2023/04/01 Start

Wellell Medical Corp.

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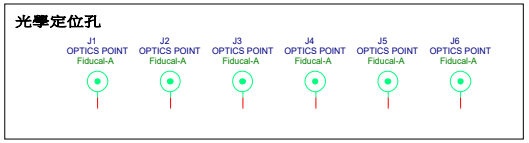
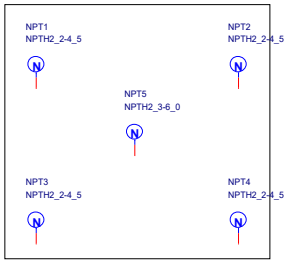
Project Name	
Description	
Part Number: BLOCK DIAGRAM	Rev
Date: Monday, July 31, 2023	Sheet 1 of 9





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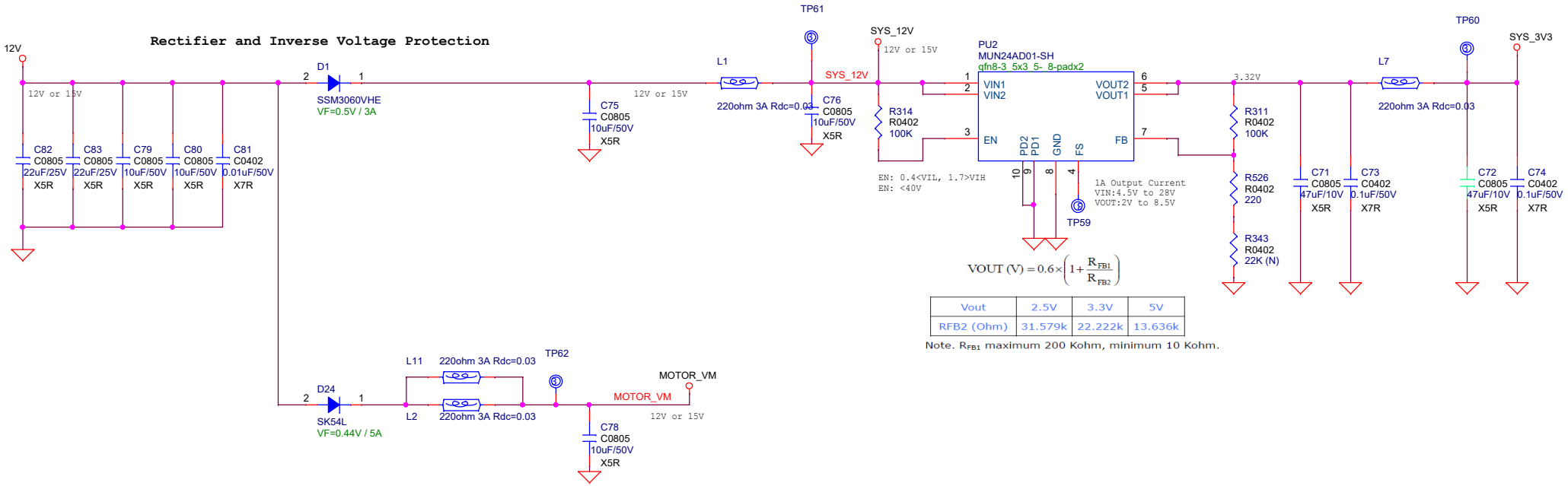
Project Name		
Description		
Part Number BLOCK DIAGRAM	<Engineer>	Rev
Date:	Sheet	of
Monday, July 31, 2023	2	9



$$VOUT\,(V) = 0.6 \times \left(1 + \frac{R_{FB1}}{R_{FB2}}\right)$$

Vout	2.5V	3.3V	5V
RFB2 (Ohm)	31.579k	22.222k	13.636k

Note. R_{FB1} maximum 200 Kohm, minimum 10 Kohm.

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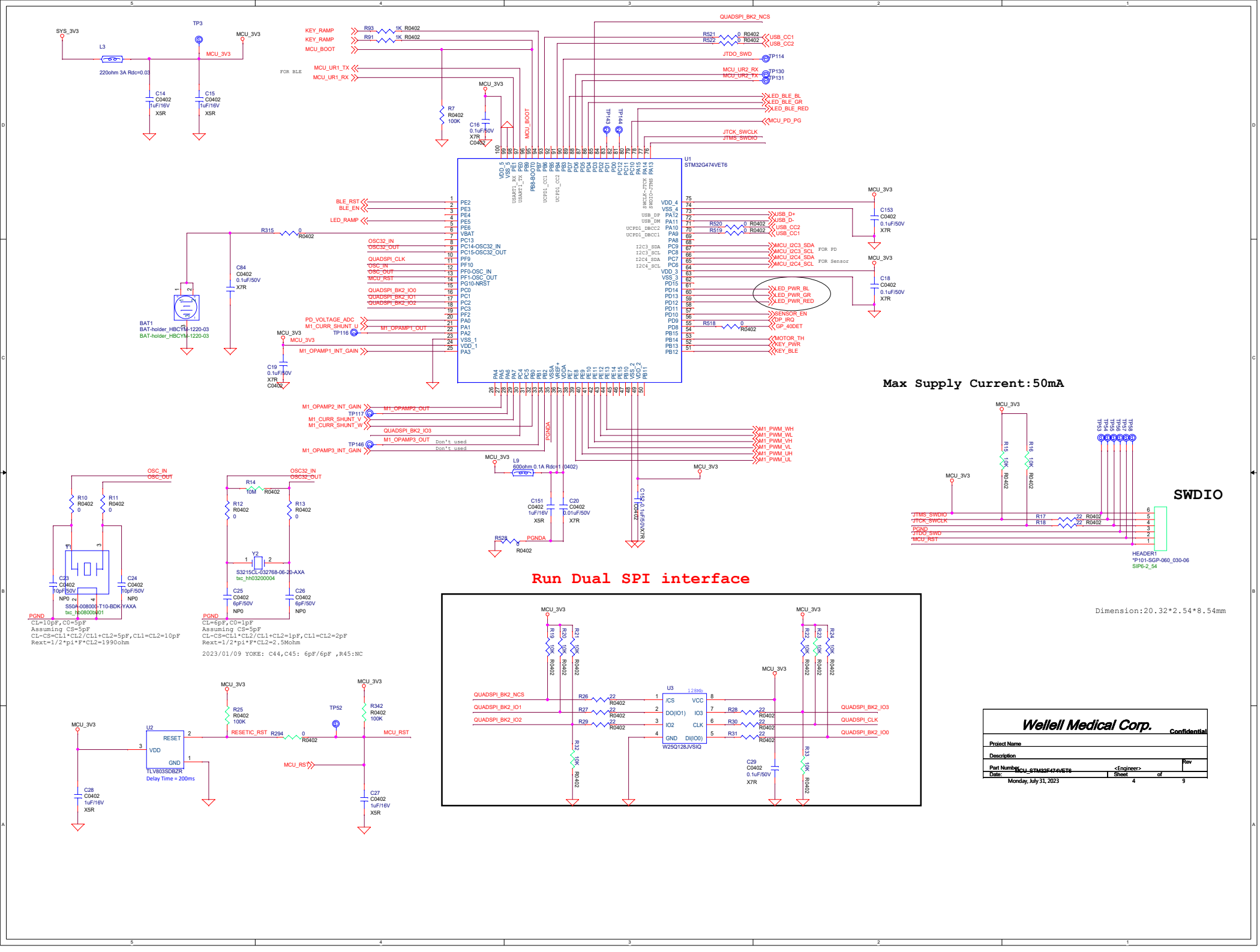
Project Name		
Description		Rev
Part Number DC POWER	<Engineer>	
Date: Monday, July 31, 2023	Sheet 3 of 9	


SYS_3V3
L3
220ohm 3A Rdc=0.03
TP3
MCU_3V3
C14 C0402 1uF/16V X5R
C15 C0402 1uF/16V X5R
KEY_RAMP
KEY_RAMP
MCU_BOOT
R93 1K R0402
R91 1K R0402
FOR BLE
MCU_UR1_TX
MCU_UR1_RX
R7 R0402 100K
C16 0.1uF/50V X7R C0402
QUADSPI_BK2_NCS
R521 0 R0402
R522 0 R0402
USB_CC1
USB_CC2
JTDO_SWD
P114
MCU_UR2_RX
MCU_UR2_TX
P130
P131
LED_BLE_BL
LED_BLE_GR
LED_BLE_RED
MCU_PD_PG
JTCK_SWCLK
JTMS_SWDIO
TP143
TP144
U1
STM32G474VET6
BLE_RST
BLE_EN
LED_RAMP
R315 0 R0402
C84 C0402 0.1uF/50V X7R
BAT1
BAT-holder_HBCYM-1220-03
OSC32_IN
OSC32_OUT
QUADSPI_CLK
OSC_IN
OSC_OUT
MCU_RST
QUADSPI_BK2_IO0
QUADSPI_BK2_IO1
QUADSPI_BK2_IO2
PD_VOLTAGE_ADC
M1_CURR_SHUNT_U
TP116
M1_OPAMP1_OUT
M1_OPAMP1_INT_GAIN
C19 0.1uF/50V X7R C0402
USB_D+
USB_D-
USB_CC2
USB_CC1
R520 0 R0402
R519 0 R0402
MCU_I2C3_SDA
MCU_I2C3_SCL
MCU_I2C4_SDA
MCU_I2C4_SCL
FOR PD
FOR Sensor
C153 C0402 0.1uF/50V X7R
C18 C0402 0.1uF/50V X7R
LED_PWR_BL
LED_PWR_GR
LED_PWR_RED
SENSOR_EN
DP_IRQ
GP_40DET
R518 0 R0402
MOTOR_TH
KEY_PWR
KEY_BLE
M1_OPAMP2_INT_GAIN
TP117
M1_OPAMP2_OUT
M1_CURR_SHUNT_V
M1_CURR_SHUNT_W
QUADSPI_BK2_IO3
TP146
M1_OPAMP3_OUT
M1_OPAMP3_INT_GAIN
Don't used
Don't used
PGNDA
M1_PWM_WH
M1_PWM_WL
M1_PWM_VH
M1_PWM_VL
M1_PWM_UH
M1_PWM_UL
L9 600ohm 0.1A Rdc=1 0402
C151 C0402 1uF/16V X5R
C20 C0402 0.01uF/50V X7R
C152 0.1uF/50V X7R C0402
R528 PGNDA R0402
Max Supply Current:50mA
TP53
TP54
TP55
TP56
TP57
TP58
R15 10K R0402
R16 10K R0402
JTMS_SWDIO
JTCK_SWCLK
PGND
JTDO_SWD
MCU_RST
R17 22 R0402
R18 22 R0402
HEADER1
*P101-SGP-060_030-06
SIP6-2_54
SWDIO
OSC_IN
OSC_OUT
R10 R0402 0
R11 R0402 0
C23 C0402 10pF/50V NP0
C24 C0402 10pF/50V NP0
S50A-008000-T10-BDK-YAXA
txc_hb08000401
PGND
CL=10pF,C0=5pF
Asuming CS=5pF
CL=CS=CL1*CL2/CL1+CL2=5pF,CL1=CL2=10pF
Rext=1/2*pi*F*CL2=1990ohm
OSC32_IN
OSC32_OUT
R14 10M R0402
R12 R0402 0
R13 R0402 0
Y2
S3215CL-032768-06-20-AXA
txc_hh03200004
C25 C0402 6pF/50V NP0
C26 C0402 6pF/50V NP0
PGND
CL=6pF,C0=1pF
Asuming CS=5pF
CL=CS=CL1*CL2/CL1+CL2=1pF,CL1=CL2=2pF
Rext=1/2*pi*F*CL2=2.5Mohm
2023/01/09 YOKE: C44,C45: 6pF/6pF ,R45:NC
Run Dual SPI interface
U3
128Mb
/CS
DO(IO1)
IO2
GND
VCC
IO3
CLK
DI(IO0)
W25Q128JVSIQ
QUADSPI_BK2_NCS
QUADSPI_BK2_IO1
QUADSPI_BK2_IO2
QUADSPI_BK2_IO3
QUADSPI_CLK
QUADSPI_BK2_IO0
R19 10K R0402
R20 10K R0402
R21 10K R0402
R22 10K R0402
R23 10K R0402
R24 10K R0402
R26 22 R0402
R27 22 R0402
R29 22 R0402
R28 22 R0402
R30 22 R0402
R31 22 R0402
R32 10K R0402
R33 10K R0402
C29 C0402 0.1uF/50V X7R
U2
RESET
VDD
GND
TLV803SDBZR
Delay Time = 200ms
R25 R0402 100K
RESETIC_RST
R294 0 R0402
TP52
R342 R0402 100K
MCU_RST
C28 C0402 1uF/16V X5R
C27 C0402 1uF/16V X5R
Dimension:20.32*2.54*8.54mm
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Project Name
Description
Part Number: MCU_STM32F474VET6
Rev
Date: Monday, July 31, 2023
<Engineer>
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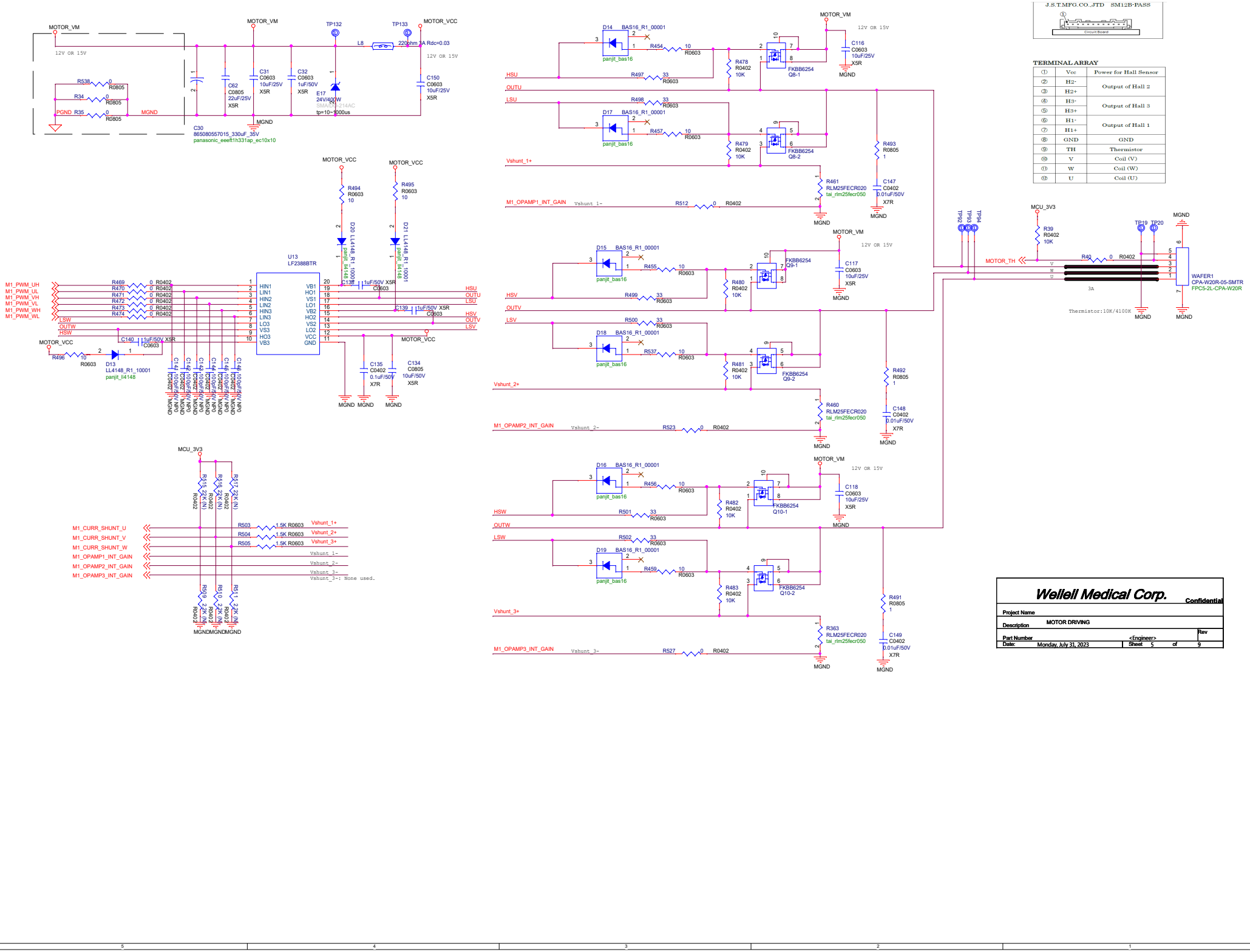

TERMINAL ARRAY

①	Vcc	Power for Hall Sensor
②	H2-	Output of Hall 2
③	H2+	
④	H3-	Output of Hall 3
⑤	H3+	
⑥	H1-	Output of Hall 1
⑦	H1+	
⑧	GND	GND
⑨	TH	Thermistor
⑩	V	Coil (V)
⑪	W	Coil (W)
⑫	U	Coil (U)

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Project Name			
Description	MOTOR DRIVING		
Part Number	<Engineer>		Rev
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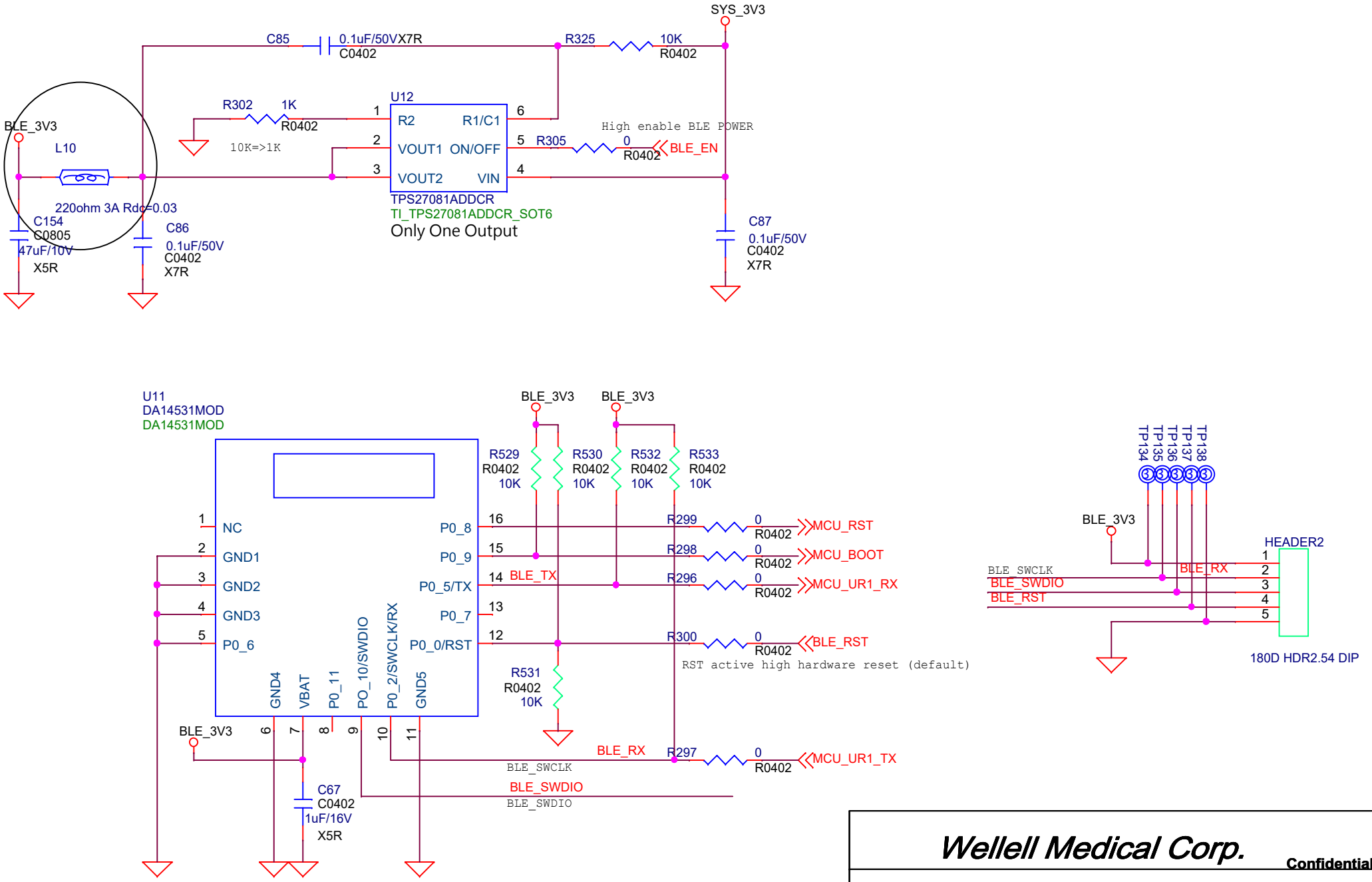

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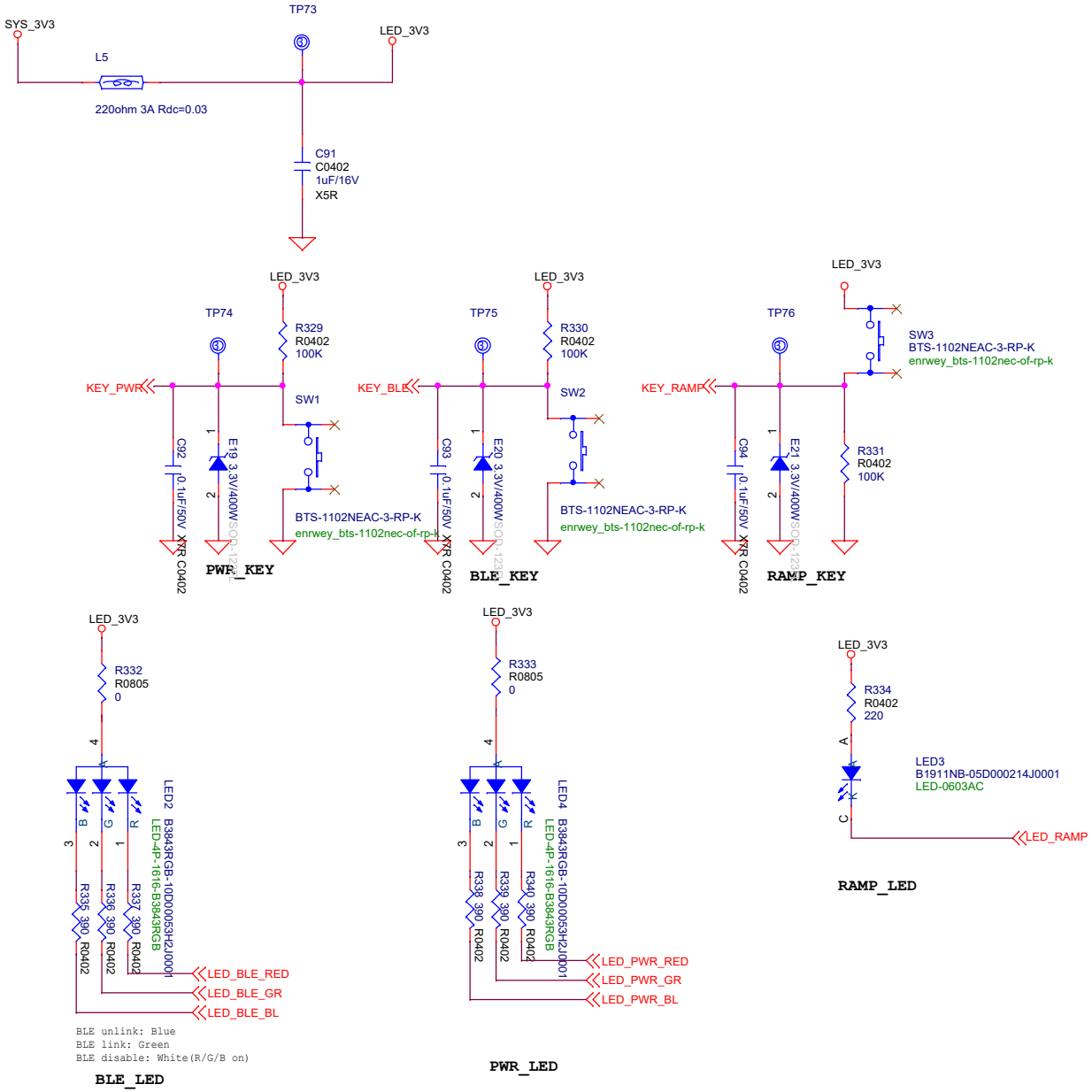
Project Name	
Description	
Part Number BLE	<Engineer> Rev
Date: Monday, July 31, 2023	Sheet 6 of 9



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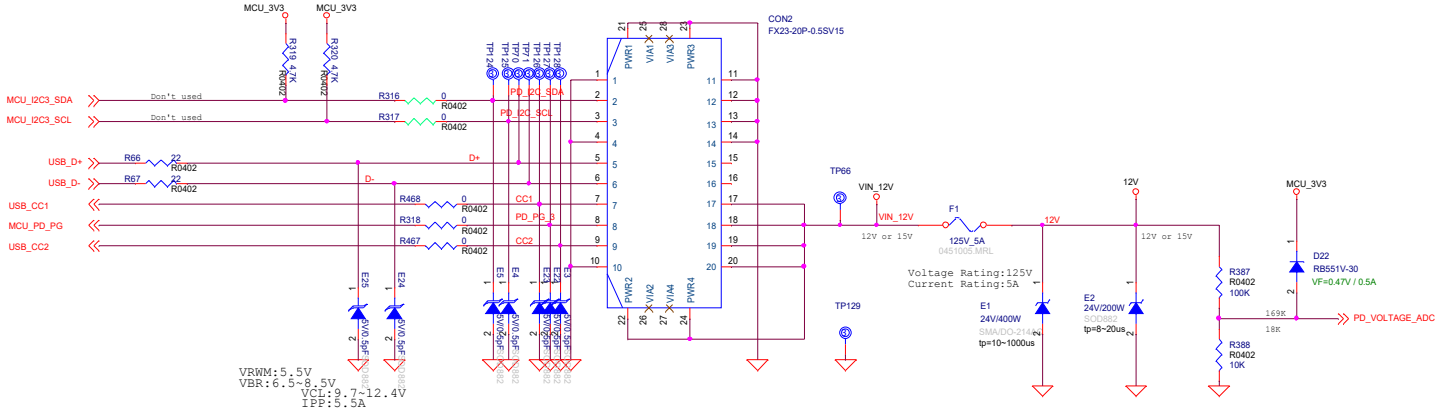
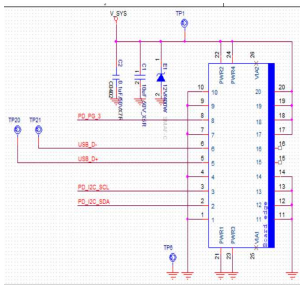
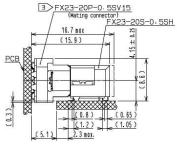
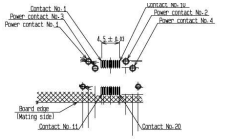
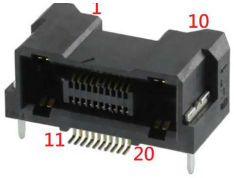
Project Name		
Description		
Part Number: KEYPAD SWITCH CONNECT	<Engineer>	Rev
Date: Monday, July 31, 2023	Sheet 7 of 9	

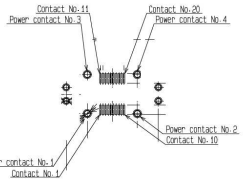


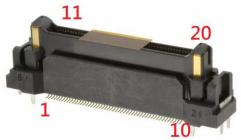












POWER BOARD INPUT

Wellell Medical Corp.			**Confidential**
Project Name			
Description			
Part Number USB Current Limited	<Engineer>		**Rev**
Date:	**Sheet**	**of**	
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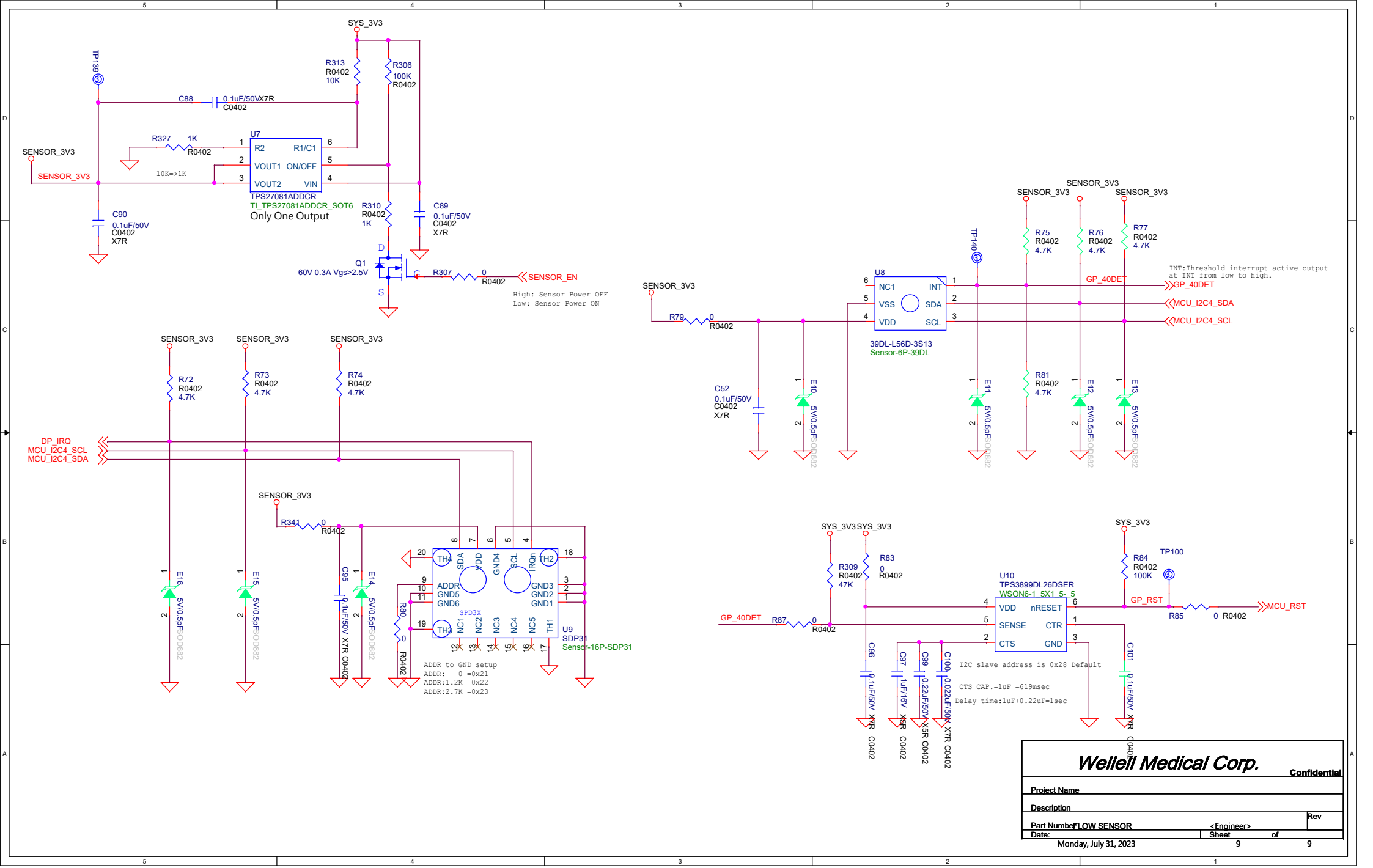

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Project Name	
Description	Rev
Part Number FLOW SENSOR	<Engineer>
Date: Monday, July 31, 2023	Sheet 9 of 9