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

SEPTEMBER 2021

Gap Wireless Success Stories

Learn how Gap Wireless is helping provide solutions for the Canadian Government and Department of National Defence pg. 6
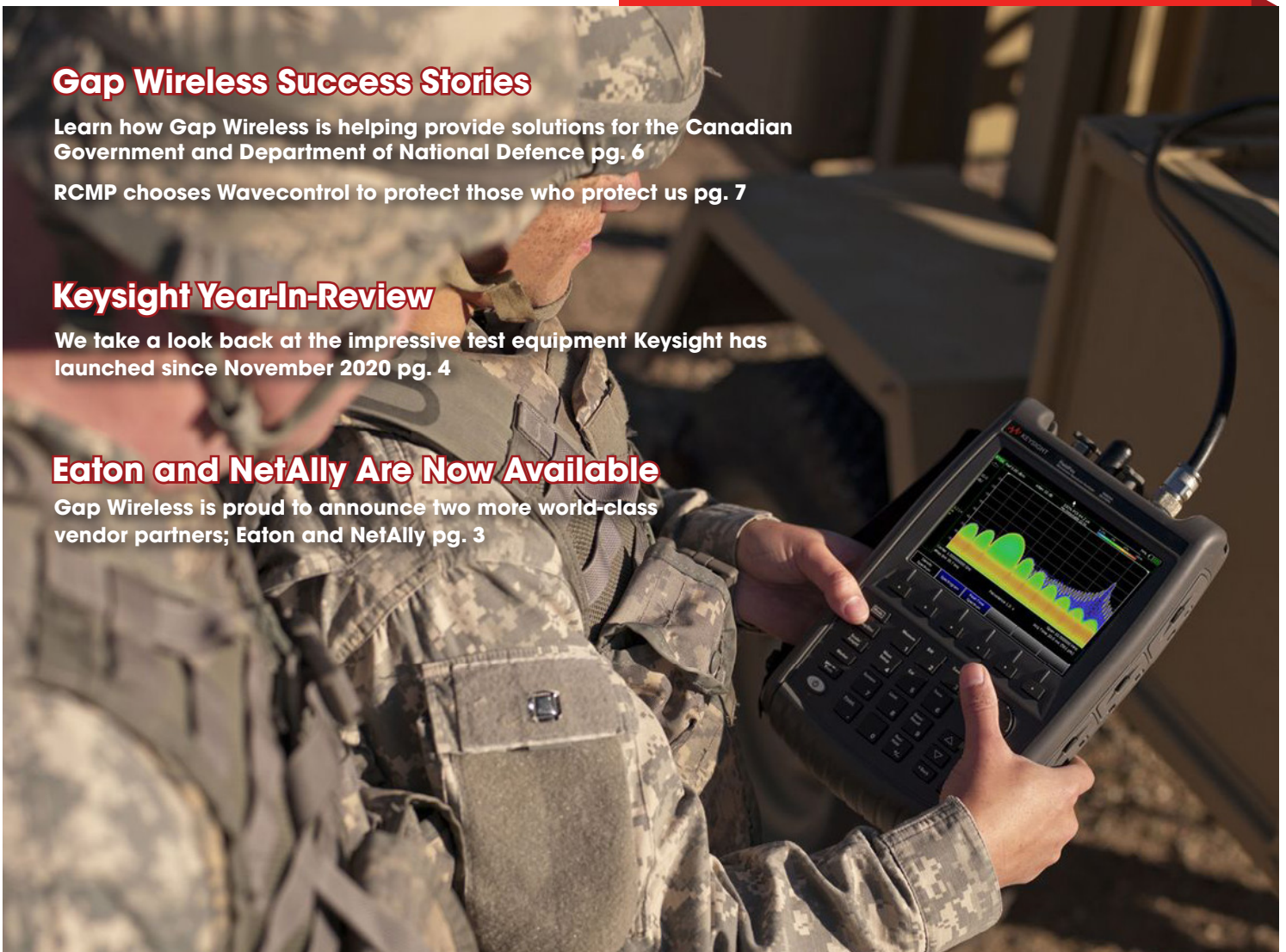
RCMP chooses Wavecontrol to protect those who protect us pg. 7
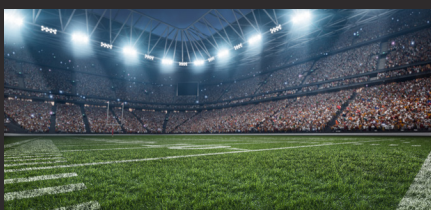
Keysight Year-In-Review

We take a look back at the impressive test equipment Keysight has launched since November 2020 pg. 4

Eaton and NetAlly Are Now Available

Gap Wireless is proud to announce two more world-class vendor partners; Eaton and NetAlly pg. 3

2021 Site Antenna Report

In this report, we will examine small cell site antennas, specifically, cannister antennas and RF lens multi-beam antennas.

WaveMon 25% Off + FREE GPS

When you purchase a Wavecontrol WaveMon before December 31 2021, you will save 25% and get a free GPS add-on.

Junkosha Cables Giveway

Everyone who scores 40 or above on our skill-testing questions will be entered in a random draw for Junkosha cables.

2021 Site Antenna Solutions Report

2021 Site Antenna Solutions Report

In this report, we will discuss the differences between macro cells and small cells and examine cannister antennas and RF lens multi-beam antennas.

Antennas are the wires of the wireless world. They are the last stop for a signal on its way from a transmitter and the point of entry for a signal coming home to a receiver. A wireless network can be built with the world's latest high-performance radio technology and best fiber optic backbone, but the network will only perform as good as the antennas used to send and receive the signals from the radio. A poor quality, poor performing antenna will cripple overall performance and bring the high-performance radios to their knees. Without good antennas, wireless is just less.

But not all antennas are created equal. The right antenna can make the difference between a wireless system that delivers on expectations, and one that falls flat. When designing any wireless system, the antennas must be carefully chosen to fulfill system requirements and the demands of end users. Many additional factors must also be considered, from RF performance to installation requirements to site aesthetics to total cost of ownership.

In this report, we will examine a few different site antenna solutions, with a primary focus on small cell site antennas including cannister antennas and RF lens multi-beam antennas. Before we begin that discussion, we will examine the differences between macro cells and small cells and what those differences mean when selecting antennas.

MATSING **gamma nu**

Download the Site Antenna Solutions Report Today

Download

2021 In-Tunnel Wireless Report

Ensuring Safe and Reliable In-Tunnel Wireless Solutions

We're two decades into the new millennium, and the wireless communication pioneered in the previous century has become the foundation of every aspect of our lives. Wireless infrastructure is all but a utility, expected both indoors and out, from street level all the way to the top floor of the highest skyscraper. However, certain environments remain a challenge when it comes to wireless solutions. Tunnels are one such setting.

You don't have to be a miner deep underground to have a need for in-tunnel wireless connectivity. Millions of urban commuters pass through thousands of kilometers of rail and road tunnels every day, and for many, these tunnels represent wireless dead zones in which they're isolated from loved ones and locked out of their work.

But tunnels don't have to be wireless wastelands. Though there are unique challenges in implementing in-tunnel wireless systems, there are emerging solutions that combat these challenges in an effective and affordable way. In this report, we will examine these challenges and solutions to understand the best approach to in-tunnel wireless.

RFS

Download Now

Eaton Power Management Solutions at Gap Wireless

Eaton's energy-efficient products and services help our customers effectively manage electrical, hydraulic and mechanical power more reliably, efficiently, safely and sustainably.

Eaton Backup power, UPS, surge & IT power distribution

To help you maintain business continuity and prevent downtime, Eaton offers a comprehensive portfolio of backup power and distribution equipment, protecting you from a host of threats, including power outages, surges and lightning strikes.Eaton also provides a suite of power management products to enable you to monitor and control your power infrastructure.

Eaton Products at Gap Wireless

- Automatic transfer switches
- Backup Power (UPS)
- DC power
- Network connectivity

- Power conditioners
- Power distribution units for IT equipment
- Power management software
- Prefabricated UPS solutions

LEARN MORE

NetAlly Network Testing Tools at Gap Wireless

For over 25 years, NetAlly has been the #1 ally of network professionals worldwide.

From the smallest companies to the Fortune 100 and across a range of industries, network professionals around the world rely on our tools to plan, deploy, validate, and troubleshoot wired and wireless access networks and the devices that connect to them.
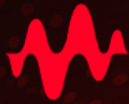
Whether you are a network manager, engineer, technician or admin, or a field service installer/system integrator, you can rely on our tools to give you the visibility you need to get your job done, fast.

NetAlly leading-edge tools work hard to get the job done fast by:

- Simplifying the complexities of network testing.
- Providing instant visibility for efficient problem solving.
- Enabling seamless collaboration between site personnel and remote experts.

LEARN MORE

KEYSIGHT
TECHNOLOGIES

Year-In-Review
Recent Product Launches

Keysight Smart Bench Essentials Series

The Keysight Smart Bench Essentials Series is a revolutionary design solution for modern teaching labs and aspiring new product development electronics engineers.

The solution allows you to test, analyze, and share results collaboratively, across the room or around the world. Whether you are teaching, learning, or working on a design, from a classroom or from home, you have full access to configure and test using your connected instruments. The hardware, leveraged from higher-performance instruments, is built into the Smart Bench Essentials Series. So you get the benefits of Keysight's measurement performance in a low-cost, compact package.

Keysight gave the user interface and display special treatment to make them straightforward, easy to operate, and consistent with our best-selling products. With the signature 7-inch color display, you can view more information clearly, even from a distance.

Learn More

Keysight N932xC BSA-C Spectrum Analyzer Up To 20 GHz

Proven reliability on your bench.

Keysight BSA spectrum analyzers cover a wide frequency range and provide general purpose spectrum analysis.

Achieve higher productivity on a smaller budget with the BSA. Features like proven test efficiency, best in class usability, and the flexibility to adapt to new requirements are just a few of the reasons using the BSA means you can rely on results.

Expanded frequency range. Get full frequency coverage from RF to Microwave in a single code set to cover a wider range of applications.

Broad selection of features. Rich set of features available from EMI filters for compliance testing to tracking generator for stimulus/response measurement.

Cost effective investment. Low-cost spectrum analyzer on a proven reliable platform with 5 year standard KeysightCare factory warranty.

Learn More

mmWave Wideband FieldFox Handheld Analyzers

Ideal 5G deployment and field-testing tool with 120 MHz real-time bandwidth and over-the-air (OTA) measurements.

Ability for 5G, satellite and radar operators to make true RF coverage measurements, up to 54 GHz and beyond, and beamforming verification with phased array antenna support.

Simplified field signal monitoring with wideband capture and recording of fully corrected IQ data.

Highly efficient radar and EW systems diagnostics with spectrum analysis, full 2-port VNA, power meter, pulse and noise figure measurements and results that correlate with high-performance bench top instruments.

Durable handheld analyzers that can withstand your toughest working conditions.

Learn More

Keysight B2980B Series Femto/Picoammeter & Electrometer/

Keysight B2980B Series Femto/Picoammeter and Electrometer/High Resistance Meter. The world's only graphical Picoammeter/Electrometer that can confidently measure down to 0.01 fA and up to 10 PΩ

Keysight B2980B Series of Femto/Picoammeters and Electrometers/High Resistance Meters not only offer best-in-class measurement performance but also provide unprecedented features to maximize your measurement confidence. The Femto/Picoammeters and Electrometers both offer 0.01 fA (10-17 A) minimum current resolution, which meets virtually all existing and future low-level current measurement needs. The electrometers feature a 1,000 V voltage sourcing capability that supports up to 10 PΩ (1016 Ω) resistance measurements. The electrometers also work with Keysight's well-proven high resistance meter accessories. Both the Femto/Picoammeter and Electrometer have battery-powered versions to eliminate AC power line noise. This available capability provides an unmatched level of noise reduction, enabling low-level measurements that were previously impossible.

Learn More

EXR-Series Infiniium Oscilloscope

With eight models ranging in performance from 500 MHz to 2.5 GHz, 4 or 8 analog channels, and dozens of hardware and software options, the Infiniium EXR-Series is Powerful, Easy-to-Own & Intuitive to Use.

The Infiniium EXR-Series offers up to 2.5 GHz bandwidth and 16 GSa/s sample rate on every single one of its four or eight channels. Combined with 100 Mpts of standard memory per channel, flexible three-stage triggering, over 50 standard measurements, a massive library of application specific packages, and ASIC-accelerated testing, the Infiniium EXR-Series lets you see more of your signal than ever before.

Each model incorporates a 10-bit ADC with a sample rate of 16 GSa/s available on all channels simultaneously. A high-resolution ADC's usefulness is dependent on the low-noise front end that supports the additional quantization levels. Our low noise front end includes custom ICs, like the 130 nm BiCMOS IC that incorporates user-selectable analog filters and bandwidth upgrades via a software license.

Learn More

Keysight Buy 1 EXR & Get 1 4000 X Series Free Ends 02/28/22

When you purchase any eight-channel Keysight Infiniium EXR-Series oscilloscope along with a Keysight InfiniiVision DSOX4034A, you get both oscilloscopes for just the price of the EXR.

That's right, you effectively get two oscilloscopes for the price of one!

There has never been a better time to buy an EXR-Series scope, so take advantage of this offer now!

OFFER CODE:
008 EXR058A
009 EXR108A
010 EXR208A

Learn More

How Gap Wireless Helps the Government & DND

(Photo by Mass Communication Specialist 2nd Class Anthony Flynn)

For the past 10 years, Gap Wireless has been playing an important role in supporting the Canadian Government and Department of National Defence in several value-added ways.

Firstly, we stock and distribute thousands of Test & Measurement products from world-class manufacturers, such Keysight Technologies, Astronics, and Bird RF. Delivering the latest RF Test equipment, network cable, and fiber optic testers that are renowned for their accurate and efficient measurements. From the smallest component tested in the lab to the largest antenna inspection in the field.

Due to our impressive track record of results, we were awarded a major Royal Canadian Air Force (RCAF) contract to provide Test equipment for the crucial maintenance of the Canadian F18 fighter jet fleet across all bases. The RCAF choose the Keysight Fieldfox Microwave Analyzer for its ruggedness and capabilities to support multiple measurement from Pulse Radar, CAT to spectrum analysis.

Most recently, we have been working very closely with the Royal Canadian Navy and alongside Keysight on the Halifax-class modernization and frigate life extension program to help them to identify their future need for new state-of-the-art Test equipment.

The ships are the backbone of the RCN. They can deploy anywhere in the world, either independently or with NATO or individual allied nations. We are very proud to support the refit process.
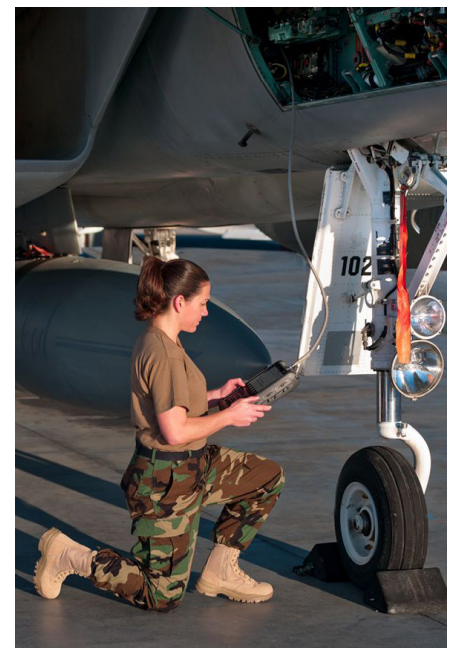
Our involvement came about three years ago based solely on a request for some bench equipment. After several discussions and meetings and a hands-on Keysight FieldFox demo, the RCN realized how impressive the Keysight FieldFox Handheld Microwave Analyzer truly was and the process to replace their stack of instruments with the powerful, all-in-one FieldFox analyzers began.

Gap Wireless was awarded a multi-million dollar contract from the RNC to provide the Test equipment's that are now destined to be dispatched throughout the 12 Canadian-built Halifax-class Frigates from coast to coast and use for the maintenance of the communications on the ship. This was certainly our biggest RCN contract to date, but far from out last.

In addition to Test and Measurement, Gap Wireless also provides Canadian Government Agencies and the (CAF) Canadian Armed Forces with everything they might need for their demanding end-to-end telecom infrastructure and ICT deployments, maintenance, and enhancement solutions.

Lastly, we work with our vendor partners to provide a complete airspace security solution for Counter-Unmanned Aircraft Systems. Modern security for Military and Defense customers requires a layered approach that keeps up with the evolution of drone technology and that is what Gap Wireless can provide.

**Learn More About
Our Military & Defence
Solutions at Gap Wireless**

RCMP Chooses Wavecontrol to Protect Those Who Protect Us

Gap Wireless is proud to be Canada's only authorized Wavecontrol distributor.

RCMP personnel are always in front of danger they can see. It is the hazards like Electromagnetic Radiation that they can't see that can cause them health concerns.

In the field, there are multiple areas where they are exposed in LTE/5G networks as well as radar applications. With the advent of Safety Code 6, Wavecontrol provides a solution that makes the police officers and supporting personnel aware of dangerous situations.

Employers are now obligated to protect their employees on factors that can affect their health. This includes determining safe areas around emitting devices and restricting access.
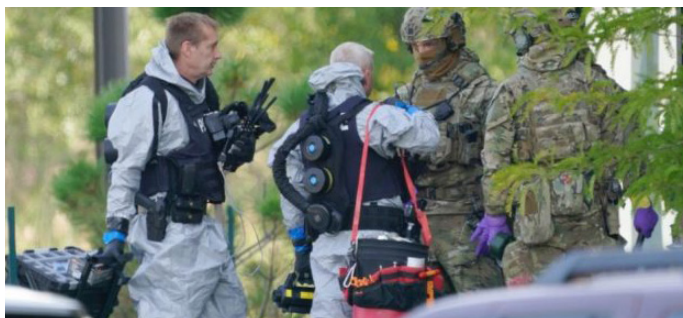
The Wavecontrol equipment that was selected by RCMP, and supplied by Gap Wireless, provides a lightweight solution. It provides an audible, visible, and vibration alarm for the user. It can easily be attached to a belt, pocket or harness. The capabilities of GPS, and altimeter were also important for RCMP needs.

The capabilities of data logging for the exposimeter for data collection and reporting were key in the RCMP's decision to go with Wavecontrol.

(Greta Kooy/CapilanoCourier)

These features in a small compact device battery operated will ensure the safety of the RCMP employees in the field or the lab.

(Ivanoh Demers/Radio-Canada)

(HDR/Hurley Palmer Flatt /LabBulletin)

25% OFF WAVEMON & FREE GPS ADD-ON

WAVECONTROL
Safety, Quality, Service

The WaveMon RF-60, the new personal monitor of the WaveMon family, alerts the user of high frequency electromagnetic fields up to 60 GHz, range that includes the next-generations 5G networks worldwide.

UNTIL DEC 31

The WaveMon RF-60 exposimeter can trigger an E-field overexposure alarm according to the international limits, with a new feature: it now includes the limits not only for workers, but also for the general public in the standards Safety Code 6, ICNIRP, FCC and EU Directive 2013/35.

The new design of the new WaveMon presents substantial improvements, such as the battery level display with blue LEDs and the increased charging efficiency through the USB port.

The WaveMon software has also been updated. Now, the log charts can be easily copied to the clipboard and the data log can be quickly exported with default file names. Finally, the alarm sensitivity of the WaveMon can be set to 10%, improving on the 25% allowed until now.

Moreover, the WaveMon RF-60 has the same advantages of the rest of the WaveMon family: GPS

and altimeter to map the measurements, lightweight, portable, easily wearable on the arm or in the harness, and a huge battery autonomy.

The Main Characteristics of the Wavemon

• Conforms to international electromagnetic field safety standards
• E-field measurements up to 60 GHz
• Isotropic sensors
• **FREE GPS Add-On (Until Dec 31)**
• RMS detection
• Weighted response chosen from among ICNIRP, European Directive 2013/35/EU, FCC, Safety Code 6 (2015) and NATO, for direct comparison with the standard limit
• Instantaneous and average values, according to international standards
• High immunity at a 50/60 Hz: 30 kV/m
• User-configurable alarms

• High intensity audible, visible and vibration alarms
• Customisable alarm threshold
• Datalogger to report and record data
• RF absorption to reduce reflections from the user's body
• USB for PC connection to parameterise and download data
• Small and lightweight

Junkosha Cables Giveaway - Over $2,400 in Prizes

Junkosha
Phase Performance That Endures

Junkosha Cables Contest

Win!

Junkosha

gapwireless®

How to Play

Gap Wireless is launching a Junkosha Cables Contest on October 4th, 2021. Everyone who scores 40 or higher on the skill-testing questions below before November 4th, 2021 will be entered in a random draw for the following prizes:
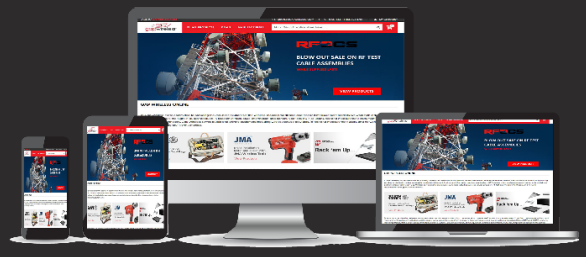
1. A pair of percision armored cables, MWX021 Series, N Male to N Male, 1 Meters ($1,500 Value)

2. A pair of precision armored cables, MWX221 Series, DC to 26.5 GHz, 3.5mm Male to 3.5mm Male, 1 Meters ($800 Value)

3. $100 Visa Gift Card

4. $50 Visa Gift Card

5. $25 Visa Gift Card

6. Gap Wireless Swag Bag

Wait! It gets even better...

As a reader of our newsletter, you have an advantage. Anyone who scores 40 or above before the official start date of Oct 4th will receive DOUBLE-ENTRY.

ENTER NOW

Junkosha is a proud Gap Wireless vendor partner and has developed cables with excellent phase stability against temperature, enabling highly reliable signal transmission even in environments where temperature fluctuation is common - including in Space.

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.

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