



FEATURES

- **Measurement and Correction of System Thermal Errors**
- **Analysis of Measurement Uncertainty**

DESCRIPTION

Large aperture, high-frequency planar near-field antenna measurements take time, so errors due to thermal drift may affect accuracy. NSI-MI Technologies' Motion Tracking Interferometer (MTI) option is a software enhancement that addresses this problem and increases measurement accuracy by correcting for thermally induced amplitude and phase measurement drifts. The MTI technique is much more sophisticated than the traditional tie-scan technique since it can monitor and correct for thermal variations in the antenna, antenna mount, planar scanner, and RF equipment and cables. Unlike the tie-scan, MTI provides a multi-degree of freedom measure of the relative rigid body motion between the scanner and test antenna during the test. Additionally, the MTI system provides an estimate of the measurement uncertainty.

MTI measurements are made at 4 spatial points in the higher energy region of near-field radiation at prescribed measurement times defined by the user. At the end of the data acquisition, the MTI software allows the user to analyze the data and make decisions on how to correct for the thermal errors.

The MTI processor measures the relative azimuth, elevation, and Z motion between the scanner and antenna. The data is acquired by periodically interrupting the normal data acquisition process and then measuring four spatially separated points. The scan is performed at a single frequency with an un-steered beam, even in the case of multi-frequency and multi-polarization measurements. The MTI measurements are phase and distance normalized to remove frequency dependence so that the results apply to all polarizations and frequencies.

COMPATIBILITY

- **Windows® 10**
- **NSI2000 Standard & Pro Editions**

STANDARD COMPONENTS

- **Motion Tracking Interferometer Software**
- **Software Manual**