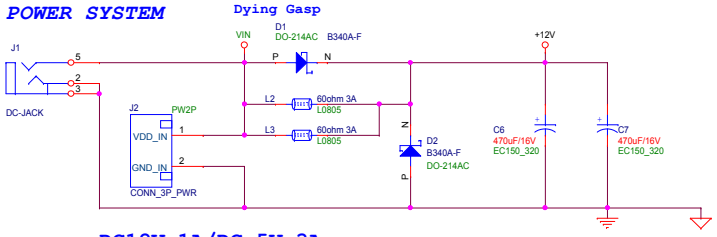
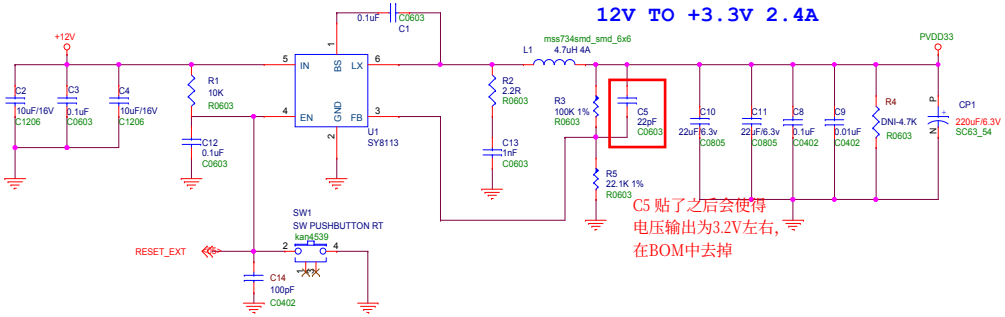
POWER SYSTEM



DC12V 1A/DC 5V 3A

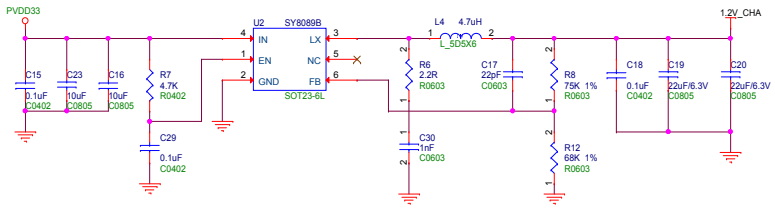
12V TO +3.3V 2.4A



C5 贴了之后会使得
电压输出为3.2V左右,
在BOM中去掉

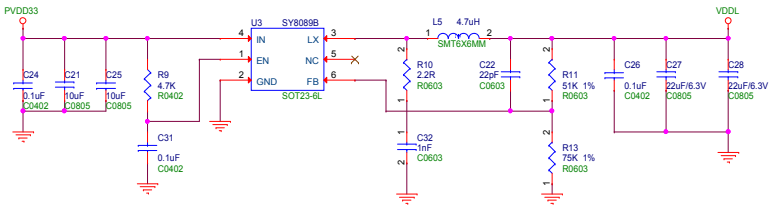
3.3V TO 1.25V

Iout=800mA

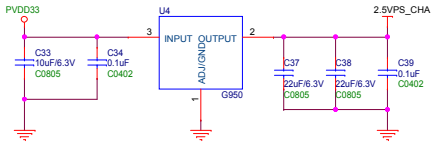


3.3V TO 1.0V

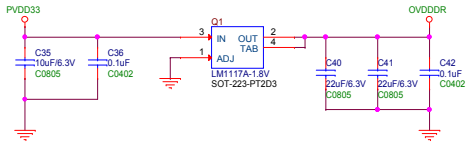
Iout=2000mA



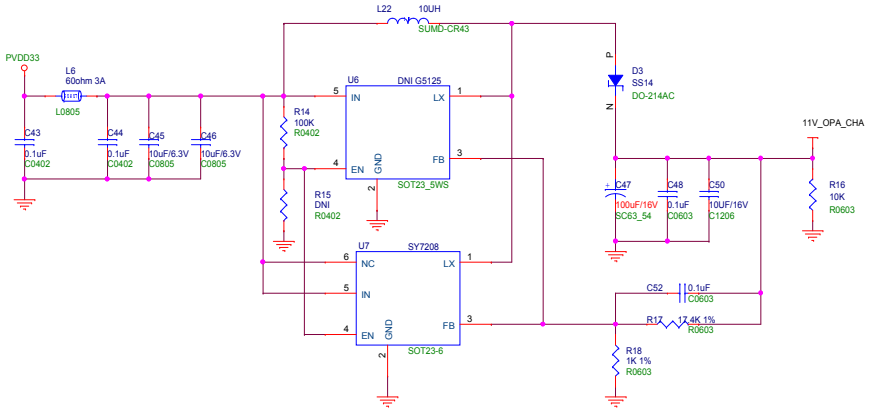
3.3V TO 2.5V



3.3V TO 1.8V

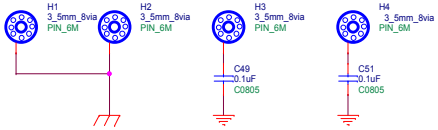


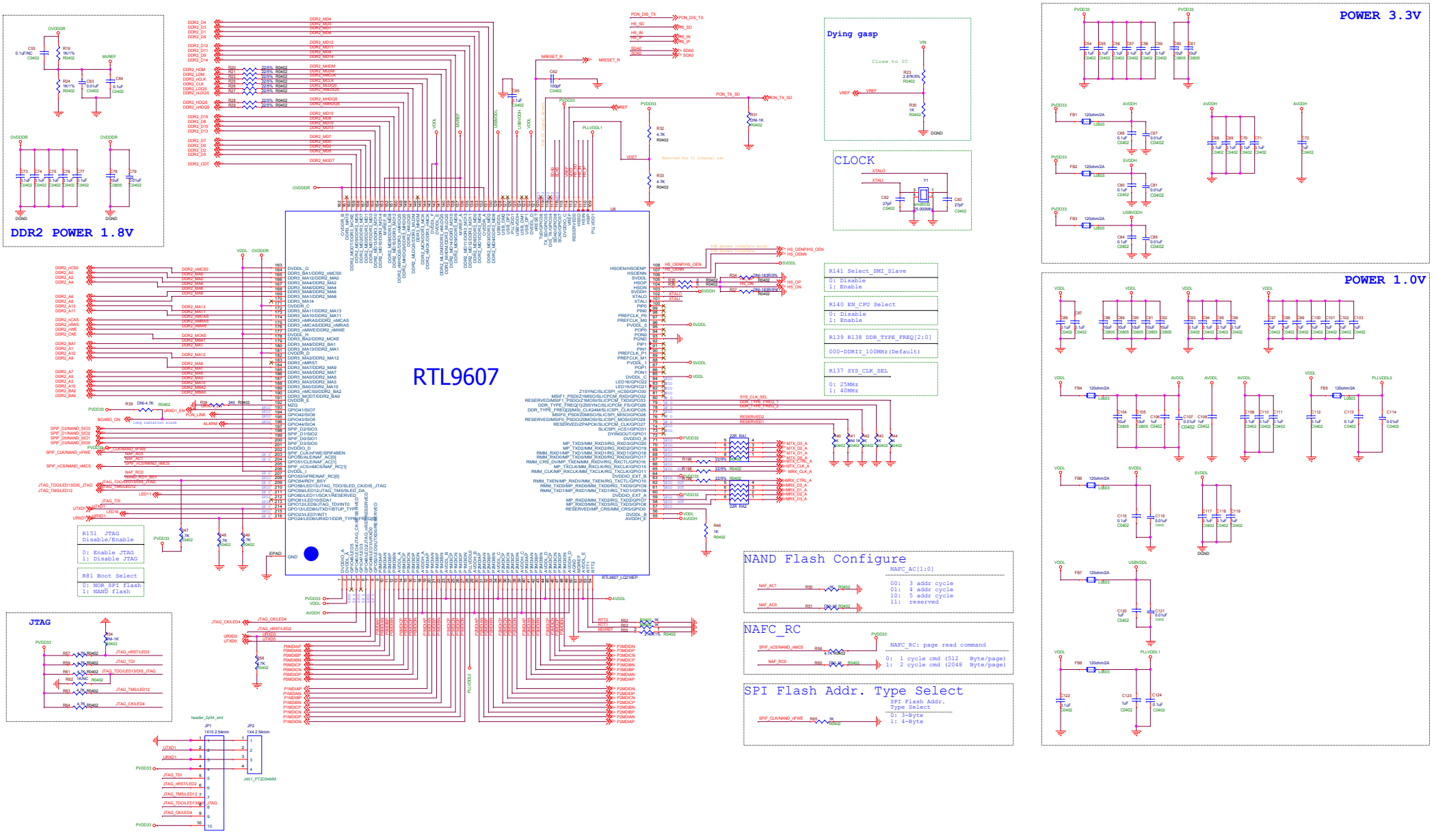
3.3V TO 11V

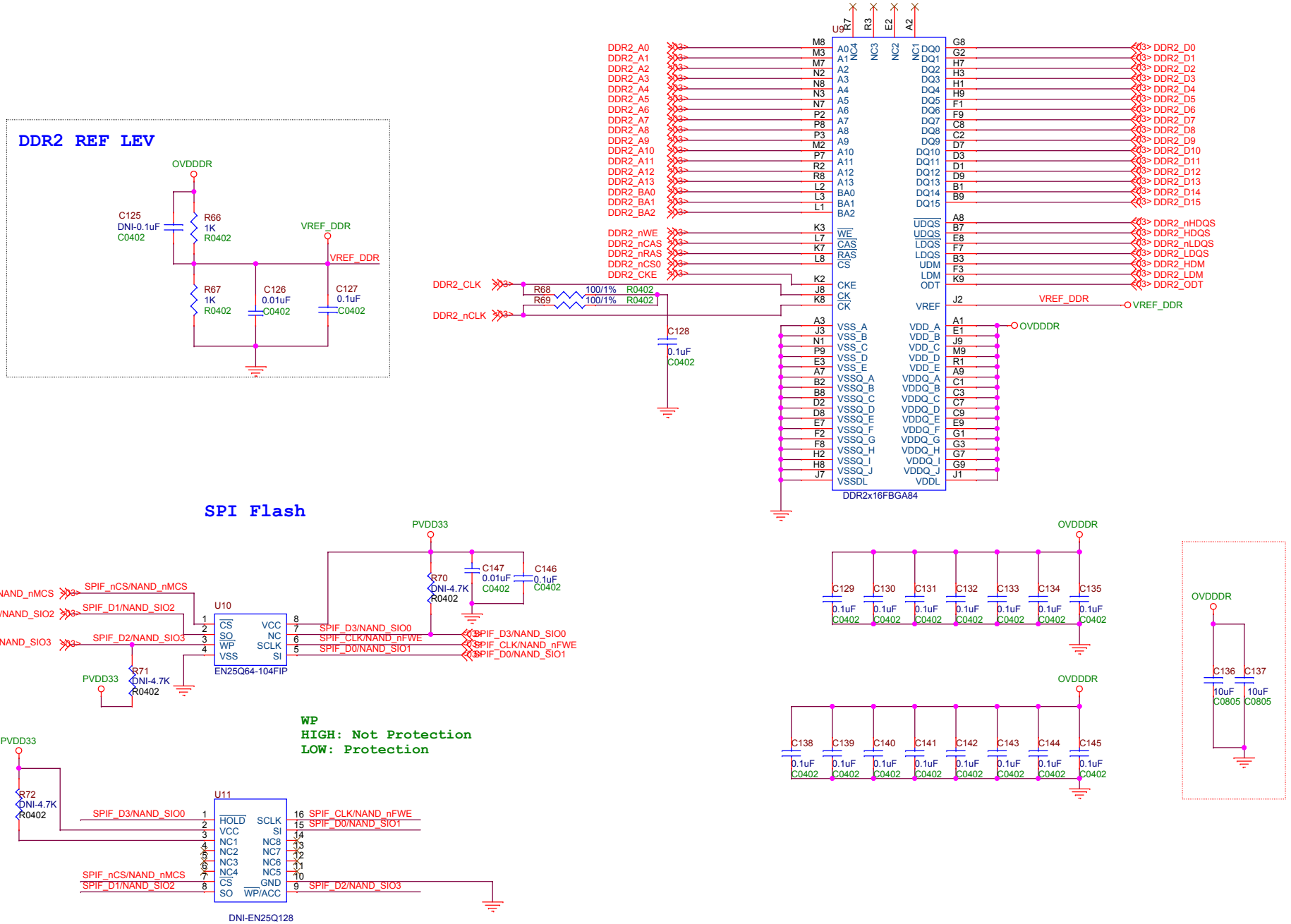


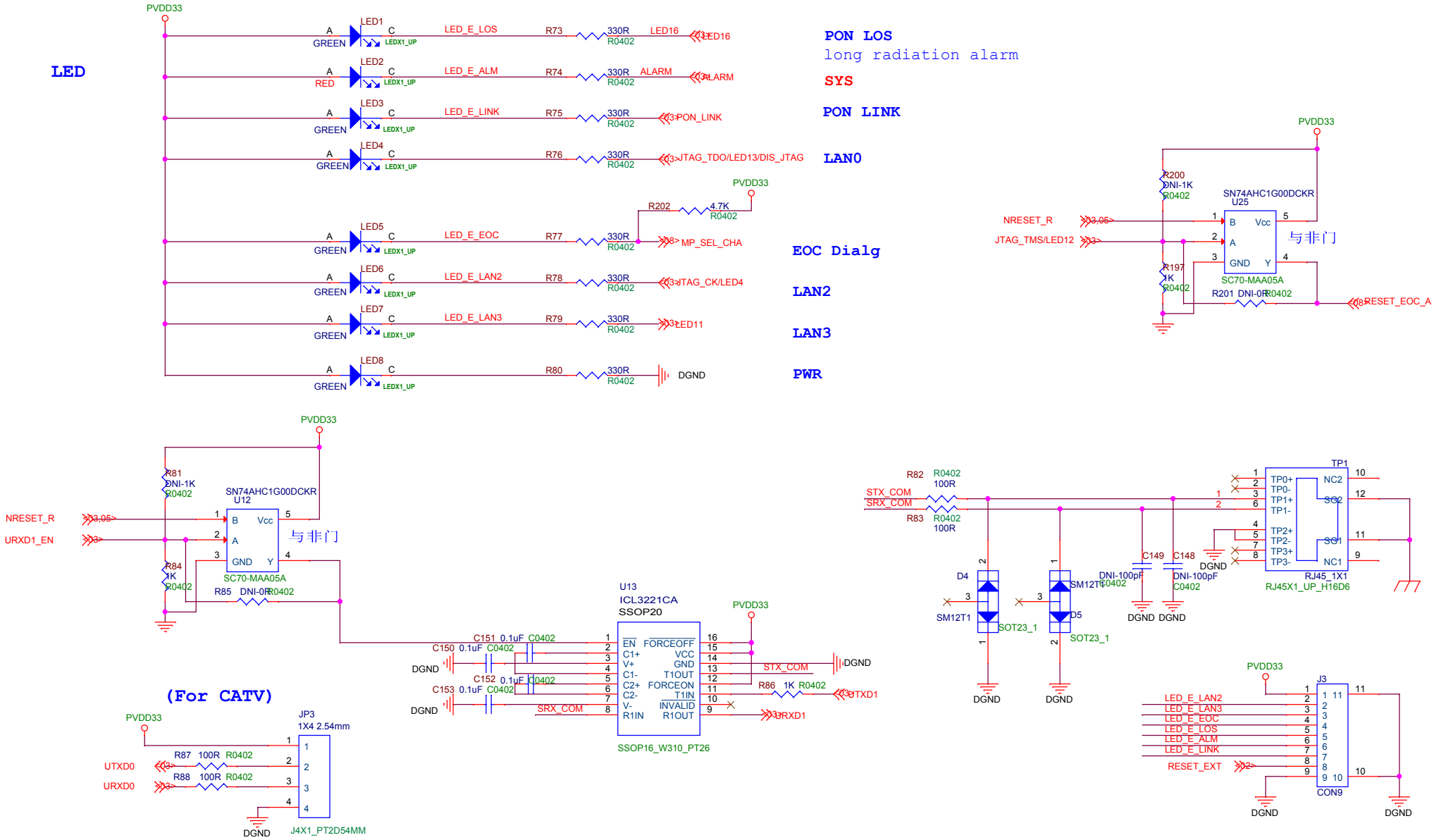
IF G5125 :Vout=1.25*(1+R109/R108),R109=174K,R108=22K

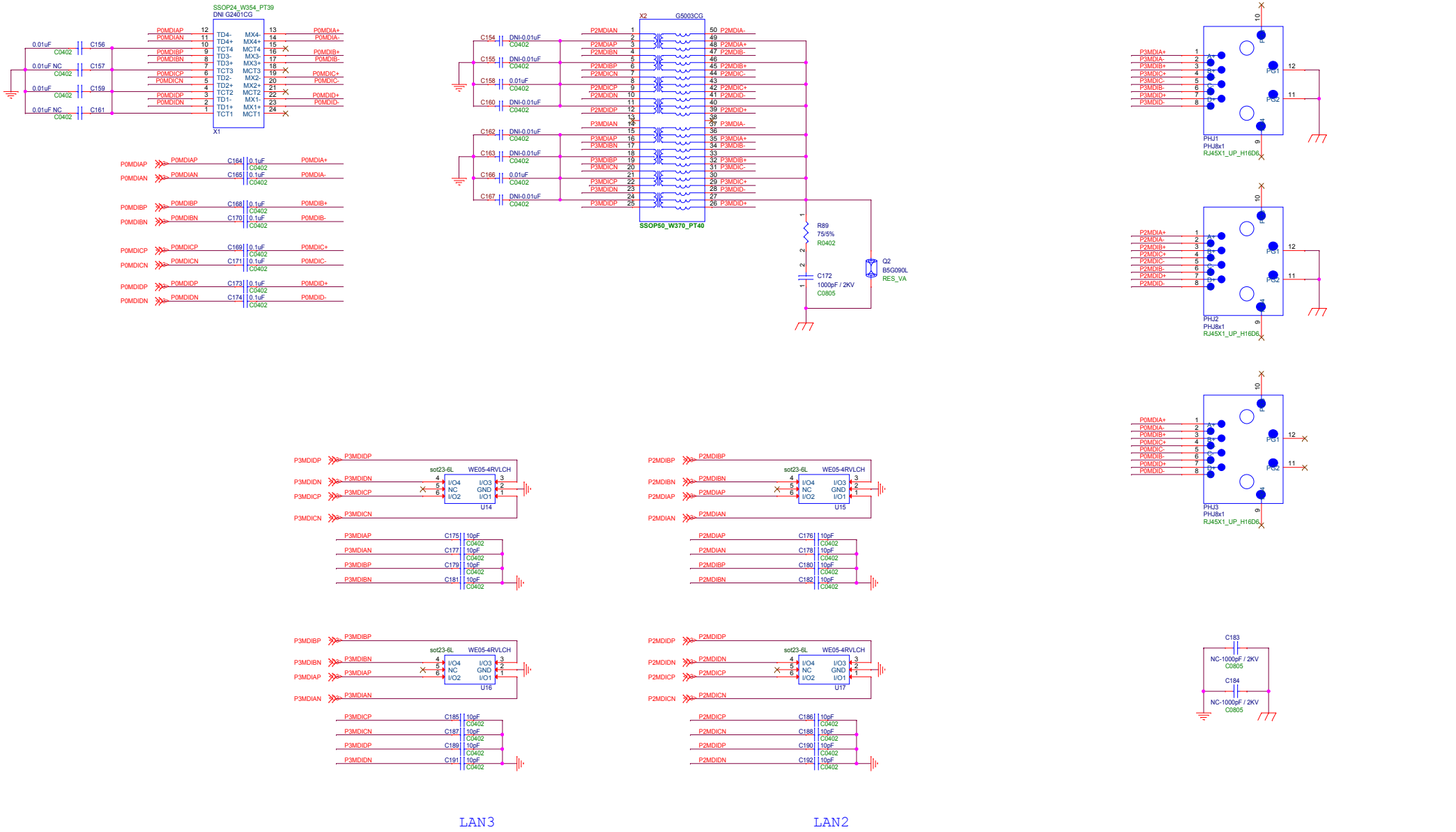
IF SY7208 :Vout=0.6*(1+R109/R108),R109=174K,R108=10K

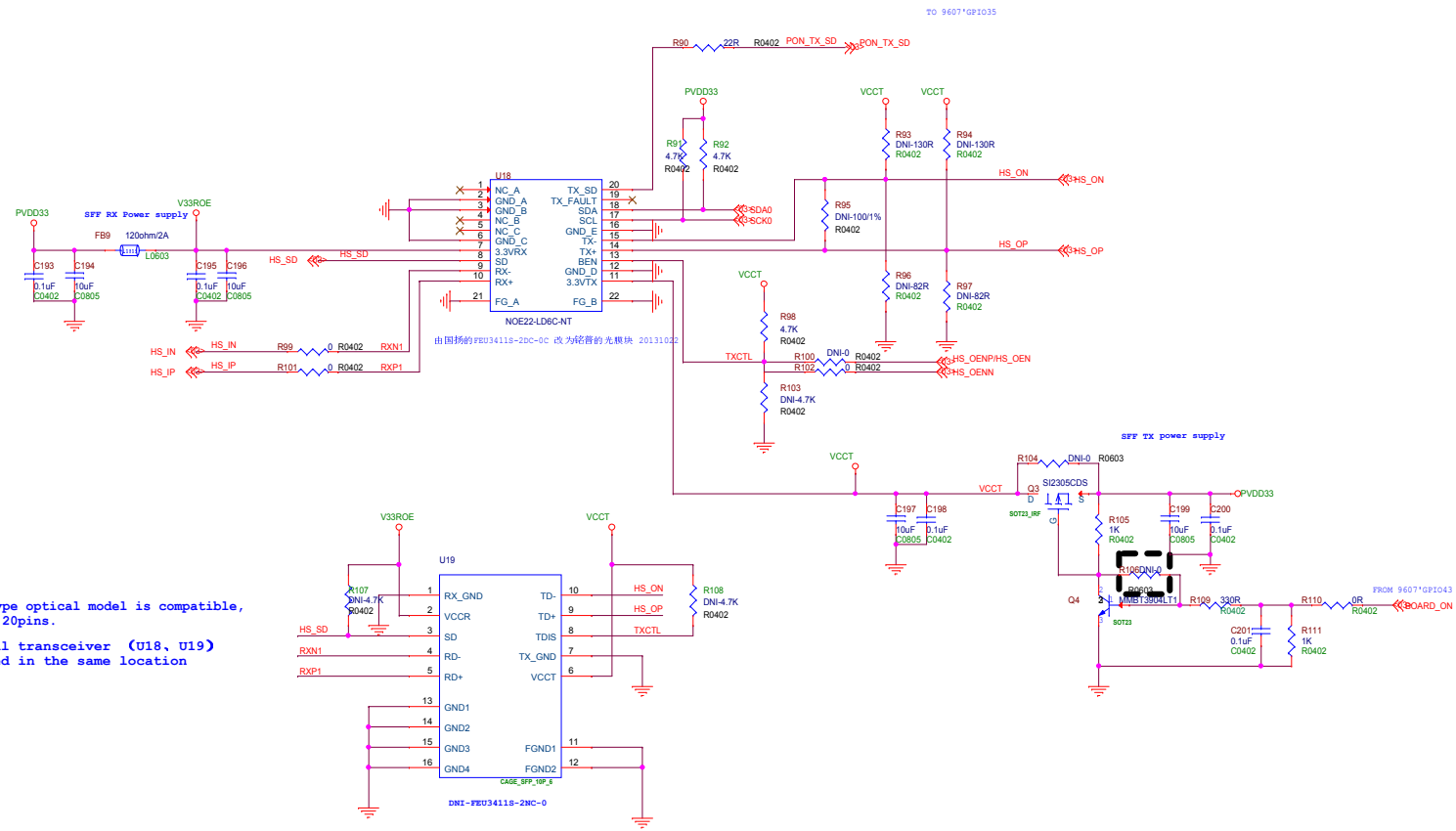



DDR2 POWER 1.8V
RTL9607
Dying gasp
CLOCK
POWER 3.3V
POWER 1.0V
R141 Select_SMI_Slave
0: Disable
1: Enable
R140 EN_CPU Select
0: Disable
1: Enable
R139 R138 DDR_TYPE_FREQ[2:0]
000-DDRII_100MHz(Default)
R137 SYS_CLK_SEL
0: 25MHz
1: 40MHz
R151 JTAG Disable/Enable
0: Enable JTAG
1: Disable JTAG
R81 Boot Select
0: NOR SPI flash
1: NAND flash
JTAG
NAND Flash Configure
NAFC_AC[1:0]
00: 3 addr cycle
01: 4 addr cycle
10: 5 addr cycle
11: reserved
NAFC_RC
NAFC_RC: page read command
0: 1 cycle cmd (512 Byte/page)
1: 2 cycle cmd (2048 Byte/page)
SPI Flash Addr. Type Select
SPI Flash Addr. Type Select
0: 3-Byte
1: 4-Byte


DDR2 REF LEV
OVDDDR
C125
DNI-0.1uF
C0402
R66
1K
R0402
VREF_DDR
VREF_DDR
R67
1K
R0402
C126
0.01uF
C0402
C127
0.1uF
C0402
U9
DDR2_A0
DDR2_A1
DDR2_A2
DDR2_A3
DDR2_A4
DDR2_A5
DDR2_A6
DDR2_A7
DDR2_A8
DDR2_A9
DDR2_A10
DDR2_A11
DDR2_A12
DDR2_A13
DDR2_BA0
DDR2_BA1
DDR2_BA2
DDR2_nWE
DDR2_nCAS
DDR2_nRAS
DDR2_nCS0
DDR2_CKE
DDR2_CLK
DDR2_nCLK
R68 100/1% R0402
R69 100/1% R0402
C128
0.1uF
C0402
DDR2x16FBGA84
DDR2_D0
DDR2_D1
DDR2_D2
DDR2_D3
DDR2_D4
DDR2_D5
DDR2_D6
DDR2_D7
DDR2_D8
DDR2_D9
DDR2_D10
DDR2_D11
DDR2_D12
DDR2_D13
DDR2_D14
DDR2_D15
DDR2_nHDQS
DDR2_HDQS
DDR2_nLDQS
DDR2_LDQS
DDR2_HDM
DDR2_LDM
DDR2_ODT
VREF_DDR
OVDDDR
SPI Flash
PVDD33
R70
DNI-4.7K
R0402
C147
0.01uF
C0402
C146
0.1uF
C0402
SPIF_nCS/NAND_nMCS
SPIF_D1/NAND_SIO2
SPIF_D2/NAND_SIO3
SPIF_nCS/NAND_nMCS
SPIF_D1/NAND_SIO2
SPIF_D2/NAND_SIO3
U10
CS
SO
WP
VSS
VCC
NC
SCLK
SI
SPIF_D3/NAND_SIO0
SPIF_CLK/NAND_nFWE
SPIF_D0/NAND_SIO1
SPIF_D3/NAND_SIO0
SPIF_CLK/NAND_nFWE
SPIF_D0/NAND_SIO1
EN25Q64-104FIP
PVDD33
R71
DNI-4.7K
R0402
WP
HIGH: Not Protection
LOW: Protection
PVDD33
R72
DNI-4.7K
R0402
U11
SPIF_D3/NAND_SIO0
SPIF_nCS/NAND_nMCS
SPIF_D1/NAND_SIO2
HOLD
VCC
NC1
NC2
NC3
NC4
CS
SO
SCLK
SI
NC8
NC7
NC6
NC5
GND
WP/ACC
SPIF_CLK/NAND_nFWE
SPIF_D0/NAND_SIO1
SPIF_D2/NAND_SIO3
DNI-EN25Q128
OVDDDR
C129
C130
C131
C132
C133
C134
C135
0.1uF
C0402
OVDDDR
C138
C139
C140
C141
C142
C143
C144
C145
0.1uF
C0402
OVDDDR
C136
C137
10uF
C0805

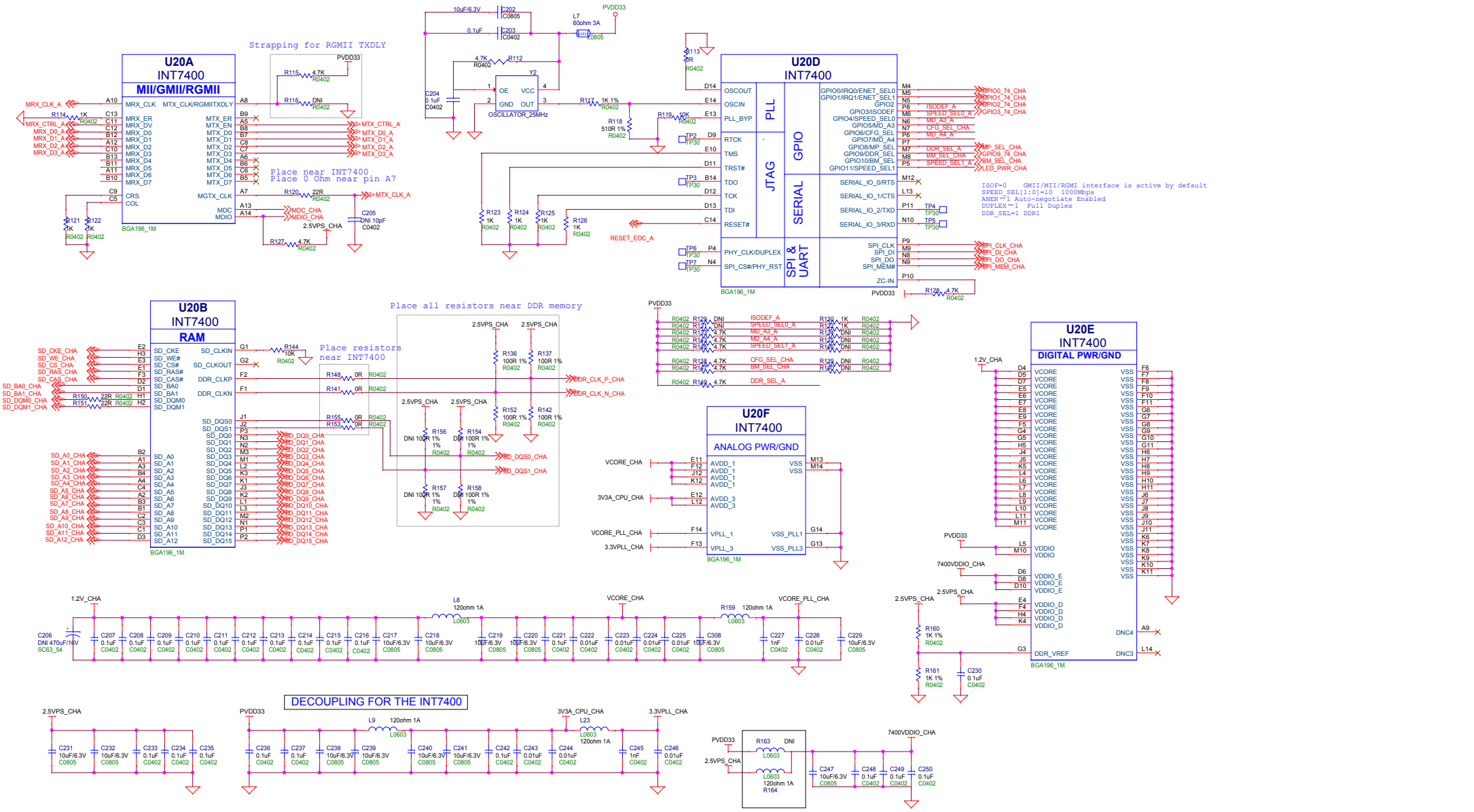

LED
PON LOS
long radiation alarm
SYS
PON LINK
LAN0
EOC Dialg
LAN2
LAN3
PWR
(For CATV)
PVDD33
LED1
LED2
LED3
LED4
LED5
LED6
LED7
LED8
GREEN
RED
LEDX1_UP
LED_E_LOS
LED_E_ALM
LED_E_LINK
LED_E_EOC
LED_E_LAN2
LED_E_LAN3
R73
R74
R75
R76
R77
R78
R79
R80
330R
R0402
LED16
ALARM
PON_LINK
JTAG_TDO/LED13/DIS_JTAG
JTAG_CK/LED4
LED11
DGND
R202
4.7K
MP_SEL_CHA
R200
DNI-1K
SN74AHC1G00DCKR
U25
NRESET_R
JTAG_TMS/LED12
SC70-MAA05A
R197
R201 DNI-0R
RESET_EOC_A
R81
U12
URXD1_EN
R84
R85 DNI-0R
U13
ICL3221CA
SSOP20
C151 0.1uF C0402
C150 0.1uF C0402
C152 0.1uF C0402
C153 0.1uF C0402
SRX_COM
STX_COM
R86 1K R0402
UTXD1
URXD1
SSOP16_W310_PT26
JP3
1X4 2.54mm
R87 100R R0402
R88 100R R0402
UTXD0
URXD0
J4X1_PT2D54MM
R82 R0402 100R
R83 R0402 100R
D4
D5
SM12T1
SOT23_1
C149 C148
DNI-100pF
C0402
TP1
RJ45_1X1
RJ45X1_UP_H16D6
J3
CON9
RESET_EXT


SSOP24_W354_PT39
DNI G2401CG
X1
SSOP50_W370_PT40
X2
G5003CG
P0MDIAP
P0MDIAN
P0MDIBP
P0MDIBN
P0MDICP
P0MDICN
P0MDIDP
P0MDIDN
P0MDIA+
P0MDIA-
P0MDIB+
P0MDIB-
P0MDIC+
P0MDIC-
P0MDID+
P0MDID-
P2MDIAP
P2MDIAN
P2MDIBP
P2MDIBN
P2MDICP
P2MDICN
P2MDIDP
P2MDIDN
P3MDIAP
P3MDIAN
P3MDIBP
P3MDIBN
P3MDICP
P3MDICN
P3MDIDP
P3MDIDN
R89
75/5%
R0402
C172
1000pF / 2KV
C0805
Q2
B5G090L
RES_VA
PHJ1
PHJ2
PHJ3
PHJ8x1
RJ45X1_UP_H16D6
C183
NC-1000pF / 2KV
C0805
C184
NC-1000pF / 2KV
C0805
sot23-6L
WE05-4RVLCH
U14
U15
U16
U17
LAN3
LAN2

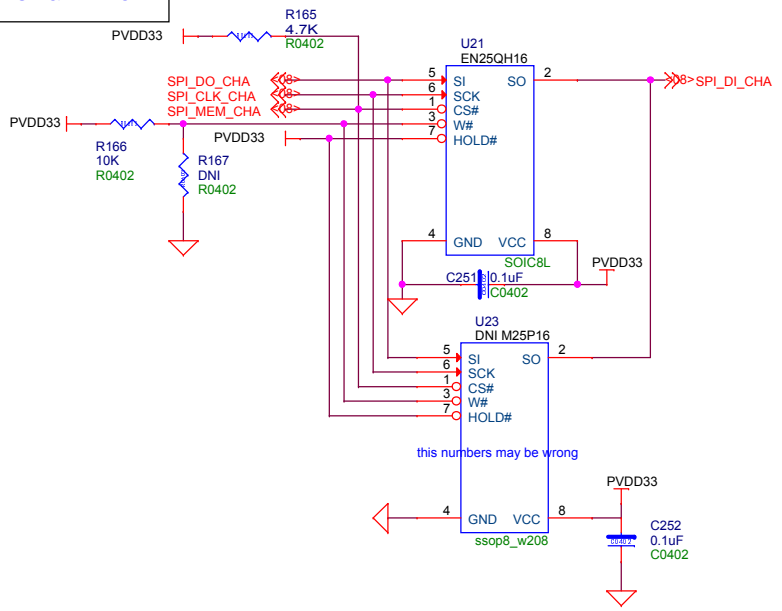


Here two type optical model is compatible, 16pins and 20pins.

two optical transceiver （U18、U19） were placed in the same location on PCB

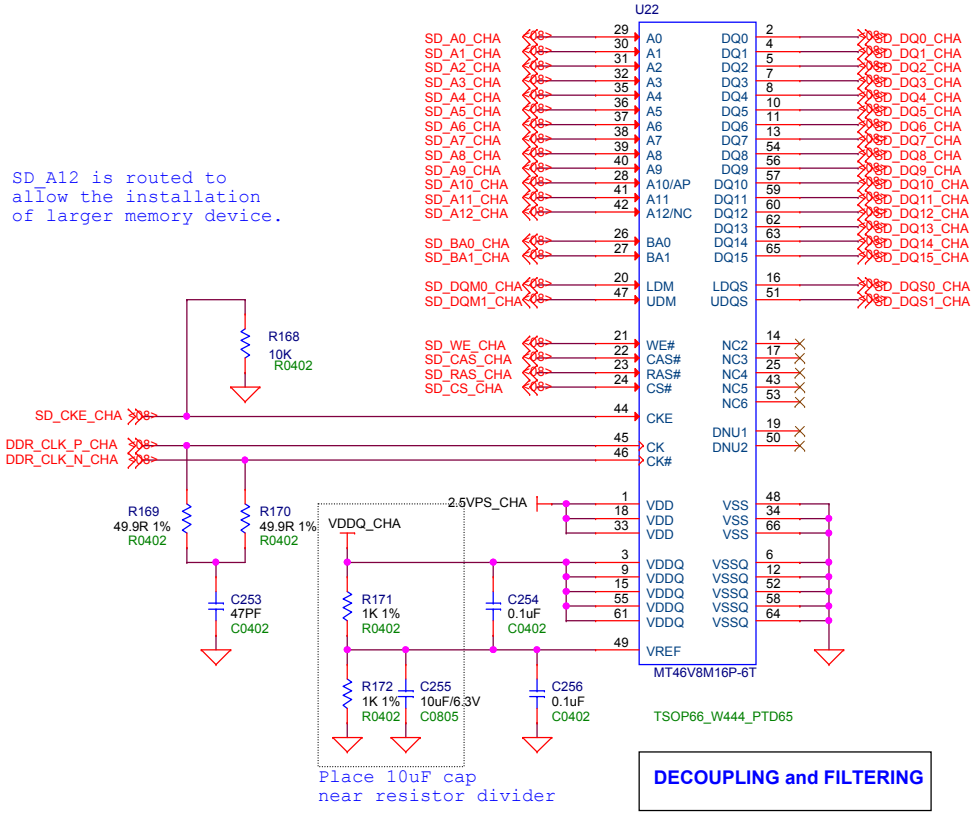

U20A
INT7400
MII/GMII/RGMII
BGA196_1M
Strapping for RGMII TXDLY
Place near INT7400
Place 0 Ohm near pin A7
U20D
INT7400
PLL
GPIO
JTAG
SERIAL
SPI & UART
BGA196_1M
ISOF=0 GMII/MII/RGMI interface is active by default
SPEED_SEL[1:0]=10 1000Mbps
ANEN=1 Auto-negotiate Enabled
DUPLEX=1 Full Duplex
DDR_SEL=1 DDR1
U20B
INT7400
RAM
BGA196_1M
Place all resistors near DDR memory
Place resistors near INT7400
U20F
INT7400
ANALOG PWR/GND
BGA196_1M
U20E
INT7400
DIGITAL PWR/GND
BGA196_1M
DECOUPLING FOR THE INT7400

SERIAL FLASH & EEPROM



DDR SDRAM

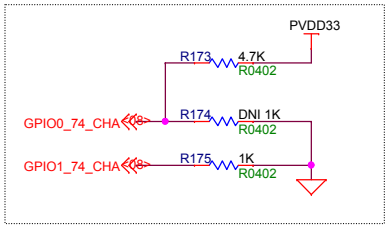
SD_A12 is routed to allow the installation of larger memory device.

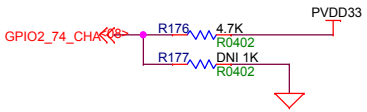


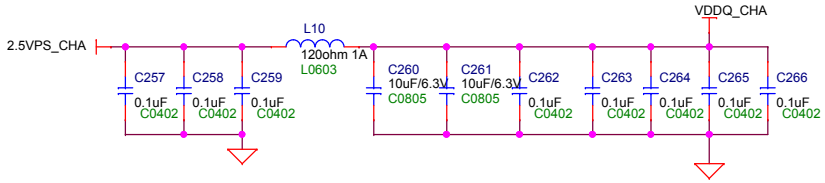
Place 10uF cap near resistor divider

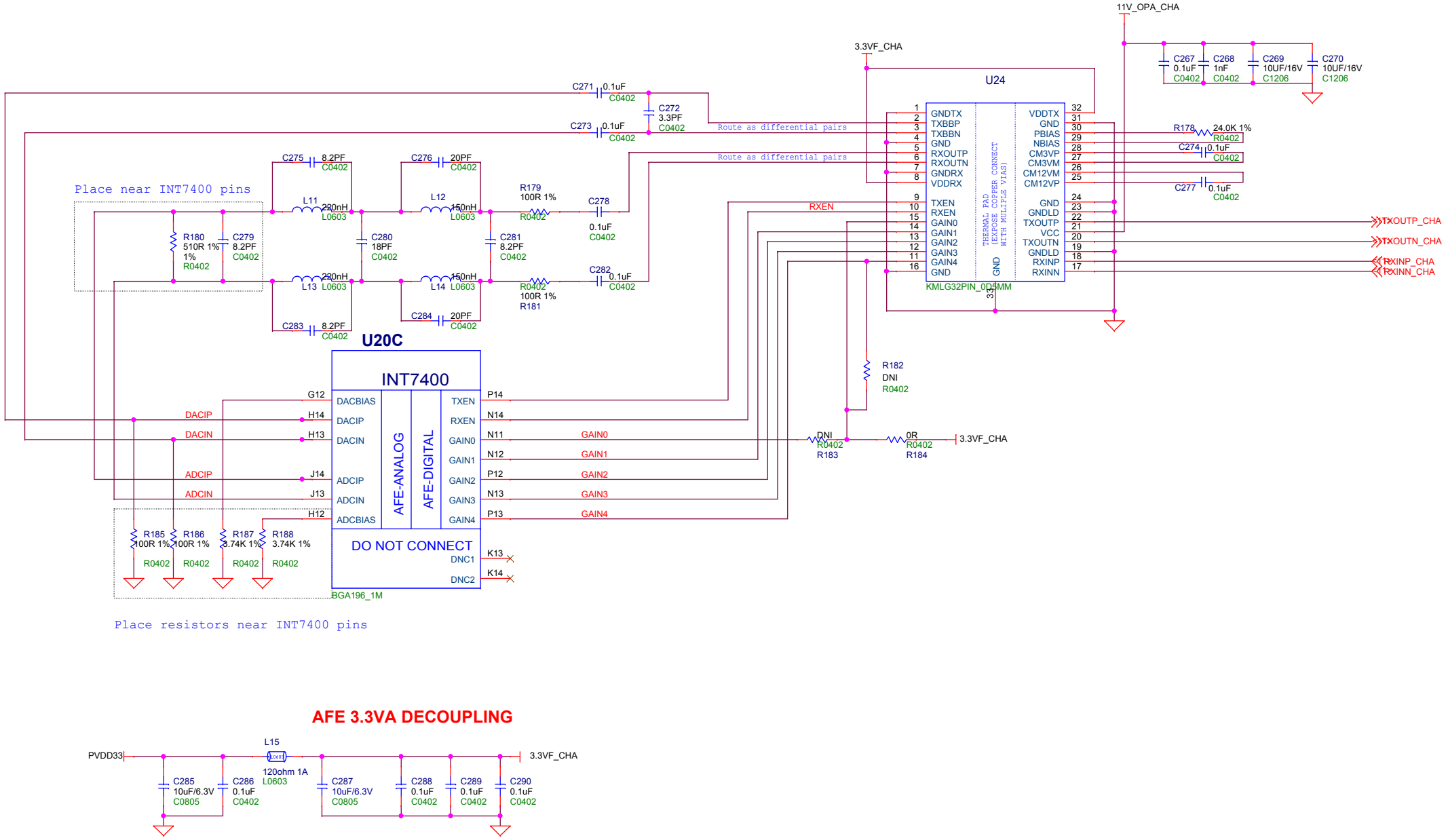
DECOUPLING and FILTERING

Strapping for ENET_SEL.
Set to RGMII with install option to add internal RX delay.

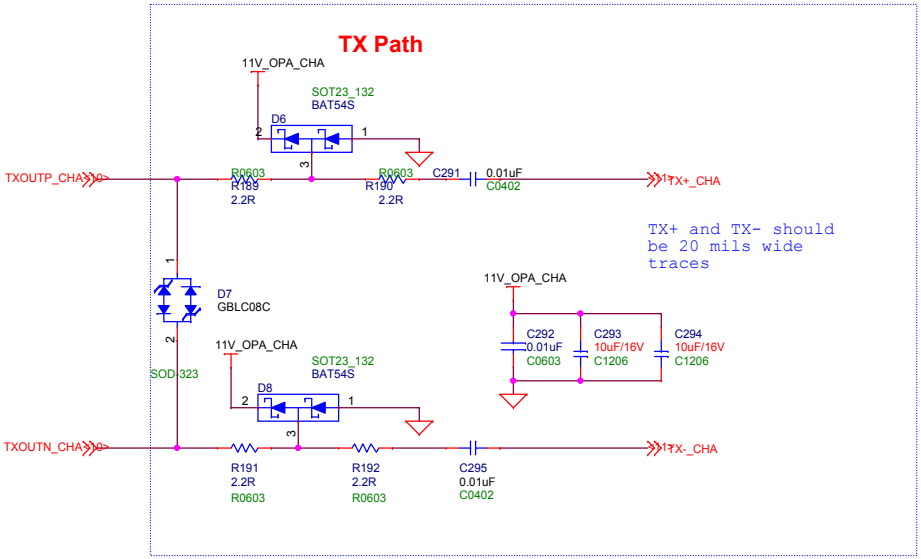







11V_OPA_CHA
3.3VF_CHA
U24
C267 0.1uF C0402
C268 1nF C0402
C269 10UF/16V C1206
C270 10UF/16V C1206
C271 0.1uF C0402
C272 3.3PF C0402
C273 0.1uF C0402
Route as differential pairs
Route as differential pairs
R178 24.0K 1% R0402
C274 0.1uF C0402
C277 0.1uF C0402
GNDTX
TXBBP
TXBBN
GND
RXOUTP
RXOUTN
GNDRX
VDDRX
TXEN
RXEN
GAIN0
GAIN1
GAIN2
GAIN3
GAIN4
GND
VDDTX
GND
PBIAS
NBIAS
CM3VP
CM3VM
CM12VM
CM12VP
GND
GNDLD
TXOUTP
VCC
TXOUTN
GNDLD
RXINP
RXINN
THERMAL PAD (EXPOSE COPPER CONNECT WITH MULIPLE VIAS)
KMLG32PIN_0D5MM
TXOUTP_CHA
TXOUTN_CHA
RXINP_CHA
RXINN_CHA
RXEN
Place near INT7400 pins
C275 8.2PF C0402
C276 20PF C0402
L11 220nH L0603
L12 150nH L0603
R179 100R 1%
R0402
C278 0.1uF C0402
R180 510R 1% 1% R0402
C279 8.2PF C0402
C280 18PF C0402
C281 8.2PF C0402
L13 220nH L0603
L14 150nH L0603
R0402 100R 1% R181
C282 0.1uF C0402
C283 8.2PF C0402
C284 20PF C0402
U20C
INT7400
DACBIAS
DACIP
DACIN
ADCIP
ADCIN
ADCBIAS
AFE-ANALOG
AFE-DIGITAL
TXEN
RXEN
GAIN0
GAIN1
GAIN2
GAIN3
GAIN4
DO NOT CONNECT
DNC1
DNC2
BGA196_1M
G12
H14
H13
J14
J13
H12
P14
N14
N11
N12
P12
N13
P13
K13
K14
DACIP
DACIN
ADCIP
ADCIN
GAIN0
GAIN1
GAIN2
GAIN3
GAIN4
R182 DNI R0402
DNI R0402 R183
0R R0402 R184
3.3VF_CHA
R185 100R 1% R0402
R186 100R 1% R0402
R187 3.74K 1% R0402
R188 3.74K 1% R0402
Place resistors near INT7400 pins
AFE 3.3VA DECOUPLING
PVDD33
L15
120ohm 1A L0603
3.3VF_CHA
C285 10uF/6.3V C0805
C286 0.1uF C0402
C287 10uF/6.3V C0805
C288 0.1uF C0402
C289 0.1uF C0402
C290 0.1uF C0402

TX Path



RX BANDPASS FILTER