

Technical Guidance Note TGN 20

**ECANB Technical Guidance Note TGN 20 on ESD testing of
“portable personal battery operated devices“ such as MP3 players,
mobile phones, digital cameras, pocket calculators, notebooks**

1. Introduction

During an electrostatic discharge by air for testing according to EN 55020, the screen of a portable personal battery operated device (EUT, such as a MP3 player) shuts down and the user has to remove the battery in order to restart the unit. Is this an acceptable user intervention? Can the product be signed off provided the manufacturer places a note in the user manual?

2. Guidelines:

Clause 4.7 of EN 55020: 2007 (CISPR 20: 2006) states performance criterion B as being the criterion for the electrostatic discharge test at the enclosure port. This test is applicable to all equipment in the scope of the EN 55020.

Clause 4.1.2 of EN 55020: 2007 (CISPR 20: 2006) defines performance criterion B:

"The equipment shall continue to operate as intended after the test. No loss of function is allowed after the test when the apparatus is used as intended, but failures which are recovered automatically but which cause temporary delay in processing, are permissible. No change of actual operating state for example change of channel or stored data and settings is allowed as a result of the application of the test. During the test, degradation of performance is allowed."

The primary function of a portable personal battery operated device (covered by EN 55020) is for general public user entertainment which includes both audio and visual functions. Since the screen provides a primary function of the equipment and since the screen is in an area accessible at all times to the user, placing a disclaimer, in the user manual, that the screen is ESD sensitive would be inappropriate..

It follows that user intervention (removing/inserting the battery) after the test is not allowed. No loss of function is allowed after the test and/or failures should recover automatically after the test. The manufacturer can not make use of the possibility to add a note in the manual that in case the screen fails due to ESD the battery must be removed/inserted by the user to fix the problem.

This guidance also applies in a similar manner to portable personal battery operated devices not under the scope of EN 55020 but covered by other product standards such as EN 55024 or EN 301 489-1

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