

## Bluetooth Low Energy: Wireless Connectivity for Medical Monitoring

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### Abstract

Electronic wireless sensors could cut medical costs by enabling physicians to remotely monitor vital signs such as blood pressure, blood glucose, and blood oxygenation while patients remain at home.

According to the IDC report "Worldwide Bluetooth Semiconductor 2008-2012 Forecast," published November 2008, a forthcoming radio frequency communication ("wireless connectivity") standard, Bluetooth low energy, will link wireless sensors via radio signals to the 70% of cell phones and computers likely to be fitted with the next generation of Bluetooth wireless technology, leveraging a ready-built infrastructure for data transmission. Analysis of trends indicated by this data can help physicians better manage diseases such as diabetes.

The technology also addresses the concerns of cost, compatibility, and interoperability that have previously stalled widespread adoption of wireless technology in medical applications.

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**Abbreviations:** (BG) blood glucose, (CGM) continuous glucose monitoring, (EMI) electromagnetic interference, (FCC) Federal Communications Commission, (FDA) Food and Drug Administration, (HDP) Health Device Profile, (PC) personal computer, (SIG) special interest group, (SMS) short message service

**Keywords:** Bluetooth low energy, diabetes, electronic sensors, low-power radio, medical monitoring, radio frequency

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