

Polarization discrimination, among MIMO OTA test methods

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Abstract:

MIMO OTA standard bodies in US and Europe had been working in the last three years, to define test methodology(s) which enables labs to perform certification measurements in 2x2 MIMO devices. To aid this effort, a set of MIMO 2x2 Reference Antennas were developed to validate such test methodologies, these antennas reproduces one of the most commonly used techniques to achieve low envelope correlation coefficient in handset dimensions, the radiation pattern diversity.

Utilizing this limited set of antennas, conclusions regarding the capability of ranking antennas performance in fundamentally different test methodologies were incorrectly drawn. In this work a different set of MIMO antennas based on spatial/polarization diversity were developed, and the performance of such antennas were compared between two MIMO OTA test methodologies, under the optic of polarization diversity and its effects on correlation coefficient and gain imbalance within different channel models.