



Adamas-I

Gen 2 UHF RFID TAG

It works on anything!



The Adamas-I tag outperforms current RFID tag technologies. The RFID Alliance Lab has extensively tested Adamas-I and shown that it works equally well on or near metal, water, glass, or in free space. The Adamas-I tag maintains a low manufacturing cost by using readily available materials and standard processes.

- A complete passive UHF RFID solution
- Embodies five enabling patent-pending technologies
- High-performance tag with read distances greater than 30 ft on or near metal, water, glass, or in free space
- Super thin—only 0.06" thick
- Completely planar antenna design
- Very low cost
- Easily manufactured
- Wideband antenna designs, compatible with U.S., European and Japanese operating frequencies

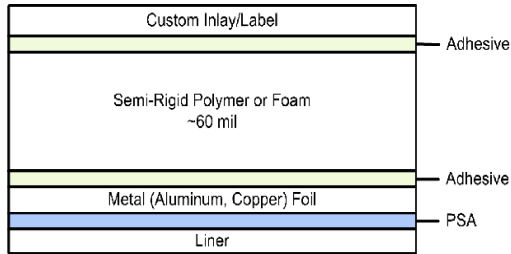
Adamas-I Specifications

Type:

Gen 2 passive UHF RFID tag

Composition:

Four-layer construction



Planar microstrip antenna design
Uses balanced feed mechanism

Antenna Dimensions:

- Length = 4.5 inches
- Width = 2 inches
- Thickness = 0.06 inches

Read Range:

Greater than 32 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

Contact Information

Daniel D. Deavours, PhD
ITTC, University of Kansas
2335 Irving Hill Road
Lawrence, KS 66045-7612
Email: deavours@ittc.ku.edu
Phone: (785) 864-7764
FAX: (785) 864-0387

Measurements

Table 1: Tag performance

	Adamas-I Tag	Comparable Tags	
		Passive	Active
Cost	✓	✓	
Performance on metal	✓		✓
Performance on containers with water	✓		✓
Size	✓	✓	
Thickness	✓	✓	

Fig. 1: 3-D radiation pattern

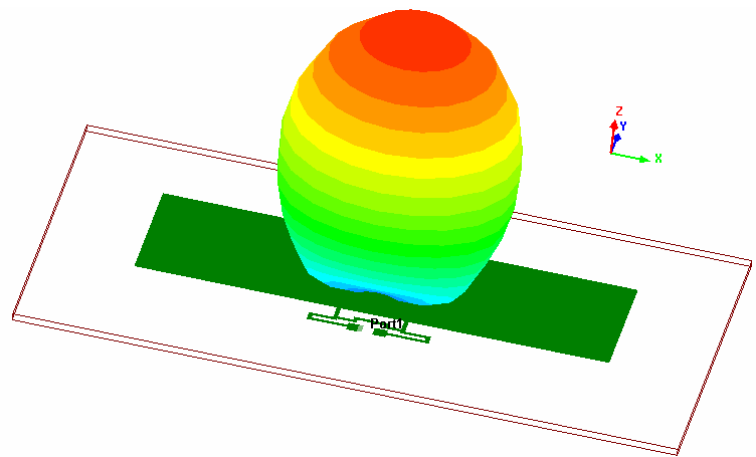


Table 2*: How Adamas-I fares against the competition

Tag	Standard	Distance (in ft)			
		Free space	Metal with cardboard separation	On metal	Water in plastic container
	EPC 0+	12	7	7	5
	EPC 0+	> 32	4	0	1
	EPC 0	12	3	2	2
	EPC Gen 2	> 32	> 32	> 32	> 32

* All tags were tested in the same environment with SAMsys MP9320 v2.8 reader and circularly polarized UHF antenna.