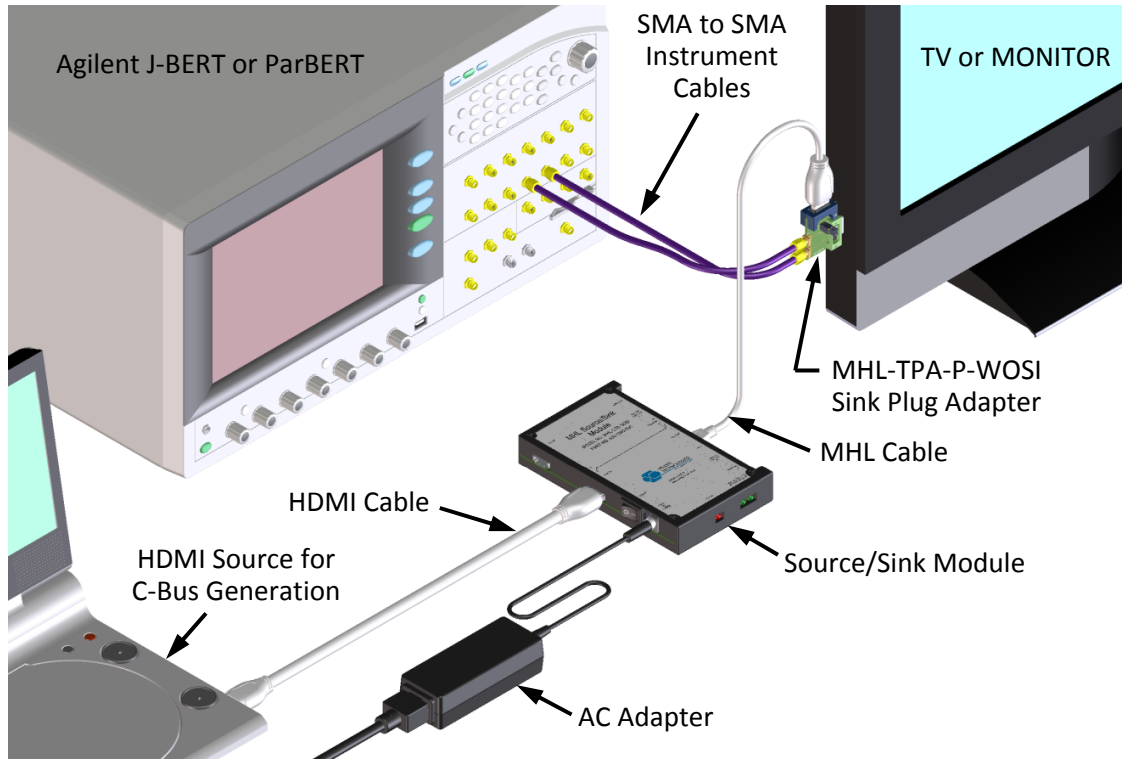


Figure 6. MHL Source/Sink Module Acting as a Source for MHL Sink Testing. (Agilent Configuration)

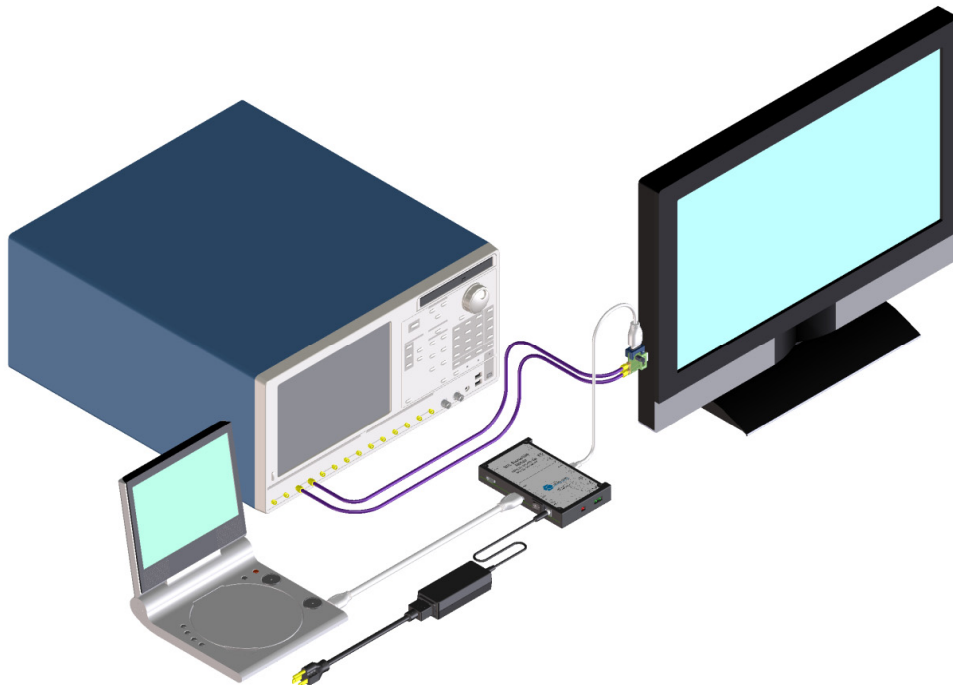


Figure 7. MHL Source/Sink Module Acting as a Source for MHL Sink Testing. (Tektronix Configuration)

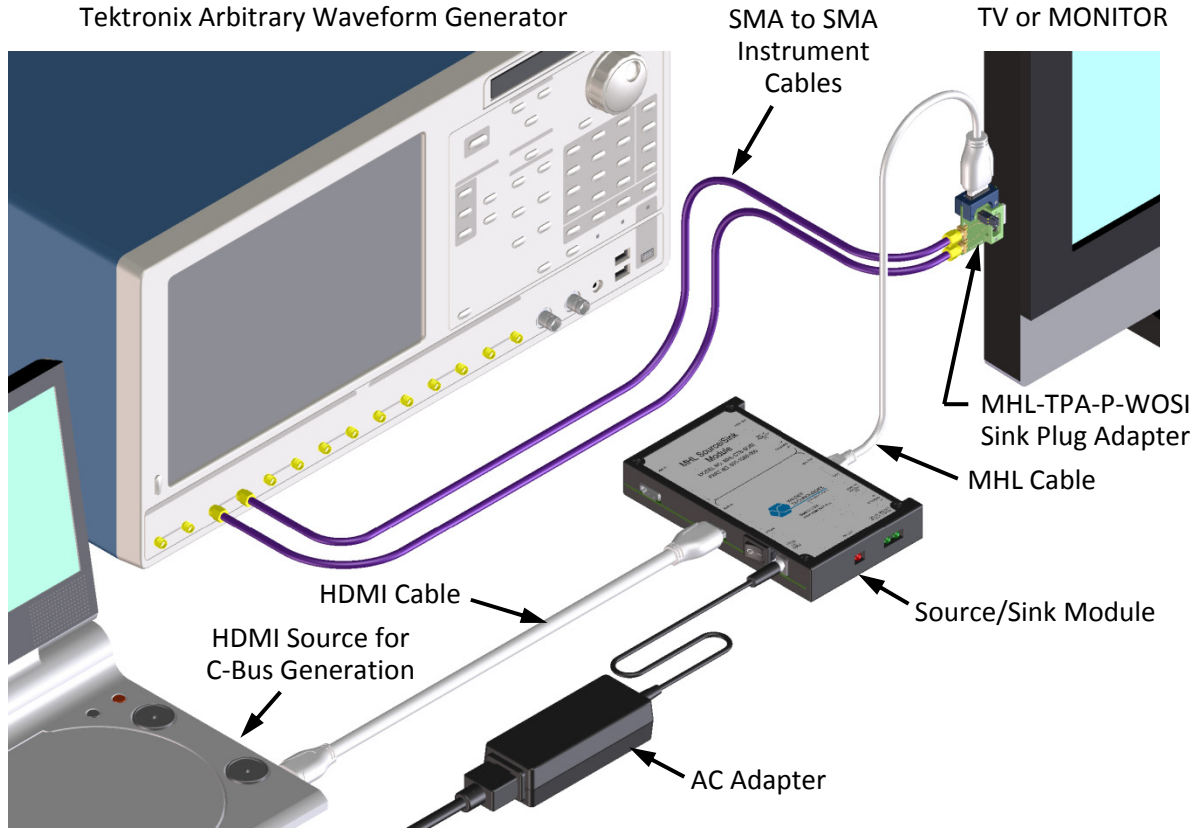


Figure 8. MHL Source/Sink Module Acting as a Source for MHL Sink Testing. (Tektronix Configuration)

The following example and figures shows MHL source testing.

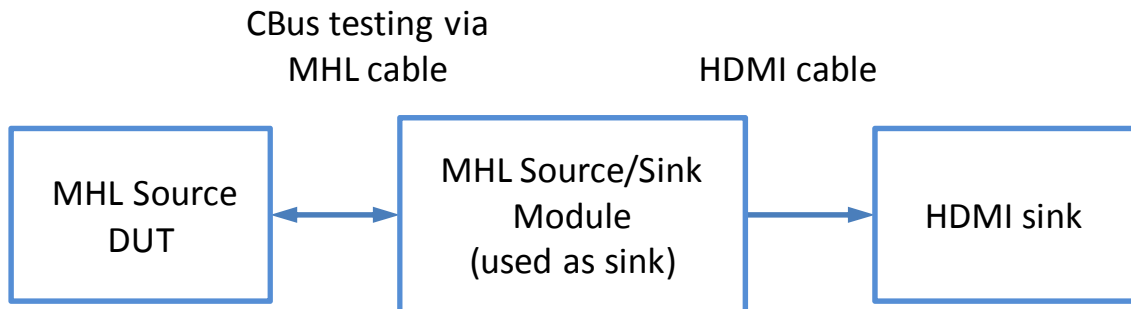


Figure 9. MHL Source/Sink Module Acting as a Sink for MHL Source Testing

**WARNING: The MHL Source/Sink Module is designed for voltages less than 42 V RMS. It is not to be used for Hipot testing.**



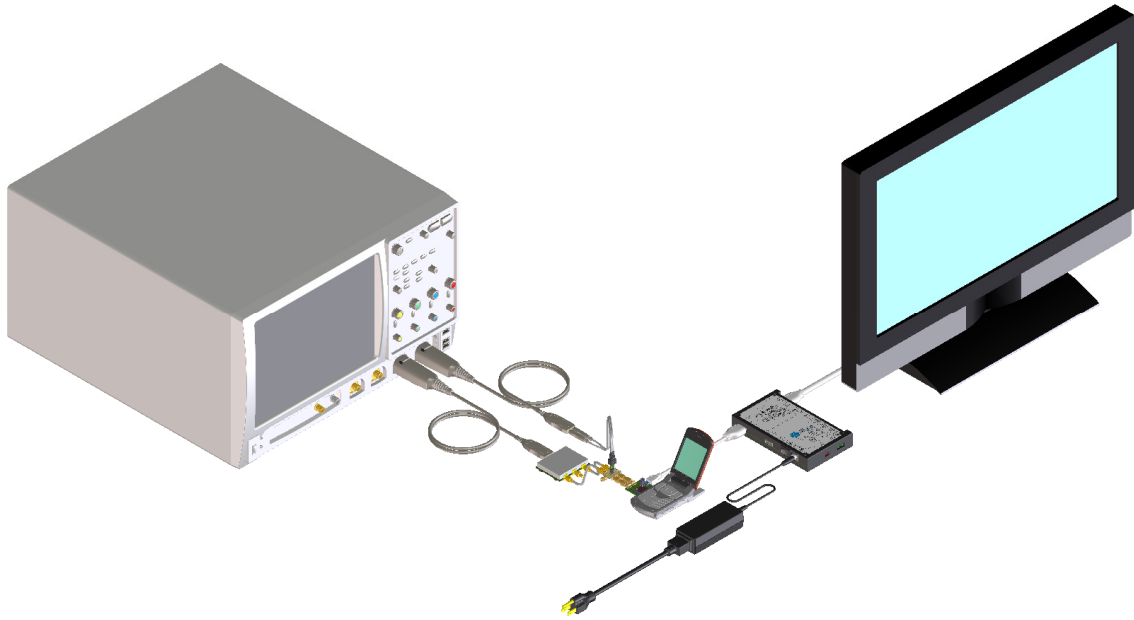


Figure 10. MHL Source/Sink Module Acting as a Sink for MHL Source Testing. (Agilent Configuration)

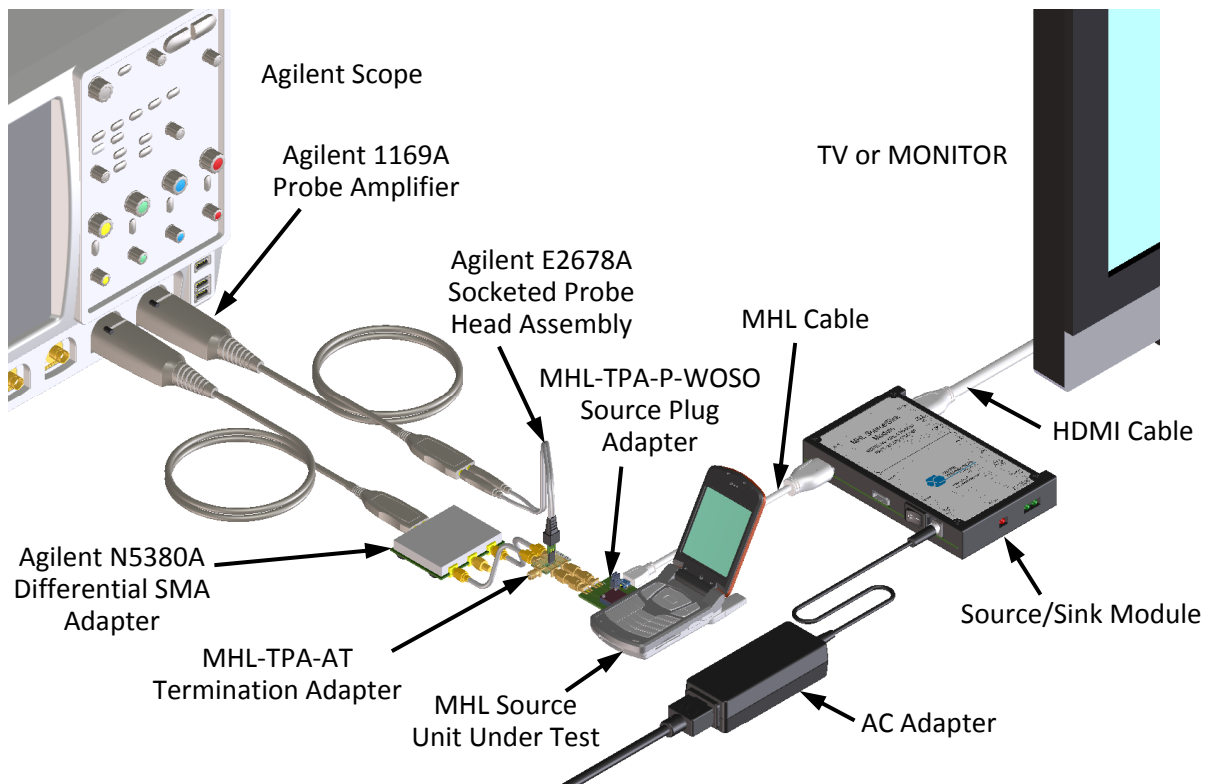


Figure 11. MHL Source/Sink Module Acting as a Sink for MHL Source Testing. (Agilent Configuration)

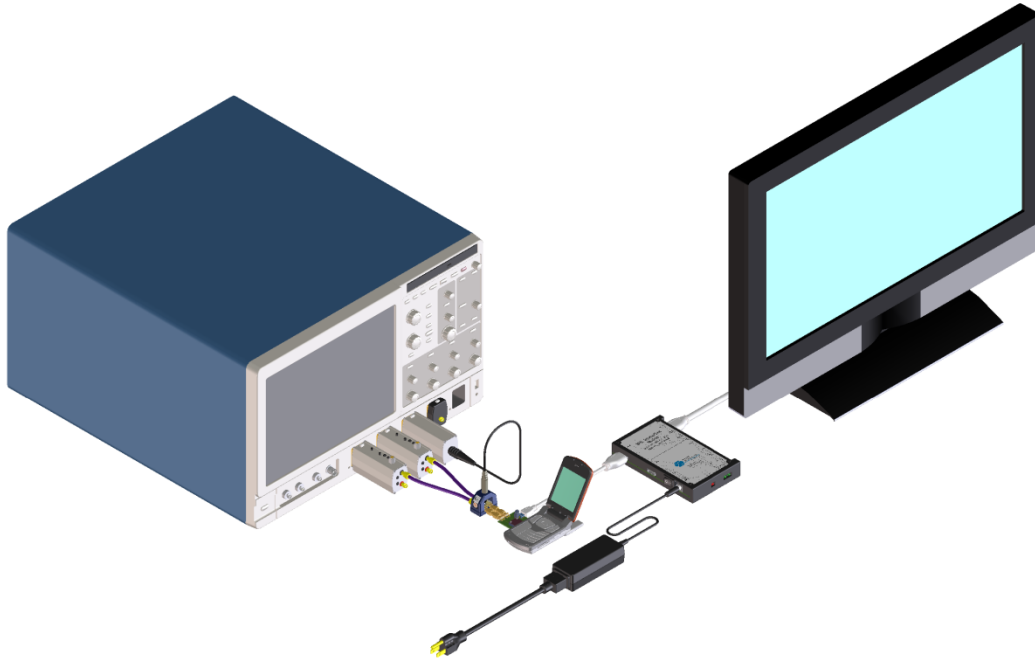


Figure 12. MHL Source/Sink Module Acting as a Sink for MHL Source Testing. (Tektronix Config.)

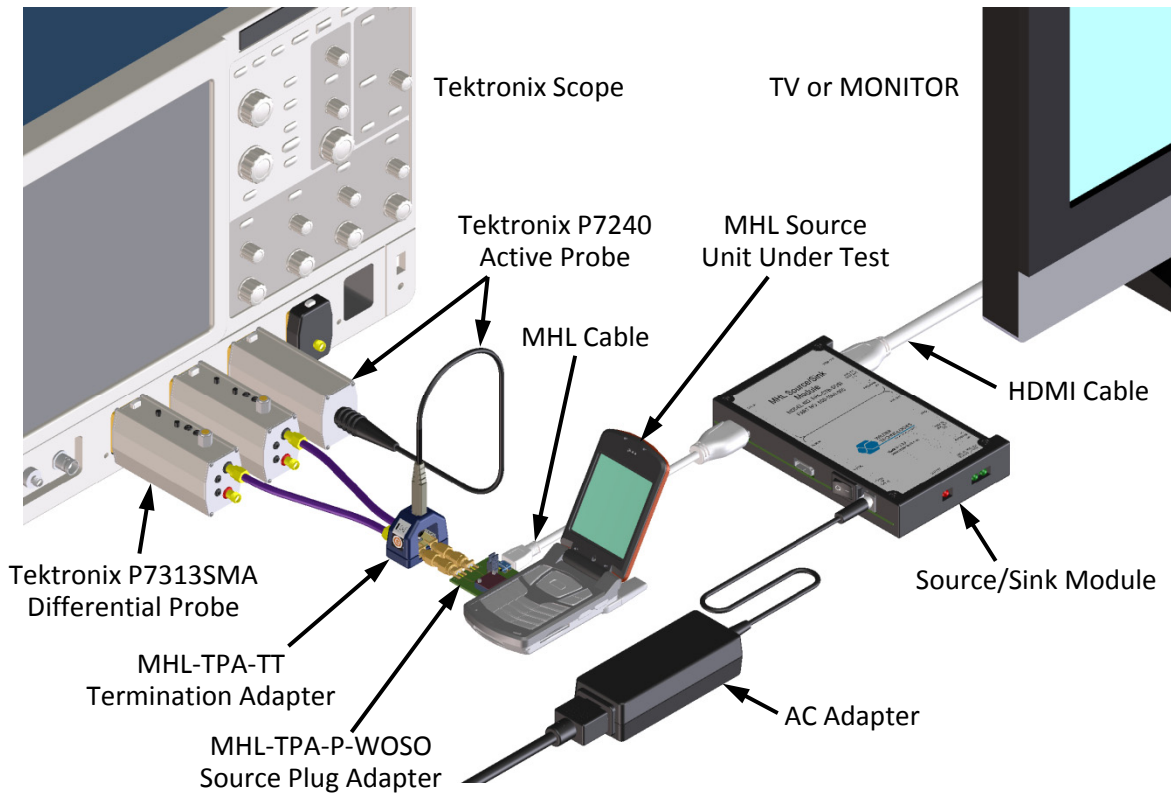


Figure 13. MHL Source/Sink Module Acting as a Sink for MHL Source Testing. (Tektronix Config.)

## MHL Source/Sink Module Reference Information

This section contains a block diagram of the MHL Source/Sink Module.

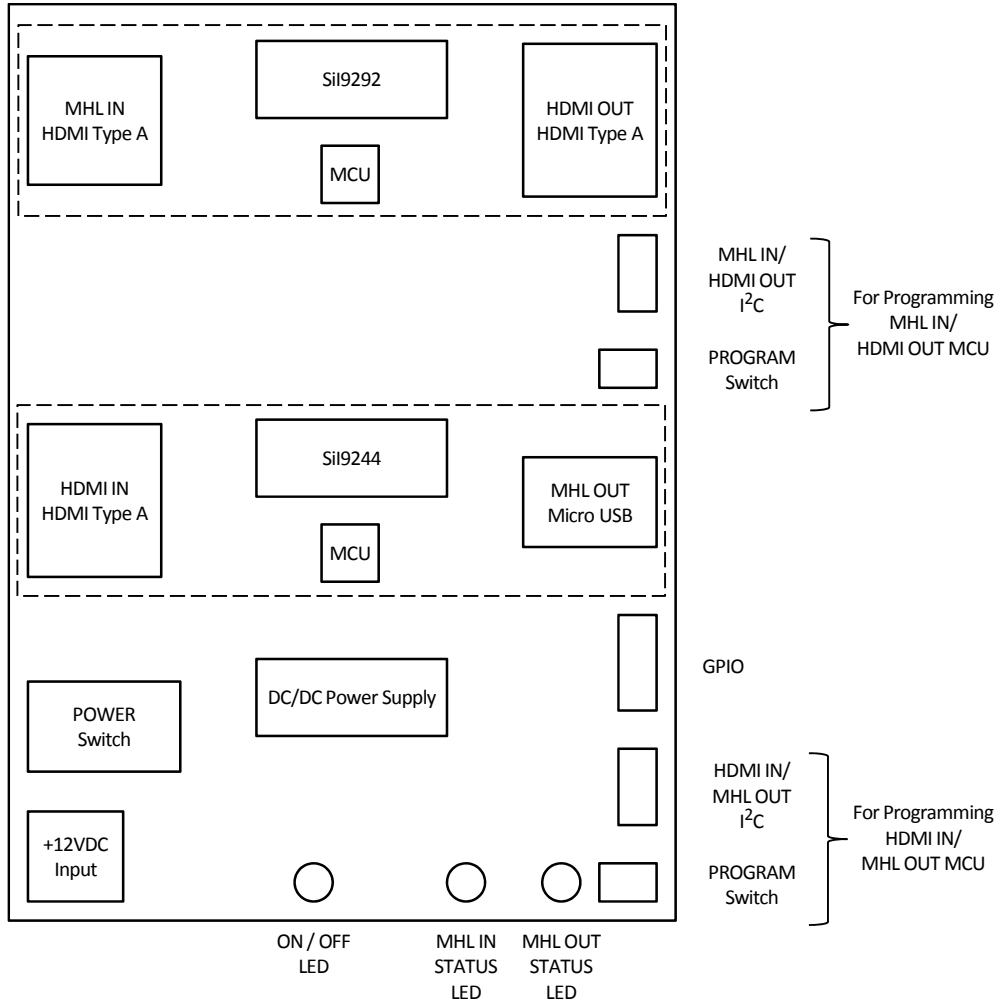


Figure 14. MHL Source/Sink Module Block Diagram

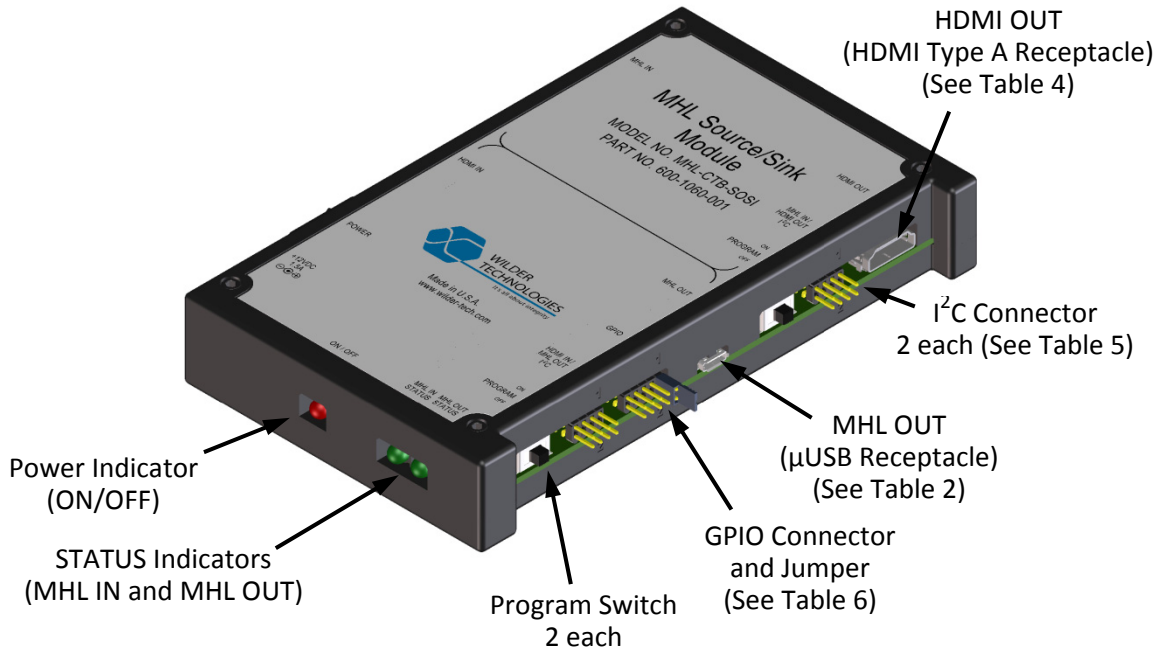


Figure 15. Rear Surface Connectors, Switches, Side Indicators (MHL Source/Sink Module with jumper in normal mode “park” position shown).

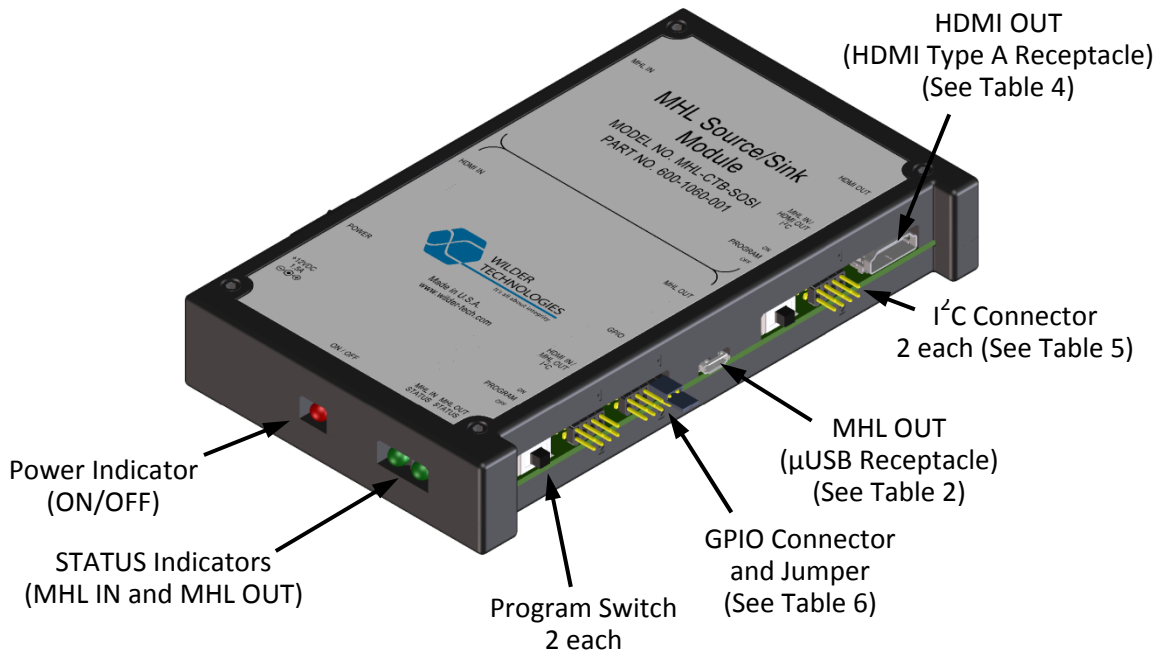


Figure 16. Rear Surface Connectors, Switches, Side Indicators (MHL Source/Sink Module with jumper in PackedPixel mode shown).

## Wilder Technologies, LLC – Limited Warranty

Wilder Technologies, LLC warrants that each Test Adapter, 1) is free from defects in materials and workmanship and, 2) conforms to Wilder Technologies specifications for a period of 12 months. **See Consumable and Fragile Material Warranty for exceptions to the 12 month warranty**

The warranty period for a Test Adapter is a specified, fixed period commencing on the date of ship from Wilder Technologies, LLC. If you did not purchase your Test Adapter directly from Wilder Technologies, LLC, the serial number and a valid proof of purchase will be required to establish your purchase date. If you do not have a valid proof of purchase, the warranty period will be measured from the date of ship from Wilder Technologies, LLC.

If, during the warranty period, the Test Adapter is not in good working order, Wilder Technologies, LLC will, at its option, repair or replace it at no additional charge, except as is set forth below. In some cases, the replacement Test Adapter may not be new and may have been previously installed. Regardless of the Test Adapter's production status, Wilder Technologies, LLC appropriate warranty terms apply.

### **Consumable and Fragile Material Warranty**

Wilder Technologies, LLC warrants that consumable materials and all fragile materials supplied by Wilder Technologies, LLC either as part of an instrument or system, or supplied separately, will be free from defects in material and workmanship at the time of shipment.

### **Extent of Warranty**

The warranty does not cover the repair or exchange of a Test Adapter resulting from misuse, accident, modification, unsuitable physical or operating environment, improper maintenance by you, or failure caused by a product for which Wilder Technologies, LLC is not responsible. The warranty is voided by removal or alteration of Test Adapter or parts identification labels. The initial three months are unconditional; the remaining months excludes plugs, receptacles and SMA connectors. Connectors are wear items and excluded from the warranty after the initial three months.

**These warranties are your exclusive warranties and replace all other warranties or conditions, express or implied, including but not limited to, the implied warranties or conditions of merchantability and fitness for a particular purpose. These warranties give you specific legal rights and you may also have other rights which vary from jurisdiction to jurisdiction. Some jurisdictions do not allow the exclusion or limitation of express or implied warranties, so the above exclusion or limitation may not apply to you. In that event, such warranties are limited in duration to the warranty period. No warranties apply after that period.**

### **Items Not Covered by Warranty**

Wilder Technologies, LLC does not warrant uninterrupted or error-free operation of a Test Adapter.

Any technical or other support provided for a Test Adapter under warranty, such as assistance via telephone with "how-to" questions and those regarding Test Adapter set-up and installation, will be provided **WITHOUT WARRANTIES OF ANY KIND**.

### **Warranty Service**

Warranty service may be obtained from Wilder Technologies, LLC by returning a Wilder Technologies, LLC Returns Material Authorization and the Test Adapter to Wilder Technologies, LLC during the warranty period. To obtain RMA number, contact [support@wilder-tech.com](mailto:support@wilder-tech.com).

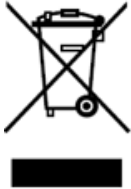
You may be required to present proof of purchase or other similar proof of warranty entitlement. You are responsible for any associated transportation charges, duties and insurance between you and Wilder Technologies, LLC. In all instances, you must ship Test Adapters in Wilder Technologies, LLC approved packaging. Information on packaging guidelines can be found at: [www.wilder-tech.com](http://www.wilder-tech.com). Wilder Technologies, LLC will ship repaired or replacement Test Adapter Delivery Duty Prepaid (DDP) and will pay for return shipment. You will receive title to the repaired or replacement Test Adapter and you will be the importer of record.

## Wilder Technologies, LLC – Terms & Conditions of Sale

- 1. Other Documents:** This Agreement may NOT be altered, supplemented, or amended by the use of any other document(s) unless otherwise agreed to in a written agreement signed by both you and Wilder Technologies, LLC. If you do not receive an invoice or acknowledgement in the mail, via e-mail, or with your Product, information about your purchase may be obtained at [support@wilder-tech.com](mailto:support@wilder-tech.com) or by contacting your sales representative.
- 2. Payment Terms, Orders, Quotes, Interest:** Terms of payment are within Wilder Technologies, LLC's sole discretion, and unless otherwise agreed to by Wilder Technologies, LLC, payment must be received by Wilder Technologies, LLC prior to Wilder Technologies, LLC's acceptance of an order. Payment for the products will be made by credit card, wire transfer, or some other prearranged payment method unless credit terms have been agreed to by Wilder Technologies, LLC. Invoices are due and payable within the time period noted on your invoice, measured from the date of the invoice. Wilder Technologies, LLC may invoice parts of an order separately. Your order is subject to cancellation by Wilder Technologies, LLC, in Wilder Technologies, LLC's sole discretion. Unless you and Wilder Technologies, LLC have agreed to a different discount, Wilder Technologies, LLC's standard pricing policy for Wilder Technologies, LLC-branded systems, which includes hardware, software and services in one discounted price, allocates the discount off list price applicable to the service portion of the system to be equal to the overall calculated percentage discount off list price on the entire system. Wilder Technologies, LLC is not responsible for pricing, typographical, or other errors in any offer by Wilder Technologies, LLC and reserves the right to cancel any orders resulting from such errors.
- 3. Shipping Charges; Taxes; Title; Risk of Loss:** Shipping, handling, duties and tariffs are additional unless otherwise expressly indicated at the time of sale. Title to products passes from Wilder Technologies, LLC to Customer on shipment from Wilder Technologies, LLC's facility. Loss or damage that occurs during shipping by a carrier selected by Wilder Technologies, LLC is Wilder Technologies, LLC's responsibility. Loss or damage that occurs during shipping by a carrier selected by you is your responsibility. You must notify Wilder Technologies, LLC within 7 days of the date of your invoice or acknowledgement if you believe any part of your purchase is missing, wrong or damaged. Unless you provide Wilder Technologies, LLC with a valid and correct tax exemption certificate applicable to your purchase of Product and the Product ship-to location, you are responsible for sales and other taxes associated with the order. **Shipping dates are estimates only.**
- 4. WARRANTY:** WILDER TECHNOLOGIES, LLC, warrants that the item(s) manufactured under the Buyer's contract shall be free from defects in materials and workmanship furnished by WILDER TECHNOLOGIES, LLC, and shall conform to the applicable drawings and specifications. WILDER TECHNOLOGIES, LLC'S liability herein, for breach of warranty, contract or negligence in manufacturing, shall be limited to repair or replacement. Repair or replacement of defective items will be applicable only if the Buyer notifies WILDER TECHNOLOGIES, LLC, by written notice within 30-days of delivery. All claims shall be addressed to: [support@wilder-tech.com](mailto:support@wilder-tech.com) or WILDER TECHNOLOGIES, LLC, 6101A East 18th Street, Vancouver, Washington 98661 U.S.A.; ATTENTION: Customer Service Manager. WILDER TECHNOLOGIES, LLC, reserves the right to inspect at the Buyer's plant all items claimed to be defective or nonconforming prior to authorizing their return. WILDER TECHNOLOGIES, LLC, assumes no liability for the results of the use of its components in conjunction with other electric, electronic or mechanical components, circuits and/or systems. The foregoing constitutes the sole and exclusive remedy of the Buyer and the exclusive liability of WILDER TECHNOLOGIES, LLC, and is IN LIEU OF ANY AND ALL OTHER WARRANTIES, STATUTORY, IMPLIED OR EXPRESSED AS TO MERCHANTABILITY, FITNESS FOR THE PURPOSE SOLD, DESCRIPTION, QUALITY, and PRODUCTIVENESS OR ANY OTHER MATTER. Without limiting the foregoing, in no event shall WILDER TECHNOLOGIES, LLC, be liable for loss of use, profit or other collateral, or for special and/or consequential damages.
- 5. RETURNED GOODS:** WILDER TECHNOLOGIES, LLC, will accept only those goods for return that have been authorized for return. All goods authorized for return shall be assigned a Returned Material Authorization (RMA) Number. The RMA Number shall be clearly marked on the shipping container(s) and all documentation accompanying the goods authorized for return. The RMA Number shall be assigned by WILDER TECHNOLOGIES, LLC pursuant to the conditions set forth in Paragraph 4, WARRANTY.
- 6. UNITED STATES GOVERNMENT CONTRACTS:** In the event this offer is accepted under Government contract, WILDER TECHNOLOGIES, LLC, agrees to accept clauses required by Government regulations and to waive WILDER TECHNOLOGIES, LLC conditions inconsistent therewith. WILDER TECHNOLOGIES, LLC, certifies that it is a regular manufacturer or dealer of the goods and/or services offered herein and that the prices offered do not exceed those charged to any customer for like quantities, services or materials under the same conditions.

## Compliance with Environmental Legislation

Wilder Technologies, LLC, is dedicated to complying with the requirements of all applicable environmental legislation and regulations, including appropriate recycling and/or disposal of our products.



### WEEE Compliance Statement

The European Union adopted Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE), with requirements that went into effect August 13, 2005. WEEE is intended to reduce the disposal of waste from electrical and electronic equipment by establishing guidelines for prevention, reuse, recycling and recovery.

Wilder Technologies has practices and processes in place to conform to the requirements in this important Directive.

In support of our environmental goals, effective January 1<sup>st</sup>, 2009 Wilder Technologies, LLC has partnered with E-Tech Recycling of Beaverton, Oregon, [www.etechrecycling.com](http://www.etechrecycling.com), to recycle our obsolete and electronic waste in accordance with the European Union Directive 2002/96/EC on waste electrical and electronic equipment ("WEEE Directive").

As a service to our customers, Wilder Technologies is also available for managing the proper recycling and/or disposal of all Wilder Technologies products that have reached the end of their useful life. For further information and return instructions, contact [support@wilder-tech.com](mailto:support@wilder-tech.com).

## Glossary of Terms (MHL)

TERMINOLOGY	DEFINITION
Aggressor	A signal imposed on a system (i.e., cable assembly) to measure response on other signal carriers.
Cable	MHL Cable with micro-USB connector on the source end and HDMI Type-A connector on the sink end.
Dongle	A protocol converter for conversion of MHL (USB micro-B plug connector) to HDMI (Type-A receptacle connector).
MHL-TPA	MHL Test Point Access. A specialized assembly that interfaces to a MHL receptacle or plug and enables access to signals for measurement or stimulation. Also allows access to VBus and CBus.
Informative	The designation of a test that is not required for compliance but is considered important from a characterization standpoint. It is provided for informational purposes only.
Normative	The designation of a test that is required for compliance.
RxSen	DC Parametric measurements
Sink Device	A device that contains A/V stream sinks for display and/or sound.
Source Device	A device that contains a stream source and originates an isochronous A/V stream.
Victim	A signal carrier on a system that has a response imposed on it by other signals in the system.



## Glossary of Terms (HDMI)

TERMINOLOGY	DEFINITION
Aggressor	A signal imposed on a system (i.e., cable assembly) to measure response on other signal carriers.
Box-to-box connection	HDMI Type-A link between two boxes detachable by an end user. An HDMI Type-A cable-connector assembly for the box-to-box connection shall have three TMDS Link lanes.
CEC	Consumer Electronics Control
DDC	Display Data Channel (VESA)
HDMI Type-A Receiver	Circuitry that receives the incoming HDMI Type-A TMDS Link data. Located in Sink Device and the upstream port of Intermediate Device.
HDMI Type-A Transmitter	Circuitry that transmits the HDMI Type-A TMDS Link data located in Source Device and in the downstream port of Intermediate Device.
HDMI-TPA	HDMI Type-A Test Point Access. A specialized assembly that interfaces to a HDMI Type-A receptacle or plug and enables access of signals for measurement or stimulation.
Sink Device	A device that contains A/V stream sinks for display and/or sound.
Source Device	A device that contains a stream source and originates an isochronous A/V stream.
TMDS	Transition Minimized Differential Signaling
Victim	A signal carrier on a system that has a response imposed on it by other signals in the system.

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