PanGo Active RFID Tag®

Wi-Fi Asset Tracking Tag For Enterprise Asset Visibility

The PanGo Active RFID Tag® is a small, lightweight, power-efficient 802.11-based wireless device that attaches to assets – equipment or people – for real-time tracking. PanGo's Active RFID Tag is a key component of the PanGo Locator® system for Enterprise Asset Visibility. PanGo Locator is powered by PanGo's PanOS Platform® an open, Web services-based framework that easily integrates location data from multiple providers over a standard operating platform. PanGo Locator® consists of two key components: PanGo Active RFID Tags that allow users to track assets that are not wireless-enabled and the Locator Software that manages asset monitoring, event notification, asset reporting, and system configuration. The Locator solution provides platform, application, data and visualization software layers and active tags on a single system which allows users to track assets in real-time throughout an 802.11-enabled building or campus environment.

Among the most significant benefits and cost-saving features of the PanGo Locator solution, including the PanGo Active RFID Tag, is that it operates over any 802.11 wireless network. Unlike alternative single-use proprietary tracking systems that require a separate network of readers, antennas and other wireless infrastructure hardware, Locator requires no additional network hardware overlay, freeing users from additional costs to acquire, install, and maintain a single-use infrastructure layer. Locator uses existing WLAN access points as the readers allowing enterprises to capitalize on their existing WLAN infrastructure. Designed with distributed location architecture, Locator enables the tracking of thousands of assets with minimal network bandwidth overhead.

PANGO ACTIVE RFID TAG KEY FEATURES AND BENEFITS

- **Compact Size.** The small size (2.6″ x 1.7″ x 0.9″) and light weight of PanGo Active RFID Tags allows them to be affixed to a variety of asset types, including medical devices, manufacturing equipment, IT equipment, containers, vehicles and carts. Because of their small size and light weight, they can also be worn by people.

- **Long Battery Life**. Active RFID Tags use powerful standard-size replaceable batteries that can provide up to 3 years of battery life. An advanced power management design ensures that Active RFID Tags maximize battery life under a variety of transmission and usage scenarios. Active RFID Tags transmit low battery alerts to enable timely and efficient replacement.

- **Wi-Fi Radio.** The Active RFID Tag is an 802.11 b/g radio, and is fully compliant with IEEE 802.11 b/g standards. Because of this, Active RFID Tags can be managed just like all other wireless client hardware in a WLAN strategy, with no additional interference testing or frequency concerns. It also means that Active RFID Tags will evolve to take advantage of advances in Wi-Fi hardware, performance and standards.

- **Tag Configuration and Management.** The intuitive Active RFID Tag-to-asset interface allows authorized users to associate tags with important asset information such as manufacturer, departmental owner, serial number, and other asset specific data. These and Active RFID Tag reporting frequency and characteristics are fully configurable, with all tag information sent over the wireless network without the need for a physical connection to the tag.

- **Integrated Motion Detection.** Active RFID Tags include a built-in motion detector. This enables the tags to send motion alerts and maximize battery life by allowing different transmission rates depending on whether the asset is

mobile or stationary.

- **Multiple Mounting Options.** Active RFID Tags can be affixed to assets using a variety of mounting options, including adhesive tape, Velcro, or tie wrap.

- **Ruggedized Packaging.** Active RFID Tags are designed to handle both indoor and outdoor environments and are water, dust, and weather (heat, cold, humidity) resistant.

COMPATIBLE WITH LEADING NETWORK MANAGEMENT PRACTICES

PanGo Active RFID Tags are fully 802.11-standards compliant wireless devices, built to support best-practice wireless network management policies recommended by the leading providers of wireless infrastructure. The following features ensure Active RFID Tags have minimal network impact and are easily deployable in enterprise WLAN environments:

- **Standard Network Communication.** Active RFID Tags communicate using standard socket-based TCP/IP communication that can be managed and monitored just like all other standard network traffic.

- **Advanced 802.11 Wireless Security.** Active RFID Tags include both WEP and WPA2 security options.

- **802.11 Device Management.** Like other 802.11 devices, Active RFID Tags can be managed as a part of the network, including DHCP addressing, MAC filtering, and rogue detection.

- **Dual Reporting Mode**. PanGo Active RFID Tags are the only active RFID tags that can report location and status in two modes: 1) 802.11 client mode, in which the tag transmits over 802.11b/g protocols and fully compliant with IEEE 802.11 b/g standards, and 2) "beacon" mode, in which the tag transmits only its network MAC address for identification. Dual mode operation provides the optimal combination of tag reporting capabilities (motion, low battery and remote configuration) and extended battery life.

- **Minimal "On Network" Time.** Active RFID Tags typically are associated with the network for less than two seconds when communicating with the server.

- **Time-Based Reporting Intervals.** Active RFID Tags can be configured to report at whatever interval is best for network and asset tracking needs. They can also report at different intervals based on whether the tag is in motion or stationary, providing ultimate flexibility.

- **Extremely Low Bandwidth Protocol.** The communication protocol used by Active RFID Tags was specifically designed for minimal bandwidth consumption. Each location report requires one message to the server and one acknowledgement back, and each of these messages fits within a single MTU (1 TCP packet).

- **Fully Configurable.** All the network-related attributes of Active RFID Tags are user configurable, including network connectivity settings, reporting intervals, and 802.11 scanning properties.

PANGO® – ENABLING THE LOCATION AWARE ENTERPRISE

PanGo Networks® is the leading provider of a Location Management Platform and applications for the location-aware enterprise. PanGo's integrated location solutions allow organizations to leverage location-based information from the network and transform off-the-shelf WLAN infrastructure into a platform for intelligent applications that improve important business processes. Through its flagship PanOS Platform® and asset tracking applications, PanGo offers the industry's first complete framework for real-time asset visibility and context-aware information delivery. Specializing in a range of markets including healthcare, manufacturing, retail and government, PanGo delivers reliable and accurate information about the location of connected devices, people and assets.

PanGo Networks, Inc.
959 Concord Street, Suite 100
Framingham, MA 01701
Phone: 508.626.8900
Fax: 508.626.8901
www.pangonetworks.com