SE1000 for financial cards

Key capabilities of the Smart Evol 1000 for financial cards

Magnetic stripe encoding (on the back)

Printing various information using laser

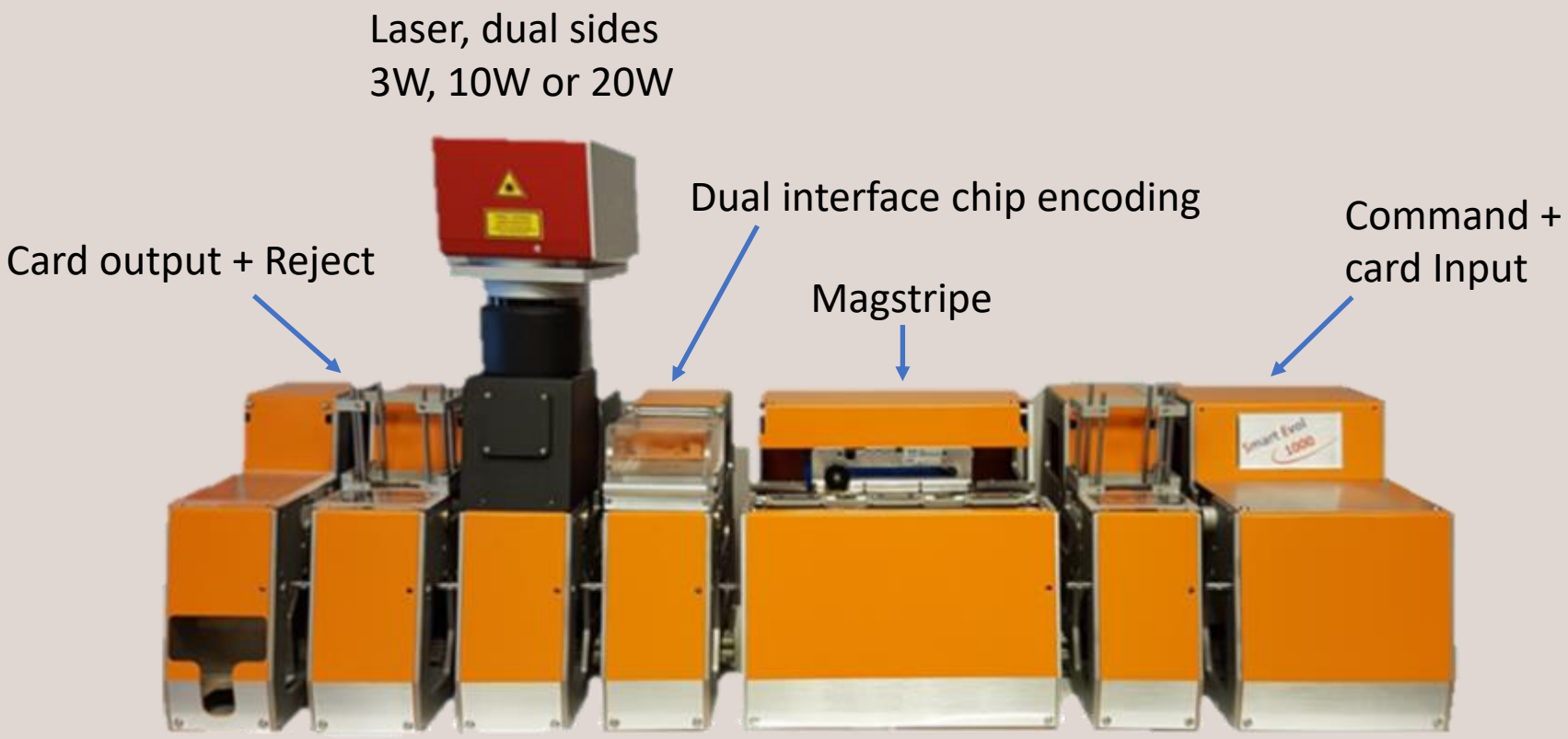
Chip encoding, chip testing
- contact
- contactless
- dual interface

Contactless parametric testing as per MasterCard CQM requirements

Fingerprint sensor testing as per Zwipe Built In Self Test, for Zwipe ZPO product only

Card antenna deflection detection (see page 6)

SE1000 typical configuration for financial cards



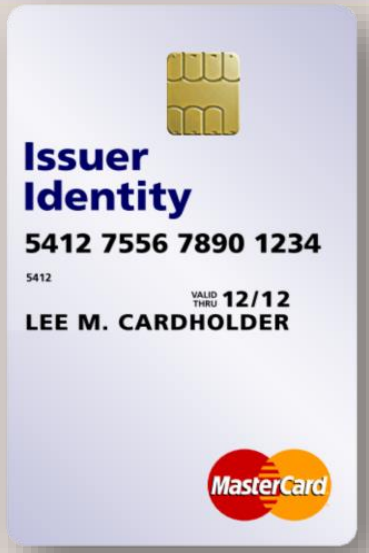
Supports plastic and metal cards

Various quality control options

- Functional testing
- Parametric testing
- Vision inspection

Printing trends for financial cards

- Laser is an approved printing technology for financial cards - by MasterCard, Visa, and other issuers
- Deployment of flat financial cards is accelerating. Laser is taking the lead amongst all flat printing technologies (inkjet, thermal transfer, inkjet Dod)



Visa Card Personalization Options

Summary

Visa-allowed processes for applying cardholder data to a card include:

- Laser engraving (account number, expiration date/dating legends, cardholder name, CVV2)
- DOD printing (account number, expiration date/dating legends, cardholder name, CVV2)
- Thermal printing with protective topcoat (account number, expiration date/dating legends, cardholder name, CVV2)
- Embossing (account number, expiration date/dating legends, cardholder name)
- Indent printing (account number, expiration date/dating legends, cardholder name, CVV2)

Key benefits of laser printing on financial cards

Minimizes the cost/card ratio

- No consumables
- Laser allows high speed printing for financial cards

Provides a high level of security and durability

- Text is engraved into the card surface, making irreversible changes of the card substrate and making the text impossible to remove
- Data printed on cards can last as long as 10 years or more

Flexibility, convenience

- Supports various fonts, various characters (Chinese, etc …)
- Can print horizontal, vertical, and other effects (curves …)
- Depending on card construction and laser settings, results can be flat or tactile

Laser is the perfect printing solution for metal cards

Printing effects (color) for financial cards

Laser printing generates different color effects depending on

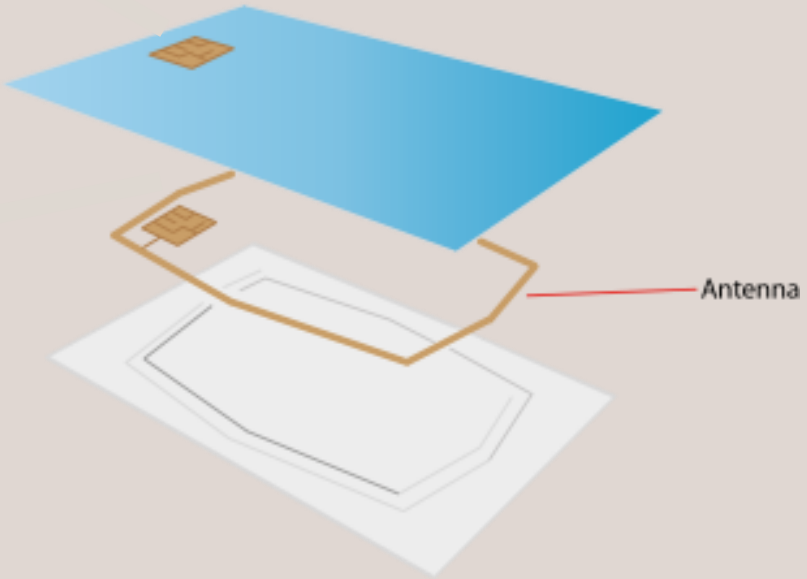
- The card material (PVC, PET, Metal …)
- The use or not of laser receptive overlay on the card
- The laser technology used (fiber, $C0_2$, UV …)
- Laser settings used
- Printing time per card

Due to all these parameters, performing printing tests using the bank's cards is mandatory to determine the exact printing results

On PVC cards, a CO_2 laser generates a gold effect

On PVC cards, a fiber/IR laser generates a grey/black effect

Card antenna deflection detection



Objective is this SE1000 module is to detect on plastic cards any copper wire antenna deflection inside the card that could happen during the card manufacturing process.

This module is useful when embossing is required on financial cards, to prevent having the embossers damaging the antenna if the antenna is not well positioned inside the card.

The related SE1000 module integrates a solution based on a specific kit from Smartware, allowing detecting such deflection through the measurement of RF signals.

the antenna inside the card should be positioned away from the embossing areas

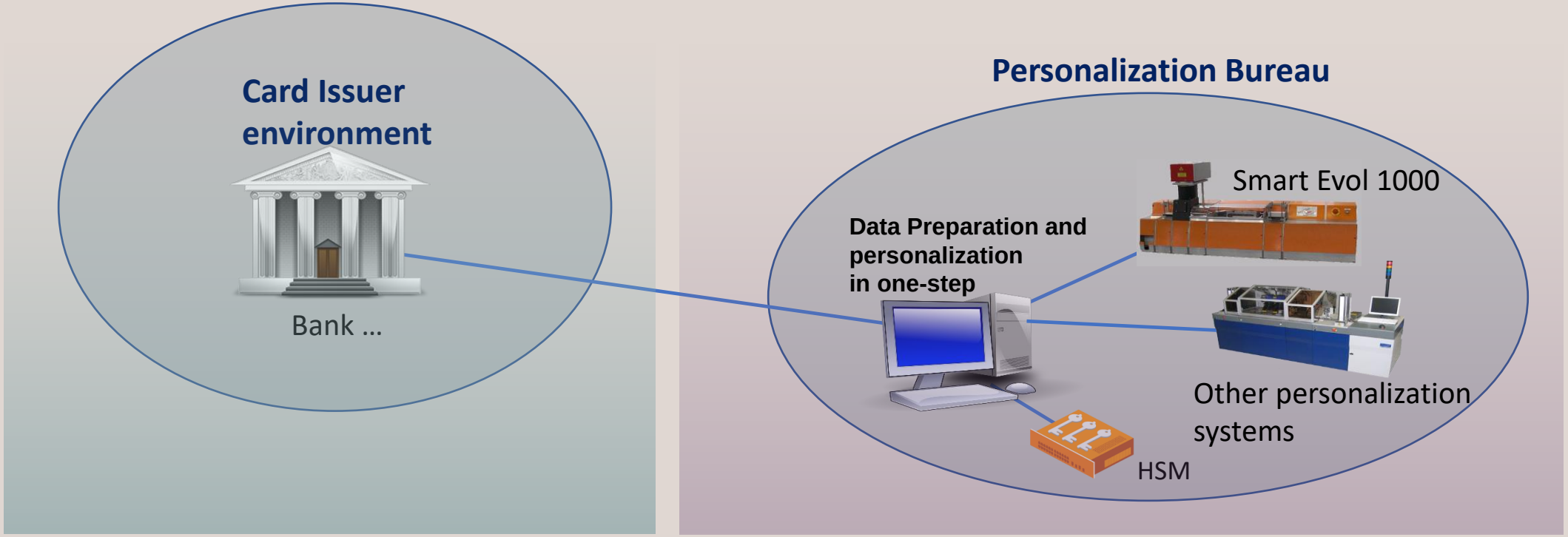
To the controller PC

Ultrasmart CLT box

Specific Smartware antenna

Data Preparation / Key management solutions for Financial cards

For Financial cards, the Smart Evol 1000 can interface with various Data Preparation, Key Management and Card Issuance solutions



- The “One-Step process”, as above illustrated, allows preparing smart card data during personalization
- Various packages can be provided - including Data Preparation, Key Management, Global Platform Profiles and Scripting, Card application management and personalization