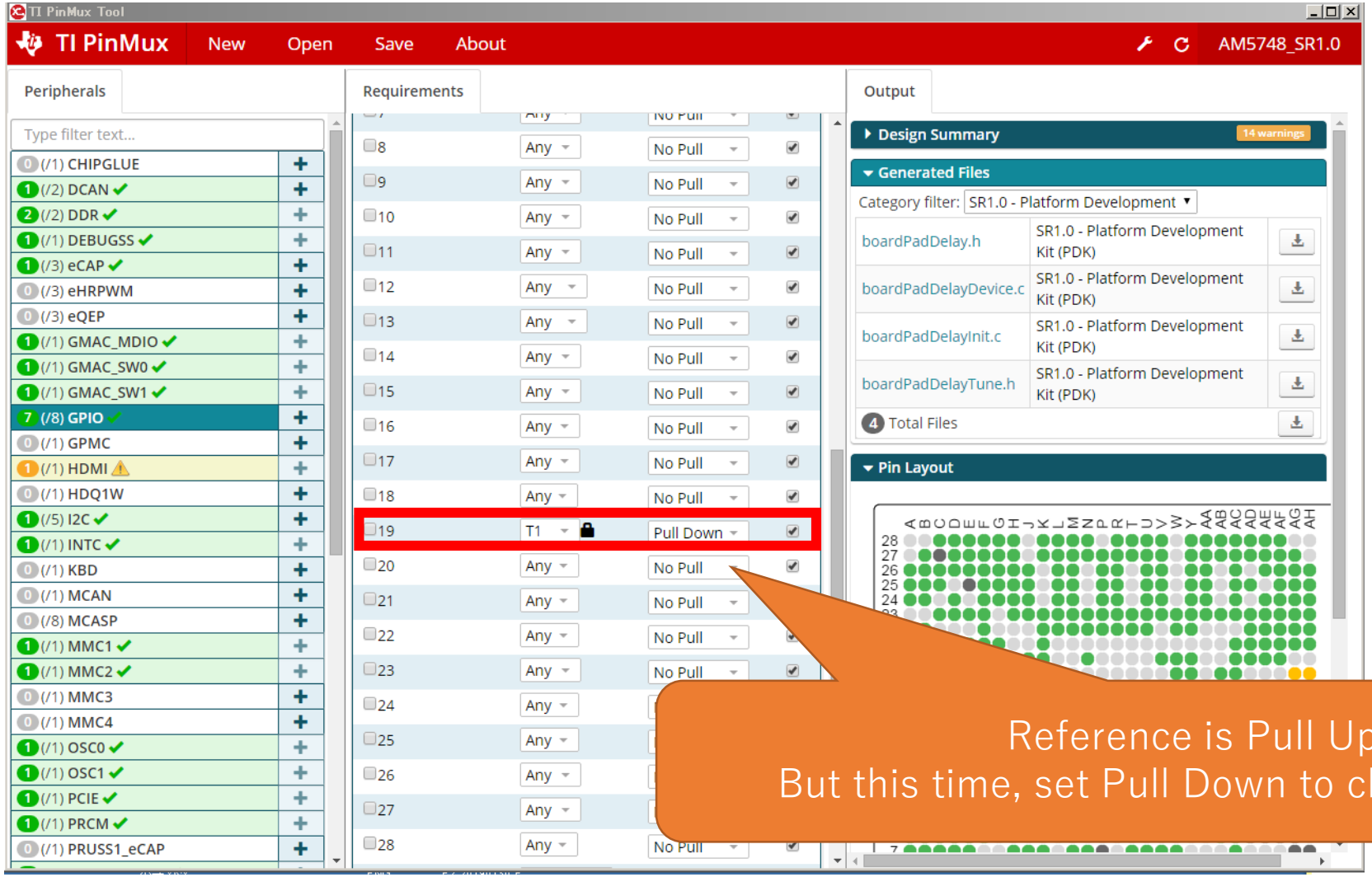
Reference

http://software-dl.ti.com/processor-sdk-rtos/esd/docs/latest/rtos/index_how_to_guides.html#rtos-customization-using-an-external-input-to-trigger-an-interrupt-on-am57x

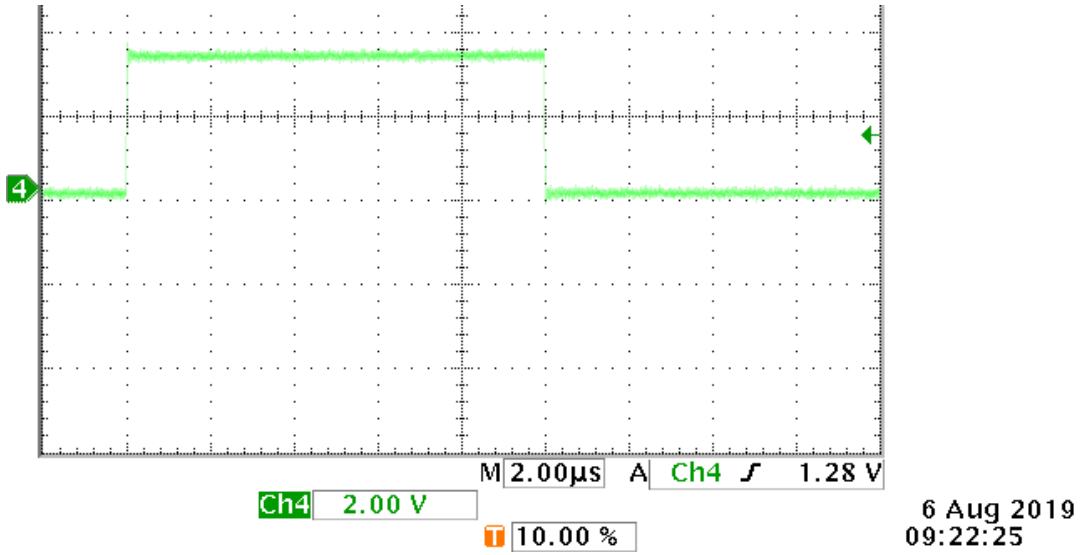
idk572 ⇒ idk574

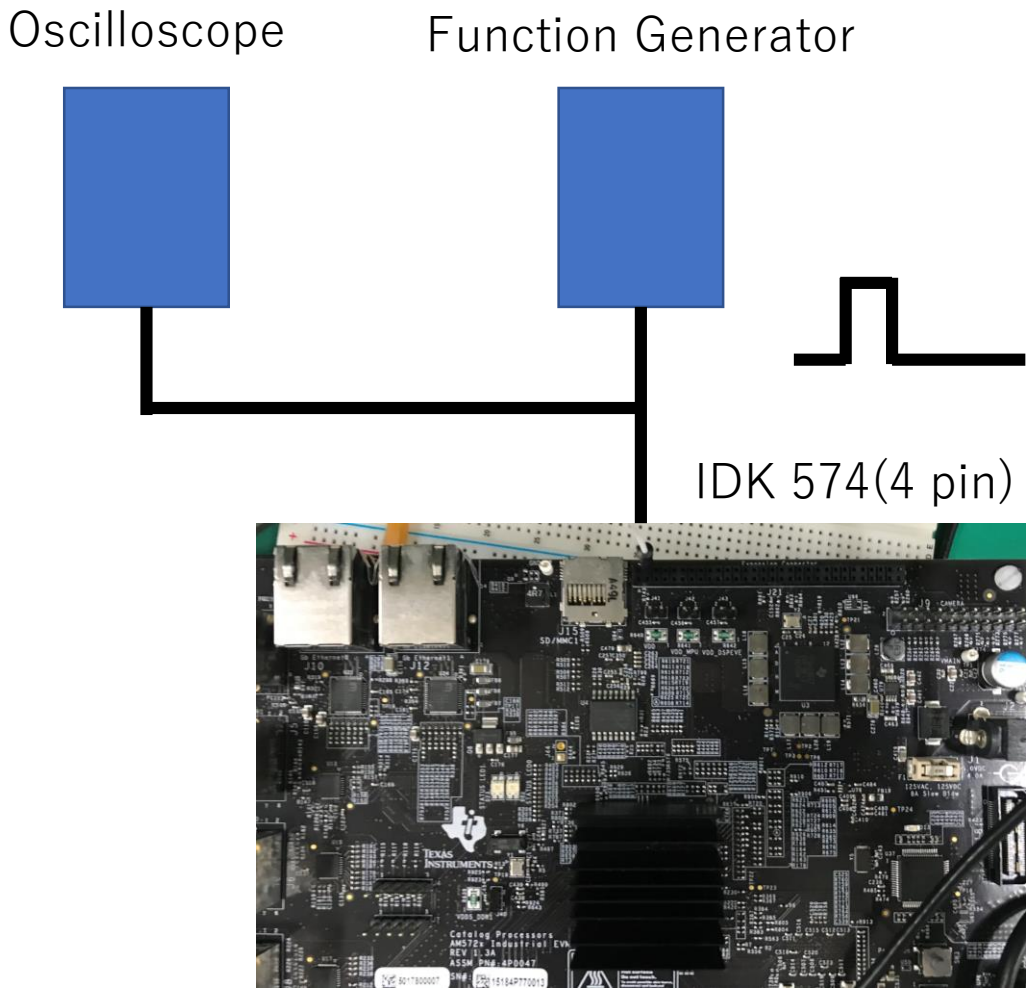
Use “TI PinMux Tool”

C:¥ti¥pdk_am57xx_1_0_11¥packages¥ti¥board¥src¥idkAM574x¥idkAM574x_pinmux.c

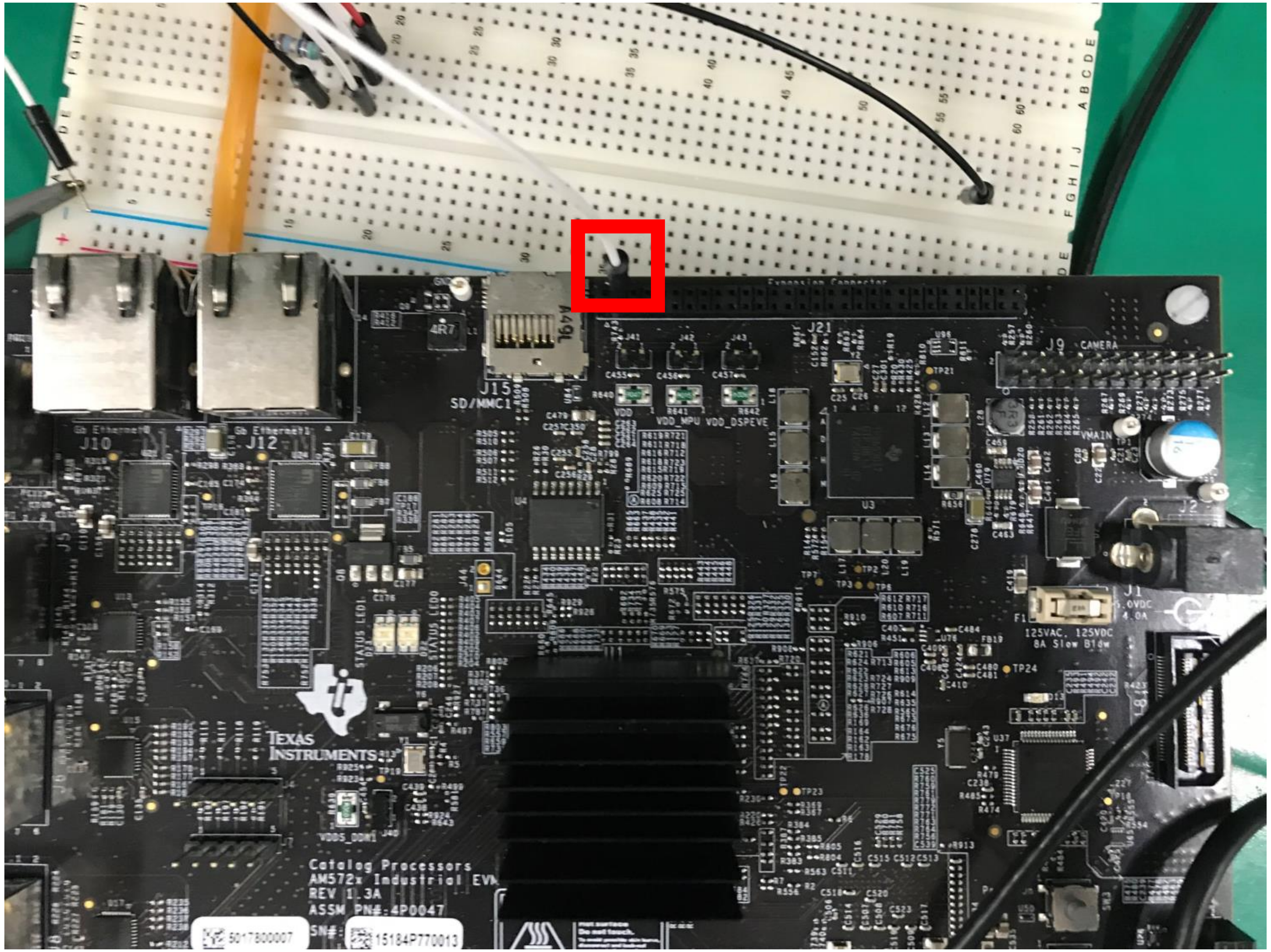


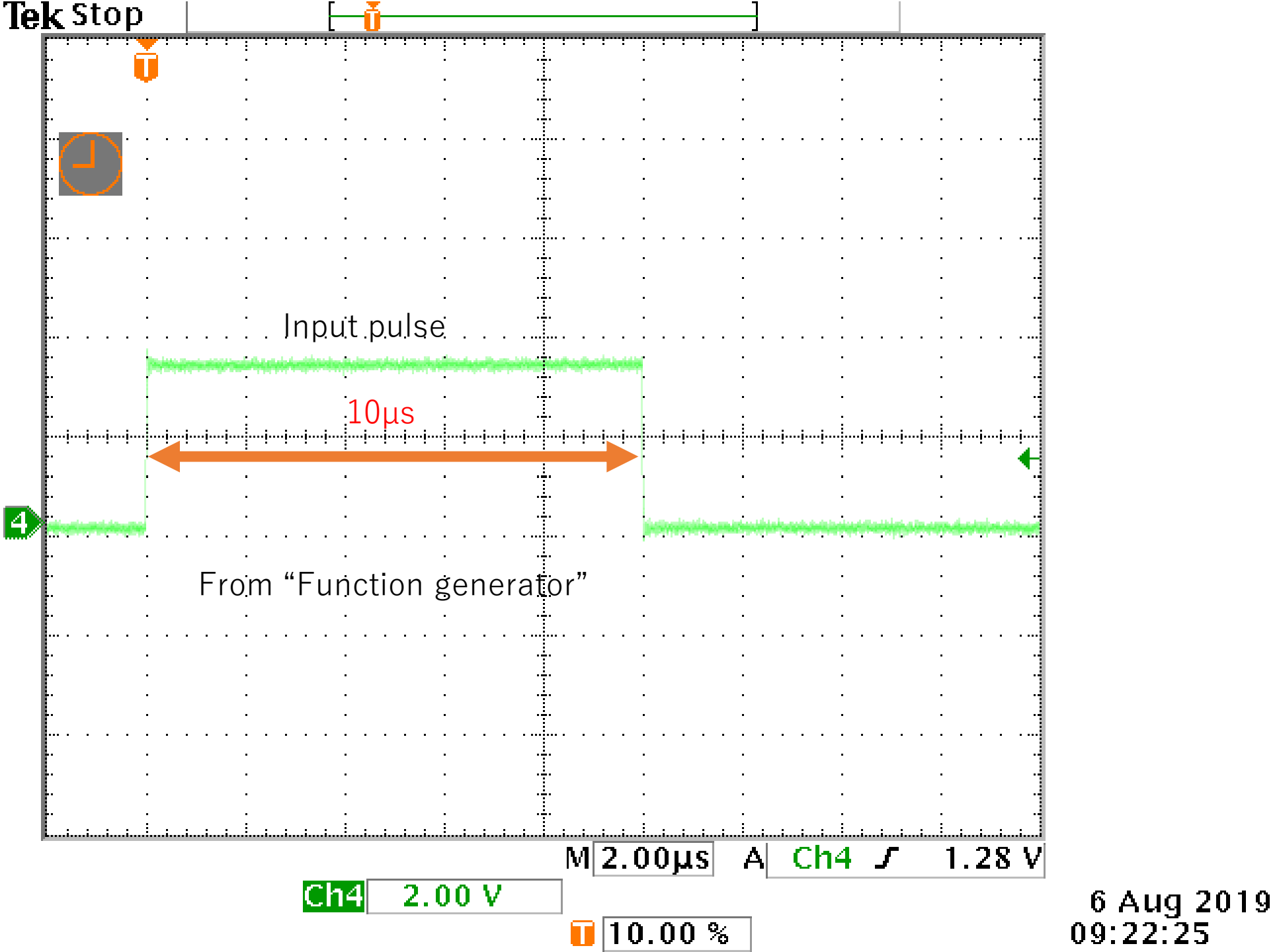
Constitution





Input pulse


J15
SD/MMC1
J10
J12
J21
J9
CAMERA
TEXAS INSTRUMENTS
Catalog Processors
AM572x Industrial EV
REV 1.3A
ASSM PN#:4P0047


Tek Stop
Input pulse
10µs
From “Function generator”
M 2.00µs A Ch4 1.28 V
Ch4 2.00 V
10.00 %
6 Aug 2019
09:22:25

Even if an interrupt occurs, the LED is lit. (Toggled twice)

Obviously the handler is executed twice.
Focus on the count variable.

```
257 /*
258  *  ======== Callback function ========
259  */
260 void AppGpioCallbackFxn(void)
261 {
262     /* Toggle LED1 */
263     count++;
264     GPIO_toggle(USER_LED1);
265     AppDelay(DELAY_VALUE);
266     gpio_intr_triggered = 1;
267 }
268
```

File Edit View Project Tools Run Scripts Window Help

Debug

am5748idk.ccxml [Code Composer Studio - Device Debugging]
- Texas Instruments XDS100v2 USB Debug Probe_0/ARM9_ICONT1 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/ARM9_ICONT2 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/Cortex_M4_IPU1_C0 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/Cortex_M4_IPU1_C1 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/Cortex_M4_IPU2_C0 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/Cortex_M4_IPU2_C1 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/C66xx_DSP1 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/C66xx_DSP2 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/CortexA15_0 (Suspended)
  - gpio_test(unsigned int, unsigned int)() at main_led_blink.c:187 0x80005644
  - ti_sysbios_knl_Task_exit_E() at Task.c:468 0x80011D1C (next frame is identical to an existing frame)
- Texas Instruments XDS100v2 USB Debug Probe_0/CortexA15_1 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/PRU_0_ICSS1 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/PRU_1_ICSS1 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/PRU_0_ICSS2 (Disconnected : Unknown)
- Texas Instruments XDS100v2 USB Debug Probe_0/PRU_1_ICSS2 (Disconnected : Unknown)

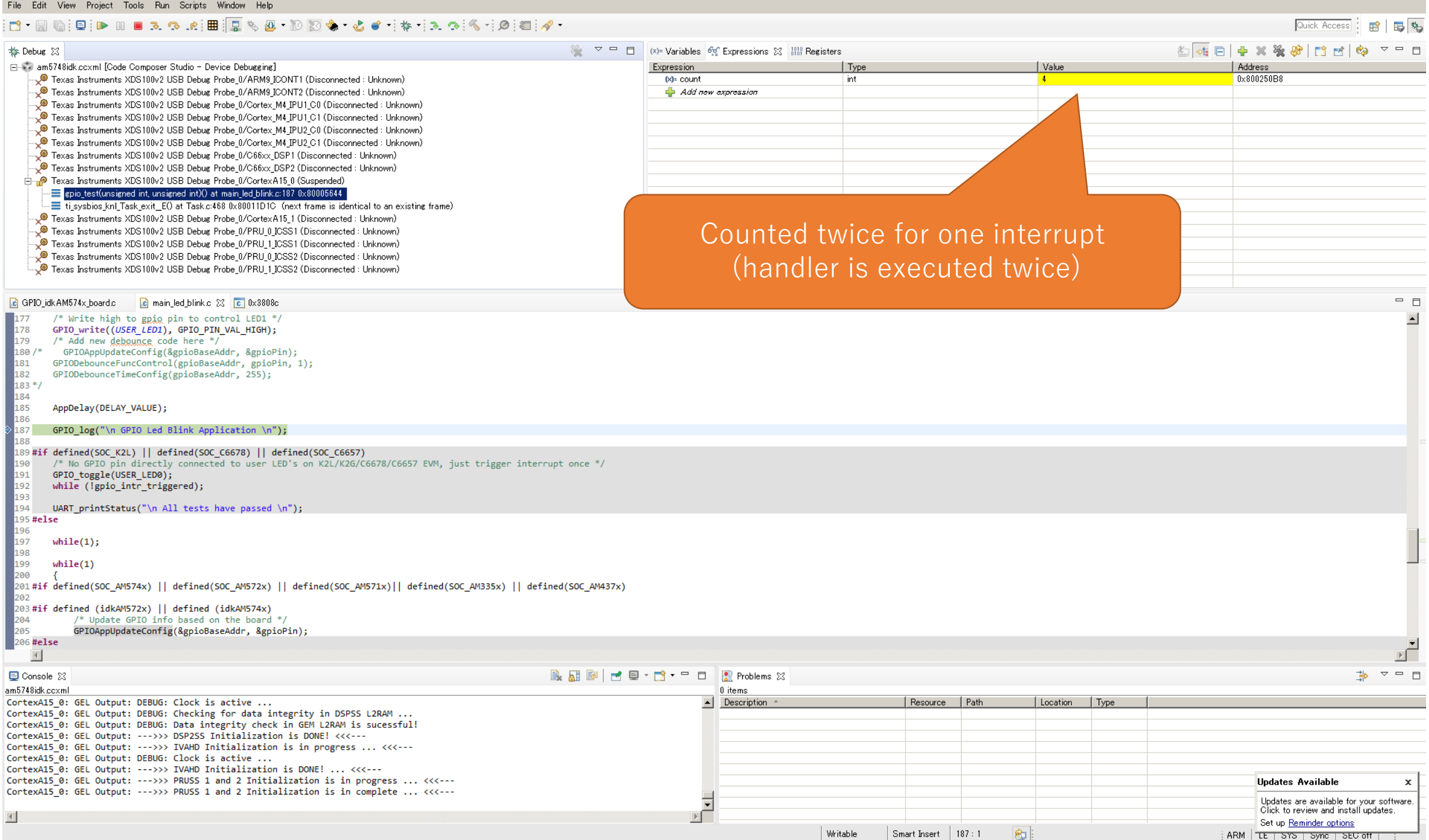
Variables | Expressions | Registers

Expression	Type	Value	Address
(x)= count	int	2	0x800250B8
Add new expression			

Counted twice for one interrupt
(handler is executed twice)

GPIO_idkAM574x_board.c | main_led_blink.c | 0x3808c

```
177     /* Write high to gpio pin to control LED1 */
178     GPIO_write((USER_LED1), GPIO_PIN_VAL_HIGH);
179     /* Add new debounce code here */
180 /*    GPIOAppUpdateConfig(&gpioBaseAddr, &gpioPin);
181     GPIODebounceFuncControl(gpioBaseAddr, gpioPin, 1);
182     GPIODebounceTimeConfig(gpioBaseAddr, 255);
183 */
184
185     AppDelay(DELAY_VALUE);
186
187     GPIO_log("\n GPIO Led Blink Application \n");
188
189 #if defined(SOC_K2L) || defined(SOC_C6678) || defined(SOC_C6657)
190     /* No GPIO pin directly connected to user LED's on K2L/K2G/C6678/C6657 EVM, just trigger interrupt once */
191     GPIO_toggle(USER_LED0);
192     while (!gpio_intr_triggered);
193
194     UART_printStatus("\n All tests have passed \n");
195 #else
196
197     while(1);
198
199     while(1)
200     {
201 #if defined(SOC_AM574x) || defined(SOC_AM572x) || defined(SOC_AM571x)|| defined(SOC_AM335x) || defined(SOC_AM437x)
202
203 #if defined (idkAM572x) || defined (idkAM574x)
204         /* Update GPIO info based on the board */
205         GPIOAppUpdateConfig(&gpioBaseAddr, &gpioPin);
206 #else
```


File Edit View Project Tools Run Scripts Window Help
Debug
am5748idk.ccxml [Code Composer Studio - Device Debugging]
Texas Instruments XDS100v2 USB Debug Probe_0/ARM9_ICONT1 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/ARM9_ICONT2 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/Cortex_M4_IPU1_C0 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/Cortex_M4_IPU1_C1 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/Cortex_M4_IPU2_C0 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/Cortex_M4_IPU2_C1 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/C66xx_DSP1 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/C66xx_DSP2 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/CortexA15_0 (Suspended)
gpio_test(unsigned int, unsigned int)() at main_led_blink.c:187 0x80005644
ti_sysbios_knl_Task_exit_E() at Task.c:468 0x80011D1C (next frame is identical to an existing frame)
Texas Instruments XDS100v2 USB Debug Probe_0/CortexA15_1 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/PRU_0_ICSS1 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/PRU_1_ICSS1 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/PRU_0_ICSS2 (Disconnected : Unknown)
Texas Instruments XDS100v2 USB Debug Probe_0/PRU_1_ICSS2 (Disconnected : Unknown)
Variables
Expressions
Registers
Expression
Type
Value
Address
count
int
4
0x800250B8
Add new expression
Counted twice for one interrupt
(handler is executed twice)
GPIO_idkAM574x_board.c
main_led_blink.c
0x3808c
177 /* Write high to gpio pin to control LED1 */
178 GPIO_write((USER_LED1), GPIO_PIN_VAL_HIGH);
179 /* Add new debounce code here */
180 /* GPIOAppUpdateConfig(&gpioBaseAddr, &gpioPin);
181 GPIODebounceFuncControl(gpioBaseAddr, gpioPin, 1);
182 GPIODebounceTimeConfig(gpioBaseAddr, 255);
183 */
184
185 AppDelay(DELAY_VALUE);
186
187 GPIO_log("\n GPIO Led Blink Application \n");
188
189 #if defined(SOC_K2L) || defined(SOC_C6678) || defined(SOC_C6657)
190 /* No GPIO pin directly connected to user LED's on K2L/K2G/C6678/C6657 EVM, just trigger interrupt once */
191 GPIO_toggle(USER_LED0);
192 while (!gpio_intr_triggered);
193
194 UART_printStatus("\n All tests have passed \n");
195 #else
196
197 while(1);
198
199 while(1)
200 {
201 #if defined(SOC_AM574x) || defined(SOC_AM572x) || defined(SOC_AM571x)|| defined(SOC_AM335x) || defined(SOC_AM437x)
202
203 #if defined (idkAM572x) || defined (idkAM574x)
204 /* Update GPIO info based on the board */
205 GPIOAppUpdateConfig(&gpioBaseAddr, &gpioPin);
206 #else
Console
am5748idk.ccxml
CortexA15_0: GEL Output: DEBUG: Clock is active ...
CortexA15_0: GEL Output: DEBUG: Checking for data integrity in DSPSS L2RAM ...
CortexA15_0: GEL Output: DEBUG: Data integrity check in GEM L2RAM is sucessful!
CortexA15_0: GEL Output: --->>> DSP2SS Initialization is DONE! <<<---
CortexA15_0: GEL Output: --->>> IVAHD Initialization is in progress ... <<<---
CortexA15_0: GEL Output: DEBUG: Clock is active ...
CortexA15_0: GEL Output: --->>> IVAHD Initialization is DONE! ... <<<---
CortexA15_0: GEL Output: --->>> PRUSS 1 and 2 Initialization is in progress ... <<<---
CortexA15_0: GEL Output: --->>> PRUSS 1 and 2 Initialization is in complete ... <<<---
Problems
0 items
Description
Resource
Path
Location
Type
Updates Available
Updates are available for your software.
Click to review and install updates.
Set up Reminder options
Writable
Smart Insert
187 : 1
ARM

The addition of debounce made it worse.

```
    /* Write high to gpio pin to control LED1 */
    GPIO_write((USER_LED1), GPIO_PIN_VAL_HIGH);
    /* Add new debounce code here */
/*    GPIOAppUpdateConfig(&gpioBaseAddr, &gpioPin);
    GPIODebounceFuncControl(gpioBaseAddr, gpioPin, 1);
    GPIODebounceTimeConfig(gpioBaseAddr, 255);
*/
```