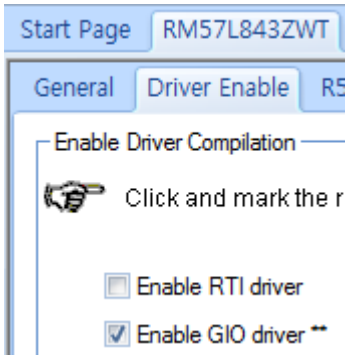
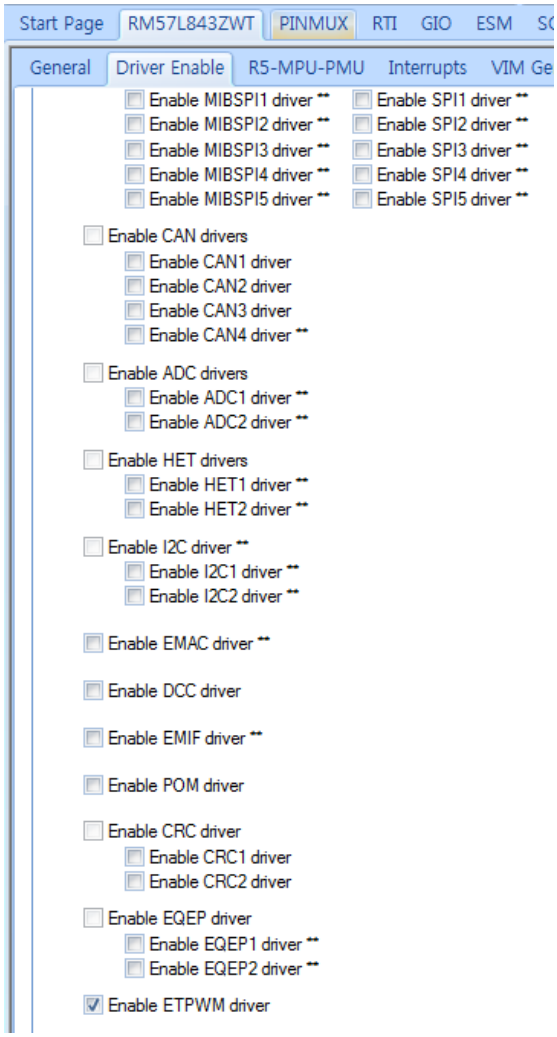
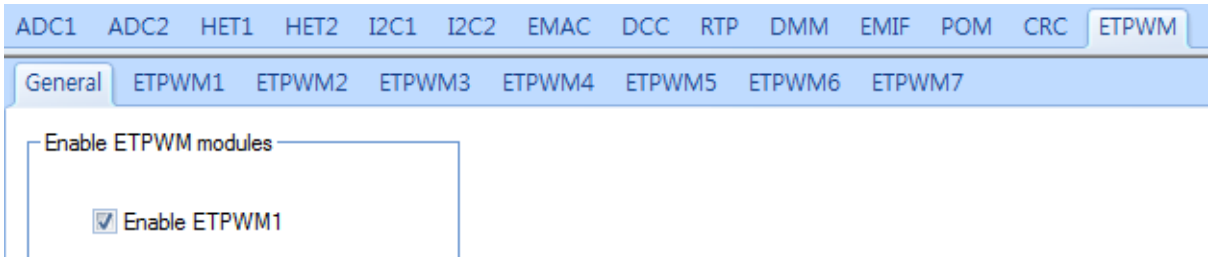
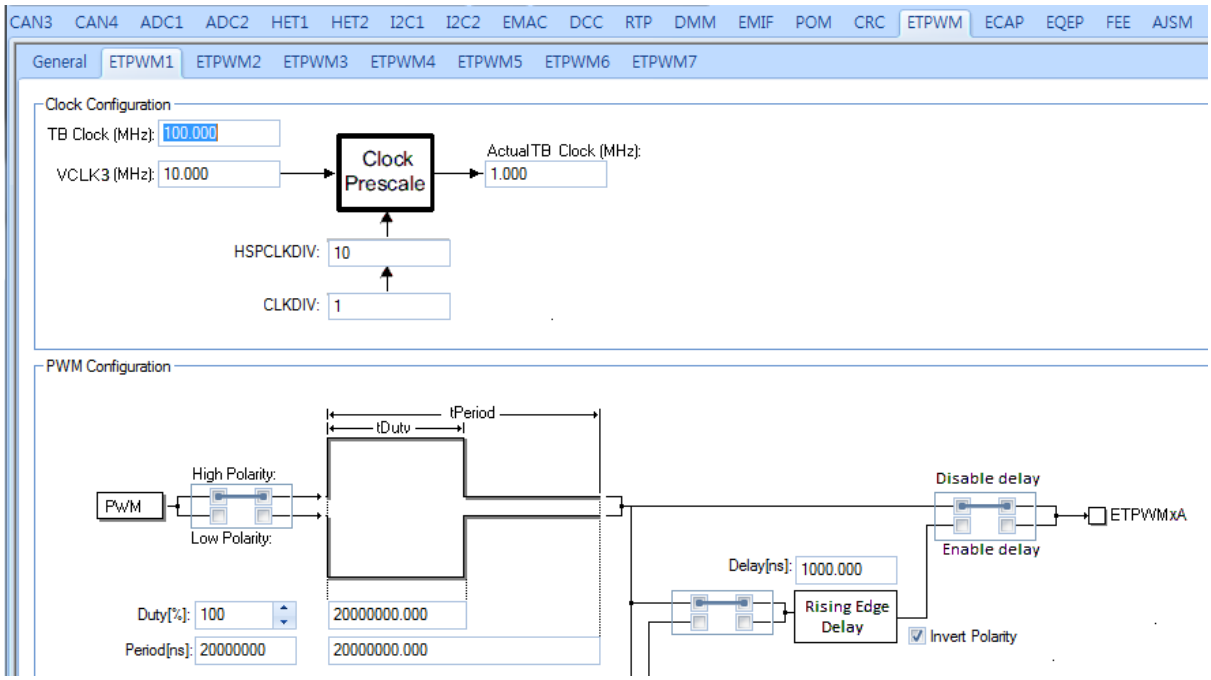
HolCoGen 설정

GIO,ETPWM driver 체크

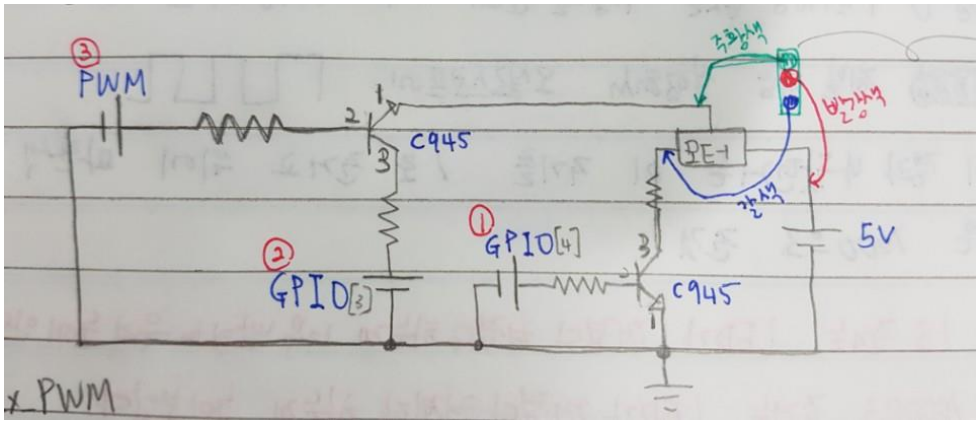





ADC1 ADC2 HET1 HET2 I2C1 I2C2 EMAC DCC RTP DMM EMIF POM CRC ETPWM
General ETPWM1 ETPWM2 ETPWM3 ETPWM4 ETPWM5 ETPWM6 ETPWM7
Enable ETPWM modules
Enable ETPWM1


CAN3 CAN4 ADC1 ADC2 HET1 HET2 I2C1 I2C2 EMAC DCC RTP DMM EMIF POM CRC ETPWM ECAP EQEP FEE AJSM
General ETPWM1 ETPWM2 ETPWM3 ETPWM4 ETPWM5 ETPWM6 ETPWM7
Clock Configuration
TB Clock (MHz): 100.000
VCLK3 (MHz): 10.000
Clock Prescale
Actual TB Clock (MHz): 1.000
HSPCLKDIV: 10
CLKDIV: 1
PWM Configuration
tPeriod
tDuty
High Polarity:
PWM
Low Polarity:
Disable delay
ETPWMxA
Enable delay
Delay[ns]: 1000.000
Rising Edge Delay
Invert Polarity
Duty[%]: 100
20000000.000
Period[ns]: 20000000
20000000.000

회로 그림



CCS 소스(OpenCollector 2개 이용)

```
#include "HL_sys_common.h"
#include "HL_etpwm.h"
#include "HL_system.h"
#include "HL_gio.h"

void wait(uint32 time);

int main(void)
{
    unsigned short val = 0;

    etpwmInit();
    gioInit();

    gioSetDirection(gioPORTA, 0xffffffff);
    gioSetPort(gioPORTA, 0xffffffff);

    etpwmStartTBCLK();

    gioSetBit(gioPORTA, 4, 1);
    etpwmSetCmpA(etpwmREG1, 1000 );

    wait(5000);

    while(1)
        ;
    return 0;
}

void wait(uint32 time)
{
    time--;
}
```

결론

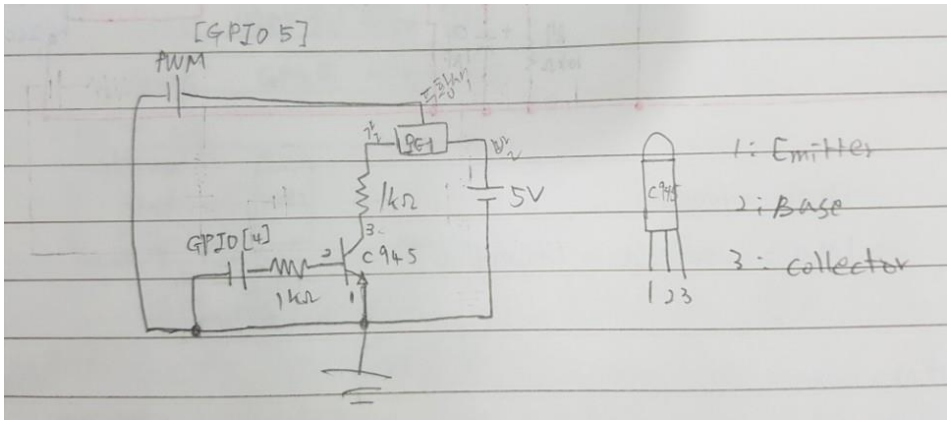
서보모터 안돌아감

그래서 OpenCollector 2 개를 1 개로 줄여서 다시 도전

HolCoGen 설정

위와 같음

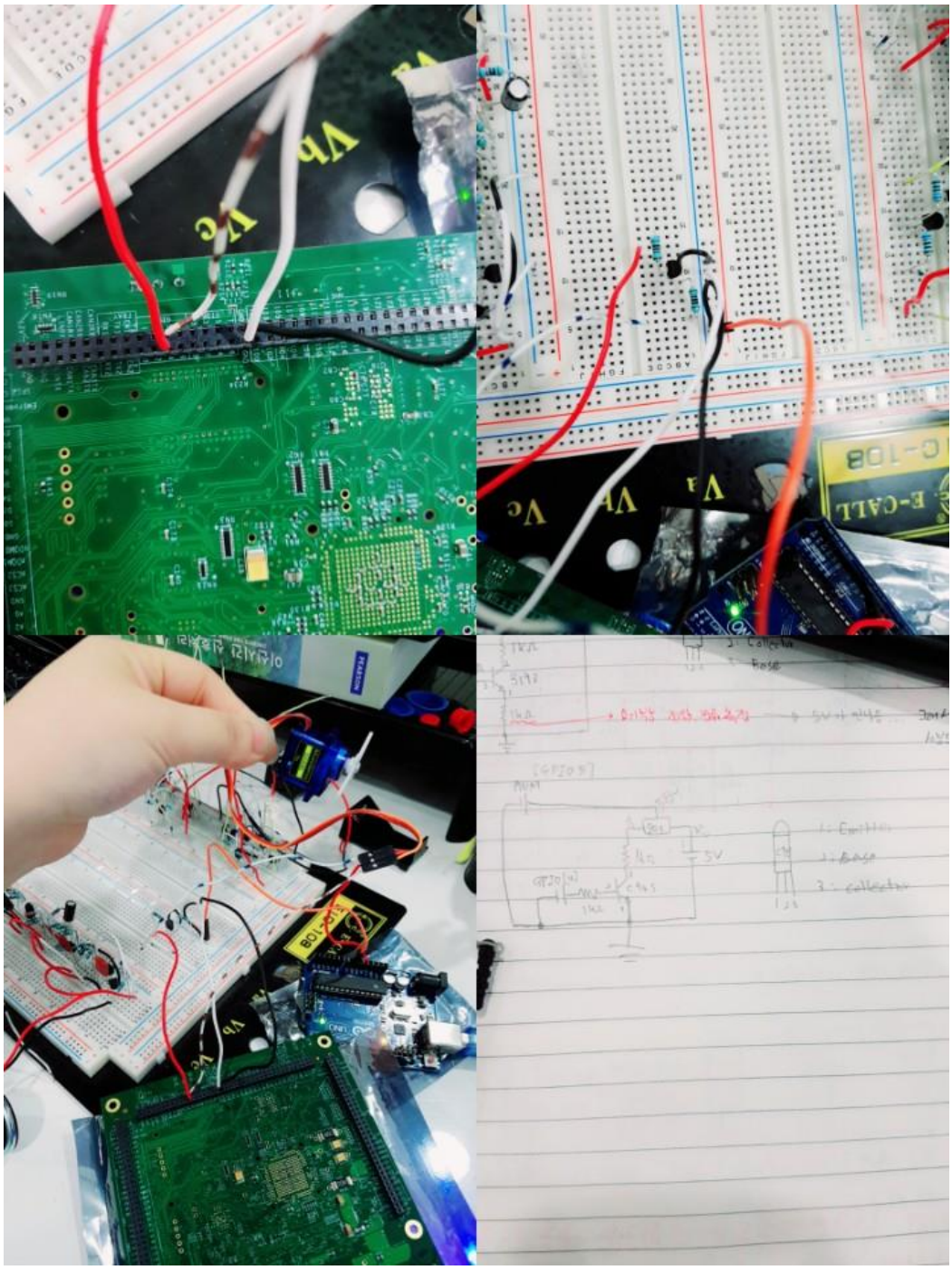
회로 그림



CCS 소스(OpenCollector 1개 이용)

```
#include "HL_sys_common.h"
#include "HL_etpwm.h"
#include "HL_system.h"
#include "HL_gio.h"

void wait(uint32 time);

int main(void)
{
    unsigned short val = 0;

    etpwmInit();

    etpwmStartTBCLK();

    etpwmSetCmpA(etpwmREG1, 1000 );

    wait(5000);

    gioInit();
    gioSetDirection(gioPORTA, 0xffffffff);
    gioSetPort(gioPORTA, 0xffffffff);

    gioSetBit(gioPORTA, 4, 1);

    while(1)
        ;
```

```
    return 0;
}

void wait(uint32 time)
{
    time--;
}
```



결론

서보모터 안돌아감

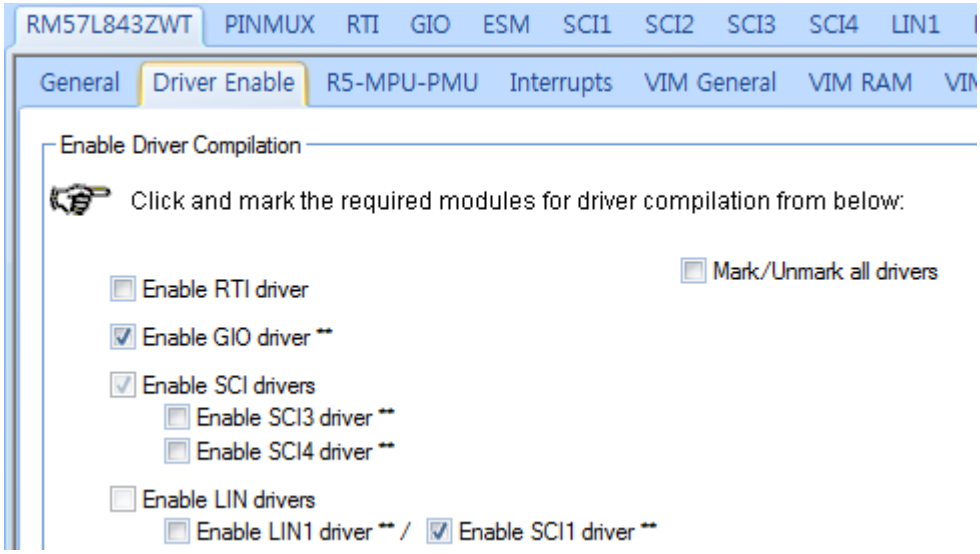
그래서 **1kΩ 저항 쪽 전류 측정 :** 1.88mA~1.89mA, **1kΩ 저항 쪽 전류 측정 :** 1.78V

아두이노로 서보모터 돌아갈 때 1kΩ 저항 쪽 전류 측정: Max 5.25mA(스스르 돈다), 4.6~5mA(빡돌아간다.),

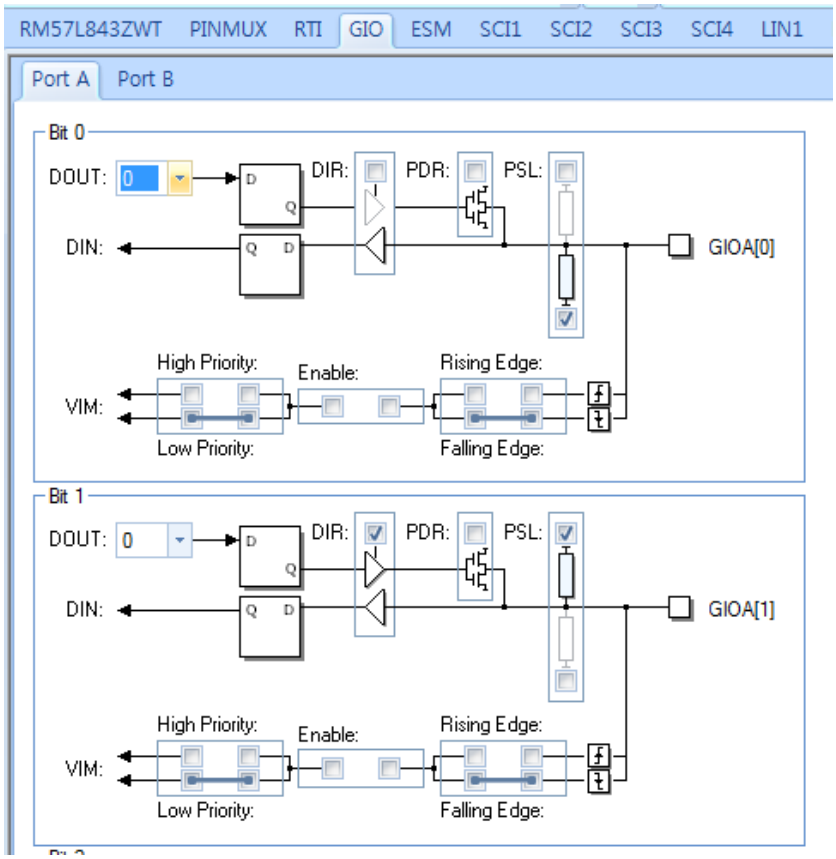
->전류가 부족한거 같음 달링턴 회로를 사용해야됨!

HolCoGen 설정

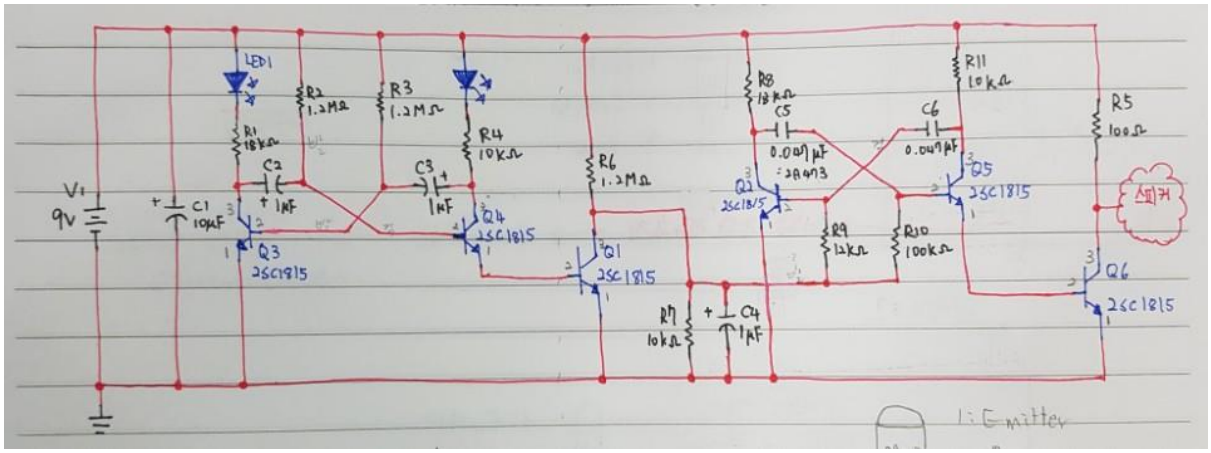
GIO,ETPWM driver 체크



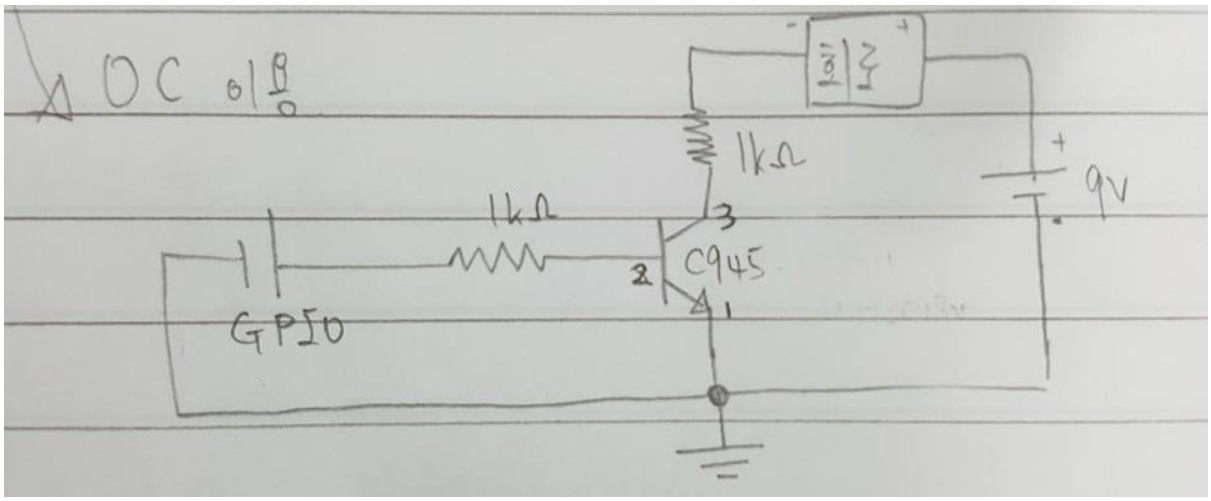
GIOA[1]핀 이용



싸이렌 & LED 회로



OpenCollector 구성 회로

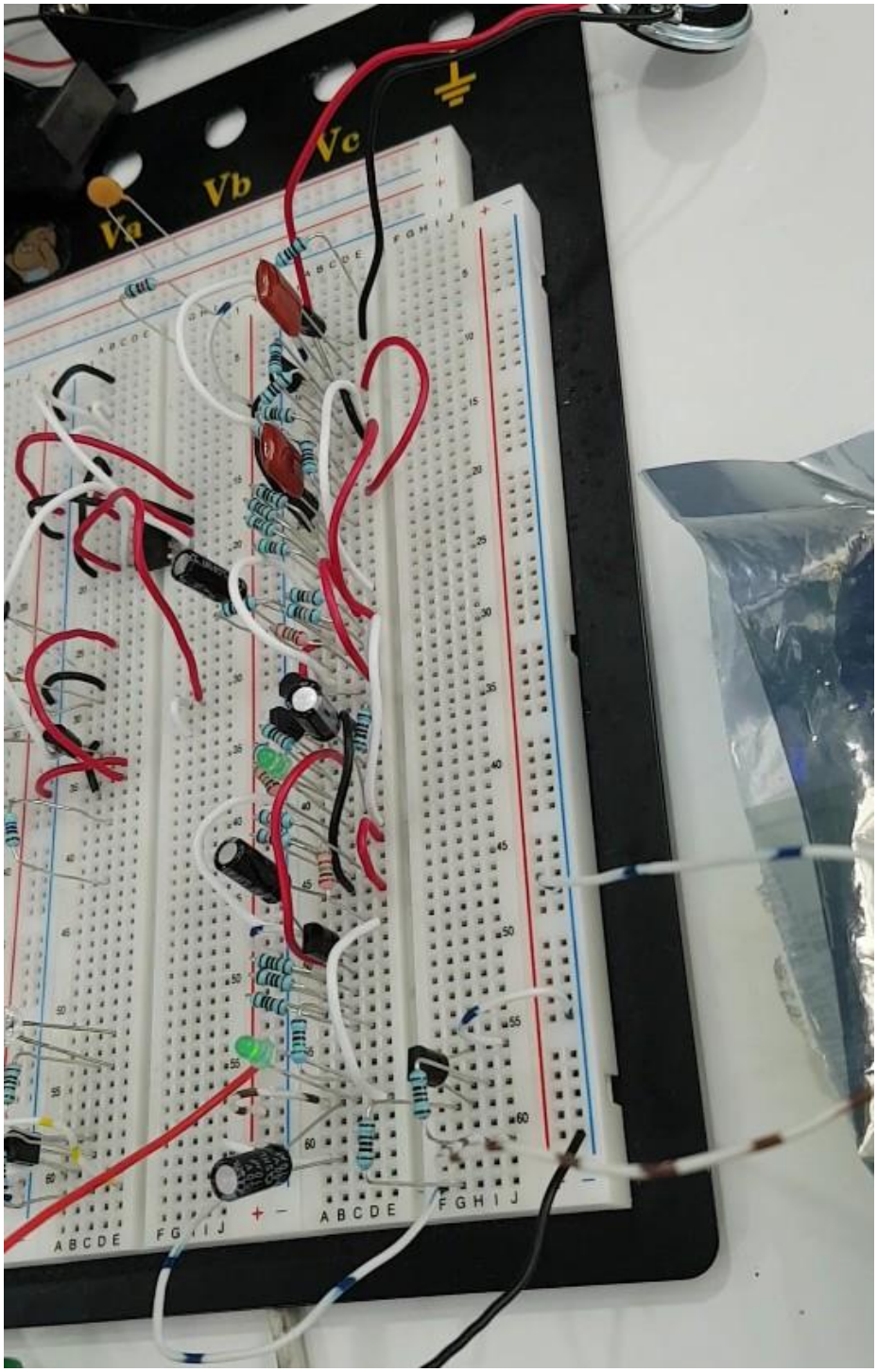


CCS 소스(UART 이용)

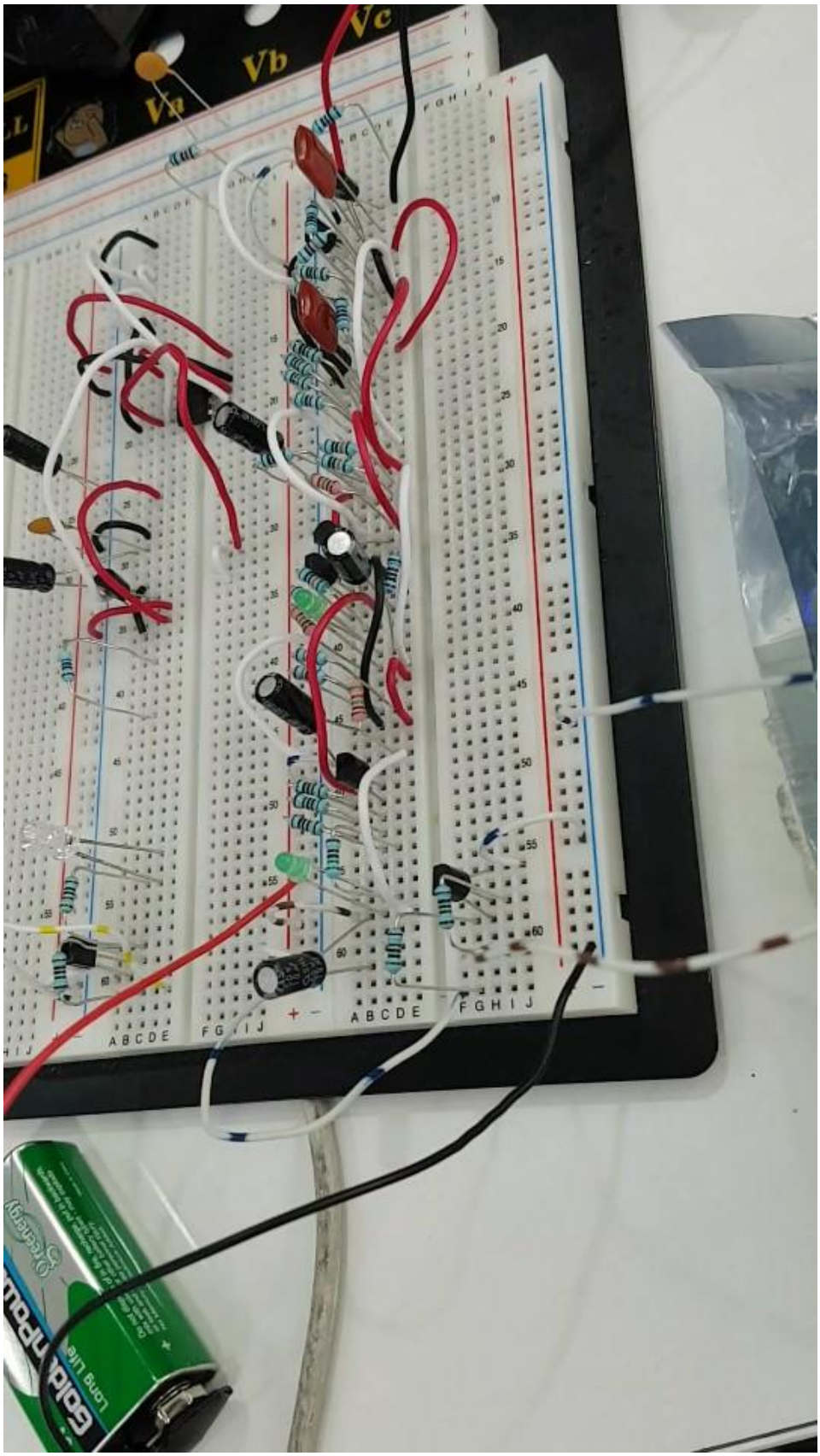
```
#include "HL_sys_common.h"
#include "HL_system.h"
#include "HL_gio.h"
#include "HL_sci.h"
#include <string.h>

#define UART sciREG1

uint32 receiveData = 0;

void catchCommand(void)
{
    while((UART -> FLR & 0x4) == 4)
        ;

    receiveData = sciReceiveByte(UART);
}

int main(void)
{
    gioInit();
    sciInit();

    gioSetDirection(gioPORTA, 0xffffffff);
    gioSetPort(gioPORTA, 0xffffffff);

    gioSetBit(gioPORTA, 1, 0);



    for(;;)
    {
        catchCommand();
        if(receiveData == 49)
        {
            gioSetBit(gioPORTA, 1, 1);
        }
        else if(receiveData == 48)
        {
            gioSetBit(gioPORTA, 1, 0);
        }
    }
    return 0;
}
```

회로구성 후 돌림

0 누르면 LED 가 꺼짐 + 사이렌 소리 안남



1 누르면 LED 가 켜짐 + 사이렌 소리 안남



결론

LED 는 번갈아 가면서 켜졌다 꺼졌다 하지만 사이렌소리는 나오지 않음

전류가 부족한 것 같음

처음에 대왕 스피커로 했다가 안 나와서 전류가 많이 딸리는거 같아 작은 스피커로도 해봤지만 구동이 안됨!

이것도 달링턴 회로로 전류를 증폭 해 줄 필요가 있음.