

CONFIGURATION OF SPHERICAL NEAR-FIELD RANGES

by

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Abstract

In principle, spherical near-field scanning measurements are performed in the same way as conventional far-field measurements except that the range length can be reduced. This provides a natural advantage to scanning in spherical coordinates over other coordinate systems due to the ready availability of equipment. However, special considerations must be given to near-field range design because of the necessity for phase measurement capability, mechanical accuracy and the need to handle large quantities of data.

Based on experience with spherical near-field measurements carried out during verification testing of a spherical near-field transformation algorithm, we discuss the practical aspects of constructing a near-field range. In particular we will consider range alignment procedure, engineering of the RF signal path and times for data collection and processing.