

ePass2000_FT11

Hardware Description

1. Advantages of ePass2000_FT11

ePass2000_FT11 integrates a first-class manufactured smartcard chip. It is the ideal device to protect sensitive data. Its advantages include:

- **Excellent Performance**

8-bit RISC stability working on 6 MHz clock frequency making the smartcard's performance perfect.

- **High Security**

Integrated hardware-based RSA algorithm, ePass2000_FT11 is more secure than applications that only employ software-implemented RSA. Because the sensitive data is stored in the secure storage zone of ePass2000_FT11 hardware, unauthorized people are unable to access the data. The data signature and encryption operations are performed inside ePass2000_FT11. The private key is also stored inside ePass2000_FT11 from initial generation. This can effectively prevent program attacks. In addition, the algorithms used by ePass2000_FT11 are publicly acknowledged by the industry, widely open, and proven. The first-class chip encapsulation technique provides further security for data inside the chip.

- **Easy to Use**

Using ePass2000_FT11 does not require any additional devices. Users only need to plug ePass2000_FT11 into the USB port of a desktop computer, laptop computer, and keyboard or display terminal. Users do not need to shut down the computer or stop any running programs. After finishing use, users can disconnect ePass2000_FT11 directly.

- **Low Cost**

ePass2000_FT11 can save more cost than any other hardware-based security system, as it does not require any additional devices. This makes ePass2000_FT11 especially suitable for widely deployed applications. ePass2000_FT11 can provide all the functionalities of a smartcard device with the added special advantage - that no smartcard reader is required.

- **Portability**

ePass2000_FT11 is small and light, which makes it perfectly portable. The small casing shell is manufactured as an all-in-one once-forming technique. It is hard and durable with waterproof feature. Users can carry ePass2000_FT11 conveniently on their key rings.

- **Compatibility**

ePass2000_FT11 supports two types of most popular standard interfaces: PKCS#11 and Microsoft CryptoAPI. Any application that is compliant with these two interfaces can be integrated with ePass2000_FT11 directly. Moreover, ePass2000_FT11's compatibility has been optimized for many third-party software products. Additionally, ePass2000_FT11 integrates mass secure storage memory. It can store multiple certificates, private keys and other data. This means, multiple PKI applications can share one ePass2000_FT11 device.

- **High Reliability**

ePass2000_FT11 is manufactured using strict standard techniques. It supports at least one hundred thousand times of erasing and writing. Data stored in ePass2000_FT11 can be retained for at least 10 years under room temperature, effectively ensuring that sensitive data is stored securely with stability.

2. ePass2000_FT11 Hardware Features

- **High-performance processor**

ePass2000_FT11 integrates an 8-bit RISC high-level secure SOC processor, presenting high performance, high-level security, low power dissipation and low cost features.

- **Hardware implemented encryption algorithms**

The advanced smartcard technique of ePass2000_FT11 provides the following hardware-based encryption algorithms:

- 1) 512-bits, 1024-bits RSA dissymmetrical encryption algorithm and related signature verification functionalities;
- 2) Symmetrical cryptographic algorithms: DES and 3DES;
- 3) Digest functions: SHA-1 and MD5.

These key encryption algorithms are implemented inside the hardware ensuring the security of the keys pairs in encryption calculation.

- **Hardware-based RSA key-pair generator**

The ePass2000_FT11's RSA key pairs are generated inside the hardware instantly. The grand prime numbers used to generate the key pairs are also provided by the hardware random number generator.

- **Hardware-based random number generator**

The ePass2000_FT11 integrates the hardware random number generator. This generator can be used for generating the RSA key pairs, random access message identification code and so on.

- **Multi-level access privileges**

The ePass2000_FT11's file system supports up to 16 security levels. Users can define single or multiple key administration levels. More complicated security levels and relations can be defined by users according to their application's requirements.

- **On-chip secure memory area**

The ePass2000_FT11's data storage RAM, firmware storage ROM and computing components are integrated within a single chip, assuring the secure storage of data.

3. ePass2000_FT11 Specifications

Supported Operating Systems	Windows 98SE/ME/2000/XP/Server 2003, Linux, Mac OS X
Certifications and Standards	CSP/PKCS#11, supports X.509 v3 standard format certificate, SSL v3,IPSec/IKE and compatibility with ISO7816
Qualification	Compliant with CE and FCC standards
Processor	8-bit smartcard chip
Memory Size	32KB
On-Board Security Algorithms	RSA, DES, 3DES, MD5, and SHA-1
Chip Security Level	Secured and encrypted data storage
Power	<250mW
Operating Temperature	0°C to 70°C
Storage Temperature	- 20°C to 85°C
Humidity Rating	0% to 100% without condensation
Interface Type	Standard USB 1.1 devices, support for USB 2.0 interface, Type A connector
Dimension	50x17x7mm (A1+ Casing)
Weight	6g
Casing Material	PC (polycarbonate)
Data Retention	At least 10 years
Erasing Times	At least 100,000 times