MIFARE Classic® EV1

The MIFARE Classic family is the pioneer and front runner in contactless card solutions for Automatic Fare Collection (AFC) programs since its introduction in the mid-1990s. It allowed for a fast, low-cost and easy contactless smart card entry and solution deployment. Today, hundreds of millions of MIFARE Classic cards are still in use in public transit systems across the globe. It has been the most widely used card and still has broad acceptance around the world.

Nevertheless, following the need for increasing application and security requirements, it is recommended to use higher security products from the MIFARE family in security relevant applications.

G+D supports the entire MIFARE family and developed the first commercial contactless smart card with MIFARE technology for a major airline-ticketing program in 1995.

The G+D MIFARE card represents over 20 years of experience and continued product development. As security needs constantly increase, other MIFARE technologies are also provided. G+D is more than a card supplier: we take the complexity out of the process and provide guidance with a complete portfolio of products, technologies and services.

Profit from G+D's many years of experience in delivering contactless smart card solutions to public transport systems worldwide.

Did you know …
that G+D is one of the top 3 transit cards suppliers.

Technical Data MIFARE Classic EV1

MIFARE COMMUNICATION INTERFACE
- ISO/IEC 14443 Type A
- Contactless transmission of data and supply energy (no battery needed)
- Up to 100 mm operating distance
- 13.56 MHz operating frequency
- Fast data transfer: 106 kbit/s
- High data integrity: 16 bit CRC, parity, bit coding, bit counting
- True anti-collision
- Less than 100 ms per typical ticketing transaction (including backup management)

MEMORY
- User definable access conditions for each memory block
- 10-year data retention
- 100,000 write cycles

MIFARE CLASSIC EV1 1K
- 1 kB, organized in 16 sectors with 4 blocks of 16 bytes each (one block consists of 16 bytes

MIFARE CLASSIC EV1 4K
- 4 kB, organized in 32 sectors with 4 blocks and 8 sectors with 16 blocks (one block consists of 16 bytes)

STANDARDS
- MIFARE communication protocol
- ISO/IEC 14443-1/-2/-3 Type A
- ISO 7810
- ISO 10373

SECURITY FEATURES
- Mutual three pass authentication (ISO/IEC DIS9798-2)
- Individual set of two keys per sector (per application) to support multi-application with key hierarchy
- Transport key protects access to EEPROM on chip delivery

MATERIALS AND FORM FACTORS
- PVC
- Composite materials PVC/PET
- Form factors other than ISO 7810 on request

PRINTING AND PERSONALIZATION
- 4-color offset litho or screen printing
- Thermal transfer printing
- Transparent matt overlay
- Encoding
- Laser engraving
- Magnetic stripe
- Signature panel
- Serial numbering
- Barcode
- Hologram

OPERATING CONDITIONS
- Temperature: -25°C to 50°C

Did you know…

that more than 50 million passengers use G+D's transit cards and tickets every day.

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