Thales Gemalto
Biometric Sensor Payment Card

The new generation payment solution for greater user convenience and a safer payment experience

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Banking & Payment Services

The Thales Gemalto Biometric Sensor Payment card (BSPC) provides banks with a highly secure and intuitive solution to perform contactless payments in stores with no payment limit. The BSPC is the first biometric payment card certified by Mastercard and VISA and is a real game changer for payments. With its embedded fingerprint sensor, it offers a more premium payment experience to users and greatly reduces fraud using strong authentication. This new card removes the threshold for contactless payments and delivers a fully enjoyable and stressless contactless experience. It is also quick and easy for issuers to deploy as it does not require any POS terminal upgrades.

What is the Thales Gemalto biometric sensor payment card (BSPC)?

The Thales Gemalto BSPC is an innovative, simple-to-use and convenient **payment method** that uses **biometric information to verify a cardholder's identity.** Customers verify their fingerprint by placing their thumb on a sensor on the card. A comparison is then performed between the scanned fingerprint and the reference biometric data securely stored in the card.

Users can use it for everyday contactless transactions in stores with a simple tap and with no payment limit. The secret code is optional and not needed anymore, making payments faster and more convenient.

The Thales Gemalto BSPC proposes a large set of options for each issuer's strategy:

- The **biometric check** can be disabled for contactless transactions under a set amount or made mandatory for any amount
- **One or two fingers** can be registered on the card
- Initial activation of the fingerprint after enrolment can be carried out with different secure options: after first PIN verification in an ATM, after first PIN verification on a POS, after first successful online transaction.
- **Fallback to other verification methods** (PIN, signature) can be implemented when the fingerprint check is not successful (the finger is wet or somebody else tries to use the card) or is not performed (for example, finger not presented)
- It is compatible with many premium card body options such as colored edge, metallic inks, tactile varnish to make it stand out from the mass.

What makes it different from existing payment cards?

The Thales Gemalto BSPC includes **all the benefits of an EMV payment card:** same size, accepted at any EMV point-of- sale, ubiquitous, no battery in the card, so it's always operational.

In addition it has:

- **On-card fingerprint-based authentication:** a biometric sensor located on the card enables fingerprint-based authentication.

- **No PIN or signature necessary:** Cardholders can now perform a contactless transaction below or above the traditional threshold simply by authenticating their finger on the card itself.

- **Increased security:** with its embedded fingerprint sensor, the BSPC greatly reduces fraud attempts using **strong authentication.** It complies with the highest-level security and privacy policies: no biometric data leaves the card at any time and it is never used during the transaction. **Only the result of the verification is communicated inside the card** to the EMV application in the Secure Element (an EMVCo security-approved chip).

The probability of another user being recognised as the genuine user by the Thales Gemalto BSPC is less than the chance of another user guessing the card's PIN code (10,000 combinations). Fingerprint verification on the card has a False Acceptance Rate (FAR) of < 1 / 10,000.

The probability of the genuine user's finger not being recognized is highly unlikely with a False Rejection Rate (FRR) of < 3%. Additionally, the Thales Gemalto solution implements a unique Dynamic update feature in the biometric algorithm: thanks to continuous learning, the more a cardholder uses the card, the less likely they are to have their finger rejected.

Why deploy it now?

A solution with a high consumer demand

Consumer appetite for this card is strong with several thousand users in more than 10 countries having already tested the Thales Gemalto solution and expressed a very high average satisfaction rate of **between 80% and 95% in each trial.** People enjoy the convenience of the solution as it allows easy and safe contactless payments whatever the amount. International banks are now working with Thales Gemalto and the major EMV schemes on the world's first commercial deployments in France, Switzerland, Morocco, Poland and the UK for example.

Limited investment and fast deployment

The BSPC does not require any upgrade of POS terminals that already support mobile payment. There is no need for any firmware or hardware updates.

And it can still be used with traditional CVMs (PIN, signature) with legacy terminals or at ATMs.

A solution already certified by two major payment schemes

The Thales Gemalto BPSC is the first biometric payment card certified by international payment schemes **Mastercard** and **VISA** for commercial deployments.

Both VISA and Mastercard have upgraded their standard payment applications specifications to handle biometric verification with very **high security and performances requirements.**

How does enrolment work?

Enrolment is easy and convenient and can be performed at a bank branch or at home.

- The card simply has to be inserted in the enrolment reader, made from recycled plastic. It is delivered together with the card. The cardholders place their thumb on the card's sensor in different positions, guided by the text and the progression bar displayed on the reader. The reference template of the fingerprint is built and securely stored in the card, allowing it to verify the cardholder's fingerprint for each future payment.
- Enrolment indications are shown on the device's display.

The enrolment reader is used to power up the card to start the enrolment sequence and guide the user with a displayed personalised menu. All the enrolment, verification and deletion of the fingerprints are done by the card, through the intuitive menu of the enrolment reader. During enrolment, no biometric data go through the enrolment reader or are sent outside of the card.

Compliance and platforms

The Thales Gemalto BSPC complies with the latest industry standards:

- EMV ICC Payment Specification for Payment Systems (V4.3 – Book A to Book D)
- EMV Contactless Specifications for Payment Systems (V2.6 - Book A to Book D).
- ISO 7816 (1 to 4 /contact part)
- ISO 14443 (1 to 4 / contactless part)

Platform options

- JavaCard :   3.0.5
- Global Platform : 2.3
- MChipAdvance : 6.3 BPSC
- VISA : Dual VSDC 6.9.3
  (VCPS2.2.4/VIS1.6.3/VBSS1.02 compliant)

Securely enrol
your fingerprint on the card,
either in branch or at home

Tap your card
or insert it into any standard payment terminal in a shop, gas pump etc.

Hold your finger
on the card's fingerprint sensor to be securely and quickly authenticated by the card

That's it!
No PIN required. You can also make contactless payments of higher amounts!

Thales is the ideal partner to support banks during the implementation phase.

Thales has deployed its biometric cards on the field for over three years, including pilots and commercial deployments with major banks in over ten countries involving around 100 000 end-customers Over 80% of users questioned during market studies confirmed they love it and are ready to use it to enjoy more convenience and greater security.

Thales has already implemented this solution with banks worldwide, including Cyprus, the Middle East, Morocco, Poland, France, Italy and the UK.

With its proven experience in delivering banking and payment projects to **3,000 financial institutions,** Thales Gemalto offers the expertise that banks need to ensure a successful deployment of the Biometric Sensor Payment Card.

What are the key benefits of the solution?

For financial Institutions

- **Attract more premium customers:** Banks reported a significant growth in new premium customers. Won over by the easy-to-use method of payment, banks have seen customers changing providers, or upgrading their program to a premium offer in order to have access to the biometric payment card.

- **Reduce fraud management:** fingerprint authentication can be used for any amount, protecting loss and stolen cards

- **Highlight your brand image:** by offering an innovative, hi-tech and easy-to-use service

For end-users

- **Enhanced user convenience:** User-friendly contactless payments with no upper or lower limit and without PIN.

- **Protection against fraud:** the uniqueness of the fingerprint authentication method protects users against loss and stolen cards

- **Safe and touchfree:** verification is carried out on the card with no need to touch a POS terminal

- **Green and red lights on the card:** to reassure the customer whether their fingerprint has been correctly authenticated or not

Why choose Thales Gemalto Biometric Sensor Payment Card?

- **Superior performance:** Proven by the highest number of bank biometric card deployments with Thales and certified by VISA and Mastercard

- **Customizable and intuitive:** configurable by the bank, designed to be easy to enroll and used by the cardholder

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