NETSCOUT

DATASHEET

OneTouch AT G2 And 10G Network Assistant

Reduce network troubleshooting time

More than 70% of IT organizations lack standardized processes to validate deployment and solve problems. This results in more than 1 hour (average) to resolve problems. In addition, 40% of IT tickets are not solved the first time and require escalation. Intermittent problems can take twice as long to resolve.

By automating and standardizing the validation and troubleshooting process, the OneTouch™ AT Network Assistant empowers novice network technicians to validate performance easily, solve more problems faster, and escalate issues more efficiently—allowing more IT projects to be completed on time.

Empower IT professional teams to effectively validate, and troubleshoot Ethernet and Wi-Fi access networks

- **All-in-one:** a handheld tester combining infrastructure, network service and end-to-end path performance measurement in one tool.
- **Versatile:** The OneTouch AT has a modular design: select the G2 module that has dual 10/100/1G copper/fiber Ethernet test ports and 802.11a/b/g/n/ac Wi-Fi radio, or the 10G module that has 100M/1/10G copper and fiber Ethernet test ports.

- **Standardize:** Network engineers can pre-program AutoTest profiles for field technicians to choose that automatically run a suite of tests with the press of a button, enabling identification of the most common problems in about a minute.
- **Authoritative:** Measure end-to-end path performance prior and after the deployment of new services or network infrastructure to assess network readiness and post deployment to prove SLA compliance.
- **Visibility:** Switched Ethernet as well as Wi-Fi discovery and analysis provides visibility and documentation into connected devices, key device properties and problems.
- **Collaborative:** Engineers can take full remote-control of the OneTouch AT to collaborate with on-site technicians and speed isolation of issues.
- **VoIP ready:** The G2 module troubleshoots desktop SIP/SCCP-based VoIP problems in real-time with inline call monitoring, logging and scoring.
- **Capture friendly:** Wired or Wi-Fi packet capture streamlines collaboration and escalation of the most complex issues. Capturing wireline traffic using the G2 module's inline capture features avoids the need for SPAN port or TAP.
- **Centralized Management:** The Link-Live Cloud Service is a portal that offers visibility into all test results and project progress from any NETSCOUT handheld network test tool (LinkSprinter, LinkRunner AT, LinkRunner G2, AirCheck G2 and OneTouch AT), when the tester is dispatched for troubleshooting or validating network installation.

OneTouch AT features

Versatile copper, fiber and Wi-Fi troubleshooting

Be ready for a broad range of troubleshooting scenarios with the handheld OneTouch AT G2 Network Assistant. The tester incorporates dual copper and fiber-optic test ports to facilitate troubleshooting of 10/100/1000 Mbps twisted pair and 100/1000 Mbps fiber ethernet networks. The dual ports simplifies inline packet capture and VoIP monitoring by eliminating the need for mirror ports or taps. For troubleshooting Wi-Fi networks, the OneTouch AT G2 tester incorporates an 802.11ac dual-band Wi-Fi radio with a 3x3 antenna. When connected to both wired and Wi-Fi networks the tester displays test results side-by-side on a single page to aid in problem domain isolation.

The OneTouch AT Network Assistant has a modular design. The 10G module is available for testing wired 100 Mbps to 10 Gbps ethernet switch port and link performance at up to 10 Gbps rate.

All-in-one testing from the patch cable & Wi-Fi to the cloud

When validating and troubleshooting the access network, one needs to test from where the client device is connected to the network—where the device could be a PC, tablet, smart phone, IP phone, printer, POS terminal, industrial equipment controller, medical imager etc. The OneTouch AT can prove that the network is good—by emulating the client device and measuring network performance. It measures, analyzes and documents the performance of each the critical network elements: the network cabling, the delivery of Power over Ethernet (PoE), the connection to the nearest switch, the connection to the nearest access point (AP), and the performance of key network services and server-based applications in the intranet, cloud or internet.

Standardized network validation and troubleshooting

Use the intuitive touch interface and the Setup Wizard to create test profiles, where a profile is a set of tests tailored to specific networks, services, and applications. Build profiles to accommodate different types of users, devices, locations or technologies. Profiles can be very simple with just a few tests or advanced with dozens of tests. Once created, profiles can be saved for quick and easy reuse. Create a library of standardized profiles to elevate the troubleshooting know-how of the entire network support staff. Share profiles with other OneTouch AT users. Use the profiles to establish best practices for consistent, faster, more productive troubleshooting and network acceptance testing.

Automated suite of tests with pass/fail analysis

Test everything defined in a profile automatically with the one-button AutoTest. The AutoTest progresses from the physical layer of the network through the wired and wireless infrastructure, to network services and user-defined applications. Clear pass/fail and warning indicators highlight potential problems. A top-level pass/fail indicator provides the overall AutoTest status at a glance. Some security measures can be validated with the AutoTest pass/ fail indicator by configuring it to test the access of secured resources, servers or applications. This will be useful in validating the network configuration for "Guests" vs "Associates Only" SSID.

Figure 1: The AutoTest provides a comprehensive measurement of network performance from the end user point-of-view, from cable, to services and applications (Test result from OneTouch AT with G2 Modules for both Wired and Wi-Fi network shown).

User-Defined Performance Tests

Connectivity and response time test to application/servers, and performance test to end-point(s) in all three network layers: the local broadcast domain, the private intranet and the public cloud (internet).

Client Network Analysis

Cable and nearest switch test, Wi-Fi network accessibility test, Wired and Wi-Fi access network/device discovery & network service tests: DHCP & DNS & 802.1x

Centralized cloud-based management

Organizations can claim their OneTouch AT units to the Link-Live Cloud Service. Claimed units will be visible from Link-Live as long as they are connected to the internet. They can be remotely managed when and where it is convenient using a smart device through its web browser. Users can upload, view and analyze test results, download latest software and test profiles, and control their OneTouch AT remotely.

Centralized results and report management

The Link-Live Cloud Service supports storing and viewing of test results from many NETSCOUT handheld network test products, such as LinkSprinter, LinkRunner AT, LinkRunner G2, and AirCheck G2. A user can automatically receive an email after each test. The operator of the OneTouch can enter comments, such as test location, and/or upload picture(s) of the test environment by replying to the email results they receive. Test results can serve as a documentation that shows how network drops or wall plates correlate to switch ports and network baseline for connectivity and performance. Multiple parties can access Link-Live over the web at anytime from anywhere using a smart device or PC via a web browser.

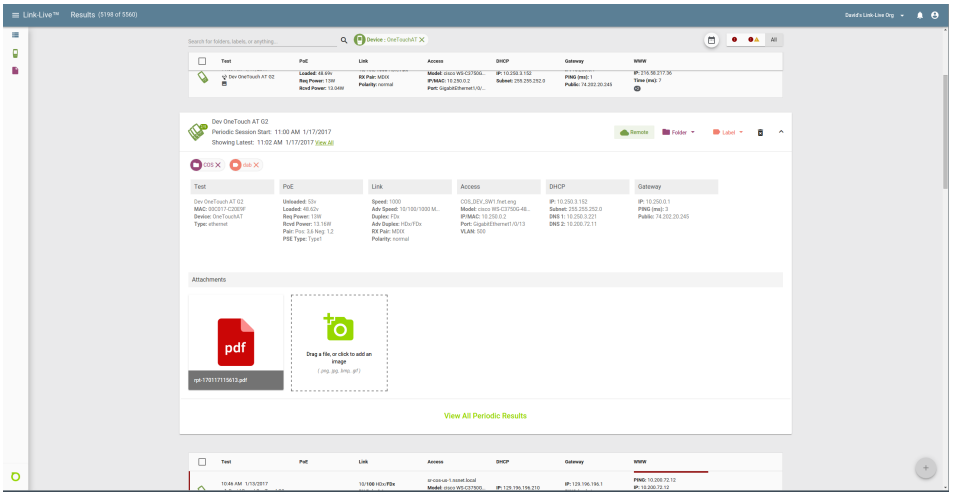

Figure 2: Link-Live consolidates test results from OneTouch AT.

Remote visibility, control and file access

Use the built-in RJ-45 management port or optional USB Wi-Fi adapter to remotely control the OneTouch AT and access saved files. Any action that can be performed directly on the OneTouch AT using the touch screen can be performed remotely using a PC, laptop, smart phone or tablet. This will minimize the time, expense and inconvenience of traveling to the client location where the problem was reported. Webcam support enables live, remote viewing of the physical environment near the tester. Remote-control of units via the Link-Live Cloud Service also allows traversal of NAT devices, which is very advantageous when troubleshooting from outside the office.

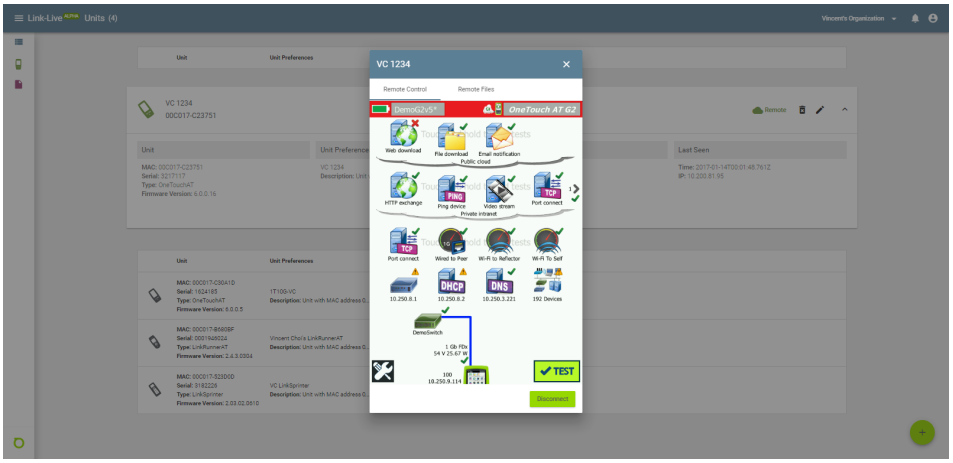

Figure 3A: Remotely control the OneTouch AT and access saved results using a Laptop, or tablet.

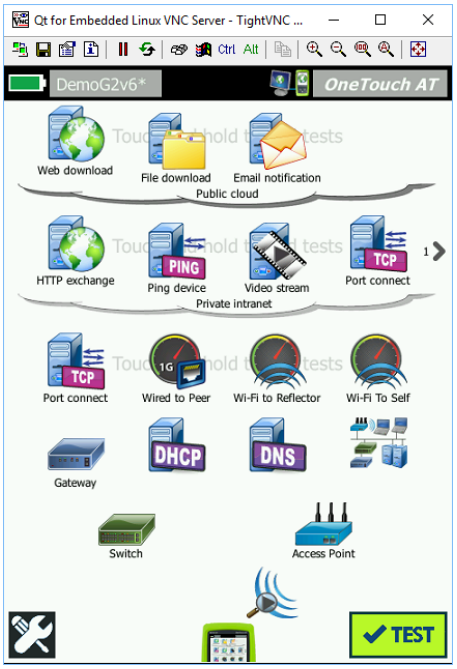

Figure 3B: Remotely control the OneTouch AT through VNC client (TightVNC Viewer shown).

Test Features

Copper and fiber-optic cable testing (Supported with OneTouch AT G2 module)

Troubleshoot cable performance quickly by measuring twisted pair cable wiremap and length. Use cable identifiers and tone probe to locate and identify cables. Measure the optical power received through fiber-optic links. Verify the cleanliness of fiber-optic connections by viewing connector end faces with the optional USB video probe.

PoE testing (Supported with OneTouch AT G2 Module)

Verify the successful delivery of PoE with the TruePower™ load test. Emulate an 802.3at (PoE+) class 1-4 powered device and measure power up to 25.5 watts. See the requested and received PoE class, the pairs used, the PSE type, measured PoE voltage unloaded and under load, and PoE power under load.

Wi-Fi and wired client devices connectivity testing

Understand how a client device connects to the wired infrastructure by testing link negotiation, identifying the nearest switch, and monitoring key switch port statistics. The OneTouch AT with G2 module tests IEEE 802.11a, .11b, .11g, .11n and .11ac Wi-Fi networks. It shows how a client device connects to the Wi-Fi infrastructure by testing the link between the client and the nearest access point, identifying the AP name, channel and security type, observing the authentication and association process, and monitoring key AP and network statistics, including roaming details by the AP. For wired clients, the OneTouch AT with G2 module tests 10/100/1000BASE-T twisted pair and 100BASE-FX/1000BASE-X fiber-optic ethernet networks, while the OneTouch AT with 10G Module test RJ-45 test port for 100/1000/10GBASE-T and 1000 BASE-X SFP/10GBASE-SR/LR SFP+ ethernet over optical fiber network.

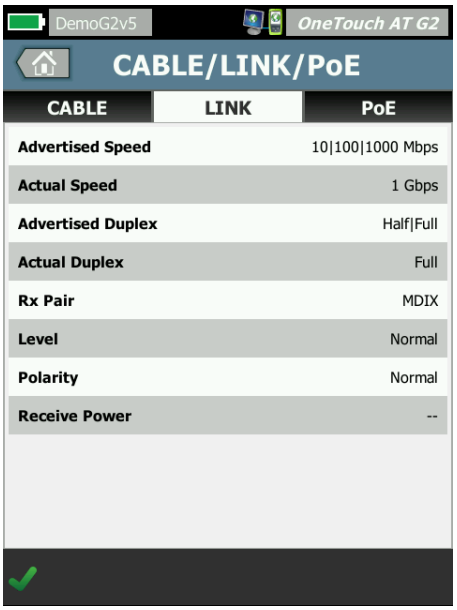

Figure 4: Test link speed over twisted pair and fiber-optic links at rates up to 1 Gbps and measure PoE voltage with the G2 Module.

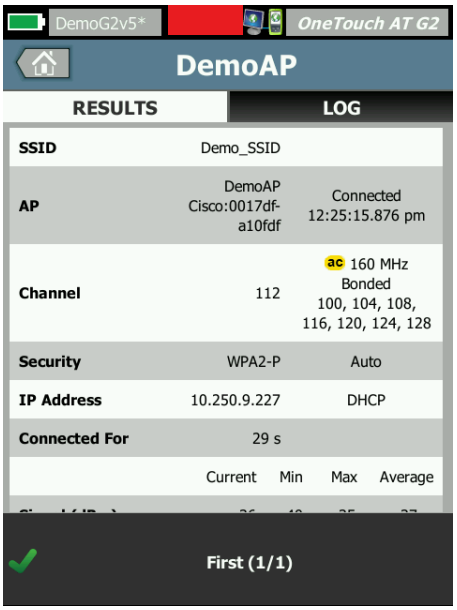

Figure 5: Test a Wi-Fi connection at up to 802.11ac rates and verify channel width, signal and noise level.

Network services testing

Test DHCP server responsiveness. Identify the wired and Wi-Fi DHCP servers and view the offer and acceptance timing and the lease information. Test DNS server responsiveness. Identify the wired and Wi-Fi DNS servers and view the DNS lookup time. Also, determine if a second DHCP address is being offered. If unexpected or is a potential rogue server, use the path analysis tool—a layer 2 and layer 3 trace route—to track down the device to mitigate a problem situation.

Figure 6: Detailed breakdown of DHCP provisioning and response performance.

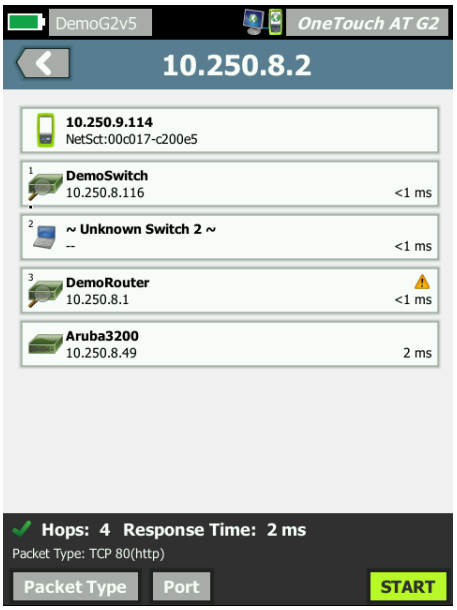

Figure 7: Path Analysis showing the path through switches from OneTouch AT to a client.

Network application testing

Determine if a server-based application is the root cause of a reported problem by measuring availability and response metrics. Add to the AutoTest profile the performance test appropriate for the application: ping (ICMP), connect (TCP), web (HTTP), file (FTP), multicast (IGMP), video (RTSP) or email (SMTP). Each test is graphically represented on the OneTouch AT home page as an icon. After running the AutoTest, touch a test icon on the home page to get a detailed breakdown of application performance including DNS lookup time, server-response time and data rate. The test results are presented side-by-side for easy wired/Wi-Fi and IPv4/IPv6 performance comparisons. A few examples: ping your WLAN controller, connect to port 2000 on your VoIP call manager, download a page of an application with a web interface, upload or download a file from a server, subscribe to a multicast group, access video content from an on-demand streaming video server or email a text message to your mobile phone.

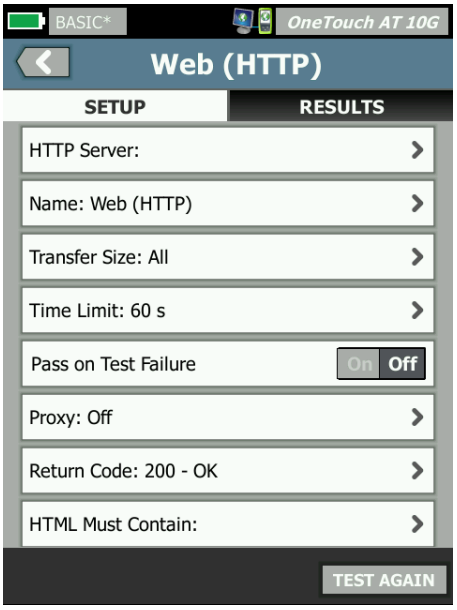

Figure 8: Connectivity and response test against the web server can include verification of respond code and text.

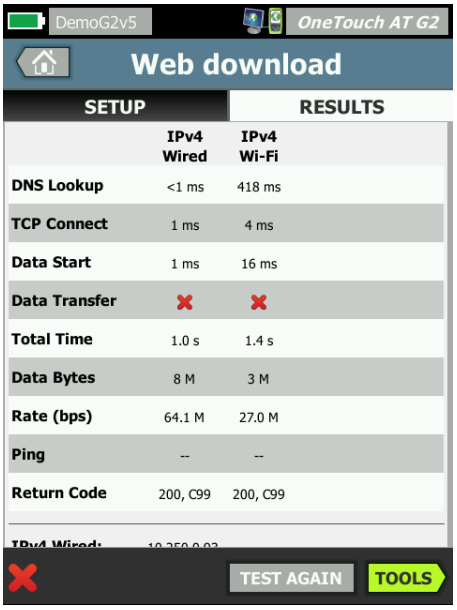

Figure 9: Detailed breakdown of network-hosted application performance including return code of web transaction. This level of detail allows quick isolation of issues when tests fail.

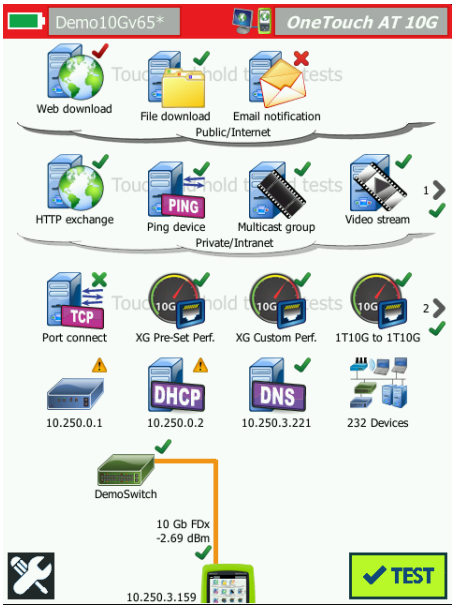

Figure 10: Group tests by target location – local, intranet, internet. (OneTouch AT 10G Test result shown).

Local, intranet and internet performance

Understand the performance of network services and server-based applications wherever they are hosted: locally in the datacenter, on a corporate intranet server or on a server reached via the public internet. Create location-centric AutoTest profiles by grouping together co-located services and applications. Measure service levels for different groups to quickly spot problems.

Enterprise network managers use the Wired Performance tests for:

- Assessing network performance prior to deployment of new services or network infrastructure
- Validating the performance of newly installed network infrastructure and critical network links within the LAN or data center
- Troubleshooting network and service performance problems
- Verifying independently that service providers are meeting agreed upon service levels (SLAs) and maintaining QoS (Quality of Service) end-to-end

Service providers and system integrators use the Wired Performance tests for:

- Documenting network performance from layer 1 to 7 where the documentation serves as proof that the services they provided were delivered successfully
- Providing value-added service to their enterprise customers in the form of network assessments and troubleshooting

1G and Wi-Fi End-to-end path performance measurement

Ensure that newly installed or upgraded wired and Wi-Fi networks meet SLA objectives and are ready for new high-bandwidth applications by measuring end-to-end path performance. Measure throughput, frame loss, latency and jitter between a local OneTouch AT G2 connected to Wi-Fi or wired client network, and a remote OneTouch AT peer, a remote LinkRunner reflector or a NPT reflector software agent installed on a window based PC connected to the end of the path to test. A remote peer provides upstream and downstream results while a remote reflector yields round trip results. Measure performance at rates up to 1 Gbps on copper and fiber networks and 600 Mbps on Wi-Fi networks. A special use model exists that enables testing from the OneTouch AT G2 wired interface to the Wi-Fi interface on the same instrument for testing without a remote. To validate support for a client's application at a remote site, the NPT Reflector Software can be downloaded to the client's Windows-based PC from the OneTouch AT G2/10G with a Web Browser. This will save you time and costs from having to dispatch any equipment or employees.

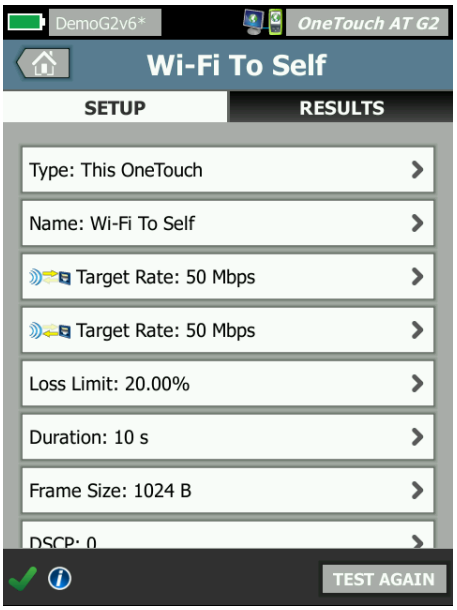

Figure 11: Simple setup to verify Wi-Fi or Wired Ethernet throughput against an endpoint on the wired network.

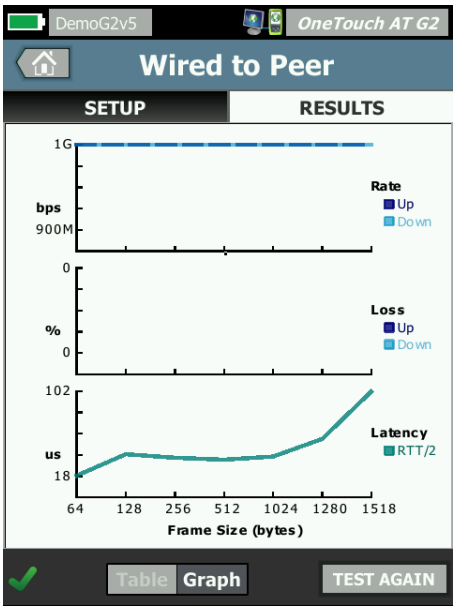

Figure 12: End-to-end path performance measurement validates link readiness and SLA compliance.

Figure 13: OneTouch web server for remote file retrieval and/or download the NPT Reflector software.

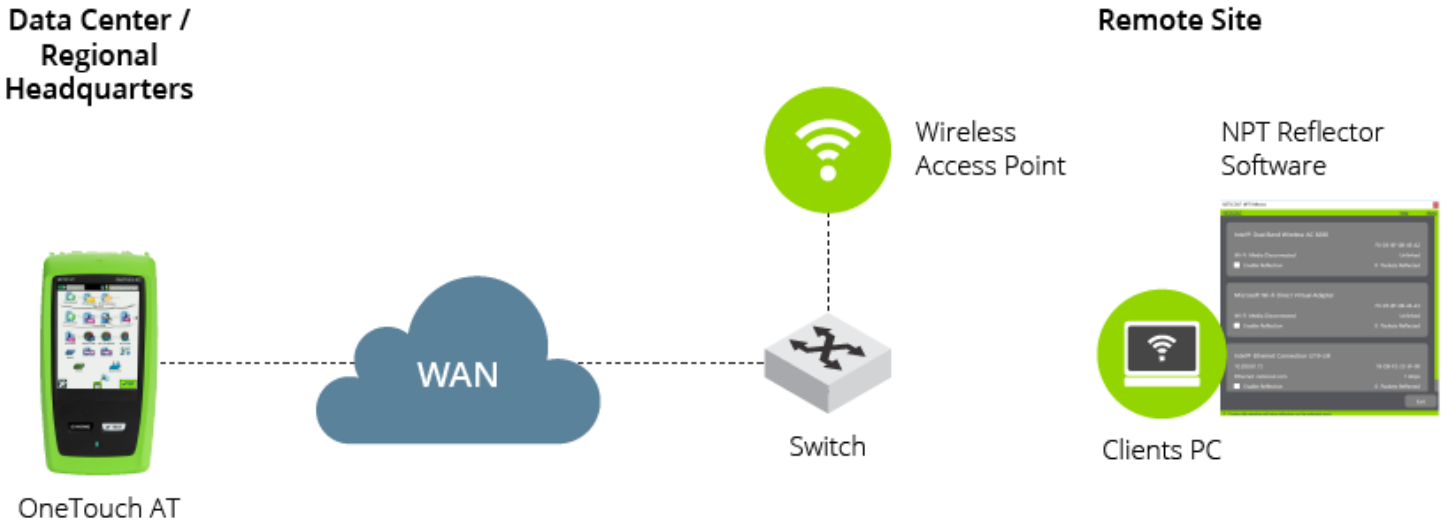

Figure 14: The NPT Reflector can be downloaded directly from OneTouch G2 or 10G to a Windows PC at a remote site to validate network performance.

The OneTouch AT with G2 module will be located at one end. There are options for the test instrument to be located at the other end of the link. The OneTouch AT with G2 module also support loop back testing to itself from its wire to its Wi-Fi interface.

Figure 15: NPT Tests through its Wired or Wi-Fi test port against several types of remote end-points.

	Remote Tester (End-Point)		
OneTouch AT G2 as Controller	**LinkRunner AT 2000 / LinkRunner G2**	**NPT Reflector**	**OneTouch AT G2 or 10G**
Remote on Wi-Fi	✓	✓	✓
Remote on Wired	✓	✓	✓
Maximum Throughput with controller on Wi-Fi	600 Mbps	600 Mbps*	600 Mbps
Maximum Throughput with controller on Wired	1 Gbps	1 Gbps*	1 Gbps
Round trip test	✓	✓	
Bi-directional test			✓
Throughput, frame loss, latency, and jitter	✓	✓	✓

* Depends on the availability and performance of the Network Interface of the Windows PC.

10G End-to-end path performance measurement

The OneTouch AT with 10G module features 10G and 1G Wired Performance tests for validating and troubleshooting end-to-end network path performance. These Wired Performance tests facilitate measurement of throughput, frame loss, latency and jitter across wide area networks, local area networks as well as within sites and datacenters.

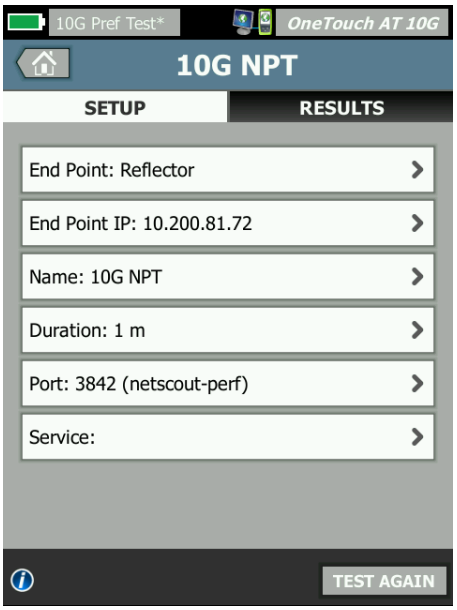

Figure 16: 10G NPT tests up to 10G against reflector, peer or OptiView XG over a user defined UDP port.

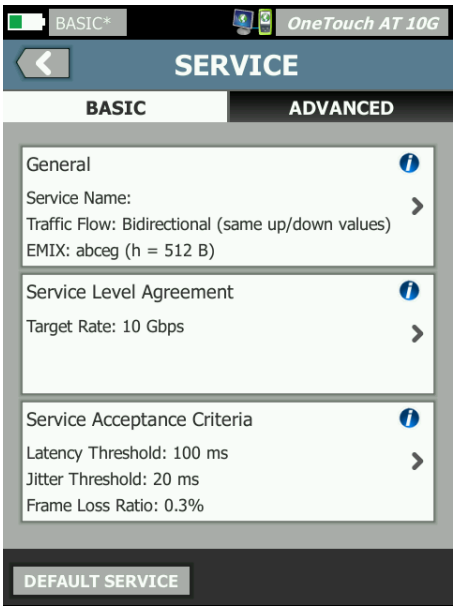

Figure 17: 10G NPT test threshold for frame loss rate, jitter and latency using up to 9300 bytes user defined frame size.

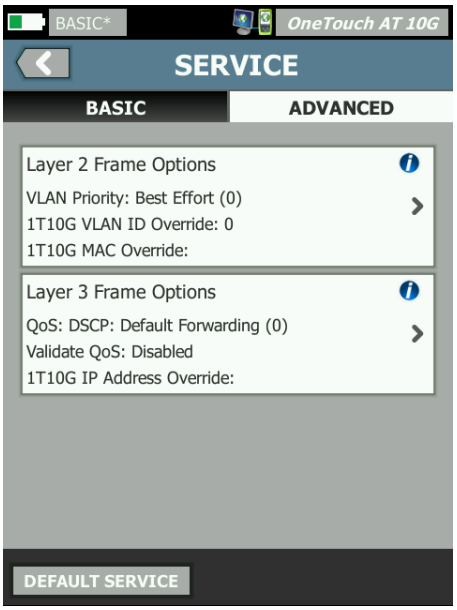

Figure 18: 10G NPT tests allows users to override VLAN, MAC, IP address and the class of service.

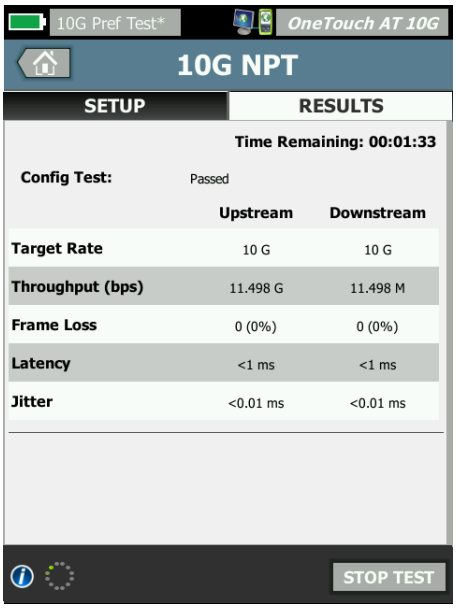

Figure 19: Detailed test results of upstream and downstream against a peer.

The OneTouch AT with 10G module will be located at one end. There are options for a remote end-point to be deployed at the other end of the link.

Figure 20: OneTouch AT G2 can perform Network Performance Tests against several types of remote end-points. (10Gbps throughput can only be achieved with OneTouch AT 10G or OptiView XG).

	Remote Tester (End-Point)				
OneTouch AT 10G as Controller	**LinkRunner AT 2000 / LinkRunner G2**	**NPT Reflector**	**OneTouch AT G2**	**OneTouch AT 10G**	**OptiView XG**
Maximum Throughput	1 Gbps	<10 Gbps*	1 Gbps	10 Gbps	10 Gbps
Maximum number of test streams	1	1	1	1	4
IETF RFC2544 test method	✓	✓	✓	✓	
ITU Y.1564 test method	✓	✓		✓	✓
Bi-directional test			✓	✓	✓
Round Trip test	✓	✓			
Throughput, frame loss, latency and jitter	✓	✓	✓	✓	✓

* Depends on the availability and performance of the Network Interface on the Windows PC.

iPerf Application Performance Validation Test

The iPerf test is a popular open-source application for network performance assessment and tuning. Contrary to RFC-2544 and Y.1564 that support only UDP flows for a maximum network performance assessment, iPerf is typically used to assess throughput performance of TCP streams on a loaded network. OneTouch can perform an iPerf test over TCP or UDP against the NETSCOUT Test Accessory that has an iPerf v3.x server embedded. The IP address of Test Accessories claimed on Link-Live is shown on the OneTouch and can easily be selected for quick deployment and an easy setup for end to end iPerf testing. The OneTouch offers a menu for setup instead of a command line. For the TCP test stream, users can adjust the TCP window size and specify the threshold for targeted up/down stream throughput rate. For UDP test streams, users can define the threshold for throughput, packet loss rate, and jitter for up/down stream.

Figure 21: Setup for TCP Window Size and Threshold.

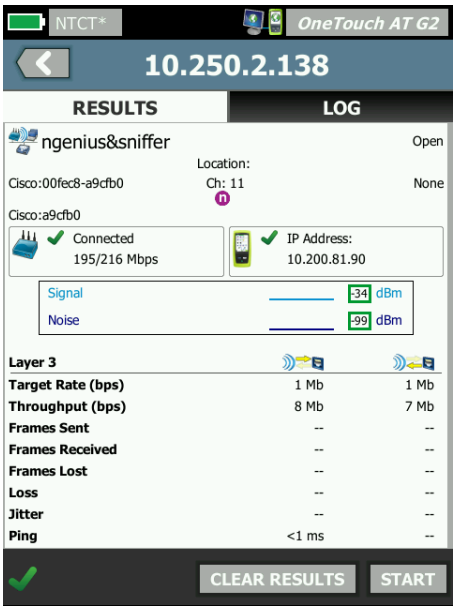

Figure 22: IP address of Test Accessories can be manually entered or download from Link-Live for easy selection.

Wired network discovery and analysis

Automatically discover copper and fiber-connected devices. Select from up to 14 different sorts to obtain different views into the wired network. For example, sort by the IPv4 or IPv6 address to identify used and available addresses. Or sort by switch name/slot/port to understand where on the network devices are connected. Sort by discovered problems to quickly identify potential issues. Additional discovery-assisted analysis tools aid with troubleshooting and profile creation. For example, the Multiport Statistics tool provides visibility into switch, router and AP port statistics including speed, duplex, slot, port, VLANs, host count, utilization, discards and errors. The Devices on Port tool provides visibility into the devices sorting criteria connected to an individual switch port. The Path Analysis tool provides a layer 2 and 3 trace route from the OneTouch AT to a target device including time to each hop and SNMP switch and router port statistics.

Wi-Fi network discovery and analysis (supported by OneTouch AT G2 Module)

Automatically discover Wi-Fi devices and key device properties. Select from up to 12 context-relative sorts to obtain different views into the wireless network. For example, sort by signal strength to troubleshoot Wi-Fi coverage issues. Sort by MAC manufacturer to discover Wi-Fi devices by type and to understand how they are connected relative to SSID, AP and channel. Sort by channel to identify channel spacing and usage problems. Sort by authorization status to find potential security violations. Additional discovery-assisted analysis tools aid with troubleshooting and security enforcement. If a Wi-Fi device is also discovered via Wired Analysis, the Cross Link feature enables one-button toggling between wired and Wi-Fi analysis views.

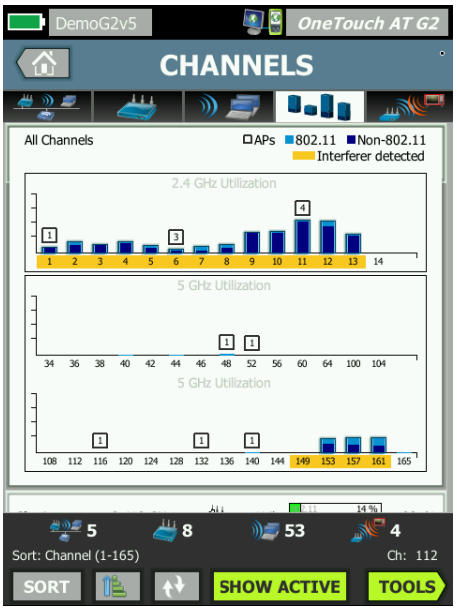

Figure 23: Analyze Wi-Fi health by each available channel.

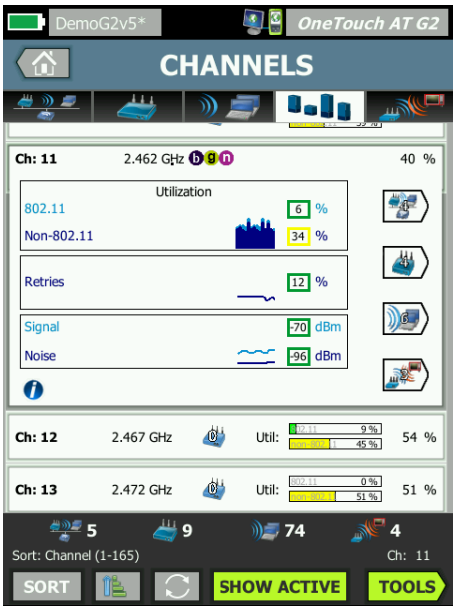

Figure 24: Visibility into each Wi-Fi channel, showing bandwidth occupied by 802.11 and non-802.11 traffic.

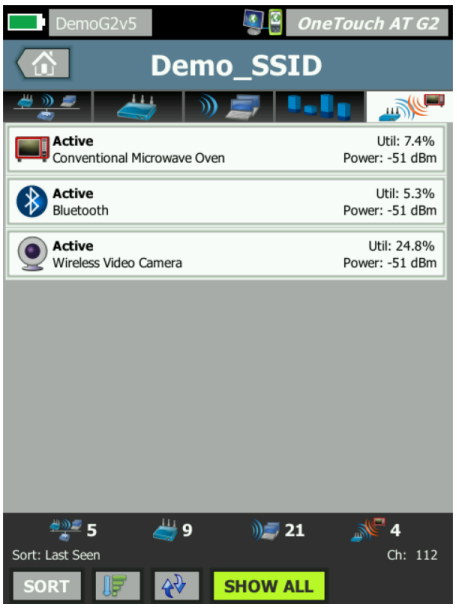

Figure 25: Unique Interferer analysis classifies sources of non-802.11.

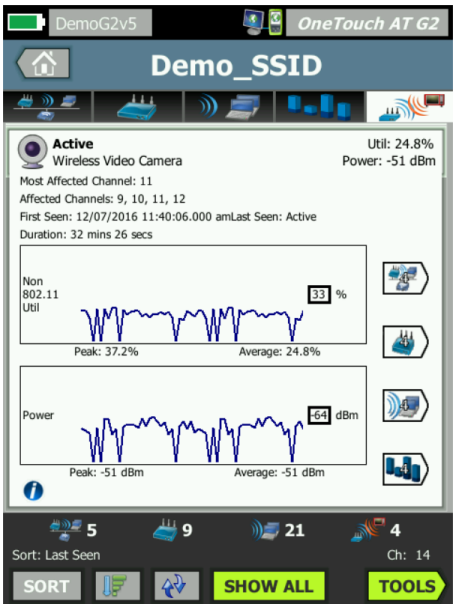

Figure 26: Detailed information about a specific interference source.

Inline VoIP analysis (Supported by OneTouch AT G2 Module only)

Connect the OneTouch AT inline between an IP phone and the network for real-time troubleshooting and analysis. The VoIP analysis test reveals issues related to PoE, DHCP, TFTP, SIP, and SCCP. The test provides visibility into unencrypted SIP and SCCP traffic to debug VoIP phone problems and quantify the quality of a VoIP call. Simultaneous capture of the VoIP conversation is optional.

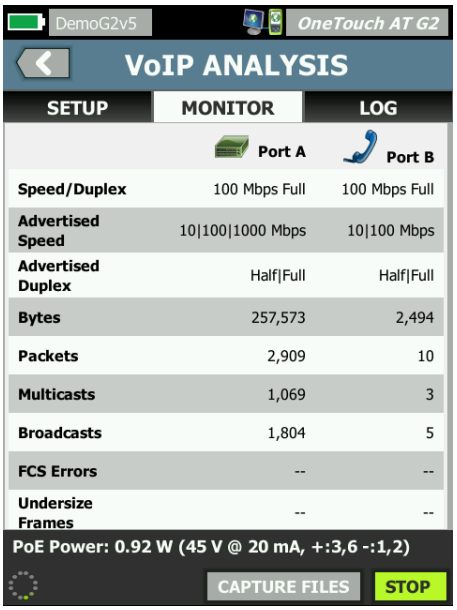

Figure 27: Inline VoIP analysis simplifies troubleshooting of desktop VoIP problems in real-time without TAPs or switch mirror ports.

Figure 28: VoIP Analysis shows the entire call setup process as well as quality of the VoIP call in each direction.

Packet capture

Capture wired and AutoTest traffic when a packet-level view is required to solve a complex network or application issue. Filter the traffic to capture what is most important. Export the capture file to a PC for decoding and analysis using protocol analysis software. Capture wired traffic on a single port, on two ports aggregated, or inline between a client device and the network. Inline capture avoids the complexity, time and cost associated with standalone taps or configuring switch mirror ports. The OneTouch AT with G2 module can capture VoIP traffic, and Wi-Fi traffic by channel and mode (20 MHz or 40+ MHz).

Figure 29: Inline packet capture simplifies documentation of client application problems without TAPs or SPAN ports.

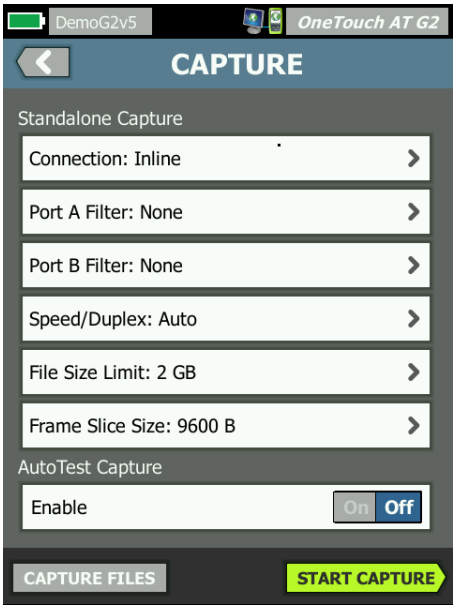

Figure 30: Capture packets to solve complex issues.

Streamline collaboration

Collaborate with peers, consultants, integrators and vendors more effectively by sharing packet captures, screen shots and AutoTest reports. Remotely control and view the user interface and remotely access files using a PC, laptop, tablet or smart phone. Attach a web cam to the OneTouch AT to share a view of the test environment.

Save test results

Save the test results to share with colleagues or outside parties. A report serves as trouble ticket documentation, as a record of historical performance for benchmarking or as a certification report after new infrastructure deployment and activation. Define which test results to include in the report (AutoTest, Wired Analysis, Wi-Fi Analysis, Tools Settings, and VoIP Analysis) and the report format (PDF, XML). Open the results in a spreadsheet for flexibility in results analysis.

Setup wizard

Simplify AutoTest profile creation while learning about the tester's capabilities by running the Setup Wizard. The wizard simplifies profile creation with step-by-step guided instructions, yes/no prompts, on-screen help and graphical progress indicators. Experienced users can bypass the wizard if desired.

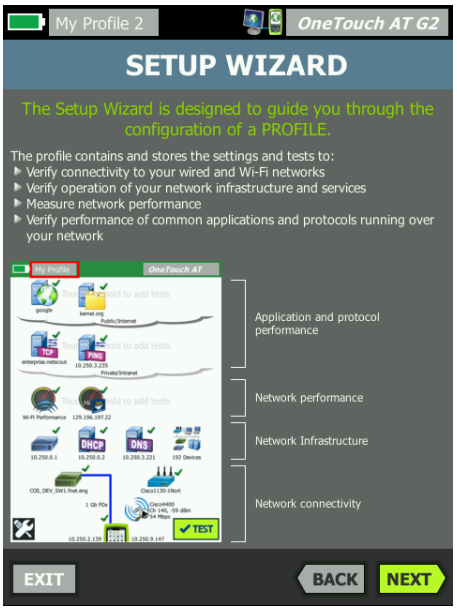

Figure 31: Setup Wizard simplifies creation of AutoTest profiles.

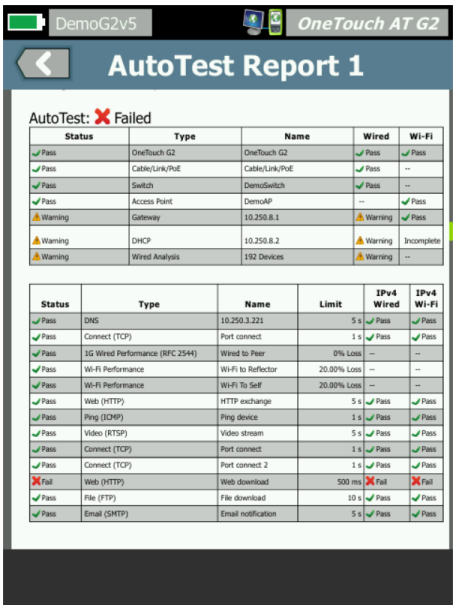

Figure 32: Detailed breakdown of the PDF report on network service performance which can be viewed on the unit itself or uploaded to Link-Live.

Purpose-built for use by field team

The OneTouch AT is engineered specifically for network support professionals on the go. Useful test and management tools include a web browser, Telnet/SSH client, 3rd party cable toner, webcam support or fiber-optic connector inspection camera. Remote-control over web-browsers enable collaboration between field team and skilled engineering resources in back-office. The durable platform provides years of reliable operation in tough environments.

Gold Support

Protect your investment with Gold Support. Gold Support benefits include free software upgrades and MIB updates, unlimited priority repair service with loaner units available, annual factory performance verification, free accessory replacement, and 24x7 technical support with priority members-only access numbers.

Technical Specifications

GENERAL

Dimensions (with module and battery installed)	10.3 in x 5.3 in x 2.9 in (26.2 cm x 13.5 cm x 7.3 cm)
Weight (with module and battery installed)	3.5 lb (1.6 kg)
Display	5.7 in (14.5 cm) LCD with projected capacitance touch screen, 480 x 640 pixels
AC adapter	Input: 100-240 VAC, 50-60 Hz, 1.0 A Output: +15 VDC, 2.0 A
Battery type	Lithium ion battery pack, 7.2 V
Battery life	Approximately 3-4 hours depending on type of usage, 4 hours to charge from 10% capacity to 90% capacity with the unit powered off
Memory	Internal: 2 GB shared between system and user files SD card: 8 GB, brand and model selected for optimal performance USB 2.0 type A port: for use with USB mass storage devices
Management port	One RJ-45 10/100BASE-T Ethernet One USB 802.11 (requires optional adapter)

G2 MODULE NETWORK INTERFACES

Network analysis ports	Two RJ-45 10/100/1000BASE-T Ethernet Two SFP 100BASE-FX/1000BASE-X Ethernet
Wi-Fi adapter data rate	802.11a: 6/9/12/24/36/48/54 Mbps 802.11b: 1/2/5.5/11 Mbps 802.11g: 6/9/12/24/36/48/54 Mbps 802.11n (20 MHz): MCS0-23, up to 216 Mbps 802.11n (40 MHz): MCS0-23, up to 450 Mbps 802.11ac (80 MHz): MCS0NSS1-MCS9NSS3, up to 1.3 Gbps
Wi-Fi adapter operating frequency	2.412 ~ 2.484 GHz (Industrial Scientific Medical Band) 5.170 ~ 5.825 GHz
Wi-Fi security	64/128-Bit WEP Key, WPA/WPA2 personal, WPA/WPA2 enterprise, 802.1X

10G MODULE NETWORK INTERFACES

Network analysis ports	100/1000/10 G BASE-T RJ-45 Ethernet over twisted pair 1000 BASE-X SFP/10 G BASE-SR/LR SFP+ Ethernet over optical fiber
Supported network standards	IEEE 100BASE-T IEEE 1000BASE-T IEEE 10GBASE-T IEEE 1000BASE-X IEEE 10GBASE-SR IEEE 10GBASE-LR
RFCs and standard MIBs used	1213, 1231, 1239, 1285, 1493, 1512, 1513, 1643, 1757 1759, 2021, 2108, 2115, 2127, 2233, 2495, 2515, 2558 2618, 2737, 2790, 2819, 3592, 3895, 3896, 4188, 4502

Note: The OneTouch AT analyzer is NOT designed for connection to a telephone network, ISDN line. Do not connect to a telephone network or ISDN line except through a regulatory agency compliant computer network modem device.

COPPER CABLES TEST

Cable types	100 Ω Unshielded Twisted Pair (UTP) LAN cables 100 Ω Shielded or Screened Twisted Pair (STP) LAN cables TIA Category 3, 4, 5, 5e, and 6. ISO Class C, D, E and F
Cable length measurement	The OneTouch AT 10G Module measures cable lengths from 3 feet (1 meter) to 656 feet (200 meters) Accuracy: ± 30 feet (±10 meters) The OneTouch AT G2, measures ± 6 feet (± 2 meters) or 5%, whichever is greater Length measurement is based on Nominal Velocity of Propagation (NVP) for CAT 5e cable

ENVIRONMENTAL AND REGULATORY

Operating temperature	32°F to 122°F (0°C to 50°C)
Battery charging temperature	32°F to 104°F (0°C to 40°C)
Storage temperature	-40°F to 160°F (-40°C to 71°C) -4°F to 122°F (-20°C to 50°C) for periods longer than 1 week
Operating relative humidity (% RH without condensation)	5% to 45% at 32°F to 122°F (0°C to 50°C) 5% to 75% at 32°F to 104°F (0°C to 40°C) 5% to 95% at 32°F to 86°F (0°C to 30°C)
Shock and vibration	Meets the requirements of MIL-PRF-28800F for Class 3 Equipment
Safety	CAN/CSA-C22.2 No. 61010-1-04, IEC 61010-1:2001
Operating altitude	13,123 ft (4,000 m), 10,500 ft (3,200 m) with AC adapter
Storage altitude	39,370 ft (12,000 m)
Pollution degree	2
EMC	EN 61326-1:2006

CERTIFICATIONS AND COMPLIANCE

Conformité Européenne. Conforms to the requirements of the European Union and the European Free Trade Association (EFTA)

Listed by the Canadian Standards Association

Conforms to relevant Australian standards

Conforms to relevant South Korean EMC Standards

Mainframes	
Model	**Description**
1TG2-1500	ONETOUCH AT G2 ETHERNET TESTER
1TG2-3000	ONETOUCH AT G2 ETHERNET WI-FI TESTER
1T10G-1000	ONETOUCH AT 10G ETHERNET TESTER

Gold Support	
Model	**Description**
1TG2-1500-1YS	1 Year Gold Tools Support for 1TG2-1500
1TG2-1500-3YS	3 Year Gold Tools Support for 1TG2-1500
1TG2-3000-1YS	1 Year Gold Tools Support for 1TG2-3000
1TG2-3000-3YS	3 Year Gold Tools Support for 1TG2-3000
1T10G-1000-1YS	1 Year Gold Tools Support for 1T10G-1000
1T10G-1000-3YS	3 Year Gold Tools Support for 1T10G-1000

One-year and three-year Gold Support is available for mainframes, bundles and upgrades. We encourage customers to purchase Gold Support at the time of purchase. Purchase of Gold Support after product was shipped may be subjected to back-date charge. Please contact your nearest NETSCOUT sales representative for models and pricing.

Options & Accessories	
Model	**Description**
1TG2-3000-MOD	ONETOUCH AT G2 ETHERNET WI-FI TEST MODULE
1T10G-1000-MOD	ONETOUCH AT 10G ETHERNET TEST MODULE
1T-MAINFRAME	ONETOUCH AT MAINFRAME
1T-BATTERY	REPLACEMENT BATTERY FOR ONETOUCH AT
PWR-CHARGER	AC CHARGER REPLACEMENT
1T-ANT	ONETOUCH AT EXTERNAL DIRECTIONAL ANTENNA
SFP-1000LX	LX GIG FIBER DDM SFP TRANSCEIVER
SFP-1000SX	SX GIG FIBER DDM SFP TRANSCEIVER
SFP-1000ZX	ZX GIG FIBER DDM SFP TRANSCEIVER
SFP-100FX	100BASE-FX FIBER DDM SFP TRANSCEIVER
WIREVIEW 1	WIREVIEW WIREMAPPER #1
WIREVIEW 2-6	WIREVIEW CABLE ID SET 2 THRU 6
TEST-ACC	TEST ACCESSORY FOR USE WITH AIRCHECK G2 OR ONETOUCH AT. WHEN USED WITH AIRCHECK G2 OR ONETOUCH AT, IT CAN ACT AS AN IPERF SERVER.
TEST-ACC-5PK	5 TEST ACCESSORIES FOR USE WITH AIRCHECK G2 OR ONETOUCH AT. WHEN USED WITH AIRCHECK G2 OR ONETOUCH AT, THEY CAN ACT AS AN IPERF SERVER.
TEST-ACC-10PK	10 TEST ACCESSORIES FOR USE WITH AIRCHECK G2 OR ONETOUCH AT. WHEN USED WITH AIRCHECK G2 OR ONETOUCH AT, THEY CAN ACT AS AN IPERF SERVER.