RU-861 UHF RFID Reader Module

Product Overview

MTI's second generation UHF RFID reader module based on Impinj R1000 silicon provides read and write capability for all EPC Class 1 Gen2 compliant tags. RU-861 module provides exceptional monostatic RFID performance with two (2) independent external antenna ports. RU-861 provides adjustable transmit output level control with a maximum output of +30 dBm, dense reader mode (DRM), anti-collision features, excellent thermal management and remote firmware upload capabilities. RU-861 is ideal for embedded RFID applications where high performance, excellent thermal management and advanced functionality is desired.

Features

- Just the best price to performance Impinj R1000 RFID reader module available in the market today!
- EPC Class 1 Gen2 reader module for fast integration and embedded applications
- Small form factor with integrated heatsink
- USB 2.0 (12 Mbps) with HID host interface
- Software includes HW GUI demo software with source code and low level command set API
- .NET SDK with programming examples available with Development Kit

Benefits

- Cost efficient UHF RFID module reads and writes EPC Class 1 Gen2 compliant tags
- High performance and reliability through anti-collision and dense reader mode (DRM)
- Read range of up to twelve (12) meters depending on actual tag, use case and operational environment
- International operation with global frequency coverage over 860-960 MHz band
- Strict regulatory compliance for worldwide certification

Compliant with International Standards

- ISO 18000-6C / EPC Class 1 Gen2
- Supported Regions: US, Canada and other regions following US FCC Part 15, Europe and other regions following ETSI EN 302 208

Applications

- Logistics and item-level inventory management
- Operations, manufacturing, quality process management
- Retail commissioning and item-level tracking
- Distribution centers and supply chain
- Warehouse management
- Asset tracking and management
- Access control and patron management
- Product authentication and anti-counterfeiting
- Cargo tracking and portal RFID engine

MTI Overview

Microelectronics Technology Inc. (MTI) founded in 1983 is the first RF and Microwave company established in Taiwan. For almost 30 years, MTI has been internationally recognized as a global leader in the design and high-volume manufacturing of RF and Microwave products. MTI has over 3,000 employees with locations in Taiwan, China, United States and Denmark. In 2005, MTI was recognized as the first Asian company to receive formal EPC Gen2 UHF RFID Reader certification from GS1.

Contact Info

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# RU-861 UHF RFID Reader Module

## Product Specifications

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<th>Feature</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Model Number</td>
<td>RU-861-0XX</td>
</tr>
<tr>
<td>Product Name</td>
<td>UHF RFID Reader Module</td>
</tr>
</tbody>
</table>
| Features                                                              | • Compliant with EPCglobal Class 1 Gen2 (ISO 18000-6C)  
  • Dense Reader Mode (DRM) Capability  
  • Adjustable Output Power (up to +30dBm Max.)  
  • Exceptional Performance and Reliability  
  • Low Power Consumption  
  • Support 2 TTL level GPIO lines  
  • Small Form Factor Supports Embedded Solutions |
| Air-Interface Protocols                                                | EPC Class 1 Gen2 (ISO 18000-6C) |
| Frequency Band                                                        | 860 - 960 MHz |
| Output Power                                                          | Adjustable from +5 to +30dBm in 1dB step |
| Supply Voltage                                                        | 5VDC        |
| Power Consumption                                                      | • Sleep mode: 0.07A  
  • Standby mode: 0.25A  
  • Operation mode: 1.0A @ +27dBm; 1.5A @ +30dBm |
| Host Communication Interfaces/Data Rates                              | • UART(TTL): 115.2 kbps  
  • USB 2.0 compliant with full speed (up to 12Mbps) operation |
| Regulatory                                                             | Certifiable for 860 to 960 MHz UHF RFID carrier frequency range to accommodate worldwide regulations |
| RFID Silicon                                                          | Impinj Indy™ R1000 |
| Physical Size                                                         | 86 mm (L) x 53 mm (W) x 8 mm (H) |
| I/O Connections                                                       | 15 x 2 pin connector / two programmable GPIO |
| Antenna                                                               | Two MIMAX connectors supporting two monostatic antennas |
| Environment                                                           | • Operating Temperature: -20°C to 55°C  
  • Storage Temperature: -40°C to 85°C |
| Software                                                               | MTT software includes HW GUI demo software with source code and low level command set API. Development Kit with .NET SDK with programming examples available upon request |

*All specifications herein subject to change*

## Ordering Information

<table>
<thead>
<tr>
<th>Product Type</th>
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<tbody>
<tr>
<td>Module</td>
<td>RU-861-000</td>
<td>UHF RFID USB Module for US Band</td>
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<tr>
<td>Module</td>
<td>RU-861-001</td>
<td>UHF RFID UART Module for US Band</td>
</tr>
<tr>
<td>Development Kit</td>
<td>RU-861-001-DK</td>
<td>UHF RFID Development Kit for US Band</td>
</tr>
<tr>
<td>Module</td>
<td>RU-861-010</td>
<td>UHF RFID USB Module for EU Band</td>
</tr>
<tr>
<td>Module</td>
<td>RU-861-011</td>
<td>UHF RFID UART Module for EU Band</td>
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