

USB *Plus+* RFID Reader

World-class UHF RFID Desktop Reader



The ThingMagic USB *Plus+* RFID Reader is ideal for applications that require reading and writing of EPC Global Gen2 tags on a desk or workstation and in areas where space is limited. The USB *Plus+* is controlled and powered by a host PC or laptop through a USB interface and is compatible with ThingMagic's application development tools, permitting rapid creation of RFID solutions. With a software adjustable read distance up to 3 ft (0.91 m), the USB *Plus+* supports a variety of applications, including RFID tag commissioning, manufacturing WIP, document tracking, library book check in/out, retail point of sale, event and hospitality services, hospital patient workflows, and more. The high-performance internal antenna of the USB *Plus+* is also ideal for commissioning high memory tags and reading small form factor RFID tags more effectively.

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	Internal linear polarized antenna with peak Gain 1 dBi from 860-960 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 902-928 MHz (Americas) ETSI 865.6-867.6 MHz, 869.85 MHz (EU) KCC 917-920.8 MHz (Korea) TRAI 865-867 MHz (India) ACMA 920-926 MHz (Australia) SRRC-MII 920-925 MHz (P. R. China) 'Open' (Customizable) 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)

Regulatory & Safety	
Regulatory	FCC 47 CFR Ch.1 Part 15 Industrie Canada RSS-210 ETSI EN 302 208 v1.4.1
Safety	IEC 60950-1 (ed.2) US-17650-UL

Power	
DC Power Required	DC Voltage: 5 VDC (Powered by USB interface) DC Power: 2.7 W (540 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	
Operating Temp.	-20C to +60C
Storage Temp.	-40C to +85C

Architecture	
User-accessible Flash Memory	16 kB
Tag Buffer	200 tags

Performance	
Tag Read Rate	Up to 200 tags/second
Max Read Distance	Up to 3 ft (0.91 m) depending on tag sensitivity and orientation

Specifications subject to change without notice.

MAKING RFID EASY TO USE

ThingMagic is dedicated to driving the barriers to deploying RFID technology as low as possible. We design our products to be easy to use out-of-the box and to deliver predictable, reliable, and repeatable performance. Our development tools require little RFID expertise, enabling you to rapidly design, test, and deploy your RFID solutions.

Developers Kit

Everything needed to read and write RFID tags and begin developing RFID-enabled applications:

- Test chassis
- Cables
- Antenna
- Sample Tags
- Full schematics to help you design your own complementary components

Mercury API

A common development platform, supporting an extensive variety of hardware to connect, configure, and control ThingMagic readers.

Universal Reader Assistant

A utility for advanced demo, testing, and tuning of all ThingMagic readers. Reduces complexity for novice users while permitting low-level control for advanced developers.

