

The Verification and Calibration of an RF and Microwave Calibration Source

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Abstract

The signal sources used in RF and Microwave calibration applications are usually general purpose signal generators with characteristics that are not optimised for calibration requirements. Many of the instruments widely regarded as best suited for calibration use are now obsolete. A new signal source has been developed specifically for RF and Microwave calibration applications which provides high-purity precision level outputs covering a wide amplitude range over an extended bandwidth, and includes precision modulation capability. Performing measurements to evaluate the performance achieved against aggressive target specifications presented a variety of technical challenges. The paper outlines the measurement techniques used as part of the design evaluation process, and describes in greater detail the measurement methods chosen for routine user calibration adjustment and performance verification procedures.