Estimating Discrete Power Angular Spectra in Multi-probe OTA setups

Author(s) - Institution(s):
Wei Fan, AAL
Jesper Nielsen, AAL
Gert Pedersen, AAL

Corresponding author email: wfa@es.aau.dk

Corresponding WG group: TWGO, WG1

Abstract:

The paper discusses over the air (OTA) testing for multiple input multiple output (MIMO) capable terminals with
emphasis on estimating discrete power angular spectrum (PAS) modeled at the receiver side in the test zone. Two techniques based on a uniform circular array (UCA) are proposed to obtain accurate direction of arrival (DoA) estimates as well as power estimates of the impinging signals in the test zone. Simulation results match well with the target, as expected. Measurement results based on a virtual UCA in a practical 3D multi-probe setup further support the simulation results. Possible reasons for the deviations between simulations and measurements are also investigated.