



Adamas-I RFID Tag

## Adamas-I Portunus-I

### Gen 2 UHF RFID TAG

*It works on anything!*

**The Adamas-I and Portunus-I tags outperform current passive RFID tag technologies. The RFID Alliance Lab has extensively tested Adamas-I and Portunus-I and have shown that they work equally well on or near metal, water, glass, or in free space.**



Portunus-I RFID Tag

- A complete passive UHF RFID solution
- Embodies five enabling patent-pending technologies
- High-performance tag with read distances up to 30 ft on or near metal, water, glass, or in free space
- Super thin—only 0.072" thick
- Completely planar antenna design
- Low cost compared to active RFID technology
- Robust materials and structures for harsh environment exposure
- Solid core structure preventing damage from impact due to mishandling
- Wideband antenna design works well over all frequencies and can be tuned to work in North America, Europe, or Japan
- Custom designs possible for specific requirements and needs

## Adamas-I and Portunus-I Specifications

### Type:

Gen 2 passive UHF RFID tag

### Uses:

Asset Tracking  
Product Identification  
EAS (electronic article surveillance)

### Composition:

Four-layer construction

Custom Inlay/Label	
	Adhesive
Adamas-I HDPE .060" Portunus-I Polycarbonate .060"	
	Adhesive
Copper Foil	
	PSA
Liner	

Planar microstrip antenna design  
Uses balanced feed mechanism

### Antenna Dimensions:

	Adamas-I	Portunus-I
Length	5.500"	4.000"
Width	2.500"	2.000"
Thickness	.072"	.072"

### Read Range:

Adamas-I	Up to 30 ft.
Portunus-I	Up to 20 ft.

### Resonance Frequencies:

Center frequency = 915 MHz

### Reader Compatibility:

Gen 2 compatible

Tested with

SAMsys MP9320 v2.8

Alien 9800 v05.09.21.00

Awid MPR-3014 NF-QM-NA v5.05N

Symbol XR400 rev2.0.7

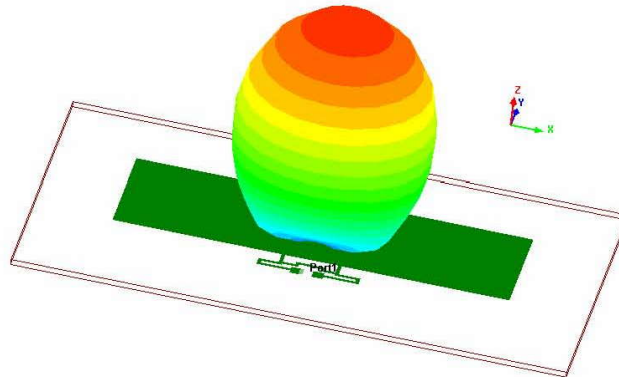
ThingMagic Mercury4 v2.3.14

## Measurements

Table 1: Tag performance

	Comparable Tags				
	Adamas-I	Portunus-I	Passive	Battery Assisted Passive	Active
<b>Cost</b>	✓	✓	✓		
<b>Performance on Metal</b>	✓	✓		✓	✓
<b>Performance on Containers with Water</b>	✓	✓		✓	✓
<b>Size</b>	✓	✓	✓		
<b>Thickness</b>	✓	✓	✓		
<b>Read Range</b>					
<b>Free Space</b>	up to 30'	up to 16'	up to 30'	up to 150'	100' or more
<b>Metal</b>	up to 30'	up to 20'	up to 7'	up to 50'	100' or more
<b>Water</b>	up to 30'	up to 20'	up to 5'	up to 50'	100' or more

Fig. 1: 3-D radiation pattern



### Contact Information

Starport Technologies, LLC

10601 N.W. Ambassador Drive, Suite H,  
Kansas City, MO 64153

Email: kc@starporttech.com, www.starporttech.com

Direct Line: 1-816-584-3806