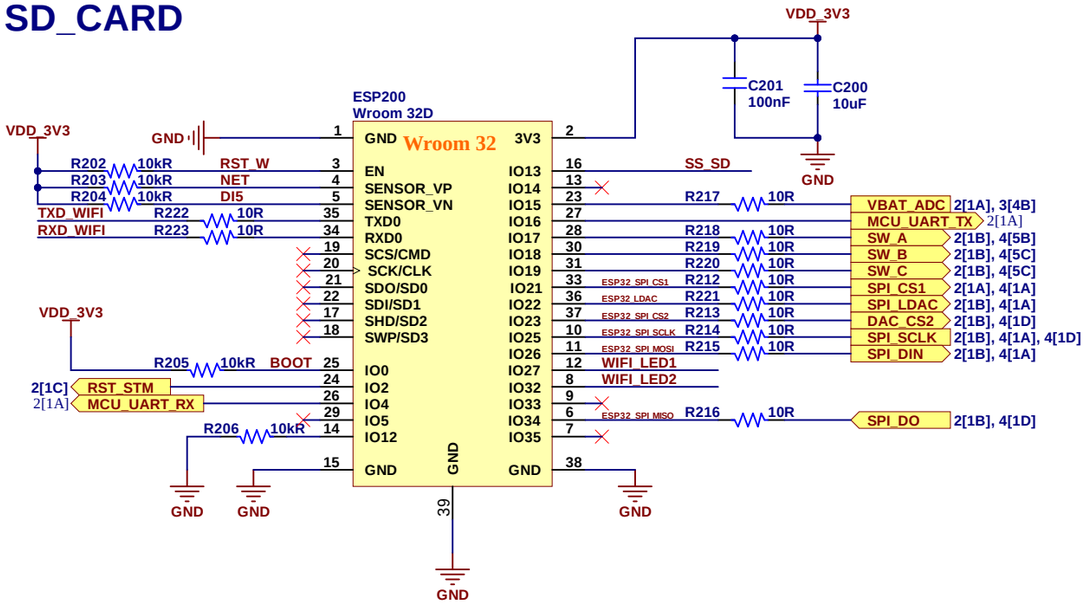
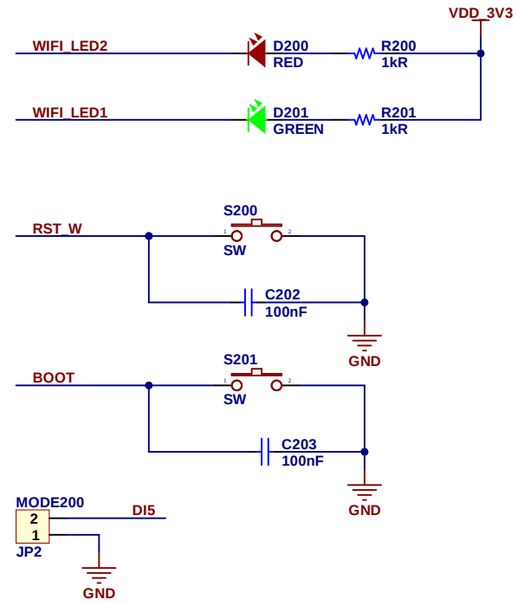
WIFI ESP32

SD_CARD

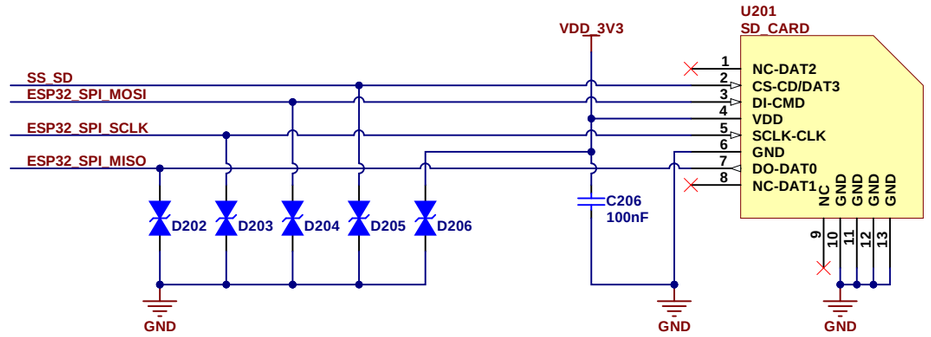


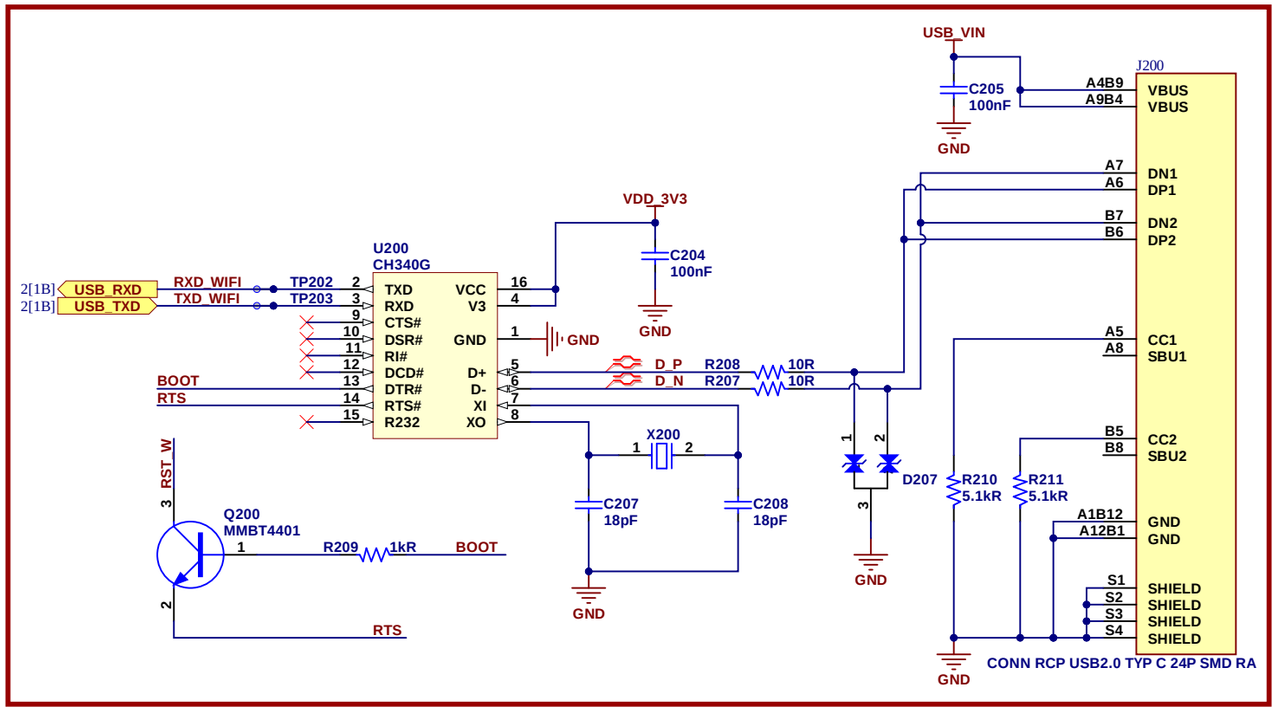
LED STATUS



Name	No.	Type	Function
SENSOR_VP	4	I	GPIO36, ADC1_CH0, RTC_GPIO0
SENSOR_VN	5	I	GPIO39, ADC1_CH3, RTC_GPIO3
IO34	6	I	GPIO34, ADC1_CH6, RTC_GPIO4
IO35	7	I	GPIO35, ADC1_CH7, RTC_GPIO5
IO32	8	I/O	GPIO32, XTAL_32K_P (32.768 kHz crystal oscillator input), ADC1_CH4, TOUCH9, RTC_GPIO9
IO33	9	I/O	GPIO33, XTAL_32K_N (32.768 kHz crystal oscillator output), ADC1_CH5, TOUCH8, RTC_GPIO8
IO25	10	I/O	GPIO25, DAC_1, ADC2_CH8, RTC_GPIO6, EMAC_RXD0
IO26	11	I/O	GPIO26, DAC_2, ADC2_CH9, RTC_GPIO7, EMAC_RXD1
IO27	12	I/O	GPIO27, ADC2_CH7, TOUCH7, RTC_GPIO17, EMAC_RX_DV
IO14	13	I/O	GPIO14, ADC2_CH6, TOUCH6, RTC_GPIO16, MTMS, HSPICLK, HS2_CLK, SD_CLK, EMAC_TXD2
IO12	14	I/O	GPIO12, ADC2_CH5, TOUCH5, RTC_GPIO15, MTDI, HSPIQ, HS2_DATA2, SD_DATA2, EMAC_TXD3
GND	15	P	Ground
IO13	16	I/O	GPIO13, ADC2_CH4, TOUCH4, RTC_GPIO14, MTCK, HSPID, HS2_DATA3, SD_DATA3, EMAC_RX_ER
SHD/SD2*	17	I/O	GPIO9, SD_DATA2, SPIHD, HS1_DATA2, U1RXD
SWP/SD3*	18	I/O	GPIO10, SD_DATA3, SPIWP, HS1_DATA3, U1TXD
SCS/CMD*	19	I/O	GPIO11, SD_CMD, SPICS0, HS1_CMD, U1RTS
SCK/CLK*	20	I/O	GPIO6, SD_CLK, SPICLK, HS1_CLK, U1CTS
SDO/SD0*	21	I/O	GPIO7, SD_DATA0, SPIQ, HS1_DATA0, U2RTS
SDI/SD1*	22	I/O	GPIO8, SD_DATA1, SPID, HS1_DATA1, U2CTS
IO15	23	I/O	GPIO15, ADC2_CH3, TOUCH3, MTDO, HSPICS0, RTC_GPIO13, HS2_CMD, SD_CMD, EMAC_RXD3
IO2	24	I/O	GPIO2, ADC2_CH2, TOUCH2, RTC_GPIO12, HSPIWP, HS2_DATA0, SD_DATA0
IO0	25	I/O	GPIO0, ADC2_CH1, TOUCH1, RTC_GPIO11, CLK_OUT1, EMAC_TX_CLK
IO4	26	I/O	GPIO4, ADC2_CH0, TOUCH0, RTC_GPIO10, HSPIHD, HS2_DATA1, SD_DATA1, EMAC_TX_ER
IO16	27	I/O	GPIO16, HS1_DATA4, U2RXD, EMAC_CLK_OUT
IO17	28	I/O	GPIO17, HS1_DATA5, U2TXD, EMAC_CLK_OUT_180
IO5	29	I/O	GPIO5, VSPICS0, HS1_DATA6, EMAC_RX_CLK
IO18	30	I/O	GPIO18, VSPICLK, HS1_DATA7
IO19	31	I/O	GPIO19, VSPIQ, U0CTS, EMAC_TXD0
NC	32	-	-
IO21	33	I/O	GPIO21, VSPIHD, EMAC_TX_EN
RXD0	34	I/O	GPIO3, U0RXD, CLK_OUT2
TXD0	35	I/O	GPIO1, U0TXD, CLK_OUT3, EMAC_RXD2
IO22	36	I/O	GPIO22, VSPIWP, U0RTS, EMAC_TXD1
IO23	37	I/O	GPIO23, VSPID, HS1_STROBE
GND	38	P	Ground

SD_CARD





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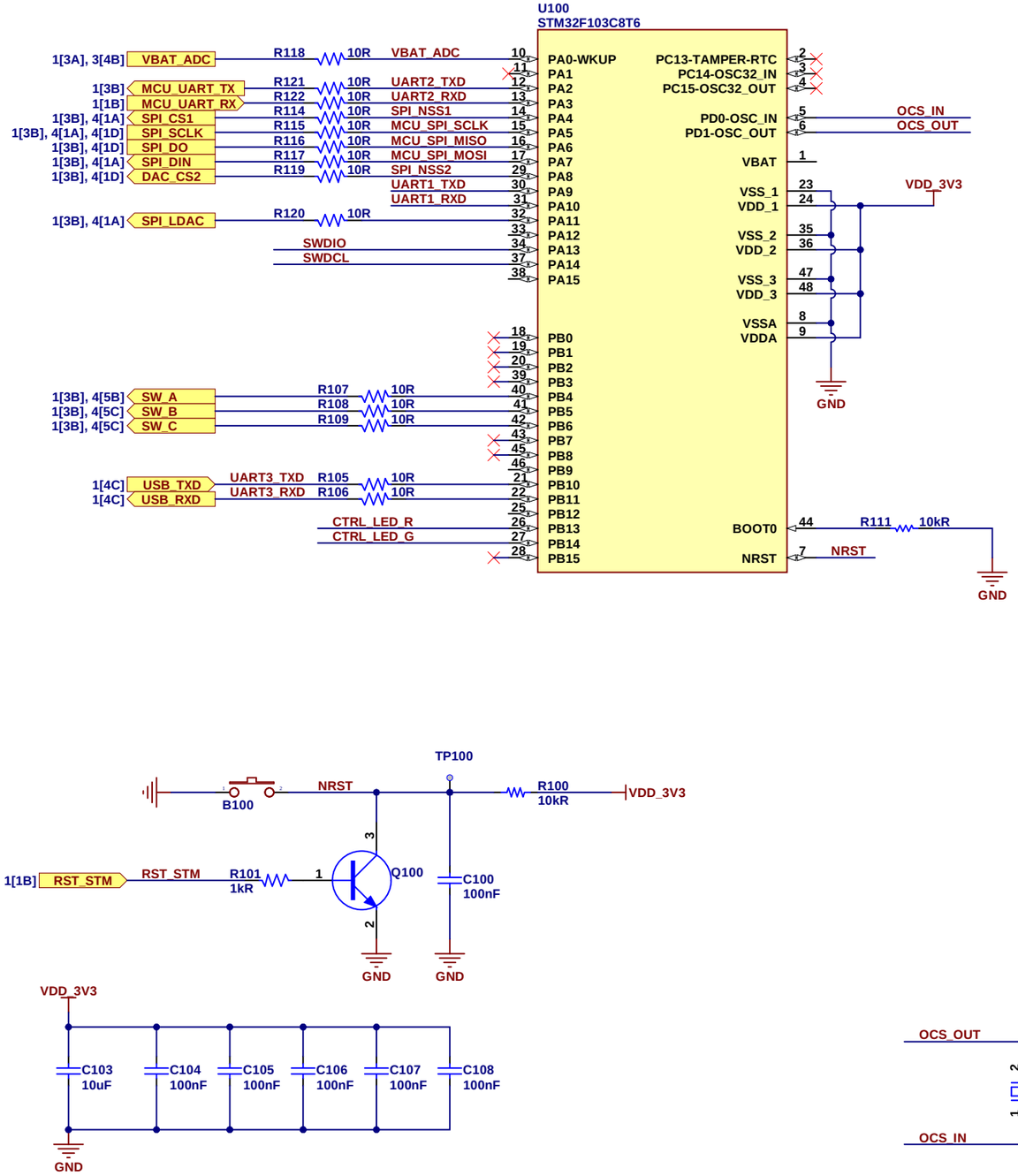
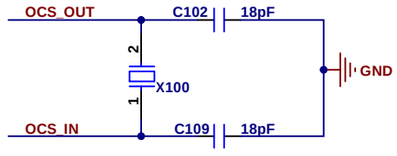
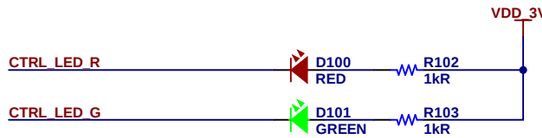
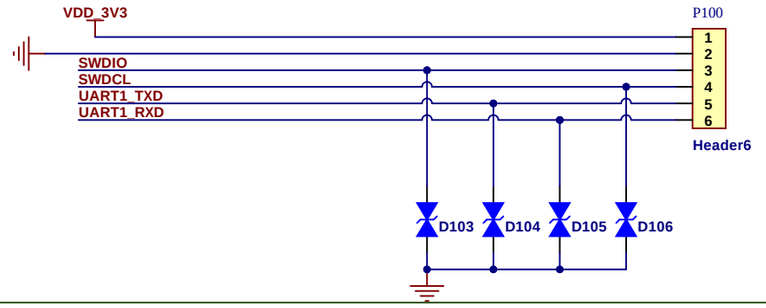






DOWNLOAD FIRMWARE



USB to UART

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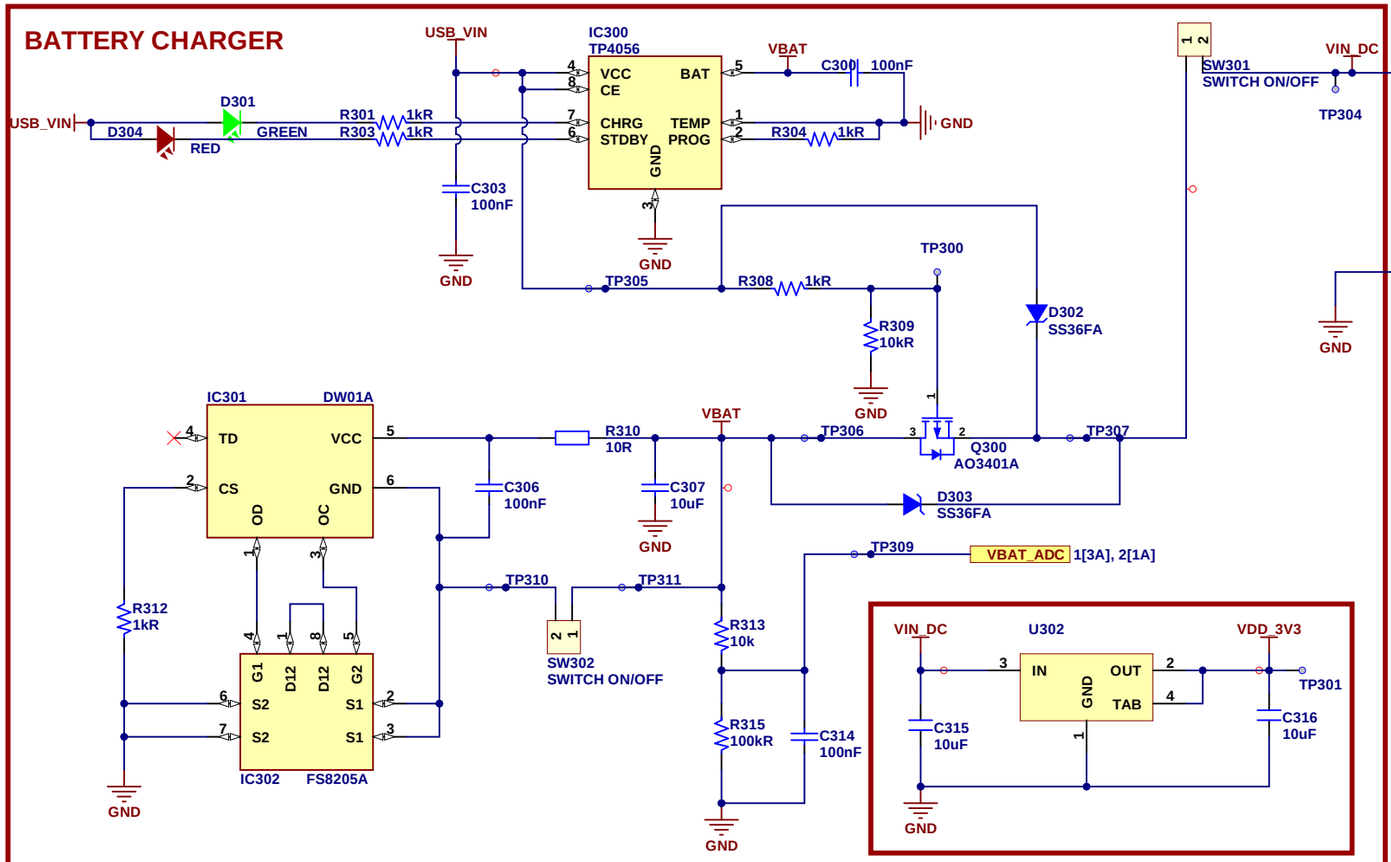
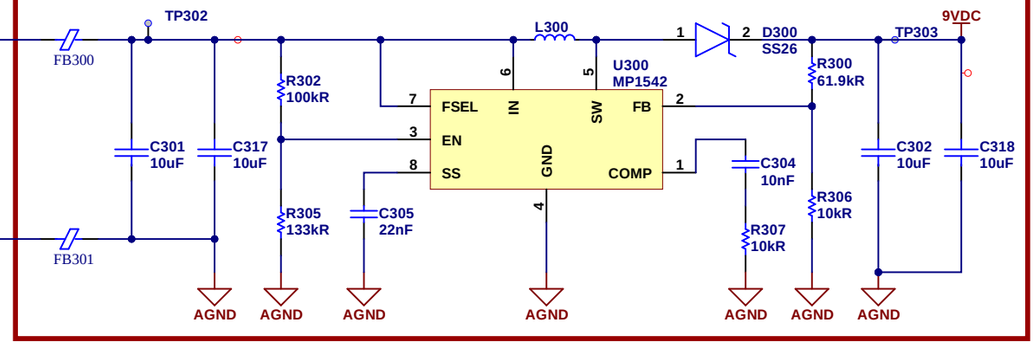
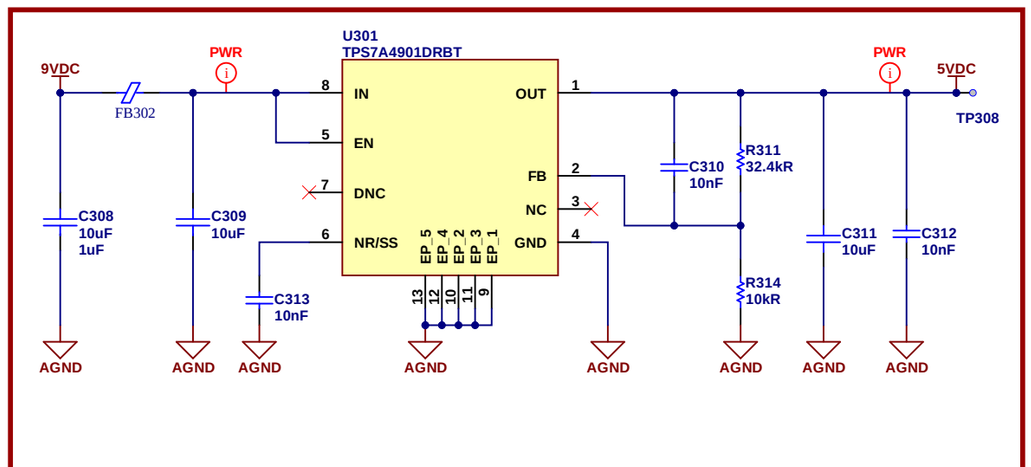
POWER SUPPLY

BATTERY CHARGER

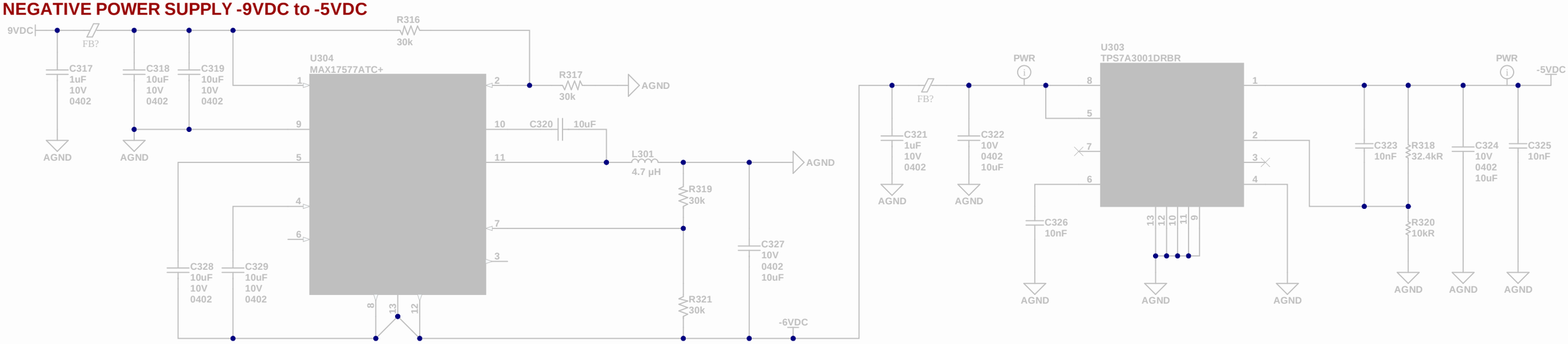


BOOST CONVERTER 3.7VDC to 9VDC





NEGATIVE POWER SUPPLY -9VDC to -5VDC



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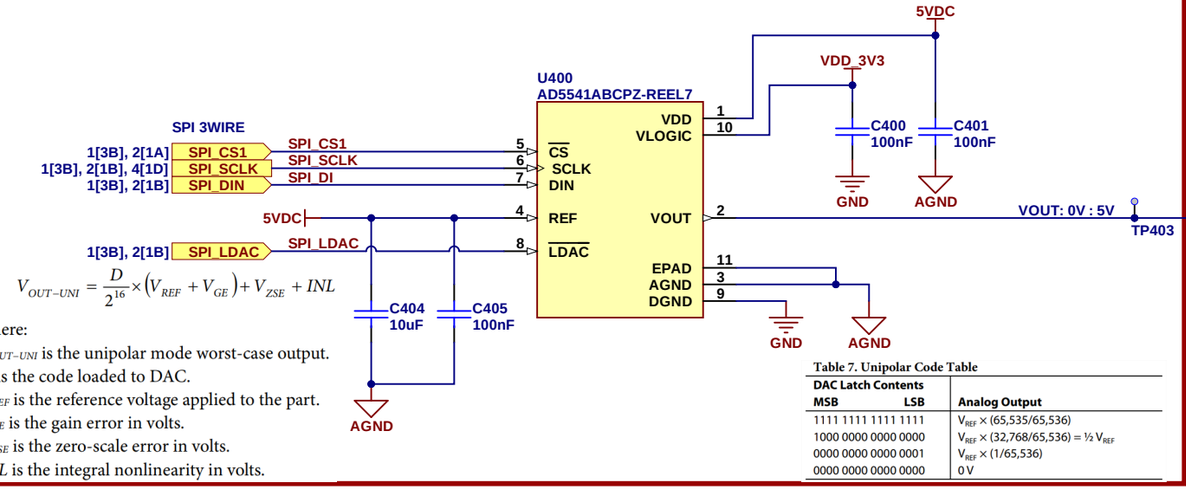
ANALOG

DAC CONVERTER 16BIT



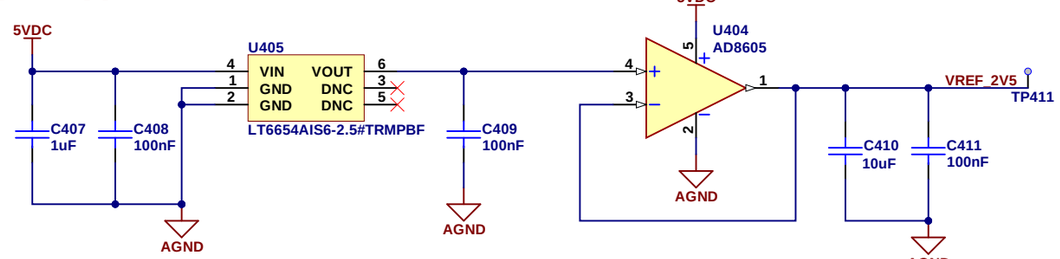
$$V_{OUT-UNI} = \frac{D}{2^{16}} \times (V_{REF} + V_{GE}) + V_{ZSE} + INL$$

where:
$V_{OUT-UNI}$ is the unipolar mode worst-case output.
D is the code loaded to DAC.
V_{REF} is the reference voltage applied to the part.
V_{GE} is the gain error in volts.
V_{ZSE} is the zero-scale error in volts.
INL is the integral nonlinearity in volts.

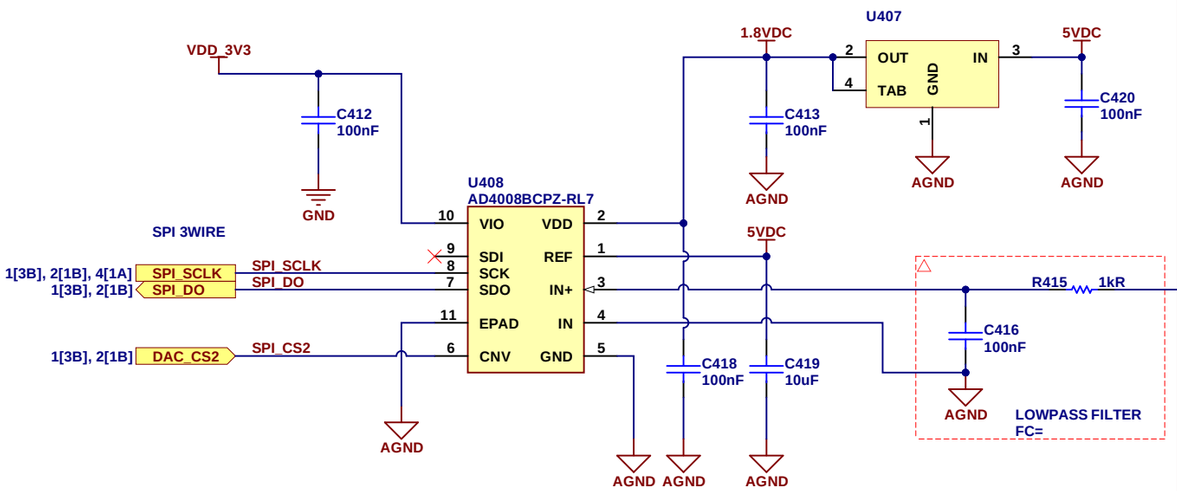
Table 7. Unipolar Code Table

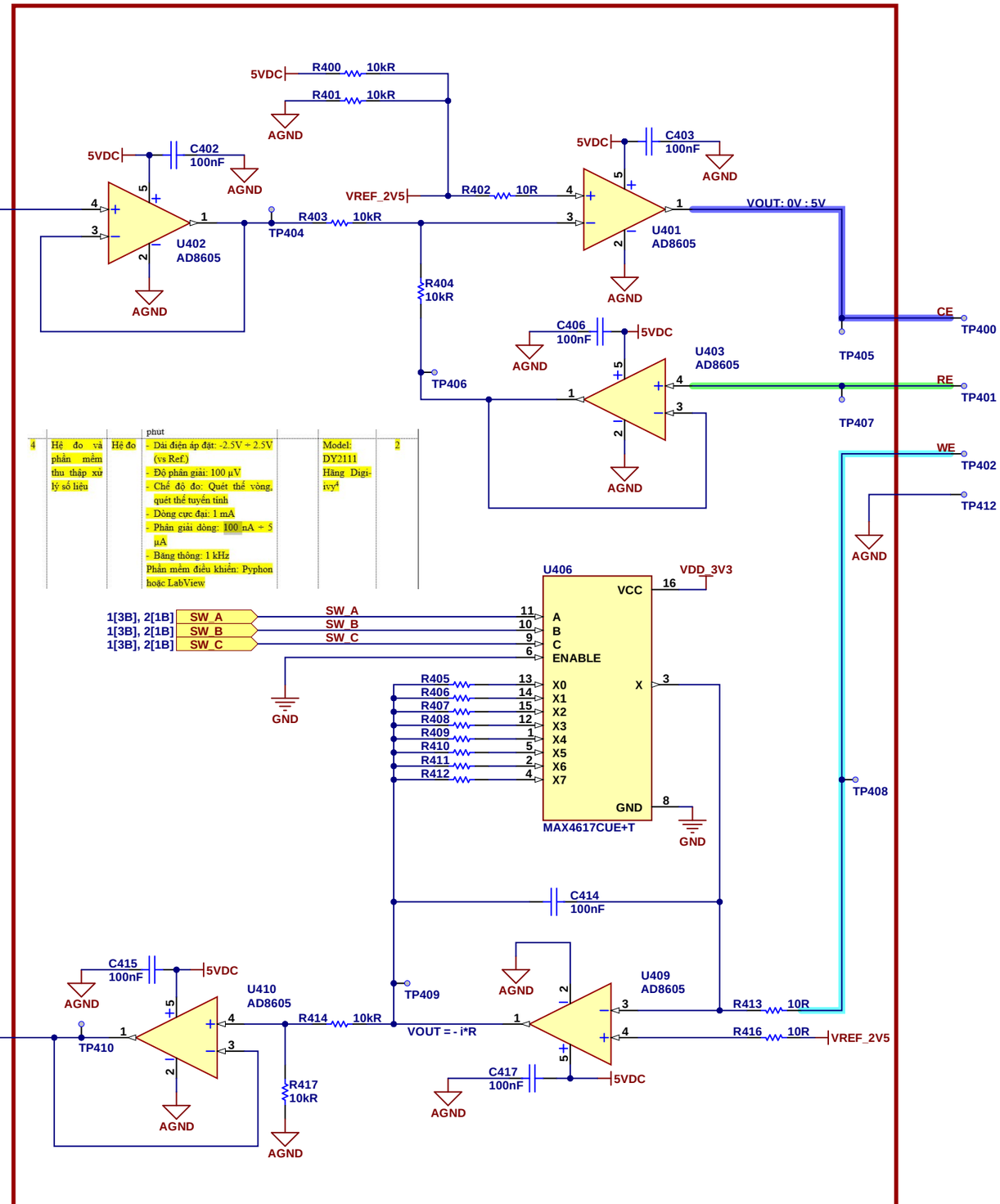
DAC Latch Contents MSB LSB	Analog Output
1111 1111 1111 1111	$V_{REF} \times (65,535/65,536)$
1000 0000 0000 0000	$V_{REF} \times (32,768/65,536) = ½ V_{REF}$
0000 0000 0000 0001	$V_{REF} \times (1/65,536)$
0000 0000 0000 0000	0 V

VREF POWER SUPPLY



ADC CONVERTER 16BIT





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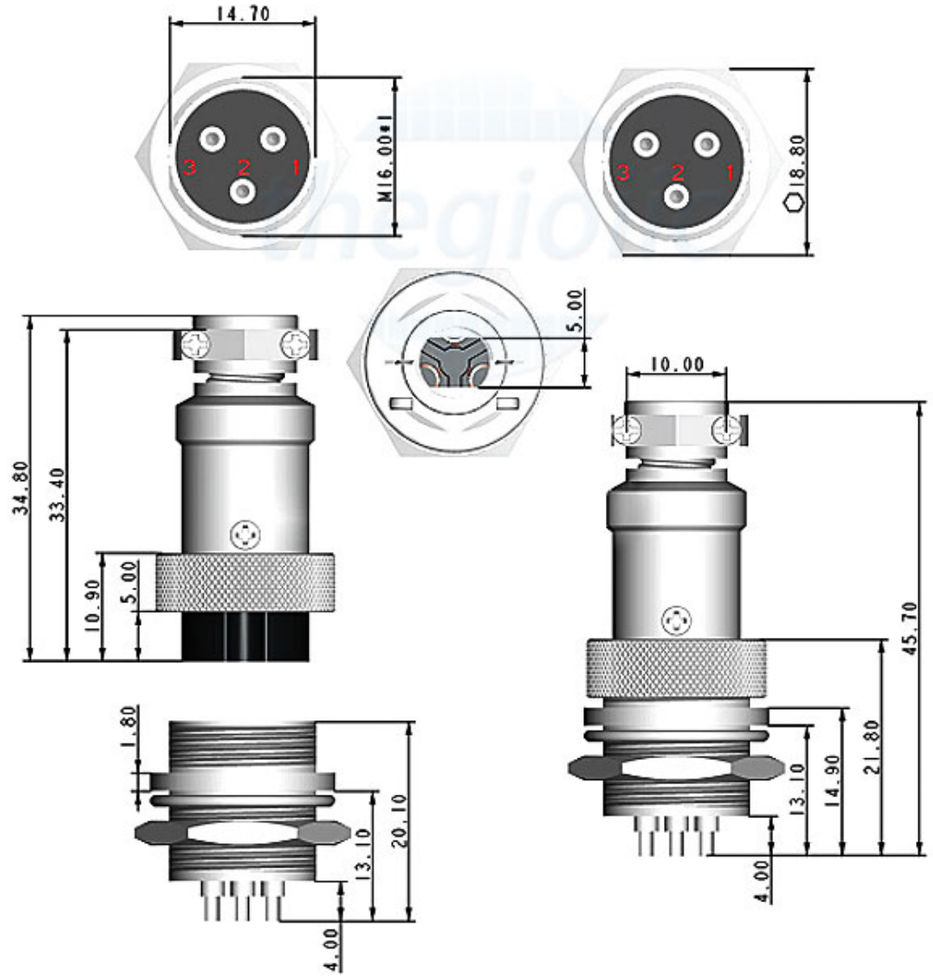
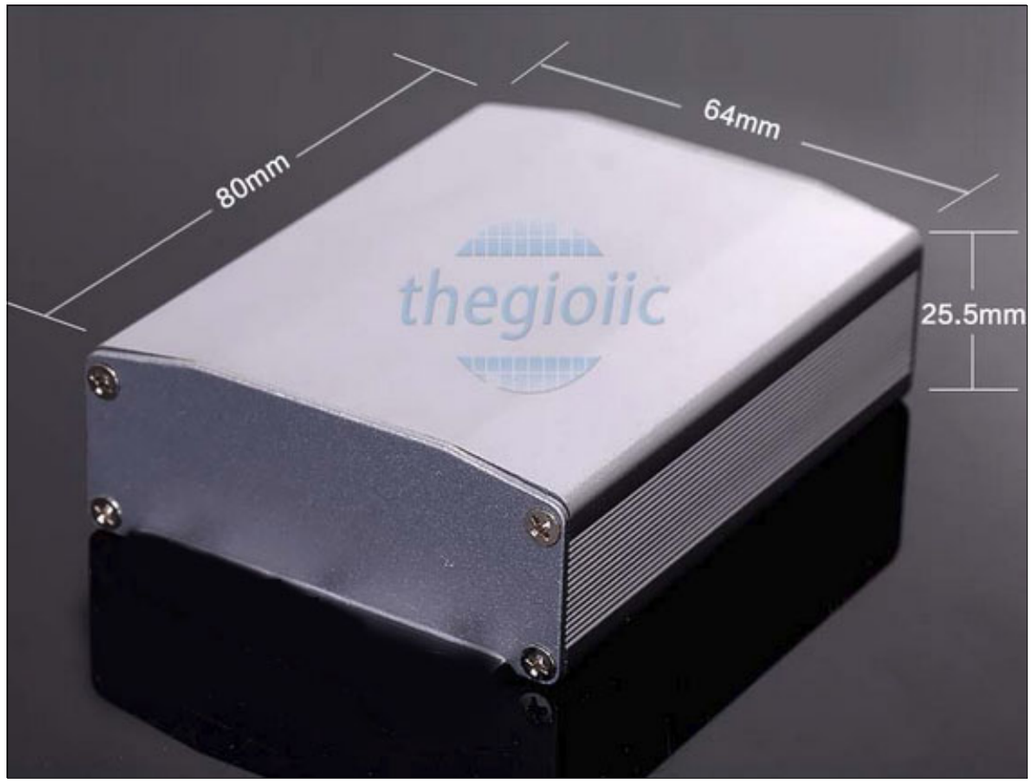
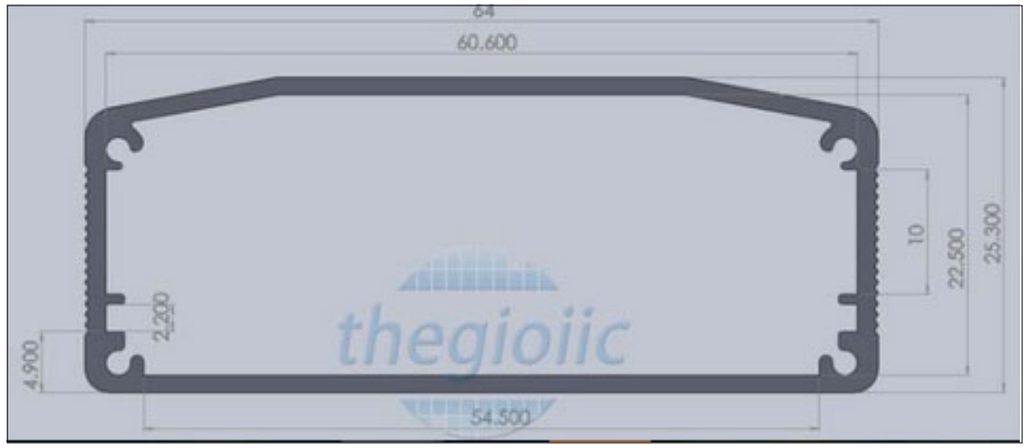
MACHANICAL



Model	2 Pin	3Pin	4 Pin	5 Pin	6 Pin	7 Pin	8 Pin	9 Pin
Sectional View								
Rated Power	7A/125V	7A/125V	5A/125V	5A/125V	4A/125V	4A/125V	4A/125V	4A/125V
Working Power / Min	200	200	200	200	200	200	200	200
Withstand Voltage	1500	1500	1500	1500	1500	1500	1500	1500
IR （MΩ）DV500V	1500	1500	1500	1500	1500	2000	2000	2000
LLCR （MΩ）DC1A	3	3	3	3	3	3	3	3
Hole Dia.Φ（mm）	2.45	2.45	2.45	2	1.15	1.15	1.15	1.15





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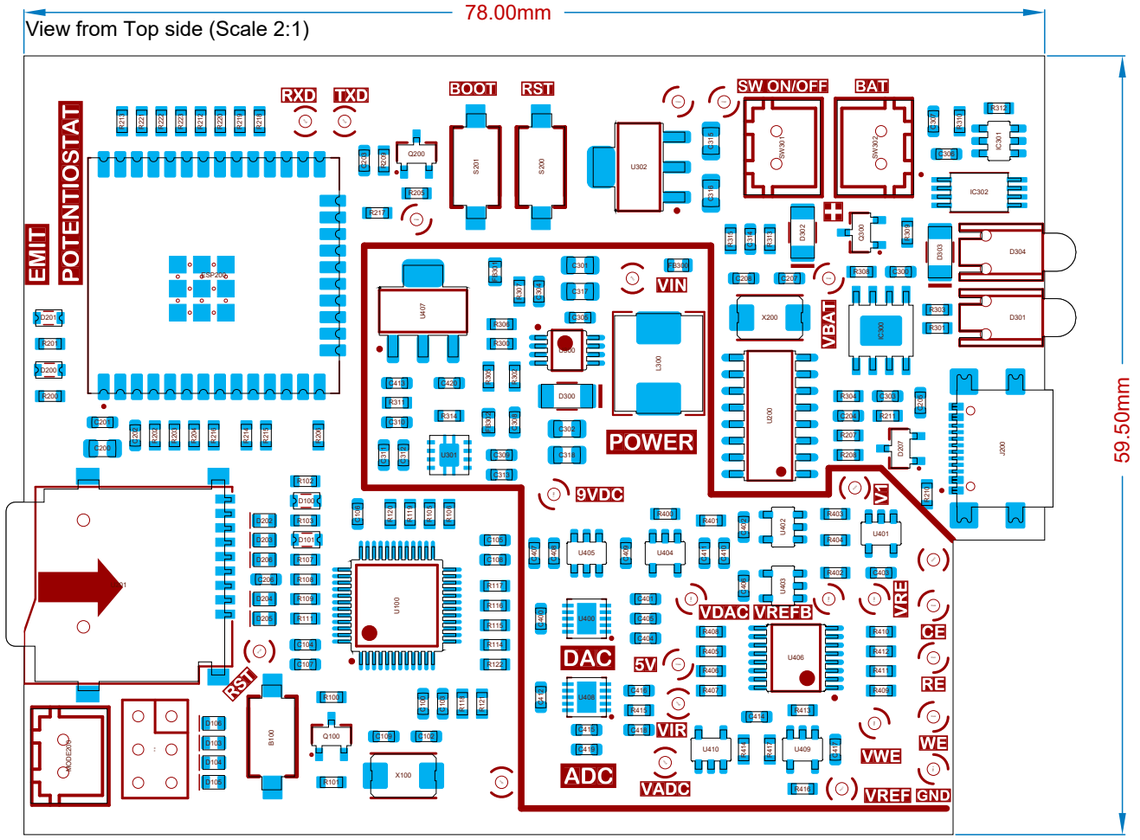
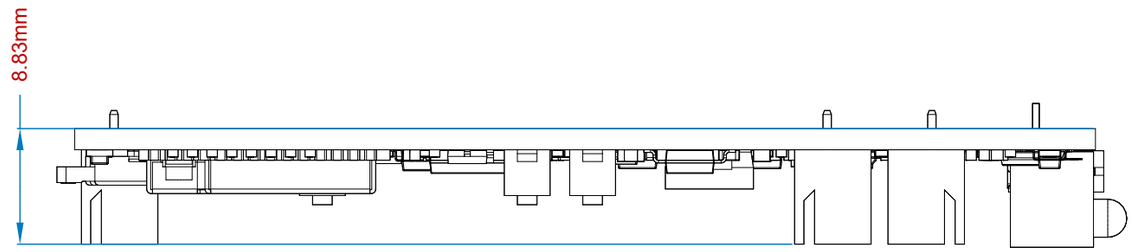
File Name: MECHANICAL.SchDoc Size: A3		Modified Date: 2/6/2024 Time: 6:35:53 PM Date: 2/19/2024	

POTENTIOSTAT SENSOR

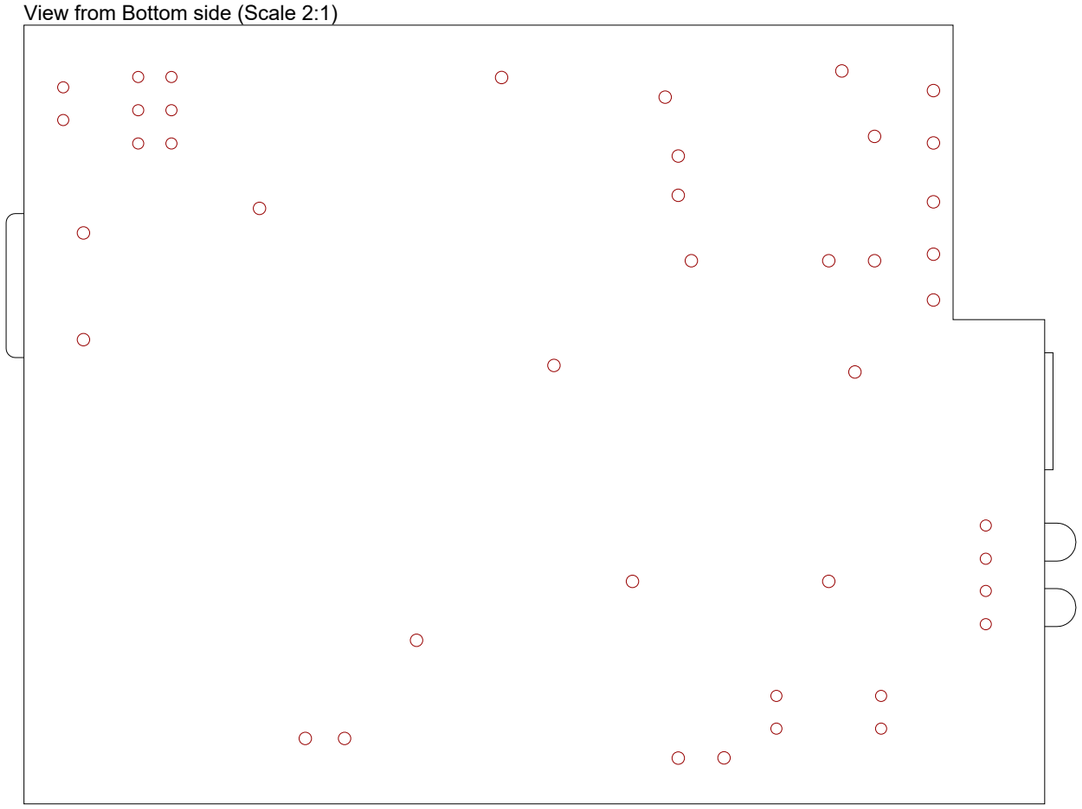
View from Top side (Scale 2:1)



View from Back side (Scale 2:1)



View from Bottom side (Scale 2:1)



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