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STUDY UPON THE INFLUENCE OF GUN ORIENTATION AND APPLICATION POINT IN THE IMMUNITY TESTS

BY

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Abstract: Strictly respecting the conditions stated in EN 61000-4-2, it was tested the ESD simulator NG 435 (TESEQ). A very good repeatability and perfect bordering in the stipulated conditions was ascertained. In spite of this consistency, we registered unexpected variations of failure charging voltages that blocked the routine running on the PCs under test. The experiments status was exactly the same, excepting the type of the case (vertical tower or horizontal desktop), the polarity of the discharging pulse or the position of the ESD simulator having gun-shape (vertical or rotated to horizontal). The current being the same, to be blamed for these differences must be the electric and magnetic near field radiated by the ESD experiment and implicit, the associated induced voltages. Our measurements demonstrated this conclusion, supporting the necessity for more detailed supplementary assessments in the norms, in order to ensure a better repeatability of the test and a more veridical comparison.

Keywords: ESD immunity, charging gun, dissimilarities