

# World Leading High-Accurate Dk/Df Measurement System, PCB Measurement, 900MHz - 15GHz

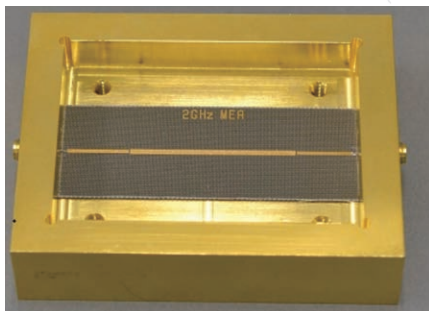
System No. DPS50

Keysight Technologies and KEYCOM Corp.

**Highly accurate in dielectric loss tangent ( $\tan \delta$ ) 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 20 and relatively small dielectric loss in the frequency range of 900MHz to 15GHz. 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 ASTM D3380 Standard Method of Test for Permittivity (Dielectric Constant) and Dissipation Factor of Plastic-Based Microwave Circuit Substrates. This measurement technique was announced at 2008 IEEE I2MTC.



## Compliance standards

IPC-TM-650, ASTM 3380

## Publications

Suzuki, H. ; Hotchi, T. ; Nojima, T.  
 "A New Measurement System for the Perpendicular Complex Permittivity to DUT Sheet by Stripline Simulation"  
 Instrumentation and Measurement, IEEE Transactions on (Volume:61, Issue: 9 )  
 pp2476 - 2482 Date of Publication: Sept. 2012

## Specimen examples

— PCB (Prepreg) — Planar antenna — Film

## Specifications

Frequency : 900MHz ~ 15GHz

Permittivity : 1.05 ~ 20  
 (Accuracy :  $\pm 5\%$ ,  
 depending on VNA)

$\tan \delta$ : 0.001 ~ 0.05  
 (Accuracy :  $\pm 10\%$  or  
 $\pm 0.0005$ , depending on  
 VNA)

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-15B	15GHz	30mm × 30mm

Sample thickness :

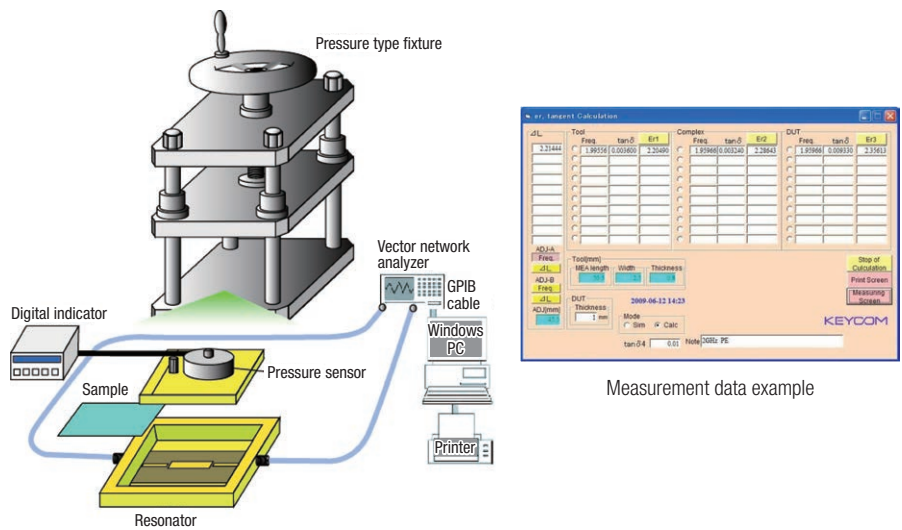
50 $\mu$ m ~ 2mm ( $\leq 2$ mm @ 1GHz,  
 $\leq 0.5$ mm @ 10GHz)

## Features

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

# World Leading High-Accurate Dk/Df Measurement System, PCB Measurement, 900MHz - 15GHz

## Configurations



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Characteristic Technologies

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## 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.

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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