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SkyeModule M7



Compact 900MHz UHF RFID Reader/Writer

BENEFITS:

- » Meets strict regulatory requirements for worldwide operation
- » Superior embeddability for fast integration and time-to-market
- » Support for the most tags with the most features
- » Low power consumption
- » Cost-effective and highly scalable
- » Common hardware and software interface with other SkyeModule readers for maximum design and solution flexibility

FEATURES:

- » 862-955 MHz
- » Smallest Footprint - smaller than a matchbook
- » Extensive tag compatibility and optimization with Tagnostic® and TagIQ™
- » Minimal power consumption for maximum read range
- » Configurable output power
- » Simple firmware upgrades
- » Variety of host interfaces: TTL, USB
- » Simple and intuitive API

Product Overview

The SkyeModule™ M7 is the world's smallest, globally compliant UHF module. Its one of-a-kind combination of high performance, security, and cost/space/power efficiency makes it the industry's price per performance leader, delivering the following benefits:

Ease of integration through SkyeAPI, a single library that abstracts, simplifies, and automates tag and protocol-specific functions for the programmer.

Investment protection through SkyeOS, permitting upgrading of modules in the field to grow with the evolution and cost savings in tag and reader technologies.

Tagnostic® support for more EPC Class 1 Gen 2 tags than any other comparable reader allowing customers to fully optimize their application.

TagIQ™ that recognizes the unique characteristics of each tag so that read/write performance is maximized for each individual tag type.

Global SKU that provides regulatory pre-scan certification for major markets including FCC, ETSI (302 208), Korea, Taiwan, Australia/New Zealand, Singapore & Hong Kong.

Unparalleled size that is less than a standard matchbook.

Performance optimization achieved through best-in-class power control (9 – 24dBm), noise reduction technology, and power management – essential for embedded applications.

Enhanced reliability through anti-collision and dense reader mode capability.

Unprecedented price-performance and TCO, best exemplified by ReaderDNA firmware and design licensing options which allows customers to manufacture modules at cost.

Applications

The SkyeModule M7 has been created specifically for several applications that share common requirements for tag support, protocol, and performance. The M7 is an ideal solution for:

- Printing and Encoding
- Handheld Reading/Encoding
- Item-Level Inventory Management
- Patron Management
- Access Control
- Asset Management

» www.skyetek.com

About Skyetek:

SkyeTek transforms traditional RFID into a networking technology enabling goods and assets to participate in a connected world. SkyeTek develops readers that serve as intelligent edge devices and software that binds policies to tagged items. By extending networks to the physical world, our customers increase revenue through their ability to predict demand, prevent counterfeiting, and personalize user interactions.

SkyeTek combines intelligent software with an inexpensive hardware platform to provide a modern RFID security model, distributed policy management engine, and network-ready readers. Enterprises deploy SkyeTek's solutions to deliver a seamless RFID edge network capable of centralized management and real-time response for applications in item tracking, product authentication, access control, and patron management.

For more information:

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SkyeModule M7

Software

Software
 SkyeAPI C/.NET API
 SkyeTek Protocol v3
 SkyeWare 4 developer interface
 Demonstration applications

SkyeOS™ Embedded
 TagIQ™
 Fast Inventory with anti-collision
 Field upgradeable firmware

Tag Support¹

Protocol	Verified Manufacturers
EPC C1G2 / ISO18000-6C	Allen, Atmel, Avery Dennison, Hitachi, Impinj, Omron, Rafsec, TI

Specifications

Frequency
 862-955 MHz

Physical
 Length: 53 mm
 Width: 36 mm
 Height: 9 mm
 Weight: 7 g

Environment
 Storage Temperature: -30°C to 85°C
 Operating Temperature: -20°C to 70°C

Host Communication
Interfaces/ Data Rates
 TTL: 9.6-115.2 kbps
 USB 2.0 Full Speed: 12 Mb/s

I/O Connections
 24-pin I/O Connector
 w/ 4 GPIO pins or 8 through-holes

Regulatory²
 FCC 15.247 EN 302-208
 EN 301-489 EN 61000-4-3
 AS/NZS 4268:2003 DGT LP002
 HKTA 1049 IDA TS SRD
 MIC 2005-50 RoHS

Transponder Communication Rate
 EPC C1G2 / ISO 18000-6C: 40 kbps
 Air-interface Protocols EPC C1G2 / ISO 18000-6C

Antenna
 50 Ω port with MMCX (female)
 VSWR 1.5:1 or lower for best performance

Current Consumption
 Sleep Mode: 10 mA
 Idle Mode: 120 mA
 Scan Mode: 320mA @ 24 dBm
 240mA @ 18 dBm
 180mA @ 12 dBm

Supply Voltage
 5V

Output Power
 Adjustable 9-24 dBm in 3 dB steps
 @ 5V operation³

Singulation Performance
 Up to 45 tags/second (20-30 typical)
Read Range
 Approx. 1m with 6 dBi linearly polarized antenna

Performance dependent on tag type, configuration, and other environmental conditions

DKM7 - SkyeModule M7 Developer Kit

The developer kit for the SkyeModule M7 includes all hardware and software components required to integrate UHF RFID technology quickly and easily into any application:

- | | |
|--|---|
| Hardware <ul style="list-style-type: none"> • 1 M7 Module • 1 Host Interface Board • 1 860-960MHz External Antenna • 1 9V Power Supply • 1 RS-232 Cable • 1 USB Cable • Skyetek sample tag kit - EPC Class1 Gen2 label tags | Software <ul style="list-style-type: none"> • SkyeWare 4 Development & Demonstration Software • Software Libraries (API): C, .NET • Command Line Interface Service <ul style="list-style-type: none"> • Technical |
|--|---|

Notes: ¹See Tag Support Matrix for complete details. ²Pre-scan tested, some pending. Fit-for-use products require additional certification. ³Maximum power may be reduced to meet regional regulatory limits.

Skyetek Reader Technology Skyetek provides a variety of reader technology at both 13.56 MHz (HF) and 860- 960 MHz (UHF). ReaderDNA, a comprehensive reference design, is available for component level integration of the technology including complete design files, BOM, and test fixture. All Skyetek readers leverage powerful firmware that drastically reduce hardware costs and are delivered in conjunction with ReaderDNA. SkyeModules are controlled via the Skyetek Protocol, a powerful but simple communication protocol that grants the user access to all features of an RFID transponder. Further, they have been designed with flexible and modular embedded software that allows one to select only the features desired.



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