

# Micro-LTE

## High Performance Multi-Protocol Embedded UHF RFID Module



The 2-port Micro-LTE delivers the size, operating efficiency, RF power, and flexibility needed to embed UHF RFID in best-in-class fixed position, portable, and hand held applications where small form factor is important. The Micro-LTE is optimized for applications with small tag populations reading up to 50 tags/second and features low power consumption needed for battery operated solutions. Micro-LTE's wide RF output range (-5 dBm to +30 dBm) is a key requirement for RFID enabled printers, tag commissioning stations, and point of sales readers. Edge connections allow the Micro-LTE to be soldered directly to a motherboard as a standard component. The on-board connectors allow the module to be mated to a motherboard.

Ordering Information	
Module	M6E-MICRO
Developers Kit	M6E-MICRO-DEVKIT
Physical	
Dimensions	46 mm L x 26 mm W x 4.0 mm H
Tag / Transponder Protocols	
RFID Protocol Support	EPCglobal Gen 2 (ISO 18000-6C) with DRM IP-X and ISO 18000-6B optional
RF Interface	
Antennas	Two 50 $\Omega$ connections (board-edge or U.FL) supporting two monostatic antennas
RF Power Output	Separate read and write levels, command adjustable from -5 dBm to 30 dBm* in 0.5 dB steps, accurate to +/- 1 dBm
Regulatory	Pre-configured for the following regions: <ul style="list-style-type: none"> <li>• FCC (NA, SA) 902-928 MHz</li> <li>• ETSI (EU, India) 865.6-867.6 MHz</li> <li>• TRAI (India) 865-867 MHz</li> <li>• KCC (Korea) 917-920.8 MHz</li> <li>• ACMA (Australia) 920-926 MHz</li> <li>• SRRC-MII (P.R.China) 920-925 MHz</li> <li>• MIC (Japan) 916.8-923.4 MHz</li> <li>• 'Open' (Customizable channel plan; 865-868 MHz and 902-928 MHz)</li> </ul>
Data/Control Interface	
Physical	28 board-edge connections or Molex low profile connector (53748-0208) providing DC power, communication, control and GPIO signals
Control/Data Interfaces	<ul style="list-style-type: none"> <li>• UART; 3.3V logic levels 9.6 to 921.6 kbps</li> <li>• USB 2.0 interface (12 Mbps)</li> </ul>
GPIO Sensors and Indicators	Two 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: 3.5 to 5.25 V** DC power consumption @ RF level: 5.5 W @ +30 dBm *** 3.5 W @ +27 dBm 2.5 W @ +23 dBm 2.0 W @ 0 dBm
Power Consumption when not transmitting	0.32 W
Idle Power Saving Options	Standby: 0.06 W Sleep: 0.008 W Shutdown: 0.0003 W
Environment	
Certification	FCC 47 CFR Ch. 1 Part 15 Industrie Canada RSS-21 0 ETSI EN 302 208 v1.4.1
Operating Temp.	-20C to +60C (case temperature)
Storage Temp.	-40C to +85C
Shock and Vibration	Survives 1 meter drop during handling
Performance	
Max Read Rate	50 tags/second
MaxTag Read Distance	Over 30 feet (9 m) with 6 dBiL antenna (36 dBm EIRP)



Specifications subject to change without notice  
 \*Duty cycle restrictions, based on temperature, apply at power levels above +23 dBm  
 \*\*Will operate below +3.5 V with reduced input line noise immunity  
 \*\*\*Best case with good antenna matching

## 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

Included with every ThingMagic reader Developer Kit, the MercuryAPI supports the entire line of ThingMagic finished readers and embedded RFID modules

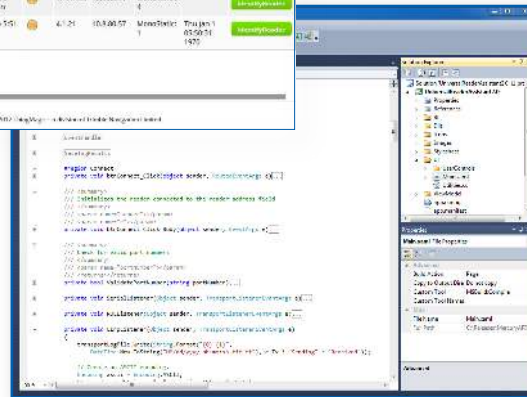
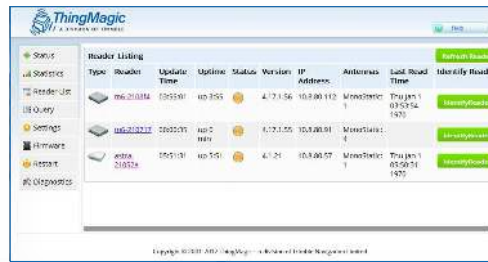
- Test chassis
- Cables
- Antenna
- Sample Tags
- Full schematics to help you design your own complimentary components



M6e Reader DevKit shown

### 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.