

World Leading High-Accurate Dk/Df Measurement System for Film, Powder etc., 1GHz - 10GHz

Model No. DPS18

Keysight Technologies and KEYCOM Corp.

High accuracy Capable of measuring Ultra-thin films, Powders

KEYCOM's high precision perturbation method enables you to measure dielectric constant (permittivity, ϵ_r) and dielectric loss tangent ($\tan \delta$) of such specimens as multi-layered structure, ultra-thin film or ferroelectric materials in the microwave region. KEYCOM refined the conventional perturbation method that was JIS-standardized in 1992 (JISC2565) by closing the hole into which the specimen is inserted with metal, and the new method is also compliant with ASTM D2520.

Features

- High accuracy : ϵ_r accuracy $\pm 1\%$, $\tan \delta$ accuracy $\pm 3\%$. (depending on VNA).
- Capable of measuring Ultrathin films (less than $0.1\mu\text{m}$ in thickness), multi-layer film
- Also ideal for solids, sheets, powders, liquids (oils, etc.)
- User-friendly operability.
- Measurement frequency range : 1GHz - 10GHz.

Specifications

Measurement frequency :
1GHz-10GHz (single point measurement)

Standard frequencies :
1, 2, 2.45, 3, 5, 5.8, 10GHz
(Please request your desired frequencies for customization.)

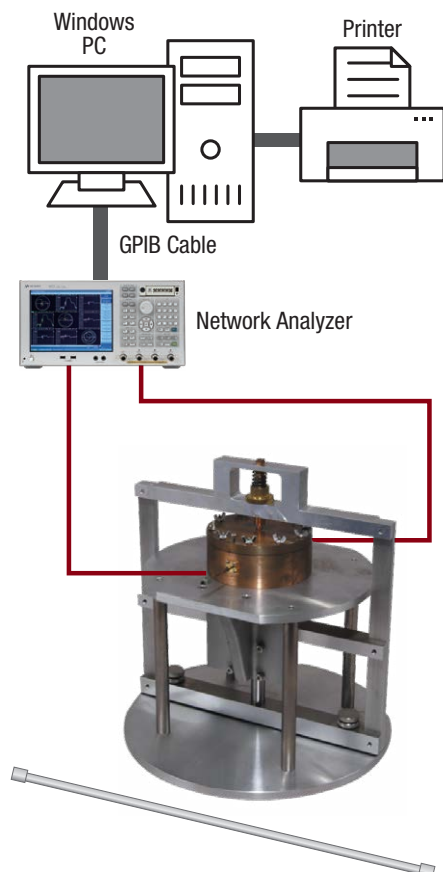
Relative permittivity :
 ϵ_r : 1~150 (accuracy : $\pm 1\%$)

Dielectric loss tangent :
 $\tan \delta$: 0.0001~0.05 (accuracy $\pm 3\%$)
(depending on VNA)

Specimen shape

@1GHz

Film : 30mm(± 0.1 mm) x 50mm
Solid : 30mm(± 0.1 mm) x 7mm
or less x 7mm or less
Powder : 5ml



Standardization

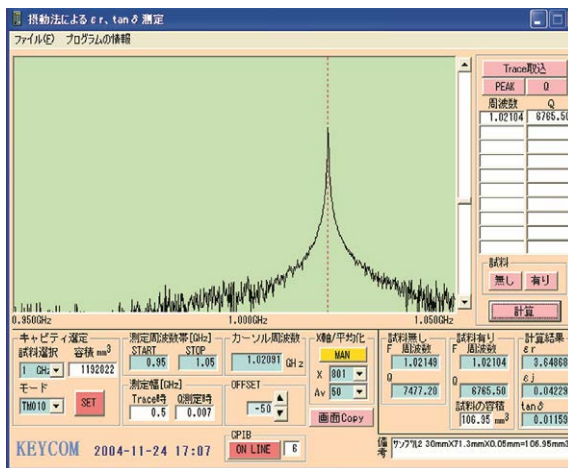
ASTM D2520, (JISC2565)

Measurable samples

- Powders
- Ultra-thin films
- multi-layer film
- solids
- sheets
- liquids (oils etc.)

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Data example



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Keysight & Solutions Partners
Extending our solutions to meet your needs

Ordering Information

Keysight Technologies



Vector network analyzer
PNA series (N52xx)
ENA series (E50xx)



Keysight Streamline Series
USB Vector Network Analyzers
(P937xA, P500xA)



E-band
network analyzer system
N5252A

KEYCOM Corp.

Parts Number	Name	Specification
COE-01	Mechanical Control System for Cavity	
TMR-1A		1 GHz
TMR-2A		2 GHz
TMR-2.45A		2.45 GHz
TMR-3A	Mechanical Control System for Cavity	3 GHz
TMR-5A		5 GHz
TMR-5.8A		5.8 GHz
TMR-10A		10 GHz
DMP-25	Perturbation method resonance mode measurement software	
CM06D-AA-1000	Coaxial cable assembly (1 m)	2 sets

Product specifications and descriptions in this document subject to change without notice.

Learn more at: www.keysight.com

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