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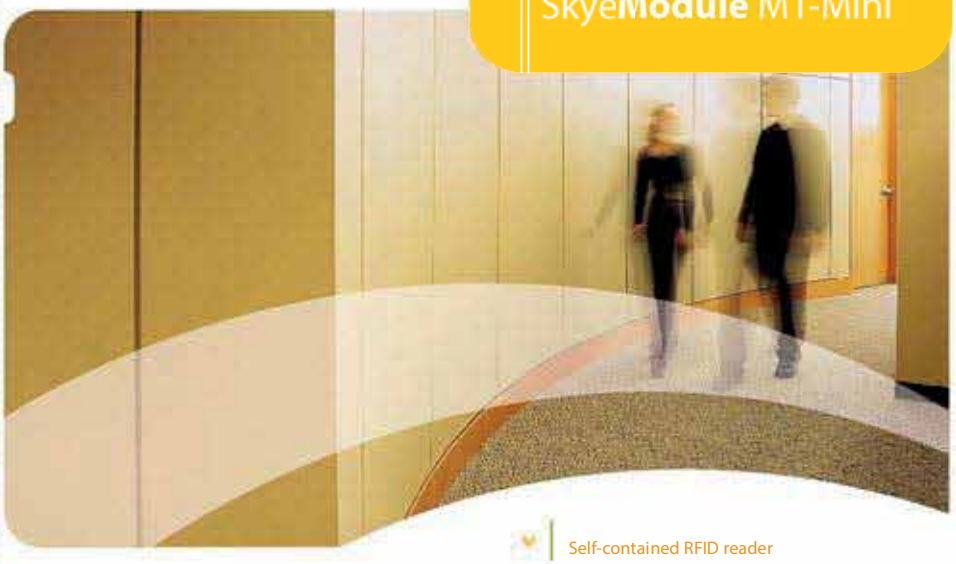
SkyeModule M1-Mini

RFID enabled

skyetek



Self-contained RFID reader

FEATURES:

- Tagnostic™
- UART (TTL), I2C, SPI,
- Configurable Power Schema
- Simple and Intuitive API
- Efficient HW/ SW Design

BENEFITS:

- Variety of Tag Vendor Choices
- Easy to Embed
- Low Power Consumption
- Fast Integration /Time to Market
- Low Cost and Small Size

Product Overview

The SkyeModule™ M1-Mini provides a low power, high performance, and cost effective platform designed to enable any device with RFID reader technology. The M1-Mini is the world's smallest, self-contained multi-protocol 13.56 MHz OEM module. It is capable of reading and writing to transponders based on ISO 15693, ISO 14443A, and ISO18000-3 air-interface protocols. The M1-Mini features an on-board antenna as well as the ability to attach a standard 50 Ohm external antenna for improved read-range. Three interface options are available to provide communication to embedded host systems: UART (TTL), I2C, and SPI. With its' on-board power regulator circuit, the M1-Mini can operate from 3.2-6.0V; while the power management intelligence allows current to be set as low as 50 µA (Sleep Mode) making it ideal for use in battery operated devices. Further powerefficiency is gained by use of the Start-Up command in which one stores a command to be executed once the M1-Mini is awoke from Sleep Mode. Software-adjustable baud rates from 4800 to 57600 bits per second offer the user choices to accommodate their host processor requirements. Field upgradeable firmware provides forward compatibility for adding future tag protocols and features.

Applications

The SkyeModule M1-Mini has been created specifically to address a wide spectrum of applications offering the most flexibility in the industry. Some areas in which the M1-Mini has been successfully integrated include:

- Medical equipment for the healthcare and pharmaceutical industries
- Industrial equipment requiring embedded RFID technology
- Kiosks and vending machines
- Mobile devices including printers, hand-helds, and sensor networks

With the variety of host interfaces, supply voltages, and configurable parameters, customers found the M1-Mini was easy to embed in these devices.

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SkyeModule M1-Mini

Transponder Support

Product Name	Memory (bits)	Manufacturer	Protocol
Tag-It HF-I	2K	Texas Instruments	ISO15693
I-Code SL2	1K	Philips	ISO15693
My-d	2.5k, 10K	Infineon	ISO15693
LRI512	0.5K	ST Microelectronics	ISO15693
EM 4135	2.2K	EM Microelectronics	ISO15693
PicoTag[3]	2K, 16K	Inside Contactless	Proprietary
Mifare[2]	1K, 4K (byte)	Philips, Infineon	ISO14443A
Mifare Ultralight[1]	0.5K	Philips	ISO14443A
GemWave	id only	TagSys	Proprietary
Tag-It HF	0.25K	Texas Instruments	Proprietary
I-Code SL1	0.5K	Philips	Proprietary
AT88RF319	32K	Atmel	ECMA-319

[1] Firmware version dependent
[2] ID only
[3] No Anti-Collision

Frequency
13.56 MHz +/- 7 kHz

Physical
Diameter: 25.4mm
Height: 2.8 mm

Current Consumption
Sleep Mode- 60 µA
Idle Mode- 15mA
Scan Mode- 60mA

Supply Voltage
3.2-6.0V

Antenna
Internal or external
50 ohm port

Host Communication Interfaces/ Data Rates
UART (TTL): 4800-57600 bps I2C up to 400 kHz
SPI up to 3MHz

Transponder Communication Rate
26 kbps ISO 15693 106 kbps ISO 14443A

Accessories
EA1 external antenna (94mmx94mm)

Effective Range
Internal Antenna, 48 mm x 76 mm ISO 15693 transponder: 5.0 cm Internal Antenna, 38 mm x 22.5 mm ISO 15693 transponder: 3.5 cm
(Individual results may vary with environment)

Compliance
ETSI EN 300-330 (RED 2014/53/EU)

Other Offerings from SkyeTek

SkyeTek provides a variety of reader technology at both 13.56 MHz (HF) and ~900 MHz (UHF). The M1, also part of the SkyeModule HF line, is slightly larger than the M1-Mini and adds 8 GPIO pins and native support for RS232 host interface. ReaderDNA, a comprehensive reference design, is available for component level integration of the technology including complete design files, BOM, and test fixture. ReaderWare, an open-architected software suite residing on all SkyeTek's modules, provides intelligence for the RFID reader. The SkyeModule M8 is a low power, compact, UHF reader compatible with EPC and ISO transponders. All 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 desired features.

About Skyetek:

SkyeTek, Inc., maker of ReaderWare™, is the leading supplier of RFID reader software and reference designs that enable the pervasive adoption of RFID technology. SkyeTek's Tagnostic™ reader technology works with most industry standard tags and smart labels, its low power requirements and a small form factor make it the optimal choice for embedding into new or existing products. SkyeTek's RFID reader technology is available in several formats including reader modules, hardware reference designs, and the ReaderWare™ software suite. SkyeTek markets to OEM customers in targeted vertical markets with several high-volume licensing options available.

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