PINOUTS FOR THE Adafruit ESP32 Feather Module in the TWIPi Single Board Version 7 (SB7D)			
Adafruit ESP32 Phys. pin	Gpio	Pin Function (A/D, I2C, SPI, serial...)	Connection in the Single Board Version 7D
1		RESET	XB1 - Reset switch - to Normally Open (NO) on 3rd pushbutton (green)
2		3V	P5 & P6 on both DRV's ,IMU Vcc, IMU I2C pullups, CPU & IMU decoupling caps
3		n/c	
4		CPU GND	Bridged GNDs: battery gnd, 12V, 5V bat., 5V USB, ESP-USB, DRV, CPU & IMU decoupl, LCD, Mosfet
5	26	A0, GPio26	n/c
6	25	A1, GPio25 A/D	(A/D input) to centre between the 2 resistors of the MOSFET controlled voltage divider
7	34	A2, GPio34	n/c
8	39	A3, GPio39	INT pin on IMU - generates an interrupt
9	36	A4, GPio36	n/c
10	4	A5, GPio4	XB3 software-readable pushbutton input, to COM position on 4th pushbutton
11	5	SPI-SCK, GP05	MOSFET enable on battery monitor (Gate)
12	18	SPI-MO	DRV1-STEP
13	19	SPI-MI	DRV1-DIR
14	16	RX Serial1	DRV1-ENA
15	17	TX Serial1	I2C-IMU Pin 4, SDA with 2.2K pullup to 3.3V
16	21	GPio21	I2C-IMU Pin 3, SCL with 2.2K pullup to 3.3V
17	23	I2C, GP23	XB4 > software controlled LED, +ve LED input on 4th pushbutton (orange)
18	22	I2C, GP22	I2C-LCD-SDA-Pin 2 (4.7K pullup to 5V)
19	14	A6, GPio14	I2C-LCD-SCL-Pin 1 (4.7K pullup to 5V)
20	32	A7, GPio32	DRV2-FAULT Input, Pin 10 (used to be VDD on old A4988)
21	15	A8, GPio15	DRV2-DIR, Pin 8
22	33	A9, GPio33	DRV2-STEP, Pin 7
23	27	A10, GPio27	DRV2-ENA, Pin 1
24	12	A11, GPio12	N/C. Using this pin seems to prevent software download in some circumstances
25	13	A12, GPio13	DRV1-FAULT Input. Pin 10 (used to be VDD on old A4988)
26		USB	+5 Volts, LCD-I2C pullups, LCD header Pin 3
27		Enable	n/c
28		LiPo Battery	n/c

(A13,GPio35) resistor divider linked to VBAT

	fully programmable weak pullup / pulldown (14, 16, 17, 18, 19, 21, 22, 23)
	powers up with weak pullUP enabled (5, 15)
	powers up with weak pullDOWN enabled (4)
	input only pins (34, 36, 39)
	can be touch capacitive sensor (10, 19, 20, 21, 22, 23, 24, 25)

DRV stands for the DRV8825 stepper motor controllers. DRV1 is the right DRV (furthest from IMU), DRV2 is the left DRV close to CPU