

# USB RFID Reader

## World-class UHF RFID Desktop Reader



The ThingMagic USB RFID Reader allows solutions developers to support applications that require desktop reading and writing of EPC Global Gen2 tags. Based on ThingMagic's best-in-class M5e-Compact UHF RFID module, the USB RFID Reader is controlled and powered by a host PC or laptop through a USB interface. The ThingMagic USB RFID Reader is compatible with ThingMagic's application development tools, including Reader Assistant, permitting rapid creation of solutions to support a wide range of applications.

Ordering Information	
Reader	USB-5EC
Development Kit	USB-5EC-DEVKIT

Tag / Transponder Protocols	
RFID Protocol Support	EPCglobal Gen 2 (ISO 18000-6C) with Anti-Collision and DRM

RF Interface	
Antenna connector	Internal ceramic antenna with an average gain of -2.6 dBi from 860 to 960 MHz
RF Power Output	Separate read and write levels (into the antenna) are command-adjustable from 10 dBm to 23 dBm (200mW), +/- 1.0 dBm accuracy
Frequency	Pre-configured for the following regions: FCC (NA, SA) 902-928 MHz ETSI (EU) 865.6-867.6 MHz, 869.85 MHz MIC (Korea) 910-914 MHz SRRC-MII (P.R.China) 920-925 MHz 'Open' (Custom) 860-960 MHz

Data/Control Interface	
Physical	USB mini-B connector, with 2 foot (61 cm) cable terminated in A-type plug
Signaling	Asynchronous serial interface with 3.3/5V logic levels; baud rates from 9600 to 921,600 bps
I/O	Two I/O command controlled LEDs and two I/O command queried switches
Protocol	Command-response protocol protected by length field and 16-bit CRC

Physical	
Dimensions (not including stand)	97 mm L x 61 mm W x 25 mm H (3.8 in L x 2.4 in W x 1.0 in H)

Power	
DC Power Required	DC Voltage: 5 VDC (Powered by USB interface)  DC Power: 2.9 W (570 mA ) max  Supplied interface cable terminates in two type-A plugs: one for power and signal, the second for additional power if needed
Idle Power Consumption	1.7 W max at idle (Power management modes can be used to reduce this to as little as 0.1 W)

Environment	
Regulatory	FCC 47 CFR Ch. 1 Part 15 Industrie Canada RSS-21 0 ETSI EN 302 208 ETSI EN 300 220
Operating Temp.	-20C to +60C
Storage Temp.	-40C to +85C

Architecture	
RFID ASIC	Intel/Indy R1000
User-accessible Flash Memory	16 kB
Tag Buffer	200 tags

Performance	
Tag Read Rate	Up to 190 tags/second
Tag Read Distance	Up to 12 inches (31 cm) depending on tag sensitivity and orientation
Max Receive Sensitivity	-65 dBm at full transmit power with typical antenna*

Specifications subject to change without notice.

\* Receive sensitivity will improve as transmit power is reduced



## Develop

Create RFID-enabled solutions using industry-standard tools

## Deploy

Enable rapid deployment and reliable operation of RFID solutions within a wide variety of new and existing environments

## Optimize

Maximize productivity, improve ROI, and lower operating costs



For more information, visit [www.thingmagic.com](http://www.thingmagic.com)

To purchase ThingMagic products, please email [sales@thingmagic.com](mailto:sales@thingmagic.com) or call 1-866-833-4069 (International callers dial +1 617-499-4090)

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