MICROWAVE CHARACTERIZATION OF LIQUIDS (1 - 50 GHz)

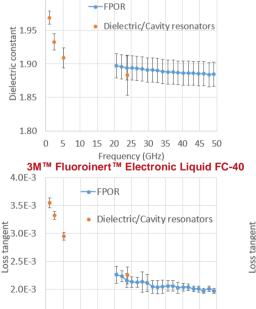


We offer the most accurate and highly repeatable resonant fixtures dedicated to the measurement of liquids in the 1 – 50 GHz range. These fixtures allow measuring the dielectric constant (Dk) and dissipation factor (Df) of the liquid under test from the measured resonance frequency and the corresponding quality factor, respectively.

The family of solutions consists of:

- 1. Dielectric resonators operating at TE_{0mδ} modes
 - frequency range: 1 5 GHz
 - dielectric constant: Dk = 1 100 (accuracy: $\delta Dk < 0.5\%$)
 - **loss tangent:** Df > 10^{-4} (achievable accuracy: δ Df < 2%)
 - temperature: 0 100°C
- 2. Cavity resonators operating at TE₀₁₁ modes
 - frequency range: 10 24 GHz •
 - dielectric constant: Dk = 1 20 (accuracy: $\delta Dk < 0.5\%$)
 - **loss tangent**: Df > 10^{-4} (achievable accuracy: δ Df < 2%)
 - temperature: -40 +100°C
- 3. Fabry-Perot open resonator (FPOR) operating at Gaussian modes
 - frequency range: 15 50 GHz (1.5 GHz resolution) •
 - dielectric constant: Dk = 1 15 (accuracy: $\delta Dk < 0.5\%$)
 - **loss tangent**: Df > 10^{-4} (achievable accuracy: δ Df < 2%)
 - room temperature only

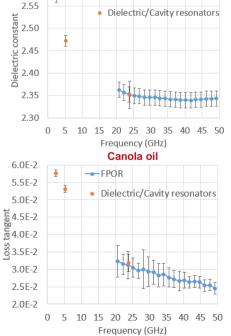




1.5E-3

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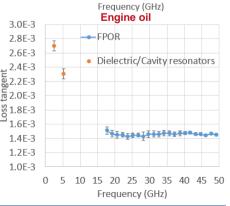


Fabry-Perot open resonator



Dielectric resonator

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	End and a set of CLU-										



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5 10 15 20 25 30 35 40 45 50

Frequency (GHz)

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