

High Precision Dielectric Measurements

DAK

Accurate measurement of dielectric properties of materials, with flexible software and connection to any network analyzer

DAKS
the first-ever
portable instrument



What is DAK?

DAK is our product line for dielectric measurements of liquids, solids, and semi-solids. It is ideal for all applications where high-precision dielectric measurements are required, including applications in the electronics, chemical, food, and medical industries.

DAK is designed for fast, precise, non-destructive, and easy-to-use measurements in the 10 MHz to 67 GHz frequency range. The software includes advanced graphical visualization and data analysis tools. Custom-made solutions are available on request.

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Applications

- characterization of any materials in electronic, chemical, medical, and food industries
- evaluation of reference liquids, e.g., IEC 62209, IEEE 1528, ISO TS10974, etc.
- evaluation of reference solid materials, e.g., CTIA V3.2

Flexible Operation

- interface with any network analyzer on market
- complete sales package offered with network analyzer
- hardware customization and measurement automation
- export data to DASY52 and SEMCAD X

Accuracy

- advanced algorithms for high-precision measurements
- correction of electrode polarization at low frequencies
- novel flange design for good contact with gels, solids
- novel short with excellent contact and high repeatability
- high-quality hardware components

Software Features

- enhanced visualization – view your choice of dielectric parameters (ϵ' , ϵ'' , σ , $\tan\delta$) in a variety of formats (Smith chart, linear chart, log chart, ϵ'' vs ϵ' display, tabular)
- robust data analysis – fit data to analytical curves, compare data with target parameters, and view tolerance or uncertainty ranges
- flexible scripting – embedded GUI script editor enables measurement automation and hardware customization

Hardware Specifications

| probe | frequency range | connector type (male) |
|----------|-----------------|-----------------------|
| DAK-12 | 10MHz – 3 GHz | 3.5mm |
| DAK-3.5 | 200MHz – 20GHz | 3.5mm |
| DAK-1.2 | 5 GHz – 50GHz | 2.4mm |
| DAK-1.2E | 5 GHz – 67GHz | 1.85mm |
| DAKS | 200MHz – 14 GHz | N-type |

immersible length of probe: 50mm (30mm for 1.2 and 1.2E)

robustness: high resistance to corrosive materials

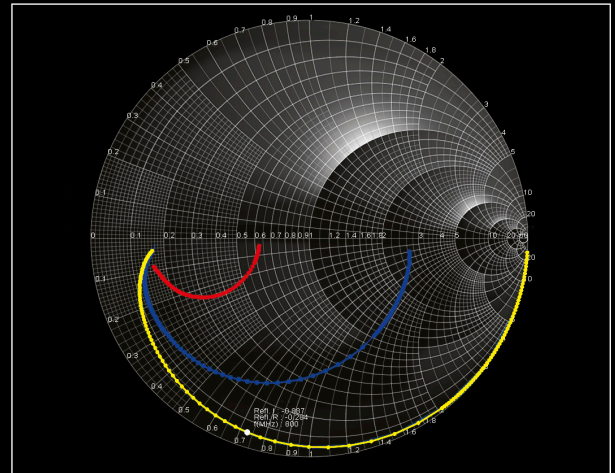
Calibration

DAK probes are calibrated according to SPEAG's high-quality procedure that are ISO/IEC 17025 accredited by the Swiss Accreditation Service (SCS 108). More information can be found on our website: www.speag.com/services/cal-lab.

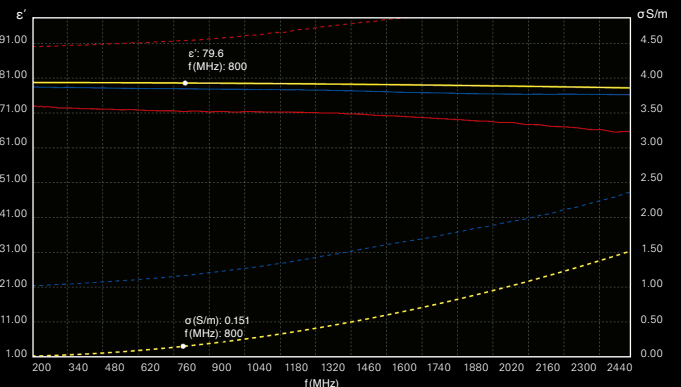
Portable DAK System (DAKS)

DAKS integrates DAK-3.5 with a mini Vector Reflectometer (R140, Copper Mountain Technologies) and, therefore, eliminates phase distortions due to cable movements. It is the first-ever instrument that can be moved to the media under test to directly measure the dielectric parameters.

For further information and technical specifications, visit www.speag.com



View data in several formats: Smith chart, linear chart, log chart, or ϵ'' vs ϵ' display



Visualize several measurements and track individual values in chart or tabular display



DAKS is low-cost, flexible, and very easy to use

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