

example_rtiBlinky.c

This is an example which describes the steps to create an example application which toggles the High End Timer (HET) pin 1 based on an RTI timer compare 0 tick of one second.

Step 1:

Create a new project.

Navigate: -> File -> New -> Project

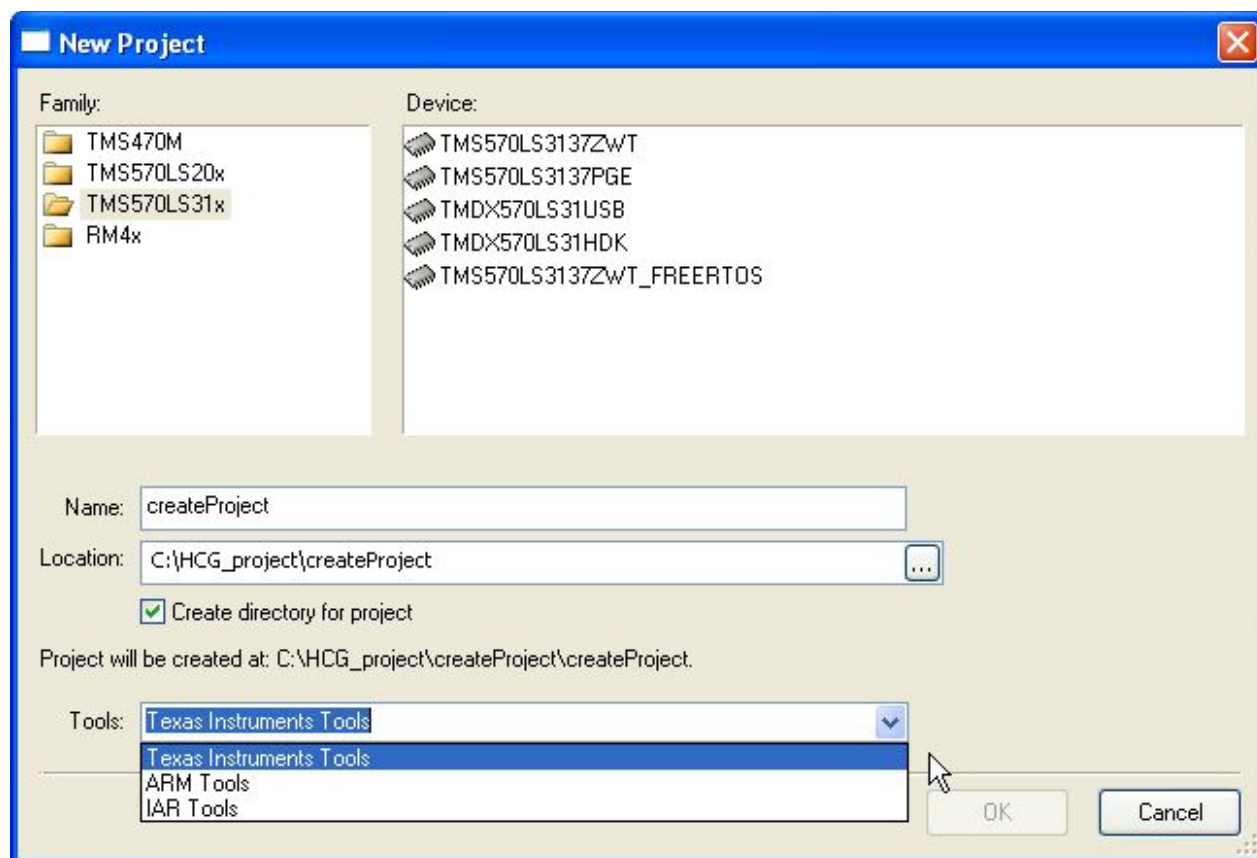


Figure: Create a new Project

Step 2:

Configure driver code generation:

- Enable RTI driver
- Enable GPIO driver
- Disable others

Navigate: -> TMS570LSxx /RM4 -> Enable Drivers

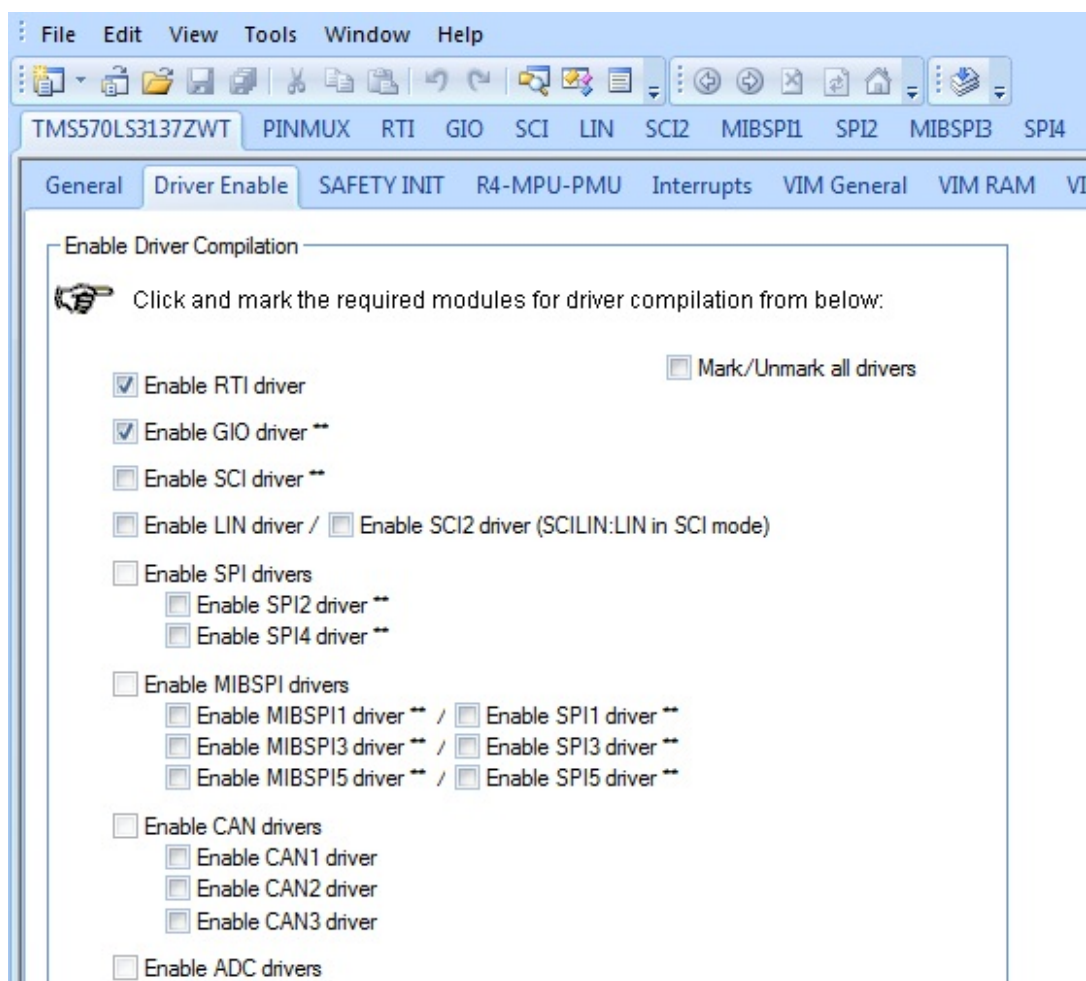


Figure: Driver Configuration

Step 3:

Configure Vectored Interrupt Module Channels:

- Map VIM Channel 2 to RTI Compare 0 interrupt
- Enable VIM Channel 2
- Map VIM Channel 2 to IRQ

Navigate: -> TMS570LSxx /RM4 -> VIM Channel 0-31

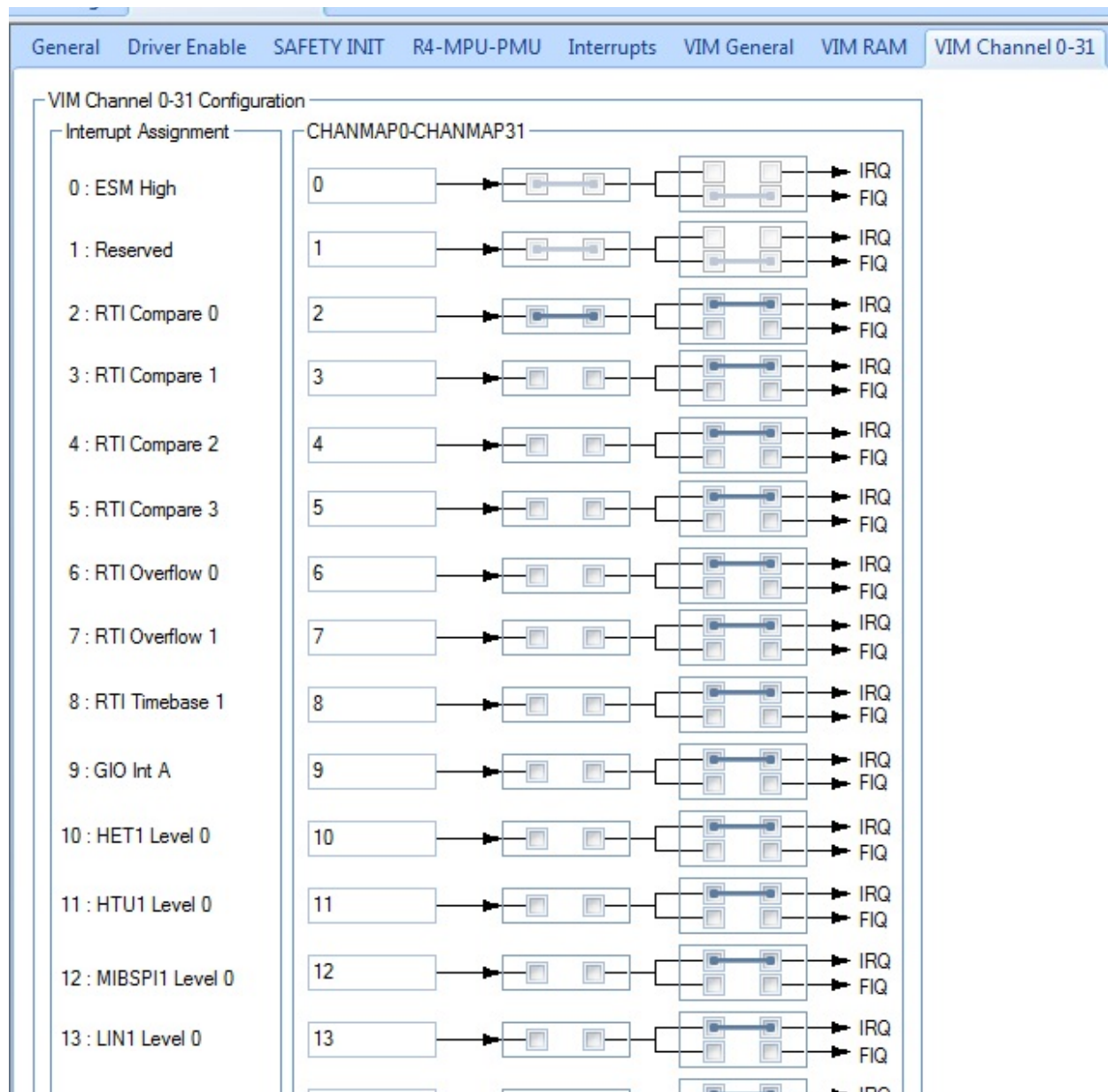


Figure: VIM Channel Configuration

Step 4:

Configure RTI compare 0 period to 1000 ms:

- Enter 1000.000 to Compare 0 Period edit box

Navigate: -> RTI -> RTI1 Compare

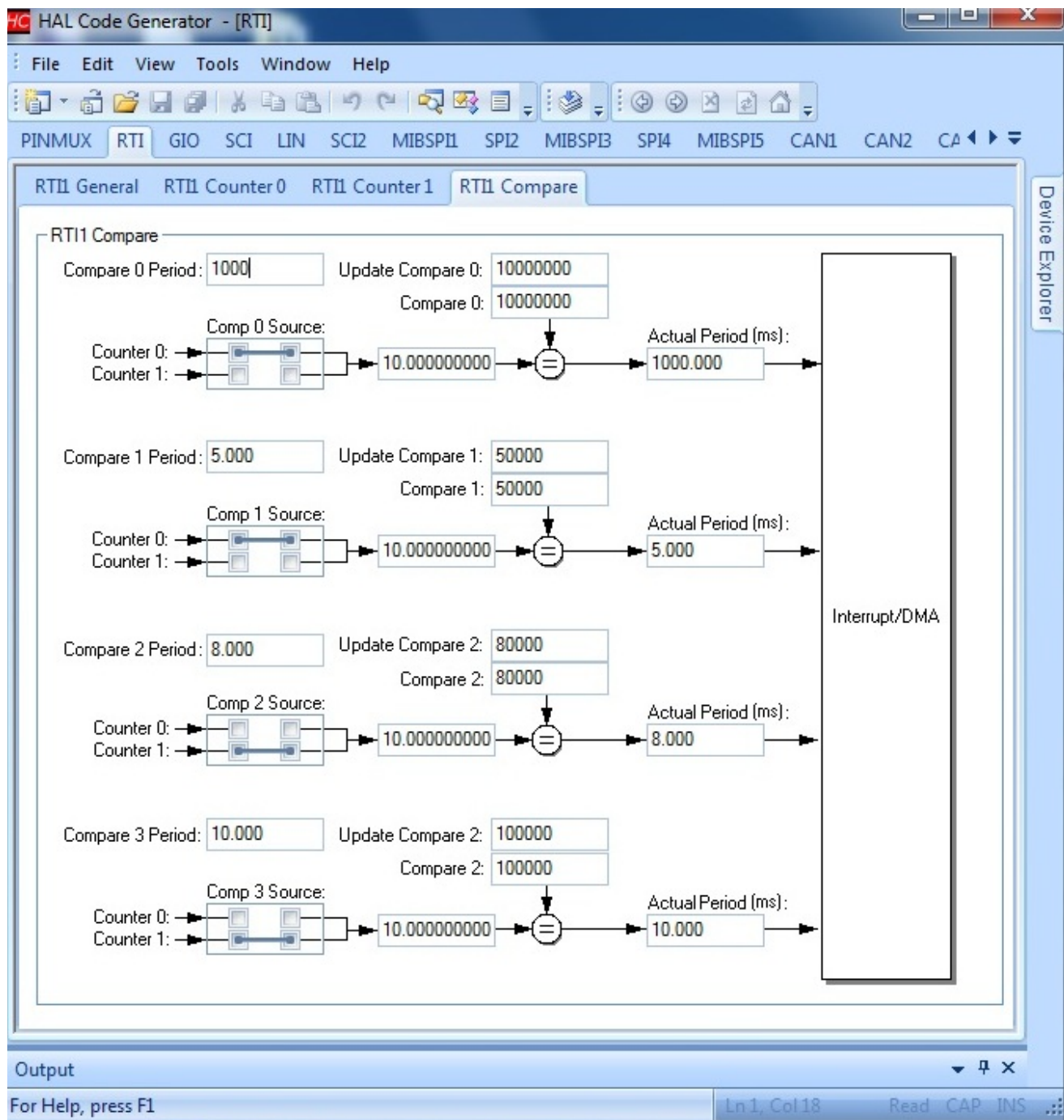


Figure: RTI Compare Configuration

Step 5:

Generate code

Navigate: -> File -> Generate Code

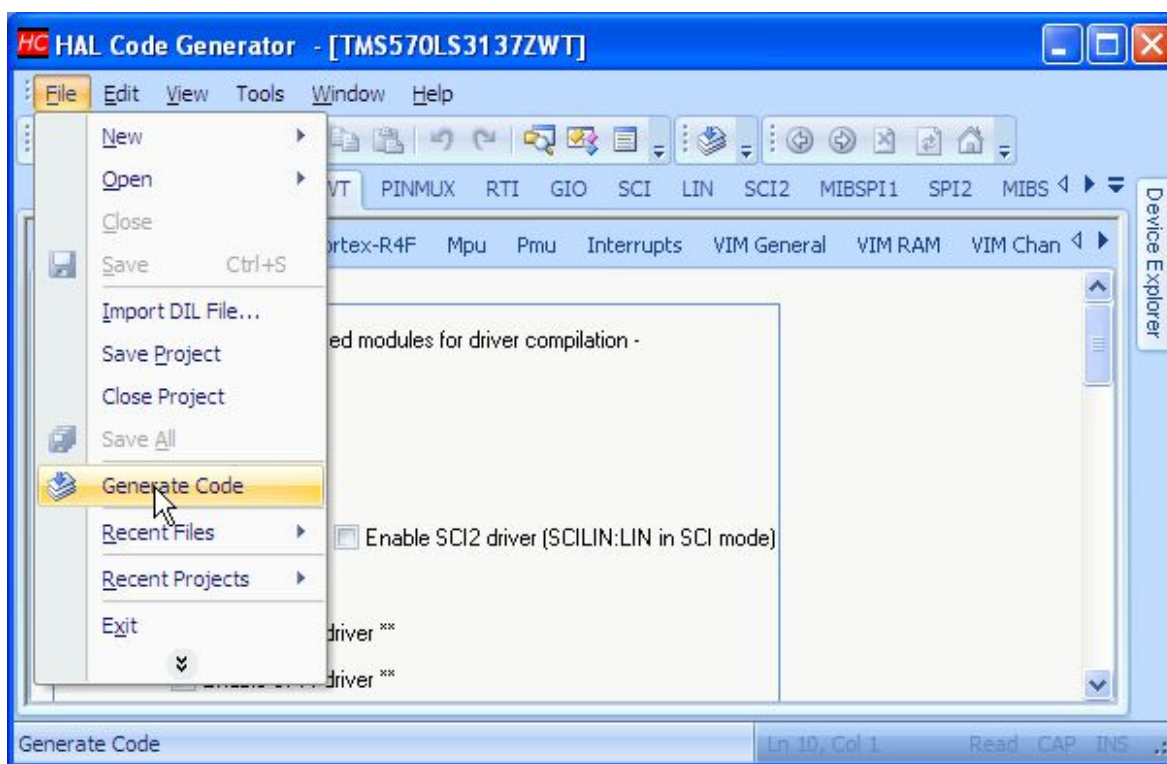


Figure: Generate Code

Step 6:

Copy source code below into your application.

The example file example_rtiBlinky.c can also be found in the examples folder: ../HALCoGen/examples

Note

HALCoGen generates an empty main function in **sys_main.c**, please make sure that you link in the right main function or copy the source into the user code sections of this file.

```

/*
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*/

/* USER CODE BEGIN (0) */
/* USER CODE END */

/* Include Files */

#include "sys_common.h"
#include "system.h"

/* USER CODE BEGIN (1) */
#include "rti.h"
#include "het.h"
#include "gio.h"
/* USER CODE END */

/* USER CODE BEGIN (2) */
/* USER CODE END */

void main(void)
{
/* USER CODE BEGIN (3) */

    /* Initialize RTI driver */
    rtiInit();

    /* Set high end timer GIO port hetPort pin direction to all output */
    gioSetDirection(hetPORT1, 0xFFFFFFFF);

    /* Enable RTI Compare 0 interrupt notification */
    rtiEnableNotification(rtiNOTIFICATION_COMPARE0);

    /* Enable IRQ - Clear I flag in CPS register */
    /* Note: This is usually done by the OS or in an svc dispatcher */
    _enable_IRQ();

    /* Start RTI Counter Block 0 */
    rtiStartCounter(rtiCOUNTER_BLOCK0);

    /* Run forever */
    while(1);

/* USER CODE END */
}

/* USER CODE BEGIN (4) */
/* Note-You need to remove rtiNotification from notification.c to avoid redefinition
*/
void rtiNotification(uint32 notification)
{
/* enter user code between the USER CODE BEGIN and USER CODE END. */
/* Toggle HET pin 0 */
    gioSetPort(hetPORT1, gioGetPort(hetPORT1) ^ 0x00000001);
}
/* USER CODE END */

```