

Design method for actively matched antennas with non-foster elements

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Abstract— The design of electrically small antennas (ESAs) loaded with active non-Foster elements is a topic whose interest has grown in the last years. In this communication, a new strategy for the design of actively matched antennas loaded with non-Foster elements is presented. The analysis of different parameters, such as the sensitivity to non-Foster circuit placement, the overall antenna system stability, and current distributions, has to be considered in order to enhance the antenna performance. A design example using an ESA and its realization is presented to validate the proposed strategy.

Index Terms— Active matching networks (MNs), non-Foster reactance, small antennas, stability.

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