

project - IAR Embedded Workbench IDE - ARM 7.80.4

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IRTC_WrRam

Workspace

example1 | .h | sm.h | sponconf.h | rtc.h | rtc.c | arch_delay.h | arch_delay.s | main0

Files

- project - R...
- common
- drivers
- freemaster
- project
- toolchain
- Output

```

/* ... */ SET(MCG_C1_IREFS_MASK) | SET(MCG_C1_IRCLKEN_MASK) |
/* ... */ CLR(MCG_C1_IREFSTEN_MASK),
/* C2 */ SET(MCG_C2_LOCRE0_MASK) | SET(MCG_C2_RANGE0(0x00)) | CLR(MCG_C2_HG
/* ... */ CLR(MCG_C2_EREFS0_MASK) | CLR(MCG_C2_LP_MASK) | CLR(MCG_C2_IRCS_MA
/* C4 */ CLR(MCG_C4_DM32_MASK) | SET(MCG_C4_DRST_DRS(0x00)),
/* C6 */ CLR(MCG_C6_LOLIE0_MASK) | CLR(MCG_C6_FLLS_MASK) | CLR(MCG_C6_CME0_
/* ... */ SET(MCG_C6_CHGPMF_BIAS(0x08)),
/* SC */ CLR(MCG_SC_ATHS_MASK) | CLR(MCG_SC_ATMS_MASK) |
/* ... */ CLR(MCG_SC_FLLSRSTV_MASK) | SET(MCG_SC_FRDIV(0x01)),
/* C7 */ SET(MCG_C7_PLL32KREFSEL(0)) | CLR(MCG_C7_OSCSEL_MASK),
/* C8 */ SET(MCG_C8_LOCRE1_MASK) | CLR(MCG_C8_LOIRE_MASK) | CLR(MCG_C8_CME1
/* ... */ CLR(MCG_C8_COARSE_LOLIE_MASK)
}

static int seconds_wr, seconds_rd;

static void irtc_callback (IRTC_CALLBACK_TYPE type, void *data)
{
    if (type == IRTC_1HZ_CALLBACK)
    {
        seconds_wr++;
        IRTC_WrRam (&seconds_wr, sizeof(seconds_wr));
    }
}

void main (void)
{
    /* clock mode 2:1:1 (core:bus:flash)
    SIM_Init (SIM_MODULE_IRTC_RTCCLKSEL_ON_CONFIG);

    /* FLL settings, 32KHz IRC used
    FLL_Init (FLL_MODULE_FEI_20_25MHZ_IRCLKEN_ON_CONFIG);

    /* enable IRTC clocked by internal IRC & install callback function
    /* called every second
    IRTC_Init (IRTC_MODULE_COMP_OFF_CONFIG,
              IRTC_TAMPER_PIN_DI_CONFIG,
              IRTC_TAMPER_PIN_DI_CONFIG,
              IRTC_TAMPER_PIN_DI_CONFIG,
  
```

Disassembly

```

void main (void)
{
main:
0xd84: 0:
0xd86: 0:
SIM_Init (SIM_)
0xd88: 0:
0xd8a: 0:
SIM_Init (SIM_)
0xd8c: 0:
SIM_Init (SIM_)
0xd90: 0:
0xd92: 0:
0xd94: 0:
SIM_Init (SIM_)
0xd96: 0:
0xd98: 0:
SIM_Init (SIM_)
0xd9a: 0:
0xd9c: 0:
0xd9e: 0:
SIM_Init (SIM_)
0xda0: 0:
SIM_Init (SIM_)
0xda2: 0:
SIM_Init (SIM_)
0xda4: 0:
SIM_Init (SIM_)
0xda6: 0:
0xda8: 0:
SIM_Init (SIM_)
0xdae: 0:
0xdb0: 0:
SIM_Init (SIM_)
  
```

Register

| Register | Value | Comment |
|-------------|--------|---------|
| MCG_C1 | = 0x44 | MCG |
| IREFSTEN | = 0 | LOL |
| IRCLKEN | = 0 | LOC |
| IREFS | = 1 | LOC |
| FRDIV | = 0x0 | FCR |
| CLKS | = 0x1 | FLT |
| MCG_C2 | = 0x83 | ATM |
| IRCS | = 1 | ATM |
| LP | = 1 | ATM |
| EREFS0 | = 0 | ATC |
| HO00 | = 0 | ATC |
| RANGE0 | = 0x0 | MCG |
| LOCRES | = 1 | ATC |
| MCG_C3 | = 0x85 | MCG |
| SCTRIM | = 0x85 | OSC |
| MCG_C4 | = 0x11 | PLL |
| SCFTRIM | = 1 | MCG |
| FCSTRIM | = 0x8 | LOC |
| DRST_DRS | = 0x0 | COA |
| DMX32 | = 0 | CME |
| MCG_C5 | = 0x00 | LOL |
| PLLSTENO | = 0 | LOC |
| PLLCLKENO | = 0 | MCG |
| MCG_C6 | = 0x08 | COA |
| CHGPMF_BIAS | = 0x08 | COA |
| CME0 | = 0 | |
| PLLS | = 0 | |
| LOLIE0 | = 0 | |
| MCG_S | = 0x15 | |
| IRCST | = 1 | |
| OSCNIT0 | = 0 | |
| CLKST | = 0x1 | |
| IREFST | = 1 | |
| PLLST | = 0 | |
| LOCK0 | = 0 | |

Live Watch

| Expression | Value |
|------------|-------|
| seconds_rd | 10 |
| seconds_wr | 10 |

Log

```

Mon Jul 17, 2017 18:54:38: Loaded debugger: C:\Program Files (x86)\IAR Systems\Embedded Workbench 7.5\arm\config\flashloader\NXP\FlashKMo32K.out
Mon Jul 17, 2017 18:54:38: Target reset
Mon Jul 17, 2017 18:54:39: Downloaded C:\Data\cwork\METRO2\met021_ctmr_usecases\SW\community\Irtc_ram_when_crystal_removed\build\iar_7_60\projects\example\Release\Exe\project.out to flash memory.
Mon Jul 17, 2017 18:54:39: Hardware reset with strategy 0 was performed
Mon Jul 17, 2017 18:54:39: 5358 bytes downloaded into FLASH (714 Kbytes/sec)
Mon Jul 17, 2017 18:54:39: Loaded debugger: C:\Data\cwork\METRO2\met021_ctmr_usecases\SW\community\Irtc_ram_when_crystal_removed\build\iar_7_60\projects\example\Release\Exe\project.out
Mon Jul 17, 2017 18:54:39: Hardware reset with strategy 0 was performed
Mon Jul 17, 2017 18:54:39: Target reset
  
```

Debug Log | Build

Ready

Ln 101, Col 1 System INUM