Abstracts

A compact low-cost add-on module for Doppler radar sensing of vital signs using a wireless communications terminal

V. Lubecke, O. Boric-Lubecke and E. Beck. "A compact low-cost add-on module for Doppler radar sensing of vital signs using a wireless communications terminal." 2002 MTT-S International Microwave Symposium Digest 02.3 (2002 Vol. III [MWSYM]): 1767-1770 vol.3.

A simple add-on module that allows the detection of human respiration and heart activity using an unmodified wireless telecommunications terminal is presented here. The module combines an antenna and mixing element to receive direct and back-scattered transmissions from the wireless terminal, and through Doppler radar principles produces an output signal proportional to the motion of the user's heart and chest. This signal can be used to monitor heart and respiration rates, and can potentially be relayed by the wireless terminal to a remote health monitoring facility via the existing telecommunications infrastructure. Module functionality is demonstrated here using a 2.4 GHz cordless telephone.

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