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A Low Complexity Impulse Radio Based UWB Transceiver Model

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Abstract - Literature reported that, a 4GHZ clock synchronized transceiver model for the transmission of biomedical sensor signals like ECG to perform an automated diagnosis of arrhythmia is proposed. The system is based on non - coherent architecture which enables the receiver to be extremely simple and largely insensitive to the transmitted pulse shape . By using energy collection approach , a bank of integrators is used to determine the energy of the signal for specific intervals of time , thus making the receiver efficient in a multipath environment . Detection of arrhythmia requires an accurate estimation of the R-R interval of the ECG signal . The proposed model estimates r-r interval and detects different catastrophic arrhythmias .