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Micro

World-class UHF RFID Engine

This module is designed to meet the demands of high performance RFID handheld, mobile, and stationary readers. The Micro offers two antenna ports and supports the ability to transmit up to +30 dBm for demanding applications. The edge connections for signals, power, and RF allow the module to be soldered directly to a motherboard as a standard component. The on-board connectors allow the module to be mated to a motherboard as an add-on option.

Ordering Information	
Module	M6E-M
Development Kit	M6E-M-DEVKIT

Physical	
Dimensions	46 mm L x 26 mm W x 4.0 mm H (1.6 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 max backscatter rate of 640 kbps IP-X and ISO 18000-6B optional
RF Interface	
Antenna Connector	Two 50 Ω connections (board-edge or U.FL)
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 (May be temperature-dependent limits on duty cycle above +23 dBm)
Regulatory	Pre-configured for the following regions: • FCC (NA, SA) 902-928 MHz • ETSI (EU, India) 865.6-867.6 MHz • TRAI 865-867 MHz (India) • KCC (Korea) 917-920.8 MHz • ACMA (Australia) 920-926 MHz • SRRC-MII (P.R.China) 920-925 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 access to DC power, communication, and GPIO signals
Control/Data Interfaces	• UART; 3.3V logic levels (5 V input tolerant); 9.6 to 921.6 kbps • USB 2.0 interface (12 Mbps) • Reset and Shutdown controls
GPIO Sensors and Indicators	Two 3.3V bidirectional ports configurable as input (sensor) ports or output (indicator) ports
API support	.NET, Java, and Embedded "C" APIs

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
Idle Power Consumption	0.33 W in ready mode 0.06 W in power-save mode 0.01 in sleep mode 0.00025 in shutdown mode
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
Architecture	
User-accessible Flash Memory	16 kB
Tag Buffer	Minimum 200 tags with 96-bit EPC
Performance	
Boot time	Less than 0.2 sec
Max Read Rate	More than 750 tags/second using high-performance settings

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

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Develop

Create RFID-enabled solutions using industry-standard tools

Deploy

Enable rapid deployment and reliable operation of RFID solutions within a wide variety of new and existing environments

Optimize

Maximize productivity, improve ROI, and lower operating costs

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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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