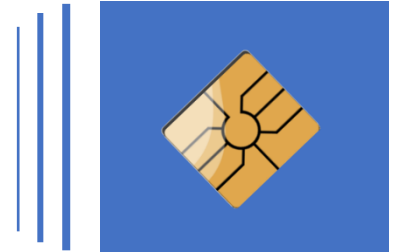


The card Operating System
easy to personalize and
integrate

UniQ



UniQ[®] is a secure memory operating system answering to projects wanting a simple solution with many possibilities to secure data and transactions. It has been ported on **contact flash IC** and designed to be used in multiple projects.

Sectors

- **Public transportation**
- **Car parking**
- **Toll collection**
- **University campus**
- **Data storage**
- **Company cards**
- **Loyalty**
- **Access control**

Security

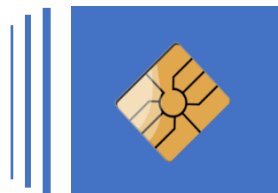
- **PIN & PUK**
- **Key File**
- **Cryptography** AES-16 at partition level
- Possibility to **group security conditions**

UniQ offers a range of 4 different memory sizes (4K, 8K, 16K and 32K) allowing you to match with many specifications in diverse projects.

UniQ is divided in fixed partition allocated to Data and with additional counter (purse).

One of the **UniQ** main advantage is the security options configurable by partition. Indeed, it is possible to implement:

- Read and Write Key for data partition
- Increase and Decrease Key for purse
- PUK for each key
- AES key by partition/purse



As far as **UniQ** is a dematerialized product, you can implement it on any chip of the market. In addition to the existing range where it has been ported, our team of engineers can help you to implement the OS on your own integrated circuit. In EEPROM, **UniQ** allows the same level of security in secure messaging using AES Software cryptographic engine for securing transmission data.



In order to ensure the data integrity during each transaction, an anti-tearing tool is implemented. It allows a safe use of your smartcard through data transfer.

When using RFID, **UniQ** use Anti-collision. This system avoid multiple cards crashing into each other within a reader's field.

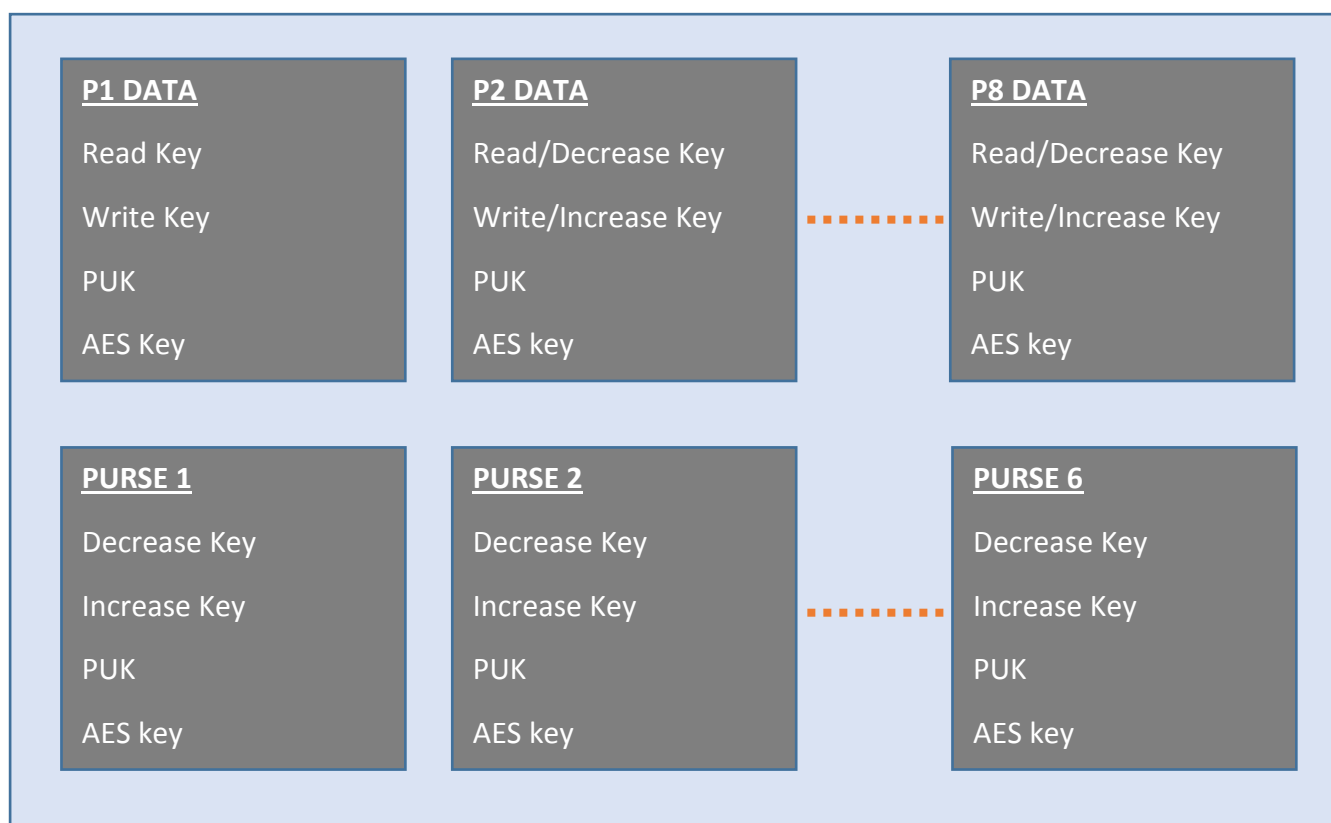
UniQ provides a flexible and secure way to store data, authenticate user and record transaction through transparent and purse files.

Qilium engineer's guide you in every step from specifications to integration of our OS in your system. We can also provide other memory size with **UniQ** delivered on chip. This includes a custom number and size of partition.

Key Features

- **On chip :**
 - From **4K** to **32K**
 - From **2** to **6 transparent files**
 - From **1** to **6 purses files**
- **Licences :**
 - **EEPROM**
- **T = 0**
- **Key length from 4 to 8 bytes**
- Key blocking mechanism with unblocking by **PUK**
- **Anti-tearing** system
- **Transaction protection** system
- **Detection of Fraudulent chips** : unique key allowing internal authenticate
- **Simplicity of use**

Structure example



Commands

Administration	Operational
Create Chip Structure	Select
Change Key	Write Data
Unblock Key	Read Data
Set Key	Increase Purse
Get Chip ID	Decrease Purse
	Verify Key
	Start Secure Session

UniQ contact

Reference	UNIQ C4	UNIQ C8	UNIQ C16	UNIQ C32
Protocol	T=0 <i>ISO 7816-3</i>	T=0 <i>ISO 7816-3</i>	T=0 <i>ISO 7816-3</i>	T=0 <i>ISO 7816-3</i>
Commands	APDU	APDU	APDU	APDU
Data	4 x 1 Kbytes	4 x 2 Kbytes	8 x 2 Kbytes	8 x 4 Kbytes
Purses	2 with 20 data bytes and 10 historical records	4 with 20 data bytes and 20 historical records	4 with 20 data bytes and 40 historical records	6 with 20 data bytes and 50 historical records
Compliance	Proprietary	Proprietary	Proprietary	Proprietary
Security	8 bytes key for Read 8 bytes key for Write 16 bytes AES key for SM	8 bytes key for Read 8 bytes key for Write 16 bytes AES key for SM	8 bytes key for Read 8 bytes key for Write 16 bytes AES key for SM	8 bytes key for Read 8 bytes key for Write 16 bytes AES key for SM
PIN protection	Length from 4 to 8 Bytes	Length from 4 to 8 Bytes	Length from 4 to 8 Bytes	Length from 4 to 8 Bytes
	Read/Decrease for each Partition	Read/Decrease for each Partition	Read/Decrease for each Partition	Read/Decrease for each Partition
	Write/Increase for each Partition	Write/Increase for each Partition	Write/Increase for each Partition	Write/Increase for each Partition
Secure Messaging	Mutual authentication	Mutual authentication	Mutual authentication	Mutual authentication
	AES – 128 session key	AES – 128 session key	AES – 128 session key	AES – 128 session key
	Encryption and MAC	Encryption and MAC	Encryption and MAC	Encryption and MAC
	At Partition Level	At Partition Level	At Partition Level	At Partition Level
Security conditions	Configurable for any Partition	Configurable for any Partition	Configurable for any Partition	Configurable for any Partition
Anti-Tearing	Withdrawal Protection	Withdrawal Protection	Withdrawal Protection	Withdrawal Protection

Contact us

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