Device and System for Electrocardiogram Gating and Respiratory Monitoring

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Background

- Electrocardiogram (ECG) is used in a wide variety of medical imaging procedures, such as magnetic resonance imaging (MRI), computed tomography (CT), positron emission tomography (PET) and ultrasound.
- ECG and respiratory monitoring may also be used together when a patient is having general anesthesia, sedation, or a contrast agent injection during MRI to monitor vital signs.
- ECG gating is used where it is necessary to synchronize data acquisition with cardiac contraction.
- Currently, the use of ECG gating is cumbersome, unreliable and time consuming, adding expense and inconvenience to the patients.

Technology Summary

This invention provides a device and a system for sensing an ECG signal of a patient. The device may further include a respiratory sensor mounted to the strap for monitoring respiration. It provides a quick and easy way to monitor ECG and respirations.

Fig. 1 depicts a block diagram of an example embodiment of a patient diagnostic system.

Fig. 2 depicts an ECG sensor device of the patient diagnostic system of Fig. 1 in accordance with a first example embodiment.

Fig. 3 depicts an ECG sensor device of the patient diagnostic system of Fig. 1 in accordance with a second example embodiment.

Fig. 4 depicts an ECG sensor device of the patient diagnostic system of Fig. 1 in accordance with a third example embodiment.

Fig. 5 depicts an ECG sensor device of the patient diagnostic system of Fig. 1 in accordance with a fourth example embodiment.

Fig. 5 depicts an ECG sensor device of the patient diagnostic system of Fig. 1 in accordance with a fifth example embodiment.

Fig. 7 depicts an ECG and respiration sensor device of the patient diagnostic system of Fig. 1 in accordance with an example embodiment.

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Licensing Contact

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