



# ***PayPass* Vendor Product Approval Process Guide (Entry Point Products)**

September 2009

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# 1 Introduction

This chapter provides an introduction to the *PayPass* Vendor Product Approval Process (Entry Point Products).

## Purpose

The purpose of the *PayPass* Vendor Product Approval process (Entry Point Products) is to have a Vendor's *PayPass* Product running the EMV Entry Point (EP), the *PayPass* Application Kernel(s) and optionally other Payment System Application kernel(s) obtain a MasterCard Letter of Approval (MasterCard LoA). See Appendix B – Glossary for the definition of a *PayPass* Entry Point Product.

A MasterCard LoA is only granted when the *PayPass* Entry Point Product has demonstrated compliance with MasterCard requirements.

This process is part of a wider process that involves also EMVCo and Payment Card Industry Standards Security Council (PCI-SSC) as follows:

1. Obtain approval for your Proximity Coupling Device (PCD) from EMVCo. This EMVCo approval is a prerequisite to this process.
2. Obtain approval for your Entry Point (EP) Module from EMVCo. This EMVCo approval is a prerequisite to this process.
3. Obtain approval for your PIN Entry Device (PED) from PCI-SSC. This PCI-SSC approval is a prerequisite to this process if your *PayPass* EP Product supports a PED.
4. Obtain MasterCard approval for your *PayPass* EP Product. The related approval process is detailed in this guide.
5. Obtain EMV Entry Point Product Approval for your *PayPass* EP Product.

A Vendor that has obtained a MasterCard LoA for their *PayPass* EP Product is still required to contact EMVCo and apply for EMV Entry Point Product Approval. It is only when their *PayPass* EP Terminal Product has obtained this approval from EMVCo that it will be listed on the EMVCo website as an approved product and that it can be sold to acquirers as an off-the-shelf product.

## Audience

This document is intended for use by Vendors, that is, by manufacturers and suppliers of *PayPass* EP Products. This includes terminals and/or Contactless Card Readers supporting the EMV Entry Point and the *PayPass* application kernel(s).

This document is aimed at the Program Manager or Project Manager responsible for the delivery of their products through the *PayPass* Vendor Product Approval Process (Entry Point Products).

## Reader Guidance

Information specific to *PayPass* – Mag Stripe application kernels is indicated with the following symbol in the margin:

*pay***pass**<sup>™</sup>  
Mag Stripe

If you submit a *PayPass* EP Product supporting only *PayPass* – Mag Stripe application kernels for approval, you can skip the information specific to *PayPass* – M/Chip products.

Information specific to *PayPass* – M/Chip application kernels is indicated with the following symbol in the margin:

*pay***pass**<sup>™</sup>  
M/Chip

## Which *PayPass* EP Products can be Approved Using this Process?

Only workable *PayPass* EP Products, integrating the following architecture components may be approved using this process and may receive the corresponding MasterCard LoA:

- The Proximity Coupling Device (PCD).
- The Entry Point (EP) module.
- PIN Entry Device (PED) – only in situation where there is one supported.
- The MasterCard *PayPass* Application Kernel(s).
- Other Application Kernel(s) from other Payment Systems or from EMVCo, if any.

**Note:**

**Your *PayPass* EP Product may also support a magnetic stripe reader. The magnetic stripe interface is out of scope of this process.**

**Note:**

Your *PayPass* EP Product may also support the EMV contact interface. The approval of the EMV contact interface is out of scope of this process.

According to EMVCo rules, it is up to you (the vendor) to determine whether changes to the EMV contact interface resulting from the implementation of *PayPass* on that product are minor or major. You need to obtain full EMV approval for the EMV contact interface before applying for *PayPass* Vendor Product Approval process (EP Products).

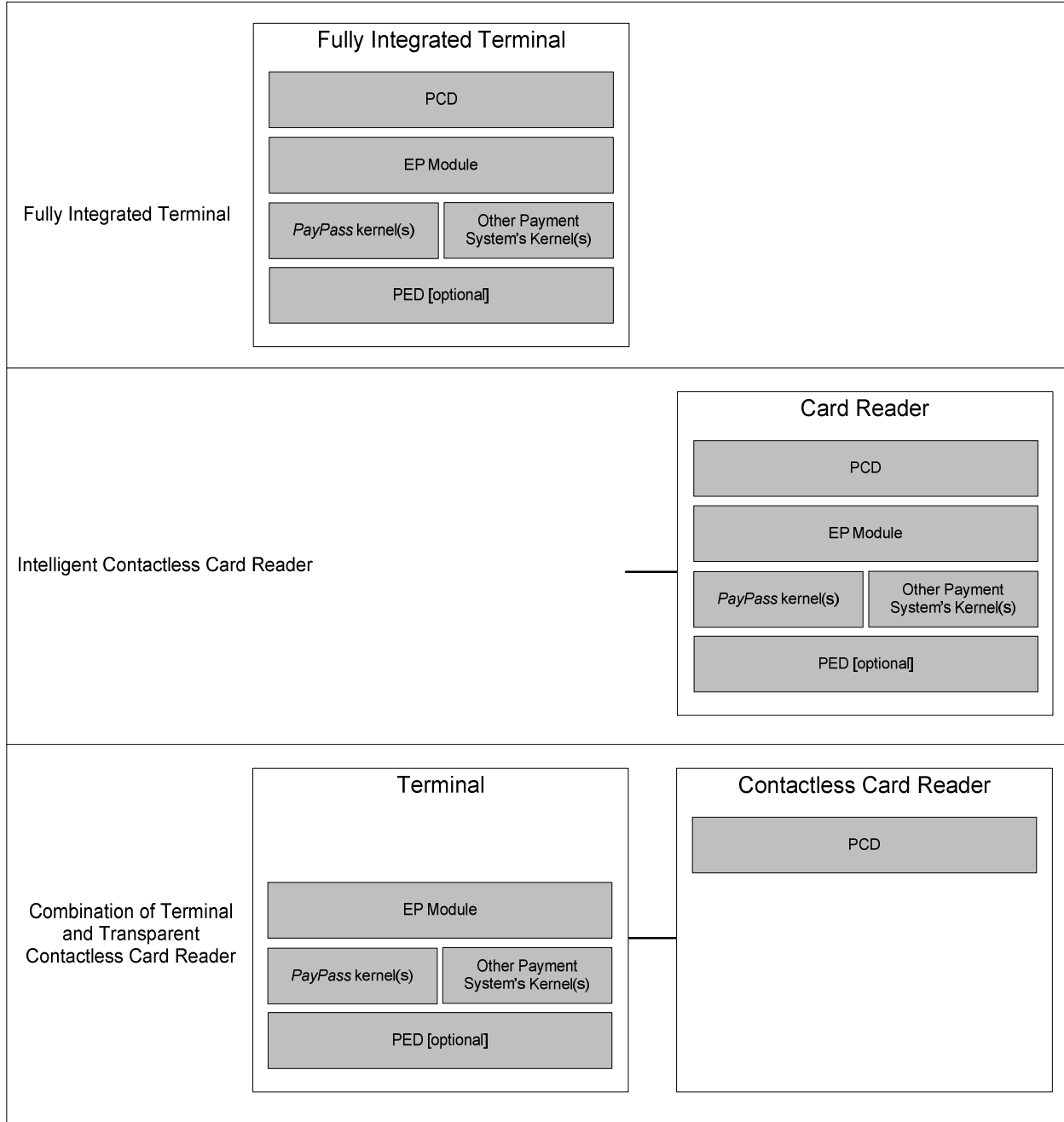
Please refer to the EMVCo website ([www.emvco.com](http://www.emvco.com)) for information on EMVCo approvals.

The *PayPass* EP Product configurations depicted in [Figure 1-1](#) can be considered for the *PayPass* Vendor Product Approval process (EP Products).

# Introduction

## Which PayPass EP Products can be Approved Using this Process?

Figure 1-1—*PayPass* EP Product configurations subject to *PayPass* Vendor Product Approval Process (EP Products)



# PayPass Vendor Product Approval Process Contact Information

## PayPass Licensing

MasterCard International  
2000 Purchase Street  
Purchase, NY 10577-2509  
USA

[license@paypass.com](mailto:license@paypass.com)

## Related Information

The following documents and resources provide information related to the subjects discussed in this process guide.

### From MasterCard

**Note:**

**MasterCard reserves the right to release updates to these documents and any documents referenced. You must therefore check for the latest versions and the impact of any amendments they contain before starting the vendor testing process.**

The following documents are controlled by MasterCard:

**Combination Test**

MasterCard *PayPass* - Combination Test

**MasterCard *PayPass* Implementation Requirements**

MasterCard *PayPass* Terminal Implementation Requirements

Master *PayPass*-M/Chip Acquirer Implementation Requirements

Master *PayPass*-Mag Stripe Acquirer Implementation Requirements

**PP-TCL2**

*PayPass* Test Cases for Level 2 Terminal Testing

***PayPass* Performance**

*PayPass* Performance Measurement

***PayPass* Performance Requirements**

MasterCard *PayPass* – Application Note #2

MasterCard *PayPass* – Application Note #3

**PP TTE**

*PayPass* Testing Environment (Terminal Products)

**TQM Process**

Terminal Quality Management – Process



**TQM Requirements**

Terminal Quality Management – Requirements

**PayPass Mag Stripe Technical Specifications**

*PayPass* – Mag Stripe Technical Specifications

**PayPass – Mag Stripe TTA L2 ETEC Tests**

*PayPass* – Mag Stripe – Terminal Type Approval Level 2 – ETEC Tests Description



**PayPass M/Chip Technical Specifications**

*PayPass* - M/Chip Reader Card Application Interface Specification

*PayPass* – M/Chip Application Note #15

**PayPass M/CHIP TTA L2 ETEC Tests**

*PayPass* – M/Chip – Terminal Type Approval Level 2 – ETEC Tests Description

## From EMVCo

The following documents are owned by EMVCo:

**EMV Contactless Protocol**

EMV Contactless Communication Protocol Specification 2.0

**EMV CL EP Administrative Process**

EMVCo Type Approval Contactless Terminal-Entry Point - Administrative Process

**EMV EP Technical Specifications**

EMV Contactless Specifications for Payment Systems-Entry Point Specification

**EMV PCD Type Approval Administrative Process**

EMVCo Type Approval Contactless Terminal Level 1 Administrative Process

**Note:**

**The documents listed above are not issued by MasterCard. It is your responsibility to check for the latest documentation version and the impact of any amendments they contain before starting the vendor testing process.**

## From PCI-SSC

The following documents are owned by PCI-SSC:

**PED Security Approval Guide**

Testing and Approval Program Guide

**PED Security Requirements**

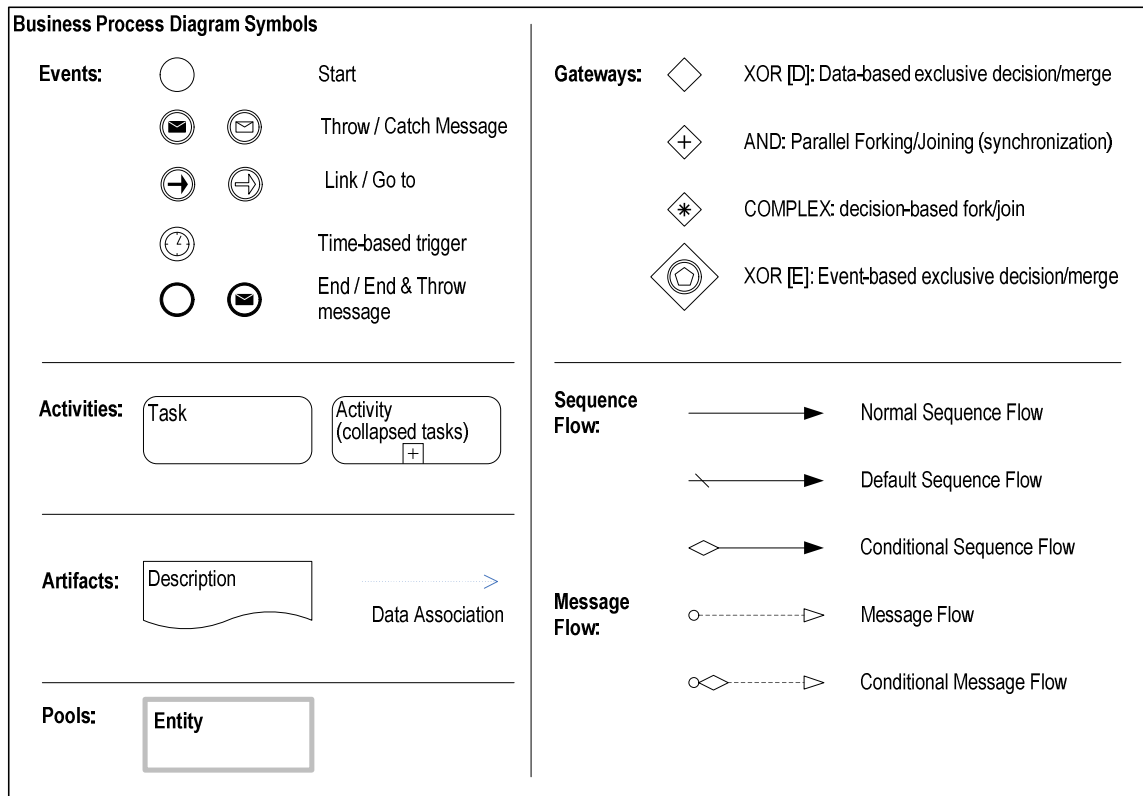
Encrypting PIN Pad Security Requirements

POS PIN Entry Device Security Requirements

# Business Process Diagram Conventions

The business process diagrams in this guide use symbols as shown below:

**Figure 1-2— Business Process Diagram Symbols**



- A pool is used to contain activities within an organization.
- An activity can be atomic (is a task) or compound (contain multiple activities).
- An activity is started (or triggered) by a Start Event, a Time-based Trigger, or a sequence or message flow from another activity.
- Sequence flow lines (with solid lines and arrowheads) connect one activity to another, to a gateway or to an end event.
- Gateways signal a split in a process flow or a merger of multiple process flows.
- Message flow lines (with dashed lines and open arrowheads) connect activities across pools (usually via an artifact).
- A process contains activities interconnected by means of flow lines.



## 2 The PayPass Vendor Product Approval Process (EP Products)

This chapter provides a high-level overview of the *PayPass* Vendor Product Approval Process (EP Products).

### Implementation

The *PayPass* Vendor Product Approval Process (EP Products) is a collaboration process involving the following entities:

- The Vendor (which is you)
- A MasterCard Accredited Test Laboratory
- EMVCo
- PCI-SSC, if your EP *PayPass* Terminal Product contains a PIN Entry Device (PED)
- MasterCard

### Overview

Table below summarizes the prerequisites, the different phases and related subprocesses of the *PayPass* Vendor Product Approval Process (EP Products):

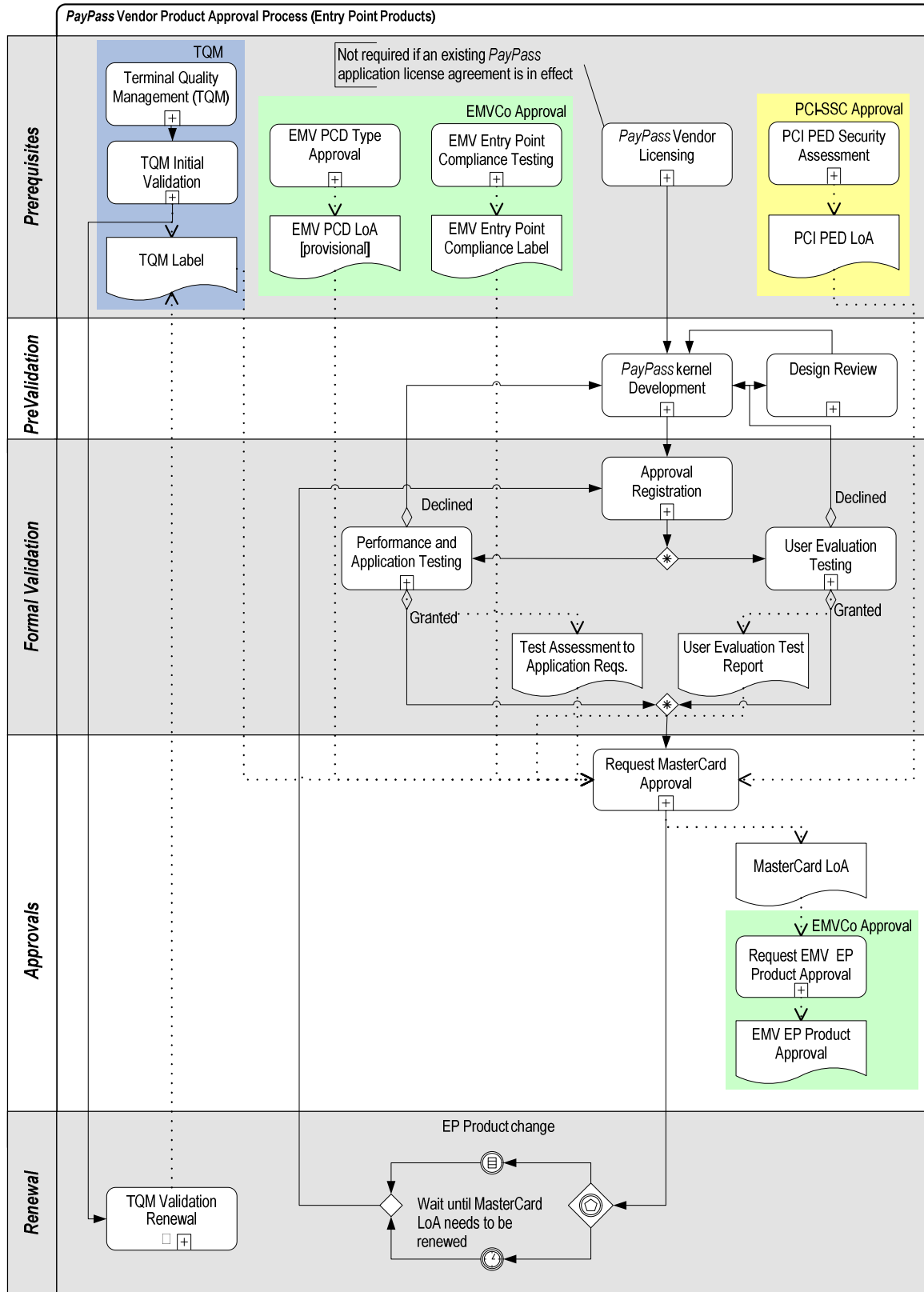
Phase	Subprocess
Prerequisites	<ul style="list-style-type: none"> <li>• TQM (Terminal Quality Management)</li> <li>• EMV PCD Type Approval</li> <li>• EMV Entry Point Compliance Testing</li> <li>• <i>PayPass</i> Vendor Licensing</li> <li>• PCI PED Security Assessment</li> </ul>
Pre-validation	<ul style="list-style-type: none"> <li>• <i>PayPass</i> Kernel Development</li> <li>• Design Review</li> </ul>
Formal Validation	<ul style="list-style-type: none"> <li>• Approval Registration</li> <li>• Performance and Application Testing</li> <li>• User Evaluation Testing</li> </ul>
Approvals	<ul style="list-style-type: none"> <li>• Request MasterCard Approval</li> <li>• Request EMV EP Product Approval</li> </ul>
Renewal	<ul style="list-style-type: none"> <li>• Request MasterCard LoA Renewal</li> </ul>

The following figure shows the process and the sequence flow between its subprocesses:

# The PayPass Vendor Product Approval Process (EP Products)

## Overview

Figure 2-1—PayPass Vendor Product Approval Process (Entry Point Products)



## Prerequisites

The following are the prerequisites of the *PayPass* Vendor Product Approval process (EP Products):

### Terminal Quality Management (TQM)

Terminal Quality Management (TQM) is a product and organizational assessment subprocess focusing on the PCD configuration management and quality management as implemented by you (the Vendor).

The purpose of TQM subprocess is to ensure that your configuration management system complies with [*TQM Requirements*] and that Samples received for EMV PCD Type Approval testing are:

- **Representative:** The Samples are valid examples of the product which has been designed.
- **Repeatable:** The Samples are valid examples of the product which is to be delivered in production volumes in the future.
- **Reliable:** Evolutions of the PCD included in the tested *PayPass* EP Product remain compliant with [*EMV Contactless Protocol*]. Any minor changes, as qualified by you (the Vendor) are correctly handled and [*EMV Contactless Protocol*] compliance continuity can be demonstrated.

You need to implement the TQM subprocess to:

- Manage the configuration of your *PayPass* EP Products embedding the PCD by:
  - Identifying the configuration of the PCD within your *PayPass* EP Product configurations
  - Controlling the configuration changes made during the PCD and *PayPass* EP Product life cycle regarding their impact on [*EMV Contactless Protocol*] compliance
  - Keeping traceability of the changes
  - Verifying and auditing the configuration of the *PayPass* EP Products deployed in the field
- Plan and improve the configuration management

The TQM subprocess results in a TQM Label for a specific PCD embedded in *PayPass* EP Products designed by a specific vendor and manufactured at specific sites.

The TQM subprocess is managed via a relationship between you (the Vendor) and the MasterCard TQM team. TQM requires separate registration and agreement with MasterCard. TQM documentation is then released. The TQM subprocess is detailed in [*TQM Process*].

## The PayPass Vendor Product Approval Process (EP Products)

### Prerequisites

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You will be considered a trusted party by MasterCard, if you have successfully:

- Received EMV PCD LoA for the PCD used
- Implemented TQM for this PCD

As a consequence, all derivations from the initially validated PCD, handled according to the TQM requirements, do not need to be re-submitted to EMV PCD Type Approval for *PayPass* Approval. Please refer to the TQM documentation (see [*TQM Requirements*]) for a complete description of the TQM requirements to be met.

Please note that you remain responsible for determining whether the changes to your PCD are minor or major according to EMVCo rules and for deciding whether to re-submit the modified product for EMV PCD Type Approval.

For further details on PCD related changes, refer to Chapter 10, Change Management.

For more information on the *PayPass* TQM subprocess and to obtain the necessary forms, contact [tqm@mastercard.com](mailto:tqm@mastercard.com) with the following e-mail subject: '*PayPass* information request'.

## EMV PCD Type Approval

EMV PCD Type Approval is designed to test and validate the compliance of the analogue and digital interfaces of your Proximity Coupling Device (PCD) to [*EMV Contactless Protocol*].

- **Analogue Interface Testing** relates to the RF hardware and firmware of the PCD.
- **Digital Interface Testing** relates to the software responsible for the data exchange between *PayPass* cardholder products and the PCD.

Please refer to [*EMV PCD Type Approval Administrative Process*] and to the EMVCo website ([www.emvco.com](http://www.emvco.com)) for information about PCD approval.

When your PCD is approved, a provisional EMV PCD LoA is issued by EMVCo.

#### Note:

**The validity of the EMV PCD LoA is provisional and is managed by EMVCo. Any issue raised during *PayPass* approval which is due to PCD non-compliance will be reported to EMVCo.**

#### Note:

**When PCD changes are introduced as a result of *PayPass* Vendor Product Approval process (EP Products) or Product improvement, it is your responsibility to determine whether these changes on the PCD are minor or major according to EMVCo rules and to decide whether or not to resubmit the modified product to EMVCo PCD Approval.**

**For further details on this, refer to Chapter 10, Change Management.**

## EMV Entry Point Compliance Testing

The purpose of this subprocess is to test and validate the compliance of the EP Module within your *PayPass* EP Product to EMVCo requirements as documented in [*EMV EP Technical Specifications*].

When validated, an EMV EP Compliance Label is issued by EMVCo.

This subprocess is owned by EMVCo. You must contact EMVCo and obtain the EMV EP Compliance Label. For information on how to do this, refer to the [*EMV CL EP Administrative Process*] and to the EMVCo website ([www.emvco.com](http://www.emvco.com)).

**Note:**

**The validity of the EMV EP Compliance Label is managed by EMVCo. Any issue raised during *PayPass* Vendor Product Approval Process which is due to EP non-compliance, will be reported to EMVCo.**

## PayPass Vendor Licensing

The purpose of this subprocess is to obtain a *PayPass* Vendor License from MasterCard. This license, authorizes you to use *PayPass* brands and to receive the relevant MasterCard specifications needed to develop *PayPass* application kernel(s) for your *PayPass* EP Product. This license also allows you to supply *PayPass* Products, (which comply with specifications and brand standards) to:

- Other licensed Vendors
- MasterCard acquirers
- End users i.e. merchants

This is a one-off subprocess for a vendor of *PayPass* Products (whether they support the EMV EP architecture or not).

This subprocess is detailed in [Chapter 3, \*PayPass\* Vendor Licensing](#).

## PCI PED Security Assessment

The PCI PED Security Assessment tests and states the conformity of the PED within your *PayPass* EP Product, to PCI-SSC Security Standards set out in [*PED Security Requirements*].

This assessment addresses physical and logical security, the protection of PIN codes and resident cryptographic keys in your *PayPass* EP Product. Security evaluation of the final PED complements the technical and functional evaluation of the *PayPass* EP Product.

You are required to carry out this subprocess only if your *PayPass* EP Product contains a PED.

## The PayPass Vendor Product Approval Process (EP Products)

### Pre-validation Phase

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This subprocess is managed between you (the Vendor) and a Payment Card Industry Security Standards Council (PCI-SSC) recognized Laboratory. The list of all PCI recognized security evaluation laboratories is published on:  
[https://www.pcisecuritystandards.org/security\\_standards/ped/pcilaboratories.shtml](https://www.pcisecuritystandards.org/security_standards/ped/pcilaboratories.shtml).

Upon successful validation, your PED will be listed on the PCI-SSC website and a LoA issued to you by PCI-SSC.

For information on this subprocess, refer to [*PED Security Approval Guide*] and to the PCI-SSC website ([www.pcisecuritystandards.org/index.shtml](http://www.pcisecuritystandards.org/index.shtml)).

## Pre-validation Phase

The Pre-validation Phase is made up of the following subprocesses:

### **PayPass Kernel Development**

During this subprocess you develop your *PayPass* application kernel. You are responsible for defining how you implement this subprocess.

Test Laboratories are available for vendors to test *PayPass* (EP) Products during development using MasterCard supplied tools and simulators – if available. This testing is considered a development aid or de-bugging exercise. There is no formal requirement from MasterCard for a debugging test session to be performed, although, MasterCard strongly recommends it.

**Note:**

**MasterCard maintains a list of approved *PayPass* cardholder products used for testing. Access to all approved devices for testing is available to vendors in the Test Laboratories during development debugging sessions. Also, ETEC test cards and EVAL card simulator can be ordered by contacting [test\\_tools@fime.com](mailto:test_tools@fime.com)**

This subprocess is detailed in [Chapter 4, \*PayPass\* Kernel Development](#).

### **Design Review**

This subprocess allows you to have the design of your *PayPass* EP Product reviewed by MasterCard. The following is checked:

- The *PayPass* EP Product viability and ease of use.
- The *PayPass* EP Product design against the *PayPass* implementation requirements defined in [*MasterCard PayPass Terminal Implementation Requirements*].
- The ability of the *PayPass* EP Product to support different cardholder product form factors during testing.
- Potential issues early-on in the Development Cycle.

You are required to execute this subprocess in parallel with *PayPass* kernel development.

This subprocess is detailed in [Chapter 5, Design Review](#).

## Formal Validation Phase

The Formal Validation Phase is made up of the following subprocesses:

### Approval Registration

The purpose of this subprocess is to register the details of your *PayPass* EP Product.

In the following cases this subprocess is required before you start formal testing:

- For approval of a new or modified *PayPass* EP Product.
- For the renewal of an expiring MasterCard LoA or Test Assessment to Application Requirements related to your *PayPass* EP Product.

**Note:**

**In the case of a renewal, it is your responsibility to ensure that all supporting documentation has not expired and is still valid and applicable.**

MasterCard will assess the content of your submission to determine which formal test subprocesses are required to be executed on your *PayPass* EP Product samples. The output of Approval Registration is the EP Terminal Evaluation Plan (EP-TEP) containing information enabling you to initiate the formal testing subprocesses. The EP-TEP indicates the following information:

- The previously obtained formal documents that MasterCard agrees to rely on.
- The test subprocesses that the *PayPass* EP Product must be submitted to.
- The formal documents that must be obtained to achieve a MasterCard LoA for the submitted *PayPass* EP Product.
- The information you need to initiate the required formal test subprocesses.

This subprocess is detailed in [Chapter 6, Approval Registration](#).

### Performance and Application Testing

As applicable, the purpose of this subprocess is to test and validate the conformity of the *PayPass* Application Kernel(s) running inside your *PayPass* EP Product to MasterCard requirements defined in:



- [*PayPass Performance Requirements*]
- [*PayPass Mag Stripe Technical Specifications*]
- [*PayPass M/Chip Technical Specifications*]

During this sub-process you submit *PayPass* EP Product samples to an Accredited Test Laboratory for testing against the criteria specified by MasterCard in the EP-TEP.

The sequence in which the tests are performed is detailed in [Appendix A, - Formal Test Subprocesses](#). Once this testing is successfully completed you need to request a Test Assessment to Application Requirements.

This subprocess is detailed in [Chapter 7, Performance and Application Testing](#).

### User Evaluation Testing

The purpose of this subprocess is to assess the user experience and to evaluate the interaction between users and your *PayPass* EP Product.

This subprocess is optional. It may be performed upon MasterCard request or yours. The output of this subprocess is the User Evaluation Test Report.

This subprocess is detailed in [Chapter 8, User Evaluation Testing](#).

## Approvals Phase

The Approvals Phase contains the following two subprocesses:

### Request MasterCard Approval

When all required test subprocesses have been completed, you may apply for a Letter of Approval (MasterCard LoA) from MasterCard. This LoA is an acknowledgement from MasterCard that your *PayPass* EP Product hosting the EP Module and *PayPass* application kernel(s) is compliant with MasterCard requirements.

This subprocess is detailed in [Chapter 9, Request MasterCard Approval](#).

### Request EMV EP Product Approval

When you get the MasterCard LoA for your *PayPass* EP Product, you may request the final EMV EP Product approval from EMVCo.

When your *PayPass* EP Product has obtained EMV EP Product approval, then it can be proposed as an EMVCo-approved off-the-shelf product for acquirers to configure and deploy. It will be also published in the list of approved products on the EMVCo website.

This subprocess is owned by EMVCo. It is your responsibility to contact EMVCo and obtain the EMV EP Product Approval. The detailed description of the procedure regarding this subprocess is outside the scope of this guide. For more information about this subprocess, refer to the [*EMV CL EP Administrative Process*] on the EMVCo website ([www.emvco.com](http://www.emvco.com)).

## Renewal Phase

Your *PayPass* EP Product MasterCard LoA needs to be renewed, if one or more of the following events occur:

- Your *PayPass* EP Product MasterCard LoA or its Test Assessment to Application Requirements is about to expire.
- You have made a change to your *PayPass* EP Product that may affect its compliance to the MasterCard requirements and thus may invalidate its MasterCard LoA. This includes:

- Changes introduced by MasterCard i.e. amended specifications and related test cases
- Changes carried out by the vendor, such as:

Changes to the *PayPass* EP Product

Changes to one or more *PayPass* EP Product components e.g. PCD, PED, EP Module, *PayPass* Application kernel or other Payment System Application kernel supporting the EMV Entry Point.

Implementation on an already approved *PayPass* EP Product of a new Application kernel supporting the EMV Entry Point, whether this kernel supports a MasterCard Application or another Payment System Application.

Using a validated *PayPass* EP Product Component in a *PayPass* EP Product within which it has not been validated

Modifications to vendor identification details

All the above mentioned changes and related change management rules are further described in [Chapter 10, Change Management](#).

For the renewal of your *PayPass* EP Product MasterCard LoA you need to repeat part of the *PayPass* Vendor Product Approval process (EP Products) starting from the [Approval Registration](#) subprocess (described in [Chapter 6](#)). You will be granted a new MasterCard LoA for your *PayPass* EP Product once all the test subprocesses are successfully completed.



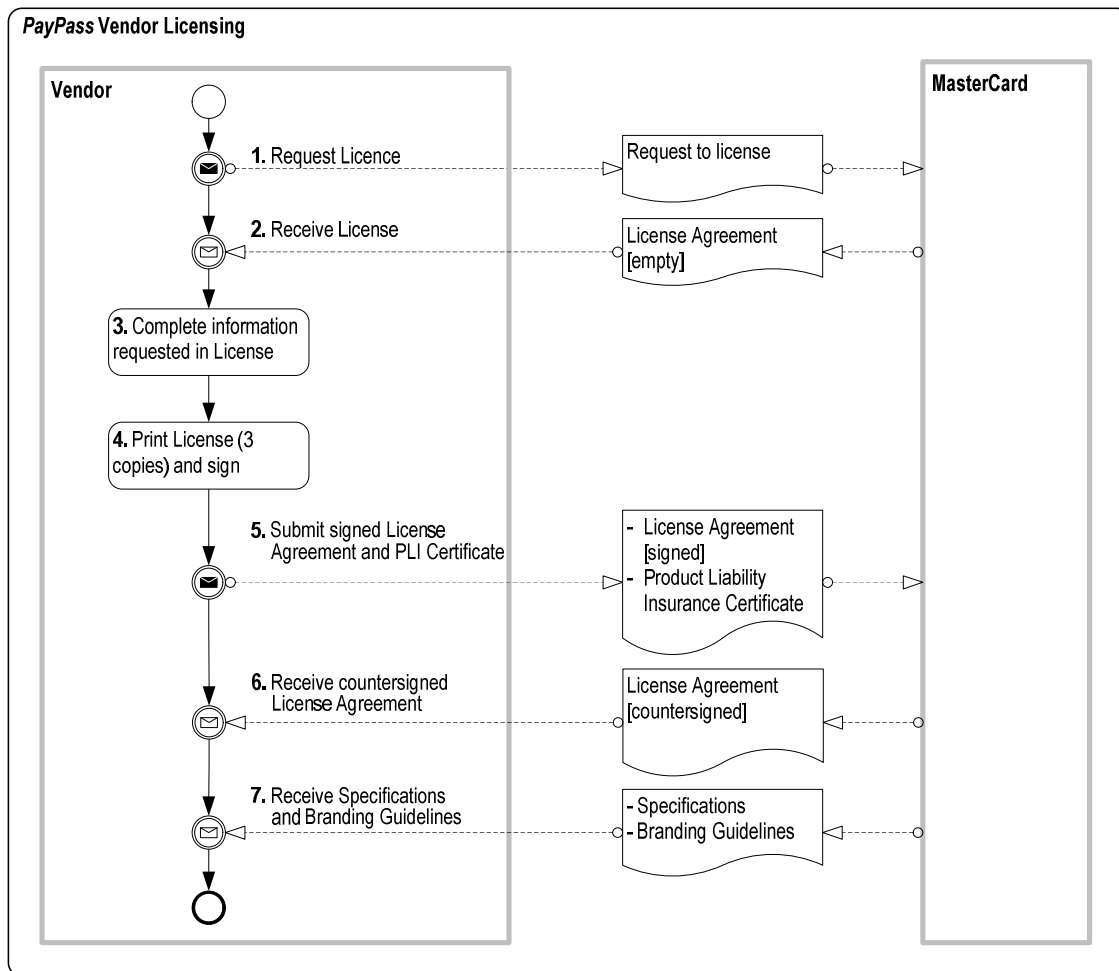
# 3 PayPass Vendor Licensing

This chapter details the subprocess where you register your intent with MasterCard to develop a *PayPass* branded product and execute an appropriate license agreement.

## Overview

The following figure shows the *PayPass* Vendor licensing subprocess:

Figure 3-1—*PayPass* Vendor Licensing Subprocess



## Process

1. Send an e-mail to *PayPass* Licensing ([license@paypass.com](mailto:license@paypass.com)) to request a License Agreement.

2. You will receive, by return e-mail, a copy of the *PayPass* License Agreement and accompanying notes.
3. Complete the information requested in the *PayPass* License Agreement:
  - Effective date (this is the date that the agreement is signed by your company)
  - Company name
  - Company address
  - Name and title of your authorized signatory

4. Print three copies of the completed *PayPass* License Agreement and have all three copies signed by the authorized signatory that you indicated.

**Note:**

**If you have any legal questions regarding the License Agreement, before signing it please address these by e-mail to [license@paypass.com](mailto:license@paypass.com) who will then forward them to the appropriate legal counsel in MasterCard to respond.**

5. Send, by courier, all three copies of the signed *PayPass* License Agreement, and a copy of your Product Liability Insurance Certificate to [PayPass Licensing](#) (as specified in [PayPass Vendor Product Approval Process Contact Information](#) in chapter 1).
6. MasterCard will return to you for your records, by courier, one copy of the *PayPass* License Agreement that has been countersigned by an authorized signatory of MasterCard.
7. You will be provided, by e-mail, the following documents:
  - MasterCard Branding Guidelines
  - MasterCard *PayPass* Specifications

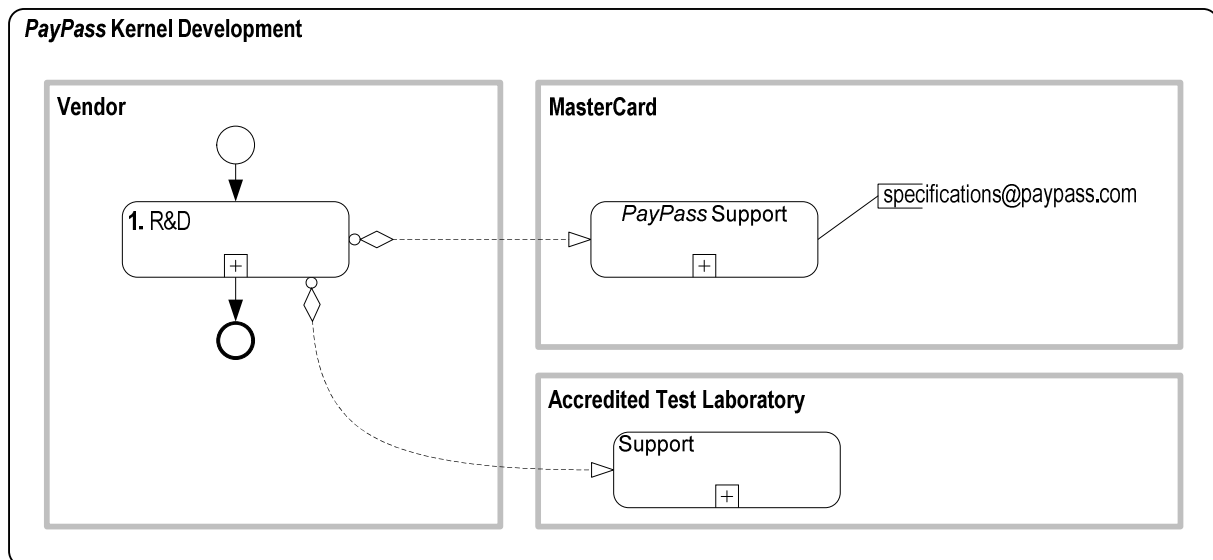
# 4 PayPass Kernel Development

This chapter details the subprocess where you develop a new *PayPass* application kernel(s) that will be hosted in your *PayPass* EP Product and may request assistance from MasterCard or an Accredited Test Laboratory as required.

## Overview

The following figure shows the *PayPass* Kernel Development subprocess:

Figure 4-1—*PayPass* Kernel Development Subprocess



## Process

How you do your product development is Vendor-specific.

During this subprocess, services and support (such as simulators for debugging) are available from MasterCard. Support regarding specifications can be obtained from MasterCard by sending an e-mail to: [specifications@paypass.com](mailto:specifications@paypass.com).

Similarly, you can obtain support and services from a MasterCard Accredited Test Laboratory.

During this development phase, you are required to execute the Design Review subprocess. For more information, refer to [Chapter 5, Design Review](#)

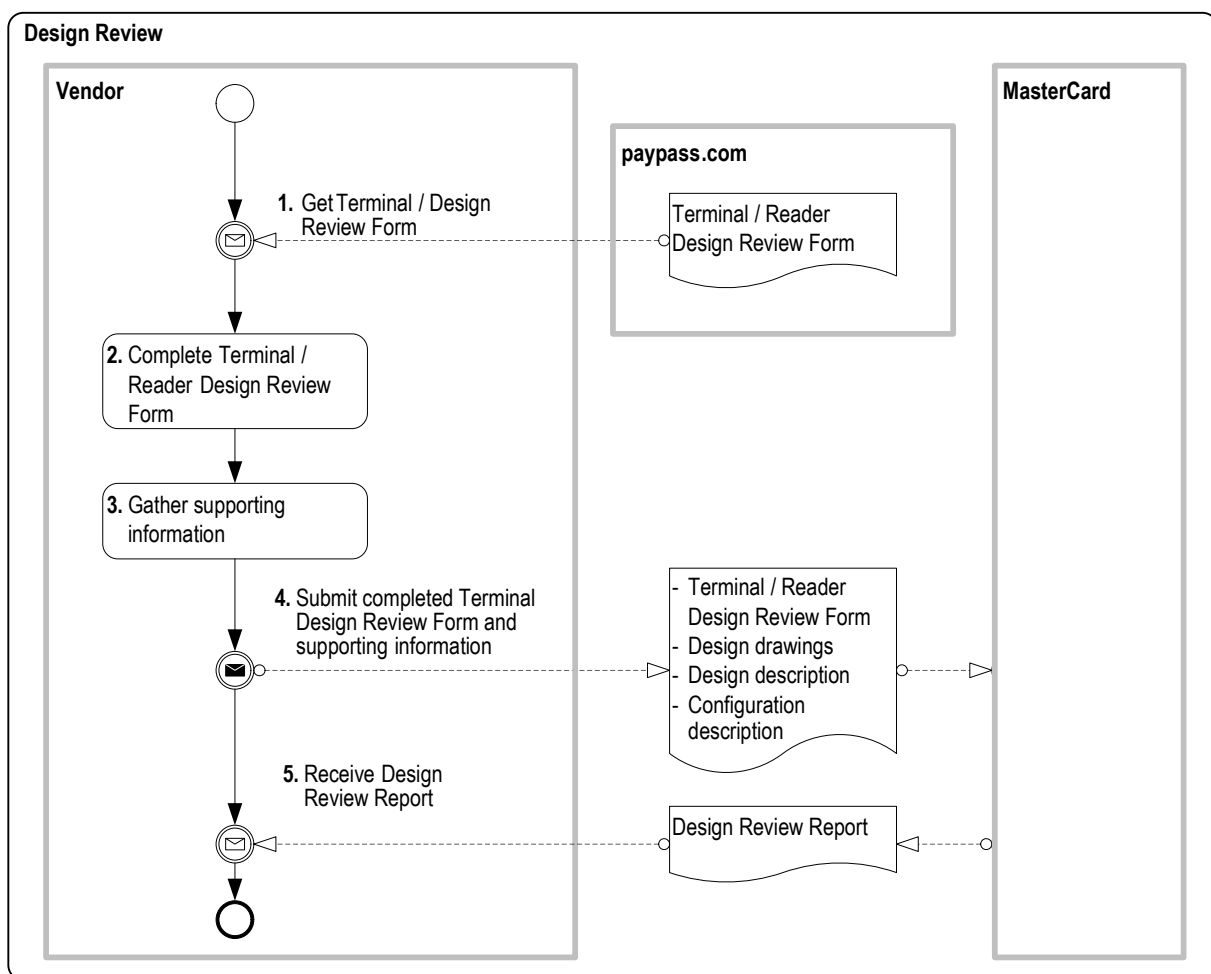
# 5 Design Review

This chapter details the Design Review subprocess.

## Overview

The following figure shows the Design Review subprocess:

Figure 5-1—Design Review Subprocess



## Process

1. Get the Terminal / Reader Design Review Form from [www.paypass.com](http://www.paypass.com) (or request it by sending an e-mail to: [testing\\_terminal@paypass.com](mailto:testing_terminal@paypass.com))
2. Complete the form.

3. Gather the supporting information as specified on the Terminal / Reader Design Review Form, such as:
  - **Design drawings** – drawings of your *PayPass* EP Product showing:
    - External design including dimensions.
    - Expected final mounted position or positions of use, for example: wall, counter top, vertical, horizontal, and so on.
    - Details of the *PayPass* Landing Zone.
    - Layout of *PayPass* read status indicators.
    - Layout, size and position of the *PayPass* antenna.
    - Layout and purpose of any user controls.
    - Positions of any other card reading capability, for example contact chip and magnetic stripe.
  - **Design description** – written descriptions of your *PayPass* EP Product defining:
    - How its design meets [*MasterCard PayPass Terminal Implementation Requirements*].
    - The intended deployment environment(s) if known.
    - The intended operational process: how your *PayPass* EP Product will be used by the cardholder.
  - **Configuration description** - the intended identification of the *PayPass* components included in the *PayPass* EP Product and potentially, proof of their compliance at the time of design review.
4. Send the completed Terminal / Reader Design Review Form and the supporting information by e-mail to [testing\\_terminal@paypass.com](mailto:testing_terminal@paypass.com).
5. MasterCard will return a Design Review Report to you. This report indicates areas of design that may not satisfy *PayPass* implementation requirements and highlights potential issues with regard to usage or formal testing.

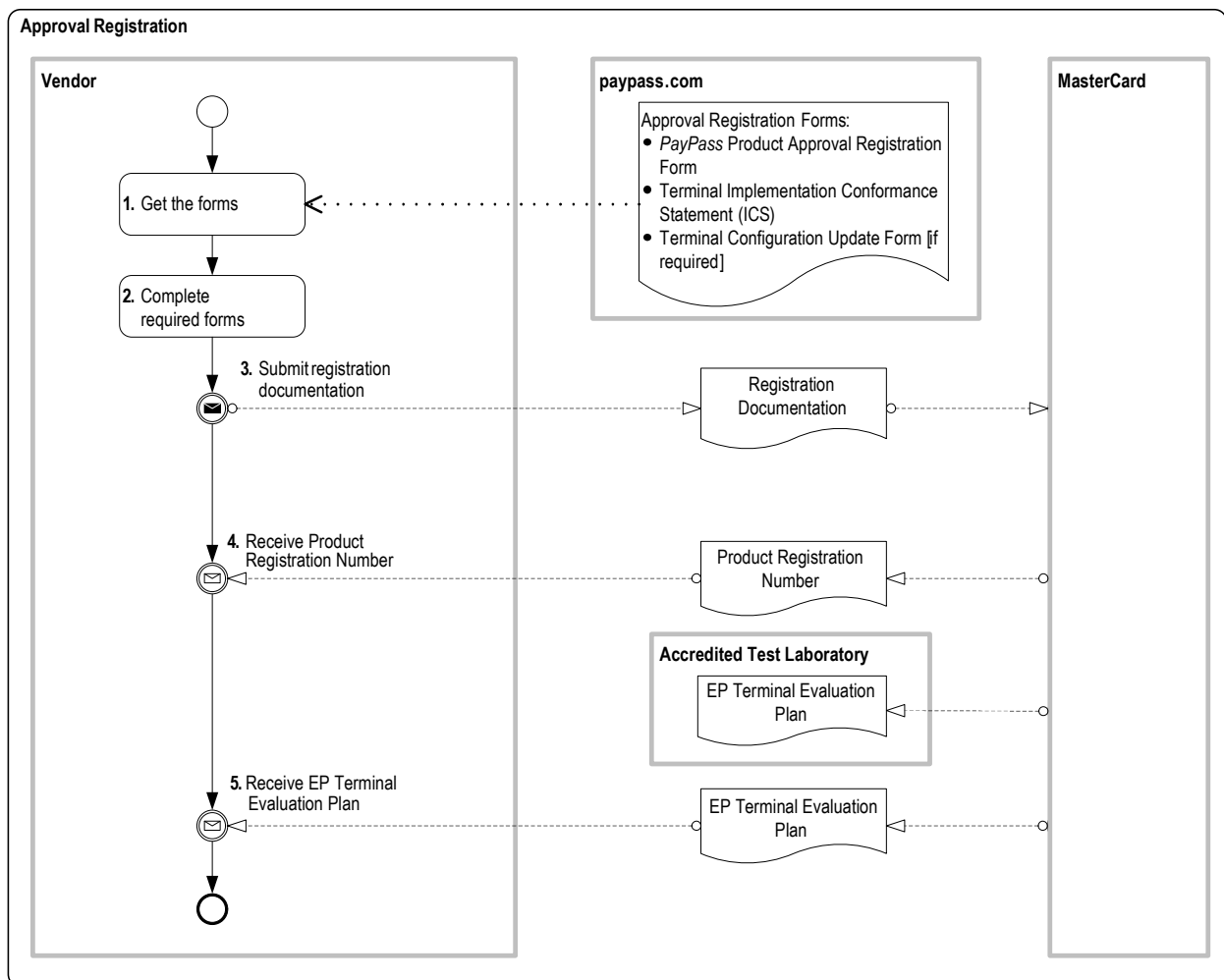
# 6 Approval Registration

This chapter details the Approval Registration subprocess.

## Overview

The following figure shows the Approval Registration subprocess:

Figure 6-1—Approval Registration Subprocess



## Process

1. Get the Approval Registration forms from [www.paypass.com](http://www.paypass.com) (or request them from [testing\\_terminal@paypass.com](mailto:testing_terminal@paypass.com)).
2. Complete the following forms:
  - The *PayPass* Product Approval Registration Form.
  - For the renewal of an expiring MasterCard LoA related to your *PayPass* EP Product, or for the submission of a modified *PayPass* EP Product already approved through *PayPass* Vendor Product Approval Process (EP Products), you need to complete the Terminal Configuration Update Form and submit it along with any related attachments.

**Note:**

**The Terminal Configuration Update Form allows you (the Vendor) to:**

- **Compare the submitted *PayPass* EP Product and its components to previously approved *PayPass* EP Product or validated *PayPass* EP Product components.**
- **Provide evidence that the compliance is not impacted by the changes (if any).**
- The relevant Terminal Implementation Conformance Statement (ICS) applicable to the type of *PayPass* application kernel(s) inside your *PayPass* EP Product, that is either of the following forms:

 *paypass*  
Mag Stripe

- *PayPass*–Mag Stripe Implementation Conformance Statement Form

 *paypass*  
M/Chip

- *PayPass*–M/Chip Implementation Conformance Statement Form

**Note:**

**If your *PayPass* EP Product supports *PayPass*–M/Chip , then it automatically supports *PayPass*–Mag Stripe. In this case you only need to complete the *PayPass*–M/Chip Implementation Conformance Statement Form.**

**Note:**

**In the Terminal ICS Form you are required to provide, a unique identification of each of the following *PayPass* EP Product components:**

- The PCD.
- The EP module.
- The *PayPass* Application kernel(s).
- The application kernel(s) from EMVCo or other Payment Systems if any.
- The PED if any.

**It is important that you provide this information as it allows the components to be distinguished from any other versions of the same components that are part of any other EP PayPass Terminal Product that has already been approved.**

3. Submit these documents together with the Design Review report by e-mail to [testing\\_terminal@paypass.com](mailto:testing_terminal@paypass.com).
4. MasterCard will assign and send you a Product Registration Number. You will need to use this number as a reference during any communication with MasterCard.
5. MasterCard will send a copy of the EP Terminal Evaluation Plan (EP TEP) to you and the Accredited Test Laboratory that you have selected.



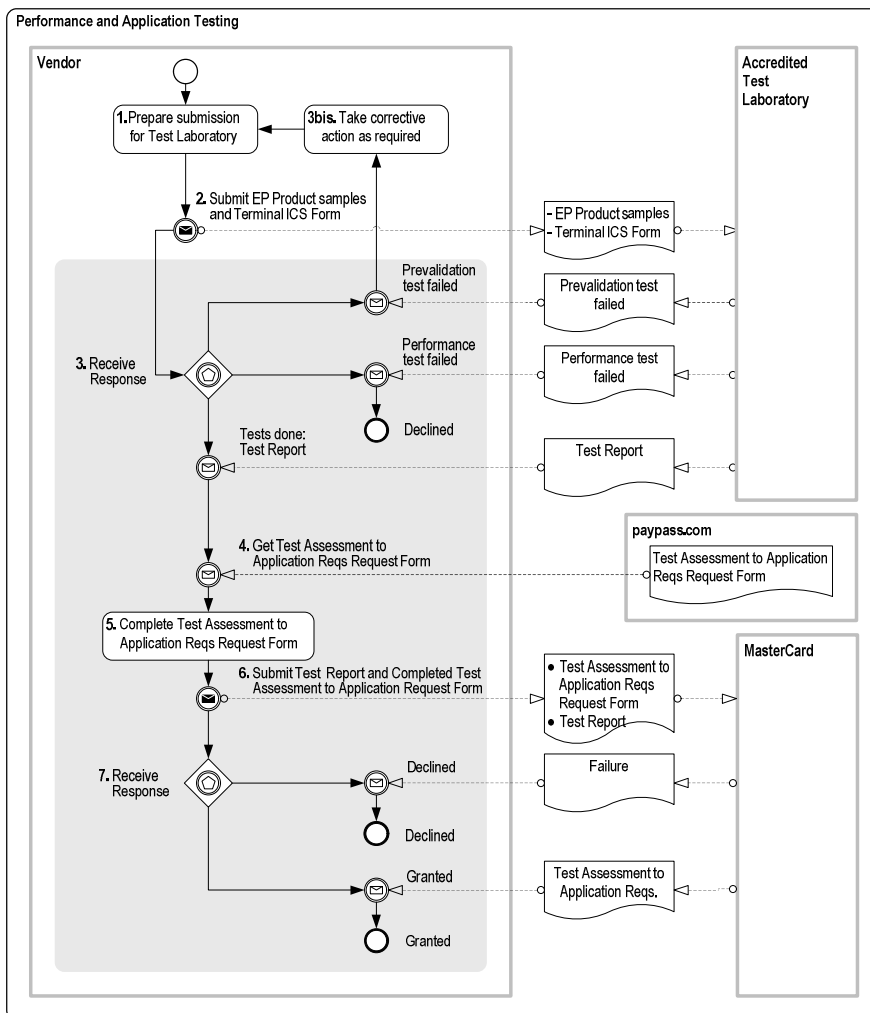
# 7 Performance and Application Testing

This chapter details the Performance and Application Testing subprocess.

## Overview

The following figure shows the Performance and Application Testing subprocess:

Figure 7-1—Performance and Application Testing Subprocess



## Process

1. Prepare the *PayPass* EP Product samples that you will submit to the Accredited Test Laboratory. This entails making and configuring the samples as detailed in the EP-TEP. These samples should be configured as described in section below.

## Performance and Application Testing Process

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2. Submit these *PayPass* EP Product samples, along with the completed Terminal ICS Form, to the Accredited Test Laboratory.
3. The Accredited Test Laboratory will test your *PayPass* EP Product (in the order detailed in [Appendix A, - Formal Test Subprocesses](#)) against the criteria in the EP-TEP (which MasterCard will have previously submitted to them).

The following table details the three possible responses and the subsequent action/steps required from you:

Response...	Action required / step to go to...
The Pre-validation Test failed	No further tests can be performed due to an oversight that can easily be corrected. You need to take the necessary corrective action and go back to <a href="#">step.1</a>
The Performance Test failed	This is a critical error, and no other tests can be performed due to this condition. You need to go back to <a href="#">PayPass Kernel Development</a> to correct major issues that have been identified. Refer to <a href="#">Figure 2-1</a> for the sequence flow.
All tests completed — Test Report Supplied	Go to step # 4

4. Get the Test Assessment to Application Requirements Request form from [www.paypass.com](http://www.paypass.com) (or request them from [testing\\_terminal@paypass.com](mailto:testing_terminal@paypass.com)).
5. Complete the Test Assessment to Application Requirements Request form
6. Submit the completed Test Assessment to Application Requirements Request form and the Test Report to MasterCard by sending them to: [testing\\_terminal@paypass.com](mailto:testing_terminal@paypass.com)
7. MasterCard will assess the information in the Test Assessment to Application Requirements Request form and the Test Report. You will receive one of the following answers:

Response...	Action required / step to go to...
Approval Granted: A Test Assessment to Application Requirements is issued based on the Test Results submitted	This subprocess is now complete; proceed to the next subprocess as per the sequence flow in <a href="#">Figure 2-1</a>
Approval Declined	Go back to <i>PayPass</i> Kernel Development subprocess. Refer to <a href="#">Figure 2-1</a> for the sequence flow.

## Sample Requirements

Unless otherwise stated in the EP-TEP, three *PayPass* EP Product samples must be provided to the Test Laboratory. The submitted *PayPass* EP Product samples must:

- Adhere to the requirements defined in [*PayPass Mag Stripe Technical Specifications*] and [*PayPass M/Chip Technical Specifications*], as appropriate.
- Support a testing environment as indicated in [*PP TTE*].
- Include manuals, accessories, cables and any necessary computer software and documentation (where required).
- Provide identification of the *PayPass* Landing Zone including the final position of the Contactless Identifier.
- Provide a means of verifying the physical sample configuration against the identification information as declared on the Terminal ICS Form.

The samples to be submitted to the Test Laboratory depend on your *PayPass* EP Product configuration as shown in table below. All these configurations are shown in [Figure 1-1](#)

Terminal Configuration in which <i>PayPass</i> EP Product will be used	<i>PayPass</i> EP Product to be submitted to Test Laboratory for Performance and Application testing
Fully Integrated Terminal	Terminal
Intelligent Contactless Card Reader	Card Reader (please see note below)
Terminal and Transparent Contactless Card Reader	Combination of the Card Reader and the Terminal

**Note:**

**If the stand-alone Intelligent Contactless Card Reader uses any other components to operate the card reader, these must be submitted for testing as part of the testing environment supplied by you (the Vendor). However, Performance and Application testing and approval apply only to the card reader.**



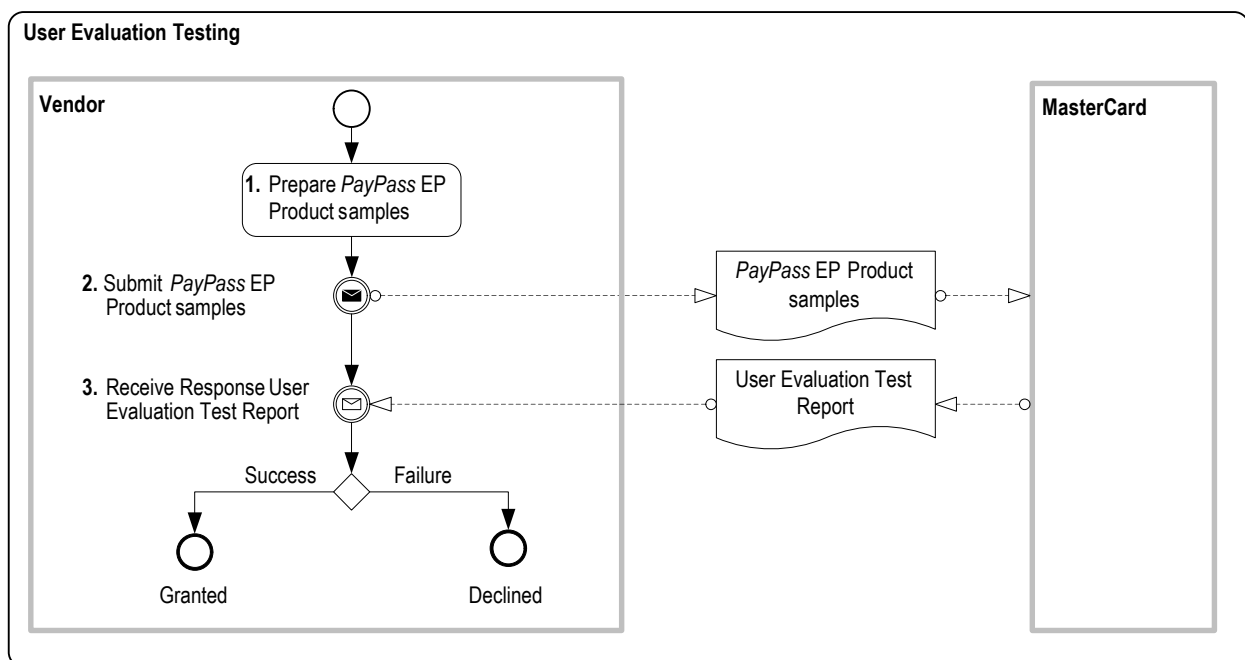
## 8 User Evaluation Testing

This chapter details the User Evaluation Testing subprocess.

### Overview

The following figure shows the User Evaluation Testing subprocess:

Figure 8-1— User Evaluation Testing Subprocess



### Process

1. Prepare the required *PayPass* EP Product Samples that are to be the subject of User Evaluation Testing.
2. Send an e-mail to: [testing\\_terminal@paypass.com](mailto:testing_terminal@paypass.com), requesting the address and to whom you have to send these product samples. Send the product samples to the address.
3. You will receive the User Evaluation Test Report containing the results from MasterCard:

## User Evaluation Testing Process

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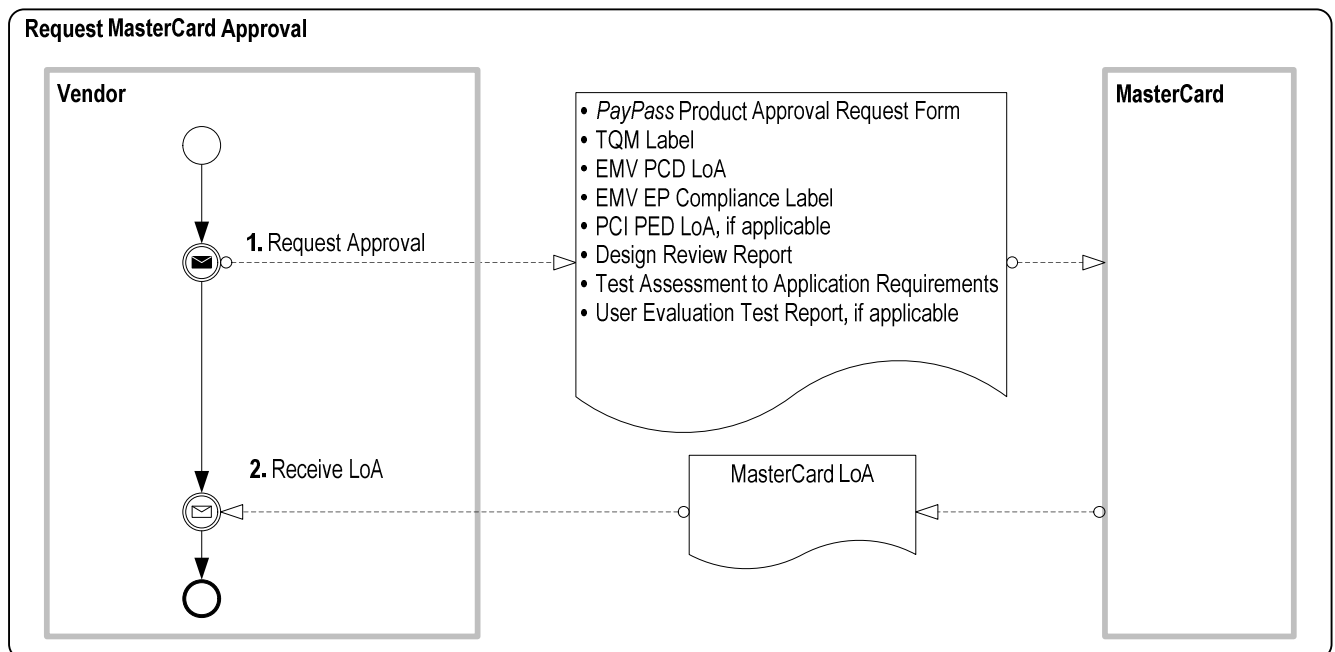
MasterCard decision...	Action to take...
Tests succeeded. Approval granted.	This subprocess is now complete; proceed to the next subprocess as per the sequence flow in <a href="#">Figure 2-1</a>
Tests failed. Approval declined.	Go back to <i>PayPass</i> Kernel Development subprocess. Refer to <a href="#">Figure 2-1</a> for the sequence flow.

## 9 Request MasterCard Approval

This chapter details the subprocess where you request approval from MasterCard for your EP *PayPass* Terminal Product containing *PayPass* application kernel(s).

### Overview

Figure 9-1—Request MasterCard Approval Subprocess



### Process

1. Send an approval request by e-mail to [testing\\_terminal@paypass.com](mailto:testing_terminal@paypass.com) including the following documents that are related to your *PayPass* EP Product:
  - The completed *PayPass* Product Approval Request Form.
  - The TQM label for the PCD used with your *PayPass* EP Product (specific PCD, specific manufacturing site).
  - The EMV PCD LoA from EMVCo for the PCD used with your *PayPass* EP Product.
  - The EMV EP Compliance Label from EMVCo for the EP Module used with your *PayPass* EP Product.

## Request MasterCard Approval Process

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- The PCI PED Letter of Approval from PCI-SSC, in case your *PayPass* EP Product contains a PED.
- The Design Review Report that you received from MasterCard when you completed the Design Review subprocess.
- The Test Assessment to Application Requirements.
- The User Evaluation Test Report if applicable.

**Note:**

**MasterCard reserves the right to request further testing to confirm the Approval decision if necessary.**

2. You will receive the Letter of Approval (MasterCard LoA) from MasterCard for your *PayPass* EP Product in the form of a PDF file digitally signed by MasterCard.

## 10 Change Management

*PayPass* EP Products or *PayPass* EP Product Components configuration and implementation will be subject to change during their lifecycle. Change needs to be managed when:

- MasterCard changes a specification and its related test cases
- A Vendor
  - Changes the *PayPass* EP Product.
  - Changes to one or more *PayPass* EP Product Component (i.e. a PCD, PED, the EP Module, the *PayPass* Application kernel or another Payment System Application kernel).
  - Implements a new (MasterCard or other Payment System) Application kernel supporting the EMV Entry Point on an already approved *PayPass* EP Product.
  - Re-uses already validated *PayPass* EP Product Components in a new *PayPass* EP Product.
  - Changes vendor identification details

### Changes Raised by MasterCard

To reflect changes to *PayPass* specifications, MasterCard reserves the right to change this process or associated specifications and test procedures.

When change occurs, MasterCard will:

- Inform all participants of the change
- Set the date for change activation
- Set the date for deactivation of the existing process, specification or test procedure.

There may be a time period during which the old and new versions run in parallel. However, MasterCard is not under any obligation to permit this.

## Changes Raised by the Vendor

Vendors must declare changes to approved *PayPass* EP Products or *PayPass* EP Product Components.

### Changes to the *PayPass* EP Products

This refers to any change to one of the below mentioned characteristics evaluated during the Vendor Testing Process:

- *PayPass* EP Product design evaluated during the Design Review.
- Proximity Coupling Device evaluated during EMV PCD Type Approval and TQM sub-processes.
- EP Module evaluated during EMV Contact Less Entry Point Compliance.
- *PayPass* Application kernel evaluated during Performance and Application Testing.
- PIN Entry Device evaluated during PED Security Assessment.
- Adding or changing other Payment System Application kernel(s) and evaluated during the appropriate Payment System testing.

All the above changes lead to the creation of a new *PayPass* EP Product that needs to be submitted to MasterCard for approval.

Managing changes in the PCD, EP Module, the *PayPass* Application kernel or other Payment System Application kernel(s) are further detailed in the following sections.

### Changes in the PCD

The identification of PCD changes are governed through the concept of major and minor changes as defined in [*EMVCo CTTAL1 Administrative Process*].

- PCD major changes  
PCD major changes require new PCD EMVCo approval
- PCD minor changes

The processes surrounding the change control, configuration management and identification of PCD minor changes are fully defined in the TQM process.

MasterCard understands that vendors may require some time to be TQM compliant and changes can be made before the PCD is granted a TQM Label. Therefore, two situations are considered depending on the TQM status, where:

1. The original PCD has been granted a TQM Label which is still valid:  
No new EMV CTTAL1 – LoA has to be requested for the changed configuration.

**Note:**

**In this situation, and where the PCD change is the only change done to the *PayPass* EP Product, the modified product does not require approval from MasterCard.**

The changes are covered by the TQM Label and have to be described in the Terminal Identification Description questionnaire as explained in [PPA/GEN/TOI]. The changes must only be declared to MasterCard at the time of TQM Label renewal. However, the up-to-date Terminal Identification Description questionnaire can be requested at any time.

2. The original PCD has not yet been granted a TQM Label:  
A new EMV CTTAL1 – LoA is requested by MasterCard for the changed configuration.

If a *PayPass* Product vendor is using a transparent card reader from another vendor, that other vendor is responsible for the PCD change management and providing the vendor with the required information.

## Changes in the EP module

The identification of EP Module changes are governed through the concept of major and minor changes as defined in [EMVCo Type Approval Contactless Entry Point - Administrative Process].

- EP Module major changes

When the EP Module change is major, the Entry Point Module shall be renamed and submitted for EMVCo Type Approval Testing to receive a new EMVCo Compliance Label. As a consequence, the *PayPass* EP Product running the changed EP Module shall be resubmitted to the *PayPass* Vendor Product Approval Process (EP Products).

- EP Module minor changes

When the EP Module change is minor, EMVCo will not issue a new EMVCo Compliance Label for that version of the EP Module. MasterCard requires the Vendor to document and communicate this change using the *PayPass* Configuration Update Form and repeat the part of the *PayPass* Vendor Approval process (EP Products) starting from the Approval Registration subprocess described in Chapter 6. In that case, the EP-TEP will typically include regression type of tests.

## **Changes in the *PayPass* Application Kernel**

The modified *PayPass* Application Kernel (e.g. change in supported CVM, offline only or on-line terminal capability) is considered as a new *PayPass* Application Kernel for which a new Test Assessment to Application Requirements has to be requested from MasterCard.

The modified application kernel must be submitted to MasterCard's Vendor Testing Process with supporting details (design documents, test logs, etc.) using the Test Assessment to Application Requirements Request Form (available on [www.paypass.com](http://www.paypass.com)).

The tests required may be reduced significantly if the supporting details demonstrate that the changes are minor and appropriate tests have successfully been executed by the vendor. This will be stated in the EP Terminal Evaluation Plan as a result of Configuration Assessment.

## **Re-using a Validated PCD**

This section refers to

- The approval of a *PayPass* EP Product embedding a PCD which received the EMV CCTAL1 - LoA but which was tested in another product than the submitted *PayPass* EP product or
- The approval of a *PayPass* EP Product in which a PCD was tested for EMV CTTA L1, but to which changes have been done.

The *PayPass* EP Product approval policy for reusing an already approved PCD in a new or modified *PayPass* EP Product is governed through the concept of major and minor changes defined in [EMVCo CTTAL1 Administrative Process].

- Major changes

If the change to the *PayPass* EP Product is identified as being major, then EMVCo approval of the PCD in that modified *PayPass* EP Product environment is required.

- • Minor changes

There are two situations depending on the TQM status for that PCD:

- a. The PCD has been granted a TQM Label which is still valid:

If so, no additional *PayPass* EP Product approval will be requested.

The changes are covered by the TQM Label and have to be described in the Terminal Identification Description questionnaire as explained in [PPA/GEN/T01]. The changes must only be declared to MasterCard at the time of TQM Label renewal. However, the up-to-date Terminal Identification Description questionnaire can be requested at any time.

- b. The PCD has not yet been granted a TQM Label:

A new EMVCo approval of the PCD in that modified *PayPass* product environment is required.

## **Re-using a Validated *PayPass* Application Kernel**

In this case, the vendor needs to request a new Test Assessment to Application Requirements to MasterCard.

The new implementation can be submitted to MasterCard's Vendor Testing Process with supporting details (design documents, software architecture, test logs, etc.) using the Test Assessment to Application Requirements Request Form (available on [www.paypass.com](http://www.paypass.com)).

## **Re-using or adding a Validated Application Kernel from another Payment System**

Any change to or addition of another Payment System Application Kernel to an approved *PayPass* EP Product must be communicated to MasterCard using the *PayPass* Configuration Update Form.

Vendors need to repeat the part of the *PayPass* Vendor Approval process (EP Products) starting from the Approval Registration subprocess described in Chapter 6. In that case, the EP-TEP will typically include regression type of tests.

## **Changes of Identification Details of the Vendor**

The vendor must declare changes to items stated on the *PayPass* Letter of Approval such as:

- Company name and ownership,
- Address,
- *PayPass* EP Product/*PayPass* EP Product component identification details.

Any changes to the name or address of the company acting as a producer of an approved PCD type for the terminal vendor shall be communicated to MasterCard.



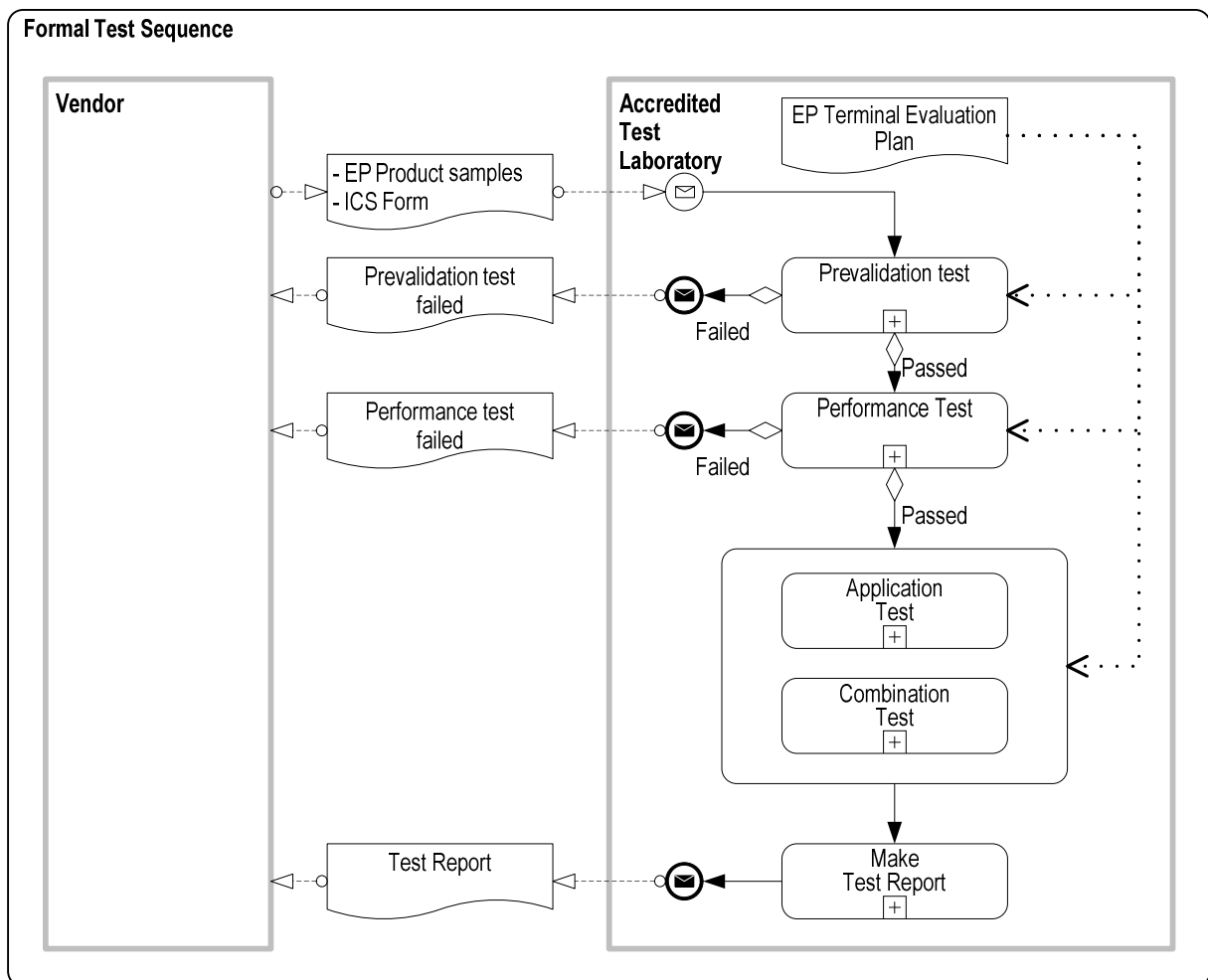
# Appendix A - Formal Test Subprocesses

**Note:**

The information in this Appendix was valid at the time of publication. MasterCard reserves the right to amend this information and release new versions or updates without prior notification.

It is your responsibility to check for new versions or information updates at [www.paypass.com](http://www.paypass.com) before commencing the Vendor testing process and submitting products for formal testing.

The formal test subprocesses performed by the Accredited Test Laboratory are done in the sequence as shown in the following figure.



The first test performed is the Pre-validation Test. If this test fails you will be asked to provide new *PayPass* EP Product samples that correct the error(s) discovered during this test.

The second test is the Performance Test. If this test fails, it is considered a critical failure and none of the remaining tests are performed (because successful completion of the performance test is a mandatory prerequisite for the remaining tests).

The remaining tests specified in the EP-TEP are all performed in any order, at the sole discretion of the Accredited Test Laboratory.

### Pre-validation Test Subprocess

The purpose of this test subprocess is to ensure that there is a minimal acceptable level of interoperability between your *PayPass* EP Product and a selection of approved *PayPass* cardholder devices before more detailed testing is done.

The result of this test subprocess will be reported in the Test Report that you will receive from the Accredited Test Laboratory.

### Performance Test Subprocess

The purpose of this test subprocess is to check the conformity of the *PayPass* EP Product to the requirements detailed in [*PayPass Performance Requirements*] using the method defined in [*PayPass Performance*].

The result of this test subprocess will be reported in the Test Report that you will receive from the Accredited Test Laboratory.

**Note:**

**To obtain approval, MasterCard mandates that the Performance Testing is successful. As a consequence, MasterCard strongly recommends that you address performance testing as soon as possible in the *PayPass* Kernel development cycle.**

## Application Test Subprocess

The purpose of this test subprocess is to check the conformity of the *PayPass* application kernels(s) implemented in your *PayPass* EP Product to the requirements defined in:

 *paypass*<sup>™</sup>  
Mag Stripe

- [*PayPass Mag Stripe Technical Specifications*]

 *paypass*<sup>™</sup>  
M/Chip

- [*PayPass M/Chip Technical Specifications*]

During this test subprocess, the laboratory utilizes the following test tools:

- EVAL card simulator: All tests using this tool are described in [*PP-TCL2*].
- ETEC cards: The tests performed with these cards verify the card/terminal interoperability and therefore increase the confidence that the *PayPass* EP Product will function according to requirements during and after network integration.

 *paypass*<sup>™</sup>  
Mag Stripe

- ETEC subset 6 is used for *PayPass* – Mag Stripe and *PayPass* –M/Chip, see [*PayPass – Mag Stripe TTA L2 ETEC Tests*]

 *paypass*<sup>™</sup>  
M/Chip

- ETEC subset 7, ETEC subset 8 and Maestro *PayPass* ETEC subset are used for *PayPass* – M/Chip testing, see [*PayPass M/CHIP TTA L2 ETEC Tests*]

The results of this test subprocess will be reported in the Test Report that you will receive from the Accredited Test Laboratory.

Once the Test report is successfully validated by MasterCard, you will receive the corresponding Test Assessment to Application Requirements.

## Combination Test Subprocess

The purpose of this test subprocess is to check the behavior of the *PayPass* EP Product at a series of predefined positions in relation to a set of *PayPass* cardholder devices as detailed in [*Combination Test*].

The result of this test subprocess will be reported in the Test Report that you will receive from the Accredited Test Laboratory. MasterCard will use this result as an additional input to issue the Test Assessment to Application Requirements to you.



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## Appendix B - Glossary

This chapter defines various terms, concepts, acronyms and abbreviations used in this document. These definitions appear for convenience only and are not to be used or otherwise relied on for any legal or technical purpose.

MasterCard specifically reserves the right to amend any definition appearing herein and to interpret and apply all such definitions in its sole discretion as MasterCard deems fit.

The following terms are specific for this document. Other terms are explained in the *MasterCard Dictionary*.

### **Contactless Card Reader**

A peripheral integrating the PCD, to be connected to a *PayPass* EP Product allowing the financial transaction to be performed. A Contactless Card Reader may also include other components such as PED, EP module, *PayPass* Application kernel, contact interface module and printer.

### **Contactless Identifier**

An industry agreed identifier that must be placed in the centre of the *PayPass* Landing Zone.

### **EMV CL Entry Point Compliance Label**

Acknowledgement by EMVCo that the EP Module within the *PayPass* EP Product demonstrated compliance to [*EMV EP Technical Specifications*] during EMV Entry Point Compliance Testing.

### **EMV Entry Point Compliance Testing**

A set of tests performed by an EMVCo Accredited Test Laboratory to prove that an EP module within a *PayPass* EP Product is compliant with [*EMV EP Technical Specifications*].

### **EMV PCD Letter of Approval (EMV PCD LoA)**

Acknowledgement by EMVCo that the PCD module within the *PayPass* EP Product demonstrated compliance with [*EMV Contactless Protocol*].

### **EMV PCD Type Approval**

A set of tests performed by an EMVCo Accredited Test Laboratory to prove that a PCD within a *PayPass* EP Product is compliant with [*EMV Contactless Protocol*].

### **Entry Point (EP) Module**

A software component within a *PayPass* EP Terminal Product that is active before any application kernel is activated. An EP module allows activation of the Contactless interface and the selection of the application kernel during a payment transaction.

### **Fully Integrated Terminal**

A *PayPass* EP Product integrating a PCD, the EP module and the *PayPass* Application. It may optionally contain a PED.

**Intelligent Contactless Card Reader**

A Contactless Card Reader which contains at least the PCD, the EP Module and *PayPass* Application. It may optionally contain a PED.

**MasterCard Letter of Approval (MasterCard LoA)**

Acknowledgment by MasterCard that an EP *PayPass* Terminal Product demonstrated compliance to MasterCard requirements.

***PayPass* Application** – The software module residing on a *PayPass* EP Product and which implements the [*PayPass Mag Stripe*] or [*PayPass M/CHIP*] requirements.

***PayPass* EP Product**

A product or combination of products incorporating at least the EP Module and the *PayPass* Application(s). Only *PayPass* products integrating a PCD, the EP Module, a *PayPass* Application and optionally a PED will be approved by MasterCard.

A *PayPass* EP Product may contain other application kernels from other Payment Systems.

***PayPass* EP Terminal**

A Fully Integrated Terminal or the combination of a Contactless Card Reader and a terminal covering the EP Module and the *PayPass* Application.

***PayPass* Vendor Product Approval Process (Entry Point Products)**

Execution of a defined set of tests on submitted samples, claimed to be representative for a *PayPass* EP Product, against requirements identified in [*PayPass Mag Stripe Technical Specifications*] or [*PayPass M/Chip Technical Specifications*]. The process defined by this document.

***PayPass* Integrated Circuit Card (PICC)**

A *PayPass* cardholder product in either card or device (non-card) format into which integrated circuit(s) and coupling means have been placed and in which communication to such integrated circuit(s) is done by inductive coupling in proximity of a PCD.

***PayPass* Landing Zone**

The identified area where a cardholder must ‘tap’ their *PayPass* card or device to achieve a successful read.

**PCI PED Letter of Approval (PCI PED LoA)**

Acknowledgment by the PCI Security Standards Council (PCI-SSC) that a PIN Entry Device (PED) demonstrated compliance with Payment Card Industry (PCI) security standards as set out in [*PED Security Requirements*] at the time of testing.

**PCI PED Security Assessment**

A set of tests performed by a PCI-SSC Accredited Test Laboratory to prove that a PIN Entry Device (PED) within a *PayPass* EP Product is compliant with [*PED Security Requirements*].

**Proximity Coupling Device (PCD)**

A *PayPass* EP Product component constituted of a combination of hardware and software and which implements [*EMV Contactless Protocol*]. The PCD uses inductive coupling to provide power to the PICC and also controls the data exchange with the PICC, up to and including the transport layer.

**TQM (Terminal Quality Management)**

TQM is a MasterCard quality system intended for Terminal Vendors and subcontractors to Terminal Vendors. It is derived from ISO9001, EMVCo and MasterCard specific requirements and is based on a self-assessment questionnaire which is validated by onsite audits performed by external auditors who are quality and smart card professionals accredited by MasterCard.

**TQM Label**

Acknowledgement by MasterCard that the Vendor Quality Management System related to the submitted product has demonstrated sufficient compliance with MasterCard TQM Requirements.

**Transparent Contactless Card Reader**

A Contactless Card Reader that contains only the PCD.



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## Appendix C - Acronyms

The following acronyms are used in this guide:

Acronym	Description
EMV	Europay MasterCard Visa
EP	Entry Point
TEP	Terminal Evaluation Plan
ICS	Implementation Conformance Statement
LoA	Letter of Approval
PED	PIN Entry Device
PCD	Proximity Coupling Device
PCI	Payment Card Industry
PCI-SSC	PCI Security Standards Council
PICC	<i>PayPass</i> Integrated Circuit Card
TQM	Terminal Quality Management