

CYW9CPM2BASE1 CYW55x13 Base Board

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Drawing Numbers

PCBA	121-60638-01
PCB	600-60638-01
FAB DRW	610-60638-01
ASSY DRW	620-60638-01
SCH DRW	630-60638-01

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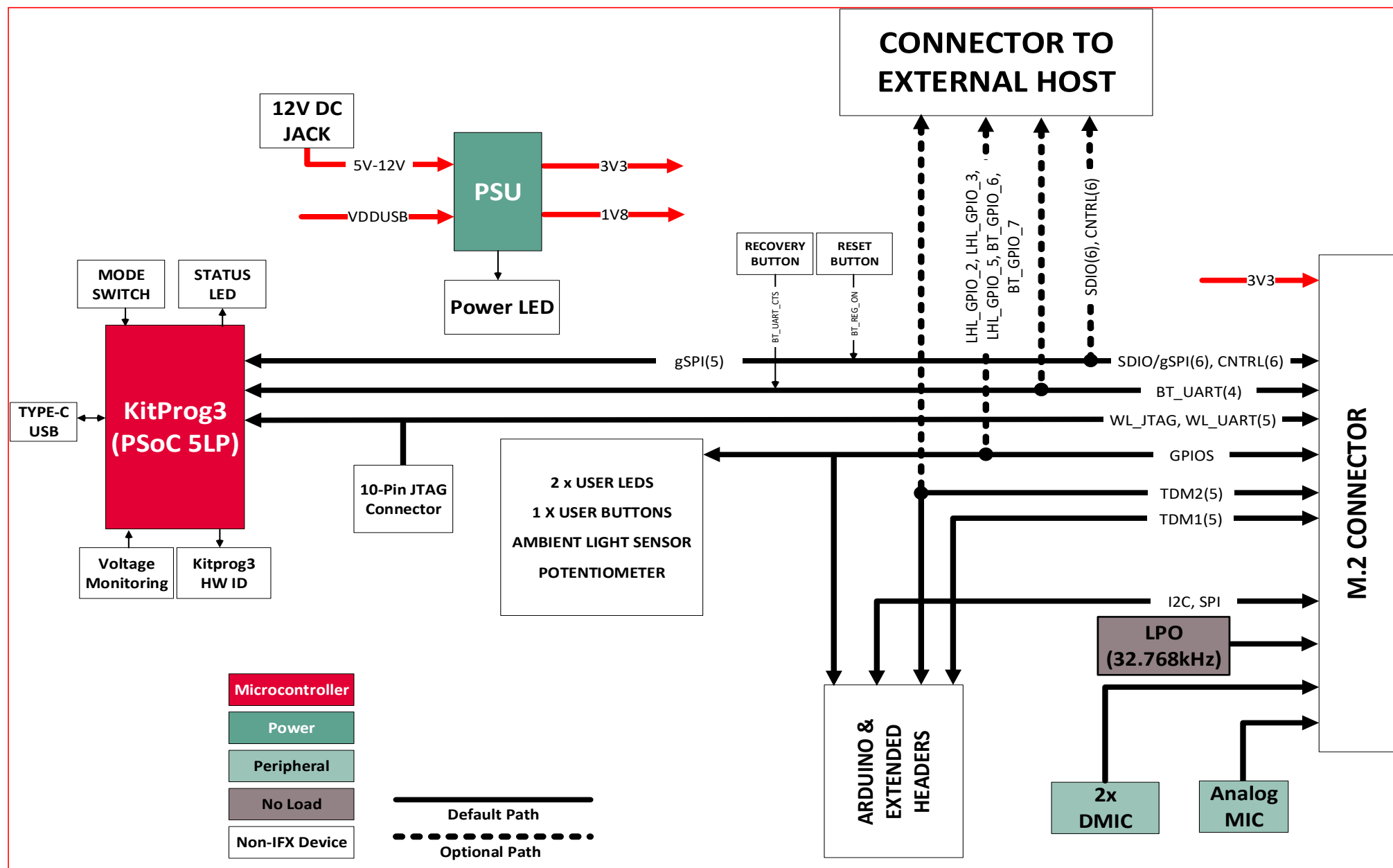
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SCH Title : **CYW9CPM2BASE1 CYW55x13 Base Board**

Page Title: **Title Page**

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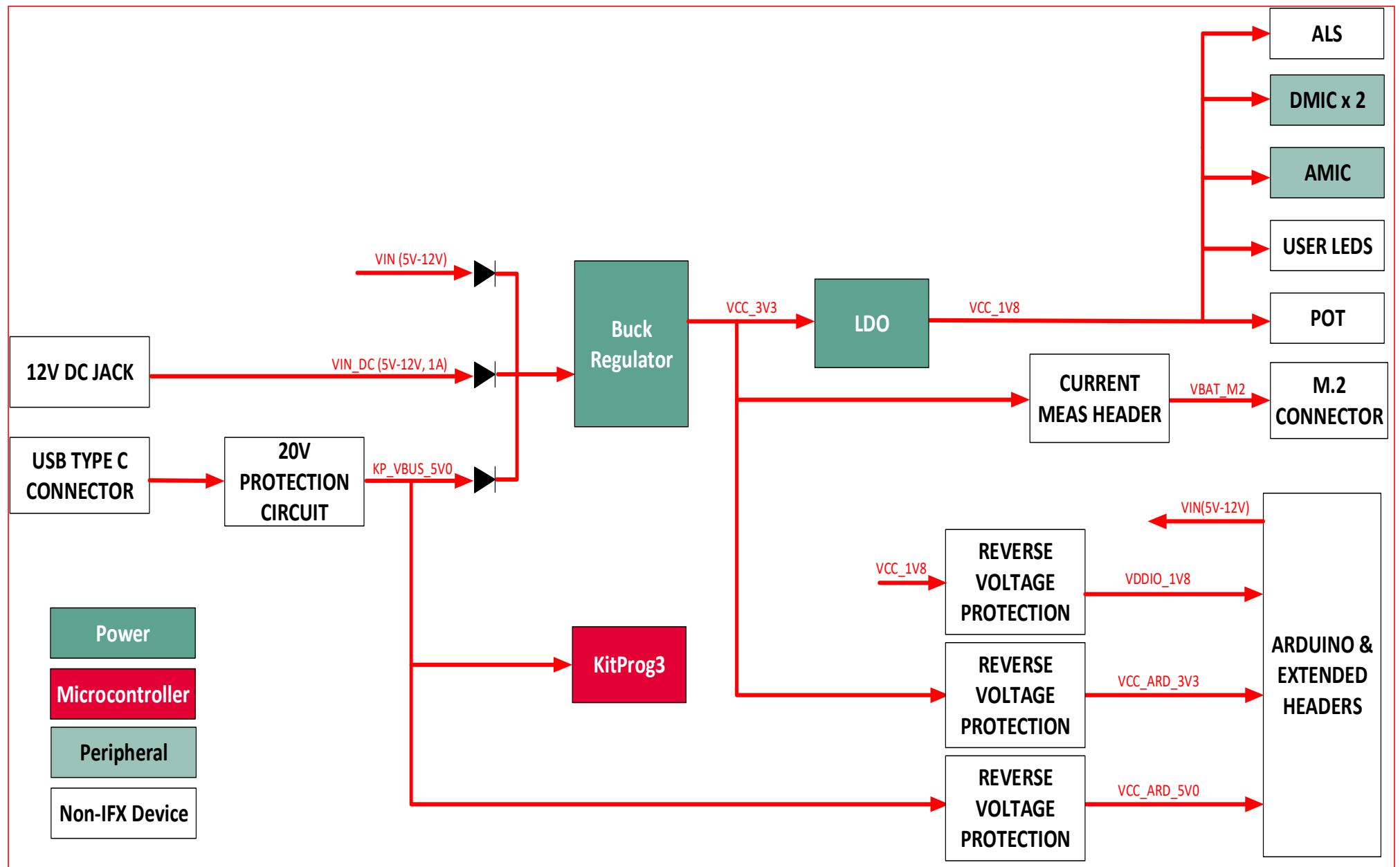
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SCH Title : CYW9CPM2BASE1 CYW55x13 Base Board

Page Title: Functional Block Diagram

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SCH Title : CYW9CPM2BASE1 CYW55x13 Base Board

Page Title: Power Supply Block Diagram

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[illegible]

The schematic diagram illustrates the VIN DC JACK circuit. It features a power jack J7 (PWR_JACK) with three pins: 1, 2, and 3. Pin 1 is connected to the positive terminal of a diode D5 (ESD12VD3B-TP, +/-15kV). Pin 2 is connected to the negative terminal of D5. Pin 3 is connected to the positive terminal of a capacitor C3 (1uF, 25V). The negative terminal of C3 is connected to ground. The output of the circuit is labeled VIN_DC.

Power Supply 'OR'ing

The diagram illustrates a power supply 'OR'ing circuit. It features three input power supplies: KP_VBUS, VIN_DC, and VCC_IN. Each input is connected to a 100K resistor (R153, R154, R204) which is then connected to a diode (D6, D7, D11). The diodes are PMEG3030EP,115. The outputs of the diodes are connected to a common output line. The circuit is designed to allow any of the input supplies to power the output, provided the diodes are oriented correctly to allow current flow from the inputs to the output.

Power LED

VCC_3V3

R4

390 OHM

D1

YELLOW

Reverse Voltage Protection for JTAG Header

Test Points

The diagram illustrates the test points for the ADXL045 module. On the left, a vertical line represents a common ground connection, with a red triangle symbol at the bottom. Three test points are connected to this line: TP1 (BLACK), TP3 (BLACK DNI), and TP5 (BLACK DNI). On the right, three test points are connected to different power supply lines: TP2 (RED DNI) to VCC_IN, TP4 (RED DNI) to VCC_3V3, and TP6 (RED DNI) to VCC_1V8.

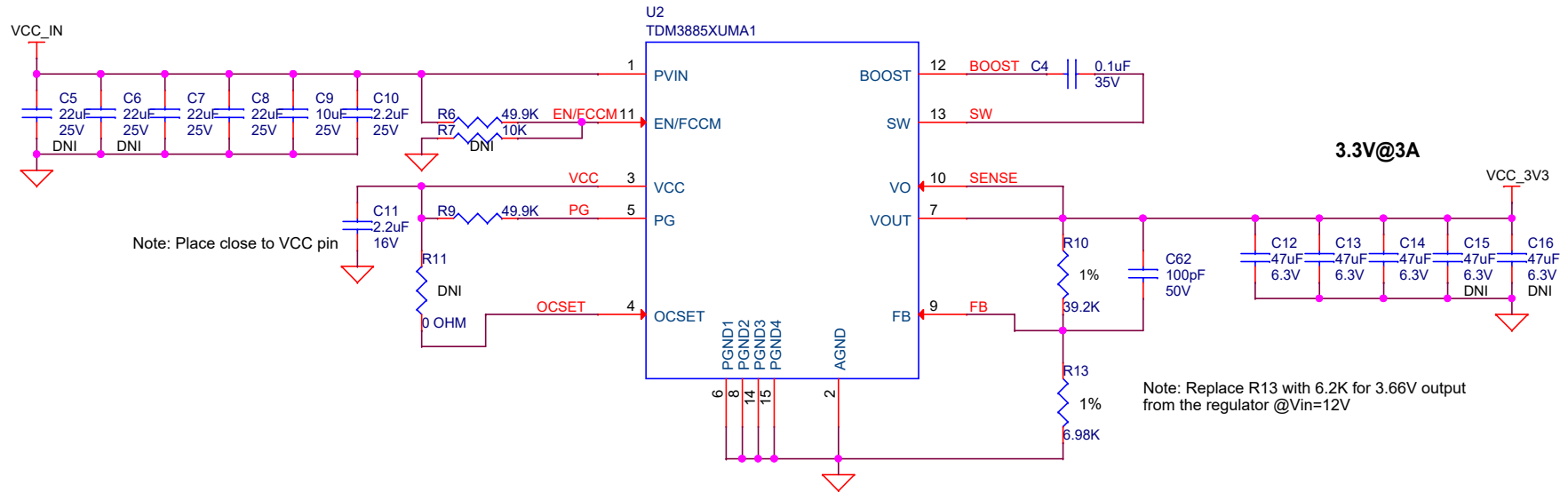
20V Protection Circuit

The schematic diagram illustrates a 20V Protection Circuit. It consists of two PMV48XP,215 MOSFETs, Q1 and Q2. Q1's source is connected to ground (G), and its drain is connected to KP_VBUS_IN. Q2's source is connected to the gate of Q1, and its drain is connected to KP_VBUS. A 0 OHM resistor (R173) connects KP_VBUS_IN and KP_VBUS. A 1K resistor (R171) connects the gate of Q1 to ground. A TLZ5V1A-GS08 diode (D10) is connected between the gate of Q1 and ground. A 10K resistor (R172) connects the drain of Q2 to ground. The gates of both MOSFETs are connected to a common node labeled 'S'.

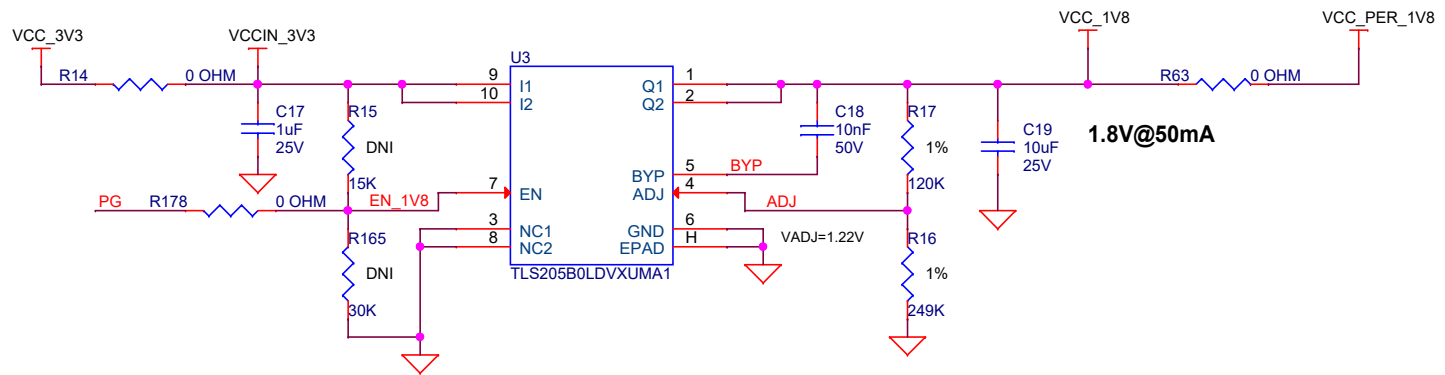


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3.3V Voltage Regulator



1.8V Voltage Regulator



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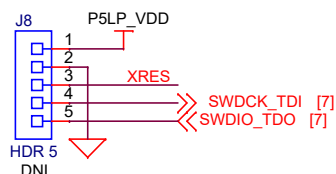
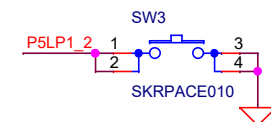
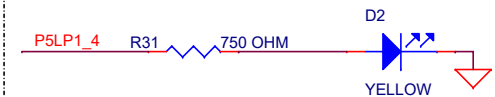
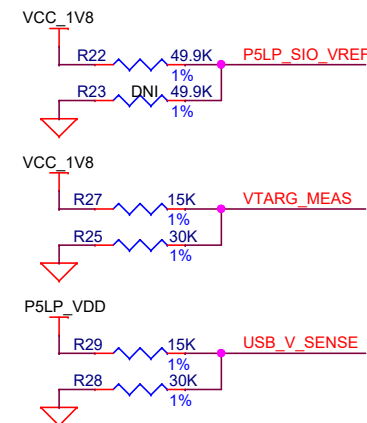
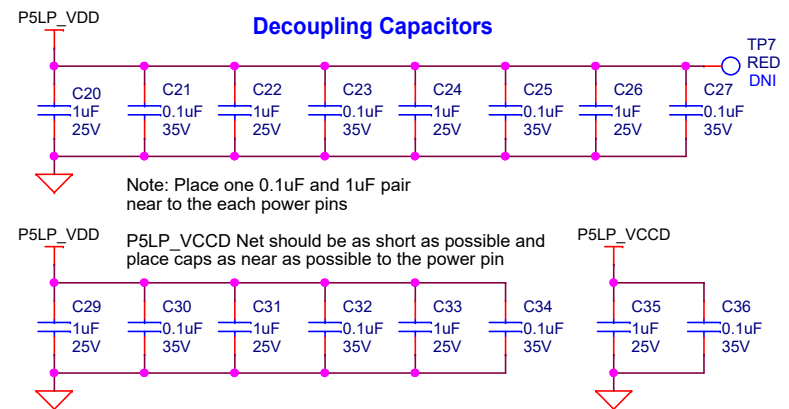
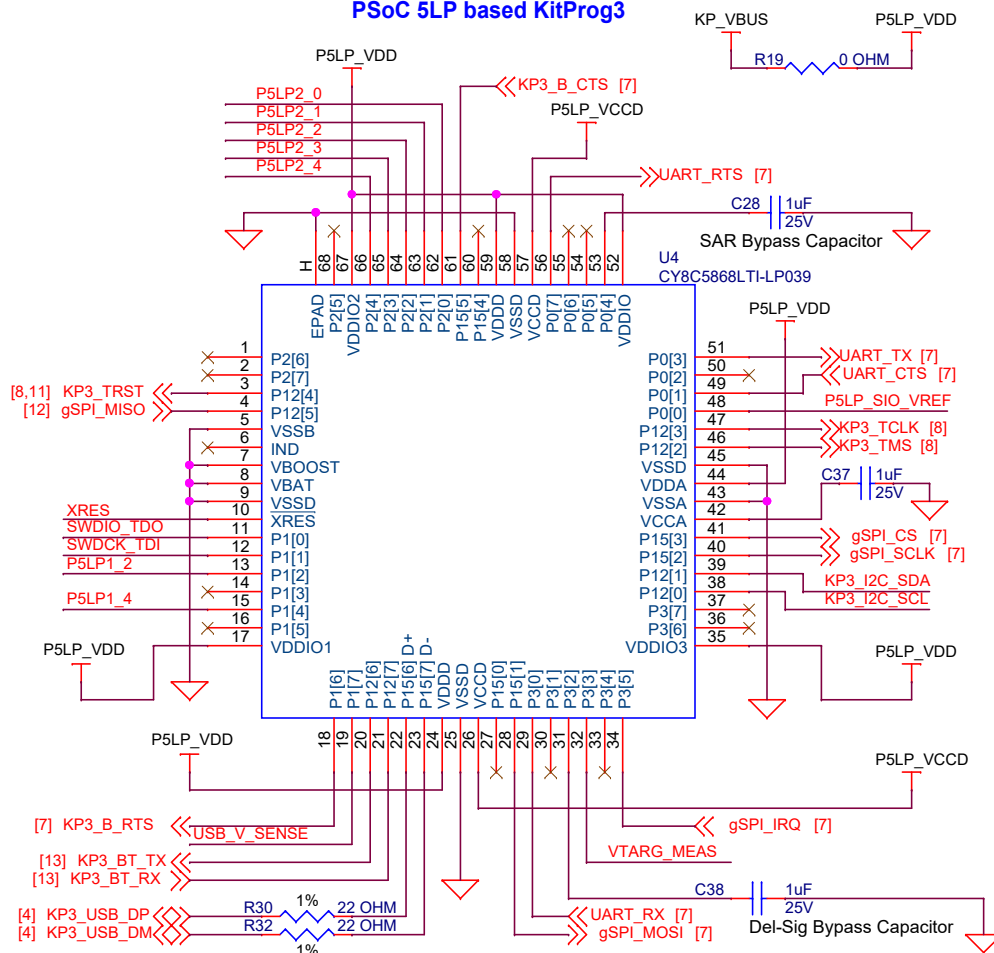
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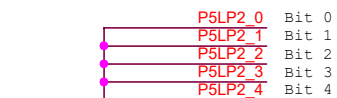
SCH Title : CYW9CPM2BASE1 CYW55x13 Base Board

Page Title: Voltage Regulators

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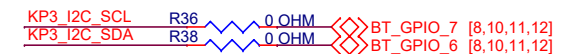
Note: Do not mount H1 module during KP3 firmware loading



ID = 0x0F Note: GND is read as binary "1" and floating as "0"

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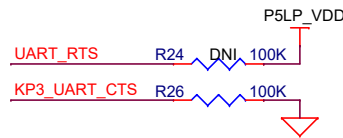
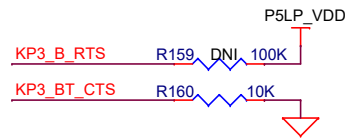
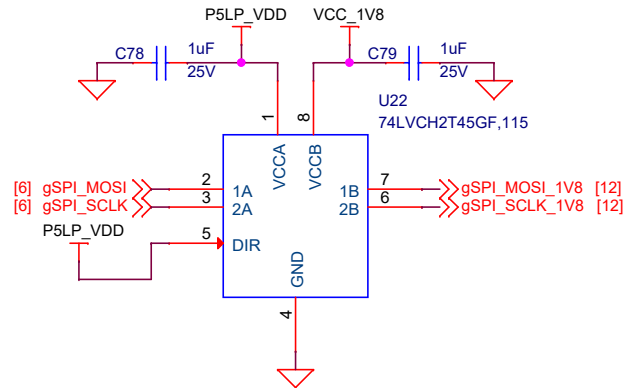
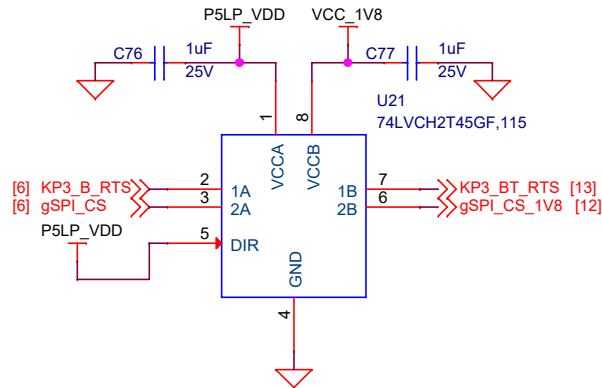
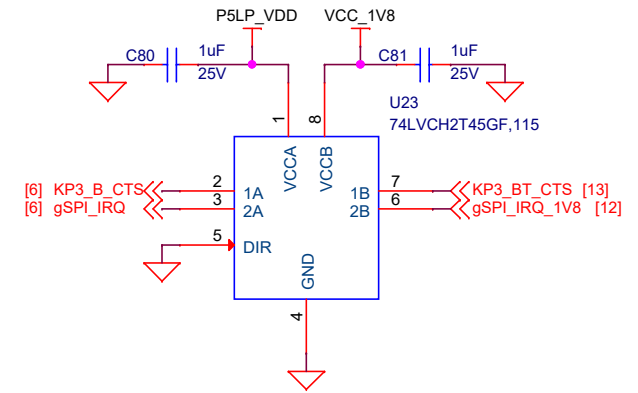
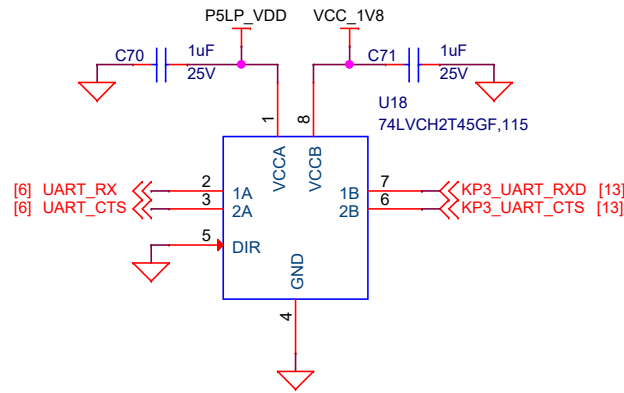
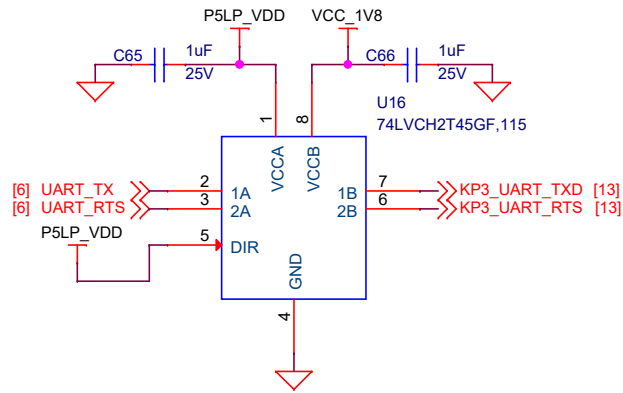


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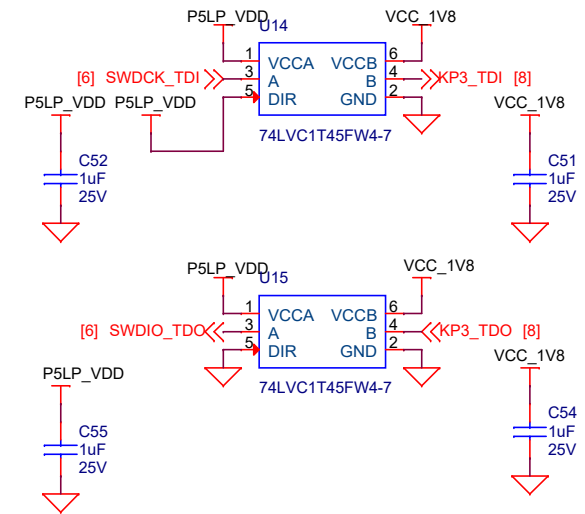
Page Title: KitProg3 Controller

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UART and gSPI Level Translators



JTAG Level Translator



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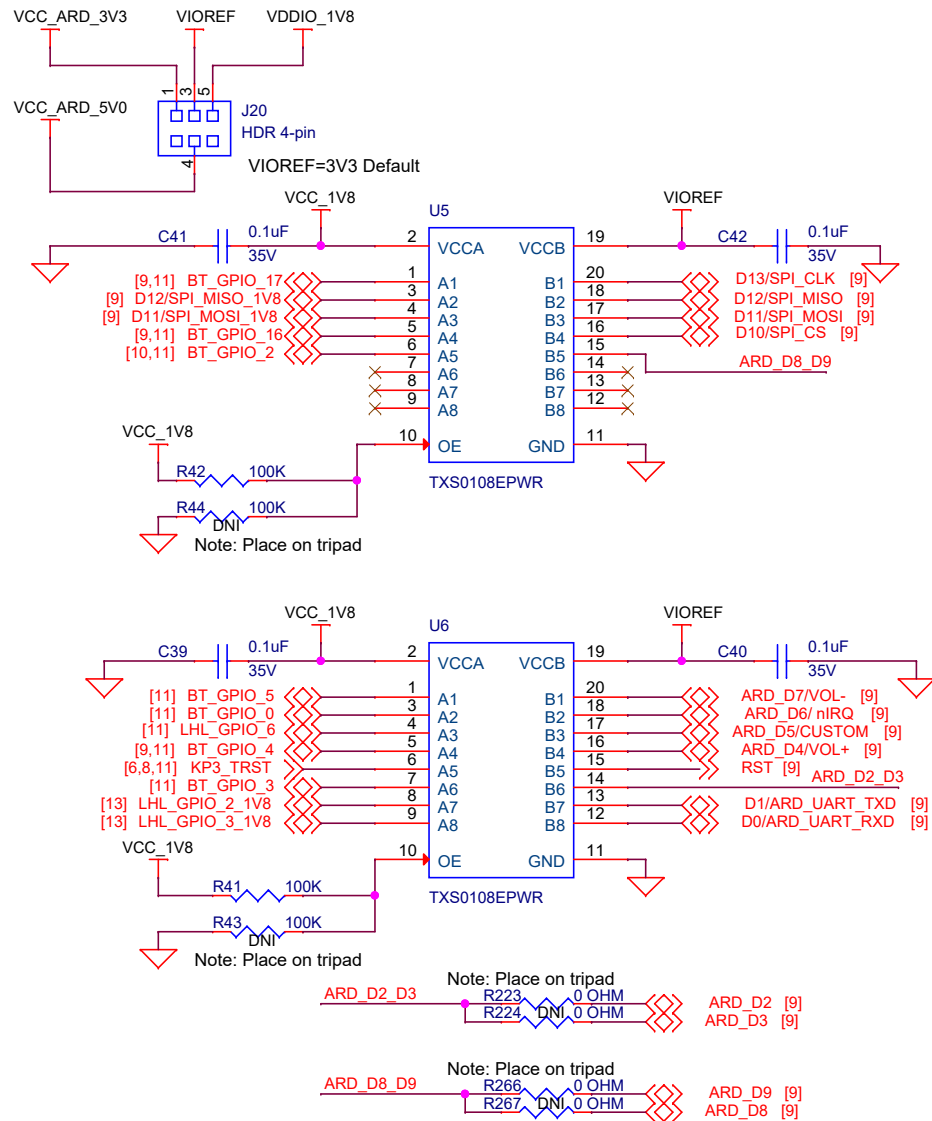


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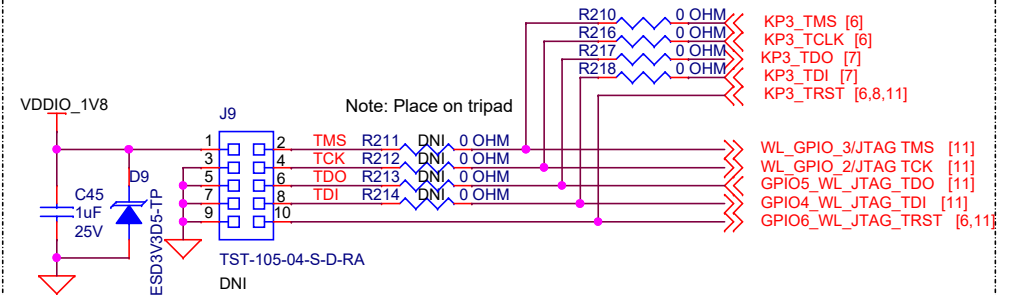
Page Title: Level Translators 1

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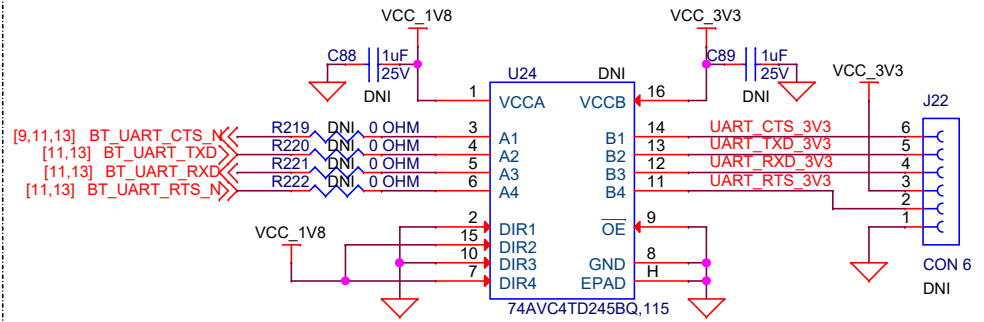
GPIO Level Translator



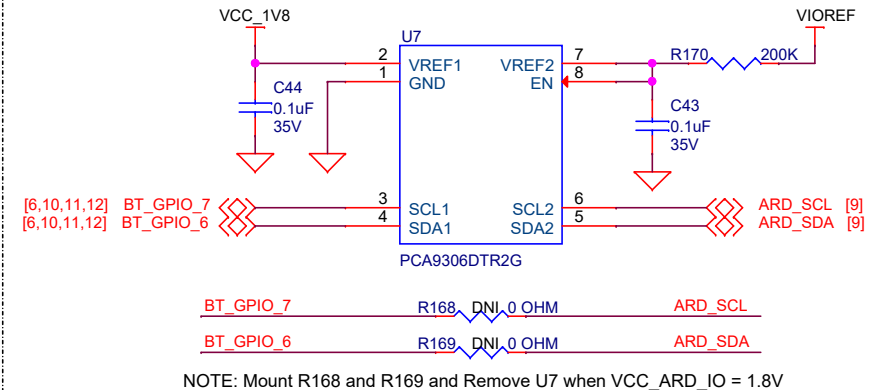
10-Pin JTAG Debug/COEX Header



UART Programming Header



I2C Level Translator



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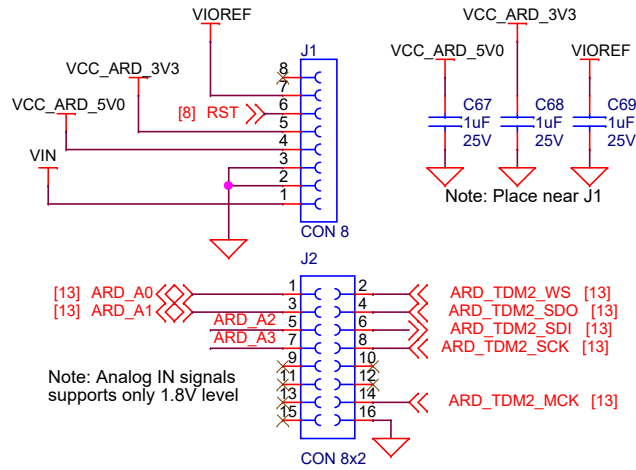


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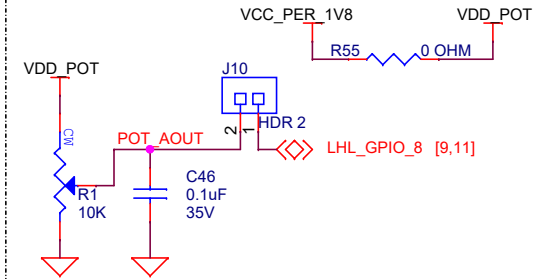
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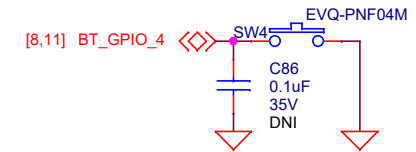
Arduino & Extended Headers



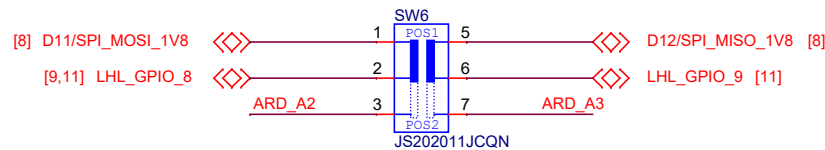
Potentiometer



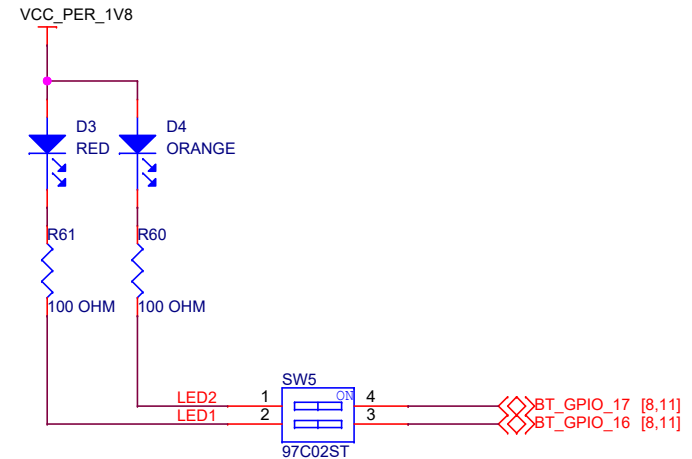
User Button



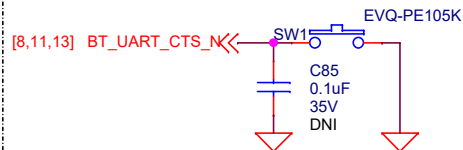
Arduino ADC/SPI Selection



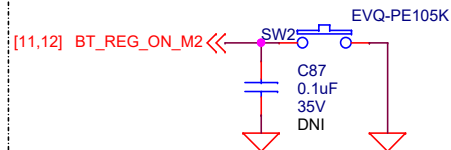
User LEDs



Recovery Button



Reset Button



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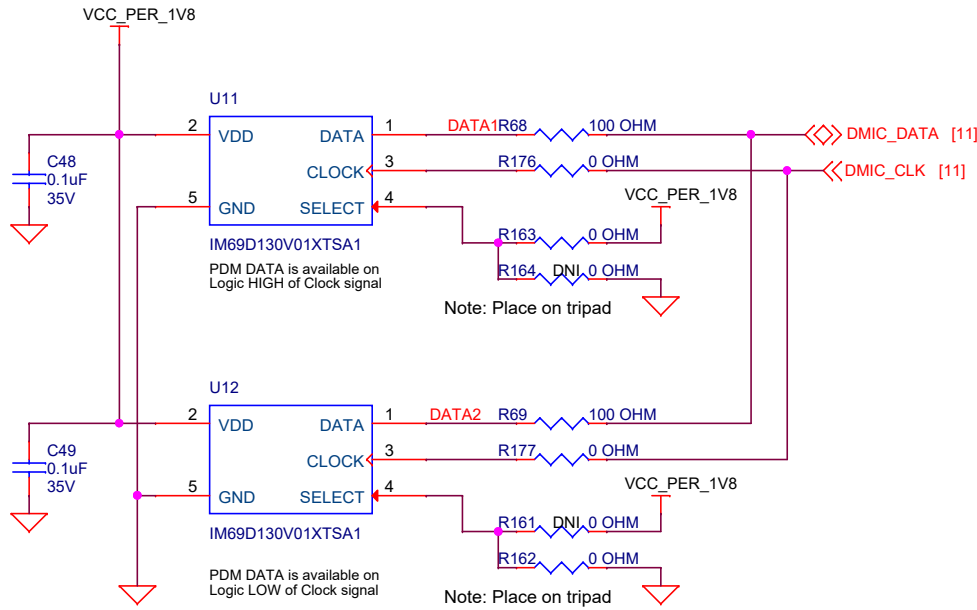


SCH Title : CYW9CPM2BASE1 CYW55x13 Base Board

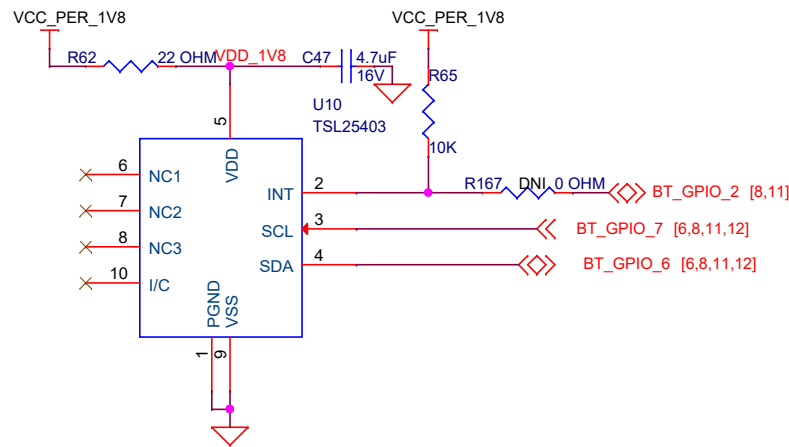
Page Title: Arduino Headers & Peripherals

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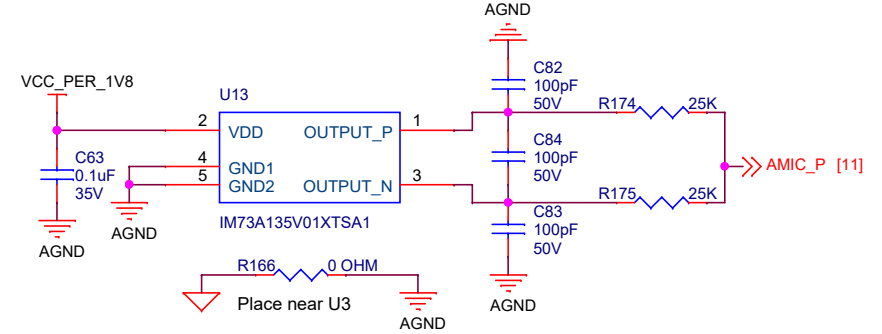
Digital MEMS Microphone



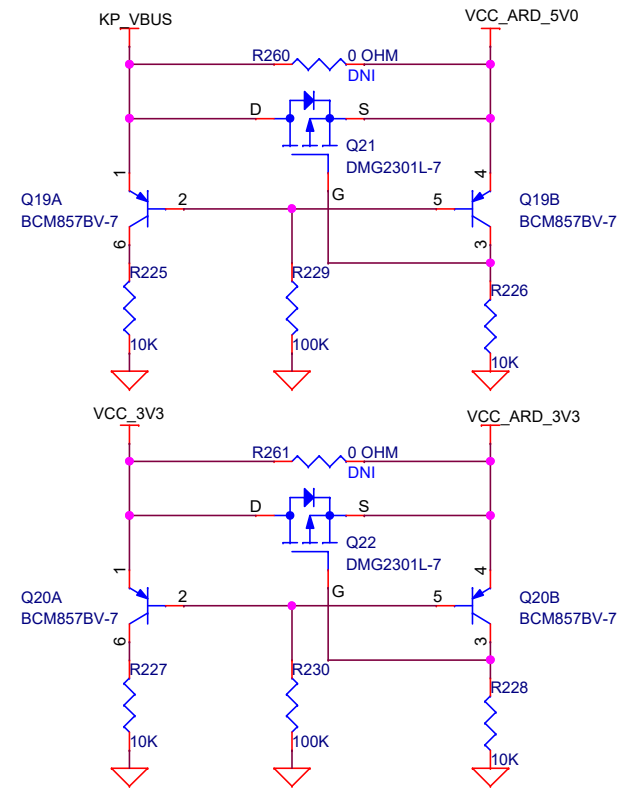
Ambient Light Sensor



Analog Microphone



Reverse Voltage Protection for Arduino Headers



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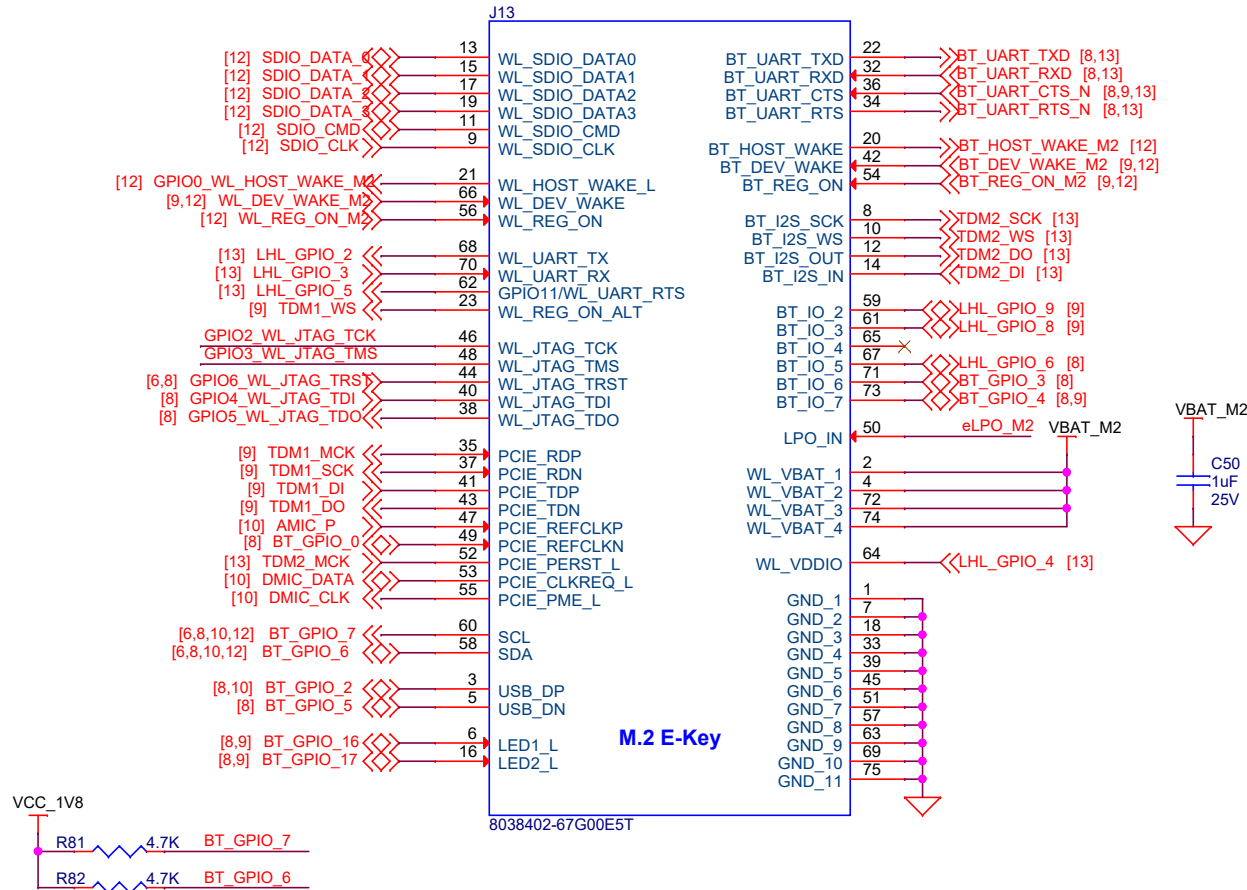


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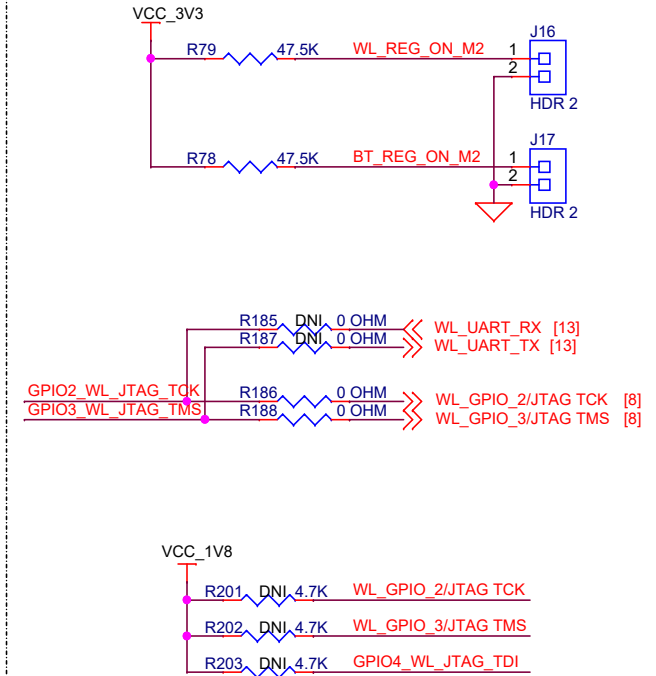
Page Title: ALS, DMIC and AMIC

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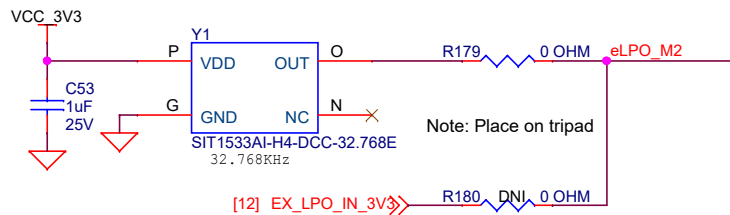
M.2 Interface Connector



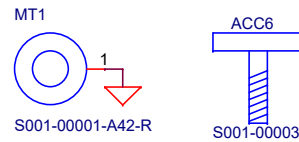
REG_ON Jumper



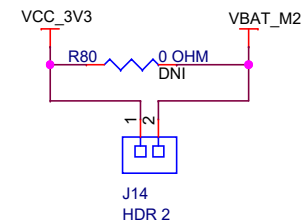
Onboard LPO



M.2 Stand-off and Screw



VBAT Current Measurement



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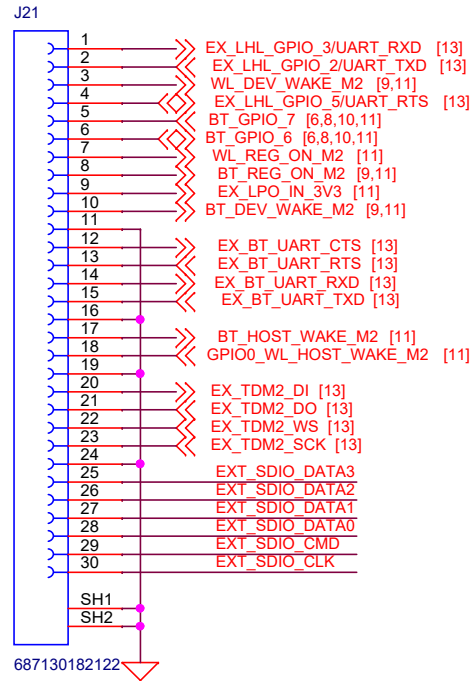


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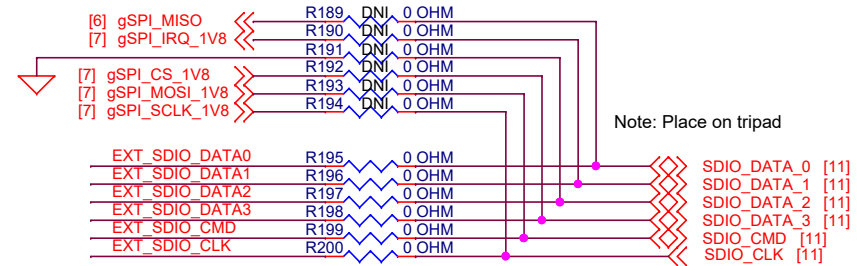
Page Title : M.2 Interface

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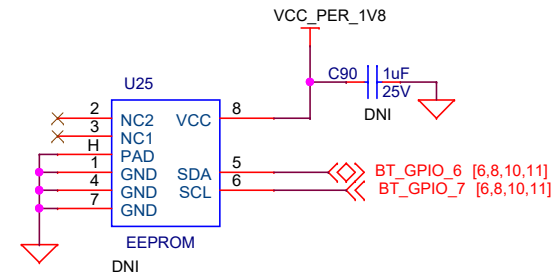
External Host Interface Connector



SDIO/gSPI Switch option



I2C EEPROM



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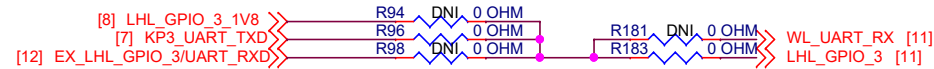


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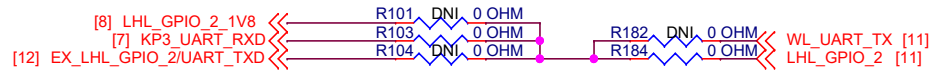
Page Title: Host Interface Connector

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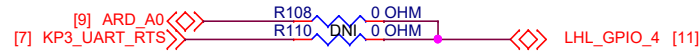
External Host Interface Connect Options



Note: Place on common pad



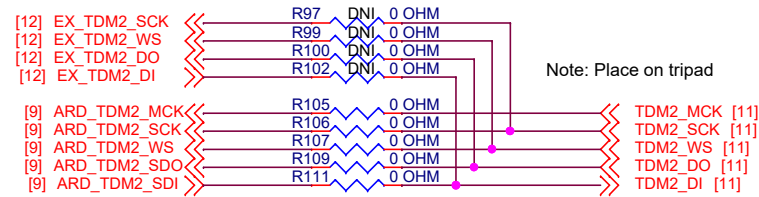
Note: Place on common pad



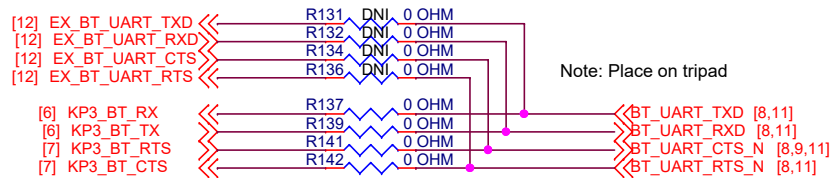
Note: Place on common pad



Note: Place on common pad



Note: Place on tripad



Note: Place on tripad

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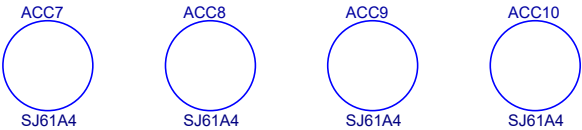
SCH Title : CYW9CPM2BASE1 CYW55x13 Base Board

Page Title: External Host Interface Connect Options

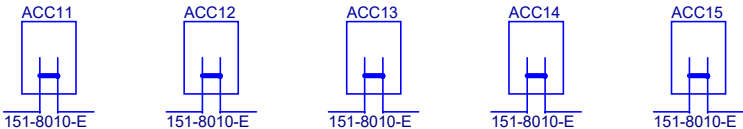
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Accessories

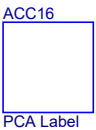
Cylindrical Bump-ons



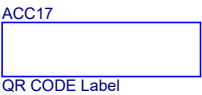
Jumper Shunts



PCBA label



QR Code Label



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Page Title: Accessories

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REVISION HISTORY			
REV	DESCRIPTION OF CHANGE	Orig. of Change	DATE
1.0	First Release	NIKHIL	2022/08/02
2.0	Corrected the Arduino UART TX, RX swap issue. Mounted R25, R78 and R79 Updated Net names from M.2 connector(J13) to match with the M.2 card schematics. Updated Host interface connector part number(J21) to 687130182122. Removed Level translation option for Analog pins. Removed U1, U8 and U9 and added FET based Reverse voltage protection circuit for JTAG Connector and Arduino header USB_V_SENSE voltage rail changed to P5LP_VDD from KP_VBUS Removed KP3 HW ID configuration resistors Updated GPIO connections with respect to updated Pin mux table. Mounted the eLPO option Y1	NIKHIL	2023/05/24
3.0	Swapped the pin mapping of LHL_GPIO_6 and BT_GPIO_16 to the Arduino header Added U25.	NIKHIL	2023/10/31
3.1	Mounted resistors R195-R200 instead of R189-R194 Mounted R160 (10K)	NIKHIL	2024/05/20

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