

A

Project: *DM3370*
Current Revision: *R5M2E5*
Assembly variant: *Production*

A

DM3370

Revision History:

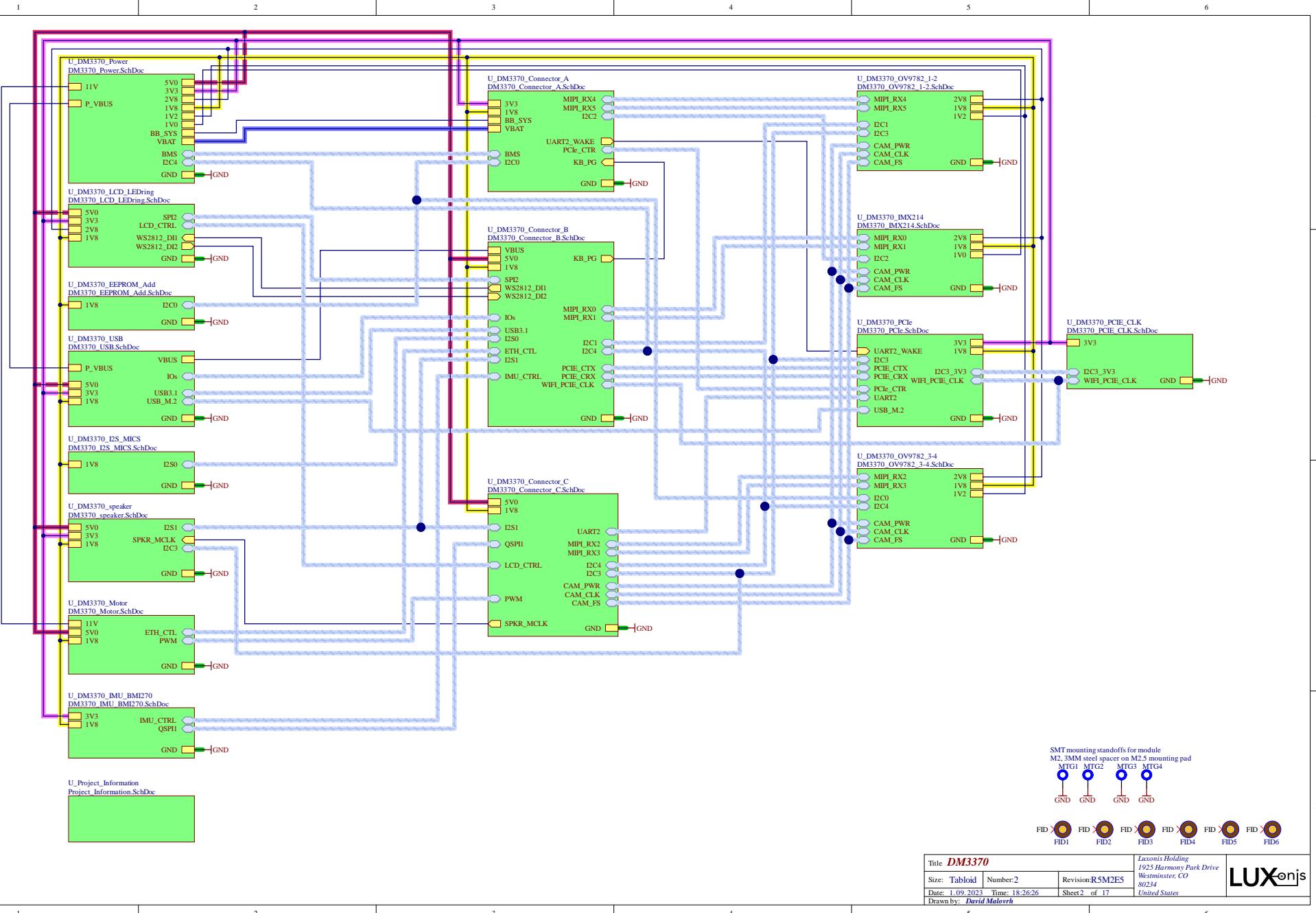
Date	Revision	Reason for Change	Changes Implemented
28th July 2022	R0M0E0		Initial release
	R1M1E1	1. Mounting holes should have GND copper annular ring 2. move the LCD components away from motors 3. change the component type for M3 standoff on M.2 card 4. Changed the BMS with dedicated charger, fuel gauge, button supervisor 5. Removed DRP 6.	
6th March 2023	R2M1E2	1. Correct and add missing parameters 2. invert S_CLR due to KB AON requirements 3. Update NTC working point resistors 4. Improve stability 5. Swap NMOS and VBAT on battery connector 6. Correct resistor deviator value for 5V DC-DC 7. Separate I2S controller for speaker 8. Update PWM and cpr_1o IOs usage for motors and speaker clock 9. Add KB override control for USB2 MUX and connect sink indication to KB 10. Swap FBs on 2V8 rails with OR resistors 11. Add level shifter for LCD with dual power 3V3 and 2V8 12. Change the PCB layout with more positions in order to have better FFC options and easier assembly 13. Isolate WS2812_DO from KB 14. Add pull down to motor controller preventing wheel spinning on boot-up 15. Update motor connector pinout for Hall sensors and GND 16. Add BNO086 instead of BM270	1. Added missing parameters for CS2, CS5, CS6, R71 2. NMOS added in series 3. Resistors defined based on measurements 4. Added level shifter with optional power supply 2V8 default 5. Swap power with NTC output from battery 6. Updated deviator values 7. Moved speaker to I2S1 controller 8. Rearranged the IOs according to the alternate modes 9. Connected IO to NMOS controlling the MUX and linked SINK OD output to KB 10. Swapped 0805 FBs with OR resistors for 2V8 rails 11. added level shifter with optional power supply 2V8 default 12. Change the PCB layout to 6pos 13. Added DIN-series resistor 14. Added PD on motor controller EN pin 15. Moved GND to pin4 motor connector 16. Added BNO086 and populated it instead of BM270
13th March 2023	R3M2E3	1. Correct IO44 being connected to 5V over PU 2. Enlarge cutout for motor cables	1. Additional NMOS added between IO44 and 5V PU for USB MUX control 2. Enlarged cutout for motor cables allowing easier assembly
13th March 2023	R4M2E4	1. Update PU values for NTC thermistors 2. Swap MISO/MOSI for IMU	1. Updated PU values for NTC thermistors 2. Swapped MISO/MOSI for IMU
04th May 2023	R5M2E5	1. Connect charger directly supplying SOM 2. Connect BNO interrupt 3. Update the PCBA NTC working point deviator 4. BTM supervisor PUs should be connected to BB_SYS rail (LH: 0.7*VCC) 5. Update NTC values 6. Change configuration for PSEL and OTG pin	1. Connected charger directly supplying SOM with minimum 3.5V 2. Connect BNO interrupt to same interrupt pin as BM270 3. Update the PCBA NTC working point deviator 4. BTM supervisor PUs connected to BB_SYS rail (CLR, INT) 5. Defined NTC thresholds with R73, R187, R188, R195 resistors 6. Moved resistors to PUs for PSEL and OTG
04th May 2023	R5M2E6	1. Unpopulate D1 (constantly on)	1. Removed D1 from BOM

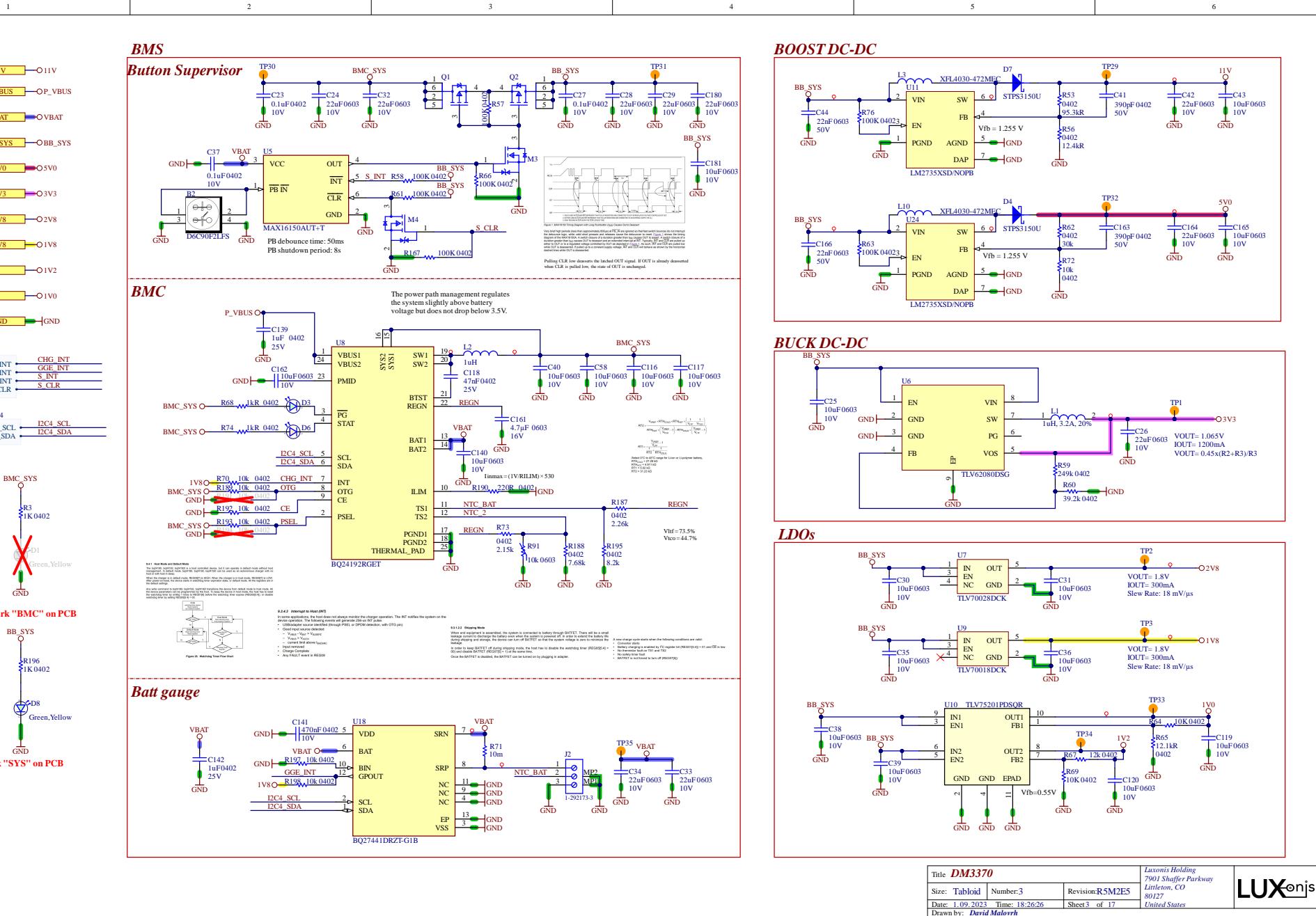
B

C

D

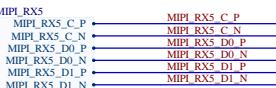
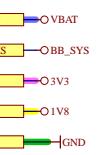
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Size: Tabloid	Number: 1	Revision: R5M2E5
Date: 1.09.2023	Time: 18:26:25	Sheet 1 of 17
Drawn by: David Malovrh		LUXon's



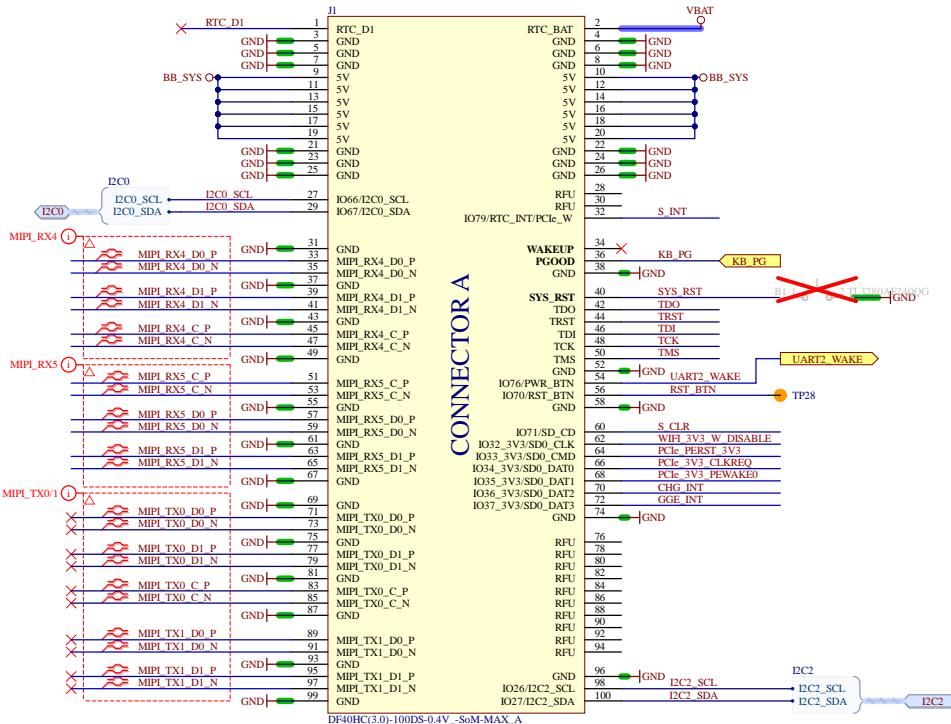


VBAT → O_VBAT
 BB_SYS → O_BB_SYS
 3V3 → O_3V3
 1V8 → O_1V8
 GND → GND

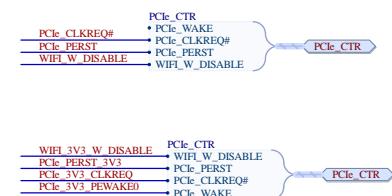
5V drawn by BW2099 can be up to 1A
 VBUS on BW2099 is only sense input



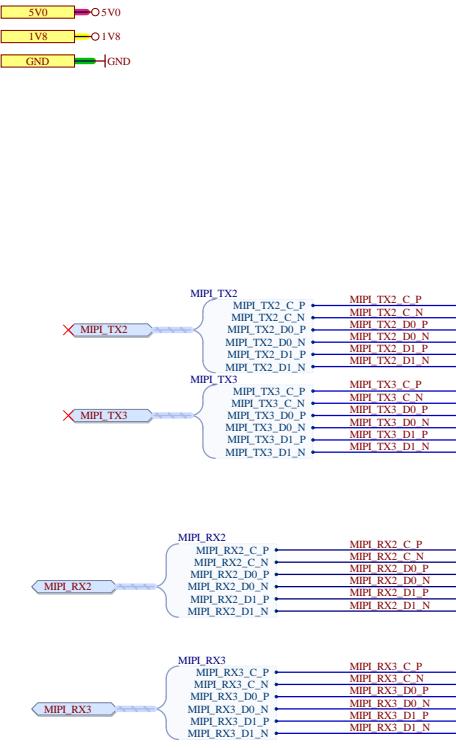
DM3399 CONNECTOR A



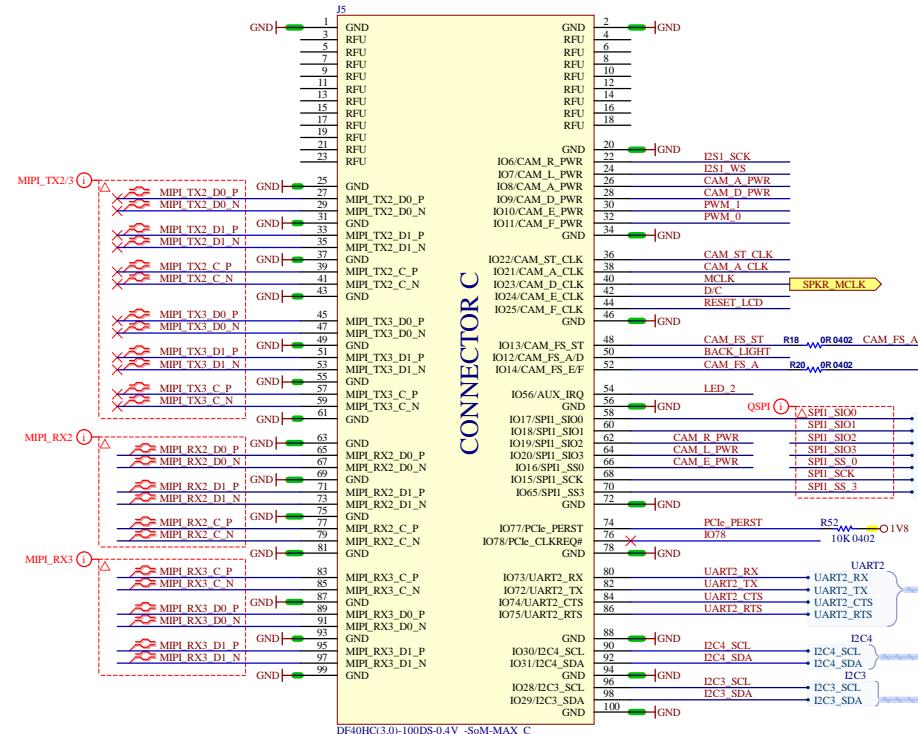
CONNECTOR A



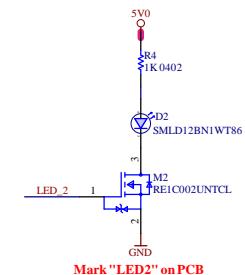
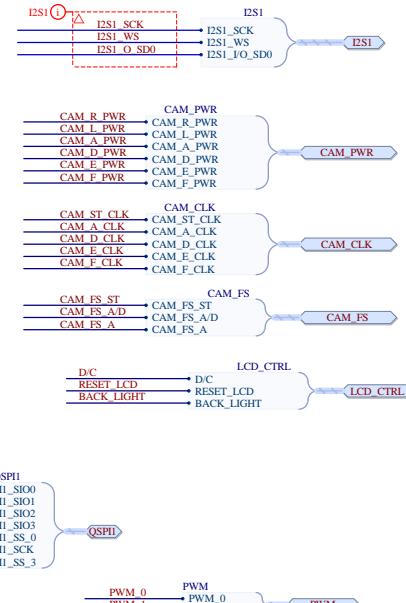
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Drawn by: David Malovrh			LUXONICS



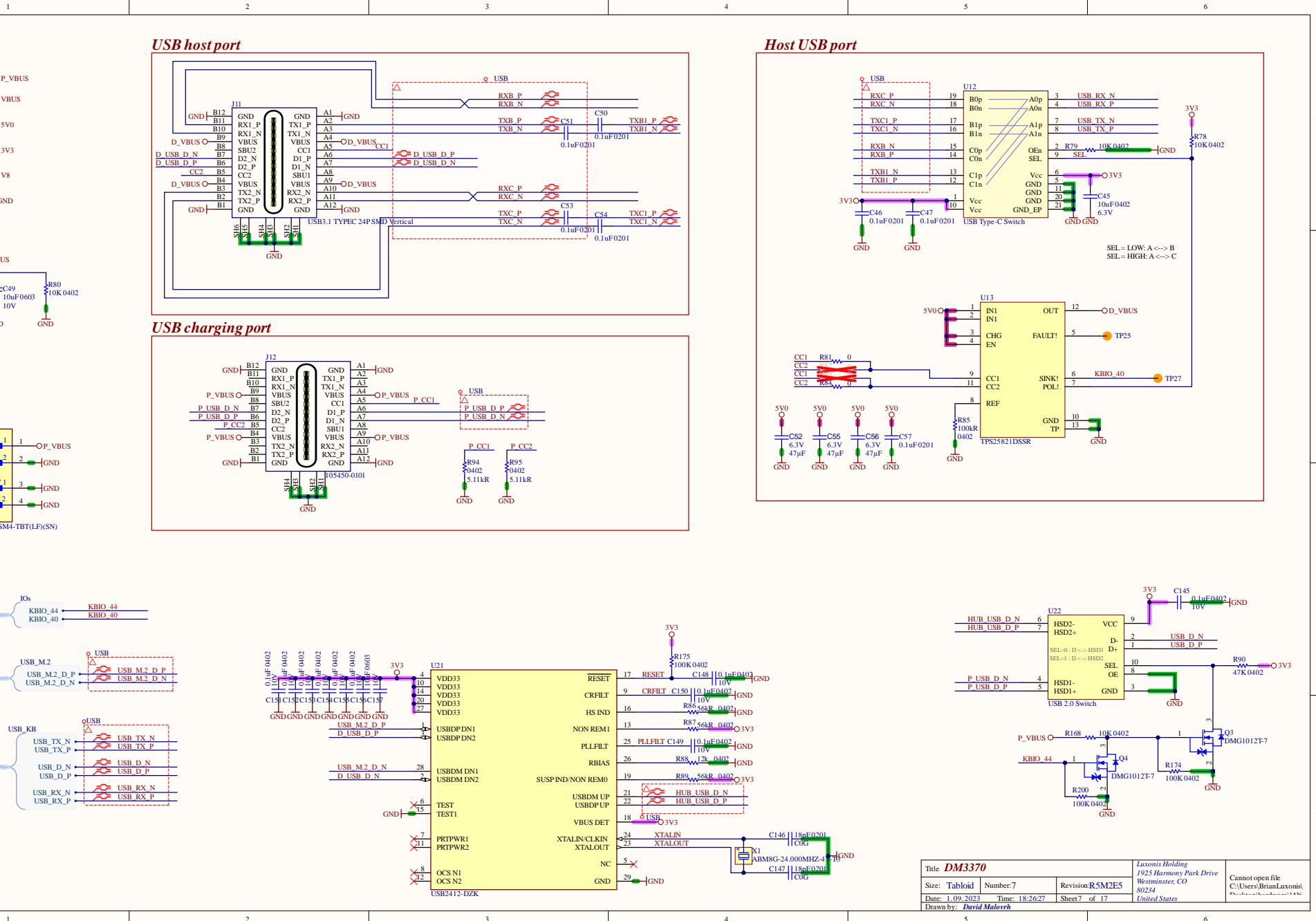
DM3399 CONNECTOR C



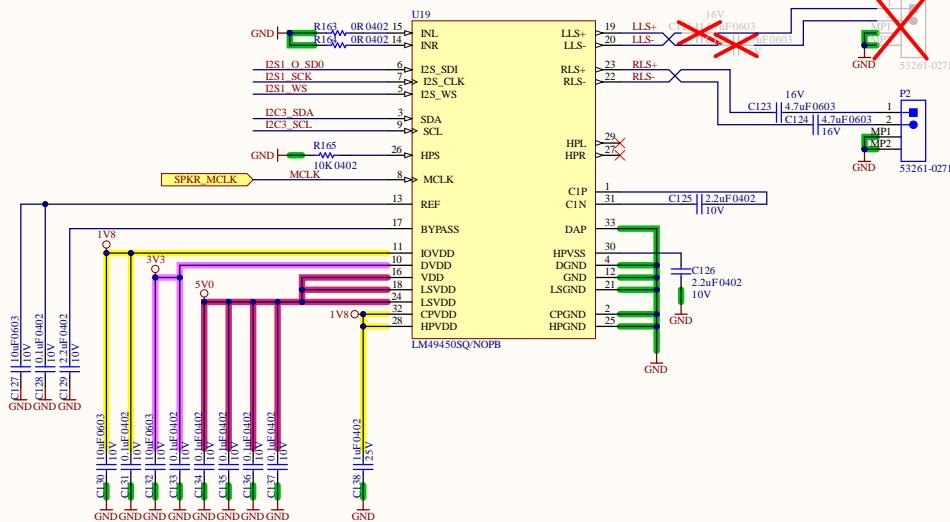
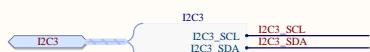
U5 is used to connect the FSIN pins from CAM A and D (FSIN_4LAN) to the FSIN pins of CAM B and C (COM_AUX_I02). Drive FSIN_MODE_SELECT high to connect all FSIN signals together.



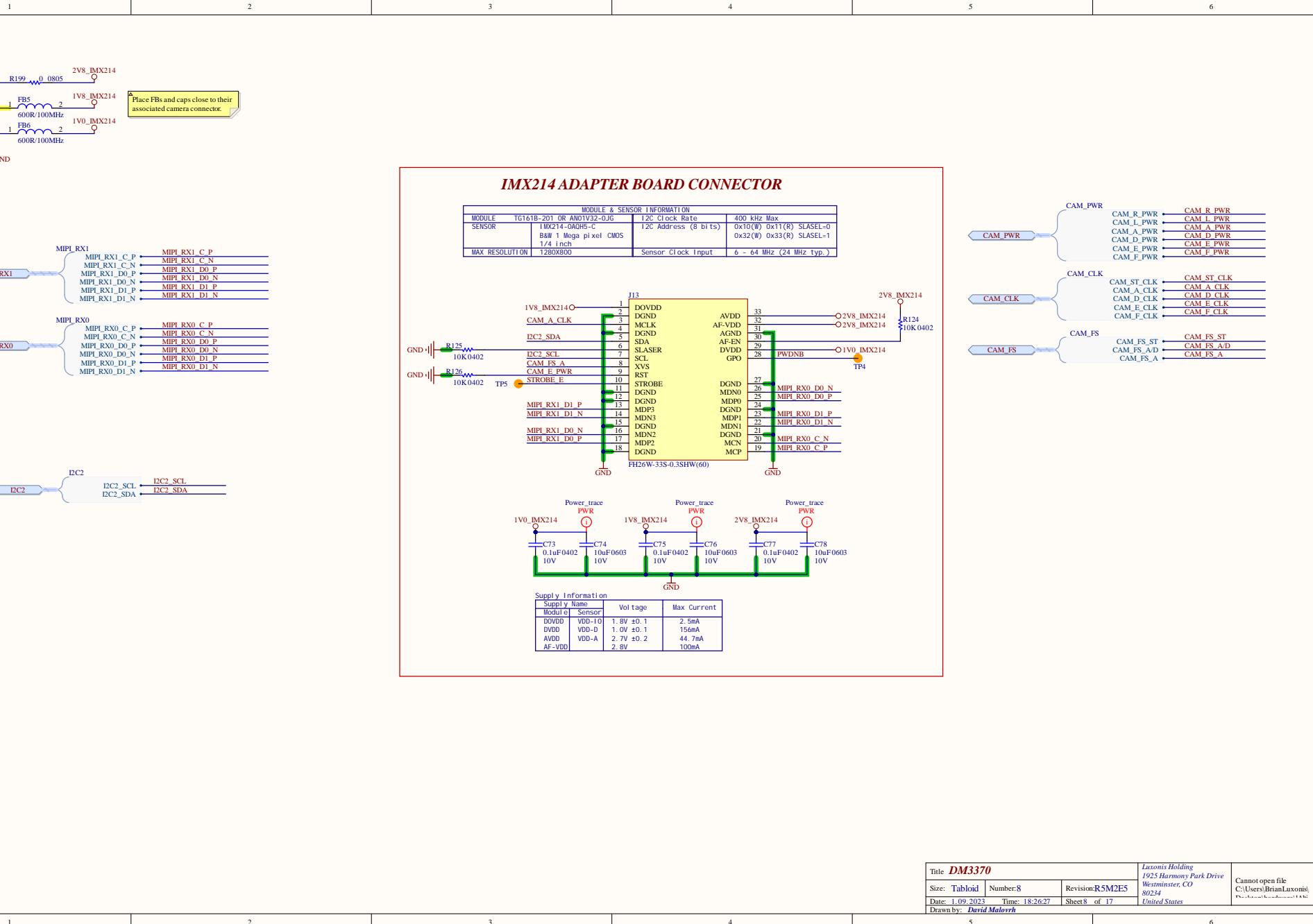
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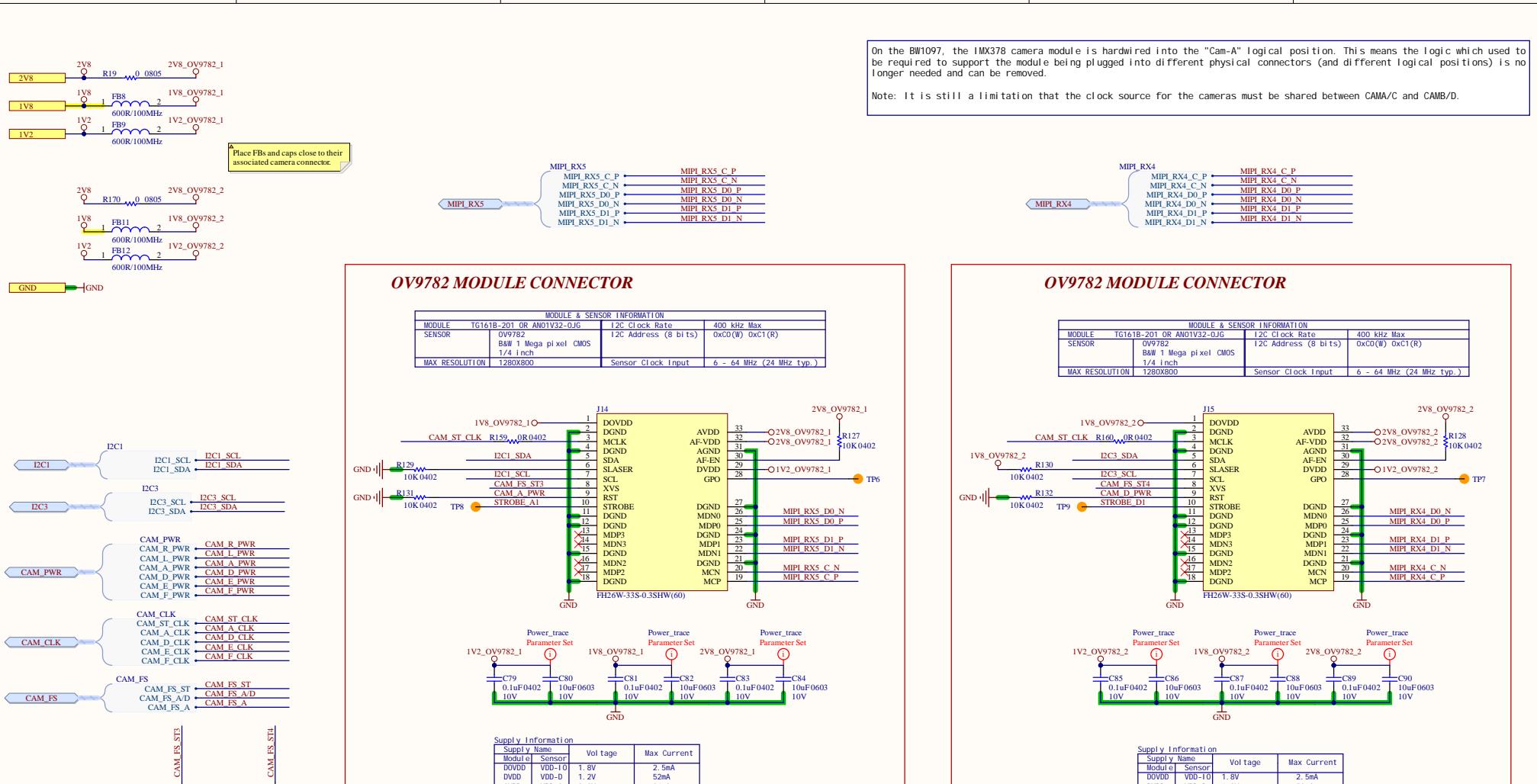


5V0
 3V3
 1V8
 GND



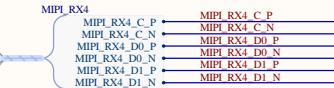
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Westminster, CO 80224		Cannot open file C:\Users\BrianLuxonis\
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Drawn by: David Malovrh		





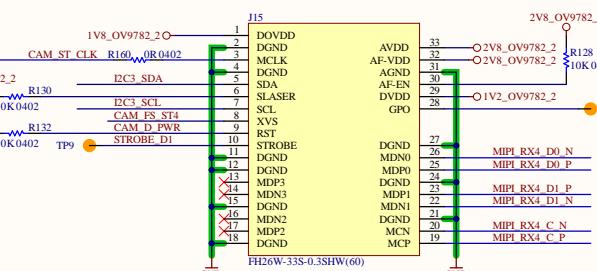
On the BW1097, the IMX378 camera module is hardwired into the "Cam-A" logical position. This means the logic which used to be required to support the module being plugged into different physical connectors (and different logical positions) is no longer needed and can be removed.

Note: It is still a limitation that the clock source for the cameras must be shared between CAMA/C and CAMB/D.



OV9782 MODULE CONNECTOR

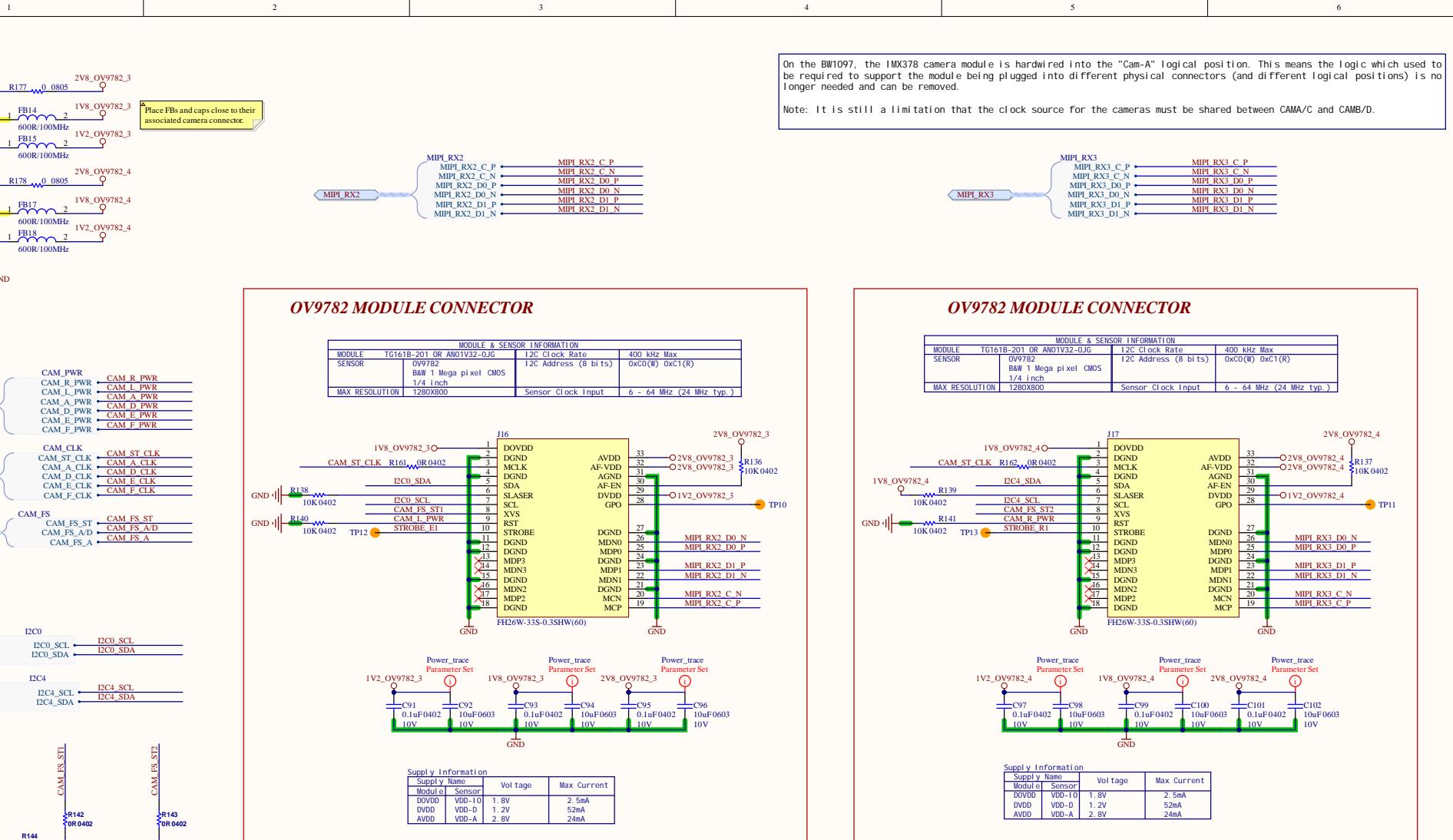
MODULE & SENSOR INFORMATION	
MODULE	TG161B-201 OR AN01V32-0JG
SENSOR	OV9782 B&W 1 Mega pixel CMOS 1/4 inch
MAX RESOLUTION	1280X800
I2C Address (8 bits)	0xC0(#)
I2C Clock Rate	400 kHz Max
Sensor Clock Input	6 - 64 MHz (24 MHz typ.)

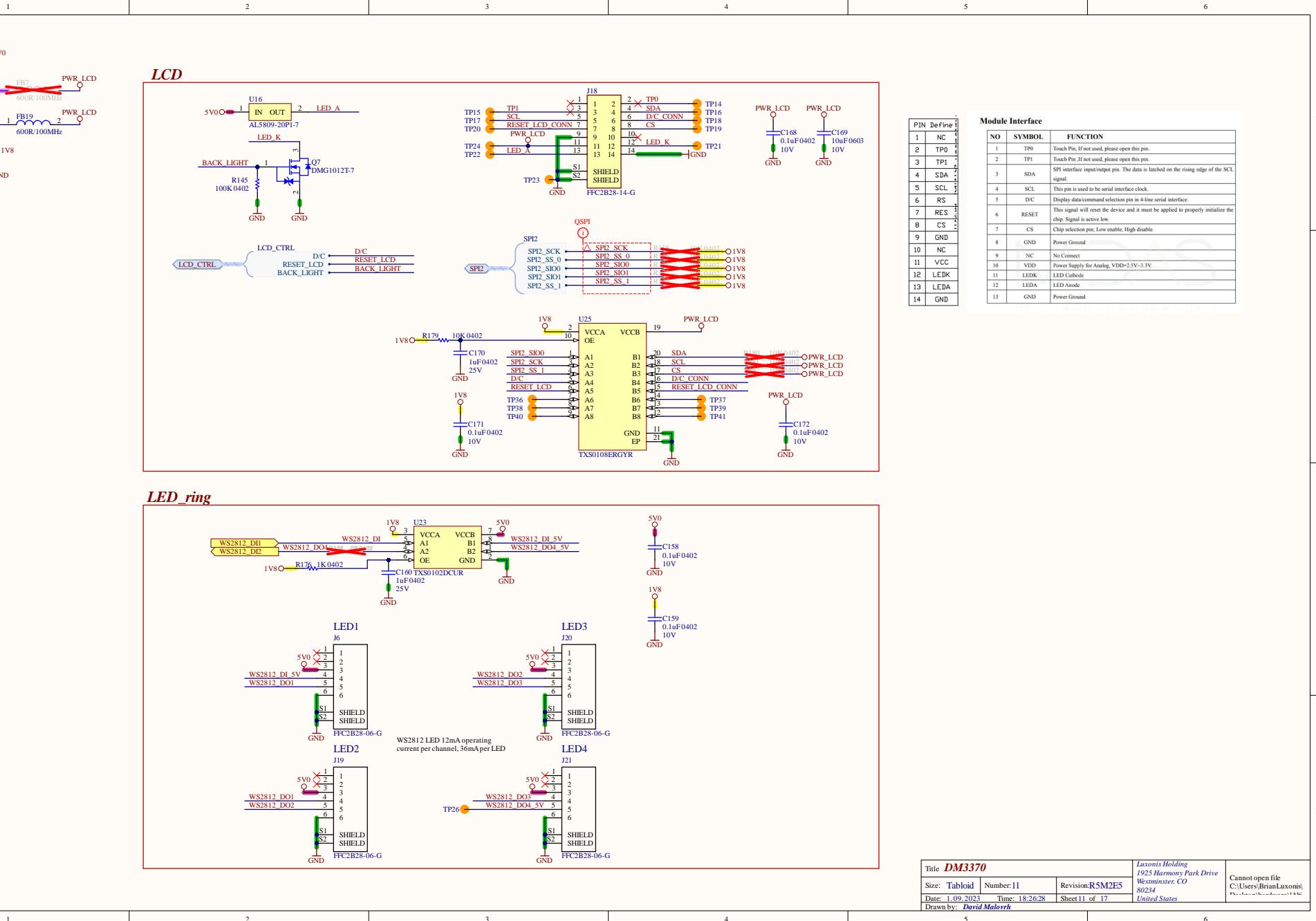


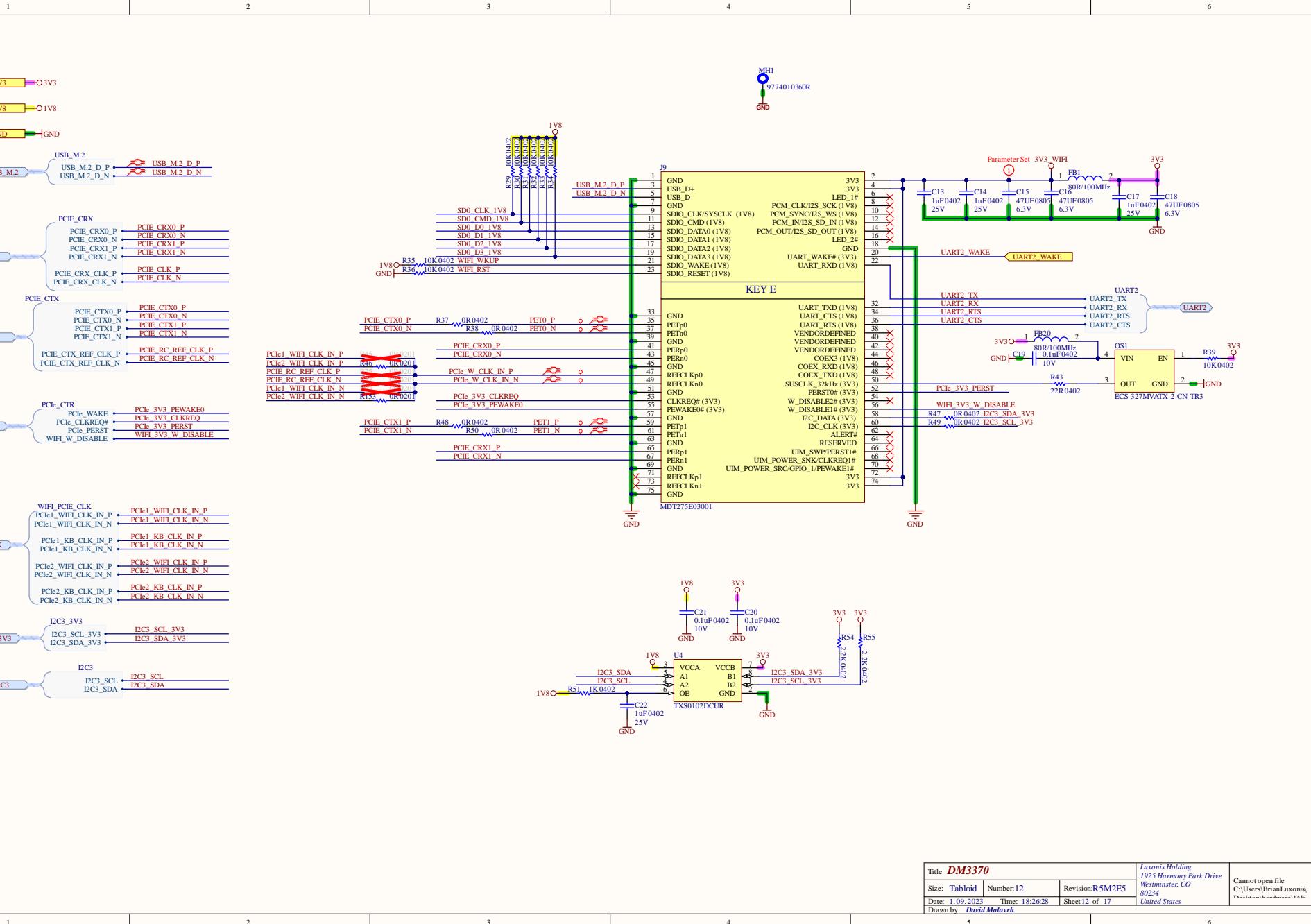
Supply Information			
Supply Name	Module	Voltage	Max Current
DVDD	VDD-10	1.8V	2.5mA
DVDD	VDD-D	1.2V	52mA
AVDD	VDD-A	2.8V	24mA

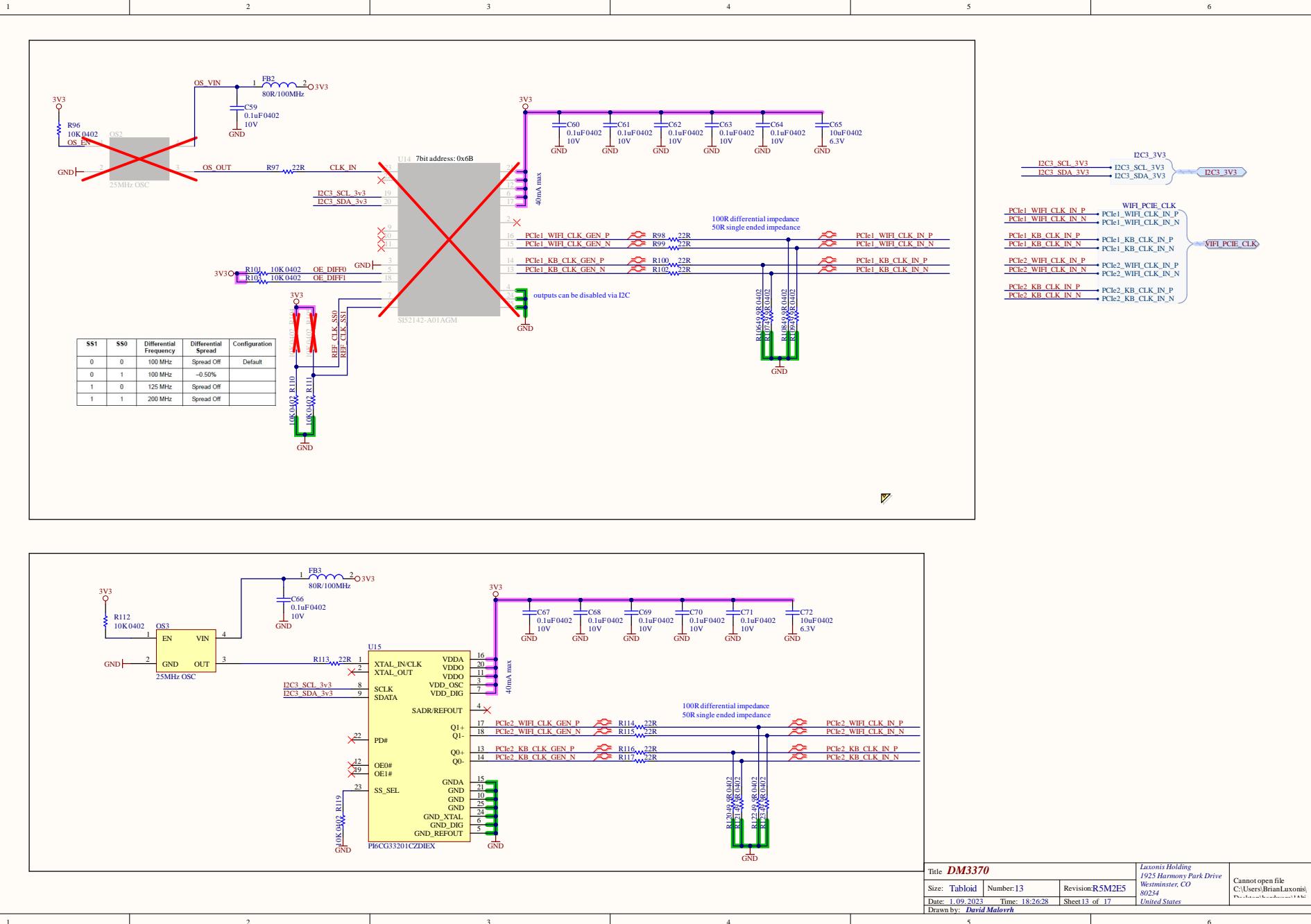
DM3370

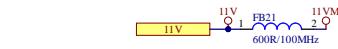
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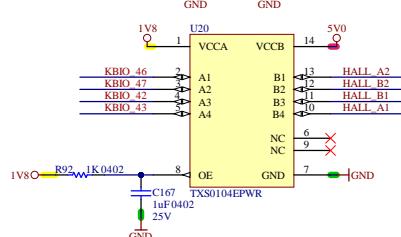
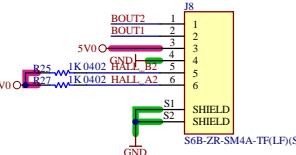
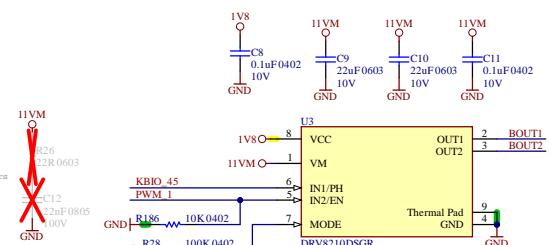
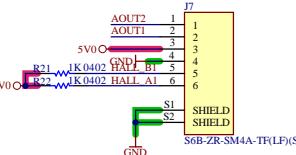
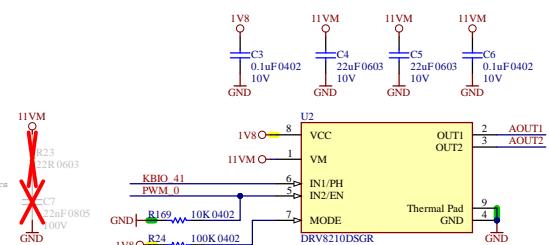




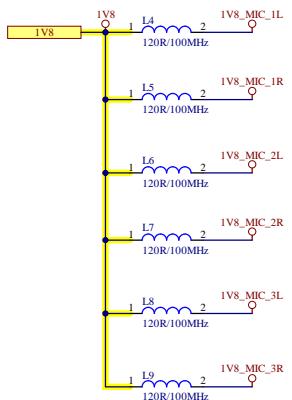
A
5V0 → 5V0
1V8 → 1V8
GND → GND

ETH_CTL → ETH_PHY_CTL
ETH_PHY_CLK_TX, KBIOS 41
ETH_PHY_CTL_RX, KBIOS 42
ETH_PHY_CLK_RX, KBIOS 43
ETH_GMII_MDC, KBIOS 45
ETH_GMII_MDIO, KBIOS 46
ETH_GMII_MDIOD, KBIOS 47

PWM → PWM_0, PWM_1

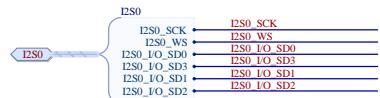
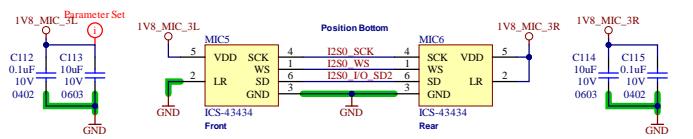


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Drawn by: David Malovrh		United States
LUX on's		



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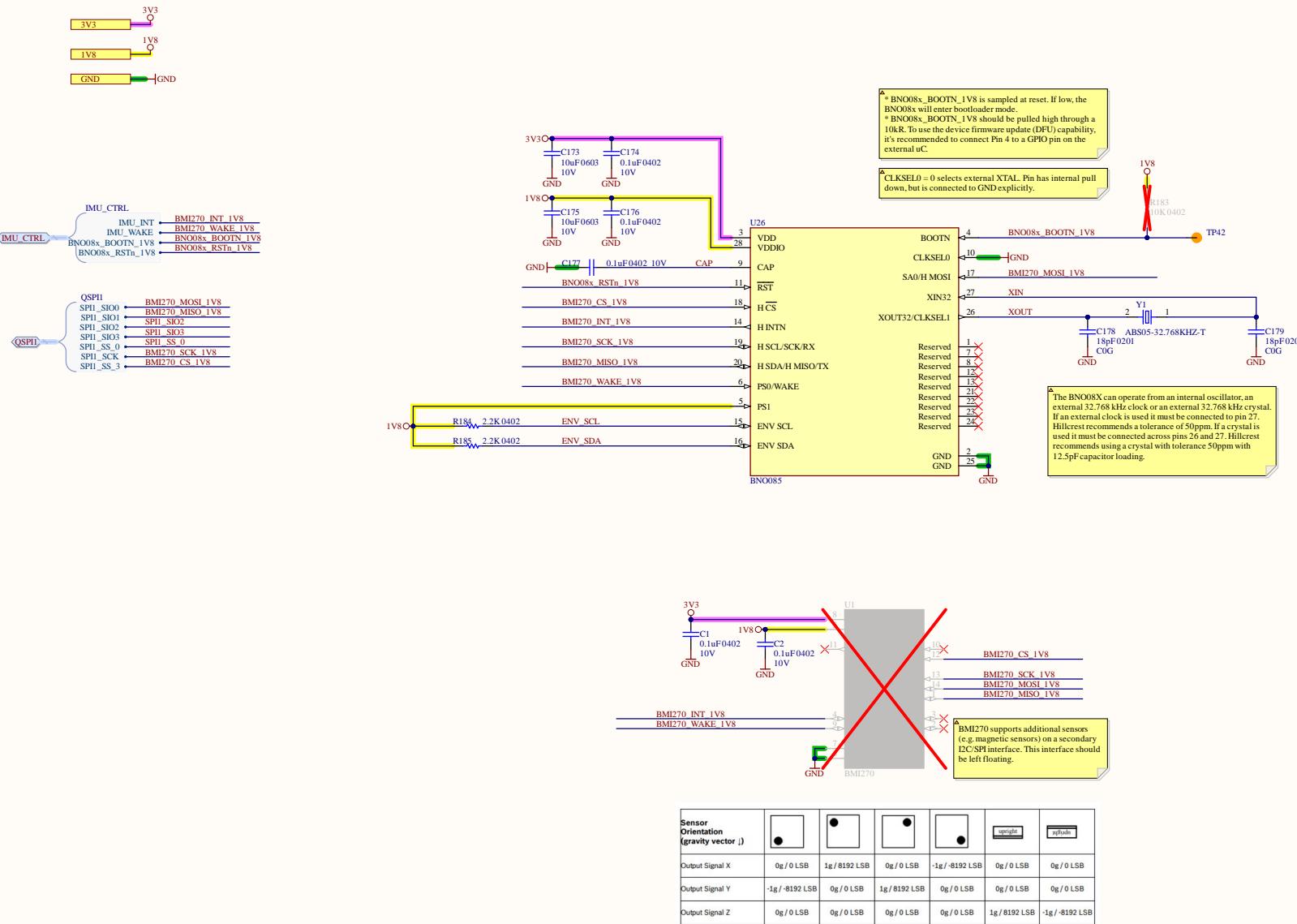
GND GND



Title **DM3370**

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Date: 1.09.2023	Time: 18:26:29	Sheet 14 of 17
Drawn by: David Malovrh		United States

LUXon's



Title DM3370		Luxonis Holding 1925 Harmony Park Drive Westminster, CO 80224	Size: Tabloid	Number: 16	Revision:	Cannot open file C:\Users\BrianLuxonis\
Date: 10-09-2023	Time: 18:26:29	Sheet 16 of 17	United States			
Drawn by: David Malovrh						

