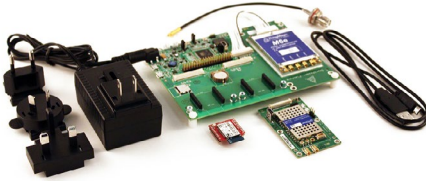


# Mercury<sup>®</sup> xPRESS Platform

## RFID Reader Reference Design Platform for OEMs



Hardware prototype kit above. Platform includes reference design files and xPRESS SDK (downloadable).

The Mercury xPRESS Platform includes hardware, software and documentation to enable rapid development of low cost, high performance application specific RFID readers and embedded solutions based on the ThingMagic<sup>®</sup> Mercury6e Series of UHF RFID Modules. The platform combines ThingMagic's embedded RFID technology with a microcontroller and wide range of transport interfaces. This hardware platform is supported by an SDK built on the ThingMagic Mercury C API. To support ongoing innovation, integrated development tools, device drivers, and application software will be enhanced with regular future releases that expand capabilities and enable development of a wider range of end products.

### ADVANTAGES

- Embedded solution development platform using Mercury6e Series UHF RFID modules
- Complete package including hardware and software development tools, application software library and reference design files
- Screened for regulatory compliance, reducing cost and time to secure needed end product certifications
- Extensible - regular new releases will add functionality and increase applications directly supported
- Fast "out of the box" operation using hardware prototype kit - connect an antenna, connect to a PC, connect power, and the native keyboard wedge application begins reporting tag data

### Ordering Information

XP6e	xPRESS development platform with M6e RFID module
XP6e-M	xPRESS development platform with Micro RFID module
XP6e-Micro	xPRESS development platform with Micro-LTE RFID module
XP-BT	xPRESS Platform plug-in Bluetooth interface module (optional)
Optional Accessories	<ul style="list-style-type: none"> <li>• RFID antennas</li> <li>• RFID tags</li> </ul>

### Physical - Hardware Prototype Kit

Dimensions	114.3 mm L x 152.4 mm W x 25.4 mm H (4.5 in L x 6.0 in W x 1 in H)
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### Components of Platform

Hardware prototype kit	<ul style="list-style-type: none"> <li>• Microcontroller based motherboard with integrated RFID module</li> <li>• Universal AC power adapter</li> <li>• Antenna adapter cable</li> <li>• USB cables (2)</li> <li>• Quickstart Guide: details links to access hardware and software reference design files</li> </ul>
Software Development Tools (downloadable)	<ul style="list-style-type: none"> <li>• xPRESS SDK</li> <li>• Sample applications (Keyboard Wedge sample application is pre-loaded into memory)</li> </ul>
Hardware Reference Design and Manufacturing Files (downloadable)	<ul style="list-style-type: none"> <li>• Schematics in OrCAD Capture v15.7 tool format (file extension .DNS)</li> <li>• PDF printouts of schematics</li> <li>• Bill of Material (BOM) in Excel format</li> <li>• PCB design file in OrCAD Layout v15.7 tool format (file extension .MAX)</li> <li>- GERBER files (PCB layers, manufacturing plots)</li> <li>- Board assembly views, top and bottom, in PDF format</li> </ul>

### Physical Interfaces - Hardware Prototype Kit

USB Control/Data Interfaces	<ul style="list-style-type: none"> <li>• USB 2.0 Micro-B jack for debugging</li> <li>• USB OTG Micro-AB jack for control and communication</li> <li>• USB 2.0 Mini-B jack for direct access to module USB interface</li> </ul>
MCU break-out Interfaces	<ul style="list-style-type: none"> <li>• 10-pin J-Tag connector for firmware upgrade and debug</li> <li>• Two 51-pin Hirose DF9 series communication interface connectors</li> <li>• 40-pin test connector</li> </ul>
Power Interfaces	<ul style="list-style-type: none"> <li>• Co-axial 5V input jack</li> <li>• Two-pin Li-ion jack - JST PH2 type</li> <li>• Three-pin Li-ion jack - JST PH3 type</li> </ul>
Standard Accessory Interfaces	<ul style="list-style-type: none"> <li>• Two 20-pin xBee connectors for transport interface modules</li> <li>• Micro-SD card connector (future use)</li> </ul>
Push-button Controls	<ul style="list-style-type: none"> <li>• On/Off switch</li> <li>• Reset switch</li> <li>• User-programmable switch</li> </ul>
LED Indicators	<ul style="list-style-type: none"> <li>• Power LED (Red)</li> <li>• Battery Status LED (Green)</li> <li>• User-programmable LEDs (Blue, Yellow, Green)</li> </ul>

### Power - Hardware Prototype Kit

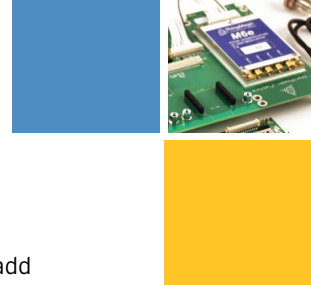
Power Source	<ul style="list-style-type: none"> <li>• Universal power adapter - 100-240 V, 50/60 Hz, 0.58 A max (Included)</li> <li>• Optional battery powered - 2-pin Li-ion or 3-pin Li-ion battery with NTC (not included)</li> </ul>
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### Platform - Hardware Prototype Kit

xPRESS SDK	<ul style="list-style-type: none"> <li>• Debug console for error logs and monitoring</li> <li>• Built on Mercury C API with FreeRTOS</li> <li>• Uses standard GCC tool chain</li> <li>• Uses Atmel Software Framework</li> <li>• Uses standard open source tools</li> <li>• Supports M6e, Micro and Micro-LTE modules</li> <li>• Includes sample applications with common use case</li> </ul>
Operating System	FreeRTOS
Processor	ATMEL AT91SAM3A8C




### Environment - Hardware Prototype Kit

Certification	<ul style="list-style-type: none"> <li>• FCC 47 CFR Ch. 1 Part 15</li> <li>• ETSI EN 302 208 v1.4.1</li> </ul>
Operating Temp.	-20C to +60C (case temperature)
Storage Temp.	-40C to +85C



## Mercury6e Series High Performance Multi-Protocol Embedded UHF RFID Modules

Available in multiple configurations, ThingMagic RFID modules provide the easiest and most cost effective way to add RFID to your product or solution. The Mercury xPRESS Platform supports the entire ThingMagic Mercury6e Series of embedded UHF RFID modules.

<b>World's highest performance, small form factor UHF RFID Modules</b>	 <b>M6e</b>	 <b>Micro</b>	 <b>Micro-LTE</b> (Low Tag-read Enabled)
Antenna Ports	4	2	2
Power dBm	5 to 31.5	-5 to 30	-5 to 30
Read Rate (tag/sec)	750	750	50
Read Range	30ft	30ft	30ft

## Leverage ThingMagic RFID expertise to get to market faster and more cost effectively with an extensible RFID solution development platform

The Mercury® xPRESS Platform represents a shift from the cost prohibitive limited approach of integrating general purpose RFID readers or low-performance modules, to the flexible and extensible platform-based approach of developing low cost, high performance, application specific RFID solutions.

Integrated development tools, device drivers and application software will be enhanced with regular future updates that expand capabilities and enable development of a wider range of end products.



For more information, visit [www.thingmagic.com](http://www.thingmagic.com)

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

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