iP-X Read-Only UHF RFID Tag: 110mm x 10mm
Bare inlet with optional adhesive strip

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Description

IP7010

Applications

Inlets can be used in applications where medium range, multi-read, high-speed item identification is required:

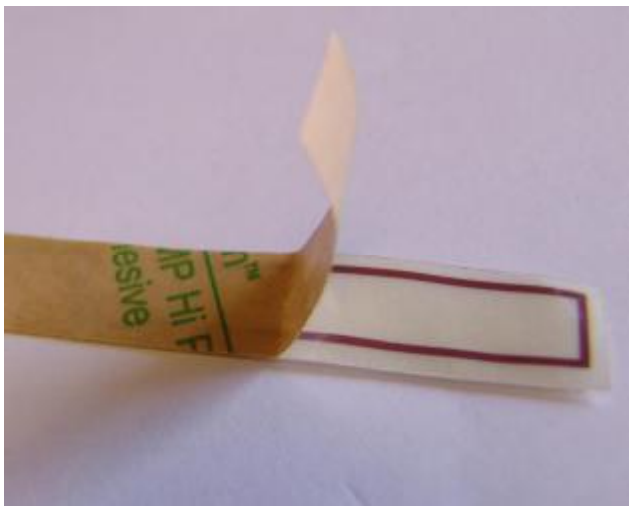
- Supply Chain Management (item , case , container, roll-tainer, crate)
- Transport Management (ENP / licensing, vehicles)
- Textiles (Smart Labeling and Smart-EAS - Electronic Article Surveillance)
- Asset Management (Non-metallic Office Furniture , equipment)
- Document / Baggage Management (postal, certificates , files , courier, inventory, air line baggage)
- Plastic Container Management (chemicals, hazardous waste)
- Carton Packaging

Chipset

iP-X2 / EM4222

Tag Construction

- Consists of a chip attached to a printed antenna substrate (optional adhesive strip and chip glob-top)
- Antenna tuned for optimum operation in air or affixed to low dielectric materials
- Antenna can be tuned for other surfaces (e.g. specific polymers) upon customer request
- Other form factors can be developed to customer requirements
- Supplier's logo can be printed on the substrate



Key Features

- Low cost single chip solution
- Available for European, USA, AUS & RSA spectrum allocations
- Robust anti-collision protocol – up to 240 tags can be read simultaneously
- Factory programmed 64 bit ID number
- Fast moving tags can be read – up to 300km/h
- High tag read rate – about 200 tags/sec in a multi-read application
- Passive – no battery
- Compatible with all iP-X Read/Write and Read-Only tags in mixed populations
- Compatible with all iPico UHF readers
- High tag data transmission rate – up to 256 kbit/sec
- Frequency independent chip – (used at frequencies from 315 MHz to 2.45 GHz)
- -40 to +85° C

Programming for Tag numbers & Speed

iP-X R-O UHF tags are available in five versions or speed grades (all are available in all enclosure formats and frequencies):

	Data Rate	Maximum Interval	Performance	
			Speed	Number of tags
V.1	64 kbit/s	4 kbits	144 – 14 km/h (40 – 4 m/s)	1 – 10
V.2	64 kbit/s	16 kbits	18 – 2 km/h (5 – 0.5 m/s)	5 – 60
V.3	256 kbit/s	4 kbits	360 – 36 km/h (100 – 10 m/s)	1 – 20
V.4	256 kbit/s	16 kbits	43 – 11 km/h (12 – 3 m/s)	10 – 60
V.5	256 kbit/s	64 kbits	18 – 4 km/h (5 – 1 m/s)	30 – 240

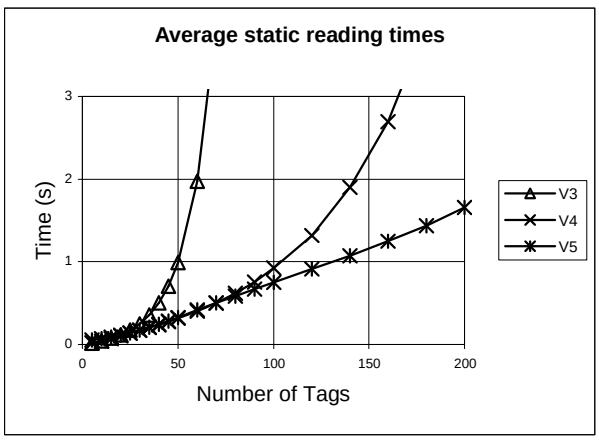
Performance depends on number of tags simultaneously present in reader beam

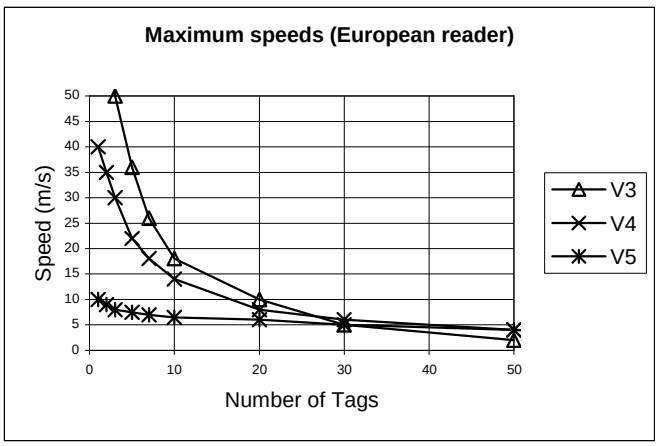
Versions V3 & V4 are available as standard devices, but other versions can be produced as custom products. Enquiries should be directed to iPico Identification Pty (Ltd).

Specifications

Device name	iP-X UHFSmartLabel Tag
Part Description	**iP-X X2-rff-Vn-S110x10x0.3-a**
Power requirements	No batteries (passive back-scatter)
Read Range	2 – 20 m (Depends on reader power output and configuration) **TBD**
Data rate	Up to 256 kbit/s
Max tag speed	Depends on number of tags present simultaneously. See Programming for tag numbers and speed table on page 1
ID Length	64 bits (16 bit CRC)
Protocol Saturation	• Protocol optimised for various applications (e.g. few fast moving tags vs. large numbers of slow moving tags) • Three different interval settings available (4, 16 and 64 kbits) • Higher settings will take longer to read a small number of tags, but will take a larger number of tags to saturate the reader
Multi-read rate	Up to 240 tags/s (Average ID reading rate is nearly 200 tags/s)
Antenna	Printed antenna on flexible substrate
Programmability	Factory programmed Read-only ID
Life Expectancy	Virtually indefinite
Environmental	Operating temperature range: -30 to +70C Storage temperature range: -40 to +85C Humidity: 5 to 95% non-condensing
Physical	110mm x 10mm x 0.3mm with optional adhesive strip and chip glob-top

Configuration	Regulatory Requirements		Reader Performance (Reliable reading range)
	Frequency	Power output	Inlet Tag in air
Japan	UHF bandwidth allocation in progress		
CE (Europe)	Fixed frequency 869.4 - 869.65MHz	500mW ERP	2m – 3m **TBD**
ACA (Australia)	Frequency Hopping 918 - 926MHz	1W EIRP	2.5m – 4m **TBD**
FCC (USA)	Frequency Hopping 902 - 928MHz	(i) 4W EIRP unlicensed (ii) 30W EIRP licensed	(i) 5m – 7m **TBD** (ii) Tested at 17W **TBD**
ICASA (SA)	Fixed frequency 915.3MHz	8W EIRP	7m – 9m **TBD**
WPC (India)	Fixed frequency 868.125MHz	17W EIRP	up to 12m **TBD**





Ordering Information

Part Description: iP-X X2-rff-Vn-S110x10x0.3-a
rff: Tag centre frequency in MHz (Typically 915 or 869)
n: iP-X / EM4222Chip version Number (1, 2, 3, 4, or 5)
a: INL = bare Inlet, ADH = with adhesive strip