ST Payment Secure Solution – Java® Card platform for VISA®, MasterCard®, China UnionPay and TBA payment applications

Product status link
STPay-Topaz-18

Features

- 40 nm flash technology
- Java® Card platform
- Up to 110 Kbytes of user NVM
- Certified payment applications: VISA®, MasterCard®, China UnionPay and Thai Bankers' Association (TBA)
- Common Personalization Specification (CPS) personalization

Platform

- Java® Card 3.0.4 classic operating system
- GlobalPlatform® 2.2.1 MG 1.0.1 API support
- CPS-compliant
- ISO/IEC 7816 T = 0 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
- Up to 110 Kbytes of user non-volatile memory

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
- VISA VSDC 2.9.1
- China UnionPay UICS 2021
- Thai Banker's Association TBA

DB4239 - Rev 3 - April 2024
For further information contact your local STMicroelectronics sales office.

www.st.com

1   Description

The STPay-Topaz-18 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-18 can be configured to support VISA® VSDC 2.9.1, MasterCard® M/Chip® 1.2.3, China UnionPay UICS2021 and Thai Bankers' Association (TBA) payment applications

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.*

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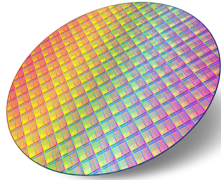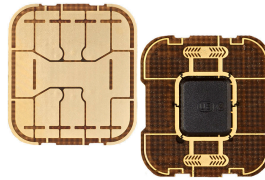
2 Certifications

3   Delivery forms

The STPay-Topaz-18 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.
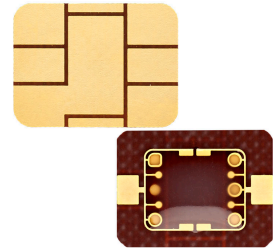
Sawn wafer

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
18-Jun-2020	1	Initial release.
08-Apr-2024	2	Updated: • Section Applications • Section 1: Description • Section 3: Delivery forms
29-Apr-2024	3	Updated: • Section Applications • Section 1: Description

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