



# PORTUNUS-II

## Class 1 Gen 2 UHF RFID

*It works on anything!*

**New improved 30% more read distance!**

The next generation Portunus-II tag outperforms current passive RFID tag technologies. The RFID Alliance Lab at the University of Kansas has extensively tested Portunus-II and has shown that it works equally well on or near metal, water, glass, or in free space.

- 30% better read ranges over Portunus-I
- A complete passive UHF RFID solution
- Higgs 3 Chip with 512 bits of memory
- Embodies five enabling patent-pending technologies
- High performance tag with read distances up to 35 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

# Portunus-II Tag Specifications

**Type:**

EPC Class 1  
Gen 2 Passive UHF RFID Tag

**Uses:**

Warehouse & Distribution  
Asset Tracking  
Product Identification  
EAS (Electronic Article Surveillance)

**Composition:**

Four-Layer Construction

Custom Inlay/Label	--Adhesive
Portunus-II Polycarbonate .060"	
Aluminum/Copper Foil	--Adhesive
Liner	--Adhesive

Planar Microchip Antenna Design  
Uses Balanced Feed Mechanism

**Antenna Dimensions:**

Length 4.0000"  
Width 2.0000"  
Thickness 0.072"

**Read Range:**

Up to 30 Feet

**Resonance Frequencies:**

Center Frequency = 915 MHz

**Reader Compatibility:**

Gen 2 Compatible  
Tested With:  
SAMsys MP9320 v2.8  
Alien 9800 n05.09.21.00  
Awid MPR-3014 NF-QM-NA v5.05N  
Symbol XR400 rev2.0.7  
ThingMagic Mercury4 v2.3.14  
All Other Current Models

# Measurements

TAG PERFORMANCE	Comparable Tags			
	Portunus-II	Passive	Battery Assisted Passive	Active
Cost	✓	✓		
Performance on Metal	✓		✓	✓
Performance on Containers with Water	✓		✓	✓
Size	✓	✓		
Thickness	✓			
Read Range:				
Free Space	up to 20'	up to 20'	up to 150'	100' or more
Metal	up to 30'	up to 7'	up to 50'	100' or more
Water	up to 20'	up to 5'	up to 50'	100' or more

**Higgs™ 3 Specification**

- Meets EPCglobal Gen2 (V 1.2.0) as well as ISO/IEC 18000-6C
- 800-Bits of Nonvolatile Memory
- 96-EPC Bits, extensible to 480 Bits
- 512 User Bits
- 64-Bit Unique TID
- 32-Bit Access and 32 Bit Kill Passwords
- Pre-Programmed with a unique, unalterable 64-bit serial number
- User Memory can be Block Perma-Locked as well as read password protected in 64-Bit Blocks
- Supports all Mandatory and Optional Commands including Item Level Commands
- Custom Commands for high speed programming; 30 tags per second for the 96-bit EPC number
- Lower power operation for both read and program
- Exceptional operating range, up to 10m with appropriate antenna
- For additional info, go to AlienTechnologies.com/products



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