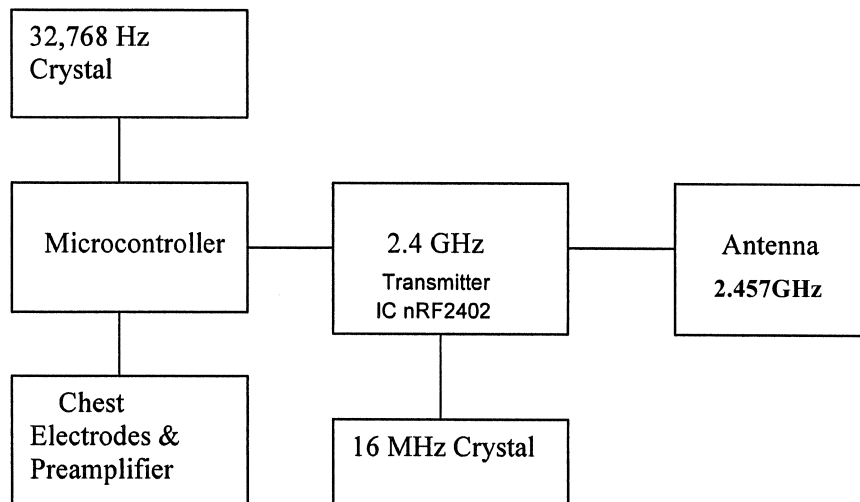
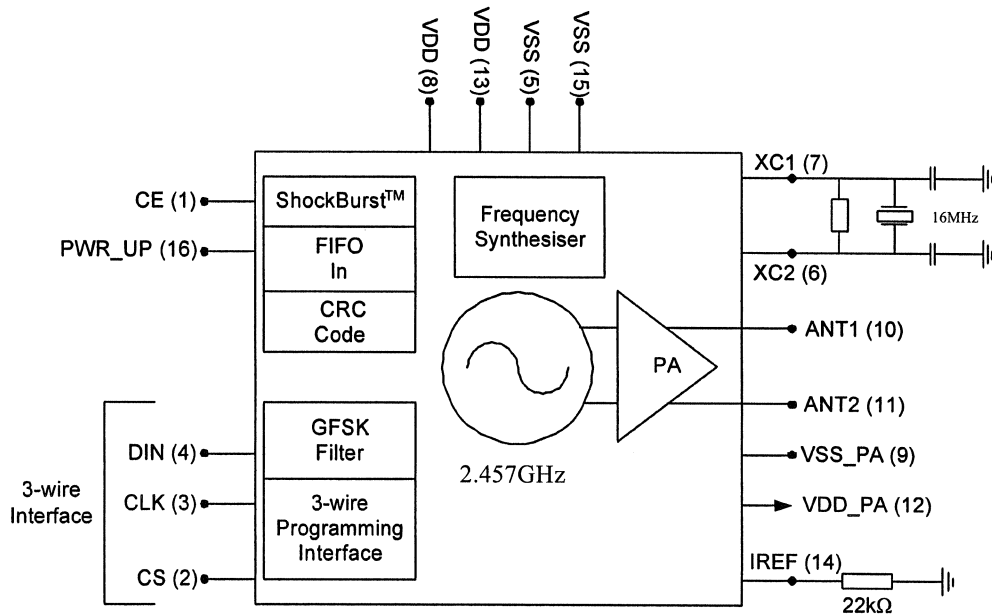


M501 Theory of Operation



The Timex Corporation M501 is a one way wireless chest strap that operates in conjunction with the M843 or M844 watch. It is worn on the chest and measures the user's heart rate value. The strap calculates the heart rate value and transmits the value to the watch where the heart rate value is displayed on the LCD and stored in memory for future download via a personal computer. The M502 dongle is the device that downloads heart rate values from the M843 or M844.

The M501 chest strap contains a preamplifier that measures the voltages from heart on the chest and converts this information into digital pulses provided to the microcontroller. The microcontroller calculates the heart rate value and transmits the data over a radio link operating at 2.457 GHz.



Block Diagram of Transmitter nRF2402

nRF2402/nRF2402G is a single-chip radio transmitter for the world wide 2.4 - 2.5 GHz ISM band. The transmitter consists of a fully integrated frequency synthesizer, a power amplifier, a crystal oscillator and a modulator. Output power and frequency channel is easily programmable by use of the 3-wire interface.