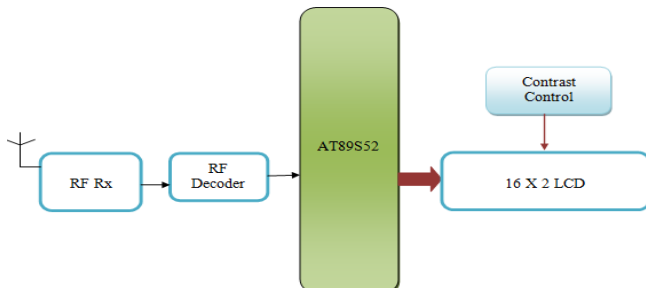


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Receiver

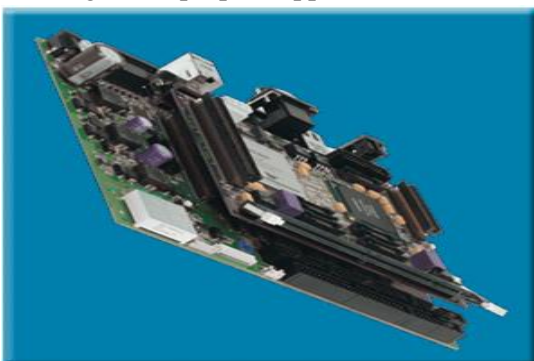


Hardware requirements

LPC2148 controller

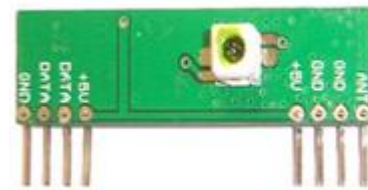
The LPC2148 are based on a 16/32 bit ARM7TDMI-S™ CPU with real-time emulation and embedded trace support, together with 128/512 kilobytes of embedded high speed flash memory.

A 128-bit wide memory interface and unique accelerator architecture enable 32-bit code execution at maximum clock rate. For critical code size applications, the alternative 16-bit Thumb Mode reduces code by more than 30% with minimal performance penalty. With their compact 64 pin package, low power consumption, various 32-bit timers, 4- channel 10-bit ADC, USB PORT, PWM channels and 46 GPIO lines with up to 9 external interrupt pins these microcontrollers are particularly suitable for industrial control, medical systems, access control and point-of-sale. With a wide range of serial communications interfaces, they are also very well suited for communication gateways, protocol converters and embedded soft modems as well as many other general-purpose applications.



RF communication

Radio frequency (RF) is a frequency or rate of oscillation within the range of about 3 Hz to 300 GHz. This range corresponds to frequency of alternating current electrical signals used to produce and detect radio waves. Since most of this range is beyond the vibration rate that most mechanical systems can respond to, RF

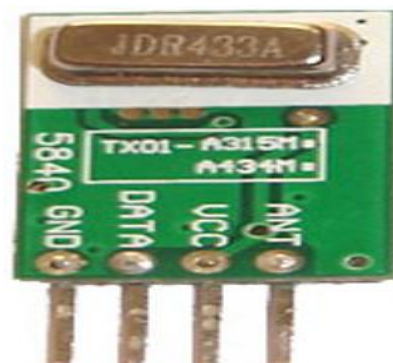


TRANSMITTER STT-433MHz

RF usually refers to oscillations in electrical circuits or electromagnetic radiation

- Frequency: 2.4~2.524 GHz
- Modulation type: GFSK
- Op. Voltage: 3V
- Output Power: +4dBm
- Data Rate: 1Mbps
- Small footprint size: 20.0 x 36.7 x 2.4mm
- Operating Temperature: -40 ~ + 85 C
- Long range : estimated 100mts @250Kbps ; 50mts @1Mbps , Line of Sight
- Built-in antenna.
- Real full-duplex, including decoder, encoder and data buffer.
- Very low cost

RF RECEIVER STR-433 MHz



Result of our project displaying normal heart rate



Advantages:

- Ease of operation
- Low maintenance cost
- Fit and forget system
- No wastage of time
- Durability
- Accuracy

Applications:

- Hospitals
- Remote heart rate monitoring applications
- Local monitoring applications
- Designed for Home and Clinical Applications

Future scope

The project can be further developed in future by adding expert system features like speed variations with moving screen, exact heart rate with analysis, displaying 12 lead graphs, and monitoring ECG wave form on PC monitor.

We can enhance the feature of the project by enabling the transmission of ECG signals through mobiles, signal transmitters or internet.

Conclusion

This project was successfully implemented and the output displayed was on LCD and Heart rate is counted by microcontroller for one minute and displayed at distant place through RF communication.

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