VISA

Visa U.S. EMV® Chip Terminal Testing Requirements

Visa developed the Acquirer Device Validation Toolkit (ADVT) and Contactless Device Evaluation Toolkit (CDET) to provide separate sets of test cards and test cases to be used on contact and contactless terminals interfaces (POS and ATM) prior to deployment.

For More Information

To learn more contact your Visa representative.

These test cards help to ensure correct terminal configuration, assist with integration testing and meeting Visa's terminal requirements for both EMV contact chip and contactless chip devices.

Acquirer Device Validation Toolkit

To help ensure that deployed terminals do not contribute to interoperability problems, Visa developed the ADVT, which is a set of test cards and test scripts that can be used on terminals that have already received EMV Level 1 and Level 2 approval and are configured for deployment (that is, after the country code, floor limits, and other processing parameters are set up in the terminal).

ADVT must be used on each type of contact chip terminal configuration if:

- A new hardware, payment application software or payment-related configuration is introduced, or
- Significant hardware or software modifications are made to existing terminals, or
- Major changes impacting the payment application or authorization message for chip processing, kernel, interface modules (IFMs) or network infrastructure.

Visa requires that acquirers use the ADVT before initial deployment of their EMV contact chip terminals to help ensure that the terminal has been configured correctly and is capable of processing various use cases. In addition Visa strongly recommends that acquirers use the ADVT toolkit on previously deployed terminals when debugging acceptance issues.

> Further information regarding ADVT can be found in the *Acquirer Device Validation Toolkit User Guide*, which is included in the toolkit release package.

Contactless Device Evaluation Toolkit

Similar to ADVT, the CDET is a set of test cards and an accompanying user guide that allows acquirers to validate the correct configuration and operation of their contactless readers.

The toolkit is a self-administered solution similar to ADVT. Each test card corresponds to a test case that must be performed. For new reader deployments, the acquirer executes each applicable CDET test to confirm that the expected outcome is achieved.

CDET testing is also required for existing contactless chip-reading terminals that have undergone a significant hardware or software upgrade impacting the kernel or payment application for chip processing.

CDET does not specifically test the performance of the contactless antennae. It focuses on the integration of the payment application to the Level 2 kernel. While there may be variances of Level 1 & Level 2 letters of approval for a terminal family, the Level 2 kernel is often identical within that family. When a deployment supports a Visa payWave terminal family that also shares the same Level 2 kernel, a single Visa payWave reader can be CDET tested to cover the entire terminal family. Consult with your terminal vendor to ensure a terminal falls within a terminal family. This approach allows a general reduction in the number of test iterations without negligible impact to the integrity of the testing process.

> 💡 Further information regarding the use of CDET can be found in the *Visa Contactless Device Evaluation Toolkit User Guide*, which is included in the toolkit release package.

Additional Toolkit Requirements

Use of the ADVT and the CDET is intended to ensure basic EMV contact chip and contactless functionality is not compromised during application integration, that all Visa requirements are satisfied, and to identify common interoperability issues. Use of the toolkits does not imply or guarantee that a terminal is fully compliant with EMV specifications or Visa requirements. An acquirer that fails to use the ADVT and CDET on a device that causes interoperability issues will be out of compliance and will follow requirements defined in the Visa Chip Interoperability Compliance Program. Visa may ask the acquirer to undertake specific post-deployment ADVT and/or CDET testing whenever it seems likely a terminal is causing acceptance or interoperability problems in the field.

U.S. debit test cases are also available and included in U.S. versions of ADVT and CDET.

Minimum Terminal Test Cases

Minimum U.S. online-only terminal configurations may take advantage of the minimum test cases which are a subset of ADVT. These test cases can also be used for new deployments of Quick Chip and regression testing. It will allow for chip projects to proceed with reduced testing cycles, fewer test cases and a faster implementation time. Refer to *U.S. Minimum Terminal Configuration ADVT Use Cases* for more information.

It is recommended that large merchants, direct connect merchants and new endpoints supported by a project complete ADVT and CDET terminal testing using VCMS for the first time. Subsequent terminal testing can support VCMS or a host simulator if available.

The ADVT and the CDET can be obtained through Visa's third party fulfillment service, Merrill Corporation. Similar tools are also available from Visa-confirmed third party vendors. For a list of Visa U.S. Confirmed Third-party Chip Acceptance Tool Suppliers, see U.S. Supporting Documentation at https://technologypartner.visa.com. For a list of global products, refer to Visa-confirmed tool vendors, see Products and Toolkits at https://technologypartner.visa.com.

Chip Compliance Reporting Tool

Visa developed the CCRT as a centralized, server-based online solution for the systematic reporting of ADVT and CDET test results. The CCRT facilitates an efficient submission and management process of compliance reporting for acquirers by:

- Providing Visa acquiring clients with an appropriate level of security and confidentiality in managing their terminal test results, and allows the CCRT service to be consolidated with other services currently provided to Visa clients. CCRT is available on Visa Online, Visa's online solution for providing secure access to Visa content and services for our clients globally.

- Reducing potential errors in manual entry by guiding users to choose from applicable options and providing mandatory information. A user can re-use existing reports as a starting point for new reporting or leverage import functionality generated by Visa-confirmed third party vendors, reducing time spent completing the reports.

The ADVT and CDET test results are provided to Visa by submitting the results into the CCRT. Acquirers, their processor or a vendor enabled for the Visa Chip Vendor Enabled Service (CVES) are required to use the CCRT to submit their terminal test results.

Visa Chip Vendor Enabled Service (CVES)

Launched in October 2013, helps streamline the testing and reporting requirements for the deployment of ATM and point-of-sale chip-acceptance devices in the U.S. CVES engages third-party chip tool vendors to execute ADVT and CDET testing on behalf of acquirers and processors, analyze the results and optionally submit reports to Visa using the CCRT.

Visa U.S. Chip Acquirer Self-Accreditation Program

Visa introduced a new self-accreditation program for U.S. acquirers that will eliminate the need for them to use the CCRT to report ADVT and CDET terminal test results when they deploy chip POS solutions. The Visa U.S. Chip Acquirer Self-Accreditation Program streamlines acquirers' chip-testing process and removes redundant terminal test result reporting. It also allows acquirers to adjust their test plans based on the POS solution and merchant vertical where the terminal is deployed, enabling them to perform the Visa-recommended minimum set of test scripts for both contact and contactless solutions.

Eligibility Requirements

To be eligible for the Visa U.S. Chip Acquirer Self-Accreditation Program, acquirers must:

- Partner with an accredited CVES vendor that can execute, analyze and validate terminal test results and has the capability to store test results, receipts and logs for up to five years or have the equivalent chip tool capability available in-house.

- Establish testing processing and requirements (i.e., defined chip terminal test cases).

- Complete the Visa U.S. Chip Acquirer Self-Accreditation Program Acknowledgement Form.

Attestation Process

To remain eligible for the Self-Accreditation Program, acquirers must:

- Upon request from Visa, provide logs, receipts and test results to resolve interoperability issues.

- Work with Visa to develop a remediation plan when interoperability issues are identified.

- Conduct specific post-deployment testing upon request when a terminal is causing acceptance issues in the field (applies to acquirers and their merchants).

An acquirer that fails to meet program requirements and causes interoperability issues will be managed through the Chip Interoperability Compliance Program.

For More Information

Refer to ADVT and CDET User Guides as well as the *U.S. Minimum Terminal Configuration ADVT Use Cases* for more details on specific testing conditions. Visa clients can access Visa documentation on Visa Online. Visa-confirmed tool vendors can access documentation at https://technologypartner.visa.com.

Reference of Visa Documentation:

- *Acquirer Device Validation Toolkit (ADVT) User Guide*
- *Contactless Device Evaluation Toolkit (CDET) User Guide*
- *Chip Compliance Report Tool (CCRT) User Guide*
- *Chip Compliance Report Tool (CCRT) Quick User Guide*
- *Visa Smart Debit/Credit and Visa payWave U.S. Acquirer Implementation Guide*
- *Visa Smart Debit/Credit ATM U.S. Acquirer Implementation Guide*
- *CVES Benefits*
- *Visa Chip Bytes*
- *Kernel Management Guidelines* VBN release 4/30/15
- www.visachip.com
- EMV Migration Forum "EMV Testing and Certification White Paper: Current Global Payment Network Requirements for the U.S. Acquiring Community"
- *US Visa Debit Test Cases*
- *US Minimum Terminal Configuration ADVT Use Cases*
- *Visa Minimum U.S. Online Only Terminal Configuration*

Acquirers should consult with their Visa representative for more details.

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