gapwireless®

N E W S L E T T E R

CLOSING THE GAP

A Newsletter Dedicated to Cutting Edge Solutions for the Next Generation

NOVEMBER UPDATE

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New 5G Panel Discussions

KEYSIGHT TECHNOLOGIES

RFS

JMA

CONSULTIX

5G gapwireless

Keysight, Radio Frequency Systems, JMA Wireless, SureCall and several other industry experts provide in-depth and insightful information on popular questions related to 5G Coverage and 5G & IoT.

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Portable Power Station, 546 Wh
GIVEAWAY

in

KLEIN TOOLS

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Supercharge Your Virtual Meetings

13 advanced Zoom meeting tips you may not know about.

These little-known integrations can make scheduling meetings seamless. Such as how to actually look better in your video meetings and more…

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FREEDOM R8200 NOW AVAILABLE AT GAP WIRELESS

THE ULTRA-PORTABLE LMR TEST SOLUTION FOR SUBSCRIBER AND INFRASTRUCTURE TESTING

Saving money and making the technician's life easier – the next generation of LMR test instruments from Astronics Test Systems.

FREEDOM R8200 FEATURES

- **TOTAL PORTABILITY**
- **ADVANCED FEATURES**
- **HIGH PERFORMANCE TRACKING GENERATOR**
- **PREMIER ERGONOMICS**
- **SUPERIOR SPECTRUM ANALYZER**
- **EXPANDABLE AND UPGRADABLE**
- **MONITOR & CONTROL INTERFACE**

The R8200's newly designed RF architecture features the best spectral purity in the industry, plus a single-port Vector Network Analyzer (VNA) capable of measuring return loss, VSWR, and Phase. There is simply no comparable product on the market.

The Freedom R8200 from Astronics Test Systems represents a major step in the evolution of the Land Mobile Radio service monitor. The R8200 is the first and only test instrument that combines comprehensive digital and analog LMR testing with the ability to measure important RF network characteristics such as Return Loss, VSWR and Phase. The R8200 is also the only service monitor with the ability to display RF parameters in a Smith Chart for more complicated network analysis.

The R8200 enables the two-way technician to carry one portable instrument rather than two – making his or her job easier and freeing space in the van or on the bench. Organizations can now save thousands of dollars and potentially much more by combining two instruments into one. And while it is a completely new, high-specification, premium platform, the R8200 can be purchased with the knowledge that it is backed by the world-class service and technical support capabilities of Astronics Test Systems – the same company that produces the industry leading R8100 and R8000 communications analyzers.

SHOP FREEDOM NOW

RFOCS CATALOG NOW ONLINE

RFOCS (Radio Frequency and Optical Components and Systems) is a world class vendor of test grade RF components and microwave components. RFOCS offers a wide range of low PIM RF components that are often used on cellular towers, on in-building DAS systems, and in wireless research and development labs.

The RFOCS Catalogue 2020 now has direct purchase links. With one click on a SKU# or product name you can see the price and stock level of any RFOCS catalogue product on our Gap Wireless Web Store. Ordering that product is just a easy, all you need to do is sign-in to your web store account or create one.

RFOCS products available at Gap Wireless include:

- Attenuators
- Coaxial Cable Jumpers
- Adapters
- Terminations
- Grounding Kits
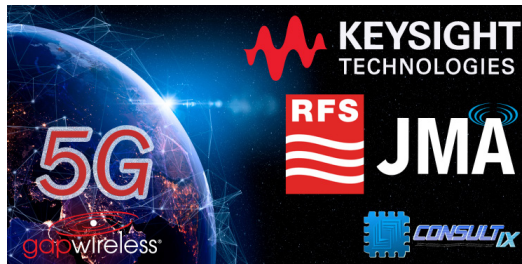- Weather Enclosures
- Hoisting Grips
- Hose Clamps

RFOCS CATALOG

Download

5G Coverage Panel Discussion

5G operators are facing two significant optimization challenges: bandwidth and propagation. If these challenges are looked at separately, the preferences for 5G frequencies can vary.

Additionally, while 5G is an evolution of the cellular technology from 4G, 3.5 GHz is a new and additional frequency band upon which the 5G systems can operate.
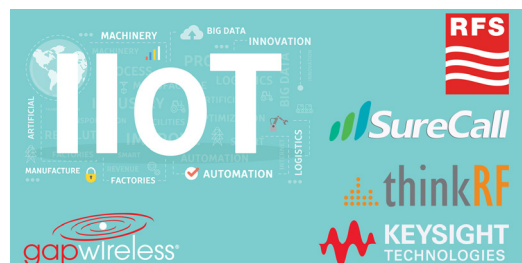
To gain a clearer picture of 5G Network coverage and the importance of MIMO (Multiple-Input and Multiple-Output) and the 3.5 GHz frequency, we reached out to a panel of experts.

Our 5G Coverage panel includes Chuck Powell, Product Director for Base Station Antennas, North America at Radio Frequency Systems (RFS), Amr Elgazzar CEO at Consultix, Greg Dial, Senior Vice President for Product and Marketing Strategy at JMA Wireless, and Roger Nichols, 5G Program Manager at Keysight Technologies.

Read the Full Article

5G & IoT Panel Discussion

It is predicted that within the three years, the number of IoT devices worldwide will be somewhere in the region of 40 billion. Each of those devices will need a network to connect and communicate,

and hopes are high that 5G will meet the challenge and expand the capabilities of IoT. With the addition of LoRa and SigFox networks, the breadth and reach of IoT will be significant, ranging from small, precise data readings to complex interactions between devices and the cloud.

To gain a clearer picture of how 5G Network coverage will impact IoT, we reached out to a panel of experts.

Our 5G and IoT panel includes Nader Famili, MTS leader at RFS, Scott Terry, VP of Engineering at SureCall, Dr. Nikhil Adnani, CTO at ThinkRF, Brad Jolly, Sr. Application Engineer, Barry Scott, IoT Program Manager, and Roger Nichols, 5G Program Manager from Keysight, and Dr. Esteve Hassan, Ph.D., PEng, Industrial Research Chair for IIOT Applications, Mohawk College.

Read the Full Article

Join The Wait List for the Full 5G Report

The complete 5G Report includes the following discussion panel articles in a single PDF:

- *5G Health & Safety*
- *5G Testing*
- *5G Coverage*
- *5G & IoT*
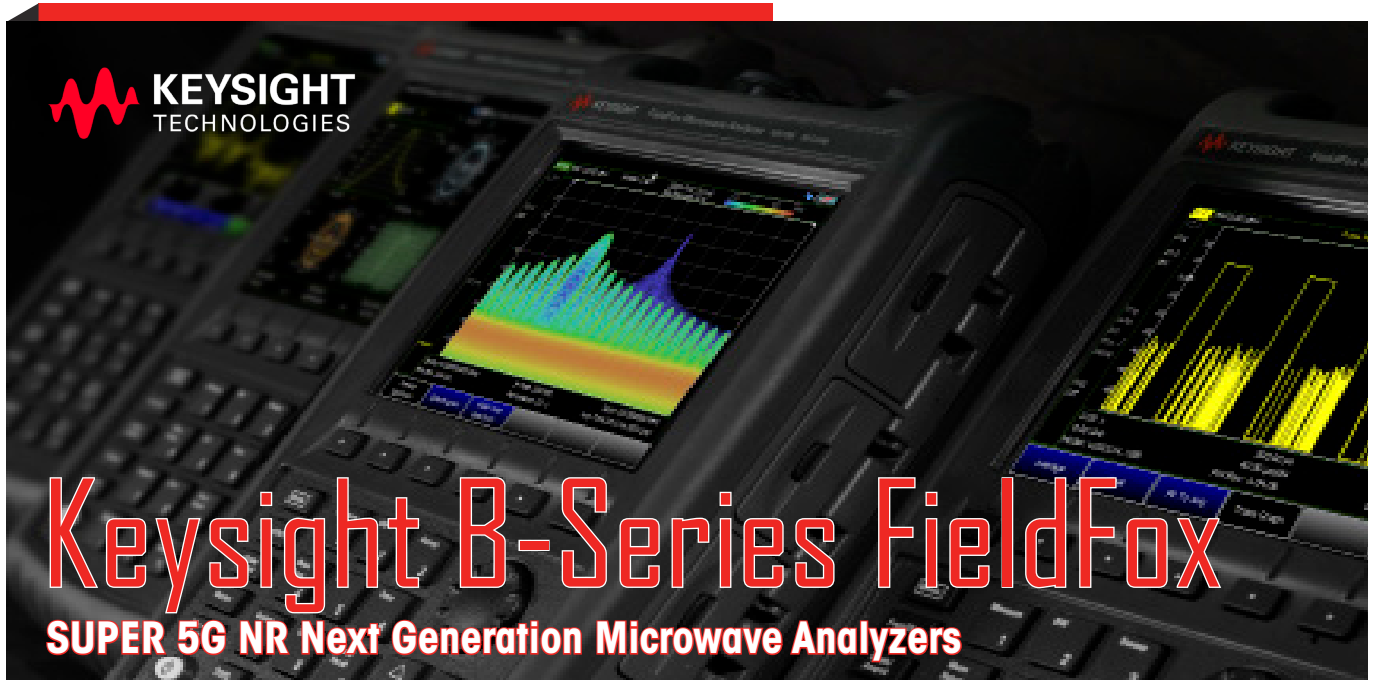- *5G Public Safety Applications*

Join the Wait List

Arriving Early November
5G Public Safety Applications Panel Discussion

Industry experts from Freedom, Bird, Keysight and more provide responses to popular 5G Public Safety Applications such as how will MEC (Mobile Edge Computing) and 5G Public Safety interact? How will 5G improve road and highway safety?

KEYSIGHT
TECHNOLOGIES

Keysight B-Series FieldFox
SUPER 5G NR Next Generation Microwave Analyzers

FieldFox is expanding its capabilities to address emerging test challenges in 5G network installation, optimization and coverage test. The features described below are being added to enhance the FieldFox 5G portable field test solution:

Over-the-air (OTA) 5G NR measurements (Option 378) – Supported on N991xB/N993xB models only

Support for 5G NR FR1 and FR2 over-the-air measurements. The FieldFox B-Series N991xB/N993xB with 100 MHz of bandwidth are perfectly suited to capture and demodulate over-the-air transmissions of 5G NR FR1 and FR2 control channels. Provides key performance indicators including physical cell ID, received power levels and beam index information. Conducted EVM measurement is also included with Option 378.

Indoor and outdoor mapping (Option 352) – Supported on N991x/3x/5x/6xA and N991x/3xB models

Evaluate outdoor and indoor signal coverage by importing Open Street Maps, indoor floor plan, or site map picture file onto FieldFox, no external PC required. Supports record/playback of drive or walk test coverage data using FieldFox and its built-in GNSS/GPS receiver (Option 307) providing geo-location and time stamp information. Map "live" or pre-recorded results, or save to CSV, KML or KDAT file. Supported in OTA, Channel Scanner or Phased Array Antenna modes.

EMF measurements (Option 358) – Supported on N991x/3x/5x/6xA and N991x/3xB models

Measure and verify 5G RF exposure compliance using FieldFox connected to a tri axial antenna. This option measures and displays the corrected field strength in RMS average power. FieldFox controls the antenna and X,Y,Z antenna factors can be downloaded via USB. This option is enabled in OTA and SA modes only, tri axial antenna is not provided.

Frequency extender support up to 110 GHz – Supported on N991x/3x/5x/6xA and N991x/3xB models

OML mini mixer is designed particularly for FieldFox to takes advantage of its built-in internal CW source and USB power supply. This solution expands FieldFox frequency coverage to WR28, WR15, WR12 and WR10, with 6 GHz of bandwidth, and covers both 5G and automotive applications. Supported in OTA, SA, RTSA, Phased Array, VSA and IQA modes. 5G NR FR2 WR28 (24 to 40 GHz) mixer head is orderable direct from OML Inc., model numbers M28H2ADC-K or M28H6ADC-K, with RF input interface 2.92 mm (f).

Spectrum emission mask (SEM) – Supported on N991x/3x/5x/6xA, N9912A and N991x/3xB models

Enhancement to spectrum analyzer mode that adds spectrum emission mask (SEM) to channel measurements (also known as PowerSuite). Allows for up to 8 offsets and provides absolute and relative Pass/Fail limit testing. Not a for pay option, available in SA mode with firmware upgrade.

Aerospace & Defence Applications

- **Satellite communications using 5G air interface**
- **Government agencies: FCC, OFCOM, MIC**
- **Public safety network operators**
- **MILCOM using 5G air interface**

Commercial Communications Applications

- **Tier 1 wireless service providers**
- **Cellular network equipment manufacturers**
- **Wireless infrastructure I&M contractors**
- **Phone and IoT device manufacturers**
- **Autonomous drive subsystem suppliers**

Contact Gap Wireless Us Today to Purchase The FieldFox 5G Portable Field Test Solution
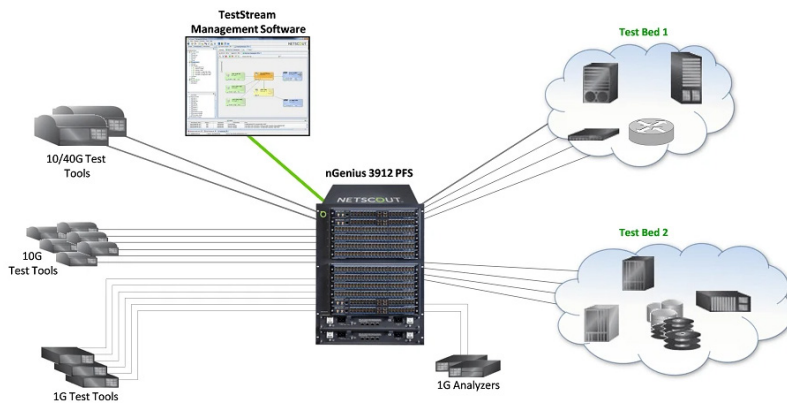
NETSCOUT AT GAP WIRELESS

NETSCOUT SYSTEMS, INC. assures digital business services against disruptions in availability, performance, and security. Their market and technology leadership stems from combining our patented smart data technology with smart analytics. They provide real-time, pervasive visibility, and insights customers need to accelerate, and secure their digital transformation. Their approach transforms the way organizations plan, deliver, integrate, test, and deploy services and applications. Netscout Application & Network Performance Management

NETSCOUT's mission is protecting the global leaders of industry from the risks of disruption, allowing them to solve their most challenging network performance and security problems, ensuring the connected world runs safely and smoothly.

NETSCOUT Products at Gap Wireless

TestStream Lab Automation Infrastructure

Improve Network and Application Test Lab Efficiency, Speed, and Performance. With the fast-paced demands of network and application technologies, NETSCOUT Test Optimization products enable you to improve the efficiency, speed, and performance of your test lab to be prepared to meet today's requirements, as well as those in the future.

Spectra2 Communications Testing

NETSCOUT delivers core network test and validation functions to ensure the successful deployment of new networks, network expansions, or software upgrades. Spectra2 solutions address the following applications:

- Element or E2E functionality validation
- Interoperability and regression testing
- Media validation and QoS reporting
- Element or E2E capacity validation
- Lab or field troubleshooting
- Element conformance testing

SpectraSecure DDoS Resilience Testing

Using built in, configurable DDoS attack vectors, SpectraSecure tests resilience to DDoS attack in a controlled manner. Regardless of where mitigation takes place, SpectraSecure can verify that your applications, networks, or services can withstand attack before the attack happens.

For more information about NetScout or to contact a Gap Wireless account manager, click here

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Keysight Promotions at Gap Wireless

KEYSIGHT TECHNOLOGIES

DSOXBODE Blot Plot Training Kit
For Keysight InfiniiVision X-Series Oscilloscopes

EXPAND YOUR DATA ACQUISITION CAPABILITIES
Free Multiplexer Module with Purchase

LEARN MORE

KEYSIGHT TECHNOLOGIES

LEARN MORE

Klein Portable Power Station, 546 Wh GIVEAWAY

Since 1857
Lithium-Ion
PURE SINE - WAVE

USB Outputs   AC Outputs

Input Port

Digital Display   Accessory Mount

546 WH CAPACITY

How to Enter

It's simple to enter all you have to do is:

1. Like the LinkedIn contest post
2. Comment on the contest post
3. Follow our LinkedIn company page

The contest runs from Oct 28- Nov 18, and then we randomly select someone who has liked and commented on the post and is a follower of our company page.

Klein Tools KTB5 Features

- Large 546 Watt hour portable power station is a versatile, high capacity power bank (24.8Ah / 22.02V)
- Clean, silent pure sine-wave power for electronics
- High-energy density lithium-ion battery
- Four USB ports with a total output of 30W; includes 2x USB-A ports (5V 2.4A), and 2x USB-C ports (5V 3.0A)
- Two AC outlets, 120V each, 300W continuous and 600W peak output
- Digital display with real-time telemetry

Where to enter the contest?
ENTER HERE

Supercharge Your Virtual Meetings
13 Advanced Tips You May Not Know

We're sharing our favorite Zoom tips and tricks to help remote teams take their video meetings to the next level.

These are little-known integrations that can make scheduling meetings seamless. How to actually look better in your video meetings and more…

Zoom Keyboard Shortcuts
Use these shortcuts to save time on common tasks in Zoom.

1. Quick Invite
When you're in a meeting, type Cmd+I (PC: Alt+I) to open the Invite window.

From the Email tab, copy the URL, and send it to anyone who you want to invite to the meeting.

Or click on Contacts to directly invite a colleague if they're on your contact list.

2. Record Meeting
Just type Cmd+Shift+R (PC: Alt+R) to start recording any meeting.

Type Cmd+Shift+P (PC: Alt+P) to pause/resume recording.

3. Share Screen
To start a screen share, type Cmd+Shift+S (PC: Alt+Shift+S).
To pause/resume a screen share, type Cmd+Shift+T (PC: Alt+T).

4. Mute Audio
Use Cmd+Shift+A (PC: Alt+A) to mute/unmute your audio.

5. Turn Off Video
To quickly turn video off/on, hit Cmd+Shift+V (PC: Alt+V).

6. Mute Everyone
Hit Cmd+Ctrl+M (PC: Alt+M) to mute everyone on the call at once.

7. Display Names
Go to Settings > Video and check "Always display participant's name on their videos."

8. Touch Up My Appearance
In Settings > Video, check "Touch up my appearance," and Zoom will soften the focus on your camera, theoretically minimizing any issues with your skin.

9. Silence Notifications
Windows 10 has a built-in feature called Focus Assist that does just this. Just head to Settings > System > Focus Assist, and toggle When I'm duplicating my display to On. You can also toggle it manually from the Action Center found at the bottom right of the Windows 10 taskbar.

Mac users need to employ a third-party app to automate the process, like Muzzle.

10. Use the Zoom Waiting Room Feature
Assess a person before allowing them in. To enable this feature, go to settings, then click on the meeting icon and allow the waiting room setting. Some people may by-pass the control, but the functionality is an excellent inhibitor.

11. Set Your Recording Layout
If you're recording, choose the layout you want to be visible on the recording itself. You can change the layout while recording, so you can maintain your audience's focus on the key elements.

12. Choose the Right Day of Week
According to webinar studies, Wednesday and Thursday are the days people are most likely to attend webinars. "Both Wednesday and Thursday attract 26% of attendees, making up more than half of all webinar attendance." Tuesday comes in third at 24%.

13. Send Reminder Emails.
People forget. Things come up. Last-minute reminder emails -- specifically, one the day before, and one the day of -- give people enough time to finagle attendance around meetings and other items on their to-do list, but also not too much time that they'll forget about the webinar.

EMF Protection for a Large Canadian Utility Company

"Gap Wireless was excited to provide personal RF monitoring solutions to help keep workers safe in the Hydro community." Dave Musfelt, Senior Account Manager, Western Canada, Gap Wireless

On May 15th, Gap Wireless received a request from a large Canadian utility company to help outfit their field personnel working On May 15th, Gap Wireless received a request from a large Canadian power utility company to help outfit their field personnel across the entire province who work in close proximity to hydro towers with personal safety monitors. It was determined that this was crucial for monitoring RF and to ensure the safety for all their employees involved in field work.

Within a month, Gap Wireless and Wavecontrol had worked closely with senior managers at the Utility company to determine we had correctly diagnosed their specific needs. This involved holding several virtual meetings between the prospective customer and Wavecontrol where all their pertinent technical questions, application questions, and competitive comparisons were fully addressed including sending them white papers that specifically addressed some of their power concerns. The virtual meetings also included a full demonstration of the Wavemon RF-60 GPS for all the utility field managers including the use of a two-way radio for field calibration purposes. This was well received, and the managers liked this specifically for work in remote locations.

Immediately after the virtual meeting, the customer received two demo units to field test for two weeks. One unit without the GPS option and one with the GPS option. This assisted in providing them with a full comparison between the two units determining the best unit suited for their application. It was determined that the GPS option would greatly assist them with traceability for location logging. Having the ability to record and log the readings and keep accurate records for future comparisons and traceability was crucial for their internal auditing.

On June 18, Gap Wireless received the first order for 60 units of the Wavecontrol RF-60 with internal GPS included and the order was shipped in early August.

This is just one example of Gap Wireless' ability to collaborate with world-class manufacturers to provide and deliver solutions to complex problems in a short matter of time even during the very challenging global supply chain issue that Covid-19 has caused.
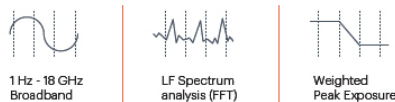
Solving Communication Challenges in the Mining Industry

Over the past couple years Gap Wireless has been working with a Private LTE Network Integrator to solve challenges in the mining industry. End users in mining need high availability, highly reliable, high throughput, and low latency communications within the mines, to the main offices at

ground level and to the rest of the external world connecting to the PSTN and Internet. RF engineers from both the customer and Gap Wireless met on a regular basis during 2018 until the full strategy was put in place to deliver the passive infrastructure for their private LTE networks.

Gap Wireless worked with the Private LTE Network Integrator customer on providing the right RF transmission systems depending on the mine architecture. Various deployment configurations were elaborated based on the type of mines, covering long and narrow subterranean tunnels, to large underground chambers and open-pit mines. The systems needed to support the traditional voice communications, data connections for

pushing work orders down into the mines, returning telemetry from machinery, but also new suctions such as real-time remote control of machinery in the mines as well as personnel and asset tracking for safety purposes. Gap Wireless worked with the customer to develop new passive coaxial components that would allow the powering of active devices directly from and connected to the main coaxial network, and thus in spite of the use of components that do not traditionally allow to pass DC current. Aside from surmounting technical limitations of COTS components, the customer also had very little storage room and was not equipped to cut, connectorize and test cable assemblies. Also, given the remote locations of many of the mines, little to no radio frequency expertise is available local to the deployment areas. Gap Wireless setup a process to pre-terminate and spool coaxial and radiating cables at fixed lengths onto smaller reels each identified by their manufacturing lot number along with all relevant test data for each cable segment, and assisted the customer in creating a training program to enable the end user to install the passive network with exiting mine personnel, all while being very conscious of the delicate handling requirements of coaxial cable.

By early 2019, Gap Wireless was delivering multiple kilometres of pre-terminated, pre-tested cable segments varying from 50 meters to 500 meters in length. The Private LTE Network Integrator customer had also grown from mostly rural and more northern areas of Eastern Canada to active projects around the world, including in the US, Mexico, South America, Europe and Asia.
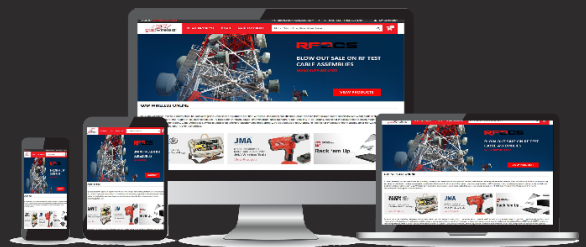
This project has been a big success because everyone in the procurement chain has benefitted from the relationship and processes that have been put in place throughout these projects. It is win-win-win-win: for our infrastructure manufacturing vendor partners, our private LTE integrator customer, for the end users, and for Gap Wireless.

Gap Wireless Web Store

Browse the extensive Gap Wireless Web Store to discover the latest solutions from our network of more than 60 world-class manufacturers. You'll find a wide variety of test and measurement equipment, ICT equipment, and telecom infrastructure equipment.

Visit Web Store Now

Gap Wireless

Gap Wireless is a leading provider of products and services for wireless network operators and contractors, as well as electronic labs in the Government, OEM, and Education markets. Gap Wireless works with industry-recognized vendors to stock and distribute thousands of wireless infrastructure, public safety, and test & measurement products across North America. Gap Wireless also provides value-added technical/engineering services.