



NXP® MIFARE Ultralight® Nano

The ultimate contactless alternative to conventionally paper-based ticketing

MIFARE Ultralight Nano is the latest generation of smart paper ticketing ICs—the ideal flexible single-use solution offers a customizable originality signature.

TARGET APPLICATIONS

- ▶ Public transport—single trip ticketing
- ▶ Event ticketing

KEY FEATURES

- ▶ Compliant with ISO/IEC 14443A & NFC Forum Type 2 Tag
- ▶ 40 byte user memory
- ▶ 17 pF & 50 pF input capacitance versions
- ▶ ECC-supported NXP originality signature
- ▶ Originality signature reprogrammable to a customer's unique originality signature
- ▶ Interoperability with all other MIFARE Ultralight products

KEY BENEFITS

- ▶ Easily integrated into existing fare collection schemes
- ▶ Increased passenger throughput
- ▶ Fewer interaction steps with the equipment
- ▶ Fraud reduction
- ▶ Fewer maintenance costs
- ▶ Reduced cash flow and related operational costs
- ▶ Enhances application through easy mobile support powered by the TapLinx software development kit



CONTACTLESS SMART PAPER TICKETING

The MIFARE Ultralight® Nano is the latest generation of contactless smart paper ticketing ICs within the MIFARE Ultralight family. The innovative contactless solution is designed for single-use applications and dedicated to replace mag stripe, barcode/QR-code and standard printed paper tickets.

The programmable user memory ensures sufficient flexibility. Furthermore, NXP's ECC-programmable (elliptic curve cryptography) customer specific originality signature offers a unique possibility for differentiation.

NXP's MIFARE Ultralight Nano opens the door to a smooth, cost efficient migration from single-use paper tickets used in public transport or event ticketing to contactless systems. The benefits of contactless solutions include reduced system installation and maintenance costs, increased user throughput, fraud reduction and aggregated NFC-based services.

MIFARE Ultralight Nano complies with the international standard ISO14443 type A and therefore can be smoothly integrated into existing contactless schemes. Standard paper ticket vending equipment can also be upgraded to enable contactless smart paper tickets.

MIFARE Ultralight FAMILY OVERVIEW

MIFARE Ultralight®	MIFARE Ultralight Nano	MIFARE Ultralight EV1	MIFARE Ultralight C
Memory	40 bytes	48/128 bytes	144 bytes
OTP Area	32 bit	32 bit	32 bit
Counter		3 x 24 bit	1 x 16 bit
Access protection		32-bit password + password acknowledge	3DES
Fast read		✓	
Originality	✓ REPROGRAMMABLE	✓	

ORDERING INFORMATION

Part Type	12NC	Description	Delivery Type
MF0UN0001DUD	935307613005	7 B UID, 17 pF	Wafer bumped 120 µm
MF0UN0001DUF	935307614005	7 B UID, 17 pF	Wafer bumped 75 µm
MF0UNH0001DUD	935307615005	7 B UID, 50 pF	Wafer bumped 120 µm
MF0UNH0001DUF	935307616005	7 B UID, 50 pF	Wafer bumped 75 µm