M5e-Compact

World-class UHF RFID Engine

M5e-Compact is the smallest ThingMagic Mercury RFID embedded reader - about the same size as a compact flash card. It is ideal for adding UHF RFID read/write capabilities to battery-powered mobile printers and hand-held readers, where small size and low power consumption are essential and where the higher RF power and advanced anti-jamming capabilities of the Mercury5e module are not required.

Tag / Transponder Protocols

RFID Protocol Support	EPCglobal Gen 2 (ISO 18000-6C) with Anti-Collision and DRM

RF Interface

Antenna connector	MMCX connector supporting one monostatic antenna with VSWR < 1.5:1 @ 50Ω
RF Power Output	Separate read and write levels, command-adjustable from 10 dBm to 23 dBm (200mW), +/-1.0 dBm accuracy.*
Frequency	Pre-configured for the following regions: FCC (NA, SA) 902-928 MHz ETSI (EU) 865.6-867.6 MHz, 869.85 MHz MIC (Korea) 910-914 MHz SRRC-MII (P.R.China) 920-925 MHz 'Open' (Custom) 860-960 MHz

Data/Control Interface

Physical	12-pin ZIF connector providing power, communications signals, and GPIOs
Signaling	Asynchronous serial interface with 3.3/5V logic levels; baud rates from 9600 to 921,600 bps
GPIO Sensors and Indicators	Two 3.3/5V serial input sensor ports and 2 output indicator ports provided
Protocol	Command-response protocol protected by length field and 16-bit CRC.

Physical

Dimensions	56 mm L x 36 mm W x 5 mm H (2.2 in L x 1.4 in W x 0.2 in H)

Ordering Information

Module	M5E-C
Development Kit	M5E-C-DEVKIT

Power

DC Power Required	DC Voltage: 3.0 to 5.5 VDC DC Power: 2.6 W max
Idle Power Consumption and Command Response Times (Typical Values)	1.43 W with 5 msec response time Power Saving Options: 0.35 W with 15 msec response time 0.10 W with 45 msec response time 0.03 W with 60 msec response time

Environment

Regulatory	FCC 47 CFR Ch. 1 Part 15 Industrie Canada RSS-21 0 ETSI EN 302 208 ETSI EN 300 220
Operating Temp.	-20C to +60C
Storage Temp.	−40C to +85C
Electrostatic Discharge	10kV to antenna shield conductor with antenna that presents a short to DC
Shock and Vibration	Designed to be installed in host devices that are required to survive 5-foot drops to concrete.

Architecture

RFID ASIC	Intel R1000
User-accessible Flash Memory	16 kB
Tag Buffer	200 tags

Performance

Tag Read Rate	Over 190 tags/second
Tag Read Distance	Over 20 feet (6 m) with 12 dBi antenna (35 dBm EIRP)

*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

ThingMagic
The Engine in RFID™

Intel® RFID Technology

RoHS COMPLIANT