Abstracts

A rugged microstrip tapered balun printed dipole reference for SAR system verification

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Strict regulatory requirements for specific absorption rate (SAR) compliance testing around the world have increased the need for accurate and precise testing methodologies. Such requirements are also required to conform to quality management accreditation guidelines such as ISO/IEC 17025. Equipment calibration, environmental conditions, tissue simulating solution characteristics, and measurement setup all contribute to the accuracy of SAR measurement. System verification is one way to help assure accurate and precise measurements by verifying the measurement repeatability of a reference on a daily basis. A tuned 1/2 wave dipole is recommended for this standard. This study proposes a printed dipole as a reference for daily system verification that meets all the requirements of IEEE 1528, FCC Supplement C, and CENELEC EN 50361. The printed design adds the benefits of being more cost effective, robust, and easier to position for testing.

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