*EMV® Terminal Type Approval Bulletin No. 168*
*Third Edition April 2017*

# *PCD Level 1 Test Cases*
# *Contactless Terminal Shape and Operating Volume limitation*

***Related Documents***

- *PCD L1 Analogue Test Bench Test Cases v2.6b or higher*
- *BOOK D: EMV Contactless Communication Protocol Specification v2.6 or higher*

***Effective Date***

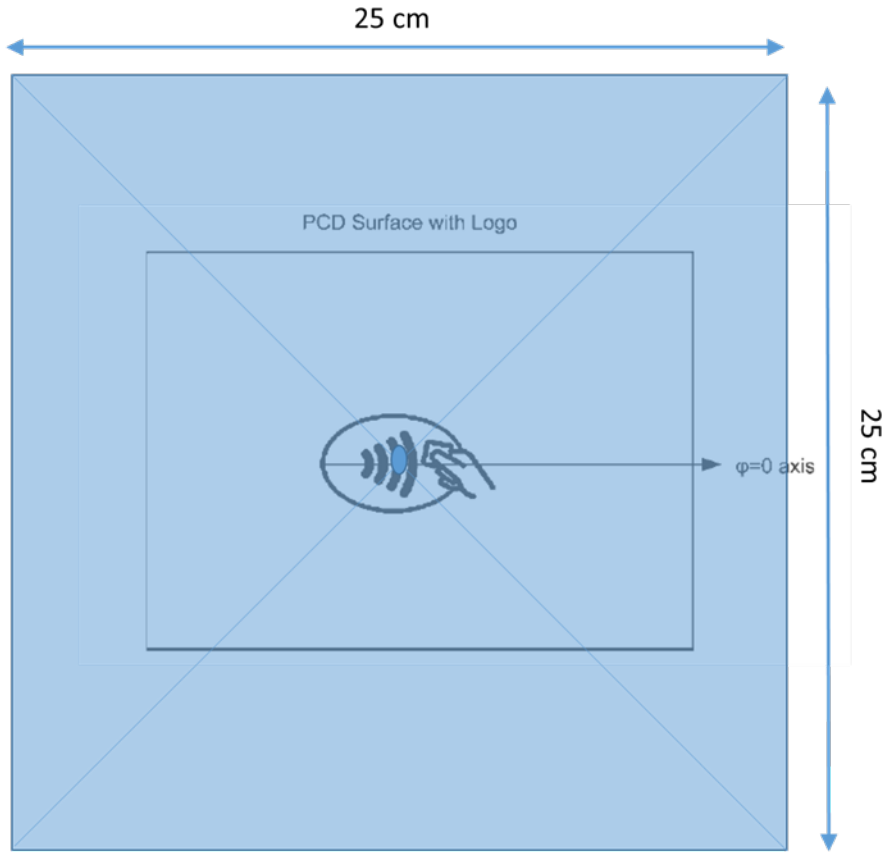
- April 31st 2017

***Description***

The shape of some devices under test (DUT) does not allow presentation of all kind of PICCs at all positions within the operating volume defined in EMVCo Book D. This may reduce acceptance of the devices, particularly those larger than ID1 size, when presented in the operating volume of such PCD.

EMVCo decided that the terminal shape shall not be modified when testing the PCD. For example, the ridges shall not be cut off for testing purposes. It is compulsory that the DUT shall be exactly as those deployed on the field.
EMVCo considers that:

- **Consideration 1:** All positions of the operating volume above 5mm from the contactless symbol shall be testable.
  For untestable positions between 0mm and 5mm above the contactless symbol, please refer to the procedure detailed in the PCD test cases document chapter 6.2.2.
- **Consideration 2:** All types of PICC (regardless of their size) shall be accepted. Therefore, PCDs shall have a sufficient landing zone at maximum 5 mm above the contactless symbol from where all positions of the operating volume are accessible. EMVCo considers that the landing zone (5mm maximum above the contactless symbol) of the PCD shall be free of any obstacle allowing access to a minimum area of a 25cm square centred on the contactless symbol as shown in following picture:




When **consideration 1** is not possible, any limitation will be mentioned in the Type Approval Report in chapter 5 “Laboratory Additional Information” with the following wording:

“***Due to the terminal shape of the PCD, the following positions of the EMV operating volume haven’t been tested during PCD L1 Analogue Testing:***

- (z1,r1,f1)
- (z2,r2,f2)
- ……”

Laboratories will report untested positions with the comment “Not tested because of terminal shape” in the Test Report.

By exception test case “TA139.000” shall be performed at the closest achievable level to z=0cm.

Based on the number of untested positions and their locations, EMVCo will decide whether to issue the Letter of Approval for the PCD, with comment describing the Operating Volume limitation.

When **consideration 2** is not possible, the following statement will be mentioned in the Type Approval Report in chapter 5 “Laboratory Additional Information” and in the Letter of Approval:

“***Due to the terminal shape of the PCD, its functional operating volume could be reduced for PICCs larger than ID1 size. This could lead to a limitation in user experience”***

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