

Supplementary Material: A Submersible Printed Sensor Based on a Monopole-Coupled Split Ring Resonator for Permittivity Characterization

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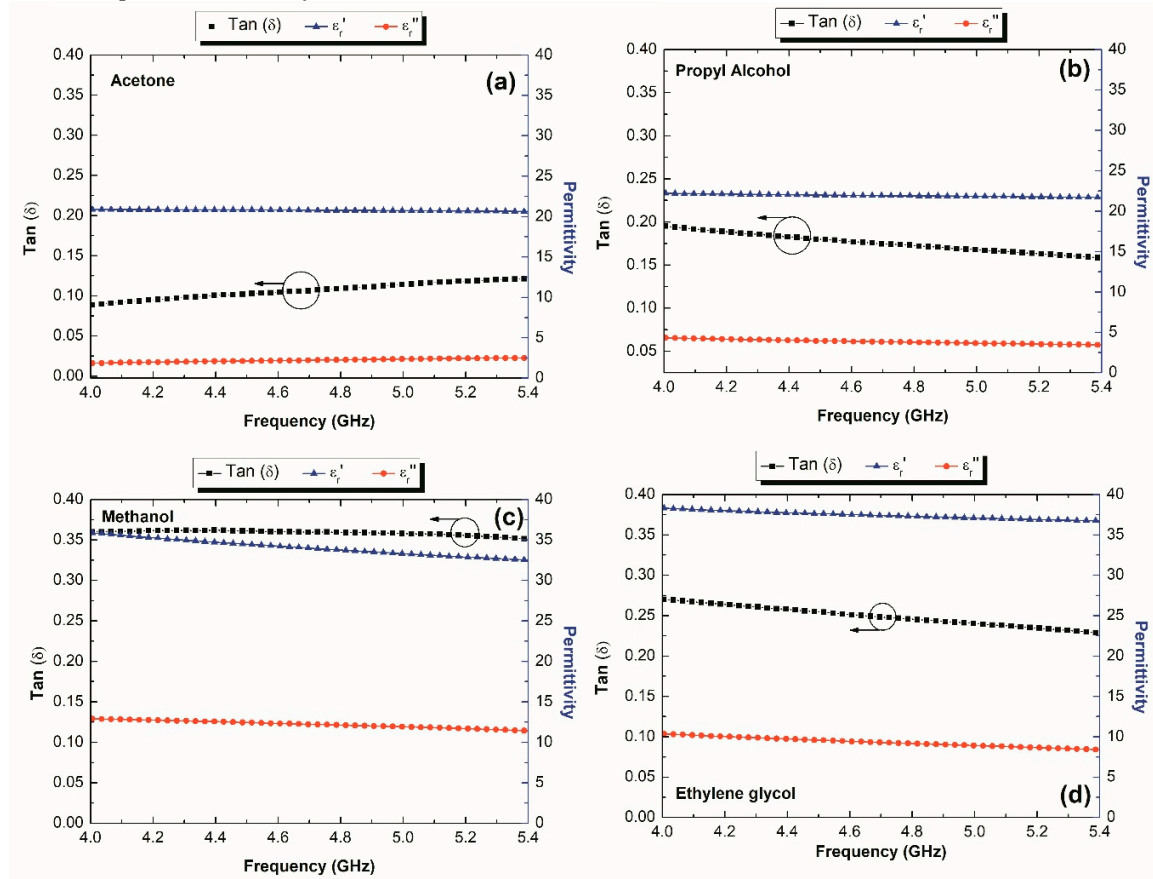


Figure S1. Experimental results obtained with the Agilent 85070E Dielectric Probe Kit for (a) acetone at 96% purity. (b) Propyl alcohol at 92% purity. (c) Methanol at 92% purity. (d) Ethylene glycol at 93% purity.

In the proposed work, we use the Agilent 85070E Dielectric Probe Kit to obtain the dielectric permittivity (complex) of the four samples used in this work. It was employed in order to validate the characteristic curve of the proposed sensor. As mentioned in the manuscript, we use acetone at 96% purity, propyl alcohol at 92% purity, methanol at 92% purity, and ethylene glycol at 93% purity. Then, in this section, we report the experimental results obtained with the kit when the probe was

immersed in 1000 ml of the sample. As it is evident from the four Figures, we report the real part of the permittivity (ϵ_r'), the imaginary part of the permittivity (ϵ_r'') and the loss tangent.