

WLAN Pros Toolbox: Reviewer's Walk-Through

Keith Parsons · July 6, 2026

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Hand someone the app, tap one button, and they get the answer to the only Wi-Fi question they have ever asked: is the slowdown my Wi-Fi or my internet? That single demo lands with anyone, a CWNE or your aunt. Everything else in this guide is the rest of the tour, screen by screen, so you can review the app with full confidence and hand it to your own readers knowing exactly what it does and what it refuses to do.

Here is the shape of the product. The WLAN Pros Toolbox is a free field toolkit for Wi-Fi and network work: live tests, RF and network calculators, and reference tables in one app. It bundles over 170 tools into five home categories: Test Network, Networking Tools, Calculators & Tools, Quick Reference, and Educational Resources. The catalog ships 174 live tools, and every one of them carries its own in-app help entry (175 help documents in the build). The newest addition, shipped in 1.7.0, is the Field & Trade Reference set inside Quick Reference: enclosure codes, job-site safety, plan-set literacy, and the compliance frameworks that pull a WLAN into scope. iOS, macOS, Android, and Windows are all live in their stores today, and the web build is hosted. This guide walks the macOS build; the screens are the same across platforms except where a platform limit changes what a tool can read.

One design choice runs through every screen and it is the strongest thing to repeat in a review: the app is honest about platform limits. When the operating system blocks a capability, the tool says so plainly instead of faking a result. iOS exposes no public API for RSSI or MCS, so the app routes through an Apple Shortcut where it can and reports the value as honestly unavailable where it cannot. It never shows a fake zero. That line earns trust with the pros, and it is true at the code level, not just the marketing copy.

A second choice matters just as much: the app is local-first and private. No account. No login. No analytics or telemetry in the build. Reference tables, calculators, glossaries, and the bundled cards run fully offline, because the typography is bundled and nothing is fetched at launch. Live tools reach the network only to do their job. The connection analyzer runs on the device and uploads nothing.

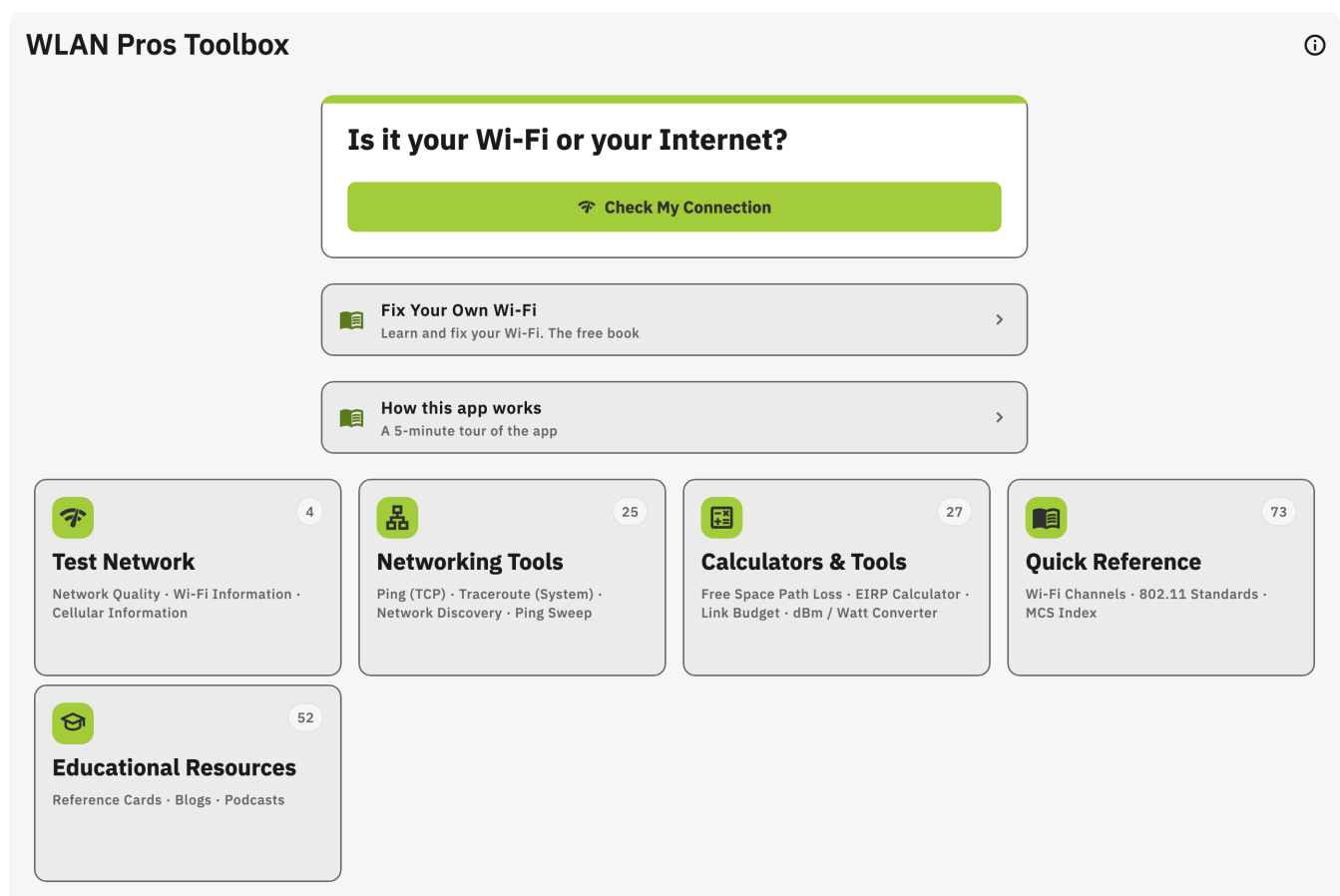
Keith's framing, the one to open a review with: "Wi-Fi always works. It might not work the way you want, but it just about always works." This app exists to tell you which of those two you are looking at.

Where to Get It

- **iOS:** the Apple App Store (search "WLAN Pros Toolbox").

- **macOS:** download the .dmg from the WLAN Pros website (not the App Store).
- **Android:** Google Play, live.
- **Windows:** the Microsoft Store: <https://apps.microsoft.com/detail/9NCVHM6ZL4X0>
- **Web:** the hosted web build. Calculators and reference tables run in the browser; the network-dependent tools are hidden with a prompt to install the native app.

Step 1: The Home Screen and the Consumer Front Door



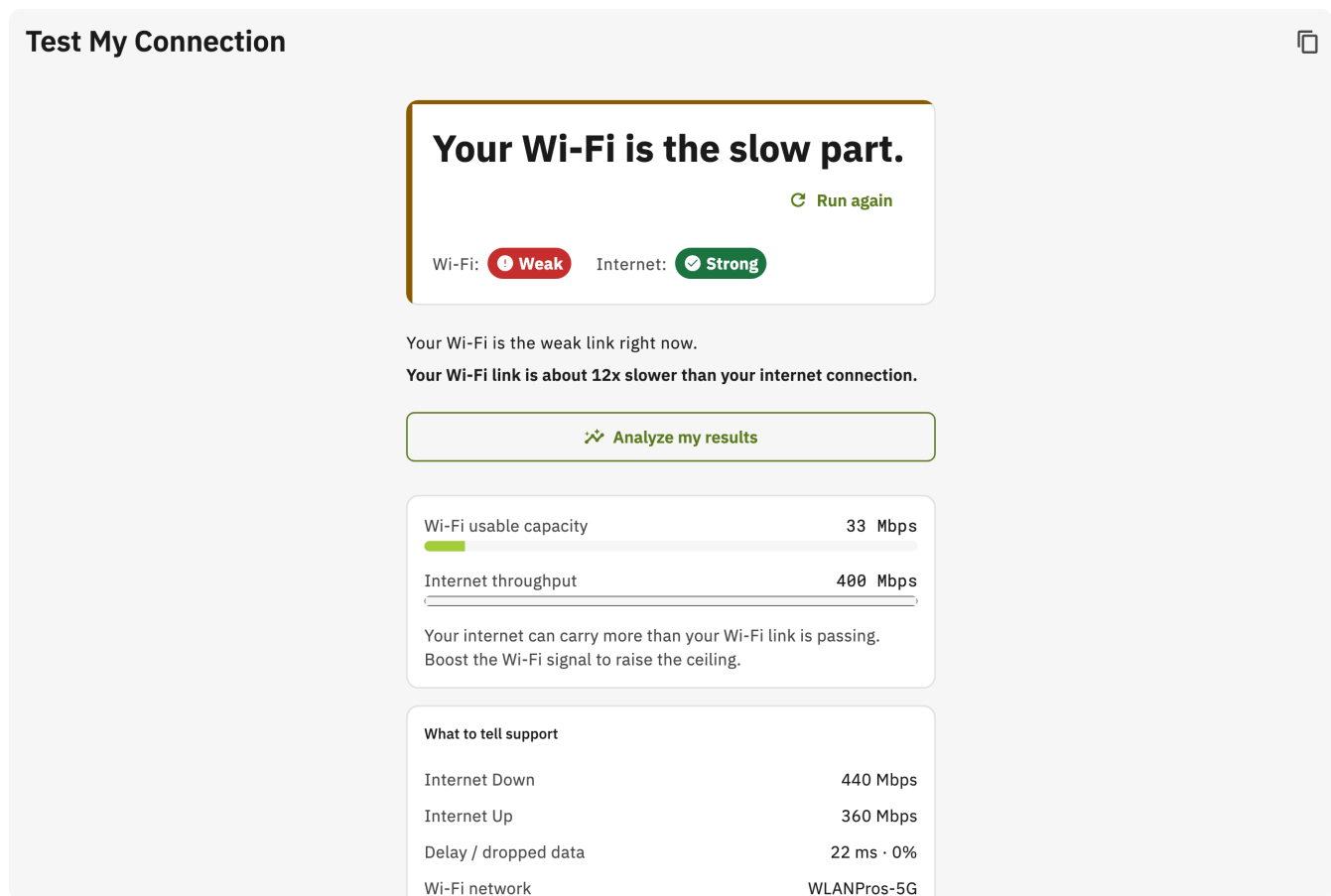
The home screen leads with one thing, on purpose. The big "Check My Connection" front door sits above the five category cards under the question every human has asked: is it your Wi-Fi or your internet? That is the consumer doorway into a pro tool. A non-technical person never has to learn the catalog. They tap the front door and get an answer in plain words.

Below it sit the five categories. Test Network for the live diagnostics. Networking Tools for ping, traceroute, DNS, port scan, and the rest. Calculators & Tools for the RF and planning math. Quick Reference for the

offline field tables and the new Field & Trade Reference set. Educational Resources for curated, independent-author places to learn Wi-Fi. The home tile count is read straight from the catalog, so the number on screen is the number that actually ships. Nobody hardcodes it.

Talking point: "Two doors into the same app. The hero button is for the person who just wants to know what is wrong. The five cards are for the person who already knows what tool they need."

Stop 2: Check My Connection, the 60-Second Demo



This is the demo to run first. It is the shortest path from "what is this app?" to "send me the link."

Tap Check My Connection. The app tests both halves of the path, your Wi-Fi link and your internet service, and returns a plain headline: "Your Wi-Fi is the slow part," "Your internet is the slow part," or "Both look fine." Each half carries a grade, Strong, Moderate, or Weak, and the app states the gap in plain numbers, for example "Your Wi-Fi link is 92% slower than your internet connection." That "both look fine" verdict is

the most useful real-world answer of the three, because it points the user at the specific app or site that is actually struggling instead of blaming the connection.

Then tap Analyze. One tap turns that test into a short, plain-language read of what is going on: green, amber, and red findings across the Wi-Fi link, the internet, DNS, security, and where the Access Point is sitting. The verdict leads. The rest follows in priority order. It never opens by narrating a non-issue. It runs entirely on the device, stores nothing, and sends nothing. That is the part you give to the friend who always texts you "my Wi-Fi is slow." They run one test, tap Analyze, and the app tells them what to do, and nothing leaves their machine.

Talking point: "It separates your Wi-Fi from your internet, because those are two different things, and most people have been blaming the wrong one for years. Then it explains the answer in plain words, on the device, without sending anything anywhere."

Stop 3: Wi-Fi Information, the Live Radio Read

Wi-Fi Information



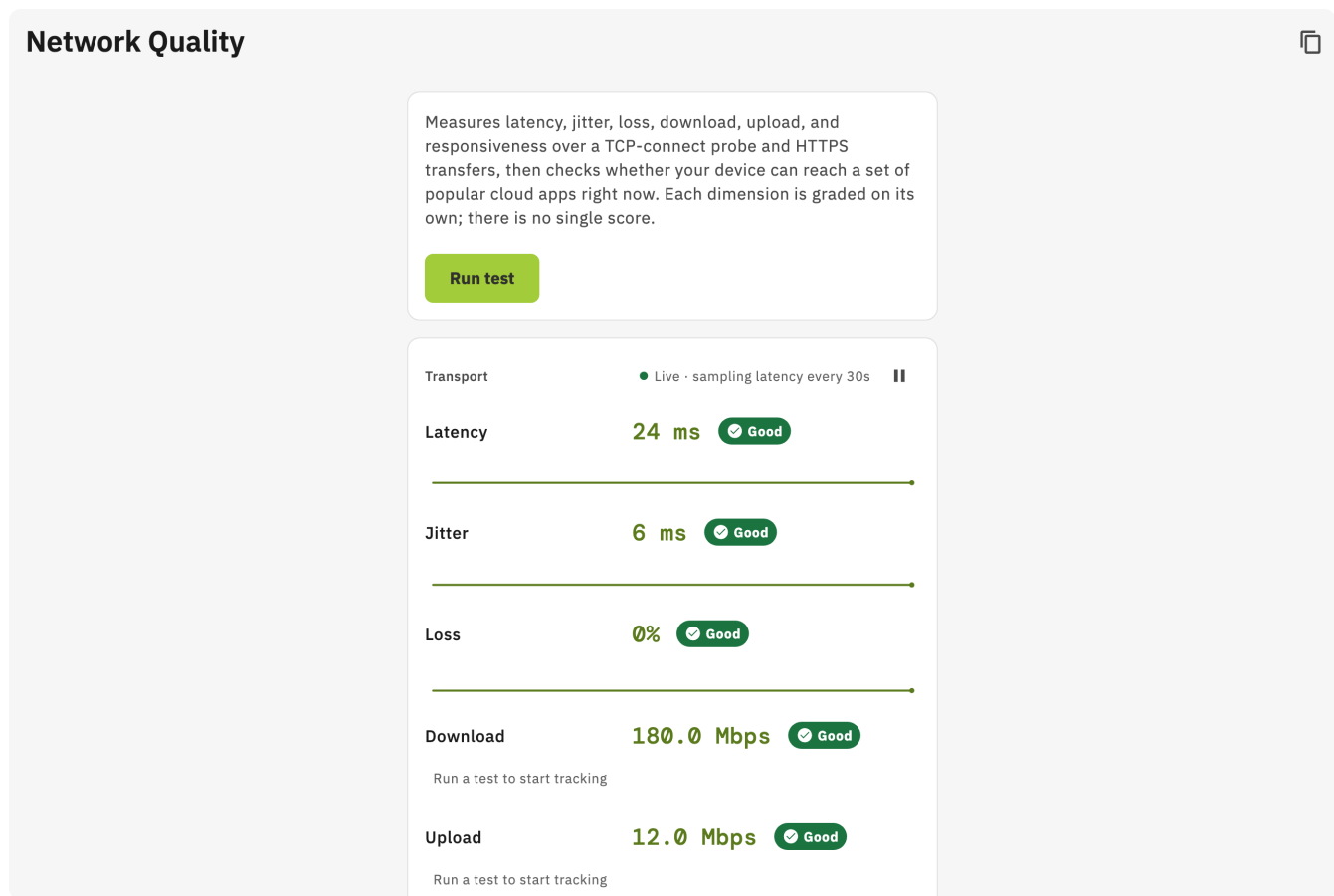
SSID	WLANPros-6E
BSSID	a4:83:e7:00:11:22
AP vendor	Unavailable
Loading the offline vendor database...	
Security	
Security type	Unavailable
Not in this reading	
Signal	
RSSI	-52 dBm
Noise	-90 dBm
SNR	38 dB
Rate	
Tx Rate	1441 Mbps
Rx Rate	Unavailable
Not exposed by macOS CoreWLAN	
Channel	

This is the screen where a Wi-Fi person's eyebrows go up. Wi-Fi Information reads the live radio: SSID, BSSID, channel, width, band, RSSI, noise, SNR, the negotiated Tx rate, and the 802.11 standard. On macOS it pulls a CoreWLAN snapshot. On Windows it reads the live link through a native call. The app grades RSSI and SNR against field-reviewed bands and shows the rate as a trend, not a pass/fail, because a "good" data rate is entirely relative to band, width, and MCS.

The honesty shows here too. On recent macOS, reading SSID and BSSID needs Location Services authorization. Without it, those two fields are null while RSSI, noise, rate, channel, width, and band still resolve, and the app explains the missing fields rather than inventing them. Public CoreWLAN exposes Tx rate but not Rx rate or Tx power, so those are simply absent. On Windows the native layer does not expose a noise figure, so noise and SNR are shown as honestly unavailable rather than guessed. On iPhone the same data comes through the companion Apple Shortcut, the only way to get RF data on iOS at all, and the app reports it as unavailable where even the Shortcut cannot reach.

Talking point: "The app is reading the radio, not guessing. And green does not mean good. Green is just a number, which is exactly the point this screen makes."

Stop 4: Network Quality, Graded Not Scored



Network Quality measures latency, jitter, loss, download, upload, and a responsiveness estimate. Each dimension is graded on its own, Excellent, Good, Fair, or Poor. There is no single made-up headline score, and the screen says so out loud: each dimension is graded on its own. That choice is deliberate. A connection can be Excellent on latency and Poor on upload at the same time, and a composite number would hide that.

The engine is honest about its own grounding. Latency, jitter, loss, and responsiveness are anchored to real standards (ITU-T G.114 for latency, VoIP guidance for jitter and loss, RFC 9097 and Apple's networkQuality for responsiveness). Download and upload bands are the project's own heuristic and are labeled as such. A dimension that cannot be measured on a given run is shown as unavailable, never faked. Under the hood it uses a timed TCP connect rather than raw ICMP, because the macOS App Sandbox and iOS block raw sockets, and a TCP-connect round trip is a sandbox-legal proxy for latency.

The Test Network category holds two more live reads a reviewer should point out. Cellular Information (iPhone) surfaces the carrier, radio technology, signal bars, country code, and roaming state. Roaming Log records each time the device hops between access points on the same network while the screen is open, built on the same live sampler as Wi-Fi Information.

Talking point: "No single score to hide behind. If your upload is the problem, this screen tells you it is your upload, not some vague 7-out-of-10."

Stop 5: The Calculators

FSPL

Frequency (GHz)

GHz

MHz

Distance (km)

km

mi

m

Free space path loss

126.4 dB

Formula

$$\text{FSPL (dB)} = 20 \cdot \log_{10}(f) + 20 \cdot \log_{10}(d) + 92.45$$

f in GHz, d in km. The 92.45 constant folds in c and the unit conversion for the GHz/km form.

Reference points

2.4 GHz	1 km	100.1 dB
5 GHz	1 km	106.4 dB
6 GHz	1 km	108.0 dB
2.4 GHz	100 m	80.1 dB
5 GHz	100 m	86.4 dB

The Calculators & Tools category is the RF, GPS, and planning math, in your pocket, offline. Free Space Path Loss, EIRP, link budget, dBm-to-watt, Fresnel zone, cable loss, wavelength, antenna downtilt, earth curvature, ITU rain fade, noise floor, RF attenuation, PoE budget, throughput, capacity planning, and the point-to-point link check, plus GPS conversions, unit converters, and QR and DTMF generators.

These are not toys. EIRP takes Tx power minus cable loss plus antenna gain and returns the answer in dBm and watts, ready to check against FCC and ETSI limits and to feed straight into a link budget. The point-to-point link check is the most complete tool in the suite: it folds free-space path loss, ITU-R rain fade, antenna gains, and cable losses all the way to a received signal, a fade margin, and a PASS,

MARGINAL, or FAIL verdict. Every calculator shows its work, and the formula on screen is the one the app actually runs. The RF formulas mirror the WLAN Pros RF Tools reference set.

Talking point: "The calculators show their work. Every formula is the one the app runs, not a marketing approximation. The link check gives you a go or no-go and shows you why."

Stop 6: The Quick Reference Library

802.11 Standards

PHY-layer comparison of all major 802.11 amendments. Max PHY rate is the theoretical aggregate ceiling. Real-world throughput is typically 50 to 60 percent of the PHY rate.

Official Wi-Fi Alliance generation naming begins at Wi-Fi 4 (802.11n); earlier amendments are shown by their 802.11 names only.

Wi-Fi 7 certification began 2024; IEEE 802.11be was published 2025.

Band

All bands

802.11	1997
Bands (GHz)	2.4
Max PHY rate	2 Mbps
MIMO	—
Ch width (MHz)	22
Modulation	DSSS/FHSS

802.11b	1999
Bands (GHz)	2.4
Max PHY rate	11 Mbps
MIMO	—

This is the quiet showstopper, so save it for late in a demo and let it land. The Quick Reference category works with the device in airplane mode. No signal, no problem.

It carries the field tables you would otherwise dig for: 802.11 standards, the MCS index, signal thresholds, WPA security, roaming parameters, AP placement, channel and spectrum maps, and the regulatory domains. The connector references are done right, with real photos, and the field gotchas spelled out: every Wi-Fi connector is 50 ohm, an RP-SMA threads onto an SMA but the center pins will not connect,

and APC fiber must never mate UPC or you damage both ferrules. The cabling cards cover bend radius and pull tension. The channel and spectrum cards carry the real regulatory specifics, including the US 6 GHz power modes (Standard Power with AFC, LPI, VLP), the DFS rules, and WPA3 being mandatory on 6 GHz. The CLI and Wireshark cheatsheets, the interactive checklists, and Keith's published WLAN Pros bubble diagram and design-decision cards are all bundled and pinch-zoomable.

The 1.7.0 headline addition lives here: the Field & Trade Reference set. It is the job-site knowledge a WLAN pro needs but rarely carries. IP and NEMA enclosure ratings for outdoor and industrial gear. The hazardous-location classes, the NEC articles that bite an install, the PPE and the site-access credential that gate you before you can reach the work. Plan-set literacy and where the RCP hides the AP sheet, TIA structured cabling, and the compliance frameworks (PCI, HIPAA, GDPR) that pull the WLAN into scope. These are read-only "recognize and defer" references, honest about their own edge: they tell you what you are looking at and when to hand it to the licensed trade, not how to do the electrician's job. Two of them are interactive. The LED Decoder reads an AP's status-blink pattern back to you by vendor, and Vendor Model Decode breaks down an AP model number. Every reference plate now carries a Download PDF control, so you can save or share the card straight from the app.

Talking point: "This is the box of laminated cards you keep losing, except it is on the device you already carry, and it works with no signal. And 1.7.0 adds the trade knowledge that gets a WLAN pro past the job-site gate, with a Download PDF button on every card."

Stop 7: The Glossary

Wi-Fi Glossary

Plain-language definitions of 92 Wi-Fi terms across 8 categories. Search by term, abbreviation, or any word in a definition.

Definition language

English

Search terms...

Bands & Spectrum

8

2.4 GHz Band

The oldest Wi-Fi band. It travels farther and through walls better than higher bands, but it is crowded, in practice offers only three non-overlapping 20 MHz channels (1, 6, and 11 in most regions), and shares space with Bluetooth, microwaves, and many other devices.

5 GHz Band

The workhorse Wi-Fi band. It offers many more channels and far more capacity than 2.4 GHz, at the cost of shorter range and weaker wall penetration.

6 GHz Band

The newest Wi-Fi band, opened for Wi-Fi 6E and Wi-Fi 7. It adds a large block of clean spectrum with many wide channels, but only newer devices can use it and range is the shortest of the three bands.

Channel

A specific slice of a band that an access point transmits on. Devices on the same channel take turns; devices on well-separated channels can transmit at the same time without colliding.

The glossary is a curated Wi-Fi glossary with both IEEE and Wi-Fi Alliance naming, searchable, and fully offline. The dual naming is the useful part. When a term has an IEEE designation and a Wi-Fi Alliance marketing name, the glossary shows both, so a junior engineer learning the difference has it in one place.

It runs in airplane mode like the rest of the reference library, because the whole thing is bundled in the build.

Talking point: "Search it in airplane mode. IEEE name and Wi-Fi Alliance name side by side, which is exactly what trips up people who are still learning the vocabulary."

Stop 8: Educational Resources

Educational Resources

53 curated places to learn Wi-Fi: tools, talk archives, channels, podcasts, blogs, and training. Tap any resource to read more and open its website.

All

Reference Cards

Tools and utilities

Conference and talk archives

YouTube channels

Podcasts

Independent blogs and experts

Training and certification

Training Providers

In-Depth Guide

 **Field Manual**

The in-depth technical manual for professionals – every tool, what it measures, and how to read it.

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Reference Cards

 **WLAN Pros Bubble Diagram**

Wi-Fi design decision bubble diagram

>

 **Wireless LAN Troubleshooting Causes**

Common causes to check when troubleshooting

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 **2.4 GHz Channel Allocations**

2.4 GHz channel layout and allocations

>

 **5 GHz Channel Allocations**

5 GHz channel layout and allocations

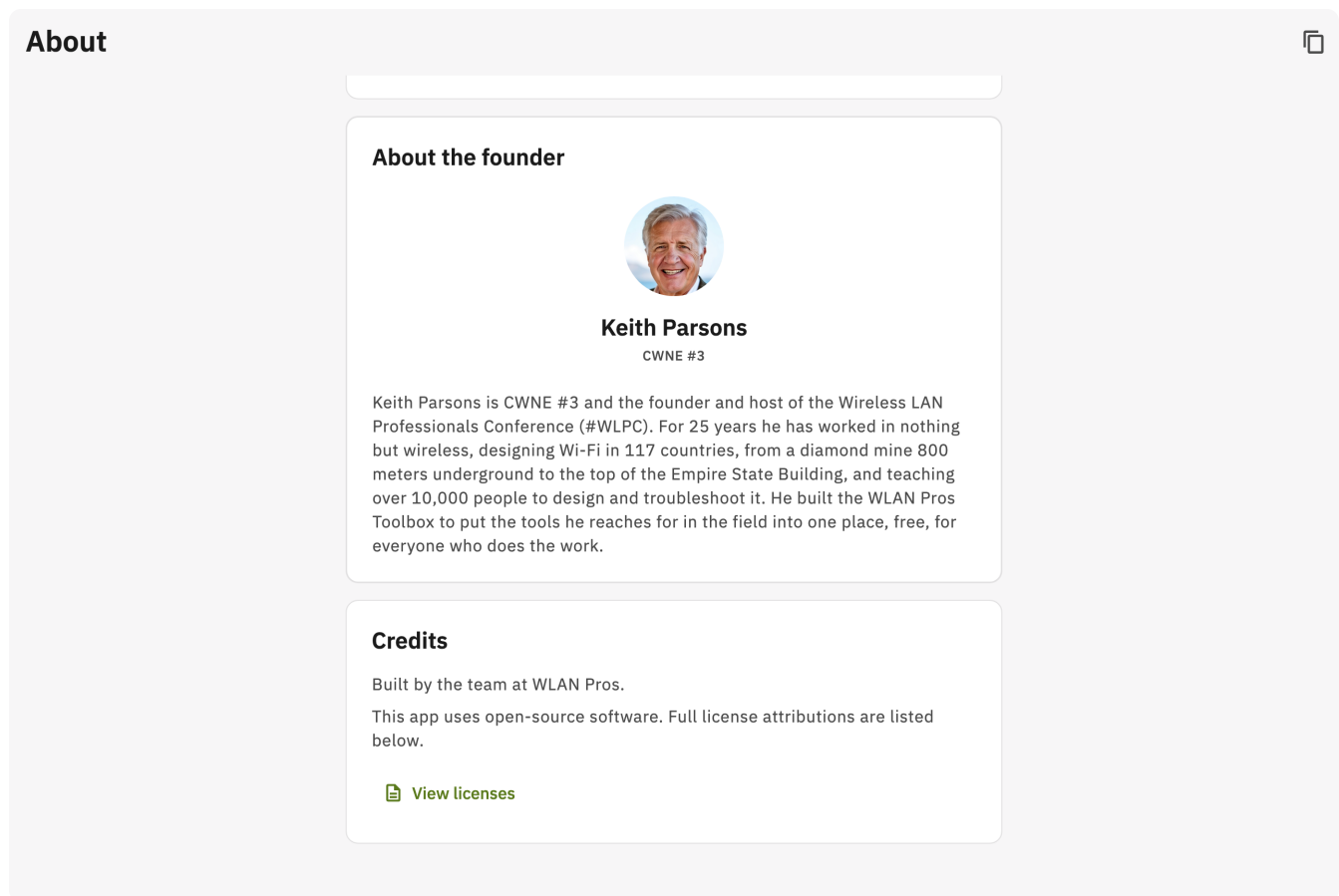
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The Educational Resources category is a curated directory of independent-author places to learn Wi-Fi: blogs, talks, channels, podcasts, and reference diagrams. These are not vendor docs. They are the independent voices in the community, each credited to its author, with the link opening in the browser.

The point of this category is the "where do I go next" answer. Someone who has run the tools and read the reference cards and wants to go deeper gets a vetted, author-credited starting list instead of a search engine and luck.

Talking point: "Curated learning from independent Wi-Fi authors, each one credited by name. The app sends you to the good sources instead of leaving you to find them."

Stop 9: About, and the Founder



The About section tells you who made the app. It carries Keith Parsons' bio and headshot: CWNE #3, one of the first three people ever to earn the Certified Wireless Network Expert credential, 25+ years in Wi-Fi, founder of the Wireless LAN Professionals Conference. The Toolbox was built for and by the WLAN Pros community, and the About screen says so plainly.

This is also where the app states its standing commitments: no account, no telemetry, no personal data collected, RF formulas mirroring the WLAN Pros RF Tools reference set, and offline MAC vendor data derived from the public IEEE OUI registry. It is the place a reviewer can point to and say, here is who is behind this and here is what they promise.

Talking point: "Built by Wi-Fi people, for Wi-Fi people, and the About screen names the person and the community behind it. That is rare in a free app, and it shows in the field notes."

Beyond the Nine Stops: What Else to Find

The walk-through above hits the screenshots. The catalog has more worth pulling out after the main demo.

For the IT generalist, the Networking Tools work without root and are sandbox-safe. Ping in two honest forms, TCP-handshake RTT and a separate ICMP echo, so the TCP version still works where raw ICMP is blocked. DNS lookup over DNS-over-HTTPS so it works through captive portals. Traceroute, port scan, ping sweep, WHOIS, an SSL/TLS inspector that happily reads expired and self-signed certs so you can see what is actually broken, a ping plotter for latency over time with lost probes drawn plainly, and IPv4 and IPv6 subnetting with the RFC 3021 /31 and /32 edge cases done right. The LAN scan enriches each host with name, services, and device type, and on macOS the MAC and vendor, and when it cannot read a MAC, which is any phone by design, it says so instead of inventing one.

A few honest platform notes a careful reviewer will want. Nearby AP scan is Android-only, because Apple platforms block third-party Wi-Fi scanning, so the tool is filtered out of navigation and search on iOS and macOS rather than shown broken. Traceroute runs as a system-binary traceroute on the desktop platforms (macOS, Windows, Linux) and as a TTL-walk on Android, but is honestly unavailable on iOS, because the available ICMP layer only parses Echo Reply, never Time Exceeded. On web, the network-dependent tools are hidden with a prompt to install the native app, while the calculators and reference tables work in the browser. None of this is hidden. The app tells you where each platform stops.

A handful of hidden gems reward the curious. MAC vendor OUI lookup is fully offline and correctly returns "no vendor" for a randomized phone MAC instead of guessing. Wake-on-LAN is honest that "sent" does not mean "woke." Packet Sender is a field netcat for banner grabs with the reply shown as hex and decoded text. The two Field & Trade decoders, LED Decoder and Vendor Model Decode, turn a blinking AP and a cryptic model number into a plain answer without a network connection. Nearly every result, calculator, and reference screen has a Copy action that puts a clean, labeled text block on the clipboard, ready to paste into a ticket, and every field-reference plate has a Download PDF control alongside it. And the whole app swaps Light and Dark at runtime, which anyone who has squinted at a white screen in a dark equipment closet will appreciate.

Who It's For, and Why It's Different

This is the part to repeat to your own readers. Keep it short.

It is for the friend who keeps texting that their Wi-Fi is slow, the IT generalist who needs a port scan and a DNS check without dragging out a laptop, and the Wi-Fi pro who wants real RF readouts and link math in their pocket. One app covers all three.

It is different because it never fakes a number. When the platform cannot read a value, it tells you, instead of showing a fake zero. It separates your Wi-Fi from your internet, which is the one thing every other speed test gets wrong. The Analyze read runs on the device, stores nothing, and sends nothing. It is free, with no account, no ads, and no upsell. Built for and by the WLAN Pros community, and it shows in the field notes.

The One-Liners to Have Ready

- "It is free. No account, no ads, no upsell."
- "It works offline. The whole reference library and every calculator run with no signal."
- "It never fakes a number. If the platform cannot read a value, it tells you, instead of showing you a fake zero."
- "It separates your Wi-Fi from your internet, which is the one thing every other speed test gets wrong."
- "Tap Analyze and it reads the test back to you in plain words, on the device, sending nothing anywhere."
- "The calculators show their work. Every formula is the one the app actually runs."
- "New in 1.7.0: the Field & Trade Reference set, the codes and site knowledge that gets a WLAN pro past the job-site gate, with a Download PDF on every card."
- "One codebase, five places to get it: iOS, macOS, Android, Windows, and the web."
- "Built for and by the WLAN Pros community, and the About screen names the person and the community behind it."

Run Check My Connection, tap Analyze, walk the nine steps above for whoever is watching, and let the reference library land at the end. That is the whole show. Over 170 tools, free, offline, and honest about every number it gives you, which is exactly why people keep it once they have it. Wi-Fi always works. This app tells you whether it is working the way you want.