

## ESP32 WiFi Co-processor Control

ESP_CS	8	PB14	14	S4.2	TC5[0]	TCC4[0]	TCC0[2]	DATA8	
ESP_GPI00	6	PB15	15	S4.3	TC5[1]	TCC4[1]	TCC0[3]	DATA9	
ESP_BUSY	5	PB16	0	S5.0	TC6[0]	TCC3[0]	TCC0[4]	SDCD SCK0	
ESP_RESET	7	PB17	1	S5.1	TC6[1]	TCC3[1]	TCC0[5]	SDWP MCK0	
ESP_RTS	51	PA15	15	S2.3	S4.3	TC3[1]	TCC2[1]	TCC1[3]	
ESP_TX	1	PB12	12	S4.0	TC4[0]	TCC3[0]	TCC0[0]	SDCD SCK1	
ESP_RX	0	PB13	13	S4.1	TC4[1]	TCC3[1]	TCC0[1]	SDWP MCK1	
MOSI	29	PA12	12	S2.0	S4.1	TC2[0]	TCC0[6]	TCC1[2]	SDCD DEN1
SCK	30	PA13	13	S2.1	S4.0	TC2[1]	TCC0[7]	TCC1[3]	SDWP DEN2
MISO	31	PA14	14	S2.2	S4.2	TC3[0]	TCC2[0]	TCC1[2]	CLK

## LCD Screen Data Pins

LCD_DATA0	34	PA16	0	S1.0	S3.1	TC2[0]	TCC1[0]	TCC0[4]	DATA0
LCD_DATA1	35	PA17	1	S1.1	S3.0	TC2[1]	TCC1[1]	TCC0[5]	DATA1
LCD_DATA2	36	PA18	2	S1.2	S3.2	TC3[0]	TCC1[2]	TCC0[6]	DATA2
LCD_DATA3	37	PA19	3	S1.3	S3.3	TC3[1]	TCC1[3]	TCC0[7]	DATA3
LCD_DATA4	38	PA20	4	S5.2	S3.2	TC7[0]	TCC1[4]	TCC0[0]	SDCMD FS0 DATA4
LCD_DATA5	39	PA21	5	S5.3	S3.3	TC7[1]	TCC1[5]	TCC0[1]	SDCK SDO DATA5
LCD_DATA6	40	PA22	6	S3.0	S5.1	TC4[0]	TCC1[6]	TCC0[2]	SDI DATA6
LCD_DATA7	41	PA23	7	S3.1	S5.0	TC4[1]	TCC1[7]	TCC0[3]	SOF_1KHZ FS1 DATA7

## TFT Screen Control

TFT_RESET	24/A8	PA00	0	S1.0	TC2[0]			
TFT_RD	9	PB04	4	A1[6]				
TFT_RS	10	PB05	5	A1[7]				
TFT_CS	11	PB06	6	A1[8]				
TFT_TE	12	PB07	7	A1[9]				
TFT_WR	26	PB09	9	A0[3]/A1[1]	S4.1	TC4[1]		
TFT_BACKLIGHT	25/A9	PB31	15	S7.1	S5.0	TC0[1]	TCC4[1]	TCC0[7]

## Touchscreen Module Control

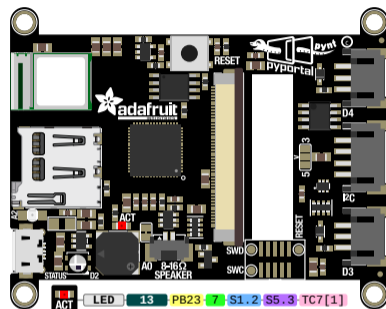
TOUCH_YD	18/A2	PB00	0	A0[12]	S5.2	TC7[0]		
TOUCH_XL	19/A3	PB01	1	A0[13]	S5.3	TC7[1]		
TOUCH_YU	20/A4	PA06	6	VREFC	A0[6]	S0.2	TC1[0]	SDCD
TOUCH_XR	21/A5	PB08	8	A0[2]/A1[0]	S4.0	TC4[0]		

## SD Card Module Control

SD_CS	32	PB30	14	S7.0	S5.1	TC0[0]	TCC4[0]	TCC0[6]	SWDO
SD_CARD_DETECT	33	PA01	1	S1.1	TC2[1]				
MOSI	29	PA12	12	S2.0	S4.1	TC2[0]	TCC0[6]	TCC1[2]	SDCD DEN1
SCK	30	PA13	13	S2.1	S4.0	TC2[1]	TCC0[7]	TCC1[3]	SDWP DEN2
MISO	31	PA14	14	S2.2	S4.2	TC3[0]	TCC2[0]	TCC1[2]	CLK

# Adafruit PyPortal Pynt

<https://www.adafruit.com/product/4465>



GND	VCC	D4	4/A1	PA05	5	VOUT1	A0[5]	S0.1	TC0[1]
GND	VCC	SDA	22/A6	PB02	2	A0[14]	S5.0	TC6[0]	TCC2[2]
GND	VCC	SCL	23/A7	PB03	3	A0[15]	S5.1	TC6[1]	
GND	VCC	D3	3	PA04	4	VREFB	A0[4]	S0.0	TC0[0]

- GND
- CircuitPython Name
- Arduino Name
- GPIO
- INT
- DAC/AREF
- ADC
- SERCOM
- SERCOM Alt
- Timer
- Timer Alt
- Timer Alt2
- Special
- I2S
- PCC

## Light Sensor Control

LED	13	PB23	7	S1.2	S5.3	TC7[1]	
NEOPIXEL	2	PB22	6	S1.2	S5.2	TC7[0]	SOF_1KHZ

The Microchip (nee Atmel) SAMD51 is an ARM Cortex-M4F running at 120 MHz with 192 or 256kB on-chip SRAM, up to 1MB Flash memory and built in USB. All GPIO is 3.3V in/out max unless otherwise stated. SERCOMs can be used as UART (TX on SERCOM pad 0, RX on any pad), I2C (SDA on pad 0, SCL on pad 1), or SPI (SCK on pad 1, MOSI on pad 0 or 3, MISO on any pad remaining)

## Speaker Control

SPEAKER	14	PA02	2	VOUT0	A0[0]
SPEAKER_ENABLE	50	PA27	11		