

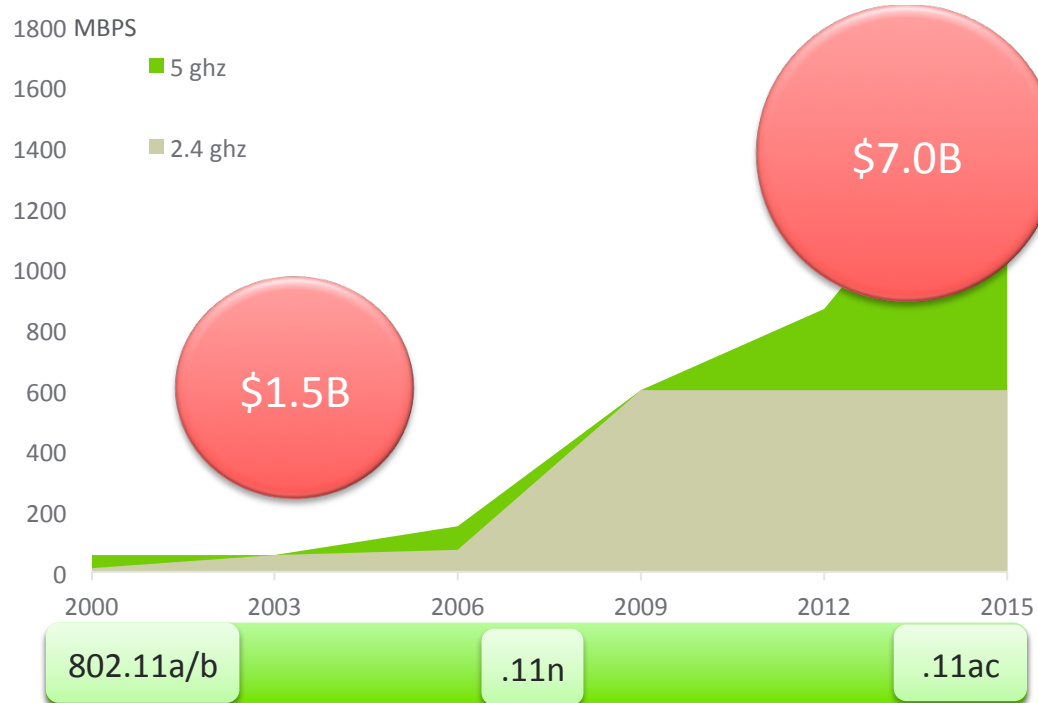
AIRMAGNET



Presented By - SecNet Pty Ltd



WI-FI IS BECOMING MORE UBIQUITOUS



- Technology is still evolving
- Speeds are getting faster
- The industry relying more on Wi-Fi



MORE WIFI – MORE PROBLEMS

- Performance Challenges
 - Channel competition - channel overlap, neighboring WLANs
 - Mixed environments - vendors, devices and standards a/b/g/n/ac
 - Changing environment - clients, network changes
 - Client-side challenges - collision avoidance, roaming
- Security Challenges
 - Rogue access point and clients



INCREASED TROUBLE TICKETS?

- “The wireless sucks”
- “The internet is slow”
- “I can’t connect to the wireless”
- “Something’s wrong with the network”



TROUBLESHOOTING IS COMPLEX

- Involves more than Wi-Fi network packets
- Need to understand the channels and how they're allocated
- Non-Wi-Fi devices can also impact the system



ASKING THE RIGHT QUESTIONS

- How do you isolate the problem quickly?
- How do you rule out RF spectrum interference?
- How do you diagnose whether it's a wireless vs. wired problem?



INTRODUCING AIRCHECK G2



INTRODUCTION - AIRCHECK G2

- AirCheck G2 is handheld tool designed for the front-line technicians that are the first responders to the “Connection is bad” or the “Wi-Fi is down” call.
- The Aircheck G2 provides functionality for:
 - Troubleshooting Wi-Fi networks to quickly and easily isolate the root-cause.
 - Planning, validating and baselining WLAN connectivity and Ethernet services.



AIRCHECK G2 WIRELESS TESTER



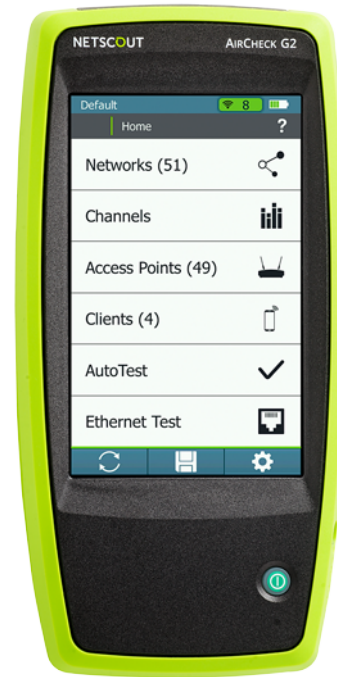
NEW

- 802.11ac 3x3 Radio
- Link-Live Cloud Repository
- 5" Touch screen
- Simplified workflow
- NetScout Branding

AIRCHECK G2 DETAILS

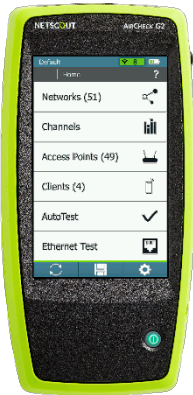
ADDITIONAL FUNCTIONALITY:

- AutoTest
- Locate APs and Clients (ROGUES)
- Discovery of SSIDs, APs, clients, channels
- Connection tests for Wi-Fi and Ethernet
- AirCheck G2 Manager PC app



A 360 VIEW OF AIRCHECK G2

Front



Back



Left



Right



USING AIRCHECK G2

Top Troubleshooting Use Cases



COMMON WI-FI PROBLEMS

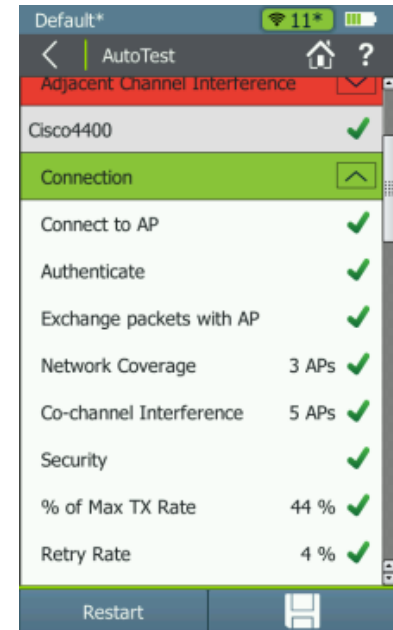
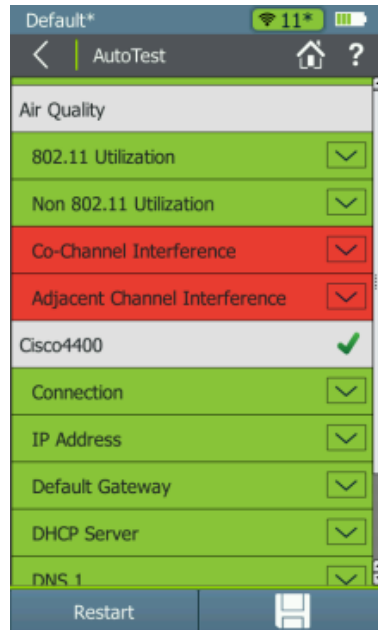
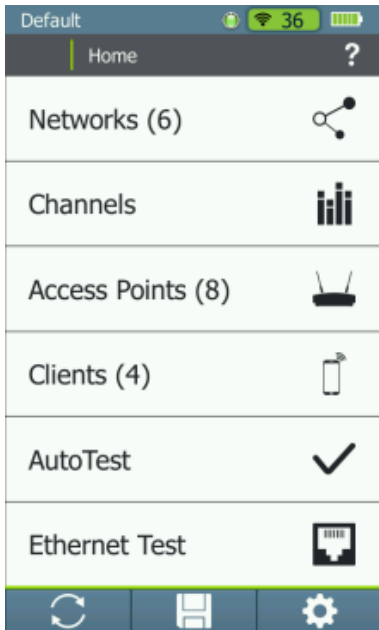
Most common Wi-Fi problems and why they occur

Complaint	Common Cause	Examples
No Wi-Fi Access	Coverage	Dead spots, failed APs or radios
Slow Wi-Fi	Connectivity	Wi-Fi or channel interference
Internet is down	Configuration	Authentication, services (DHCP, DNS)
Losing connection	Overloaded	Channel congestion, AP overlap
All of the above	Rogues	Unauthorized APs and clients



FIRST THING FIRST - AUTOTEST

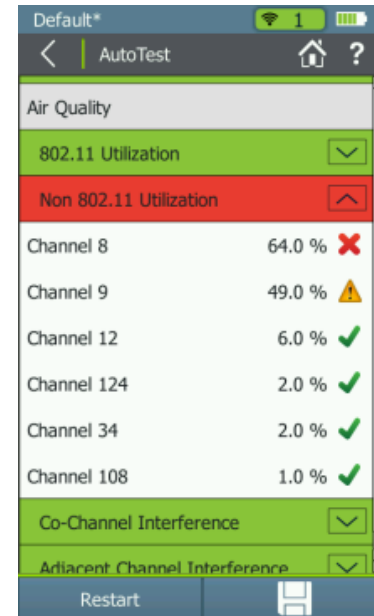
AutoTest provides answers to the most common problems that cause a Wi-Fi complain.



WI-FI IS JUST NOT WORKING WELL

“I can connect to the network but the network is slow”
AirCheck G2 can quickly determine whether there are any Air Quality problems.

- 802.11 Utilization
- Non 802.11 Utilization
- Channel interference

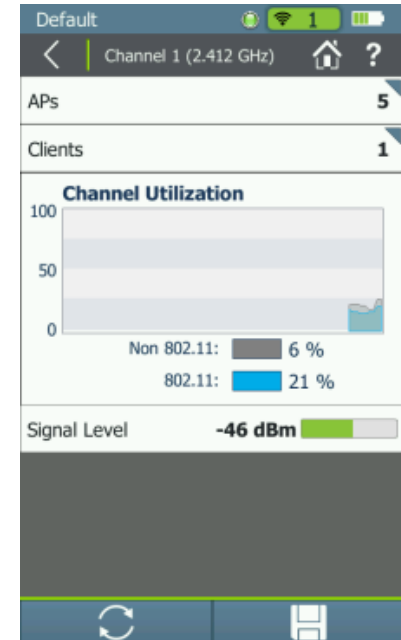
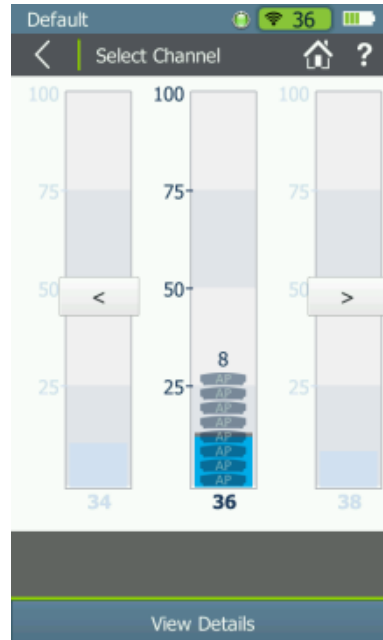


OVER UTILIZED CHANNELS

“I keep getting kicked off the wireless network”

AirCheck G2 provides quick access to channel utilization:

- 2.4 GHz and 5 GHz channels
- Number of APs per channel
- Number of clients per channel

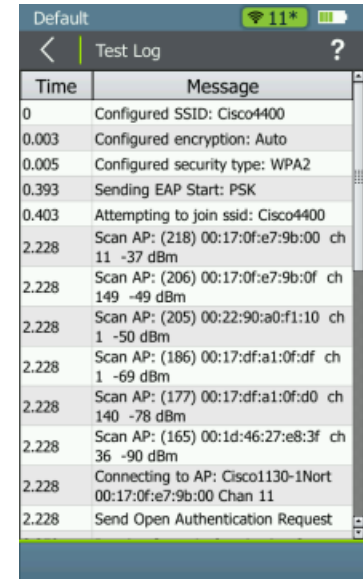
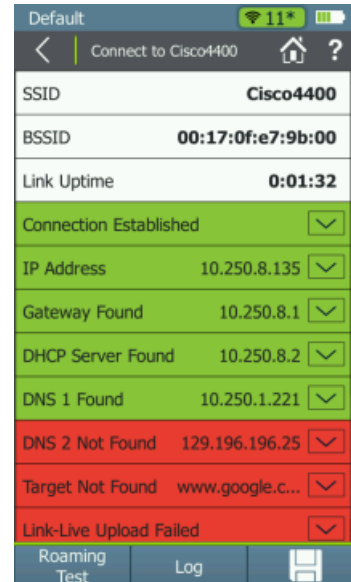


CANNOT CONNECT TO NETWORK

“I can connect to Wi-Fi but internet is down”

AirCheck G2 can quickly determine misconfigured services:

- Authentication
- DHCP, DNS
- Ping test
- Speed test
- Signal/Noise/SNR

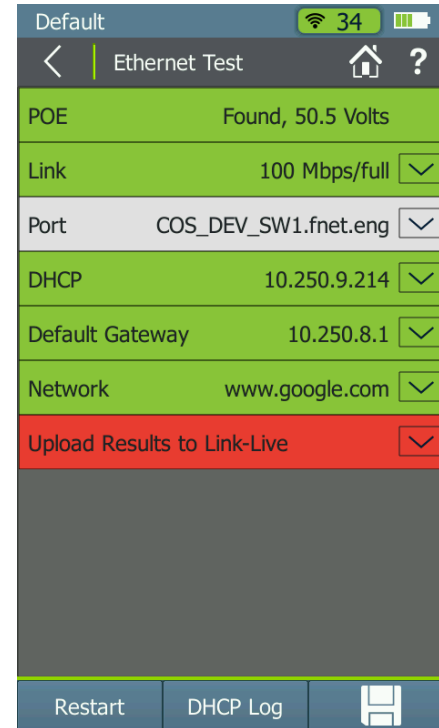


VALIDATING ETHERNET CONNECTIVITY

It's not the Wi-Fi, or is it?

AirCheck G2 Ethernet Test

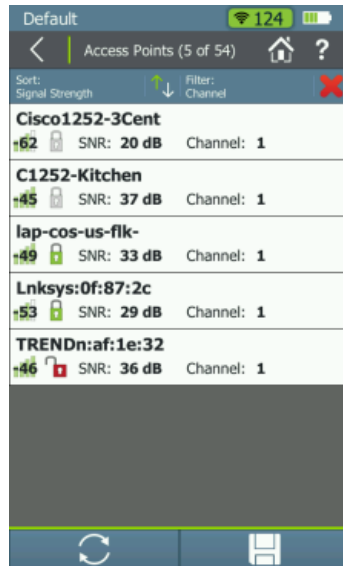
- Is there enough power reaching the AP?
- Can the port itself provide basic networking services?



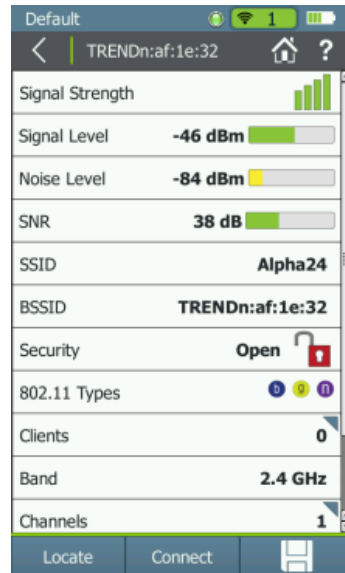
UNAUTHORIZED ACCESS

There is a pirate on the ship!

Detect



View



Locate



AIRCHECK G2 MANAGER

Customized reports, View sessions details, Manager AirCheck

The screenshot displays the NETSCOUT AirCheck G2 Manager interface. On the left, there is a sidebar with sections for 'AutoTest Results' (including Air Quality and AutoTest Thresholds) and 'Reports'. The main window is titled 'NETSCOUT AirCheck G2 Manager' and shows a 'Generate Report' dialog box. The dialog has a 'Report Sections' area with checkboxes for 'AutoTest', 'Access Points', 'Channels', 'Networks', 'Clients', and 'Connection'. Below this is a 'Custom Image' section with a 'NETSCOUT' logo and 'Select' and 'Reset' buttons. A 'User Notes' section contains a text area with the placeholder text 'This text will appear on the front page of the report.' and a 'Session File' field with a 'Browse' button. A warning message at the bottom of the dialog states: 'Warning: Large files may take several minutes.'

On the right, the 'Channels' tab is active, showing session details for Channel 1. The session information includes: Channel: 1, Frequency: 2.412, APs: 5, Clients: 7. Utilization statistics are provided for Total, 802.11, and Non-802.11. A table below shows utilization data for multiple channels.

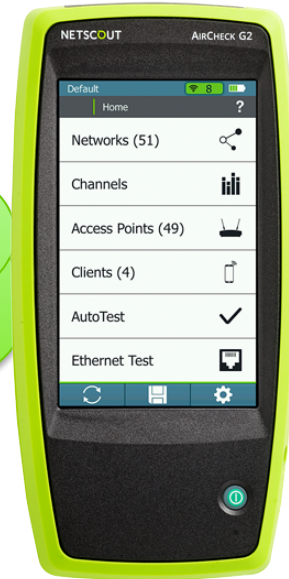
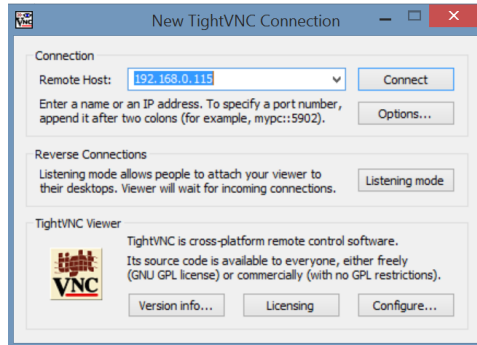
Channel	APs	Clients	Total (last %)	Total (average %)	802.11 (last %)	802.11 (average %)	Non-802.11 (last %)	Non-802.11 (average %)
1	5	7	21	21	10	10	11	11
2	1	0	23	23	4	4	19	19
3	0	0	13	13	0	0	13	13
4	0	0	19	19	0	0	19	19
5	0	0	4	4	2	2	2	2
6	2	0	6	6	5	5	1	1
7	0	0	1	1	0	0	1	1
8	0	0	0	0	0	0	0	0



MANAGER AIRCHECK REMOTELY

Full remote connectivity to AirCheck G2 with VNC

- Requires Ethernet and IP connectivity
- Full AirCheck functionality



LINK-LIVE CLOUD REPOSITORY

We have 250 APs to test across multiple sites, how do we track progress and provide a job report when completed?

The screenshot displays the FLUKE networks LINK-LIVE.COM dashboard. The interface includes a navigation bar with 'Dashboard', 'Units', 'Support', and 'Administration'. Below the navigation bar, there are tabs for 'Results', 'Summary', and 'Details'. The main content area is a table with columns for 'Time', 'Test', 'PoE', 'Link', 'Access', 'DHCP', 'Gateway', and 'WWW'. The table contains two rows of test data. The first row shows a test performed on Jan 07, '16 at 1:17:18pm, with details for a wired sample. The second row shows a test performed on the same date and time, with details for a wireless sample. The table also includes a 'Comments' column with a 'Snickers Wired Sample' and a 'Snickers Wireless' entry.

Time	Test	PoE	Link	Access	DHCP	Gateway	WWW
Jan 07, '16 Thursday 1:17:18pm	Name: Ross Nordstrom's AirCheckG2 5 MAC: 00C017345345 Device: AirCheckG2 Profile: profile AutoTest: snickers-test-guid-123 IPv6: true Images: Comments: Snickers Wired Sample snickers ethernet <input checked="" type="checkbox"/>	Pos: 3.6 Neg: 1.2 47y Req Power: 25.5W/Class 4 Rcvd Power: 19W Rcvd Class: Class 4 PSE Type: 1	Speed: 100 Adv Speed: 10/100/1000 Duplex: Fdx Adv Duplex: Hdx/Fdx RX Pair: 3.6 Polarity: normal	Name: Core-Switch02.dhr.com Type: LLDP Model: cisco/WS-C2960S-48TS-L IP/MAC: 172.31.163.10 Port: GigabitEthernet1/0/47 VLAN: 21 Voice VLAN: 5	IP: 192.168.1.2 Server: 193.211.132.127 Subnet: 255.255.254.000 DNS1: 192.168.1.100 DNS2: 129.196.210.33 DNS2 PING (ms): 20, 15, 15 Link Local: fe80::2c0:17ff:feb6:abcd IPv6 Global: 2001::2c0:17ff:feb6:abcd	IP: 172.16.1.1 PING (ms): 2, 1, 2 Public IP: 207.141.116.194	URL: www.google.com 80 IP: 172.16.200.100 Time (ms): 84, 89, 73 URL: www.google.com 80 IP: 172.16.200.101 Time (ms): 84, 89, 73 URL: www.google.com 80 IP: 172.16.200.200 Time (ms): 84, 89, 73 URL: www.google.com 80 IP: 172.16.200.100 Time (ms): 84, 89, 73 URL: www.google.com 80 IP: 172.16.200.100 Time (ms): 84, 89, 73 URL: www.google.com 80 IP: 172.16.200.100 Time (ms): 84, 89, 73
	Profile: profile AutoTest: snickers-test-guid-123 IPv6: true Images: Comments: Snickers Wired Sample snickers wireless <input checked="" type="checkbox"/>	0v	802.11 Media: ac PHY Data Rate: 1.23 Retry Rate: 1.23 Signal (dBm): 1.23 Noise (dBm): 1.23 SNR (dB): 1.23	SSID: Cisco4400 AP Name: R and D Wifi BSSID: Cisco4400-1 Channel: 11 Adv Media: nac	IP: 192.168.1.2 Server: 193.211.132.127 Subnet: 255.255.254.000 DNS1: 192.168.1.100 DNS1 PING (ms): 2, 1, 2 DNS2: 129.196.210.33 DNS2 PING (ms): 20, 15, 15 Link Local: fe80::2c0:17ff:feb6:abcd IPv6 Global: 2001::2c0:17ff:feb6:abcd	IP: 172.16.1.1 PING (ms): 2, 1, 2 Public IP: 207.141.116.194	URL: www.google.com 80 IP: 172.16.200.100 Time (ms): 84, 89, 73 URL: www.google.com 80 IP: 172.16.200.101 Time (ms): 84, 89, 73 URL: www.google.com 80 IP: 172.16.200.200 Time (ms): 84, 89, 73 URL: www.google.com 80 IP: 172.16.200.100 Time (ms): 84, 89, 73 URL: www.google.com 80 IP: 172.16.200.100



WHY AIRCHECK G2

- Easy to sell – customers “Get It”
- Easy to use with intuitive workflow and large touchscreen
- Reduces the complexity of wireless troubleshooting
- Cloud Enabled Centralized Repository
- AND
 - 802.11ac handheld tool
 - Large touchscreen
 - Future proofing with USB expansion



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THANK
YOU



NETSCOUT.COM

