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**Title : Expert statement on ESD testing**

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Subject: RE: ln1711ESD

Dear Steve,

Here is my expert statement on the ESD testing in the a.m. WD for discussion in Berlin. I think this is also at the same time referring to action 2007-06/03 of WG 1 for the Berlin Meeting (see Agenda WG1 WG1N1702R and WG1N1699 French Comment) , it also applies to ISO/IEC 7810:

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1.1

The reference for ESD test for chip cards with contacts to MIL 883 can be substituted by IEC 60749-26, which is a better defined and more recent version of the HBM test. The ESD test method in the MIL standards is not reviewed and updated any more.

An ISO standard for ESD testing for contact chip cards is not known so far.

1.2

For contactless chipcards, the existing test with a "gun" will not show any effect, as there will be no discharge on an isolator (the plastic material of the contactless chipcard). Care would have to be taken only if the contactless card construction has a small gap somewhere through which the antenna contacts or the antenna are accessible for a direct discharge. This might be the case (even if not very probable) for some ID 3 electronic passport constructions.

The contactless ESD test should be deleted, as no effect is to be expected at all.

1.3

Any other way of ESD discharge on contactless cards or cards with contacts needs a careful evaluation, including round robin tests, to make sure that the reproducibility and repeatability is given and to define a threshold value which correlates to the existing threshold values for contactless and contact tests.

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As alternative to 1.2, wouldn't we need the IEC method for contactless at least as place holder if we cannot agree on either deleting it or finish an evaluation of new test methods in time?

Mit freundlichen Grüßen / With best regards

Dr. Martin Winkler