	V1.0
	20210607

APT32S003 EPT

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3.1 EPT

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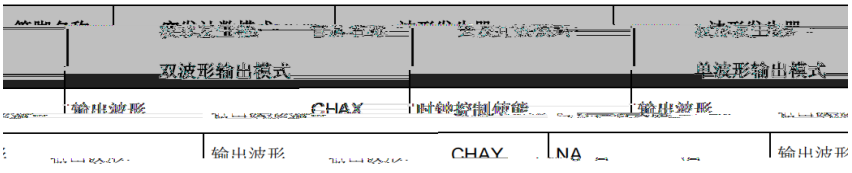

	输出波形	输出波形	CHBX	时钟控制使能
	输出波形	输出波形	CHBY	NA
	输出波形	输出波形	CHCX	NA
	输出波形	输出波形	CHCY	NA
	输出波形	输出波形	CHD	NA

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```
/*****************************************************************/
//ETP0 Functions
//EntryParameter:NONE
//ReturnValue:NONE
/*****************************************************************/
void EPT0_CONFIG(void)
{
    //PWM
```

```
_T2U_Event_Nochange,EPT_PWM_T2D_Event_Nochange);
        EPT_PWMX_Output_Control(EPT_PWMD,EPT_CA_Selecte_CMPD,EPT_CB_Selecte_CMPD,EPT_PWM_ZRO_Event_OutHigh,EPT_PWM_PRD_Event_
Nochange,EPT_PWM_CAU_Event_OutLow,EPT_PWM_CAD_Event_OutLow,


        EPT_PWM_CBU_Event_Nochange,EPT_PWM_CBD_Event_Nochange,EPT_PWM_T1U_Event_Nochange,EPT_PWM_T1D_Event_Nochange,EPT_PWM
_T2U_Event_Nochange,EPT_PWM_T2D_Event_Nochange);
        EPT_PRDR_CMPA_CMPB_CMPC_CMPD_Config(4800,2400,1200,600,0);//PRDR=2400,CMPA=1200,CMPB=600,CMPC=2400,CMPD=0
        EPT_DB_CLK_Config(0,24,24);//Fdbclk=Fhclk/(0+1)    DTR=24clk    DTF=24clk
        //PWMA                  ,CHX            CHY
       EPT_DBCR_Config(EPT_CHA_Selecte,EPT_CHAINSEL_PWMA_RISE_FALL,EPT_CHA_OUTSEL_EnRise_EnFall,EPT_PB_OUT_Reverse,EPT_PAtoCHX
_PBtoCHY);
        //PWMB                  ,CHX            CHY
       EPT_DBCR_Config(EPT_CHB_Selecte,EPT_CHBINSEL_PWMB_RISE_FALL,EPT_CHB_OUTSEL_EnRise_EnFall,EPT_PB_OUT_Reverse,EPT_PAtoCHX
_PBtoCHY);
        //PWMC                  ,CHX            CHY
       EPT_DBCR_Config(EPT_CHC_Selecte,EPT_CHCINSEL_PWMC_RISE_FALL,EPT_CHC_OUTSEL_EnRise_EnFall,EPT_PB_OUT_Reverse,EPT_PAtoCH
X_PBtoCHY);
        //EPT_Int_Enable(EPT_CAP_LD0);              //CMPA load
        //EPT_Int_Enable(EPT_CAP_LD1);              //CMPB load
        //EPT_Int_Enable(EPT_CAP_LD2);              //CMPC load
        //EPT_Int_Enable(EPT_CAP_LD3);              //CMPD load
        //EPT_Int_Enable(EPT_CAU);                  //          CNT=CMPA
        //EPT_Int_Enable(EPT_CAD);                  //          CNT=CMPA
        //EPT_Int_Enable(EPT_CBU);                  //          CNT=CMPB
        //EPT_Int_Enable(EPT_CBD);                  //          CNT=CMPB
        //EPT_Int_Enable(EPT_CCU);                  //          CNT=CMPC
        //EPT_Int_Enable(EPT_CCD);                  //          CNT=CMPC
        //EPT_Int_Enable(EPT_CDU);                  //          CNT=CMPD
        //EPT_Int_Enable(EPT_CDD);                  //          CNT=CMPD
        //EPT_Int_Enable(EPT_PEND);                 //
        //EPT_Vector_Int_Enable();
        EPT_Start();
        //
        /*EPT_Software_Prg();
        EPT_Capture_Config(EPT_Selecte_PCLK,EPT_CNTMD_increase,EPT_CAPMD_Continue,EPT_CAP_EN,EPT_LDARST_EN,EPT_LDBRST_DIS,EPT_LD
CRST_DIS,EPT_LDDRST_DIS,1,0);//TCLK=pclk/(1+0),CMPAload CMPBload
        EPT_SYNCR_Config(EPT_Triggle_Continue,EPT_SYNCUSR0_REARMTrig_DIS,EPT_TRGSRC0_ExtSync_SYNCUSR0,EPT_TRGSRC1_ExtSync_SYNC
USR4,0x04);//      SYNCUSR2 ,
        EPT_PRDR_CMPA_CMPB_CMPC_CMPD_Config(0XFFFF,0,0,0,0);
        EPT_Int_Enable(EPT_CAP_LD0);              //CMPA
        EPT_Int_Enable(EPT_CAP_LD1);              //CMPB
        EPT_Vector_Int_Enable();
        EPT_Start();*/
    }
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3.2 PWM

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/*************************************************************/
//ETP0 Functions
//EntryParameter:NONE
//ReturnValue:NONE
/*************************************************************/
void EPT0_CONFIG(void)
{
    //PWM
    EPT_Software_Prg();
    EPT_IO_SET(EPT_IO_CHAX,IO_NUM_PA10);              //      GPIO
    EPT_IO_SET(EPT_IO_CHAY,IO_NUM_PB03);
```

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X_PBtoCHY);
        EPT_Start();
    }
```

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3.3

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```
void GPIO_CONFIG(void)
{
//EXI0_INT= EXI0/EXI16,EXI1_INT= EXI1/EXI17, EXI2_INT=EXI2~EXI3/EXI18/EXI19, EXI3_INT=EXI4~EXI9, EXI4_INT=EXI10~EXI15
    GPIO_IntGroup_Set(PA0,0,Selete_EXI_PIN0);                    //EXI0 set PA.0
    GPIOA0_EXI_Init(EXI0);                                       //PA0.0 as input
    EXTI_trigger_CMD(ENABLE,EXI_PIN0,_EXIFT);                    //ENABLE falling edge
    //EXTI_trigger_CMD(ENABLE,EXI_PIN0,_EXIRT);                  //ENABLE rising edge
      EXTI_interrupt_CMD(ENABLE,EXI_PIN0);                       //enable EXI
      GPIO_EXTI_interrupt(GPIOA0,0b0000000000000001);            //enable GPIOA00 as EXI
}
/*************************************************************/
//ETP0 Functions
//EntryParameter:NONE
//ReturnValue:NONE
/*************************************************************/
void EPT0_CONFIG(void)
```

```
{
    //
    EPT_Software_Prg();
```

```
    SYSCON_IWDCNT_Reload();                                                    //reload WDT
    //IWDT_Int_Enable();
//------------  WWDT FUNTION  ---------------------------------/
    WWDT_CNT_Load(0xFF);
    WWDT_CONFIG(PCLK_4096_DIV0,0xFF,WWDT_DBGDIS);
    WWDT_Int_Config(ENABLE);
    //WWDT_CMD(ENABLE);
//------------  CLO  ---------------------------------/
    //SYSCON_CLO_CONFIG(CLO_PA02);
    //SYSCON->OPT1=(SYSCON->OPT1&0XFFFF8000)|(0X01<<12)|(0X04<<8)|(0x00<<4);
//------------  LVD FUNTION  ---------------------------------/
  //LVD LVR Enable/Disable
  SYSCON_LVD_Config(DISABLE_LVDEN,INTDET_LVL_3_3V,RSTDET_LVL_1_9V,DISABLE_LVD_INT,INTDET_POL_fall);
  //LVD_Int_Enable();
//------------ EVTRG function ---------------------------------/
    SYSCON->EVTRG=0X00|0x01<<20;                                //    EXI0                SYSCON_trgsrc0
    SYSCON->EVPS=0X00;
    //SYSCON->IMER =EM_EVTRG0_ST;
//------------  SYSCON Vector  ---------------------------------/
    //SYSCON_Int_Enable();                                        //SYSCON VECTOR
    //SYSCON_WakeUp_Enable();                                     //Enable WDT wakeup INT
}

/*****************************************************************/
//EPT0 Interrupt
//EntryParameter:NONE
//ReturnValue:NONE
/*****************************************************************/
void EPT0IntHandler(void)
{
     // ISR content ...
    if((EPT0->MISR&EPT_TRGEV0_INT)==EPT_TRGEV0_INT)
    {
        EPT0->ICR=EPT_TRGEV0_INT;
    }
    else if((EPT0->MISR&EPT_TRGEV1_INT)==EPT_TRGEV1_INT)
    {
        EPT0->ICR=EPT_TRGEV1_INT;
    }
    else if((EPT0->MISR&EPT_TRGEV2_INT)==EPT_TRGEV2_INT)
    {
        EPT0->ICR=EPT_TRGEV2_INT;
    }
    else if((EPT0->MISR&EPT_TRGEV3_INT)==EPT_TRGEV3_INT)
```

```
    {
        EPT0->ICR=EPT_TRGEV3_INT;
    }
    else if((EPT0->MISR&EPT_CAP_LD0)==EPT_CAP_LD0)
    {
        EPT0->ICR=EPT_CAP_LD0;
        EXTI_trigger_CMD(DISABLE,EXI_PIN0,_EXIRT);
        EXTI_trigger_CMD(ENABLE,EXI_PIN0,_EXIFT);
        R_CMPA_BUF=EPT0->CMPA;                                  //
    }
    else if((EPT0->MISR&EPT_CAP_LD1)==EPT_CAP_LD1)
    {
        EPT0->ICR=EPT_CAP_LD1;
        EXTI_trigger_CMD(ENABLE,EXI_PIN0,_EXIRT);
        EXTI_trigger_CMD(DISABLE,EXI_PIN0,_EXIFT);
        R_CMPB_BUF=EPT0->CMPB;                                   //
    }
}
```

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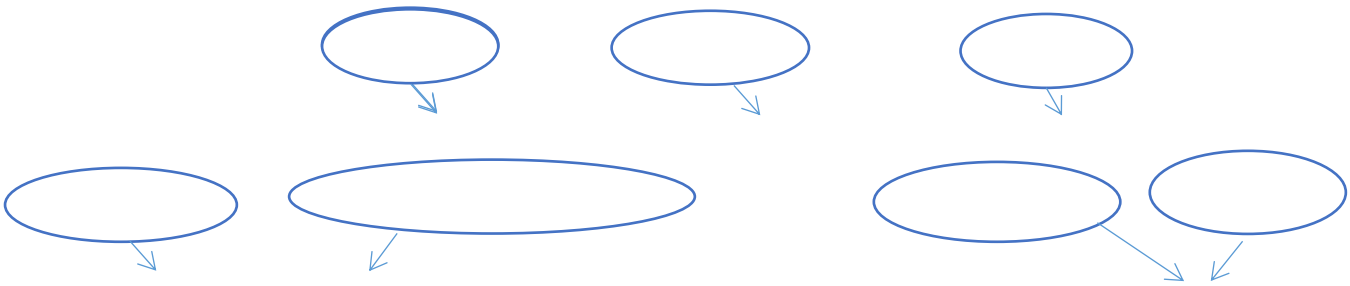
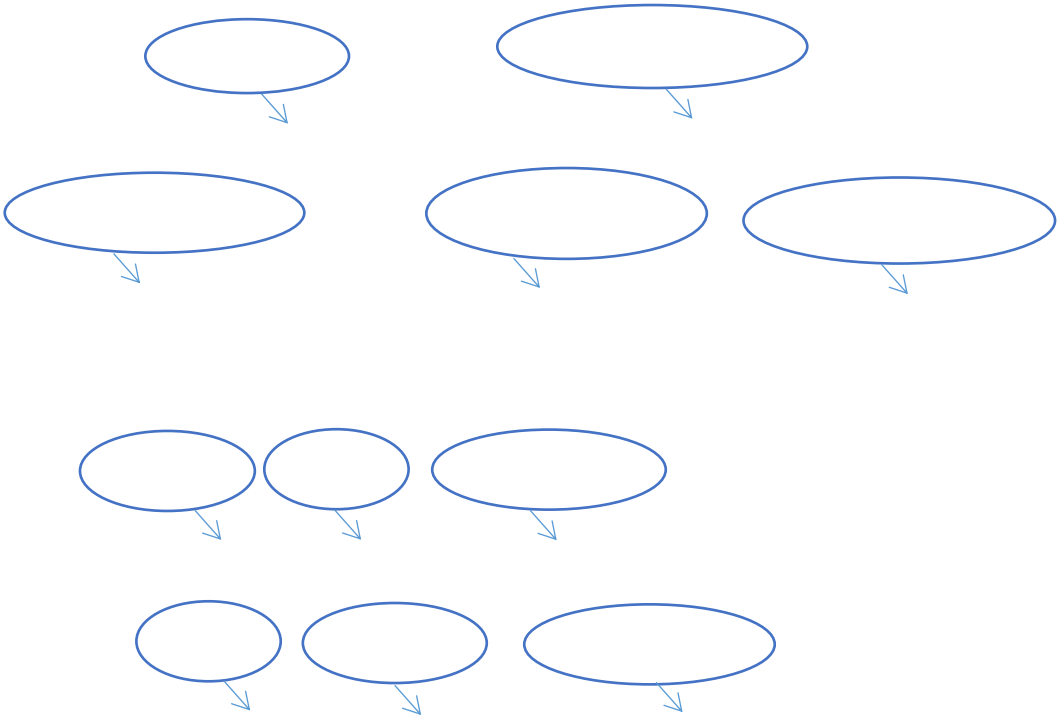
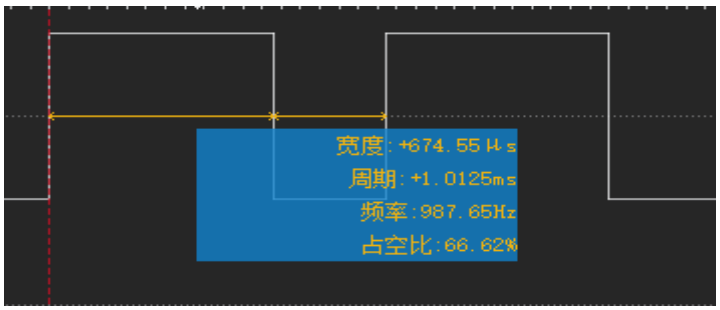




- 

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Frame Info	
Expression	Value
⊞ EPT0	0x40059000
R_CMPA_BUF	0x00009a91
R_CMPB_BUF	0x00005834

3.4 PWM

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```
/*************************************************************/
//ETP0 Functions
//EntryParameter:NONE
//ReturnValue:NONE
/*************************************************************/
void EPT0_CONFIG(void)
{
    EPT_Software_Prg();
    EPT_IO_SET(EPT_IO_CHAX,IO_NUM_PA10);
    EPT_IO_SET(EPT_IO_CHBX,IO_NUM_PB02);
    EPT_IO_SET(EPT_IO_CHCX,IO_NUM_PB03);
    EPT_IO_SET(EPT_IO_CHD,IO_NUM_PA08);
    //PCLK      TCLK                    TCLK=PCLK/(0+1)
    EPT_PWM_Config(EPT_Selecte_PCLK,EPT_CNTMD_increase,EPT_OPM_Continue,0);

EPT_PWMX_Output_Control(EPT_PWMA,EPT_CA_Selecte_CMPA,EPT_CB_Selecte_CMPA,EPT_PWM_ZRO_Event_OutHigh,EPT_PWM_PRD_Event_Nochang
e,EPT_PWM_CAU_Event_OutLow,EPT_PWM_CAD_Event_OutLow,EPT_PWM_CBU_Event_Nochange,EPT_PWM_CBD_Event_Nochange,EPT_PWM_T1U_Ev
ent_Nochange,EPT_PWM_T1D_Event_Nochange,EPT_PWM_T2U_Event_Nochange,EPT_PWM_T2D_Event_Nochange);

EPT_PWMX_Output_Control(EPT_PWMB,EPT_CA_Selecte_CMPB,EPT_CB_Selecte_CMPB,EPT_PWM_ZRO_Event_OutHigh,EPT_PWM_PRD_Event_Nochan
    ge,EPT_PWM_CAU_Event_OutLow,EPT_PWM_CAD_Event_OutLow,EPT_PWM_CBU_Event_Nochange,EPT_PWM_CBD_Event_Nochange,EPT_PWM_T1
    U_Event_Nochange, EPT_PWM_T1D_Event_Nochange,EPT_PWM_T2U_Event_Nochange,EPT_PWM_T2D_Event_Nochange);

EPT_PWMX_Output_Control(EPT_PWMC,EPT_CA_Selecte_CMPC,EPT_CB_Selecte_CMPC,EPT_PWM_ZRO_Event_OutHigh,EPT_PWM_PRD_Event_Nochan
    ge,EPT_PWM_CAU_Event_OutLow,EPT_PWM_CAD_Event_OutLow,EPT_PWM_CBU_Event_Nochange,EPT_PWM_CBD_Event_Nochange,EPT_PWM_T1
    U_Event_Nochange,EPT_PWM_T1D_Event_Nochange,EPT_PWM_T2U_Event_Nochange,EPT_PWM_T2D_Event_Nochange);

EPT_PWMX_Output_Control(EPT_PWMD,EPT_CA_Selecte_CMPD,EPT_CB_Selecte_CMPD,EPT_PWM_ZRO_Event_OutHigh,EPT_PWM_PRD_Event_Nochan
ge,EPT_PWM_CAU_Event_OutLow,EPT_PWM_CAD_Event_OutLow,EPT_PWM_CBU_Event_Nochange,EPT_PWM_CBD_Event_Nochange,
  EPT_PWM_T1U_Event_Nochange,EPT_PWM_T1D_Event_Nochange,EPT_PWM_T2U_Event_Nochange,EPT_PWM_T2D_Event_Nochange);

   //PRDR=4800,CMPA=2400,CMPB=1200,CMPC=600,CMPD=300
  EPT_PRDR_CMPA_CMPB_CMPC_CMPD_Config(4800,2400,1200,600,300);

EPT_DBCR_Config(EPT_CHA_Selecte,EPT_CHAINSEL_PWMA_RISE_FALL,EPT_CHA_OUTSEL_PWMA_PWMB_Bypass,EPT_PA_PB_OUT_Direct,EPT_PAto
```

```
CHX_PBtoCHY)                                    ;//PWMA          CHAX
```