

Control of Electronic Home Appliances Using (NFC)

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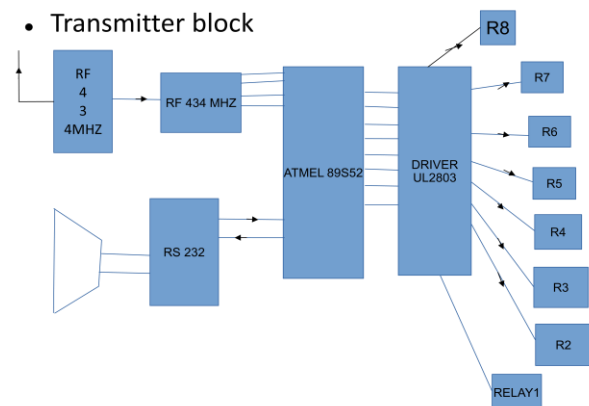
ABSTRACT—Near field communication system to control the electronic home appliances using RF encoder and decoder. 4-bit encoder and decoder are used for wireless and services by simply holding enabled devices near each other. Many of the existing applications (ticketing, purchasing, device configuration, etc.) use NFC as a method to transfer unique identifier communication so that we are going to use 434 Mhz RF receiver and transmitter chip . It will control multiple devices at a time. By using RF encoder we can store data without encoder we can't send data.

I. INTRODUCTION

Near field communication (NFC) is a set of communication protocol that enable two electronic devices, one of which is usually a portable device such as a smart phone to establish communication by bringing them within 4 cm (1.6 in) of each other. Atmel 89S52 is the heart of the circuit which is interfaced with RS 232 from the PC serial port using serial connector. 8051 is the name of a big family of microcontrollers. The device which we used in our project was the 'AT89S52' which is a typical 8051 microcontroller manufactured by Atmel™. The block diagram provided by Atmel™ in there that datasheet showed the architecture of 89S52 device seemed a bit complicated. A simpler architecture can be represented below. The 89S52 has 4 different ports, each one having 8 Input/output lines providing a total of 32 I/O lines. Those ports can be used to output DATA and orders do other devices, or to read the state of a sensor, or a switch. Most of the ports of the 89S52 have 'dual function' meaning that they can be used for two different functions. The first one is to perform input/output operations .The Motorola MMBR901 or similar is suggested for the NPN Silicon transistor. L1, C1, C2 are the most critical values that require optimization for each PCB layout or other design change. The following values might be used as starting points: C1 might be about 1 pF, C2 ≈ 6.8 pF, and L1 about 3 to 5nH. For +5 VDC supply voltage, typical R values are: Rb = 5.1K, Re = 330, and Rc = 10. The ULN2801A-ULN2805A each contain eight dar- ling ton transistors with common emitters and inte- grill suppression diodes for inductive loads. Each darling ton features a peak load current rating of 600mA (500mA continuous) and can withstand at least 50V in the off state. Outputs may be paralleled for higher current capability.

II. PROJECT OVERVIEW

BLOCK DIAGRAM



This circuit is developed to monitor and control the electronic devices using IR signal and micro controller and PC serial port. This project consists of three different modes to operate. This multi- purpose near field system is mainly used in industries. This is also used for domestic purpose.

III. INFRARED LED

It is an ideal beam angel for most remote control application inconjunction with MRD82. It uses stable long life LED technology. It has clearepoxy package. It is used in remote controls and long distance interruptive sensing.

IV. CONCLUSION

Hence the circuit is designed for multipurpose near field communication using AT89S52, IR SENSOR AND SERIAL PC PORT. The controlling of the electronic devices is done using the three modules. This can be implemented for both in industries and domestic purpose as well. NFC technology is a short-range wireless technology playing a significant role in the information environment. NFC tries to harmonize today's different contactless technologies, presenting current and future solutions as payment, ticketing, access control, information collection and exchange, transportation, health care, social networking as well as education. With the huge observed development in contacting technologies and all of these have been consolidated into one

device, NFC tries to make people's lives easier and more convenient by enabling more intuitive access to new media and content services. So that we can control multiple devices at a time with short distance.

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