



122.5 mm L x 50 mm W x 10.5mm H

## Features & Benefits:

- Built around proven ThingMagic Nano module
- Highly integrated UHF RFID reader with ARM based Cortex-M4 architecture
- Optional board-mounted antenna with read range up to 2 meters
- Standard options for USB or Serial RS232 interface, and custom configurations for SPI, I2C or RS485
- Pre-loaded Autonomous Workflows simplify integration
- ThingMagic Configuration Tool simplifies configuration
- RAIN Communication Interface supports RAIN RFID technology standards
- Support for EPCglobal Gen 2V2 Protocol (ISO 18000-63)

## 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.
- 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
- Updating tag information with item usage information
- RFID tag commissioning

## Application Areas:

- Medical Equipment for Healthcare and Pharmaceutical Industries
- Kit assembly and returns processing stations
- Access gates in parking garages, ski lift gates, and other applications



# ThingMagic EL6e

<b>Physical</b>	
<b>Dimensions</b>	50 mm (W) x 122.5 mm (L) x 10.5 mm (H) or 15.5 mm with antenna
<b>Mounting Holes</b>	4 screw inserts: accepting M3 x 0.5 mm threaded screws, 5 mm depth
<b>Tag / Transponder Protocols</b>	
<b>RFID Protocol Support</b>	EPCglobal Gen 2V2 (ISO 18000-63)
<b>RF Interface</b>	
<b>Antenna (Optional)</b>	Board-mounted antenna EU or NA frequency range, RHCP, 3 dBi nominal gain
<b>Antenna Connector</b>	U.FL connector for an externally mounted antenna
<b>RF Power Output</b>	Read and write levels adjustable from 0 to +27 dBm in 0.01 dB steps
<b>Region Selections for High Band Freq. Range (915-928 MHz)</b>	FCC (NA, SA), Argentina, Australia, Bangladesh, China, Indonesia, Japan, Korea, Macao, Malaysia, New Zealand, Philippines, Singapore, Taiwan, Thailand
<b>Region Selections for Low Band Freq. Range (865-868 MHz)</b>	ETSI (EU), Hong Kong, India, Russia, Vietnam
<b>Data/Control Interface</b>	
<b>Control/Data Interfaces</b>	USB or RS-232; I2C, SPI, or RS485 available on request
<b>GPIO Sensors and Indicators</b>	4 3.3V GPIO ports: 1 input (sensor), 1 service and 2 output (indicator) lines
<b>User Indicators</b>	2 bi-color LEDs and audio signal
<b>Power</b>	
<b>Power Consumption (Full RF Output Power)</b>	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
<b>Power Consumption (Not Transmitting)</b>	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
<b>Regulatory Certifications &amp; Environment</b>	
<b>Certifications</b>	M6E-NANO modular certifications incl. 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)
<b>Safety</b>	IEC/UL 60950-1
<b>Environmental</b>	RoHS, REACH
<b>Temperature</b>	Operating 0°C to +50°C; Storage -40°C to +70°C
<b>Vibration (Without Antenna)</b>	Sinusoidal vibration 1.0" peak to peak displacement 5-14 Hz; 10g acceleration 14-500 Hz, 1.0g from 500-2000 Hz; 30 min linear freq. sweep on 3 axes.
<b>Performance</b>	
<b>Max Read Rate</b>	Up to 65 tags/second
<b>Max Tag Read Distance</b>	Up to 2 m (6 ft) reliant on power availability, antenna choice and tag size
<b>Ordering Information</b>	
<b>PLT-RFID-EL6E-UHF-0-USB</b>	EL6e Embedded Module, USB, No Antenna
<b>PLT-RFID-EL6E-UHF-0-232</b>	EL6e Embedded Module, RS232, No Antenna
<b>PLT-RFID-EL6E-USB-DEVKIT</b>	Development Kit (incl. multiregional USB module, USB cable and Y adapter, EU and NA antennas, sample tags and quick start guide)
<b>PLT-RFID-ANT-EL6E-EU</b>	Antenna Kit, EU region
<b>PLT-RFID-ANT-EL6E-NA</b>	Antenna Kit, NA region

## 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 business designs and manufactures embedded detection and analysis solutions that help customers solve unique inspection, tracking, scanning and documenting challenges. JADAK is based in Syracuse, New York, with sales and technical locations across the globe. For more information, visit [www.jadaktech.com](http://www.jadaktech.com).

ThingMagic is JADAK's RFID line of products.

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

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