

## AirCheck G2 Wireless Tester

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Wi-Fi is a complex technology, but testing it doesn't have to be. AirCheck™ G2 Wireless tester is purpose built for the front-line IT responders dispatched to the complaints of: The Wi-Fi is not working or the Internet is down. The AirCheck G2 Wireless Tester provides fast, simple, and accurate isolation and troubleshooting, thereby reducing the time to resolution of wireless issues.

The intuitive user interface and management platform provides actionable intelligence to not only remove the complexity of wireless troubleshooting but also helps speed up closure of the trouble ticket. The cost of not getting the job done right the first time, leads to ineffective usage of the escalation team efforts and end-user dissatisfaction due to slow problem-solving response time. AirCheck G2 provides front-line IT with complete and accurate wireless information to solve problems right the first time, instead of blindly escalating them.

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There are many variables that lead to Wi-Fi complaints, ranging from network-based problems and configuration issues to environmental or client device misconfigurations. Collecting all the key pieces of information the very first time is key to every front-line IT responder to resolve any complaint. AirCheck G2 simplifies wireless troubleshooting by providing:

- A rugged, purpose-built wireless tester supporting the latest Wi-Fi technologies (802.11 a/b/g/n/ac) that's easy to use and easy to carry
- A one-button AutoTest, which quickly provides a pass/fail indication of the wireless environment and identifies common problems — for any level of Wi-Fi expertise
- Quick connection to wireless networks to verify network availability, connectivity, performance, and access to networked resources
- A centralized test results management platform, Link-Live, that facilitates greater job visibility, results archiving, project control, and fleet management for larger distributed environments

## Overview

AirCheck G2 integrates Wi-Fi technology plus interference detection, channel scanning, connectivity tests, and iPerf performance testing. The one-button AutoTest an instant access to detailed information provides fast troubleshooting for the most common Wi-Fi pain points, including:

- Coverage problems
- Overloaded networks or channels
- Slow onnections
- Connectivity problems
- Failed access points
- Rogue access points
- Client problems
- Unauthorized clients

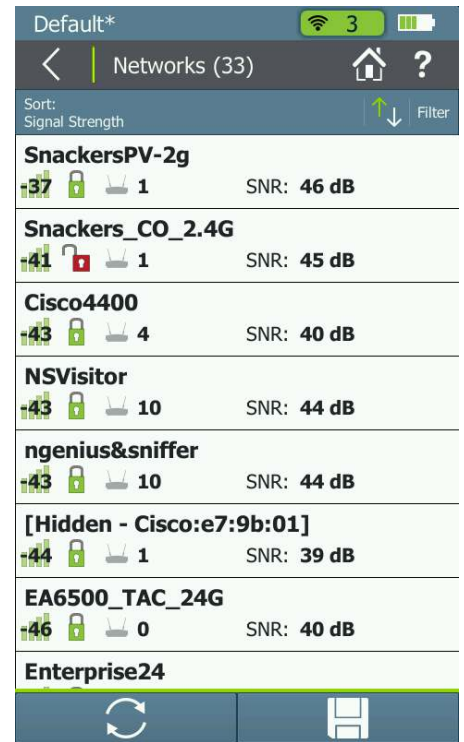
## Primary Features

The AirCheck G2 provides instant access to network, channel, access point, client, and interference data immediately off the main screen along with push-button tests for wireless as well as wired.

### Networks

Quickly view all the networks present in the environment, and see critical parameters for each one including signal level, signal/noise ratio, security type, and number of access points. Find common issues such as mixed security types, poor signal coverage or lack of secondary AP coverage.

Sort or filter on any parameter. Then drill into more details for any network, including 802.11 types supported, number of connected clients, channels and more. From the network details page, drill into a list of APs or clients on the network.

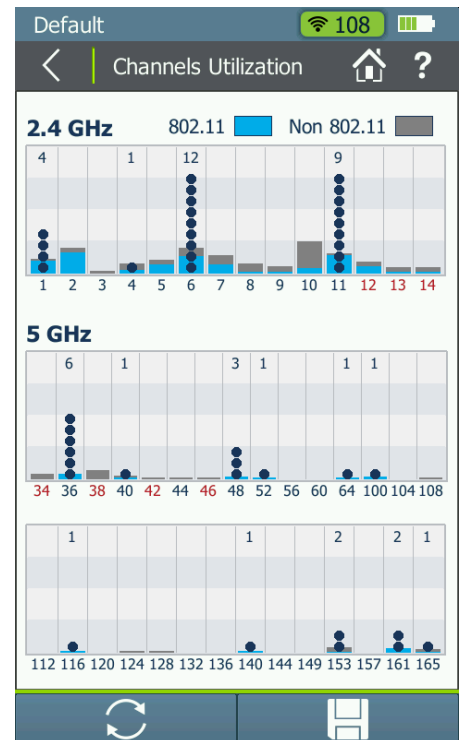


Network List

## Channels

Quickly determine if channels are over-utilized with 802.11 Wi-Fi traffic and/or with non-Wi-Fi interference and noise. Devices that can cause interference include microwave ovens, wireless game controllers, Bluetooth® devices, ZigBee devices and wireless video cameras.

Drill in to see the level of Wi-Fi traffic and interference over the last 60 seconds on a selected channel, as well as the access points and clients using this channel.



Channels Overview

## Access Points

Quickly view all the APs present in the environment, and see critical parameters for each one including signal level, signal/noise ratio, security type, and channel. Find common issues such as incorrect security type, poor signal coverage or incorrect channel.

Sort or filter on any parameter. Then drill into more details for any AP, including number of connected clients, supported rates, 802.11n and 802.11ac capabilities and more. From the AP details page, drill into a list of connected clients or the channel on which the AP operates to verify any channel utilization or co-channel interference problems.

Set Access Control status for APs in the environment to track Authorized, Neighboring, and potential rogue devices in your network space.

Signal Strength	MAC Address	SNR	Channel
-34	TRENDn:af:1e:32	53 dB	6
-39	Lnksys:92:a9:d6	48 dB	161
-39	Lnksys:92:a9:d7	48 dB	3
-39	Lnksys:92:a9:d9	49 dB	3
-39	TRENDn:af:1e:28	49 dB	6
-43	TPLink:31:99:9a	45 dB	6
-45	Cisco1130-1Nort	41 dB	11
-	AsusTk:75:93:c0	-	-

Access Point List

## Clients

Quickly view all the client devices that are connected to a network or probing for one. See critical parameters for each one including signal level, channel and connected AP. Find common issues such as clients connected to the wrong AP or unrecognized client devices connected to the network.

Sort or filter on any parameter. Then drill into more details for any client, including connection rate and security type. From the Client details page, drill into the connected channel or quickly locate the client device.

Signal Strength	MAC Address	Channel	AP Name
-74	NetSct:c2:00:e6	1	Aruba_PV
-51	NetSct:a4:56:6a	140	Cisco4400
-74	NetSct:a4:70:53	116	Cisco4400
-65	HTC:e6:68:98	11	Cisco4400
-63	Intel:cb:9d:a2	11	Cisco4400
-74	Intel:4e:0e:cc	60	ngenius&sniffer
-66	Intel:8d:cb:bc	153	Studio2020

Client List

## Interferers

Other devices can operate on the same bands as your Access Points. Get visibility into what other devices may be in your environment interfering with your wireless network.

Drill in for more details for any interference event, including average power level, duty cycle, channels impacted, and last seen time. Then use the LOCATE function to track them down and remove an interfering device.



*Interferer List*

## AutoTest

AutoTest performs the following essential Wi-Fi tests and gives a pass/fail indication of the wireless environment as well as identifies common problems — for any level of expertise.

### 802.11 UTILIZATION

Reports the top three channels in each band (2.4 GHz and 5 GHz) with the highest 802.11 Wi-Fi traffic airtime utilization.

### NON-802.11 UTILIZATION

Reports the top three channels in each band (2.4 GHz and 5 GHz) with the highest non-802.11 airtime utilization. This indicates the presence of interference sources and high-noise levels.

### CO-CHANNEL INTERFERENCE

Reports the top three channels in each band (2.4 GHz and 5 GHz) with the most APs on the same channel that exceed the minimum signal level threshold. It accounts for 40-MHz and 80-MHz channels in the 5-GHz band by counting an AP on its primary and each secondary channel. Then view a list of the APs counted for co-channel interference.

### ADJACENT CHANNEL INTERFERENCE

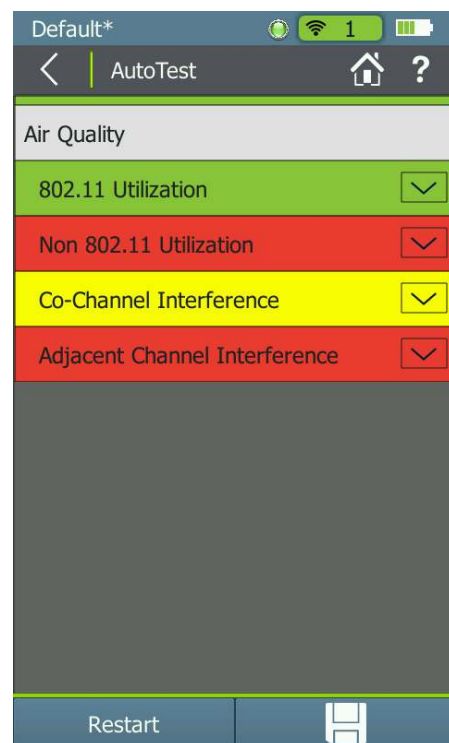
Reports the top three channels in the 2.4 GHz band in which APs may experience Adjacent Channel Interference. For each channel on which at least one AP is found, the tester counts how many APs are operating on other channels that overlap with that channel. It accounts for 20-MHz and 40-MHz channels in the 2.4-GHz band. Then view a list of the APs counted for adjacent channel interference.

### NETWORK QUALITY

Verifies coverage, interference, security and ability to connect to specified networks, along with the availability of critical network services such as DHCP and connectivity to specified network targets.

### ROGUE DEVICES

Reports Access Points other than your authorized devices. These devices may be on the network compromising network security.



Basic AutoTest Results



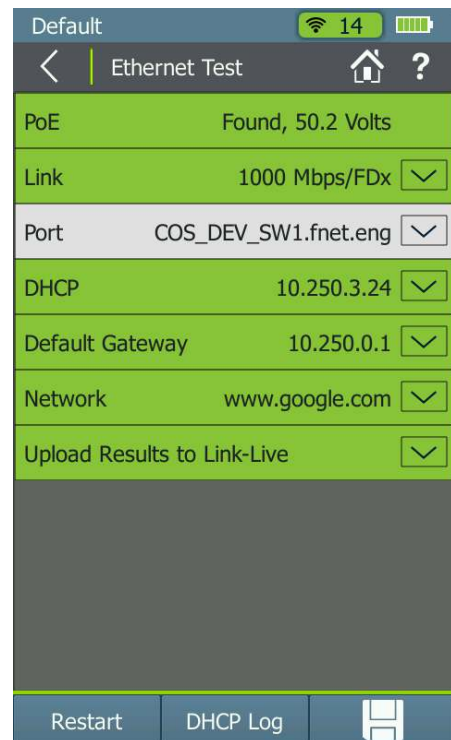
AutoTest Results Expanded to Show Result Details

## Ethernet Test

Access points must have a working backhaul connection to the network, and the AirCheck G2's built-in Ethernet test validates that.

Diagnose and test Power over Ethernet (PoE), Link to the switch, DHCP, Gateway, and Internet connection. Get VLAN, switch name, and port information via CDP/LLDP/EDP for your managed switches.

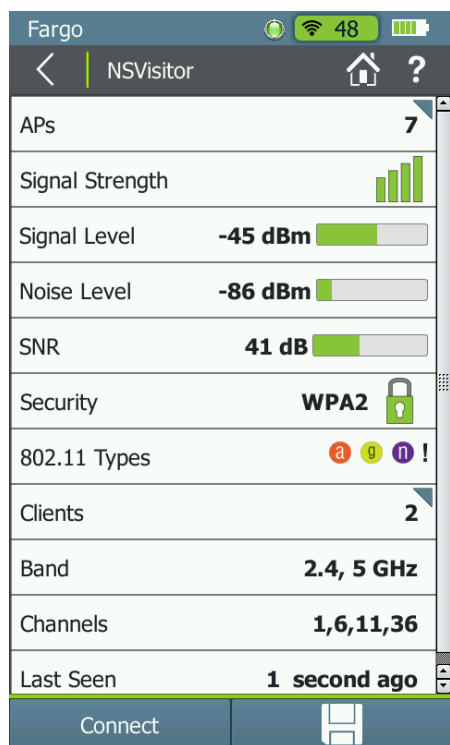




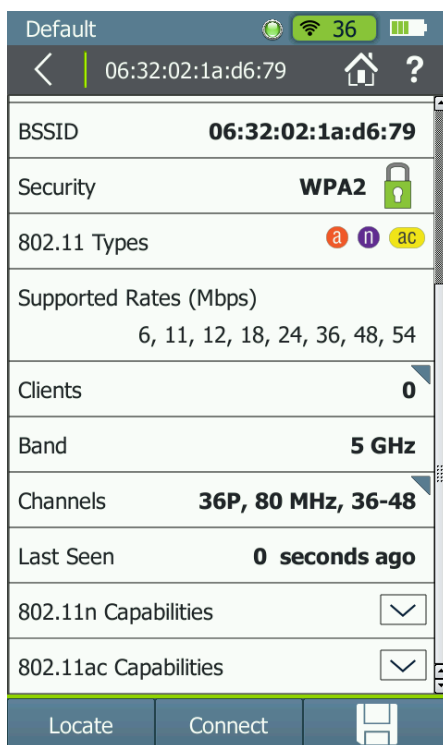
Ethernet Test Results

## Drill Into Specific Details

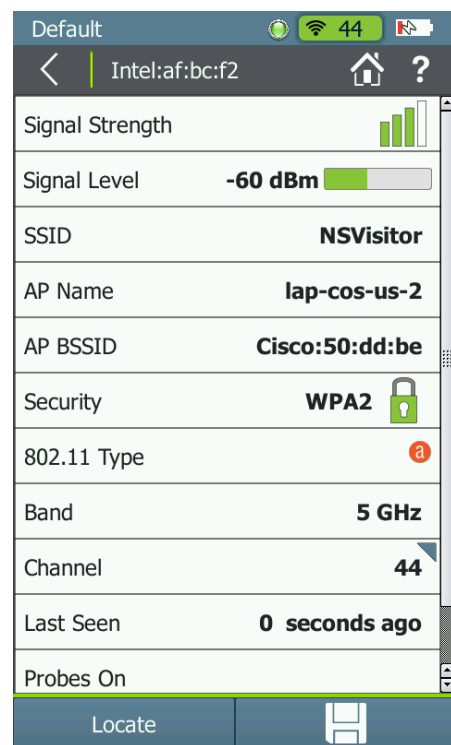
For all devices and events discovered by the AirCheck G2, additional information is available to better understand the specifics of a device and aid in troubleshooting. There's no need for the user to try to compare information in a beacon or parse through association requests to get full capability information on Access Points and Clients.



In Depth Network Details



In Depth Access Point Details



In Depth Client Details

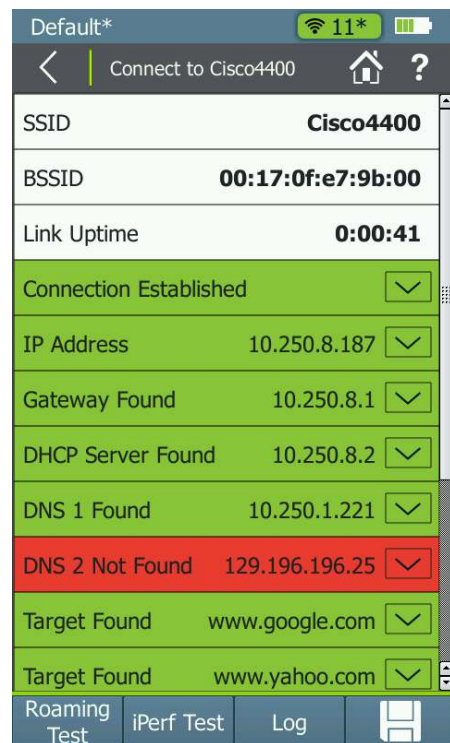
## Additional Tools and Functionality

In addition to the primary screens, there are several additional capabilities and features in the AirCheck G2 to allow users to quickly test and validate their wireless network. These are available as further options off the various detail and devices screens.

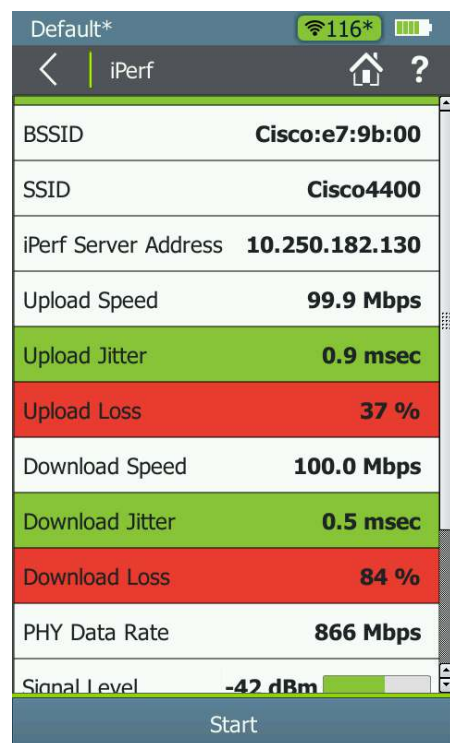
### Connect to a Network

Verify network availability and access to critical services by connecting to a network (SSID) or AP with a single touch on the Connect button. Key test steps include:

- Associate to an AP
- Request and receive an IP address from a DHCP server
- Ping the default gateway and DNS servers for availability
- Perform a ping or TCP port test to up to ten network targets
- Ongoing signal level, signal/noise ratio, and retry rate measurements



Wireless Connection Results



Performance Results After an iPerf Test



### Run an iPerf performance test

Once connected to a network or an Access Point, an iPerf based performance test can be run to check the throughput at that location. Tests are run for both upload and download traffic and can be configured for:

- Protocol to use (TCP vs. UDP)
- What port to initiate the test on
- Duration to run the performance test for

When running an iPerf test, the user can elect to either use an iPerf server that they set up themselves, or they can choose to use the iPerf server running on NETSCOUT's Test Accessory. The Test Accessory is a small device, powered by PoE or battery, that plugs into an ethernet port and with the AirCheck G2 can act as essentially an iPerf server in your pocket. It is managed by NETSCOUT's Link-Live cloud management platform and is automatically discovered by the AirCheck if:

- It is on the same subnet as the AirCheck's wireless connection
- It is on the same subnet as the AirCheck's last Ethernet test
- It has been adopted into the same Link-Live organization as the user's AirCheck G2, and the AirCheck G2 has Link-Live connectivity

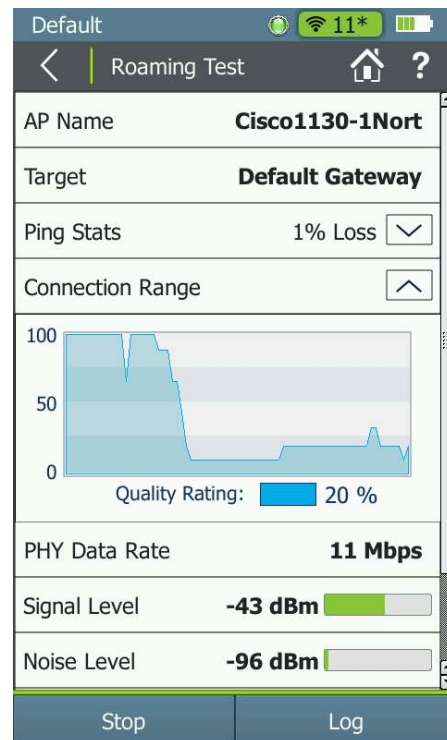
With the Test Accessory, it's as simple as picking the device you want from a list on the screen, and then starting the test.



Test Accessory

### Run a roaming test

The AirCheck G2 provides a roaming test that allows the user to verify that a network has sufficient overlap to allow for smooth and seamless roaming throughout the site. Roaming tests can be performed after connecting to a Network. The AirCheck G2 will continually ping a user chosen target resource and will provide detailed information on the current network quality and ping statistics as the user moves throughout the site.



Performance Results After an iPerf Test

## Locate devices of interest

Track down rogue APs and unauthorized clients by following the real-time signal level meter and graph over time. Audible indication is provided, and the use of a USB headset for private audio is supported.

Drill in to see the level of Wi-Fi traffic and interference over the last 60 seconds on a selected channel, as well as the access points and clients using this channel.



Locating an AP

## Result Management Options

### Link-Live Cloud Service

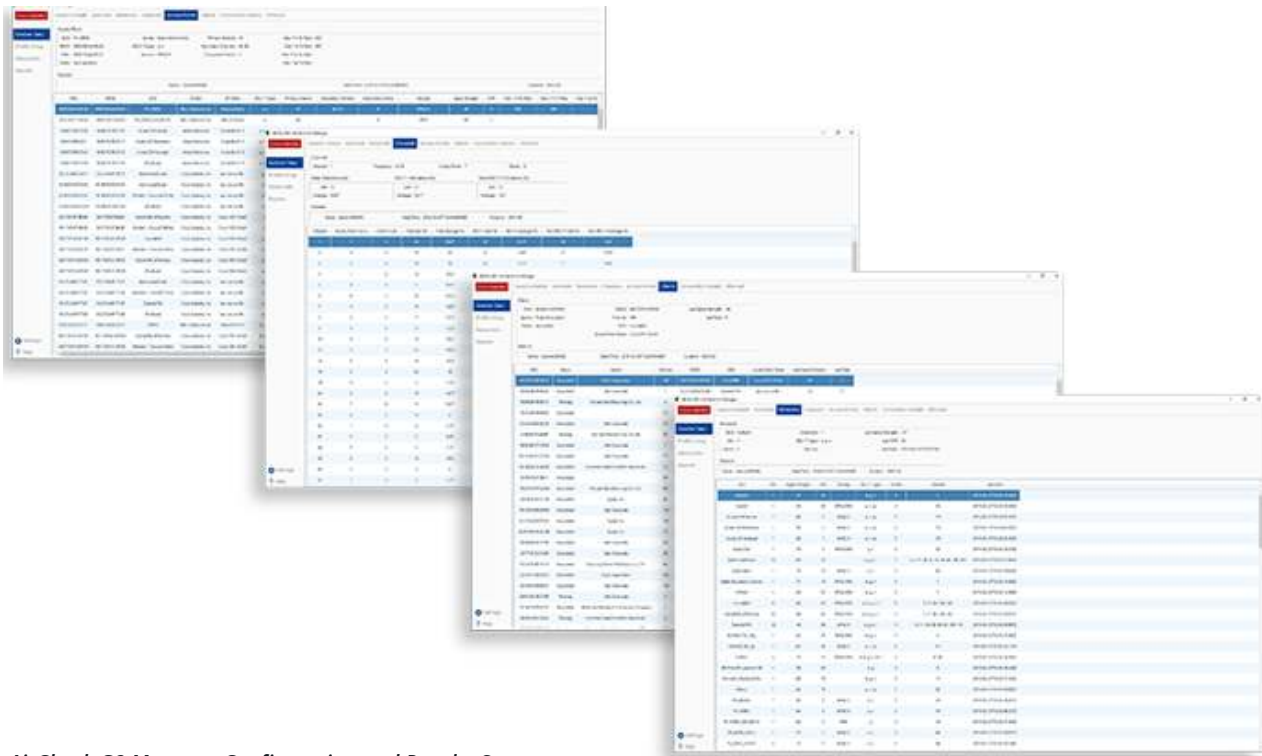
Once the AirCheck G2 is connected to the Link-Live Cloud service, basic network connectivity test results are automatically uploaded to the dashboard for project management and reporting. This internet-hosted service is available from anywhere at any time using any device with a browser and internet connection. It is especially useful for managers of remote teams that need visibility to test results instantly. In addition, teams that utilize the wired-only companions to the AirCheck G2 such as the LinkSprinter, or LinkRunner, or OneTouch™ AT have a single dashboard system to manage results from all their tools' network connectivity tests.

Test	PoE	Link	Access	DHCP	Gateway	WWW
8:41 AM 12/29/2016 Unit - 00C017-999222 folder label:confusing xxxxxxxxxx	Volts: 47v	10/100/1000 HDx/FDx RX Pair: 3,6 Polarity: normal	Core-Switch02.dhr.com Model: ciscoWS-C2960S-... IP/MAC: 172.31.163.10 Port: GigabitEthernet1/0/...	IP: 192.168.1.2 Server: 193.211.132.127 Subnet: 255.255.254.000	IP: 172.16.1.1 PING (ms): 2,12 Public: 207.141.116.194	TCP: www.google.com:80 IP: 172.16.200.100 Time (ms): 84,89,73
8:41 AM 12/29/2016 Unit - 00C017-999222 xxxxxxxxxx	Volts: 47v	10/100/1000 HDx/FDx RX Pair: 3,6 Polarity: normal	Core-Switch02.dhr.com Model: ciscoWS-C2960S-... IP/MAC: 172.31.163.10 Port: GigabitEthernet1/0/...	IP: 192.168.1.2 Server: 193.211.132.127 Subnet: 255.255.254.000	IP: 172.16.1.1 PING (ms): 2,12 Public: 207.141.116.194	TCP: www.google.com:80 IP: 172.16.200.100 Time (ms): 45,47,39
5:40 PM 12/1/2016 James Kahkoska's OneTou... test folder 5 x 1 minute periodic au...	▲0 ●0	▲0 ●0 802.11 Type: n PHY Rate (Mb/s): 117000 S/N/SNR: -33 / -98 / 65	▲0 ●0 ZyXEL:4c9eff-1e72bd SSID: CenturyLink2706 Channel: 11	▲0 ●0 IP: 192.168.0.40 Subnet: 255.255.255.0	▲0 ●0 IP: 192.168.0.1 PING (ms): 1 Public: 71.34.137.68	▲0 ●1 Web: 192.168.0.1 IP: 192.168.0.1
6:07 PM 11/30/2016 James AirCheckG2 test folder using my phone as a sec...		PHY Rate (Mb/s): 130 S/N/SNR: -22 / -84 / 62 Retry Rate (%): 4	Murata:83:4f:14 SSID: Verizon-SM-G900V-... Channel: 6 802.11 Type: b,g,n	IP: 192.168.43.8 Server: 192.168.43.1 Subnet: 255.255.255.0	IP: 192.168.43.1 PING (ms): 4,15,9 Public: 174.209.0.252	PING: www.google.com IP: 216.58.217.36 Time (ms): 115,111,112

Link-Live Results Dashboard

### AirCheck G2 Manager Software

For those that may prefer not to use a cloud service, the AirCheck G2 Manager software provides the ability to manage AirCheck G2 profiles and view detailed information on saved tests results. The software is available for download to any computer from the NETSCOUT® support site.



*AirCheck G2 Manager Configuration and Results Screens*

## Ordering Guide

Model Number	What is Included
AIRCHECK-G2	AIRCHECK-G2 WIRELESS TESTER, POWER CHARGER WITH 4 INTERNATIONAL ADAPTERS, SOFT CARRYING CASE, USB CABLE, QUICK START GUIDE
AIRCHECKG2-TA-KT	AIRCHECK-G2 WIRELESS TESTER, TEST ACCESSORY, POWER CHARGER WITH 4 INTERNATIONAL ADAPTERS, SMALL SOFT CARRYING CASE, USB CABLE, EXTERNAL DIRECTIONAL ANTENNA (RP-SMA CONNECTOR), HOLSTER WITH SHOULDER STRAP, AUTOMOBILE POWER CHARGER, QUICK START GUIDE
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 <sup>2</sup> , SMALL, MEDIUM, LARGE SOFT CASES, AIRCHECK G2 WIRELESS TESTER, TEST ACCESSORY, (2) QUICK START GUIDE, EXTERNAL DIRECTIONAL ANTENNA, AUTOMOBILE CHARGER.
G2-HOLSTER	PROTECTIVE CARRYING HOLSTER WITH SHOULDER STRAP ACKG2 AND LRG2
LION-REPL-BA	REPLACEMENT BATTERY FOR ACKG2 AND LRG2
EXT-ANT-RPSMA	EXTERNAL DIRECTIONAL ANTENNA, RP-SMA CONNECTOR
PWR-CHARGER	AC CHARGER REPLACEMENT
SM SOFT CASE	SMALL SOFT CASE
TEST-ACC	TEST ACCESSORY FOR USE WITH AIRCHECK G2. WHEN USED WITH AIRCHECK G2, THEY CAN ACT AS AN IPERF SERVER.
TEST-ACC-5PK	5 TEST ACCESSORIES FOR USE WITH AIRCHECK G2. WHEN USED WITH AIRCHECK G2, THEY CAN ACT AS AN IPERF SERVER.
TEST-ACC-10PK	10 TEST ACCESSORIES FOR USE WITH AIRCHECK G2. WHEN USED WITH AIRCHECK G2, THEY CAN ACT AS AN IPERF SERVER.
AIRCHECKG2-TA-KT-1YS	1 YEAR GOLD SUPPORT FOR AIRCHECKG2-TA-KT
AIRCHECKG2-TA-KT-3YS	3 YEAR GOLD SUPPORT FOR AIRCHECKG2-TA-KT
AIRCHECK-G2-1YS	1 YEAR GOLD SUPPORT FOR AIRCHECK-G2
AIRCHECK-G2-3YS	3 YEAR GOLD SUPPORT FOR AIRCHECK-G2

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**General Specifications**

<b>Dimensions</b>	3.8 in x 7.7 in x 1.6 in (9.7 cm x 19.6 cm x 4.1 cm)
<b>Weight</b>	18 oz (0.51 kg)
<b>Battery</b>	Rechargeable lithium-ion battery pack (3.6 V, 6 Ah, 21 Wh)
<b>Battery life</b>	Typical operating life is 4.5 hours. Typical charge time is 7 hours
<b>External AC adapter/charger</b>	AC input 85-264 Vac 47-63 Hz input power DC output 15 Vdc at 2 amps
<b>Display</b>	5.0-inch color LCD with capacitive touch screen (480 x 800 pixels)
<b>Keypad</b>	1-key elastomeric (power only)
<b>Host Interface</b>	1x micro USB Type B port
<b>Adjunct Interface</b>	2x USB 2.0 Type A port
<b>Wireless antenna</b>	3x Internal
<b>External antenna port</b>	Input only. Reverse-polarity SMA connector

**Environmental Specifications**

<b>Operating temperature</b>	32°F to 113°F (0°C to +45°C) The battery will not charge if the internal temperature of the tester is above 122°F (50°C).
<b>Operating relative humidity (% RH without condensation)</b>	90% (50°F to 95°F; 10°C to 35°C) 75% (95°F to 113°F; 35°C to 45°C)
<b>Storage temperature</b>	-4°F to 140°F (-20°C to +60°C)
<b>Shock and vibration</b>	1 m drop test, Random, 3.8 g, 5 Hz-500 Hz
<b>Safety</b>	IEC 61010-1: Pollution degree 2
<b>Altitude</b>	4,000 m; Storage: 12,000 m
<b>EMC</b>	IEC 61326-1: Basic Electromagnetic Environment; CISPR 11: Group 1, Class A

**Wireless Specifications**

<b>Specification compliance</b>	IEEE 802.11a, 802.11b, 802.11g, 802.11n, 802.11ac
<b>Wi-Fi Connectivity</b>	802.11a, 802.11b, 802.11g, 802.11n, 802.11ac

**Operating frequencies**

These are the center frequencies of the channels that the AirCheck G2 tester supports.

**Frequencies of channels received:**

The tester receives on all of the frequencies in every country. 2.4 GHz band: 2.412 – 2.484 GHz (channel 1 to channel 14) 5 GHz band: 5.170 – 5.320 GHz, 5.500 – 5.700 GHz, 5.745 – 5.825 GHz (channels 34, 36, 38, 40, 42, 44, 46, 48, 52, 56, 60, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 144, 149, 153, 157, 161, 165)

**Frequencies of channels transmitted:**

**2.4 GHz band**

1. 802.11b: 2.412 – 2.484 GHz (channel 1 to channel 14)
2. 802.11g/n 20 MHz BW (HT20): 2.412 – 2.472 GHz (channel 1 to channel 13)
3. 802.11n 40 MHz BW (HT40): 2.422 – 2.462 GHz (includes all combinations of legal, bonded pairs of channels)

**5 GHz band**

1. 802.11a/n 20 MHz BW (HT20): 5.180 – 5.320 GHz, 5.500 – 5.700 GHz, 5.745 – 5.825 GHz (channels 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 1, 36, 140, 144, 149, 153, 157, 161, 165)
2. 802.11n 40 MHz BW (HT40/VHT40): 5.190 – 5.310 GHz, 5.510 – 5.670 GHz, 5.755 – 5.795 GHz (includes all combinations of legal, bonded pairs of channels)
3. 802.11ac 80 MHz BW (VHT80): 5.210 – 5.290 GHz, 5.530 – 5.690 GHz, 5.775 GHz (includes all combinations of legal, bonded pairs of channels)

**Wi-Fi Antennas**

**Internal Wi-Fi antennas**

Three internal 2.4 GHz, 1.1 dBi peak, 5 GHz, 3.2 dBi peak antennas.

**External directional antenna**

Antenna, frequency range 2.4 - 2.5 and 4.9 - 5.9 GHz. Minimum gain 5.0 dBi peak in the 2.4 GHz band, and 7.0 dBi peak in the 5 GHz band.

**External antenna connector<sup>1</sup>**

Reverse SMA

<sup>1</sup> External antenna port is receive-only (no transmit).

**AirCheck Manager Software**

**Supported operating systems**

Windows 7, Windows 8.1, Windows 10

**Processor**

400 MHz Pentium processor or equivalent (minimum); 1 GHz Pentium processor or equivalent (recommended) RAM 96 MB (minimum)

**RAM**

256 MB (minimum); 512 MB (recommended)

**Hard disk**

Up to 500 MB of available space may be required

**Display**

1280 x 1024 high color, 32-bit (recommended)

**Hardware**

USB Port



