

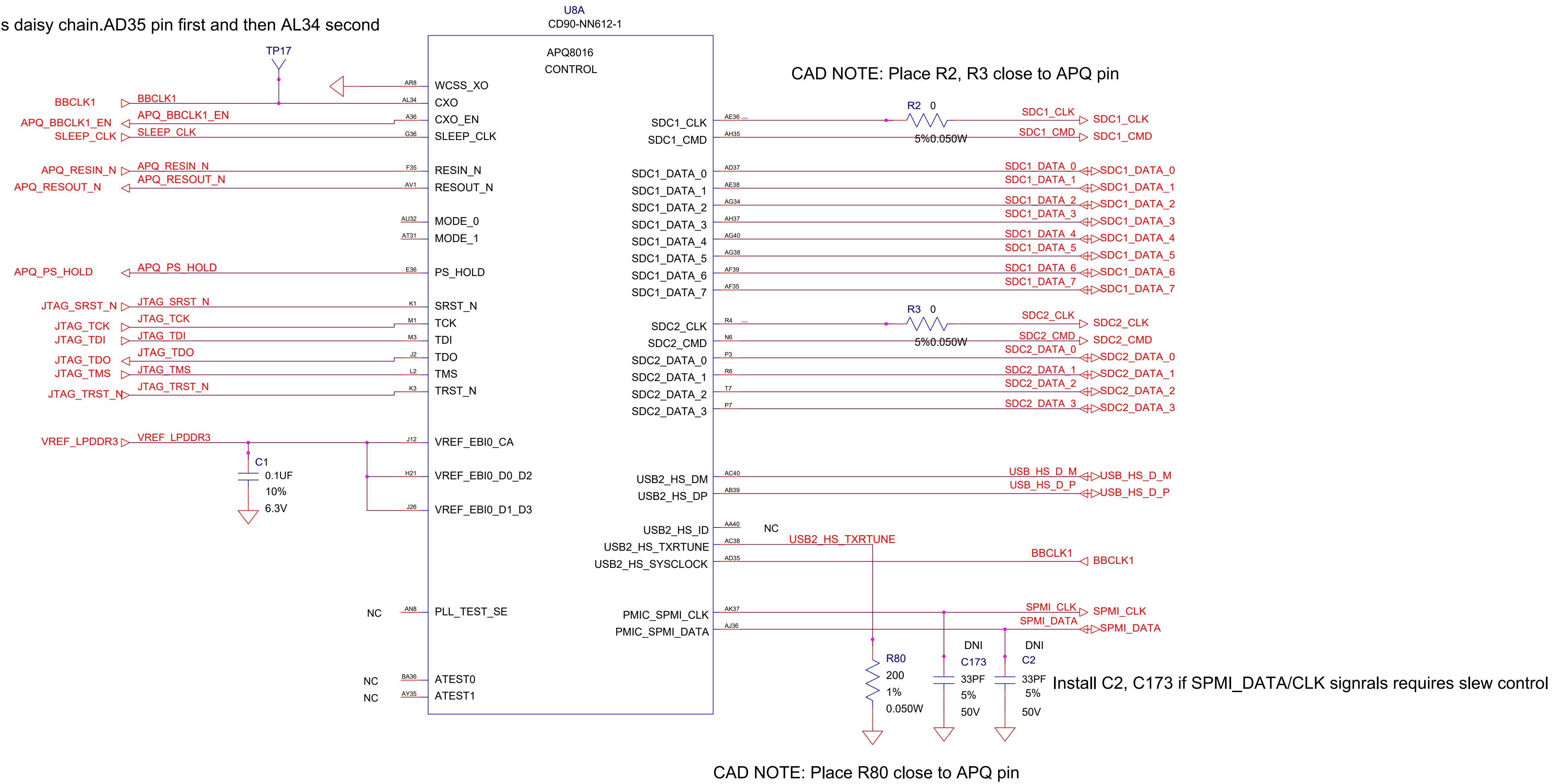
DragonBoard410c

Title		DragonBoard410c	
Size	Document Number	Rev	
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Date	Monday, August 31, 2015	Sheet	1 of 33

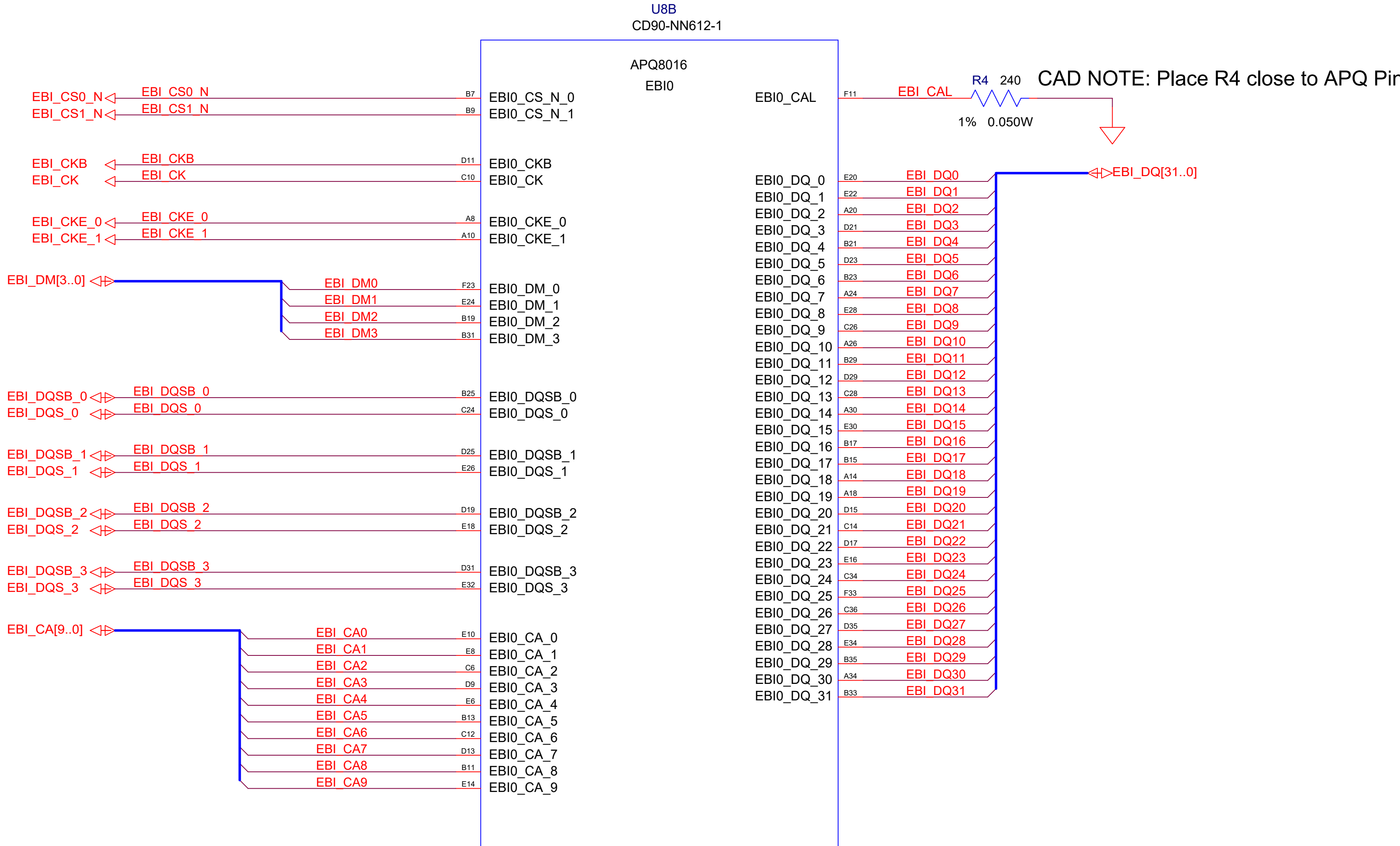
SHEET BLOCK	SCHEMATIC	SHEET BLOCK	SCHEMATIC	SHEET BLOCK	SCHEMATIC	SHEET BLOCK	SCHEMATIC
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APQ8016 - CONTROL

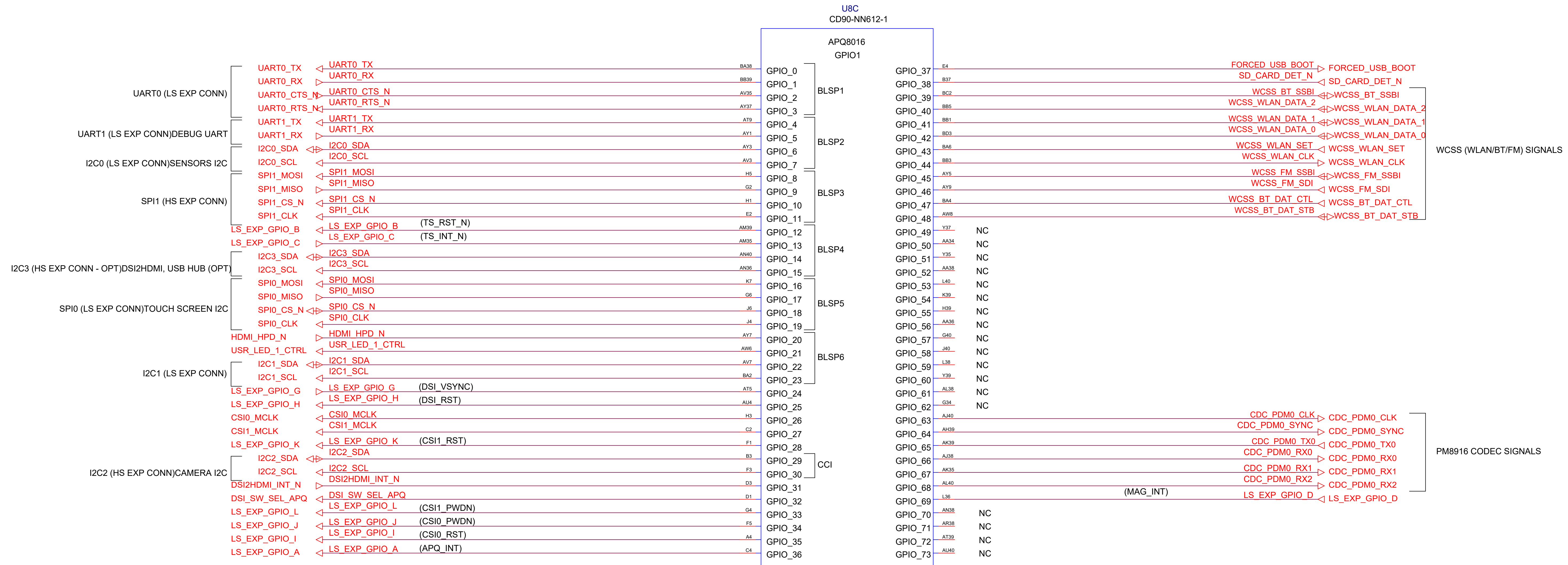
Route BBCLK1 as daisy chain. AD35 pin first and then AL34 second



APQ8016 - EBI0-LPDDR3

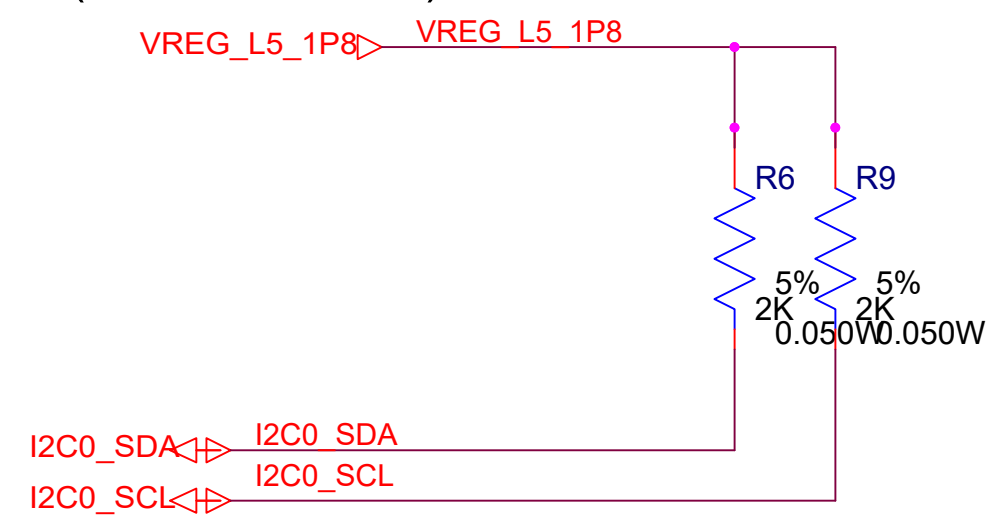


APQ8016 - GPIO 0-73

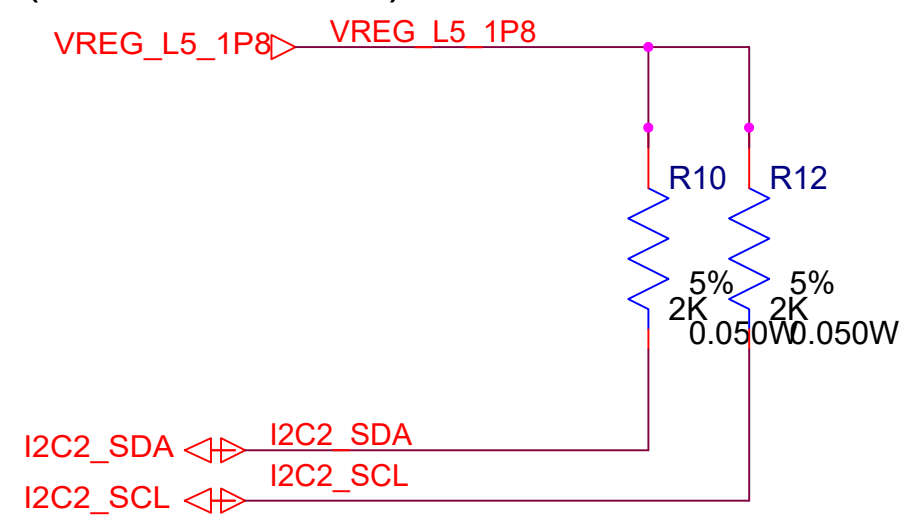


I2C PULL-UP RESISTORS

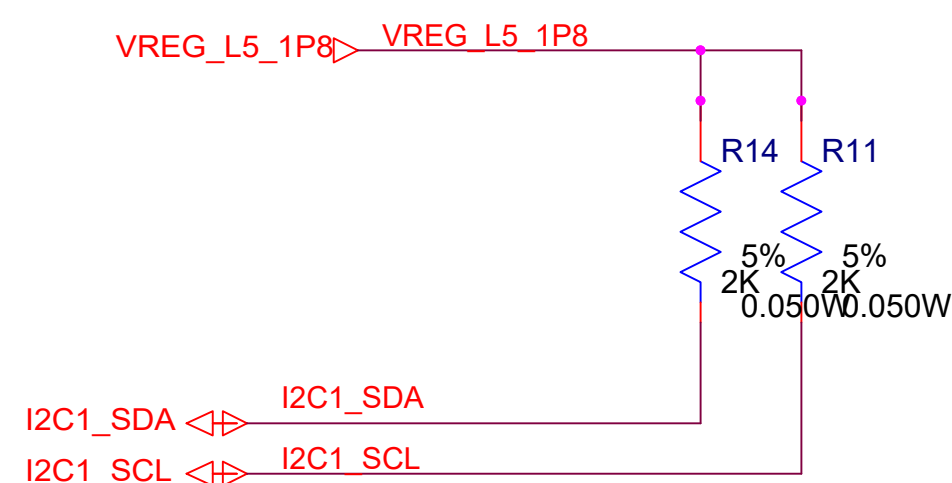
I2C0 (LS EXP CONN)SENSORS I2C



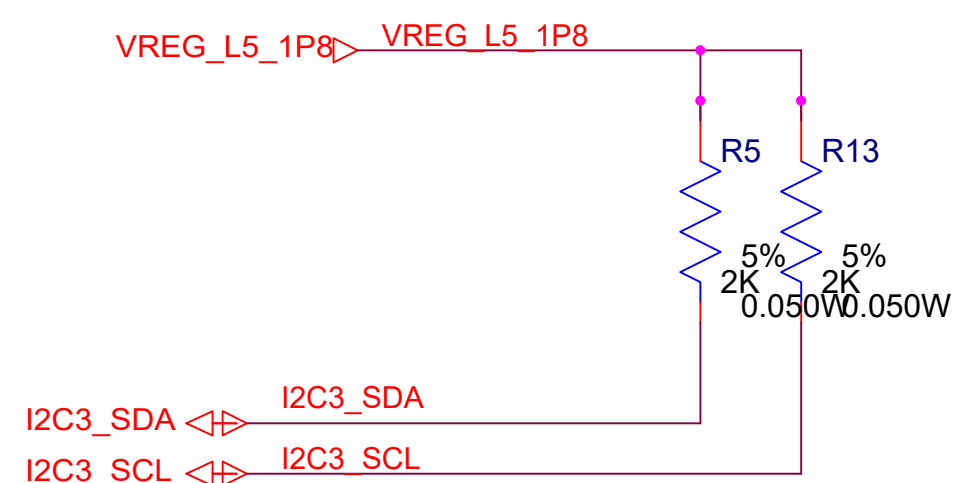
I2C2 (HS EXP CONN)CAMERA I2C



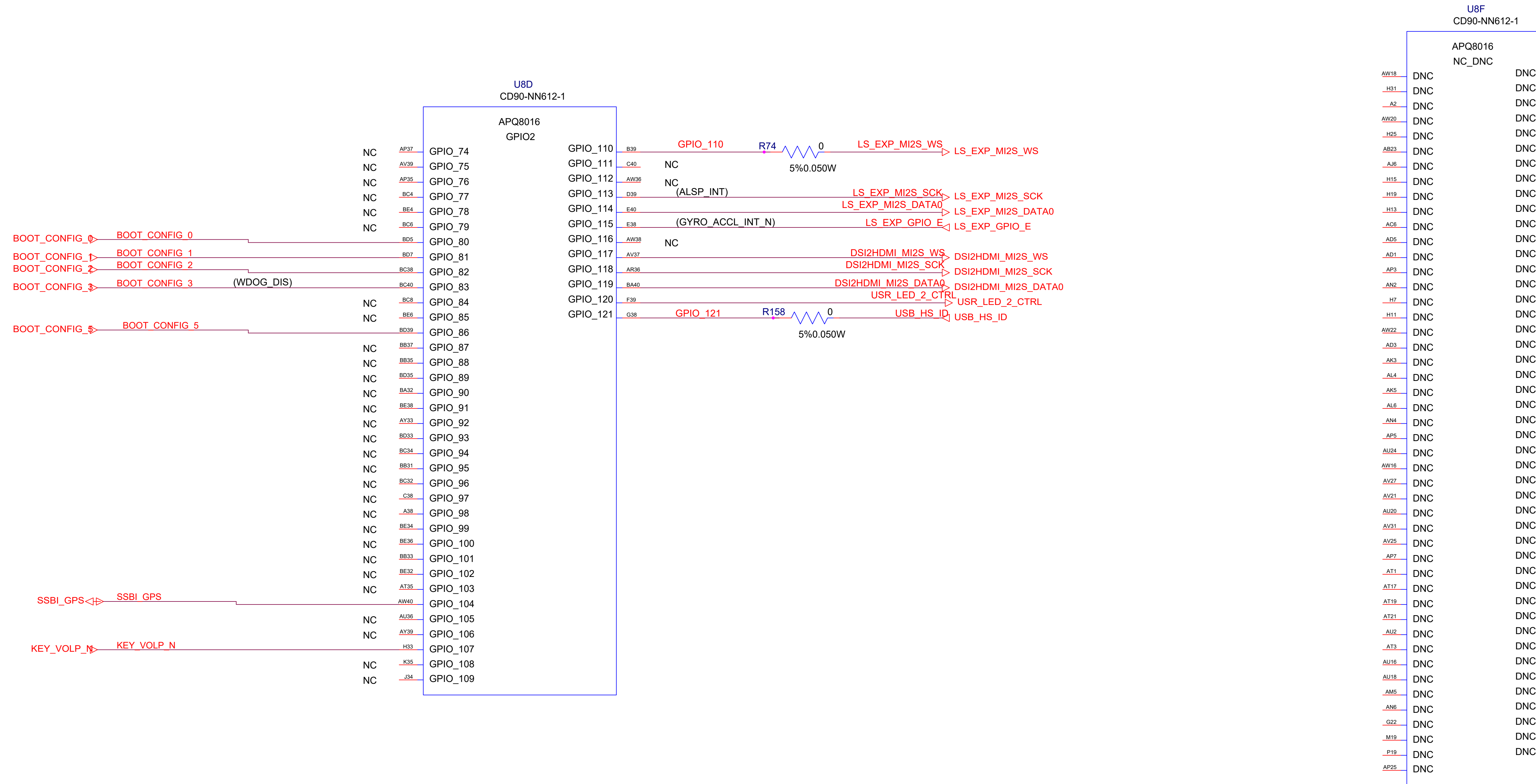
I2C1 (LS EXP CONN)



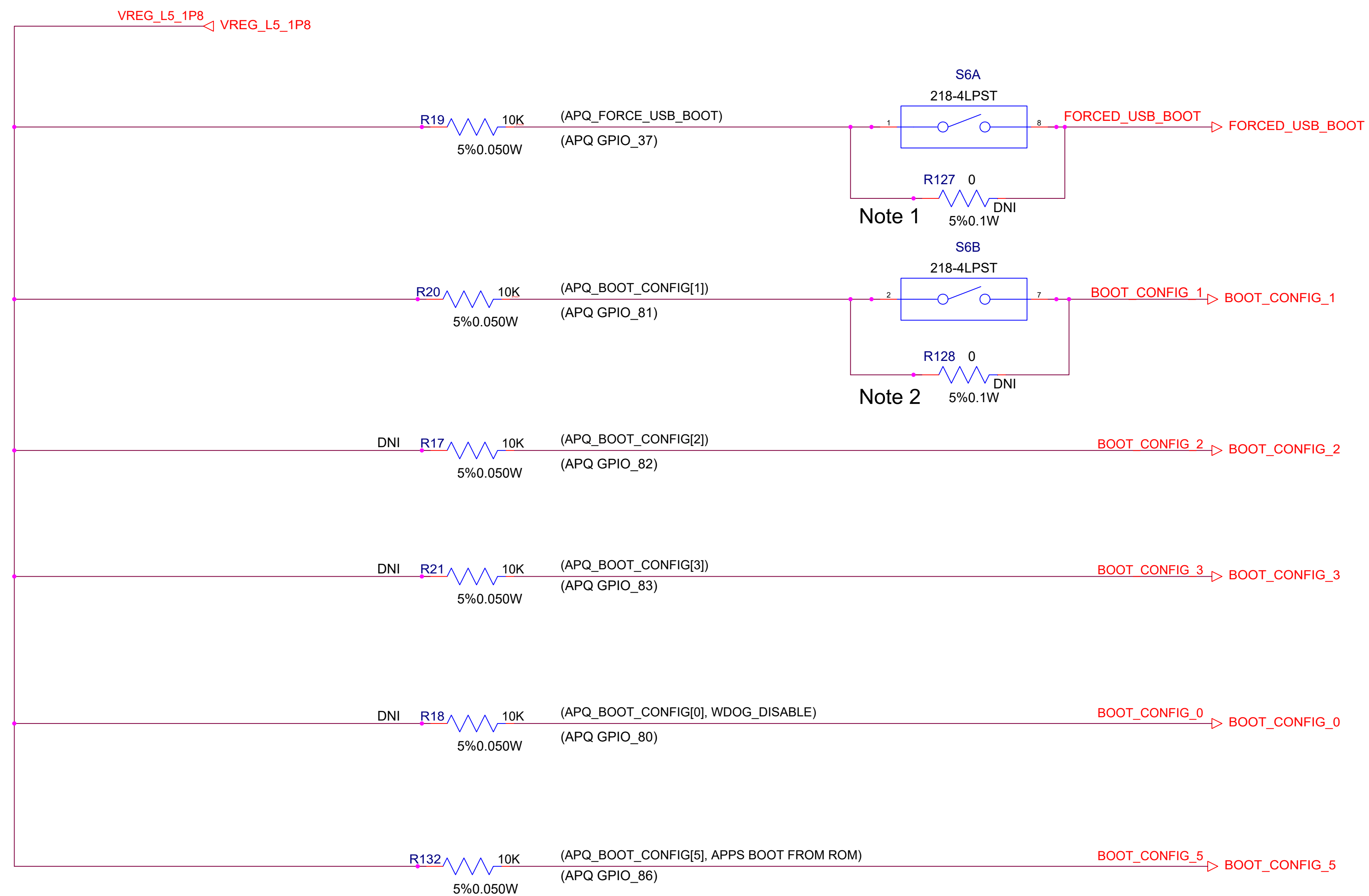
I2C3 (HS EXP CONN - OPT)DSI2HDMIUSB HUB (OPT)



APQ8016 - GPIO 74-121 / DNC



APQ8016 - BOOT CONFIG SW

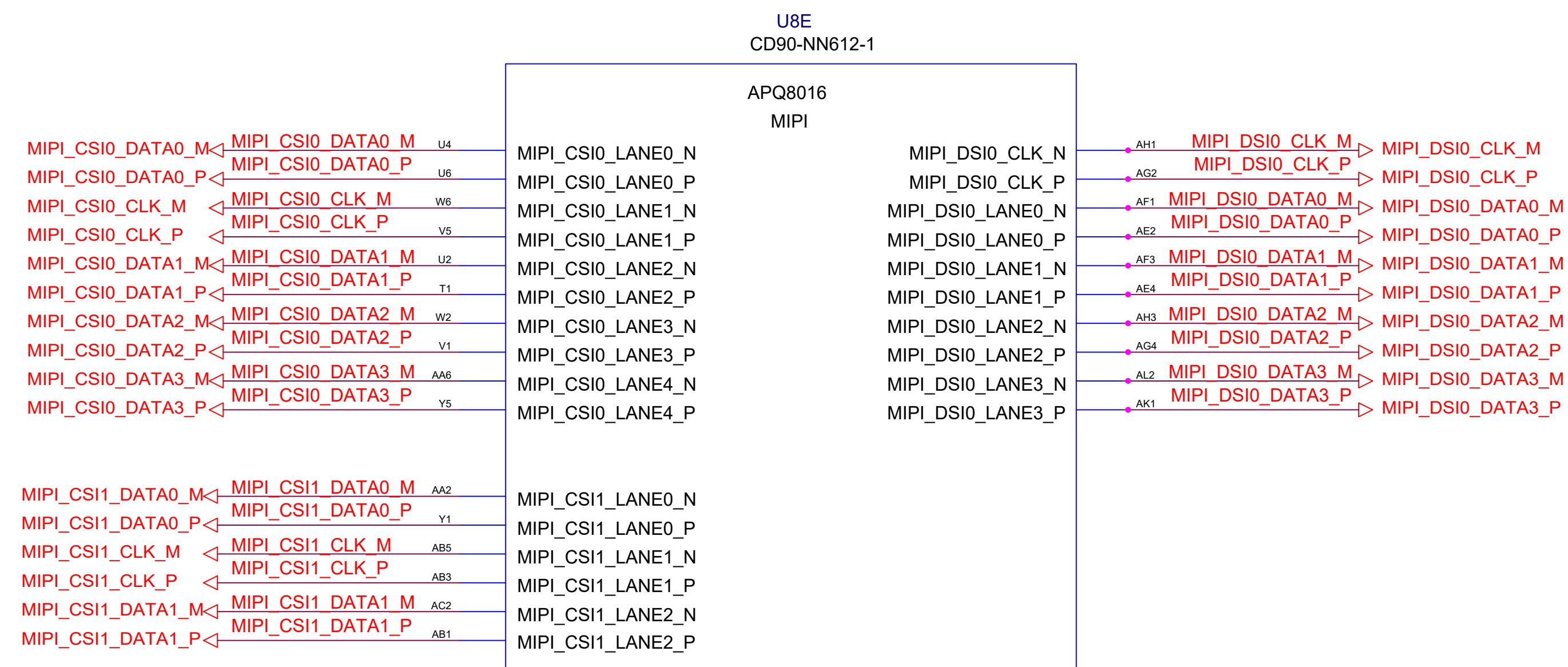


BOOT CONFIGURATIONS

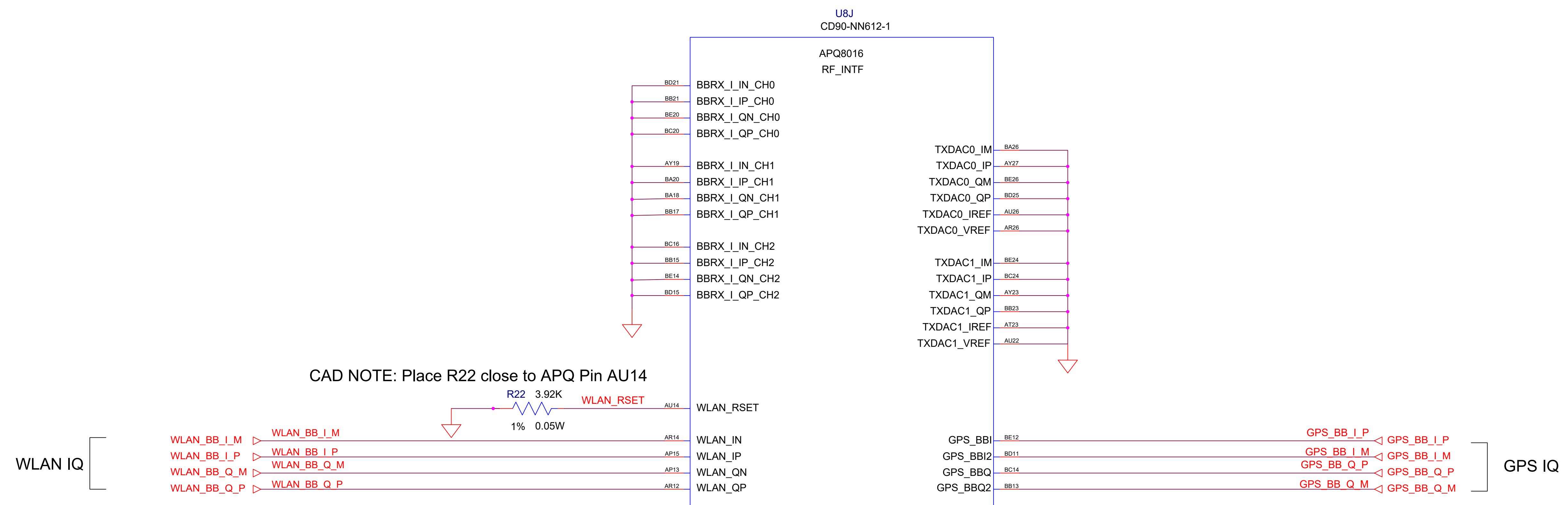
BOOT_CONFIG[3:1]	BOOT OPTIONS
0b000	SDC1 --> SDC2 --> USB2.0
0b001	SDC2 --> SDC1 --> USB2.0
0b010	SDC1 --> USB2.0
0b011	USB2.0

Default Boot Config (0b000) is eMMC on the SDC1

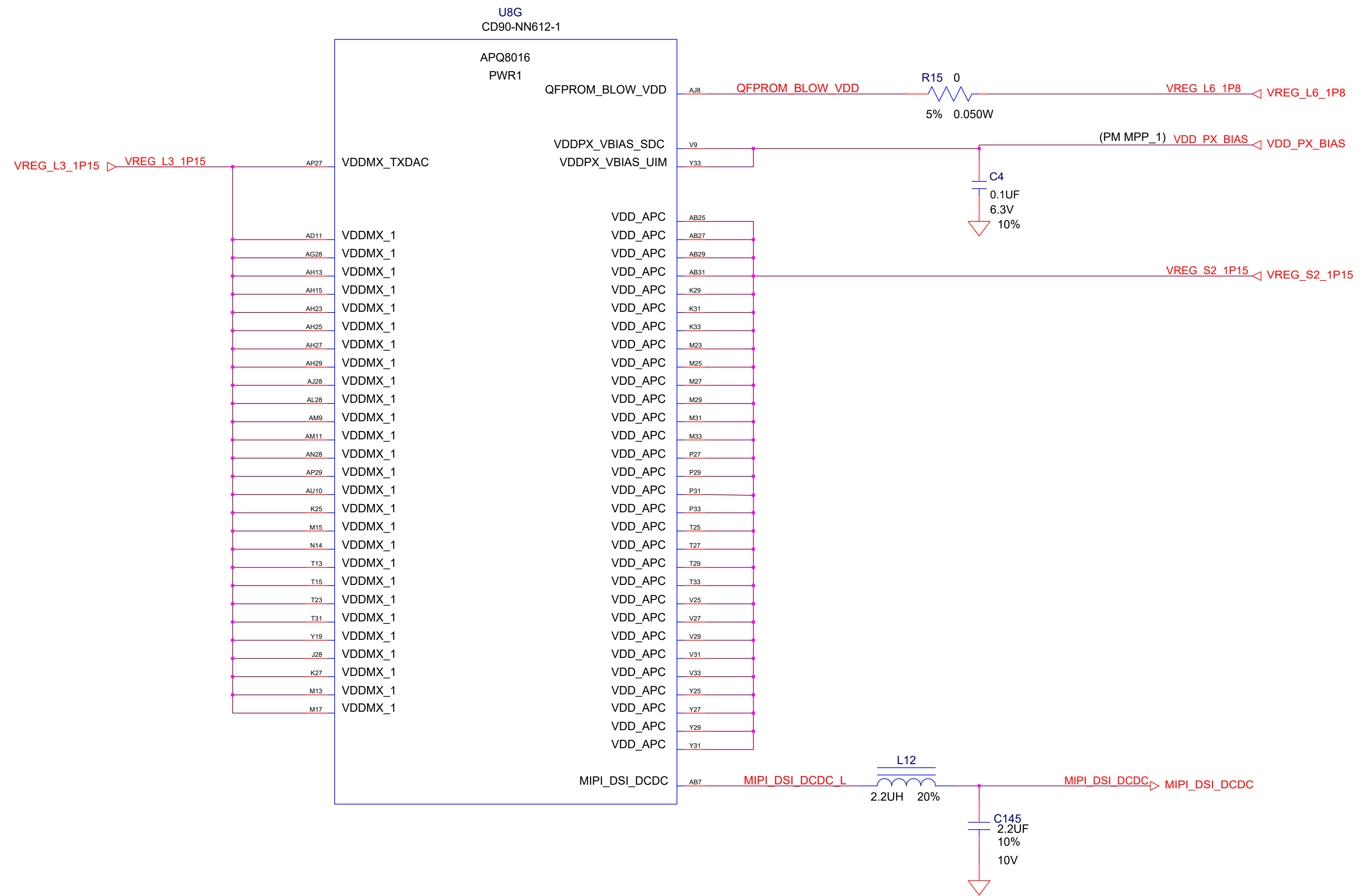
Note 1: Short between resistors pads to force boot from USB when dip-switch is not installed
 Note 2: Short between resistors pads to boot from uSD when dip-switch is not installed



APQ8016 - RF INTERFACE

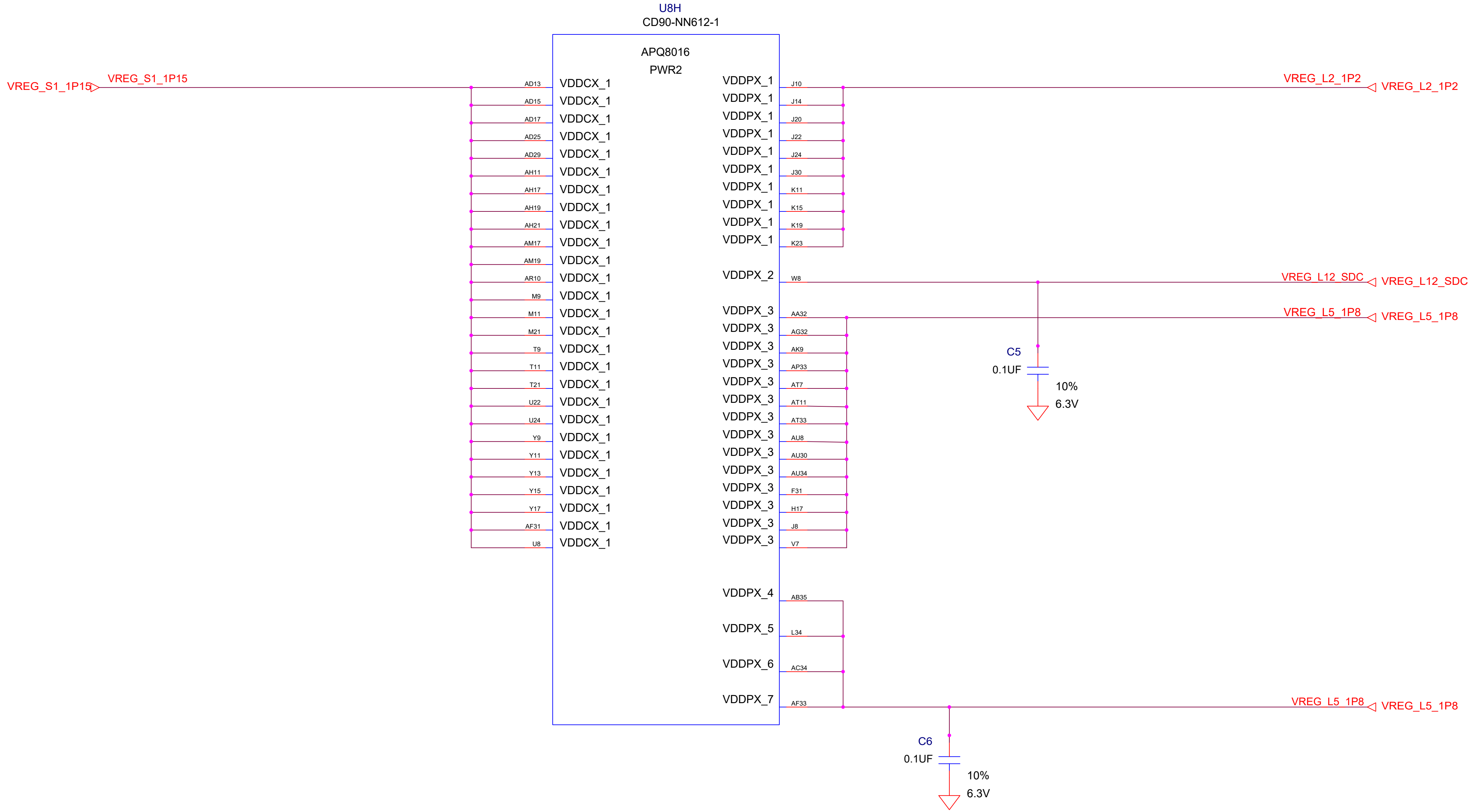


APQ8016 - PWR1

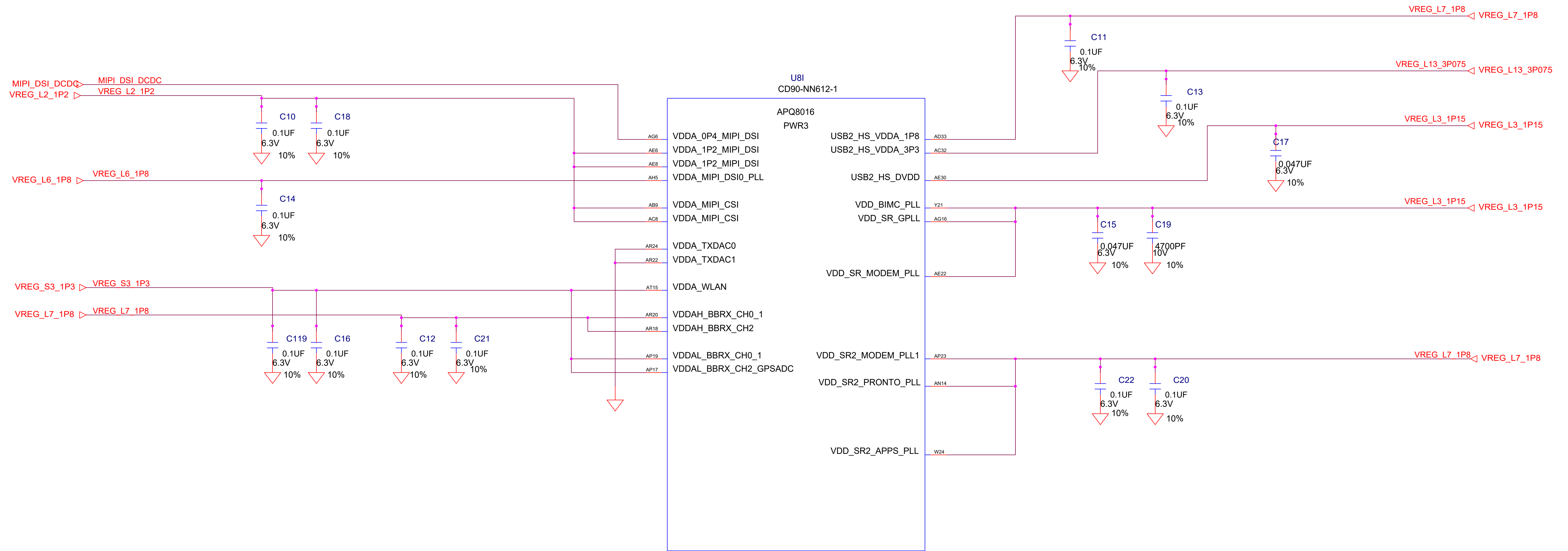


CAD NOTE: Loop to be shorted with MSM AG6 Pin

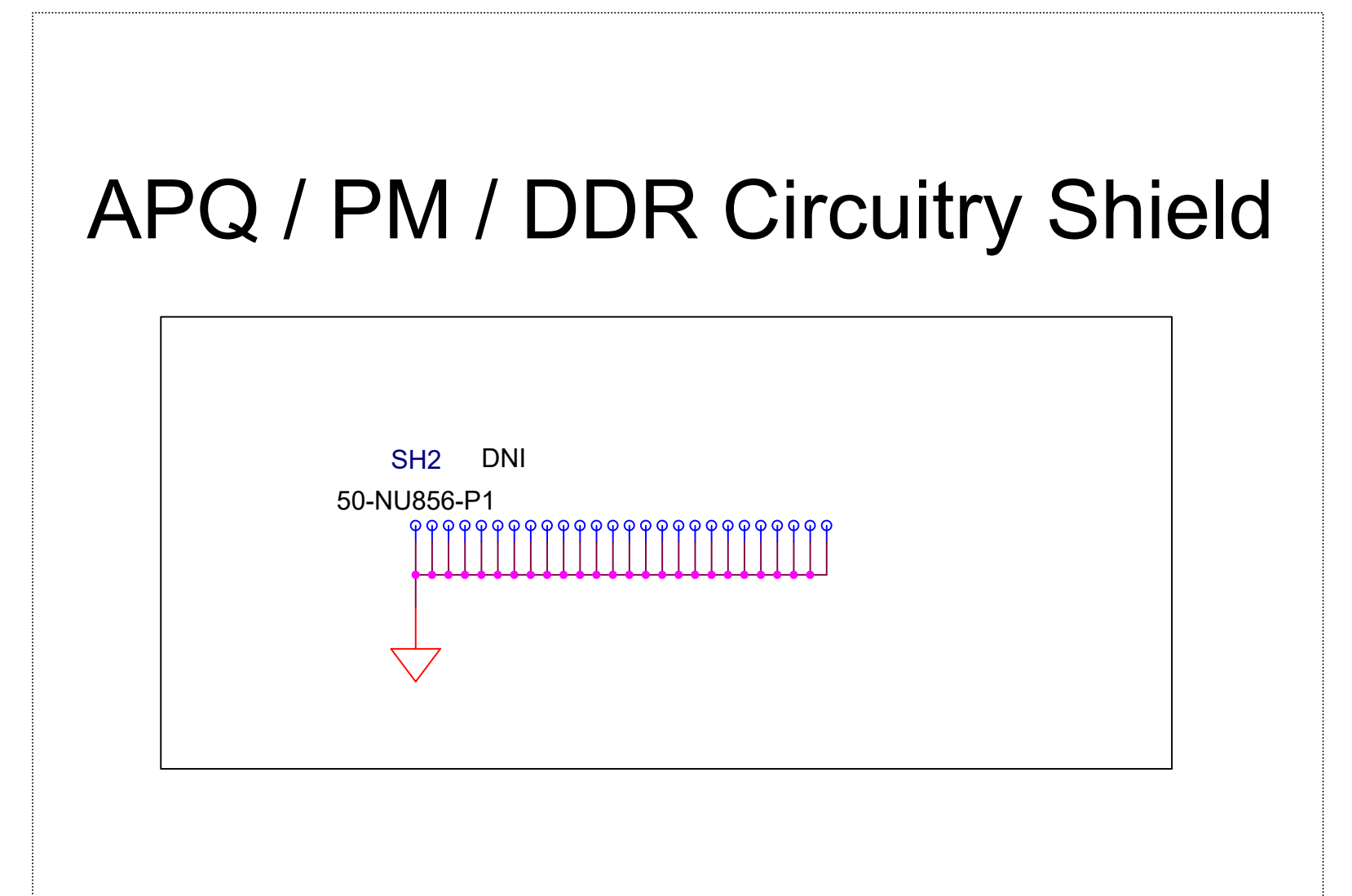
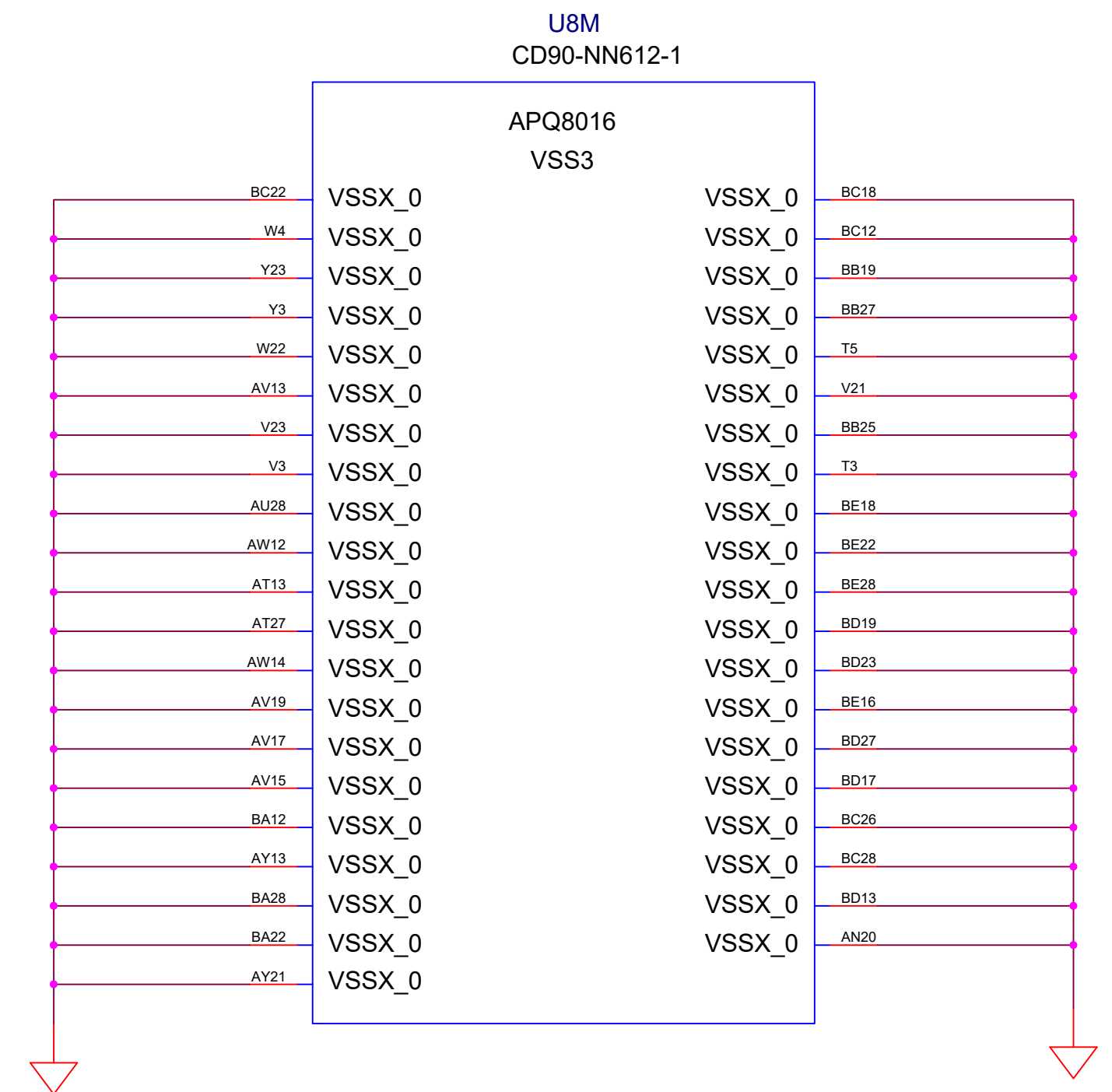
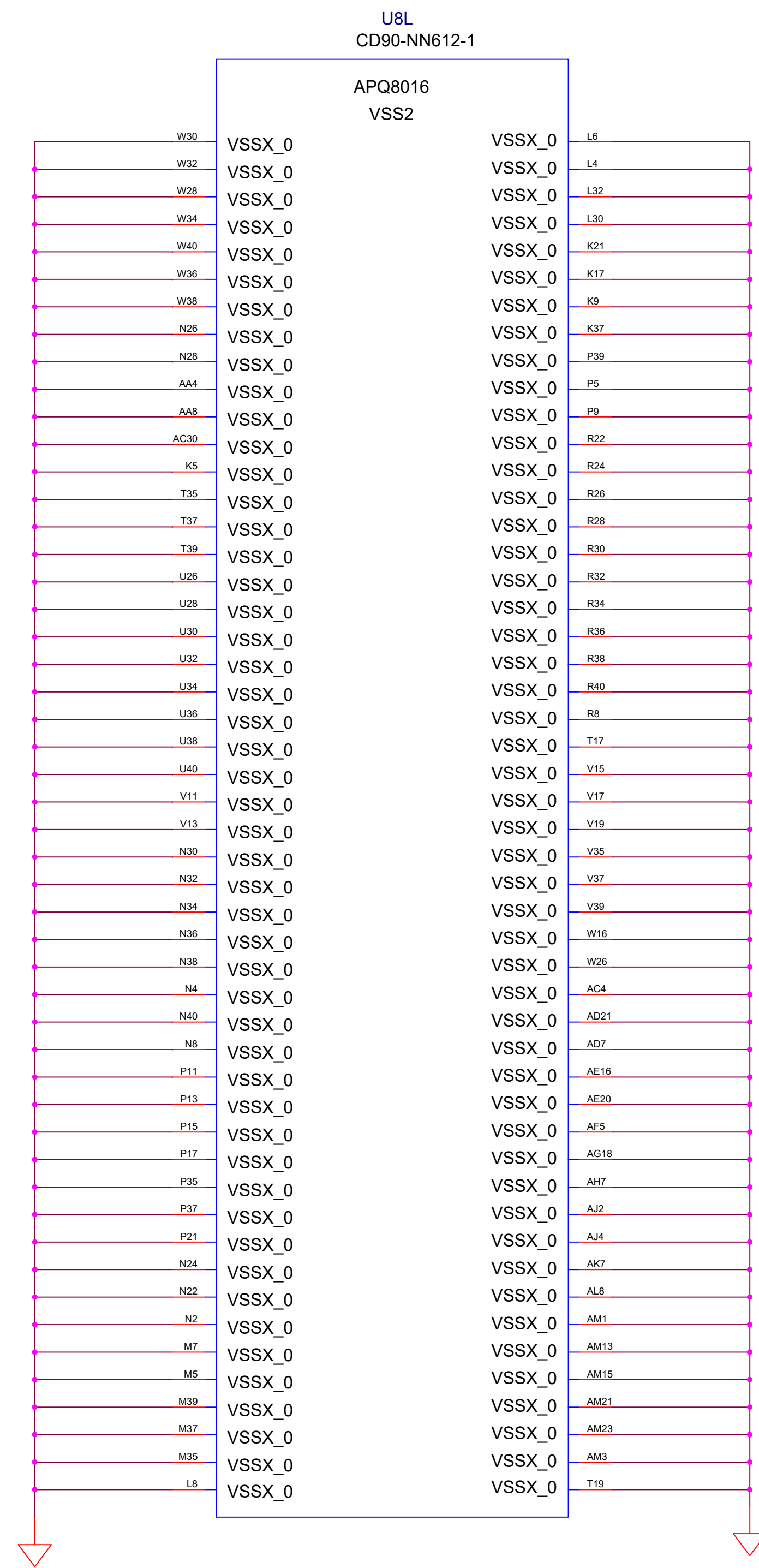
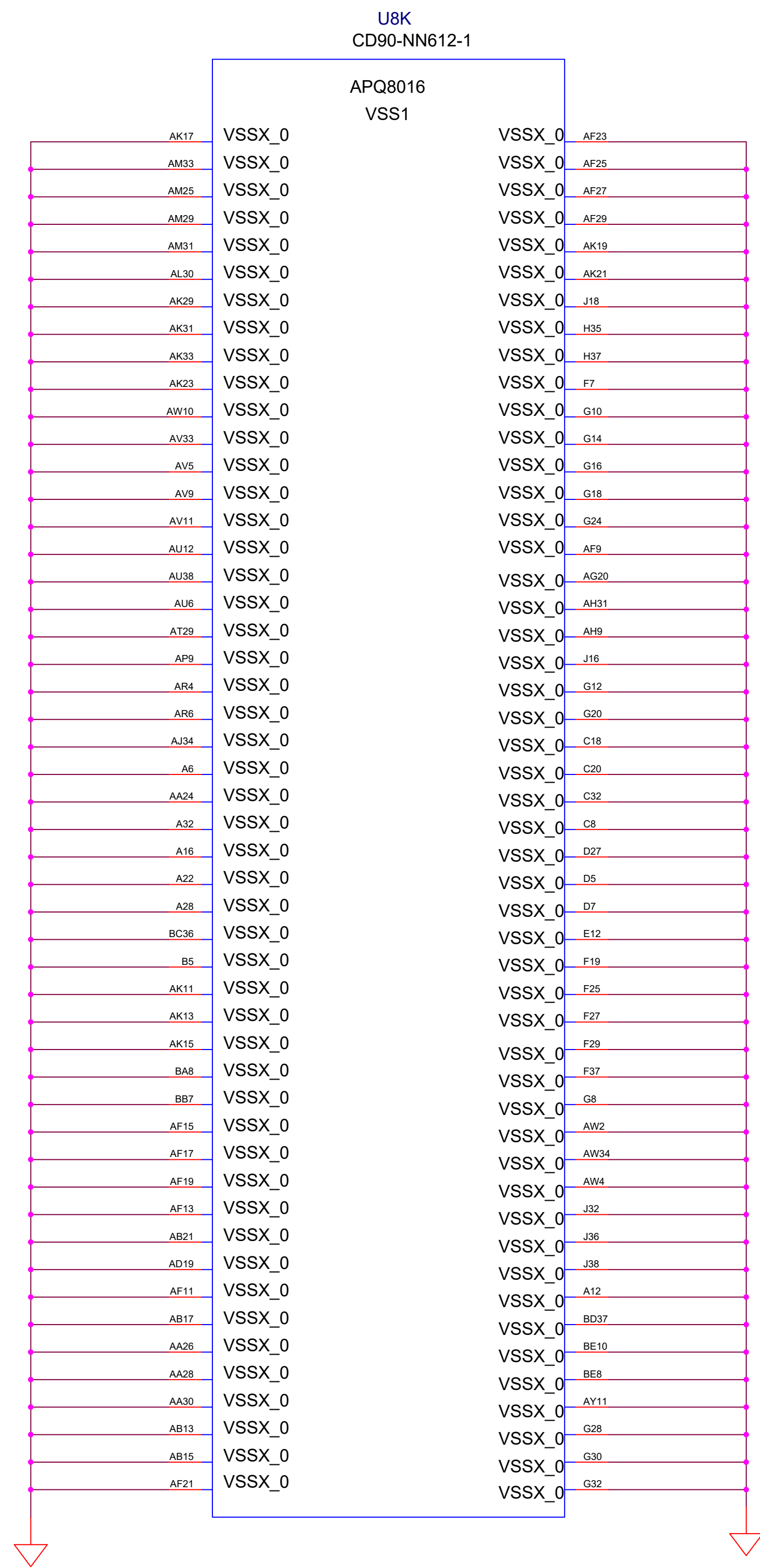
APQ8016 - PWR2



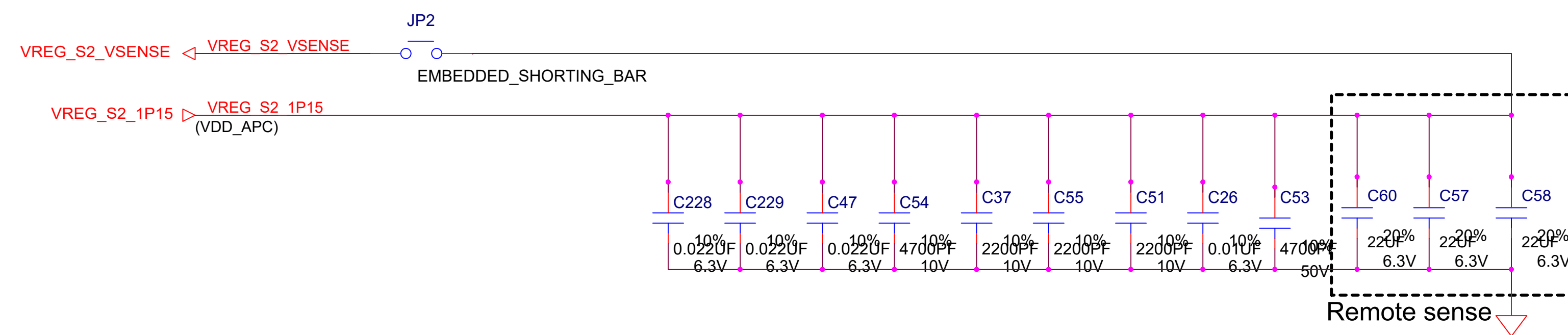
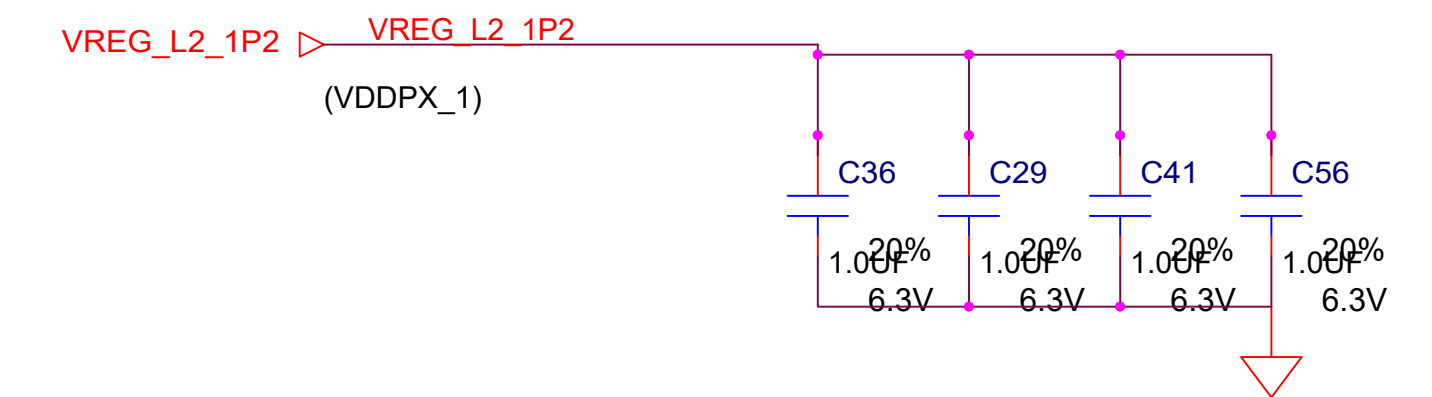
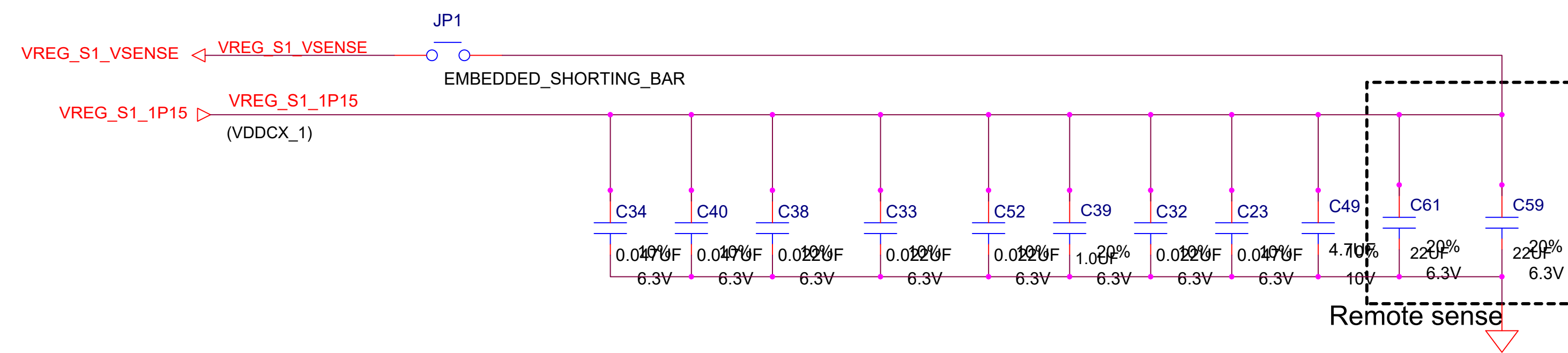
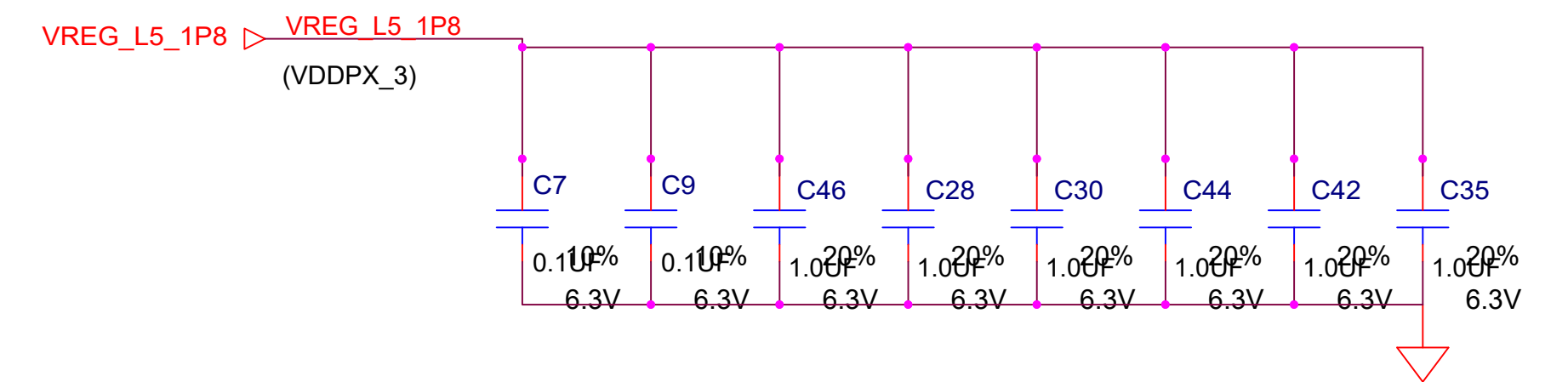
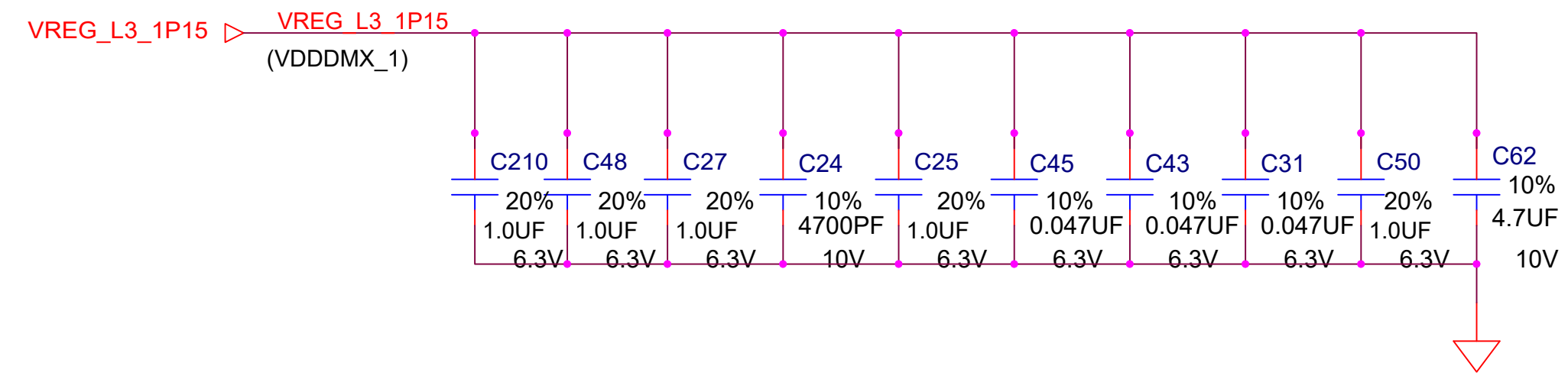
APQ8016 - PWR3



APQ8016 - GND



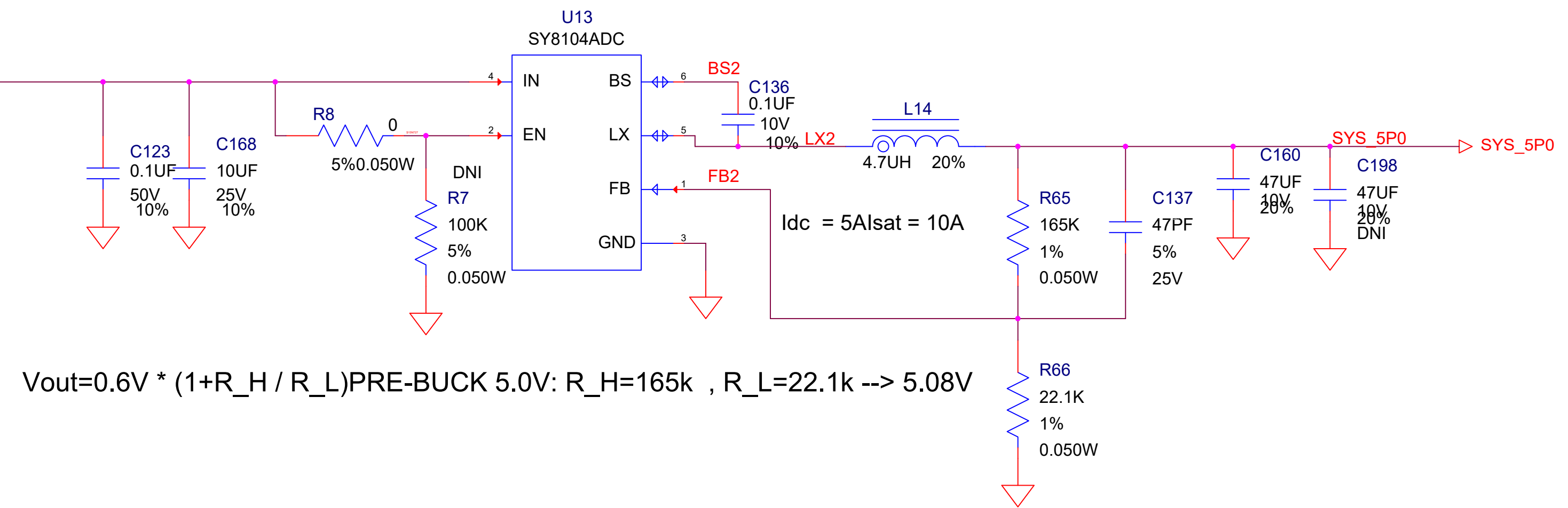
APQ8016 BYPASS CAPACITORS



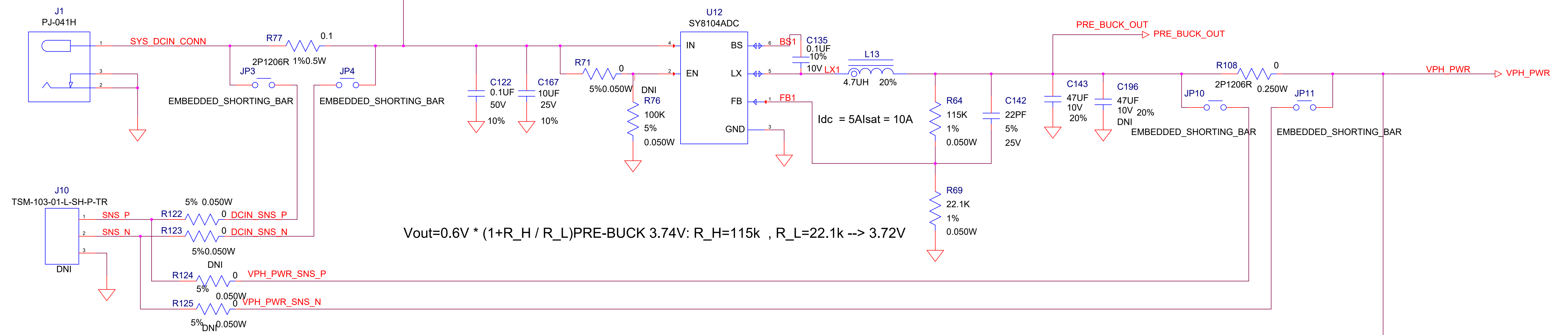
EXTERNAL BUCK REGULATORS

To/From LS EXP CONN

PRE-BUCK - 5.0V



PRE-BUCK - 3.7V

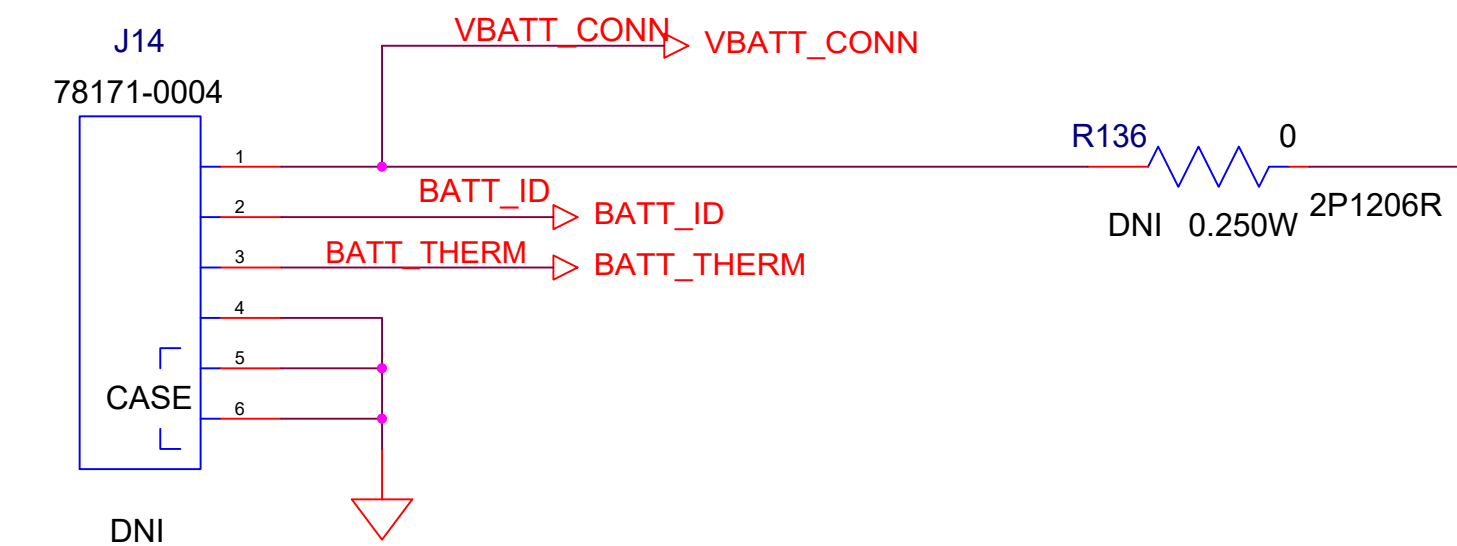


ARM ENERGY PROBE (PWR MEAS)

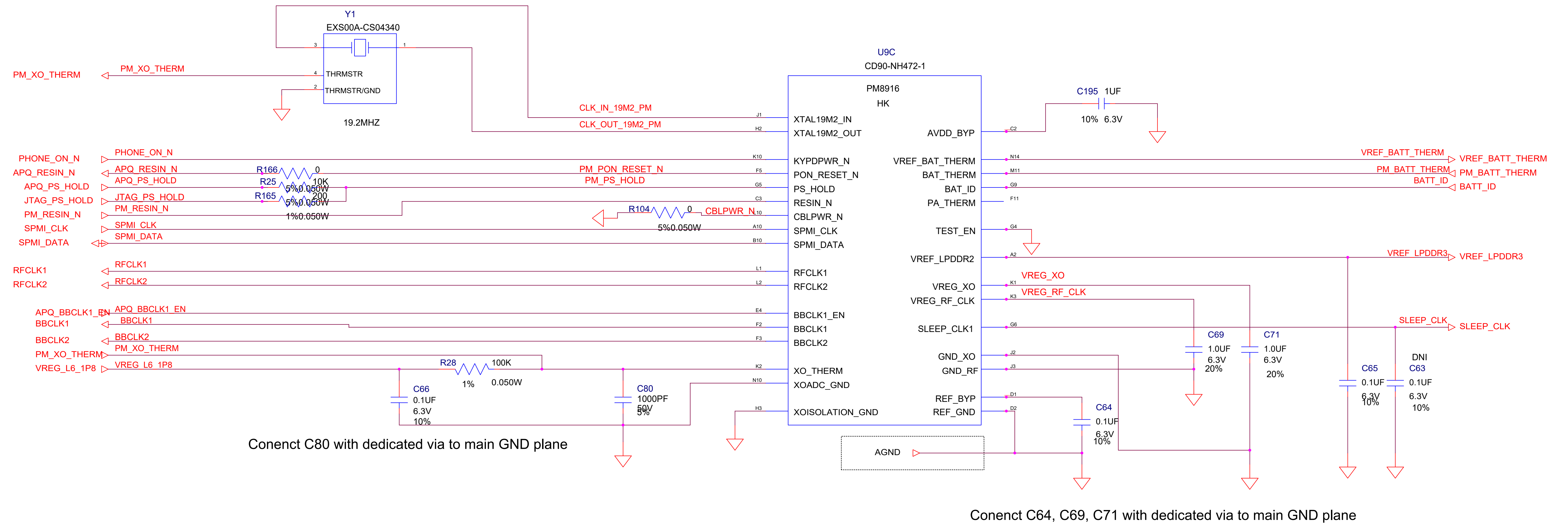
SUPPORTED	ASSY OPTION
YES	INSTALL J10
NO	DNI J10

VPH_PWR SOURCE

BOM CONFIG	SUPPORTED	ASSY OPTION
Hx0x, HX5X	3.7V BUCK	INSTALL R108 DNI J14, R136
NONE	BATTERY	DNI R108 INSTALL J14, R136

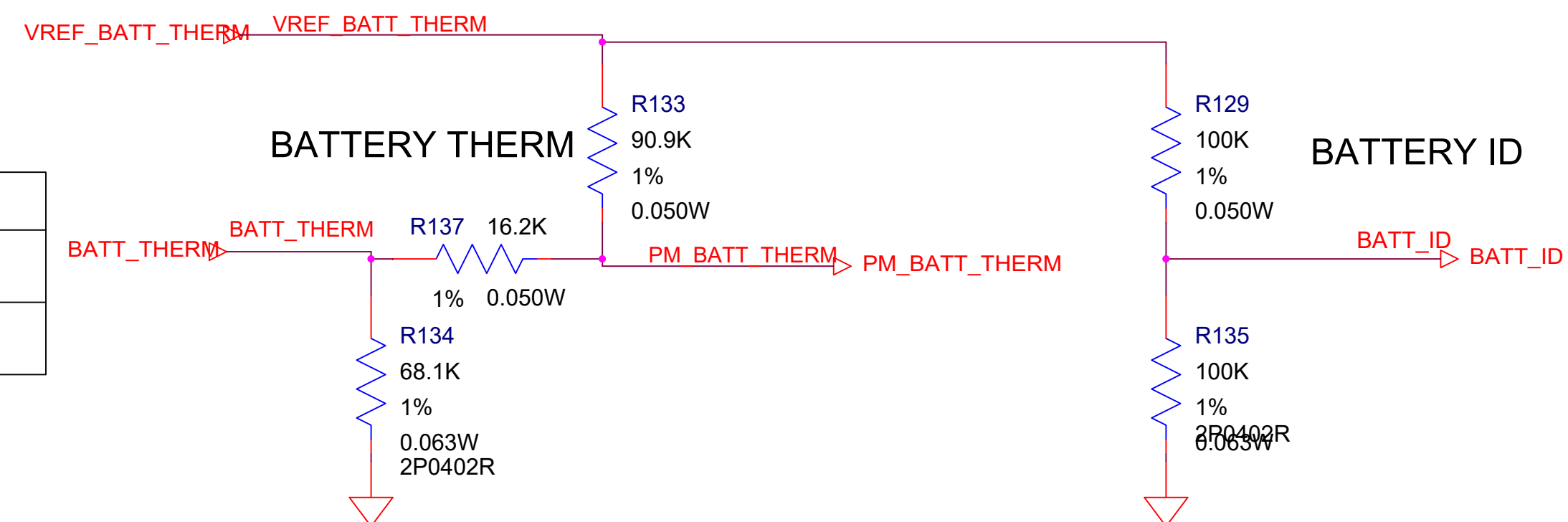


PM8916 - CONTROL/CLOCKS



VPH_PWR SOURCE

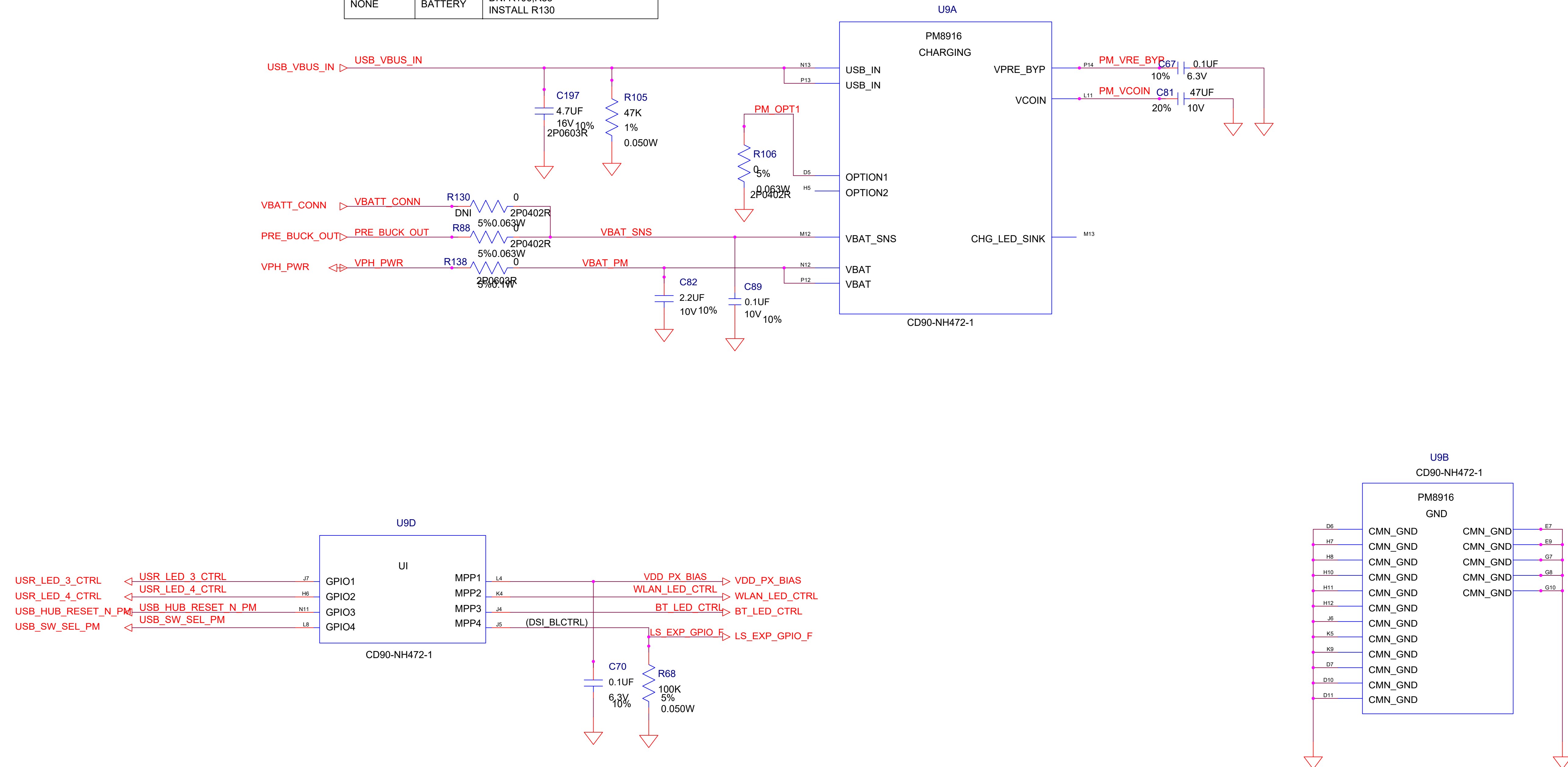
BOM CONFIG	SUPPORTED	ASSY OPTION
Hx0x, HX5X	3.7V BUCK	INSTALL R134,R135
NONE	BATTERY	DNI R134,R135



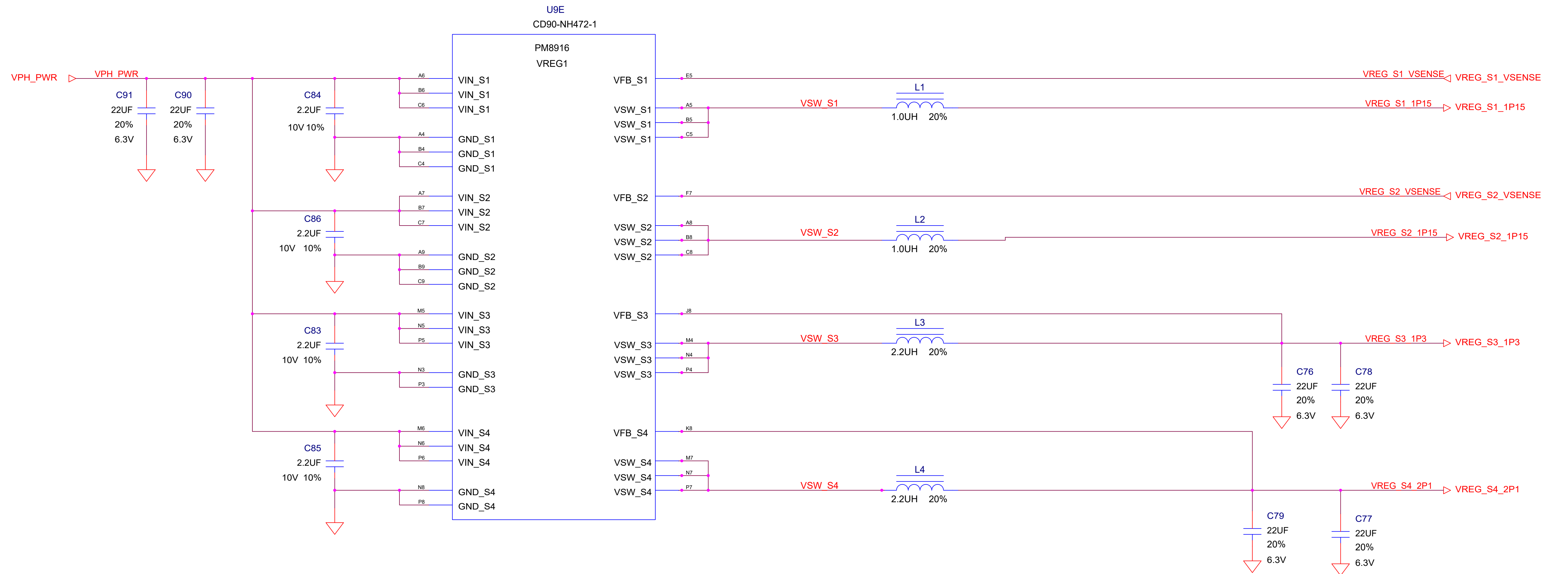
PM8916 - CHARGER/GPIOS/MPPS

VPH_PWR SOURCE

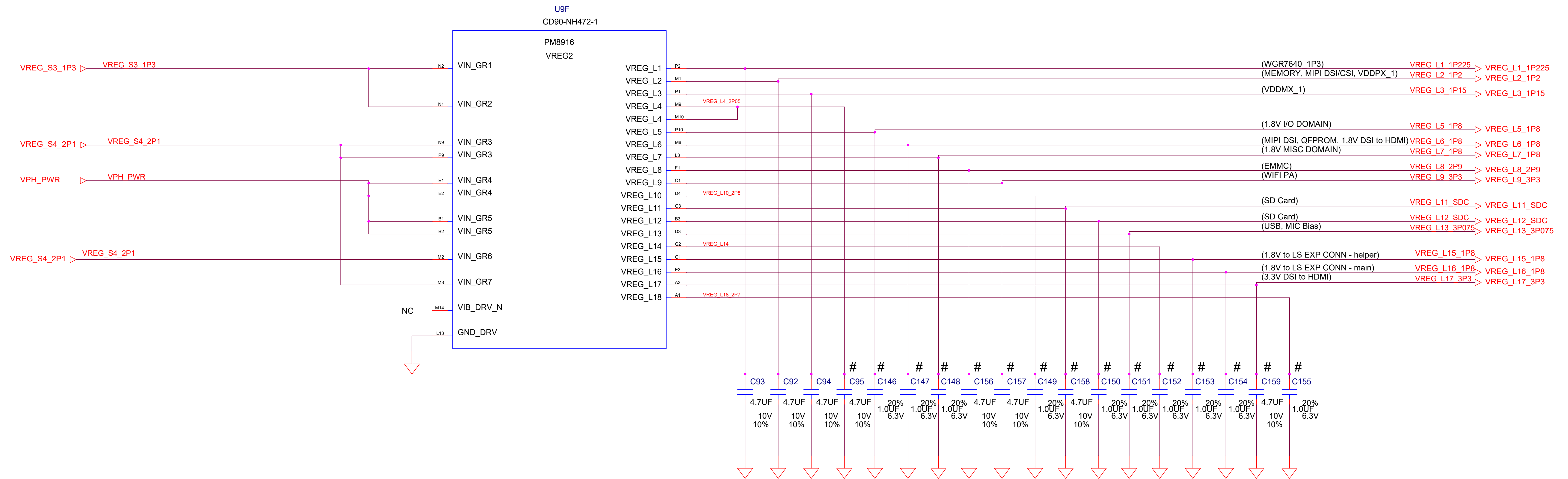
BOM CONFIG	SUPPORTED	ASSY OPTION
Hx0x, HX5X	3.7V BUCK	INSTALL R106,R88 DNI R130
NONE	BATTERY	DNI R106,R88 INSTALL R130



PM8916 - SMPS



PM8916 - LDOs



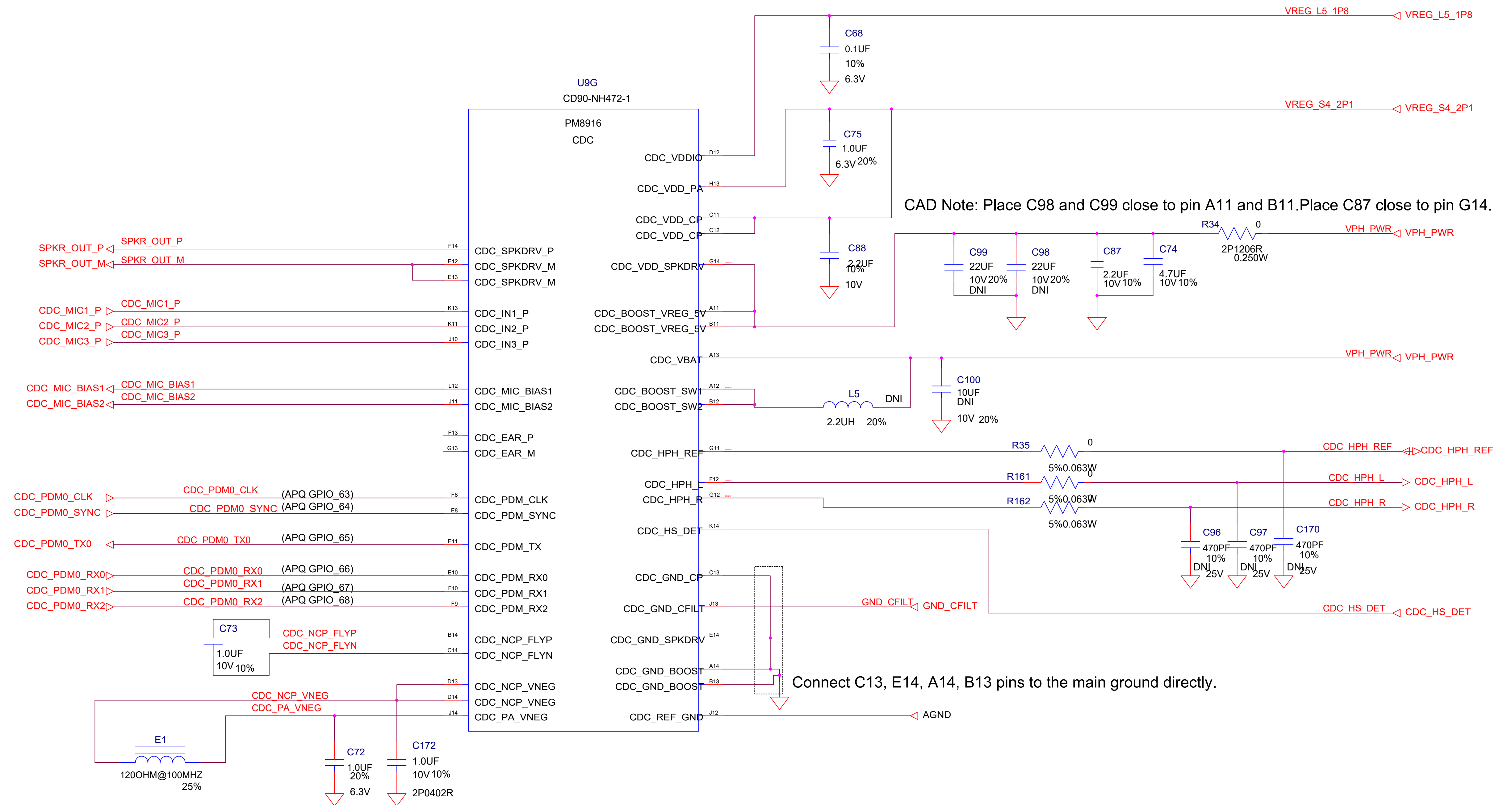
NOTES:

Effective output capacitance LDOs L1, L2, L3, L4, L8, L9, L11, L17 --> Cout_eff = 4.7uF LDOs L5, L6, L7, L10, L12, L13, L14, L15, L16, L18 --> Cout_eff = 1.0uF

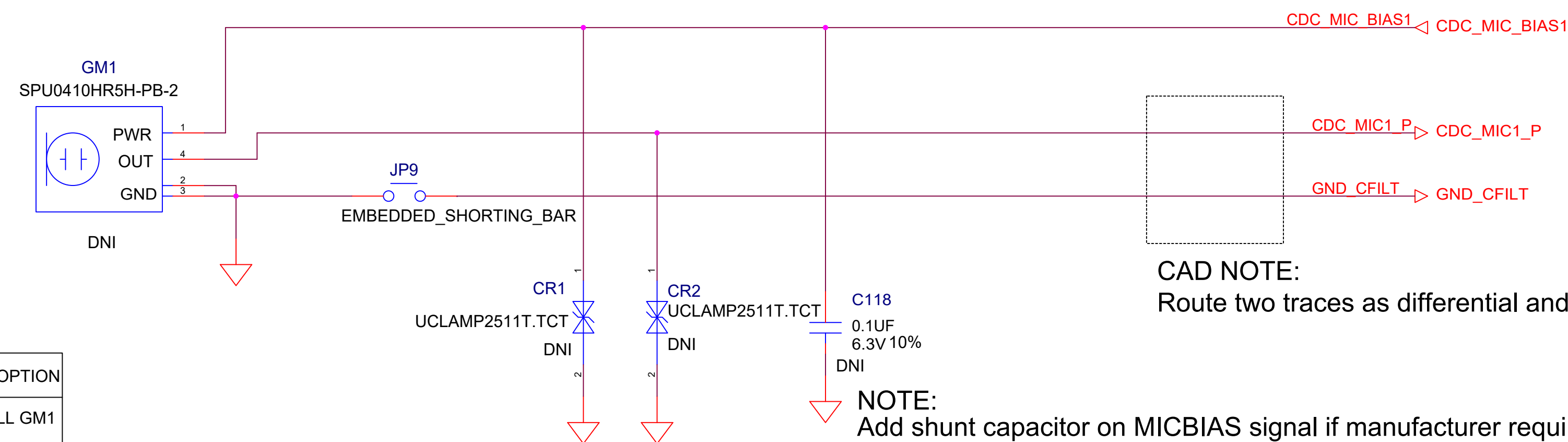
PSEUDO CAPLESS LDOs (indicated by # near the capacitor) L4, L5, L6, L7, L8, L9, L10, L11, L12, L13, L14, L15, L16, L17, L18

PSEUDO CAPLESS LDOs capacitors location is defined in 80-NK808-21

PM8916 - AUDIO



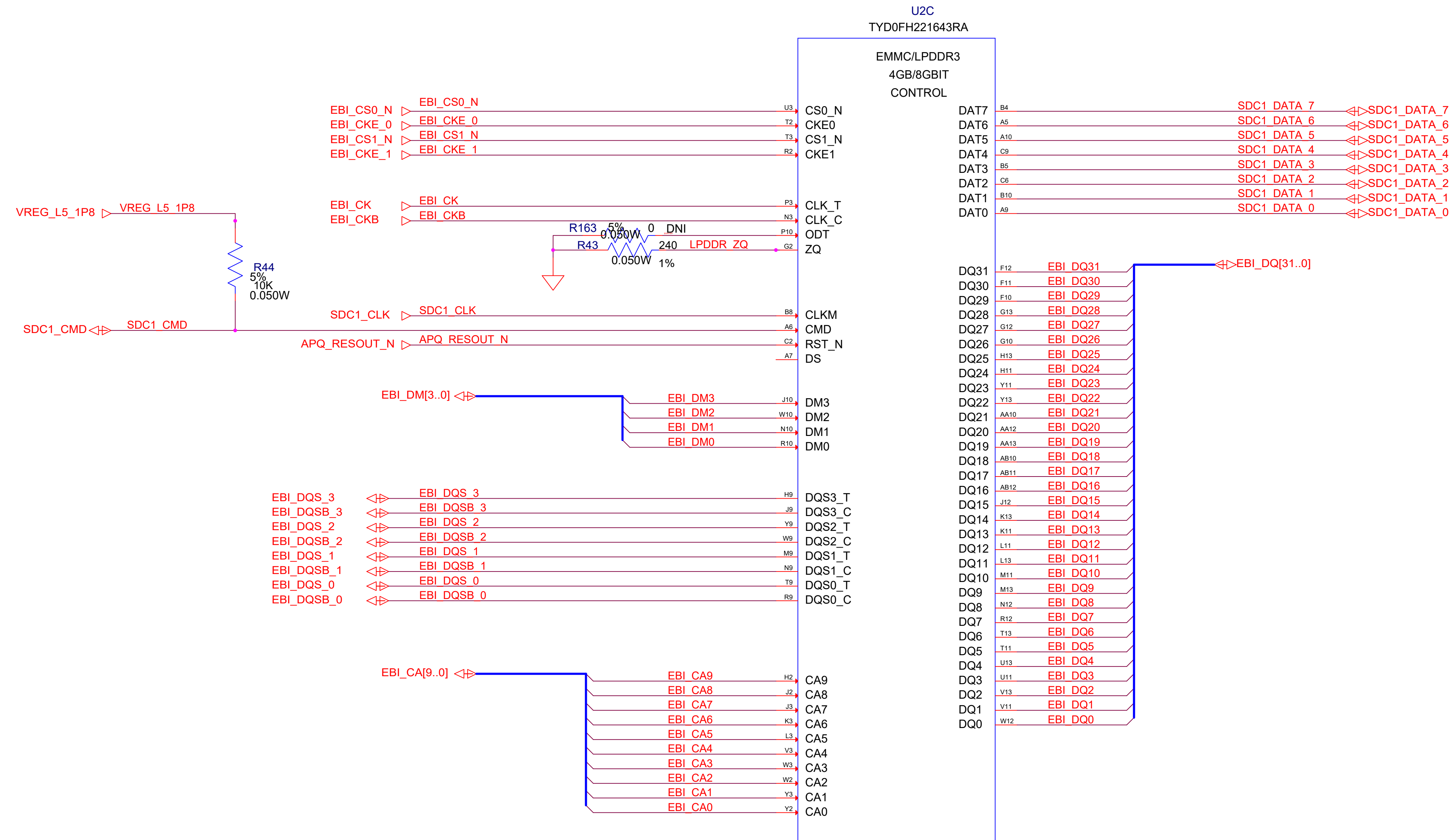
ANALOG MIC



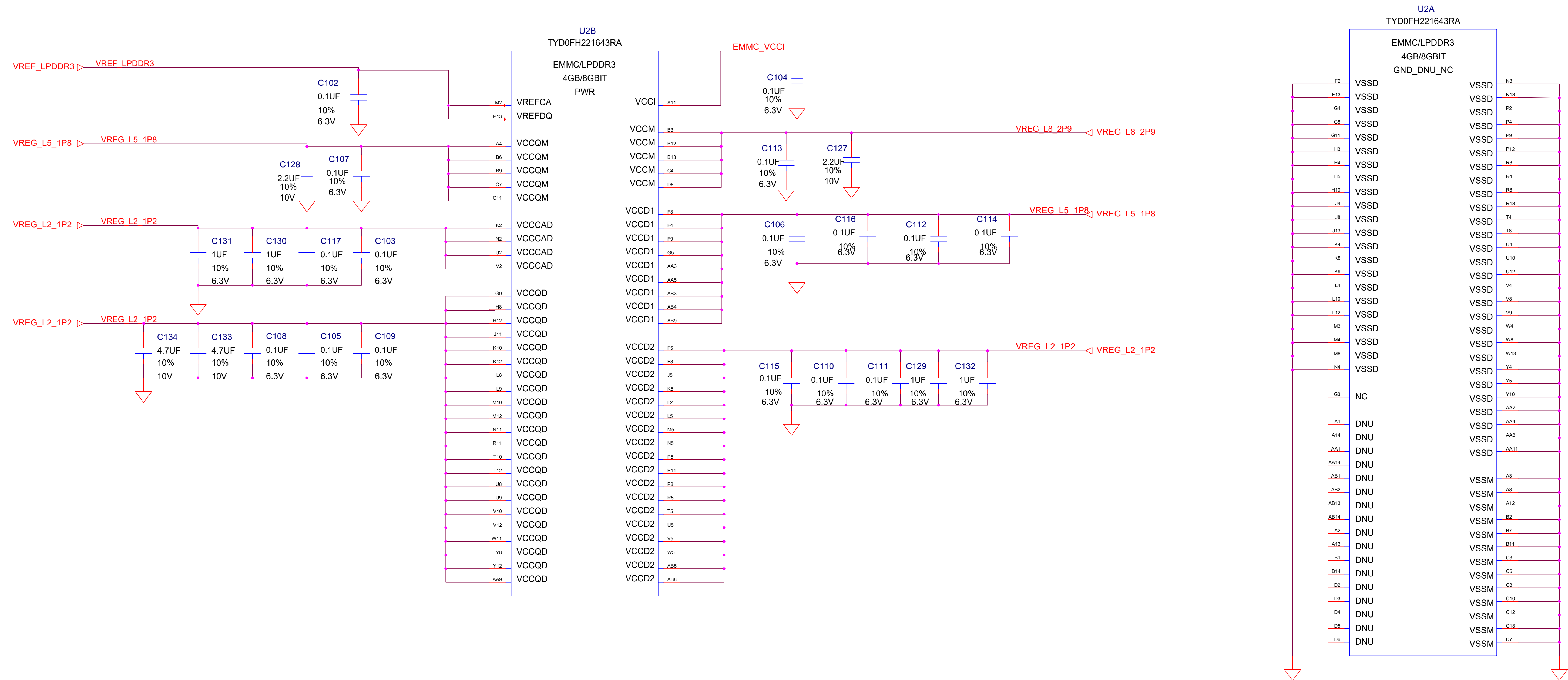
ANALOG MIC

SUPPORTED	ASSY OPTION
YES	INSTALL GM1
NO	DNI GM1

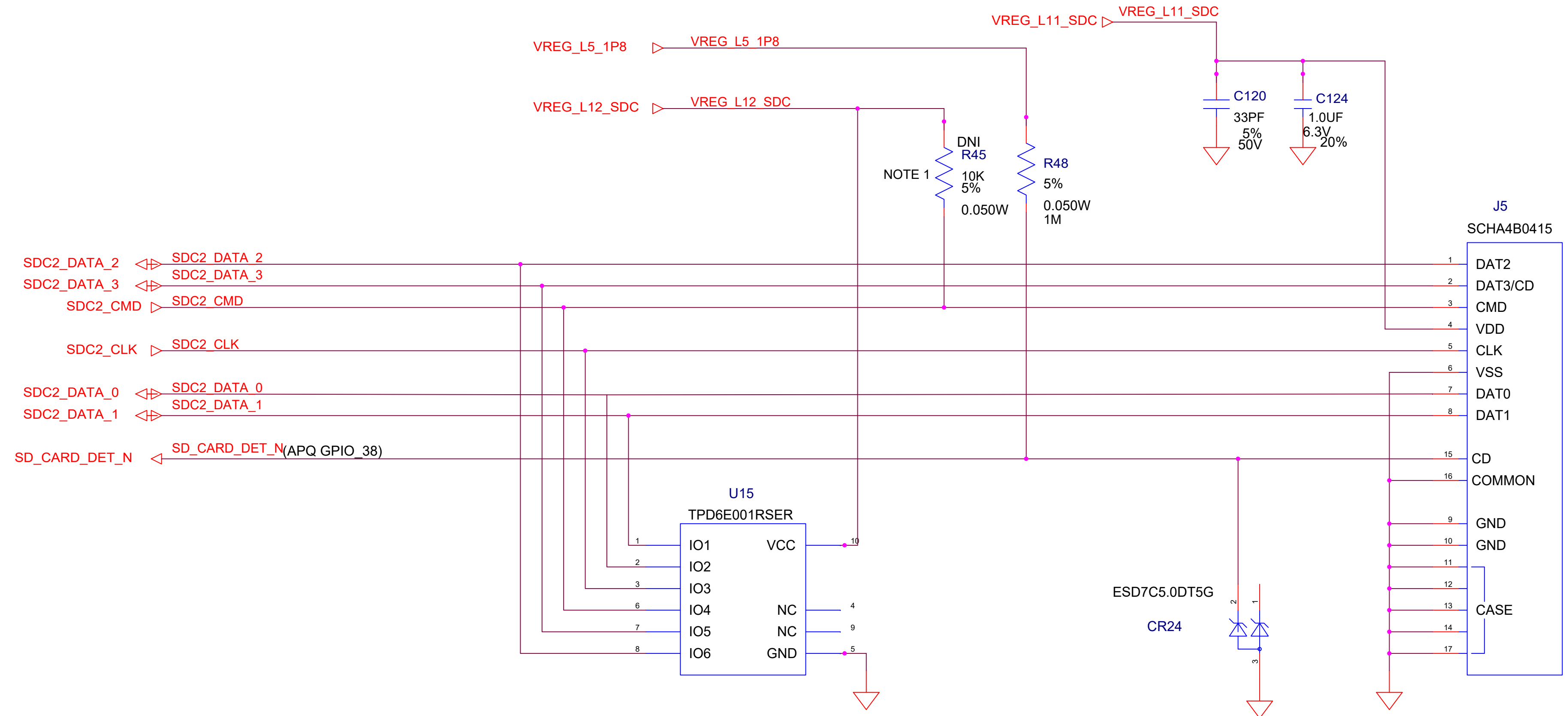
MEMORY - LPDDR3 + EMMC - CONTROL



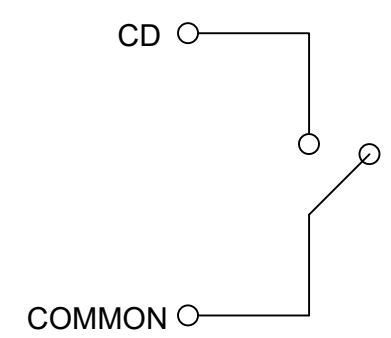
MEMORY - LPDDR3 + EMMC - CONTROL



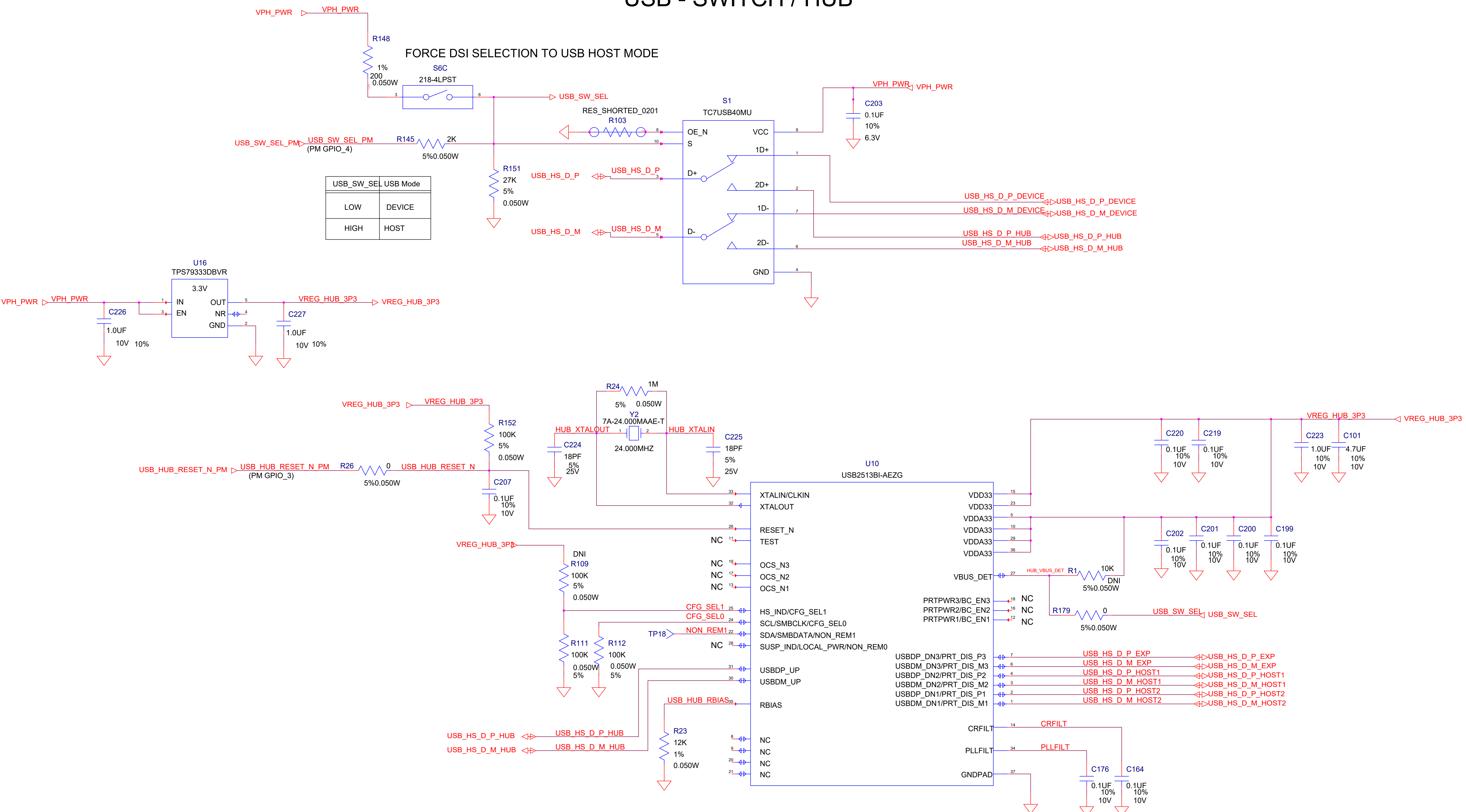
MEMORY - uSD CONNECTOR



CARD DETECT	CASE
CARD NOT INSTALLED	CD-COMMON SW=OFF
CARD INSTALLED	CD-COMMON SW=ON



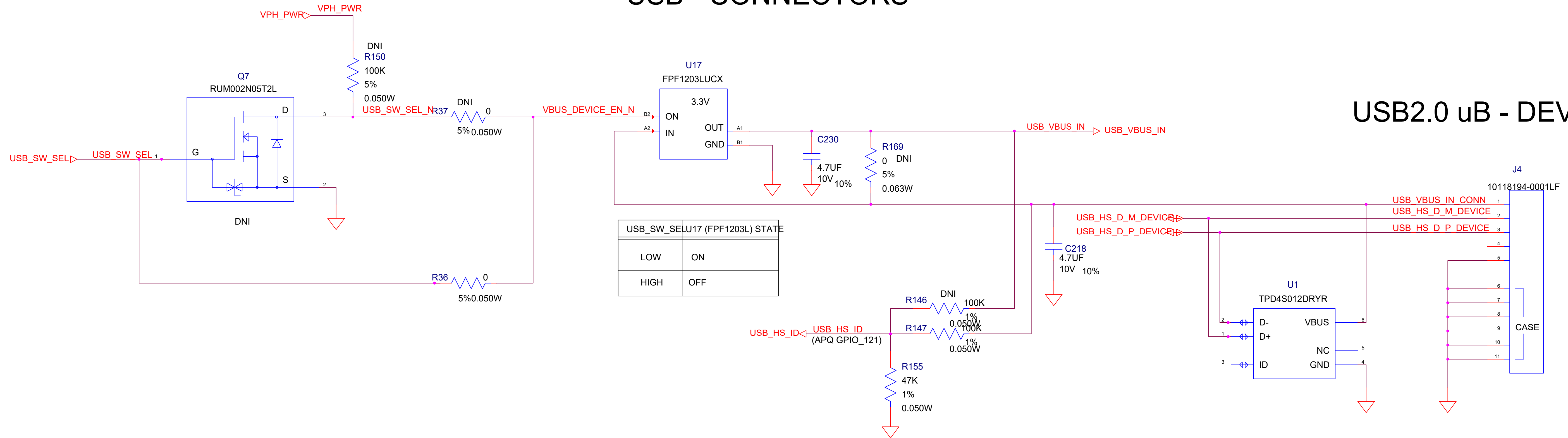
USB - SWITCH / HUB



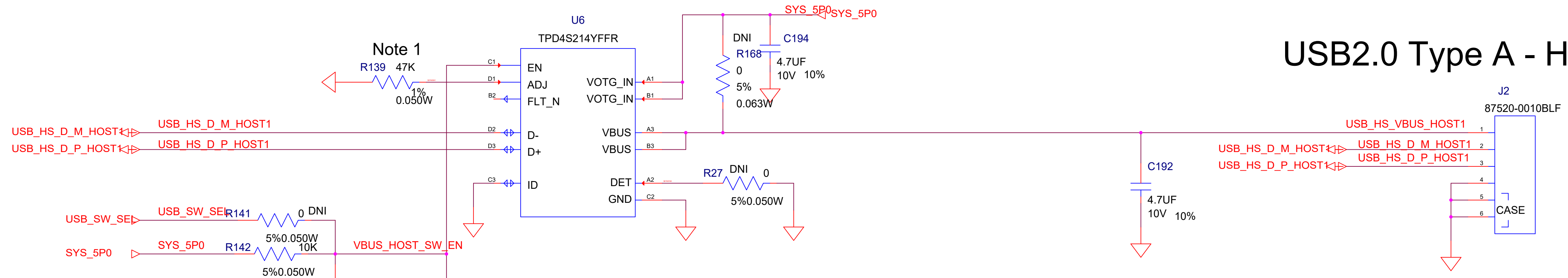
Note 1:
REF_SEL[1:0] = '10' --> REFVLK=19.2MHz

USB - CONNECTORS

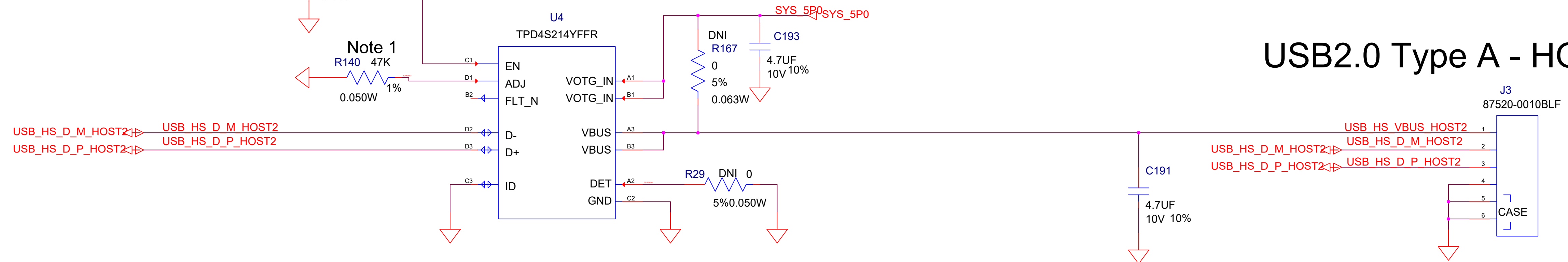
USB2.0 uB - DEVICE



USB2.0 Type A - HOST1

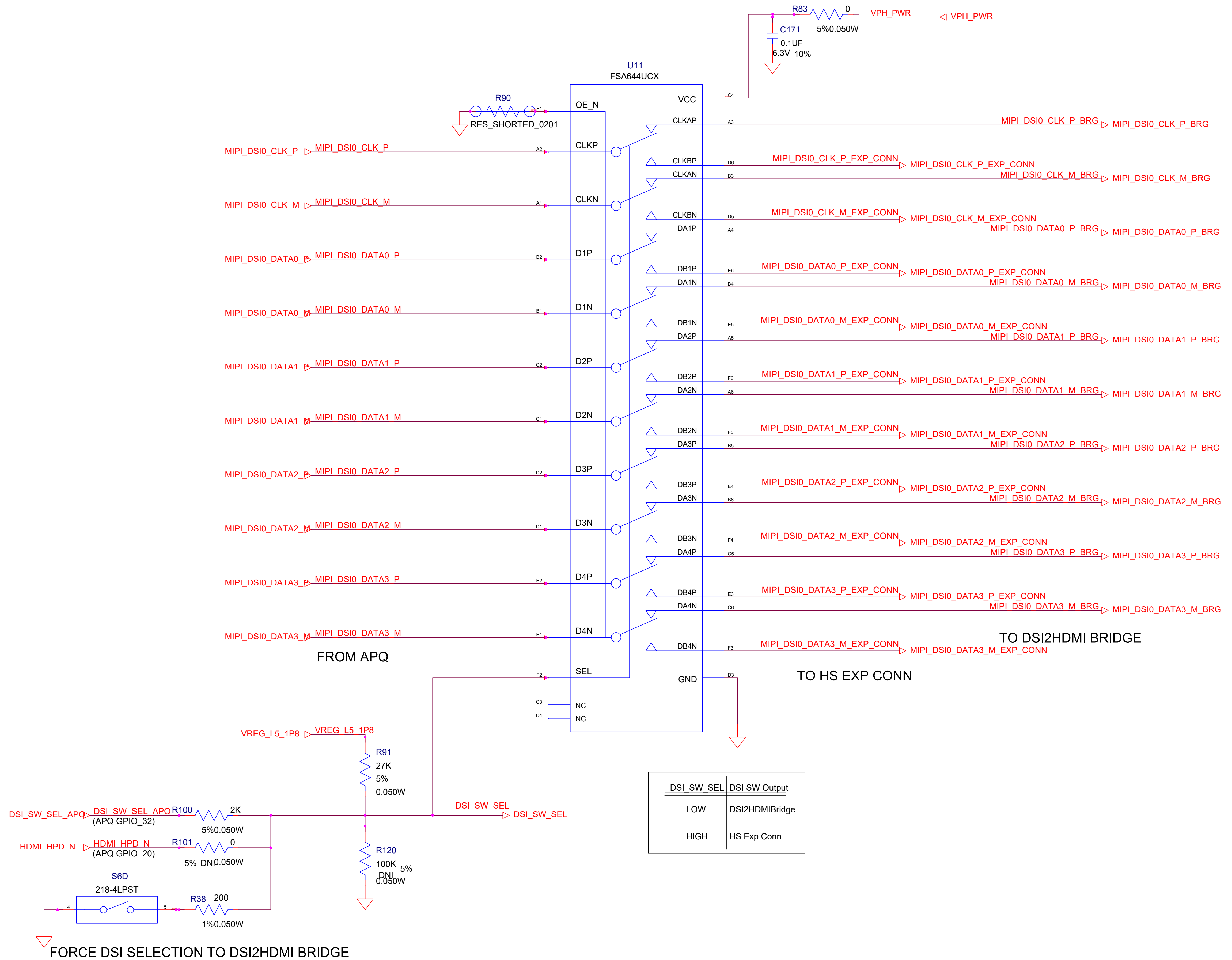


USB2.0 Type A - HOST2

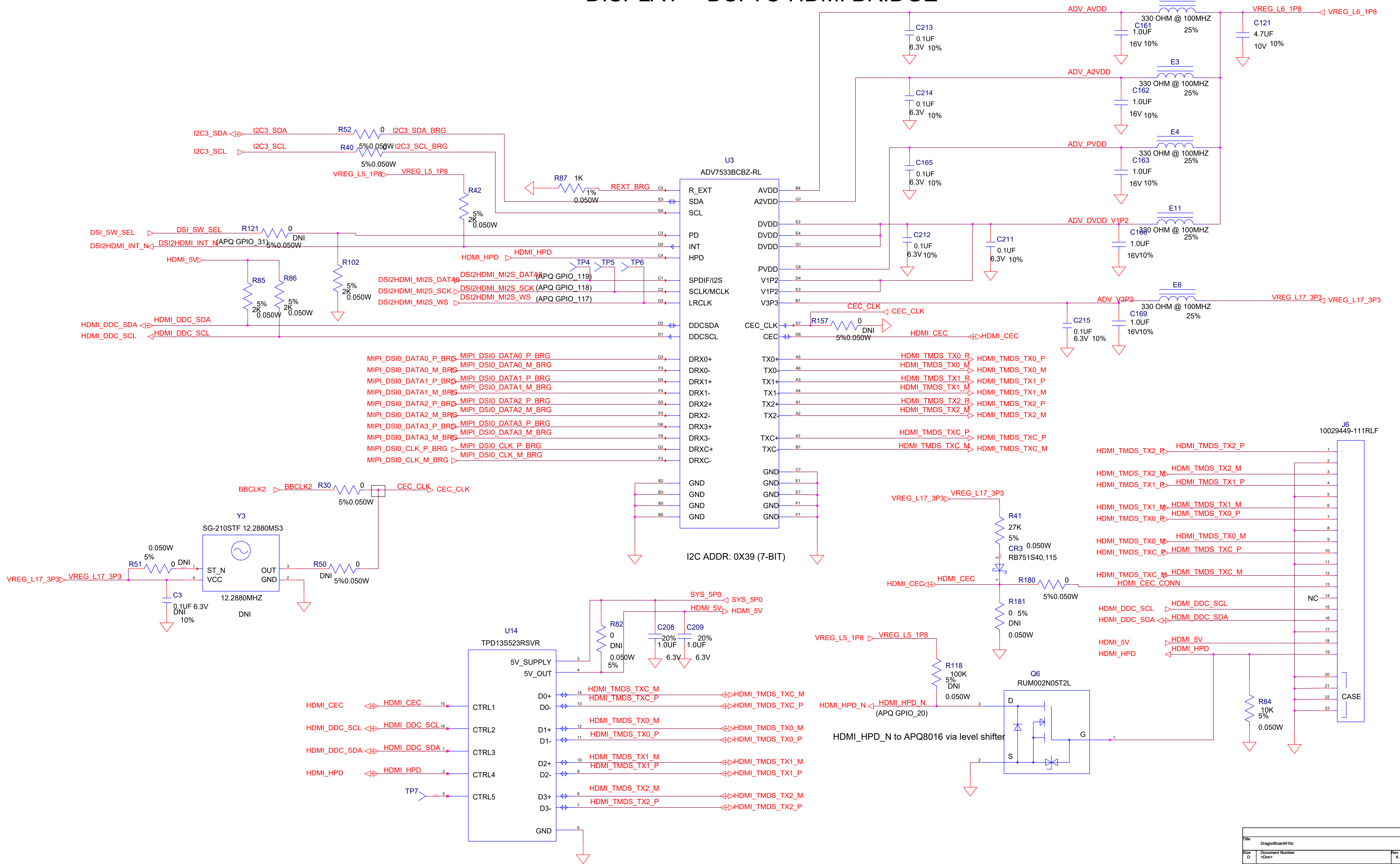


Notes: 1. Current Limit = $55.358 / \text{Radj} [\text{komh}] = 1.18\text{mA}2$. Connect USB ID pin on connector when uAB conenctor is used (10104111)

DISPLAY - DSI SWITCH

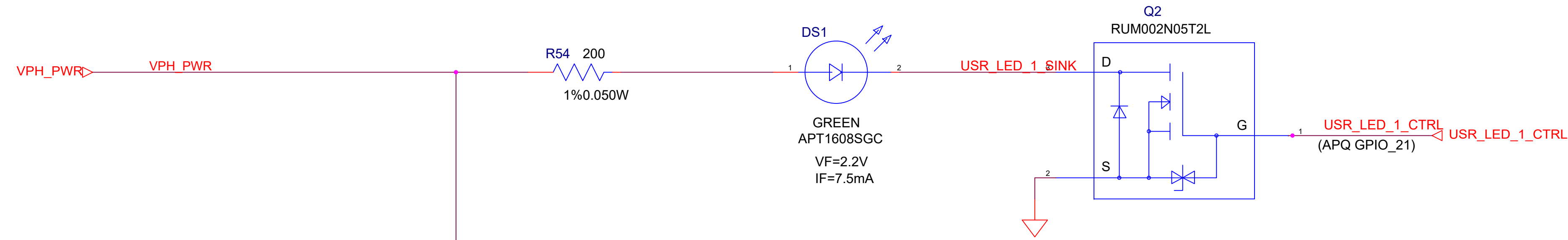


DISPLAY - DSI TO HDMI BRIDGE

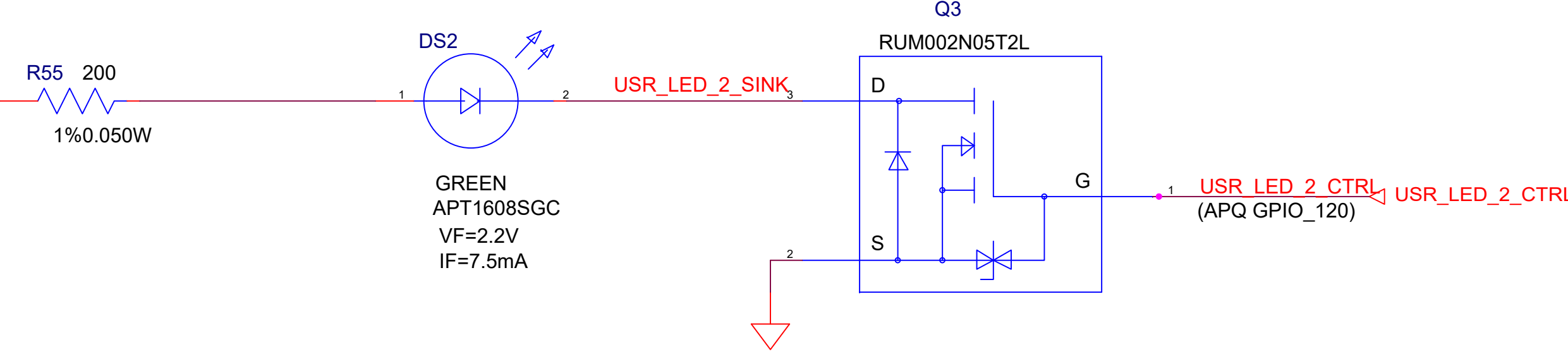


SWITCHES / LEDS

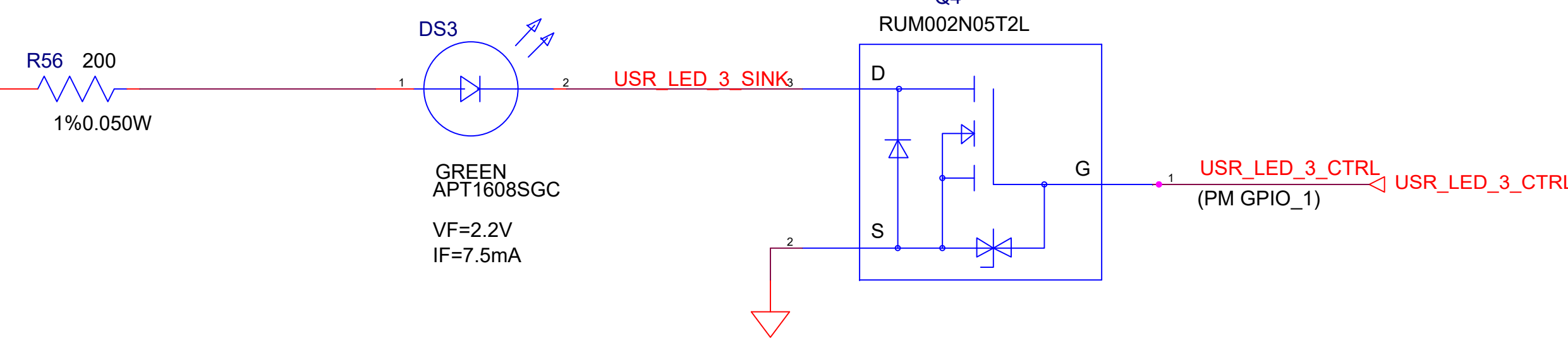
USER LED 1



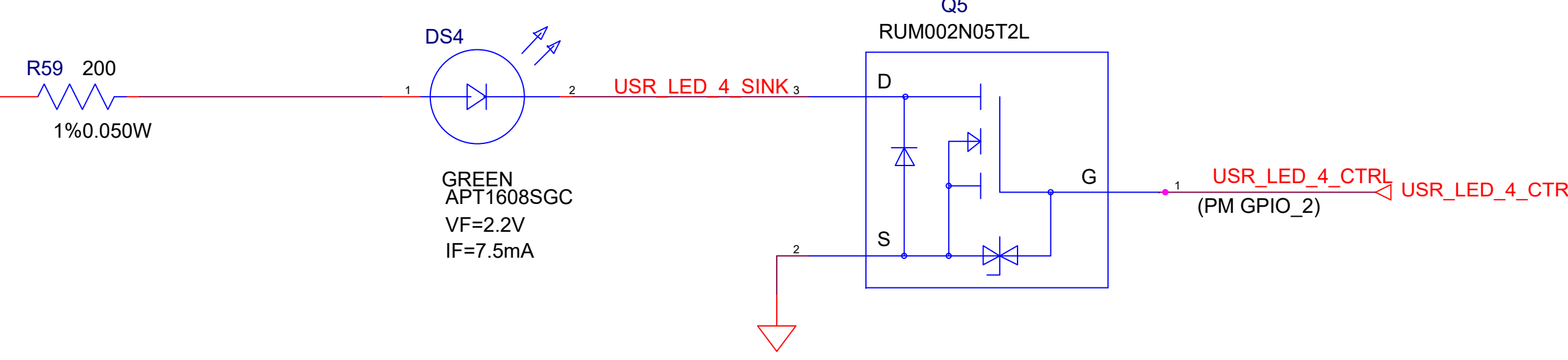
USER LED 2



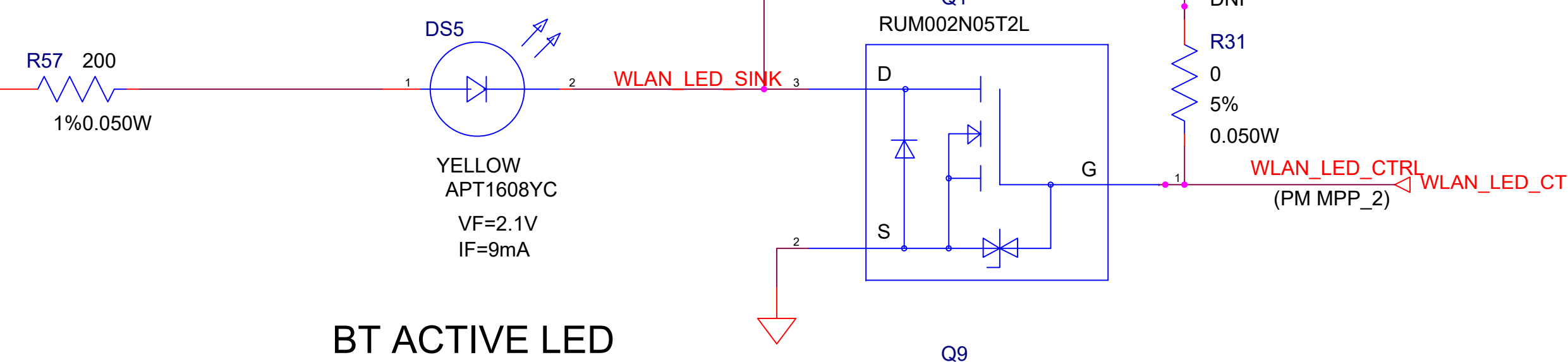
USER LED 3



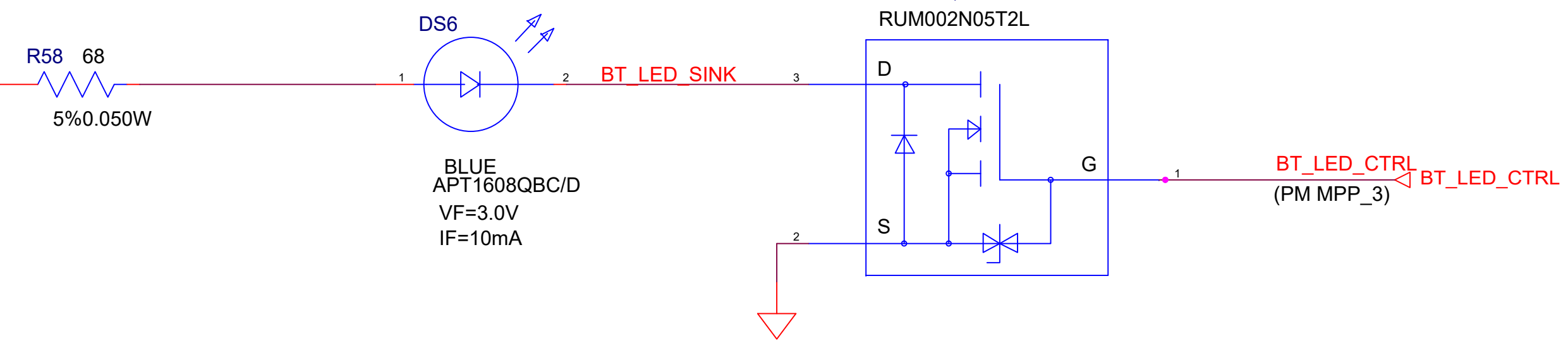
USER LED 4



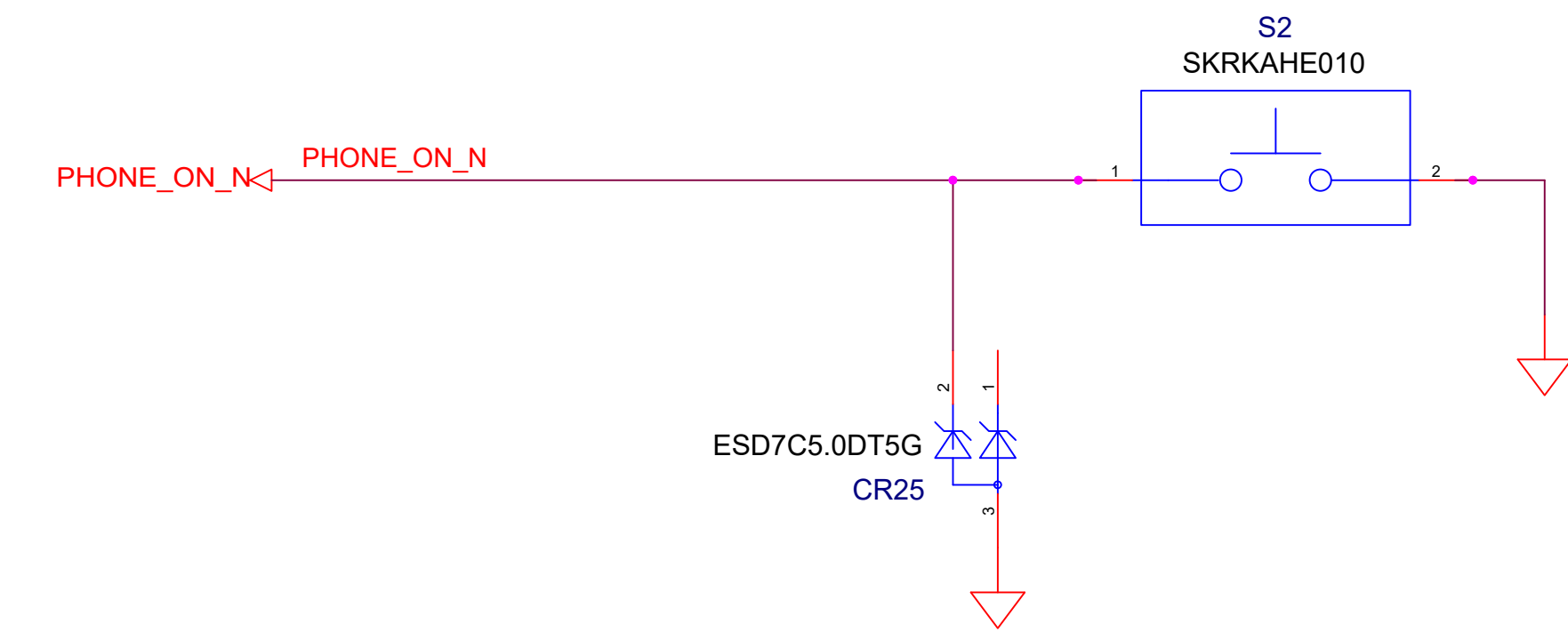
WLAN ACTIVE LED



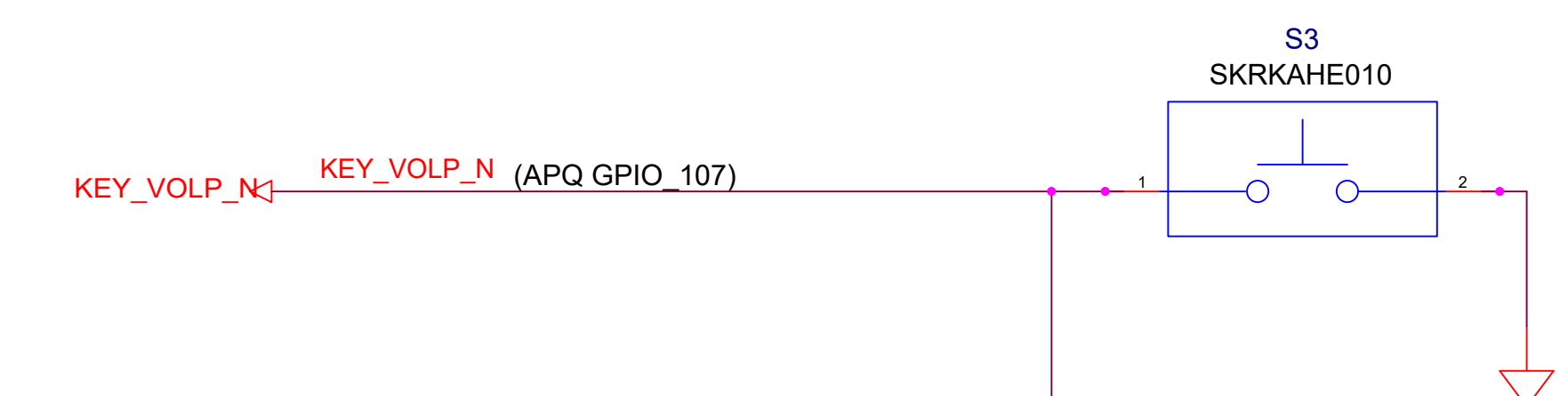
BT ACTIVE LED



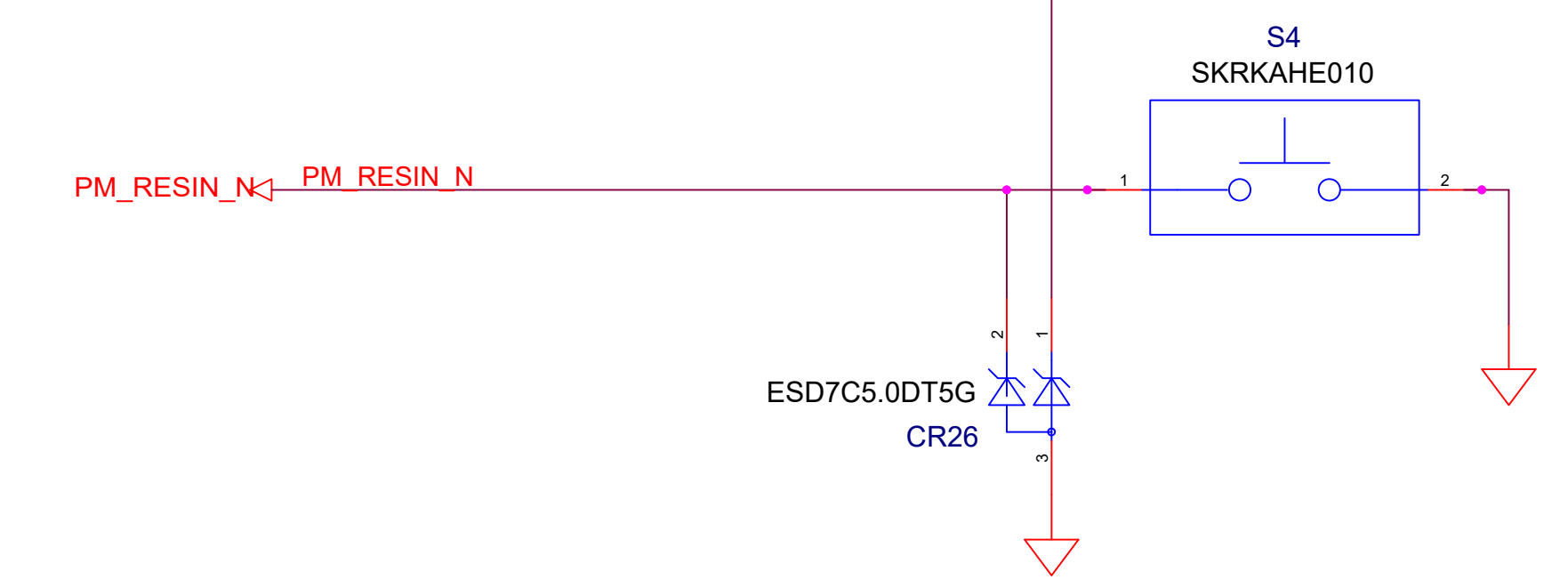
PWR SWITCH



VOL/ZOOM+

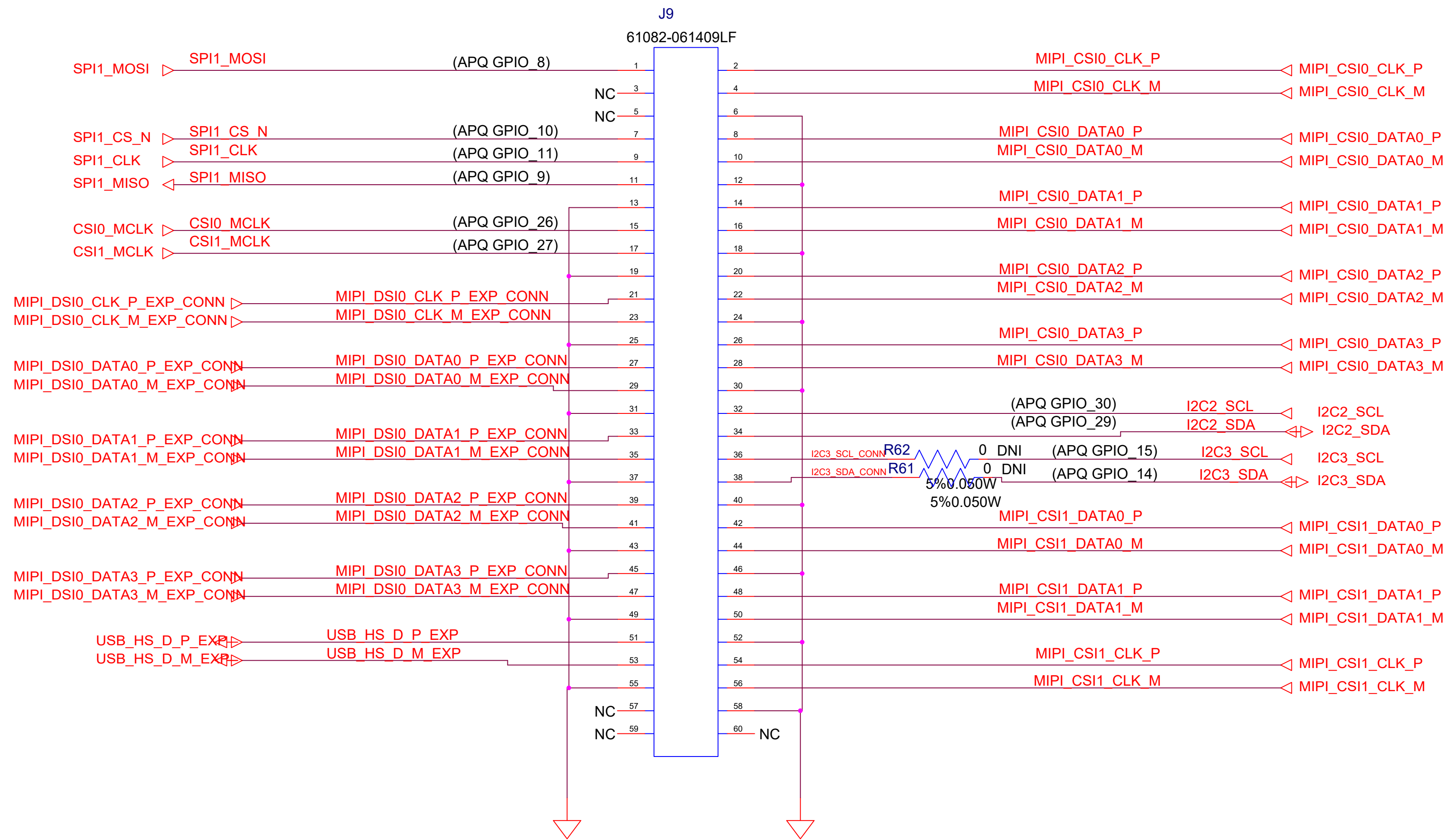


VOL/ZOOM-

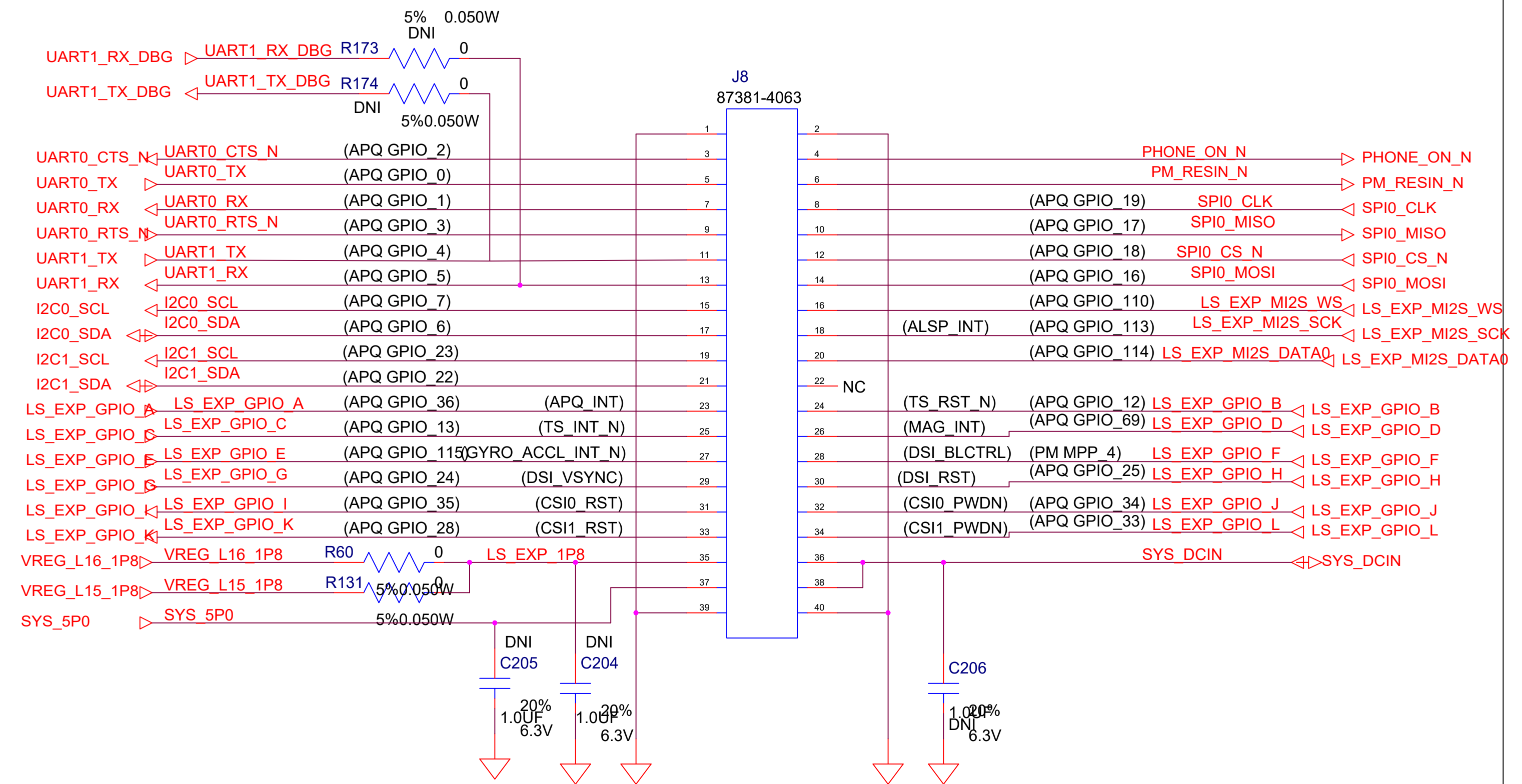


LS / HS EXPANSION CONNECTORS

HS EXPANSION CONNECTOR

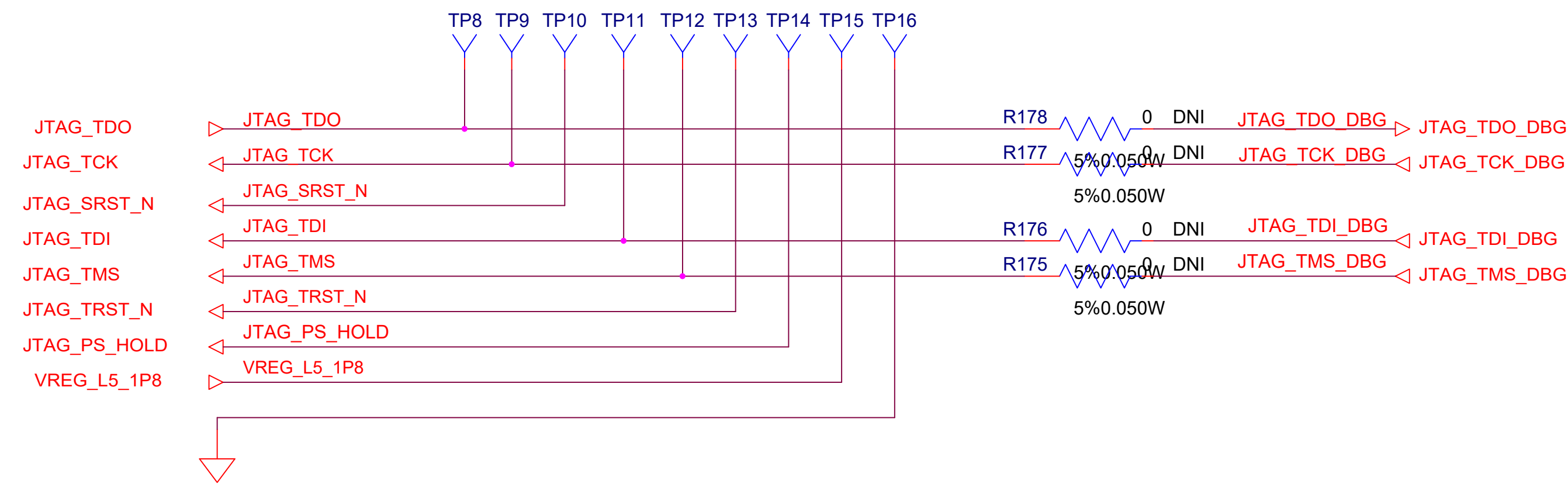


LS EXPANSION CONNECTOR

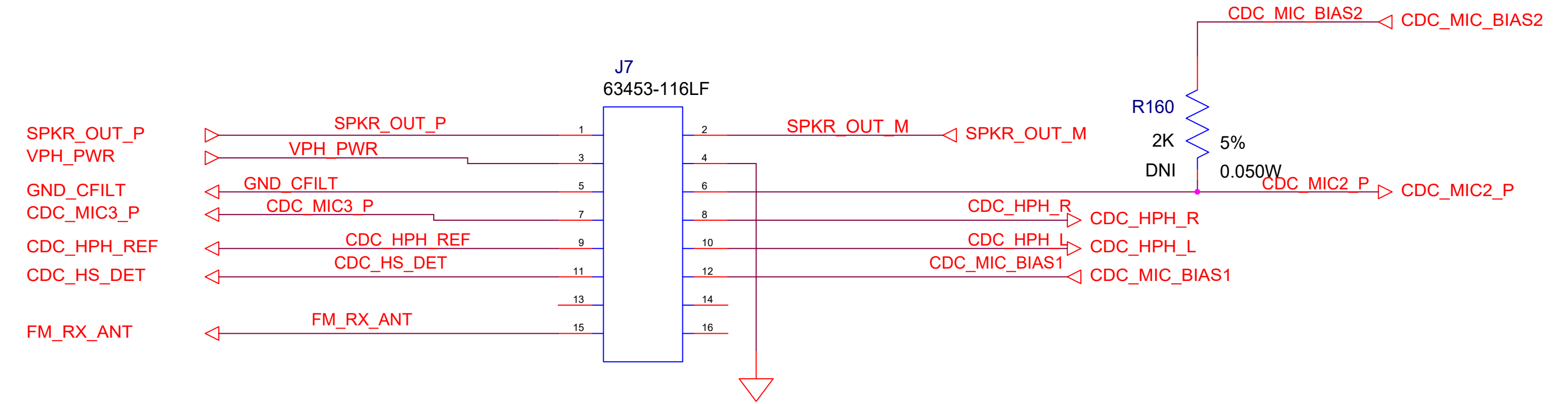


JTAG / UART / ANALOG EXPANSION CONNECTORS

JTAG INTERFACE (TOP)



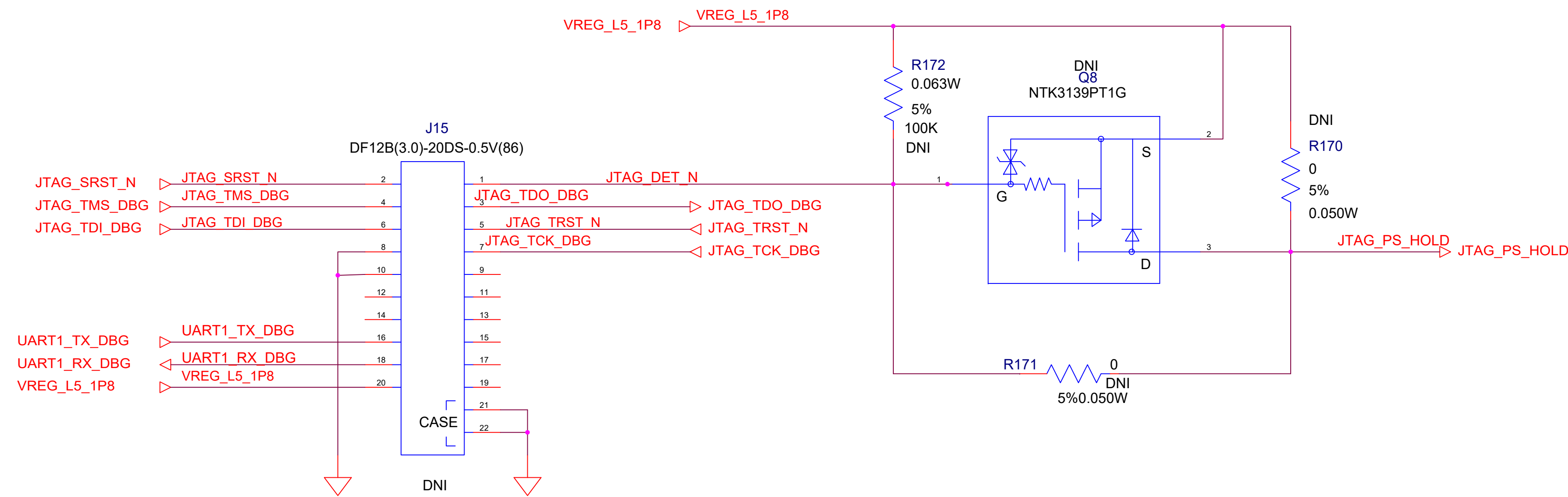
ANALOG EXPANSION CONNECTOR



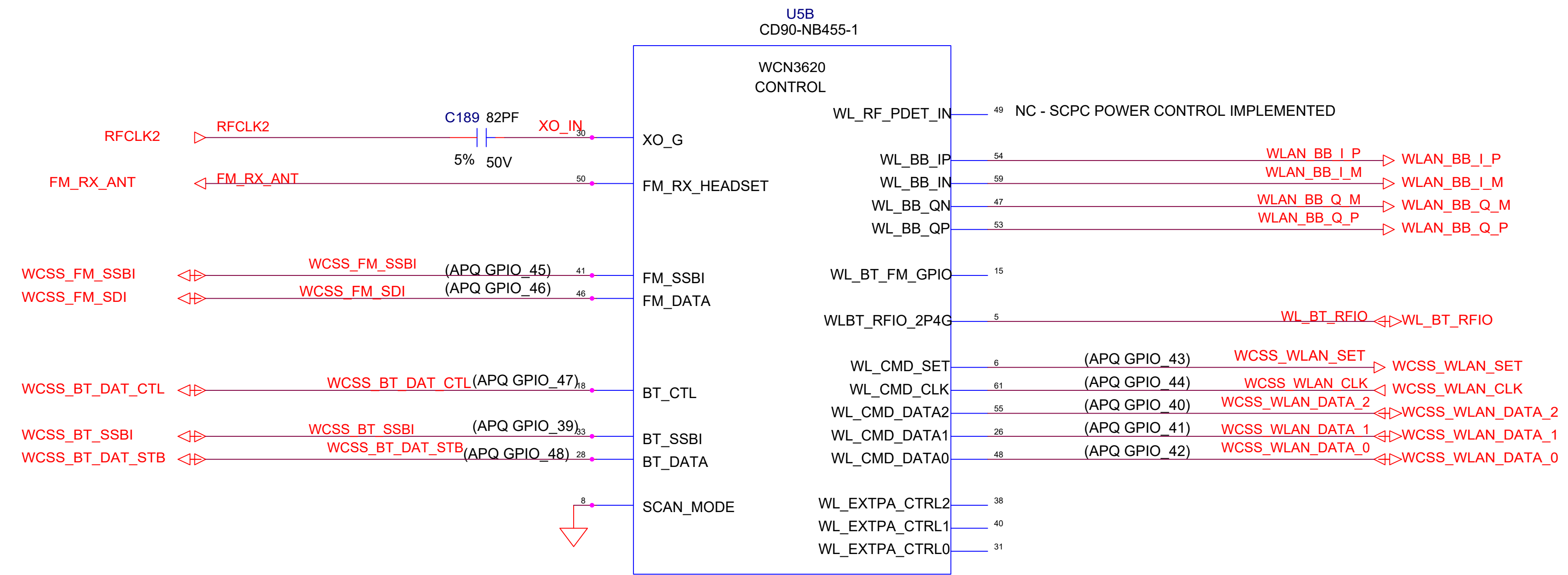
ANALOG INTERFACES

BOM CONFIG	SUPPORTED	ASSY OPTION
Hx0x	YES	INSTALL J15
Hx5x	NO	DNI J15

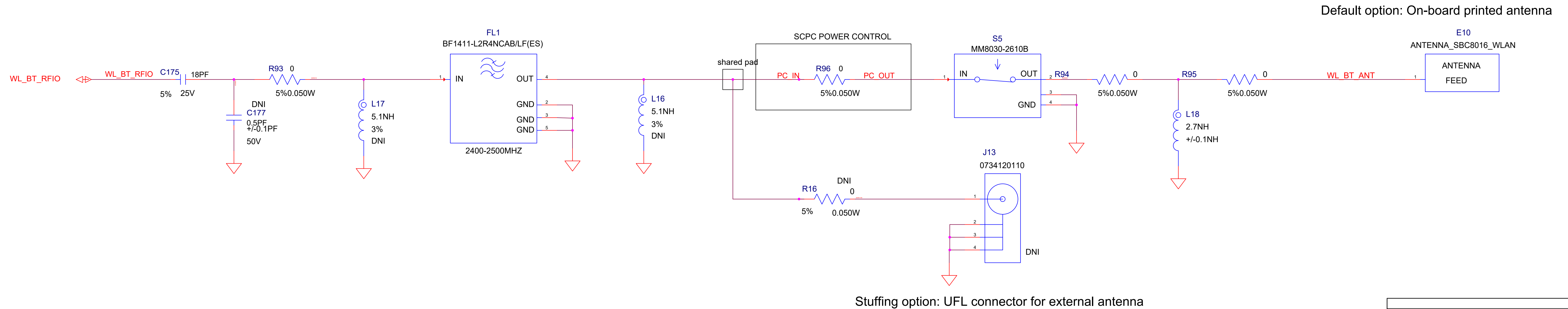
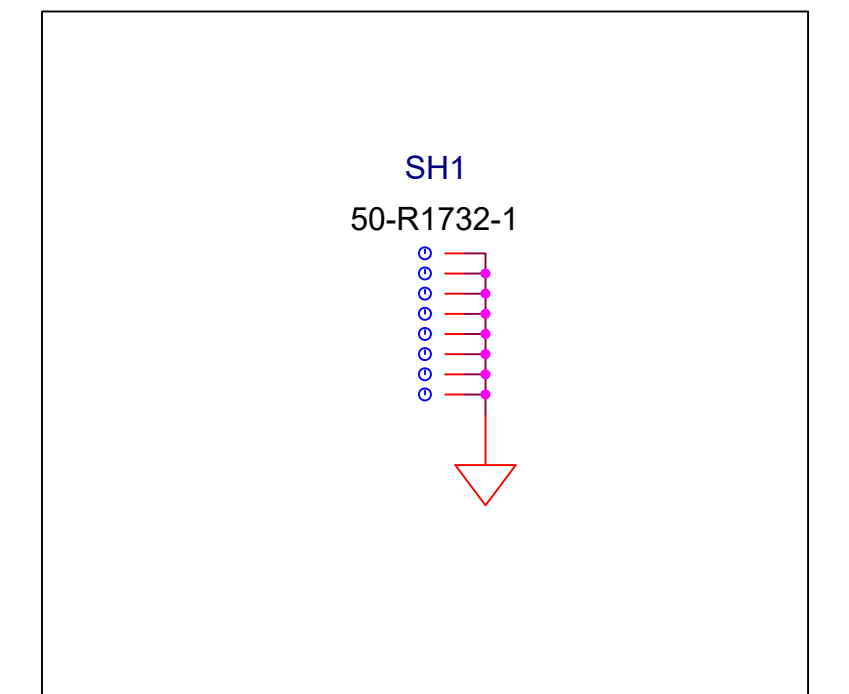
JTAG/UART INTERFACE TO 20-NR332 (BOTTOM) (BACKUP OPTION)



WCN3620 RF & CONTROL

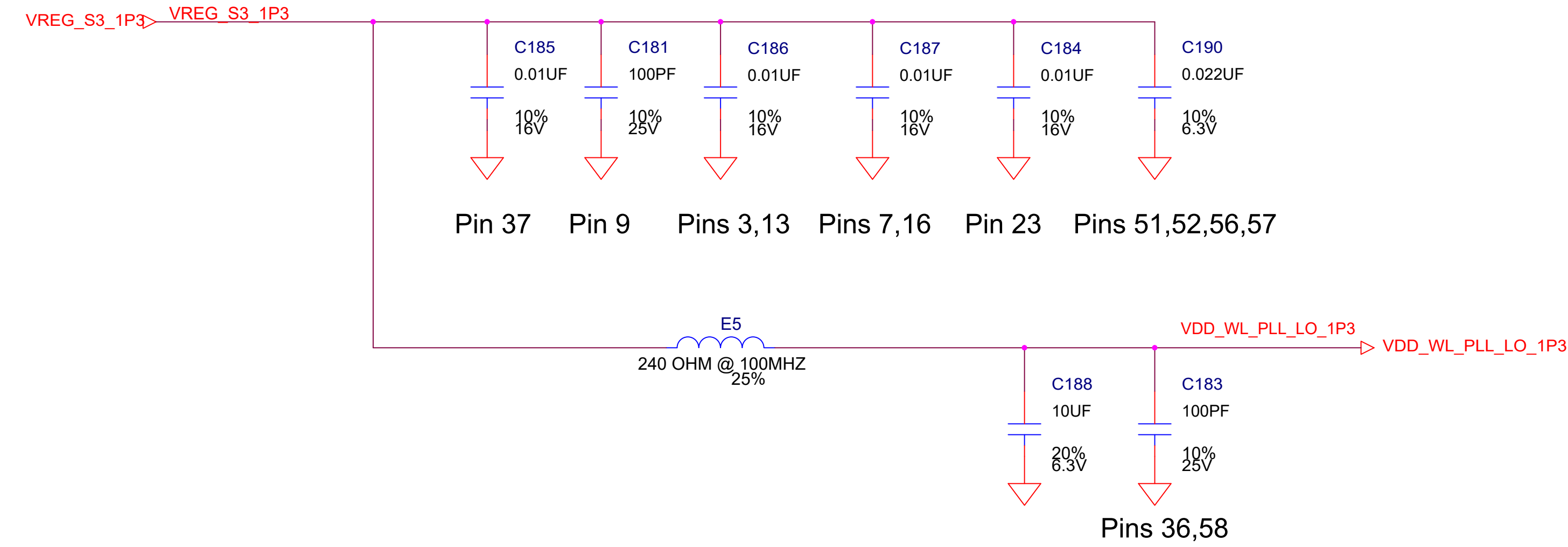


WCN & WGR Circuitry Shield



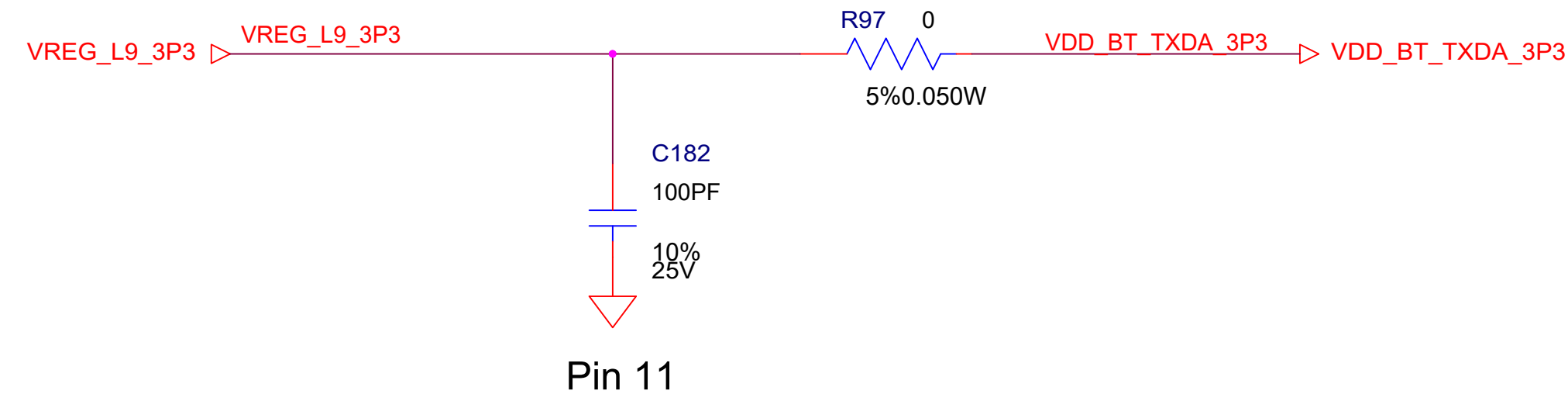
WCN3620 PWR & GND

1.3V

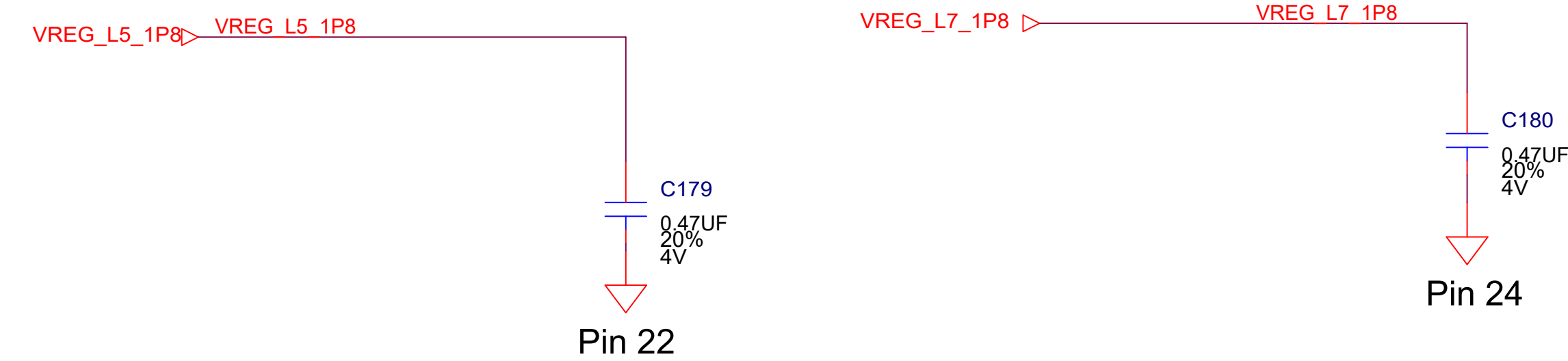


3.3V

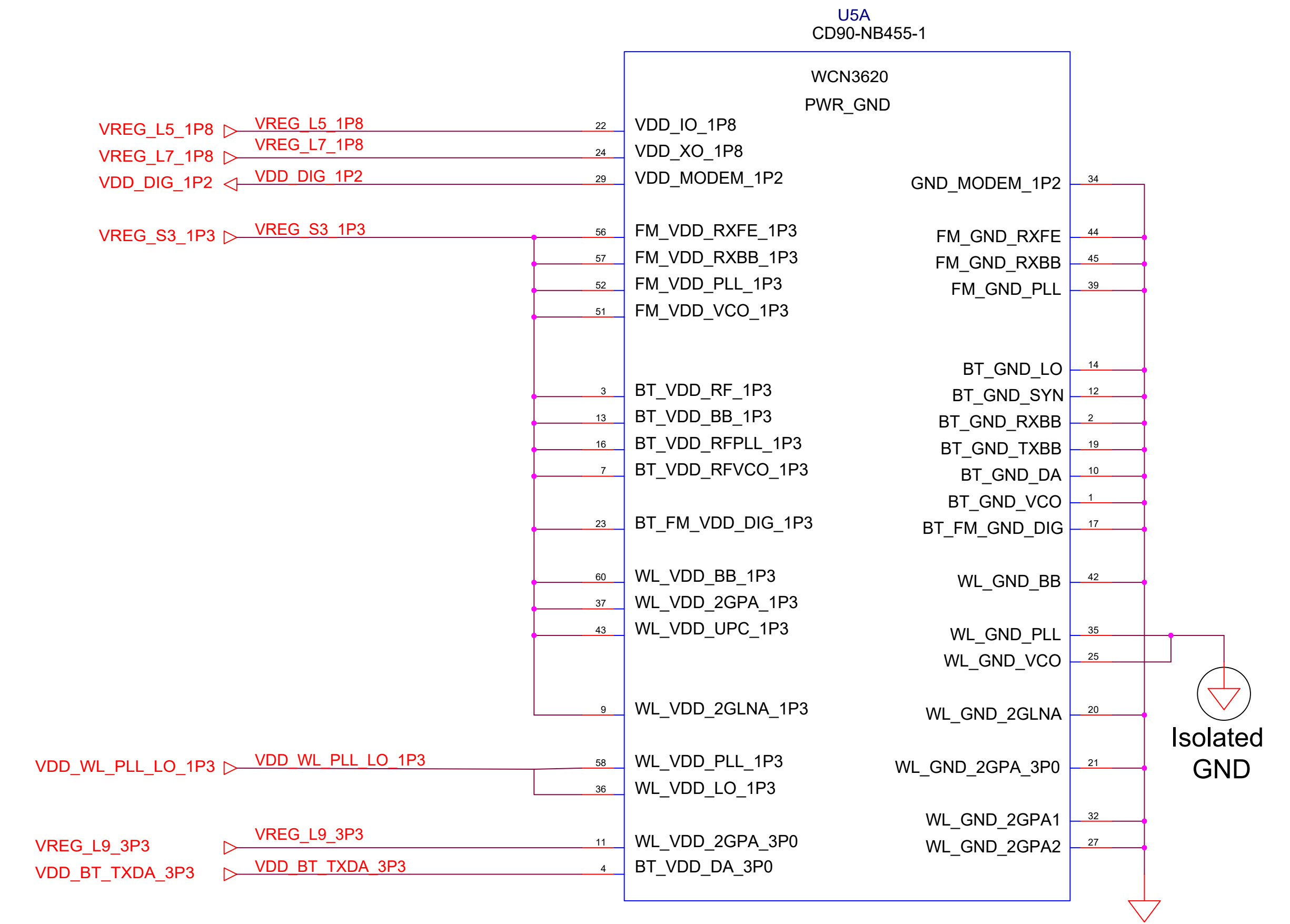
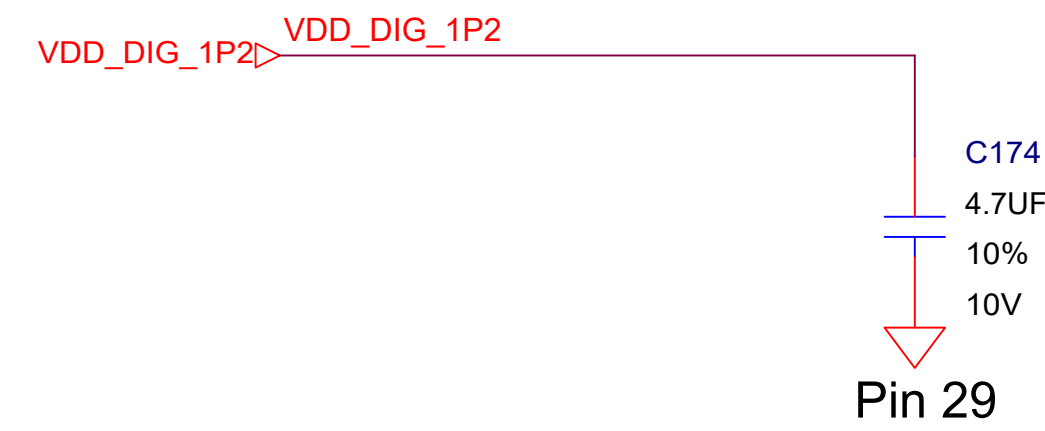
Note: If 2.4 GHz WLAN spurs are observed around 2.6 to 2.7 GHz replace R97 with ~20 nH inductor.



1.8V



1.2V



WGR7640 - GPS

