MOTOROLA WIRELESS BROADBAND

Motorola Licensed 4.9 GHz Wireless Broadband Solutions for Government and Public Safety

Only From Motorola: The Industry's Broadest Portfolio of 4.9 GHz Broadband Solutions

Motorola's Point-to-Point, Point-to-Multipoint and Mesh solutions comprise the most trusted, most comprehensive portfolio of 4.9 GHz licensed spectrum wireless broadband solutions in the industry.

MOTOROLA INNOVATION

Motorola's Wireless Broadband solutions provide and extend coverage both indoors and outdoors. The Motorola Wireless Broadband portfolio offers high-speed Point-to-Point backhaul, Point-to-Multipoint distribution, and Mesh and WiFi access networks that support data, voice and video communications, enabling fixed and mobile applications for public and private systems.

In public safety, where people's lives are on the line every day, on-scene professionals need information to make the right decisions right away. Technology choices are all about trust. For decades, police, fire and other public service departments and agencies have trusted Motorola for mission-critical wireless voice communications. Now you can trust your mission-critical data connectivity to Motorola too.

Today, new wireless broadband technology enables public safety teams to leverage the licensed security of the 4.9 GHz licensed spectrum for data and video surveillance. Motorola provides reliable connectivity for wireless broadband with a portfolio of solutions that can be tailored to meet the needs of virtually any community.

Benefits of Motorola Wireless Broadband connectivity include:

Force Multiplication. In high-crime areas, a Motorola Wireless Broadband 4.9 GHz video surveillance network provides round-the-clock video surveillance of critical, high-risk locations. Video is sent directly to the central command center and is streamed to officers in the field for faster and safer response to any situation. Motorola video surveillance networks enable a municipality to supplement feet on the street with eyes on the street, and are proving to help reduce crime rates significantly.

Real-time Information. Nothing is more important to first responders than accurate, actionable information. Motorola Wireless Broadband 4.9 GHz networks provide information that enables police, fire and other public safety personnel to correctly assess a situation before they respond. Police officers can check on crucial data from their patrol cars and from the field so that they can be prepared as they arrive on scene. Fire personnel can see real-time video of — and communicate with — the actual fire scene as they respond. EMTs can send and receive crucial patient information — from vital sign data to video images — before they reach the hospital.

Field Command Centers. When disaster strikes, Motorola Wireless Broadband 4.9 GHz networks provide reliable broadband communications. First responders and rescue workers use our networks to set up temporary command centers at the site of events — ranging from floods to tornados to earthquakes and more — where there is no existing or functioning infrastructure. Using Motorola Wireless Broadband technology, these networks communicate with front-line responders, send real-time data such as video and coordinate all efforts, including those with surrounding municipalities.

"It's not just about prosecution, it's about prevention. It is the most effective crime deterrent we have in our arsenal. We're excited about the technology partnership with Motorola."

Mayor Antonio Villaraigosa,
Los Angeles, California

"We didn't want to go the traditional microwave route [with our 9-1-1 backup system]. It was more expensive, labor and maintenance intensive. We are very pleased with our Motorola wireless backup network. We brag about it all the time."

Jack Wilkins, Operations Manager, Galveston County Emergency Communications District
Galveston, Texas

4.9 GHz Applications Increase Productivity, Reduce Costs and Maximize Public Safety and Protection

How will your public safety departments or other agencies leverage the benefits of Motorola's Wireless Broadband 4.9 GHz technology and networks? Although governments and municipalities are constantly finding new and creative uses for our secure 4.9 GHz licensed band portfolio, some of the most productive applications include:

Leased Line Alternatives. As in most organizations today, shrinking budgets are seriously affecting government and public safety department operations. A growing number of governmental agencies that rely on leased T1/E1 lines for high-speed connectivity are becoming constrained with recurring costs, capacity, service and support. Finding more cost-effective alternatives to expensive leased lines is an important priority. A growing number of governmental departments and organizations are taking advantage of the benefits of Motorola's proven secure wireless broadband connectivity in the 4.9 GHz licensed spectrum for applications ranging from backup networks and disaster recovery to video training and many more. Not only are recurring monthly costs being lowered, but overall network performance and reliability are being upgraded.

High-speed Data Transfer. A Motorola wireless 4.9 GHz network makes it easier for police, public service and others to receive and transmit reports from the field, substantially reducing response times and costs while increasing efficiency, accuracy and safety. Broadband data transfer in the licensed spectrum provides secure communications in real-time whenever and wherever they are needed. Motorola 4.9 GHz networks facilitate the use of higher bandwidth applications, such as allowing fast and accurate transfer of data including video, photographs and graphics. They also provide FIPS 140-2* ready and FIPS 197 certified AES 128-bit secure access to their private networks, video surveillance cameras and criminal databases, helping to reduce and solve crime. Fire Incident Commanders have instant access to data such as maps, building plans and floor plans, and can gain awareness of unusual circumstances such as the presence of hazardous materials, helping them work safer and more successfully.

Wireless Video Solutions. Wireless video surveillance networks are being used all over the world to enhance public safety. They are empowering police officers, fire fighters and other first responders to view live, real-time visuals of their communities: commercial districts, neighborhoods, high-risk areas, crowded public events, dangerous intersections, public transit vehicles, municipal buildings and much more — even when they're not physically on the scene. Motorola 4.9 GHz networks monitor remote locations such as airport parking lots, water department reservoirs, known border crossing areas and more. Streaming video applications enable first responders to view the scene of an incident before they actually get there.

"If we get a call for a structure fire, [Motorola Mesh technology] will allow us to download the floor plans right to the fire truck en route. The bottom line is, it will make us faster, and speed saves lives."

Fire Chief David Costa, Providence, Rhode Island

Mobile Computing. Motorola Wireless Broadband networks enable real-time mobile computing for first responders and other government personnel using handheld devices and built-in vehicle computers, even while traveling at highway speeds and higher. Now police, fire fighters and emergency medical personnel have instant access to crucial information ranging from real-time visuals of a fire or crime scenes to critical patient data. Other municipal employees also benefit. For example, a building inspector can instantly download floor plans or blueprints on a handheld computer, eliminating an additional trip to and from the office. Wireless also enables continuous connectivity no matter what the situation or how harsh the conditions.

Ad Hoc Networks. In a natural disaster situation such as an earthquake or wildfire, when real-time communications and coordination are critical, wired phone lines are usually among the first casualties. Enabled by Motorola's Wireless Broadband solutions, ad hoc networks can be created quickly and easily. These secure network solutions provide essential communications that help optimize response and improve safety for both first responders and victims. Wireless technologies can also create temporary high-speed communications networks for environments such as large sports and entertainment events, county fairs and more.

UNIQUE MOTOROLA ADVANTAGES

Channel Efficiency

The Motorola 49400 Point-to-Multipoint solution provides 20 Mbps of total aggregate throughput using a 10 MHz channel. This means that a municipality can transfer more data and video images in the spectrum that is limited to 50 MHz.

Systems Scalability

GPS synchronization enables deployments to grow without decreasing system performance. As more modules are added to increase coverage and density, Motorola's synchronized modules mitigate self-interference and provide reliable performance as the network grows.

* FIPS 140-2 applies to the PTP 600 Series only.

Motorola's Industry Leading Portfolio of 4.9 GHz Licensed Frequency Solutions

Motorola 4.9 GHz wireless broadband solutions are rapidly becoming the preferred choice for licensed spectrum public safety communications solutions. In addition to the security of our high-speed licensed band solutions, Motorola offers you the added confidence of proven performance. We are an acknowledged industry leader and thousands of our wireless broadband networks are operating successfully in more than 120 countries across the globe. Motorola's 4.9 GHz solutions portfolio includes:

PMP 49400 Point-to-Multipoint Distribution. The newest addition to our 4.9 GHz portfolio is the PMP 49400 Point-to-Multipoint solution. PMP 49400 access points (APs) and subscriber modules (SMs) provide government agencies and municipalities operating in the 4.9 GHz licensed band with a powerful, cost-effective solution for leased line replacement, wireless video surveillance and other applications. Relying on orthogonal frequency division multiplexing (OFDM) technology, the PMP 49400 delivers exceptional near-line-of-sight (nLOS) coverage in locations where obstructions have previously limited wireless broadband access. For government agencies and municipalities, this means maximized communications, extended coverage, and the ability to provide backhaul or support for bandwidth-intensive applications in areas previously hard and costly to reach.

PTP 49600 Point-to-Point Backhaul. Motorola's PTP 49600 provides customers with always-on, secure and reliable connectivity and backhaul solutions that can perform in mission-critical situations even in harsh and challenging environments. Offering 99.999 percent availability and latency of less than two milliseconds, they are ideally suited for mission-critical backhaul applications and for traffic from video surveillance cameras, Motorola Wireless Broadband Mesh nodes or 4.9 GHz hot spots and command centers. The PTP 49600 solution offers single or dual T1/E1 ports to provide low latency for the voice quality that is crucial for supporting critical public safety applications such as 9-1-1 and disaster recovery efforts.

PTP 49200 Point-to-Point Backhaul. Motorola's PTP 49200 offers up to 20 Mbps of cost effective connectivity for government agencies and municipalities. With OFDM technology, the PTP 49200 delivers exceptional nLOS coverage in locations where obstructions have previously limited wireless broadband access. The PTP 49200 is a particularly efficient infrastructure when used for video surveillance solutions deployed in a linear architecture. For government agencies and municipalities, this means increased communications and extended coverage in a cost-effective solution.

Mesh Access. The Motorola Wireless Broadband Mesh AP 7300 is a four-radio broadband solution purpose-built for public safety, public works and public access environments and provides first responders with dedicated 4.9 GHz mobile broadband connectivity. Containing two standards-compliant WiFi radios and two proprietary Motorola radios, the system helps increase safety and productivity by delivering video, photos and GIS-enhanced data to police officers, firefighters and other field personnel through support of on-line report filing from laptops and vehicle-mounted computers. The solution provides seamless mobility even at highway speeds and beyond, and makes it easy to form temporary networks in areas — such as disaster sites — where no pre-deployed infrastructure exists.

Mesh Vehicular Mobility Module (VMM). The Motorola Wireless Broadband VMM supports 2.4/4.9/Ethernet access and 4.9/5.x GHz backhaul. This provides for higher throughput, 802.11 backhaul out of the car and allows for 802.11 mobile access at vehicle speeds. The VMM also provides for WVAN coverage allowing for dynamically deployed situations. Now Motorola offers in 4.9 GHz both MEA for high speed and 802.11 access for lower cost and higher throughput.

A Network You Can Trust: One Point Wireless Suite. The Motorola One Point Wireless Suite is a powerful set of software solutions that help customers leverage Motorola's 80 years of wireless expertise to design, deploy and manage wireless networks. Networks must be designed with precision in order to provide the right coverage and support data, voice and video applications. And, with the network-wide, map-based visibility offered by the One Point Wireless Manager, they can be managed for maximum reliability and service availability. Security is enforced with the Motorola AirDefense solution, preventing intrusions and attacks with 24/7 gap-free network monitoring.

FOR MORE INFORMATION

Motorola's wireless expertise and leadership power a portfolio of unique licensed 4.9 GHz solutions for municipalities and public safety agencies of all sizes and types. For more information about Motorola's Wireless Broadband equipment and solutions, visit **www.motorola.com/government**.

MOTOROLA

Motorola, Inc. 1301 E. Algonquin Road, Schaumburg, Illinois 60196 U.S.A. **www.motorola.com/government**