

DIG-AC A digital traceability chain for ac voltage and current

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Good Practice Guide

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This Good Practice Guide is intended for both National and Industrial Metrology Laboratories who wish to invest in the development of a quantum standard for alternating voltage based on the Josephson effect. Dynamic electrical measurements are critical in many applications where the RMS (root mean square) value of an electrical signal does not provide the required information and the signal needs to be sampled and processed. At present, NMIs and calibration laboratories provide traceability with high accuracy using thermal converters, but this is limited to AC magnitudes deduced from RMS values. Therefore, the most accurate commercial calibration equipment is also limited to RMS values. Several research projects have developed AC quantum standards to provide traceability for dynamic measurements within some European NMIs. It is now necessary to establish the traceability chain for dynamic electrical measurements to a wider group of NMIs and calibration laboratories. The text in this Good Practice Guide is supported by a comprehensive list of references to material already published in scientific literature.

[Good Practice Guide](#), issued: May 2022.