



CTS User Guide

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1. Introduction

The Card Transaction Service (CTS) helps you to integrate your systems with the GPS Apex authorization system. The service is written as SOAP and REST service and enables you to submit card test transactions in the UST environment. All input parameters are simple (string or numeric), making integration and testing simple and fast.

1.1. Pre-requisites

To access CTC, you need the following:

- Have your IP address(s) whitelisted if different to web services IP address(s)
- Your own setup in UAT
- A username and password (you can use the same credentials which you use to access [Smart Client](#) UAT)
- *Optional* EHI setup at product level

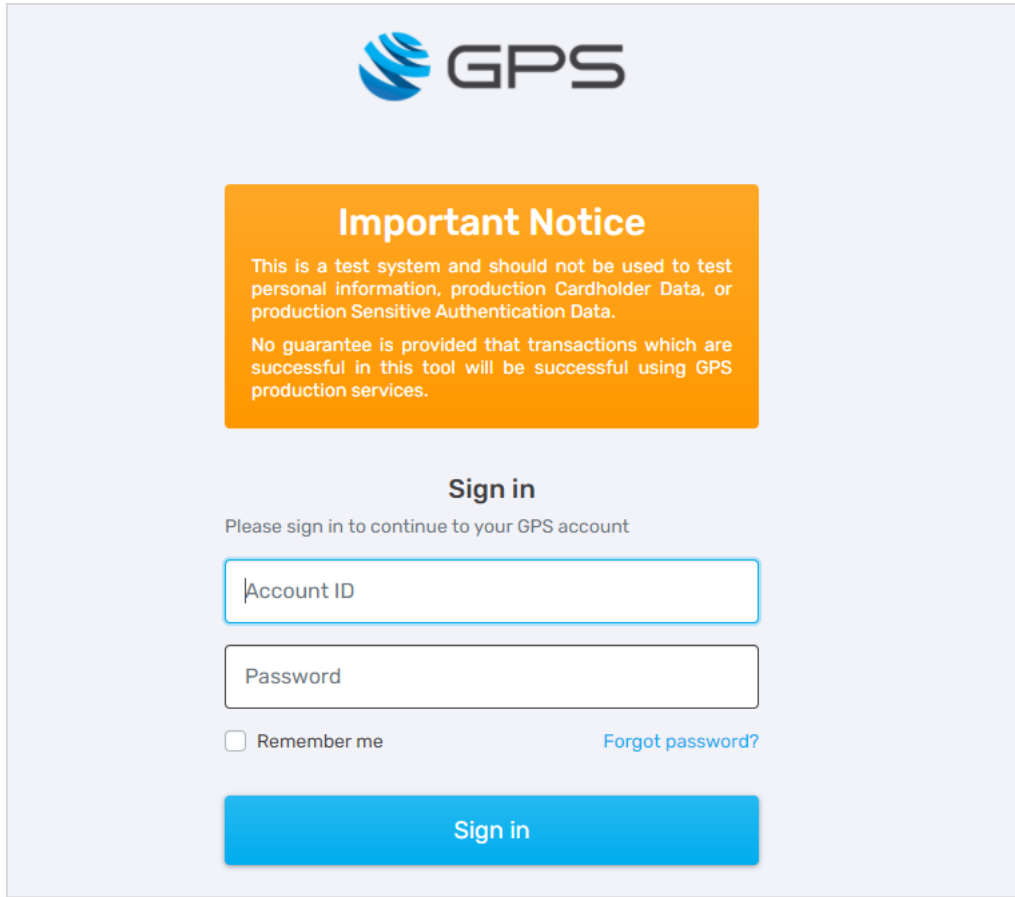
To submit test transactions, you need the following:

- Cards created, activated and loaded with relevant amounts to test (implemented in UAT using the [GPS Web Services API](#))
- 9-digit token, CVV2 and PIN (provided in the [WS_CreateCard](#) web service response)

1.2. Logging in to CTS

You can access CTS at: <https://cts-uat.globalprocessing.net:54340/>

The login screen appears:



GPS

Important Notice

This is a test system and should not be used to test personal information, production Cardholder Data, or production Sensitive Authentication Data.

No guarantee is provided that transactions which are successful in this tool will be successful using GPS production services.

Sign in

Please sign in to continue to your GPS account

☐ Remember me
 [Forgot password?](#)

Sign in

Figure 1: GPS Login Screen

Note: If you try to access the URL and see the message “**This site can’t be reached**”, this means that your IP address is not whitelisted on our system.

1.3. Viewing the CTS Dashboard

Once successfully logged into the CTS platform you can view the tests available:

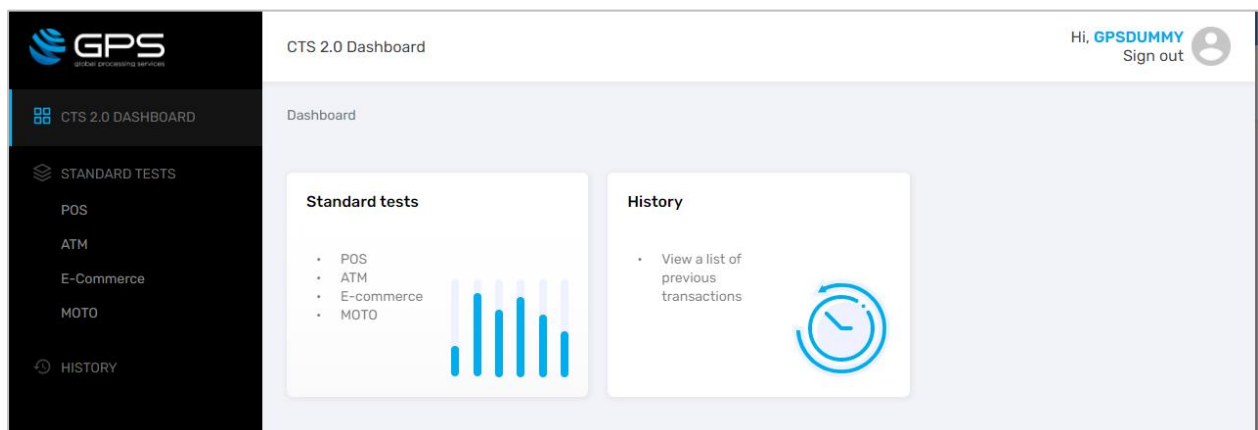


Figure 2: CTS Dashboard

2. Running Standard Tests

You can carry out several types of simulation tests on CTS:

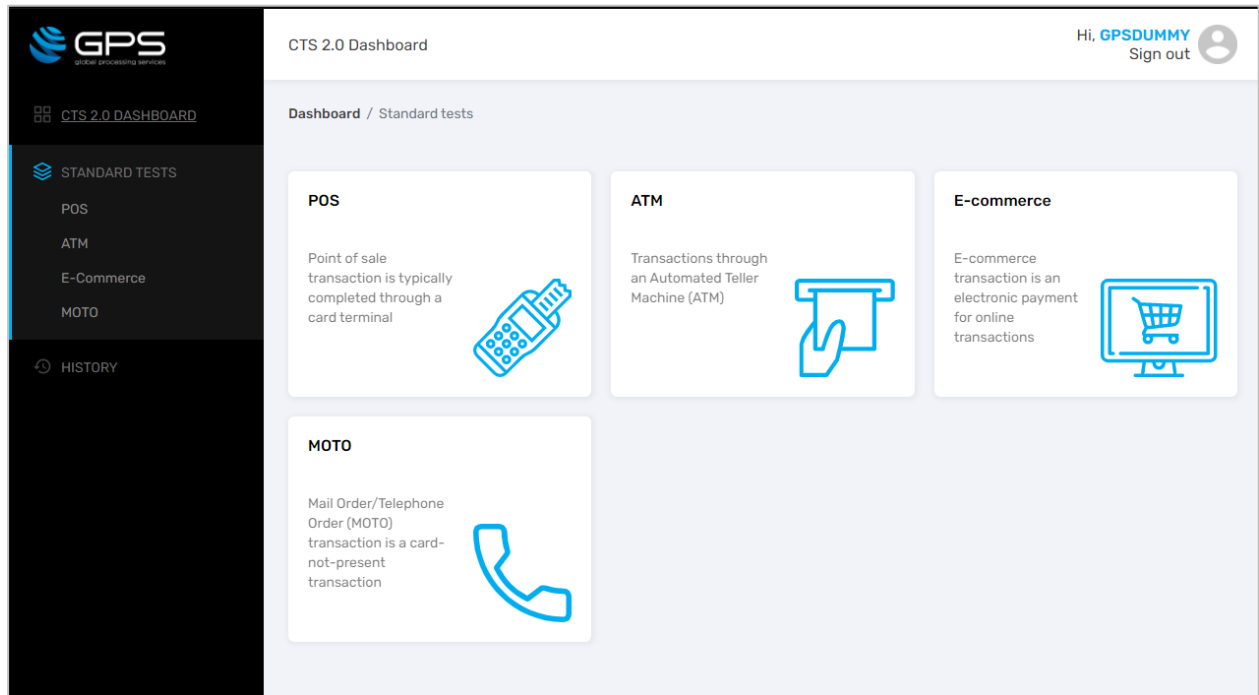


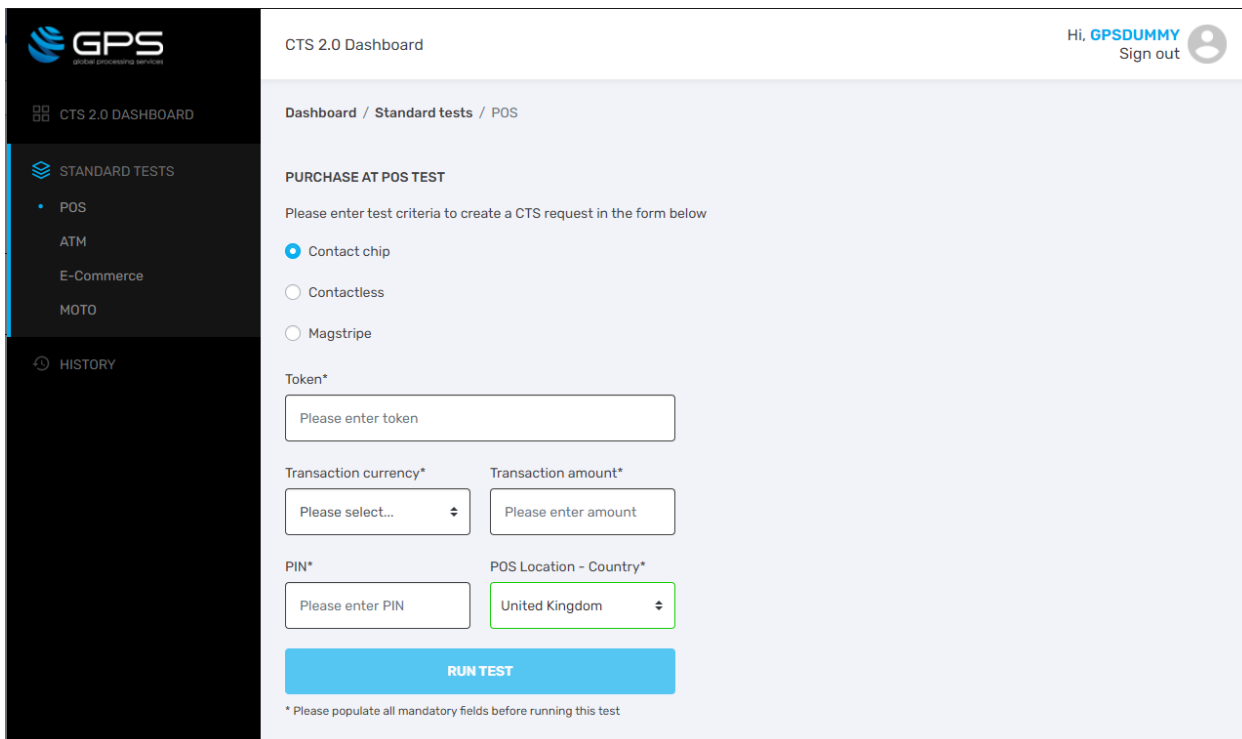
Figure 3: Standard Tests Screen

Click the icon of the simulation test you want to run. The following tests are available:

- **POS** - simulates a Point of sale transaction completed through a card terminal
- **ATM** – simulates a balance enquiry or cash withdrawal transaction made on an Automated Teller Machine (ATM)
- **MOTO** – simulates a Mail Order/Telephone Order (MOTO) transaction
- **E-Commerce** – simulates an online, e-commerce transaction

2.1. POS Transaction Test

You can use this test to simulate a Point of Sale (POS) transaction on a card terminal.



The screenshot shows the GPS CTS 2.0 Dashboard. On the left is a dark sidebar with the GPS logo and navigation links: CTS 2.0 DASHBOARD, STANDARD TESTS (with sub-links for POS, ATM, E-Commerce, and MOTO), and HISTORY. The main content area is titled 'CTS 2.0 Dashboard' and shows the user 'Hi, GPSDUMMY' with a 'Sign out' button. Below the header, the breadcrumb is 'Dashboard / Standard tests / POS'. The section is titled 'PURCHASE AT POS TEST' and instructs the user to 'Please enter test criteria to create a CTS request in the form below'. There are three radio button options: 'Contact chip' (selected), 'Contactless', and 'Magstripe'. Below these are five input fields: 'Token*' (text box), 'Transaction currency*' (dropdown), 'Transaction amount*' (text box), 'PIN*' (text box), and 'POS Location - Country*' (dropdown showing 'United Kingdom'). A blue 'RUN TEST' button is at the bottom. A small note at the bottom left of the form says '* Please populate all mandatory fields before running this test'.

Figure 4: POS Transaction Test Screen

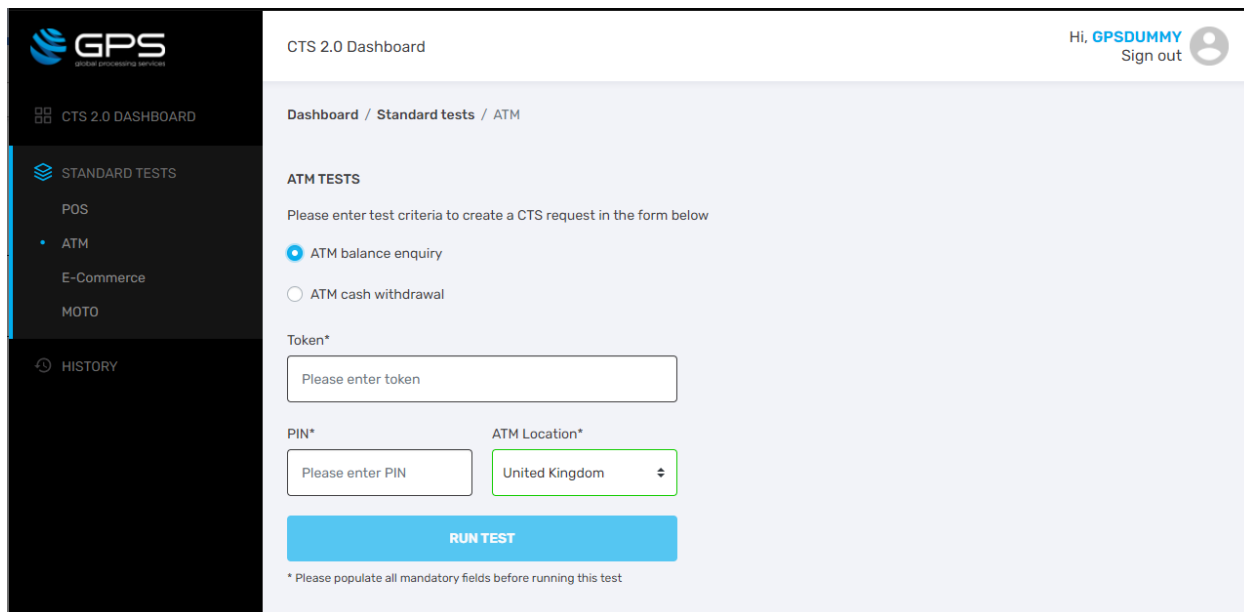
1. Select the card element being tested:
 - Contact chip
 - Contactless
 - Magstripe
2. Enter the 9-digit **Token**, **Transaction currency**, **Transaction amount**, card **PIN** and **POS Location (Country)**.

Note: If the transaction currency is different to the billing currency of the card then GPS will provide the transaction amount according to the exchange rate.

3. Click **Run Test**.

2.2. ATM Transaction Test

You can use this test to simulate an ATM Balance enquiry or cash withdrawal at an ATM location.



The screenshot shows the CTS 2.0 Dashboard. On the left is a dark sidebar with the GPS logo and navigation links: CTS 2.0 DASHBOARD, STANDARD TESTS (with sub-links for POS, ATM, E-Commerce, and MOTO), and HISTORY. The main content area is titled 'CTS 2.0 Dashboard' and shows the user 'Hi, GPSDUMMY' with a 'Sign out' button. The breadcrumb trail is 'Dashboard / Standard tests / ATM'. Under 'ATM TESTS', there's a prompt 'Please enter test criteria to create a CTS request in the form below' and two radio buttons: 'ATM balance enquiry' (selected) and 'ATM cash withdrawal'. Below these are input fields for 'Token*' (placeholder: 'Please enter token'), 'PIN*' (placeholder: 'Please enter PIN'), and 'ATM Location*' (a dropdown menu currently showing 'United Kingdom'). A blue 'RUN TEST' button is at the bottom of the form. A small note at the very bottom states: '* Please populate all mandatory fields before running this test'.

Figure 5: ATM Transaction Test Screen

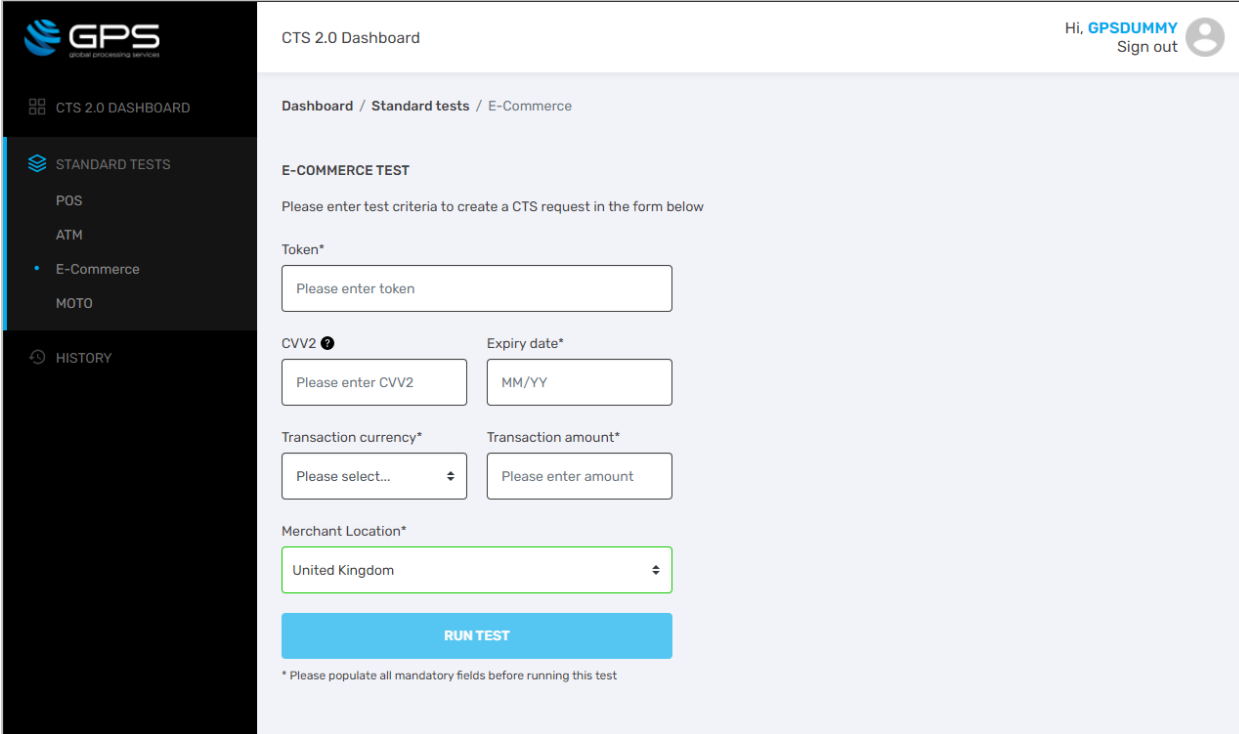
1. Select the ATM element being tested:
 - ATM balance enquiry
 - ATM cash withdrawal
2. Enter the 9-digit **Token**, **Transaction currency**, **Transaction amount**, card **PIN** and **ATM Location** (Country).

Note: If the transaction currency is different to the billing currency of the card then GPS will provide the transaction amount according to the exchange rate.

3. Click **Run Test**.

2.3. E-commerce Transaction Test

You can use this test to simulate an e-commerce transaction made through an online website.



The screenshot shows the 'E-COMMERCE TEST' form in the CTS 2.0 Dashboard. The left sidebar contains navigation links: CTS 2.0 DASHBOARD, STANDARD TESTS (with sub-links for POS, ATM, E-Commerce, and MOTO), and HISTORY. The main content area is titled 'E-COMMERCE TEST' and includes a breadcrumb trail: Dashboard / Standard tests / E-Commerce. Below the title, it says 'Please enter test criteria to create a CTS request in the form below'. The form fields are: Token* (text input), CVV2* (text input with a help icon), Expiry date* (MM/YY text input), Transaction currency* (dropdown menu), Transaction amount* (text input), and Merchant Location* (dropdown menu showing 'United Kingdom'). A blue 'RUN TEST' button is at the bottom. A note at the bottom states: '* Please populate all mandatory fields before running this test'.

Figure 6: E-Commerce Transaction Test Screen

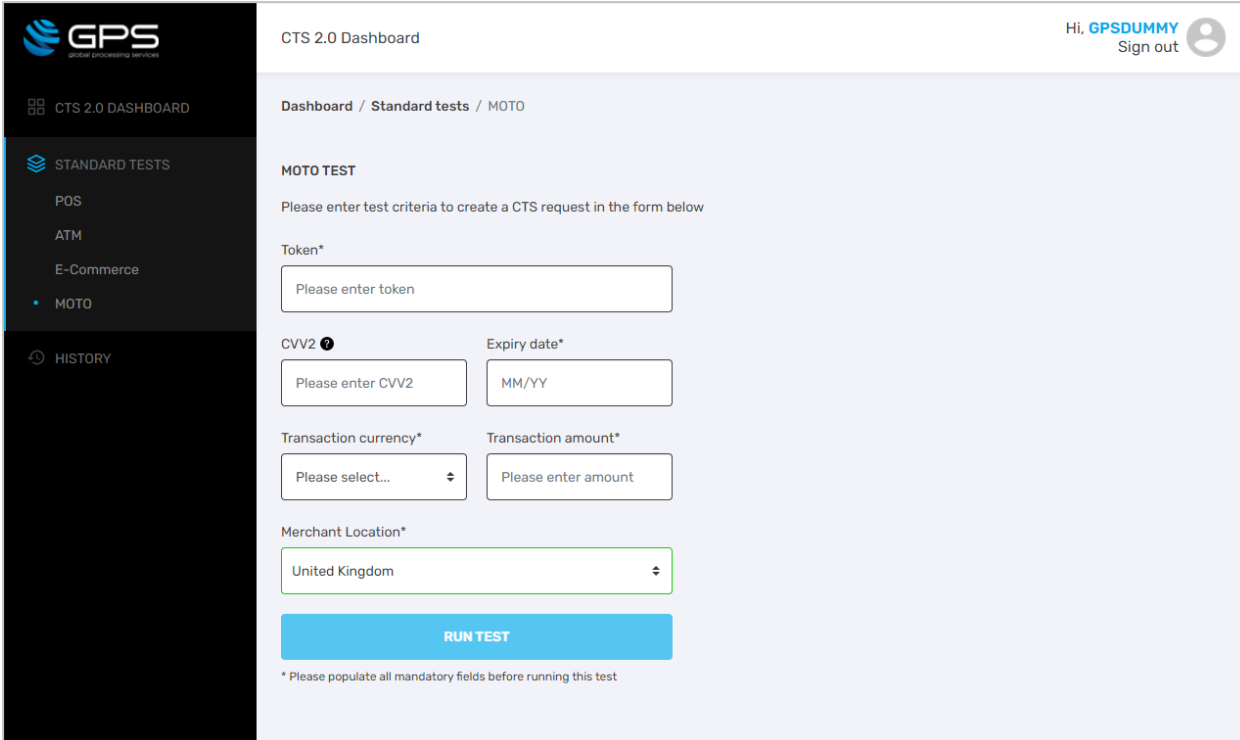
1. Enter the 9-digit **Token**, the cards' **CVV2** (if required) and the card **Expiry date**.
2. Enter the **Transaction currency**, **Transaction amount**, and **Merchant Location** (Country).

Note: If the transaction currency is different to the billing currency of the card then GPS will provide the transaction amount according to the exchange rate.

3. Click **Run Test**.

2.4. MOTO

You can use this test to simulate a Mail and Telephone Order (MOTO) transaction, which is a payment made over the telephone (e.g., via a Call centre) or via a mail order catalogue.



CTS 2.0 Dashboard

Hi, **GPSDUMMY**
Sign out

Dashboard / Standard tests / MOTO

MOTO TEST

Please enter test criteria to create a CTS request in the form below

Token*

Please enter token

CVV2* Expiry date*

Please enter CVV2 MM/YY

Transaction currency* Transaction amount*

Please select... Please enter amount

Merchant Location*

United Kingdom

RUN TEST

* Please populate all mandatory fields before running this test

Figure 7: MOTO Transaction Test Screen

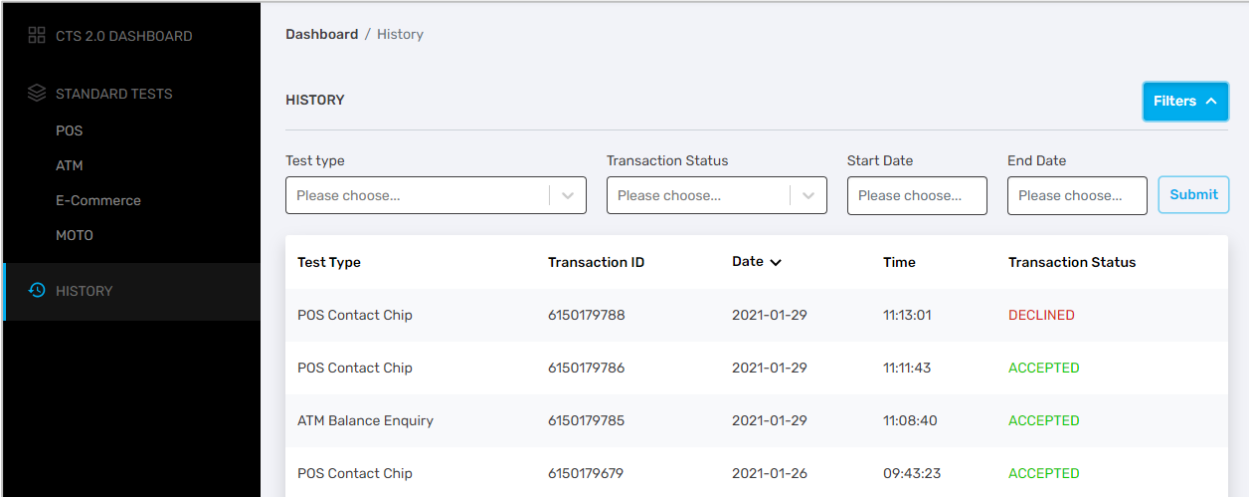
1. Enter the 9-digit **Token**, the cards' **CVV2** (if required) and the card **Expiry date**.
2. Enter the **Transaction currency**, **Transaction amount**, and **Merchant Location** (Country).

Note: If the transaction currency is different to the billing currency of the card then GPS will provide transaction the amount according to the exchange rate.

3. Click **Run Test**.

3. Transaction History

The History screen displays a list of all the transactions made using CTS.



Dashboard / History

HISTORY Filters ^

Test type: Transaction Status: Start Date: End Date: Submit

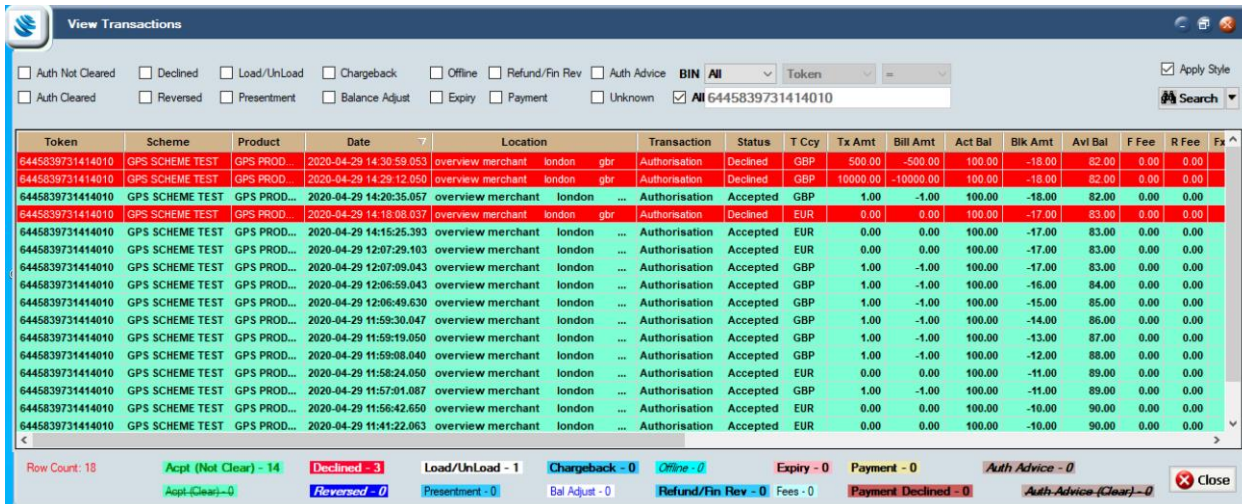
Test Type	Transaction ID	Date ▼	Time	Transaction Status
POS Contact Chip	6150179788	2021-01-29	11:13:01	DECLINED
POS Contact Chip	6150179786	2021-01-29	11:11:43	ACCEPTED
ATM Balance Enquiry	6150179785	2021-01-29	11:08:40	ACCEPTED
POS Contact Chip	6150179679	2021-01-26	09:43:23	ACCEPTED

Figure 8: History Screen

You can use the filter options to help refine the list of transactions.

4. Section 4: Smart Client Validation

You can use Smart Client to see the transactions that have taken place on the card by either searching by the 9-digit token or transaction ID provided back in the CTS responses. For details, see the [Smart Client User Guide](#).



Token	Scheme	Product	Date	Location	Transaction	Status	T Ccy	Tx Amt	Bill Amt	Act Bal	Blk Amt	Avl Bal	F Fee	R Fee	Ex
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 14:30:59.053	overview merchant london gbr	Authorisation	Declined	GBP	500.00	-500.00	100.00	-18.00	82.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 14:29:12.050	overview merchant london gbr	Authorisation	Declined	GBP	10000.00	-10000.00	100.00	-18.00	82.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 14:20:35.057	overview merchant london ...	Authorisation	Accepted	GBP	1.00	-1.00	100.00	-18.00	82.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 14:18:06.037	overview merchant london gbr	Authorisation	Declined	EUR	0.00	0.00	100.00	-17.00	83.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 14:15:25.393	overview merchant london ...	Authorisation	Accepted	EUR	0.00	0.00	100.00	-17.00	83.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 12:07:29.103	overview merchant london ...	Authorisation	Accepted	GBP	1.00	-1.00	100.00	-17.00	83.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 12:06:59.043	overview merchant london ...	Authorisation	Accepted	GBP	1.00	-1.00	100.00	-16.00	84.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 12:06:49.630	overview merchant london ...	Authorisation	Accepted	GBP	1.00	-1.00	100.00	-15.00	85.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 11:59:30.047	overview merchant london ...	Authorisation	Accepted	GBP	1.00	-1.00	100.00	-14.00	86.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 11:59:08.040	overview merchant london ...	Authorisation	Accepted	GBP	1.00	-1.00	100.00	-12.00	88.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 11:58:24.050	overview merchant london ...	Authorisation	Accepted	EUR	0.00	0.00	100.00	-11.00	89.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 11:57:01.087	overview merchant london ...	Authorisation	Accepted	GBP	1.00	-1.00	100.00	-11.00	89.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 11:56:42.650	overview merchant london ...	Authorisation	Accepted	EUR	0.00	0.00	100.00	-10.00	90.00	0.00	0.00	
6445839731414010	GPS SCHEME TEST	GPS PROD...	2020-04-29 11:41:22.063	overview merchant london ...	Authorisation	Accepted	EUR	0.00	0.00	100.00	-10.00	90.00	0.00	0.00	

Row Count: 18 Acpt (Not Clear) - 14 Declined - 3 Load/Unload - 1 Chargeback - 0 Offline - 0 Expiry - 0 Payment - 0 Auth Advice - 0
 Acpt (Clear) - 0 Reversed - 0 Presentment - 0 Bal Adjust - 0 Refund/Fin Rev - 0 Fees - 0 Payment Declined - 0 Auth Advice (Clear) - 0

Figure 9: Smart Client Transactions Screen

5. Section 5: Common Errors

The CTS system provides users with responses each time a transaction is executed. Depending on the information that is sent, the transaction is either *approved* or *declined*. If the transaction is declined the system provides a relevant reason and response code as to why it has declined.

Occasionally if the system does not get a response in the required time frame a timeout may occurred and a 400 or 500 error be presented back to the user. It will show as aborted in the history screen. If this continues please raise a Jira for Ops to investigate further.

For a list of response codes please refer to the [GPS External Host Interface Guide](#).

6. FAQ

Q. What MCC codes are used?

The following Merchant Category Codes (MCC) are used:

- E-commerce: 5734 - Computer Software Stores
- MOTO: 5411 - 0000-6010
- POS: 5734 - Computer Software Stores

Q. What merchant name is displayed on the transactions?

Overview Merchant

Q. Are PSD2 counter limits validated in CTS?

Currently the CTS system does not validate against any PSD2 counters that may be setup in the system as there are a number of different hosts that can manage these limits.

Q. Are contactless limits validated in the CTS tests?

Due to the contactless limits varying by country, currency and merchant unfortunately CTS will not be able to validate this.

Q. What FX Rate does CTS provide?

If the transaction currency is different to the billing currency of the card GPS will provide an FX transaction based on static values pulled from a database. These rates may not represent the market value.

7. Glossary

This section explains terms used in this document.

Contact chip	Card transaction where the POS terminal reads and validates the card's chip.
Contactless	Secure payment method using a debit or credit card or another payment device by using RFID technology and near-field communication. To use the system, a cardholder taps the payment card near a POS terminal equipped with the technology.
CVV2	The Card Verification Value (CVV) is a 3-digit number on VISA and MasterCard branded credit and debit cards. Cardholder's are typically required to enter the CVV during any online or cardholder not present transactions. CVV numbers are also known as CVV2 numbers, which are the same as CVV numbers, except that they have been generated by a 2nd generation process that makes them harder to guess.
EHI	The GPS External Host Interface (EHI) is a system which provides real-time transactional data and control over your transaction authorisations.
GPS Web Services	GPS's SOAP based Application Program Interface (API) which enables integration of your systems with GPS.
Issuer	The card issuer, typically a financial organisation authorised to issue cards. The issuer has a direct relationship with the relevant card scheme.
Magstripe	The magnetic stripe on the back of the card. Can be used for a card point of sale (POS) transaction using a merchant POS terminal.
Merchant	The shop or store providing a product or service that the cardholder is purchasing. Physical stores use a terminal or card reader to request authorisation for transactions. Online sites provide an online shopping basket and use a payment service provider to process their payments.
Merchant Category Code (MCC)	A unique identifier of the merchant, to identify the type of account provided to them by their acquirer.
MOTO	Mail and Telephone Order (MOTO) transaction, which is a payment made over the telephone (e.g., via a Call centre) or via a mail order catalogue.
POS	Point of Sale transaction.
Smart Client	GPS's user interface for managing your account on the GPS system. Smart Client is installed as a desktop application and requires a VPN connection to GPS systems in order to be able to access your account.

8. Document History

Version	Description	Author	Date
1.0	First version	AW	09/02/2020