

Criteria	DESFire MF3ICD40	DESFire ev1 MF3ICD21, MF3ICD41, MF3ICD81
Version	SW and HW version 00.06	SW and HW version 01.xx
ISO 14443-2	Activation at 106 kbps, application communication up to 424 kbps.	Activation at 106 kbps, application communication up to 848 kbps.
ISO 14443-3	Double size UID	Also has option to set single size Random ID
SAK	SAK for CL1 = 0x24, for CL2 = 0x20	SAK for CL1 = 0x04, for CL2 = 0x20
ISO 14443-4	Fixed ATS	Also has option to set ATS as required
Memory size	4 Kbytes	8,4 or 2 Kbytes.
Memory structure	Up to 28 applications, with up to 16 files in one application.	Up to 28 applications, with up to 32 files in one application.
Crypto	TDES DESFire Native Mode	TDES DESFire Native Mode, TDES Standard Mode, 3KTDES, AES
Key length	16-byte; based on key symmetry DES or TDES.	TDES DESFire Native Mode: 16-byte; based on key symmetry DES or TDES. TDES Standard Mode: 16-byte; based on key symmetry DES or TDES. 3KTDES: 24-byte. AES: 16-byte, AES-128.
Authentication	3-pass mutual authentication based on the crypto used.	3-pass mutual authentication based on the crypto used.
Confidentiality	En/Decryption based on crypto used	En/Decryption based on crypto used
Integrity	CRC16, 4-byte MAC	CRC16 and 4-byte MAC for TDES DESFire Native Mode, CRC32 and 8-byte CMAC for others.
Crypto Homogeneity	-	Different application can have different crypto independently. Application with TDES supports DESFire Native mode and standard mode.
Optional sett.	-	Few setting are allowed
New Commands	-	Get UID, Free Memory, Set Configuration and a few more.
ISO 7816-3, wrapping of DESFire native Command	Protocol overhead (CLA, INS, P1, P2, Lc, Le, INS = cmd) 5 bytes are compensated, so 64-byte DESFire buffer virtually becomes max 69 bytes.	Not compensated, buffer size is always 64 bytes.
ISO 7816-4 Standard INS	Few commands Not capable of T=CL chaining. Read binary, write binary data length are limited by 64-byte DESFire buffer size.	More commands Capable of T=CL chaining. Read binary, write binary data length are not limited by 64-byte DESFire buffer size.
Hardware	CMOS35, Write endurance typically 100K cycles	CMOS14, Write endurance typically 500K cycles, Improved constant power consumption, More Hardware security
Certificate	-	Security certificate CC EAL 4+
Timing	As the two versions are based on two different hardware platforms, timings and electrical characteristics may vary between DESFire and DESFire ev1.	