

list2.txt

```
//動作
#define ACCEL_OFFSET (400U) //アクセルのオフセット値
#define PWM_CYCLE (4800000/20000/2-1) //20kHz@48MHz
#define ADC_RESOLUTION 16384.0 //ADC分解能 (RA4M1は14ビットだがArduinoライブラリは10bit)
#define DED_TIME (0 * 48) //μs * MHz
#define RUN (1U)
#define STOP (0U)
//極対数
#define PP 6
//デバッグ
#define UART_BPS (921600) //UART通信速度

//端子名
#define Up (D5)
#define Un (D4)
#define Vp (D10)
#define Vn (D13)
#define Wp (D9)
#define Wn (D8)
#define Hu (D1)
#define Hv (D2)
#define Hw (D0)
#define OUT_L (0x00000004)
#define OUT_H (0x00000005)
#define OUT_PWM (0x03010000)
#define UpPin R_PFS->PORT[1].PIN[02].PmnPFS
#define UnPin R_PFS->PORT[1].PIN[03].PmnPFS
#define VpPin R_PFS->PORT[1].PIN[12].PmnPFS
#define VnPin R_PFS->PORT[1].PIN[11].PmnPFS
#define WpPin R_PFS->PORT[3].PIN[03].PmnPFS
#define WnPin R_PFS->PORT[3].PIN[04].PmnPFS

void setPWM(void) {
    digitalWrite(Un, LOW); //端子設定
    digitalWrite(Vn, LOW); //下アームON
    digitalWrite(Wn, LOW);
    digitalWrite(Up, LOW); //上アームOFF
    digitalWrite(Vp, LOW);
    digitalWrite(Wp, LOW);
    pinMode(Un, OUTPUT); //出力
    pinMode(Vn, OUTPUT);
    pinMode(Wn, OUTPUT);
    pinMode(Up, OUTPUT);
    pinMode(Vp, OUTPUT);
    pinMode(Wp, OUTPUT);
    delay(1);
    digitalWrite(Un, HIGH); //下アームOFF
    digitalWrite(Vn, HIGH);
    digitalWrite(Wn, HIGH);

    R_MSTP->MSTPCRD.b.MSTPD6 = 0;
    R_GPT2->GTCR = R_GPT3->GTCR = R_GPT7->GTCR = 0x00050000; //PCLKでカウント, PWM mode 2

    R_GPT2->GTDVU = R_GPT3->GTDVU = R_GPT7->GTDVU = DED_TIME; //デッドタイム時間は0
    R_GPT2->GTPR = R_GPT2->GTPBR = PWM_CYCLE;
    R_GPT3->GTPR = R_GPT3->GTPBR = PWM_CYCLE;
    R_GPT7->GTPR = R_GPT7->GTPBR = PWM_CYCLE;
    R_GPT2->GTCNT = R_GPT3->GTCNT = R_GPT7->GTCNT = 0;
    R_GPT2->GTIOR_b.OAE = R_GPT3->GTIOR_b.OAE = R_GPT7->GTIOR_b.OAE = 1;
    R_GPT2->GTIOR_b.OBE = R_GPT3->GTIOR_b.OBE = R_GPT7->GTIOR_b.OBE = 1;
    R_GPT2->GTBER_b.CCRA = R_GPT3->GTBER_b.CCRA = R_GPT7->GTBER_b.CCRA = 1;
    R_GPT2->GTBER_b.CCRB = R_GPT3->GTBER_b.CCRB = R_GPT7->GTBER_b.CCRB = 1;

    R_GPT2->GTCCR[2] = R_GPT2->GTCCR[0] = PWM_CYCLE - DED_TIME;
    R_GPT3->GTCCR[2] = R_GPT3->GTCCR[0] = PWM_CYCLE - DED_TIME;
    R_GPT7->GTCCR[2] = R_GPT7->GTCCR[0] = PWM_CYCLE - DED_TIME;
    R_GPT2->GTIOR = R_GPT3->GTIOR = R_GPT7->GTIOR = 0x01230103;

    R_GPT2->GTDTCR = R_GPT3->GTDTCR = R_GPT7->GTDTCR = 1; //デッドタイム自動
    R_GPT2->GTIOR_b.GTIOB = 0x3; //上アームはHighアクティブ (初期値Low, コンペアマッチでトグル)
    R_GPT3->GTIOR_b.GTIOB = 0x3;
    R_GPT7->GTIOR_b.GTIOB = 0x3;
    R_GPT2->GTIOR_b.GTIOA = 0x13; //下アームはLowアクティブ (初期値High, コンペアマッチでトグル)
    R_GPT3->GTIOR_b.GTIOA = 0x13;
    R_GPT7->GTIOR_b.GTIOA = 0x13;

    R_GPT2->GTSSR_b.CSTRT = 1; //ソフトウェアスタートの許可
    R_GPT3->GTSSR_b.CSTRT = 1;
    R_GPT7->GTSSR_b.CSTRT = 1;

    R_GPT2->GTSTR |= 0x8c; //同期してチャンネル2 (U) , 3 (V) , 7 (W) をスタート

    pulseOutput(); //ホールセンサ位置に合わせたPWM出力端子を選択
}
```