xArray® Gateway

Always-On, Wide-Area Monitoring, Locationing

Improve operational visibility throughout your facility, or across your global supply chain, with the Impinj xArray gateway. The xArray is a fixed infrastructure RAIN RFID gateway that provides always-on, wide-area monitoring for real-time identification, location, and direction of RAIN RFID tagged items. Item Intelligence information — like identity and location of items — informs third-party applications and enables business transformation and improved time-to-value for RAIN RFID deployments.

Impinj's ItemSense software aggregates and transforms the torrents of raw RAIN RFID data from xArrays into real-time, business-driven Item Intelligence. Leverage ItemSense to centralize and automate xArray infrastructure management and health monitoring while aggregating data streams that offer asset or item identification, location, and zone transition information to inform and improve business processes.

The Power of xArray Gateway

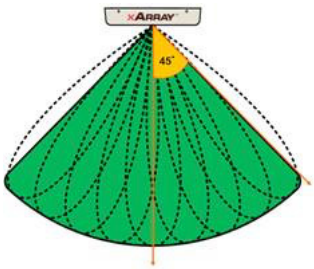
Benefits:

- A single xArray can monitor up to 1,500 sq. ft. (139m^2) when Monza R6 based tags are used, extend coverage with multiple xArrays
- Intelligent item locating with 5 ft. (1.5m) or better spatial resolution of (x,y) location.
- Patented Autopilot functionality automatically optimizes the xArray for its environment, ensuring peak performance at all times.
- Unique functionality with defined operating modes: Wide-area monitoring for tracking overall tag inventory; Locationing for obtaining tag x,y location; and Tag Direction for tracking tags moving through sectors.
- Low profile design fits into standard ceiling tile grid and blends into décor
- Exceptional performance provided by 2-D array with 52 dual-polarized antenna beams
- Easy to use and maintain with IEEE 803.2af PoE, tilt sensor to detect when out of alignment.
- Easy programming using Octane SDK, LLRP and Impinj extensions

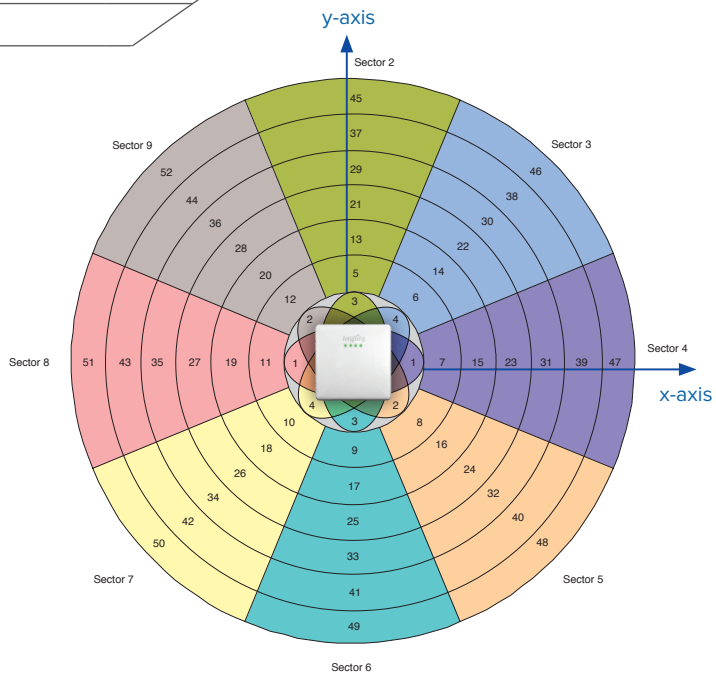
The Power of xArray Gateway

Description	Measure
Air Interface Protocol	EPCglobal UHF RFID Class 1 Gen 2 / ISO 18000-63
Power Sources	Power over Ethernet (PoE) IEEE 802.3af or Listed/Certified power supply, marked LPS or Class 2, with 24Vdc output, rated minimum 2.5A
Power Consumption	Idle 7 W; Typical 13.8 W
Max Receive Sensitivity	-82 dBm
Coverage Area per xArray	1,500 sq. ft. (139m2) with Monza R6 based tags*, coverage area may be less with other RFID tags.
Operating Modes	Wide Area Monitoring (tag inventory); Locationing (tag inventory with x,y location); Tag Direction (track tags as they move through sectors)
Location Accuracy	85% within 5 ft. (1.5 m) in ideal conditions; 66% within 3.3 ft. (1 m) in ideal conditions
RF Beams	52 Dual-Polarized Beams
Effective Field of View	±45° from 0° (directly underneath the xArray)
Sealing / Temperature / Humidity	IEC IP52 / Operating -20 °C to +50 °C; Storage -20 °C to +50 °C / 5% to 95% non-condensing
Application Interface	Octane SDK; EPCglobal Low Level Reader Protocol (LLRP) v1.0.1
Management Interface	Impinj Web Management UI; Impinj Rshell Management Console using serial management console port or SSH; SNMPv2 MIBII; EPCglobal Reader Management v1.0.1; Syslog
Network Connectivity	10/100BASE-T
IP Address Configuration	DHCP, Static, or Link Local Addressing (LLA) with Multicast DNS (mDNS); Initial network connection fails over to static address 169.254.1.1 (or random address on same subnet if this address is in use)
USB	USB 1.1 Device (Type B) and Host (Type A) ports; USB Virtual COM Serial Port and USB Flash drive support for embedded applications
Supported Regions or Geographies	For a list of the different regions and geographies that xArray supports, please go to: www.impinj.com/supported_regions
RoHS	RoHS 2011/65/EU compliant
Mounting	Vesa 200 or Direct Attach 250 mm x 275 mm Bolt Pattern
Dimensions	18.4 in H x 18.4 in W x 3.0 in D (46.7 x 46.7 x 7.5 cm)
Weight	17.8 lbs. (8.0 kg)

*Varies with ceiling height, tag type and environmental/use case factors.



The xArray gateway provides exceptional location assignment and wide-area monitoring with its 52-beam phased array antenna.



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