

Standby Power Measurement of Household Electrical Appliances with Agilent USB Data Acquisition

Application Note



Introduction

TVs, VCRs, and similar appliances are found in many households because these consumer products are sold at reasonable prices.

Manufacturers perform tests on the power consumption of electrical appliances when they operate in different modes. One example is the standby mode test.

Standby Power Measurement Setup

In the standby mode test, measurements such as voltage and current are taken and verified over a period of time. The factor is the occurrence of glitches during these measurements. Thus, the recommended measuring instruments should have high sampling rates and deep memories.

Conventionally, these measurements would be carried out using scopes. However, scopes can be very expensive. A better solution would be Agilent's USB data acquisition device, which gives a maximum sampling rate of 3 MSA/s for a single channel. It is also equipped with data-logging capability to the PC.

The Agilent USB DAQ device is able to measure the voltage directly, while the current is measured using a current transducer. The current transducer will then convert the current to a voltage signal and send this to the DAQ device. The data will be displayed and analyzed on the PC.

Reference

- IEC 62301 Edition 1.0, 2005, *Household electrical appliances – Measurement of standby power*

Related Agilent Literature

- *System Developer Guide-Using USB in the Test and Measurement Environment*
Application Note, literature number 1465-12

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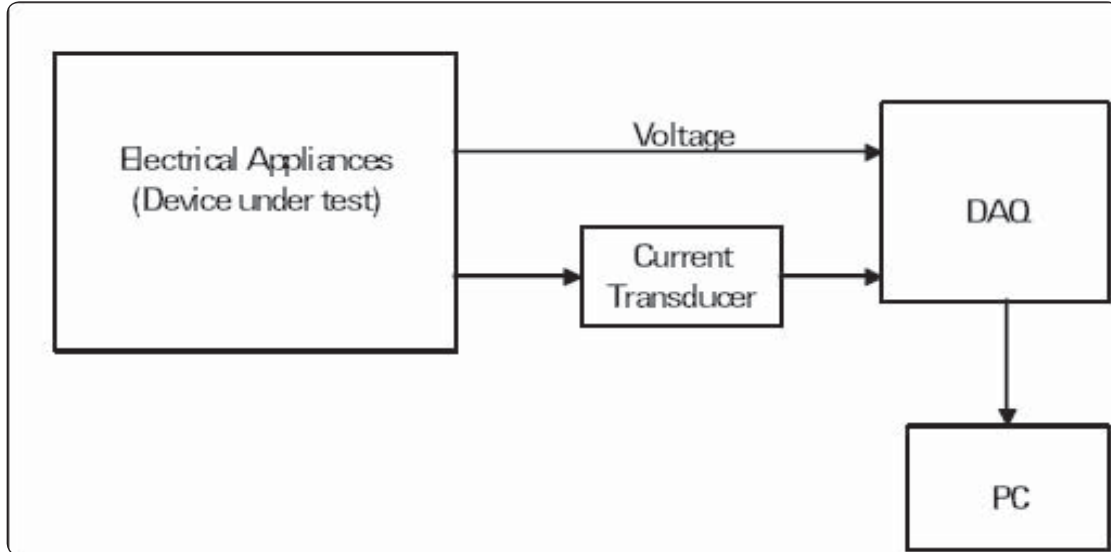


Figure 1. Block diagram of a test system for electrical appliances



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