

RAIN RFID-enabled checkout bin: Antenna Selection Guide

Appendix

1) Readers and Software

The PoS configuration was developed and tested with two separate RFID platforms, both with an attached PC host.

1. The Zebra FX9600 paired with 123RFID Desktop Software
2. The Impinj R700 paired with Impinj ItemTest Software



[Zebra - FX9600 Fixed RFID Reader](#)



[Impinj R700 RAIN RFID Reader](#)

2) Tagged Items

Three separate sets of tagged items were tested and used in the tuning of the POS configuration.

Generally, the retail items required tagging, and this was standardized to the [AD Midas Flagtag M750[®]](#), an adhesive inlay from Avery Dennison using the Impinj M750 tag-IC.

Set 1 : Mixed Retail			
ITEM	TAG	CHIP	QUANTITY
Cardboard boxed medication (varied size)	AD Midas Flagtag M750	Impinj M750	4
Plastic Salt and Pepper Shakers (2 Pack)	AD Midas Flagtag M750	Impinj M750	1
Safely Goggles	AD Midas Flagtag M750	Impinj M750	1
Silicone Ice Tray	AD Midas Flagtag M750	Impinj M750	1
Mouse Trap – Wood+Metal (2 pack)	AD Midas Flagtag M750	Impinj M750	1
Silicone Wrist Band	AD Midas Flagtag M750	Impinj M750	1
Children’s Book	AD Midas Flagtag M750	Impinj M750	1
Greeting Card	AD Midas Flagtag M750	Impinj M750	1
Skin Crème (Pump)	AD Midas Flagtag M750	Impinj M750	1
Skin Crème (Tube)	AD Midas Flagtag M750	Impinj M750	1

Hand Sanitizer	AD Midas Flagtag M750	Impinj M750	1
Tinned Cat Food	AD Midas Flagtag M750	Impinj M750	1
Empty Bottle	AD Midas Flagtag M750	Impinj M750	1
Control Tag (foam backed)	AD Midas Flagtag M750	Impinj M750	1

Set 2 : Mixed Retail			
ITEM	TAG	CHIP	QUANTITY
Men's Shirts L (3 Pack)	Embedded Apparel Inlay	NXP UCODE 9	3
Men's Socks (5 Pack)	Embedded Apparel Inlay	NXP UCODE 9	5
Vitamin Water	AD Midas Flagtag M750	Impinj M750	1
Canned Ravioli	AD Midas Flagtag M750	Impinj M750	1
Goldfish Crackers (foil bag)	AD Midas Flagtag M750	Impinj M750	1
Tylenol	AD Midas Flagtag M750	Impinj M750	1
Pack of Cards	AD Midas Flagtag M750	Impinj M750	1
Bag of Mints	AD Midas Flagtag M750	Impinj M750	2

Set 3: Dense Apparel (Older Tags)			
ITEM	TAG	CHIP	QUANTITY
Leggings	AD-383u7	NXP UCODE 7	19
Hand Towels	Vortex	Impinj Monza R6-A	10
Pillow Cases	AD-237-R6P	Impinj Monza R6-P	2
Carton	AD-237-R6P	Impinj Monza R6-P	1



