

Reference: **904**

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Type:

**Technical Brochures**

Title:

**High-Frequency Transformer and Reactor Models for Network Studies - Part E: Measurements and transformer design details**

The reliable and safe operation of the transformer requires that the dielectric stresses imposed by transient overvoltages are kept within acceptable limits. The development of models for electromagnetic transient simulations (white-box, black-box, grey-box) has been hampered by lack of transformer design data and measurements for model validation. JWG A2/C4.52 has performed measurements on two 3-winding power transformers, a 1-ph unit and a 3-ph unit. Frequency sweep measurements of terminal admittance were performed with respect to external terminals. Similar measurements were made of voltage transfer between external terminals, and from external terminals to three points in the regulating winding. Lightning impulse responses in the time domain were calculated from the frequency domain voltage transfer functions via rational fitting and convolution. The detailed design data and measurements are described in this TB, and the data files are available on an open web site. That way, manufacturers and others can validate and improve their transformer modeling programs. This TB is one of five TBs from the JWG.

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More Informations :

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**File Size:**15,5 MB **Pages NB:**140 **Study Committee :** A2, C4 **WG (TF):**JWG A2/C4.52 **Year:**2023

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