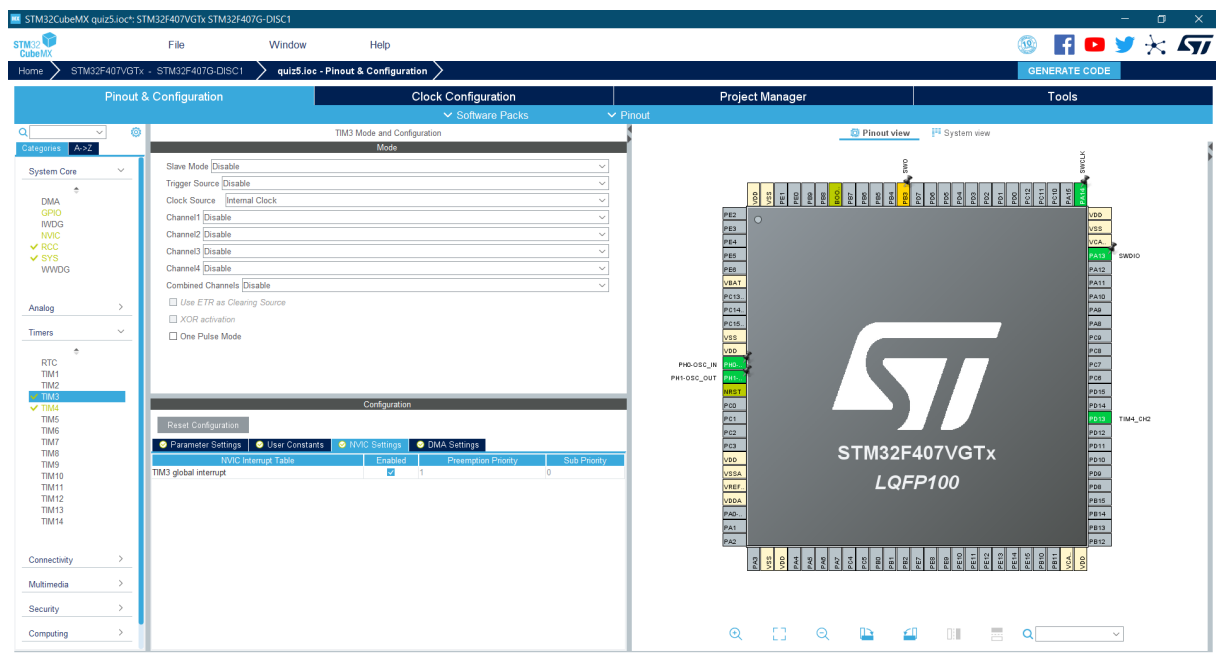
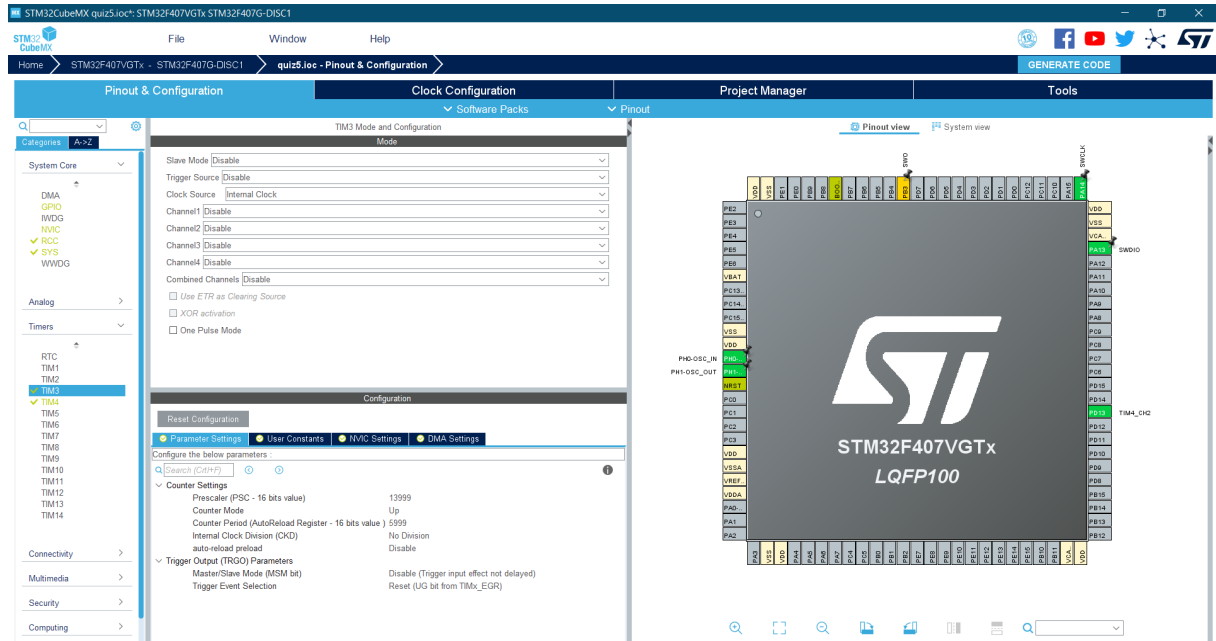
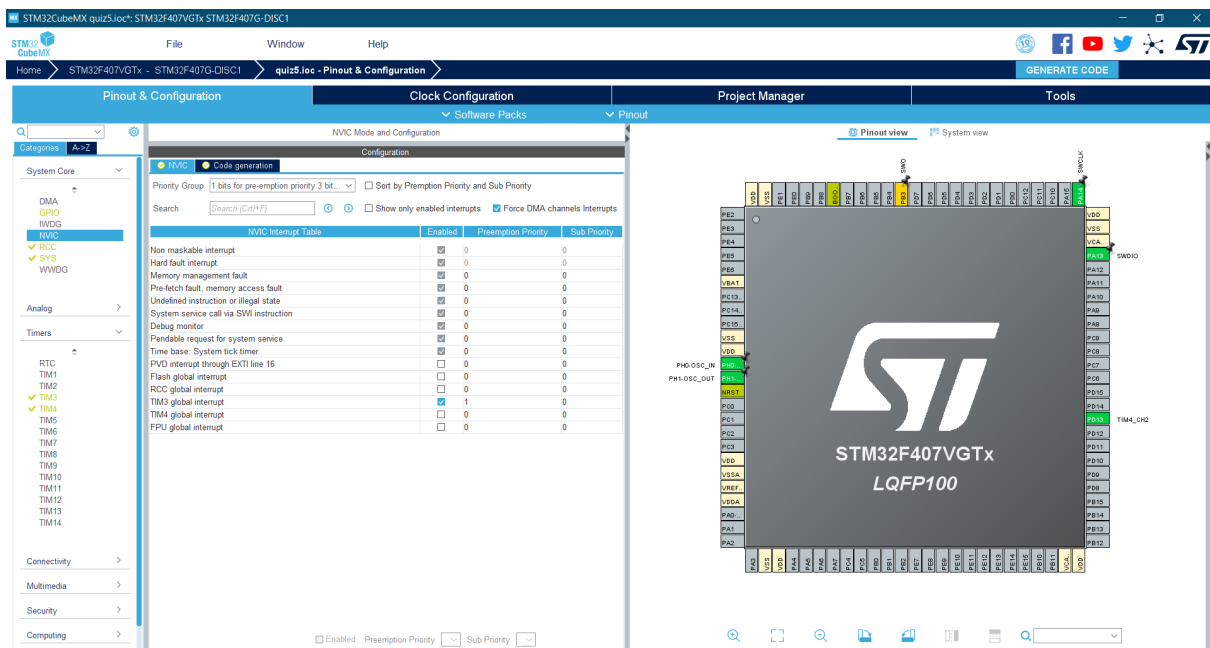
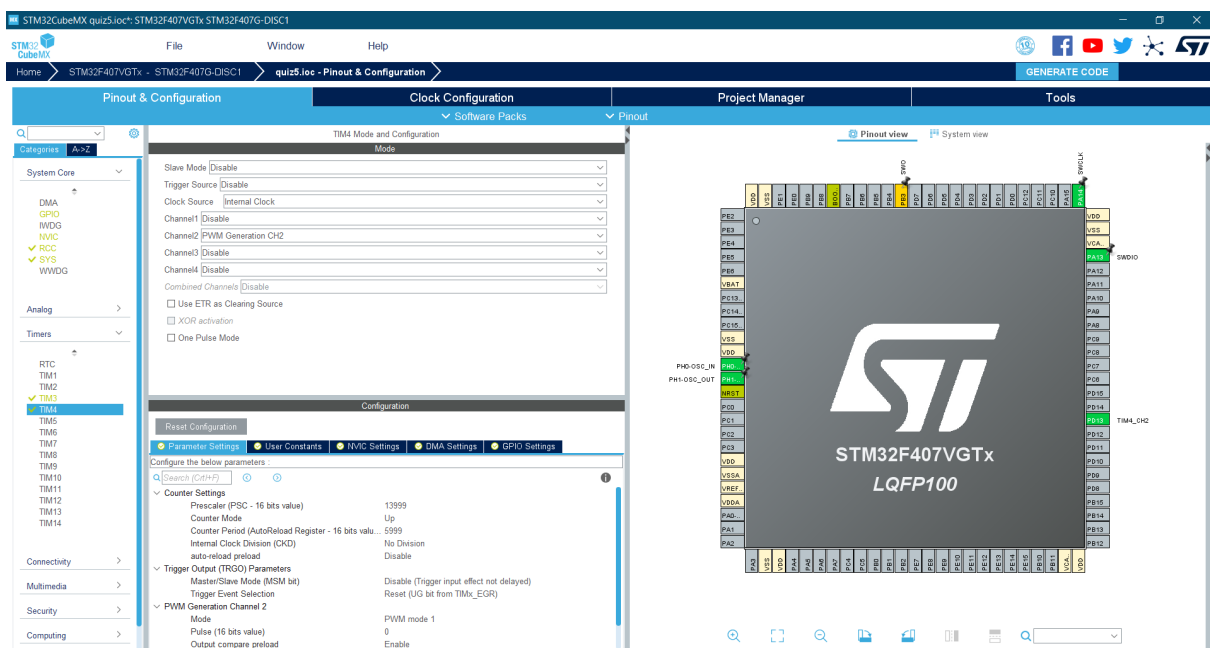


TIM3:

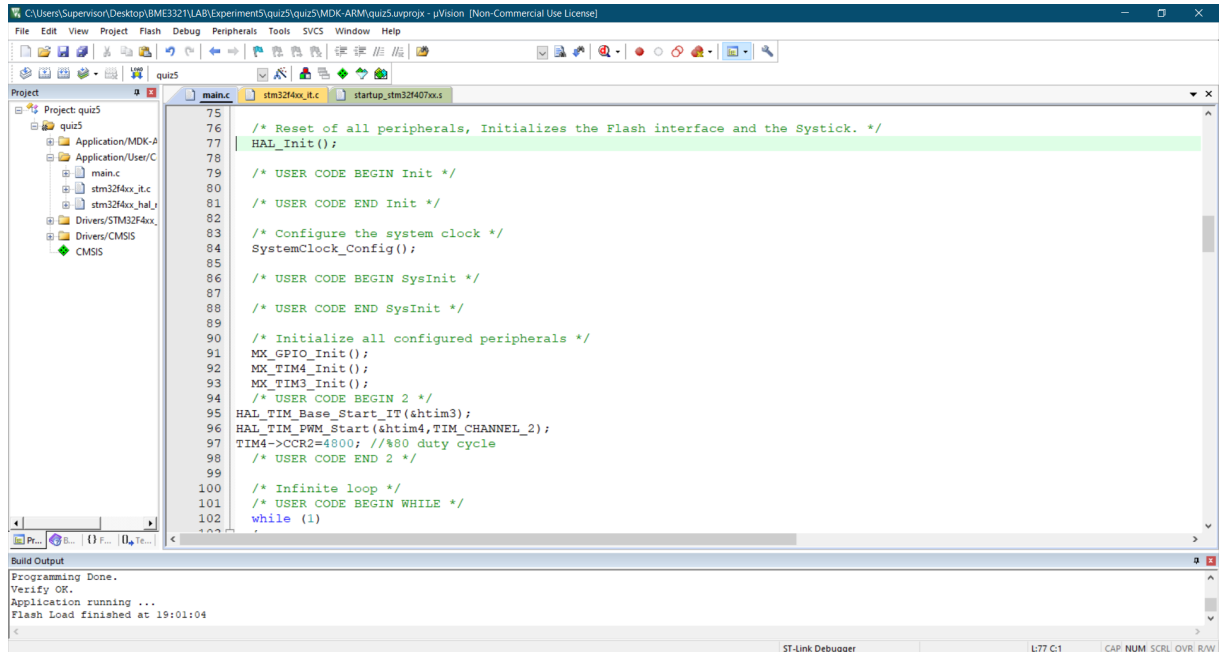




TIM 4:



Main.c :



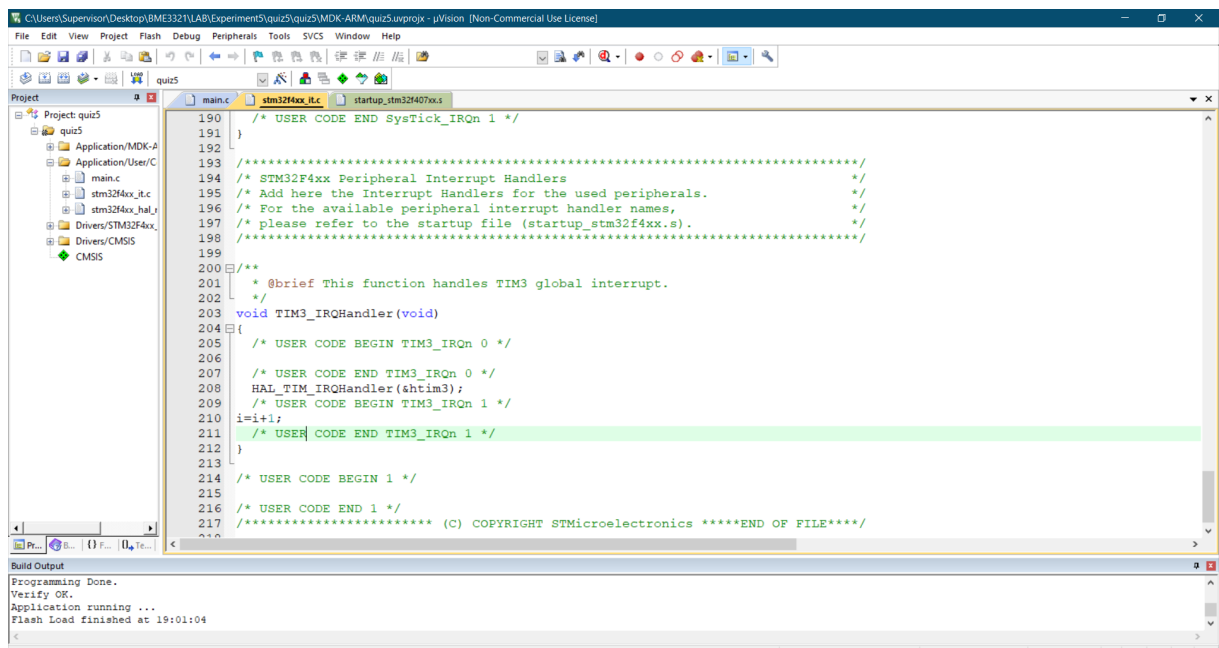
```
75
76 /* Reset of all peripherals, Initializes the Flash interface and the Systick. */
77 HAL_Init();
78
79 /* USER CODE BEGIN Init */
80 /* USER CODE END Init */
81
82 /* Configure the system clock */
83 SystemClock_Config();
84
85 /* USER CODE BEGIN SysInit */
86 /* USER CODE END SysInit */
87
88 /* Initialize all configured peripherals */
89 MX_GPIO_Init();
90 MX_TIM4_Init();
91 MX_TIM3_Init();
92 /* USER CODE BEGIN 2 */
93 HAL_TIM_Base_Start_IT(&htim3);
94 HAL_TIM_PWM_Start(&htim4, TIM_CHANNEL_2);
95 TIM4->CCR2=4800; //480 duty cycle
96 /* USER CODE END 2 */
97
98 /* Infinite loop */
99 /* USER CODE BEGIN WHILE */
100 while (1)
101 {
102 }
```

Build Output

Programming Done.
Verify OK.
Application running ...
Flash Load finished at 19:01:04

ST-Link Debugger L77 C1 CAP NUM SCRL OVR R/W

IRQHandler:



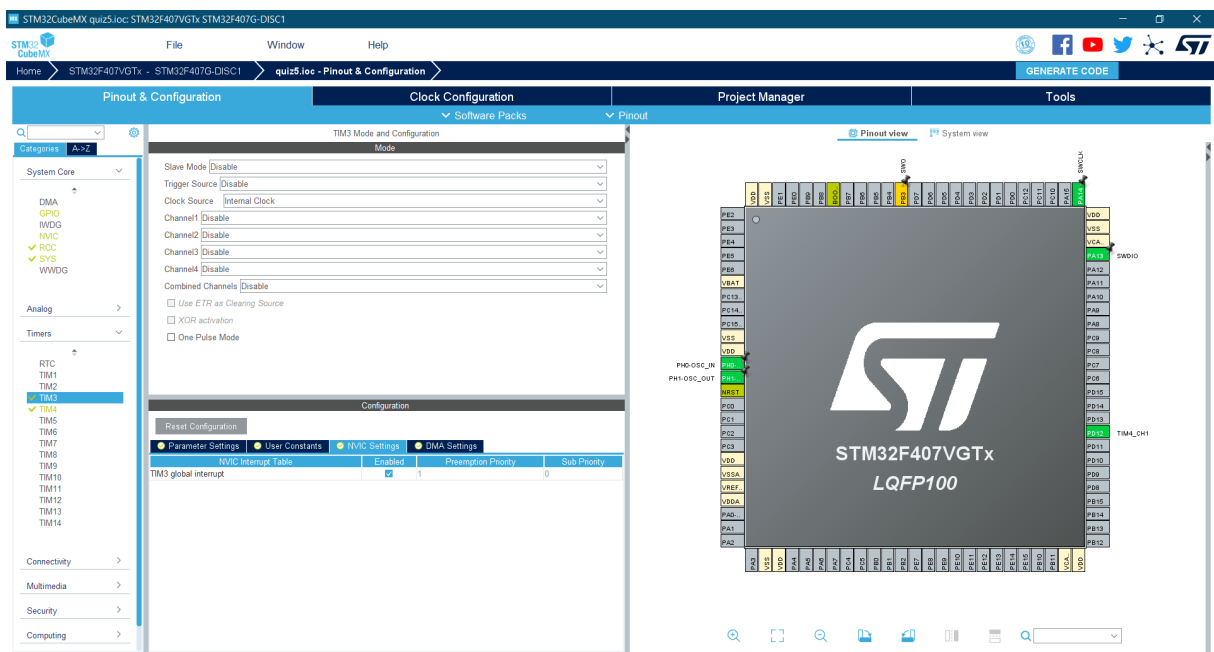
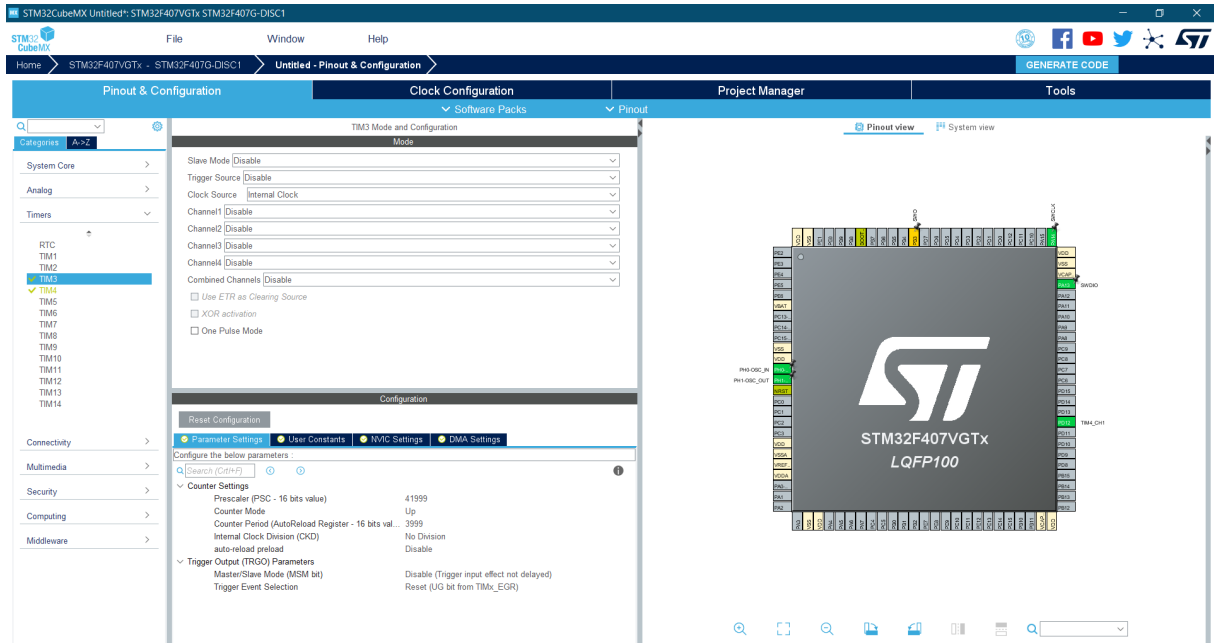
```
190 /* USER CODE END SysTick_IRQn 1 */
191 }
192
193 /**
194  * STM32F4xx Peripheral Interrupt Handlers
195  * Add here the Interrupt Handlers for the used peripherals.
196  * For the available peripheral interrupt handler names,
197  * please refer to the startup file (startup_stm32f4xx.s).
198  */
199
200 /**
201  * @brief This function handles TIM3 global interrupt.
202  */
203 void TIM3_IRQHandler(void)
204 {
205 /* USER CODE BEGIN TIM3_IRQn 0 */
206
207 /* USER CODE END TIM3_IRQn 0 */
208 HAL_TIM_IRQHandler(&htim3);
209 /* USER CODE BEGIN TIM3_IRQn 1 */
210 i=i+1;
211 /* USER CODE END TIM3_IRQn 1 */
212 }
213
214 /* USER CODE BEGIN 1 */
215
216 /* USER CODE END 1 */
217
218 /**
219  * (C) COPYRIGHT STMicroelectronics *****END OF FILE*****
220  */
221 }
```

Build Output

Programming Done.
Verify OK.
Application running ...
Flash Load finished at 19:01:04

GROUP 2

TIM3:



STM32CubeMX quiz5.ioc: STM32F407VGTx STM32F407G-DISC1

File Window Help

Home > STM32F407VGTx - STM32F407G-DISC1 > quiz5.ioc - Pinout & Configuration > GENERATE CODE

Pinout & Configuration Clock Configuration Project Manager Tools

Categories: A-ZZ

System Core >

DMA >

GPIO >

WWDG >

✓ IWDG

✓ RTC

✓ SYS

WWDG >

Analog >

Timers >

RTC >

TM1 >

TM2 >

✓ TM3

✓ TM4

TM5 >

TM6 >

TM7 >

TM8 >

TM9 >

TM10 >

TM11 >

TM12 >

TM13 >

TM14 >

Connectivity >

Multimedia >

Security >

Computing >

Configuration

Priority Group: 1 bits for pre-emption priority 3 bits for sub-priority

Sort by: Preemption Priority and Sub Priority

Search: [CdfHF]

Show only enabled interrupts: ☐ Force DMA channels interrupts: ☒

Interrupt	Enabled	Preemption Priority	Sub Priority
Non maskable interrupt	<input checked="" type="checkbox"/>	0	0
Hard fault interrupt	<input checked="" type="checkbox"/>	0	0
Memory management fault	<input checked="" type="checkbox"/>	0	0
Pre-fetch fault, memory access fault	<input checked="" type="checkbox"/>	0	0
Undefined instruction or illegal state	<input checked="" type="checkbox"/>	0	0
System service call via SWI instruction	<input checked="" type="checkbox"/>	0	0
Debug monitor	<input checked="" type="checkbox"/>	0	0
Pendable request for system service	<input checked="" type="checkbox"/>	0	0
Time base: System tick timer	<input checked="" type="checkbox"/>	0	0
PVD interrupt through EXTI line 16	<input type="checkbox"/>	0	0
Flash global interrupt	<input type="checkbox"/>	0	0
RCC global interrupt	<input type="checkbox"/>	0	0
TM3 global interrupt	<input checked="" type="checkbox"/>	1	0
TM4 global interrupt	<input type="checkbox"/>	0	0
FPU global interrupt	<input type="checkbox"/>	0	0

Pinout view

STM32F407VGTx LQFP100

Pinout view: STM32F407VGTx LQFP100 pinout diagram showing various pins and their connections.

TIM4:

STM32CubeMX Untitled: STM32F407VGTx STM32F407G-DISC1

File Window Help

Home > STM32F407VGTx - STM32F407G-DISC1 > Untitled - Pinout & Configuration > GENERATE CODE

Pinout & Configuration Clock Configuration Project Manager Tools

Categories: A-ZZ

System Core >

Analog >

Timers >

RTC >

TM1 >

TM2 >

✓ TM3

✓ TM4

TM5 >

TM6 >

TM7 >

TM8 >

TM9 >

TM10 >

TM11 >

TM12 >

TM13 >

TM14 >

Connectivity >

Multimedia >

Security >

Computing >

Middleware >

Mode

Slave Mode: Disable

Trigger Source: Disable

Clock Source: Internal Clock

Channel1: PWM Generation CH1

Channel2: Disable

Channel3: Disable

Channel4: Disable

Combined Channels: Disable

Use ETR as Clearing Source: ☐

XOR activation: ☐

One Pulse Mode: ☐

Configuration

Reset Configuration

Parameter Settings

Configure the below parameters:

Counter Settings

Prescaler (PSC - 16 bits value): 41999

Counter Mode: Up

Counter Period (AutoReload Register - 16 bits val...): 3999

Internal Clock Division (CKD): No Division

auto-reload preload: Disable

Trigger Output (TRGO) Parameters

Master/Slave Mode (MSM bit): Disable (Trigger input effect not delayed)

Trigger Event Selection: Reset (UG bit from TIMx_EGR)

PWM Generation Channel 1

Mode: PWM mode 1

Pulse (16 bits value): 0

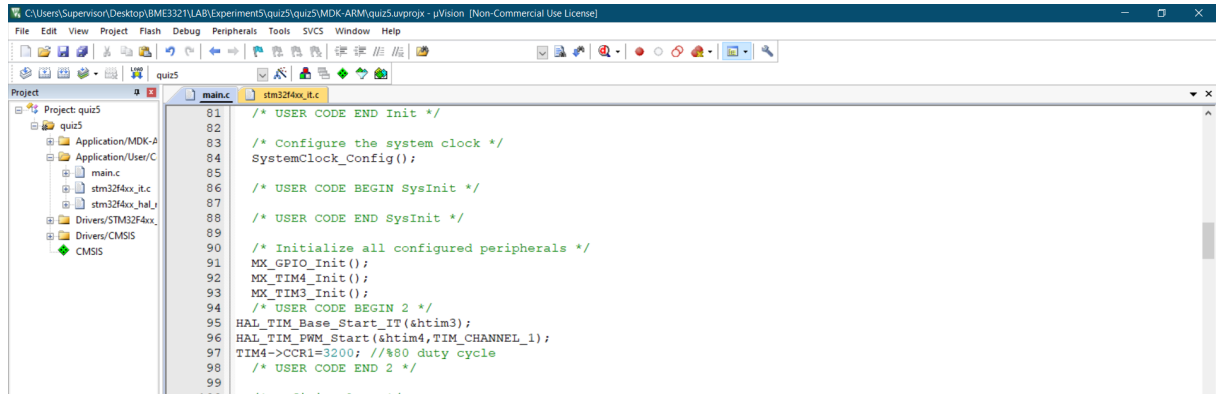
Output compare preload: Enable

Pinout view

STM32F407VGTx LQFP100

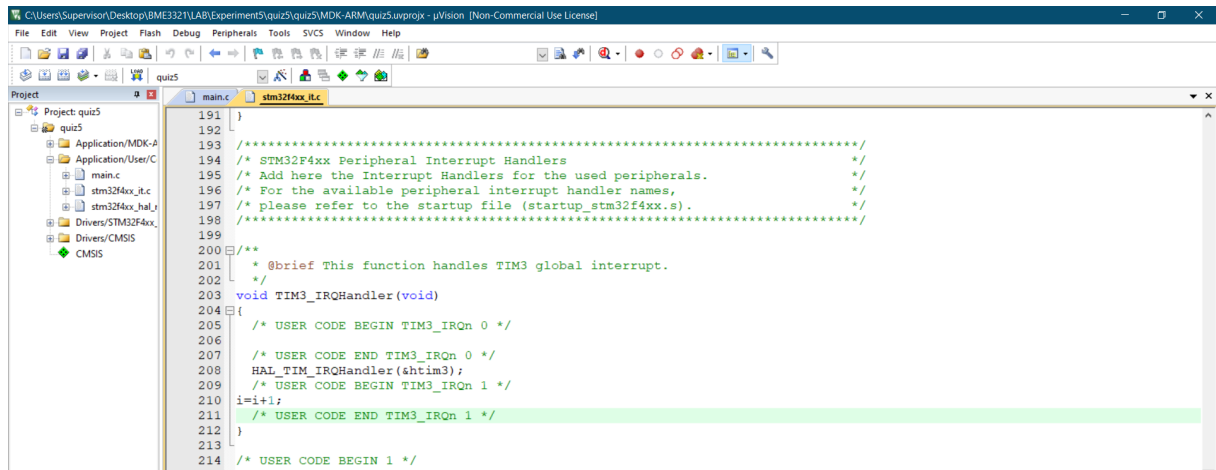
Pinout view: STM32F407VGTx LQFP100 pinout diagram showing various pins and their connections.

Main.c :



```
1  /* USER CODE BEGIN Init */
2
3  /* Configure the system clock */
4  SystemClock_Config();
5
6  /* USER CODE BEGIN SysInit */
7
8  /* USER CODE END SysInit */
9
10 /* Initialize all configured peripherals */
11 MX_GPIO_Init();
12 MX_TIM4_Init();
13 MX_TIM3_Init();
14 /* USER CODE BEGIN 2 */
15 HAL_TIM_Base_Start_IT(&htim3);
16 HAL_TIM_PWM_Start(&htim4,TIM_CHANNEL_1);
17 TIM4->CCR1=3200; //80 duty cycle
18 /* USER CODE END 2 */
19
20 /* Define your own private functions here */
```

IRQHandler :



```
191 }
192
193 /* STM32F4xx Peripheral Interrupt Handlers
194  * Add here the Interrupt Handlers for the used peripherals.
195  * For the available peripheral interrupt handler names,
196  * please refer to the startup file (startup_stm32f4xx.s).
197  */
198
199
200 /**
201  * @brief This function handles TIM3 global interrupt.
202  */
203 void TIM3_IRQHandler(void)
204 {
205     /* USER CODE BEGIN TIM3_IRQn 0 */
206
207     /* USER CODE END TIM3_IRQn 0 */
208     HAL_TIM_IRQHandler(&htim3);
209     /* USER CODE BEGIN TIM3_IRQn 1 */
210     i=i+1;
211     /* USER CODE END TIM3_IRQn 1 */
212 }
213
214 /* USER CODE BEGIN 1 */
```