

# UL GlobalPlatform Compliance Test Suites



Solutions

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# UL GlobalPlatform Compliance Test Suites

## Who is it for?

UL GlobalPlatform Compliance Test Suites are a thorough and complete set of approved test suites for card manufacturers, test laboratories and anyone who wants to test GlobalPlatform (GP) card implementations.

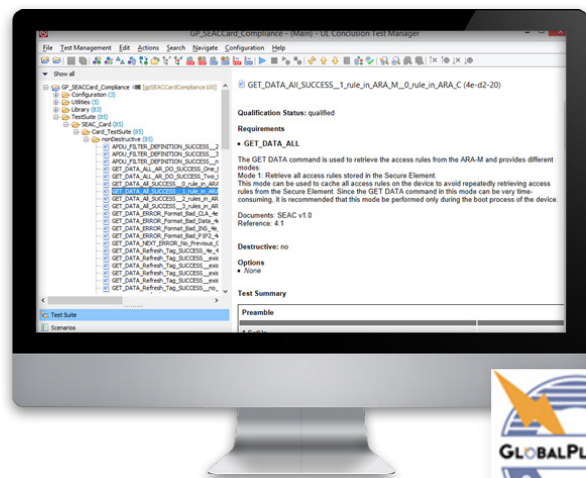
## How does it help?

UL GlobalPlatform Compliance Test Suites are an excellent tool for testing the GP implementation on a card and assisting you in achieving qualification for your product. The test suites allow you to test your product's specific configuration according to the test plans GP developed. Each test suite is based on a specific official test plan from GP.

All test suites have achieved qualified status under the GlobalPlatform Compliance Program and can help you achieve qualification for your product.

## What's inside?

GP has created a series of configurations that specify a card's features and restrictions based on the needs of specific industries. UL GlobalPlatform Compliance Test Suites are built from the official GlobalPlatform Card Compliance Test Plans and cover all tests GP mandates.



## Key benefits

- Support for testing UICCs, embedded secure elements, IoT secure elements, eUICCs (eSIM), finance or identity cards according to the GP specifications
- Help ensure a high level of compliance and interoperability
- Flexible, portable and easy to set up
- Backed by expertise in mobile and compliance test tools
- Runs on UL's Conclusion Test Manager
- Qualified by the GlobalPlatform Compliance Program as a GlobalPlatform Qualified Tool





## eSIM test suites

### **UL GlobalPlatform eUICC Consumer Compliance Test Suite**

This test suite is based on GSMA's SGP.23 Remote SIM Provisioning (RSP) test specification and covers:

- Profile loading using SM-DP+ session and random keys
- Profile management using LPA interface (enable, disable and delete profile)
- Profile metadata update
- Notification handling
- eUICC memory reset, etc.

### **UL GlobalPlatform eUICC M2M Compliance Test Suite**

This test suite is based on GSMA's SGP.11 Remote Provisioning Architecture for Embedded UICC test specification and covers:

- ISD-P creation and key establishment using eUICC Controlling Authority Security Domain (ECASD)
- Profile download (using SCP81 HTTPS and SCP03)
- Profile state management (enable, disable and deletion)
- Notification mechanism (SCP80 SMS and SCP81 HTTPS), etc.

### **UL GlobalPlatform eUICC Trusted Connectivity Alliance Profile Compliance Test Suite**

This test suite is based on the Trusted Connectivity Alliance (formerly SIMalliance) eUICC Profile Package: Interoperable Format test specification for machine-to-machine (M2M) and/or consumer remote SIM provisioning (RSP) and covers:

- Profile loading of SIM file system with and without applications
- Profile enabling of SIM file system with and without applications
- Content validation post-profile loading
- Full profile installation process for M2M via SCP81 HTTPS/SCP03t
- Full profile installation process for consumer RSP via SCP03t
- Nominal and error test sequences for all functional eUICC testing, etc.





## Industry configurations test suites

### UL GlobalPlatform Financial Configuration Compliance Test Suite

This test suite is based on the official GlobalPlatform Card Financial Configuration test plan and covers:

- Card Specification 2.3.X and Amendments A and D
- Support of four subconfigurations as defined in financial configuration specification
- Secure messaging (SCP 02 option i = “55”)
- Secure messaging (SCP 03 option i = “10,” “30” and “70”)
- Key management (Put Key and Store Data commands) includes DES, AES, RSA (1,024 and 2,048 bits) and ECC keys
- Logical channel management
- Data store (storage and retrieval of DGI objects)
- Card content management (loading, installing, deleting, etc. applications) includes AES, RSA (1,024 and 2,048 bits) and ECC algorithms
- Security domain tree (deletion and extradition with security domain hierarchy)
- Confidential card content management (security domain personalization using Controlling Authority Security Domain (CASD))
- GlobalPlatform API (on card GlobalPlatform applet API), etc.

### UL GlobalPlatform Basic Financial Configuration Compliance Test Suite

This test suite is based on the official GlobalPlatform Basic Financial Configuration test plan and covers:

- Card Specification v2.1.1
- Card content management
- Application data store
- GlobalPlatform applet API
- Key management
- Card and application life cycle state management
- Logical channel management
- Application hierarchies
- Secure messaging (SCP02), etc.

### UL GlobalPlatform CI Configuration Compliance Test Suite

This test suite is based on the official GlobalPlatform Common Implementation Configuration test plan and covers:

- Card Specification 2.3.X and Amendments D and E
- Secure messaging (SCP 02 option i = “55”)
- Secure messaging (SCP 03 option i = “10,” “30” and “70”)
- Life cycle state management (card and application life cycle)
- Key management (Put Key and Store Data commands) includes DES, AES, RSA (1,024 and 2,048 bits) and ECC keys
- Logical channel management
- Data store (storage and retrieval of DGI objects)
- Card content management (loading, installing, deleting, etc. applications) includes DES, AES, RSA (1,024 and 2,048 bits) and ECC algorithms
- Security domain tree (deletion and extradition with security domain hierarchy)
- GlobalPlatform API (on card GlobalPlatform applet API), etc.

### UL GlobalPlatform Mapping Guidelines Compliance Test Suite

This test suite is based on the official GlobalPlatform Mapping Guidelines test plan and covers:

- Card Specification v2.2.1
- Card content management (authorized)
- Application data store
- GlobalPlatform applet API
- Key management
- Card and application life cycle state management
- Logical channel management
- Secure messaging (SCP02), etc.

**UL GlobalPlatform ID Configuration Compliance Test Suite**

This test suite is based on the official GlobalPlatform ID Configuration test plan and covers:

- Card Specification v2.2.1 and Amendments D and E
- Secure messaging (SCP 02 option i = “55”)
- Secure messaging (SCP 03 option i = “10,” “30” and “70”)
- Life cycle state management (card and application life cycle)
- Key management (Put Key and Store Data commands) includes DES, AES, RSA (1,024 and 2,048 bits), ECC keys
- Data store (storage and retrieval of DGI objects)
- Card content management (loading, installing, deleting, etc. applications) includes DES, AES, RSA (1,024 and 2,048 bits) and ECC algorithms
- GlobalPlatform API (on card GlobalPlatform applet API), etc.

**UL GlobalPlatform SE Configuration Compliance Test Suite**

This test suite is based on the official GlobalPlatform Secure Element test plan and covers:

- GlobalPlatform Card Specification v2.3.X and Amendments A, D, F and H
- Secure messaging (SCP 02 option i = “55;” SCP 03 option i = “10,” “30” and “70”)
- Life cycle state management
- Key management, including DES, AES, RSA and ECC keys
- Data store (storage and retrieval of DGI objects)
- Card content management, including DES, AES, RSA (1,024 and 2,048 bits) and ECC algorithms
- Confidential card content management (CASD)
- Security domain tree (security domain hierarchy) GlobalPlatform API (on card GlobalPlatform applet API), etc.

**UL GlobalPlatform UICC Configuration Compliance Test Suite**

This test suite is based on the official GlobalPlatform UICC Configuration Test Plan and covers:

- Card Specification v2.2.1 and Amendment A
- Card Specification v2.3.X and Amendments A, B and D
- Secure messaging (SCP 02 option i = “55;” SCP 03 option i = “10,” “30” and “70,” SCP 80 with SMS and CAT\_TP bearers and SCP81 with TLS 1.0, 1.1 and 1.2 with all PSK cipher suites)
- Key management (Put Key and Store Data commands) includes DES, AES, RSA (1,024 and 2,048 bits) and ECC keys
- Logical channel management
- Data store (storage and retrieval of DGI objects)
- Card content management (loading, installing, deleting, etc. applications) includes DES, AES, RSA (1,024 and 2,048 bits) and ECC algorithms
- Security domain tree (deletion and extradition with security domain hierarchy)
- Confidential card content management (security domain personalization using CASD)
- GlobalPlatform API (on card GlobalPlatform applet API), etc.

**UL GlobalPlatform Compact IoT Configuration Compliance Test Suite**

This test suite is based on the Compact IoT Configuration specification and covers:

- Card Specification v2.3.X and Amendment D
- Secure messaging (SCP 02 option i = “55”)
- Secure messaging (SCP 03 option i = “10,” “30” and “70”)
- Key management (Put Key and Store Data commands) includes DES, AES, RSA (1,024 and 2,048 bits) and ECC keys
- Logical channel management
- Data store (storage and retrieval of DGI objects)
- Card content management (loading, installing, deleting, etc. applications) includes AES, RSA (1,024 and 2,048 bits) and ECC algorithms
- Security domain tree (deletion and extradition with security domain hierarchy), etc.
- GlobalPlatform API (on card GlobalPlatform applet API), etc.





# Industry extension test suites

## UL GlobalPlatform SCP11 Extension Compliance Test Suite

This test suite is based on the official GlobalPlatform test plan and covers:

- Card Specification 2.3.X and Amendment F
- Secure Channel Protocol 11a
- Secure Channel Protocol 11b, etc.

## UL GlobalPlatform ELF Upgrade Extension Compliance Test Suite

This test suite is based on the official GlobalPlatform Test Plan and covers:

- Card Specification 2.3.X and Amendment H
- Upgrade single and multiple ELF
- Management of ELF upgrade life cycle states
- Recovery after aborted ELF upgrade operation
- ELF upgrade dependency on ELF version number, etc.

## UL GlobalPlatform Contactless Extension Compliance Test Suite

This test suite is based on the official GlobalPlatform Contactless Extension test plan and covers:

- Card Specification 2.3.X and Amendment C
- Installation and deletion of contactless applications (Type A, B and F)
- Contactless communication protocol parameter management (combination and conflict detection of Type A, B and F parameters)
- Management of priority selection of contactless applications
- Contactless application group management
- Contactless application activation status management
- Communication interface restriction, etc.

## UL GlobalPlatform Memory Extension Compliance Test Suite

This test suite is based on the official GlobalPlatform Contactless Extension test plan (Cumulative Granted Memory and Cumulative Delete) and covers:

- Card Specification 2.3.X and Amendment C
- Cumulative Delete
- Cumulative Granted Memory, etc.

## UL GlobalPlatform UICC Contactless Extension Compliance Test Suite

This test suite is based on the official GlobalPlatform Contactless Extension test plan and covers:

- Card Specification v2.2.1, Amendment C
- Contactless application installation
- Contactless application selection priority
- Contactless application group management
- Contactless application activation status
- Contactless application interface restriction
- Contactless protocol parameter computation and conflict detection, etc.

## UL GlobalPlatform UICC Memory Management Extension Compliance Test Suite

This test suite is based on the official GlobalPlatform UICC Memory Management Extension test plan and covers:

- Card Specification v2.2.1, Amendment C
- Cumulative Delete
- Cumulative Granted Memory, etc.

## UL GlobalPlatform UICC SCP81 Extension Compliance Test Suite

This test suite is based on the official GlobalPlatform UICC SCP81 Extension and covers:

- Card Specification 2.2.1, Amendment B
- Secure messaging (SCP81 with TLS 1.0, 1.1 and 1.2 with all PSK cipher suites)
- Key management (Put Key and Store Data of SCP81 AES and DES keys)
- Card content management (installation of supplementary security domain with SCP81 parameters), etc.



## Other technology test suites

### UL GlobalPlatform SPI/I2C Conformance Test Suite

This test suite is based on the latest official GlobalPlatform APDU Transport over SPI/I2C Compliance test plan and covers:

- T=1' protocol/data link layer testing
- Testing support for the SPI interface
- Testing support for the I2C interface
- ISO7816-3 scenarios testing
- Requires the TotalPhase Aardvark I2C/SPI host adapter hardware

### UL GlobalPlatform SE Access Control Card Compliance Test Suite

This test suite is based on the official GlobalPlatform SE Access Control Card test plan and covers:

- Card Specification 2.2.1
- GlobalPlatform Secure Element Access Control v1.0
- Retrieval of rules from ARA-M applet using the device interface and the GET DATA command
- Storage, update and deletion of rules in the ARA-M applet using the remote interface (SCP02, SCP03, SCP80 and SCP81) and the STORE DATA command, etc.

### UL GlobalPlatform HCI UICC Compliance Test Suite

This test suite implements the test specification ETSI TS 102 695-2 for HCI UICC and covers:

- HCI architecture
- HCP
- Instructions
- GATES
- HCI procedures
- Contactless card emulation, etc.

### UL GlobalPlatform SWP UICC Compliance Test Suite

This test suite implements the test specification ETSI TS 102 694-2 for SWP UICC and covers:

- System architecture tests
- Physical characteristics tests
- Electrical characteristics tests
- Physical transmission layer tests
- Data link layer tests
- SHDLC LLC definition tests
- CLT LLC definition tests, etc.

### Hardware

- UL contact and contactless card reader
- Micropross MP65
- Micropross MP300 TC3, etc.



## Legacy test suites

GP have deactivated these test suites. Therefore, they can no longer be used for official GP qualification. However, UL Solutions still offers these test suites for the purpose of non-GP qualification testing.

### UL GlobalPlatform CI Configuration Compliance Test Suite

This test suite is based on the official GlobalPlatform Common Implementation Configuration test plan and covers:

- Card Specification 2.2.1 and Amendments D and E
- Secure messaging (SCP 02 option i = "55")
- Secure messaging (SCP 03 option i = "10," "30" and "70")
- Life cycle state management (card and application life cycle)
- Key management (Put Key and Store Data commands) includes DES, AES, RSA (1,024 and 2,048 bits) and ECC keys
- Logical channel management
- Data store (storage and retrieval of DGI objects)
- Card content management (loading, installing, deleting, etc. applications) includes DES, AES, RSA (1,024 and 2,048 bits) and ECC algorithms
- Security domain tree (deletion and extradition with security domain hierarchy)
- GlobalPlatform API (on card GlobalPlatform applet API), etc.

### UL GlobalPlatform SE Configuration Compliance Test Suite

This test suite is based on the official GlobalPlatform Secure Element test plan and covers:

- GlobalPlatform Card Specification v2.2.1 and Amendments A, D and E
- Secure messaging (SCP 02 option i = "55;" SCP 03 option i = "10," "30" and "70")
- Life cycle state management
- Key management, including DES, AES, RSA and ECC keys

### UL GlobalPlatform SE Contactless Extension Compliance Test Suite

This test suite is based on the official GlobalPlatform SE Contactless Extension test plan and covers:

- Card Specification 2.2.1 and Amendment C
- Installation and deletion of contactless applications
- Contactless communication protocol parameter management
- Management of priority selection of contactless applications
- Contactless application group management
- Contactless application activation status management
- Communication interface restriction, etc.

### UL GlobalPlatform SE Memory Management Extension Compliance Test Suite

This test suite is based on the official GlobalPlatform SE Memory Management Extension test plan and covers:

- Card Specification 2.2.1 and Amendment C
- Cumulative Delete
- Cumulative Granted Memory, etc.







# UL's Conclusion Test Manager

UL GlobalPlatform Compliance Test Suites run on UL's Conclusion Test Manager (CTM). CTM is a user-friendly test management application consisting of a test engine with the ability to create and send messages in many variations via several interfaces to the system under test — a cutting-edge test management system to manage the test process, providing flexibility in configuring the test execution and reporting results.

**For more information, please visit [UL.com/mobile](https://ul.com/mobile).**



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