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EMI Radiation Prediction and Final Measurement Process Optimization by Neural Network

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Abstract : The completion of the EMC regulations worldwide is growing steadily as the usage of electronics in our daily lives is increasing more than ever. In this paper, we introduce a novel method to perform the final phase of Electromagnetic compatibility (EMC) measurement and to reduce the required test time according to the norm EN 55032 by using a developed tool and the conventional neural network(CNN). The neural network was trained using real EMC measurements, which were performed in the Semi Anechoic Chamber (SAC) by CETECOM GmbH in Essen, Germany. To implement our proposed method, we wrote software to perform the radiated electromagnetic interference (EMI) measurements and use the CNN to predict and determine the position of the turntable that meets the maximum radiation value.

Keywords : conventional neural network, electromagnetic compatibility measurement, mean absolute error, position error
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