Hybrid Electronic Construction for Wireless ECG Monitoring

Speaker: Jonathan Knotts, Vito Licata - Creative Materials, Inc., Ayer, MA 01432

E-Mail: Jknotts@creativematerials.com

Tel: 978-391-4700

Abstract

In this progressing digital age, the race to replace physical components with reliable virtual alternatives is in full swing, leaving devices riddled with wires looking more obsolete ever day. Most common hindrances for ECG signal quality can be ameliorated by the simple removal of wires and transition to a wireless ECG system. This presentation will compare the performance in electrode signal quality and impedance of conventional ECG electrodes with new ECG electrode materials designed for comfort.

Wireless monitoring presents challenges in creating reliable connections from a dynamic surface such as an elastic film or fabric to a rigid board and require balancing the modulus of the ink, adhesive, and encapsulant. There are many different techniques for incorporating these connections into the design which must take into consideration criteria not typical to the electronics industry such as comfort, esthetics, and skin irritation.