VISA

Visa U.S. EMV® Chip Terminal Testing Requirements – Version 2.1

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

These toolkits 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.

For More Information

To learn more contact your Visa representative.

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.

Note: U.S. clients should only test using U.S. versions of ADVT.

💡 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, CDET allows acquirers to validate the correct configuration of their contactless readers. The toolkit is also a self-administered solution. For new reader deployments, the acquirer executes each applicable CDET test to confirm that the expected outcome is achieved.

CDET is an incremental set of contactless test cases. Visa does not require a complete formal EMV Level 3 terminal certification with Visa and the Acquirer/Processor when adding Quick Visa Smart Debit/Credit (qVSDC) contactless (contactless chip) to a terminal device (ATM, POS, mPOS) which has previously been certified for contact chip and may support the legacy Magnetic Stripe Data (MSD) technology.

Note: Terminal device must have already received EMV Level 1 and Level 2 approval and is configured for deployment.

In addition, Visa's contactless EMV kernel does not have any dependencies to other brands certifications, unlike contact EMV kernel. Therefore, replacing Visa's legacy MSD with qVSDC or adding qVSDC can be completed in an autonomous manner.

Once the terminal device application is set up to process online qVSDC transactions then, only limited streamlined testing is required to be performed at the terminal device level for contactless chip and limited regression testing is recommended for the contact chip interface (refer to the latest U.S. version of ADVT / CDET) against acquirer / processor end-to-end existing level 3 testing environment or VisaNet Certification Management Service (VCMS).

Lastly, a simplified acquirer notification process attesting successful completion of U.S. CDET testing (all test results "pass") Organizations still submitting test results into CCRT, submit without requesting Visa review. CCRT will auto-accept the submission. (Optionally include logs). The terminal device is considered complete for meeting Visa contactless L3 chip certification.

Note: Acquirers participating in Visa U.S. Chip Acquirer Self-Accreditation Program should establish Visa streamlined testing processes for qVSDC contactless using program requirements.

Note: CDET is not merchant vertical specific. It can be used to test solutions with proxy cryptogram amounts.

CDET does not specifically test the performance of the contactless antennae or reader size. 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 contactless terminal family that also shares the same Level 2 kernel, a single Visa contactless 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 with negligible impact to the integrity of the testing process.

Note: As of April 2019 all contactless terminals accepting terminal payments in the U.S. must support qVSDC. Refer to the January 2019 EMV newsletter for more details on additional requirements to disable MSD when enabling qVSDC on terminals accepting contactless payments.

Refer to *Quick Chip for EMV® and qVSDC —Specification Version 2.0* which provides details for Quick Chip and contactless qVSDC (quick Visa Smart Debit/Credit).

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.

Note: Perform CDET testing using the CDET mobile app. It can be downloaded in the Google Play store using an Android-based mobile (supporting 5.0 Lollipop or later) with NFC capacity. The mobile solution replaces the use of physical cards.

Additional Toolkit Requirements

Use of the ADVT and the CDET is intended to ensure basic EMV contact and contactless chip functionality is not compromised during application integration, 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. 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 are included in U.S. versions of ADVT and CDET. For terminals with 2 or more kernel configurations, certify the highest functionality kernel and regression test only with the other configurations. No reporting requirements for regression testing.

Note: No chip data is required in clearing or settlement of chip transactions that were approved online. Therefore, no settlement testing needed.

Minimum Terminal Test Cases for Quick Chip and qVSDC

Minimum U.S. online-only terminal configurations may take advantage of the minimum test cases which are a subset of ADVT and CDET. These test cases can also be used for new deployments of Quick Chip, qVSDC 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. Quick Chip and Minimum Terminal Configuration ADVT/CDET 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.

U.S. version of ADVT and CDET are available in U.S. confirmed third-party chip acceptance tools. Please refer to the latest version of the US Quick Chip and Minimum Terminal Configuration ADVT / CDET Use Cases which should be used in the U.S. region (subset of global ADVT and CDET including U.S. debit and credit test cases and Ancillary Fleet test cases).For a list of Visa U.S. Confirmed Third-party Chip Acceptance Tool Suppliers, see U.S. Supporting Documentation at https://technologypartner.visa.com.

Chip Compliance Reporting Tool

Visa developed the Chip Compliance Reporting Tool (CCRT) as a centralized, server-based solution for the systematic reporting of ADVT and CDET test results. The CCRT facilitates a more efficient submission and management process of compliance reporting by chip acquirers. Available on Visa Online, Visa's online solution for providing clients secure access to Visa content and services globally.

💡 | Further information regarding the use of CCRT can be found in the CCRT User Guide.

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 contact and contactless 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 U.S. Chip Acquirer Self-Accreditation Program for U.S. acquirers will eliminate the need to use the CCRT for reporting ADVT and CDET terminal test results when they deploy contact and contactless 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 chip solutions. The program also includes Quick Chip testing processes and requirements (defined EMV terminal test cases).

Eligibility Requirements

For more details on eligibility for this program, contact your Visa representative.

For More Information

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*
- *Visa Smart Debit/Credit and Visa payWave U.S. Acquirer Implementation Guide*
- *Visa Smart Debit/Credit ATM U.S. Acquirer Implementation Guide*
- *CVES Benefits*
- www.visachip.com
- EMV Migration Forum "EMV Testing and Certification White Paper: Current Global Payment Network Requirements for the U.S. Acquiring Community"
- *US Quick Chip and Minimum Terminal Configuration ADVT/CDET Use Cases*
- *Visa Minimum U.S. Online Only Terminal Configuration*
- *Quick Chip for EMV® and qVSDC —Specification Version 2.0*

Acquirers should consult with their Visa representative for more details.

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