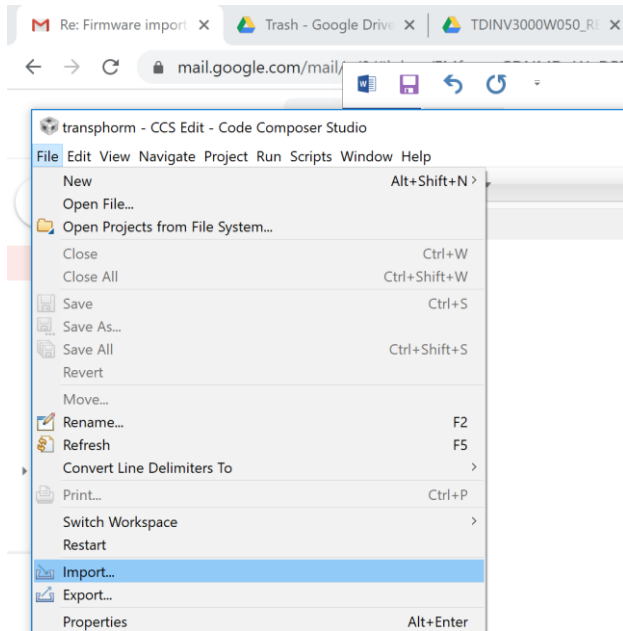


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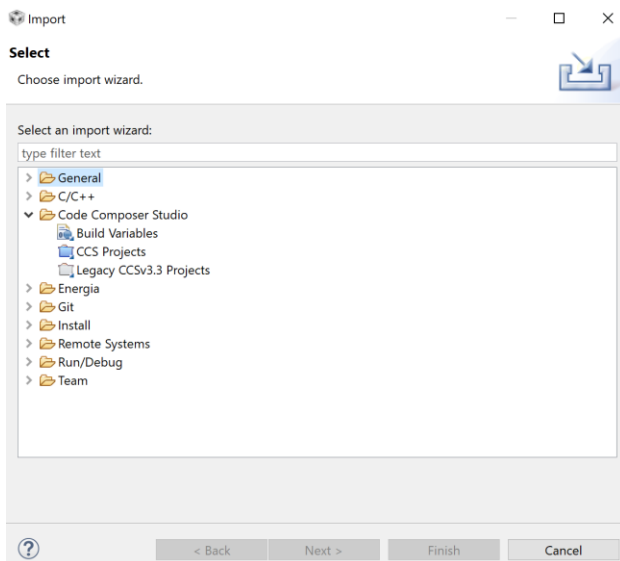
Please note: the control card is programmed with the default settings listed in the TDINV1000P100 user guide:

To modify the firmware, follow the steps below.

1. Download Code Composer Studio and create workspace folder.
2. Download the TDINV1000P100 firmware from the TRANSPHORMUSA.COM website and save the unzipped folder in the workspace folder you created.
3. Open up CCS program.
4. Under the FILE menu, select Import. See below.

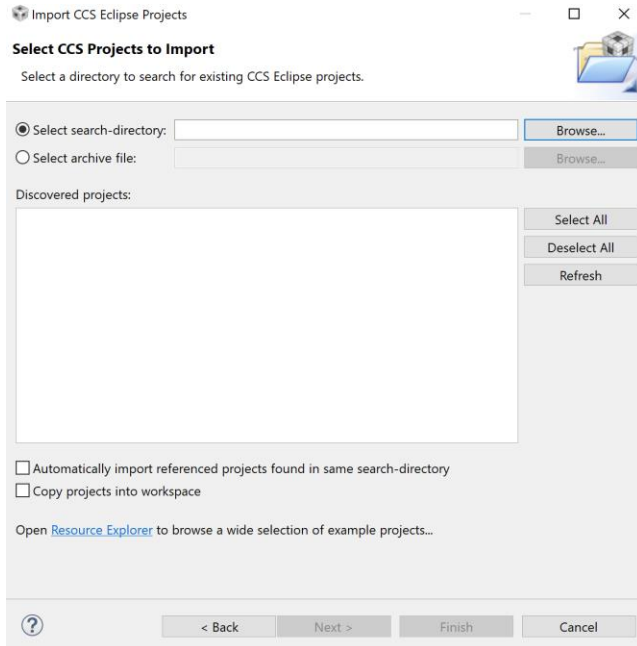


5. On the Import window, select Code Composer Studio and CCS Projects

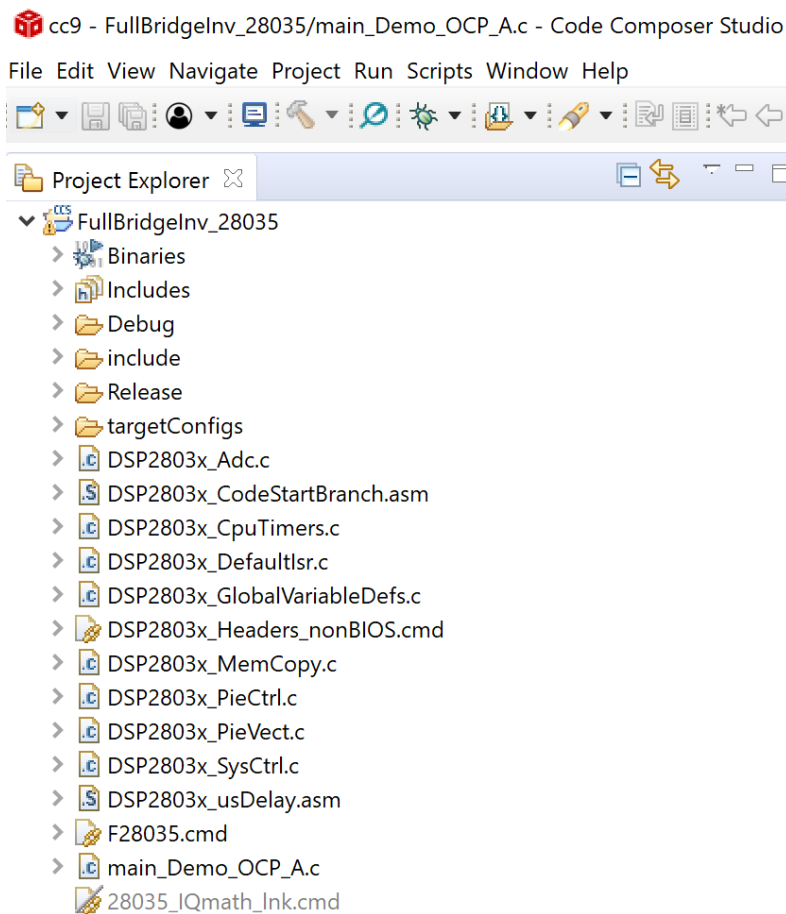


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6. Search for the unzipped folder containing the TDINV1000P100 firmware and click finish.

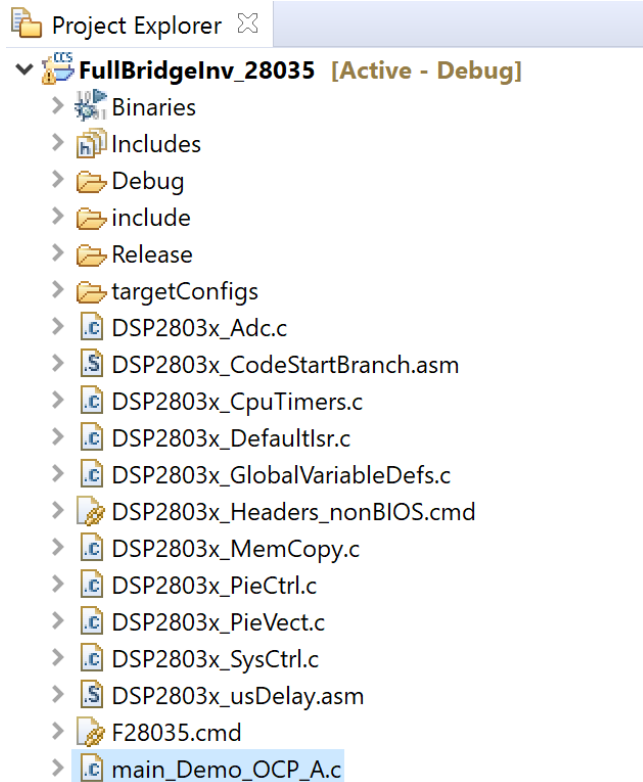


7. The project window should show sometime similar to this below.

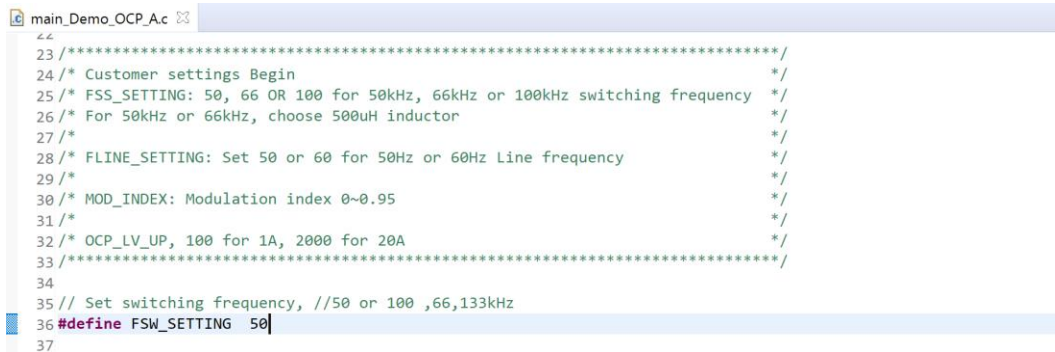


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8. Scroll down to select main_Demo_OCP_A.c (See below)



9. The default switching frequency is 100kHz. It can be set at line 36. See below.



10. The default line frequency is set to 60Hz. It can be modified in line 39. See below.

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```
main_Demo_OCP_A.c
44
23 /*****
24 /* Customer settings Begin */
25 /* FSS_SETTING: 50, 66 OR 100 for 50kHz, 66kHz or 100kHz switching frequency */
26 /* For 50kHz or 66kHz, choose 500uH inductor */
27 /*
28 /* FLINE_SETTING: Set 50 or 60 for 50Hz or 60Hz Line frequency */
29 /*
30 /* MOD_INDEX: Modulation index 0~0.95 */
31 /*
32 /* OCP_LV_UP, 100 for 1A, 2000 for 20A */
33 /*****
34
35 // Set switching frequency, //50 or 100 ,66,133kHz
36 #define FSW_SETTING 50
37
38 // Set line frequency, 50, or 60 Hz
39 #define FLINE_SETTING 60 //60 or 50
40
```

11. The default PWM modulation index is set to 0.98. It can be modified at line 42. See below.

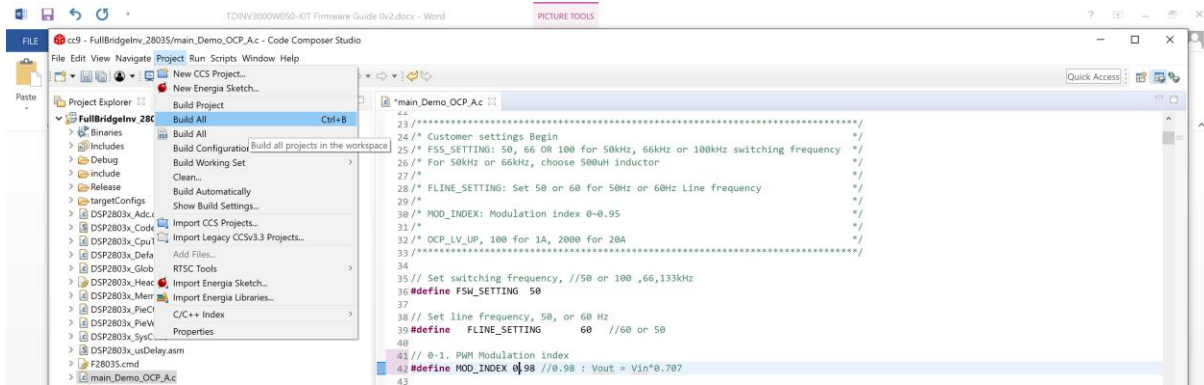
```
*main_Demo_OCP_A.c
44
23 /*****
24 /* Customer settings Begin */
25 /* FSS_SETTING: 50, 66 OR 100 for 50kHz, 66kHz or 100kHz switching frequency */
26 /* For 50kHz or 66kHz, choose 500uH inductor */
27 /*
28 /* FLINE_SETTING: Set 50 or 60 for 50Hz or 60Hz Line frequency */
29 /*
30 /* MOD_INDEX: Modulation index 0~0.95 */
31 /*
32 /* OCP_LV_UP, 100 for 1A, 2000 for 20A */
33 /*****
34
35 // Set switching frequency, //50 or 100 ,66,133kHz
36 #define FSW_SETTING 50
37
38 // Set line frequency, 50, or 60 Hz
39 #define FLINE_SETTING 60 //60 or 50
40
41 // 0-1. PWM Modulation index
42 #define MOD_INDEX 0.98 //0.98 : Vout = Vin*0.707
43
```

12. The OCP (over current protection) default limit is set to 50A. It can be modified at line 45. See below.

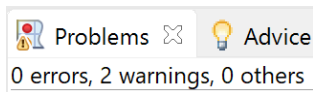
```
*main_Demo_OCP_A.c
44
23 /*****
24 /* Customer settings Begin */
25 /* FSS_SETTING: 50, 66 OR 100 for 50kHz, 66kHz or 100kHz switching frequency */
26 /* For 50kHz or 66kHz, choose 500uH inductor */
27 /*
28 /* FLINE_SETTING: Set 50 or 60 for 50Hz or 60Hz Line frequency */
29 /*
30 /* MOD_INDEX: Modulation index 0~0.95 */
31 /*
32 /* OCP_LV_UP, 100 for 1A, 2000 for 20A */
33 /*****
34
35 // Set switching frequency, //50 or 100 ,66,133kHz
36 #define FSW_SETTING 50
37
38 // Set line frequency, 50, or 60 Hz
39 #define FLINE_SETTING 60 //60 or 50
40
41 // 0-1. PWM Modulation index
42 #define MOD_INDEX 0.98 //0.98 : Vout = Vin*0.707
43
44 // OCP setting, 1 for 0.01A
45 #define OCP_LV_UP 5000 //1000 for 10A peak current 5000 for 50A peak current
46
```

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13. After changes have been made, select Build Project item under the Project Menu. See Below.



14. Verify 0 errors in the Problems window. See below.



15. To program the control card, connect the control card on the evaluation board and verify the appropriate USB is connected.

16. Select the debug option on CCS.