UNIVERSAL COAXIAL-STRIPLINE AND PROBE TEST FIXTURES AND THEIR CALIBRATION METHODS

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The design and calibration method for a coaxial-stripline test fixture that provides connection of microwave circuit analyzer of both coaxial measures and microstrip calibrators, as well as the active components under study, such as transistors, are considered. The test fixture provides high repeatability of connecting coaxial measures, microstrip calibrators, and active components being studied and has a small standing-wave ratio and loss. The test fixture is calibrated with using a minimal set of easily calculated microstrip calibrators with low losses, which, taking into account the high repeatability of their connection, reduces the complexity of its calibration and increases the accuracy of transmitting measurement results from the coaxial line to the microstrip line. The possibility of transmitting measurement results from the coaxial line to the microstrip line extends the scope of the State System for Ensuring the Uniformity of Measurements to the microstrip line. The design of the probe test fixture and a method of its calibration by a specialized microstrip calibrator are also given.

Keywords: coaxial-stripline and probe test fixtures, calibration method, transistor, S-parameters, transmission of measurement results from the coaxial line to the microstrip line

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