

Jetson Nano Carrier Board Reference Design


HDMI, USB, M.2, Gbe

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I2C Port Assignments	
Slave Device	BUS:Device address
BOARDID EEPROM	I2C2 : 7'57h
RTSS5411S USB3.1 HUB	CAM I2C : 7'6Ah
M.2 KEY-E WIFI/BT	I2C2 : TBD


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ASSEMBLY	Jetson Nano Carrier Board		
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BOM REV	A	DATE	08-MAY-2019

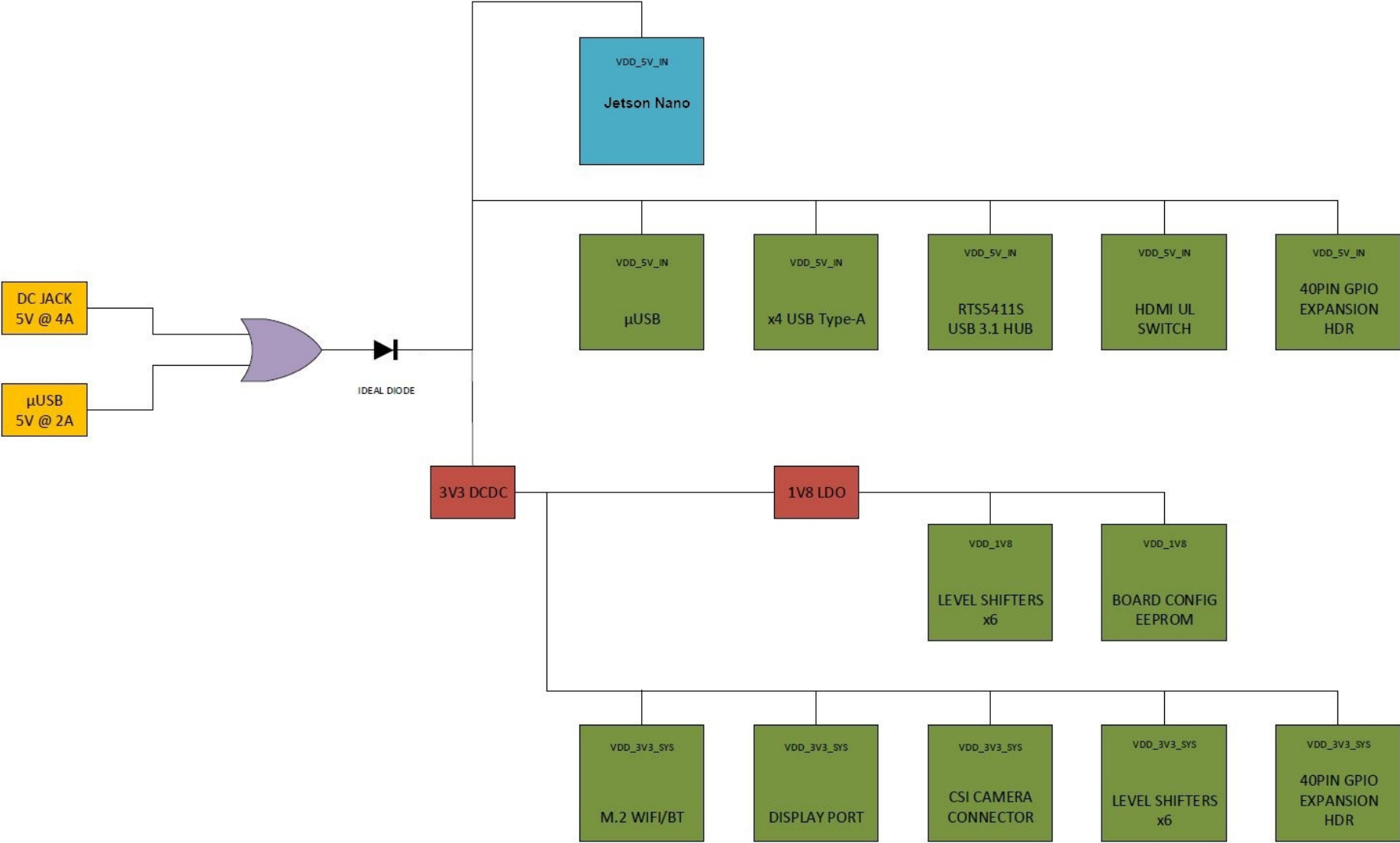
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ASSEMBLY	Jetson Nano Carrier Board
PAGE DETAIL	Block Diagram

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Power Tree



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PAGE DETAIL	Power Tree

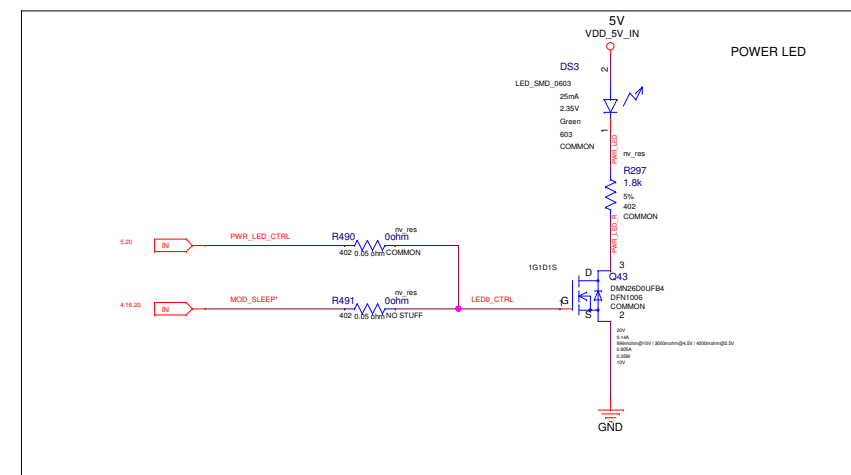
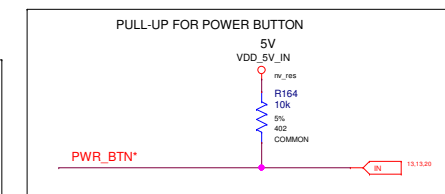
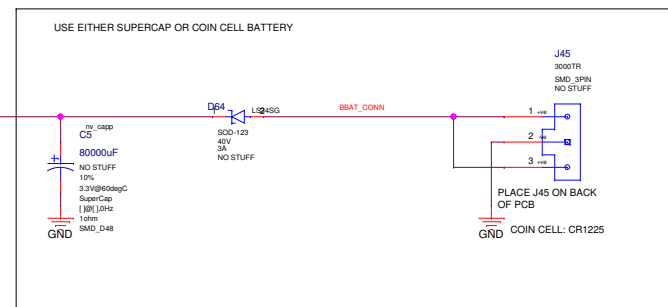
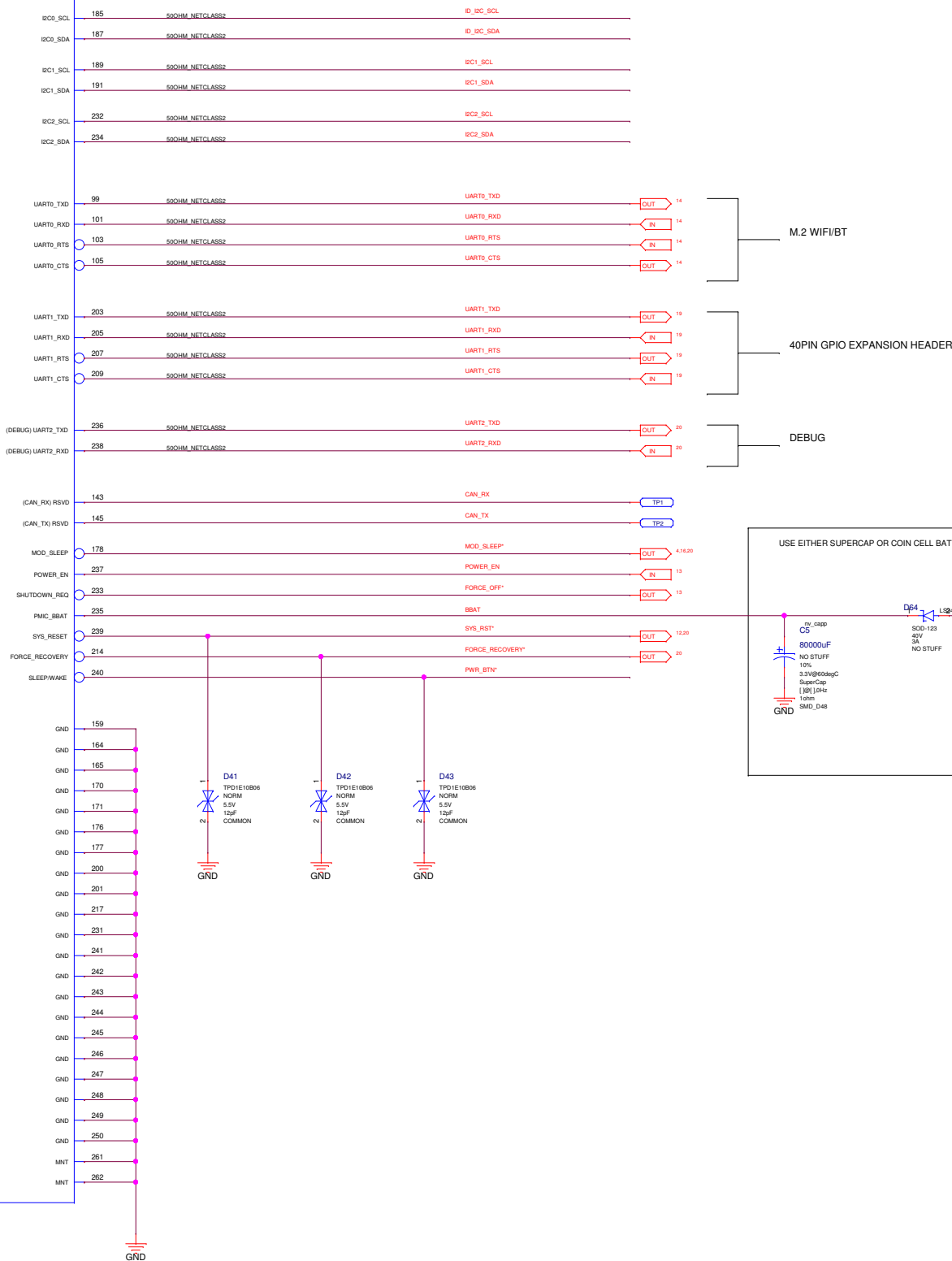
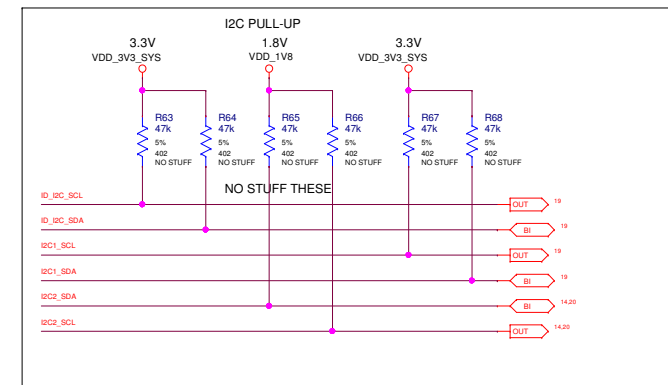
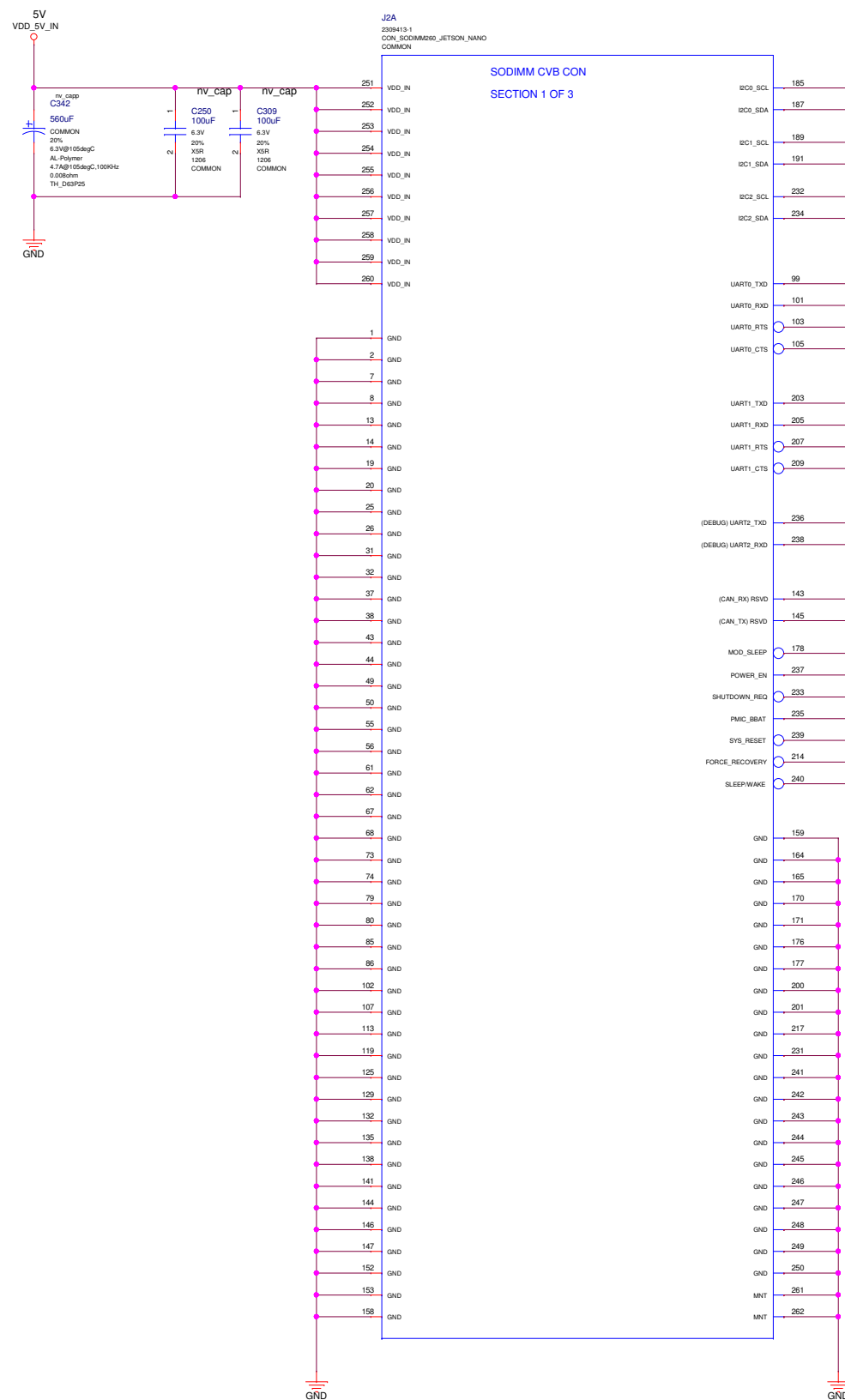
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UART, I2C, CAN and GPIOs



ASSEMBLY	Jetson Nano Carrier Board
PAGE DETAIL	SODIMM connector 1/3

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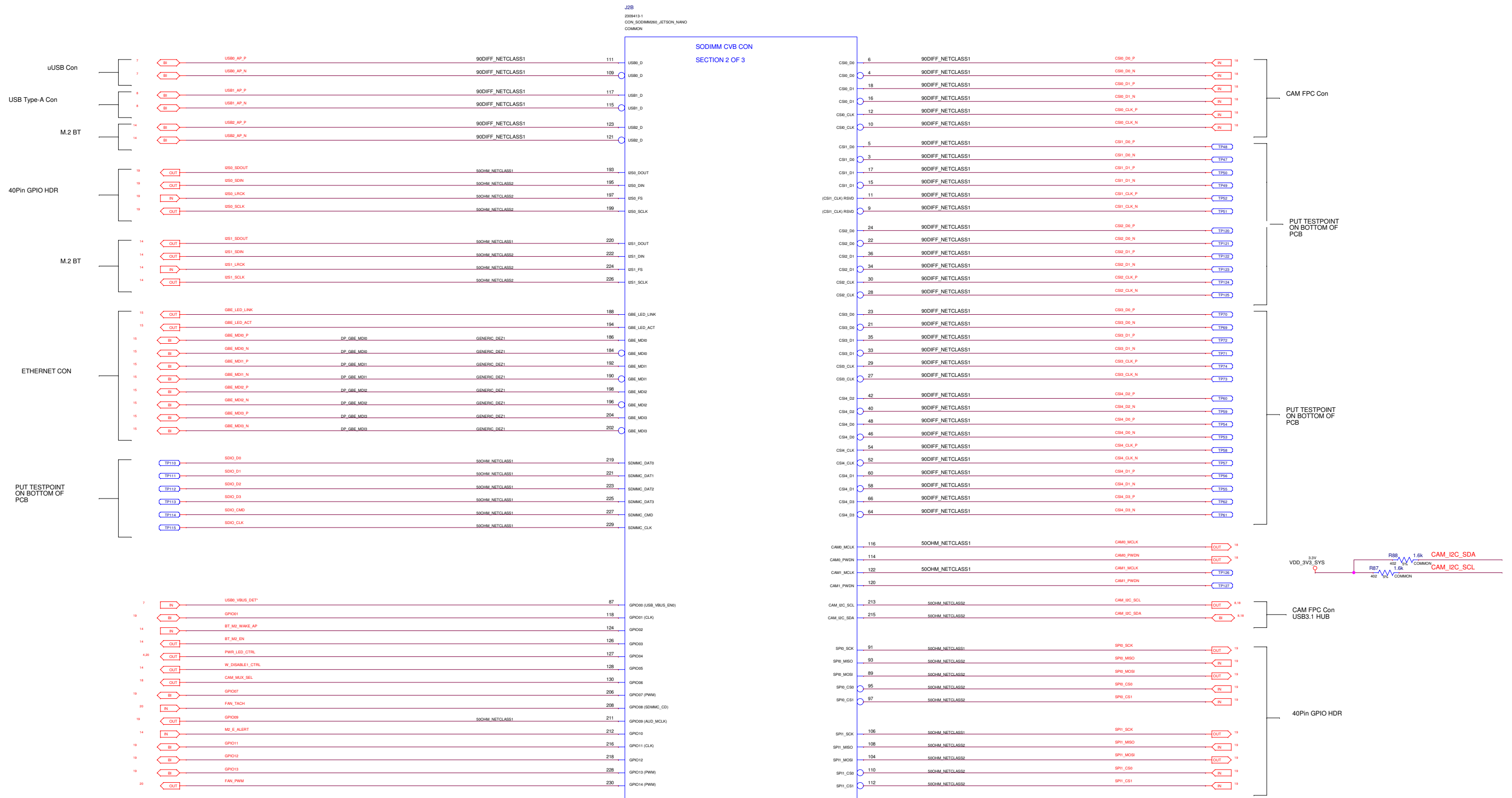
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GPIOs, USB2.0, I2S, SPI, GBe and CSI

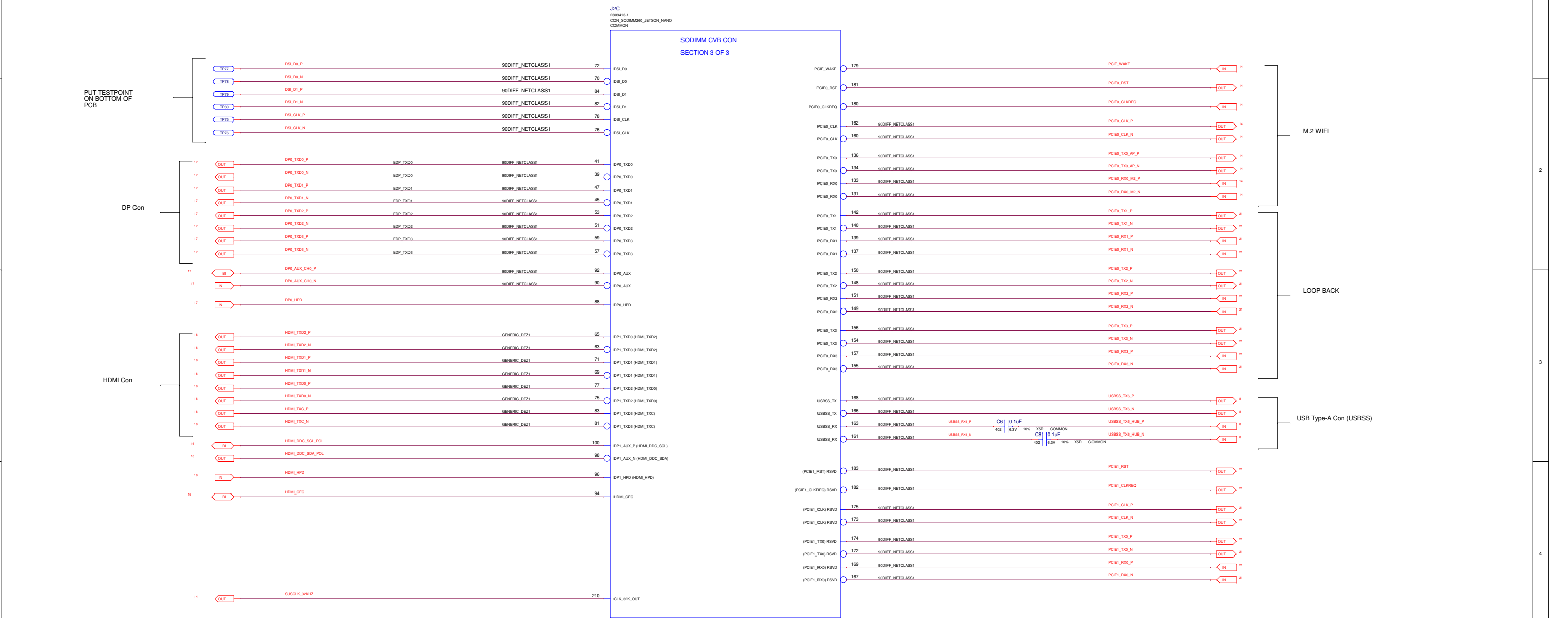


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PAGE DETAIL	SODIMM connector 2/3

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HDMI, DP, DSI, USBSS and PCIe

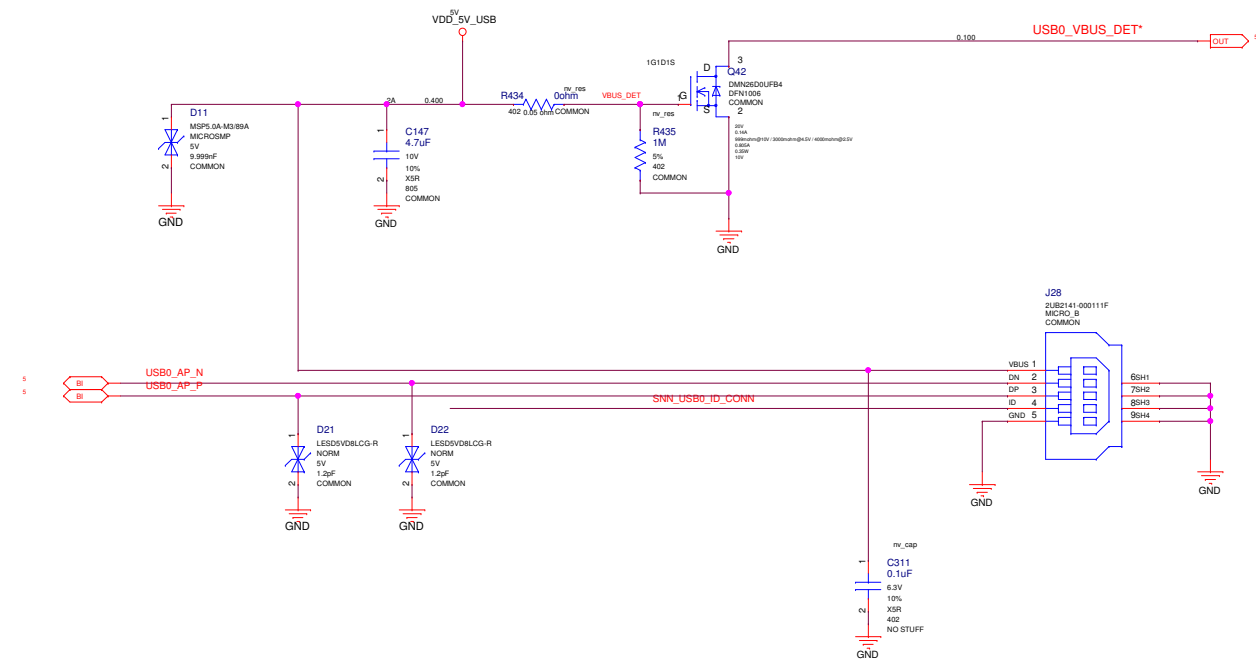


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PAGE DETAIL	SODIMM connector 3/3

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MICRO B USB 2.0 CONNECTOR

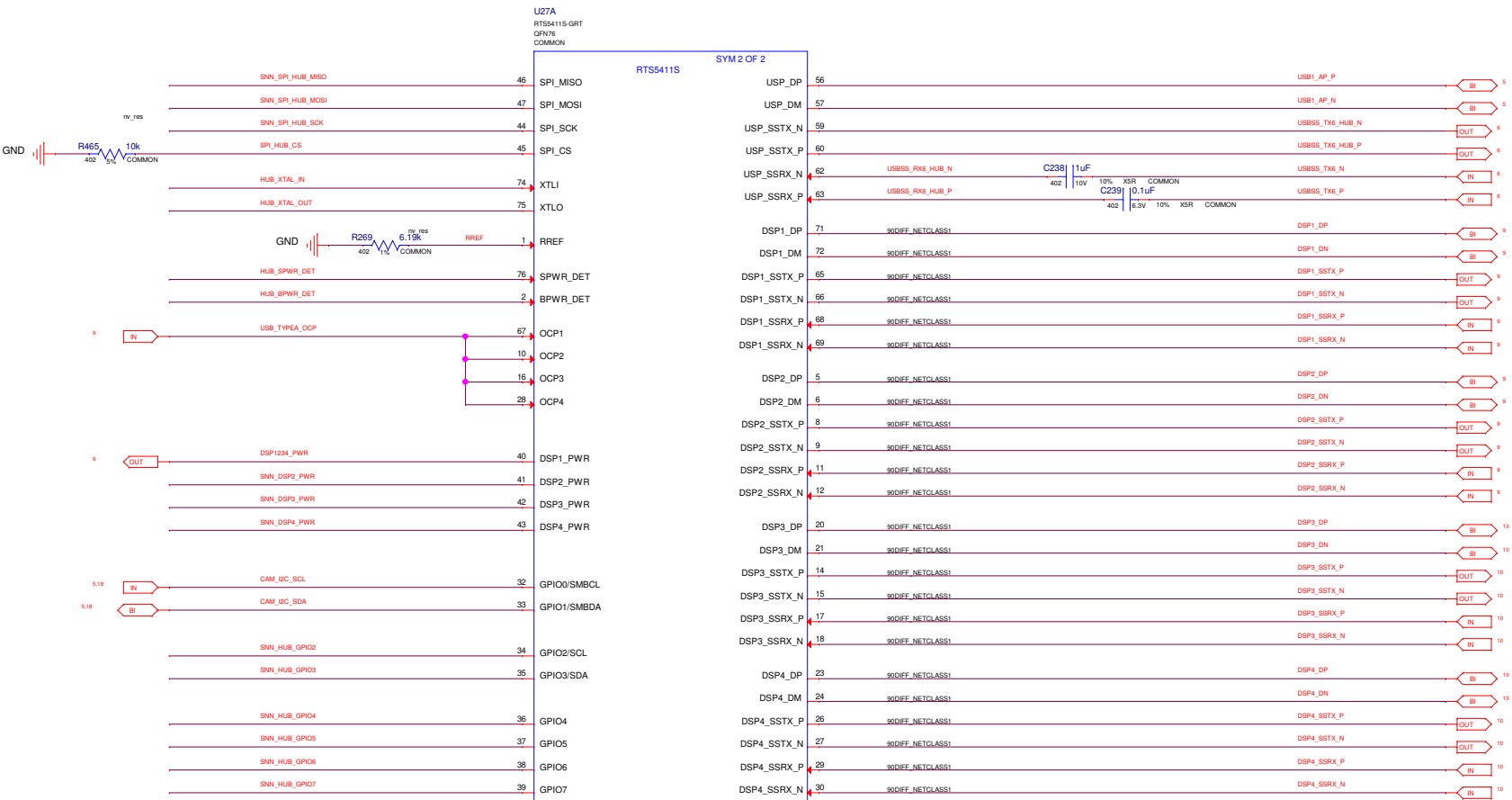
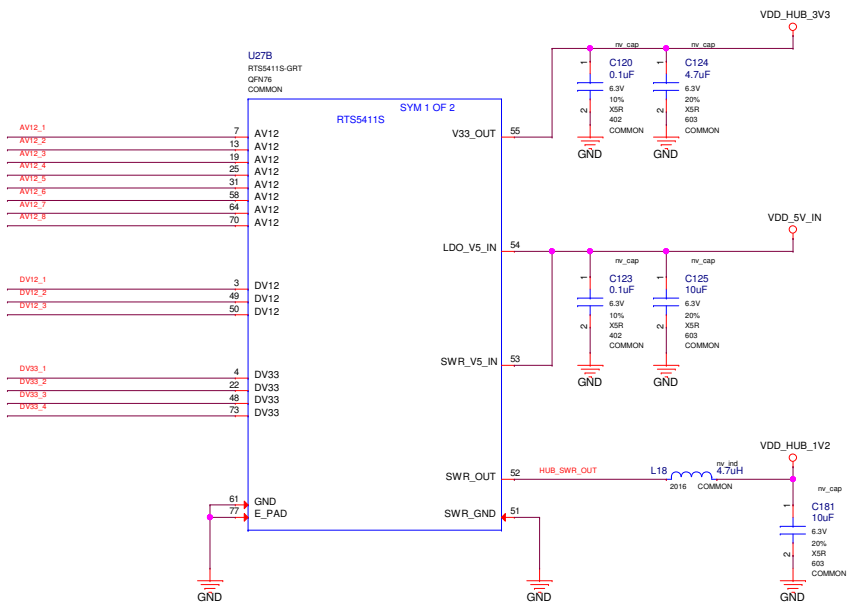
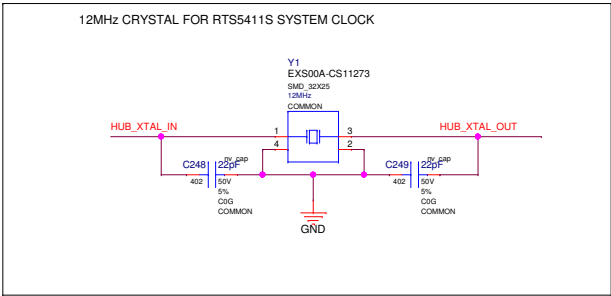
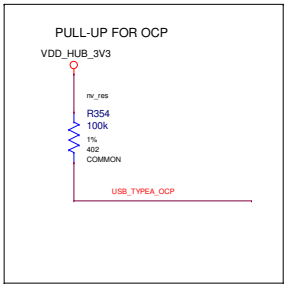
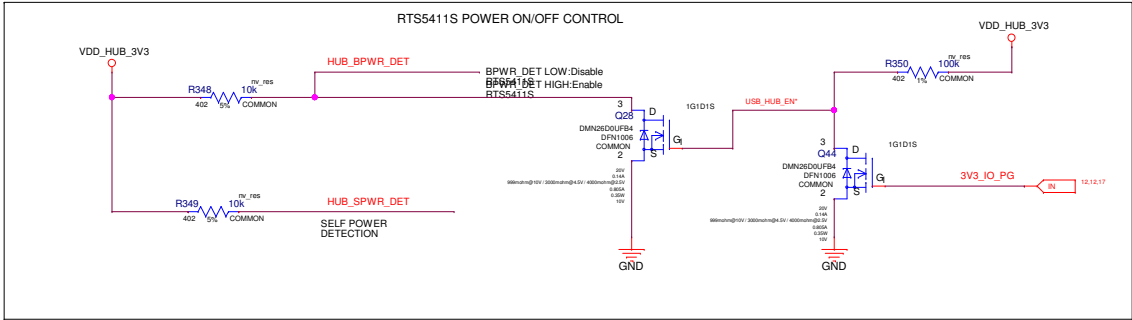
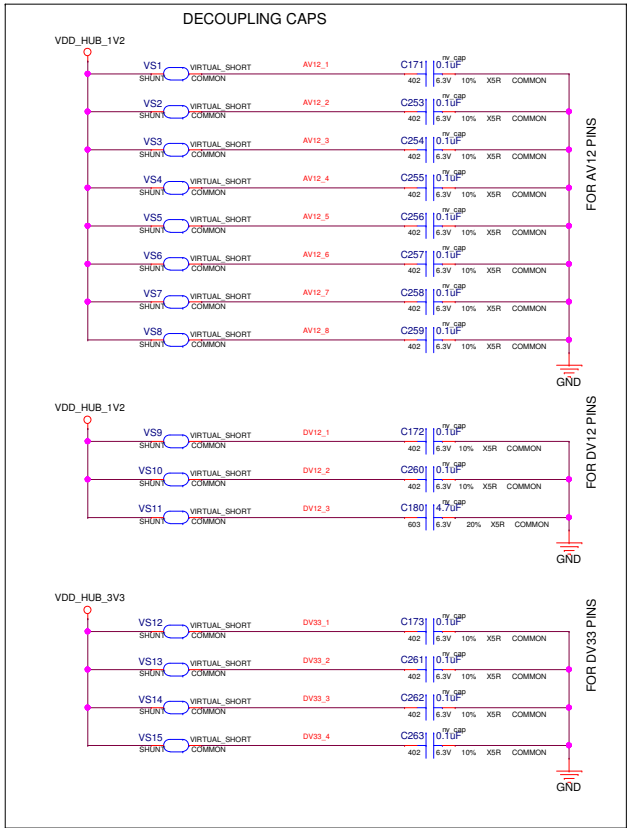


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PAGE DETAIL	USB2.0 micro

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USB3.1 HUB x4 PORTS



I2C slave addr: 7'1101010b = 7'h6A

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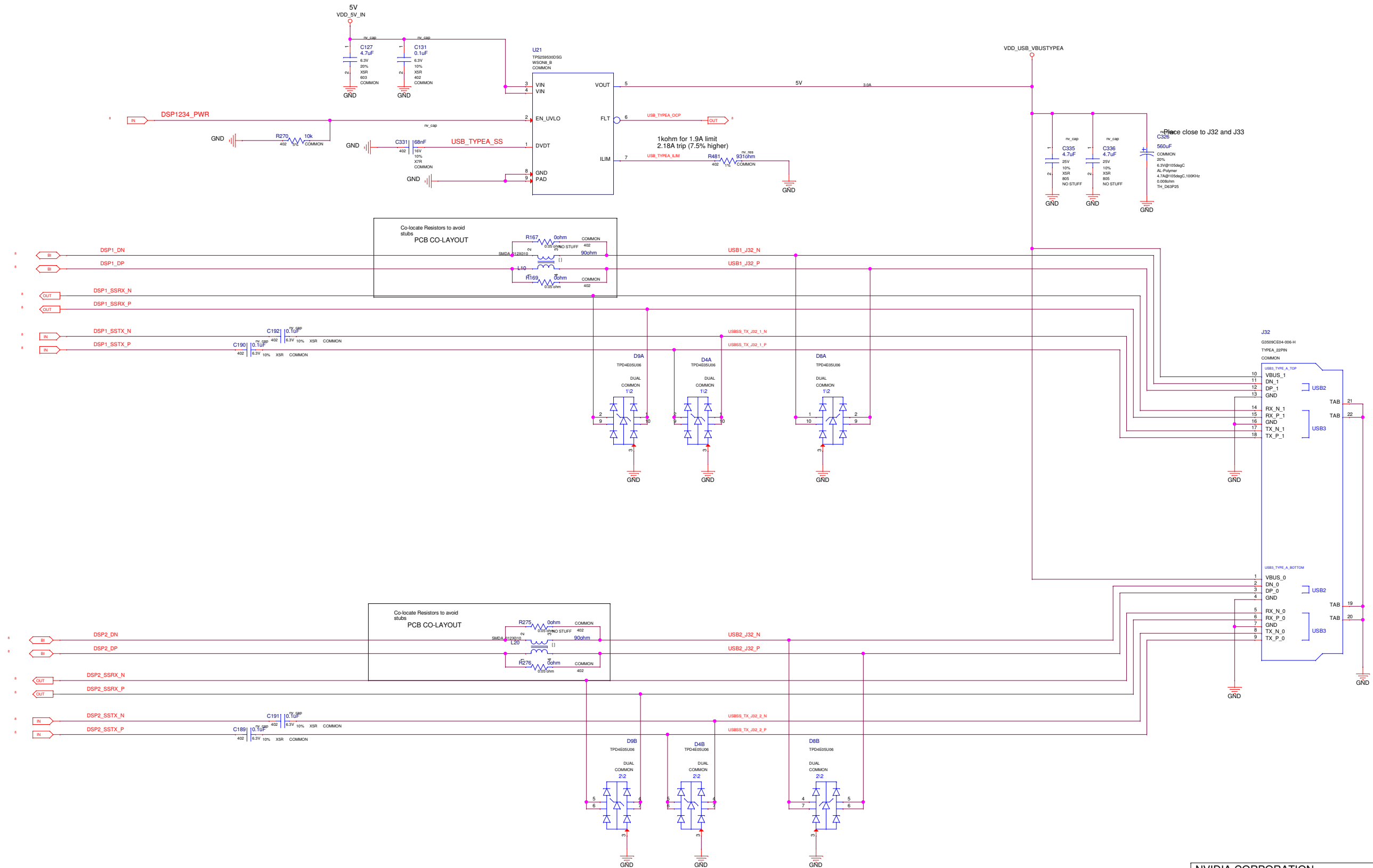
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PAGE DETAIL	USB3.1 x4 HUB

USB 3.0 TYPE A x2 CONNECTOR (1 OF 2)



ASSEMBLY	Jetson Nano Carrier Board
PAGE DETAIL	USB3.1 Type-A x2 (A)

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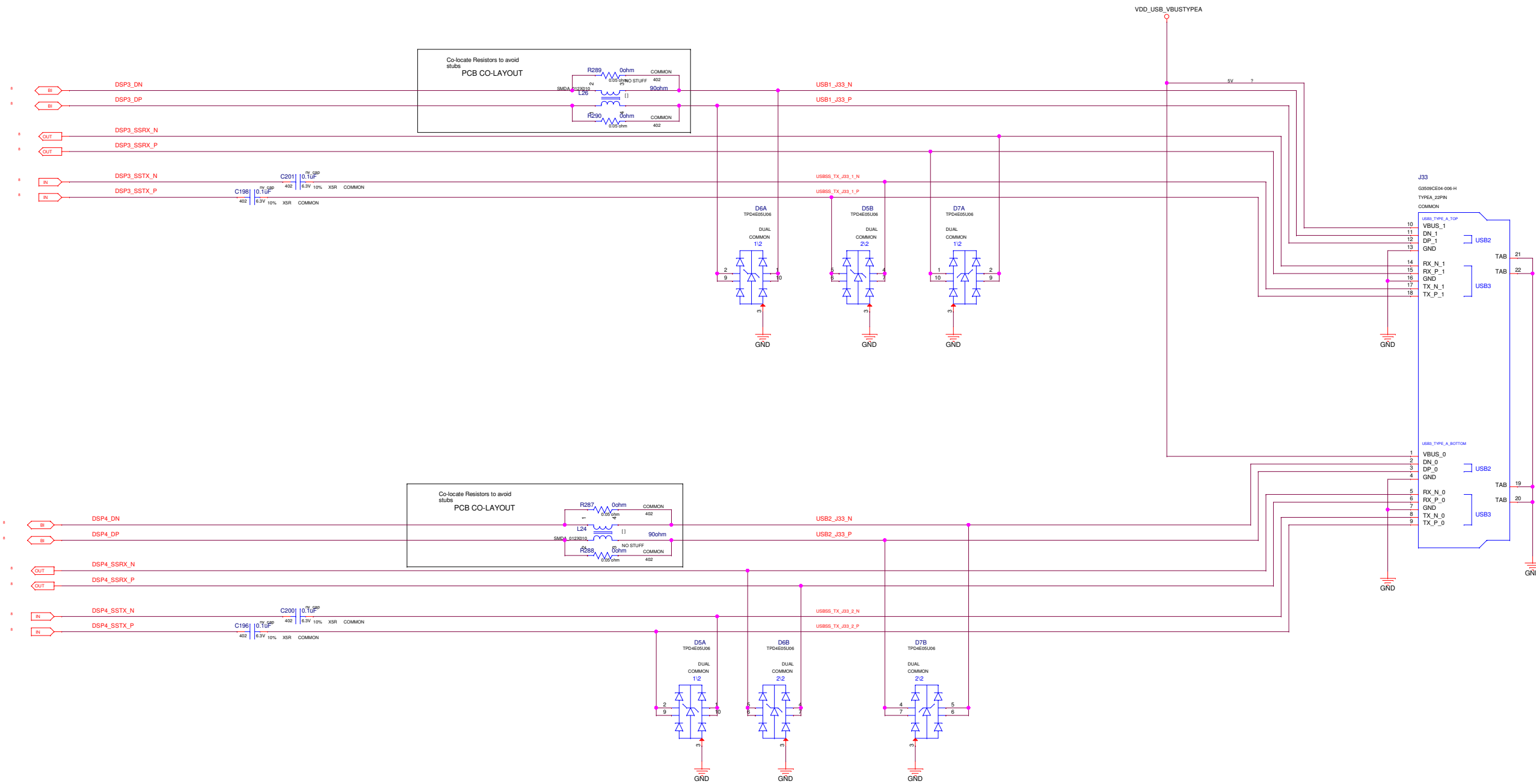


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USB 3.0 TYPE A x2 CONNECTOR (2 OF 2)

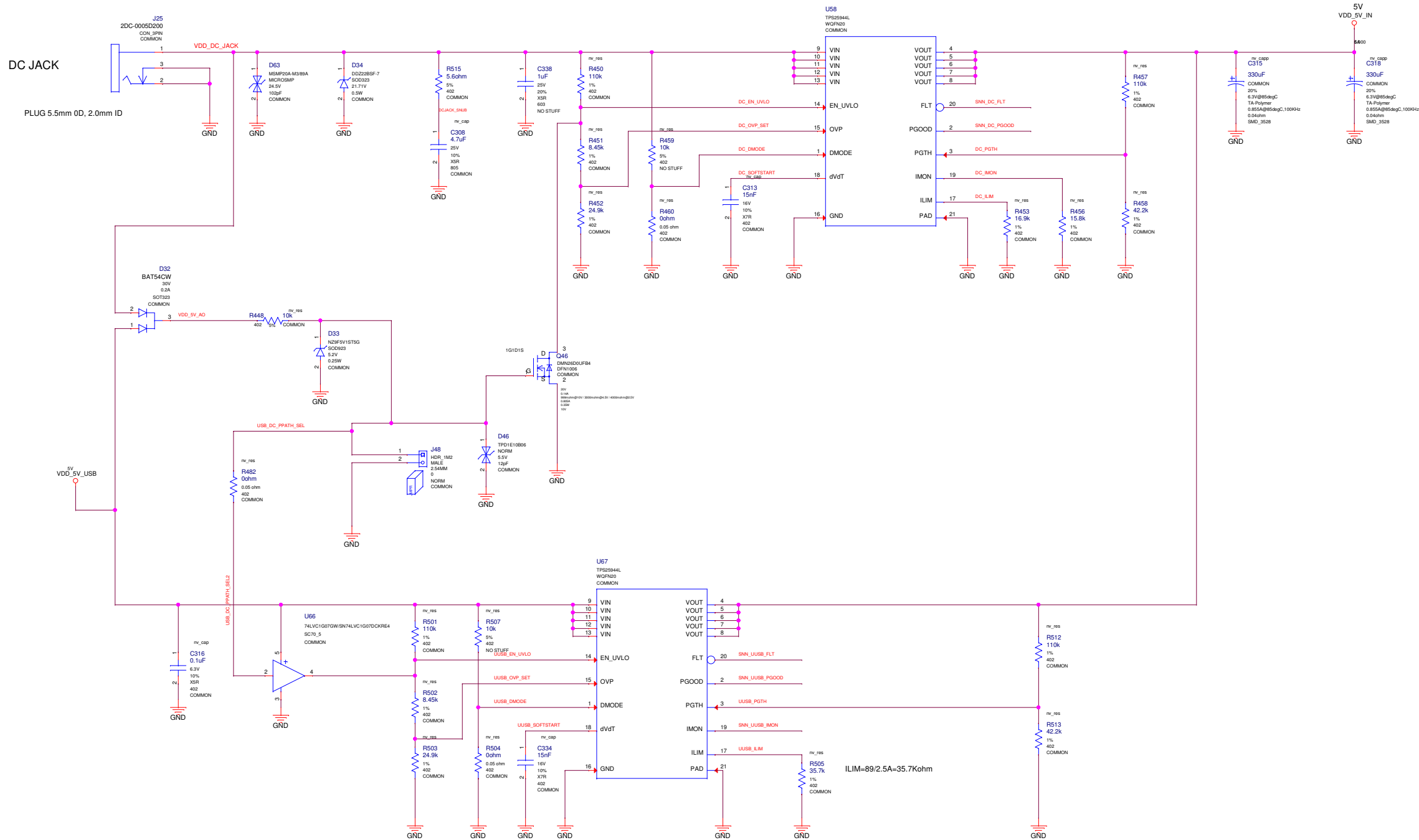


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DC JACK AND uUSB POWER SOURCE SELECTION



ASSEMBLY	Jetson Nano Carrier Board
PAGE DETAIL	DC Jack

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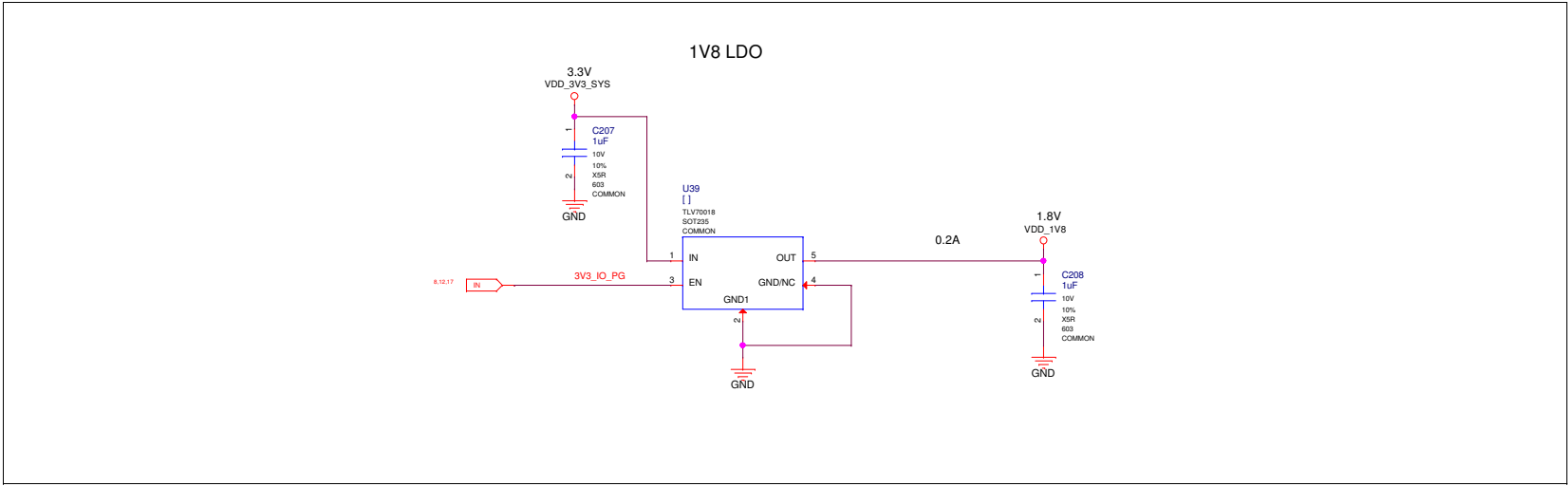
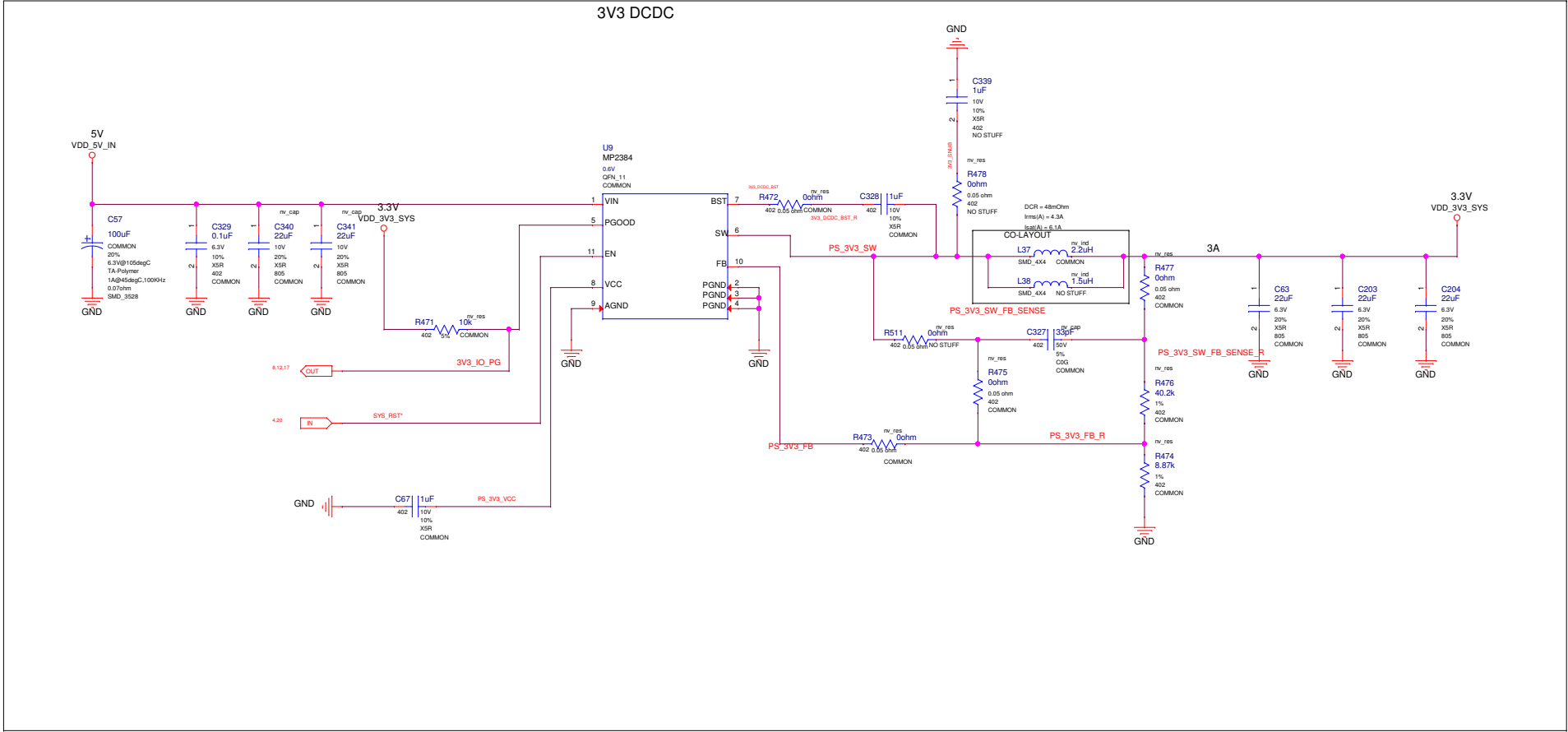


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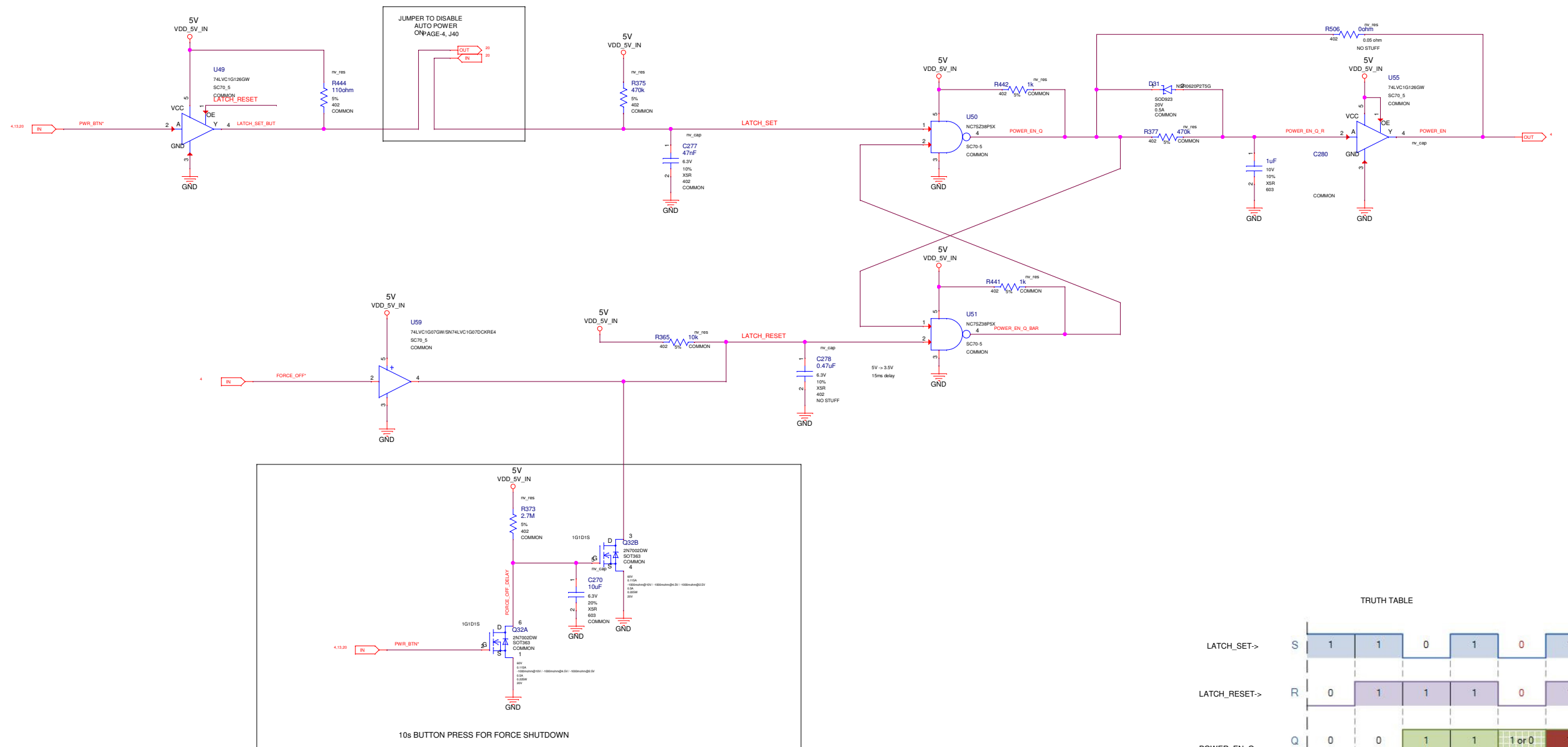
3V3 & 1V8 POWER SUPPLIES



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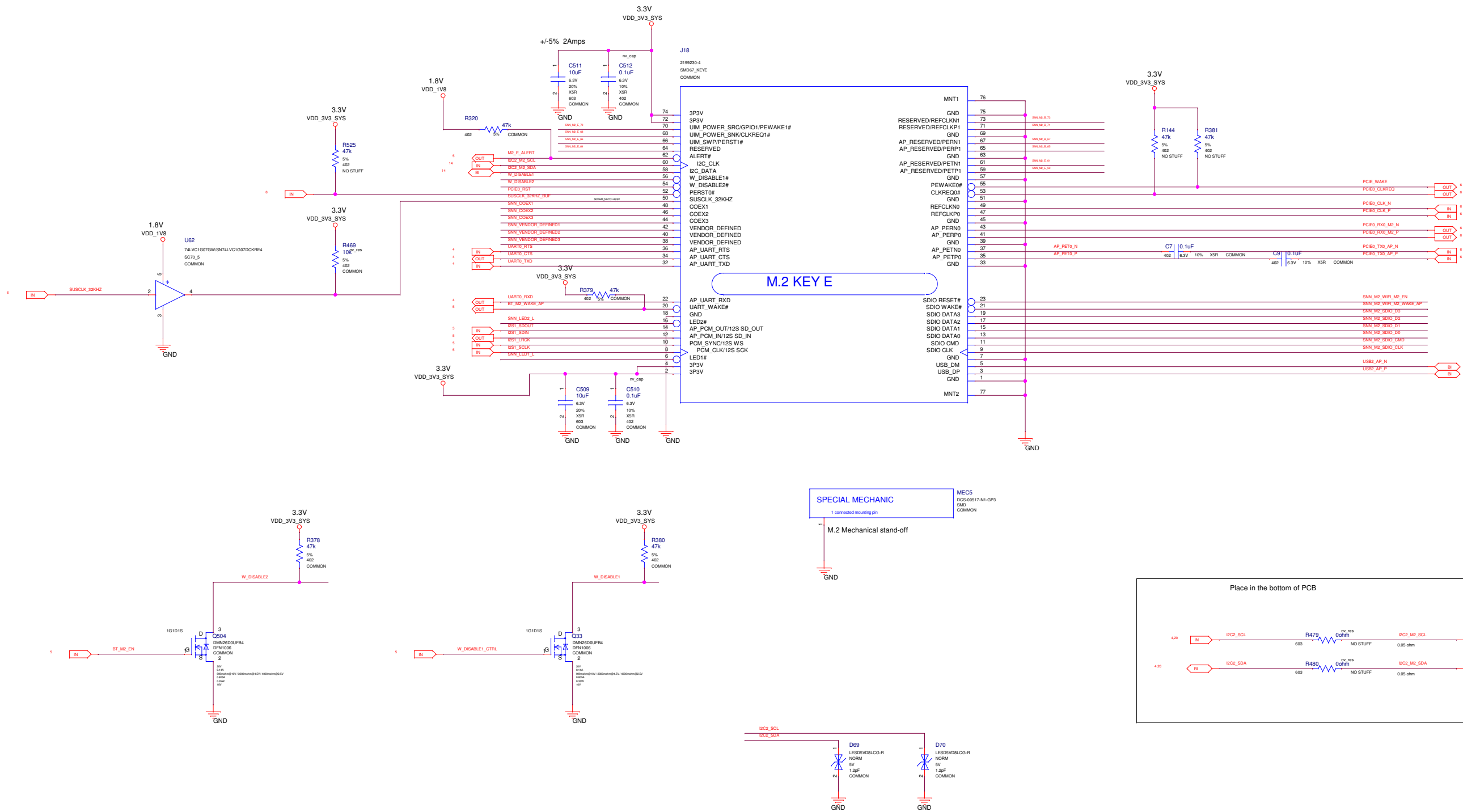
Module Power ON/OFF logic



TRUTH TABLE

	S	R	Q	Q'
LATCH_SET->	1	1	0	1
LATCH_RESET->	0	1	1	1
POWER_EN_Q->	0	0	1	1
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M.2 KEY E



ASSEMBLY	Jetson Nano Carrier Board
PAGE DETAIL	M.2 Key-E

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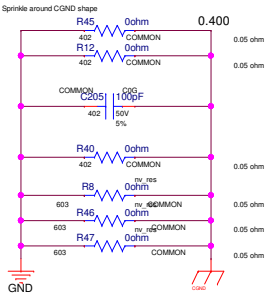
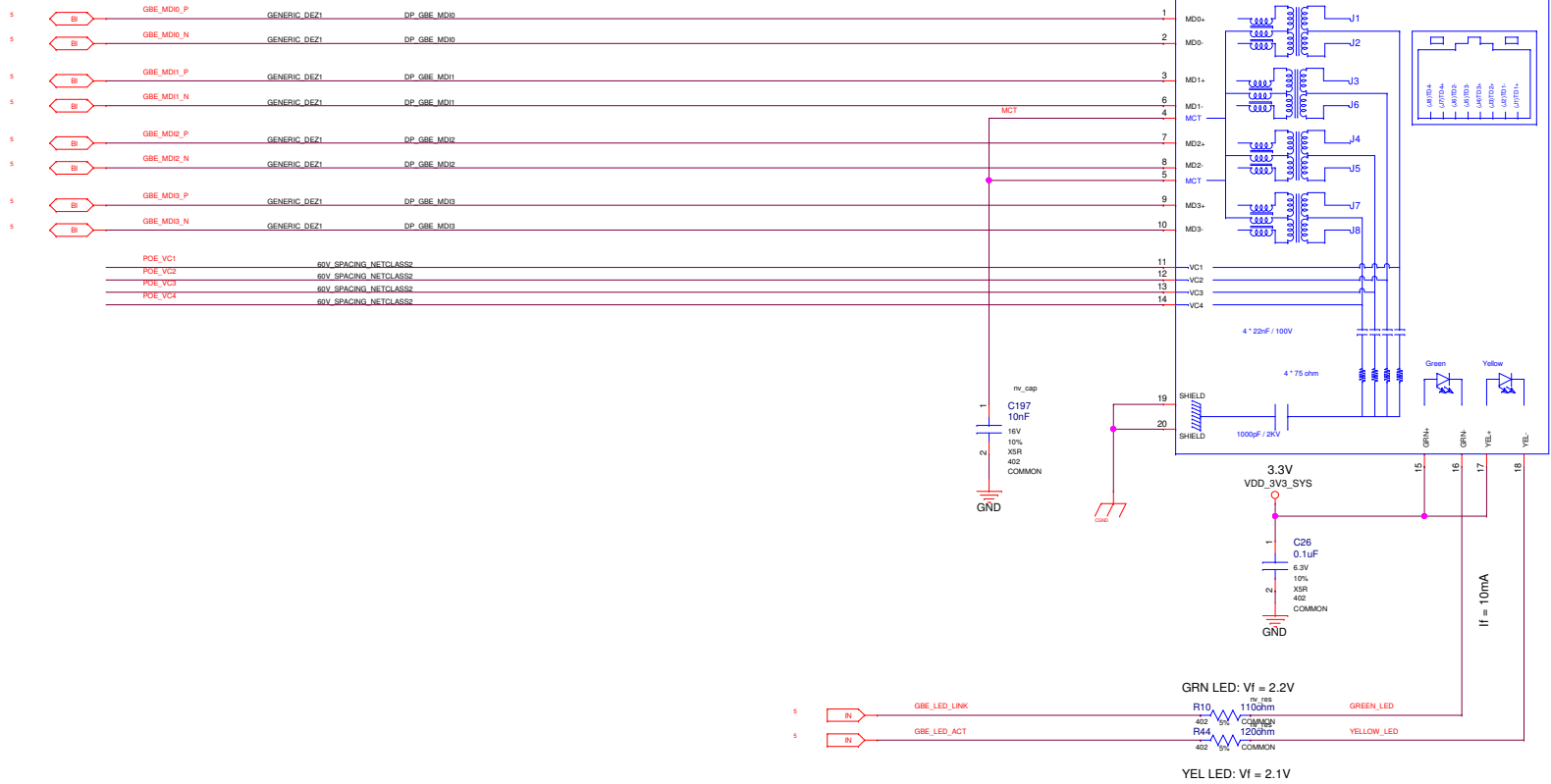
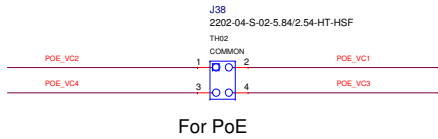
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Gigabit Ethernet with PoE

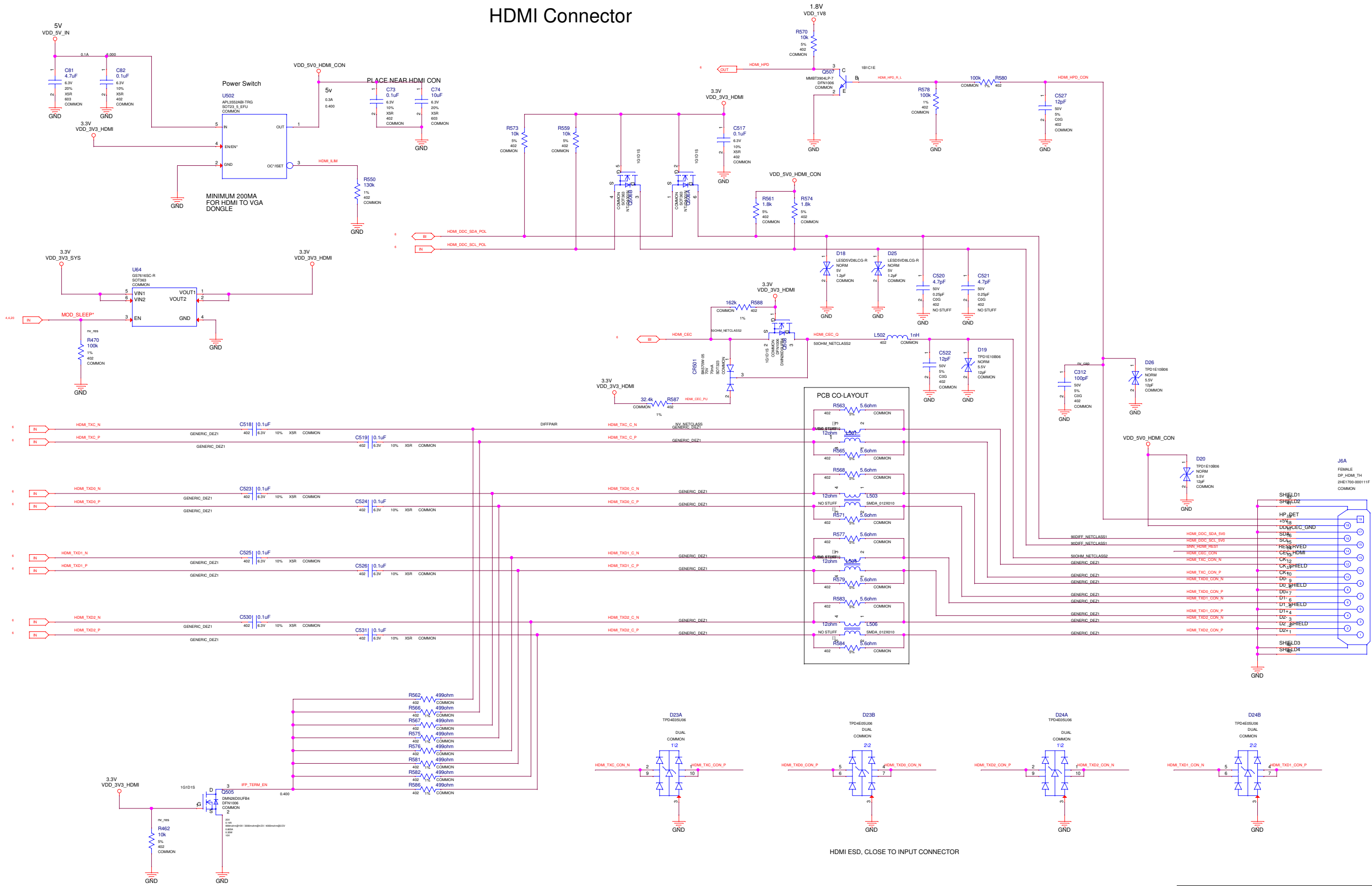


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ASSEMBLY	Jetson Nano Carrier Board
PAGE DETAIL	Gigabit Ethernet POE

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HDMI Connector



HDMI ESD, CLOSE TO INPUT CONNECTOR

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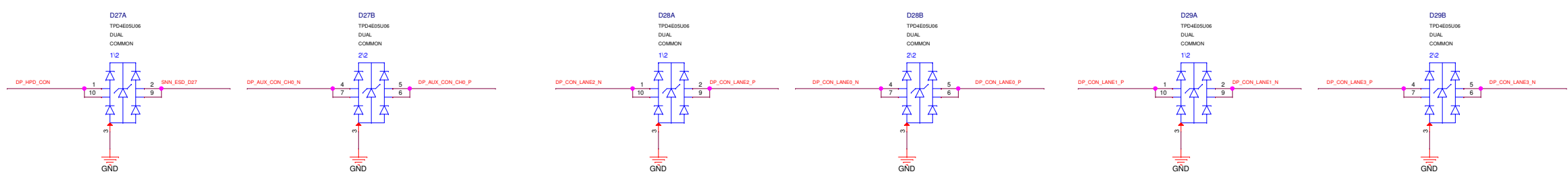
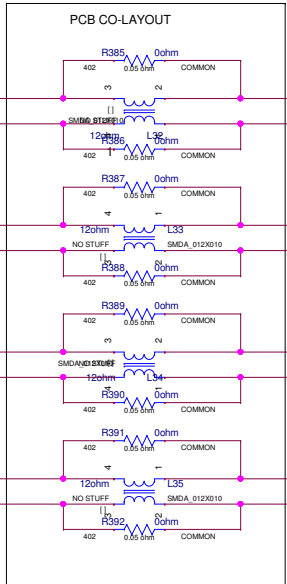
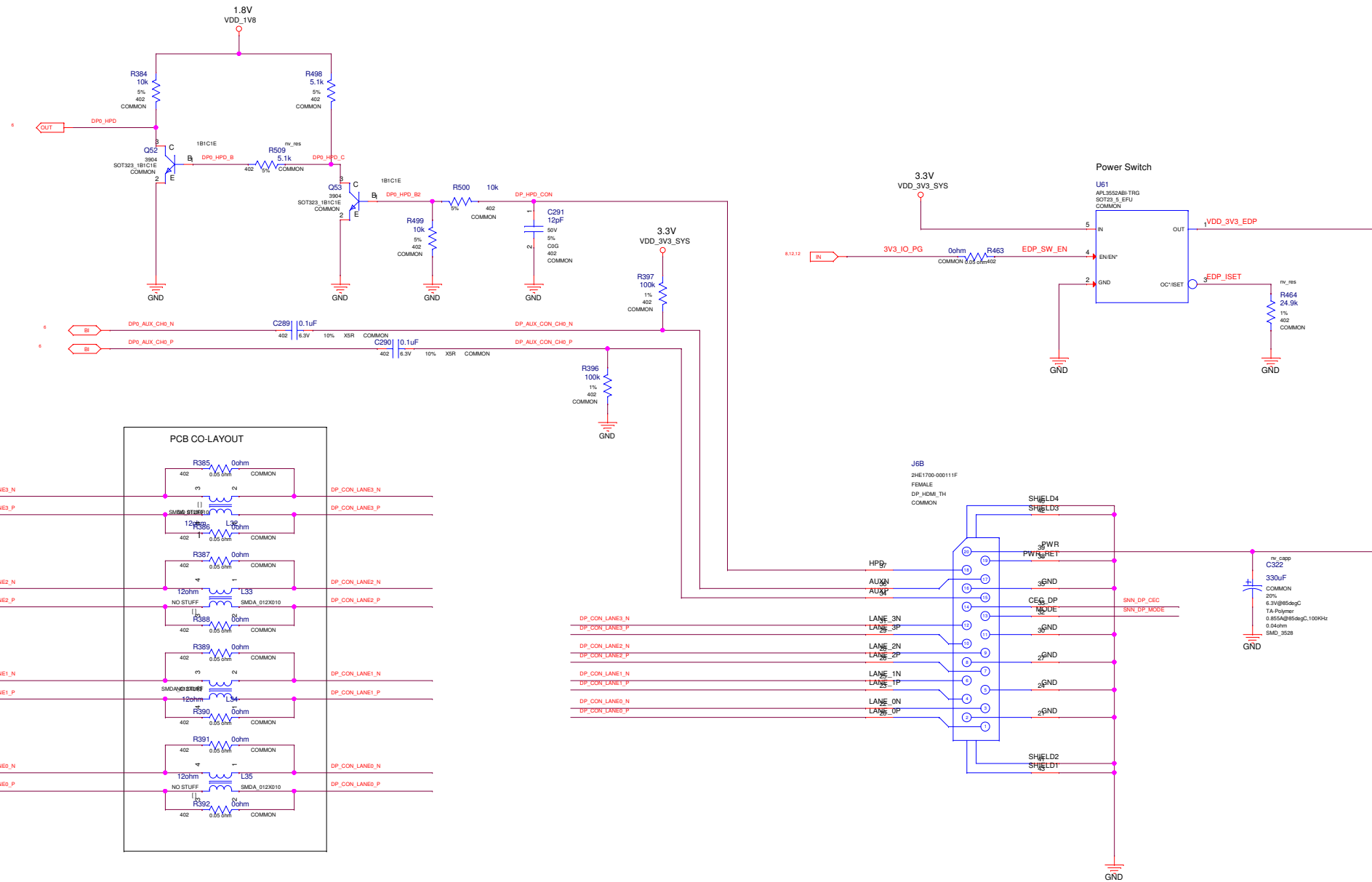


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ASSEMBLY	Jetson Nano Carrier Board
PAGE DETAIL	HDMI

DisplayPort Connector

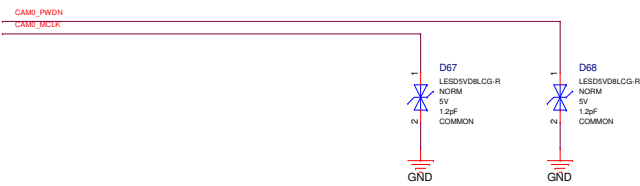
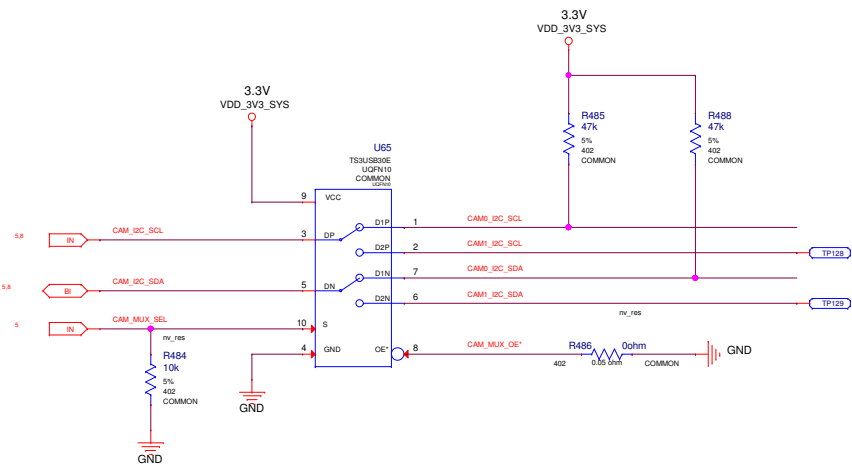
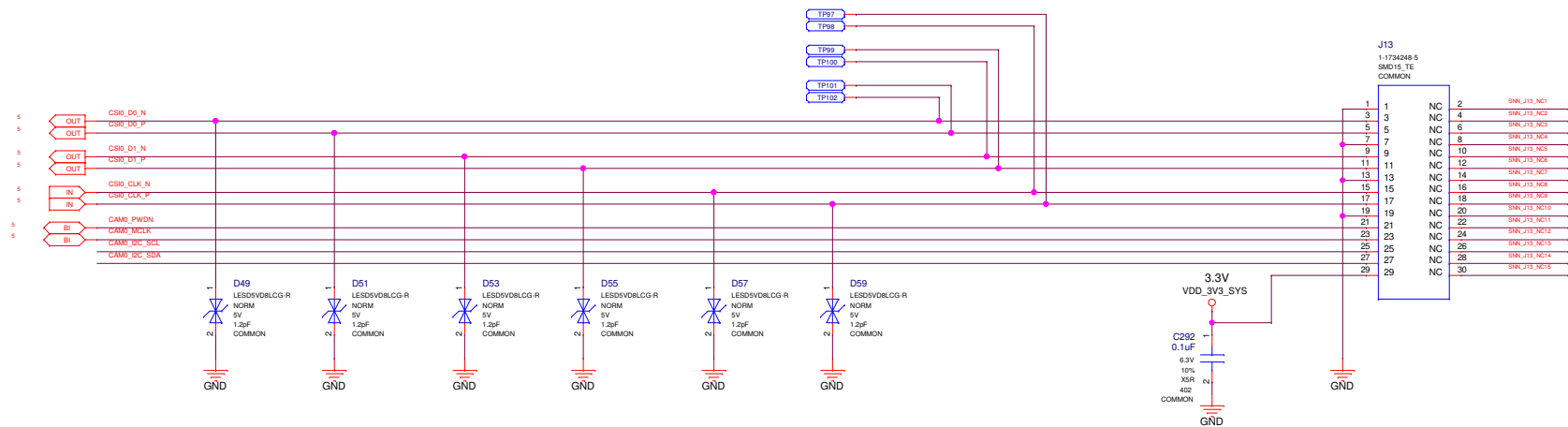


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ASSEMBLY	Jetson Nano Carrier Board
PAGE DETAIL	DisplayPort

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CSI CAM CONNECTOR



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ASSEMBLY	Jetson Nano Carrier Board
PAGE DETAIL	CAM Connector

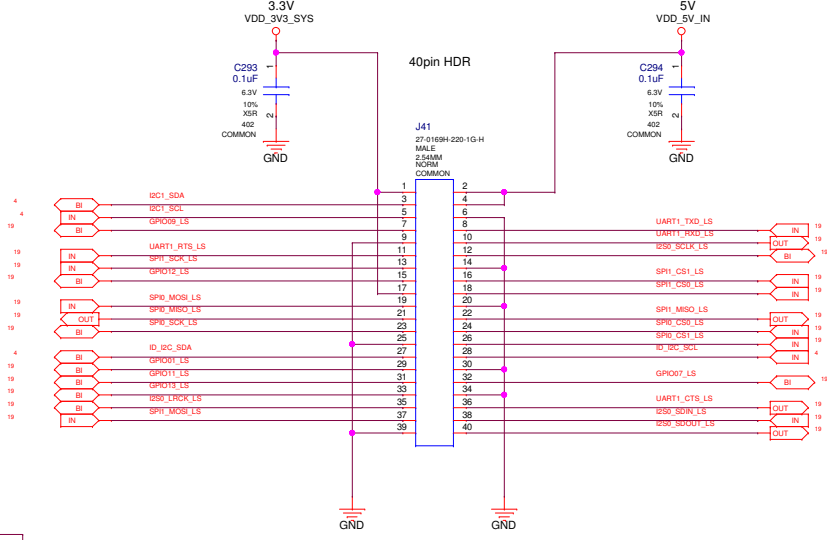
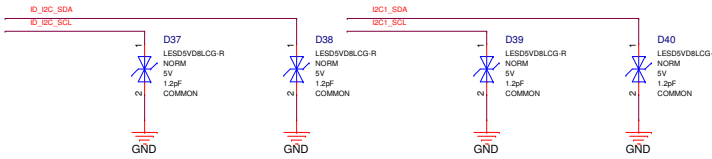
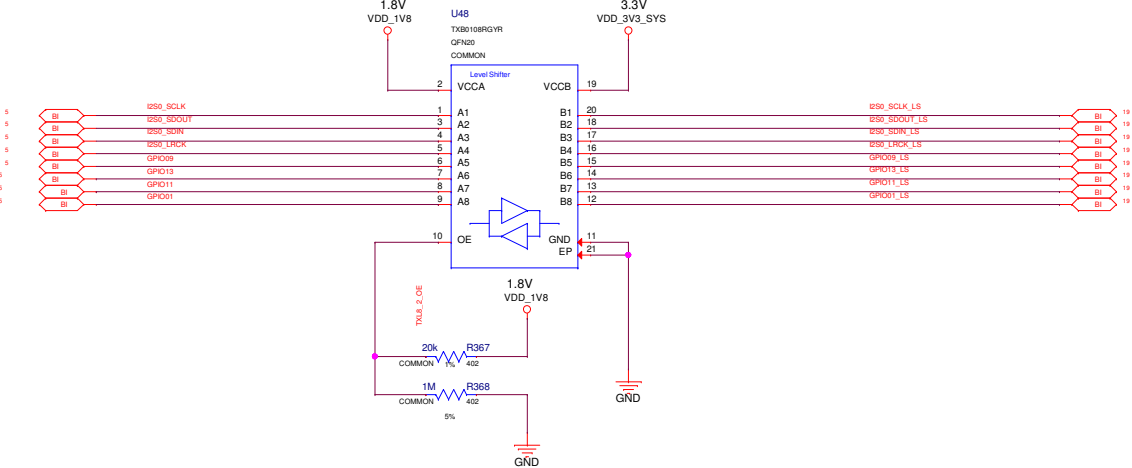
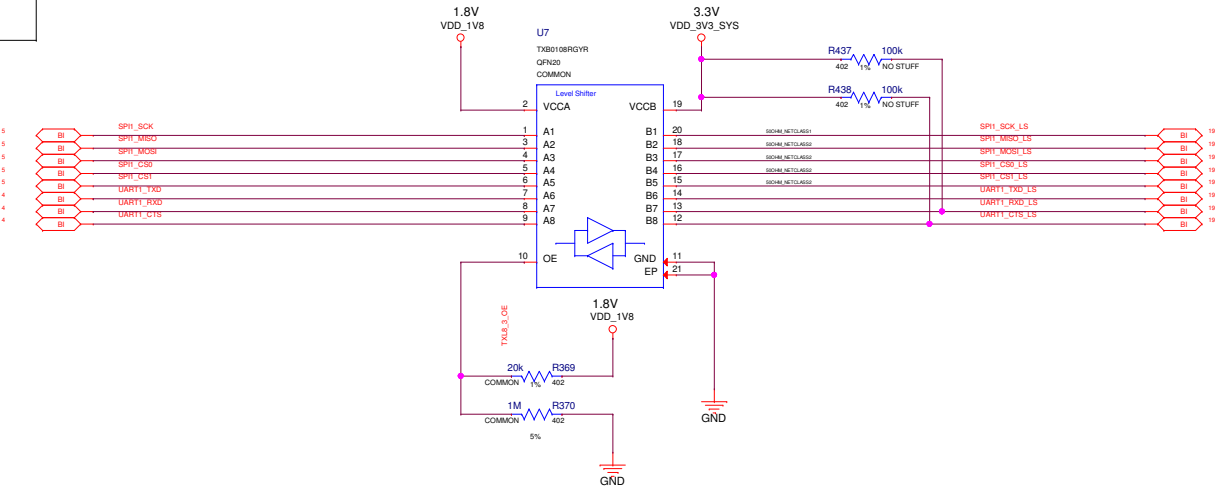
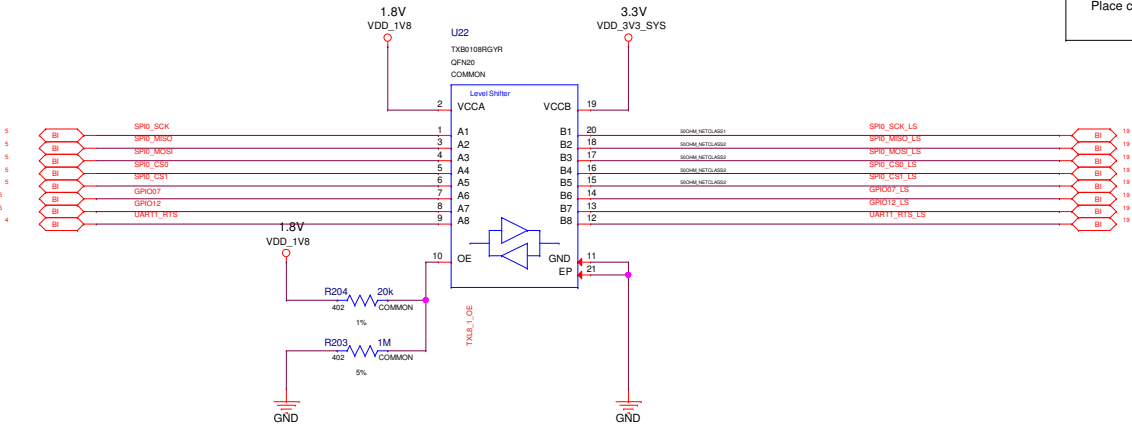
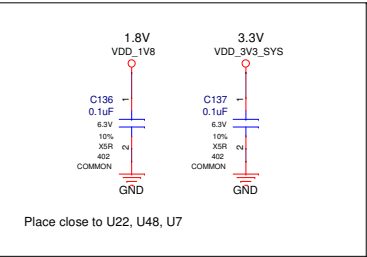
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40PIN GPIO EXPANSION HEADER & LEVEL SHIFTERS



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[illegible]

Carrier board config

The diagram illustrates the carrier board configuration for the AT24K02D MAHA-T DFM08 module. The module is connected to a 1.8V VDD_1V8 supply and ground. It includes pull-up resistors (R158, R157, R156, R172, R454, R455, R155) and a 0.1uF capacitor (C102). The module's pins are labeled: 1 (A0), 2 (A1), 3 (A2), 4 (GND), 5 (SDA), 6 (SCL), 7 (WP/VC), 8 (VCC), 9 (ThermP). The module is configured with 7b1010xxx and 7b1010111 = 7'h57. The module is connected to a TP20 and TP10 test points.

[illegible]


The diagram illustrates the optional button header pinout for a microcontroller system. It features a 12-pin header (J50) with the following connections:

- Pin 1:** J50
- Pin 2:** G2100CE84C-016-H
- Pin 3:** MALE
- Pin 4:** 2.54mm
- Pin 5:** NO
- Pin 6:** NORM
- Pin 7:** COMMON
- Pin 8:** GND
- Pin 9:** GND
- Pin 10:** GND
- Pin 11:** GND
- Pin 12:** GND

The circuit includes a 5V supply (VDD_5V_IN) connected to a VS18 short virtual short common. The 1.8V supply (VDD_1V8) is connected to a 10k resistor (R494) and a 100nF capacitor (C314). The 1.8V supply is also connected to a 10k resistor (R494) and a 100nF capacitor (C314). The 1.8V supply is connected to a 10k resistor (R494) and a 100nF capacitor (C314).

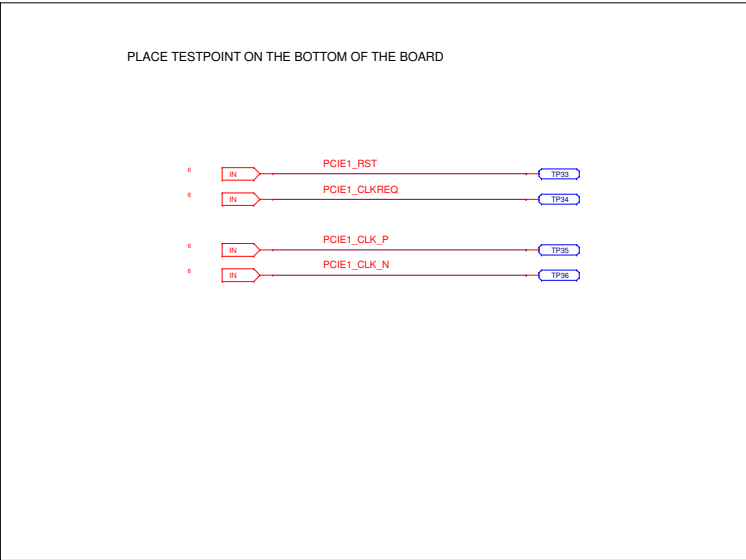
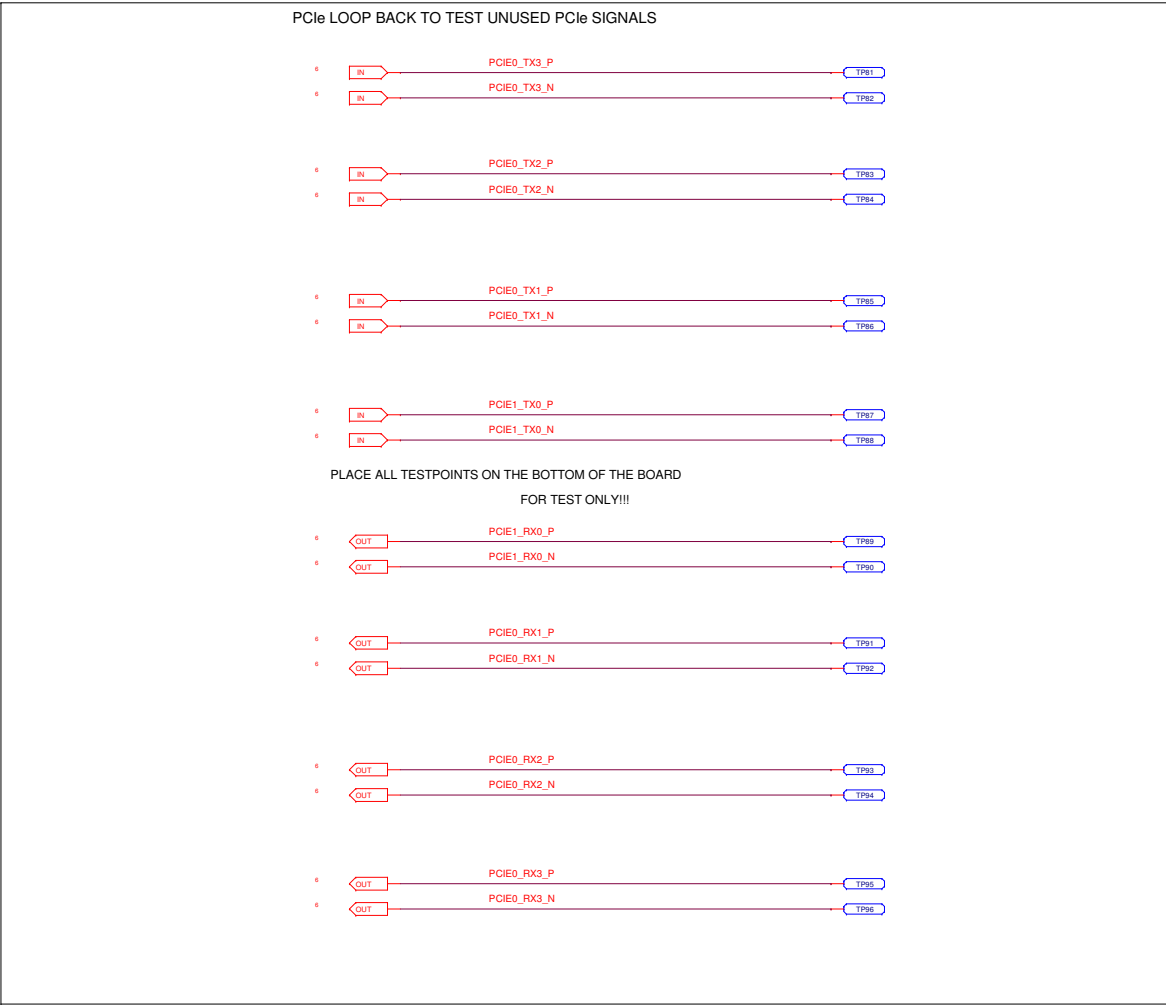
The diagram shows the following components and their connections:

- LEDs:** D44, D45, D47, D48 (TPD1E10B06, NORM, 5.5V, 12uF, COMMON) connected to GND.
- Buttons:** D46, D49 (TPD1E10B06, NORM, 5.5V, 12uF, COMMON) connected to GND.
- Resistors:** R492, R493 (0.01uF, COMMON), R494 (10k), R495 (10k), R496 (10k), R497 (10k), R498 (10k), R499 (10k), R500 (10k), R501 (10k), R502 (10k), R503 (10k), R504 (10k), R505 (10k), R506 (10k), R507 (10k), R508 (10k), R509 (10k), R510 (10k), R511 (10k), R512 (10k), R513 (10k), R514 (10k), R515 (10k), R516 (10k), R517 (10k), R518 (10k), R519 (10k), R520 (10k), R521 (10k), R522 (10k), R523 (10k), R524 (10k), R525 (10k), R526 (10k), R527 (10k), R528 (10k), R529 (10k), R530 (10k), R531 (10k), R532 (10k), R533 (10k), R534 (10k), R535 (10k), R536 (10k), R537 (10k), R538 (10k), R539 (10k), R540 (10k), R541 (10k), R542 (10k), R543 (10k), R544 (10k), R545 (10k), R546 (10k), R547 (10k), R548 (10k), R549 (10k), R550 (10k), R551 (10k), R552 (10k), R553 (10k), R554 (10k), R555 (10k), R556 (10k), R557 (10k), R558 (10k), R559 (10k), R560 (10k), R561 (10k), R562 (10k), R563 (10k), R564 (10k), R565 (10k), R566 (10k), R567 (10k), R568 (10k), R569 (10k), R570 (10k), R571 (10k), R572 (10k), R573 (10k), R574 (10k), R575 (10k), R576 (10k), R577 (10k), R578 (10k), R579 (10k), R580 (10k), R581 (10k), R582 (10k), R583 (10k), R584 (10k), R585 (10k), R586 (10k), R587 (10k), R588 (10k), R589 (10k), R590 (10k), R591 (10k), R592 (10k), R593 (10k), R594 (10k), R595 (10k), R596 (10k), R597 (10k), R598 (10k), R599 (10k), R600 (10k), R601 (10k), R602 (10k), R603 (10k), R604 (10k), R605 (10k), R606 (10k), R607 (10k), R608 (10k), R609 (10k), R610 (10k), R611 (10k), R612 (10k), R613 (10k), R614 (10k), R615 (10k), R616 (10k), R617 (10k), R618 (10k), R619 (10k), R620 (10k), R621 (10k), R622 (10k), R623 (10k), R624 (10k), R625 (10k), R626 (10k), R627 (10k), R628 (10k), R629 (10k), R630 (10k), R631 (10k), R632 (10k), R633 (10k), R634 (10k), R635 (10k), R636 (10k), R637 (10k), R638 (10k), R639 (10k), R640 (10k), R641 (10k), R642 (10k), R643 (10k), R644 (10k), R645 (10k), R646 (10k), R647 (10k), R648 (10k), R649 (10k), R650 (10k), R651 (10k), R652 (10k), R653 (10k), R654 (10k), R655 (10k), R656 (10k), R657 (10k), R658 (10k), R659 (10k), R660 (10k), R661 (10k), R662 (10k), R663 (10k), R664 (10k), R665 (10k), R666 (10k), R667 (10k), R668 (10k), R669 (10k), R670 (10k), R671 (10k), R672 (10k), R673 (10k), R674 (10k), R675 (10k), R676 (10k), R677 (10k), R678 (10k), R679 (10k), R680 (10k), R681 (10k), R682 (10k), R683 (10k), R684 (10k), R685 (10k), R686 (10k), R687 (10k), R688 (10k), R689 (10k), R690 (10k), R691 (10k), R692 (10k), R693 (10k), R694 (10k), R695 (10k), R696 (10k), R697 (10k), R698 (10k), R699 (10k), R700 (10k), R701 (10k), R702 (10k), R703 (10k), R704 (10k), R705 (10k), R706 (10k), R707 (10k), R708 (10k), R709 (10k), R710 (10k), R711 (10k), R712 (10k), R713 (10k), R714 (10k), R715 (10k), R716 (10k), R717 (10k), R718 (10k), R719 (10k), R720 (10k), R721 (10k), R722 (10k), R723 (10k), R724 (10k), R725 (10k), R726 (10k), R727 (10k), R728 (10k), R729 (10k), R730 (10k), R731 (10k), R732 (10k), R733 (10k), R734 (10k), R735 (10k), R736 (10k), R737 (10k), R738 (10k), R739 (10k), R740 (10k), R741 (10k), R742 (10k), R743 (10k), R744 (10k), R745 (10k), R746 (10k), R747 (10k), R748 (10k), R749 (10k), R750 (10k), R751 (10k), R752 (10k), R753 (10k), R754 (10k), R755 (10k), R756 (10k), R757 (10k), R758 (10k), R759 (10k), R760 (10k), R761 (10k), R762 (10k), R763 (10k), R764 (10k), R765 (10k), R766 (10k), R767 (10k), R768 (10k), R769 (10k), R770 (10k), R771 (10k), R772 (10k), R773 (10k), R774 (10k), R775 (10k), R776 (10k), R777 (10k), R778 (10k), R779 (10k), R780 (10k), R781 (10k), R782 (10k), R783 (10k), R784 (10k), R785 (10k), R786 (10k), R787 (10k), R788 (10k), R789 (10k), R790 (10k), R791 (10k), R792 (10k), R793 (10k), R794 (10k), R795 (10k), R796 (10k), R797 (10k), R798 (10k), R799 (10k), R800 (10k), R801 (10k), R802 (10k), R803 (10k), R804 (10k), R805 (10k), R806 (10k), R807 (10k), R808 (10k), R809 (10k), R810 (10k), R811 (10k), R812 (10k), R813 (10k), R814 (10k), R815 (10k), R816 (10k), R817 (10k), R818 (10k), R819 (10k), R820 (10k), R821 (10k), R822 (10k), R823 (10k), R824 (10k), R825 (10k), R826 (10k), R827 (10k), R828 (10k), R829 (10k), R830 (10k), R831 (10k), R832 (10k), R833 (10k), R834 (10k), R835 (10k), R836 (10k), R837 (10k), R838 (10k), R839 (10k), R840 (10k), R841 (10k), R842 (10k), R843 (10k), R844 (10k), R845 (10k), R846 (10k), R847 (10k), R848 (10k), R849 (10k), R850 (10k), R851 (10k), R852 (10k), R853 (10k), R854 (10k), R855 (10k), R856 (10k), R857 (10k), R858 (10k), R859 (10k), R860 (10k), R861 (10k), R862 (10k), R863 (10k), R864 (10k), R865 (10k), R866 (10k), R867 (10k), R868 (10k), R869 (10k), R870 (10k), R871 (10k), R872 (10k), R873 (10k), R874 (10k), R875 (10k), R876 (10k), R877 (10k), R878 (10k), R879 (1

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PROVISION FOR LOOP BACK TEST OF UNUSED PCIe SIGNALS

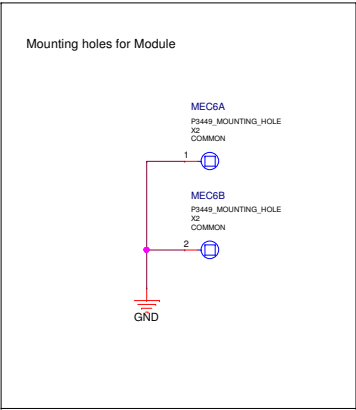


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Mechanical



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