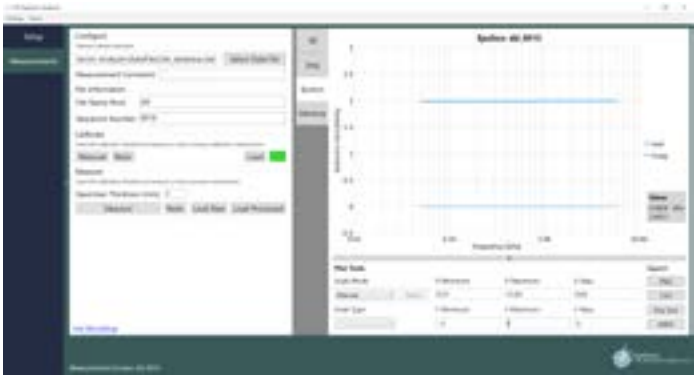
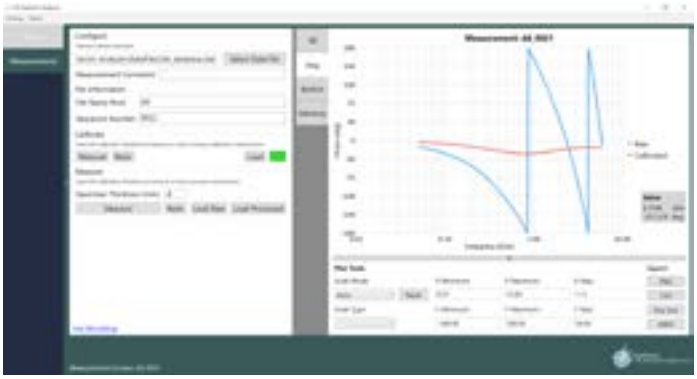
Epsilometer
Dielectric Properties Measurement

Copper Mountain Technologies and Compass Technology Group are pleased to announce a new device for determining the dielectric properties of materials. Accurate determination of the dielectric properties of radomes, packaging, and microwave substrates are important for the design of functioning wireless devices. The Internet of Things and emerging 5G wireless technologies are driving a rapidly expanding need for installing wireless capability on everything from light bulbs to kitchen appliances to ear buds. To answer this need, CMT has combined its ground-breaking R60 network analyzer with a new dielectric analyzer technology from the Compass Technology Group to enable measurements of dielectric substrate materials at frequencies up to 6 GHz. The dielectric analyzer fixture can measure sheet specimens ranging from about 0.3 to 3 mm thick. A database in the software for the device is used to invert properties and is populated up to a permittivity of 25.

This new dielectric analyzer measures the complex dielectric permittivity (epsilon) over a broad frequency range with a simple, non-destructive methodology. Material specimens are inserted into the device and scanned to obtain their microwave response versus frequency. Unlike previous dielectric analysis technologies, this new method uses computational electromagnetic modeling to invert the dielectric permittivity and loss. This represents a significant advance over conventional capacitive methods, which use analytical approximations and are limited to frequencies below 1 GHz. The computational based inversion also enables a simplified calibration procedure, making this new device exceedingly easy to use, even for non-microwave engineers and technicians.





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