

Title: Polar Modulation: An Alternative For Software Defined Radio

Abstract:

Although simple in principle, realizing a truly general 'radio' part of a software defined radio has proven elusive. Implementation difficulties have arisen mainly from noise figure and circuit nonlinearity effects. By changing the signal processing basis from rectangular to polar coordinates, a completely different radio architecture results that has no requirement for circuit linearity. The noise floor of a polar radio appears to be dominated by phase noise, and not traditional noise figure effects. Preliminary results are presented which imply good application generality, particularly for the various cellular radio standards used around the world.

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