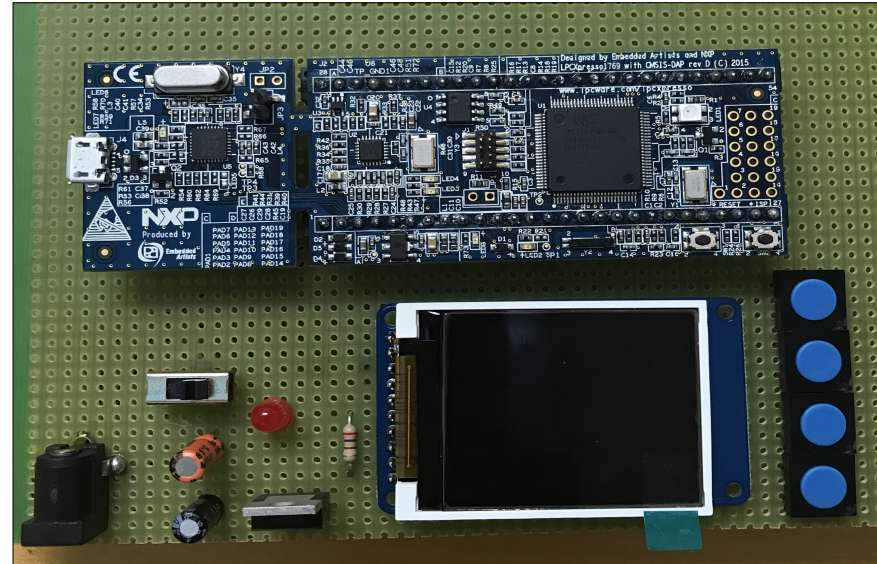


LPC1769 DISPLAY UNIT

- LPC 1769
 - Color TFT LCD display
- Resolution : 128x160,
Pixel Depth: 18-bit (262 144) colors
Controller: ST7735
Interface: SPI interface



LCD Pins	LPC1769 Pins
Gnd	Gnd
VCC	VCC (3.3V)
RST	GPIO output (P0.22)
RS/DC	GPIO output (P0.21)
CARD_CS	X
TFT_CS	SSEL0 (P0.16)
MOSI	SSP0 MOSI (P0.18)
SCK	SCK0 (P0.15)
MISO	SSP0 MISO (P0.17)
LITE	VCC (3.3V)

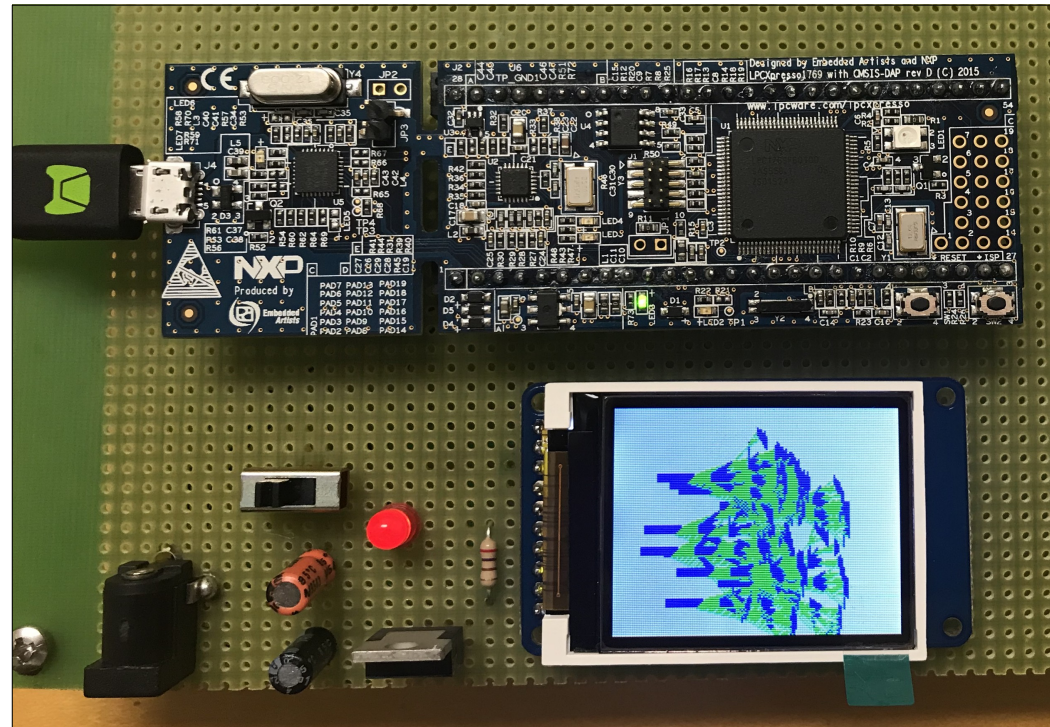
Note from Harry Li: if for new SPI LCD module, use this pin connection

Note from Harry Li: for the class, ignore 4 button switch, just connect SPI LCD.

LPC-1769		LCD
Label	Pin	
MOSI	P 0.18	SDA
MISO	P0.17	MISO
SCK	P0.15	SCL
CS	P0.16	TFT_CS
GPIO-DC (Data / command)	P0.21	AO
GPIO-Reset	P0.22	RST
3.3V		LED+
GND		LED-

TEST LCD DISPLAY

- Build Project Lcd_Test and check for any errors
- Debug Lcd_Test and run the program
- Fractal tree is drawn on the LCD display



9-17-2018 SPI LCD Hardware I/F

CMPE240 Adv. Microprocessor Systems. Sept. 17, 2018.

Table 1. Connectivity B/w LPC and Colour LCD.

CPU	Colour LCD	Note
MOSI / MOSI1 / P0.9 / J2-5	SI / "MOSI"	(Pin Number from LCD).
MISO / MISO1 / P0.8 / J2-6	SO	
SCK / SCK1 / P0.7 / J2-7	SCK(I) / SCK	
SSEL / SSEL1 / P0.6 / J2-8	ENABLE / TFT-CS	
Vcc / GPP / P0.28 / J2-26.	LIGHT LCD	
Data V.S. Ctrl / GPP / P0.21 / J2-23	Data / Command	
Reset / GPP / P0.22 / J2-24	RESET	
VIO_3V3X	Vcc(3.3VDC)	
GND	GND.	

Check your SPI LCD module, different version may have slightly different pin connectivity, use the table on page 1 from this PPT for the newer version

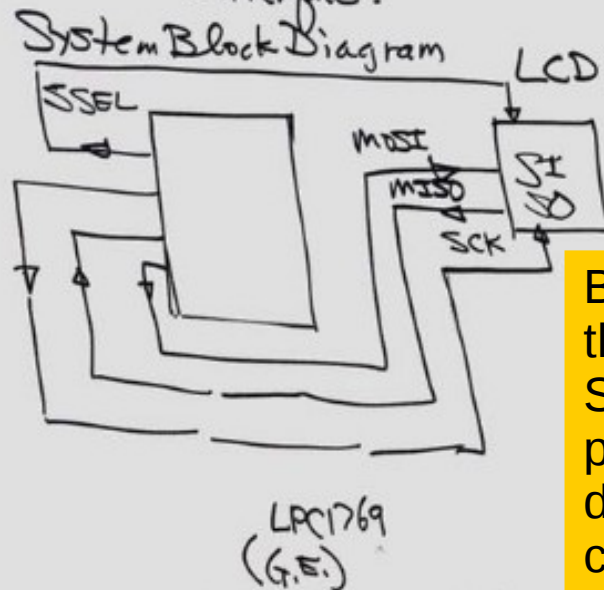
9-17-2018 SPI Hardware And Rubrics

CMPE240 Adv. Microprocessor Systems. Sept. 17, 2018 HL. //

Today's Topics: 1° SPI Based Colour LCD Interface Design.

Hardware Design General Requirements (IEEE Part)
Software Design. Rubrics.

Example: Design & Build S.P.I. Colour LCD Interface.



Be sure to add the rest of the SPI LCD pins per the discussion in the class, see page 1 connectivity table on this PPT

- ① System Block Diagram.
(IDE ON X86)
- ② Layout Block Diagram Design.
4 Subsystems { 2. KCU
2. PWR
2. GPP
2. I/O
2.4 SPI
PWR/ GPP I/O / SPI
LCD
- ③ SCH. "Eagle" (2.4 SPI
PWR/ GPP I/O / SPI
LCD
- ④ Photos (To Establish Supporting material)
3.1 Connectivity Tables.