physical made digital

SkyeModule M7

Compact 900MHz UHF RFID Reader/Writer

skyetek

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-akind 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

SkyeModule M7

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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www.skyetek.com

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 Support[1]

Protocol	Verified Manufacturers
EPC C1G2 / ISO18000-6C	Alien, 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

Regulatory[2]
FCC 15.247
EN 301-489
AS/NZS 4268:2003
HKTA 1049
MIC 2005-50
EN 302-208
EN 61000-4-3
DGT LP002
IDA TS SRD
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
5 V

Output Power
Adjustable 9-24 dBm in 3 dB steps @ 5V operation[3]

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
- 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
- SkyeWare 4 Development & Demonstration Software
- Software Libraries (API): C, .NET
- Command Line Interface

Service
- Technical

Notes: [1]See Tag Support Matrix for complete details, [2]Pre-scan tested, some pending. Fit-for-use products require additional certification. [3]Maximum 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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