

MIFARE DESFire EV2 Cards

MIFARE DESFire EV2 cards for systems that specify this generation. Include the required memory—such as 2K, 4K or 8K—the reader model and the application profile when requesting samples or a bulk quotation.

Compare EV2 2K, 4K and 8K card requirements

Variant	NXP type (17 pF / 70 pF)	EEPROM	What to confirm
DESFire EV2 2K	MF3D22 / MF3DH22	2 KB (2048 bytes)	The application, keys, files and records fit the available memory
DESFire EV2 4K	MF3D42 / MF3DH42	4 KB (4096 bytes)	The complete application plan and future updates fit the available memory
DESFire EV2 8K	MF3D82 / MF3DH82	8 KB (8192 bytes)	The required multi-application or record capacity and reader profile are supported

EV1, EV2 and EV3: what changed

	DESFire EV1	DESFire EV2	DESFire EV3
Secure messaging	D40 and EV1 modes	AES-based EV2 secure messaging; retains EV1 and D40 compatibility modes	Retains D40, EV1 and EV2 secure-messaging modes
Applications per card	Up to 28	Virtually unlimited	Virtually unlimited
Files per application	Up to 32	Up to 32	Up to 32
Multiple key sets	—	Up to 16 sets per application (key rolling)	Yes
Transaction MAC	—	Yes, at application level	Yes
Proximity Check (relay-attack protection)	—	Yes	Yes
Delegated application management (MismartApp)	—	Yes	Yes
Secure Dynamic Messaging / SUN	—	—	Yes (mirrored into the NDEF message; NTAG DNA-compatible)
Transaction Timer	—	—	Yes (mitigates man-in-the-middle attacks)
Common Criteria	EAL4+ (hardware and software)	EAL5+ (hardware and software)	EAL5+ (hardware and software)
NXP status for new designs	Not recommended	Not recommended	Recommended replacement

Application and file structure

File type	What it holds	Generation note
Standard data file	A fixed-length block of binary data, written in place.	Supported by EV1 and EV2
Backup data file	The same as a standard file but with a shadow copy; writes apply only on CommitTransaction and can be rolled back with AbortTransaction.	Supported by EV1 and EV2
Value file	A 32-bit signed value with credit, debit and limited-credit operations and configurable limits, for cashless purses.	Supported by EV1 and EV2
Linear record file	A fixed number of fixed-length records that fill once, for logs or ordered entries.	Supported by EV1 and EV2
Cyclic record file	A ring of fixed-length records where the oldest is overwritten, for a rolling transaction history.	Supported by EV1 and EV2
Transaction MAC file	A special file that chains a MAC and a counter across the commands of an authenticated transaction, so a back-office system can confirm the transaction ran on a genuine card.	EV2 (kept in EV3)

Ordering

- Free standard samples; customised samples carry a setup fee.
- Standard lead time is 2–3 weeks.
- Quote-only pricing—send your quantity for a quotation.
- Printing, numbering and encoding options are available for the selected product and material.

Contact

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