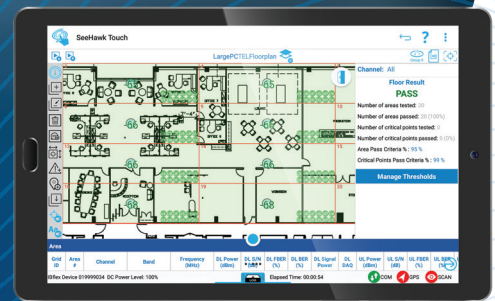


PUBLIC SAFETY NETWORK TESTING SOLUTION

Verify and Document Critical Communications Coverage



POLICE



FIRE



EMS



BUSINESS CRITICAL
/ LIFE SAFETY



CELLULAR



WiFi

In-Building Coverage Testing, Commissioning, and Code Compliance

- Streamline grid-based testing to meet NFPA 1221, IFC 510, and local code requirements
- Commission FCC-compliant Business Critical and Emergency Responder Communications Enhancement Systems (ERCES)
- Simultaneously test signal quality across multiple LMR, cellular, and WiFi networks
- Verify uplink and downlink LMR performance
- Automatically generate real-time pass/fail results and printable reports



MADE IN THE USA
of U.S. and imported parts



Automated Testing Saves Time & Money

PREPARE. MEASURE. REPORT. IT'S THAT EASY.

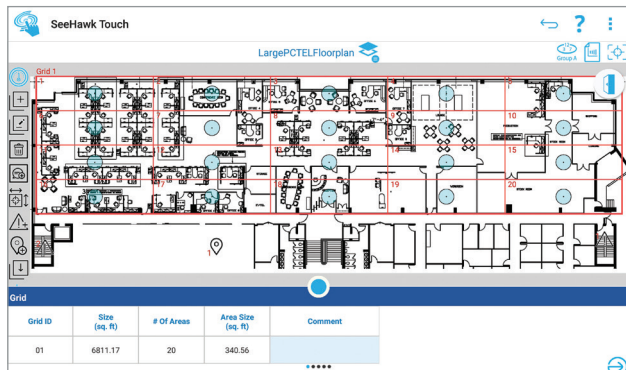
Replace manual processes and ensure critical communications coverage with the PCTEL® Public Safety Network Testing Solution. Our streamlined grid-based testing tool makes it easy to meet or enforce local building codes for Emergency Responder Communications Enhancement Systems (ERECs). The simple pass/fail grading system is also a great way to ensure coverage for cellular, WiFi, life safety, and business critical radio networks.



1 PREPARE

Create grids and set up tests

- Schedule uplink testing with kit at radio site or with SeeHawk™ Monitor (optional)
- Prepare test plans remotely in SeeHawk™ Central cloud platform or locally on your tablet
- Import a floorplan, add and adjust grids
- Identify test locations and critical test points
- Select frequencies
- Configure pass/fail criteria



- ▲ Automatically identify test locations with easy-to-use grid creation tools that rotate to fit your floorplans.



Planning Tool

SeeHawk® Touch

- ▲ Planning tool integration enables you to easily import floor plans and export test data.

2 MEASURE

Execute tests and grade by threshold

Tap to test downlink | Tap and talk to test uplink | View pass/fail results in real time

Area	Grid ID	Area #	Channel	Band	Frequency (MHz)	DL Power (dBm)	DL S/N (dB)	DL BER (%)	DL Signal Power	DL DAQ	UL Power (dBm)	UL S/N (dB)	UL BER (%)	UL BER (%)
	01	01	5330	EB 14: Upper 700	763.000000	-79.79	6.51		-108.12	4.6	-65.00	28.00		
	01	01	1	WiFi Band	2412.000000	-57.00								
	01	01	1	300 p25 germant...	380.125000	-64.03	37.21	0.00		4.7	-60.00	28.00	0.00	
	01	01	1	DMR	452.230000	-119.36				4.8	-62.00			
	01	01	1	TETRA	870.175000	-103.94				4.5	-55.00			

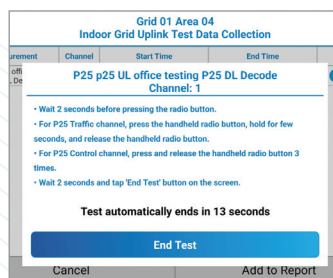
RFlex Device 081703025 DC Power Level: 92%

Automated, objective downlink signal quality measurements (white)

Automated, objective uplink signal quality measurements (white)

- LMR (P25, DMR, TETRA, etc.)
- WiFi
- LTE/FirstNet
- Measure all bands, technologies, and channels simultaneously
- Objectively measure signal quality (BER and SINR)
- Test channel power for any technology

Automated Uplink Testing



- ▲ Initiate uplink test at each grid location in SeeHawk Touch

- ▲ SeeHawk™ Monitor automatically measures uplink at the radio site

“We did the coverage testing in about 25% of the time planned.”

– Jason Chambers, Day Wireless Area Service Manager

3 REPORT

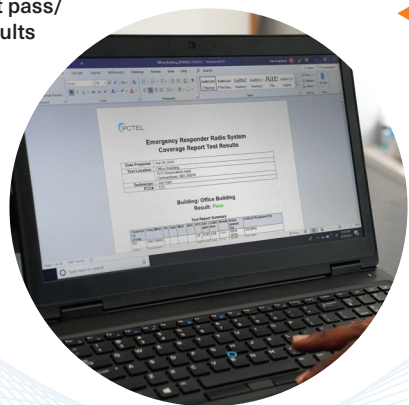
Auto generate real-time results and submittable reports with one tap

- Synchronize uplink data from uplink test kit at radio site or from SeeHawk™ Monitor Platform Manager
- Automatically upload to SeeHawk™ Central cloud platform for collaboration and reporting
- Automatically incorporate uplink and equipment room test results
- Customize pass/fail criteria on multiple reports to meet local government or business requirements
- Save printable reports within minutes, locally or on SeeHawk Central

Building Result		PASS	
Number of floors tested:	24	Area Pass Criteria %:	95 %
Number of areas tested:	672	Critical Points Pass Criteria %:	99 %
Number of critical points tested:	0	Result Calculation:	By area per floor

CHANNELS RESULT		FLOORS RESULT	
Floor Plan	Result	Result	Move
<input checked="" type="checkbox"/> FLV 28 - 620'	Pass	Pass	
<input checked="" type="checkbox"/> FLV 27 - 620'	Pass	Pass	
<input checked="" type="checkbox"/> FLV 26 - 620'	Pass	Pass	
<input checked="" type="checkbox"/> FLV 25 - 620'	Pass	Pass	
<input checked="" type="checkbox"/> FLV 24 - 620'	Pass	Pass	
<input checked="" type="checkbox"/> FLV 23 - 620'	Pass	Pass	
<input checked="" type="checkbox"/> FLV 22 - 620'	Pass	Pass	

▲ Instant pass/fail results



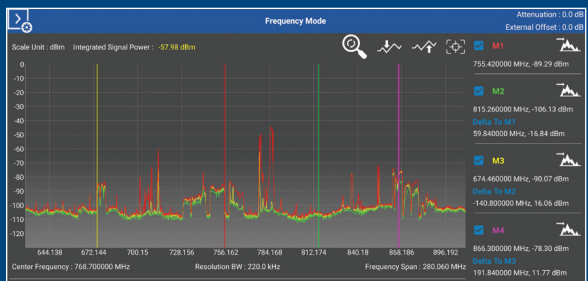
◀ Save as Excel or Word document

GET EVEN MORE DONE, FASTER

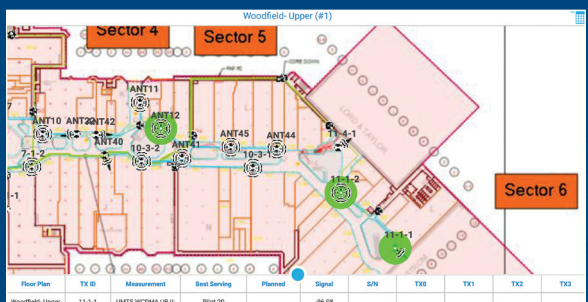
PCTEL's Public Safety Network Testing Solution includes additional tools that streamline testing throughout your project lifecycle.



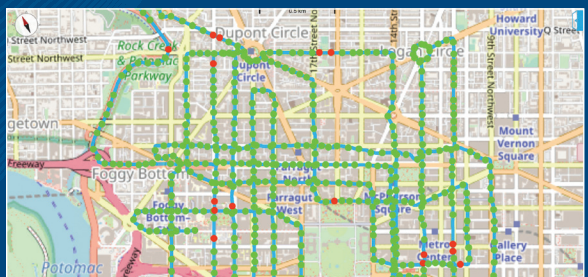
▲ Indoor walk testing: detailed data for DAS and small cell network design, baseline testing and optimization



▲ Spectrum Analysis mode for troubleshooting and equipment room work, right on your tablet



▲ Antenna Verification Tool (optional): fast troubleshooting during the DAS and small cell commissioning process



▲ Outdoor mode (optional): drive and walk testing for cellular and LMR networks with automatic GPS mapping

SeeHawk™ Central

CLOUD REPORTING AND AUTOMATION PLATFORM FOR GRID-BASED NETWORK TESTING

SeeHawk Central extends the capabilities of SeeHawk® network testing solutions with time-saving workflows and anytime, anywhere access to all your grid-based data.

Planning and Workflow Automation

- Set up and plan tests in the office
- Schedule reminders for testing, re-testing, and approval dates
- Download test plans to SeeHawk® Touch
- Automatically upload test results to Central
- Manage test results by type: Baseline, Intermediate, Final, and Annual
- Review and approve test results online



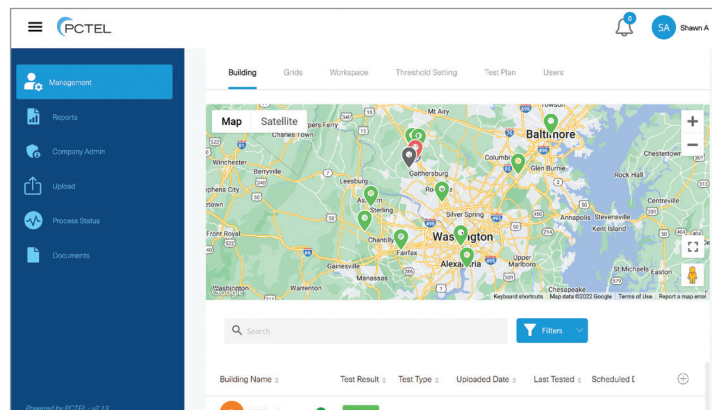
▲ Data upload from SeeHawk® Touch to SeeHawk Central

Cloud-Based Data Repository

- Centralized access to all your organization or jurisdiction's data
- Locate buildings on an easy-to-use map-based interface
- View historical data and compare results

Fast, Secure Data Sharing

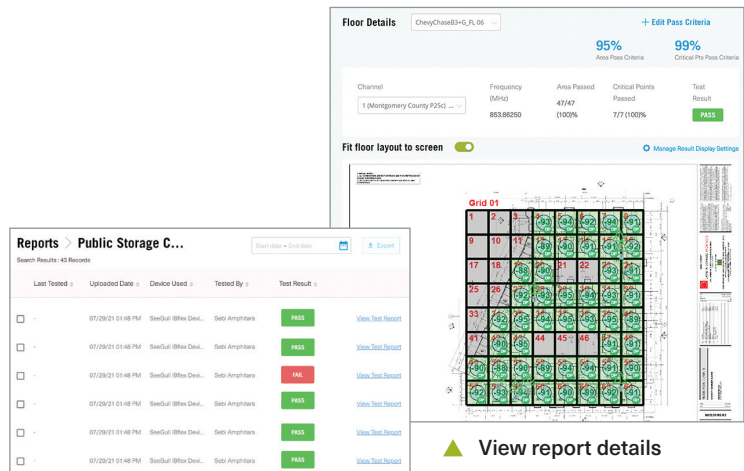
- Share instantly with customers, jurisdictions or across teams
- Create secure individualized logins for team members and stakeholders
- Submit test plans and results instantly to AHJs and public safety radio system managers



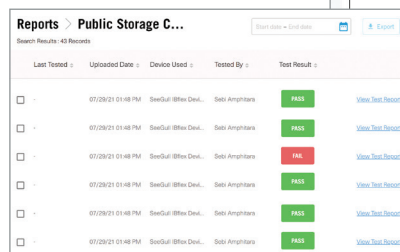
▲ SeeHawk Central

Instant Reporting

- View and generate test reports online for submission
- Create multiple test reports with different criteria or tested channels from the same test
- Summarize and track data by property owner, company, jurisdiction, tester, office, or technology



▲ View report details



▲ Access historical data

User Benefits

With SeeHawk Central, it's easier to test, manage, share data, and evaluate in-building critical communications, WiFi, and cellular networks.

System Integrators and Testing Services

- Save time and improve workflows
- Securely share data with customers, team members, and jurisdictions
- Manage all of your tests in one place
- Impress customers with value-added reporting
- Generate more business



AHJs (Authorities Having Jurisdiction) and Radio System Managers

- Simplify code enforcement
- Access all ERCES (Emergency Responder Communication Enhancement System) grid test data in one platform
- Track all of your jurisdiction's buildings
- View data and summary reports in a specialized dashboard
- Integrate with your existing systems



Building Owners

- Accelerate building code approvals
- Track retesting dates
- Verify critical communications, WiFi, and cellular coverage
- Manage all nationwide properties in one platform
- Find service providers in your area

COLLABORATE WITH PUBLIC SAFETY OFFICIALS

Work Together for a More Efficient Code Approval Process

- AHJs and Radio System Managers **distribute channel and test criteria**
- Testers **send test plans and results** to the local AHJ or Radio System Manager
- AHJs and Radio System Managers **review and approve** test plans and results
- All parties share schedules and **track due dates** together
- AHJs and Radio System Managers receive **FREE SeeHawk Central accounts***

Create New Settings

Indoor Grid : Threshold Settings

Measurement	DL Area Point	UL Area Point	DL Critical Point	UL Critical Point	Use For Grading
General Power (RSSI) (-150 to 0)	-95 dBm	-95 dBm	-95 dBm	-95 dBm	<input type="checkbox"/>
P25 Power (RSSI) (-150 to 0)	-95 dBm	-95 dBm	-95 dBm	-95 dBm	<input type="checkbox"/>
P25 S/N (dBm) (-10 to 50)	20	20	20	20	<input type="checkbox"/>
P25 FBER (0 to 100)	2 %	2 %	2 %	2 %	<input type="checkbox"/>
P25 BER (0 to 100)	2 %	2 %	2 %	2 %	<input type="checkbox"/>
DMR Power (RSSI) (-150 to 0)	-95 dBm	-95 dBm	-95 dBm	-95 dBm	<input type="checkbox"/>

Submit Building Report

Management > Building > Building S > Test Report

AHJ

Company Name: Contact Person:

Radio System

Company Name: Contact Person:

▲ Adjust test criteria

▲ Submit results to AHJs and Radio System Managers

Building Grids Workspace Threshold Setting Test Plan Users

Map Satellite

Search Filters

Building Name	Test Type	Uploaded Date	Last Tested	Scheduled Date	Tech
Building M	<input checked="" type="checkbox"/> Pass	11/29/22	11/29/22	-	P25

▲ AHJs and Radio System Managers receive results instantly

*Paid SeeHawk Central subscription required to upload test results

Critical Communications Testing: Public Safety, Life Safety, Business Critical

PCTEL's Public Safety Network Testing Solution combines the precision measurement capabilities of the IBflex® scanning receiver with our tablet-based SeeHawk® Touch software. Choose the kit and options that meet your testing needs.



"I'm able to do my on-site pre-walks in half or even one-third of the time as before when I had to do a more manual walk through the building to record every single frequency."

– Joseph Rohlic Program Manager and Director of Construction Services at Radio One

Kits	IBflex® Scanning Receiver	SeeHawk® Touch Software	Accessories
	Lightweight multi-band, multi-technology radio receiver with Bluetooth® connectivity	Data collection, spectrum analysis, and reporting tools on an Android™ tablet	
Public Safety Network Testing Solution – In-Building P25, DMR, or TETRA	<ul style="list-style-type: none"> Measure all frequencies 10 MHz - 1 GHz P25, DMR, or TETRA downlink signal decoding 5-Year Warranty 	<ul style="list-style-type: none"> Grid test radio channel power (any technology) Grid test P25, DMR, or TETRA signal quality (SINR and BER) Grid test uplink (2nd kit with uplink or SeeHawk™ Monitor system required at radio site) Grid test noise channel power Equipment room test Indoor walk test Signal Analyzer 	<ul style="list-style-type: none"> Android™ tablet Battery pack Back or side pack Walk test antennas Carrying case A/C charger
Public Safety Network Testing Solution – In-Building P25 & ATT-VZW-TMO	All P25 kit features, plus: <ul style="list-style-type: none"> Decode 4G LTE All Verizon, T-Mobile, AT&T and CBRS LTE bands 	All P25 kit features, plus: <ul style="list-style-type: none"> Grid test LTE signal quality 	
Public Safety Network Testing Solution – P25 & Cellular	All P25 kit features, plus: <ul style="list-style-type: none"> All cellular bands 10 MHz - 6 GHz Decode all 2G, 3G and 4G cellular technologies 	All P25 kit features, plus: <ul style="list-style-type: none"> Grid test LTE and UMTS/WCDMA signal quality Outdoor mode for drive test Antenna Verification Testing (AVT) 	All P25 or TETRA kit features, plus: <ul style="list-style-type: none"> Vehicular rooftop antennas Car charger
P25 Uplink (add-on option for 2nd kit connected to radio site)	<ul style="list-style-type: none"> Single P25 traffic channel uplink signal decoding Uplink channel power (any technologies, multiple channels) 	<ul style="list-style-type: none"> Test P25 uplink traffic channel signal quality (SINR and BER) – one channel per kit Automatically synchronizes measurements with grid-based testing and reporting on primary kit 	
Additional options	<ul style="list-style-type: none"> Decode DMR, P25, TETRA, WiFi, 5G NR, NB-IoT, LTE-LAA, or LTE MIMO technologies 	<ul style="list-style-type: none"> Additional software licenses for planning and reporting 	<ul style="list-style-type: none"> Certification training CW transmitter Additional batteries

Solving Complex Wireless Challenges

PCTEL is a leading global provider of wireless technology solutions, including purpose-built Industrial IoT devices, antenna systems, and test and measurement products. Trusted by our customers for over 25 years, we solve complex wireless challenges to help organizations stay connected, transform, and grow.

For more information on Public Safety Network Testing, contact your sales representative or visit
pctel.com/public-safety-testing-solution



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