Abstracts

Optimizing an Electromagnetic Field Sensor for Microwave Amplitude and Phase Detection via Fiber Optic Transmission Link

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A study of amplitude and phase detection using an electromagnetic field sensor is presented. A time varying magnetic field probe modulates a high frequency semiconductor GaAlAs laser diode (lambda = 840nm). The laser light is then transmitted via a fiber optic transmission line, minimizing the electromagnetic field perturbations, and is detected using an P-I-N photodiode. The frequency band is limited in this study to 2.0-3.0 GHz.

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