



ROCKEY5 Smart Card Dongle

ROCKEY5 – Smart Card Dongle

Smart cards are highly secure miniature computers used by the financial services and government sectors to secure transactions and identify customers. ROCKEY5 is the next generation in software protection and utilizes smart card technology as a “black box” to protect and execute a core portion of application code.



1. A Brief Introduction

The ROCKEY5 dongle consists of a standards based smart card reader that is preinstalled with a specially configured smart card. The smart card is loaded with the ROCKEY5COS (ROCKEY Card Operating System) that was developed by Feitian Technologies and optimized for software protection. ROCKEY5 is a micro development environment complete with its own operating system, memory and processor. Developers may protect their software by storing algorithms, data and programs inside the protected ROCKEY5 environment and executing in isolation from the PC.

2. ROCKEY5 Modes

Feitian offers ROCKEY5 dongle in the following modes:

- Standard card mode
- SIM card +USB reader mode
- Smart token mode

3. Why ROCKEY5? (Six Great Reasons)

- **ROCKEY5 enables the developer to secure code and data from the PC environment.**

ROCKEY5 works on the basis of transplanting code from the PC to the secure ROCKEY5 environment. A kernel of application critical algorithms and data are transplanted from the application to the ROCKEY5 environment. This new program is termed an “external” program and completely executes inside the ROCKEY5 dongle. The external program will not be contained in PC memory during execution. The developer should not keep a copy of the external program on the host computer.

Smart card technology makes it virtually impossible for crackers to track, debug or read the external program. The external program exchanges data with the main program (The “main program” executes on the host machine.) through the interface.

- **ROCKEY5 is based on smart card hardware certified by the world’s leading security organizations.**

A customized smart card chip is at the heart of the ROCKEY5 dongle. The smart card chip utilized by ROCKEY5 is a highly integrated device that is certified to EAL4+ and ITSEC and is far more secure than most single-chip microcomputers. The ROCKEY5 chip also meets the ISO (International standards Organization) standard ISO/IEC 10373 that defines test requirements for smart cards under ultraviolet, X ray and electromagnetic fields.

- **The ROCKEYCOS is optimized for software protection and is intellectual property of Feitian Technologies – a leader in the software protection industry.**

The COS (Card Operating System) used by ROCKEY5 was developed by Feitian Technologies, a leader in both software protection and smart card technologies since 1998. The Feitian COS (ROCKEYCOS) combines IC card standards with the characteristics of traditional dongles and is fully compatible with ISO 7816-3. Feitian has drawn on its experience with both smart card and dongle technologies in the painstaking and time consuming process of creating the COS. Dongle manufacturers who release “smart card” dongles based on a COS developed

by a third party are relying on the technical know-how and thoroughness of that third party, and may unwittingly introduce security problems hidden in the COS.

➤ **Providing software developers with a flexible and effective management solution**

ROCKEY5 was developed to meet the varying demands of today's complex software market. There is a great diversity in software sales and license management including software trial, software lease and multi-module release. The ROCKEY5 file system is powerful enough to adapt to all of these requirements and more. Features such as "class coding" to enable several applications to be protected in a single dongle, or "privilege codes" to support multi-level protection of critical data, or "remote update management" for enabling or disabling remotely stored application modules, overlay a powerful COS that can be employed for any number of application protection scenarios.

➤ **Simple yet powerful Integrated Development Environment (IDE)**

The complexity and power of the ROCKEY5 COS is simplified by the ROCKEY5 IDE (Integrated Development Environment). The IDE is the utility Feitian provides to simplify the software protection method. The IDE integrates editor, compiler, debugger and IC language emulator. Developers can perform all dongle programming work with the IDE. The IDE also offers virtual/real dongle management functions. You can directly put the compiled "external program" in the virtual device and then emulate the run and debug. When the external program is OK, you may copy it from the virtual device to real device with the traditional Windows copy/paste method. Both the virtual and real devices utilize Explorer-like file system management and will be familiar to most developers.

➤ **Complete Solution with High Security Level**

Most developers have only a rough idea about software protection and cannot afford a lot of time to study

advanced software protection theories. Thus their software protection system may contain bugs or omissions that can be exploited by crackers. Prior to developing ROCKEY5 we collected and analyzed some typical and popular protection solutions, and the COS was designed to support such solutions. If developers adopt our protection solution, their software will enjoy a higher-level of security.

- Customer unique management codes and globally unique hardware ID
- Super password and privilege levels allow for advance file system security management
- Remote software updates based on “One-time password” technology
- Secure file transfer

4. ROCKEY5 (SIM Card +USB Card Reader) Technical Specifications:

Technical Specifications	
Temperature Range	0 - +70 C
Card Socket Service Life	100,000 times (plug & unplug)
Card Frequency	3MHz
Current	<50 mA
Interface	USB port
Power	Via USB port
Communication Protocol	T=0, T=1
Standards	ISO7816-3, PC/SC, GSM11.11
Interface Rate	9600 – 115200 bauds (PTS)
Supported Operating Systems	Windows 98/Me/2000/XP, Linux, Mac OS 8/9
Dimensions	64X22X9mm
Weight	15g
LED	Double-color LED