



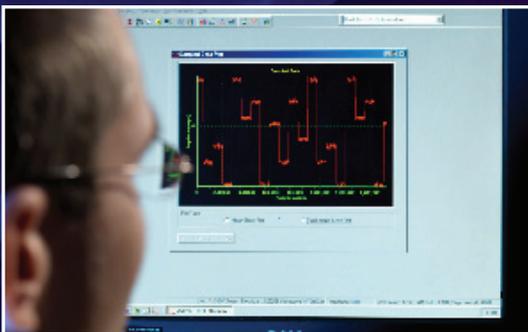
Calibration of Harmonic & Flicker Analysers

**A complete UKAS
accredited solution for
the calibration of your
Harmonic & Flicker
Analysers**

If you use a Harmonic & Flicker Analyser or an instrument with these measurement capabilities, NPL can provide you with a complete calibration service covering all parameters that are needed for devices used in IEC61000-3-2 and IEC61000-3-3 measurements.

The measurement of Harmonics and Flicker for new electrical appliances is an essential requirement as specified in the IEC61000 series of standards. Manufacturers of these devices must satisfy the requirements of IEC61000-3-2 (Harmonics) and IEC61000-3-3 (Flicker) in order to sell equipment in the European Union. This requires the use of Harmonic & Flicker Analysers.

NPL's capability covers all parameters required to provide a complete calibration of Harmonic & Flicker Analysers. In addition, we are uniquely placed to be able to provide our Customers with a bespoke service covering all required parameters plus complex measurements such as fluctuating harmonics.



UKAS accreditation

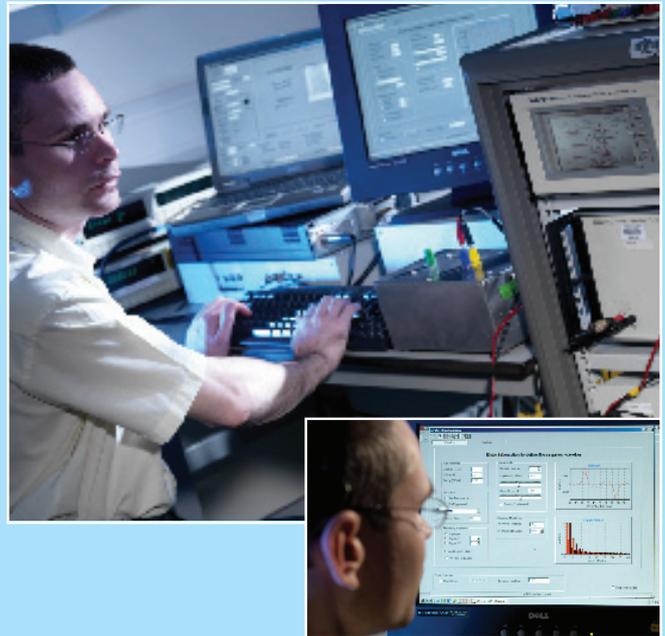
Our UKAS accreditation includes the following parameters:

For sinusoidal waveforms

- Current Accuracy up to 20 A
- Current frequency response up to 20 A, 50 Hz to 2 kHz
- Voltage accuracy up to 1000 V
- Power Measurements with current up to 130 A and Voltage up to 1000 V

For non-sinusoidal waveforms

- Fluctuating harmonic measurements for current waveforms up to 10 A, 50 Hz fundamental; harmonics up to 2 kHz
- Flicker (Pst) Square or Sine wave modulated & Complex waveforms



Our calibration assesses the accuracy of the Harmonic & Flicker analyser with signals applied that are at the critical IEC limits. With Class A and D waveforms applied to the analyser, the errors of the instrument are reported. For Flicker, different voltage change repeat rates are used with the corresponding depth of change necessary for the Flickermeter to read it's key limit Pst (Flicker Severity Short Term) value of unity.

Many electrical appliances produce fluctuating harmonics as their load profiles change during operational cycles, e.g. a washing machine. Measurement of fluctuating harmonics is a demanding measurement for a Harmonic Analyser and it may fail to perform correctly despite apparent correct performance in steady state testing. NPL has introduced two new fluctuating harmonic tests; one using harmonics that make sudden step-changes in level and one that uses smoothly fluctuating harmonics. These tests assess the dynamic performance of the analysers and their ability to measure correctly under these realistic conditions.

Other aspects of the Analyser system can be measured including the Standard Reference Impedances used for Flicker and the distortion performance of the power amplifier under load. We can also carry out flicker calibrations for other modulation signals such as sine waves.

Further information

Please contact NPL to discuss your requirements and book in your order. Measurements at NPL are offered on a pre-booked only basis, as service capacity on the specialist equipment is limited.

Prompt acceptance of our quotation will help minimise any lead time.

For further information on this service or to discuss your particular measurement or calibration requirement, please contact:

Measurement Services

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Middlesex
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TW11 0LW

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