

sctimer_simple_pwm.c

```
1 /*
2  * Copyright (c) 2016, Freescale Semiconductor, Inc.
3  * Copyright 2016-2017 NXP
4  * All rights reserved.
5  *
6  * SPDX-License-Identifier: BSD-3-Clause
7  */
8
9 #include "fsl_debug_console.h"
10 #include "board.h"
11 #include "fsl_sctimer.h"
12
13 #include "pin_mux.h"
14 #include <stdbool.h>
15 /
16     *****
17     *
18 * Definitions
19 *****
20 */
21
22 #define SCTIMER_CLK_FREQ CLOCK_GetFreq(kCLOCK_BusClk)
23 #define DEMO_FIRST_SCTIMER_OUT kSCTIMER_Out_4
24 #define DEMO_SECOND_SCTIMER_OUT kSCTIMER_Out_2
25
26 /
27     *****
28     *
29 * Prototypes
30 *****
31 */
32
33 /
34     *****
35     *
36 * Variables
37 *****
38 */
39
40 /
41     *****
42     *
43 * Code
44 *****
45 */
46
47 /*!
48 * @brief Main function
```

sctimer_simple_pwm.c

```
37 */
38 int main(void)
39 {
40     sctimer_config_t sctimerInfo;
41     sctimer_pwm_signal_param_t pwmParam;
42     uint32_t event;
43     uint32_t sctimerClock;
44
45     /* Board pin, clock, debug console init */
46     /* attach 12 MHz clock to FLEXCOMM0 (debug console) */
47     CLOCK_AttachClk(BOARD_DEBUG_UART_CLK_ATTACH);
48
49     BOARD_InitPins();
50     BOARD_BootClockFR0HF48M();
51     BOARD_InitDebugConsole();
52
53     sctimerClock = SCTIMER_CLK_FREQ;
54
55     /* Print a note to terminal */
56     PRINTF("\r\nSCTimer example to output 2 center-aligned PWM signals\r\n");
57     PRINTF("\r\nProbe the signal using an oscilloscope");
58
59     SCTIMER_GetDefaultConfig(&sctimerInfo);
60
61     /* Initialize SCTimer module */
62     SCTIMER_Init(SCT0, &sctimerInfo);
63
64     /* Configure first PWM with frequency 24kHz from first output */
65     pwmParam.output = DEMO_FIRST_SCTIMER_OUT;
66     pwmParam.level = kSCTIMER_HighTrue;
67     pwmParam.dutyCyclePercent = 25;
68     if (SCTIMER_SetupPwm(SCT0, &pwmParam, kSCTIMER_CenterAlignedPwm, 24000U,
69         sctimerClock, &event) == kStatus_Fail)
70     {
71         return -1;
72     }
73
74     /* Configure second PWM with different duty cycle but same frequency as
75     before */
76     pwmParam.output = DEMO_SECOND_SCTIMER_OUT;
77     pwmParam.level = kSCTIMER_HighTrue;
78     pwmParam.dutyCyclePercent = 50;
79     if (SCTIMER_SetupPwm(SCT0, &pwmParam, kSCTIMER_CenterAlignedPwm, 24000U,
80         sctimerClock, &event) == kStatus_Fail)
81     {
82         return -1;
83     }
84 }
```

sctimer_simple_pwm.c

```
82  /* Start the timer */
83  SCTIMER_StartTimer(SCT0, kSCTIMER_Counter_L);
84
85  while (1)
86  {
87  }
88 }
89
```