

Non-invasive measurement of blood sugar level by millimeter waves

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Measurement of blood sugar level by noninvasive method is highly desirable. Nevertheless, a practical non-invasive technique has not been reported. In this paper, to measure blood sugar level using millimeter wave noninvasively, complex permittivity of glucose and sodium chloride solution is measured and the change of transmission coefficient in millimeter wave region is obtained. An applicator system to measure blood sugar level in vivo is designed and optimized by simulation using transmission line modeling (TLM) method.

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