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Abstract
This paper presents a small portable cardiac signal measurement and analysis device, use a digital signal process（DSP）chip as control core, to measure the cardiac waveform signal and body temperature and store these data into the memory card. The similar device that often be used are tape recorder or single chip devices, the drawbacks are the tape card only store signal but can not perform the real time analysis; And single chip also can not analyzes the signal real time because the speed and calculate ability are not enough. This project uses the DSP chip as the control core, the speed and calculate ability are far beyond the single chip, the device can store the cardiac waveform signal and temperature data, besides, it can also perform the Fast Fourier Transfer（FFT）to analyze the cardiac waveform when the heart rate variability and temperature are abnormal, and send the signal to turn on the auto dialing system via wireless signal to call the hospital, The device also has the power saving ability for continuous use for at least 24 hours.
This device is suitable use for people who has heart disease and who needs a long term home care. This device can records the data and analyze the data, besides, it can auto dial for asking rescue, so it can cost down the manual home care, and gains the rescue time.
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