STPay-Topaz-1

Data brief

ST Payment Secure Solution – Java® Card platform for VISA®, MasterCard®, *Interac*®, Discover®, AMEX®, JCB®, RuPay®, Elo and L-applet applications

Product status link
STPay-Topaz-1

Features

- 40 nm flash technology
- Java® Card platform
- Up to 110 Kbytes of user NVM
- Certified payment applications: VISA®, MasterCard®, *Interac*® Flash, Discover®, AMEX®, JCB®, RuPay®, and Elo
- Common Personalization Specification (CPS) personalization
- SDA/DDA support

Platform

- Java® Card 3.0.5 classic operating system
- GlobalPlatform® 2.2.1 MG 1.0.1 API support
- CPS-compliant
- ISO/IEC 7816 T = 0 or T = 1 contact protocol
- ISO/IEC 14443 Type A contactless interface

Hardware

- ST31P450 product based on a 32-bit Arm® SecurCore® SC000™ RISC core
- Advanced 40 nm flash technology
- Best-in-class RF performance

Cryptography

- NESCRYPT cryptographic RSA coprocessor
- Enhanced DES accelerator (EDES)

Personalization

- Enhanced personalization performance for very fast personalization
- EMV® CPS v1.1 compliant
- VISA® smart debit/credit (VSDC) Personalization Specification v2.0
- M/Chip® Advance 1.2.3 Common Personalization Specification

Applications

- MasterCard® M/Chip® Advance 1.2.3
  - Data sharing single account configuration 2
  - PIN sharing
- VISA® VSDC 2.8.1g1
- VISA® VSDC 2.9.1
- VISA® VSDC 2.9.2
- *Interac*® Flash 1.7
- Discover® D-PAS 1.1
- Discover® D-PAS Connect 2.1
- AMEX® AEIPS 4.4, XP 4.0.2
- JCB® D.1.1
- JCB® D.1.2
- RuPay® qSPARC 2.0.2 dual interface
- Elo 1.5.3.g
- L-Applet 1.2

1 Description

The STPay-Topaz-1 is a GlobalPlatform® 2.2.1 Java® Card platform for payment and loyalty applications, based on the 40 nm flash technology with up to 110 Kbytes of user non-volatile memory.

The STPay-Topaz-1 can be configured to support VISA®, VISA® VSDC 2.9.2, VSDC 2.9.1 or 2.8.1g1, MasterCard® M/Chip® Advance 1.2.3, *Interac*® Flash 1.7, Discover® D-PAS Connect 2.1, Discover® D-PAS 1.1, AMEX® AEIPS 4.4, JCB® D.1.1 or D.1.2, qSPARC 2.0, Elo 1.5.3.g EMV® payment applications. It also supports the L-applet for loyalty, membership and frequent traveler applications.

The STPay-Topaz-1 is also available as a Java virtual machine (JVM) platform, providing 200 Kbytes of non-volatile memory for customer applets.

The STPay system-on-chip solution is a family of products that come ready for embedding in smartcards and loaded with payment applications that run on certified Java® Card platforms. They meet all required security and payment-scheme certifications.

For detailed configuration data, contact your local ST sales office.

Note: *Arm is a registered trademark of Arm Limited (or its subsidiaries) in the US and/or elsewhere.*

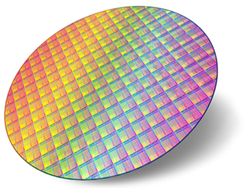
Note: *Java is a registered trademark of Oracle and/or its affiliates.*

2 Certifications

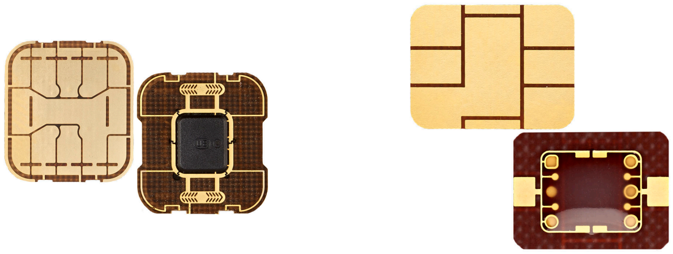
VISA
MasterCard
Interac
DISCOVER
JCB
elo
AMERICAN EXPRESS
RuPay

3 Delivery forms

The STPay-Topaz-1 is available as sawn wafers or micromodules, in contactless or dual-interface configuration qualified with a wide range of industry-standard inlay and antenna technologies for easy integration in plastic cards.



Sawn wafer



D75/D77

D76/D78

Dual-interface gold and silver micromodules

D7G

D7S

Dual-interface gold and silver micromodules

4 Development tools and support

The STPay ecosystem includes tools, sample scripts and support by local STMicroelectronics engineers who provide assistance in script development, validation and personalization, ensuring optimum flexibility and fast time to market.

Revision history

Table 1. Document revision history

Date	Version	Changes
30-Sep-2019	1	Initial release.
29-Nov-2019	2	The product also supports AMEX and Elo applications. Updated Features, Applications, Section 1: Description and Section 2: Certifications in that sense. Text changes in Applications, Section 3: Delivery forms, Section 1: Description and Section 4: Development tools and support.
21-Feb-2020	3	Added JCB and MIR in document title, Features, Applications, Section 1: Description and Section 2: Certifications. Replaced Elo 1.5.3.c with Elo 1.5.3.g (Applications and Section 1: Description).
28-May-2020	4	Added VISA VSDC 2.9.1 in Applications. Replaced JCB D.1.2 with JCB D.1.1 in Applications and Section 1: Description. Added information on JVM platform in Section 1: Description.
07-Mar-2024	5	Updated: • Section Features – Removed the reference to MIR – Edited the NVM capacity to 100 Kbytes – Removed the NVM description in the hardware section • Section Applications – Added support for: VISA VSDC 2.9.2, Discover D-PAS Connect 2.1, JCB D.1.2 – Removed the reference to MIR – Updated the support for Interac Flash 1.7 • Section 1: Description to bring in line with the features • Section 2: Certifications, removed the MNP certification logo • Section 3: Delivery forms, added the D7G and D7S modules.

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