

ABSTRACT

A method for obtaining the gain and nonlinear phase characteristics of an antenna is presented. This method provides an alternative to the well established three-antenna method and requires only a single antenna. The single-antenna method is used to obtain the gain from reflection measurements made in the presence of a large conductive ground plane. Analytical results are given to demonstrate the accuracy of this method with simulated data. Finally, the gain and nonlinear phase results for several antennas found from measured data using both the single-antenna and three-antenna methods are shown. These results verify that the single-antenna method effectively determines the desired antenna characteristics.