ThingMagic Nano

22 mm L x 26 mm W x 3.0 mm H

Features & Benefits:

- Small Service Mount Technology (SMT) Form Factor for Highly Integrated, Compact Designs
- Low Power Consumption for Efficient Battery-Use
- Support for EPCglobal Gen2V2 (ISO 18000-63) Protocol Meets Industry Tag Standards
- Configured for Multiple Regions, such as FCC (North & South America), ETSI (European Union), and Other Regions Including India, China, Korea, Australia and Japan With Single SKU for Global Use

Tiny Embedded UHF RAIN® RFID Module

ThingMagic Nano is the smallest form factor for a Mercury Series embedded UHF RAIN RFID module. With very low power consumption, it is ideal for battery-operated, low cost, small form-factor portable readers. ThingMagic Nano's wide RF output range (0 dBm to +27 dBm) is important for the read/write requirements for RFID-enabled printers and tag commissioning stations.

ThingMagic Nano features a surface mount package designed for the efficiency of SMT manufacturing, driving down the total cost for embedding RFID in volume applications. It is ideal for handheld devices, consumables authentication, device configuration and access control.

ThingMagic Nano is supported by ThingMagic API.

Applications:

- Medical Equipment for Healthcare and Pharmaceutical Industries
- Kiosks and Vending Machines
- Mobile Devices, including Printers, Handhelds, and Sensor Networks
- Tag Commissioning Stations
- Battery-operated
- Smartphone Accessories

RAIN RFID

JADAK
A Novanta Company

ThingMagic Nano

Ordering Information	
Module	M6E-NANO
Development Kit	M6E-NANO-DEVKIT
Physical	
Dimensions	22 mm L x 26 mm W x 3.0 mm H (0.87 in L x 1.02 in W x 0.12 in H)
Tag / Transponder Protocols	
RFID Protocol Support	EPCglobal Gen 2V2 (ISO 18000-63)
RF Interface	
RF Transceiver	Impinj R500
Antenna Connector	Single 50 Ω connection (board-edge)
RF Power Output	Separate read and write levels, command-adjustable from 0 dBm to +27 dBm in 0.01 dB steps
Regulatory	Pre-configured for the following regions: FCC (NA, SA) 917.4-927.2 MHz; ETSI (EU) 865.6-867.6 MHz; TRAI (India) 865-867 MHz; KCC (Korea) 917-923.5 MHz; ACMA (Australia) 920-926 MHz; SRRC-MII (P.R. China) 920.1-924.9 MHz; MIC (Japan) 916.8-922.2 MHz; 'Open' (Customizable channel plan; 859-873, 915-930 MHz)
Data/Control Interface	
Physical	41 board-edge connections providing access to RF, DC power, communication, control and GPIO signals
Control/Data Interfaces	UART; 3.3V logic levels 9.6 to 921.6 kbps
GPIO Sensors and Indicators	Four 3.3V bidirectional ports configurable as input (sensor) ports or output (indicator) ports
API support	C#/.NET, Java, C
Power	
DC Power Required	DC Voltage: 3.3 to 5.5 V for +25 dBm out; 3.7 to 5.5 V for +27 dBm out DC power consumption @ RF level: 3.2 W @ 5 VDC for +27 dBm out*, 2.9 W @ 5 VDC for +25 dBm out, 1.5 W @ 5 VDC for 0 dBm out
Power Consumption when not transmitting	0.84 W
Idle Power Saving Options	Ready: 0.84 W Sleep: 0.015 W Shutdown: 0.00025 W
Environment	
Certification	USA (FCC 47 CFR Ch. 1 Part 15); Canada (Industry Canada RSS-21 0); EU (ETSI EN 302 208 v3.1.1, RED 2014/53/EU)
Operating Temperature	-40°C to +60°C (case temperature)
Storage Temperature	-40°C to +85°C
Shock and Vibration	Survives 1 meter drop during handling
Performance	
Max Read Rate	Up to 200 tags/second
Max Tag Read Distance	Over 4.5 meters (15 feet) with 6 dBi antenna (33 dBm EIRP)
Specifications subject to change without notice.	*Best case with good antenna matching

About JADAK:

JADAK, a business unit of Novanta, is a market leader in machine vision, RFID, barcode, printing, and color and light measurement products and services for original equipment manufacturers. The business designs and manufactures custom embedded detection and analysis solutions that help customers solve unique inspection, tracking, scanning and documenting challenges. JADAK is based in Syracuse, New York, with sales and technical locations across the globe. For more information, visit www.jadaktech.com.
ThingMagic is JADAK's RFID line of products.

Novanta is a trusted technology partner to OEMs in the medical and advanced industrial technology markets, with deep proprietary expertise in photonics, vision and precision motion technologies. For more information, visit www.novanta.com.

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