Energy, Sustainability, Water and Infrastructures/ Transportation

**A Quasi Yagi Antenna Backed by a Metal Reflector**

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In this poster a Quasi Yagi antenna is presented that provides off-axis radiation when backed by a metal reflector. The off-axis (θ=42˚) radiation pattern is achieved by an increase in the substrate thickness beneath the antenna elements. The 2.4 GHz Quasi Yagi demonstrated 190 MHz bandwidth, beam tilt towards the end fire direction (42˚), maximum gain of 4.5dB, and a radiation efficiency of 87%. The results of a study on bandwidth, gain and radiation pattern versus substrate thickness are presented. To the best of the authors’ knowledge previous realization of this antenna over a ground plane has not been investigated.

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