



Features & Benefits:

- Built around proven ThingMagic technology
- Highly integrated UHF RFID reader with SAM 4S architecture, 1 GB processor and 256K of flash memory
- Optional integrated antenna with read range up to 2 meters
- Standard USB or Serial RS232 interface, with optional SPI, I2C and RS485 capability
- Support for EPCglobal Gen 2V2 Protocol (ISO 18000-63)
- Pre-loaded Autonomous Workflows simplify integration
- RAIN Communication Interface supports RAIN RFID technology standards

RAIN® UHF RFID Smart Module

ThingMagic EL6e enables easy integration of embedded RFID into OEM designs. Based on the industry-proven ThingMagic Nano module, the EL6e adds interface and operability features that allow engineers to minimize design efforts and quickly embed an RFID module in any application that requires mid- or short-range read distance. The EL6e supports autonomous workflows permitting rapid creation of solutions without RFID expertise nor the use of SDKs and integration tools, and it's among the first products in the market to support a new developer-friendly interface between applications and RAIN RFID readers, the RAIN Communication Interface.

Highlights:

- Speed and ease of integration due to all-in-one embedded solution that includes reader module, antenna (optional), and processor to RFID-enable applications.
- Among the first products in the market to support a new developer friendly interface between applications and RAIN RFID readers – RAIN Communication Interface (RCI)
- Comes pre-loaded with a selection of Autonomous Workflows for the most common use cases. Allows users to operate without RFID expertise, SDKs and integration tools.
- The simplicity of the keyboard emulation mode allows data transfer across multiple platforms, without the need for custom application interface.
- Flexible architecture includes advanced interface options that enable sophisticated interactions. These include Mercury API (license-enabled, future availability) and RCI.
- Design is highly configurable and can be customized for unique applications. *Contact JADAK to discuss how EL6e can be tailored to fit your specific application.*

Ideally suited scenarios include:

- Bulk-reading a small set of items, like instruments in a surgical kit.
- Reading a specific item but looking for longer range than HF RFID can provide.
- Final item verification for inventory or returns processing.

Application Areas:

- Medical Equipment for Healthcare and Pharmaceutical Industries
- Kiosks and vending machines
- Access gates in parking garages, ski lift gates, and other applications

ThingMagic EL6e

Physical	
Dimensions	With antenna 50 mm (W) x 122.5 mm (L) x 10.5 mm (H) or 15.5 mm with antenna
Mounting Holes	4 screw inserts: accepting M3 x 0.5 mm threaded screws, 5 mm depth
Tag / Transponder Protocols	
RFID Protocol Support	EPCglobal Gen 2V2 (ISO 18000-63)
RF Interface	
Antenna (Optional)	Board-mounted antenna EU or NA frequency range, RHCP, 3 dBi nominal gain
Antenna Connector	U.FL connector for an externally mounted antenna
RF Power Output	Read and write levels adjustable from 0 to +27 dBm in 0.01 dB steps
Region Selections for High Band Freq. Range (915-928 MHz)	FCC (NA, SA), Argentina, Australia, Bangladesh, China, Indonesia, Japan, Korea, Macao, Malaysia, New Zealand, Philippines, Singapore, Taiwan, Thailand
Region Selections for Low Band Freq. Range (865-868 MHz)	ETSI (EU), Hong Kong, India, Russia, Vietnam
Data/Control Interface	
Control/Data Interfaces	USB or RS-232; I2C, SPI, or RS485 available on request
GPIO Sensors and Indicators	4 3.3V bi-directional ports config. as input (sensor) or output (indicator)
User Indicators	2 bi-color LEDs and audio signal
Power	
Power Consumption (Full RF Output Power)	USB Powered: 5VDC +/- 10% at 3.5 W; External Power: 4.5-10 VDC at 4.9 W; 10-26 VDC at 4.4 W
Power Consumption (Not Transmitting)	USB Powered: 5VDC +/- 10% at 1.0 W; External Power: 4.5-10 VDC at 2.4 W; 10-26 VDC at 1.9 W
Idle Power Saving Options	Min. 0.2 W in sleep mode
Regulatory Certifications & Environment	
Certification	USA (FCC 47 Part 15); Canada (RSS-210); EU (ETSI EN 302 208 v3.1.1, RED 2014/53/EU), FCC Class A for incidental emissions (EMI)
Temperature	Operating 0°C to +50°C; Storage -40°C to +70°C
Shock (Without Antenna)	8 shocks of 1000g (3 positive direction x 3 negative direction x 3 axes). 1 m drop, 1000 G's, 1/2 sine wave profile (on carrier)
Vibration (Without Antenna)	Sinusoidal vibration 1.0" peak to peak displacement 5-13 Hz; 10g acceleration 13-500 Hz, 1.0g from 500-2000 Hz; 30 min linear freq. sweep on 3 axes.
Performance	
Max Read Rate	Up to 200 tags/second
Max Tag Read Distance	Up to 2 m (6 ft) reliant on power availability, antenna choice and tag size
Ordering Information	
PLT-RFID-EL6E-UHF-0-USB	EL6e Embedded Module, USB, No Antenna
PLT-RFID-EL6E-UHF-0-232	EL6e Embedded Module, RS232, No Antenna
PLT-RFID-EL6E-USB-DEVKIT	EL6e Development Kit

ThingMagic EL6e

This is a preliminary document and product specifications are subject to change without notice

PRELIMINARY

ABOUT JADAK:

JADAK, a business unit of Novanta, is a market leader in machine vision, RFID, barcode, printing, and color and light measurement products and services for original equipment manufacturers. The company designs and manufactures embedded detection and analysis solutions that help customers solve unique inspection, tracking, scanning and documenting. The company is ISO 9001 and ISO 13485 registered.

Novanta is a trusted technology partner to OEMs in the medical and advanced industrial technology markets, with deep proprietary expertise in photonics, vision and precision motion technologies.

ThingMagic is the JADAK line of RFID products. www.jadaktech.com

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