MOJIX STAR 3000 SYSTEM INSTALLATION MANUAL
RELEASE 2.0

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REVISION CONTROL

Revision	Date	Author: Description
2.2.X-1.0.0	07/25/2011	Paul Barriga: Initial
2.2.X-1.0.1	08/23/2011	Paul Barriga: Added network setup
2.2.X-1.0.2	08/23/2011	Paul Barriga: Updated STAR power supply and bracket details
2.2.X-1.0.3	02/29/2012	Paul Barriga: Update FCC Statement on Page 43
2.2.X-1.0.4	03/06/2012	Paul Barriga: Added FCC Statement on Page 44
2.2.X-1.0.5	04/18/2012	Paul Barriga: Corrected zone coordinates descriptions
2.2.X-1.0.6	05/10/2012	Paul Barriga: Updated FCC Statement on Page 43
2.0.0	10/29/2012	Paul Barriga: Updated eNode, eMux, eXpander, GPIO; removed Web UI
2.0.1	11/05/2012	Paul Barriga: Minor corrections

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Improper handling or use of RF equipment can result in damage to property or injury to personnel.

FCC Compliance

This equipment has been tested and found to comply with the limits for Class A digital device, pursuant to Part 15 of the FCC Rules. Any change or modification to this product voids the user's authority to operate per FCC Part 15 Subpart A. Section 15.21 regulations.

SYSTEM COMPONENTS

The Mojix STAR system is a single network element at the enterprise edge. Based on Mojix's innovative distributed architecture, a single system consists of one or more STAR units managing up to 512 low-cost Mojix eNode transmitters. Mojix eNodes provide energy to all passive RFID tags within their specified interrogation spaces, while the centralized, high-sensitivity Mojix STAR reads the resulting tag signals from across the system's potentially vast coverage area of more than 250,000 sq. feet (24,000 sq. meters).

Mojix eNodes: Distributed Transmitters

Mojix eNodes are reliable, autonomously operated RF repeaters designed to excite all EPC UHF Gen2 RFID tags within their designated interrogation spaces. Although excite ranges are dependent on tag sensitivity, they can range to over 100 feet. Each eNode antenna excites all passive RFID tags within its designated interrogation space and includes form factors to accommodate both fixed and mobile infrastructures. eNodes can be deployed as needed to shape discrete, overlapping or contiguous interrogation spaces, including configurations to create virtual fences for securing tagged items.

STAR Receiver: Centralized Read and Control point

The STAR Receiver functions as a single point of data collection, provisioning, control, and integration with enterprise systems. With the ability to detect extremely faint signals and the freedom from conventional RFID’s line of sight restrictions, the STAR receiver works in concert with its satellite eNodes to support one or many business processes across the entire coverage area. The STAR Receiver contains a 1 x 4 array assembly, and digital and RF processing assemblies. The STAR Receiver utilizes classical, fully active, phased array antennas for enabling the visibility into the space dimension. The smart array approach adopted by Mojix is based fully on digital processing techniques, thereby providing very high resolution for estimation of direction of arrival of the signal of interest (SOI), enabling the system to provide accurate location information on the tag position.

Master Controller

The STAR signal processing platform is linked to an edge appliance called a Master Controller (MCON), and communicates via a standard wired Ethernet interface. The MCON can drive an arbitrary number of STAR systems and includes interfaces to the enterprise middleware. In a larger enterprise deployment, multiple STAR domains exist in various locations and can require one or more Master Controllers in a clustered configuration.