

Title: **Immunity Level of Personal Computers to Voltage Sags in the 240 V/50 Hz Distribution Systems**

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Abstract

This study focuses on investigating the vulnerability of personal computers (PCs) to voltage sags in the context of local power distribution system in Malaysia. Based on recent testing standards and utilizing a modern industrial power corrupter, extensive tests are conducted for a wide range of PCs. For predefined malfunction criteria, such as monitor image distortion and reboot/restart condition, sag depth and duration are varied to construct individual voltage immunity curves. To obtain a quick overview about voltage sensitivity of PCs and to compare with the standard ITIC and SEMI F47 design goals, a generic voltage tolerance curve is then developed. The experiment results show that the PCs used in the local system have relatively high tolerance level to voltage sags when compared to the design goals of ITIC and SEMI F47 standards. Furthermore, the developed voltage tolerance curve may be helpful to mitigate sensitivity of personal computers to voltage sags in the local environment.