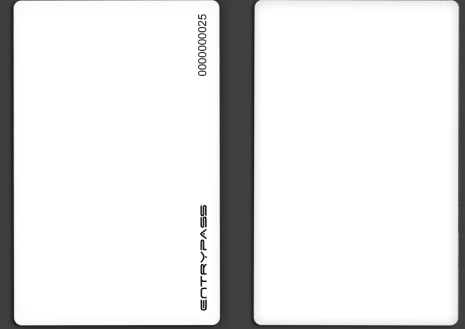# MIFARE DESFIRE EV2

ENTRYPASS 0000000025

Key Features

- ISO/IEC 14443 A 1–4 and ISO/IEC 7816 compliant

- 2/4/8/16/32 kB EEPROM with fast programming

- Flexible file structure

- NFC Tag Type 4 compliant

- Secure, high-speed command set

- MIsmartApp and/or Delegated Application Management Keys allow for post-issuance management

- Unlimited number of applications

- Transaction MAC to authenticate transactions

- Multiple key sets per application for key rolling

- Virtual Smart Card architecture for privacy protection

- Proximity check to protect aga18t relay attacks

- High data rates according to ISO/IEC 14443-4: up to 848 Kbits/s

- Choice of open DES/2K3DES/3K3DES/AES crypto algorithms in hardware

- Unique 7-byte serial number (ISO Cascade Level 2)

- Common Criteria certification: EAL5+ for IC hardware and software

■ MIFARE DESFire EV2 contactless IC (MF3D(H)x2) is the latest addition to the MIFARE DESFire product family introducing new features along with enhanced performance for best user experience. The MIFARE DESFire EV2 is Common Criteria EAL5+ security certified which is the same security certification level as demanded for smart card IC products used e.g. for banking cards or electronic passports. It fully complies with the requirements for fast and highly secure data transmission and flexible application management. This makes it the ideal product for service providers and service operators who want to offer an easy, convenient and secure access to a wide variety of different services.

■ MIFARE DESFire EV2 is based on global open standards for both air interface and cryptographic methods. It is compliant to all levels of ISO/IEC 14443A and supports optional ISO/IEC 7816-4 commands (APDU and file structure supported) and is fully interoperable with existing NFC readers for MIFARE products.

■ Featuring an on-chip backup management system and the mutual three-pass authentication, a MIFARE DESFire EV2 card1 can hold as many applications as the memory can accommodate. Each application can hold up to 32 files with various data configurations. The size of each file is defined at the moment of its creation, making MIFARE DESFire EV2 a truly flexible and convenient product. An automatic anti-tear mechanism is available for all file types, guaranteeing transaction-oriented data integrity.

■ The main characteristics of this device are denoted by its name "DESFire": DES indicates the high level of security using a 3DES or AES hardware cryptographic engine for confidentiality and integrity protection of the transmission data. Fire indicates its outstanding position as a Fast, Innovative, Reliable and Secure IC in the contactless proximity transaction market.

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MIFARE DESFIRE EV2

Key Benefits

- Functional backward compatible to MIFARE DESFire EV1

- Improved operating range and performance

- Enhanced security level with Common Criteria EAL5+ certification

- MIsmartApp and the MIFARE AppXplorer enable post–issuance of additional services in already deployed cards

- Multiple keysets with key rolling for simplified key migration in the field

- Transaction MAC ensuring the authenticity of each transaction

- Services running on MIFARE DESFire EV2

Technical Specification

Base Part Number	PC.DesfireEv2.2k
Operating Frequency	13.56 MHz
RF Interface	ISO 14443 Type A, Parts 1-4 (Desfire EV2)
Typical Maximum Read Range	DESFire: Up to 4" (10 cm)
Transaction Time	< 100 ms
Baud Rate	Activation at 106 kbps; Data transfer up to 848 kbps
Memory Type	EEPROM 2 Kbytes
Memory Structure	Up to 28 applications, with up to 32 files per application
Operating Temperature	-40 to 122°F (-40 to 50°C)
Operating Humidity	5% - 95% Non-Condensing
Max. Communication buffer	128 bytes (2/4/8kB)
Write Endurance	500,000 cycles
Data Retention	Up to 25 Years

MIFARE DESFIRE EV2

Technical Specification

Multiple Keyset Per App	Up to 16 Keysets
Multiple File Access Right	Up to 8 Keys
Materials and Finish	Gloss white/white PVC or PVC/Polyester Composite
Weight	0.20 oz (6.0 g)
Programming	Factory or Field
Card Marking	Inkjet standard, Laser Engraving optional
Custom Graphics	Optional
Magnetic Stripe	Optional
Printable	Yes

Dimension

0.8mm

53.98mm

85.60mm
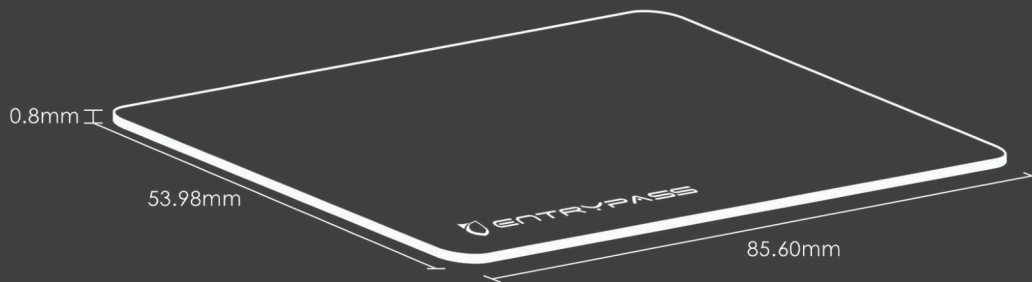
Ordering Information

PC.DesfireEv2.2k   Entrypass Mifare Desfire Ev2 (2k bytes)

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