The AT5110 Transportation Tag is a beam-powered field disturbance device used in 915 MHz radio frequency (RF) band applications. The AT5110 tag is ideal for mounting on vehicle chassis, intermodal containers, railcars, or in any environment requiring a durable, weatherproof tag.

The tag can be factory-programmed, as specified by the customer, or user-programmed in the field using the AP4110 Programmer. It stores up to 20 six-bit alphanumeric characters of data (120 bits). TransCore provides a polycarbonate plug with O-ring with each unprogrammed tag to seal the tag’s access port after field programming.

The AT5110 Transportation Tag has an unlimited service life because a small portion of the RF signal continually energizes the tag’s circuitry. This feature limits the tag’s range, which reduces competition with other nearby tags and enhances system discretion within a 5- to 10-foot (1.5- to 3-meter) diameter reading area.

The AT5110 tag contains electronically programmable circuitry activated by the RF beam, which is broadcast by a system antenna. The tag encodes the signal received from an Amtech®-brand reader system with an identification number or a data message. The encoded signal reflects back (backscatters) to the Amtech reader system. TransCore’s Amtech-brand readers — series AI1200, AI1300, AI1400, and AI1600 — can read the AT5110 tag.
## AT5110 Transportation Tag

### COMMUNICATIONS

**Frequency Range**
902 to 928 MHz
Other frequencies available upon request

**Typical Working Range**
5 to 10 ft (1.5 to 3 m)
Range depends on system parameters.

**Polarization**
Parallel with longer side

### SOFTWARE FEATURES

**Data Capacity**
Up to 20 six-bit alphanumeric characters (120 data bits)

### POWER REQUIREMENTS

**Power Source**
Beam powered

### LIFE EXPECTANCY

**Service Life**
Unlimited

### PHYSICAL

**Dimensions**
Size: 9.3 x 2.38 x 0.69 in (23.6 x 6.0 x 1.75 cm)
Weight: 5.7 oz (160 g)

**Case Material**
Weatherproof, UV-stabilized, gray case is sealed with a snap-in removable plug and O-ring.

### ENVIRONMENTAL

**Operating Temperature**
-40°F to +185°F (-40°C to +85°C)

### STANDARDS

The AT5110 Transportation Tag meets the standards for automatic equipment identification set by the Association of American Railroads (AAR) and by the China Ministry of Railways.

### OPTIONS

**Factory Programming**
Transportation tags may be programmed by TransCore to your specifications at the factory.

**Ultrasonic Seal**
Factory-programmed tags may be custom ordered with the programming port ultrasonically sealed.

**Mounting Surface**
Any smooth metal surface
Where mounting surface is non-metallic or irregular, the AT5110 Transportation Tag may be mounted to a metal backplate attached to the surface of the vehicle or object to be tagged.

**Mounting Method**
- **Rivet Mounting:** The AT5110 tag may be mounted directly to any smooth metal surface using blind rivets or TIR-approved fasteners.
- **Tape Mounting:** For certain applications, the AT5110 Transportation Tag may be mounted using double-sided tape.

### ACCESSORIES

**Mounting Tape**
Double-sided polyurethane foam tape is available in 36-yard rolls or tag-length segments.

**AP4110 Programmer**
The AT5110 Transportation Tag may be programmed in the field using the AP4110 Programmer. The AP4110 Programmer contains serial interface logic for connection to a PC host. The AP4110 Programmer programs and verifies tags through the programming port located on the back surface of each tag.

**Plug Removal Tool Kit**
When reprogramming of Amtech-brand transportation tags is required, the AS8003 Plug Removal Tool Kit cleanly and easily extracts the existing plug and O-ring without damaging circuitry or programming port contact surfaces. Order replacement removable plugs with O-rings prior to reprogramming transportation tags.

### DOCUMENTATION

**Rail Tag Mounting Guide**
**Technical Notes: Mounting Transportation Tags with Tape**