

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



Features

- 40 nm Flash technology
- Java Card™ platform
- Up to 60 Kbytes of user NVM
- Certified payment applications: VISA, MasterCard, Interac Flash, Discover, AMEX, JCB, RuPay, Elo and MIR
- Common Personalization Specification (CPS) personalization

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

- ST31 product based on a 32-bit Arm® SecurCore® SC000™ RISC core
- Advanced 40 nm Flash technology
- Best-in-class RF performance
- Up to 60 Kbytes of user non-volatile memory

Product status link

[STPay-Topaz-1](#)

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
- *Interac* Flash 1.6
- Discover 1.1
- AMEX AEIPS 4.4, XP 4.0.2
- JCB D.1.1
- RuPay qSPARC 2.0 dual interface
- Elo 1.5.3.g
- MIR 1.1.4.0
- 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 and up to 60 Kbytes of user non-volatile memory.

The **STPay-Topaz-1** can be configured to support VISA VSDC 2.9.1 or 2.8.1g1, MasterCard M/Chip Advance 1.2.3, *Interac* Flash 1.6, Discover 1.1, AMEX AEIPS 4.4, JCB D.1.1, qSPARC 2.0, Elo 1.5.3.g and MIR 1.1.4.0 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.

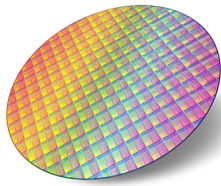


2 Certifications

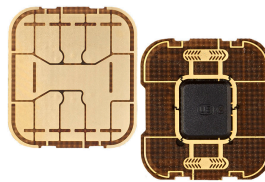


3 Delivery forms

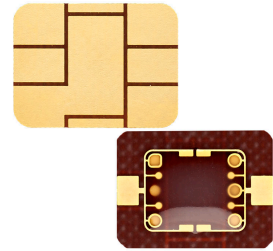
The STPay-Topaz-1 is available as sawn wafers or micromodules, in contactless or dual-interface configuration qualified with a wide range of industry-standard inlay and antenna technologies for easy integration in plastic cards.



Sawn wafer



D75/D77



D76/D78

Dual-interface gold and silver micromodules

4 Development tools and support

The STPay ecosystem includes tools, sample scripts and support by local ST 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.

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