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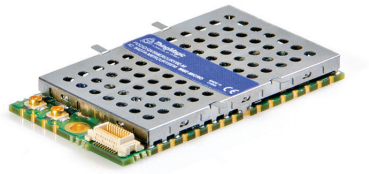
Micro

High Performance Multi-Protocol Embedded UHF RFID Module



The 2-port Micro 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 reads up to 750 tags/second and features low power consumption needed for battery operated applications. Micro'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 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-M
Development Kit	M6E-M-DEVKIT
Physical	
Dimensions	46 mm L x 26 mm W x 4.0 mm H (1.8 in L x 1.0 in W x 0.16 in H)
Tag / Transponder Protocols	
RFID Protocol Support	EPCglobal Gen 2 (ISO 18000-6C) with DRM IP-X and ISO 18000-6B optional
RF Interface	
Antenna Connector	Two 50 Ω 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: • FCC (NA, SA) 902-928 MHz • ETSI (EU, India) 865.6-867.6 MHz • TRAI (Inida) 865-867 MHz • KCC (Korea) 917-920.8 MHz • ACMA (Australia) 920-926 MHz • SRRC-MII (P.R.China) 920-925 MHz • MIC (Japan) 916.8-923.4 MHz • 'Open' (Customizable channel plan; 865-868 MHz and 902-928 MHz)
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	• UART; 3.3V logic levels 9.6 to 921.6 kbps • USB 2.0 interface (12 Mbps)
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	Up to 750 tags/second using high-performance settings
MaxTag Read Distance	Over 30 feet (9 m) with 6 dBiL antenna (36 dBm EIRP)

RoHS Compliant

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

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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

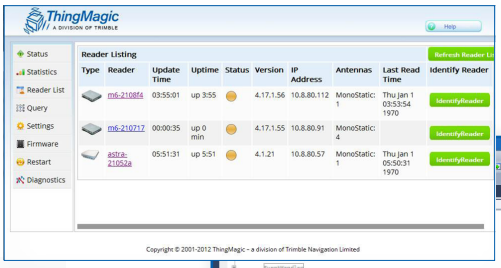
Included with every ThingMagic reader Developer Kit, the MercuryAPI supports the entire line of ThingMagic finished readers and embedded RFID modules

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

M6e Reader DevKit shown

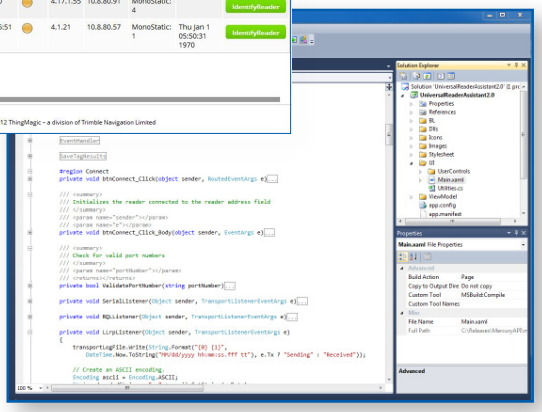
Mercury API

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.



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For more information, visit www.thingmagic.com

To purchase ThingMagic products, please email sales@thingmagic.com or call 1-866-833-4069 (International callers dial +1 617-499-4090)

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