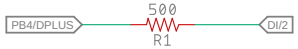
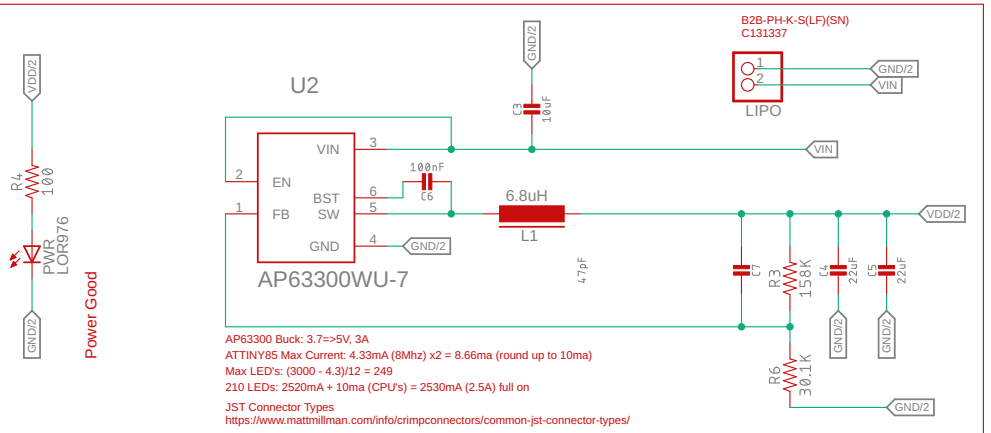
NEOPixel Interface (Center)
105 LED's TOP (CPU1)
105 LED's BOTTOM (CPU1 Daisychained or paralled), CPU2



WS2812 Data In, Attiny85 WS2812 Serial Output

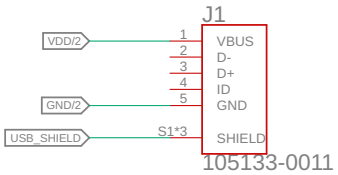
WS2812 Data output from Top CPU may
be daisychained to another module.

Normally the RESET is pulled up to VDD.
But the debugger uses this, and the TP
here allows shorting to ground for reset.

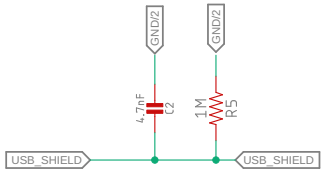


AP63300 Buck: 3.7=>5V, 3A
ATTINY85 Max Current: 4.33mA (8Mhz) x2 = 8.66ma (round up to 10ma)
Max LED's: (3000 - 4.3)/12 = 249
210 LEDs: 2520mA + 10ma (CPU's) = 2530mA (2.5A) full on

JST Connector Types
https://www.mattmillman.com/info/crimpconnectors/common-jst-connector-types/



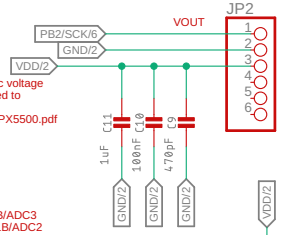
USB Bus Power (500mA max) - for debug/tuning.
A battery is required for all LED's enabled (2.6A)



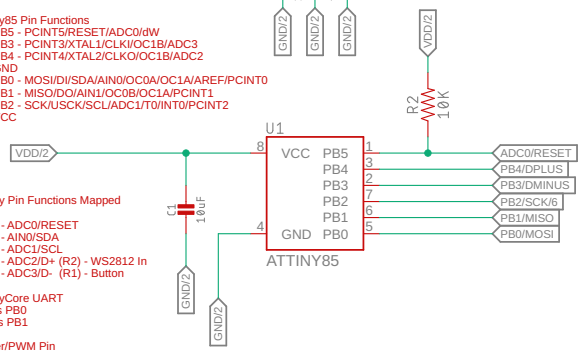
ESD Protection

NXP Semiconductor
MPX5500DP 5V Analog Barometer
Case 867C
JLPCB#C410771

Reading PB2/SCK will produce a ratiometric voltage representing the pressure which can be used to compute the altitude.
https://www.nxp.com/docs/en/data-sheet/MPX5500.pdf



Attiny85 Pin Functions
1 - PB5 - PCINT5/RESET/ADC0/dW
2 - PB3 - PCINT3/XTAL1/CLKI/OC1B/ADC3
3 - PB4 - PCINT4/XTAL2/CLKO/OC1B/ADC2
4 - GND
5 - PB0 - MOSI/DI/SDA/AIN0/OC0A/OC1A/AREF/PCINT0
6 - PB1 - MISO/DO/AIN1/OC0B/OC1A/PCINT1
7 - PB2 - SCK/USCK/SCL/ADC1/T0/INT0/PCINT2
8- VCC



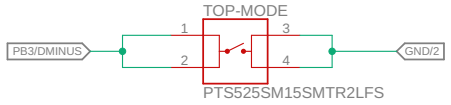
Attiny Pin Functions Mapped

PB5 - ADC0/RESET
PB0 - AIN0/SDA
PB2 - ADC1/SCL
PB4 - ADC2/D+ (R2) - WS2812 In
PB3 - ADC3/D- (R1) - Button

AttinyCore UART
TX is PB0
RX is PB1

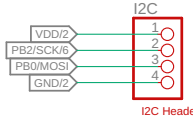
Timer/PWM Pin
PB4 - OC1B
PB1 - OC0B/OC1A
PB0 - OC0A

See also: https://github.com/SpenceKonde/ATTinyCore for Arduino platform support



C221856

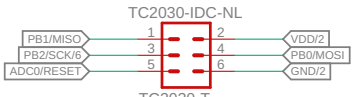
When user presses a button, we change mode/pattern



I2C Header

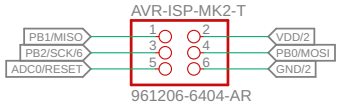
With the Adafruit NeoPixel driver library
there is still ROM space for an I2C sensor driver
(MS5637, LPS22HB). However, 4.7K pullups
and level conversion must be provided.

PB0 can also be used to fire an E-Match



TagConnect Adapter
https://www.tag-connect.com/product/tc2030-idc-nl

This saves the cost of the 6-Pin header and
allows for programming production firmware
quickly without adding the cost of the connector.



AVR-ISP-MK2 Programmer
https://www.olimex.com/Products/AVR/Programmers/AVR-ISP-MK2/open-source-hardware
Select ATMEL ISP in Arduino IDE

Neopixel Driver Module

Attiny85 Fully Programmable RGB LED Array

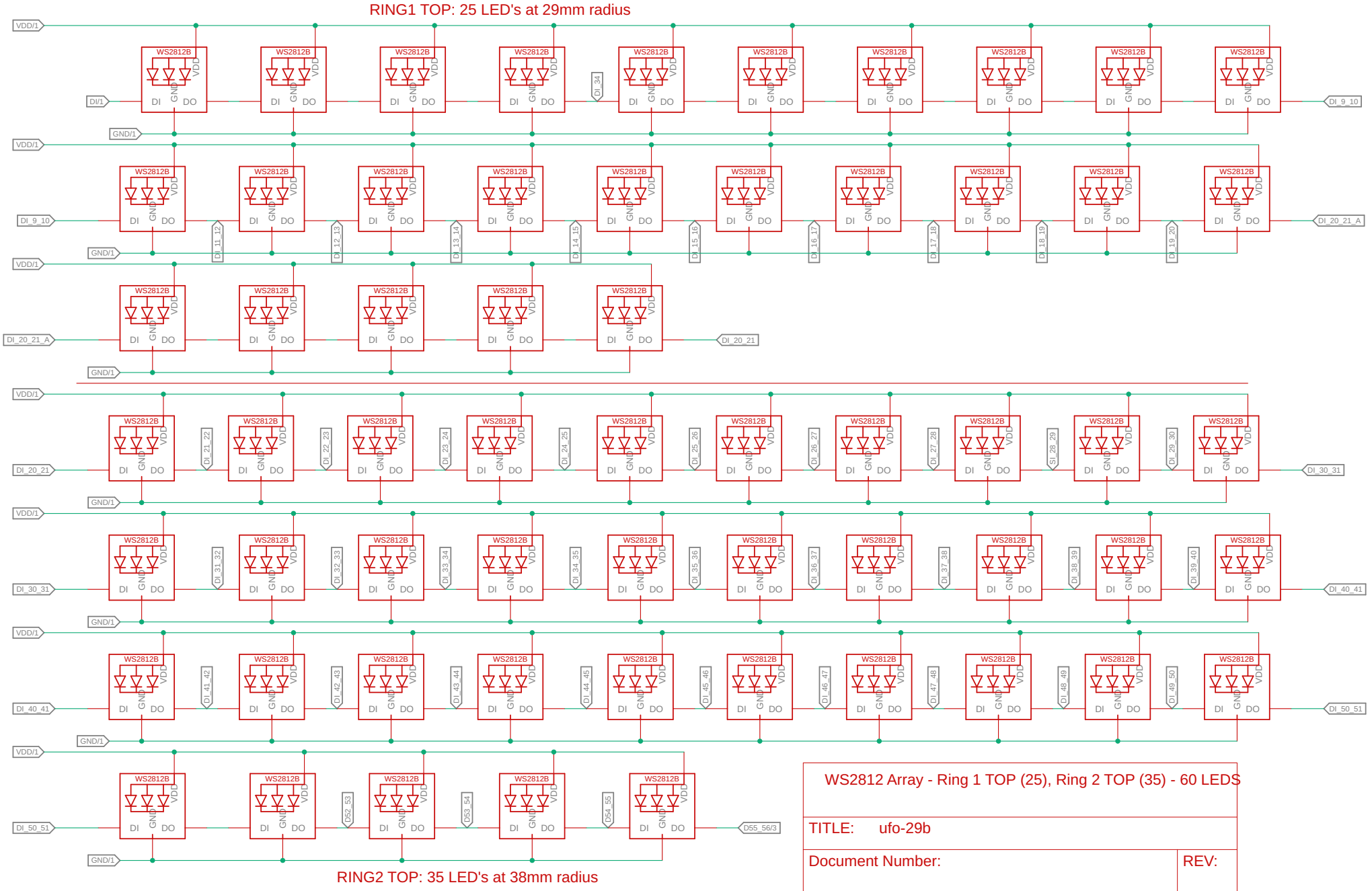
TITLE: ufo-29b

Document Number:

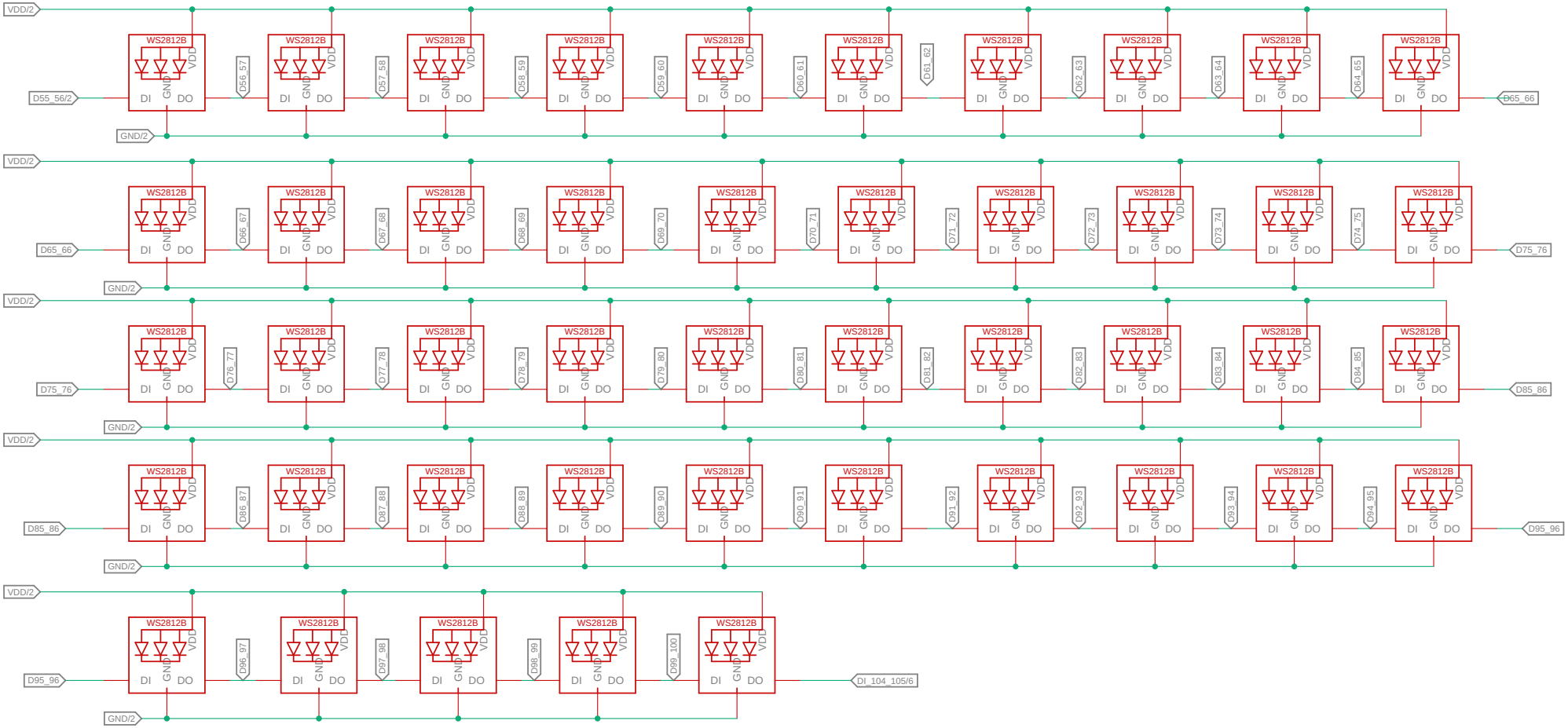
REV: B

Date: 11/28/22 9:05 PM

Sheet: 1/6

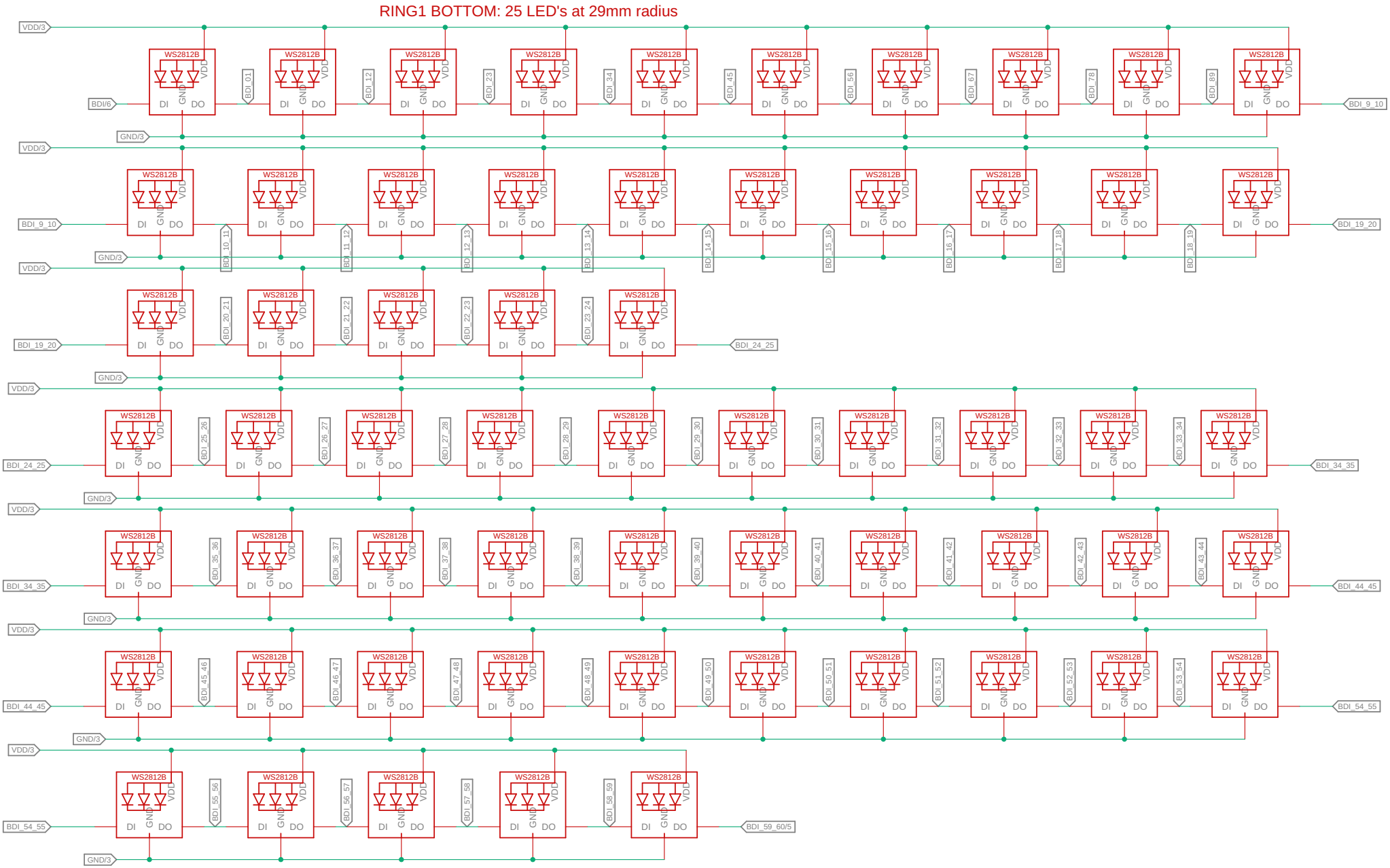


WS2812 Array - Ring 1 TOP (25), Ring 2 TOP (35) - 60 LEDS	
TITLE: ufo-29b	
Document Number:	REV:
Date: 11/28/22 9:05 PM	Sheet: 2/6

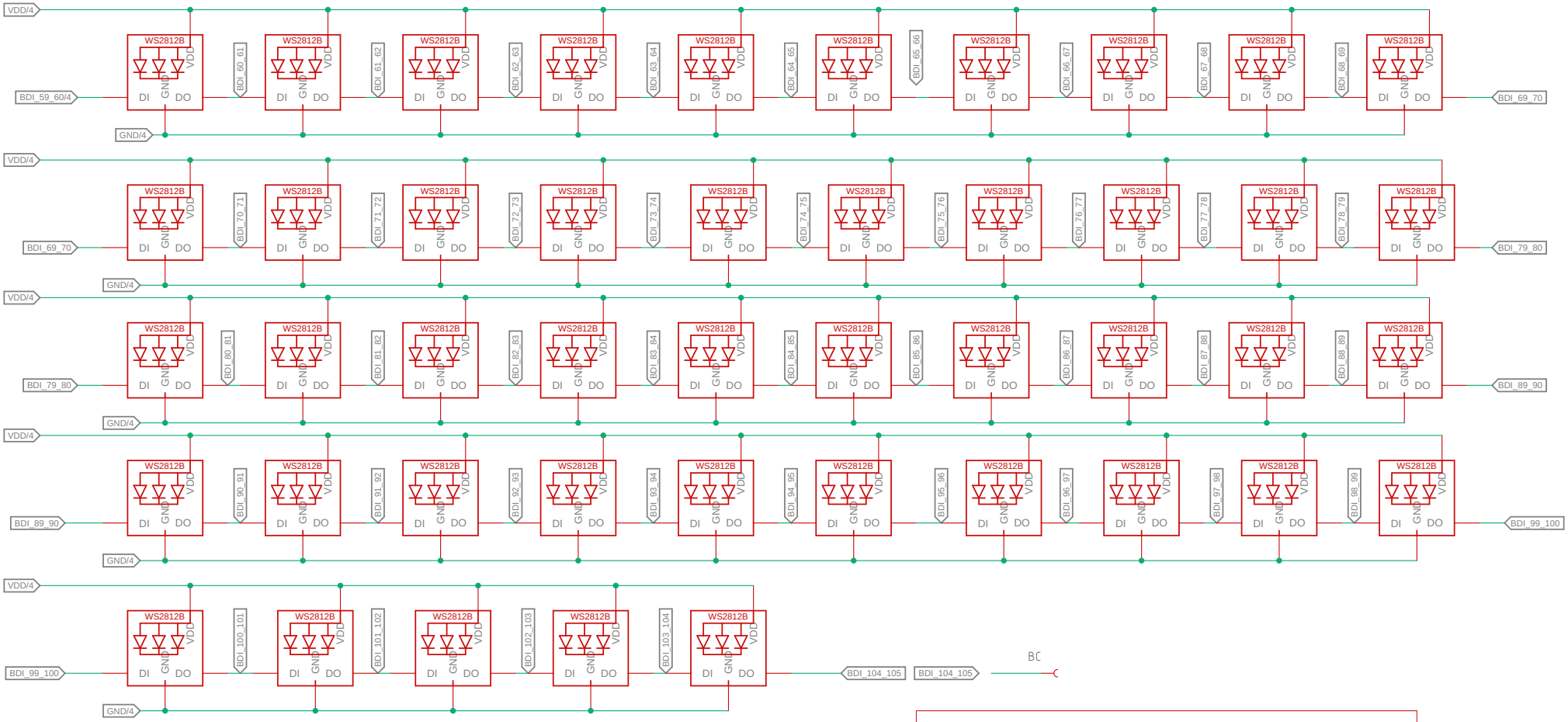


See also: https://learn.adafruit.com/adafruit-neopixel-uberguide

WS2812 Array - Ring 3 TOP 45 LEDS at 47mm radius	
TITLE: ufo-29b	
Document Number:	REV:
Date: 11/28/22 9:05 PM	Sheet: 3/6

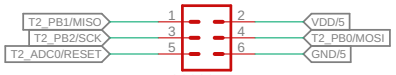


WS2812 Array - Ring 1 BOT (25), Ring 2 BOT (35) - 60 LEDS		
TITLE: ufo-29b		
Document Number:		REV:
Date: 11/28/22 9:05 PM	Sheet: 4/6	



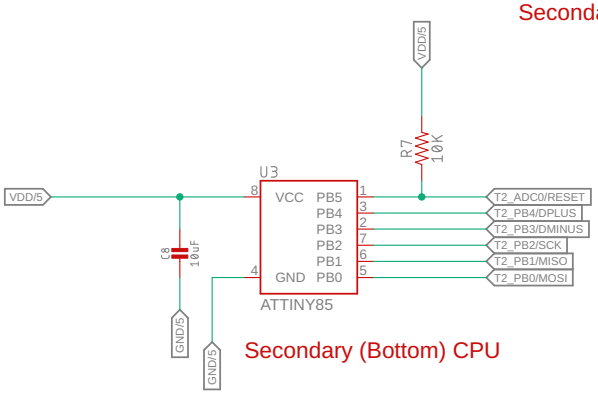
WS2812 Array - Ring 3 BOT (45)		
TITLE: ufo-29b		
Document Number:		REV:
Date: 11/28/22 9:05 PM	Sheet: 5/6	

Data In

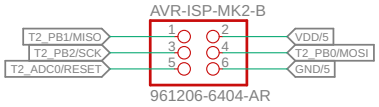


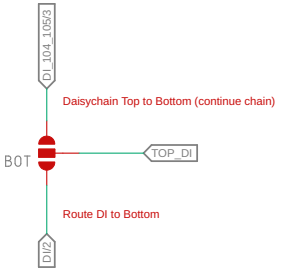
TC2030-IDC-NL

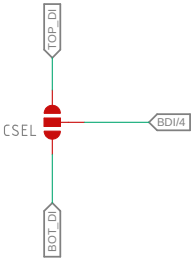
Secondary CPU - jumper to hold in reset



Secondary (Bottom) CPU







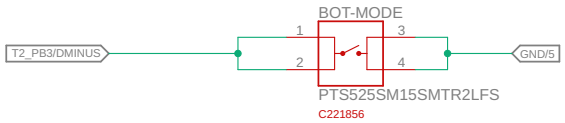
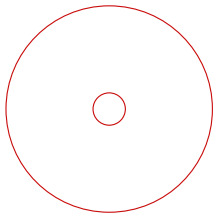


Plate Outer Diameter: D=115.48mm (4.54in)
Plate Inner Diameter: ID=31mm (29mm Airframe)
Recommended Airframe Length: L=1.5 x D = 173.22mm (6.81in)



Secondary CPU Baro read. Solder when primary CPU firmware complete.

B-Side Neopixel Driver Module

Fully Programmable RGB LED Array

TITLE: ufo-29b	
Document Number:	REV:
Date: 11/28/22 9:05 PM	Sheet: 6/6