iDTRONIC
PROFESSIONAL RFID

# EMBEDDED UHF MODULE

# M630




## PRODUCT DESCRIPTION

The EMBEDDED UHF MODULE M630, which is part of iDTRONIC's new line of UHF readers, is a high-performance dual-port UHF RFID module based on the Impinj E310 reader chips. With its programmable power output of up to 26dBm, the module can achieve reading distances of up to 4 meters (depending on the antenna, transponders, and environment).The Impinj-based E310 reader chip enables fast reading speeds of up to 300 tags per second.
The multiregional capabilities of the EMBEDDED UHF MODULE M630 allow it to operate in both European and US regulatory environments.

iDTRONIC's hardware comes with a well-designed SDK for developing controller, Linux, or Windows-based applications. Along with the documentation, command protocols, and source codes, the SDK includes a Windows-based demo application that provides full functionality of the UHF reader module.

### ▶ APPLICATIONS

- RFID Readers
- Industry 4.0
- Warehouse Robots
- Industrial Vehicles

### ▶ FEATURES

- Based on the New Generation Impinj E310 reader chip
- Support EPC global Gen2 (ISO 18000-6C)
- 2*MMCX antenna port is good for RFID printer or RFID reader
- 5-26dBm RF power output
- Low power consumption

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RFIDCanada
Automating Identification

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# TECHNICAL DATA

| RADIO SPECIFICATIONS | |
|---|---|
| Operating Frequency | 840...960 MHz, Configurations for USA: 902...928 MHz (FCC), EU: 865...868 MHz (ETSI) |
| RFID IC | IMPINJ E310 |
| RF TX Power | +5...26 dBm, adjustable in steps of 1 dB |
| RF Sensitivity | -73 dBm |
| RF Channel Isolation | 32 dB |
| Reading Range | ≥3 m, with 2.5 dBi ceramic antenna |
| RF Impedance | 50 Ω |
| Antenna | 2 MMCX connectors for external antennas |

| ELECTRICAL SPECIFICATIONS | |
|---|---|
| Power Supply | 3.6...5 Vdc |
| Power Consumption | 700 mA @ +30 dBm TX Power<br>50 mA Standby<br>50 µA Power Down Mode |
| Connectors | 15 pin FPC socket<br>Solder Joints |
| Communication Interface | UART TTL port |
| Baudrate | 9600...921600 bit/s, 115200 bits/s factory default<br>1 start bit, 8 data bits, 1 stop bit, no parity bit |
| GPIO | 2 Inputs TTL Levels: Logic low: < 0.8 V, minimum 0V<br>Logic high: > 2 V, maximum 3.3 V<br>2 Outputs TTL Levels: Logic low: maximum 0.4 V<br>Logic high: minimum 2.9 V, maximum 3.3 V<br>IO The maximum output current of the port is 5 mA |

| MECHANICAL SPECIFICATIONS | |
|---|---|
| Dimensions | 55.9 × 35.6 × 6.5 mm |
| Weight | 20 g |
| Material | Aluminium |

| ENVIRONMENTAL CONDITIONS | |
|---|---|
| Operating Temperature | -25 °C ... +65 °C |
| Storage Temperature | -40 °C ... +85 °C |
| Humidity | up to 95 %, non-condensing |

| SUPPORTED STANDARDS / TAGS | |
|---|---|
| ISO Standard | ISO 168000-63 (EPC Class 1 Generation 2) |
| Read Rate | ≥ 300 tags/s |
| Tag Cache | ≥ 1000 Tags @ 12 Bytes EPC size |

| SDK INFORMATION | |
|---|---|
| Supported OS | Windows, Linux, Android |
| Supported Languages | C, C#/.NET, Java |
| Demo Software | Windows |

*Other functions and details to be continued and upgraded.*

| VERSIONS | ORDER CODES |
|---|---|
| Embedded UHF Module M630 - TTL | OEM-UHF-M630-TTL |

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