

S5D9 LED pin Write with Timer

By

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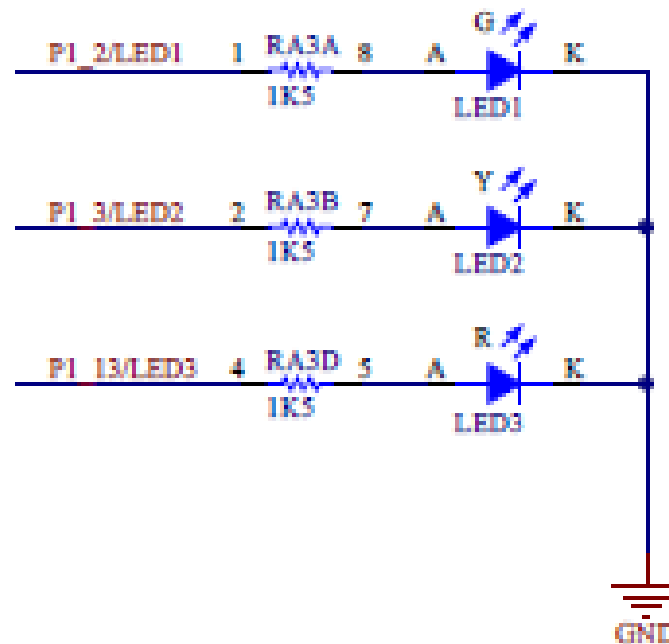
(2/2/2018)

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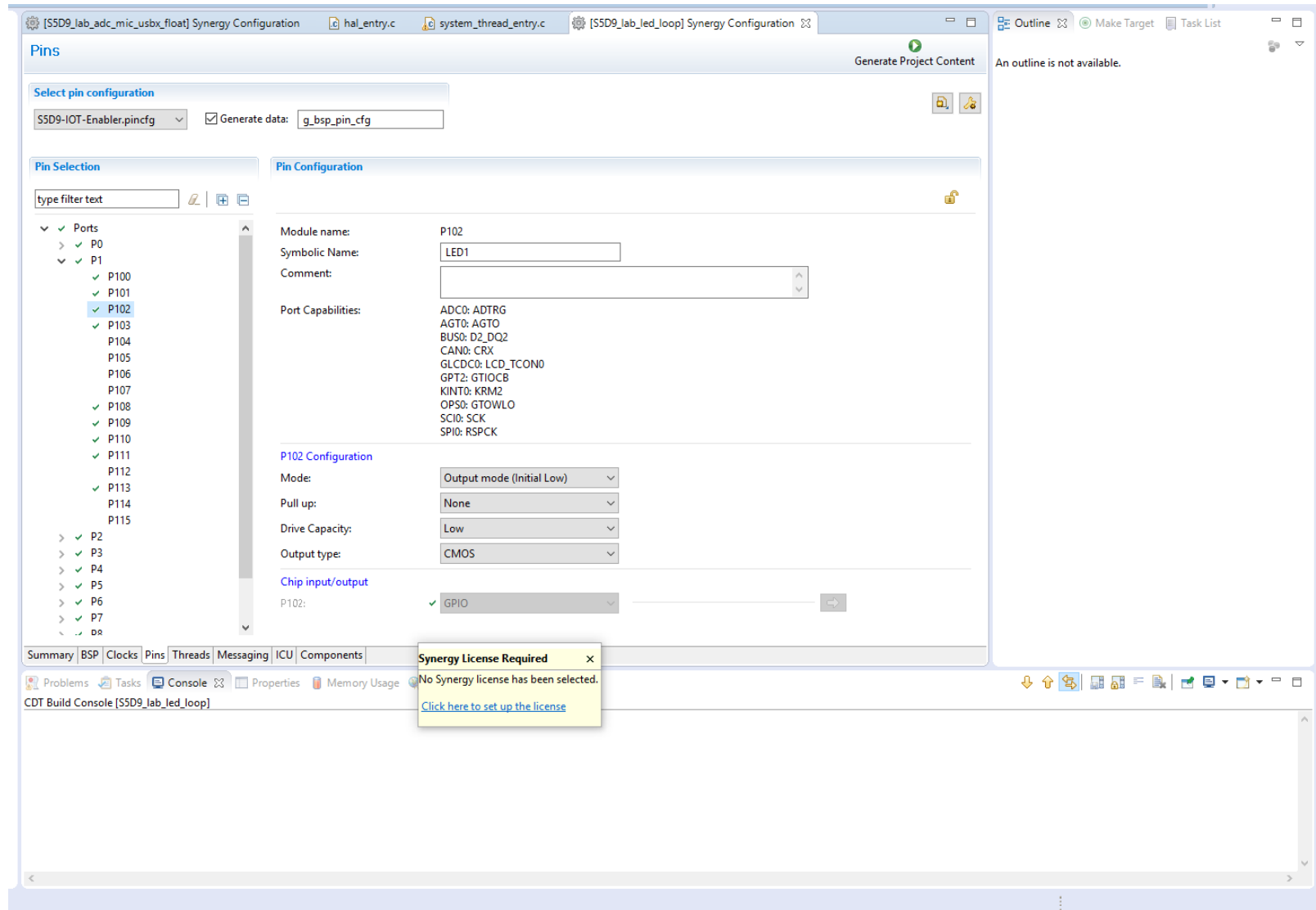
E2 Studio 5.4.0.023

SSP 1.3.0

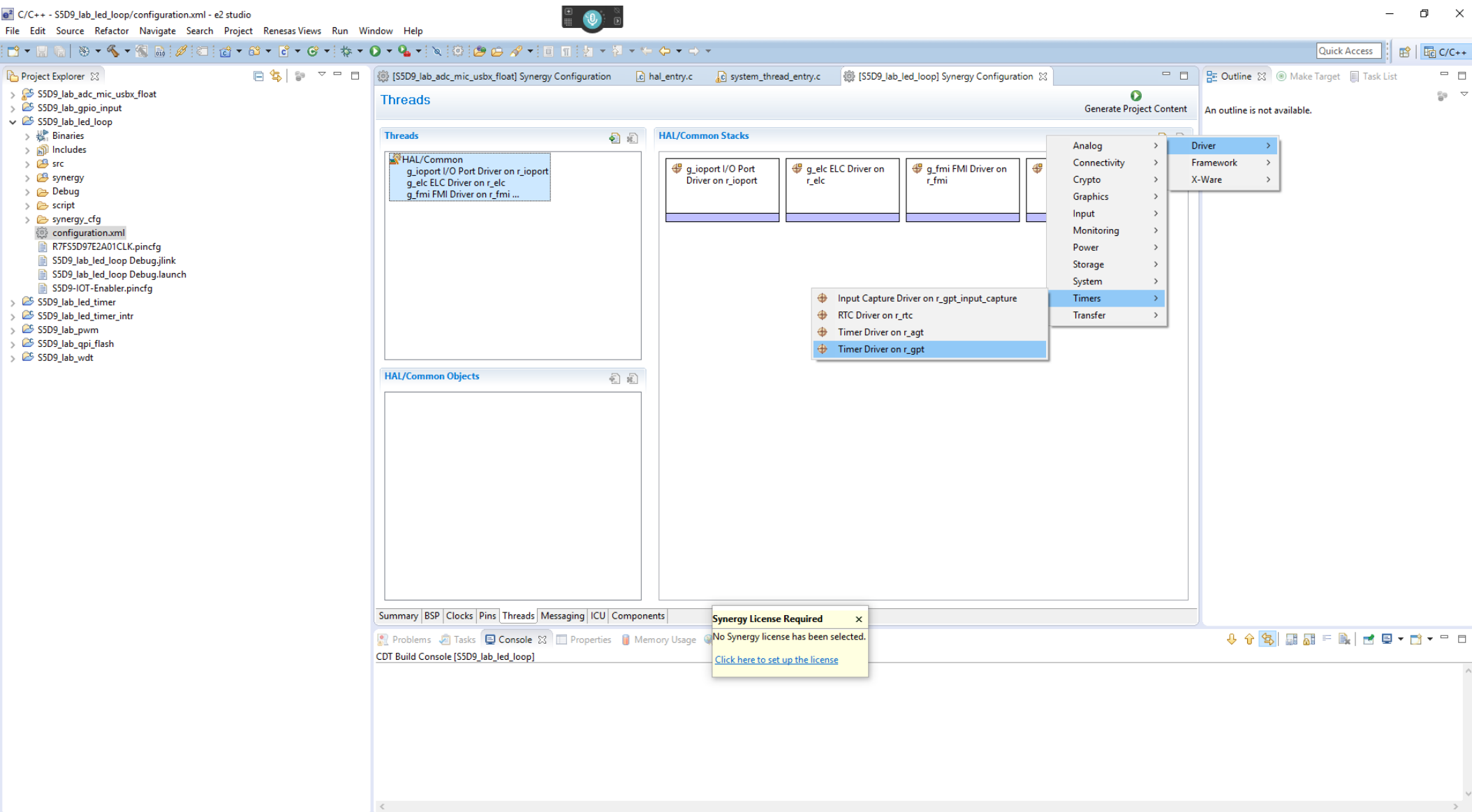
S7G2 Lab LED register with loop delay



Pin enabled (GPIO output)



Get Timer Driver



The screenshot displays the Synergy Configuration IDE interface. The top-left pane shows the project structure, including files like `SD9_I2C_OLED_SHT31_TX_v4` and `SD9_I2C_Sensor_Lab`. The top-right pane shows the 'Threads' and 'HAL/Common Stacks' sections. The bottom-left pane shows the 'Properties' view for the `g_timer0 Timer Driver on r_gpt` component, with the 'Name' property set to `g_timer`. The bottom-right pane shows the 'Error Log' with several messages, including 'Input file not found' and 'Invalid keyword handler detected'.

Main Code

```
*hal_entry.c
23 // Define the number of counts per millisecond (1 count per clock tick, clock rate is 120Mhz)
24 // So there are 120E6 ticks per second.
25 // Divide by 1000 to get ticks / millisecond
26 #define COUNTS_PER_MILLISECOND (120E6 / 1000)
27
28 //int counter;
29
30 void hal_entry(void)
31 {
32     // Boolean to hold LED state
33     bool isOn = true;
34
35     // Variable to hold counts
36     timer_size_t counts = 0;
37     timer_size_t counts = 0;
38
39     // Open the timer using the configured options from the configurator
40     g_timer.p_api->open (g_timer.p_ctrl, g_timer.p_cfg);
41
42     // Main Loop
43     while(1)
44     {
45         // Turn LED
46         g_ioport.p_api->pinWrite(IOPORT_PORT_01_PIN_02, isOn); // P602 = GRN LED
47         g_ioport.p_api->pinWrite(IOPORT_PORT_01_PIN_03, isOn); // P103 = PMOD A pin 1
48
49         // Toggle LED State
50         isOn = !isOn;
51
52         // Wait for timer loop
53         while (1)
54         {
55             // Get current counts (this is not ms but the actual counter value depending
56             // on clock frequency)
57             g_timer.p_api->counterGet(g_timer.p_ctrl, &counts);
58
59             // Check if 500ms has elapsed => This should be a helper function at some point
60             // Need to look if the PBCLK settings are stored in a define somewhere...
61             if (counts > (500*COUNTS_PER_MILLISECOND))
62             {
63                 // Reset the timer to 0
64                 g_timer.p_api->reset(g_timer.p_ctrl);
65                 break;
66             }
67         }
68     }
69 }
70
71
```

S5D9 CLOCKS @ 120Mhz