

EMC Reverberation Chamber Characteristic

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ABSTRACT

ABSTRACT Due to economy and efficiency consideration, reverberation chambers (also called mode-stirred or mode-tune chambers) are becoming increasingly popular for electromagnetic immunity testing. Such chambers utilize the shielded rooms equipped with metallic rotational paddles, which can generate high field strengths using modest power sources. The goal of reverberation chambers is to create a statistically uniform field that can eliminates the need to rotate the test object under the EMS testing. This thesis investigates the electromagnetic field distribution in reverberation chambers with the numerical method FDTD (Finite-Difference Time-Domain) for different cavity geometries introduced by paddle rotations. Since the electromagnetic field inside the reverberation is stochastic in nature, proper analytical and statistical tools are needed to characterize the performance of reverberation chambers. The analysis and numerical simulation of the model in this thesis will then apply to the design and construction of reverberation chamber in BSMI for further comparison and verification. Key Words : Electromagnetic immunity testing、Reverberation chambers (also called mode-stirred or mode-tune chambers)、Shield Room、FDTD (Finite-Difference Time- Domain)、BSMI

Keywords : Electromagnetic immunity testing ; Reverberation Chamber ; Shield Room ; FDTD(Finite-Difference Time- Domain) ; BSMI

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