UNIQRYPT ©

CRYPTO SECURE MEMORY
NINE CONFIGURATIONS ON A SINGLE IC

UNIQRYPT is a Crypto-memory
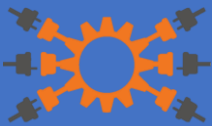
contact IC offering various configurations from a single solution

**1 chip
9 configurations**

**Secure
Memory**

**Easy
Integration**

**Contact
Interface**

**Support for
configuration**

UNIQRYPT® is a flexible and secure crypto secure memory element offering:

➢ 9 different configurations on a single IC
➢ A secure environment
➢ 1-command for configuration
➢ Fast communication
➢ Low purchasing price
➢ Reduce storing cost

®UNIQRYPT is a QILIUM product offering a range of configurations based on various user memory size options shared between different user zones. It has been developed to provide a crypto secure memory storing sensitive information and ensuring a durable integrity of stored data. From a single chip, ®UNIQRYPT can be configured in size and zone at initialization. Send a single command to set the required configuration.

With inherent security features and advanced cryptography, UNIQRYPT offer 4, 8 or 16 zones. Those are individually secure with various read/write protection including independent passwords of 3 bytes length. With UNIQRYPT, you can also use Secure Session (MAC or MAC + ENC) established with AES-128 KEY.

QILIUM works with Flash-based Integrated Circuit ensuring product continuity on different platform. Moreover, flexibility given by Flash memory allows QILIUM to keep lead times and costs at their lowest level.

MAIN FEATURES

➢ Ultra-Compact Flash Smart Card Integrated Circuit
➢ 1 platform, 9 different configurations
➢ Passwords
  o Protect READ and WRITE commands
  o Up to 8 read passwords (3 bytes length)
  o Up to 8 write commands (3 bytes length)
➢ Keys (v2)
  o Mutual Authentication
  o Up to 4 AES-128 KEYS
  o Secure Messaging (MAC or MAC + ENC)
➢ Transaction protection system
➢ Anti-Tearing system
➢ Communication Speed up to 446 kpbs
➢ Communication Protocol ISO/IEC 7816-3 | T=0 compliant

APPLICATIONS

➢ Light identity
➢ Sensitive Data Storage
➢ Secure Authentication
➢ Loyalty Program
➢ Data protection

Qilium Smartcard Technology

MEMORY STRUCTURE

ATR
ADMINISTRATIVE CONFIGURATION
ACCESS CONDITIONS

READ PASSWORD 1	WRITE PASSWORD 1
READ PASSWORD 2	WRITE PASSWORD 2
READ PASSWORD 3	WRITE PASSWORD 3
READ PASSWORD 4	WRITE PASSWORD 4
KEY 1	KEY 2
KEY 3	KEY 4

USER MEMORY	
ZONE 0	**64 bytes**
ZONE 1	**64 bytes**
ZONE 2	**64 bytes**
ZONE 3	**64 bytes**

MEMORY CONFIGURATIONS

UNIQRYPT is operationally compatible with a series of commands already used by integrators. Based on the ISO 7816-3 standard, UNIQRYPT offers all above-mentioned features and is available in different memory sizes.

SYSTEM	USER MEMORY	ZONES
UniQrypt	1 Kbits	4 zones
	2 Kbits	4 zones
	4 Kbits	4 zones
	8 Kbits	8 zones
	16 Kbits	16 zones
	32 Kbits	16 zones
	64 Kbits	16 zones
	128 Kbits	16 zones
	256 Kbits	16 zones

	COMMANDS	CLA*	INS
Administrative	System Write	$$	B4
	System Read	$$	B6
	Write Password	$$	BA
	Read Password	$$	BA
Operational	Set User zone	$$	B4
	Read User Zone	$$	B2
	Write User Zone	$$	B0
	Mutual Authenticate	80	82
	Verify Password	$$	BA

*$$ = 0 to FF

COMMANDS DESCRIPTION

COMMANDS	DESCRIPTION
System Write*	Write Passwords, Keys and Access conditions in the system area
System Read*	Read System Area (cf. previous row)
Write Password*	Set up read/write passwords (up to 8 by type)
Read Password	Get read/ write passwords (up to 8 by type)
Set User zone	Select active Area
Write User Zone**	Write User Data
Read User Zone	Get User Data
Mutual Authenticate (v2)	Establish Secure Session (cf. c) Secure Messaging)
Verify Password	Check Password Validity

*Command allowed after PASSWORD presentation
** Command allowed after access data conditions completion

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