Advanced Card Systems Ltd.
Card & Reader Technologies

APG8202
PINhandy 2

Technical Specifications

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1.0. Introduction

As technology becomes more sophisticated, fraud related incidents in the banking sector become more prevalent. These occurrences generate billions of dollars worth of losses and bring distress among credit and debit cardholders. Because of these, certain security measures and systems are created. In this regard, the APG8202 PINhandy 2 is a reliable tool that can be utilized to fight these occurrences.

What is APG8202 PINhandy 2?

APG8202 PINhandy 2 is a portable and low-cost and handheld smart card device which operates on standalone mode to perform various authentication applications. It is capable of managing One Time Passwords (OTP), Challenge-Response Authentication Codes, and Transaction Data Signing (PKI digital signatures) based on the security keys stored in the EMV cards.

How does APG8202 PINhandy 2 work?

The APG8202 PINhandy 2 uses a two-level authentication process which requires the cardholder to insert the EMV card into the device and enter a PIN using the built-in PIN-pad. APG8202 PINhandy 2 then generates a dynamic one-time password on the display screen which can be used to log-in before performing several transactions like online transactions, banking logons and telephone orders.

How is APG8202 PINhandy 2 secure?

APG8202 PINhandy 2 is compliant with major banking, computing and safety standards such as MasterCard® Chip Authentication Program (CAP), MasterCard® Advanced Authentication for Chip (AA4C/PLA), VISA Dynamic Passcode Authentication (DPA) and EMV Level 1. It is specially designed to safeguard users from the emerging fraud attacks like Card-not-Present (CNP) fraud and emerging Man-in-the-Middle attacks. It also provides proof that a card is present during an OTP process.

Further, the APG8202 PINhandy 2 has no physical connection to a separate device like a PC. Thus, the unconnected mode of APG8202 PINhandy 2 makes it impossible for hackers to steal the sensitive information stored in the card.
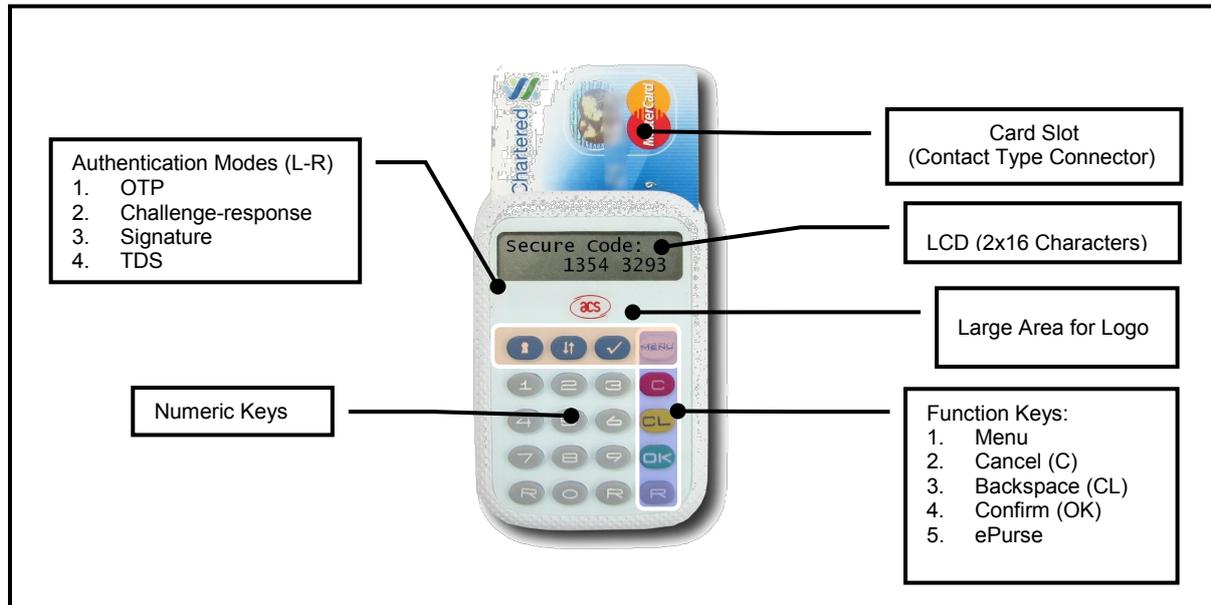
How can APG8202 PINhandy 2 help save money?

Banks can now distribute APG8202 PINhandy 2 most efficiently in bulk/volume to individual customers without the concern of handling sensitive data. More importantly, complicated device issuance or re-issuance strategy is no longer needed, hence the overall implementation cost is lowered. And since the APG8202 PINhandy 2 is a standalone device, no specialized programming is required.

2.0. Features

- Handheld Device with Compact and Portable Design
- Supports OTP (One Time Password), Challenge-response and Transaction Data Signing Modes
- Operates in Standalone Mode
- Powered by 2 CR2032 Batteries
- Intelligent Battery management for a life expectancy of 5 years (depending on usage)
- Supports Full-size Microprocessor Cards (T=0, T=1 Protocols)
- Supports ISO-7816 Class A cards
- Allows Semi-insertion of Cards
- Supports PPS (Protocol and Parameters Selection)
- Durable Tactile Keypad with 20 Silicon Rubber Keys
- Graphical LCD for Showing Logo and Multiple-language Characters
- Monotone Buzzer
- Value-Added Calculator and ePurse Function
- Short Circuit Protection
- MasterCard® Chip Authentication Program (CAP)
- MasterCard® Advanced Authentication for Chip (AA4C/PLA)
- VISA Dynamic Passcode Authentication (DPA)
- EMV Level 1
- CE
- FCC
- RoHS

Authentication Modes (L-R)
1. OTP
2. Challenge-response
3. Signature
4. TDS

Numeric Keys

Card Slot
(Contact Type Connector)

LCD (2x16 Characters)

Large Area for Logo

Function Keys:
1. Menu
2. Cancel (C)
3. Backspace (CL)
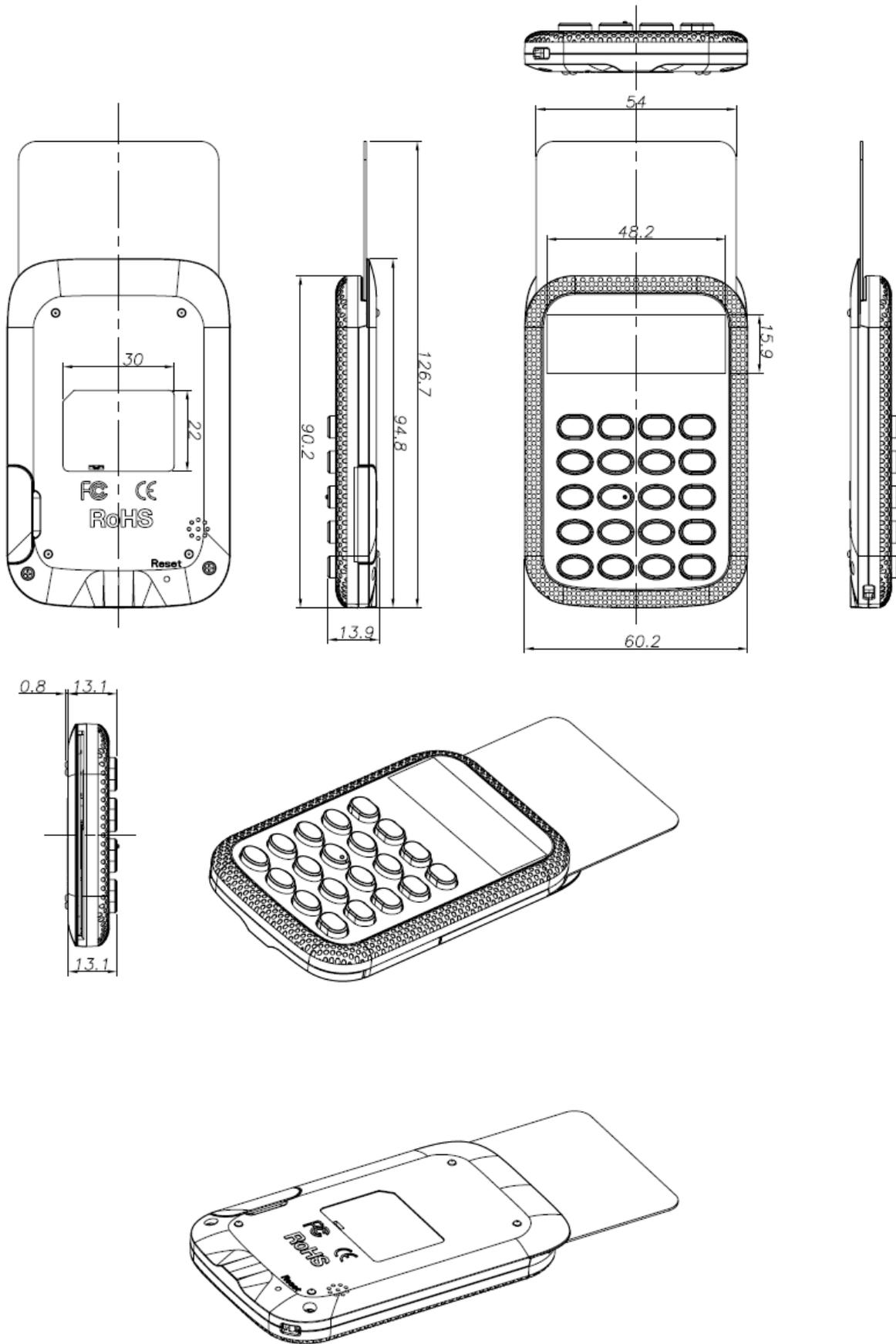4. Confirm (OK)
5. ePurse

3.0. Typical Applications

- e-Banking and e-Payment
- Dynamic One-Time Password
- Remote Authentication
- Digital Signature

4.0. Technical Specifications

Power supply

Supply Voltage .... Standalone Mode: 2 x CR2032 Batteries (Replaceable)

Smart Card Interface

Standard.. ISO 7816 Class A (5V), T=0 and T=1
Supply Current.................................... Max. 50mA
Smart Card Read / Write Speed .... 1743 – 250,000 bps
Short Circuit Protection .... +5V / GND on all pins
CLK Frequency.................................... 2 MHz
Card Connector .... Contact
Card Insertion Cycles .... Min. 100,000

Human Interfaces

Keypad .... 20 Keys
LCD Display .... Graphical LCD for Logos and Multiple-language Characters
.... (1 line for 6 Chinese/16 alphanumeric characters, 128x24 pixels)
Buzzer .... Monotone Buzzer

Physical Specifications

Case Color .... Gray with White Cover
Dimensions.. 95.00mm (L) x 60.00mm (W) x 11.00mm (H)
Weight .... 49g (with Batteries)

Operating Conditions

Temperature.. 0°C to 50°C
Humidity .... 10% to 90%, Non-condensing

Compliance/Certifications

MasterCard® CAP, MasterCard® AA4C/PLA, Visa DPA, EMV Level 1, CE, FCC, RoHS Compliant, ISO 7816,

Other Features

Other Features .... Built-in Calculator Function, ePurse