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Description

IP7021

Applications

Applications where long range, multi-read, high-speed item identification is required:

- § Supply Chain Management (item, pallet, container, roll-tainer, crate)
- § Transport Management (ENP / licensing, rolling stock, vehicles, trailers)
- § Document / Baggage Management (postal, courier, inventory, aviation baggage)
- § Asset management (non-metallic office furniture, equipment)
- § Access control
- § Industrial process control
- § Sport time-keeping (4x4, Rally, Motor Cycles, Motox, MTB)

Chipset

iP-X2 / EM4222

Tag Construction

- § Consists of a chip with two wire antennas attached, enclosed in an ABS housing.
- § Custom enclosures can be developed to customer requirements.



Key Features

- § Low cost single chip solution
- § Available for European, USA, AUS & RSA spectrum allocations
- § Long read range
- § 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

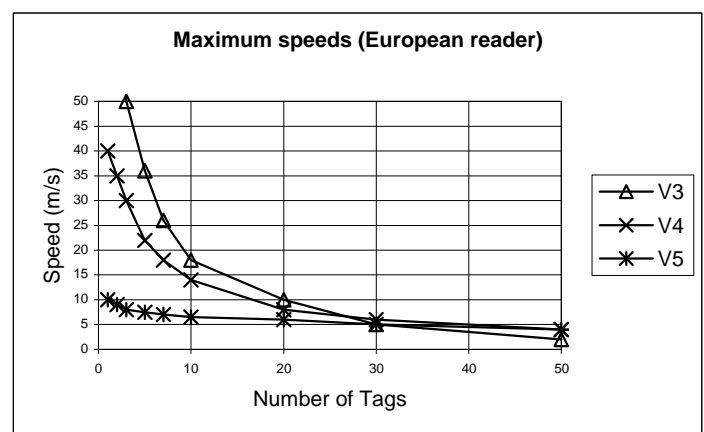
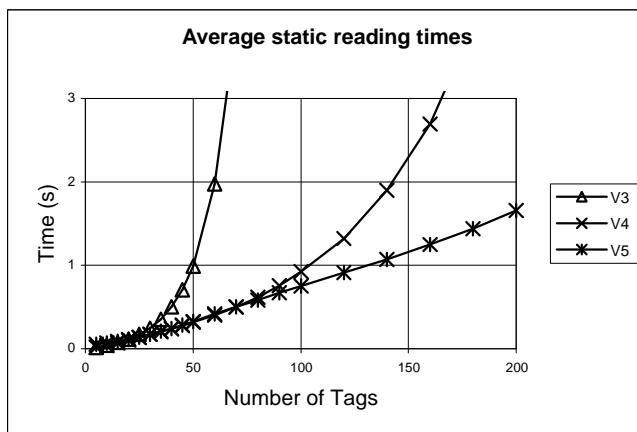
Versions V3 & V4 are available as standard devices, but other versions can be produced as custom products. Enquiries should be directed to iPico Identification Pty (Ltd).



Specifications

Device name	iP-UHF- LINEAR Tag
Part Number	iP-X X2-rff-Vn-210x17x4-L-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 & Speed table on page 1.
ID Length	64 bits (16 bit CRC)
Protocol Saturation	<ul style="list-style-type: none"> Protocol optimized 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	Wire dipole attached to chip
Programmability	Factory programmed Read-only ID
Enclosure	ABS
Life Expectancy	Virtually indefinite
Environmental	Operating temperature range: -30 to +70C Storage temperature range: -40 to +85C Humidity: 5 to 95% non-condensing IP rating: IP 65 (uncertified) UV resistant: Yes
Physical	209 x 17 x 4 mm 6.0 g

Configuration	Regulatory Requirements		Reader Performance (Reliable reading range)
	Frequency	Power output	
Japan	No UHF bandwidth available	N/A	N/A
CE (Europe)	Fixed frequency 869.4 - 869.65MHz	500mW ERP	2m – 3m
ACA (Australia)	Frequency hopping 918 - 926MHz	1W EIRP	2.5m – 3.5m
FCC (USA)	Frequency Hopping 902 - 928MHz	(i) 4W EIRP unlicensed (ii) 30W EIRP licensed	(i) 5m – 7m (ii) Not tested
ICASA (SA)	Fixed frequency 915.3MHz	8W EIRP	7m – 9m



Ordering Information

Part number: iP-X X2-rff-Vn-L210x17x4-a
 rff: Tag centre frequency in MHz (Typically 915 or 869)
 n: iP-X / EM4222Chip version Number (1, 2, 3, 4, or 5)
 a: LOG = with iPico logo, PWH = with white lexan decal (custom decals can be provided)