ThingMagic
A DIVISION OF TRIMBLE

ThingMagic Nano

Embedded UHF RFID Module

ThingMagic Nano delivers the smallest form factor for a Mercury Series embedded UHF RFID module with very low power consumption and 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. It features a surface mount package designed for the efficiency of SMT manufacturing, driving down the total cost for embedding RFID in volume applications, including handheld devices, consumables authentication, device configuration and access control.

Physical	
Dimensions	22 mm L x 26 mm W x 3.0 mm H (0.866 in L x 1.024 in W x 0.118 in H)
Tag / Transponder Protocols	
RFID Protocol Support	EPCglobal Gen 2 (ISO 18000-6C)
RF Interface	
Antennas	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 • MIC (Japan) 916.8 – 923.4 MHz • ACMA (Australia) 920 – 926 MHz • SRRC-MII (P.R.China) 920.1 – 924.9 MHz • 'Open' (Customizable channel plan; 859 – 873 MHz and 915 – 930 MHz)
Data/Control Interface	
Physical	41 board-edge connections providing access to RF, DC power, communication, and GPIO signals
Control/Data Interfaces	• UART; 3.3V logic levels; 9.6 to 921.6 kbps • Shutdown control
GPIO Sensors and Indicators	Four 3.3V bidirectional ports configurable as input (sensor) ports or output (indicator) ports
API support	C#/.NET, Java, and Embedded "C" APIs

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 when reading: 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
Idle Power Consumption	• 0.84 W in ready mode • 0.015 W in sleep mode • 0.00025 W in shutdown mode
Environment	
Certification	• FCC 47 CFR Ch. 1 Part 15 • Industrie Canada RSS-21 0 • ETSI EN 302 208 v1.4.1
Operating Temp.	-20C to +60C (case temperature)
Storage Temp.	-40C to +85C
Shock and Vibration	Survives 1 meter drop during handling
Performance	
Boot time	Less than 30 msec after initial calibration boot
Performance	Up to 200 tags/sec reading 96-bit EPC

Specifications subject to change without notice

Develop

Create RFID-enabled solutions using industry-standard tools

Deploy

Enable rapid deployment and reliable operation of RFID solutions within a wide variety of new and existing environments

Optimize

Maximize productivity, improve ROI and lower operating costs

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