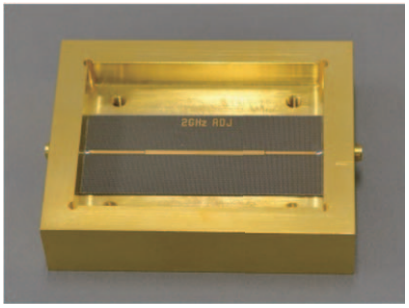
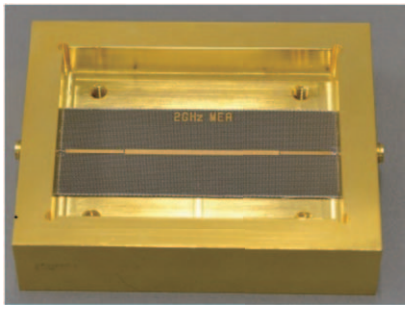
Resonance Method Strip Line Type Dielectric Constant and Dielectric Loss Tangent Measurement System for Sheet

System No. DPS50

Agilent Technologies and KEYCOM Corp.



For adjustment



For measurement

Highly accurate in dielectric loss tangent (tanδ) measurement and requires no conductor pattern; Optimum solution for thin film measurement

《ASTM, IPC Standard compliant》

DPS50 is a resonance method, strip line type dielectric constant and dielectric loss tangent measurement system optimized for sheet materials with dielectric constant of approximately 1 to 40 and relatively small dielectric loss in the frequency range of 800MHz to 14GHz. This system is compliant with the IPC-TM-650 2. 5. 5. 5. 1 Stripline Test for Complex Relative Permittivity of Circuit Board Materials to 14GHz, and ASTMD3380 Standard Method of Test for Permittivity (Dielectric Constant) and Dissipation Factor of Plastic-Based Microwave Circuit Substrates. This measurement technique was announced at 2008 IEEEI_2MTC.

Compliance standards

IPC-TM-650, ASTM 3380

Publications

IEEE 2008 I_2MTC, Victoria, Canada
paper#1569085274, Tue_20 12-15 May 2008

KEYCOM
Characteristic Technologies

Agilent Technologies
Solutions Partner

Features

- Eliminates fringing effect
- No conductor pattern is required
- Capable of measuring in a perpendicular electric field to the sample sheet

Applications

- PCB
- Planar antenna

Specimen examples

- Film
- Prepreg
- PCB

Specifications

Frequency : 800MHz ~ 14GHz

Permittivity : 1.05~40
(Accuracy : ± 5%)

tanδ : 0.001~0.05
(Accuracy: ± 10%)

Sample size:

R-09.B	900MHz	30mm × 150mm
R-1B	1GHz	30mm × 150mm
R-2B	2GHz	30mm × 80mm
R-5B	5GHz	30mm × 80mm
R-10B	10GHz	30mm × 30mm
R-20B	15GHz	30mm × 30mm

Sample thickness :
5μm ~ 2mm

Measurement Process

1. Calibrate your vector network analyzer.
2. Connect resonator for measurement, and measure PTFE sheet for reference.
3. Press calculation button to compensate the result so that it matches the true known value of PTEF.
4. Measure your sample using resonator for measurement.
5. Press calculation button to obtain result.

Anticipate ___Accelerate ___Achieve

Agilent Technologies

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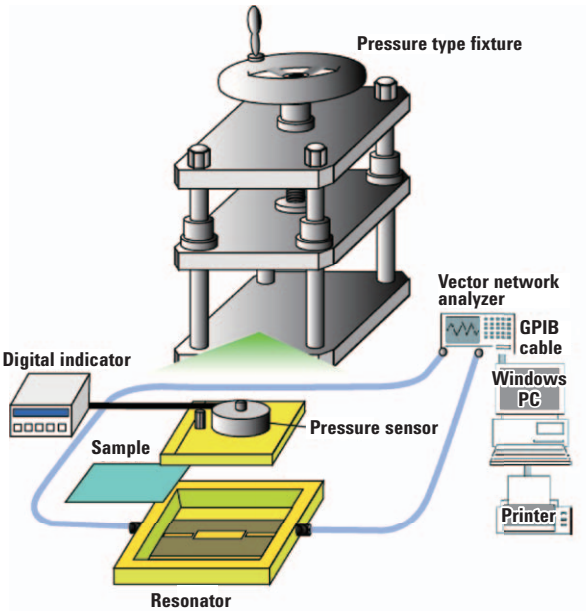
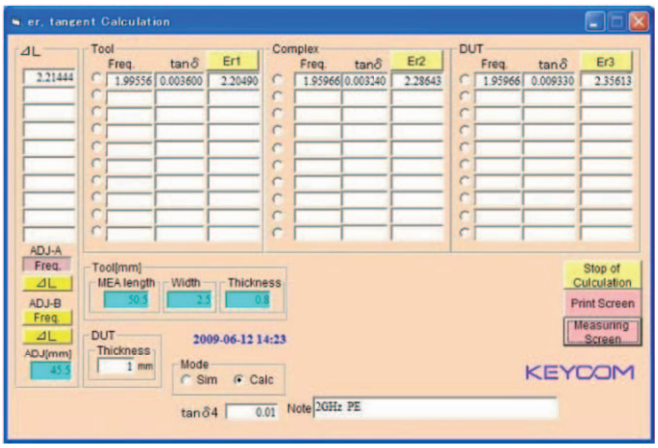
Configurations





Measurement data example

Ordering Information

Agilent Technologies

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

KEYCOM Corp.

System No. DPS50

1. Pressure type fixture FS-03
2. Resonator (measurement + calibration + fixture)
   - 900MHz R-0.9B
   - 1GHz R-1B
   - 2GHz R-2B
   - 5GHz R-5B
   - 10GHz R-10B
   - 15GHz R-15B
3. Software DMP-61M
4. Coaxial cable .....CM06D-APC2.9(m)APC2.9(m)-500 2pc.
5. Windows PC, Printer ..... Available upon request
6. GPIB interface GP-01

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

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Published in Japan, January 29. 2013
5991-1844EN
0000-08MS

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