

ST Payment Secure Solution – Java Card™ platform with active load modulation for EMV® payment applications



Features

- Java Card™ platform
- Enhanced active load modulation technology
- Compatible with extremely small or metal frame antennas
- Up to 135 Kbytes of user nonvolatile memory
- Certified payment applications: Visa®, MasterCard®, JCB® and Interac®
- 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 14443 Type A contactless interface

Hardware

- 32-bit Arm® SecurCore® SC000™ ST31 secure microcontroller and STS3922 analog front-end with active load modulation
- Battery-assisted operation
- Up to 135 Kbytes of user NVM
- System-in-package: ECOPACK®2-compliant 64-ball very, very thin profile, fine pitch, ball grid array package (WFBGA64)

Cryptography

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

Personalization

- Enhanced personalization performance for very fast personalization
- EMV® CPS v1.1 compliant
- VSDC (Visa smart debit/credit) Personalization Specification v 2.0
- M/Chip® Advance v1.2.1 Common Personalization Specification

Applications

- MasterCard M/Chip Advance 1.2.1
 - Dual-interface supporting PayPass® contactless payments
 - Data sharing single account configuration 2
 - PIN sharing
- Visa VSDC 2.9
 - Dual interface supporting payWave® contactless payments
- JCB D1.1 dual interface
- Interac Flash® 1.5

Product status link

[STPay-Boost](#)

1 Description

The **STPay-Boost** is a system-in-package payment solution optimized for wearable devices such as wrist bands and smart watches. It offers wearable manufacturers a ready-to-use contactless payment application compatible with very small antenna sizes.

The **STPay-Boost** consists of an STPay-Tiger secure payment solution based on an Arm® SecurCore® RISC core, and an analog front-end with active load modulation in a single package.

It is delivered in a WFBGA64 package dimensioned for use in small-footprint devices.

The **STPay-Boost** contains a GlobalPlatform 2.2.1 Java Card 3.0.4 platform for payment applications with up to 135 Kbytes of nonvolatile memory for user applets and personalization data. It can be configured to support Visa VSDC, MasterCard M/Chip Advance, JCB and *Interac* Flash payment applications.

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

The STPay-Boost payment applications have a functional and security certification from the payment schemes. Certifications for different wearable form factors can be derived from ST's parent certification.

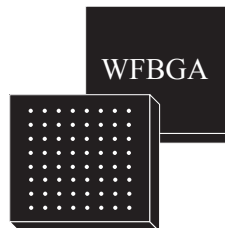


3 Delivery form

In order to meet environmental requirements, ST offers these devices in different grades of ECOPACK® packages, depending on their level of environmental compliance. ECOPACK® specifications, grade definitions and product status are available at: www.st.com. ECOPACK® is an ST trademark.

The STPay-Boost is delivered in an ECOPACK®2-compliant 64-ball, 4 × 4 mm, 0.5 mm pitch, very, very thin profile, fine pitch, ball grid array (WFBGA64) package.

Figure 1. WFBGA package



4 Development tools

The STPay tool is an easy-to-use toolkit that allows issuers and service providers to:

- Install and test Java applets
- Personalize, test and validate STPay-Java sample devices

The tool comes with sample personalization scripts for VSDC, M/Chip Advance, JCB and *Interac* to facilitate script development/validation and fast device deployment.

For antenna reference design information, contact your ST sales office. ST provides support to help customers to accommodate their own antenna.

Revision history

Table 1. Document revision history

Date	Version	Changes
10-Nov-2017	1	Initial release.
19-Jun-2018	2	Added Arm trademark notice. Small text changes.

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