

# ThingMagic M6e



69 mm L x 43 mm W x 7.5 mm H

## Features & Benefits:

- Small Form Factor  
Coupled with Powerful Performance
- Maximum Read Rate  
Distance of Over 9 m (30 feet) with 6 dBi antenna
- Support for Full 860 – 960 MHz UHF RFID Carrier Frequency Range to Accommodate Global Regulations
- Support for EPCglobal Gen2 (ISO 18000-6C) Protocol
- Reads up to 750 Tags/Second to Support Fast Moving Tags and Large Tag Populations
- Standard SKU Supports North America, EU, India, Korea, and Australia Regions; M6E-JIC SKU Supports China, Japan, and Israel (pending)

## High Performance, Multi-Protocol, 4-Port, Embedded UHF RAIN® RFID Module

ThingMagic M6e is a 4-port module that meets or exceeds the performance requirements of the most demanding fixed position multi-antenna reader applications. The M6e's high read rate and RF power, coupled with its form factor and time-to-market advantages, make it the ideal solution for Original Equipment Manufacturer (OEM) applications. Transmitting up to +31.5 dBm and reading more than 750 tags/second, ThingMagic's M6e performance is outstanding in challenging applications.

The M6e has both serial and USB interfaces to support both board-to-board and board-to-host connectivity.

M6e offers multi-protocol support, including EPCglobal Gen 2 (ISO 18000-6C) with DRM, ISO 18000-6B (optional) and IP-X (optional).

It has four 50 ohm MMCX connectors supporting four monostatic antennas.

With separate read and write levels, command-adjustable from 5 dBm to 31.5 dBm (1.4W), with +/- .5 dBm accuracy above +15 dBm (note that due to regulatory restrictions, 31.5 dBm in North American regions requires SKU M6E-A).

ThingMagic M6e is supported by ThingMagic API.

## Applications:

- OEM
- Value-Added Reseller
- Solution Providers
- Mobile
- Race Timing
- Portals with Long Cable Runs
- Conveyors Requiring Multiple Antennas



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# ThingMagic M6e

Ordering Information	
M6E	+30 dBm North America, +31.5 dBm Europe
M6E-A	+31.5 dBm in all regions, requires contract
M6E-JIC	PRC high and low bands
M6E-LIC-2F	License for optional IPX and ISO 18K-6B protocols (Gen2 standard)
M6E-DEVKIT	Development Kit North/South America, EU, IN, KR
Physical	
Dimensions	69 mm L x 43 mm W x 7.5 mm H (2.7 in L x 1.7 in W x 0.3 in H)
Tag / Transponder Protocols	
RFID Protocol Support	EPCglobal Gen 2 (ISO 18000-6C) with DRM; ISO 18000-6B and IP-X Optional; EPCglobal G2V2 (ISO 18000-63) pending market availability
RF Interface	
RF Transceiver	Impinj R2000
Antenna Connector	Four 50 $\Omega$ MMCX connectors supporting four monostatic antennas
RF Power Output	Separate read and write levels, command-adjustable from +5 dBm to +31.5 dBm (1.4W) with .5 dBm accuracy above +15 dBm <sup>1</sup>
Regulatory	Pre-configured for the following regions: FCC (NA, SA); ETSI (EU); TRAI (India); KCC (Korea); ACMA (Australia); SRRC-MII (P.R. China); 'Open' (Customizable 865-869 and 902-928 MHz)
Data/Control Interface	
Physical	15-pin low-profile connector providing DC power, communication, control and GPIO signals
Control/Data Interfaces	UART with 3.3/5V logic levels from 9.6 to 921.6 kbps; USB 2.0 full speed device port (up to 12 Mbps); Shutdown control and reset indicators
GPIO Sensors and Indicators	Four 3.3V bidirectional ports configurable as input (sensor) ports or output (indicator) ports
API support	C#/NET, Java, C
Power	
DC Power Required	DC Voltage: 5V +/- 5%; DC power consumption when reading: 6.7 W @ +31.5 dBm; 4.2 W @ power levels under +17 dBm
Idle Power Consumption	0.25 W
Power Saving Options	Standby: 0.12 W Sleep: 0.005 W Shutdown: 0.00025 W
Environment	
Certification	USA (FCC 47 CFR Ch. 1 Part 15); Canada (Industry Canada RSS-21 0); EU (ETSI EN 302 208 v3.1.1, RED 2014/53/EU)
Operating Temp.	-40°C to +60°C (case temperature)
Storage Temp.	-40°C to +85°C
Shock and Vibration	Designed to be installed in host devices which are required to survive 5 foot drops to concrete
Performance	
Max Read Rate	Up to 750 tags/second using high-performance settings
Max Tag Read Distance	Over 9 meters (30 feet) with 6 dBIL antenna (36 dBm EIRP)
<b>Specifications subject to change without notice.</b> <sup>1</sup> Maximum power may have to be reduced to meet regulatory limits, which specify the combined effect of the module, antenna, cable and enclosure shielding of the integrated product. Adequate heat sinking required to run continuously at maximum power.	

## 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 custom 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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