BLDC Sensored:

Question related to BLDC sensored:

1) Looking at figure 1, the setup of hall input is done for the same GPIO as setup of SPI-B. This does not correspond with the information given in Figure 3, that states that the hall input is set up for GPIO40-42. **Which is correct and can SPI-B be set up at the same time?**
2) Also we have tried to input hall signals on the board on J10 and then debug the code (for GPIO24-26), however we are unsure how to see if this is setup correctly when debugging, see Figure 4. **Should we be able to see the signal hall-gpio-bitA, -B & -C?**

Question related to BLDC sensorless:

3) Furthermore, setting up BLDC sensorless and trying to debug, we receive the error code 0x3ff8a1, see Figure 6. **What can we do about this?**

Figure 1: GPIO24, -25 & 26 setup (line 303-319):

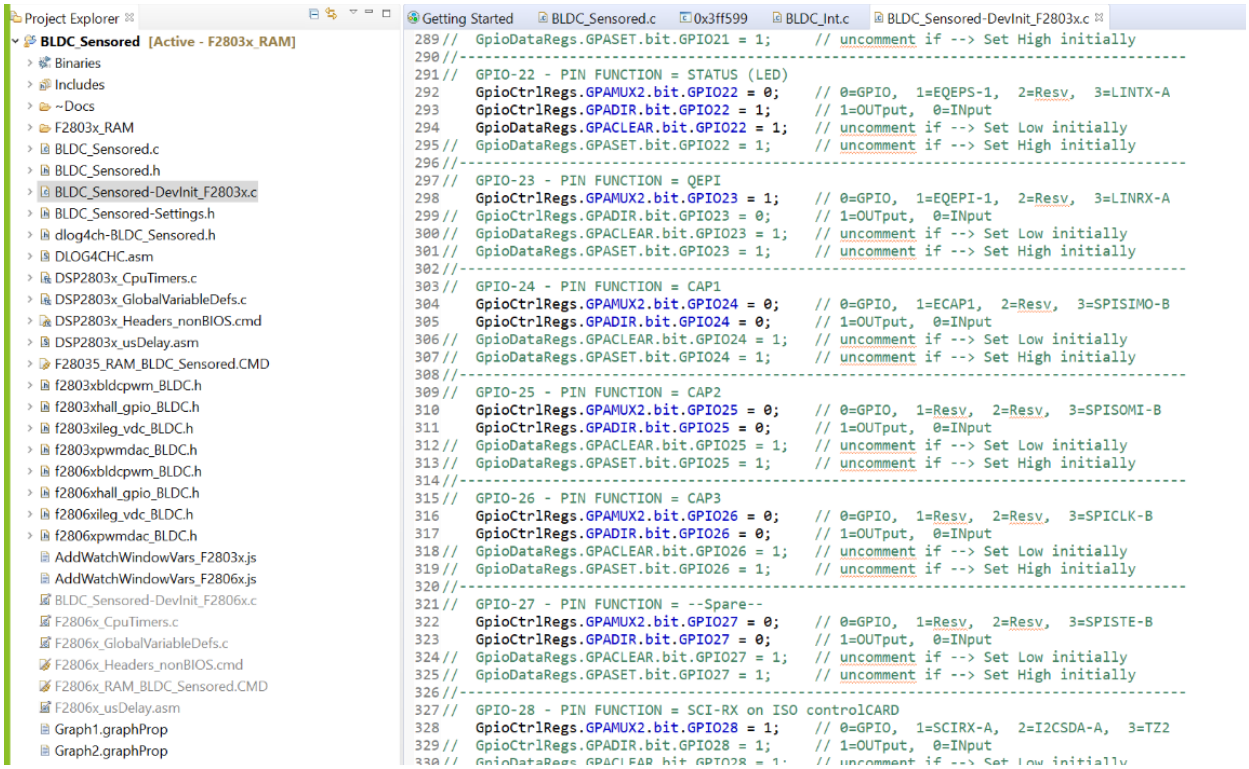


Figure 2: configure GPIO24, -25 & -26 as inputs (line 104-106)

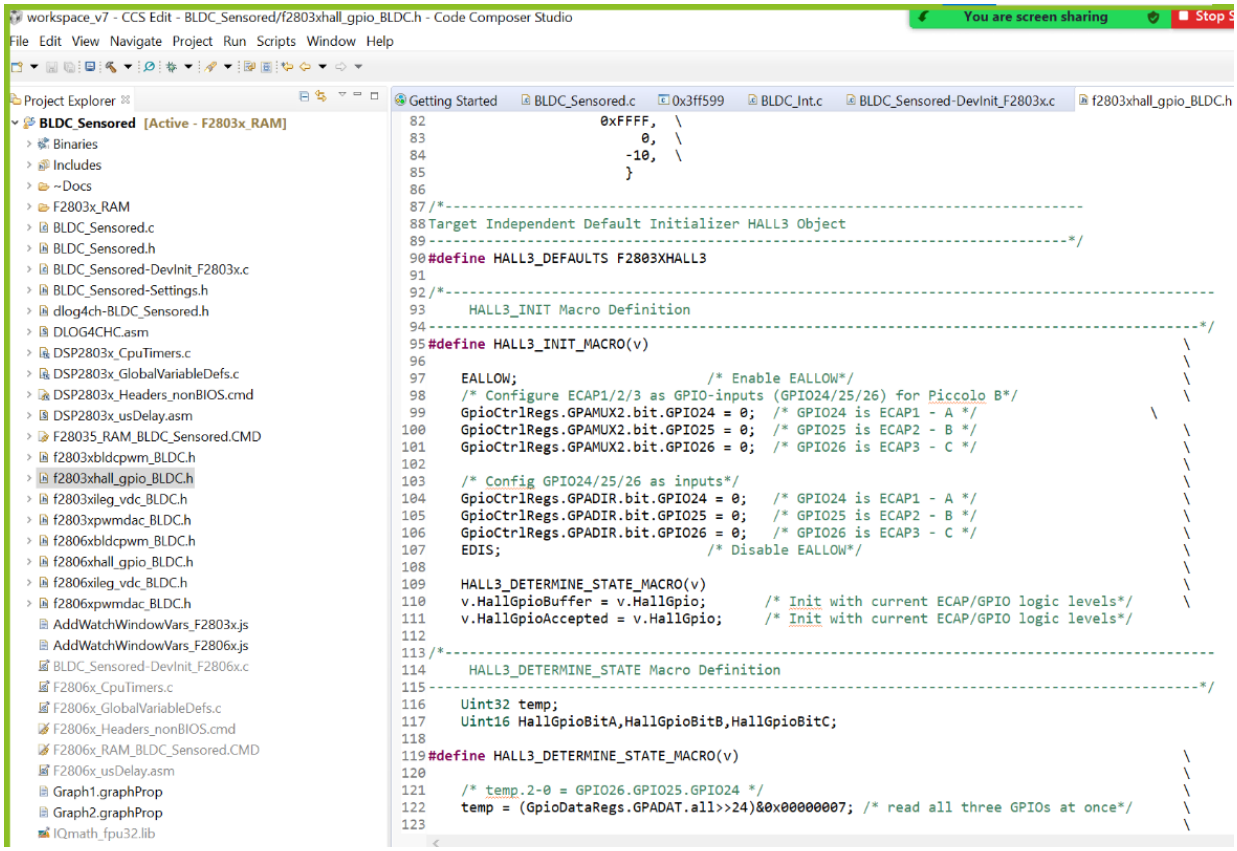


Figure 3: GPIO information From “DRV830x-HC-C2-KIT Hardware Reference Guide”.

4.1 Resource Allocation

The Fig 5 shows the various stages of the board in a block diagram format and illustrates the major connections and feedback values that are being mapped to the C2000 MCU. Table 2, below lists these resources.

J1 Pin no.	GPIO	Signal Name	Function (DRV8301/DRV8302)
23	GPIO-00	PWM_AH	DRV830x Phase AH PWM input
73	GPIO-01	PWM_AL	DRV830x Phase AL PWM input
24	GPIO-02	PWM_BL	DRV830x Phase BH PWM input
74	GPIO-03	PWM_BL	DRV830x Phase BL PWM input
25	GPIO-04	PWM_CH	DRV830x Phase CH PWM input
75	GPIO-05	PWM_CL	DRV830x Phase CL PWM input
26	GPIO-06	DAC_PWM4	PWM DAC
76	GPIO-07	STOP	Push button input
28	GPIO-08	DAC_PWM3	PWM DAC
78	GPIO-09	START	Push button input
29	GPIO-10	DAC_PWM1	PWM DAC
79	GPIO-11	DAC_PWM2	PWM DAC
33	GPIO-12	LED-1	User LED
83	GPIO-13	OCTWn	Over-temperature warning
84	GPIO-14	FAULTn	Over-current fault
34	GPIO-15	LED-2	User LED
38	GPIO-16	SPI-SIMO	Isolated SPI Interface
88	GPIO-17	SPI-SOMI	Isolated SPI Interface
39	GPIO-18	SPI-CLK	Isolated SPI Interface
89	GPIO-19	SPI-STE	Isolated SPI Interface
40	GPIO-20	QEPA	Encoder A
90	GPIO-21	QEPB	Encoder B
41	GPIO-22	STATUS	User LED
91	GPIO-23	QEPI	Encoder Index
35	GPIO-24	SDI	SPI Data In/M_DC
85	GPIO-25	SDO	SPI Data Out/GAIN
36	GPIO-26	SCLK	SPI ClockDC_ADJ
86	GPIO-27	/SCS	/SCS/M_PWM
44	GPIO-30	CAN-RX	Isolated CAN Interface
94	GPIO-31	CAN-TX	Isolated CAN Interface
30	GPIO-40	CAP1	Hall Input 1
80	GPIO-41	CAP2	Hall Input 2
31	GPIO-42	CAP3	Hall Input 3
81	GPIO-43	DC-CAL	Short DC current sense amplifier inputs to ground, calibrate offset
59	ADC-A1	IA-FB	Current sense phase A

Figure 4: Running debugger

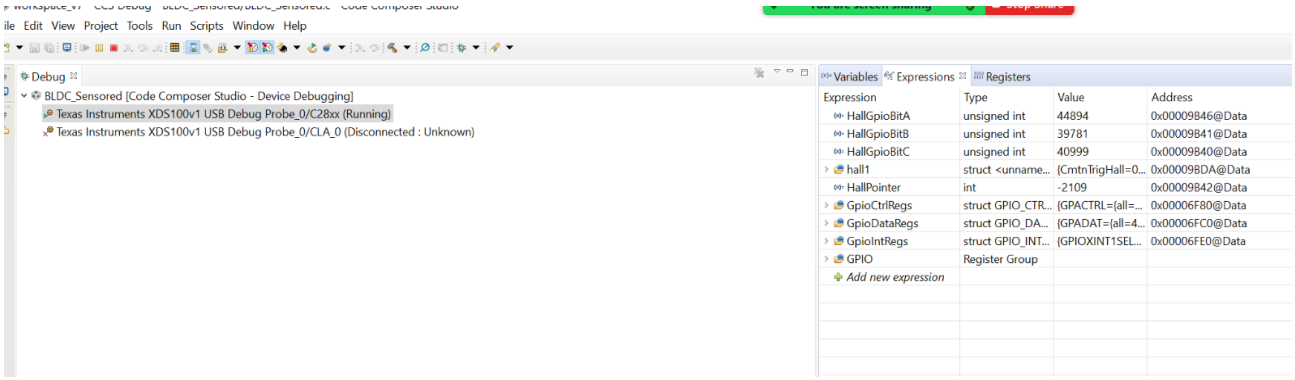
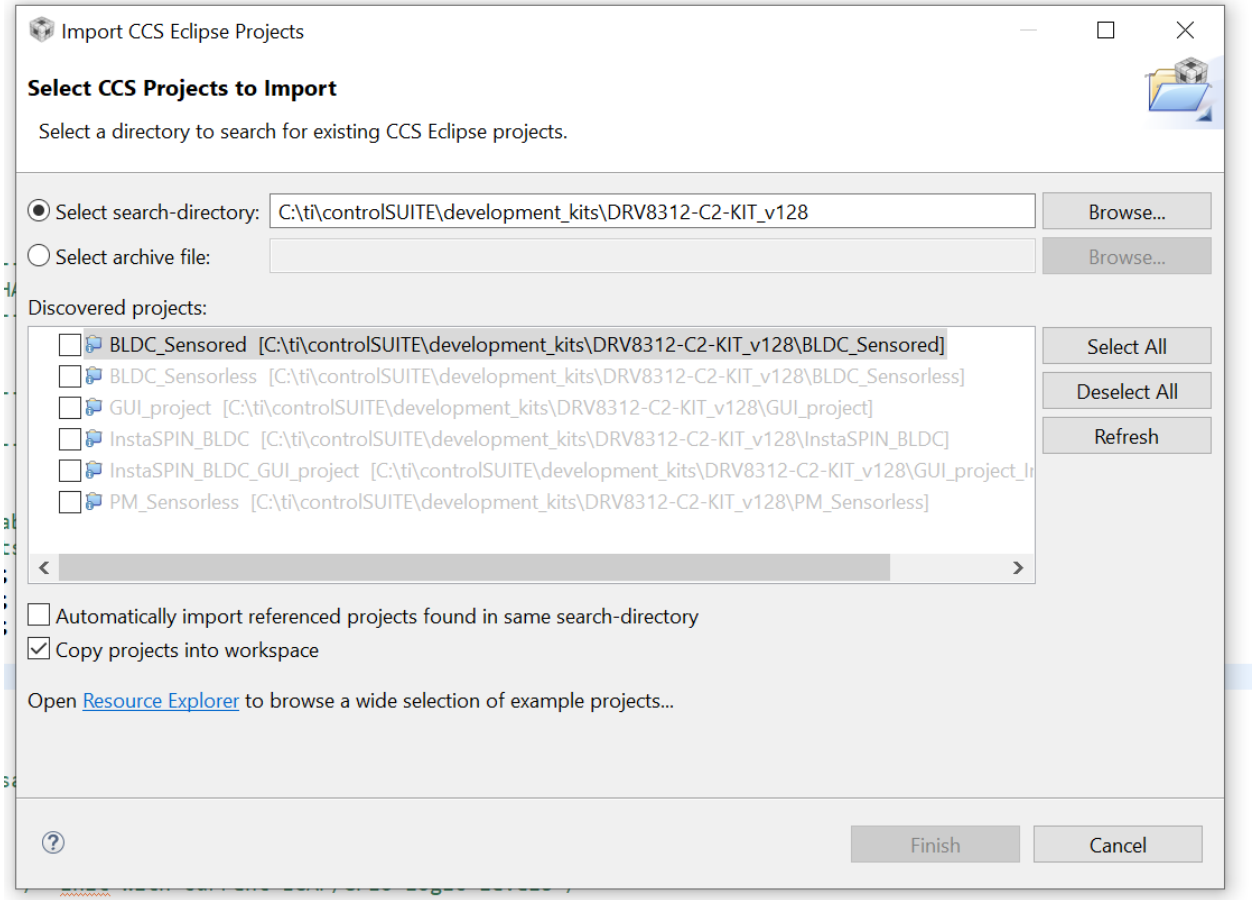


Figure 5: The project chosen



BLDC Sensorless:

Figure 6: Error code (0x3ff8a1) when debugging BLDC_sensorless