\_



## Advanced Cable Tester v2 User Manual

#### Total Phase : User Manuals : Hardware

#### Advanced Cable Tester v2 User Manual

- 1 Quick Start Guide
- 2 General Overview
  - 2.1 Revision History
  - 2.2 General Description
- **3 Device Specifications** 
  - 3.1 Hardware Specifications
  - 3.2 Software Specifications
  - **3.3 Physical Specifications**
- 4 Advanced Cable Tester v2 Hardware
  - 4.1 General Operation
  - 4.2 Connectivity
  - 4.3 Web Management Interface
  - 4.4 Powering the Advanced Cable Tester v2
- 5 Operation Overview
- 6 Standalone Operation
- 7 Connector Modules
  - 7.1 Physically Installing Connector Modules
  - 7.2 Multiple Connector Module
- 8 User Interface Overview
  - 8.1 Navigation
  - 8.2 Main
  - 8.3 Reports
  - 8.4 Individual Test Report
  - 8.5 Profiles



Cookie Settings Accept all cookies

9.2 Life Support Equipment Policy9.3 Contact Information

## **1 Quick Start Guide**

The Advanced Cable Tester v2 was designed with the factory in mind. Once a valid cable connector module is installed and the user has selected a valid test profile, the tester is configured and ready to test. As soon as a cable is inserted, the tests defined in the test profile will start.

These are the steps to get started:









## **2 General Overview**

## **2.1 Revision History**

#### 2.1.1 Release 2.00

This release provides support for the new v2.0 hardware architecture and modular connector interface. All tests and the display of their results have been improved.

## 2.2 General Description

Combining blazing fast performance with a low cost per test and a rugged design, the Advanced Cable Tester v2 enables rapid spot-checking of cables, easy-to-understand reports, with 100% test coverage for lab and production environments at a fraction of the price, time, and labor versus other solutions. Whether your application is 100% quality control in a factory or statistical process control in a laboratory, the Advanced Cable Tester v2 will provide high precision and accuracy with thorough test coverage, without expensive scopes, custom fixtures, or highly trained personnel, saving hundreds of thousands of dollars.

This document describes the Advanced Cable Tester v2 web software applications, the Advanced Cable Tester v2 Hardware and how to use both.



#### *Figure 1* : Advanced Cable Tester v2 Hardware

Designed to be modular and flexible, the Advanced Cable Tester v2 has replaceable modules that are designed to support specific types of cables. Table 1 lists all the cable connector

Тор

Z



	1
TP820110	USB Type-C to USB Type-C
TP820210	USB 3.1 Standard-A to USB Type-C
TP820310	USB Type-C to USB 3.1 Micro-B
TP820410	USB 3.1 Standard-A to USB 3.1 Micro-B
TP820510	USB 3.1 Standard-A to USB 3.1 Standard-B
TP820610	USB Type-C to USB 3.1 Standard-B
TP821010	HDMI Type A to HDMI Type A
TP823010	USB 3.1 Standard-A to MFi Lightning USB2
TP823110	USB Type-C to MFi Lightning USB2

A complete battery of tests is performed when a cable is plugged in. These tests include:

- **Continuity/Wiring** cable specific and customizable
- DC Resistance pin and wire measurements, Rd, Rp, Ra, and more
- **Signal Integrity** configurable from 518 MHz to 12.8 GHz on up to 5 differential pairs
- E-Marker Verification PD2/PD3 verification
- Apple MFi Mandated Tests Over Voltage Protection, Quiescent Current, Source Measurement Unit Tests

The Advanced Cable Tester v2 can be operated with or without a computer or tablet. The tester provides clear audio and visual feedback to test operators to indicate whether DUT passed or failed for fast processing.

Continuity testing checks all pins for continuity, preventing dangerous situations like shorts of VBUS to data signals, VBUS/GND reversal, etc., which could damage devices.

DC Resistance ("DCR") and IR Drop testing confirms that each power pin (VBUS and GND) is capable of carrying the required current to meet the applicable specification. For Type-C cables, each power pin is individually measured, then the cable as a whole is tested.

E-Marker testing reads the data from all E-Markers present on the cable, then validates the advertised data and power capabilities against the actual measured parameters of the cable.

\_



plug power-up, over-voltage, recovery, quiescent current, and current limit testing per the Apple MFi specification. The ACT v2 tester is the only tester available that can perform the tests required by the Apple Accessory Interface Specification (R31 and greater).

## **3 Device Specifications**

## 3.1 Hardware Specifications



Figure 2 : Advanced Cable Tester v2 Hardware

 Table 2 : Advanced Cable Tester v2 - Front

1	Screen	LCD screen provides pass/fail and progress information. Please see Standalone Operation Overview for more information about how to use the ACT v2 in standalone mode.
2	Power	Green LED indicates that the unit is powered on. Red LED indicates a power-related system fault.
3	Speaker	Speaker provides audio pass/fail indicator. The volume of the speaker can be set in the web application
4	Module Bay	The ACT v2 is designed to support replaceable connector modules. Connector modules can be full-height or half-height. When using half-height connector modules, a separate plate

Z

=





Figure 3 : Advanced Cable Tester v2 Hardware - Back

Table 3 . Auvaliceu Cable Testel vz - Dac	Table	ced Cable Test	ter v2 - Back
---	-------	----------------	---------------

1	USB	The ACT v2 can be accessed locally via USB. All firmware updates must be performed via the USB port. Please see Connectivity for details.
2	LAN	The ACT v2 can be accessed remotely via Ethernet. Please see Connectivity for information about how to connect to the ACT v2.
3	Product Labels	The serial number for the ACT v2 tester and the controller are provided on these labels. The Controller serial number label provides the default USB IP address used to access the web application and the system management application.
4	Ground Lug	For optimal performance, the ACT v2 tester should be connected to ground using the Ground Lug. A grounding tab is provided that can be soldered to a ground wire. Simply unscrew the nut to get access to the grounding tab.
5	Power	The ACT v2 tester must be powered with the provided power adapter to ensure the correct voltage and current levels to reliably run the cable tests.

## 3.1.1 Securing the ACT v2 to a Work Surface





*Figure 4* : Advanced Cable Tester v2 Hardware with brackets installed.

Optional mounting brackets can be installed on the ACT v2 tester so that it can be secured to a work surface. To install the brackets, simply remove the screws as shown in the diagram below. The bracket can then be attached to the ACT v2 with the provided screws.

## 3.2 Software Specifications

- The web interface requires the latest version of Mozilla Firefox or Google Chrome web browser
- Test Profiles: Held in non-volatile storage on the Promira platform
- Test Results: Up to 1 million test results are stored in a circular buffer in non-volatile storage.

## **3.3 Physical Specifications**

- Power Supply: 100-240V 50/60Hz AC adapter included
- Dimensions: W x D x L: 30.5 x 27.3 x 10.2 cm (12.0 x 10.8 x 4.0 in)
- Weight: 3.8 kg (8.4 lbs)
- Operating Temperature: 10° to 35° C (50° to 95° F) non-condensing

## 4 Advanced Cable Tester v2 Hardware

## **4.1 General Operation**

Тор

Тор

\_



cable.

#### 4.1.1 Test Limits

To ensure consistent and reliable test results, connector modules are designed to have a limited lifespan. The number of tests that can be performed on a connector module is hard-coded into the module. As the number of tests approaches this limit, the operator will be warned. Once the limit has been reached, no additional tests can be performed on that connector module. At that point, the connector module will need to be replaced to continue testing.

Similarly, the ACT v2 hardware itself also has a hardware limit on the number of times a connector module can be installed before the connector is worn. As the number of module insertions approaches this limit, the operator will be warned. Once the limit has been reached, the ACT v2 tester will need to be serviced.

## 4.2 Connectivity

Communication between the end user platform and the ACT v2 is via TCP/IP over Ethernetover-USB or via TCP/IP over Ethernet. No additional device drivers are required for using either method.

#### 4.2.1 USB

The Advanced Cable Tester v2 uses Ethernet over USB. To use this interface, connect the device to your PC with a USB cable and follow the instructions below to set up the connection on the PC.

The Ethernet over USB connection is established using the RNDIS or ECM protocol. In this case, the ACT v2 will act as a DHCP server and provide an IP address to your computer or tablet in the 10.0.0.0/24 range. The IP address of the USB interface can be found on the labels on the back of the device.

#### Windows

Тор

Тор

1. Connect ACT v2 to PC with USB cable.





Otherwise, close this window, skip RNDIS driver installation in the next step and continue to the following step.

#### 3. Install RNDIS driver:

- Right-click on Total Phase Platform device and select Update Driver Software... When prompted to choose how to search for device driver software, choose Browse my computer for driver software.
- 2. Browse for driver software on your computer will come up. Select Let me pick from a list of device drivers on my computer.
- 3. A window will come up asking to select the device type. Select **Network adapters**, as RNDIS emulates a network connection.

\_\_\_



icrosoft Commo	Controller For Win	dows Class	
Mobile devices			
Modems 🔤			
Nonitors 🔍			
🔟 Multifunction adap	ters		
🖫 Multi-port serial ad	apters		
🛃 Network adapters			
🏪 Network Client			
- Network Protocol			
县 Network Service			
🔹 Non-Plug and Play	Drivers		
PCMCIA adapters			
<u></u>			

4. In the **Select Network Adapter** window, select **Microsoft Corporation** from the **Manufacturer** list. Under the list of **Network Adapter:**, select **Remote NDIS compatible device**.









Remote NDIS Compatible Device

- 4. From the Start menu, select **Control Panel | Network and Internet | Network and Sharing Center.**
- 5. Select **Change adapter settings** on the left panel.
- 6. Right-click on the **USB Ethernet/RNDIS Gadget** adapter, select **Properties**.



*Figure 5* : Windows Change adapter settings window.

#### 7. Double click on Internet Protocol Version 4 (IPv4).

\_



Configure	
This connection uses the following items:	
🗹 🏪 Parallels Shared Folders	
Client for Microsoft Networks	
🗹 📮 QoS Packet Scheduler	
File and Printer Sharing for Microsoft Networks	
Internet Protocol Version 6 (TCP/IPv6)	
Internet Protocol Version 4 (TCP/IPv4)	
✓ Link-Layer Topology Discovery Mapper I/O Driver	
Link-Layer Topology Discovery Responder	
Install Uninstall Properties	
Description	
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.	
OK Canc	el

Figure 6 : Windows Network Interface Properties dialog.

8. Select **Obtain IP address automatically** and also select **Obtain DNS server address automatically**.



Obtain an IP address automatica	ly			
Use the following IP address:				
IP address:			1.0	
S <u>u</u> bnet mask:				
Default gateway:				
Preferred DNS server:				
Alternate DNS server:				
Validate settings upon exit			Ad <u>v</u> a	inced
		-		Grand

Figure 7 : Windows IPv4 Properties dialog.

- 9. Select **OK** and **Close** to dismiss the dialogs.
- 10. In order to make sure it is ready or to know the IP address of the Advanced Cable Tester v2, right-click on the **USB Ethernet/RNDIS Gadget** adapter, select **Status** and then select **Details...**. The IP address assigned to the network interface on the host PC is will be in the format of 10.x.x.x and is listed as the IPv4 Address. The IP address of the device will be at the preceding address. For example, the image below shows 10.1.0.2 for the host IP address. The device address will then be 10.1.0.1. This device address will also be displayed in the Control Center software and will be needed when connecting to the device using the API.

\_\_\_



Physical Address	90.90 09.01.00.02
DHCP Enabled	Yee
IPv4 Address	10 1 0 2
IPv4 Subnet Mask	255 255 255 252
Lease Obtained	Thursday, November 13, 2014 10:06:42
Lease Expires	Monday, January 18, 2038 7:14:08 PM
IPv4 Default Gateway	10.1.0.1
IPv4 DHCP Server	10.1.0.1
IPv4 DNS Server	
IPv4 WINS Server	
NetBIOS over Tcpip En	Yes
Link-local IPv6 Address	fe80:f1d4:2323:ec7d:7dd4%23
IPv6 Default Gateway	
IPv6 DNS Server	
•	۰ (III)
	Close

Figure 8 : Windows Connection Details.

11. Select **OK** and **Close** to dismiss the dialogs.

#### Linux

- 1. Connect ACT v2 to PC with USB cable.
- 2. Use ifconfig -a to determine the network interface of ACT v2. If you do not recognize which one is the new interface, compare the lists from ifconfig -a before and after plugging in the device.
- 3. The Advanced Cable Tester v2 will be shown as tpp*x*.

#### Mac OS X

- 1. Connect ACT v2 to PC with USB cable.
- 2. Select Network under System Preferences.
- 3. Select Total Phase Platform

Тор



Connected		status: Connected
Total Platform     Connected	<hr/>	Total Phase Promira platform is currently active and has the IP address 10.1.0.2.
Ethernet     Not Connected	Configur	e IPv4: Using DHCP 🗘
Plugabl3000	(> IP Ac	ddress: 10.1.0.2
ElsoWise	Subnet	Mask: 255.255.255.252
Not Connected	2 I	Router: 10.1.0.1
Bluetooth PAN	DNS	Server: 0.0.0.0, 0.0.0.0
NO IL PROVIDI	Search Do	mains:
+ - \$*		Advanced ?
Click the lock to	prevent further changes.	Assist me Revert Apply

Figure 9 : Mac OS X Network Preferences window.

- 1. Select **Using DHCP** from the **Configure IPv4:** dropdown list box.
- 2. Select **Apply** to apply the changes.

#### 4.2.2 Ethernet

The ACT v2 can be connected to through the Ethernet port. The ACT v2 can be configured to static IP addressing or dynamic IP addressing (DHCP). The default network preferences of the ACT v2 for Ethernet is a static address and its IP address is 192.168.11.1. The network preferences can be modified using the web management interface of the Advanced Cable Tester v2 to discover the address that was assigned. The web management interface can also be used to configure a static IP address for the ACT v2 tester.

#### 4.3 Web Management Interface

The Web Management Interface provides a simply way to configure and update the Advanced Cable Tester v2.



evice intor	mation
Controller Seria	Number: 2416-000000
Formation	Version: v1.8.1-dev (2019-03-04)
Store	ge Used: 3 of 25,318 M8 (2%)
Addresse	\$
You can somed	to your Advanced Cable Tester via Ethemet or USB. The box below displays your connection method and the current IP address of the Advanced Cable Tester.
You may change for the new setting	ton DHCP (shaut value) to a fixed IP address of your choice by making your selection via the radio buttor and Ning out the IP address Text. A reduct will be required to take effect.
usa: 10.0/	2.1
Ethernet: 192.1	68.11.100/255.255.255.0
0 0	CP   Fixed Change
irmware / L	icense Update
Periodically Total	Phase updates the formase to provide the best possible experience for your Advanced Cable Textur.
To update your to	means, devertical the appropriate file from Most Jewas MultiPase construct/ black differences (please note, account log in it required).
F you need to rei	stall your learner key, you may download your learner hom the my Devices section of your <u>centerial doubtoury</u> preservoire, account log in a required,
Choose File NO	file chosen Upload
lock Contr	01
Set the date and	ime if your Advanced Cable Tester.
Set Date/Tim	
	-
ystem Con	trol
Type change the	IP address sphere for your Advanced Cable Tester, dick the "reboot" button below.
Reboot	
And in case of the second second	The day of the standard



#### **4.3.1 Device Information**

This section provides information about the ACT v2 tester including the controller's serial number (which will match the label on the rear of the device), current firmware version installed, and the amount of storage used on the device.

When submitting a support request, please make sure that this information is included in your request as it will help the Total Phase support team more rapidly diagnose any potential problems.

#### 4.3.2 IP Addresses

The USB IP address is a fixed address and cannot be changed. This address will match the USB IP address printed on the label on the rear of the tester.

The Ethernet IP address can either be a static IP address or a DHCP assigned address. The web management interface can be used to select between the two options. To select either DHCP or Fixed, simply select the appropriate radio button and click the **Change** button.

If the ACT v2 is set to DHCP, the assigned IP address will be displayed if it has been assigned. This address will only appear if the tester has been connected to the network and has \_\_\_



#### 4.3.3 Firmware/License Update

Firmware and license updates are easy to perform through the web management interface. Both types of updates will be provided as a PMU file from Total Phase. To install the PMU:

- 1. Click on **Choose File** and select a PMU file on your local file system
- 2. Click on **Upload**. Once the PMU file has been uploaded, it will be verified.
- 3. You must confirm the installation of the update by click **Yes** on the update page. Clicking on **Cancel** will return you to the management interface.
- 4. Once the firmware has been updated, the ACT v2 will reboot and return you to the management interface after a successful installation.

After updating the firmware, please be sure to force a refresh of your web browser cache to ensure that the latest web application is loaded when operating the tester.

#### 4.3.4 Clock Control

The ACT v2 tester has a real-time clock to ensure that all cable tests are appropriately time stamped. To set the date and time, simply click the **Set Date/Time** button. The subsequent page will display the current time in the ACT v2 and the current time of the local computer. Updating the date/time is a convenient single click to synchronize the ACT v2 with the local computer.

#### 4.3.5 System Control

It is possible to remotely reboot the ACT v2 using the management interface. To do so, simply click the **Reboot** button.

## 4.4 Powering the Advanced Cable Tester v2

Тор

To ensure consistent and reliably tests, the ACT v2 tester must be powered by the included power adapter. If another power adapter is used, the Advanced Cable Tester v2 device may not have enough power to operate properly.



is complete, once the cable is removed from the Advanced Cable Tester v2, it is ready to start a test as soon as the next cable is installed.

In order to better understand the operation of the Advanced Cable Tester v2, please consider following state diagram in Figure 11.



*Figure 11* : Advanced Cable Tester v2 Operational State Diagram

When the tester first boots up, it will be in the **Not Ready** state. In this state, the Advanced Cable Tester v2 requires an operator to configure the tester to be ready for a test. There are a number of actions that are needed to move to the next state:

- 1. A valid connector module must be correctly installed in the Advanced Cable Tester v2,
- 2. a test profile that matches the module must be selected by an operator, and
- 3. some test profiles require additional information that must be entered by an operator and will be saved in the test report for better tracking. For example, some profiles require "SKU" and "Customer" information.

Once these requirements are met, the Advanced Cable Tester v2 can be started which will put the tester in the **Ready** state. As soon as the tester detects that a cable has been inserted between the two receptacles, it will enter the **Testing** state.

In the **Testing** state, the Advanced Cable Tester v2 will test the cable against the parameters defined in the selected test profile. Once the test is complete and the test report is saved in the internal database, the tester will be in the **Done** state.



Ξ.

return to the **Not Ready** state. One example of a possible error is that the connector module was removed during testing. The reason that the tester returns to the **Not Ready** state is because the tester requires operator input to restore it to the **Ready** state.

## 6 Standalone Operation

Once the ACT v2 tester has been configured with a test profile via the web interface, it can be operated directly without a computer or tablet. The on-board LCD screen and audio will provide the operator with feedback on the current state of the tester and the pass/fail status of the inserted DUT. The meaning of the icons on the LCD screen are explained in Table 4.

#### Table 4 : LCD Screens

TOTAL PHASE	<b>Not Ready</b> Initial state of the ACT v2 when it is first powered on. In this state, the tester must be configured with a test profile via the web application.
TOTAL PHASE	<b>Ready</b> The ACT v2 has been properly configured and is ready to test. Testing will begin as soon as a cable is inserted.
TOTAL PHASE	<b>Testing</b> The ACT v2 is actively testing a cable. The arrows will grow and a progress bar will show the current state of the test.



	upon successiui completion of the tests.
TOTAL PHASE	<b>Fail</b> The inserted cable has failed one or more of the test requirements. Detailed test results can be accessed via the web application. A fail audio cue will also play upon completion of the tests.
TOTAL PHASE	<b>Error</b> An unexpected error has occurred. The tester needs to be accessed via the web application to get more information about the error and to reconfigure the tester to restore normal operation.

## 7 Connector Modules

The Advanced Cable Tester supports testing a large variety of cables via a system of easily interchangeable modules. Each module is rated for 10,000 tests, guaranteeing cost effective and accurate cable test results.

## 7.1 Physically Installing Connector Modules

Connector modules are available in full-height and half-height sizes. When using half-height connector modules, an included plate must be used to close off the module bay to prevent accidental intrusions.

The sides of the module bay provides slots to guide and position the connector module to ensure a proper and secure connection to the tester hardware. When installing the module, ensure that the connector module PCB is lined up with the slot that is second from the bottom as shown in figure 12. The top and bottom slots are designed to hold the faceplate of the module securely in the module bay.



### *Figure 12* : Installing Connector Module When installing the connector module, be sure to align the PCB of the module with the second slot.

When installing the module, press the connector module in firmly until the module is flush with the chassis. You will hear and feel a click when the module engages. The module has retention features to ensure that the module remains firmly connected to the tester while cables are tested.

Modules with a metal faceplate have quarter-turn fasteners. To secure the module once seated in the tester, simply push the fasteners into the tester and turn it clock-wise until they lock. To remove the module, simply turn the fasteners counter-clockwise until the fasteners until the pop out. Once both fasteners have been unlocked, the module can be removed by pulling on the fasteners.

Modules with a plastic faceplate have push-lock pins. To secure the module once seated in the tester, simply push the pins into the tester until they both lock. To remove the module, simply pull on the pins until the unlock. Once both fasteners have been unlocked, the module can be removed by pulling on the fasteners.

## 7.2 Multiple Connector Module

All connector modules are rated for at least 10,000 insertions. Unfortunately, not all connectors are rated for the same number of insertion cycles. In these situations, a connector module may have multiple connectors per side so that in total the module will meet the 10k insertion standard. For example, USB 3.1 Standard-A connectors are rated for 5,000 insertions, which is why there are 2 of these connectors on one side of a connector module.



*Figure 12* : *Multiple Connector Module In order to meet the 10,000 insertion standard, some connector modules are* 





used when testing. This is to ensure that a worn connector is not used for testing. Once the Advanced Cable Tester v2 has been configured with a test profile and is in the READY state, the LED under the connector to use will be illuminated. The ACT v2 will only detect cable insertion on the illuminated port to start a test.

## 8 User Interface Overview

The Advanced Cable Tester Application v2 is simply accessed via HTTP from an HTML5compatible web browser. This could be a mobile phone, tablet, or most often a PC. Please consult the Quick Start Guide at the end of this manual.

Features:

- **<u>Responsive design</u>**: Single web interface is compatible with mobile browsers, tablets, and PCs.
- <u>Test profiles: stored on the device. Test profiles can be imported and exported to</u> <u>share between devices.</u>
- **Test reports:** up to 1 million reports can be stored on the device. The test reports are stored in a circular buffer. If the results storage is full, then the oldest test reports will automatically be cleared to make room for the new test reports.

Please note that since this ACT v2 application is accessed through a web browser, it is possible that the web browser can lose connection to the tester hardware. In these situations, the web application will attempt to reconnect as best as it is able to. Please note that there will be situation where the web application will not be able to re-synchronize successfully with the hardare. In these cases, a browser refresh should restore the synchronization.

## 8.1 Navigation

Тор

The top navigation bar provides quick and easy access to the high-level functionality of the Advanced Cable Tester v2.

=



#### Table 5 : Navigation Header

1	Device Name	The device name provides a way to differentiate individual ACT v2 testers. The name of the device can be set in the Settings section
2	Navigation Tabs	The tabs provides quick access ot the main sections of the Advanced Cable Tester v2. Each tab is discussed further in this manual.
3	Current Module	The currently installed module and its current test count.
4	Language Selection	The Advanced Cable Tester v2 application supports multiple languages which can be changed instantly by selecting a language in this drop-down menu. The application will remember the last language selected. This language is global to the unit for all users.
5	Volume Control	The volume of the Advanced Cable Tester v2 internal speaker can be toggled between three settings: Loud, Quiet, and Mute. The application will remember the last volume settings.

## 8.1.1 Language Support

The Advanced Cable Tester v2 application currently supports the following languages:

- 中文 (中国) / Simplified Chinese
- 中文 (台灣) / Traditional Chinese
- 日本語 / Japanese
- 한국어 / Korean

## 8.2 Main

\_



Similar to the LCD screen on the Advanced Cable Tester v2, the sidebar on the left side of the screen displays the current state of the tester.

	*** B standing box + +	····	
e o o o selece description	e o O O Million American	E - C - C Martine Administra	
Advanced Cable Tester v2 Dem	Advanced Cable Tester	r v2 Demonstrat Cable	le Tester v2 Demonstration van van van van van van van van van va
Cable Res Not Ready Redu: to the second Reduct Se	er bank	Cable Tester Statu Remy for attract to draw for the second	Complete and data
O Streaming Anglessons     Second State State     Second     Second State     Second     Second State     Second State	ronstration verview st		Company     C
Andre vice Andreas Sear Clean. Sear Sear Clean Sear Clean. Sear Sear Clean Se	A construction of the second s	unter uterscharzonet und Gen. Sonfanzen inn G. Hin No han	Constraint     C

Figure 15 : Web Application - Sidebar Status

**Table 6** : States of the Advanced Cable Tester v2

Not Ready	The Not Ready state indicates that the Advanced Cable Tester v2 requires user input in order to begin testing. When a cable connector module is removed, the ACT v2 will return to the Not Ready state because the user will need to select a test profile to continue testing.
Ready	Once a valid cable connector module has been installed and a valid test profile has been selected, the ACT v2 will be in the Ready state. Once in the Ready state, the ACT v2 will run a test profile as soon as a cable has been detected.



remain displayed until the cable removal is detected. A high-level summary of the test results are displayed on the left.

#### 8.2.1 Installing a Connector Module

The functionality of the Advanced Cable Tester v2 application will be limited until a module is physically installed in the tester. If there is no module, the header will indicate "No Module" and the following message will be displayed in the application:

No Module Installed Please install a cable module to enable testing.

Figure 16 : Web Application - No Module Message

After the module is physically installed, the software will detect its presence and verify that the module is valid and get the connector modules current usage count. While the module is being detected, the following message will be displayed in the application:



Figure 16 : Web Application - Detecting Module Message

If there are any problems with the detected module, the following "Invalid Module" error message will be displayed in the application:

Invalid Module Please install a valid cable module to enable testing.

Figure 16 : Web Application - Invalid Module Message

#### 8.2.2 Test Profile

Below the status indicator is the current test profile section. In the example below, the current test profile is "USB Full-Featured Type-C Cable, SuperSpeed Gen2, 5A, PD3."



Тор

Figure 19 : Web Application - Current Test Profile

Additionally, if custom tags are defined by the profile, they will be displayed here. For example, some profiles may require Lot or SKU information. The label and the user entered information will be displayed here. In the example below, the current profile is "USB Type-C to Lightning USB2, Cable > 0.5 meter." This profile has three custom tags: PPID, SKU, and Customer.



Figure 20 : Web Application - Current Test Profile with Additional Custom Tags

#### **Changing Test Profile**

Figure 21 : Web Application - Workflow to change test profile.



Click on **Save** to save the selected profile. If a cable is inserted in the ACT v2 when a test profile is selected and saved, it will immediately begin a new test run.

Click on **Cancel** to cancel the selection profile selection process. if a profile was previously defined, it will continue to be the selected profile is the process is cancelled.

Some test profiles contain pre-defined custom tags. These custom tags are text fields that must be defined before the test profile will be accepted. Examples of these custom tags are SKU or Lot. These custom tags provides the factory the ability to attached custom text fields to test reports.

#### 8.2.3 Cable Testing

While actively testing, a progress bar will show what tests are currently being run.



#### Figure 22 : Web Application - Test Progress

Once a test is complete, a test report summary is displayed. In general, the test summary displays when the test was run, the test profile that defined the test parameters, any custom tags defined, the detected cable terminations (and their orientation if applicable), and the test results for each major test subsection. Any failures in a particular subsection will be displayed in Red and prefixed with an X.

\_





#### Figure 23 : Web Application - Passing Cable Test



Figure 24 : Web Application - Failing Cable Test

Click on the **Details** button to see the detailed test report. Additionally, it is possible to click on a test subsection to jump down to that specific area in the test report.

#### **Re-testing a Cable**

Тор

After a cable test is complete, it is possible to re-test the cable by clicking on the "Re-Test" button.

#### 8.2.4 Test limit warning





#### *Figure 25* : *Connector Module Limit Warning Messages*



Figure 26 : Connector Module Insertion Limit Warning Messages

## 8.3 Reports

All cable test stored on the ACT v2 are accessible in the Reports section and are listed in a table format. Individual test reports can be viewed by clicking on the test report of interest.



	4/5/2018 08/31/51 PDT	USB Full-featured Type C Cable, SuperSpeed Gen1, SA	
	4/3/06/18 08:21:44 P07	USB Pull-featured Type C Cable, SuperSpeed Gen1, 34, PDI	
	4/b/bins (Manuel Appe	USB Full-featured Type C Cable, SuperSpeed Gen1, 34	
	4/5/0018, 08.81 09 PDF	USB Full-Featured Type C Cable, SuperSpeed Gen2, 54, PDI	
	4/5/0613, 08/31/32 POF	USB Full-Featured Type C Cable, SuperSpeed Gen2, SA	
	4/3/2013 08/31/26 PDF	USB Full-Features Type C Cable, SuperSpeed Gen2, 34, PDD	
	4/5/0013, 08/31/21 POT	USB Full-Featured Type C Cable, SuperSpeed Gen2, SA	
sees.	Sried		Diese Lo
servit.	Lies.		

Figure 27 : Web Application - All Test Reports

The test report table provides the status of the test, when the test was run and which test profile was used. The total number of tests is listed at the top of the page. The number of tests displayed can be changed by using the **Rows** drop-down menu to change the number of rows visible.

#### 8.3.1 Reports Management

Two actions are available to users to manage test reports in the list view: Delete and Export. These actions are accessible from the buttons above and below the table of test reports.

#### Select/Unselect

Individual test reports can be select and unselected by toggling the checkbox next to the test report. Additionally, all visible test reports can be selected or unselected by clicking the **Select** or **Unselect** buttons. These buttons will only select or unselect the visible page of test reports.

#### Delete

One or more selected test reports can be deleted by clicking the **Delete** button. A confirmation dialog will appear to confirm the number of reports that will be deleted. The user will need to confirm to delete the reports. Please be careful because once a test reports is deleted, it is not possible to recover it.

#### Export

One or more selected reports can be exported by clicking the **Export** button. All selected test reports will be exported in a single JSON data file.

Тор

Тор

\_\_\_



custom tags specified will be available at the top of the report.

e Guora Pad starta and strategical and strateg	Annuel Cable Teste a lenge Details annues assesses annues assess annues assesses annues assesses annu	er v2 Demonstration	n res Type Colle, Superipees Geo College Pig 2 : USB Type	SA POD (Normal Orientator)
st Report velocities	kenge Details     innoons.com/secon	COST MONU UCS Full fuel Cost	ret type Cates, SuperSpeed Ger2	
st Report	An Obra 20 Meet POT	The monut COS Pup Hear.	Plane 2	
esults continuity sens mer Se or Se on	3/11/0019, 20 16 48 907	typected Plug 1	rea hype Catila, Superlyaed Gard Pag 21:038 hyper	SA FOI SA FOI PASS PUNNOR ( PUNNOR ( PUNN
sults continuity max mer co co co co co co	3(11)(0104, 2016)(41.90) - (-)-(-)-(-)-(-)-(-)-(-)-(-)-(-)-(-)-(-	Topected Plug 1	vet Type C Catin, SuperSpeed Card Cating Conjunction of the Cating Conjunction of the Plug 2 : USB Typer Taura 2	SA, NO2 PASS
sults continuity max me c c c c	3(11)0114, 2016 48 POT C (p) (c) (c) (c) (c) (c) (c) (c) C (c) (c) (c) (c) (c) (c) (c) Plug 1: USB Type C (Permal Oriente Plug 1: USB Type C (Permal Oriente	topical Pag 1	res Type C Caste, SuperSpeed Gard	SA POS PASS
sults continuity tean wre continuity	Pug 1 Pig 1	topszel Pug 1	Pug 2: USB Type	(Normal Orientation)
sults ontinuity	Pig1 (a) (a) (a) (a) (a) (a)     Pig1 (a)	Cor)	Pag 2: USB Type	
sults continuity	Pug 1 : USB Type C (Normal Oriento	Cor)	Piug 2: USB Type	(Normal Orientation)
Sults Continuity	Plug 1 : USB Type C (Normal Orients	for) Equals (Pig 1	Plug 2 : USB Type	(Nermal Orientation)
sults continuity most wave cc cc	Plug 1 cost ryperic (normal charter	Expected Plug 1	Prog at 1 state right	
Sults Continuity	Plug 1	Expected Plug 1	But 1	
Continuity Refue Wes CC CC	Plug 1	Expected Plug 1	(Bac)	
Ratus Wes CC CC CC CA CA CA CA CA CA CA	Plug 1	Expected Plug 1	(he)	
30 Sec	- mg -	colored a solution		Extended Plus 2
Davi (199		40	- 10g c	al.
<b>1</b> 142	43	10	12	
	~	~	~	~
- 1ml	#7	47	B7	<i>v</i>
	44	44		44
	~	~		~
20 042		44		
100 (m)	A AN AND AN AND SWALL	an and an and during	11 417 B1 817 545 1	A1 A12 A1 A12 Gal
040, 941	2 AL 842 812 54012	ALA: P. P. S. S. S.	AU, AND BUT DIE 1940A	AL 402 41 812 9404
-0.94,00	810			
-0.00, 10.0			~	~
			85	80
NU%, 100	A10	A.4		
	86 0 A1, A12, 811, 812, 5H012, 810 811	86 A1, A12, 87, 812, 54011 810 811	A1, A12, IP, IP2, SHLL A3 A2	A1, A12, 01, 012, 5H0.5 A3 A2

Figure 28 : Web Application - Individual Test Report

#### 8.4.1 Report Management

Users also have the ability to Export or Delete the report directly in the individual test report view. The export and delete functionality is the same as on the Reports page.

#### Delete

The current test report can be deleted by clicking the **Delete** button. A confirmation dialog will appear to confirm that the deletion. Please be careful because once a test reports is deleted, it is not possible to recover it.

#### Export

The current test reports can be exported by clicking the **Export** button. The test report will be exported in a JSON data file.

#### 8.4.2 Connector Diagrams

As a convenience, graphics of the cable terminations are provided to help visualize the pins involved in a specific test. The pins related to the test under the cursor will be highlighted in

Тор



TOTALPHASE

	In tests where there is a source and sink, green pins indicate the source pin or pins on a passing test.
Light Green	In tests where there is a source and sink, light green pins indicate the sink pin or pins on a passing test.
Red	Red pins were the pins involved in a failing test. In tests where there is a source and sink, red pins indicate the source pin or pins on a failing test.
Light Red	In tests where there is a source and sink, light green pins indicate the sink pin or pins on a failing test.
Gray	In Continuity tests, gray pins indicate an expected pin that was not found to be continuous.

#### 8.4.3 Continuity Tests

Continuity or wiring tests checks to see if pins from one connector is continuous with a pin on the other connector. The report table provides the following information:

÷	C O Not Sec	vel NAAS/R/reports/kb1	43/80 +877 -6#65 8+58 047452500	IS82#continuity	× 0	
Image: construction         Image: construction           Pug 1: USB Type C Normal Character)         Pug 2: USB Type C Normal Character)						
Status	wire	Plug 1	Expected Plug 1	Plug 2	Expected Plug 2	
	CC.	A5	AS	45	A5	
	0545	A2	47	47	10	
	642			87	87	
	0~2	87	87			
-	0P1	A6	Aú	86	46	
	042			86.	86	
	092	86	86			
	6ND.5HD.0	A1, A12, 81, 812, SHELL	A1, A12, 81, 812, SHELL	A7, A12, 81, 812, SHELL	A1, A12, 81, 812, SHD.5	
	BOIN, DON	810	eno.	A3	A3	
	800P, TX1P	811	8111	A2	A2	
	ROW, DOM	A10	A10	83	83	
	8929, 7929	A11	A01	42	82	
	5845,5852	A8	A8	04	88	
	58u2,58u1	68	88	A4	A8	
	DOM: NON	A3	A3	810	810	
	TKOP, BKOP	A2	A2	811	815	
	TON-RON	83	83	A10	A10	
	150P, 802P	82	82	A71	A11	
	1915	AL.43.84.89	A4, A5, 84, 89	A4, A3, 84, 89	A4, 43, 94, 99	
	WOM/N			95	85	
	VERNA	85	45			

*Figure 29* : Web Application - Individual Test Report - Continuity Section

Table 8 : Continuity Test Report





	พากสาวาราชากลา.
Expected Plug 1	The pins on Plug 1 that are expected to be associated with this wire/signal.
Plug 2	The pins on Plug 2 that are actually to be associated with this wire/signal.
Expected Plug 2	The pins on Plug 2 that are expected to be associated with this wire/signal.

In the case of **Shorts**, more pins will appear than expected in either Plug 1 or Plug 2 columns. This short will appears across all rows that are shorted together.

In the case of **Opens**, fewer pins will appear than expected in either Plug 1 or Plug 2 columns. Opens will manifest in additional rows because non-continuous pins are treated as separate rows in the test report.

#### 8.4.4 DC Resistance Tests

DC Resistance (DCR) tests checks the resistance of the individual pin or wire. In the case of pin DCR, the source will be a single pin and the sinks will be all other bused pins. In the case of wire DCR, the source will be all pins from one plug bused to all the pins on the other plug. The report table provides the following information:

~					e[e]e]e]e]e]		0
× R	esistance	AT 1 1 4 14 19 19 1 1 1 1 1			11 - 000 - 100 - 1 - 000		
tunia	Group	Label	Seurces	Seis	Expensed Min.(2)	Expected Max (D)	Measured (D)
	GND/Shield	GND Cable	Pug 1: A1, 812; 81, A12	Plug 2: A1, 812; 81, A12	0.000	0.050	0.004
8	640/9948	GAD Calife with Shells	Pug1.4L812.5H0L81.412	Pug 2.41, 812, 5H04, 81, 412	0.000	0.050	0.004
•	640/9446	Shield Cable	Plug 1: SHELL	Plug 2: SHELL	6.000	15.000	6.100
	GND/Shield	Plug 1 Pleast	Pugital	Plug 1: 812; SHELL, 81, 812 Plug 2: A1, 812; SHELL, 81, A12	0.000	0.040	6.011
•	640/91468	Pug 1 Pin Al2	Pug 1.42	Plug 1: A1, B12, SHE L, B1 Plug 2: A1, B12, SHE L, B1, A12	6.000	0.040	0.011
	GND/Shald	Pug 1 Pin 81	Pug 1: 81	Plug 1: A1, 812, SHELL, A12 (Plug 2: A1, 812, SHELL, 81, A12	6.000	0.040	0.011
	010/9168	Pug126812	Pug 1812	Pug 1.41, SHELL 81, A12 Pug 2.41, 812, SHELL 81, A12	0.000	0.040	6.011
•	640/9968	Pug 2 Pin Al	Pug 2.41	Plug 1.41, 812, 5451, 81, 412 Plug 2.812, 5451, 81, 412	0.000	0.040	0.011
	GND/Sheld	Plug 2 Plm A/2	Pug 2:4/2	Plug 1: A1, 812; SHELL 81, A12 Plug 2: A1, 812; SHELL 81, A12	6.000	0.040	6.011
•	OVD/Shield	Plug 2 Plue B1	Pug2 81	Plug 11.81, 812, 5401, 81, 812 Plug 21.81, 812, 5401, 812	0.000	0.040	6.011
•	64019944	Pug 2 Pin 812	Pug 2 812	Pug 1.41,812 SHELL 81,412 Pug 2.41,5HELL 81,412	0.000	0.040	0.011
•	GND/Shald	Plug 1 Shell to SND	Plug 1: SHELL	Plug 1: A1, 812, 81, A12 Plug 2: A1, 812, 9404, 81, A12	0.000	1.500	6.011
	010/9144	Pug 2 Shell 16-540	Pug 2 5404	Plug 1141,812,5402,81,412 Plug 2141,812,81,412	0.000	1.500	6.011
	V915	VIUS-CARK	Pug1.AL93.A3.94	Pup 2. A4, 93, A3, 94	6.000	6.500	6.01)

Figure 30 : Web Application - Individual Test Report - DC Resistance Section

\_



Label	Human readable name for the pin/wire being measured
Sources	Pins on the source side of the measurement
Sinks	Pins on the sink side of the measurement
Expected Min ( $\Omega$ )	Minimum acceptable resistance
Expected Max (Ω)	Maximum acceptable resistance
Measured (Ω)	Actual measured resistance

#### 8.4.5 Signal Integrity

Signal integrity tests measure the quality of the differentially paired wires through the cable. Each tested pair will result in a result block. The result block provides the following information:



Figure 31 : Web Application - Individual Test Report - Signal Integrity Section

Table 10	) : Signal	Integrity	Test Report
----------	------------	-----------	-------------

Data Rate	Speed of the data signal used in the test in Mbits per second
Transmit Pair	Transmitter plug and pins

—





	widest section. The Expected is the minimum open percentage that will pass the test and is generated based on the insertion loss curve specified in the test profile. The Measured is the actual percentage open.
VEO	Vertical Eye Opening is a percentage value that indicates what percentage of the reference frame of the eye is open across the widest section. The Expected is the minimum open percentage that will pass the test and is generated based on the insertion loss curve specified in the test profile. The Measured is the actual percentage open.
Eye Image	If lock was achieved on the indicated differential pair, the eye image will be displayed. The eye image will include the mask to provide a reference for the HEO and VEO values. If lock was not achieved, a no-lock image will be displayed.

#### 8.4.6 E-Marker

E-Marker tests check for the presence or absence of E-Marker chip(s) in USB Type-C connectors. The Advanced Cable Tester v2 supports Power Delivery Specification, Revision 2 (PD2) and Power Delivery Specification, Revision 3 (PD3). The presence/absence test reports are grouped by PD specification and present the following information:

÷ (	ON ON	t Secure   10-04	kt/#/reports/eb/a3/	10-e877-failb-8eb8	04/45250858	D#current		÷ 6
	0	elelelelele elelelelelelele	elelelelele	D		(preference	alsialajojo sisisisisis	
		Plug 1 : Use type c o	Normal Orientation;			Prog 2 ( USB Type	e fabrine briense	ieng
E-Maria E-Marian	ker Presence	(PO Spec 2 Support)			E-Marke	r1/00s		
Status 1	Pug	1 Packet Type	* Depended	Weatured	Status 1	Subtype	Expected	Measured
	1	104	Present.	Present		utilit Vendor 3D		0-0439
		50PT	Absent	Absent.		Decoded USB Vendur 10 Lookup		Overest, Inc.
	3	50P	Present	Avenet		Modul Operation Supported		fabre
	3	9041	Absent	Absent		Product Type	Parisive Eable (Dept1)	Parentum Cablie (2001)
(Market	Presence	(PO Spec 3 Support)			_	80		040403
Status 1	Plug	1 Packet Type	1 Expected	Weasured		158 Product ID		0-7231
	1	504*	Present	Present		borbevice		45525
		50P**	Abrent	Absent		158 SuperSpeed Signaling	1/5831Gen 2	US8 3.1 Gen 2 (0601
	2	50P	Present	Present			(96918)	
	2	50P**	Abrent	Abuent		50P* Controller Prevenc?	faha	false .
						VBUS Through Cable	true	5.4
						vitus current Handling Expublicy	Five Amps (3610)	Free Amps (2010)
						\$58x2 Dremonality		5/5e
						154x3 Directionality		faibe
						\$5792 Directonality		5/5e
						157x1 directionality		false
						Cable Termination		UCDAIX Required (2601)
						Exbite Latency		+10re-(000010
						Plug Type	use type< (bend)	USB Type C (Danc)
						En viscoires		

**TOTAL PHASE** 



	if the cable passed or failed.
Plug	Origination of the SOP* request
Packet Type	SOP' or SOP'' request
Expected	Expected presence or absence of an E-Marker response
Measured	Actual presence or absence of an E-Marker response

If an E-Marker is found to be present, the ACT v2 will query the device to read all available Vendor Data Objects (VDOs). Well constructed USB Type-C cables with E-Markers are expected to have the same VDO data. To simplify the test results, only a single set of VDOs will be displayed if available. Table 12 explains the information displayed for the results of the E-Marker VDO query.

#### Table 12 : E-Marker VDO Test Report

Status	Pass/fail status of the test. If there is no pass/fail indicator, the test report is informational only and was not used in determining if the cable passed or failed.
Subtype	Type of VDO data
Expected	Expected VDO value
Measured	Actual VDO value

#### 8.4.7 Lightning Plug

This test report is only available to unit that have been licensed for MFi members. This report will indicate what type of Lightning connector was found in the cable under test.

#### 8.4.8 Over Voltage Protection

This test report is only available to unit that have been licensed for MFi members. This test the cables over voltage protection. The report table provides the following information:

\_\_\_



# *Figure 33* : Web Application - Individual Test Report - Over Voltage Protection Section

Status	Pass/fail status of the test.
Subtype	The scenario being tested, this is specific to the specification of the cable.
Sources	Pins on the source side of the measurement
Sinks	Pins on the sink side of the measurement
Voltage Ramp	Starting and ending voltage testing range
Cutoff Range	Expected range for the cutoff

#### Table 13 : Over Voltage Protection Test Report

#### 8.4.9 Quiescent Current

This test is applicable to USB Type-C cables with an E-Marker and Apple MFI Lightning cables. The MFI Lightning test report is only available to unit that have been licensed for MFi members. This tests the current draw of the cable under different scenarios. The report table provides the following information:

	C O Not Serve	<ul> <li>10.043/4/40</li> </ul>	wrb/wb1a3980-e897-4a6b-8e68-0474526085824	current.			* 0
		[[][]]		(EEEE	teleleitelei sleisteleitel		
	Plug 1	: USB Type-C (Normal	Orientation)	Plug 2 : USB	Type-C (Normal Ori	ensation)	
Quies	scent Current						
Sume	Label	Sources	Sinis	Expected Min (4)	Expected Max (A)	Measured (A)	Voltage 2
_	6 Marker Initial	Plug 1:85 (200NN)	Plug 1: A1, 812, SHELL, 81, A12 (SAD, SHELD)	6.00000	0.01500	0.00001	
*			Plug 2: A1, 812, SHEUL, 81, A1210A(0, SHEUL0)				
8	C-Marker Initial	Pvg 2.850-00440	Plug 2: A1, 812; SHELL, 81, A12 (SAD, SHELD) Plug 1: A1, 812; SHELL, 81, A12 (SAD, SHELD) Plug 2: A1, 812; SHELL, 81, A12 (SAD, SHELD)	0.0000	6.01500	0.00001	
8	E-Marker Julial	Pug 2.853/00M0	Pug 2 A1, 812, 5H31, 81, A12 (SAB, SHD,0) Pug 1 A1, 812, SHD1, 81, A12 (SAB, SHD,0) Pug 2 A1, 812, SHD1, 81, A12 (SAB, SHD,0) Pug 3 A1, 812, SHD1, 81, A12 (SAB, SHD,0) Pug 2 A1, 812, SHD1, 81, A12 (SAB, SHD,0)	0.0000	6.01500	0.00001	

Figure 34 : Web Application - Individual Test Report - Quiescent Current Section

 Table 14 : Quiescent Current Test Report

=



	the cable.
Sources	Pins on the source side of the measurement
Sinks	Pins on the sink side of the measurement
Expected Min (A)	Minimum acceptable current
Expected Max (A)	Maximum acceptable current
Measured (A)	Actual measured current
Voltage (V)	Voltage level of the test

#### 8.4.10 Source Measurement Unit

This test report is only available to unit that have been licensed for MFi members. This tests the current limit of the cable in different scenarios with a source measurement unit (SMU). The report table provides the following information:



Figure 35 : Web Application - Individual Test Report - Source Measurement Unit
Section

Status	Pass/fail status of the test.
Group	High-level grouping of measurements, e.g. Current Limit Test
Label	The scenario being tested, this is specific to the specification of the cable.

Z



Тор

Measured (A)	Actual measured current
--------------	-------------------------

#### 8.4.11 Equipment

The equipment section displays information about the ACT v2 tester at the time of the test for traceability.

## 8.5 Profiles

Tests performed on cables are defined by test profiles. By default, the ACT v2 ships with standard test profiles that conform to the expected cable standards. These standard test profiles are not editable so that the user has a pre-defined set of tests for each particular cable variant. While users cannot modify the standard set of test profiles, test profiles can be copied and customized to suit each customers specific needs. Details associated with a test profile can be viewed by clicking on the test profile.

-		COMPANIES COMPANIES INCOM
_	Profile Name	Connector Module
	Auto-Detext USB Type C Calific (*)	158-C10-158-C
۵	u58 Fu8-Featured Type C Cable, SuperSpeed Gen2; SA(11)	US8-C 0+ US8-C
	USB Full-Featured Type C Cable, SuperSpeed Gen2, 34, PDD (*)	US8-C to US8-C
	USB Full-Features Type C Cable, SuperSpeed Gen2, SA(P)	USBICINUSBIC
	USB Full-featured Type C Cable, SuperSpeed Gen2, SA, PDD (*)	USECINUSEC
	USB Pull-Featured Type C Cable, SuperSpeed Gen1, 34(H)	USBIC to USBIC
	USB Pub Featured Type C Cable, SuperSpeed Gen1, 34, PDI (*)	US8-C to US8-C
	USB Full-Featured Type-C Cable, SuperSpeed Gen1, SA(11)	158-C to 158-C
	USB Auf-Featured Type C Cable, SuperSpeed Gen1, SA, PDS (*)	158<3+158<
	u582.87ype <cubie, (*)<="" 3a="" td=""><td>US8&lt;10158&lt;</td></cubie,>	US8<10158<
	USB 2.0 Type < Cable, SA (*)	US8<10-US8<
	1582.07ppe <c404.54.p03(*)< td=""><td>USB&lt;10-USB&lt;</td></c404.54.p03(*)<>	USB<10-USB<
0	(URL Not Anazones' Type: C Date, SuperSpeet Caret, SA, PDD (1) (URL 28 Type: C Care, SA, (1) (URL 28 Type: C Caret, SA (1) (URL 28 Type: C Caret, SA, (1) (URL 28 Type: C Caret, SA, (1) (1) and caret a proton profile that Carrier be multified or defined	USE CHUSE C USE CHUSE C USE CHUSE C

#### Figure 36 : Web Application - All Test Profiles

The test profiles table is a list of the names of all test profiles available on the ACT v2 and the module associated with the test profile. The number of test profiles displayed can be changed by using the **Rows** drop-down menu to change the number of rows visible. Additionally, the

\_\_\_

#### Advanced Cable Tester v2 User Manual - Total Phase



Four actions are available to users to manage test profiles in the list view. The user can Copy, Delete, Export, and Import profiles. These actions are accessible from the buttons above and below the table of profiles.

#### Select/Unselect

Individual test profiles can be select and unselected by toggling the checkbox next to the Profile Name. Additionally, all profiles can be selected or unselected by clicking the **Select All** or **Unselect All** buttons. These buttons will select or unselect all filtered profiles on all pages.

#### **Copy and Edit**

Only one profile can be copied at a time. The user selected profile will be copied when the **Copy and Edit** button is clicked. The new profile will have " COPY" and a timestamp appended to the Profile Name. Once the profile has been copied, the application will automatically open this profile in edit mode.

#### Delete

It is not possible to delete system test profiles. Only user generated test profiles can be deleted.

One or more selected profiles can be deleted by clicking the **Delete** button. A confirmation dialog will appear to confirm the number of profiles that will be deleted. The user will need to confirm to delete the profiles. Please be careful because once a test profile is deleted, it is not possible to recover it.

#### Export

One or more selected test profiles can be exported by clicking the **Export** button. All selected test profiles will be exported in a single JSON data file. This data file generated is suitable for uploading to other ACT v2 testers.

#### Import

A JSON file containing one or more test profiles can be imported by clicking the **Import** button. Please note that Profile Names must be unique. If a profile in the JSON has a duplicated name, the importation process will stop at that test profile. All other test profiles defined in the JSON up to that point will have been imported.

Z

Тор

Тор

Тор

## Тор

\_\_\_



test profile is initially opened, it is in view mode. This is a concise view that shows a compact list of test parameters.



Figure 37 : Web Application - Individual Profile

#### 8.6.1 Profile Management

Four actions are available to users to manage test profiles in the list view. The user can Export, Copy, Edit, and Delete the profile.

#### **Export**

The test profile can be exported by clicking the **Export** button and will be exported to a JSON data file. This data file generated is suitable for uploading to other ACT v2 testers.

#### Edit

It is not possible to edit system test profiles. The **Edit** button will only appear on user generated test profiles.

Clicking the **Edit** button will change the view to Edit mode. This mode is explained in further detail below.

#### Сору

Тор

Тор



It is not possible to delete system test profiles. The **Delete** button will only appear on user generated test profiles.

The test profile can be deleted by clicking the **Delete** button. A confirmation dialog will appear to confirm the deletion. Please be careful because once a test profile is deleted, it is not possible to recover it.

#### 8.6.2 Test Parameters

The majority of the test parameters are specific to the cable type. However, some parameters are common to all test profiles.

- **Unique identifier for this profile** this global unique identifier is assigned by the ACT v2 when the test profile is created. This field is immutable after it is assigned.
- **Profile Name** is a user assignable name for the test profile. The Profile Name must be unique and the comparison is case insensitive.
- **Profile Description** is an open text field for the user to add descriptive information about the test for reference.
- **Profile Module** is the physical connector module associated with the test profile. This field is immutable.
- **Custom Tags** are user defined text fields that can be used to save additional information about test runs. For example, a "Lot" custom tag could be entered so that at test time the lot information about the cable can be saved to the test report.

Information about the cable-specific test parameters are available in the application web interface when editing a test profile.

#### 8.6.3 Test Profile Editing

A user defined test profile can be edited by clicking the **Edit** button at the bottom of the test profile page.



Тор

Тор

Тор

Canada rada		
Custom Tag 0		Optional activated
	A unit of	direct storing that can be set to track details of the Dutt, information relating to manufacturing s, etc. If provident, this will be a requirect field when starting across
Custom Tag 1		
	A year-b	direct string that can be set to track details of the DuY, information relating to manufacturing s, etc. If provident, this will be a requirect field when starting action,
Custom Tag 2		
	A year-b process	direct string that can be set to track details of the DuY, information relating to manufacturing s, etc. If populated, this will be a requirect field when starting action,
Custom Tag 3		
	A unan-de processo	direct string that can be set to track details of the DuY, information relating to manufacturing s, etc. If populated, this will be a requirect field when starting a time,
Custom Tag 4		
	A unan de	direct string that can be set to track death of the DVT, information relating to manufacturing s, etc. If provident, this will be a required field when starting attent.

Figure 38 : Web Application - Individual Profile - Edit Mode

In the edit interface, required fields are marked with an asterisk (\*). All these fields must be entered in order to save the test profile. Optional fields have checkboxes next to them. If an optional field is not checked, it will not be part of the pass/fail test criteria. Checking an optional field will enable the entry of data in the form field.

Each test profile field has a title and a description to explain the purpose of the field. There are different types of entry fields: boolean, text, number, drop-down, and insertion loss.

#### **Boolean field**

A boolean field allows the user to select true or false. The selected option will be highlighted in dark grey. If the field is required, either true or false must be selected. Otherwise, no selection is required and neither option will be highlighted.

#### **Text field**

Text fields support entry of Unicode text.

#### Number field

Data in number fields can be entered in all common formats: binary, octal, decimal, hexadecimal. Binary strings must be prefixed with "0b", octal strings must be prefixed with "0o", and hexadecimal strings much be prefixed with "0x". Number fields also accept accept scientific notation such as 1.2e3 for 1200. Infinity can be a valid option for a number field. Infinity can be specified by entering "Infinity" or "1e9999" in the form field.



Figure 39 : Web Application - Individual Profile - Validating Input

#### **Drop-down field**

Тор

Тор

Drop-down fields provide a specific and limited set of options.

#### **Insertion Loss field**

An insertion loss field is a list of frequency (in MHz) and dB loss pairs that define an insertion loss curve. The insertion loss curve is used to generate the horizontal eye opening (HEO) and the vertical eye opening (VEO) pass/fail criteria.

A table of the pairs (sorted first by frequency and then by dB loss) and a graph of the curve is displayed in this field. As the values in the table are changed, the chart will be updated to show the latest. Please note that while the chart may be updated, the actual values will not be saved until the entire profile is saved.



#### Figure 39 : Web Application - Individual Profile - Insertion Loss Field

To add a new frequency and dB loss pair, simply enter the data into the blank fields at the bottom of the table and click the + button. The new data pair will be added as a new row in the table at the appropriate location. Valid frequency values are between 0 MHz and 100,000 MHz and valid dB loss values are between 0 dB and -100 dB. If the data is invalid, the entry fields will be highlighted in red. If the data is invalid or missing, clicking the + button will not add a new row.



Тор

Тор

resorted if needed.

To remove an existing frequency and dB loss pair, click on the **Red X** icon to delete that row.

Duplicate frequency and dB loss pairs are not allowed. If a added pair or edited pair results in a duplicated data pair, a warning message will appear and no new row will be added to the table.

## Saving or Cancelling Changes

To save the changes made in the profile, click on the **Save** button. If any field fails client-side validation, the form will scroll to that field to be corrected.

Profile Name *		~	
	"Profile Name" is a required field. Short name of this profile	Please fill out this field.	

Figure 41 : Web Application - Individual Profile - Input Required

It is possible that a submitted test profile will fail server-side validation. In that event, an error message will be displayed at the top of the form. If the test profile is successfully saved, the user will be returned to the test profile page with the updated values.

To cancel the changes made, click on the **Cancel** button. Please note that any changes made will be lost and are not recoverable.

## 8.7 Settings

The Settings section provides general information about the Advanced Cable Tester v2 and the ability to change core settings.

\_\_\_



Тор

Тор



Figure 42 : Web Application - Settings

#### 8.7.1 Device Information

This section displays information specific to the Advanced Cable Tester v2 device.

#### **Device Name**

The Device Name appears in the main navigation header throughout the Advanced Cable Tester v2 web application. If multiple ACT v2 tester are in use, it provides an easy way to differentiate the devices. To change the name of the tester, simply enter the new name and click the **Update** button.

#### Other device information

Additional information available in this section is described in Table 16.

#### Table 16 : Device Information

Firmware	Current version of software installed on the Advanced Cable
Version	Tester v2.
Hardware	Current version of hardware installed on the Advanced Cable
Version	Tester v2.
Serial Number	Serial number of the Advanced Cable Tester v2. This serial number should match the label on the rear of the tester.
Module Insertion	The cable test modules use an edge connector system to interface with replaceable connector interfaces. The edge

—



Total Cable Test Count	The total number of cable tests that have been performed by this unit over its lifetime.
Total Local Test Reports	The total number of test reports that are currently in the non- volatile storage of the Advanced Cable Tester v2. The tester has a circular buffer and will maximize the number of tests that can be stored. Once the test starts to approach the limit, it will automatically delete the oldest tests. It is also possible to purge all the test on the tester by using the <b>Delete All Reports</b> feature. Please be careful because once the test reports are deleted, it is not possible to recover them.

#### 8.7.2 Device Information

This section displays information specific to the cable connector module that is currently installed in the Advanced Cable Tester v2. The ACT v2 detects when a module has been inserted or removed and will update the information displayed here. If no cable module is installed, the interface will indicate that "No Module Installed." Additional information available in this section is described in Table 17.

#### Table 17 : Module Information

Module Installed	The type of Connector Module that is installed in the Advanced Cable Tester v2.
Module Serial Number	The serial number of the currently installed Connector Module.
Test Count	The total number of cable tests that have been performed on the Connector Module. A Connector Module is rated for up to 10,000 cable tests at which point the wear on the connectors make test results unreliable. Once a cable module reaches the maximum number of tests, it will no longer be usable by the Advanced Cable Tester v2.



2

All of the software and documentation provided in this manual, is copyright Total Phase, Inc. ("Total Phase"). License is granted to the user to freely use and distribute the software and documentation in complete and unaltered form, provided that the purpose is to use or evaluate Total Phase products. Distribution rights do not include public posting or mirroring on Internet websites. Only a link to the Total Phase download area can be provided on such public websites.

Total Phase shall in no event be liable to any party for direct, indirect, special, general, incidental or consequential damages arising from the use of its site, the software or documentation downloaded from its site, or any derivative works thereof, even if Total Phase or distributors have been advised of the possibility of such damage. The software, its documentation, and any derivative works is provided on an "as-is" basis, and thus comes with absolutely no warranty, either express or implied. This disclaimer includes, but is not limited to, implied warranties of merchantability, fitness for any particular purpose, and non-infringement. Total Phase and distributors have no obligation to provide maintenance, support, or updates.

Information in this document is subject to change without notice and should not be construed as a commitment by Total Phase. While the information contained herein is believed to be accurate, Total Phase assumes no responsibility for any errors and/or omissions that may appear in this document.

## 9.2 Life Support Equipment Policy

Total Phase products are not authorized for use in life support devices or systems. Life support devices or systems include, but are not limited to, surgical implants, medical systems, and other safety-critical systems in which failure of a Total Phase product could cause personal injury or loss of life. Should a Total Phase product be used in such an unauthorized manner, Buyer agrees to indemnify and hold harmless Total Phase, its officers, employees, affiliates, and distributors from any and all claims arising from such use, even if such claim alleges that Total Phase was negligent in the design or manufacture of its product.

## **9.3 Contact Information**

Тор

 $\equiv$ 



#### All rights reserved.

#### act\_v2-v2.0.0.pdf (1 MB)

COMPANY ^	HELP & ^ SUPPORT ^	RESOURCES ^	HOW TO BUY
About Us	Contact Support	Datasheets	Contact Us
Products	Support Policy	White Papers	Request a Demo
Our Customers	Return Policy	App Notes	Ordering Options
Our Partners	Quick Start	Case Studies	International
Newsletters	User Manuals	Blog	United Kingdom (English) China & Singapore (简体 轴英)an & Hong
Awards	Product Warranties Knowledge Base	Videos	
Sponsorships		Upcoming Events	
Press Releases	Registration FAQ	Software Swee	Kong (系脰中文) Sweden
	Regulatory Compliance Terms of Use	Downloads	(Deutsch) in V ()

© 2024 Total Phase, Inc. | Privacy | Sitemap