

# 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

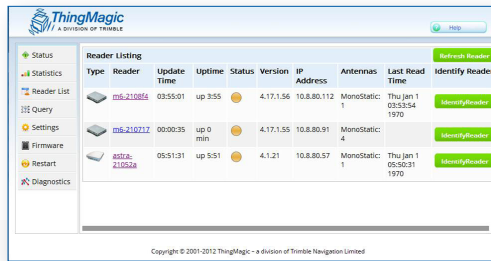
Everything needed to read and write RFID tags and begin developing RFID-enabled applications:

- 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.

