13.56MHZ

CRDM65

IOT CRDM65 13.56MHZ
CONTACTLESS SMART CARD

CRDM65 is a contactless card compliant to ISO14443 Type A. It is integrated with an 8K bits EEPROM which is split into 16 sectors with 4 blocks. One block consists of 16 bytes each.The maximum communication range between the reader antenna and the contactless card is approximately 10 cm.

The Contactless smart card contains three components: 1K memory chip, antenna and the card base with PVC (or PET) material. No battery is needed.

When the chip is located in proximity of the coupling device antenna, the high speed RF communication interface allows transmission of data at a rate of 106-Kbit/s.

CRDM65 also has a very high security performance due to the encryption and communication circuit. Three (3) Pass Mutual Authentication must be performed prior to any read/write operation.

Serial Numbers, which cannot be altered, guarantee the uniqueness of each card. Keys in the cards are read protected but can be altered by the one who knows the actual key.

There are 16 sectors in the card, each sector has own keys (Key A, Key B). Two different keys for each sector support systems using key hierarchies, so it offers real multi-application functionality.

CRDM65 can be especially tailored to meet the requirements of a payment card which can be used for ticketing systems in public transport and comparable applications.

Secure Key

Validation Process

Secure Key

Data

CRDM65

OK5321 CL SAM Reader

PC Workstation

Features

A.EEPROM

- Securely organized in separate 16 sectors supporting multi-application usage.
- 1024x8bit EEPROM memory
- User flexibility defines access conditions for each memory block.

B. INTERFACE :

- Operating frequency: 13.56MHz
- Operating distance: up to 10cm (depending on antenna design)
- Compliant with ISO/IEC 14443-A
- Contactless transmission of data and supply (no battery needed)
- Fast communication baud rate: 106Kbit/s
- Typical transaction time: less than 100ms
- Contactless transmission of data and supply
- Half duplex communication protocol using handshake
- Encryption algorithm compatible with M1 standard

C. HIGH SECURITY:

- Arithmetic capability: increase and decrease.
- Three pass mutual authentication
- High level security data communication
- Each sector has its own two secret files for systems using key hierarchies.

D. HIGH RELIABILITY

- Data Retention: 10 Years
- Usage: 100,000cycle

E. DATA INTEGRITY

Following mechanisms are implemented in the contactless communication link between Reader Antenna and card to ensure reliable data transmission.

- Anti-collision
- 16bit CRC per block
- Parity bits for each byte
- Bit count checking
- Bit coding to distinguish between "1", "0",and No Data
- Channel monitoring