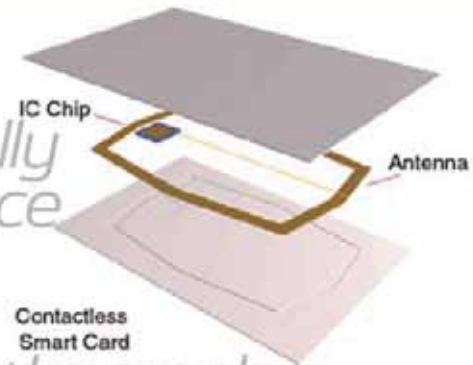


Mifare cards typically operate at a distance of up to 10cm depending on the power provided by the reader.



Contactless Cards

Philips MF1 IC S50s

The ever-popular Mifare 1K card from Philips, also known as Mifare Classic. Operates at 13.56 MHz wireless frequency, according to the ISO 14443A standard, and contains 1Kbytes of read/write memory that can be used for multiple applications. Mifare cards typically operate at a distance of up to 10cm depending on the power provided by the reader. Supplied as blank white PVC cards to ISO standard.

FEATURES:

1. MIFARE RF Interface(ISO/IEC 14443 A)

- Contactless transmission of data and supply energy (no battery needed)
- Operating distance : Up to 100mm (depending on antenna geometry)
- Operating frequency : 13.56 MHz
- Fast data transfer : 106 kbit/s
- High data integrity : 16 Bit CRC, parity, bit coding, bit counting
- True anticollision
- Typical ticketing transaction: < 100 ms (including backup management)

2. EEPROM

- 1 Kbyte, organized in 16 sectors with 4 blocks of 16 bytes each (one block consists of 16 byte)
- User definable access conditions for each memory block
- Data retention of 10 years
- Write endurance 100.000 cycles

3. SECURITY

- Mutual three pass authentication (ISO/IEC DIS9798-2)
- Data encryption on RF-channel with replay attack protection

- Individual set of two keys per sector (per application) to support multi-application with key hierarchy.
- Unique serial number for each device
- Transport key protects access to EEPROM on chip delivery.

Philips MF1 IC S70

The expanded memory Mifare 4K card from Philips, belonging to the Mifare Classic family of products. Operates at 13.56 MHz wireless frequency, according to the ISO 14443A standard, and contains 4Kbytes of read/write memory that can be used for multiple applications. Mifare cards typically operate at a distance of up to 10cm depending on the power provided by the reader. Supplied as blank white PVC cards to ISO standard.

FEATURES:

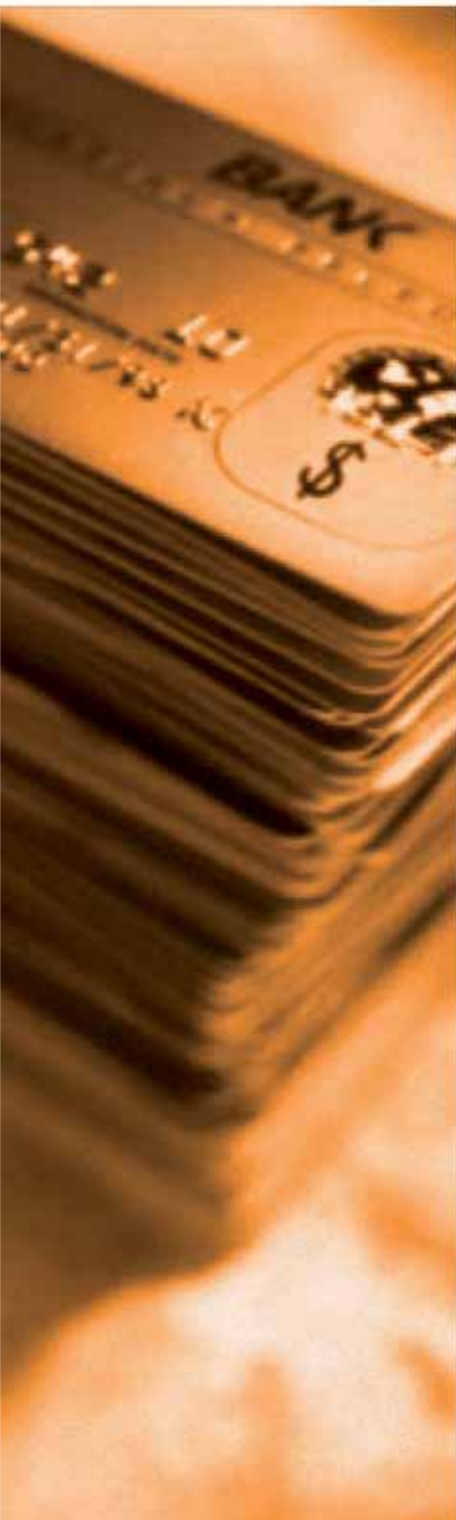
1. MIFARE RF Interface(ISO/IEC 14443 A)

- Contactless transmission of data and supply energy (no battery needed)
- Operating distance: Up to 100mm (depending on antenna geometry)
- Operating frequency: 13.56 MHz
- Fast data transfer: 106 kbit/s

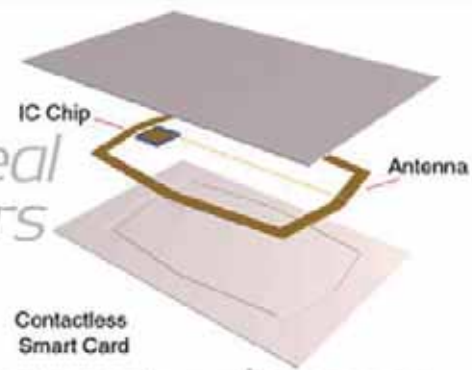
- High data integrity: 16 Bit CRC, parity, bit coding, bit counting
- True anticollision
- Typical ticketing transaction: < 100 ms (including backup management)

2. EEPROM

- 4 Kbyte, organized in 32 sectors with 4 blocks and 8 sectors with 16 blocks (one block consists of 16 byte)
- User definable access conditions for each memory block
- Data retention of 10 years
- Write endurance 100.000 cycles



Mifare Desfire is ideal for service providers wanting to use multi-application smart cards in transport schemes...



Contactless Cards

3. Security

- Mutual three pass authentication (ISO/IEC DIS9798-2)
- Data encryption on RF-channel with replay attack protection
- Individual set of two keys per sector (per application) to support multi-application with key hierarchy
- Unique serial number for each device
- Transport key protects access to EEPROM on chip delivery

Philips Mifare Ultralight

Mifare Ultralight has a 512-bit EEPROM read/write memory and is compatible with existing Mifare infrastructures. Operating in accordance with ISO 14443A, Mifare Ultralight functions at a distance of up to 10 cm with true anti-collision properties and without the need for a battery. . ?

FEATURES:

1. MIFARE RF Interface (ISO/IEC 14443 A)

- Contactless transmission of data and supply



energy (no battery needed)

- Operating distance: Up to 100mm (depending on antenna geometry)
- Operating frequency: 13.56 MHz
- Fast data transfer: 106 kbit/s
- High data integrity: 16 Bit CRC, parity, bit coding, bit counting
- True anticollision
- 7 byte serial number (cascade level 2 according to ISO/IEC14443-3)
- Typical ticketing Transaction: <35 ms
- Fast counter transaction: <10 ms

2. EEPROM

- 512 bit, organised in 16 pages with 4 byte each
- Field programmable read-only locking function per page
- 32 bit user definable One Time Programmable (OTP) area
- 384 bit user r/w area (12 pages)
- Data retention of 5 years
- Write endurance 10000 cycles

3. Security

- Anti-Cloning support by unique 7 Byte serial number for each device.
- 32 Bit user programmable OTP area.
- Field programmable read-only locking function per page.

Mifare Desfire

Mifare Desfire is ideal for service providers wanting to use multi-application smart cards in transport schemes, e-government or identity applications. Based on open global standards for both air interface and cryptographic methods, Mifare Desfire is compliant to all 4 levels of ISO / IEC 14443A and uses optional ISO / IEC 7816-4 commands. Featuring an on-chip backup management system

and the mutual three pass authentication, a Mifare Desfire card can hold up to 28 different applications and 16 files per application.

Mifare 1k inlay, Mifare 4k inlay and Mifare 512K Ultralight inlay

Card Pro offer an extensive range of Mifare antenna/chip inlays which are idea for card manufacturers who want to print and laminate to make the finished Mifare card product themselves. Our standard sheet sizes are 5x5, 4x7 and 4x8.

Bespoke sheet sizes available, please call.

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