Dielectric Measuring Service

Until now, measurements of the dielectric properties depend on the approximate calculations that are based on the perturbation theory. The dielectric measurement service offered by AET, Inc. uses a high Q cavity and 3D electromagnetic field simulation technique into the process of measuring the dielectric properties. This allows us to accurately compute the complex value of relative dielectric properties of a sample.
We select the most suitable measurement method according to the size and shape of a sample material, and provide the measurement for almost all forms of samples including solid, sheet, film, multi-layered circuit board, particle and liquid.

Application

■ Substrate materials for high-speed digital/microwave circuits ■ Low loss dielectrics used for filters and dielectric antenna ■ Thin film materials and new materials ■ Semiconductor materials
■ Medical Electronics ■ Chemicals ■ Foods(moisture content) ■ Body tissues ■ Gases ■ Liquids

Provide us with the information of the material such as:
- Quality
- Size and Shape
- Roughness

We suggest the best measurement method from the list below.

We provide the measurement service.

Measuring Methods	Material Shapes	Materials	Frequency	Features
Open Coaxial Resonator	Free	Solid	800MHz - 18GHz	Non-destructive measurement of the dielectric properties of thin-films down to 50μm in microwave range.
Resonant Cavity	Small-size Cylinder/Prism, Thin Film	Solid, Liquid, Particle	1GHz - 50GHz	Accurate but destructive measurement in the microwave and millimeter wave range.
Stripline Resonator	Plate, Thin Film	Solid	1GHz - 18GHz	Measurement of the material of a printed circuit board while in use.
Coaxial Reflection	Free	Liquid, etc.	200MHz - 40GHz	Measurement of continuous dielectric properties in broad band.
Capacitance	Plate	Solid	10MHz - 1GHz	Measurement of continuous dielectric properties.

ADVANCED ELECTRONICS TECHNOLOGY http://www.aetjapan.com

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