AOS project

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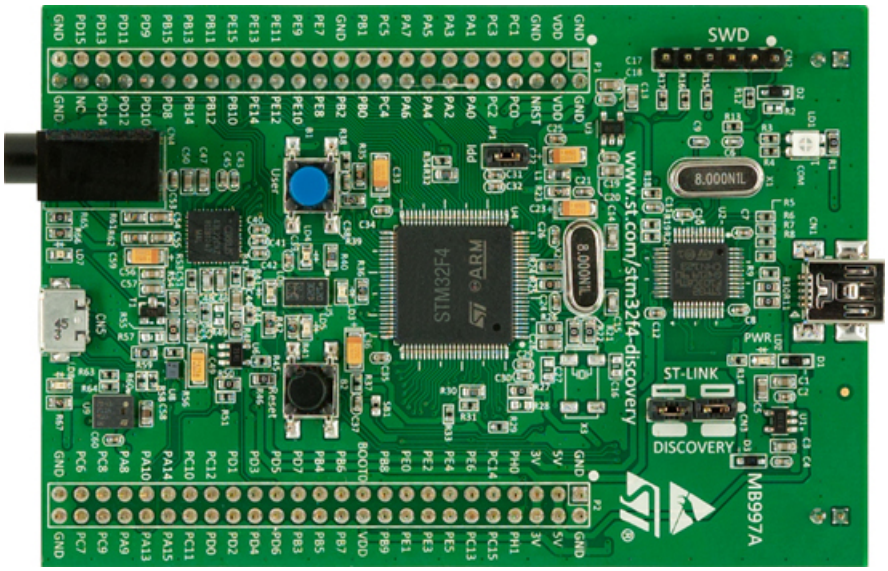
Contents

1 Introduction

The goal of this project is to recognize which button of a remote control is pushed by using the BPW34 photodiode and the stm32f407. This board has a Analogic to Digital Converter (ADC) built-in that converts the anologic signal received from the BPW to a digital signal. This board operating system is Miosix.



2 BPW34

The BPW34 is a photodiode that is sensitive to visible and infrared radiation. Its carateristics are the following:

- It is sensitive at most 34KHz
- Fast response times
- Angle of half sensitivity: = 65
- High photo sensitivity
- Suitable for visible and near infrared radiation

For any other information on this photodiode visit: `http://www.vishay.com/docs/81521/bpw34.pdf`

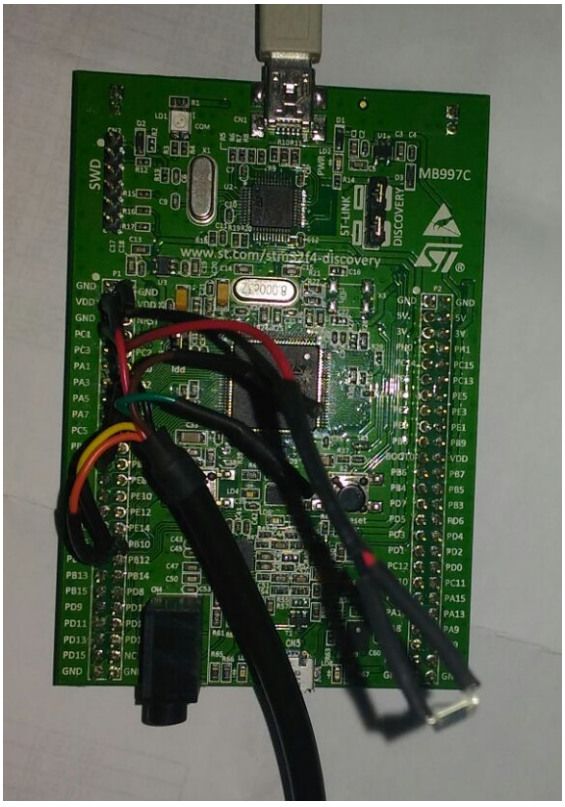
3 How it works

3.1 Board configuration

Used pins are the following:

- GND: BPW34 black wire
- GND: FTDI black wire
- PC1: BPW34 red wire
- PB10:FTDI yellow wire
- PB11:FTDI orange wire
- VDD: FTDI red wire

The BPW34 sends the value that it sees to the pin PC1. This pin is connected to the ADC, it converts the value in digital so we can use it easly.
The FTDI is used to print the values, that the photodiode receives, on the Arduino serial monitor.



4 Used Software

- QSTlink2: used to program the board.
- Github: to save every code changes online.
- Latex: to write this document.
- Notepad++: to write code.
- Miosix Toolchain: to compile the project
- ArduinoIDE: serial Arduino monitor