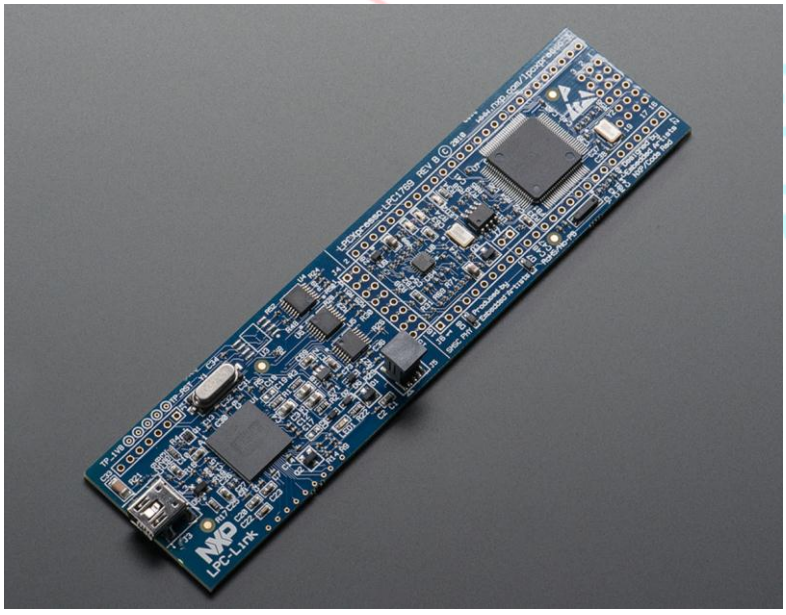
2015

TENET TECHNETRONICS

Read Push Button with NXP LPC1769 using LPCXpresso



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Reviewers:

Version: 1.0

Introduction:

LPCXpresso™ is a new, low-cost development platform available from NXP supporting NXP's ARM-based microcontrollers. The platform is comprised of a simplified Eclipse-based IDE and low-cost target boards which include an attached JTAG debugger. LPCXpresso™ is an end-to-end solution enabling engineers to develop their applications from initial evaluation to final production.

Step 1: Open **LPCXpresso** IDE

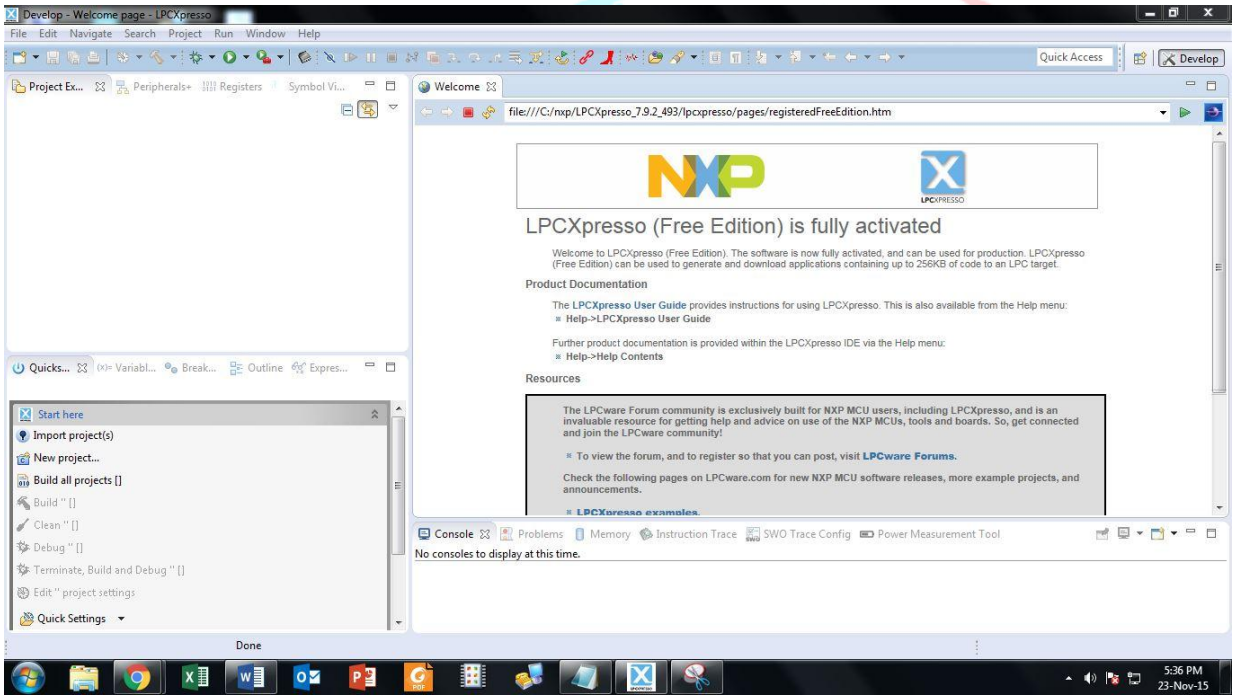

Figure 1

Step 2: Before writing a code, we have to Import some Library Files to the Workspace.

Click on **Import projects** on Quickstart Panel on the bottom left of the window.

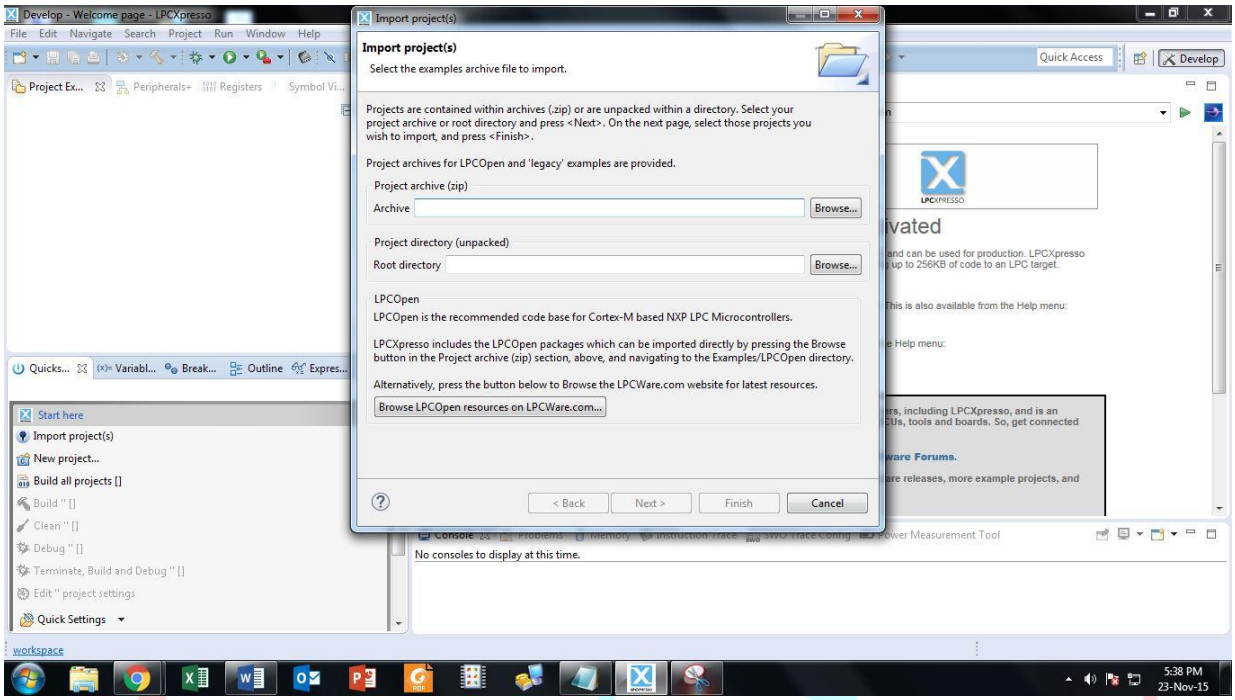

Figure 2

Step 3: Browse file, open the LPC1000 folder.

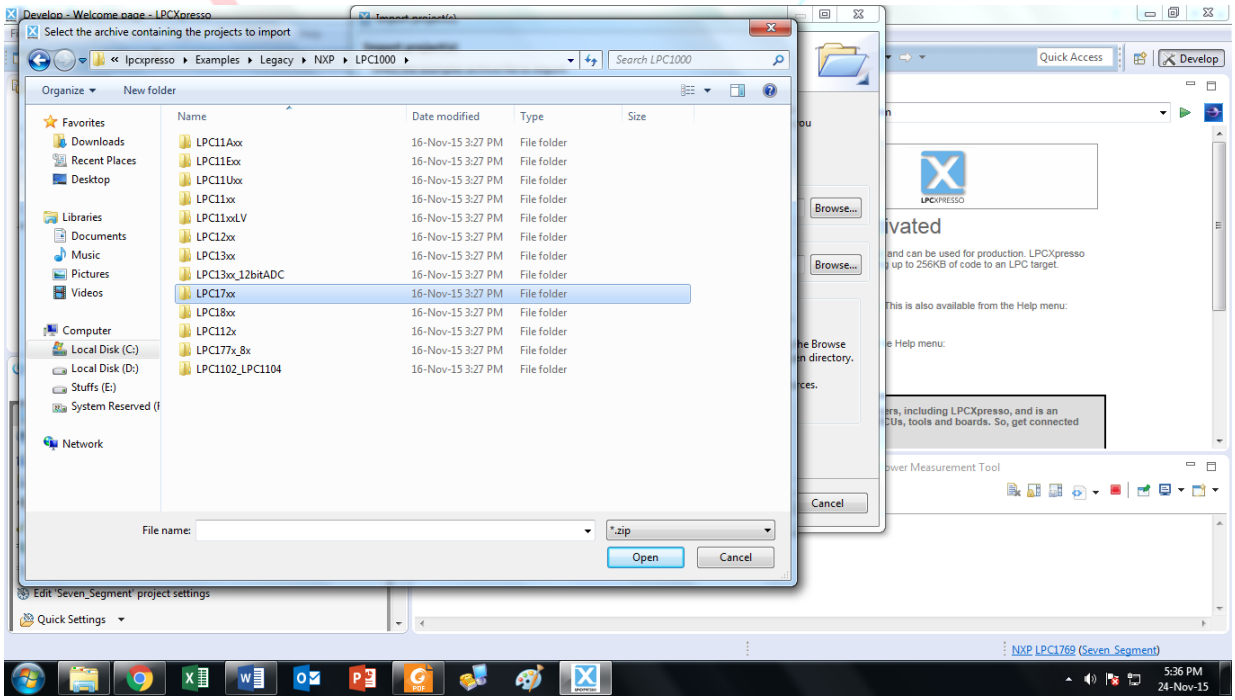

Figure 3

Step 4: Select the appropriate archive file. Let us select LPCXpresso176x_cmsis2. We can select CMSIS CORE library that include LPC17xx.h header file.

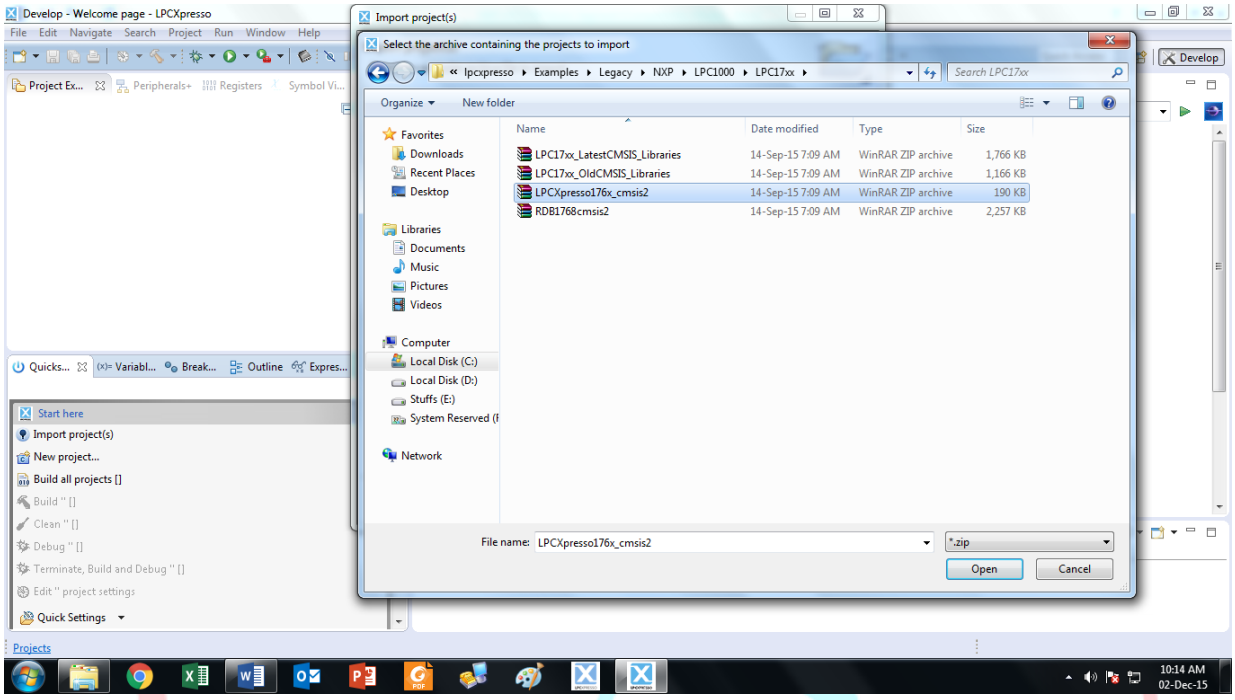

Figure 4

Step 5: After selecting you will be able to see the following libraries files. Let us select specific one.

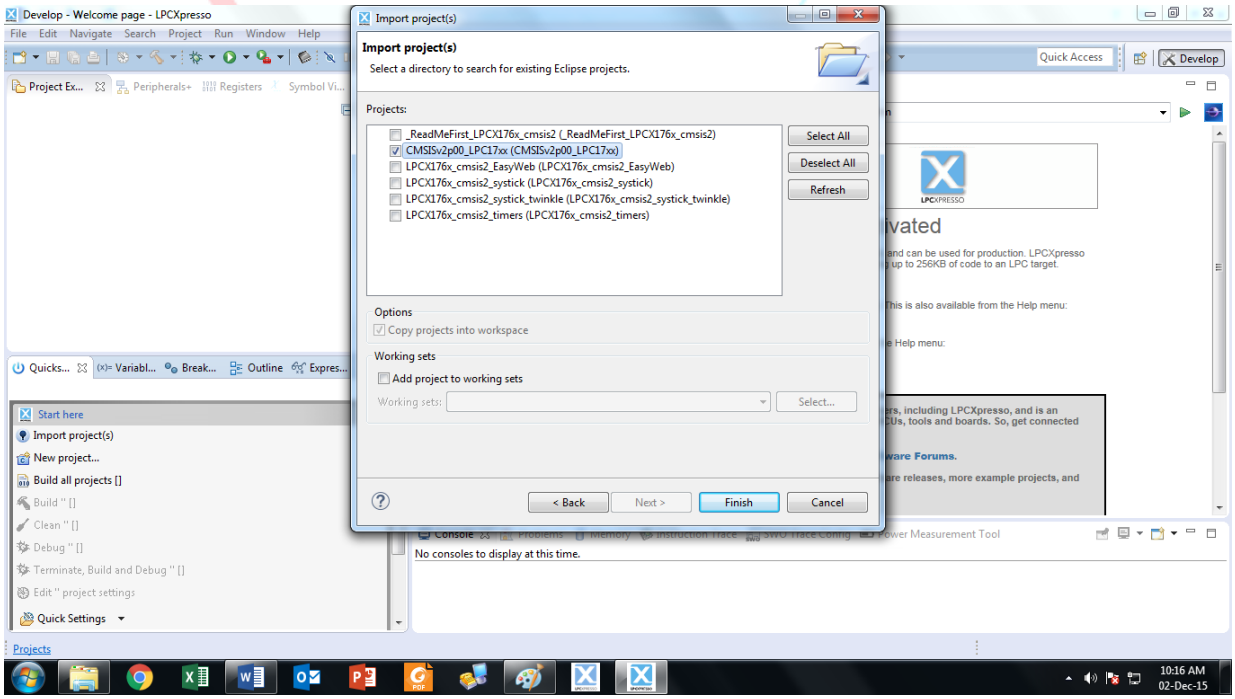

Figure 5

Step 6: Now we will be able to see those libraries in the workspace.

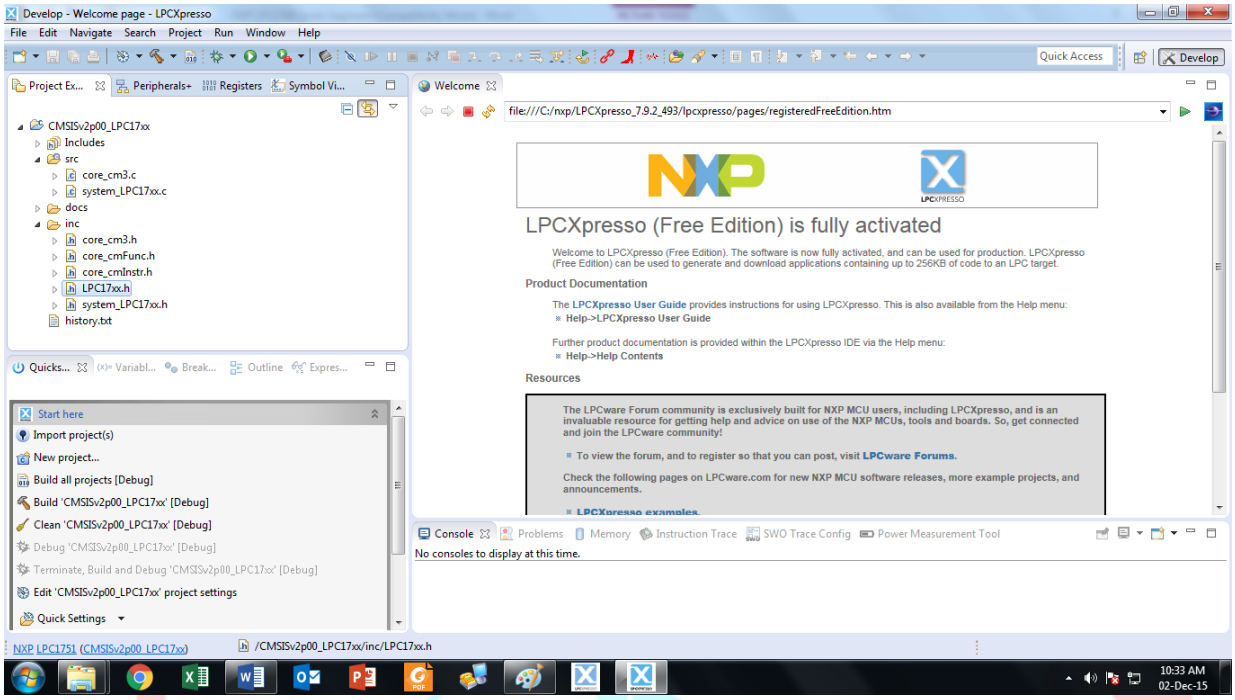

Figure 6

Step 7: Now we can start creating our new project. Goto **File** >> **New** >> **Project.** Select **LPCXpresso C project.**

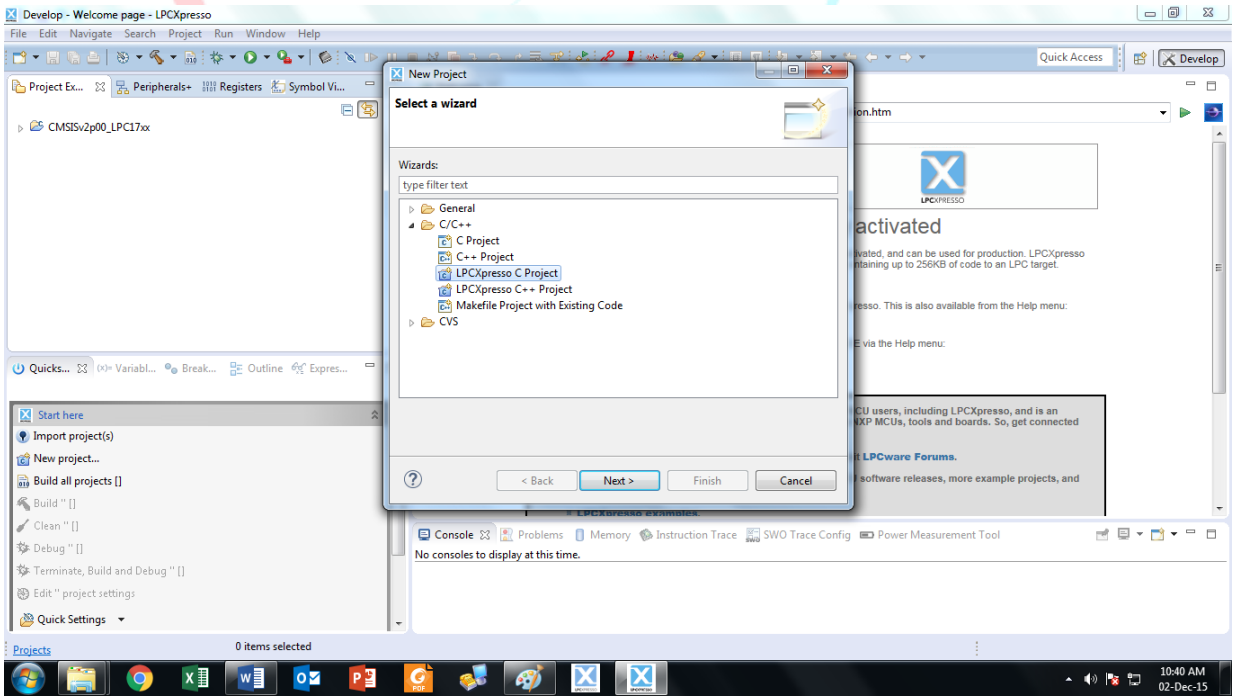

Figure 7

Step 8: Select LPC1769, **C Project** and give name to your project. Select target MCU as LPC1769.

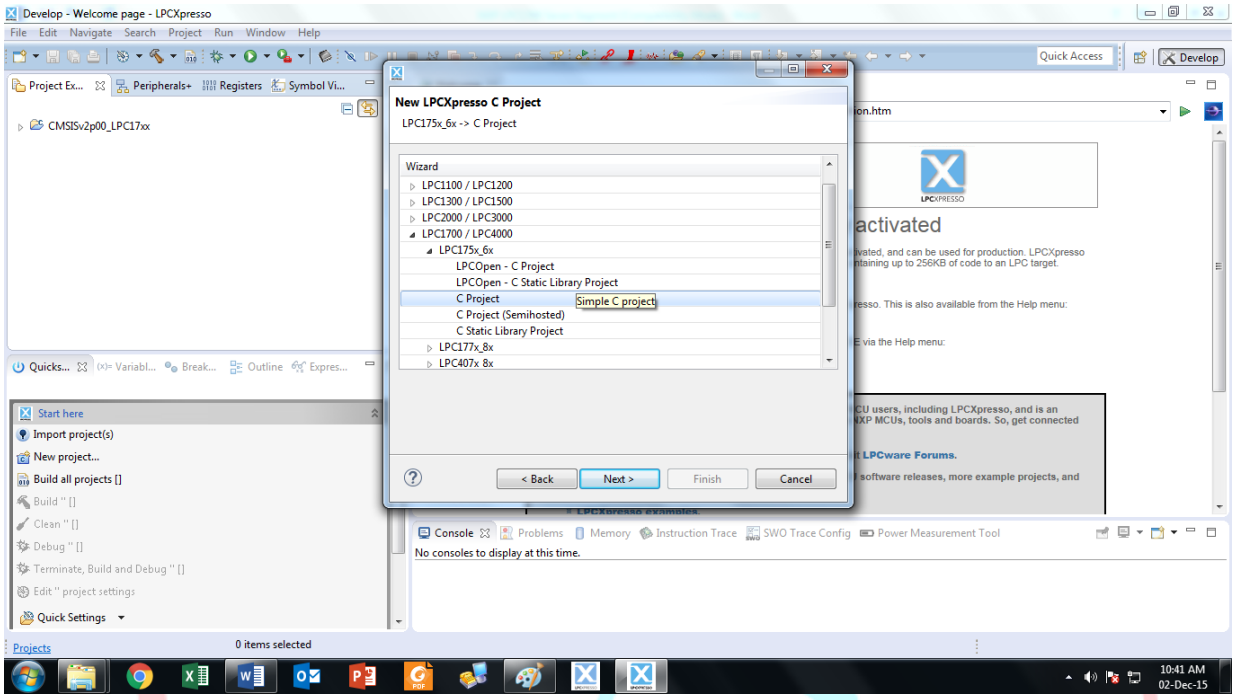

Figure 5

Step 9: Now select CMSIS Core library. Click on Next and keep all the other configurations as default and Finish.

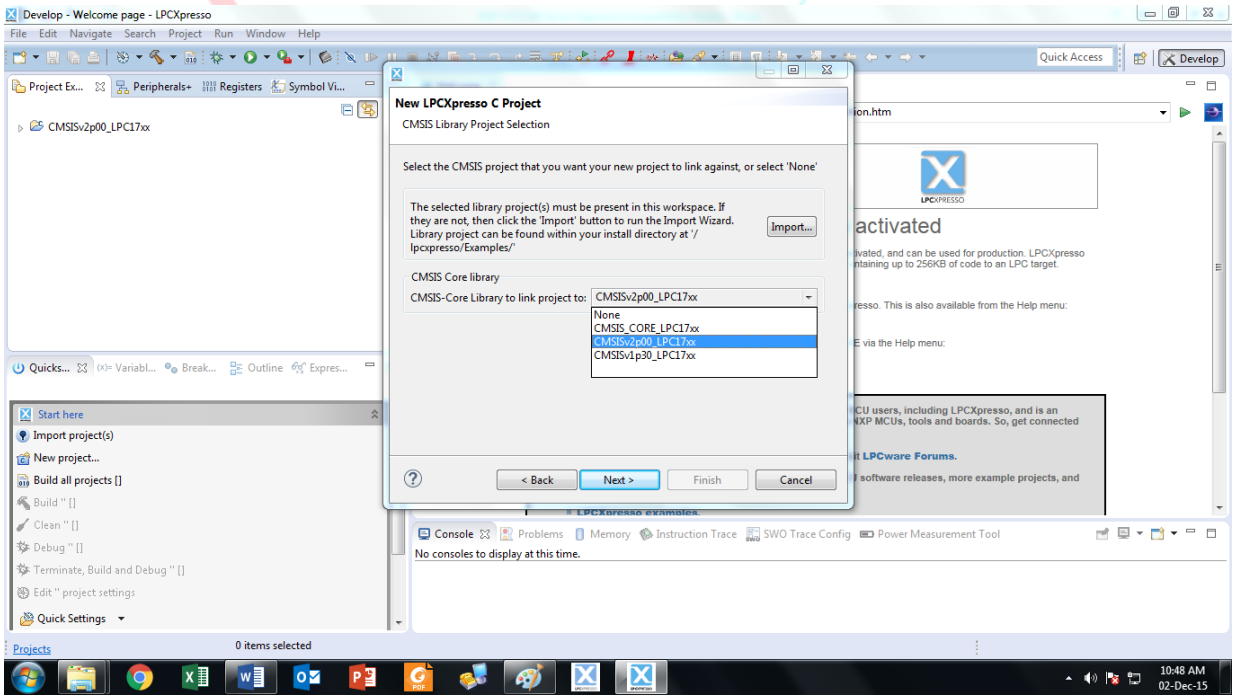

Figure 9

Step 10: Now we can see our project onto the workspace. Now by double clicking on Buzzer.c file, we can start writing code.

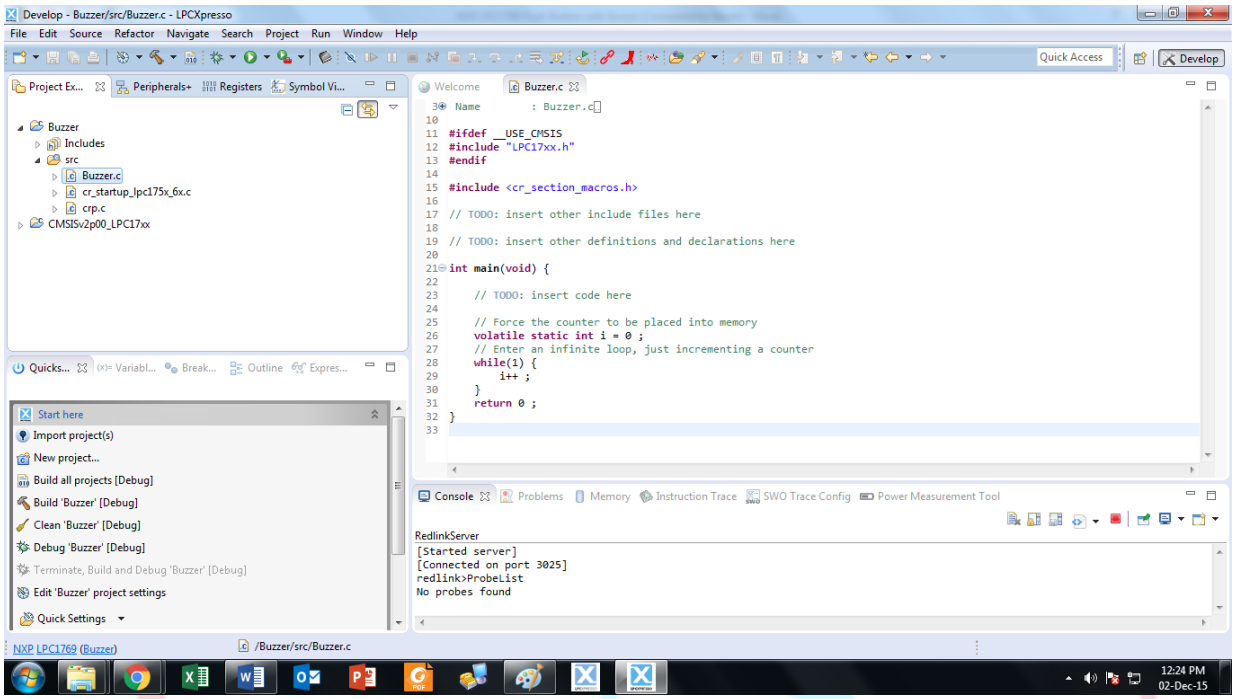

Figure 10

Step 11: Write a code as shown below.

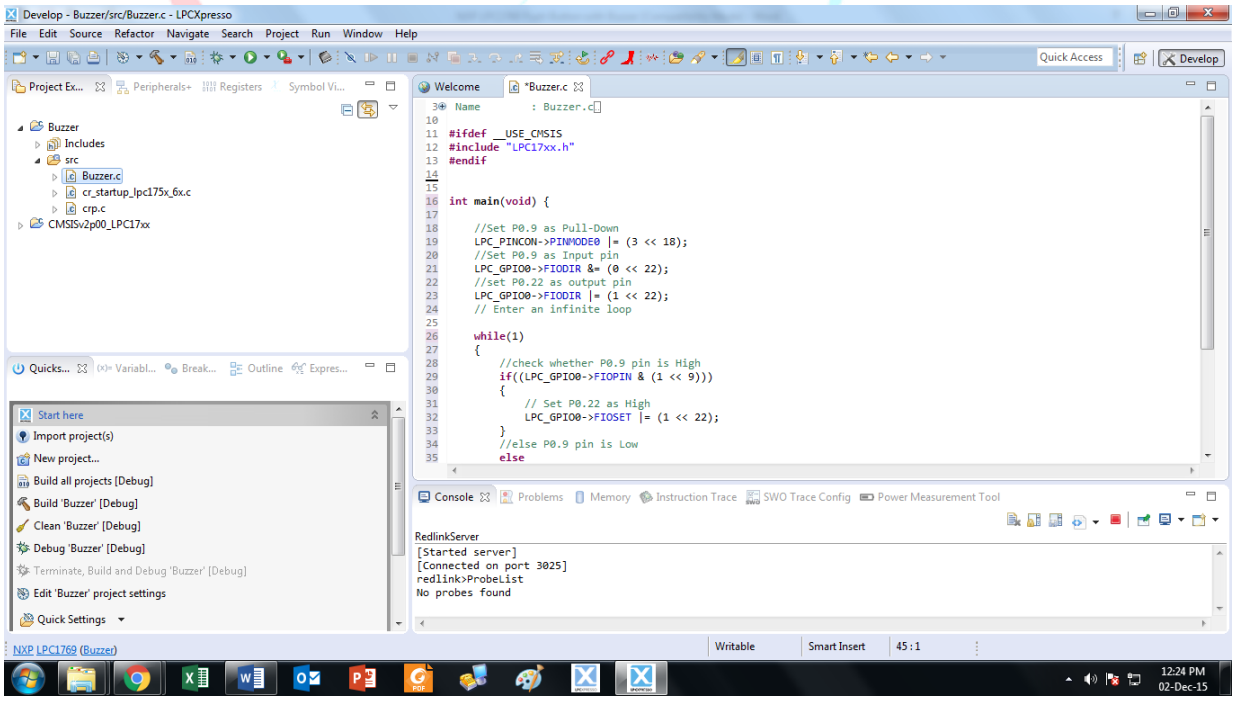

Figure 6

CODE:

```
#ifdef __USE_CMSIS
#include "LPC17xx.h"
#endif

int main(void)
{
	LPC_PINCON->PINMODE0 |= (3 << 18);		//Set P0.9 as Pull-Down
	LPC_GPIO0->FIODIR &= (0 << 9);			//Set P0.9 as Input pin
	LPC_GPIO0->FIODIR |= (1 << 22);			//set P0.22 as output pin

	while(1)
	{
		if((LPC_GPIO0->FIOPIN & (1 << 9)))	//check whether P0.9 pin is High
		{
			LPC_GPIO0->FIOSET |= (1 << 22);	// Set P0.22 as High
		}

		else
		{
			LPC_GPIO0->FIOCLR |= (1 << 22);	// Set P0.22 as low
		}
	}
	return 0 ;
}
```

Step 12: After writing code, Build the project by clicking on Build Buzzer on the Quickstart Panel on the bottom left of the window.

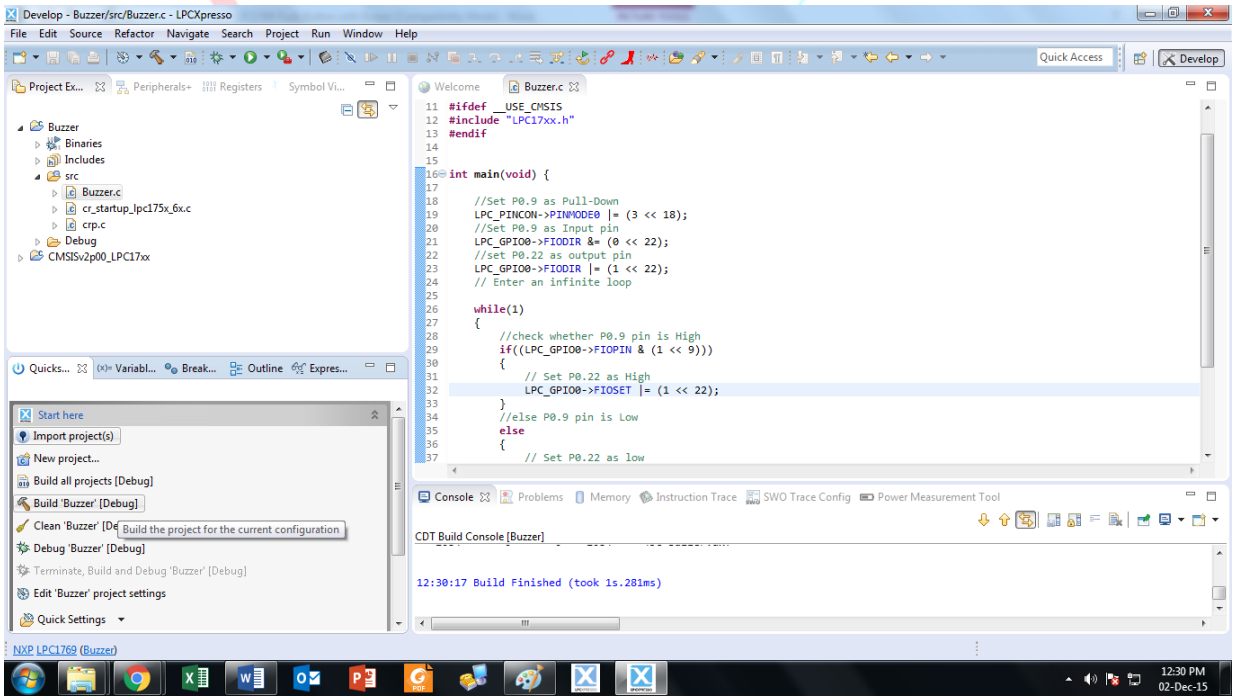

Figure 7

Step 13: Now, if all goes well connect the Micro B cable to LPC1769 and connect it to your computer. To upload the project file, click on the Program flash.

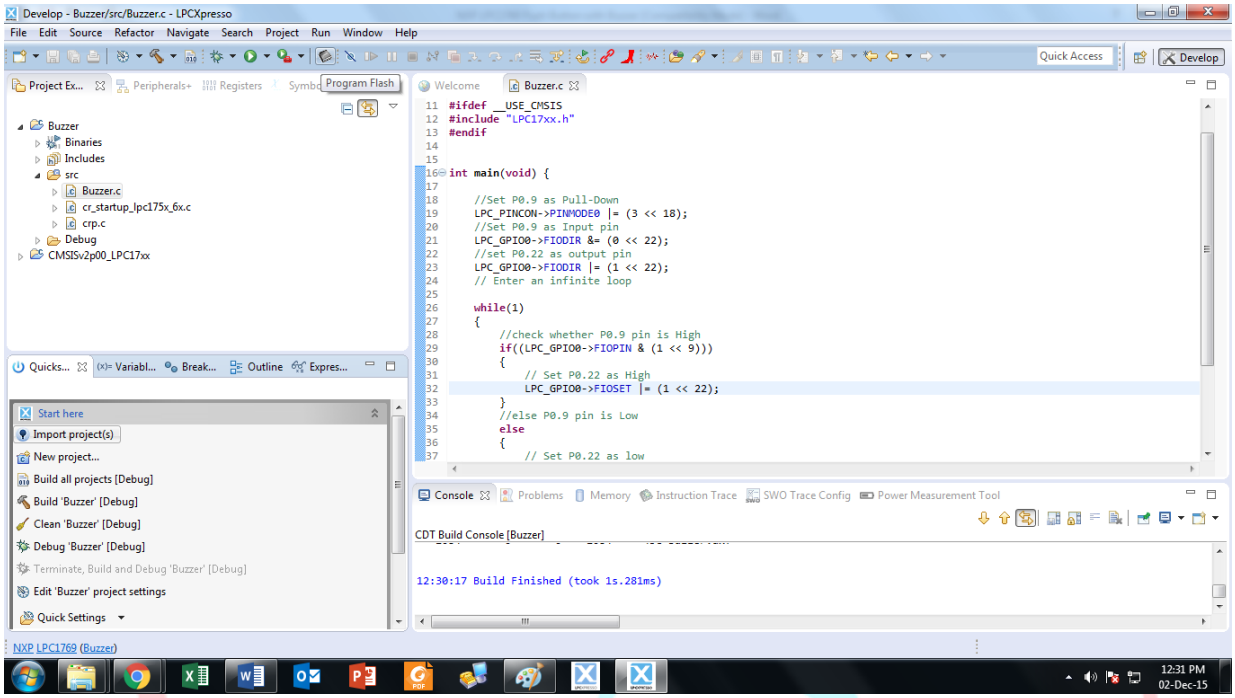

Figure 8

Step 14: Now select the Project file Buzzer.axf. We can find it in our project folder.

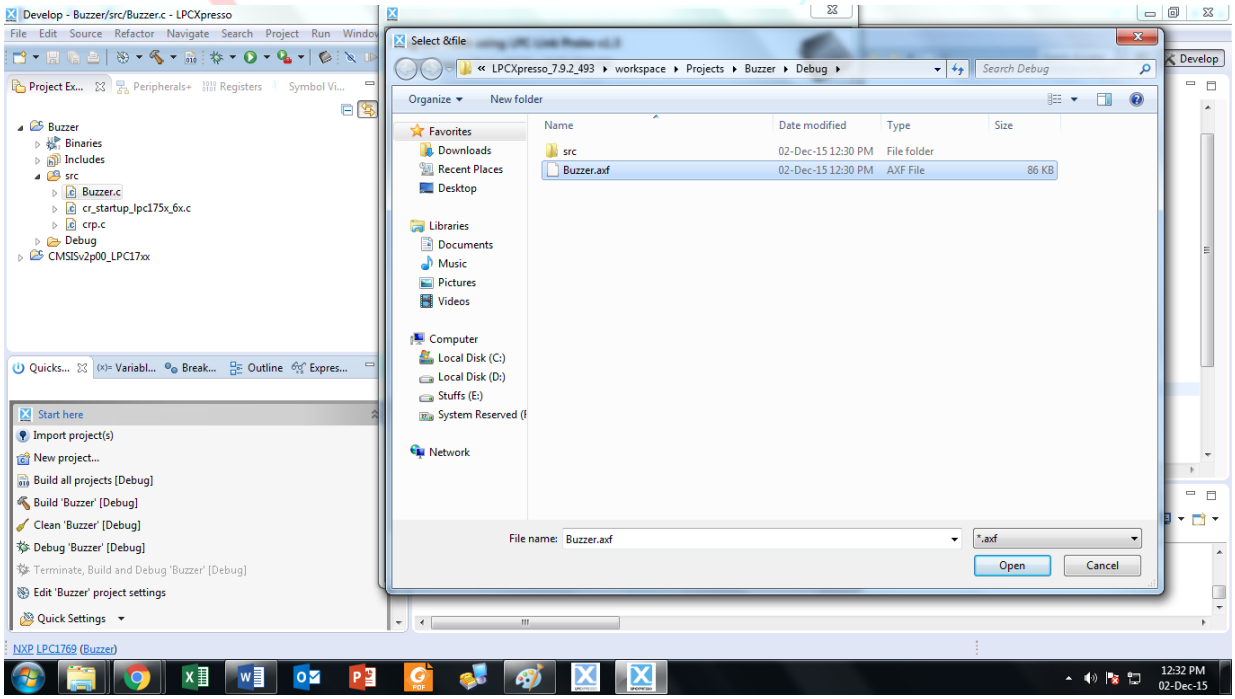

Figure 14

Step 15: Now this window shows we have finally dumped our project onto LPC1769.

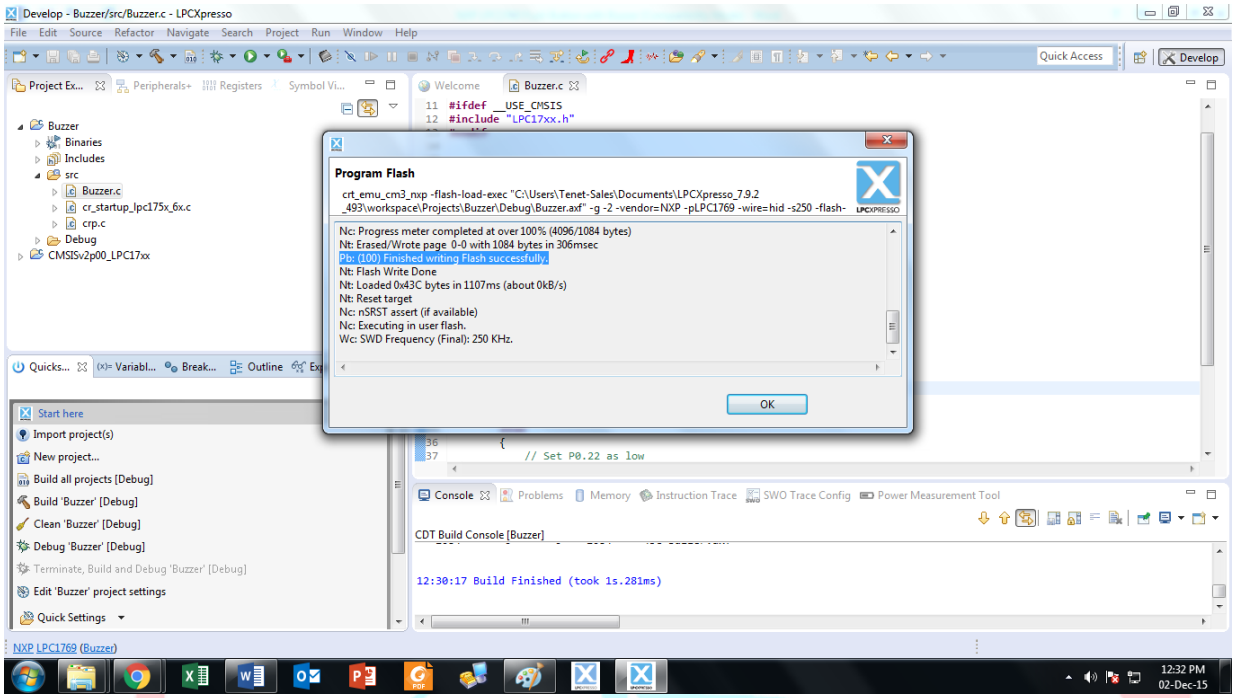

Figure 15

Circuit diagram:

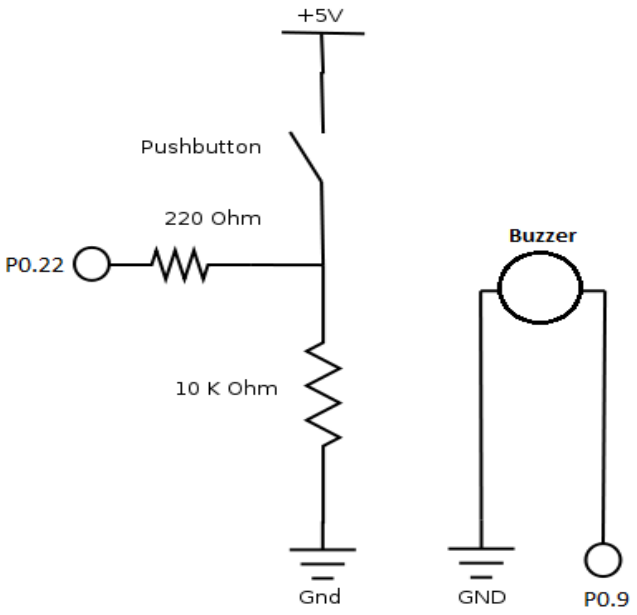

Figure 16

CONNECTION DIAGRAM:

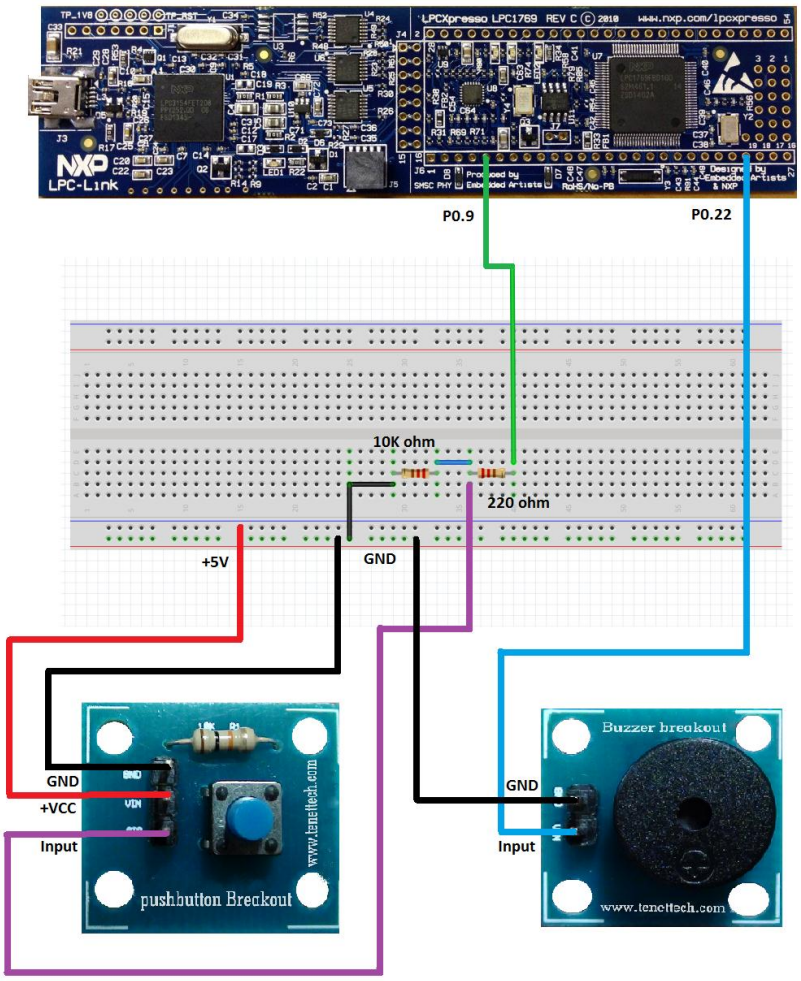

Figure 17

OUTPUT:

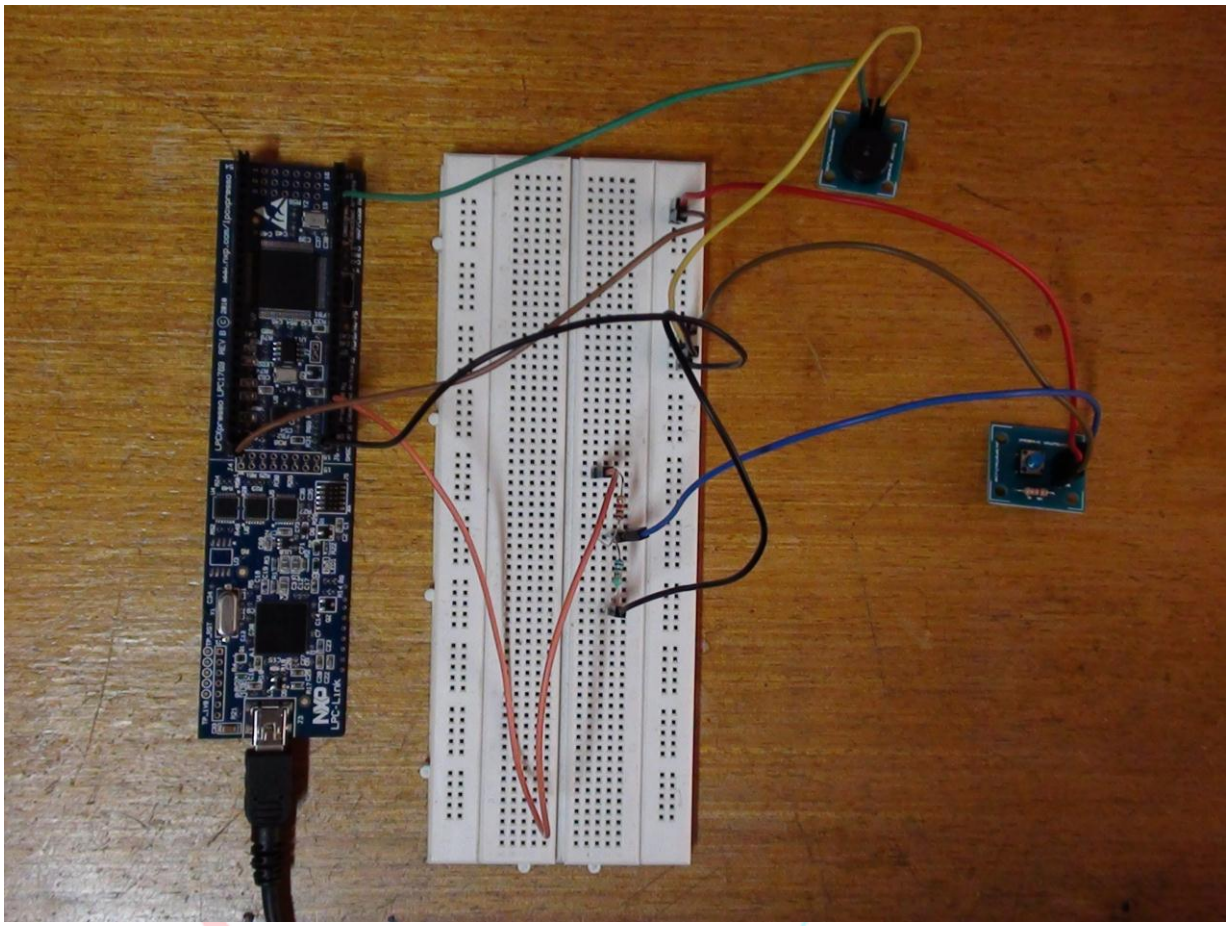

Figure 18

For product link:

1. http://www.tenettech.com/product/1548/lpc1769-lpcxpresso-board

For more information please visit: www.tenettech.com

For technical query please send an e-mail: info@tenettech.com