Network Service Assistant

—

A New Class of Qualification+ Testing
Bridging the divide between Qualification and Certification
in a single multifunction link tester.

AEM

Bridging the Divide between Qualification and Certification

The award winning Network Service Assistant (NSA) Multifunction Qualification+ Tester, is a hybrid solution, that features Certi-Lite technology. Certi-Lite follows the ANSI/TIA 1152-A single-ended testing for many of the same parameters used in bi-directional certification, but offered at a fraction of the price of a traditional certifier. Single-ended testing does not qualify for cable manufacturer warranty approval, but for those that do not require the warranty, and simply desire a deeper level of cable testing beyond just a simple wiremap, NSA is the first test solution to offer Certi-Lite.

NSA is used by System Integrators, Cable Contractors and IT departments who need a deeper level of cable testing along with wired and wireless network connectivity testing.

High Level Testing Support Summary

Certi-Lite
Certi-Lite provides single-ended ANSI/ TIA-1152-A complaint channel testing of CAT3 – CAT6A with a clear Pass/Fail indication, and in-depth test report.

Optical Loss and OTDR
The NSA supports Loopback optical loss testing for Singlemode and Multimode, as well as simultaneously testing voltage on the electrical conductors if using hybrid powered fiber. The OTDR adapters provide technicians the ability to easily pinpoint the location of broken fiber or other loss events causing an optical loss test to fail.

Multi-Gigabit Link Speed
Validate cabling link speeds for 1/2.5/5/ 10GBASE-T. End-to-end Signal to Noise Ratio (SNR) measurement provides a quick and objective assessment of link performance under simultaneous traffic and PoE load condition.

Power Over Ethernet (PoE)
Comprehensive test function verifies PoE configuration at PSE and reports current/ wattage/voltage at PD jack. Emulates PD negation with PSE and supports for 802.3af/at/bt, and UPoE. Sustained load testing with external load box that can "dial-up" power.

Wired Network Connectivity Testing
Network discovery shows all connected devices including drill down into device details. Switch detail includes slot/port/ VLAN. switch name, make/model, port capabilities and MAC/IPv4/IPv6 and VLAN usage detail. Network discovery reveals connected devices with drill in capability for further investigation and troubleshooting. Troubleshooting kit includes Traceroute, ping, tone generator and more.

Wireless Network Connectivity Testing
Discover all Access Points (APs), their SSID, RSSI (received power level) and Channel. Login to the AP to verify connectivity. Roaming signal strength handy for locating those pesky dead zone. Troubleshooting toolkit includes Traceroute, Ping and more.

Advanced Link Identification (ALI)
AEM takes link identification to the next level with Certi-Lite capable numbered remote IDs. Unlike your typical "dumb" remote ID's that simply tell if you have connected to number 1,2,3 and so on, AEM remote ID's are smart, and are capable of supporting Certi-Lite.

Certi-Lite

Certi-Lite performs an ANSI/TIA 1152-A compliant, single ended cable test for CAT3 – CAT6A, with a simple Pass/Fail indication. This provides you with assurance of cabling link integrity to support your requirements. The NSA performs this test using a small passive termination at the remote end, which helps to significantly reduce the overall cost of the test equipment when compared to traditional cable certifiers.

Is Certi-Lite an Alternative to Certification Test?

For those that do not have a requirement for dual ended certification, the NSA's Certi-Lite capability is a perfect tool for qualifying existing cabling for its suitability for new applications, particularly smart building where PoE will be heavily used, but at a significantly lower price point. Here is a brief list of situations where Certi-Lite is the most appropriate test method:

- Reassessing the performance of existing cabling against standards requirements such as CAT6A.
- Troubleshooting network connectivity and link speed issues.
- Documenting cable plant performance.
- Moves, adds, changes.

Test results can be sent to TestDataPro Cloud test results repository via wired or wireless connection. Results can also be saved to memory for later upload to the PC based version of TestDataPro results management software.

For a more detailed look at Certi-Lite, check out our Straight-Talk Blog Article at blog.aem-test.com titled *"Certi-Lite: At The Heart Of A New Category In Cable Test"*
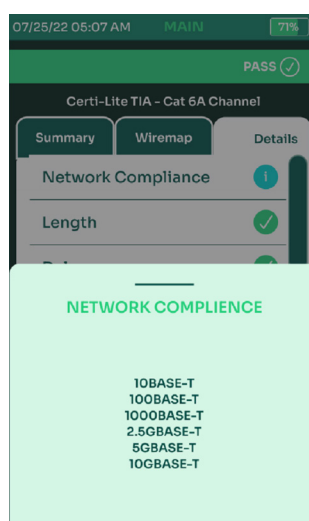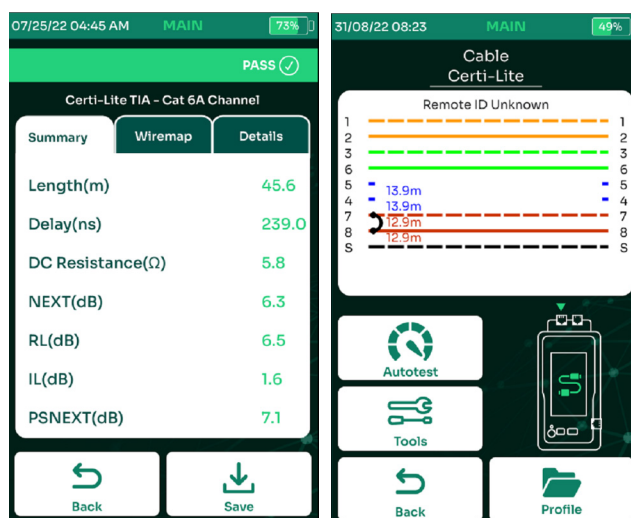
Fiber Optic Testing

The NSA supports Loopback optical loss testing for Singlemode and Multimode, as well as simultaneously testing voltage on the electrical conductors if using hybrid powered fiber. This provides visibility to ensure the fiber optic links are good and what link speeds they can support based on the test results (Network Limits). The OTDR adapters provide technicians with the ability to easily pinpoint the location of broken fiber or other loss events causing an optical loss test to fail.

The NSA supports Singlemode Loopback testing with the AD-NSA-SM-01, and Multimode Loopback testing with the AD-NSA-MM-01 adapters. The NSA supports Singlemode testing with the AD-OTDR-SM and Multimode testing with the AD-OTDR-MM test adapters.

Key Capabilities

- Loopback optical loss test provides loss budget-based loss testing including length, delay, margin, loss and network compatibility.
- Measure voltage on electrical conductors of hybrid powered optical fiber cable allows user to determine if adequate voltage level is reaching the device at the end of the link.
- Stand-alone light source and power meter mode allows user to measure absolute power coming from devices, or perform relative loss measurement using a loopback connector at far end or using a separate light source.
- Integrated VFL allows user to pinpoint breaks, bad terminations/splices in the fiber distribution panels as well as confirm light is passing from one end to the other.

- Interface for visual fiber inspection probe via USB port – inspection and cleaning are paramount when dealing with fiber optic loss testing. Connectors should be inspected, cleaned if needed and inspected again prior to connecting. This applies to test equipment reference cables, installed fiber connectors, patch cords for network equipment.
- With the addition of AEM's Multimode and Singlemode OTDR test adapters, which connect to the NSA handset just like any other test adapter, users gain additional troubleshooting functionality. The OTDR gives technicians in the field the ability to easily pinpoint the location of broken fiber or other loss events causing an optical loss test to fail.

Power Over Ethernet (PoE) Validation

NSA excels at validating PoE with the most comprehensive test functionality available and in compliance with IEEE 802.3 af/at/bt standards, as well as support for UPoE.

What sets NSA apart is the ability to validate Real Power load at the jack where and end device will be deployed. NSA emulates a Powered Device (PD), such as a WAP or Camera by setting it to the specific standard applicable to that device. NSA negotiates with the Power Source Equipment (PSE) to request information about the switch and the highest level of power load from the PSE for the selected standard.

For those pesky intermittent power issues, NSA can monitor power load over time. This allows you to monitor live for any power fluctuation that drops below the required level threshold.

NSA can also characterize the cabling links for DC resistance unbalance parameters either as part of a standard Certi-Lite Autotest or as a one-off quick test.
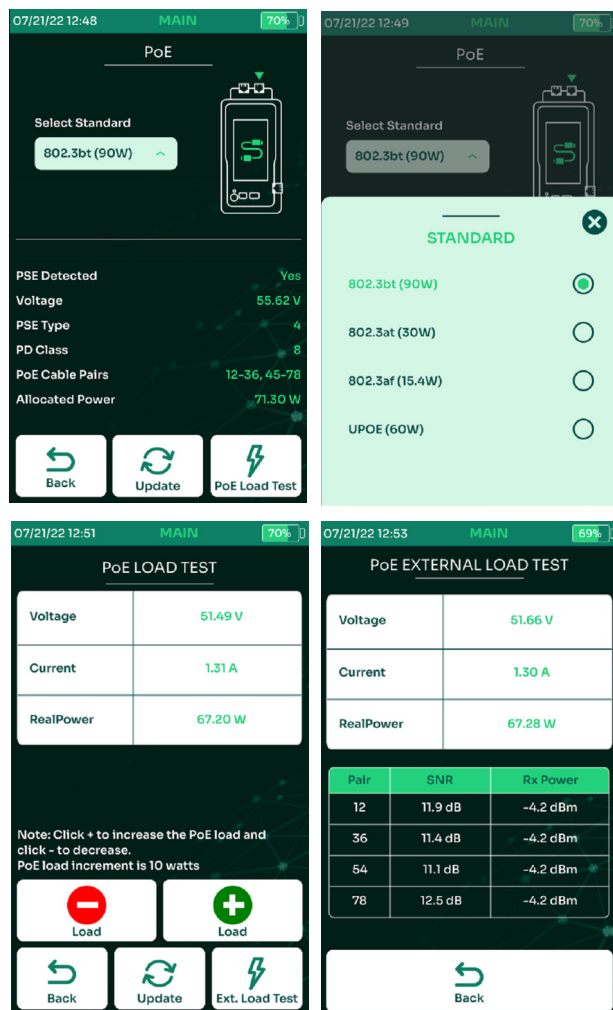
POE TESTING CAPABILITIES

- Load Testing for Real Power at Jack
- Current, Wattage, Voltage
- PSE Detection
- PSE Type
- PD Class
- PoE Cable Pairs
- Sustained Power Load Monitoring

Multi-Gigabit Link Speed Qualification

Improvements in 10Gigabit technology, price, and performance have extended its reach beyond enterprise data centers to midmarket networks. Increasing bandwidth requirements and the growth of enterprise applications are also driving broader deployments of 10 Gigabit Ethernet. TestPro's Multi-Gigabit testing provides a Pass/Fail indication as well as visibility into available headroom even down to per pair detail.

NSA performs this Signal to Noise Ratio (SNR) based test while under both traffic and PoE load, if a PSE is present. This provides a real-world scenario of performance, to ensure the data signal can get through the noise on the wire. NSA's Multi-Gigabit Autotest is a quick and easy one button operation to ensure that a cabling link will support the desired network rate.

VALIDATION TEST
- 10/100 Mpbs
- 1 Gbps
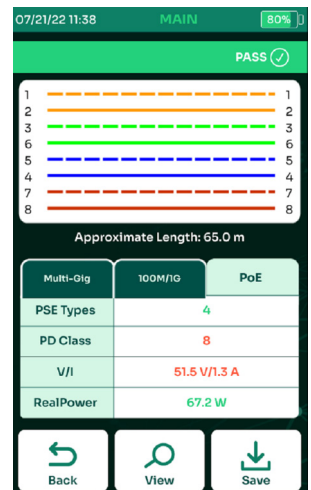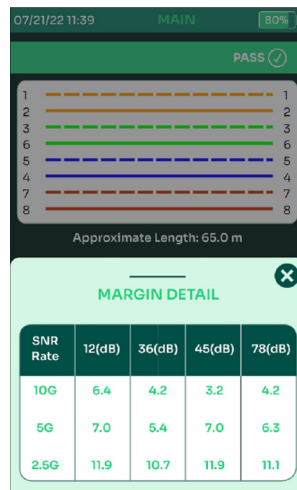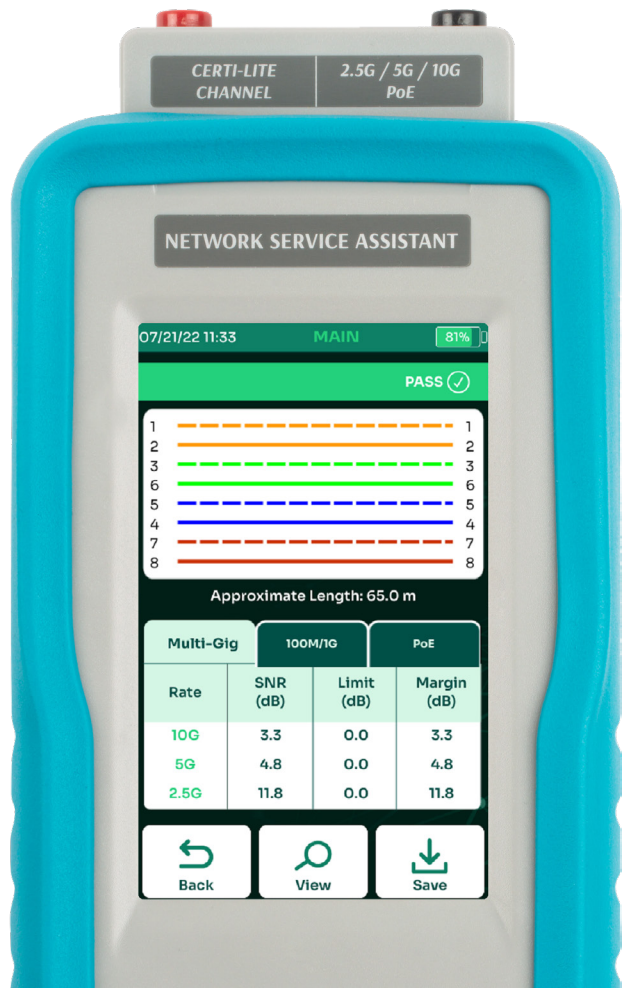
POE LOAD TEST
- 802.3 af/at/bt
- UPoE

QoS TEST
- SNR 2.5 Gigabit
- SNR 5 Gigabit
- SNR 10 Gigabit

NSA's Multi-Gigabit Autotest is a quick and easy one button operation to ensure that a cabling link will support the desired network rate.

Wired & Wireless Connectivity Testing

BASE-T WIRED ETHERNET CONNECTION DETAILS

- Perform Network Discovery to see what's behind the jack.
- Switch detail including slot/port/VLAN.
- Display list of IP addresses for connected devices.
- Select any IP address to view that device details, MAC address, and more.
- View LAN details such as Gateway, Subnet Mask, DHCP Server.
- Generate traffic to any desired IP address.
- Perform Trace Route to see the connection path and intermediate hop delays for bottlenecks.
- Use Ping to verify point-to-point or Internet connectivity and response time.

WI-FI ETHERNET CONNECTION

- NSA's auto-discovery will display all detected SSID's and their associated RSSI (received power level). This is useful in determining if the Wi-Fi network to which the user is trying to connect has sufficient signal strength.
- Determine Wi-Fi "dead zones" by roaming to checking RSSI values in different locations.
- Connect to any SSID using the appropriate credentials for that network.
- Use Ping to verify point-to-point connectivity or out to the Internet by selecting pre-defined or custom website URLs and see latency details.

Please Note: For Wi-Fi testing, an optional Edimax EW-7822ULC Wi-Fi USB adapter is required. These adapters are region specific and can be purchased on Amazon or any preferred retailer.
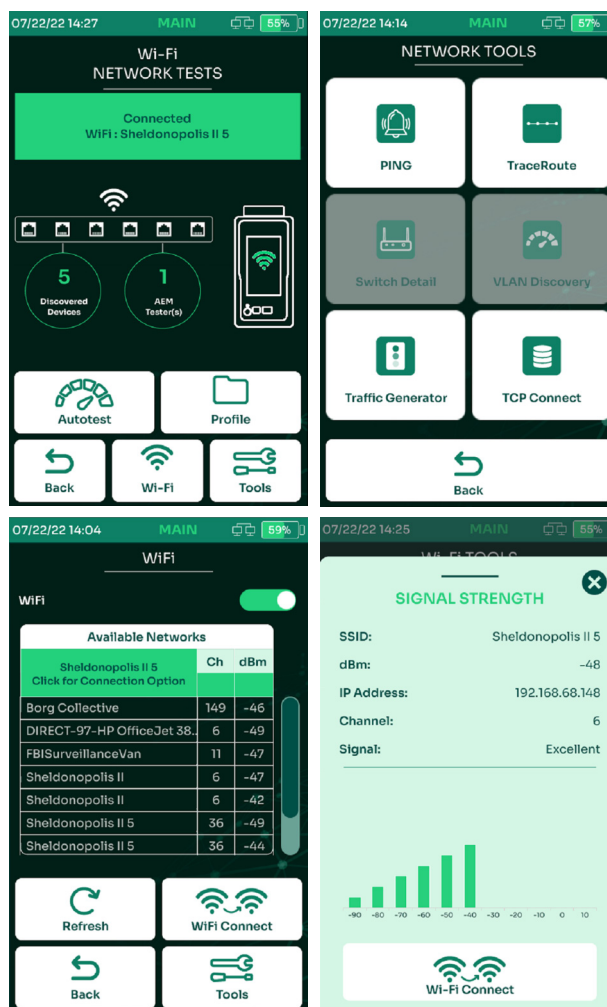
The ability to get quick visibility into both your wired and wireless network infrastructure are must have features for troubleshooting and performing moves/adds/changes. Some key features NSA delivers include:

- Network Discovery
- Traffic Generator
- Traceroute
- Ping
- WiFi SSID Discovery & Associated RSSI (Signal Strength)
- Switch Detail including slot/port/VLAN
- VLAN Discovery

Advanced Link Identification

AEM takes link identification to the next level with Certi-Lite capable numbered remote IDs, and noise filtering Tone Probe capability. Unlike your typical "dumb" remote ID's that simply tell if you have connected to number 1,2,3 and so on, AEM remote ID's are smart, and are capable of supporting a standards based Certi-Lite cable test for CAT5e, CAT6, CAT6A. This provides you with the added benefit of
a complete Autotest, which can be saved, in addition to identifying which numbered remote ID you connected to.

Tracking wires and faults can be difficult, in a dense, electrically noisy environment. Noise may be coming from the equipment in the wiring closet or induced by adjacent wires in the cable pathway. The Tempo Communications branded tone probe receiver offered in applicable kits, works in tandem with the output tone from the Network Service Assistant. The selectable filter blocks power noise and harmonics, with support for either 50Hz or 60Hz, based on model ordered, allowing user to pick up and hear the signal even in the noisiest of environments.

- Adjustable sensitivity/volume control
- Powerful rear-fire speaker
- LED signal strength indication-allows user to zero in on correct wire even when bleed-over exists between multiple wires
- One-button operation
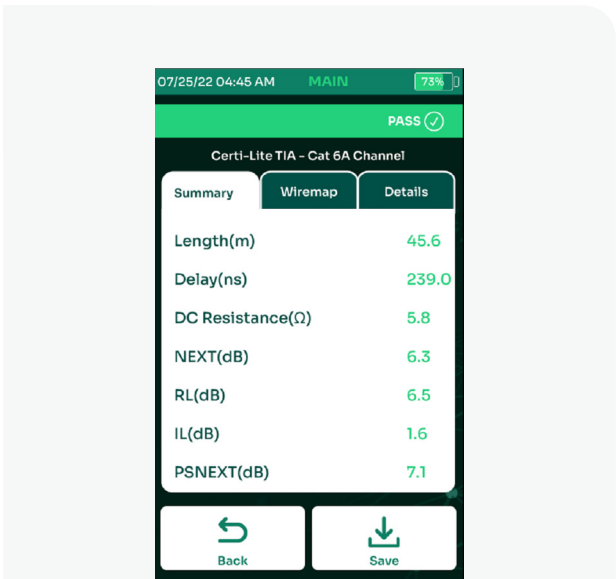- Replaceable tip

Figure 4 - Certi-Lite Autotest result can be obtained with Remote IDs. Click on Details tab to drill into each test result.Test Results can be stored in tester memory for later upload to the included PC based TestDataPro, or immediately with the included TestDataPro Cloud via wired or wireless network connection.
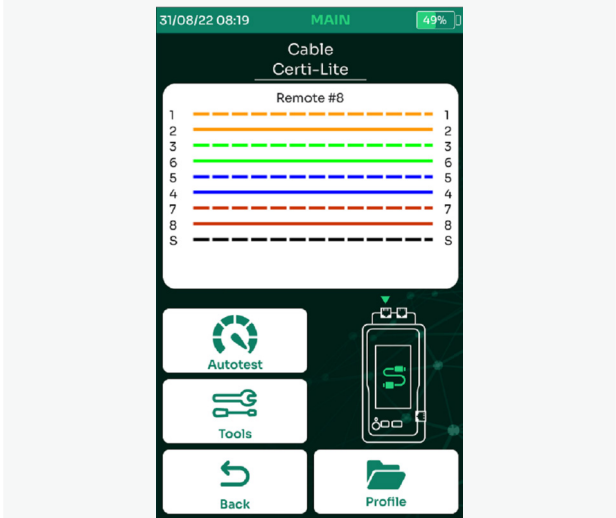

Figure 5 - Wiremap with Remote ID#8 Identified

TestDataPro
Results Management

TestDataPro - C:\Users\Steven\Cowles\Documents\Projects\Radio Project X.tpp

Home | Tools | Settings | Help

New | Open | Save | Save As | Close | From File | From USB | From Device | Multi PDF | Single PDF | Summary | Plot Only | Detail CSV | Summary CSV | Delete | Copy | Paste | Recertification | Auto Hierarchy

Project | Import | Report | Manage

Radio Project X [12] [12] *[0] *[0]
- Broadcast HQ [12] [12] *[0] *[0]
  - Main Bldg [5] [5] *[0] *[0]
    - Floor 1 [4] [4] *[0] *[0]
      - TR1 [4] [4] *[0] *[0]
    - Floor 2 [1] [1] *[0] *[0]
  - Transmitter Bldg [7] [7] *[0] *[0]
    - Power Deck [3] [3] *[0] *[0]
      - Transformer Room [3] [3] *[0] *[0]
    - Control Floor [4] [4] *[0] *[0]
      - Ttransmitter Room [2] [2] *[0] *[0]
      - Net Access Room [2] [2] *[0] *[0]

Columns Configuration

Label ▼ Equal(=) ▼

#	Label	Result	Test Details	Report	Length	Worst Margin	Worst Margin	Limit	Test Time	Profile	Project
1	a1-a-02	✓			7.4 ft				7/13/2022 2:29:39 PM	Validation	hilton garden inn
2	WAP2	✓			151.7 ft	3.20 dB (RL)	4.80 dB (NEXT)	TIA - Cat 6 Permanent Link	7/13/2022 2:11:31 PM	Certification	hilton garden inn
3	WAP1	✓			151.6 ft	3.20 dB (RL)	4.80 dB (NEXT)	TIA - Cat 6 Permanent Link	7/13/2022 2:11:06 PM	Certification	hilton garden inn
4	a1-a-01	✓			151.6 ft	3.10 dB (RL)	4.80 dB (NEXT)	TIA - Cat 6 Permanent Link	7/13/2022 2:10:24 PM	Certification	hilton garden inn
5	A-002	✓			158.0 ft	3.50 dB (RL)	3.40 dB (NEXT)	TIA - Cat 6A Channel	8/1/2022 12:43:42 PM	Certification	Default
6	A-002	✓			93.8 ft	4.80 dB (RL)	0.00 dB (NEXT)	SCTE 74 1GHz RG6 dual	8/11/2022 2:24:40 PM	Coax	coac x9
7	A-001	✓			94.7 ft	4.80 dB (RL)	0.00 dB (NEXT)	Coax 568_4-D 1GHz RG6 dual	8/11/2022 2:23:24 PM	Coax	coac x9
8	A-003	✓			94.2 ft	4.80 dB (RL)	0.00 dB (NEXT)	Coax 568_4-D 1GHz RG11 dual	8/11/2022 2:32:01 PM	Coax	coac x9
9	BI3-C01-R01-P01	✓			105.3 ft	1.83 dB (W1)	1.76 dB (W2)	TIA-568.3-D MultiMode STD Grade	7/13/2022 3:06:32 PM	MM Fiber	mm template std
10	a1ref	✓			6.6 ft	2.02 dB (W1)	2.01 dB (W2)	TIA-568.3-D MultiMode STD Grade	7/13/2022 3:02:39 PM	MM Fiber	mm template std
11	BI3-C01-R01-P03	✓			0.0 ft	1.24 dB (W1)	1.34 dB (W2)	TIA-568.3-D SingleMode ISP REF Grade	7/14/2022 11:30:29 AM	SM Fiber	mm template std
12	BI3-C01-R01-P02	✓			0.0 ft	1.44 dB (W1)	1.54 dB (W2)	TIA-568.3-D SingleMode REF Grade	7/14/2022 11:28:18 AM	SM Fiber	mm template std

AEM

A-004 — Pass

Test Time : 8/19/2020 3:52:16 PM
Project : 2.9.R3
Profile : Certification
Operator : Default
Cable Type / NVP : CAT 6A UTP , 68%
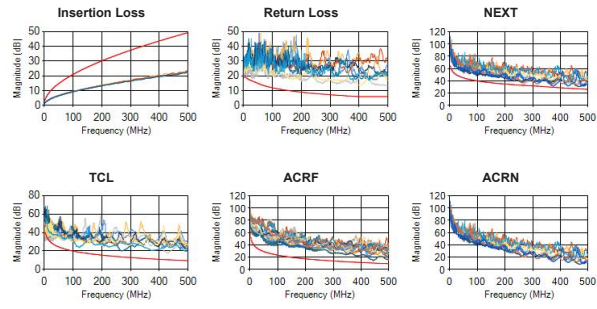Connector : Generic Cat 6A

Limit : TIA - Cat 6A Channel
Model : TestPro CV100
Serial Number : Main: 4200-0071, Remote: 4200-0072
Device Software : 2.9.R3
Calibration Date : Friday, April 24, 2020
Main Adapter : PROBE CAT 6A CHANNEL
Remote Adapter : PROBE CAT 6A CHANNEL

Parameter	Result	Pair	Value	Limit
Length(ft)	Pass	78	159.7	328.1
Prop Delay(ns)	Pass	45	253.0	555.0
Delay Skew(ns)	Pass	45	15.0	50.0
DC Loop Resistance(Ω)	Pass	12	15.718	25.000
Res. Unbal, pair-pair(Ω)	Info	45-78	2.133	0.720
Res. Unbal, wire-wire(Ω)	Info	12	11.679	0.308

T568B
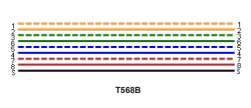
RF Parameters

Parameter	Result	Main Worst Margin Pair	Margin (dB)	Limit (dB)	Freq (MHz)	Main Worst Value Pair	Value (dB)	Limit (dB)	Freq (MHz)	Remote Worst Margin Pair	Margin (dB)	Limit (dB)	Freq (MHz)	Remote Worst Value Pair	Value (dB)	Limit (dB)	Freq (MHz)
Return Loss	Pass	12	1.7	19.0	8.80	12	17.4		458.00	12	0.9	18.8	10.75	12	13.1		500.00
Insertion Loss	Pass	12	1.4	3.1	2.05	45	23.7		500.00	-	-	-	-	-	-		-
NEXT	Pass	36-78	2.2	32.6	266.00	36-78	31.4		480.00	36-78	1.8	29.6	373.00	12-36	30.9		470.00
PSNEXT	Pass	36	4.0	29.7	267.00	36	29.3		480.00	36	2.4	26.8	367.00	36	28.5		475.00
ACRF	Pass	12-45	3.7	10.3	444.00	12-45	14.0		444.00	45-12	4.0	10.3	444.00	45-12	14.3		444.00
PSACRF	Pass	12	6.5	60.3	1.00	45	14.0		444.00	12	6.7	7.3	444.00	12	14.0		444.00
TCL	Info	12	-9.0	40.0	2.05	78	20.1		268.00	12	-9.2	40.0	2.20	12	17.6		433.00
TCTL	Info	45	-3.9	30.0	1.00	45	26.1		1.00	45	-0.5	30.0	1.00	45	22.6		29.95

Charts: Insertion Loss, Return Loss, NEXT, TCL, ACRF, ACRN — Magnitude (dB) vs Frequency (MHz).

TestDataPro supports both PC and cloud-based options, and come standard with all models of NSA. Printed test reports for copper and fiber optic include a listed of compliant network support based on the performance of the cable tested.

Printed reports are provided for Copper & Fiber testing, Wired/Wireless Network Discovery Autotest as well as the combined Multi-Gigabit/PoE Autotest.

The Network Discovery and Multi-Gigabit/PoE Autotests provide a path to a new service offering you can provide to increase your revenue potential.

TESTDATAPRO PC BASED

- Allows you to define projects and categorize test results into logical groupings.
- Provides multiple reporting formats and options such as a single summary report or full reporting.
- Allows software-based re-certification if original test was done with wrong test standard selected.

TESTDATAPRO CLOUD

- Allows immediate offload of test results to database via wired or wireless connection.
- Allows visual of pass/fall results.
- Allows printing of single .pdf reports.

NSA Platform Overview

Hot Swappable Test Adapters
A variety of test adapters are available for NSA. The most commonly used adapters are included in purpose-built kits, optional adapters allow extension of platform use.

Impact Protection
Dense rubber housing protects test equipment and display from drops. 2 Year standard warranty protects your investment. Warranty extends to 5 Years upon product registration.

Touchscreen
Impact resistant touchscreen.

Bult-in Kickstand
Allows for ease of use when test equipment is used in a set position.

Live Wiremap
The moment the remote unit is connected, NSA gives an audible sound and shows wiremap.

Intuitive UI
Available test function automatically adjusts when hot swappable test adapters are swapped.

Hot Keys
Quick access buttons for Autotest Initiation and Return to Home Screen.

CONNECTIVITY OPTIONS

Micro USB allows direct connect with PC.

USB A supports Edimax, Wi-Fi adapter and Fiber Inspection Scope as well as USB flash drive for firmware updates and test results export.

RJ-45 Ethernet port supports 10/100/1000 BASE-T testing with no test adapter needed.

Adapters & Accessories

PART NUMBER	DESCRIPTION	UOM
LINK IDENTIFIER KIT 50HZ	LINK ID 50HZ	EA
LINK IDENTIFIER KIT 60HZ	LINK ID 60HZ	EA
AD-NSA	CERTI-LITE, MULTI-GIG, AND POE ADAPTER	EA
AD-NSA-SM-01	SINGLEMODE FIBER TEST KIT FOR NSA	EA
AD-NSA-MM-01	MULTIMODE FIBER TEST KIT FOR NSA	EA
AD-OTDR-MM	MULTIMODE OTDR ADAPTER	EA
AD-OTDR-SM	SINGLEMODE OTDR ADAPTER	EA
SM-SC-LC-CORD-150M	SC-LC LAUNCH CORD, 150M SINGLEMODE	EA
SM-SC-SC-CORD-150M	SC-SC LAUNCH CORD, 150M SINGLEMODE	EA
SM-LC-LC-CORD-150M	LC-LC LAUNCH CORD, 150M SINGLEMODE	EA
MM-SC-LC-CORD-150M	SC-LC LAUNCH CORD, 150M MULTIMODE	EA
MM-SC-SC-CORD-150M	SC-SC LAUNCH CORD, 150M MULTIMODE	EA
MM-LC-LC-CORD-150M	LC-LC LAUNCH CORD, 150M MULTIMODE	EA
AD-NSA-COAX-KIT	75 OHM NSA COAX ADAPTER KIT	EA
NSA-COAX-REMOTE-1	COAX REMOTE ID#1	EA
PROBE-FIBER-INSP	FIBER INSPECTION PROBE	EA
NSA-REMOTE PACK	REMOTE IDS #2-#8	EA
NSA-REMOTE #1	REMOTE ID #1	EA
NSA-MM-SC-K01	NSA SC CONNECTOR INTERFACE KIT MULTIMODE	SET
NSA-MM-ST-K01	NSA ST CONNECTOR INTEFACE KIT MULTIMODE	SET
NSA-SM-SC-K01	NSA SC CONNECTOR INTERFACE KIT SINGLEMODE	SET

PART NUMBER	DESCRIPTION	UOM
NSA-SM-ST-K01	NSA ST CONNECTOR INTERFACE KIT SINGLEMODE	SET
NSA-MM-LC-CORD-K01	LC REFERENCE CORD KIT FOR NSA SINGLEMODE	SET
NSA-SM-LC-CORD-K01	LC REFERENCE CORD KIT FOR NSA MULTIMODE	SET
SM LOOPBACK	SINGLEMODE LOOPBACK LC	EA
MM LOOPBACK	MULTIMODE LOOPBACK LC	EA
SM LOOPBACK SC	SINGLEMODE LOOPBACK SC	EA
MM LOOPBACK SC	MULTIMODE LOOPBACK SC	EA
ACC-SOFT-CASE-LARGE	SOFT CARRY CASE LARGE	EA
ACC-SOFT-CASE-SMALL	SOFT CARRY CASE SMALL	EA
ACC-POWER-AD	AC POWER ADAPTER FOR NSA	EA

Technical Specifications

Test Standards Compliance & Conformity

Copper Certi-Lite Qualification+Test	ANSI/TIA-568.2-D, ISO 11801 ANSI/TIA-1152-A
Fiber Optic Loopback Test	TIA-568.3-E and ISO/IEC 14763-3 Ed 2.1
Power Over Ethernet	IEEE 802.3 af/at/bt, UPoE
Multi-Gigabit Link Speed Testing	IEEE 802.3 up to 10GBASE-T
Wired Network Connectivity Testing	CDP, LLDP
Wireless Network Connectivity Testing	IEEE 802.11N & IEEE 802.11AC maximum wireless speed up to 300Mbps on 2.4GHz band or up to 866Mbps on 5GHz band
Coax	TIA-568.4-D and IEC 60966-2-6

Network Service Assistant Platform (All Versions)
Each platform in a kit comes with a Certificate of Calibration traceable to NIST.

Size	200mm X 105mm X 50mm (7.87in X 4.13in X 1.97in)
Display	5" TFT color touch screen, resolution 800 x 480 pixels
Battery	Li-Ion, 3.7V / 13,200 mAh, 9 hr battery life typical
Power Adapter	5V, 3A (supplied), 5-12V (supported), 2.1mm DC jack
Platform Operating System	Linux
USB Interfaces	USB A for flash drive storage, MicroUSB for connecting to PC
RJ-45 Side Port	10/100/1G network connectivity test port
Test Adapter To Platform Interface	High-frequency connector rated for 5000 insertion cycles, Hot-swappable
Measurement Engine	9-channel dual-ended mixed-mode RF and DC measurement engine. Industry's highest performance patent-pending measurement architecture for data cable testing.
Frequency Range	0.1 – 3,000 MHz

Copper Testing (All Versions)

Measurement Time	CAT6A Certi-Lite Qualification+ auto-test: 13 seconds including Length, Delay, DC Loop Resistance, DC Resistance Unbalance P2P, IL, RL, NEXT, PSNEXT, ACRF, ACRN, PSACRN, Impedance, RL Locator TDR, NEXT Locator TDR, Shield Locator TDR
Wiremap	All possible wire connection situations identified, as long as two wires are connected end-to-end on any pins
DC Resistance	Range: 0 to 100 Ω
	Loop resistance and Pair-to-Pair resistance unbalance measurement meets TIA 1152A specs
Tone Generator	730Hz and 1440 Hz
Single-Ended RF Measurements IL, RL, NEXT, ACR-F	All mandatory RF measurements as per TIA and ISO/ IEC standards
Length (Propagation Delay) Measurement	Single ended test: 0 – 100m with 0.1m resolution
	(0 – 6,000 nsec with 1 nsec resolution)
	Delay skew measurement with 1 nsec resolution
Supportable Cabling	4-pair twisted pair cable
	Coax cable
	Optical cables (SM/MM pair)
TDR-RL	0-100 m (resolution: 1 m)
	Distance-to-fault
TDR-NEXT	0-100 m (resolution: 1 m)
Impedance	0-1000 Ω
	0.1 Ω resolution in 90-110 Ω range

Power Over Ethernet

Features/Test Function	PoE source type detection
	Load test up to 90W
	Identification of PoE pairs
	Substained load monitor

Multi-Gigabit Ethernet

Autotest Parameters	Signal to Noise Ratio at each speed across each pair
	Cable Diagnostics
	PoE Detection
Network Testing	Ethernet network discovery
	Switch Detail (Port, VLAN, Capabilities)
	Traceroute
	Traffic generator/monitor
	Ping
	TCP Connect
	Wi-Fi : Identify SSID's and measure RSSI

Fiber Optic - Common to both MM and SM (K31E, K61E)

Test Interface	Supplied Test Interface: interchangeable FC on Tx port and interchangeable LC on Rx port. FC-LC (Tx) and LC-LC (Rx) Test Reference Cords included with all adapter kits AD-NSA-MM-01 and AD-NSA-SM-01. NSA Kits with fiber option (K31E, K61E) include above plus SC interface adapters for Tx and Rx ports, FC-SC (Tx) and SC-SC (Tx and Rx) Test Reference Cords.
VFL Light Source	Wavelength 650nm
Volt-Ohm Meter Measurement Range, Hybrid Powered Fiber	0-60V DC

Fiber Optic - Multimode and Singlemode Adapter - Specific Information

	Multimode AD-NSA MM-01E Adapter	Singlemode AD-NSA SM-01E Adapter
Wavelengths	850nm, 1300nm	1310nm, 1550nm
Light Source	LED	Fabry-Perot Laser
Transmit Power	-20dBm typical	-2dBm typical
Encircled Flux	Compliant to IEC-61280-1-4 and TIA526-14-C-2015 as per supplier data sheet	Not applicable
Length Measurement	Range: up to 2km (subject to maximum of 10dB link loss)	Range: up to 20km (subject to maximum 20dB link loss)
	Length measurement resolutions: 0.1m	Length measurement resolution: 0.1m
Loopback Loss	Loopback loss measurement: 0 to -10dB	Loopback los loss measurement: 0 to -20dB

Fiber Optic - OTDR

Parameter	Multimode	Singlemode
Wavelength Range	850nm +/- 10nm	1310 +/- 25 nm
	1300nm +35/-15nm	1550 +/- 30 nm
Compatible Fiber type	50/125 µm, 62.5/125 µm for multimode	Single mode
Event Dead Zone	1m typical for 850 nm, 1m typical for 1300 nm	0.6m typical for 1310 nm, 0.6m typical for 1550nm
Attenuation Dead Zone	2.5m typical for 850 nm, 4.5m typical for 1300 nm	3.6m typical for 1310 nm, 3.7m typical for 1550nm
Dynamic Range	25dB for 850nm, 27dB for 1300nm	29dB for 1310nm, 27dB for 1550nm
Max Distance Range Setting	40 km	130 km
Distance Measurement Range	9km for 850nm, 35km for 1300nm	80km for 1310nm, 130km for 1550nm
Reflectance Range	-14 dB to -57 dB for 850nm, -14 dB to -62 dB for 1300nm	-14 dB to -65 dB for 1310nm, -14 dB to -65 dB for 1550nm
Pulse Width	3, 5,10, 15,...,24995, 25000 nsec	3, 5,10, 15,...,24995, 25000 nsec

Notes

SCAN QR CODE FOR

Network Service Assistant Product Kit Selection Guide

Technical Support

Live Phone Support :
Monday - Friday | 8am-5pm (Arizona,USA)
T : 480-534-1232
Toll Free : 833-572-6916

Email Monitored 24hrs
customercare@aem-test.com

For more information and details specifications,
please visit: AEM-Test.com/NSA

If you need technical assistance, please visit us at:
AEM-Test.com/customer-care

AEM International, Ltd.
8930 S Beck Ave #101
Tempe AZ 85284
T : 480-498-4820

AEM Singapore PTE.Ltd
52 Serangoon North Ave 4
Singapore 555853
T : +65 6483 1811