NETSCOUT

| DATASHEET |

LinkRunner G2 Smart Network Tester

The World's First Android-based Smart Network Tester for the Connected World

- *Twisted pair testing 10/100/1000BASE-T*
- *Fiber optic testing 100/1000BASE-X*
- *Automated network connectivity testing*
- *Android-based OS for Ethernet connected app use*
- *Wi-Fi and Bluetooth ready*
- *Loaded power testing up to UPOE on all 4 pairs*
- *Cable validation including distance-to-fault*
- *Discover the nearest switch/slot/port and VLAN/Voice VLAN*
- *DHCP, DNS and Gateway connectivity test*
- *Ping and TCP port connectivity test*
- *Automated test result upload to Link-Live Cloud Service*
- *Packet reflection up to 1 Gbps*

As the world's leading network connectivity tester, LinkRunner™ provides immediate visibility and value to network professionals responsible for delivering network services. By combining Ethernet test capabilities for copper and fiber links with the Android™ OS[1], LinkRunner G2 represents a breakthrough in handheld network test that elevates the proficiency and productivity of network technicians responsible for troubleshooting as well as deployment and validation of network connected devices.

Importance of Automated Network Connectivity Testing

Paramount to the deployment of any type of network-connected device is validating link and network services from the point where end devices connect to the network. By automating those many tests in a simple but complete AutoTest, instead of requiring specialized expertise to understand the many underlying elements of network connectivity, even the least experienced technician can execute the test.

AutoTest performs a default set of key network connectivity tests in seconds, providing a standardized test process that enables technicians to quickly and accurately identify if the problem is in the connected device, the network, or lack of proper PoE being supplied to the RJ-45 jack.

Standard AutoTest includes:

- TruePower™ PoE Class 0-4, UPOE
- Link speed/duplex
- Nearest switch including slot/port/VLAN/Voice VLAN
- DHCP IP Address assignment
- DNS Validation
- Gateway Router Validation
- Reachability to target resource i.e. internet

When customization of the AutoTest is needed, profiles can be defined to ensure a standardized test process is executed when variables about the link under test are needed. While these settings can be easily changed in use, profiles can be configured by a senior team member to ensure less-skilled technicians are executing an AutoTest that is specific to their network environment, which is particularly useful in organizations who manage distributed locations.

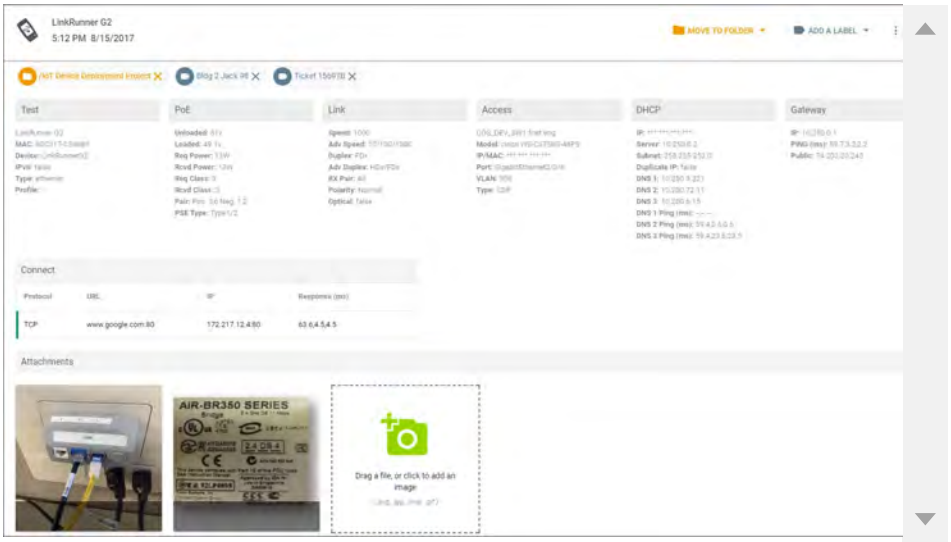
Examples include:

- Site-specific PoE configuration
- 1000BASE-T validation
- 802.1x authentication
- IPv4/IPv6
- DHCP/Static IP
- Proxy settings
- VLAN ID and Priority
- User-defined MAC
- Up to 10 custom-defined ping or TCP port open targets

At the completion of each AutoTest, the result is automatically uploaded into the included Link-Live results management and reporting database and sent to any number of recipients via email. Users have the ability to add additional information that will append to the link test either directly from LinkRunner G2 or through email.

Examples of useful information to document with the AutoTest result:

- Trouble ticket number
- Jack location
- Use the on-board camera along with an Android app to scan a QR/Barcode
- Attach a photo of a serial number, asset tag or just proof of device install



Benefits of Android OS

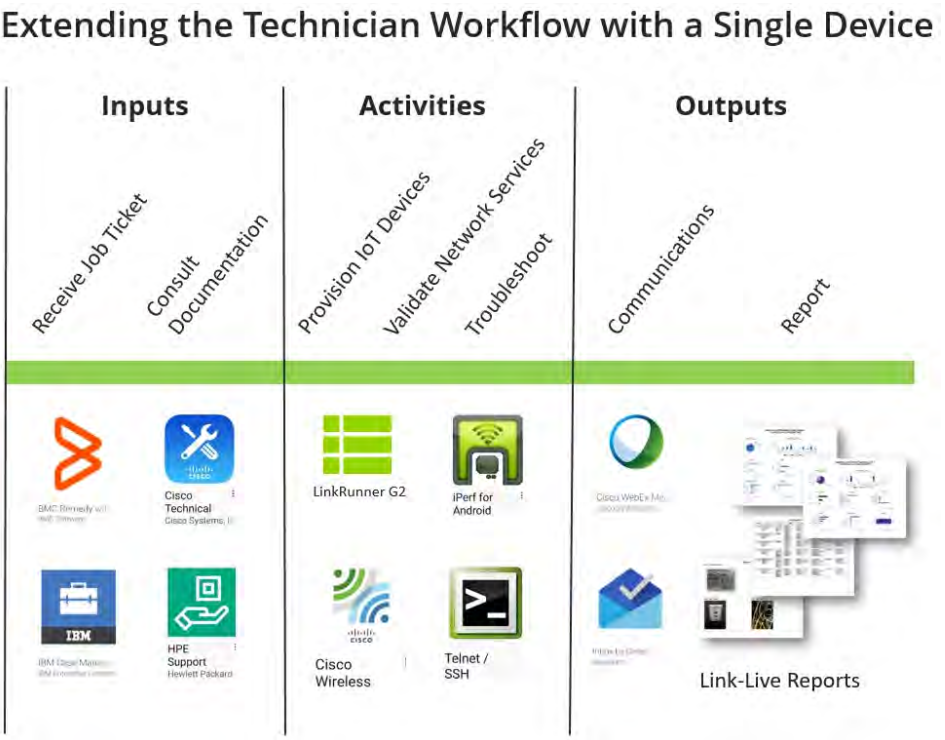
Eliminate Security Risk of Using Personal Devices
Many technicians today use their personal mobile device on the job to access vendor apps, check trouble tickets, look up technical documents, calculate IP address ranges, configure network equipment, and more. However, the use of a personal device for job-related tasks could be considered a security risk. In addition, it may have only limited access to network infrastructure information (if connected to a guest VLAN, for example).

But the mobile device has no ability to validate wired Ethernet infrastructure – it cannot test PoE, cabling, link negotiation or network services. While it features Wi-Fi and Bluetooth connectivity, many networked end-point devices do not support these connection methods. So multiple tools are needed.

Workflow Efficiency Gains
Imagine how much time it would save to have a single device that could:

- Receive a trouble ticket
- View .pdf documents
- Verify network services via AutoTest
- Automatically document test results
- Do all things Wi-Fi and Bluetooth that you can do with your personal mobile device with the optional Edimax[2] Wi-Fi/Bluetooth USB Adapter
- On-board camera to document installed devices, scan QR/barcodes, etc.
- Configure any IoT device that supports an Android app or web connection via Chrome browser
- Use Android apps to do things like:
  - Configure an IoT device (security camera, AP, lighting, HVAC)
  - Telnet into a switch
  - Run a speed test
  - Access an IP calculator
  - View info provided by a Bluetooth-supported sensor
  - Plug in a USB printer and along with the companion Android app, print labels
  - Get help – start a webex, invite others and share your screen enabling quick assistance without unnecessary downtime

The possibilities are endless as the world of smart devices goes. Apps are available for virtually anything you need to do. Visit https://link-live.com/public/apps to see the current list of readily available free apps. Don't see something you need, just request it at the NETSCOUT® App Store and we will verify the app and get it posted. Note: only apps that are free to consumers are available for install on LinkRunner G2, chargeable apps are not supported.



LinkRunner G2 Key Features

Wi-Fi and Bluetooth Ready - plug in the optional Edimax* N150 2-in-1 Wi-Fi and Bluetooth Nano USB Adapter to further expand the capability of your LinkRunner G2.

Wi-Fi - View and configure IoT devices, connect and communicate over Wi-Fi

- Edimax - 11n Wi-Fi Speed up to 150 Mbps. Complies with wireless IEEE 802.11b/g/n standards for Wi-Fi data transmission rates up to 150 Mbps when connected to an 802.11n device. Wi-Fi Security: Supports 64/128-bit WEP, WPA, WPA2 encryption.

Bluetooth - View, connect and configure Bluetooth devices and sensors

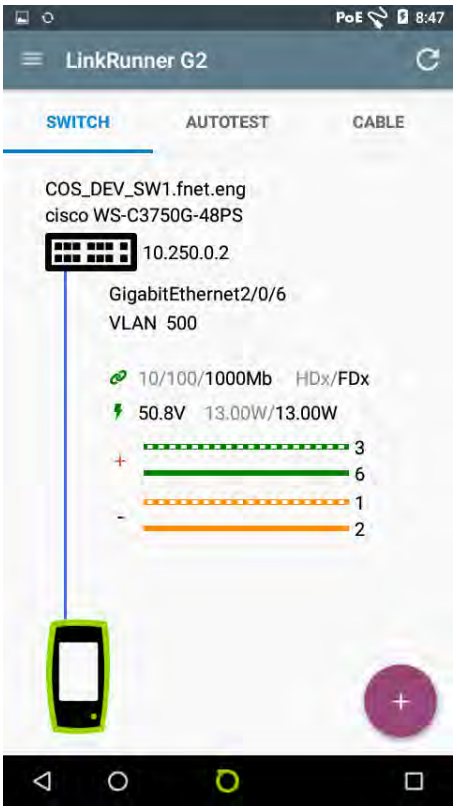
- Edimax - Bluetooth 4.0 & Bluetooth 3.0+HS (High Speed) up to 24 Mbps and fully backwards compatible with Bluetooth 3.0+HS and Bluetooth 2.1+EDR for wireless communication with almost all Bluetooth-enabled devices.

* Edimax N-150 2-in-1 Wi-Fi & Bluetooth 4.0 Nano USB Adapter is sold separately and is certified regionally.

- US-WIFI-BT-USB: Edimax n150 Wi-Fi & Bluetooth USB Adapter for US and Canada. Channels 1-11
- EU-WIFI-BT-USB: Edimax n150 Wi-Fi & Bluetooth USB Adapter for Europe. Channels 1-13

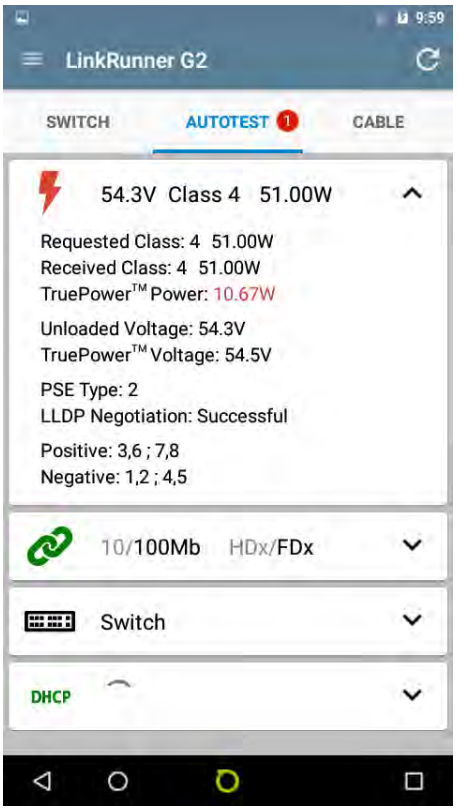
Use vendor apps to configure and validate connected equipment.

10/100/1000BASE-T over Copper and 10/1000BASE-X over Fiber - use AutoTest to run a full network connectivity test or choose Switch test to quickly see nearest switch and switch details over either media type. **Fiber SFP not included, sold separately.*



Nearest switch and VLAN information over Copper and Fiber Links - uses IEEE Link Layer Discovery Protocol (LLDP) plus the Cisco® and Extreme Discovery Protocols (CDP and EDP) to display the VLAN/Voice VLAN and nearest switch model, slot and port. When reported as part of the AutoTest, a Refresh option is available that allows you to receive the next xDP frame (CDP/LLDP) coming from the switch.

TruePower™ PoE testing - quickly validate PoE performance by drawing actual power utilizing all 4 pairs such as UPOE. Load the circuit to stress switches, cabling and patch panels, all while measuring the voltage and pairs being used.



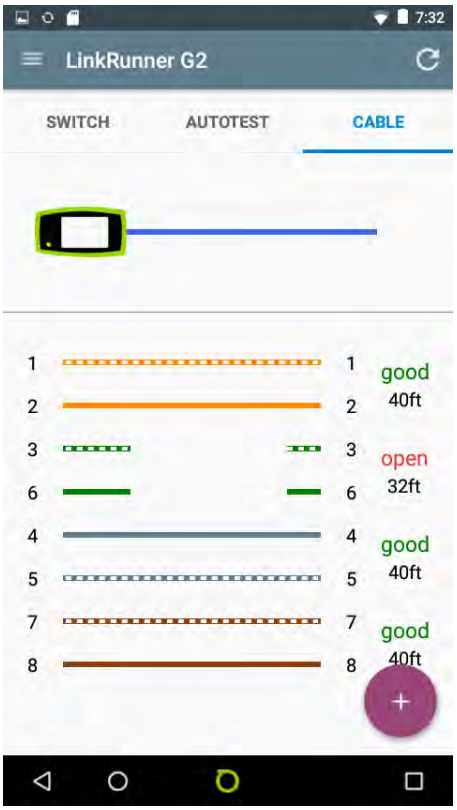
Link Speed/Duplex - verify link speed and duplex is configured as expected. If 1000BASE-T test is enabled and the link under test is not performing as expected, a yellow warning indication will be noted and the actual speed emphasized.

802.1X authentication - verify access to secure networks using 802.1X and MAC Access Control Lists (ACL). The included LinkRunner G2 Manager software configures 802.1X EAP type, downloads certificates and enters passwords.

IPv4/IPv6 ready - supports both IPv4 and IPv6 networks.

IP Address Validation - a key element to ensure network services are available for IoT connected devices is to verify they are able to obtain an IP address and access the network. Both DHCP and static IP configurations are supported; when using DHCP, the handshake timing and lease time is shown.

Key device and application availability -in addition to ping, which is sometimes blocked or disabled, the LinkRunner G2 can perform a TCP port open test to verify application connectivity to up to 10 user-defined targets using IPv4 and IPv6. Router, DNS and DHCP servers are reported. LinkRunner G2 provides the ability to perform a continuous ping, providing a quick and simple way to find intermittent connectivity issues.



Cable verification - validate patch cables and installed wiring for length, reversed and crossed pairs, as well as distance-to-fault for opens, shorts, and split pairs. Perform a patch cable test with the integrated loopback ports, simply plug each end of the patch cord into the two RJ-45 ports on LinkRunner G2 to see pin to pin connectivity. Cable toning, flash port and numbered WireView adapters (for cable identification and wiremap) are also supported.

Automated Results Documentation - use the encrypted and highly secure Link-Live results management database to manage an unlimited number of test results, testers claimed to the service and invited users. Easily view and manage results such as by job-specific folders, tags and organizations. Results can include more detailed information such as jack location, trouble ticket, photographs taken with the integrated camera, or data from a QR/barcode scan. Create professional reports customized with your logo and project-specific information. Know who on your staff is testing what, where and when.

Packet Reflector - The LinkRunner G2 packet reflector mode allows it to be used as a remote device during end-to-end network path performance tests to validate LAN and WAN throughput capabilities up to 1000BASE-T. The reflector mode can be configured to swap MAC and/or IP addresses.

LinkRunner G2 supports packet reflection for:

- OptiView® XG Network Analysis Tablet
- OneTouch™ AT Network Assistant

Designed for field use - 4-hour Li-ion battery life, recharge over PoE or with included AC adapter, rugged design.

Ordering Guide

Product Models	Description	
LR-G2	Includes LinkRunner G2 with Li-ion battery, Power supply with regional power plugs, Wireview Cable ID #1, Inline RJ-45 coupler, USB 2.0 to Micro USB cable, 8 G Micro SD card, Small Soft Case, Coupler, Getting Started Guide.	
LR-G2-KIT	Includes LinkRunner G2 with Li-ion battery, Power supply with regional power plugs, Car charger, Wireview Cable ID #1-#6, Inline RJ-45 coupler, USB 2.0 to Micro USB cable, 8 G Micro SD card, Holster, Accessories pouch, IntelliTone 200 Probe, Medium Soft Case.	 Intellitone Probe included but not pictured
LR-G2-LS-KIT	Includes LinkRunner G2 with Li-ion battery, Power supply with regional power plugs, Wireview Cable ID #1, Inline RJ-45 coupler, USB 2.0 to Micro USB cable, 8 G Micro SD card, Small Soft Case, Coupler, Getting Started Guide, (2) LinkSprinter, (2) LinkSprinter Holster.	
LR-G2-5PK	Includes 5 each of the following: LinkRunner G2 with Li-ion battery, Power supply with regional power plugs, Wireview Cable ID #1, Inline RJ-45 coupler, USB 2.0 to Micro USB cable, 8 G Micro SD card, Small Soft Case, Coupler, Getting Started Guide.	 Qty: 5
LR-G2-ACKG2-CBO	Includes LinkRunner G2 with Li-ion battery, (2) Power supplies with regional power plugs, Car charger, Wireview Cable ID #1-#6, Inline RJ-45 coupler, (2) USB 2.0 to Micro USB cable, 8 G Micro SD card, (2) Holsters, Accessories pouch, IntelliTone 200 Probe, Small, Medium, Large Soft Cases, AirCheck G2 Wireless Tester, Test Accessory, (2) Quick Start Guide, external directional antenna, automobile charger.	 Intellitone Probe included but not pictured

Accessories	
US-WIFI-BT-USB *	Edimax^2 n150 Wi-Fi & Bluetooth USB Adapter for US and Canada
EU-WIFI-BT-USB *	Edimax^2 n150 Wi-Fi & Bluetooth USB Adapter for Europe
LION-REPL-BA	Replacement battery for ACKG2 and LRG2
PWR-CHARGER	PWR-CHARGER, AC CHARGER REPLACEMENT
MS-AUTO-CHG	MS-AUTO-CHG, AUTO LIGHTER ADAPTER ACCESSORY
SFP-1000LX *	SFP-1000LX, LX GIG FIBER DDM SFP TRANSCEIVER
SFP-1000SX *	SFP-1000SX, SX GIG FIBER DDM SFP TRANSCEIVER
SFP-1000ZX *	SFP-1000ZX, ZX GIG FIBER DDM SFP TRANSCEIVER
SFP-100FX *	SFP-100FX, 100BASE-FX FIBER DDM SFP TRANSCEIVER
WIREVIEW 1	WIREVIEW 1, WIREVIEW WIREMAPPER #1
WIREVIEW 2-6 *	WIREVIEW 2-6, WIREVIEW CABLE ID SET 2 THRU 6
G2-HOLSTER *	Protective Carrying Holster with Shoulder Strap for ACKG2 and LRG2
SM SOFT CASE	SMALL SOFT CASE
MD SOFT CASE	MEDIUM SOFT CASE
LG SOFT CASE	LARGE SOFT CASE

* Recommended

Gold Support		
LR-G2	LR-G2-1YS	1 year Gold Support for the LR-G2
LR-G2-5PK	LR-G2-3YS	3 year Gold Support for the LR-G2
LR-G2-ACKG2-CBO	LR-G2-1YS	1 year Gold Support for the LR-G2
	LR-G2-3YS	3 year Gold Support for the LR-G2
	AIRCHECK-G2-1YS	1 year Gold Support for the AirCheck-G2
	AIRCHECK-G2-3YS	3 year Gold Support for the AirCheck-G2
LR-G2-KIT	LR-G2-KIT-1YS	1 year Gold Support for the LR-G2-KIT
	LR-G2-KIT-3YS	3 year Gold Support for the LR-G2-KIT
LR-G2-LS-KIT	LR-G2-LS-KIT-1YS	1 year Gold Support for the LR-G2 and LinkSprinter Kit
	LR-G2-LS-KIT-3YS	3 year Gold Support for the LR-G2 and LinkSprinter Kit

Technical Specifications

Dimensions	3.8in x 7.7in x 1.6in (9.7cm x 19.6cm x 4.1cm)
Weight	18oz (0.51kg)
Battery	Rechargeable lithium-ion battery pack (3.6V, 6Ah, 21Wh)
Battery Life	Typical operating life is 4 hours. Typical charge time is 7 hours.
Display	5.0 in color LCD with capacitive touch screen (480 x 800 pixels)
Keypad	1-key elastometric (power only)
Host Interface	Micro USB On-the-Go port
USB Port	USB 2.0 Type A port
SD Card Slot	Supports Micro SD
Cable Test	Pair length, crossed, reversed and distance to open, short, split.
Tone Generator	Digital tone: [455 KHz]; Analog tones: [400 Hz, 1KHz]
Ports	RJ-45 copper port 10/100/1000BASE-T. 100/1000BASE-X. Fiber adapter port. Fiber port supports standard SFP.
External AC Adapter/Charger	AC input 90-264 Vac 48-62 Hz input power DC output 15 Vdc at 2 amps or RJ-45 via PoE
LEDs	2 LEDs (transmit and link indicators)

Environmental Specifications

Operating Temperature	32°F to 113°F (0°C to +45°C) NOTE: The battery will not charge if the internal temperature of the tester is above 122°F (50°C).
Operating Relative Humidity (% RH without condensation)	90% (50°F to 95°F; 10°C to 35°C) 75% (95°F to 113°F; 35°C to 45°C)
Shock and Vibrations	1 m drop test, Random, 3.8 grms, 5 Hz-500 Hz (Class 2)
Safety	IEC 61010-1:2010: Pollution degree 2
Altitude	4,000m; Storage: 12,000m
EMC	IEC 61326-1:2013: Basic Electromagnetic Environment; CISPR 11: Group 1, Class A

Group 1: Equipment has intentionally generated and/or uses conductively-coupled radio frequency energy that is necessary for the internal function of the equipment itself.

Class A: Equipment is suitable for use in all establishments other than domestic and those directly connected to a low-voltage power supply network that supplies buildings used for domestic purposes. There may be potential difficulties in ensuring electromagnetic compatibility in other environments due to conducted and radiated disturbances.

Certification and Compliance Standards

	Conforms to relevant European Union Directives.
CE	Conforms to relevant Australian Safety and EMC standards.
FC	Complies with 47 CFR Part 15 requirements of the U.S. Federal Communications Commission.
UL LISTED	Certified by UL North America Safety Standards.
KC	Conforms to relevant South Korean EMC Standards.

Additional South Korean EMC Standards Information.

Electromagnetic Compatibility. Applies to use in Korea only. Class A Equipment (Industrial Broadcasting & Communications Equipment) [1]

[1] This product meets requirements for industrial (Class A) electromagnetic wave equipment and the seller or user should take notice of it. This [equipment is intended for use in business environments and is not to be used in homes.

Learn More

Learn
Learn about the key features of LinkRunner G2 in-depth.
www.enterprise.netscout.com/linkrunnerG2
Select "FEATURES" from the top navigation bar

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Train
Become and expert, take a training class
http://enterprise.netscout.com/content/handheld-network-tools-training

[1] Android is a trademark of Google Inc.

[2] Wi-Fi and Bluetooth require the optional Edimax combination adapter. Edimax is a registered trademark of Edimax Technologies, Inc.