Block Diagram

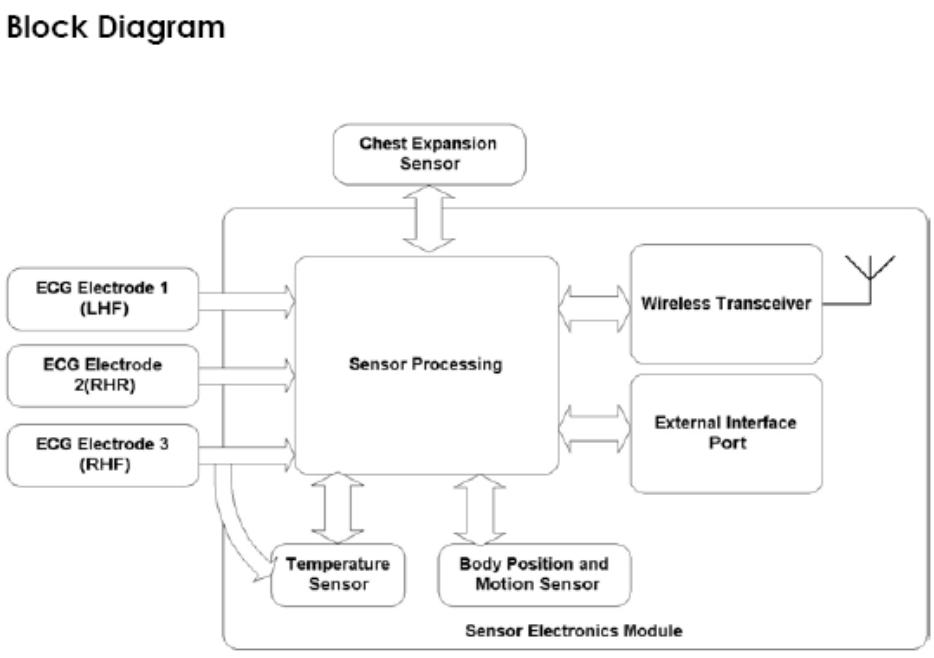

Figure 5 - Sensor Electronics Module Block Diagram

Figure 5 shows the outline block diagram of the sensor.
Three ECG electrodes from the belt provide the on-body electrical connection to the sensor providing two alternate views of the users ECG. Two of the ECG electrodes are also used to measure thoracic impedance variations of the user associated with respiration effort. The primary chest expansion sensor, contained in the belt, is also connected to the SEM unit.
The core of the sensor electronics module comprises signal filtering and conditioning circuitry for each of the sensor parameters and also for internally contained sensors to measure skin surface temperature (sensed by a probe connected to the right hand front ECG electrode) , motion and body position sensor. The signal conditioning circuitry also contains a software controller which digitises the sensor data waveforms, processes the data to derive measures such as rates , and transfers the data periodically to the wireless transceiver for onward transmission from the sensor.
An external interface port is also provided which can be used to configure operational information the SEM uses, to charge the unit and also to connect external sensors.