



# Card



Convergence of HF and UHF technology on the same card for innovative multiapplication, **TwinSet** is a new generation of both UHF and HF cards targeted for the identification market offering a long and a short range communication distance.

ASK expertise enabled to bring together on the same card the enhanced features of HF and UHF chips. A TwinSet contactless card holder can access his parking lot with the UHF chip and enter his building with the HF chip.

This innovative product finds its new applications into the security and identity markets.

## TwinSet

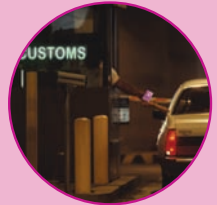
### The UHF / HF Convergence

#### Main features

- Extended read range of up to 5 meters with UHF chip (EPC Gen2 compliant)
- Read range of up to 6 cm with HF chip
- Available with various form factors
  - Long lasting smart card
  - Inlays for electronic passports
  - Inlays for contactless smartcards

#### Applications

- Multiple Access Control card
- Driving Licence embedding fast track application
- Border control
- Highway pass





## Main features

Contactless technology addresses all market segments where a secure, fast and user friendly technology facilitates citizen life. Benefits have been assessed in other market segments and have gradually been implemented in the electronic citizen identity sector.

Either High Frequency (HF) or Ultra High Frequency (UHF) standards are selected to address specific requirements. ID cards, driving license and electronic passports comply with HF standards with a short reading communication distance. On the other hand, border crossing programs and some outdoor access control systems have selected UHF frequency with a long range communication distance.

## Applications

ASK's experts have addressed the convergence of HF and UHF technology on the same device for future innovative eID applications. They include an ePassport with an HF ICAO chip along with a UHF chip to be used for fast track border crossing.

This innovative dual technology product has also been requested for applications where the holders of contactless banking cards with HF chips can be identified with their UHF chip and thus benefit from customized services when they access the bank.

HF or UHF credentials must at any rate address performance, durability, privacy protection and security issues.

## HF performances

TwinSet benefits from the unique contactless expertise of ASK team. It is possible to implement all the HF chips of the market with the UHF antenna, allowing a wide range of products for various applications. From the Mifare® 1 kbyte chip to the 80 Kbytes EEPROM for the ICAO applications, all these configurations have been qualified to be embedded with a UHF chip within TwinSet.

## UHF performances

TwinSet benefits from the unique contactless expertise of ASK in the UHF and RFID application domain providing outstanding performance. The card is widely accepted by the card issuance authorities as well as their end users.

Among specific characteristics:

- Very long reading range (up to 5 meters)
- Low activation level
- Radiation pattern allowing the card to be read from all possible orientation
- High durability, reducing risks related to card failure

## Product specification

### Material / Card body

- PVC / PET / PC cards
- Inlays for electronic passports
- Inlays for contactless smartcards

### Standards

- UHF EPC Global Gen 2
- ISO/IEC 18000-6C
- ISO 14443
- ANSI 322
- ISO 10373

### HF performances

- HF chip from 1 kByte to 80 kBytes EEPROM
- High speed reading
- Anti-collision capability
- Reading distance: up to 6 cm
- Operating frequency 13.56 Mhz

### UHF performances

- EPC Code: 96 bits scalable up to 240 bits
- User memory: up to 512 bits of Data
- High speed reading
- Anti collision capability
- Reading distance: up to 5 meters
- Operating frequency within the released operating bands from 860 Mhz to 960 Mhz

