REV	DESCRIPTION	ISSUE DATE

S9501 Series

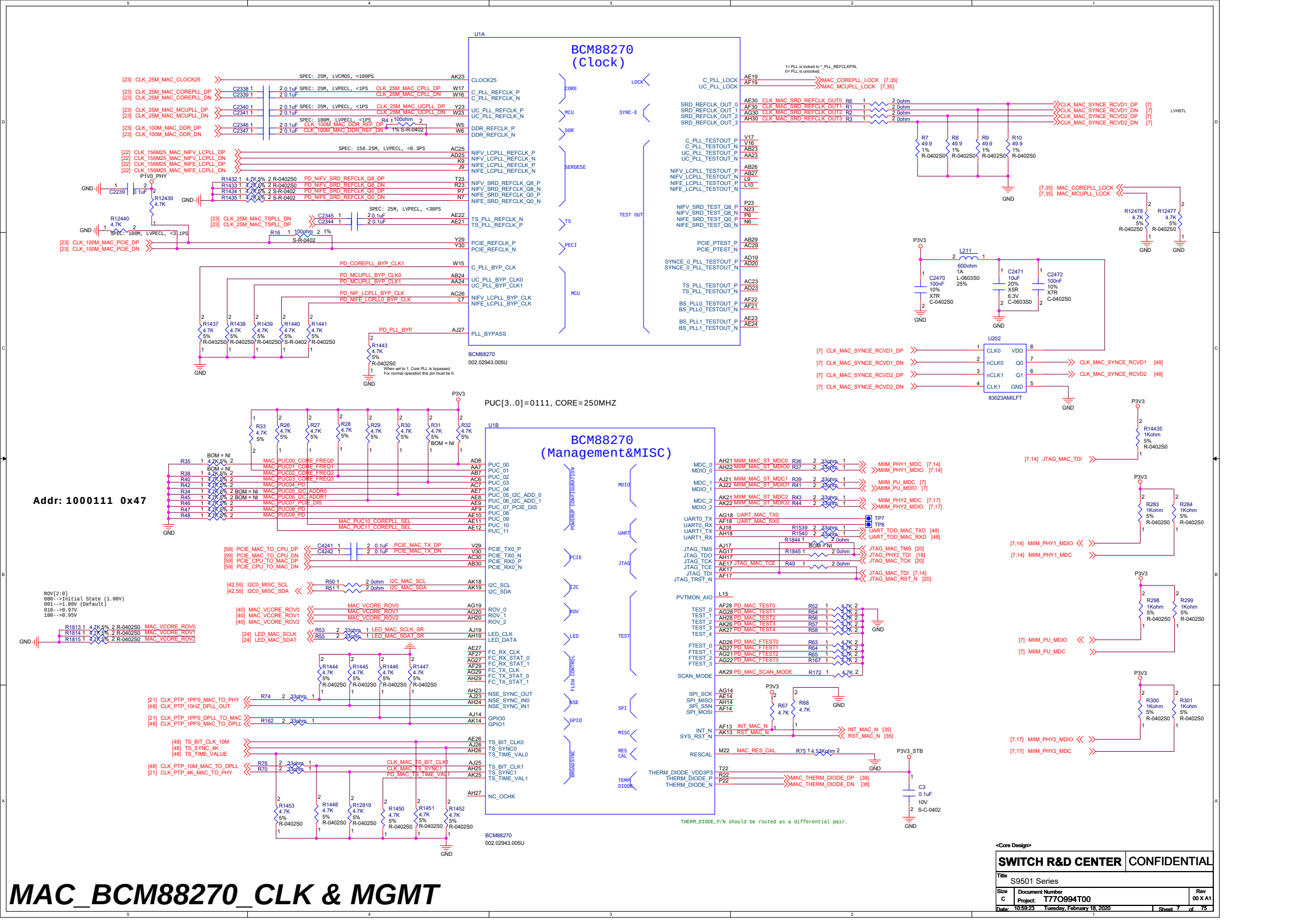
*4*1G RJ45 Plus 16*1G SFP Plus 8*10G SFP+ with SyncE & 1588V2 Support*

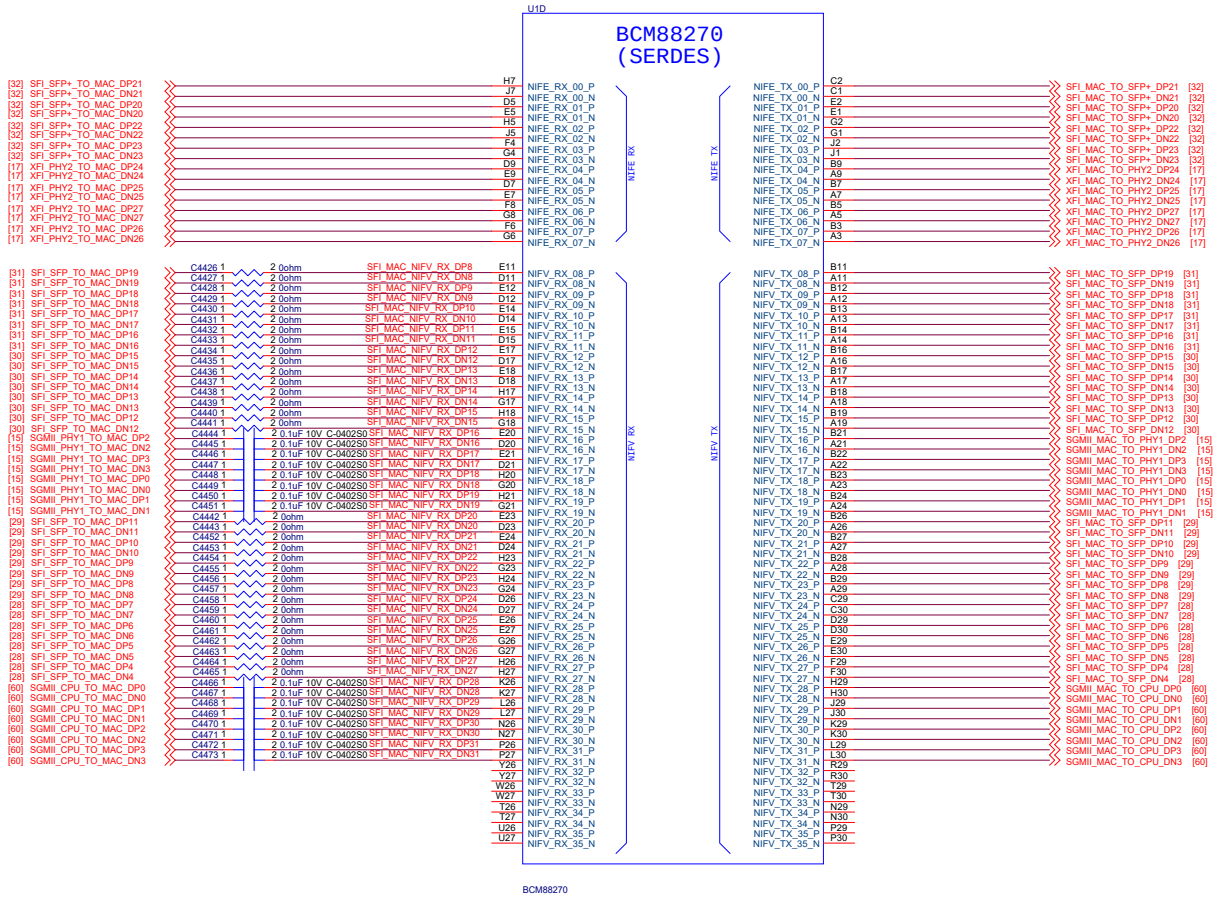
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03	SYSTEM BLOCK DIAGRAM
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05	PWR & RST BLOCK DIAGRAM
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10	MAC_BCM88270_DDR_DECAPS
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21	CLOCK BUFFER1_1PPS & 4K
22	CLOCK BUFFER2_156.25M
23	CLOCK Gen_25M_50M_100M
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25	FIBER PORTS PWR SWITCH1
26	FIBER PORTS PWR SWITCH2
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28	2x4 SFP_CONN1_P05~P08
29	2x4 SFP_CONN1_P09~P12
30	2x4 SFP_CONN2_P13~P16
31	2x4 SFP_CONN2_P17~P20
32	2x2 SFP+_CONN1_P21~P24
33	2x2 SFP+_CONN2_P25~P28
34	CPLD
35	CPLD 10M04SAU324I7G
36	HWM_UCD90124A
37	BLANK
38	THERMAL SENSOR
39	IO EXPANDER1
40	IO EXPANDER2
41	I2C MUX1
42	I2C MUX2
43	PTP_GNSS MODULE
44	PTP_USB TO SPI BRIDGE
45	PTP_T1/E1 RECEIVER
46	PTP_T1/E1 & TOD IN/OUT
47	PTP_1PPS & 10MHZ IN/OUT
48	NTM_BTB_CONNECTOR
49	FAN CARD CONNECTOR
50	PSU PWR CONNECTOR
51	M.2 SSD CONNECTOR
52	CPU_NIC1_I210-IT
53	GBE OOB & USB PORT
54	CONSOLE MUX & RS232 XCVR
55	LED CARD HEADER & EEPROM
56	BMC & CPU I2C MUX
57	BMC_BTB_CONNECTOR
58	BMC_CLK
59	CPU_BTB_CONNECTOR_AB
60	CPU_BTB_CONNECTOR_CD
61	BMC_PWR UP SEQUENCE
62	BMC_DC_5VSTB TO 3.3V
63	BLANK
64	DC_PWR UP SEQUENCE
65	DC_PWR_12V TO 5V
66	DC_PWR_12V TO 3.3V
67	DC_PWR_12V TO 1.8V
68	DC_PWR_12V TO VCORE_CTRL
69	DC_PWR_12V TO VCORE_DRVR
70	DC_PWR_12V TO 1.0V_DDR
71	DC_PWR_12V TO 1.0V_PHY
72	DC_PWR_12V TO 1.2V
73	DC_PWR_1.2V TO 0.6V
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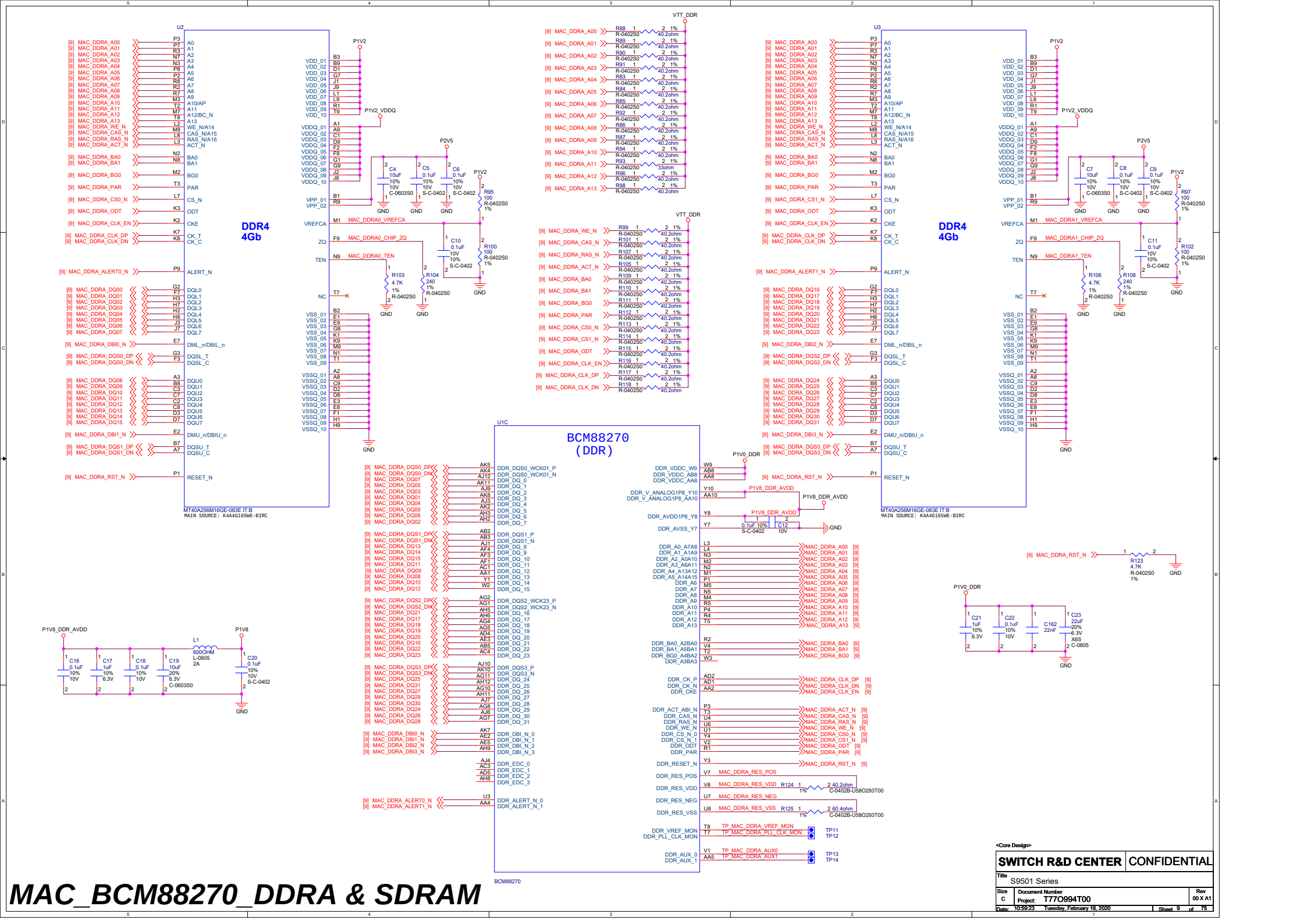

BCM88270
(Clock)
U1A
BCM88270
002.02943.005U
BCM88270
(Management&MISC)
U1B
BCM88270
002.02943.005U
PUC[3..0]=0111, CORE=250MHZ
Addr: 1000111 0x47
U202
83023AMILFT
THERM_DIODE_P/N should be routed as a differential pair.
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SWITCH R&D CENTER
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MAC_BCM88270_CLK & MGMT



MAC_BCM88270_SERDES

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MAC_BCM88270_DDRA & SDRAM

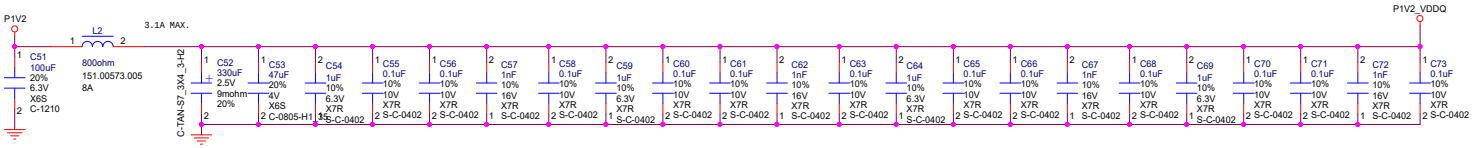
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SWITCH R&D CENTER	CONFIDENTIAL

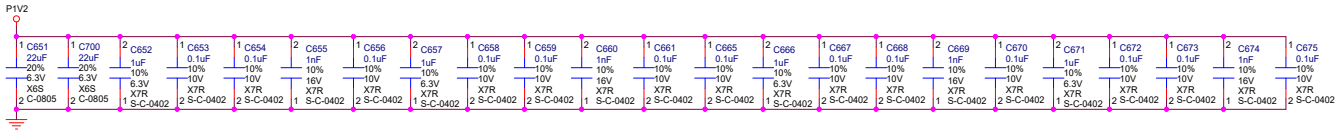
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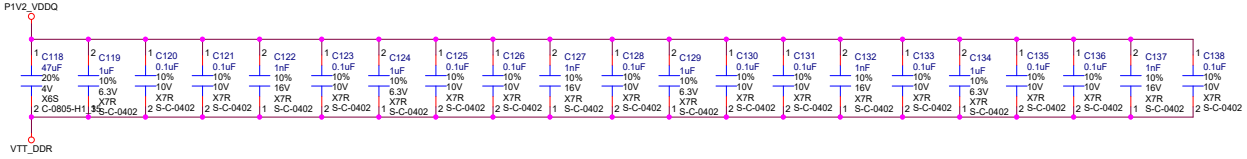
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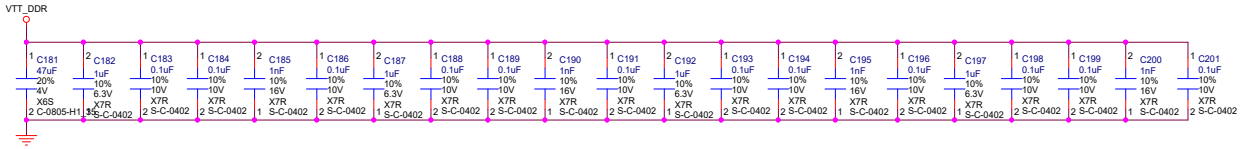
FOR CHANNEL A SDRAMS



FOR CHANNEL A SDRAMS



FOR CHANNEL A SDRAMS

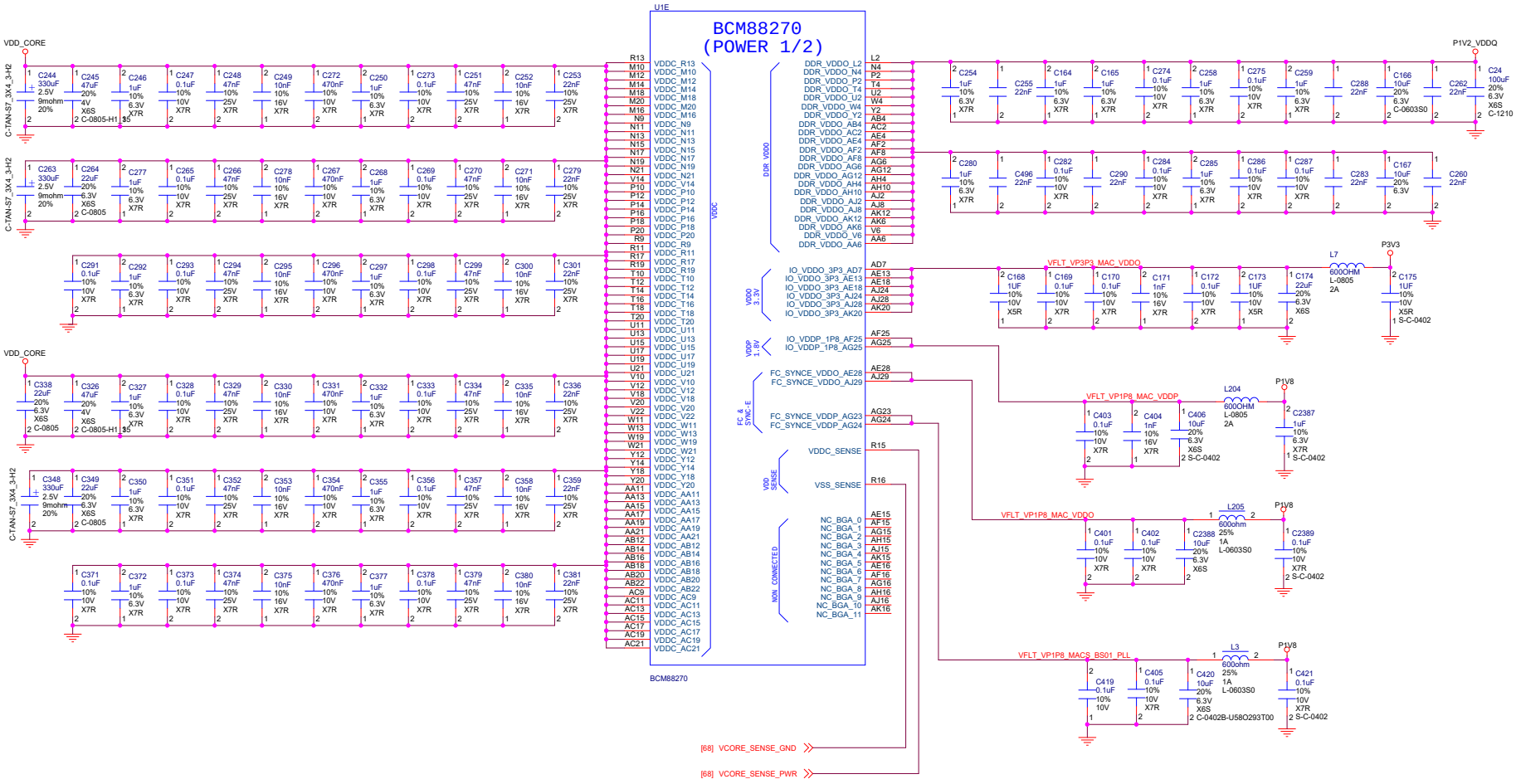


FOR CHANNEL A SDRAMS

MAC_BCM88270_DDR_DECAPS1

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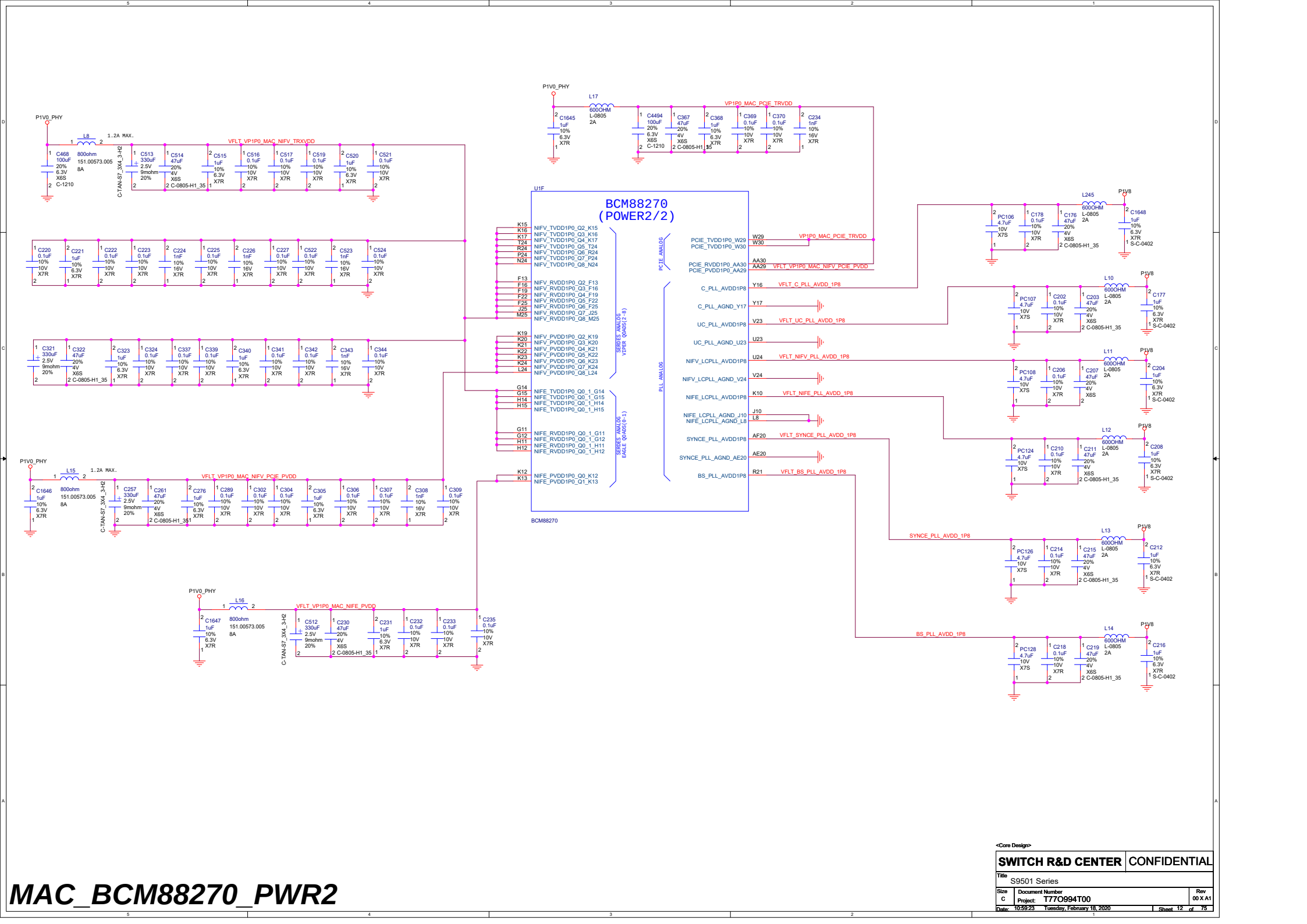
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MAC_BCM88270_PWR1

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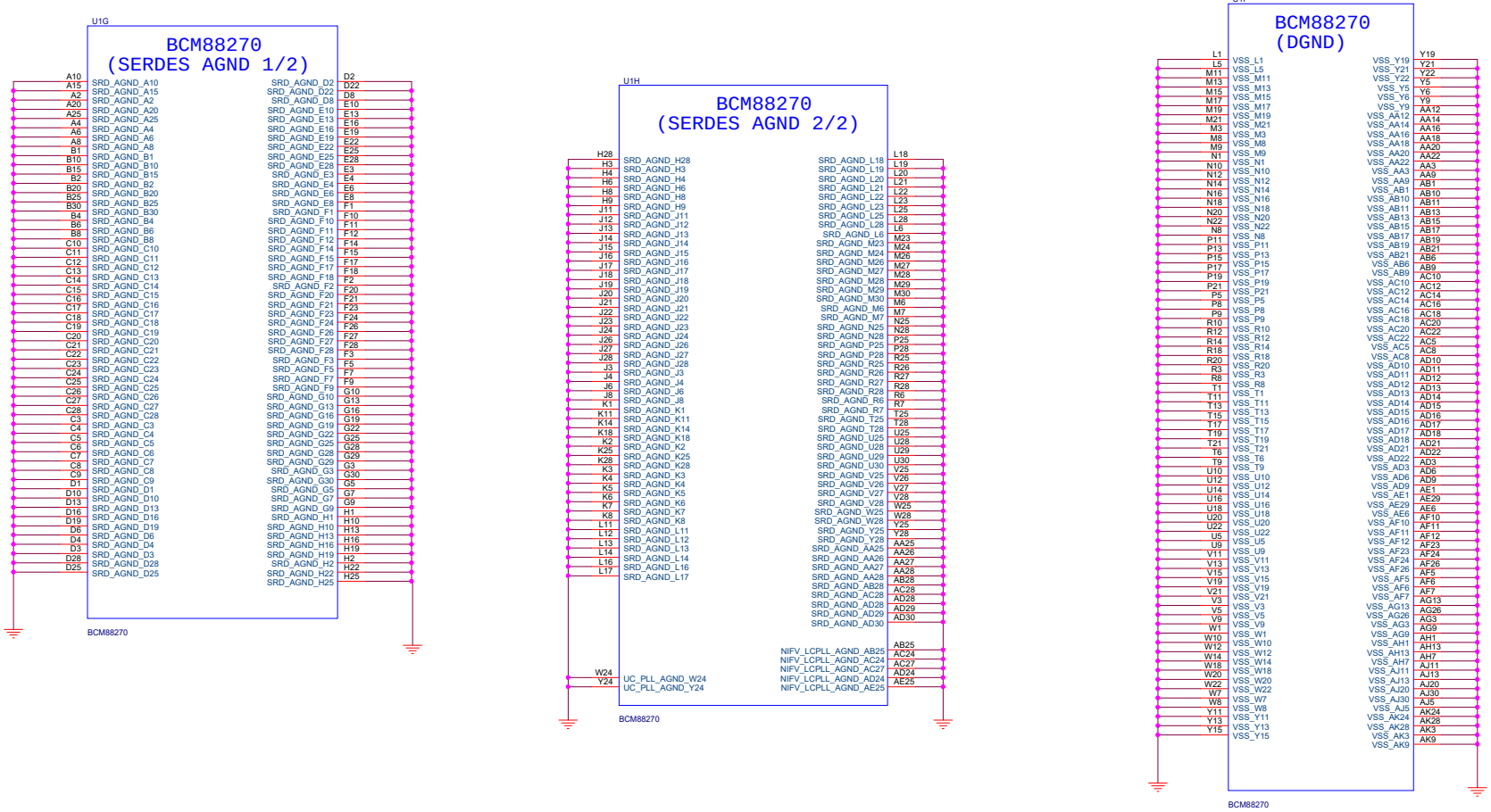
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MAC_BCM88270_PWR2

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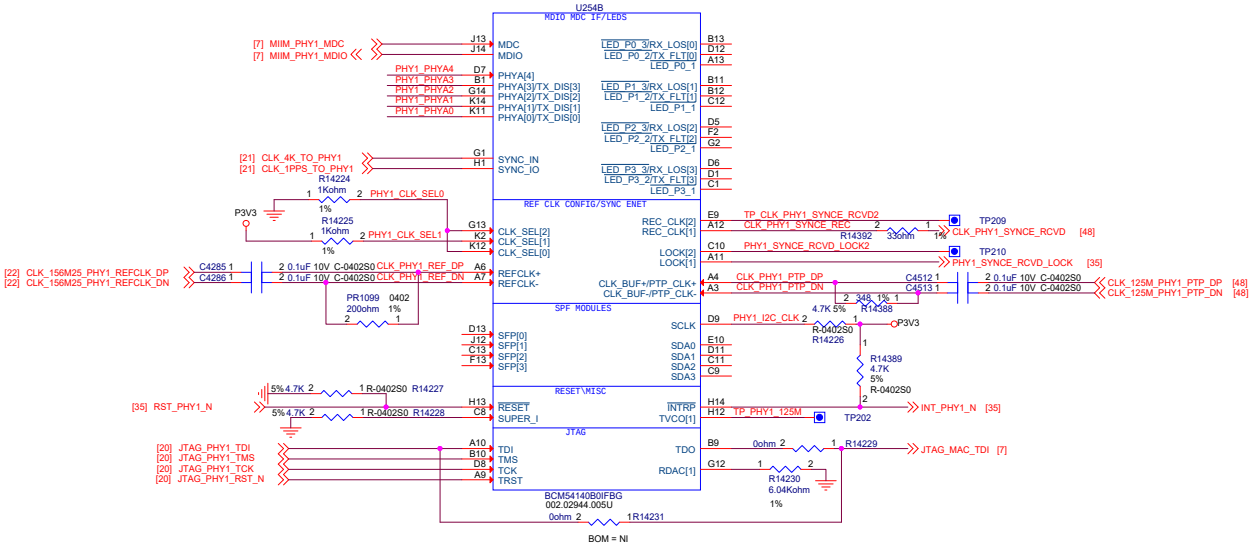
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MAC_BCM88270_GND

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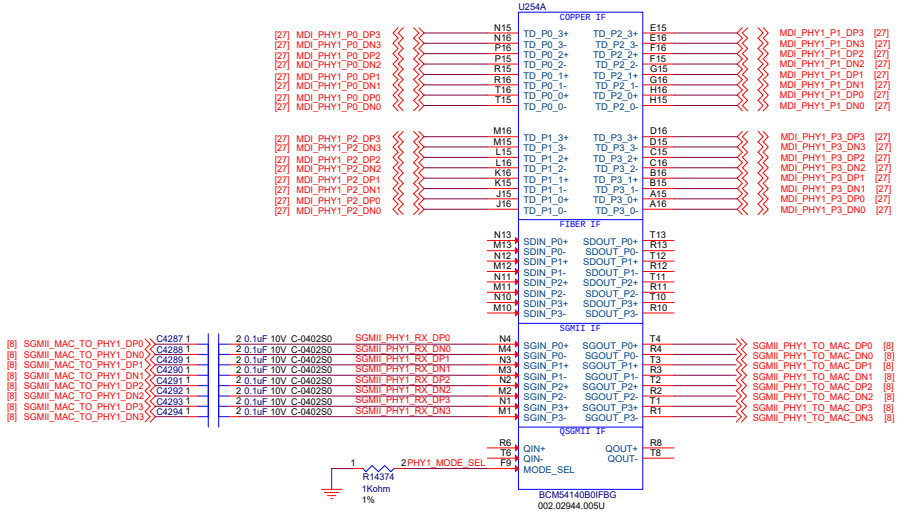
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PHY1_BCM54140_CLOCK & MISC

<Core Design>

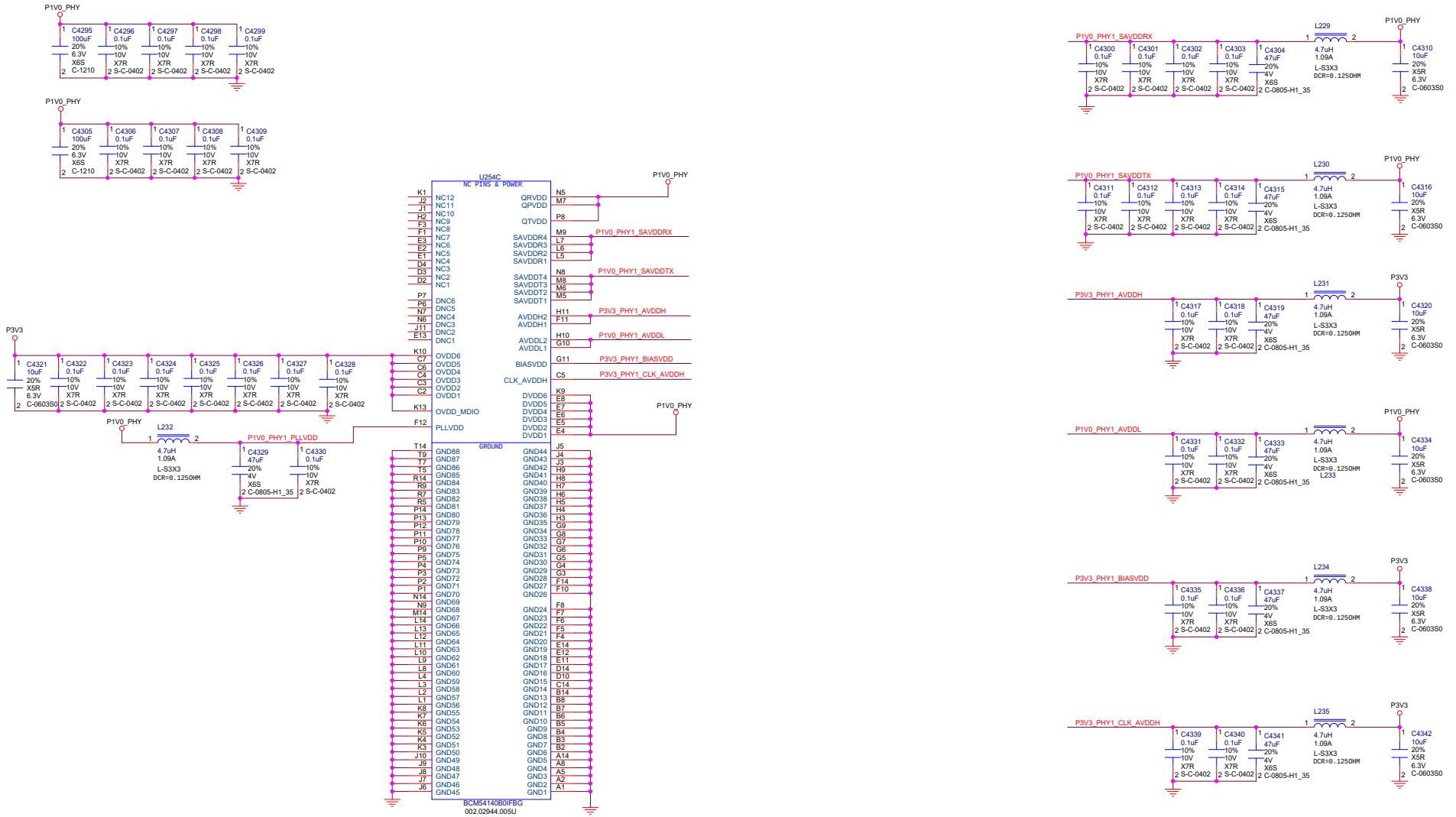
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PHY1_BCM54140_MDI & SERDES

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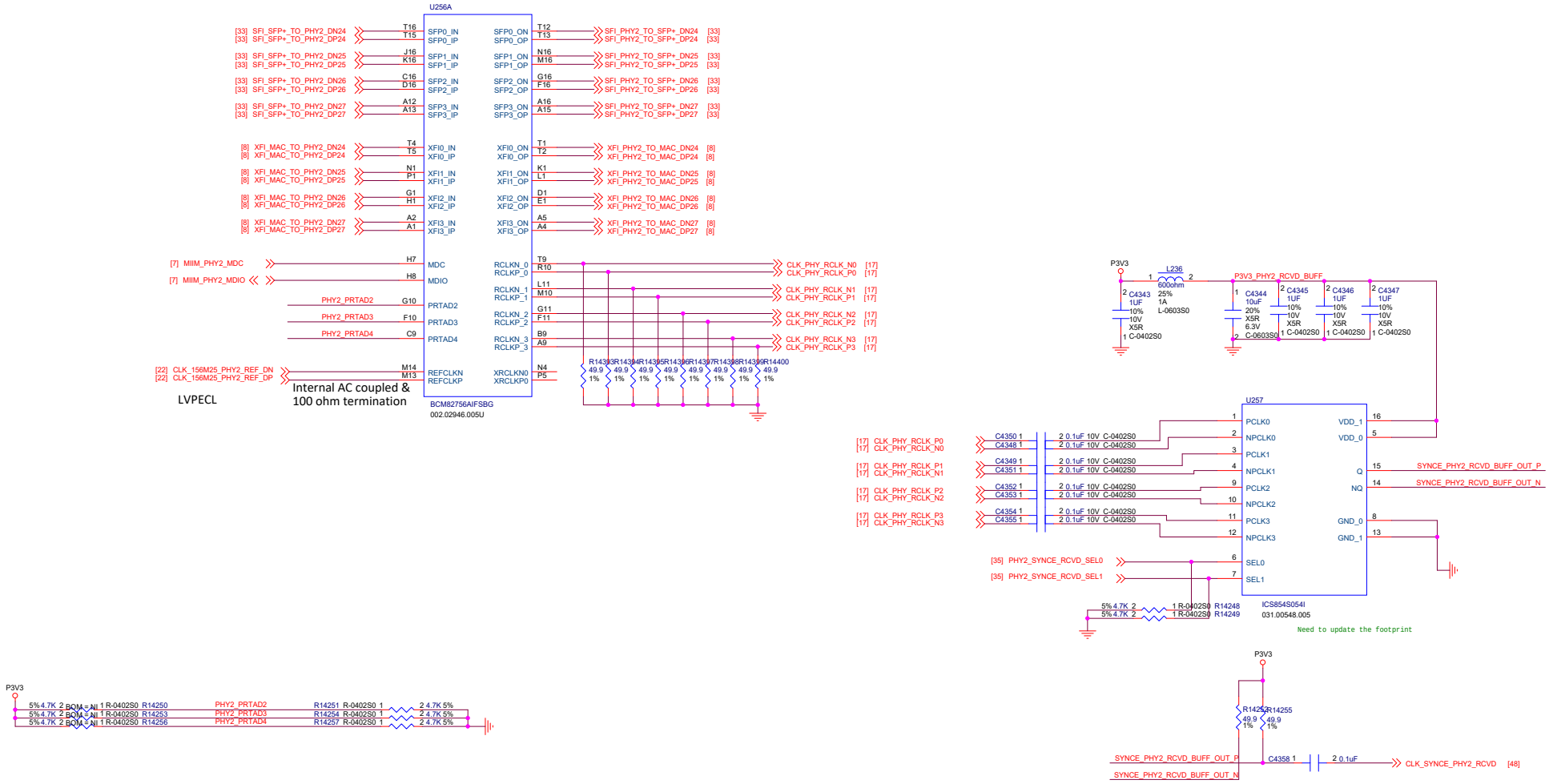
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PHY1_BCM54140_PWR & GND

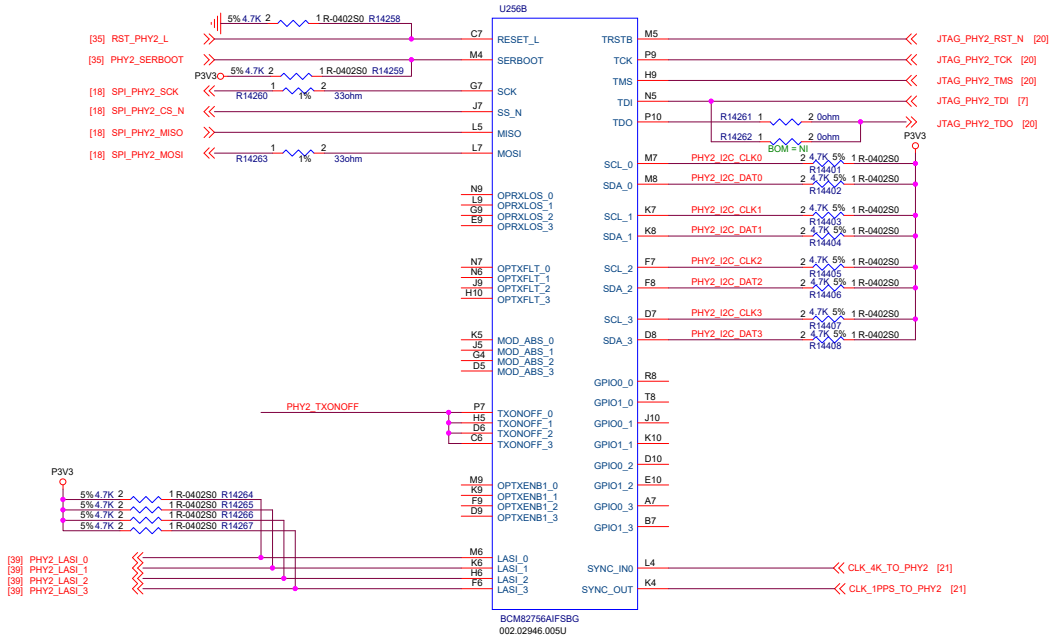
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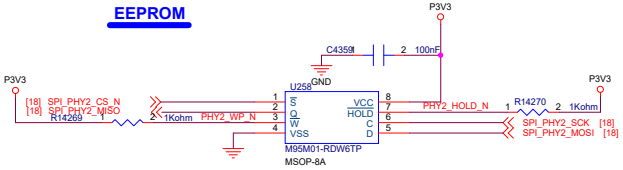

U256A
BCM82756AIFSBG
002.02946.005U
LVPECL
Internal AC coupled &
100 ohm termination

U257
ICS854S054I
031.00548.005
Need to update the footprint

P3V3
L236
600ohm
P3V3_PHY2_RCVD_BUFF

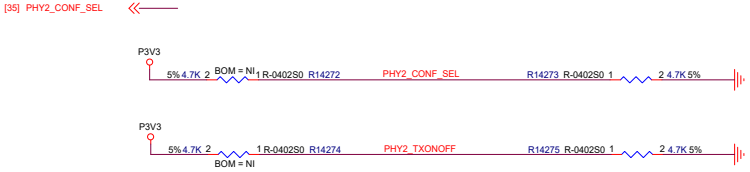


EEPROM



Based on checklist rev2.1: If a Flash is not used add a 3.3Kohm pull-up to NVM_SO

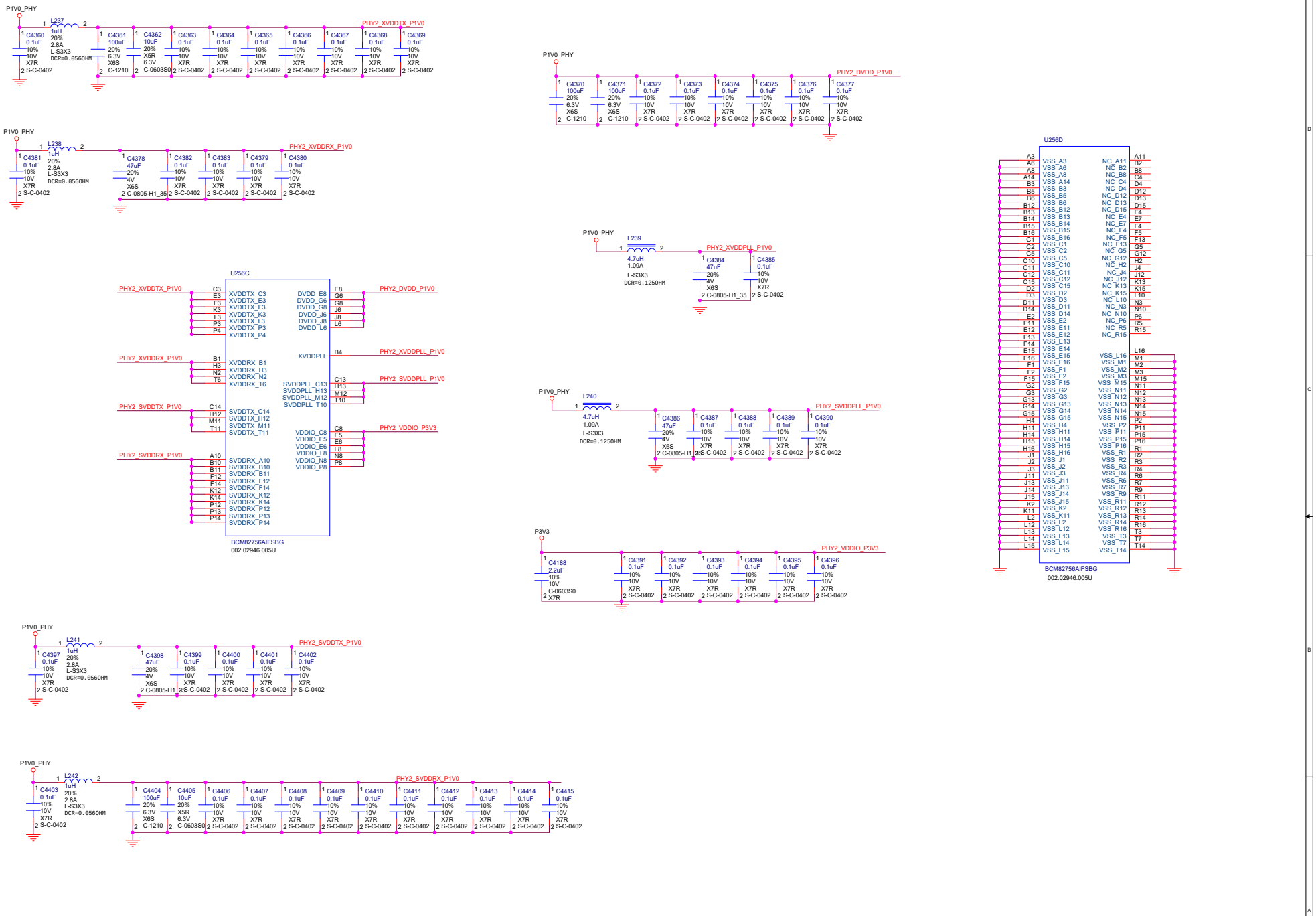
Disable security and the iNVM LOCK by pulling down NVM_SI during power up.



PHY2_BCM82756_FLASH & MISC

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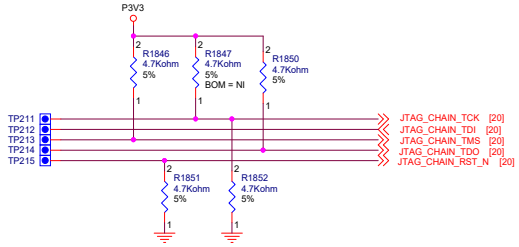
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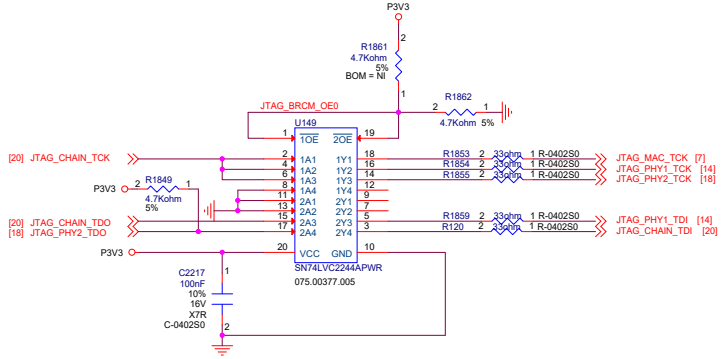
PHY2_BCM82756_PWR & GND

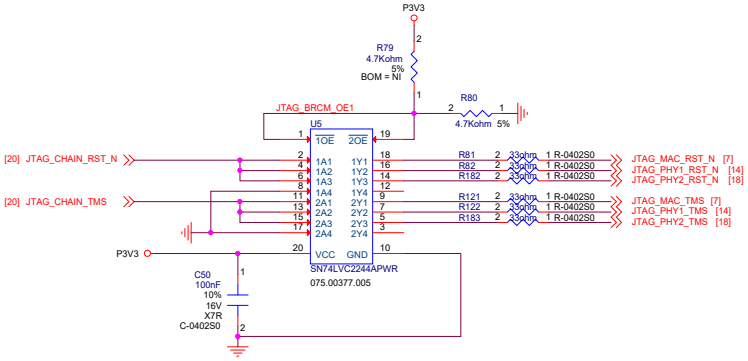
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BRCM CHIPS PCSCAN CHAIN

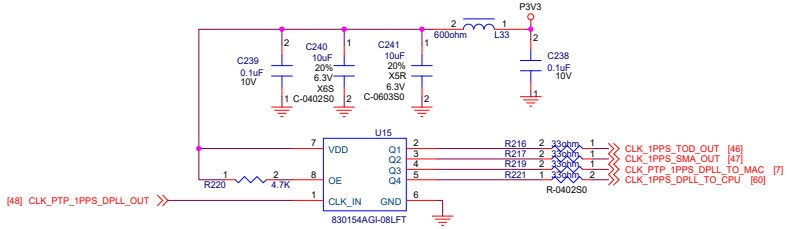


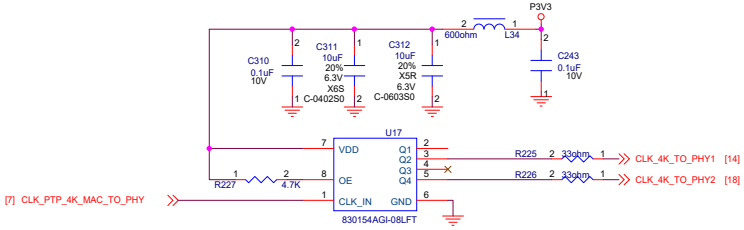


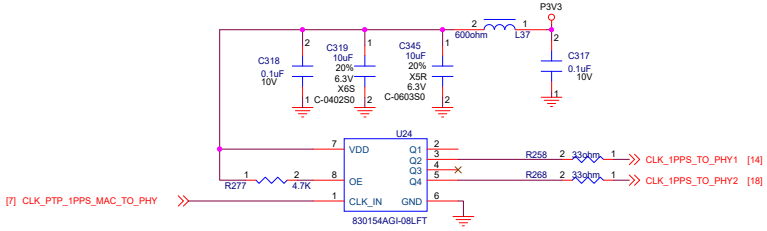
JTAG CHAIN & BUFFER

<Core Design>

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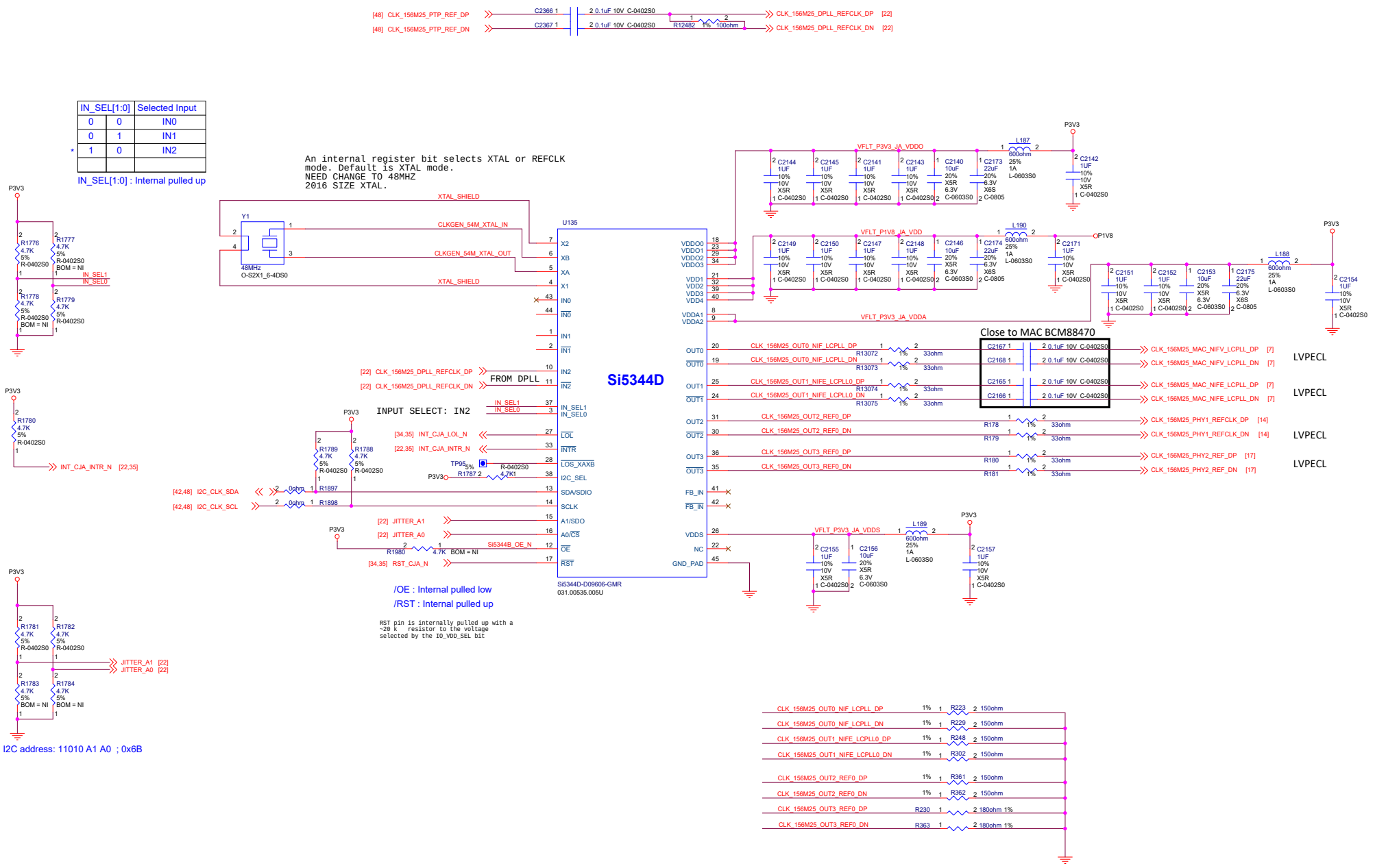




CLOCK BUFFER1_1PPS & 4K

<Core Design>

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CLOCK BUFFER1_156.25M

<Variant Name>

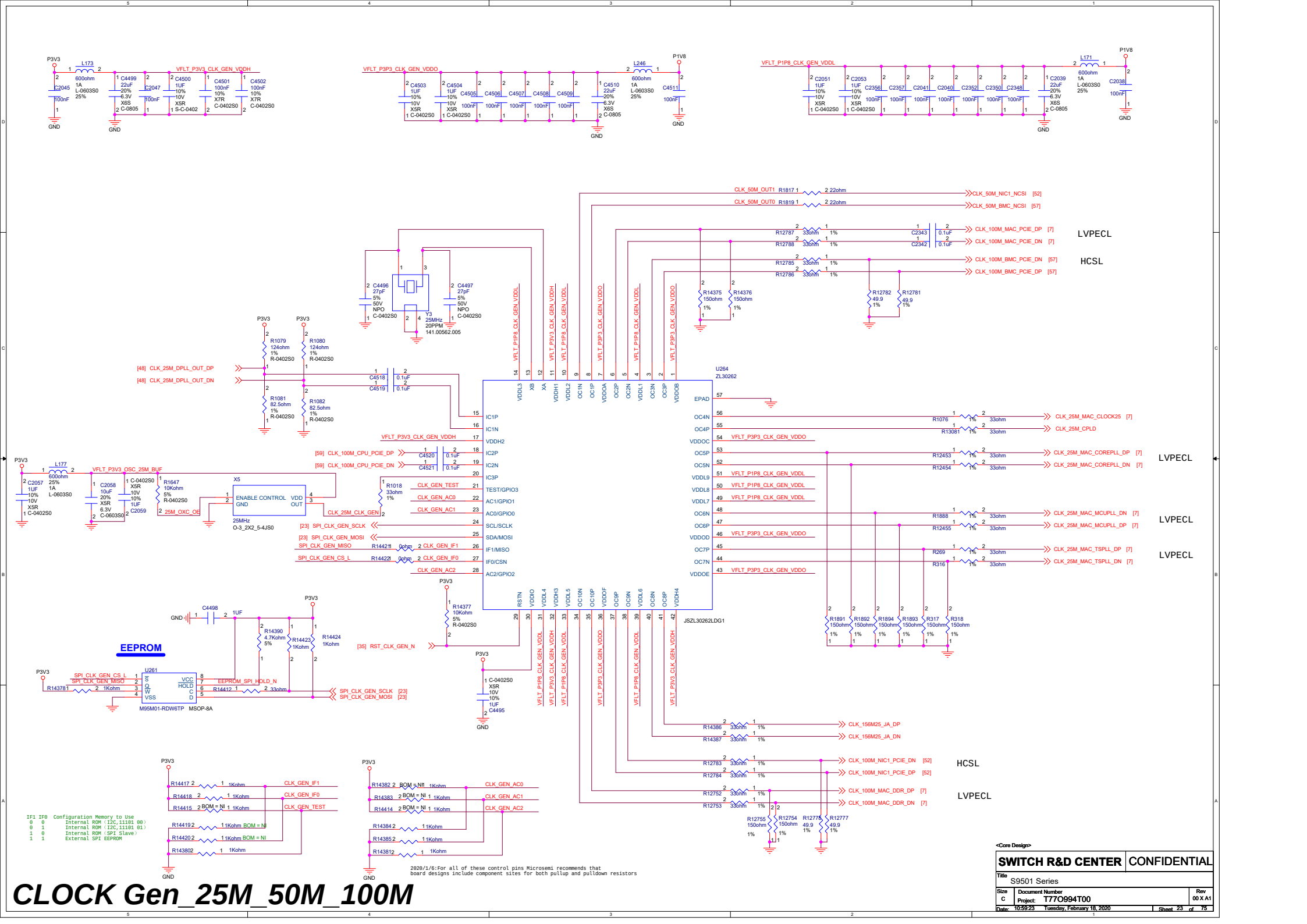
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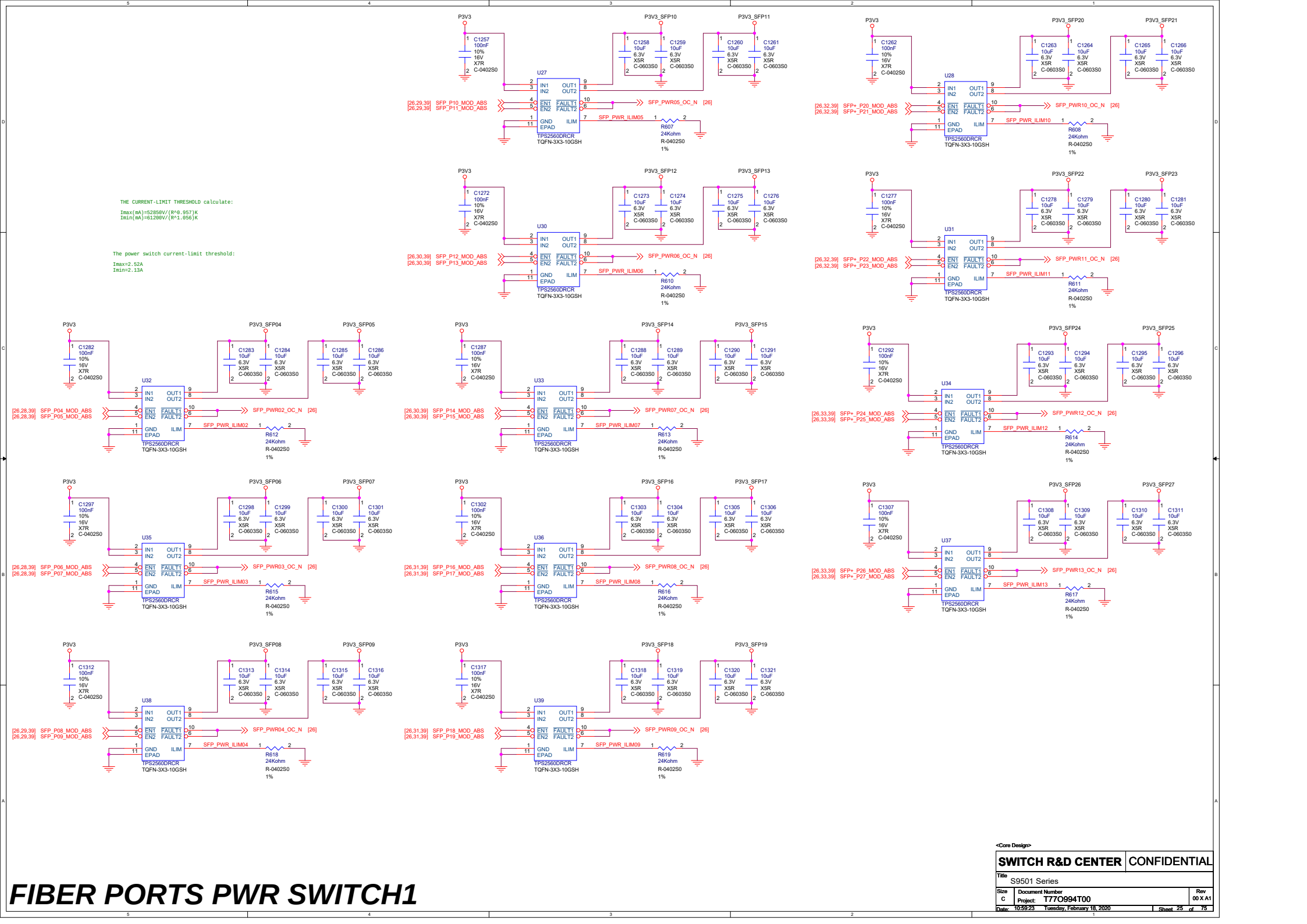
CLOCK Gen_25M_50M_100M



PORT STATUS LED CONTROL

<Core Design>

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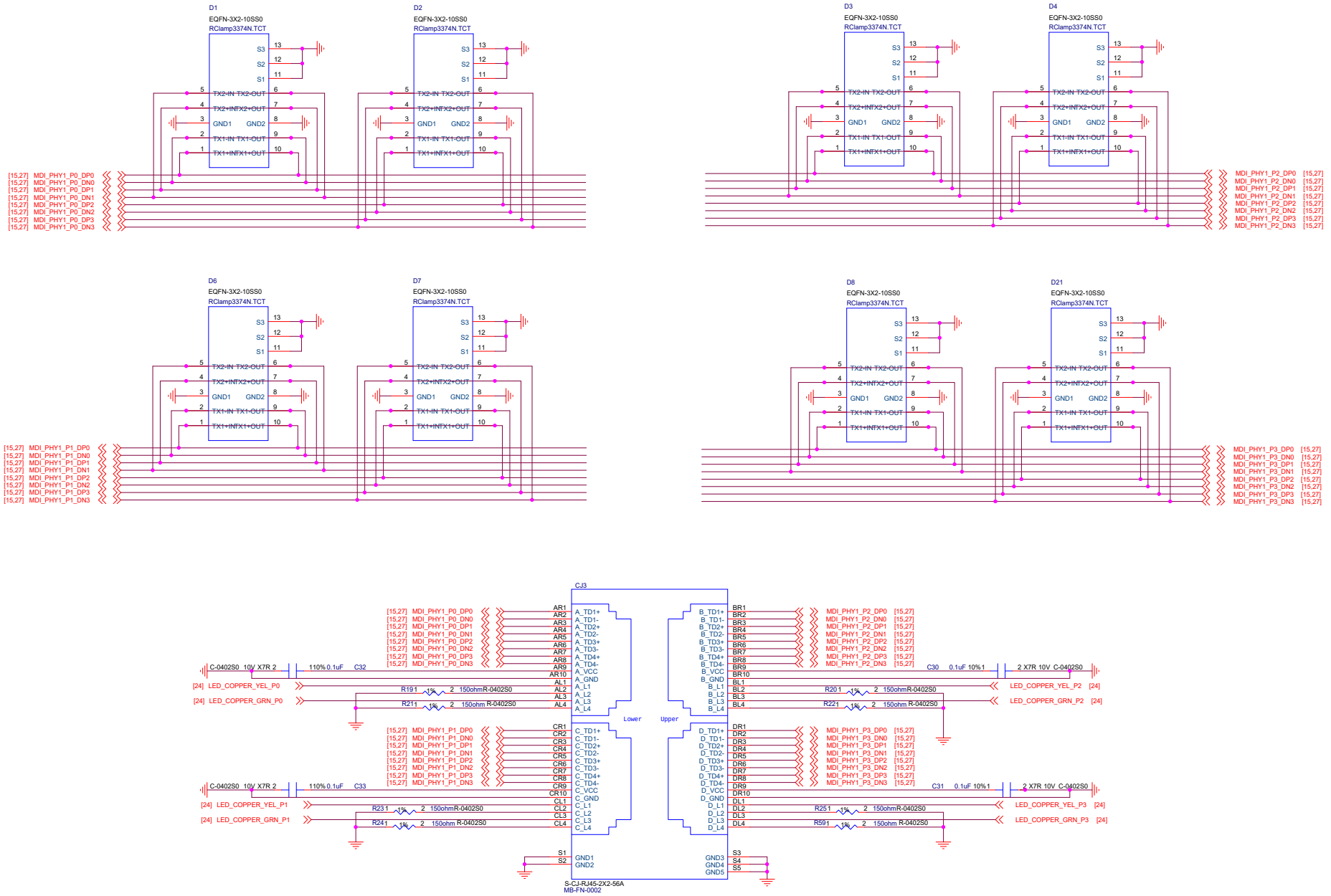

THE CURRENT-LIMIT THRESHOLD calculate:
Imax(mA)=52850V/(R^0.957)K
Imin(mA)=61200V/(R^1.056)K
The power switch current-limit threshold:
Imax=2.52A
Imin=2.13A
P3V3
P3V3_SFP10
P3V3_SFP11
U27
C1257 100nF 10% 16V X7R C-0402S0
C1258 10uF 6.3V X5R C-0603S0
C1259 10uF 6.3V X5R C-0603S0
C1260 10uF 6.3V X5R C-0603S0
C1261 10uF 6.3V X5R C-0603S0
[26,29,39] SFP_P10_MOD_ABS
[26,29,39] SFP_P11_MOD_ABS
SFP_PWR05_OC_N [26]
SFP_PWR_ILIM05
R607 24Kohm R-0402S0 1%
TPS2560DRCR TQFN-3X3-10GSH
P3V3_SFP20
P3V3_SFP21
U28
C1262 100nF 10% 16V X7R C-0402S0
C1263 10uF 6.3V X5R C-0603S0
C1264 10uF 6.3V X5R C-0603S0
C1265 10uF 6.3V X5R C-0603S0
C1266 10uF 6.3V X5R C-0603S0
[26,32,39] SFP+_P20_MOD_ABS
[26,32,39] SFP+_P21_MOD_ABS
SFP_PWR10_OC_N [26]
SFP_PWR_ILIM10
R608 24Kohm R-0402S0 1%
P3V3_SFP12
P3V3_SFP13
U30
C1272 100nF 10% 16V X7R C-0402S0
C1273 10uF 6.3V X5R C-0603S0
C1274 10uF 6.3V X5R C-0603S0
C1275 10uF 6.3V X5R C-0603S0
C1276 10uF 6.3V X5R C-0603S0
[26,30,39] SFP_P12_MOD_ABS
[26,30,39] SFP_P13_MOD_ABS
SFP_PWR06_OC_N [26]
SFP_PWR_ILIM06
R610 24Kohm R-0402S0 1%
P3V3_SFP22
P3V3_SFP23
U31
C1277 100nF 10% 16V X7R C-0402S0
C1278 10uF 6.3V X5R C-0603S0
C1279 10uF 6.3V X5R C-0603S0
C1280 10uF 6.3V X5R C-0603S0
C1281 10uF 6.3V X5R C-0603S0
[26,32,39] SFP+_P22_MOD_ABS
[26,32,39] SFP+_P23_MOD_ABS
SFP_PWR11_OC_N [26]
SFP_PWR_ILIM11
R611 24Kohm R-0402S0 1%
P3V3_SFP04
P3V3_SFP05
U32
C1282 100nF 10% 16V X7R C-0402S0
C1283 10uF 6.3V X5R C-0603S0
C1284 10uF 6.3V X5R C-0603S0
C1285 10uF 6.3V X5R C-0603S0
C1286 10uF 6.3V X5R C-0603S0
[26,28,39] SFP_P04_MOD_ABS
[26,28,39] SFP_P05_MOD_ABS
SFP_PWR02_OC_N [26]
SFP_PWR_ILIM02
R612 24Kohm R-0402S0 1%
P3V3_SFP14
P3V3_SFP15
U33
C1287 100nF 10% 16V X7R C-0402S0
C1288 10uF 6.3V X5R C-0603S0
C1289 10uF 6.3V X5R C-0603S0
C1290 10uF 6.3V X5R C-0603S0
C1291 10uF 6.3V X5R C-0603S0
[26,30,39] SFP_P14_MOD_ABS
[26,30,39] SFP_P15_MOD_ABS
SFP_PWR07_OC_N [26]
SFP_PWR_ILIM07
R613 24Kohm R-0402S0 1%
P3V3_SFP24
P3V3_SFP25
U34
C1292 100nF 10% 16V X7R C-0402S0
C1293 10uF 6.3V X5R C-0603S0
C1294 10uF 6.3V X5R C-0603S0
C1295 10uF 6.3V X5R C-0603S0
C1296 10uF 6.3V X5R C-0603S0
[26,33,39] SFP+_P24_MOD_ABS
[26,33,39] SFP+_P25_MOD_ABS
SFP_PWR12_OC_N [26]
SFP_PWR_ILIM12
R614 24Kohm R-0402S0 1%
P3V3_SFP06
P3V3_SFP07
U35
C1297 100nF 10% 16V X7R C-0402S0
C1298 10uF 6.3V X5R C-0603S0
C1299 10uF 6.3V X5R C-0603S0
C1300 10uF 6.3V X5R C-0603S0
C1301 10uF 6.3V X5R C-0603S0
[26,28,39] SFP_P06_MOD_ABS
[26,28,39] SFP_P07_MOD_ABS
SFP_PWR03_OC_N [26]
SFP_PWR_ILIM03
R615 24Kohm R-0402S0 1%
P3V3_SFP16
P3V3_SFP17
U36
C1302 100nF 10% 16V X7R C-0402S0
C1303 10uF 6.3V X5R C-0603S0
C1304 10uF 6.3V X5R C-0603S0
C1305 10uF 6.3V X5R C-0603S0
C1306 10uF 6.3V X5R C-0603S0
[26,31,39] SFP_P16_MOD_ABS
[26,31,39] SFP_P17_MOD_ABS
SFP_PWR08_OC_N [26]
SFP_PWR_ILIM08
R616 24Kohm R-0402S0 1%
P3V3_SFP26
P3V3_SFP27
U37
C1307 100nF 10% 16V X7R C-0402S0
C1308 10uF 6.3V X5R C-0603S0
C1309 10uF 6.3V X5R C-0603S0
C1310 10uF 6.3V X5R C-0603S0
C1311 10uF 6.3V X5R C-0603S0
[26,33,39] SFP+_P26_MOD_ABS
[26,33,39] SFP+_P27_MOD_ABS
SFP_PWR13_OC_N [26]
SFP_PWR_ILIM13
R617 24Kohm R-0402S0 1%
P3V3_SFP08
P3V3_SFP09
U38
C1312 100nF 10% 16V X7R C-0402S0
C1313 10uF 6.3V X5R C-0603S0
C1314 10uF 6.3V X5R C-0603S0
C1315 10uF 6.3V X5R C-0603S0
C1316 10uF 6.3V X5R C-0603S0
[26,29,39] SFP_P08_MOD_ABS
[26,29,39] SFP_P09_MOD_ABS
SFP_PWR04_OC_N [26]
SFP_PWR_ILIM04
R618 24Kohm R-0402S0 1%
P3V3_SFP18
P3V3_SFP19
U39
C1317 100nF 10% 16V X7R C-0402S0
C1318 10uF 6.3V X5R C-0603S0
C1319 10uF 6.3V X5R C-0603S0
C1320 10uF 6.3V X5R C-0603S0
C1321 10uF 6.3V X5R C-0603S0
[26,31,39] SFP_P18_MOD_ABS
[26,31,39] SFP_P19_MOD_ABS
SFP_PWR09_OC_N [26]
SFP_PWR_ILIM09
R619 24Kohm R-0402S0 1%
IN1 IN2 OUT1 OUT2 EN1 EN2 FAULT1 FAULT2 GND EPAD ILIM
TPS2560DRCR TQFN-3X3-10GSH
FIBER PORTS PWR SWITCH1
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FIBER PORTS PWR SWITCH2

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2x2 ICM_CONN_P01~P04

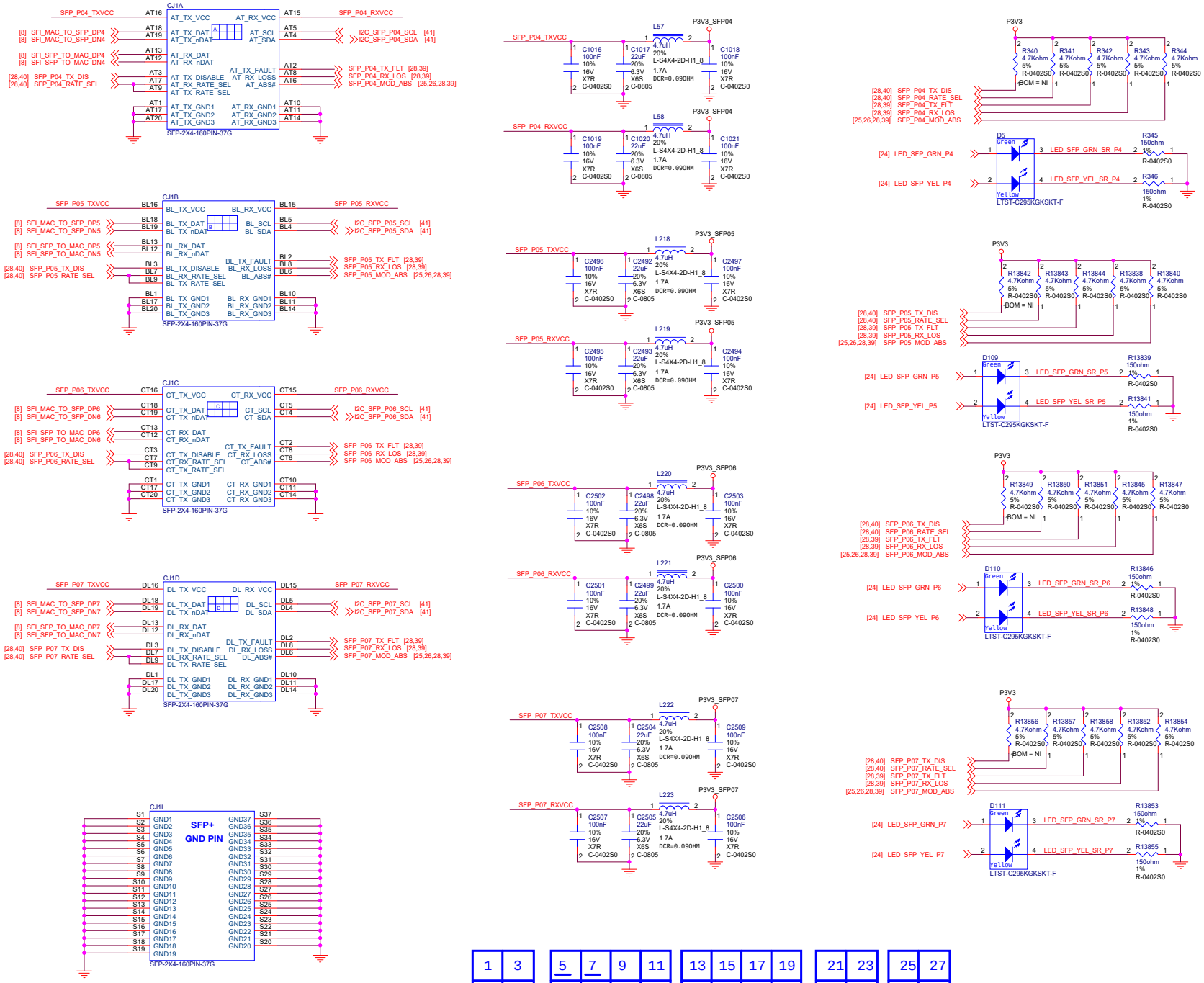
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2	4

5	7	9	11
6	8	10	12

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14	16	18	20

21	23
22	24

25	27
26	28

2x4 SFP_CONN1_P05~P08

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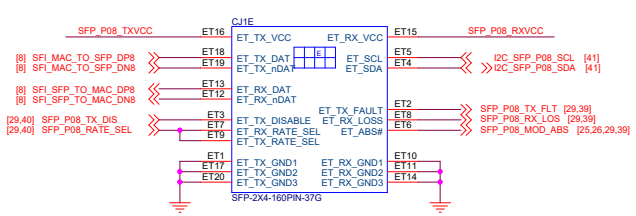
SWITCH R&D CENTER | CONFIDENTIAL

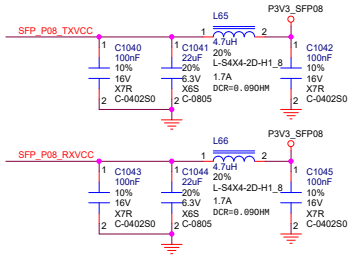
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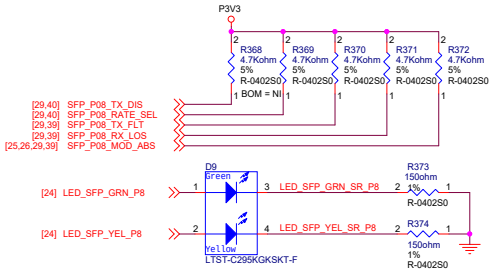
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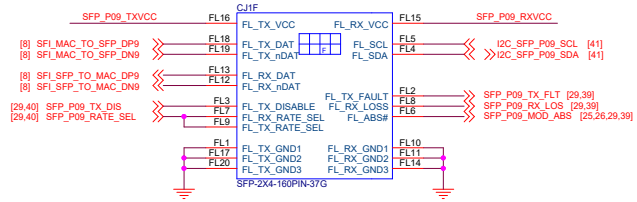
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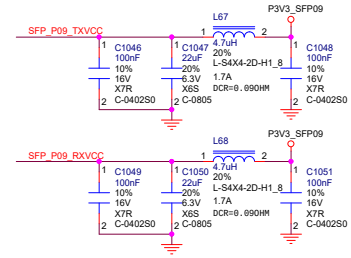
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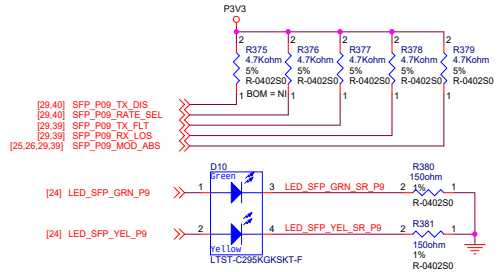


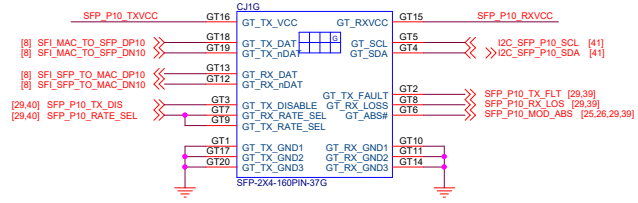


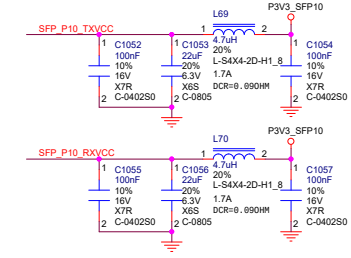


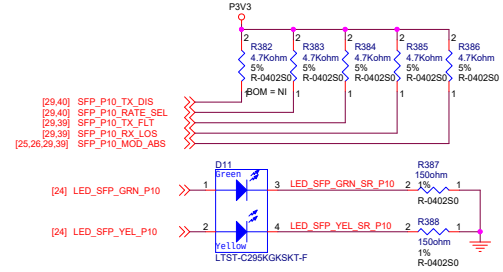


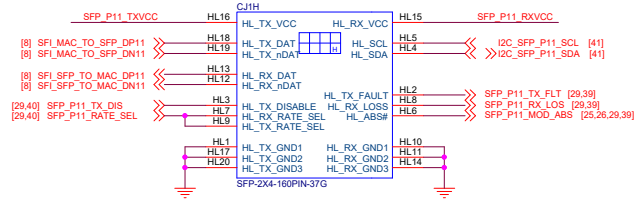


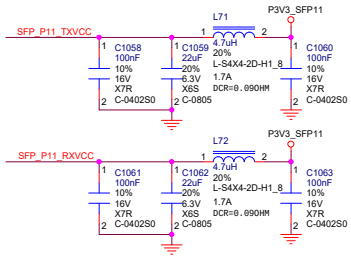


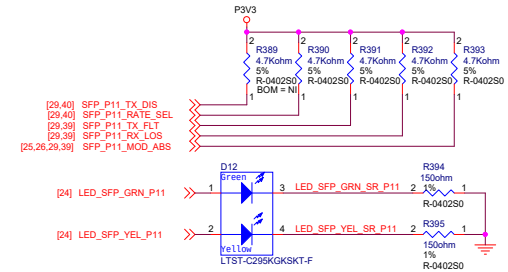


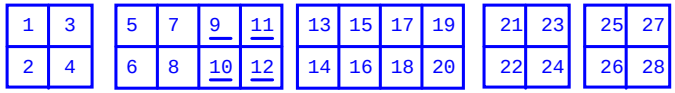








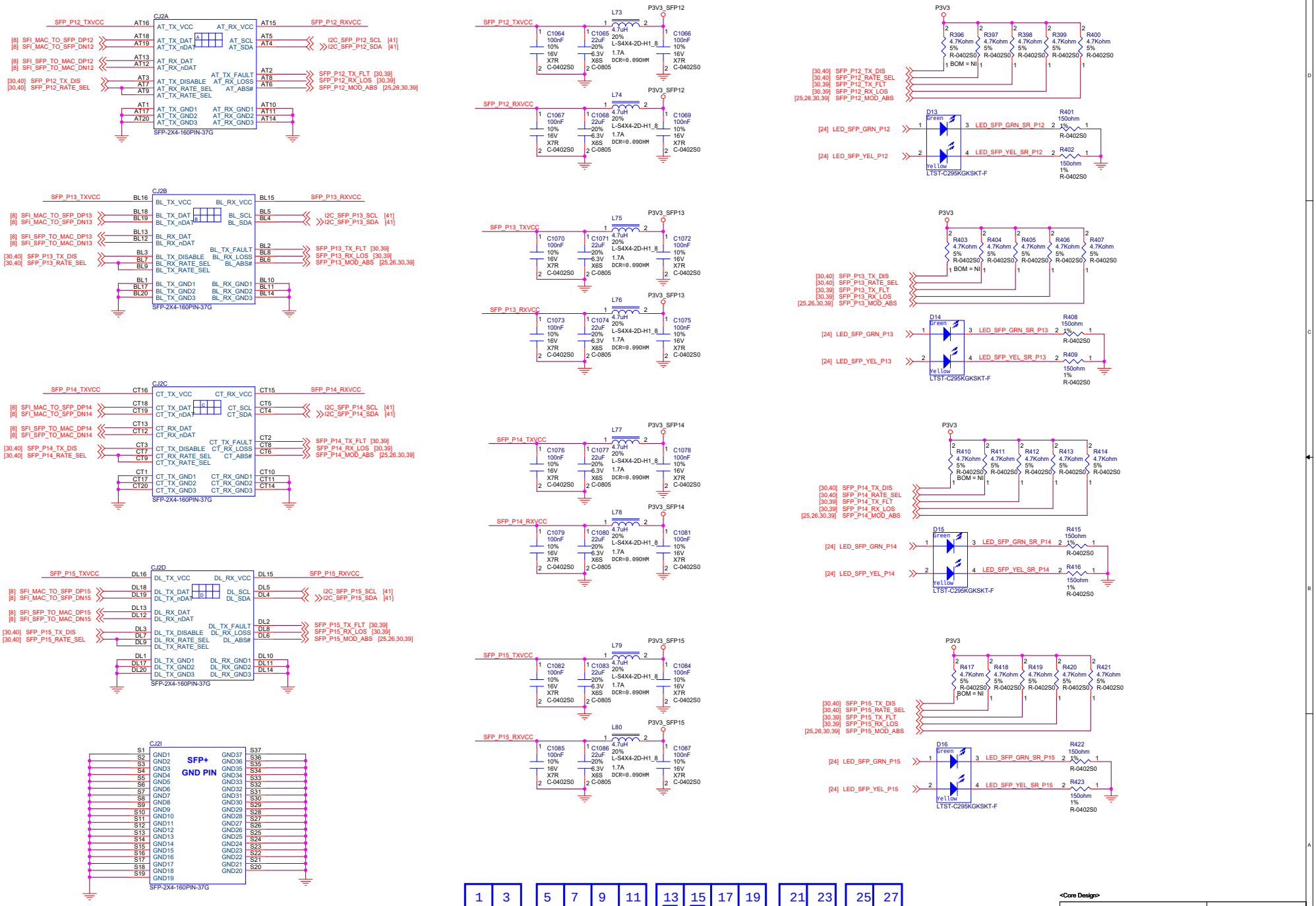




2x4 SFP_CONN1_P09~P12

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2 4

5 7 9 11
6 8 10 12

13 15 17 19
14 16 18 20

21 23
22 24

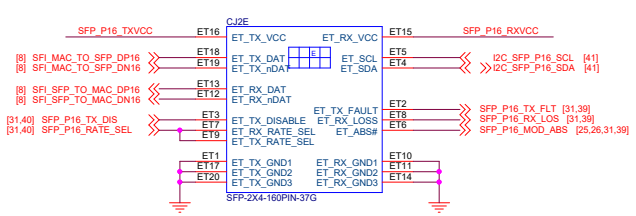
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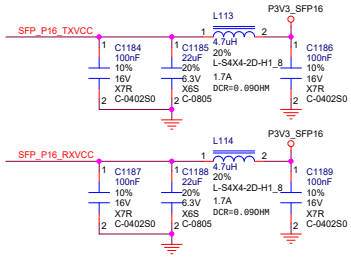
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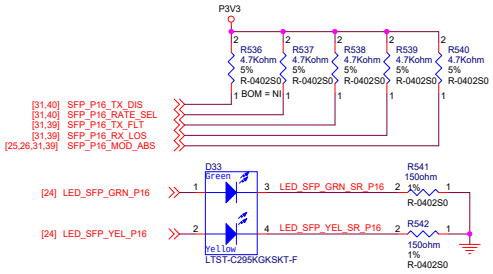
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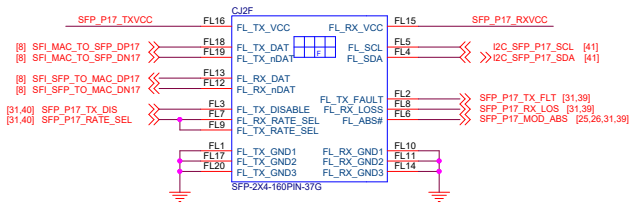
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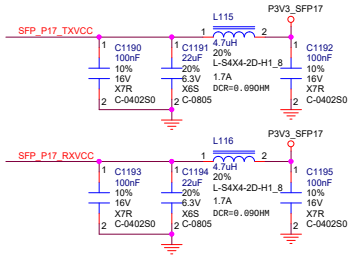
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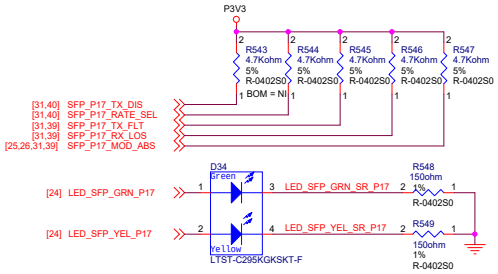


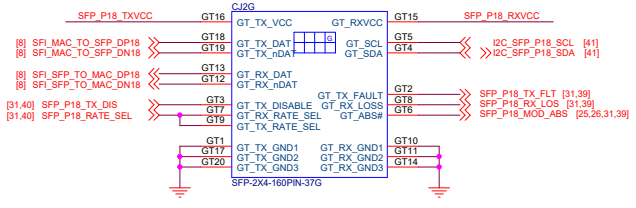


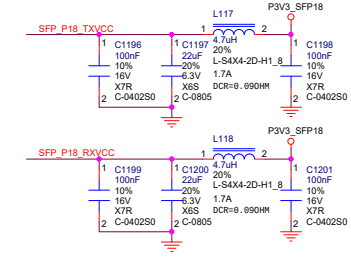


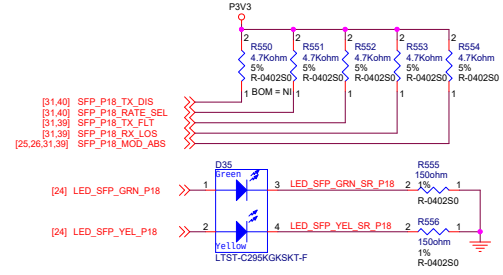


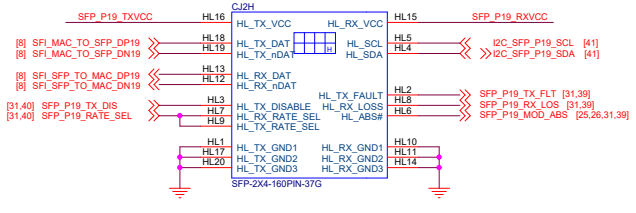


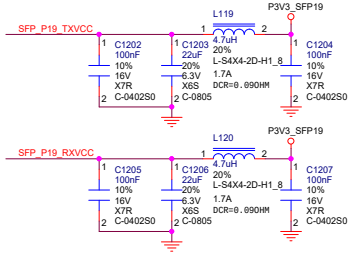


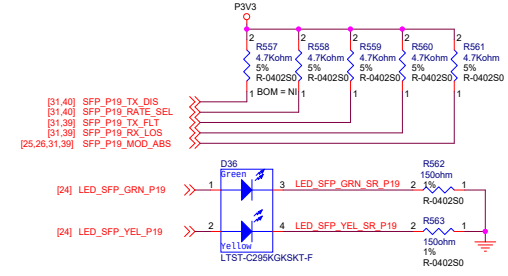












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2	4

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6	8	10	12

13	15	17	19
14	16	18	20

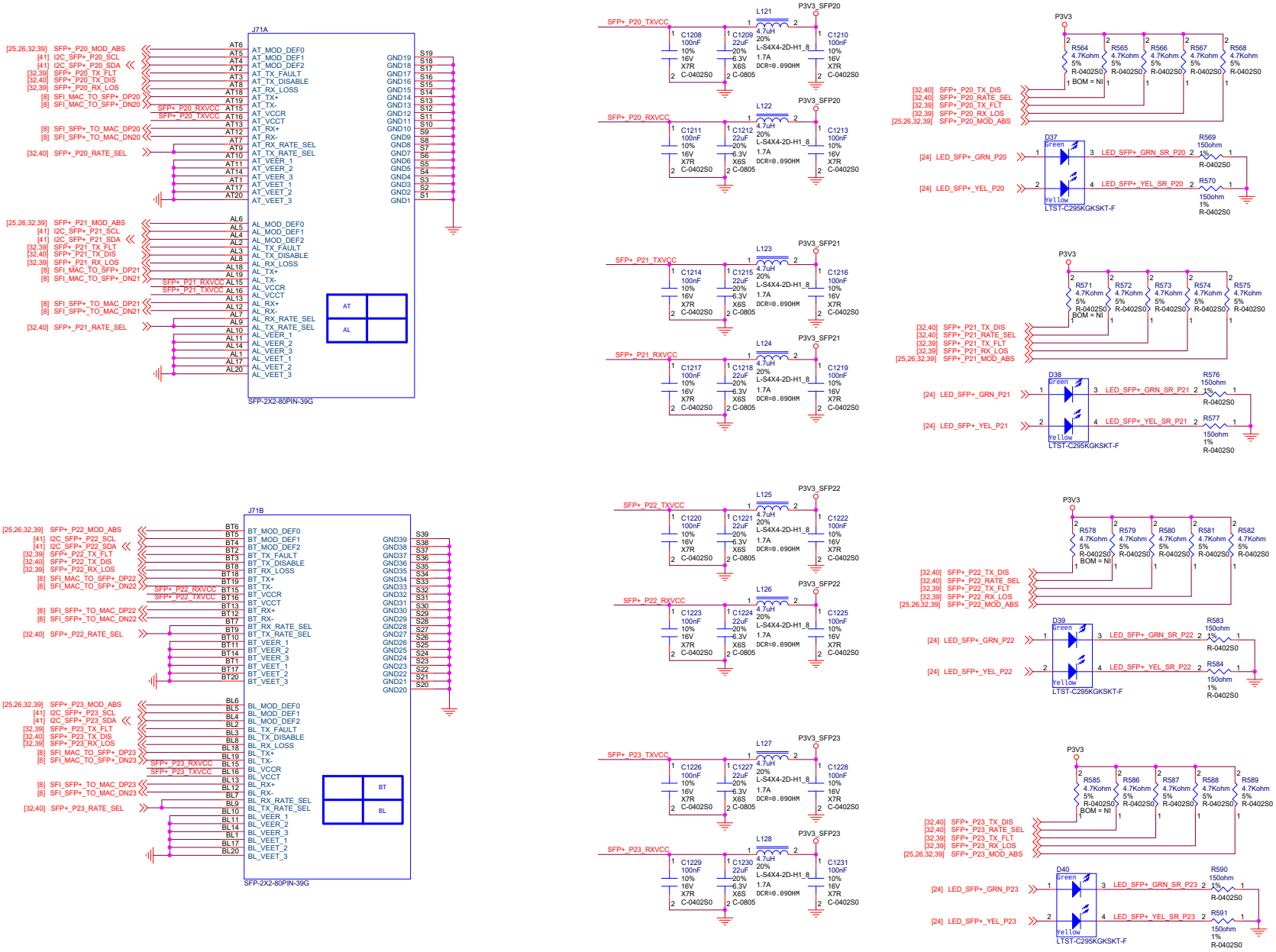
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22	24

25	27
26	28

2x4 SFP_CONN2_P17~P20

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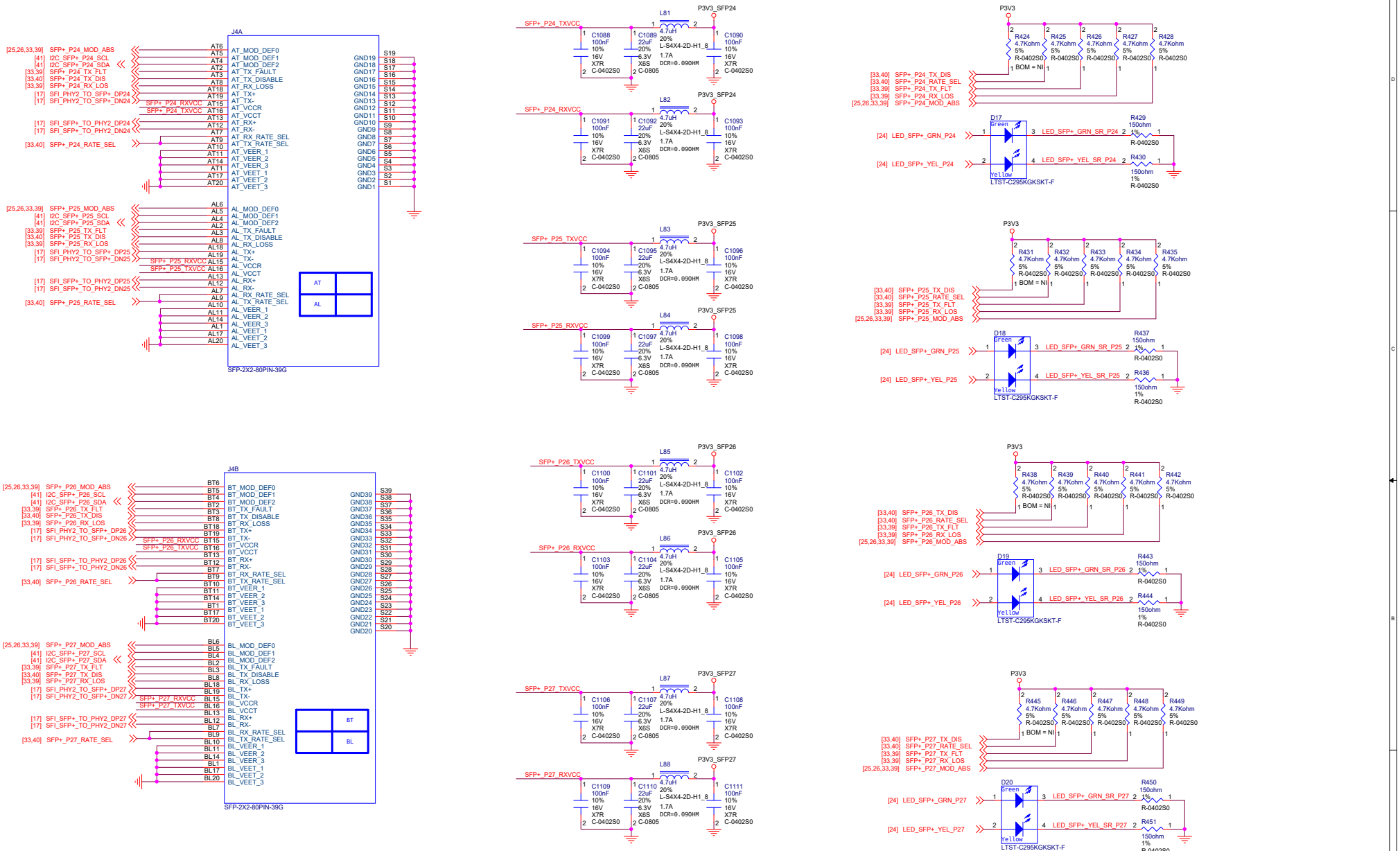


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2	4	6	8	10	12	14	16	18	20	22	24	26	28		

2x2 SFP+_CONN1_P21~P24

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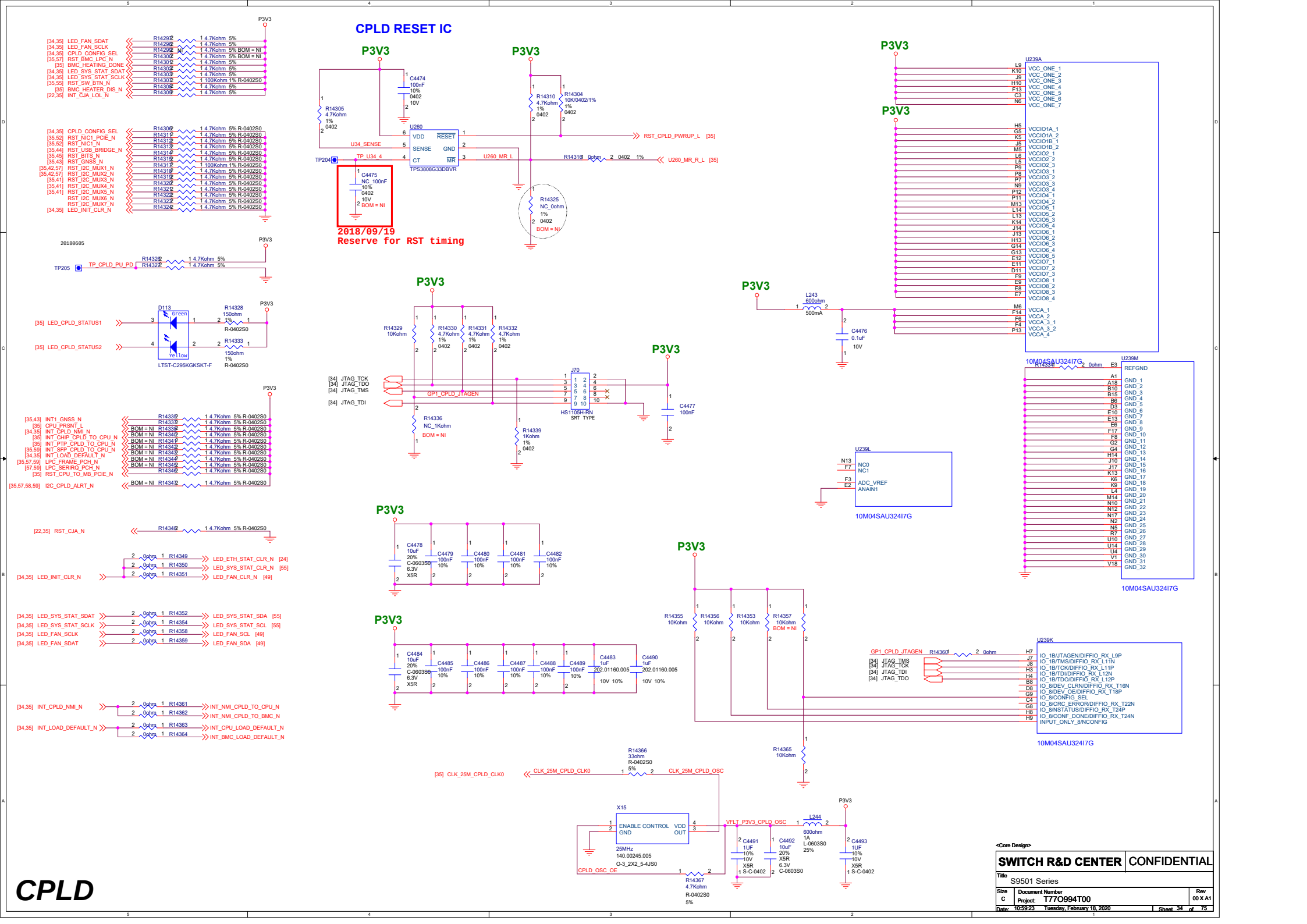


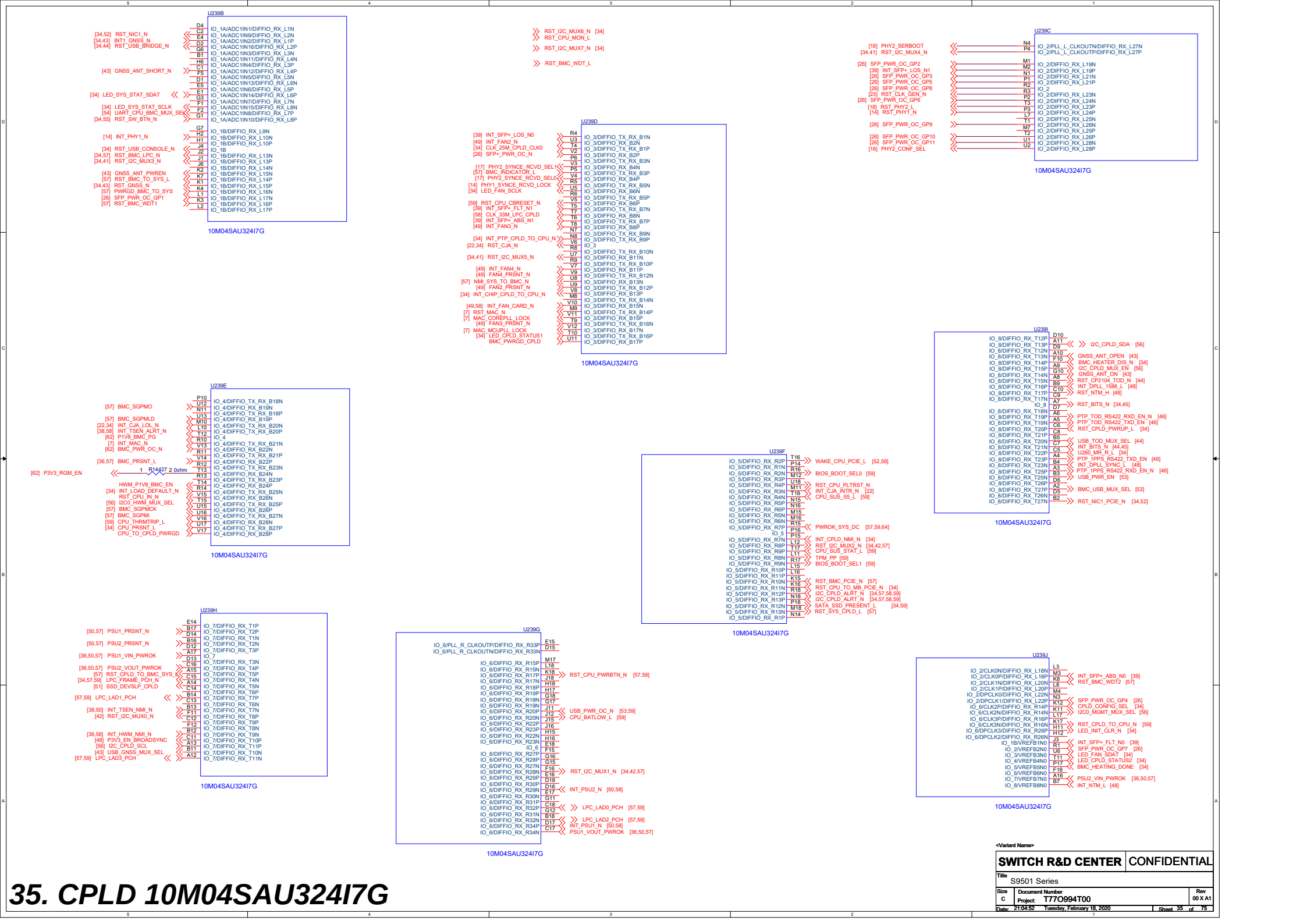
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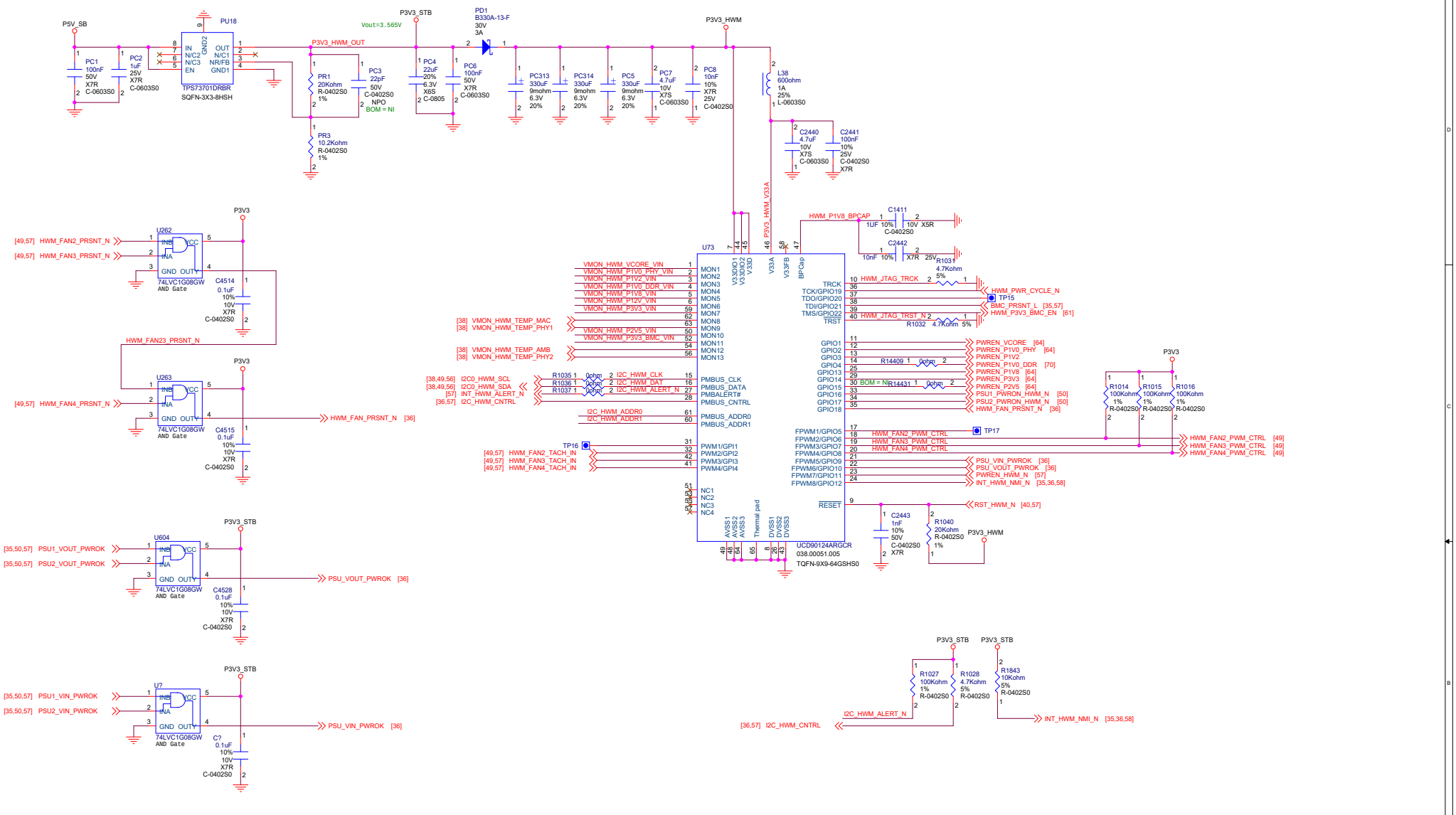

CPLD RESET IC
P3V3
U260
VDD
RESET
SENSE
GND
CT
MR
TPS3808G33DBVR
U34_SENSE
TP_U34_4
U260_MR_L
RST_CPLD_PWRUP_L [35]
U260_MR_R_L [35]
C4474 100nF 10% 0402 10V
C4475 NC_100nF 10% 0402 10V BOM = NI
R14305 4.7Kohm 1% 0402
R14304 10K/0402/1% 1% 0402
R14310 4.7Kohm 1% 0402
R14325 NC_0ohm 1% 0402 BOM = NI
2018/09/19
Reserve for RST timing
U239A
VCC_ONE_1
VCC_ONE_2
VCC_ONE_3
VCC_ONE_4
VCC_ONE_5
VCC_ONE_6
VCC_ONE_7
VCCIO1A_1
VCCIO1A_2
VCCIO1B_1
VCCIO1B_2
VCCIO2_1
VCCIO2_2
VCCIO2_3
VCCIO3_1
VCCIO3_2
VCCIO3_3
VCCIO3_4
VCCIO4_1
VCCIO4_2
VCCIO5_1
VCCIO5_2
VCCIO5_3
VCCIO5_4
VCCIO6_1
VCCIO6_2
VCCIO6_3
VCCIO6_4
VCCIO6_5
VCCIO7_1
VCCIO7_2
VCCIO7_3
VCCIO8_1
VCCIO8_2
VCCIO8_3
VCCIO8_4
VCCA_1
VCCA_2
VCCA_3_1
VCCA_3_2
VCCA_4
L243 600ohm 500mA
C4476 0.1uF 10V
U239M
REFGND
GND_1
GND_2
GND_3
GND_4
GND_5
GND_6
GND_7
GND_8
GND_9
GND_10
GND_11
GND_12
GND_13
GND_14
GND_15
GND_16
GND_17
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GND_27
GND_28
GND_29
GND_30
GND_31
GND_32
10M04SAU324I7G
U239L
NC0
NC1
ADC_VREF
ANAIN1
10M04SAU324I7G
U239K
IO_1B/JTAGEN/DIFFIO_RX_L9P
IO_1B/TMS/DIFFIO_RX_L11N
IO_1B/TCK/DIFFIO_RX_L11P
IO_1B/TDI/DIFFIO_RX_L12N
IO_1B/TDO/DIFFIO_RX_L12P
IO_8/DEV_CLRN/DIFFIO_RX_T16N
IO_8/DEV_OE/DIFFIO_RX_T18P
IO_8/CONFIG_SEL
IO_8/CRC_ERROR/DIFFIO_RX_T22N
IO_8/NSTATUS/DIFFIO_RX_T24P
IO_8/CONF_DONE/DIFFIO_RX_T24N
INPUT_ONLY_8/NCONFIG
10M04SAU324I7G
J70
HS1105H-RN SMT TYPE
GP1_CPLD_JTAGEN
R14329 10Kohm
R14330 4.7Kohm 1% 0402
R14331 4.7Kohm 1% 0402
R14332 4.7Kohm 1% 0402
R14336 NC_1Kohm BOM = NI
R14339 1Kohm 1% 0402
C4477 100nF
R14355 10Kohm
R14356 10Kohm
R14353 10Kohm
R14357 10Kohm BOM = NI
R14365 10Kohm
C4478 10uF 20% C-0603S0 6.3V X5R
C4479 100nF 10%
C4480 100nF 10%
C4481 100nF 10%
C4482 100nF 10%
C4484 10uF 20% C-0603S0 6.3V X5R
C4485 100nF 10%
C4486 100nF 10%
C4487 100nF 10%
C4488 100nF 10%
C4489 100nF 10%
C4483 1uF 202.01160.005 10V 10%
C4490 1uF 202.01160.005 10V 10%
R14366 33ohm R-0402S0 5%
R14367 4.7Kohm R-0402S0 5%
CLK_25M_CPLD_CLK0
CLK_25M_CPLD_OSC
X15
ENABLE CONTROL
VDD
GND
OUT
25MHz
140.00245.005
O-3_2X2_5-4JS0
CPLD_OSC_OE
VFLT_P3V3_CPLD_OSC
L244 600ohm 1A L-0603S0 25%
C4491 1UF 10% 10V X5R S-C-0402
C4492 10uF 20% X5R 6.3V C-0603S0
C4493 1UF 10% 10V X5R S-C-0402
20189605
TP205
TP_CPLD_PU_PD
R14326 4.7Kohm 5%
R14327 4.7Kohm 5%
D113
Green
Yellow
LTST-C295KGKSKT-F
R14328 150ohm 1% R-0402S0
R14333 150ohm 1% R-0402S0
[35] LED_CPLD_STATUS1
[35] LED_CPLD_STATUS2
[34] JTAG_TCK
[34] JTAG_TDO
[34] JTAG_TMS
[34] JTAG_TDI
[35,43] INT1_GNSS_N
[35] CPU_PRSNT_L
[34,35] INT_CPLD_NMI_N
[35] INT_CHIP_CPLD_TO_CPU_N
[35] INT_PTP_CPLD_TO_CPU_N
[35,59] INT_SFP_CPLD_TO_CPU_N
[34,35] INT_LOAD_DEFAULT_N
[35,57,59] LPC_FRAME_PCH_N
[57,59] LPC_SERIRQ_PCH_N
[35] RST_CPU_TO_MB_PCIE_N
[35,57,58,59] I2C_CPLD_ALRT_N
[22,35] RST_CJA_N
[34,35] LED_INIT_CLR_N
LED_ETH_STAT_CLR_N [24]
LED_SYS_STAT_CLR_N [55]
LED_FAN_CLR_N [49]
[34,35] LED_SYS_STAT_SDAT
[34,35] LED_SYS_STAT_SCLK
[34,35] LED_FAN_SCLK
[34,35] LED_FAN_SDAT
LED_SYS_STAT_SDA [55]
LED_SYS_STAT_SCL [55]
LED_FAN_SCL [49]
LED_FAN_SDA [49]
[34,35] INT_CPLD_NMI_N
[34,35] INT_LOAD_DEFAULT_N
INT_NMI_CPLD_TO_CPU_N
INT_NMI_CPLD_TO_BMC_N
INT_CPU_LOAD_DEFAULT_N
INT_BMC_LOAD_DEFAULT_N
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CPLD
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35. CPLD 10M04SAU324I7G

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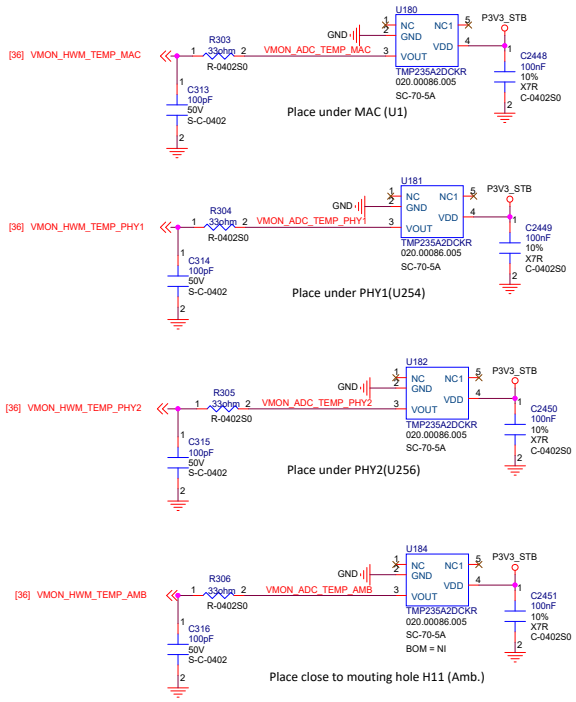
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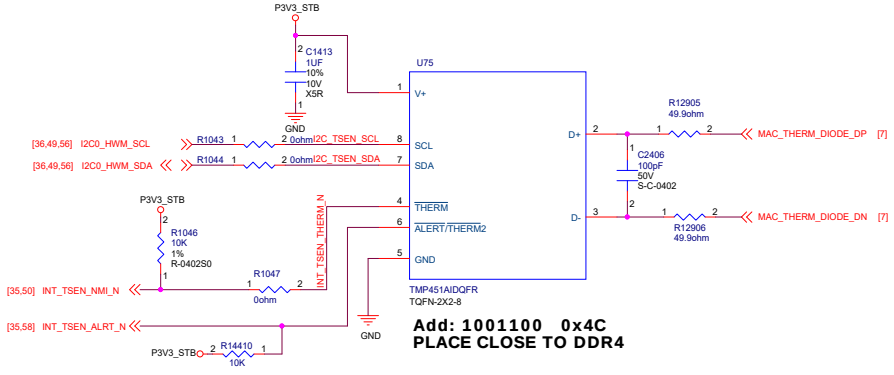
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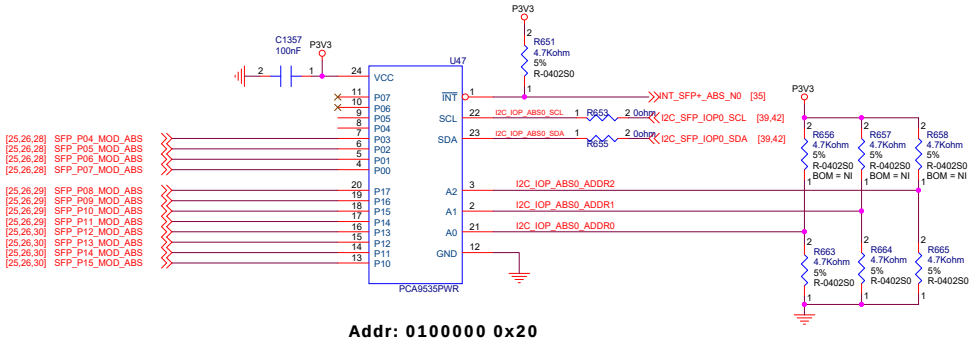




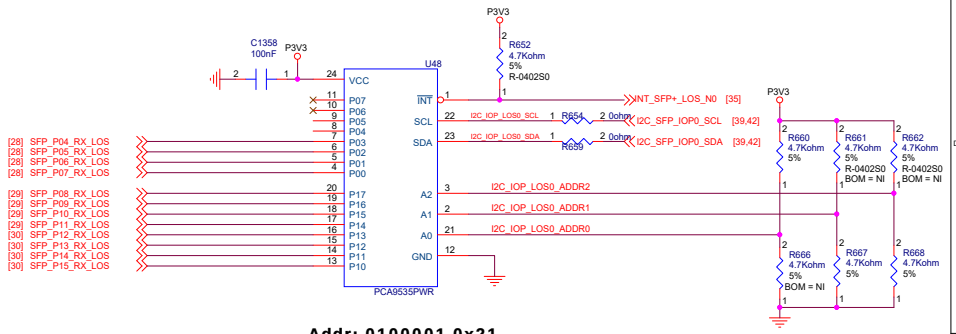
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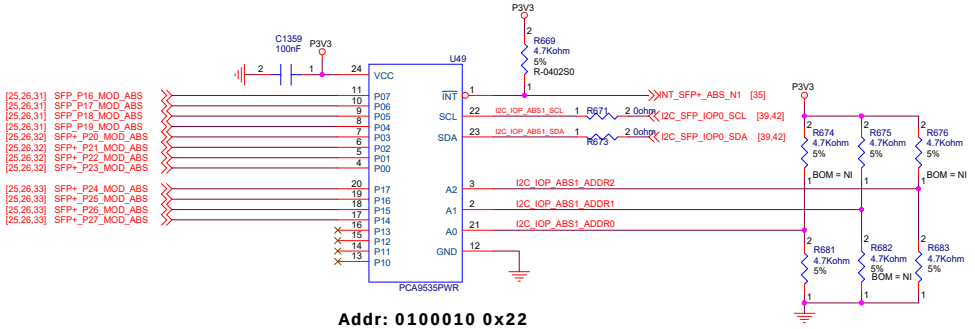
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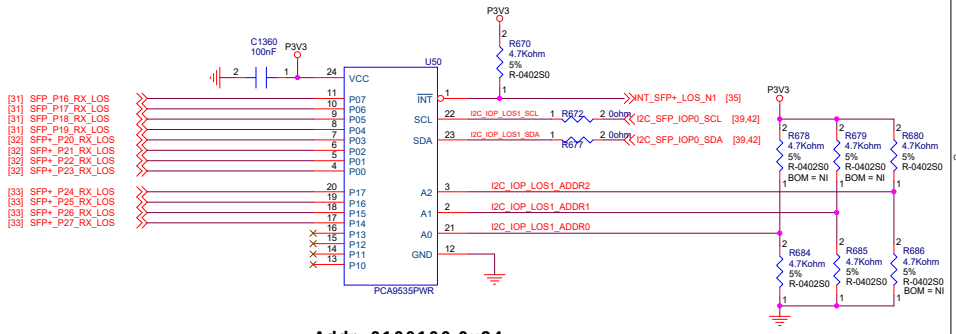
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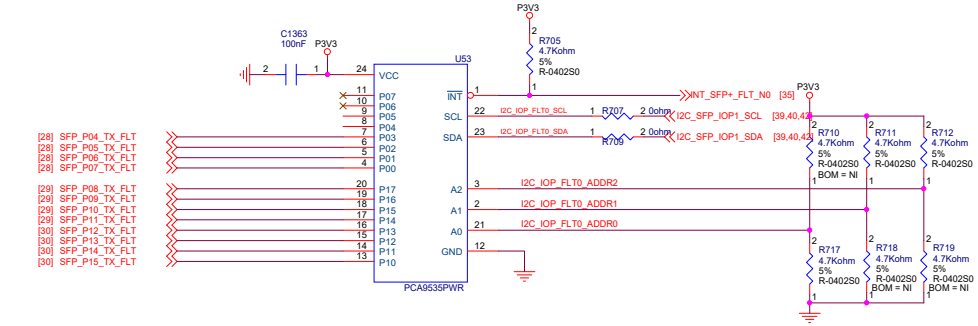
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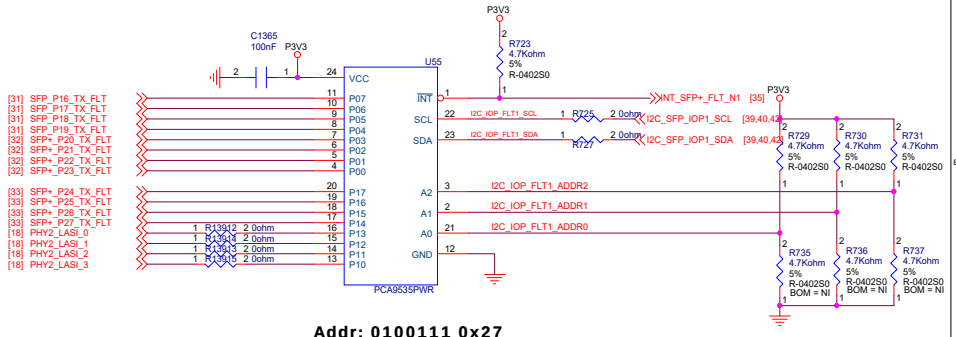
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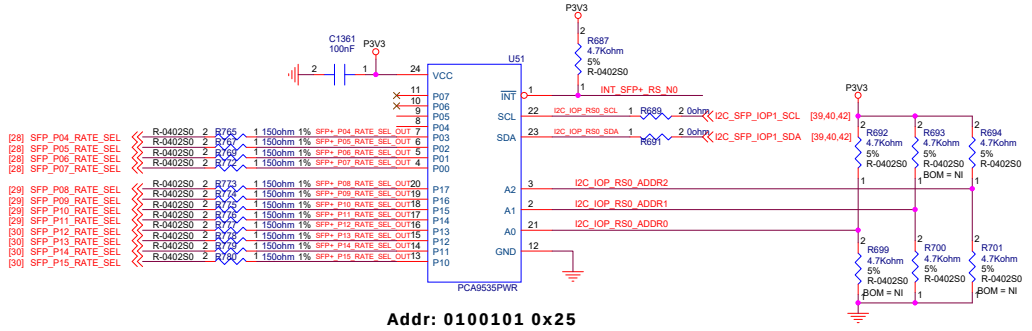


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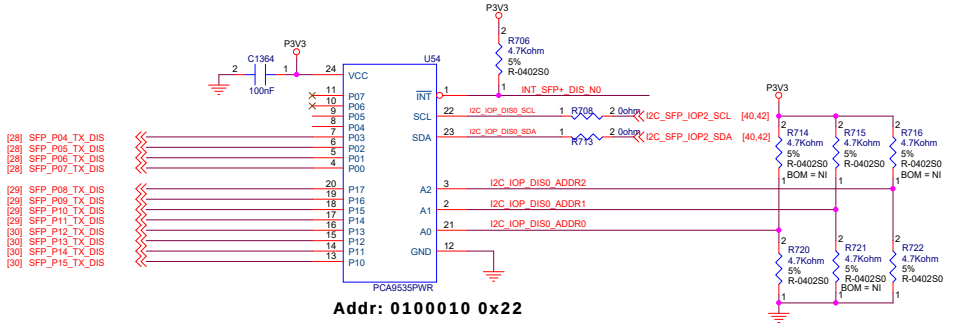
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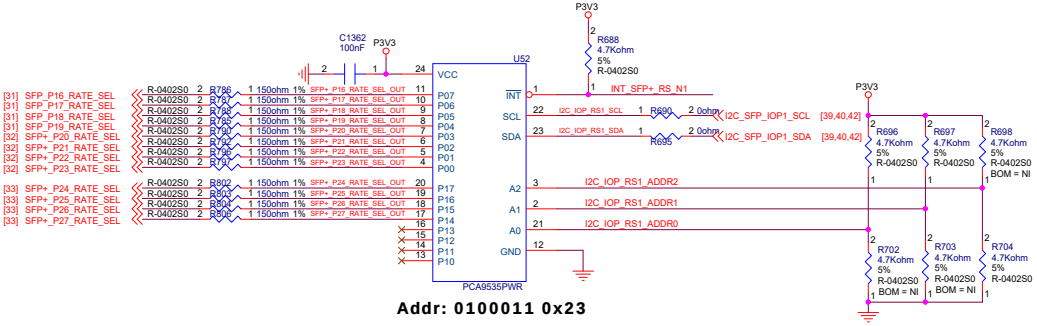
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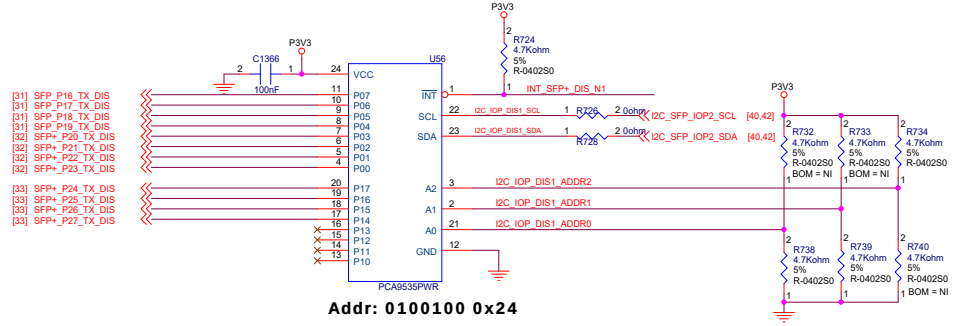
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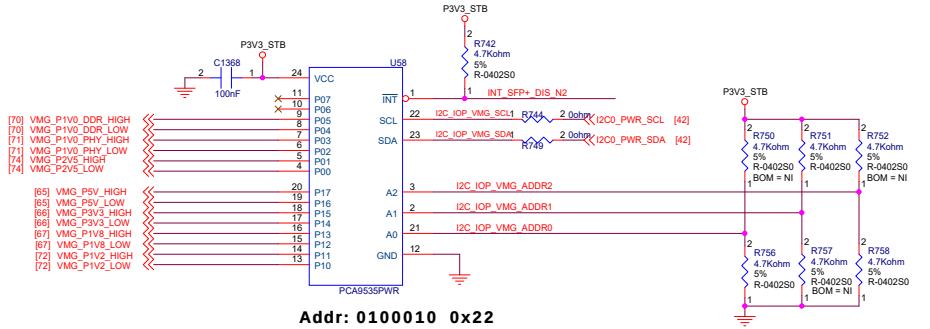
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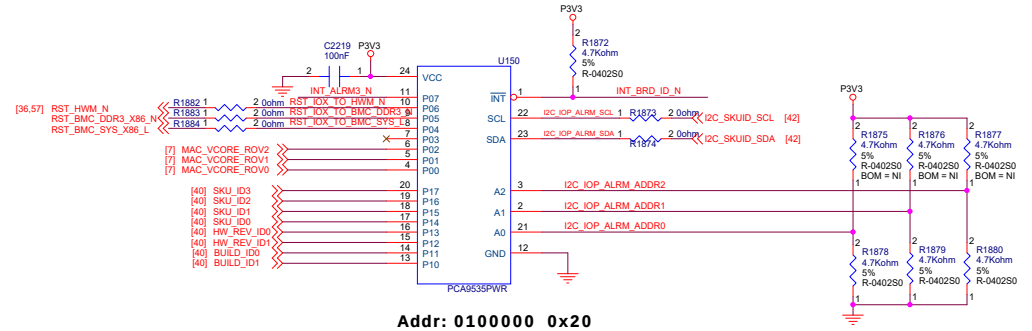
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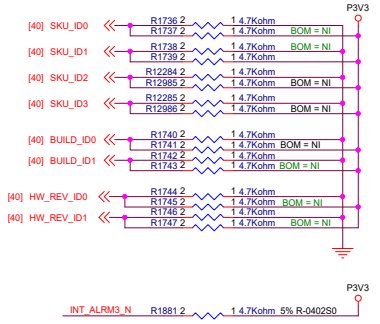
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- 0001: SIAD
- 0010: SIAD LITE V
- 0011~1111: RESERVED

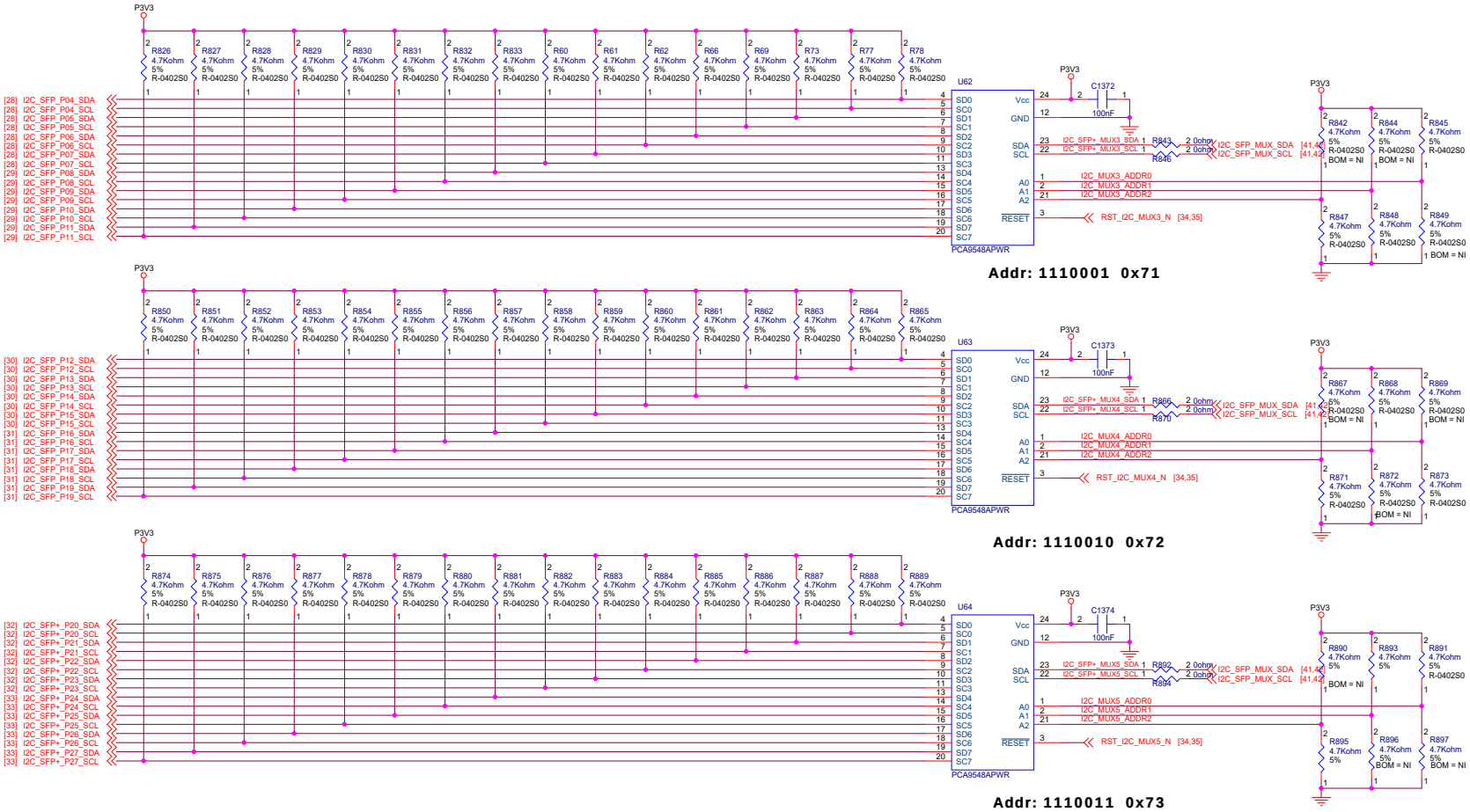
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- 01 : 2
- 10 : 3
- 11 : 4

Hardware Revision [1:0]:
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- 10: Beta
- 11: PVT

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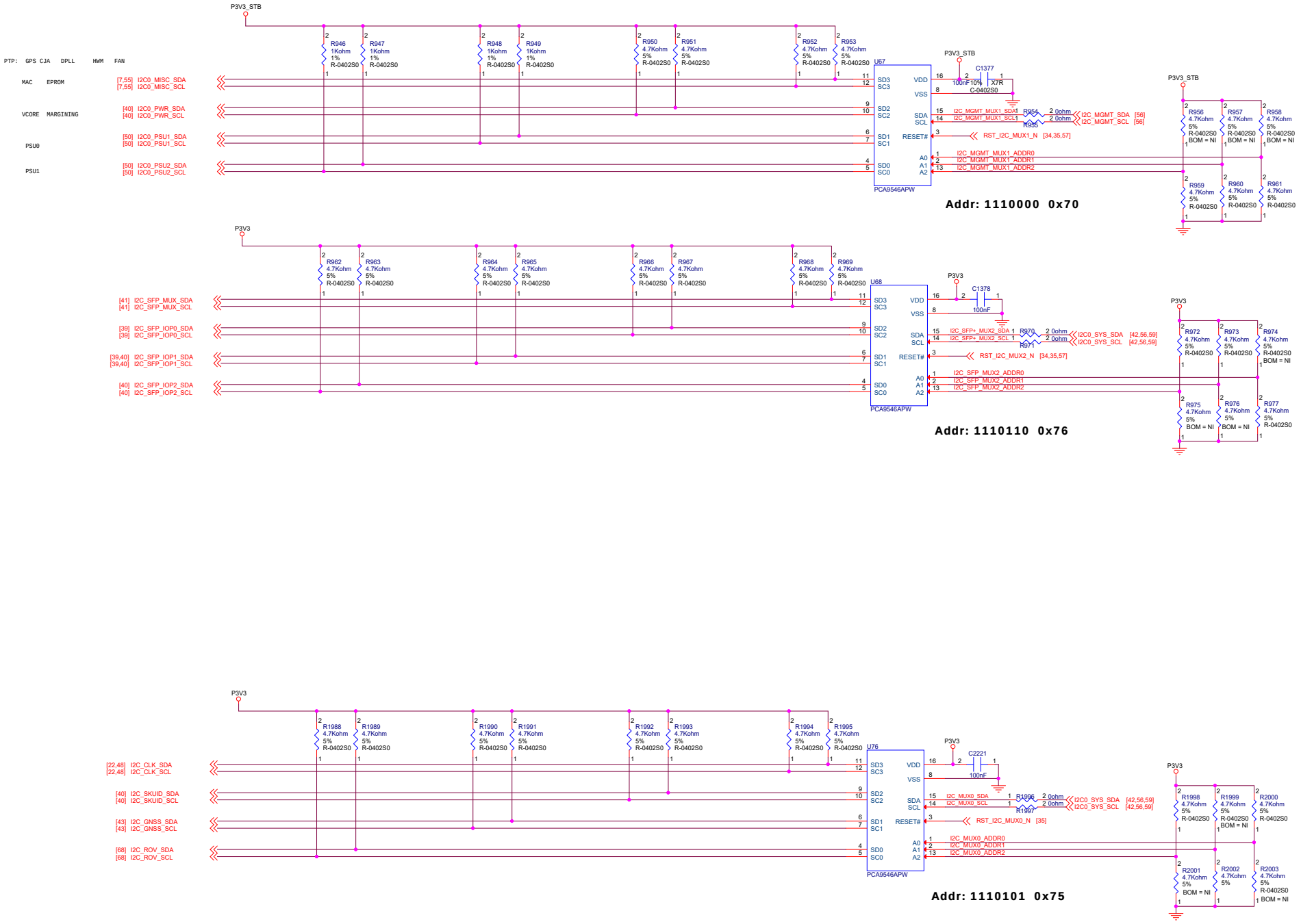
IO EXPANDER2



I2C MUX1

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I2C MUX2

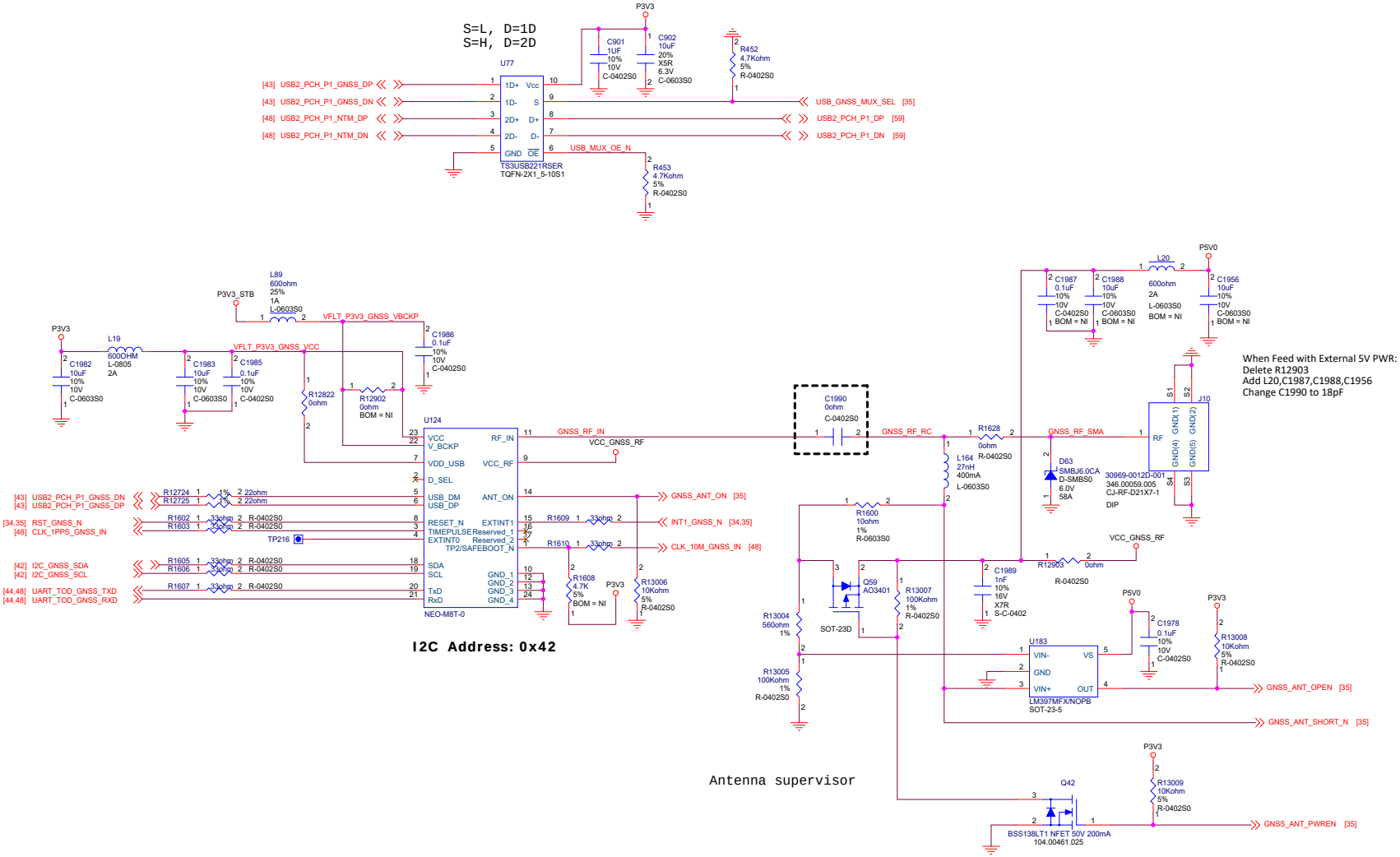
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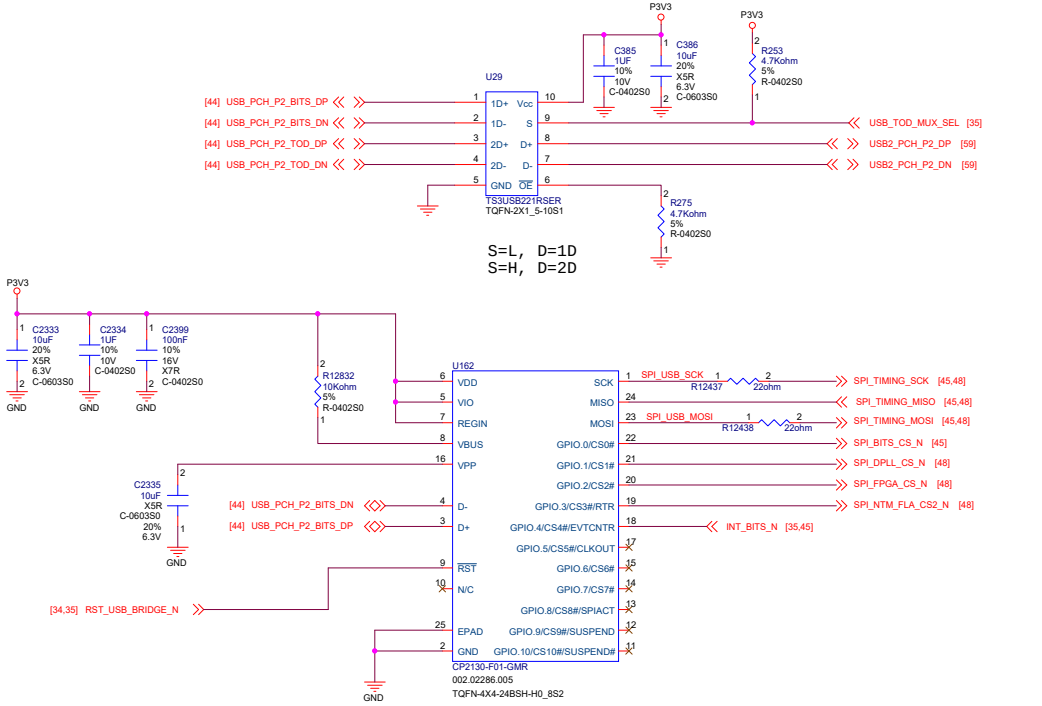
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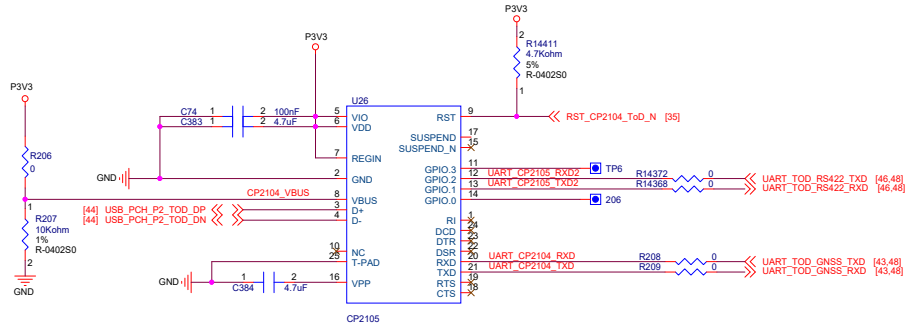


PTP_GNSS MODULE

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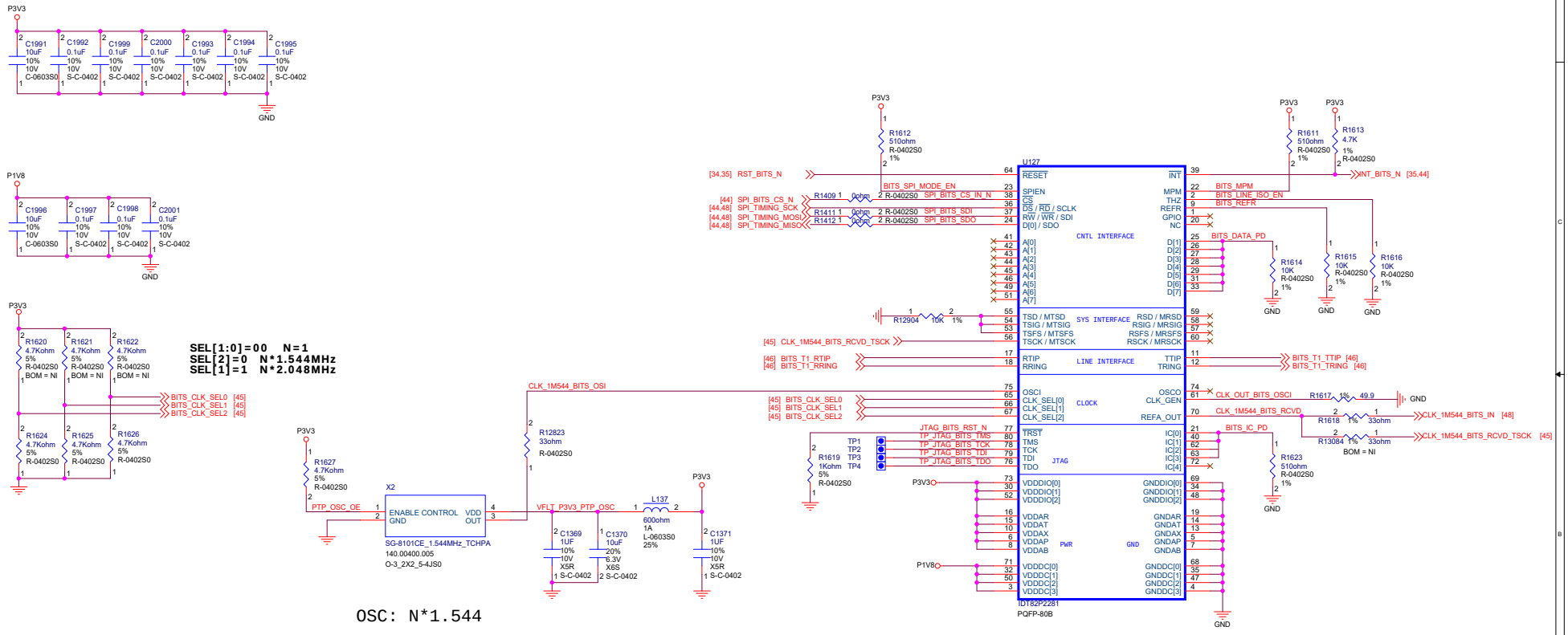




PTP_USB TO SPI BRIDGE

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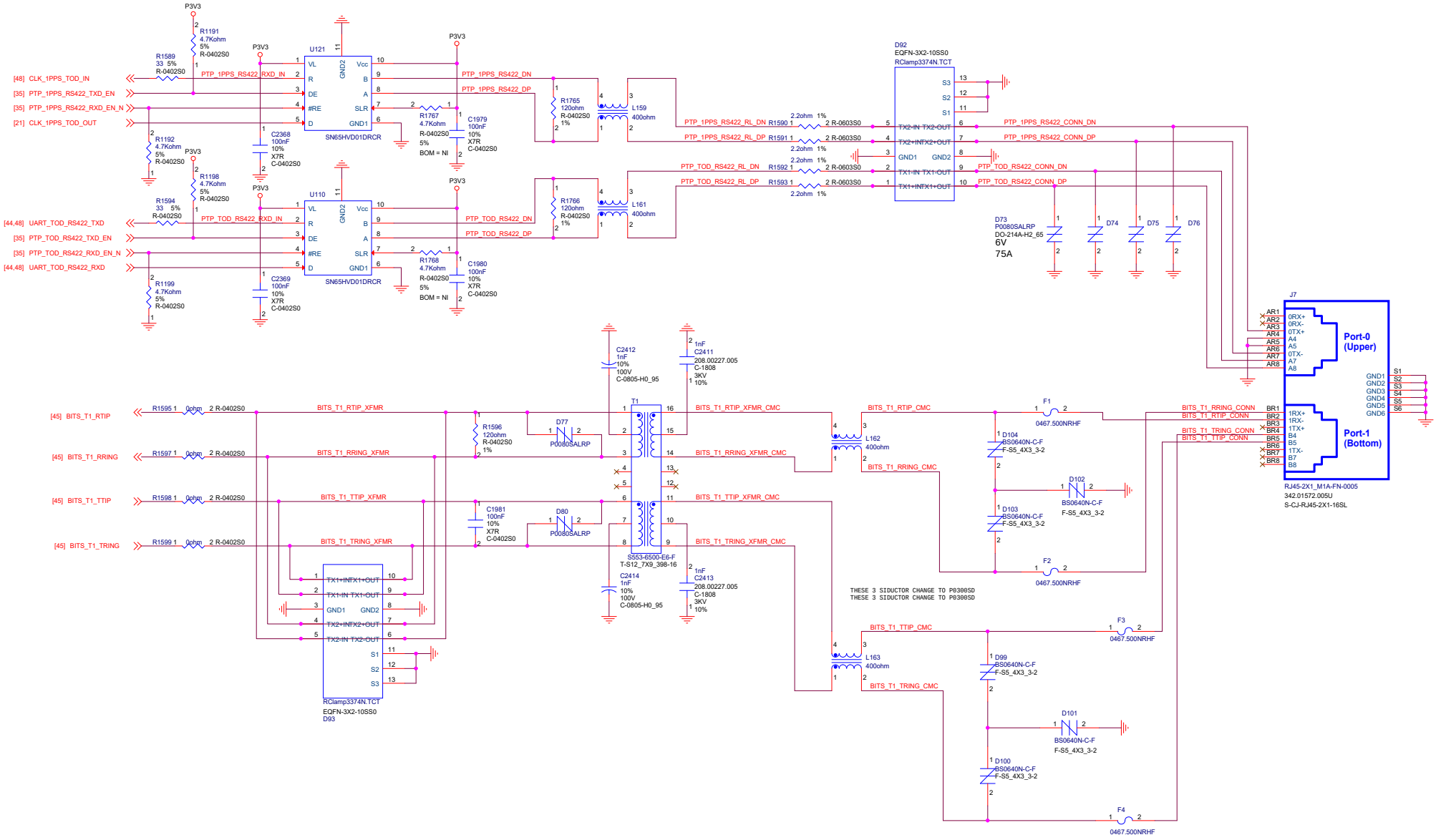
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PTP_T1/E1 RECEIVER

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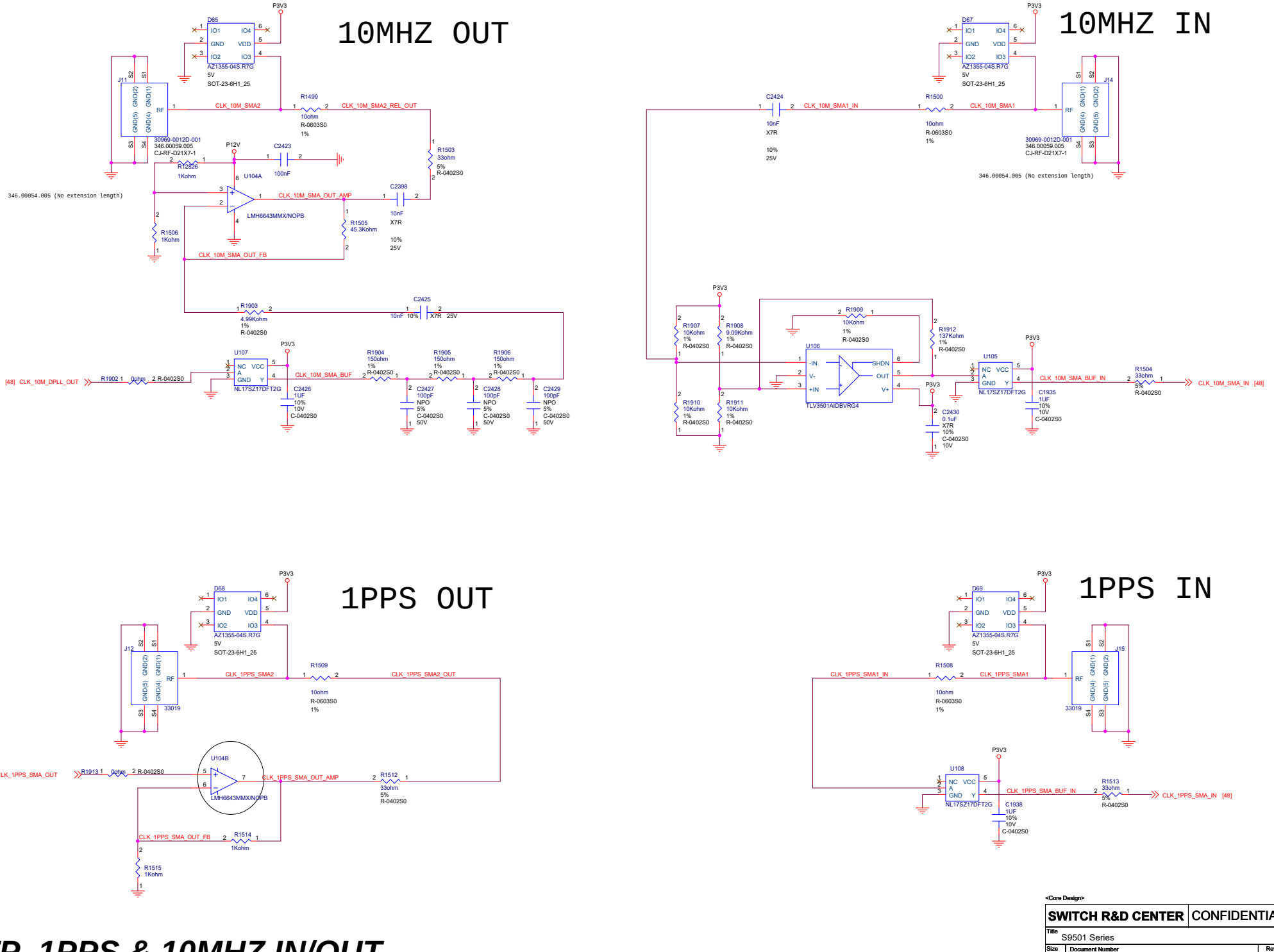
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PTP_T1/E1 & TOD IN/OUT

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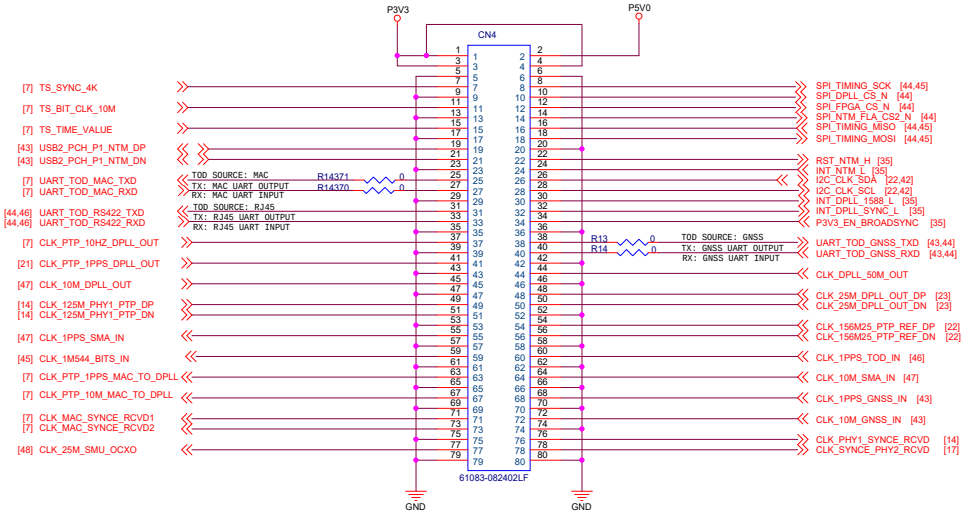
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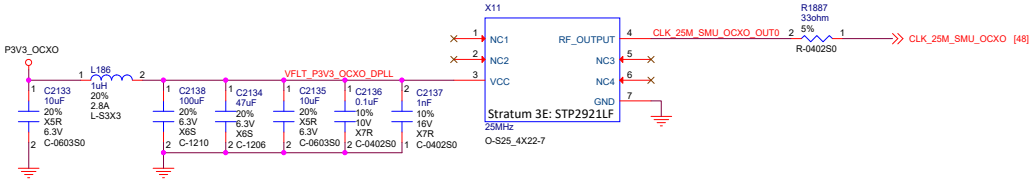


PTP_1PPS & 10MHZ IN/OUT

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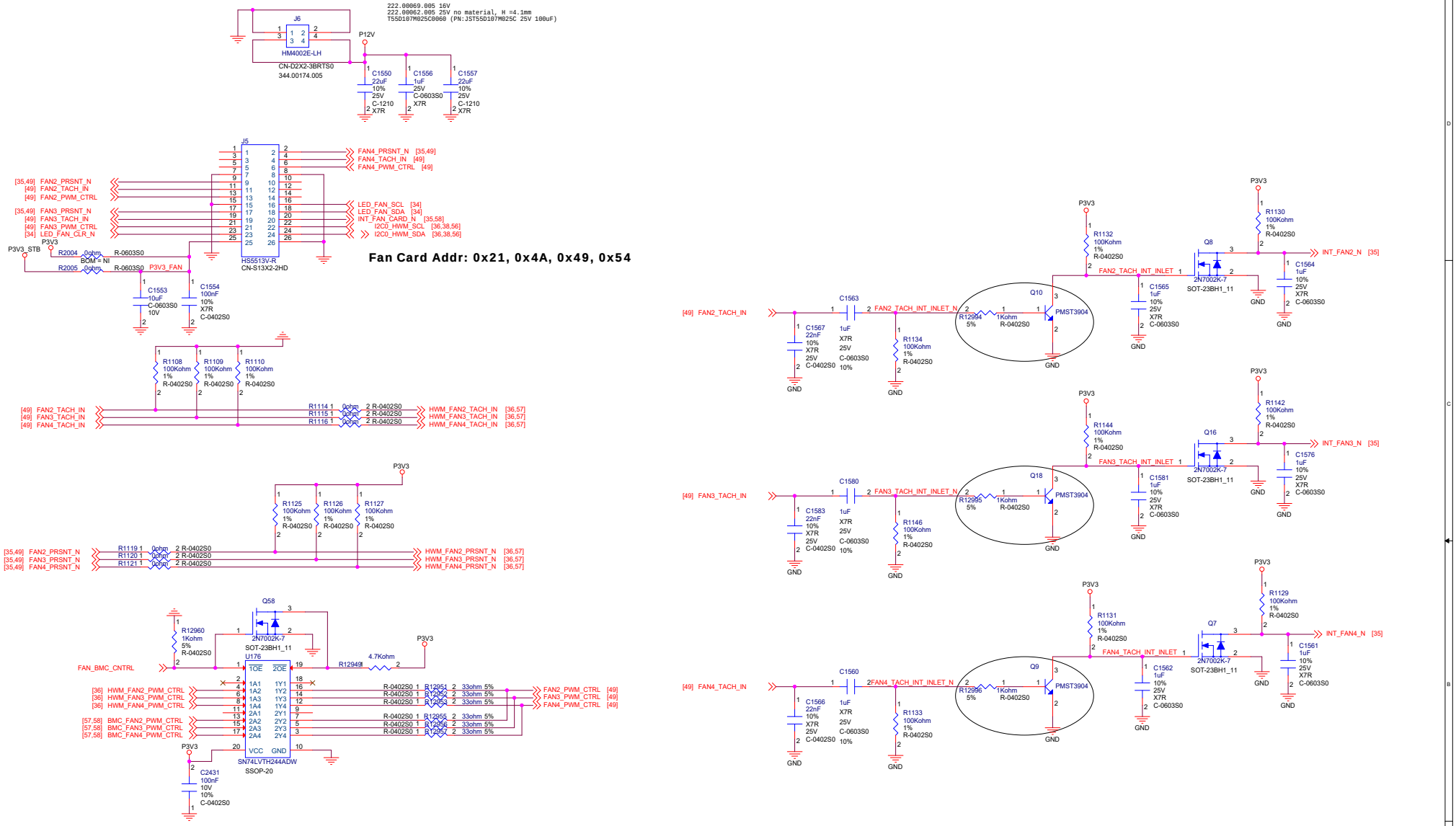




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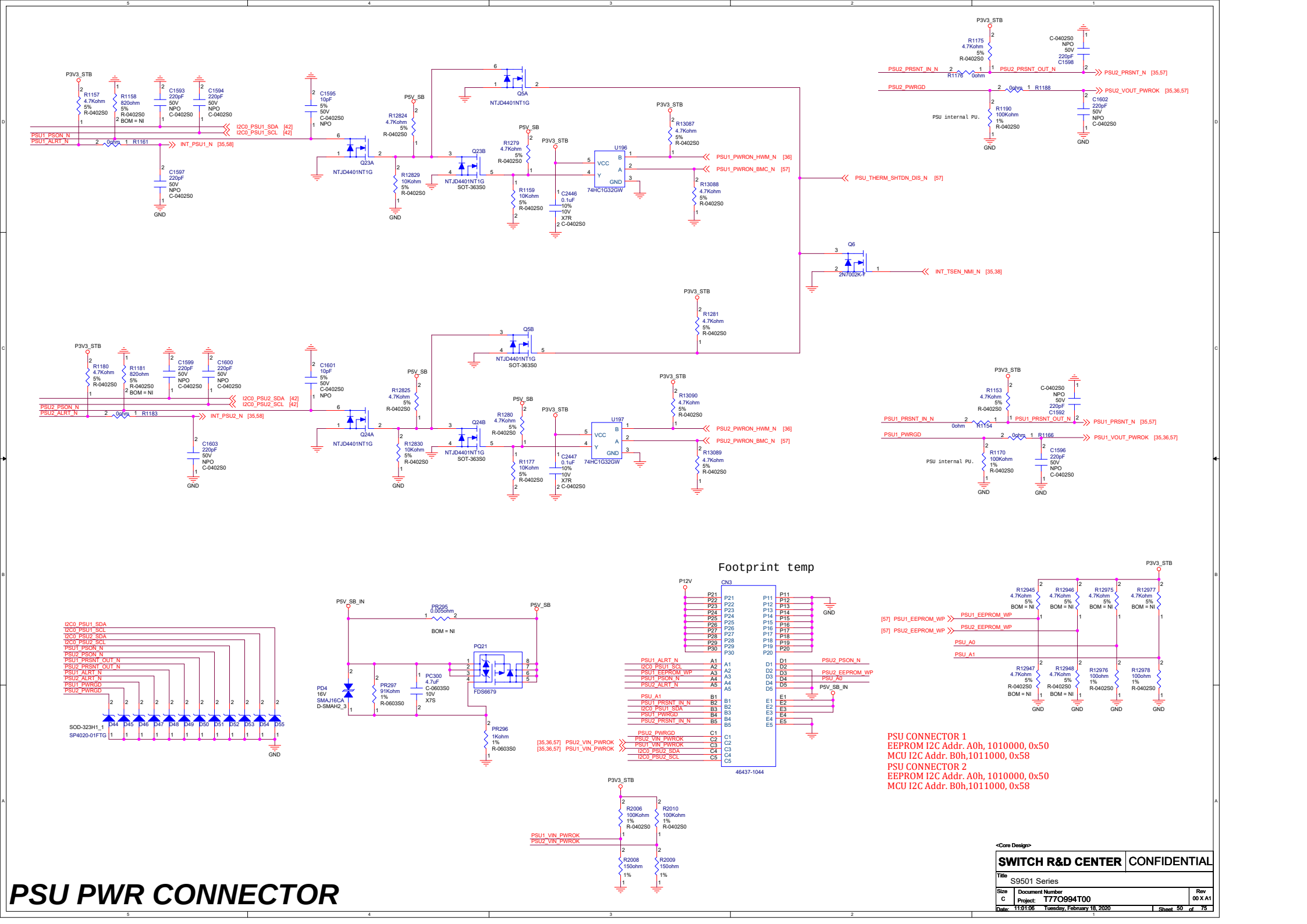
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FAN CARD CONNECTOR

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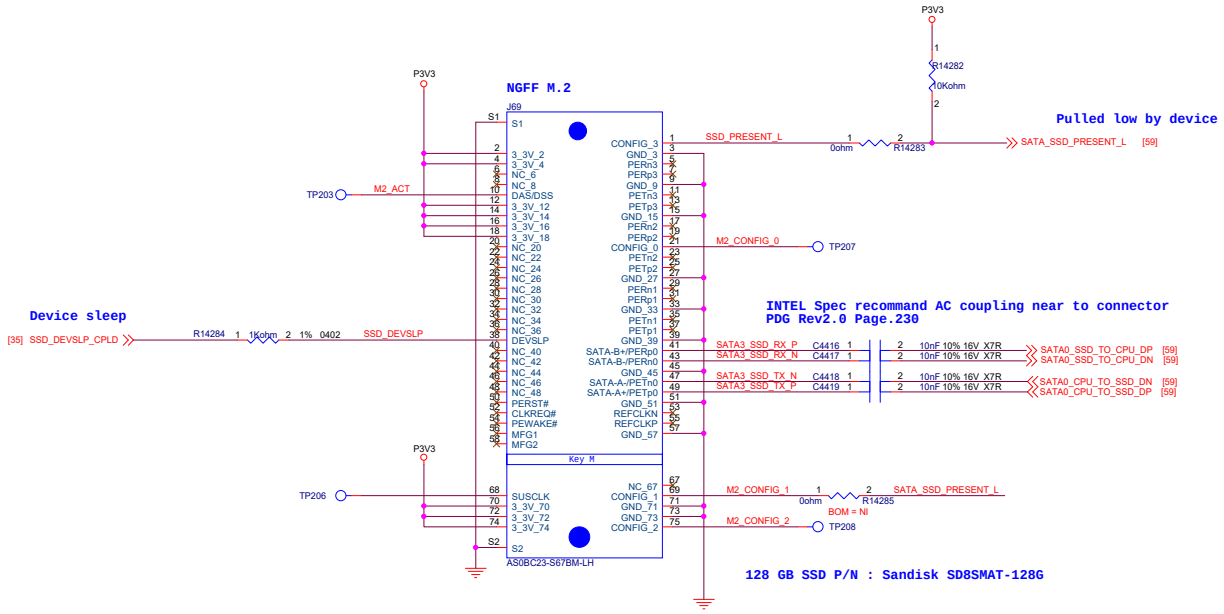
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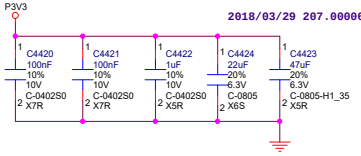
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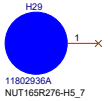
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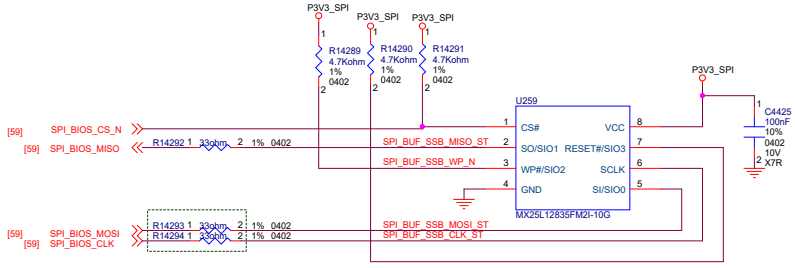
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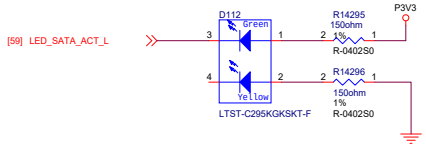




M.2 Module Nut

P/N : 411.00041.005

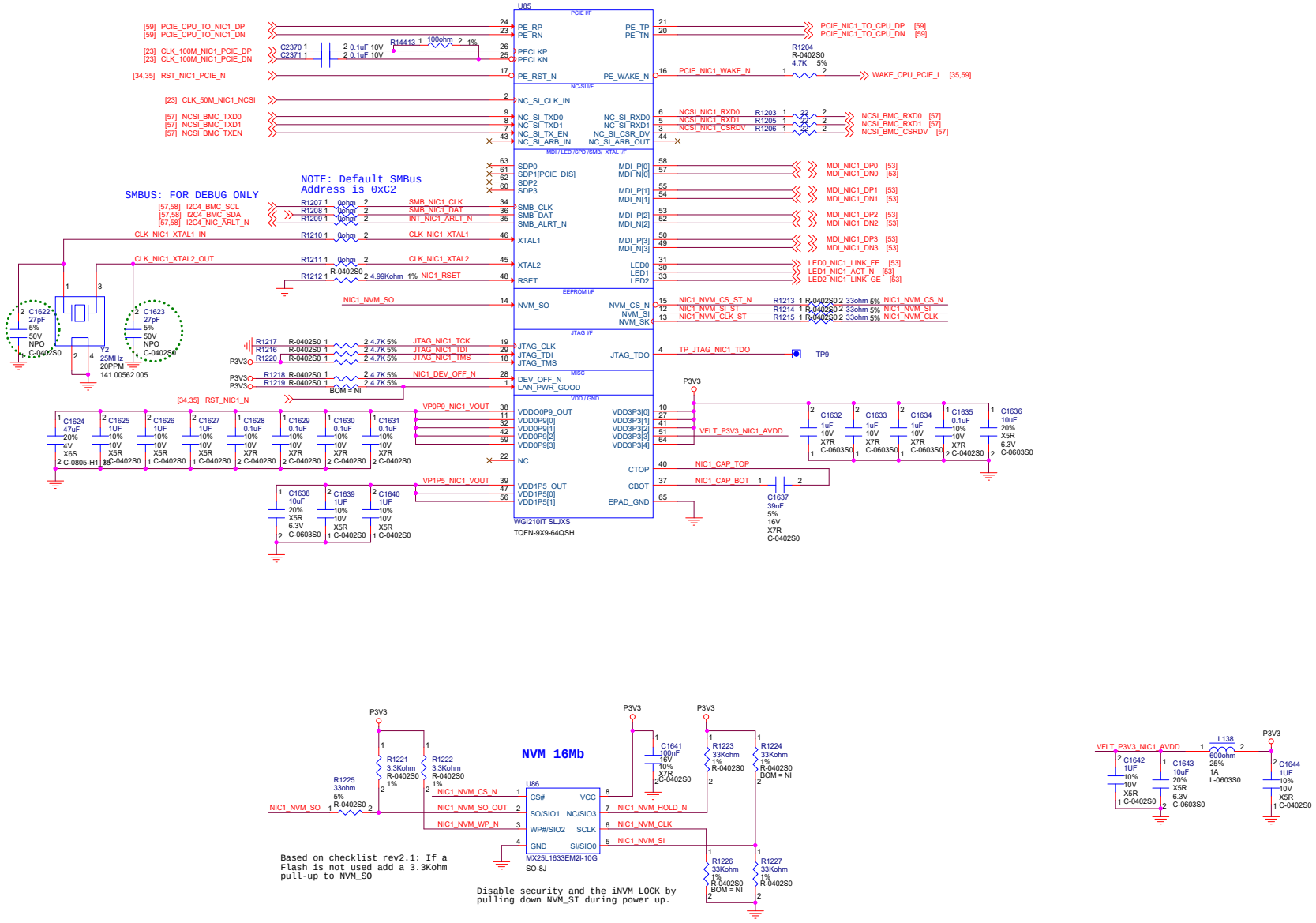




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M.2 SSD CONNECTOR



CPU_NIC1_I210-IT

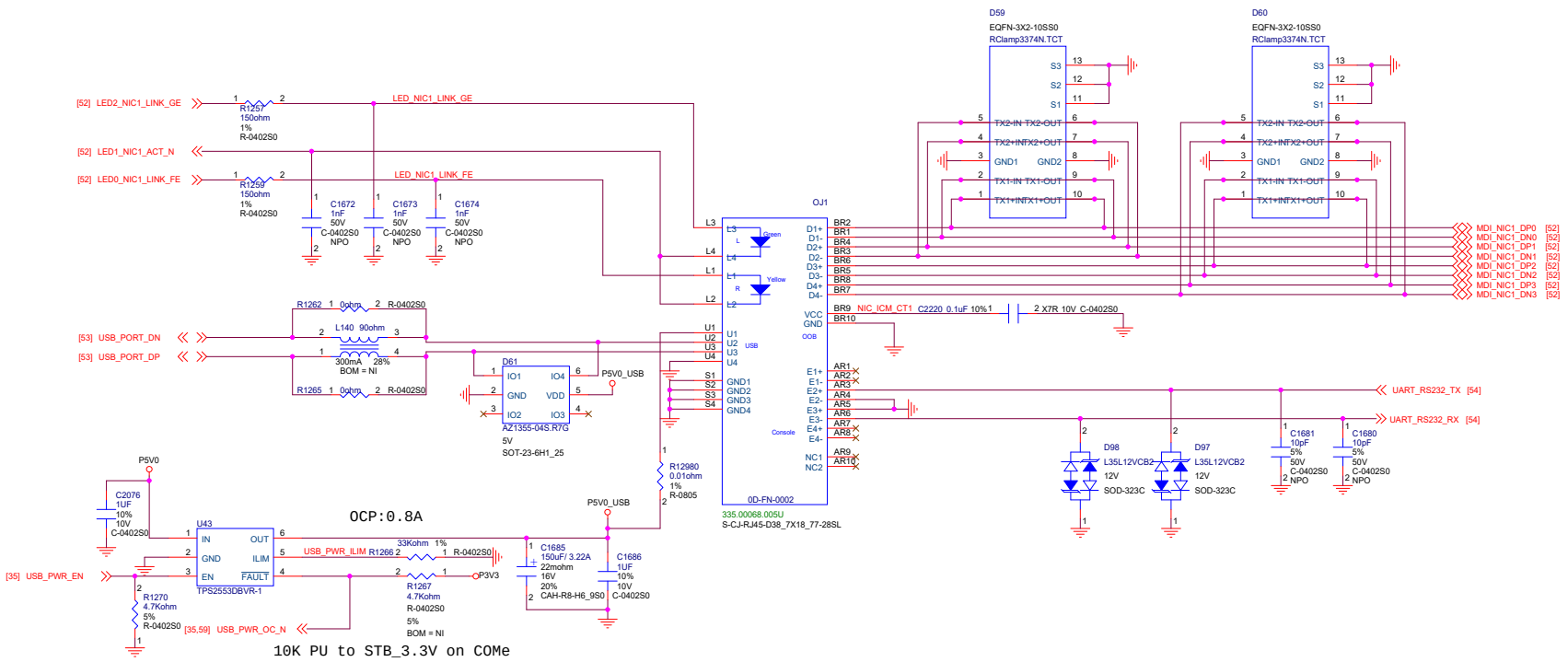
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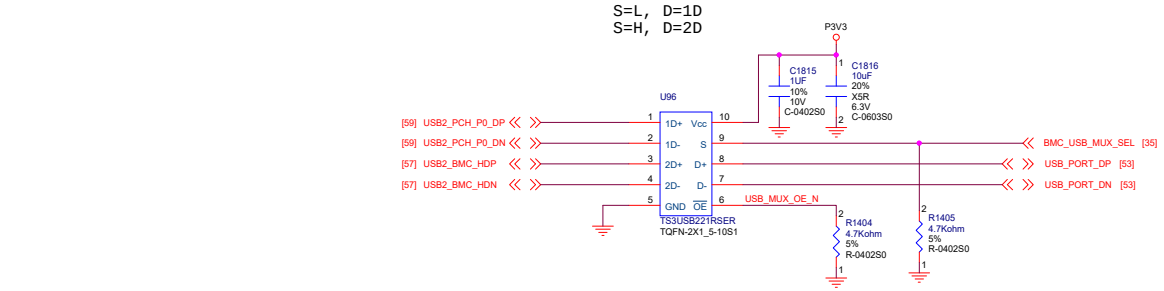
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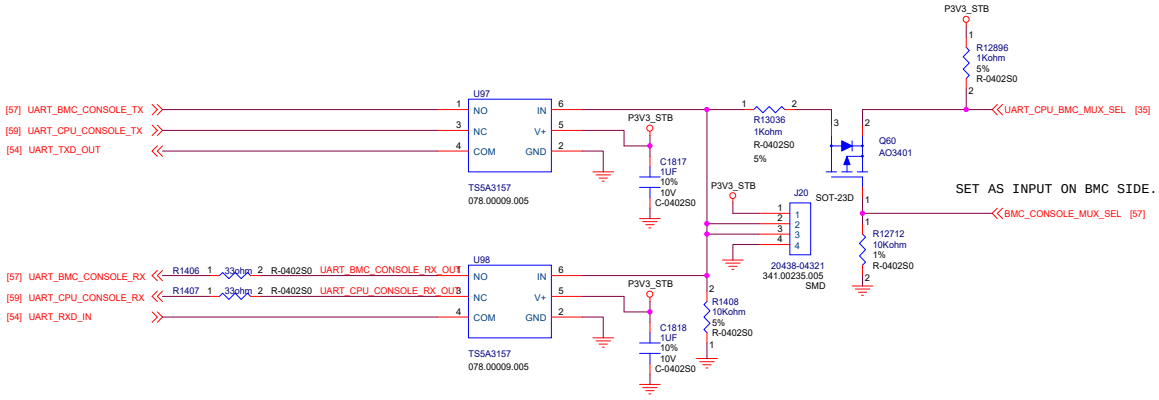




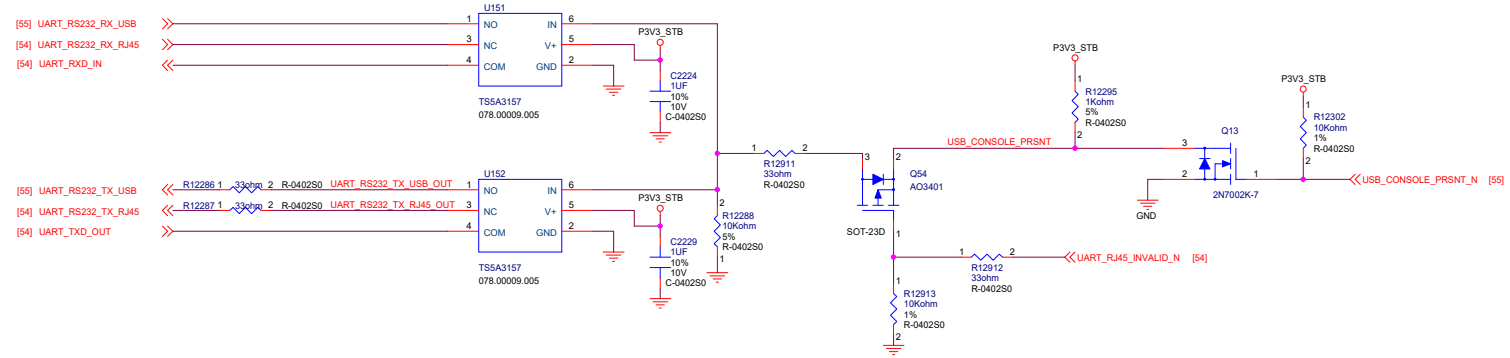
GBE OOB & USB PORT

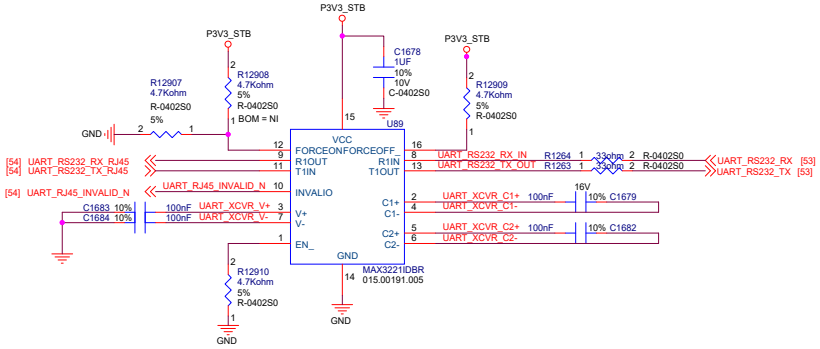
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IN=H COM TO NO
IN=L COM to NC

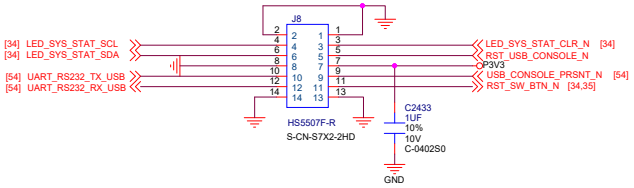


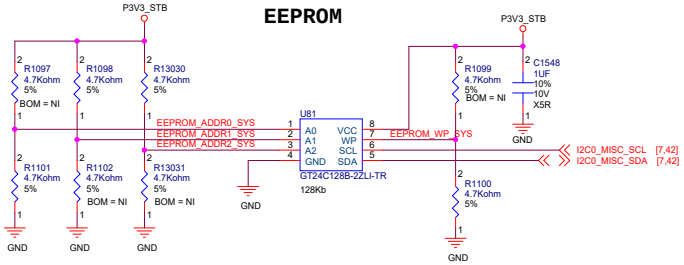


CONSOLE MUX & RS232 XCVR

<Core Design>

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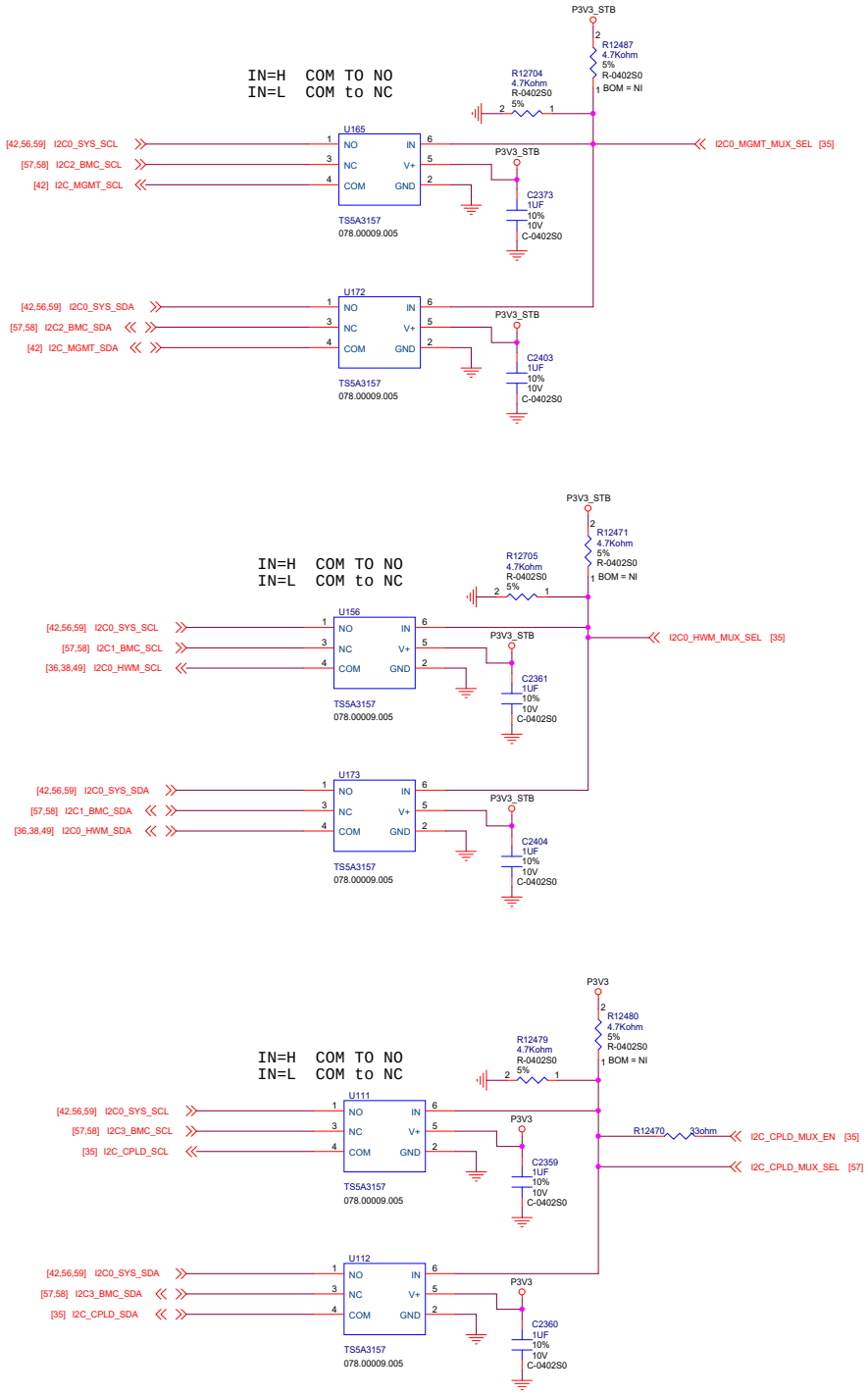


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LED CARD HEADER & EEPROM

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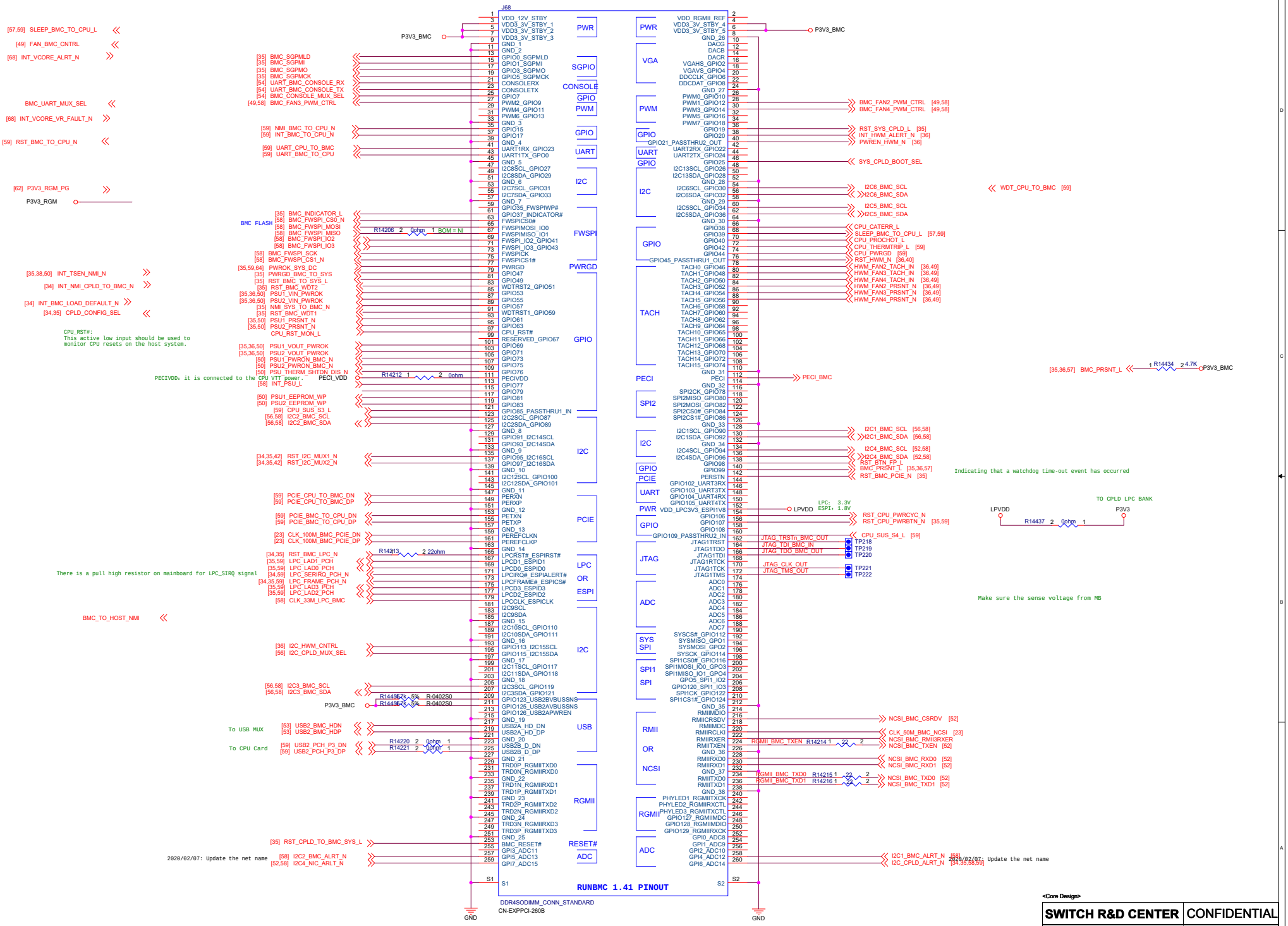
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BMC & CPU I2C MUX

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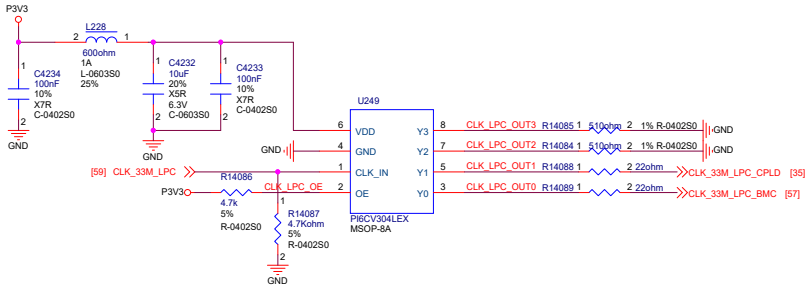
SWITCH R&D CENTER	CONFIDENTIAL
Title: S9501 Series	
Size: C	Document Number: Project: T77O994T00
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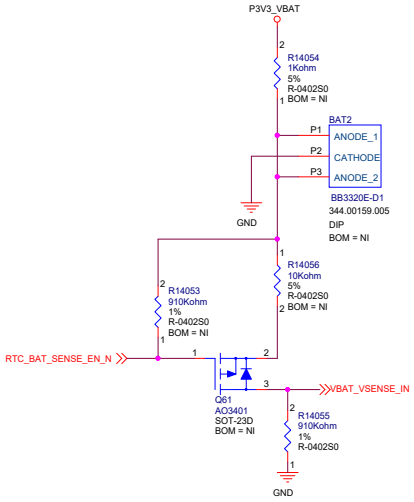


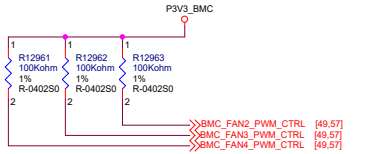
BMC_AST2600_Connector

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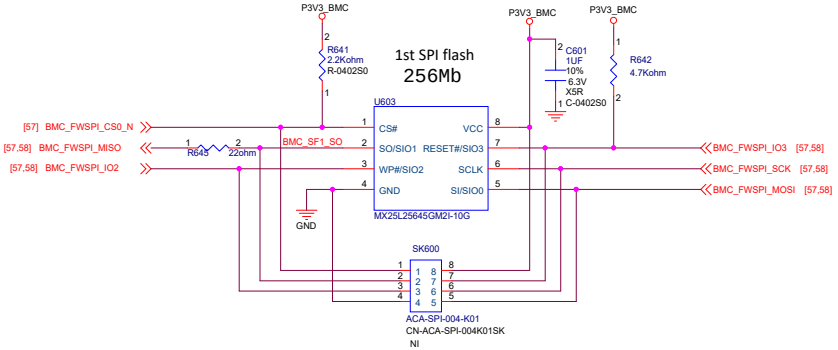
SWITCH R&D CENTER	CONFIDENTIAL
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Size: C	Document Number: Project: T77O994T00
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Date: 21:27:37 Tuesday, February 18, 2020	Sheet 57 of 75

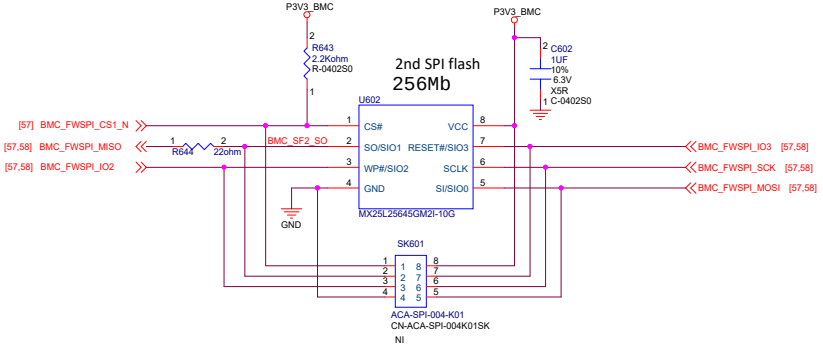


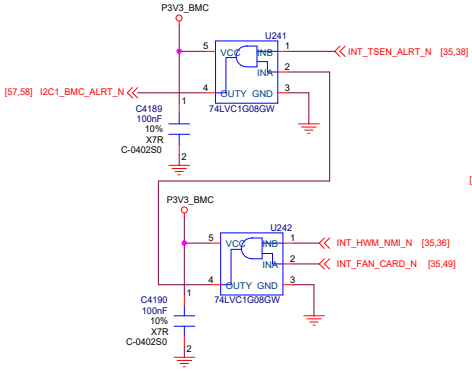


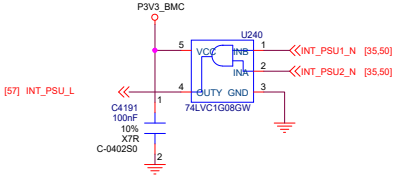


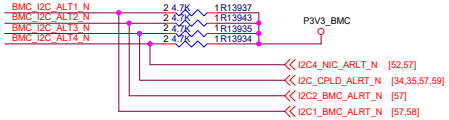
2020/01/16:If BCM Card have pull up resistor, NI these resistors

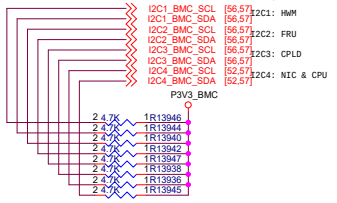


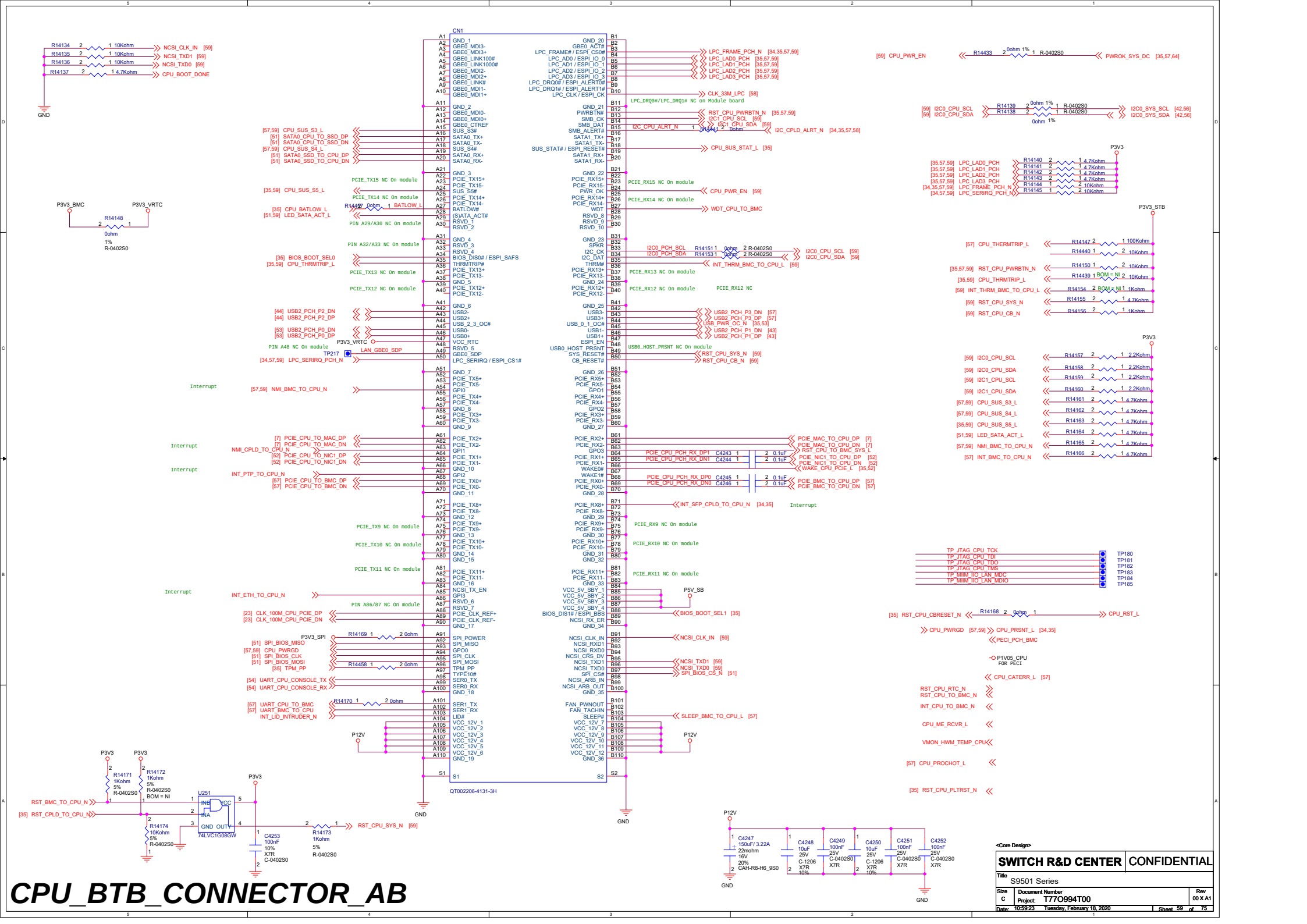










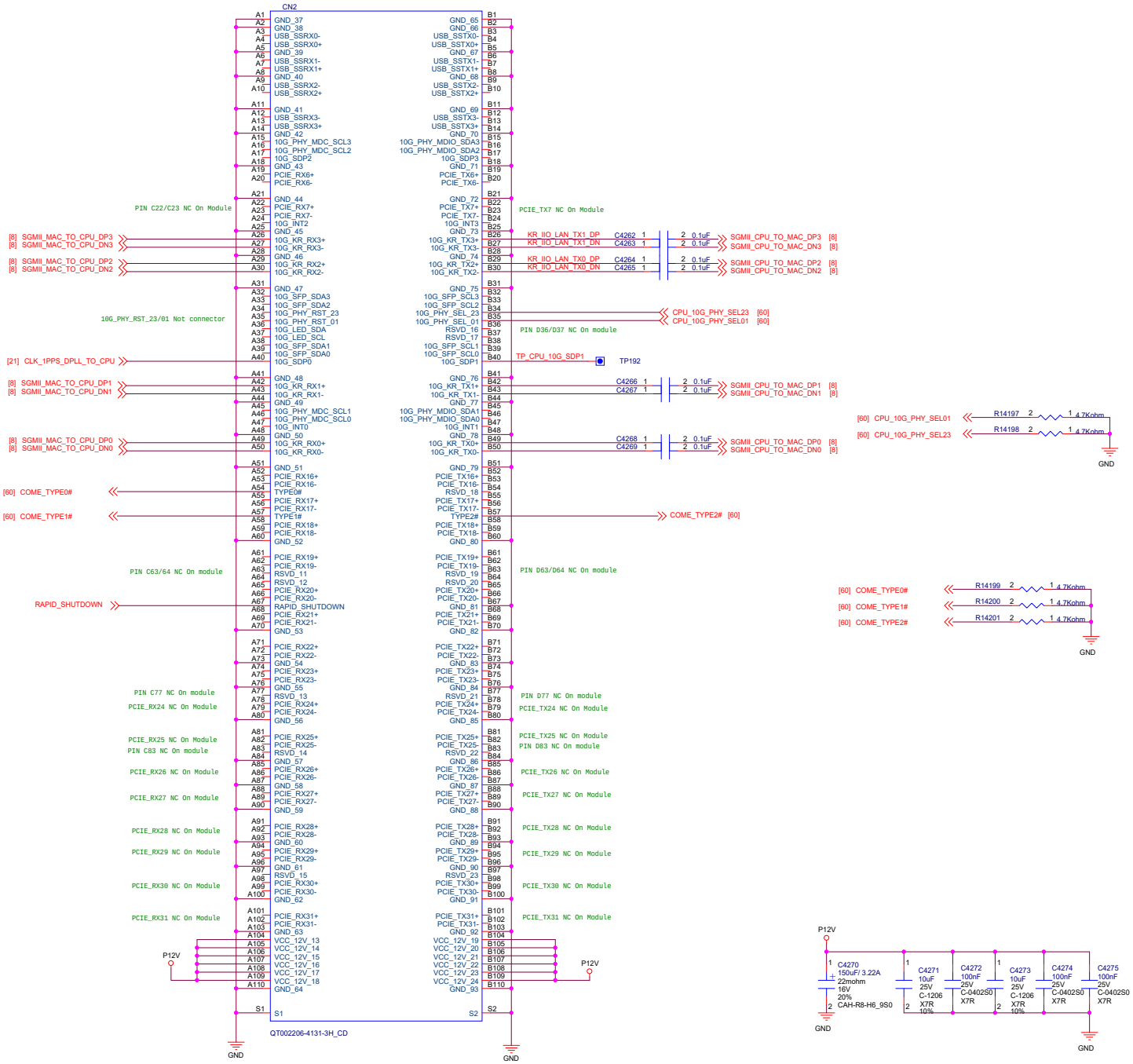


CPU_BTB_CONNECTOR_AB

<Core Design>

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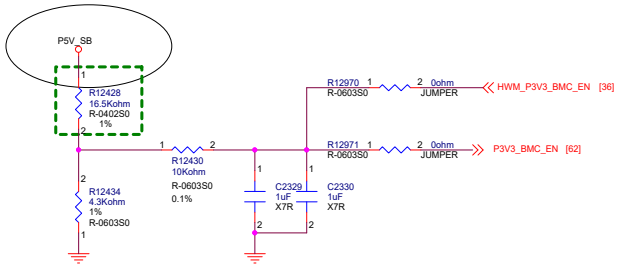
1207: Delete the signal(No use) from the previous version SCH.
RST_CPU_RTC_N
CPU_PROCHOT_L
CPU_ME_RCVR_L
INT_CPU_TO_BMC_N
CPU_PRSNT_L
CPU_PWRGD
RST_CPU_TO_MB_PCIE_N
RST_CPU_PLTRST_N
VMON_HWM_TEMP_CPU
PECI_PCH_BMC
CPU_CATERR_L
RST_CPU_TO_MB_I2C_N



CPU_BTB_CONNECTOR_CD

<Core Design>

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BMC_PWR UP SEQUENCE

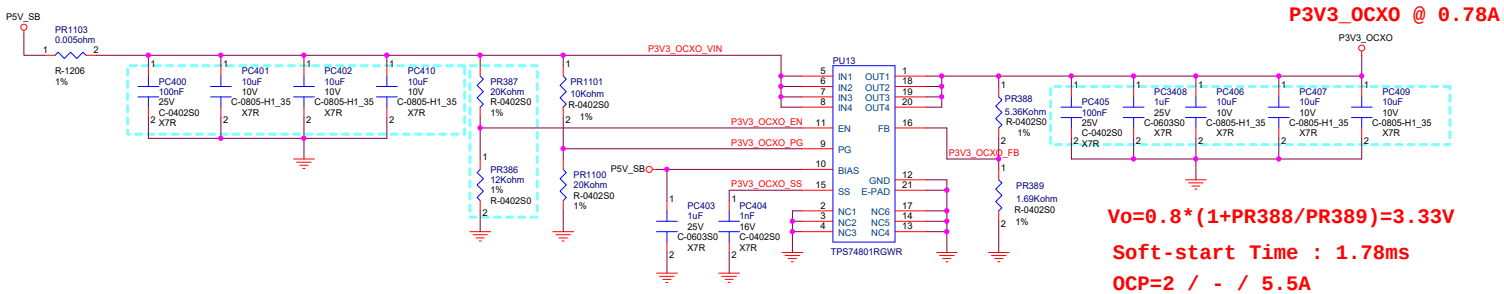
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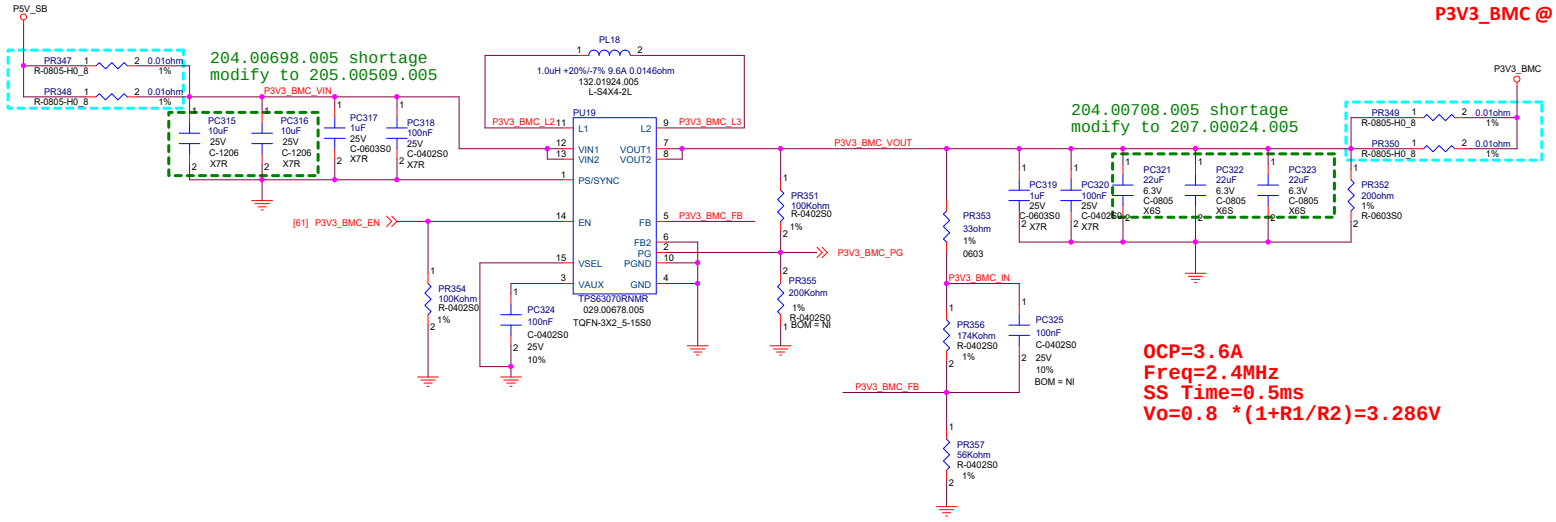
SWITCH R&D CENTER	CONFIDENTIAL

Title: S9501 Series

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BMC_PWR_5VSTB TO 3.3V

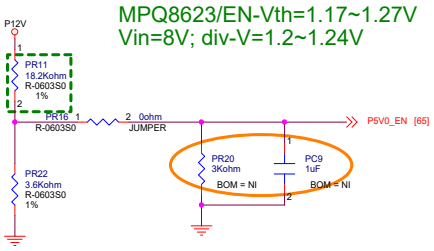
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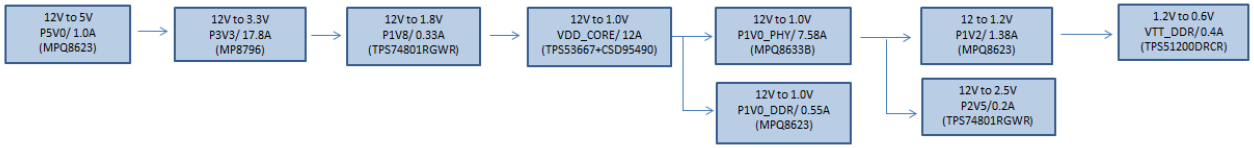
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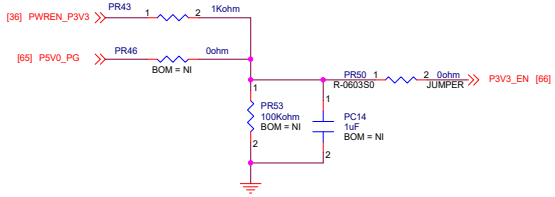
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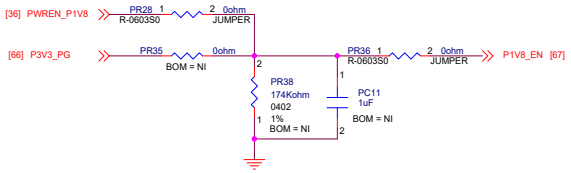
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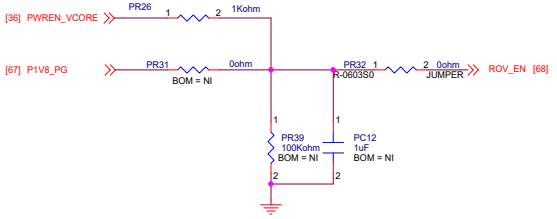
SWITCH R&D CENTER	CONFIDENTIAL
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Size: C	Document Number: Project: T77O994T00
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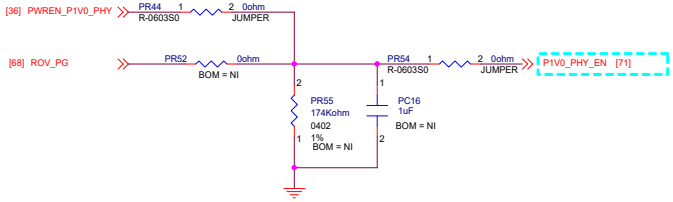


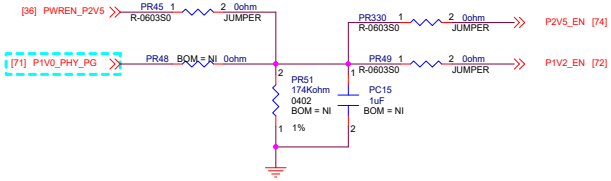


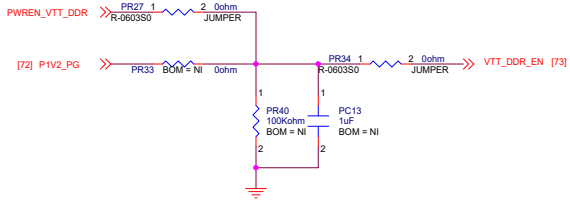


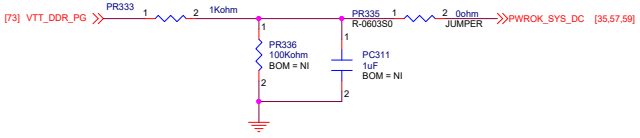








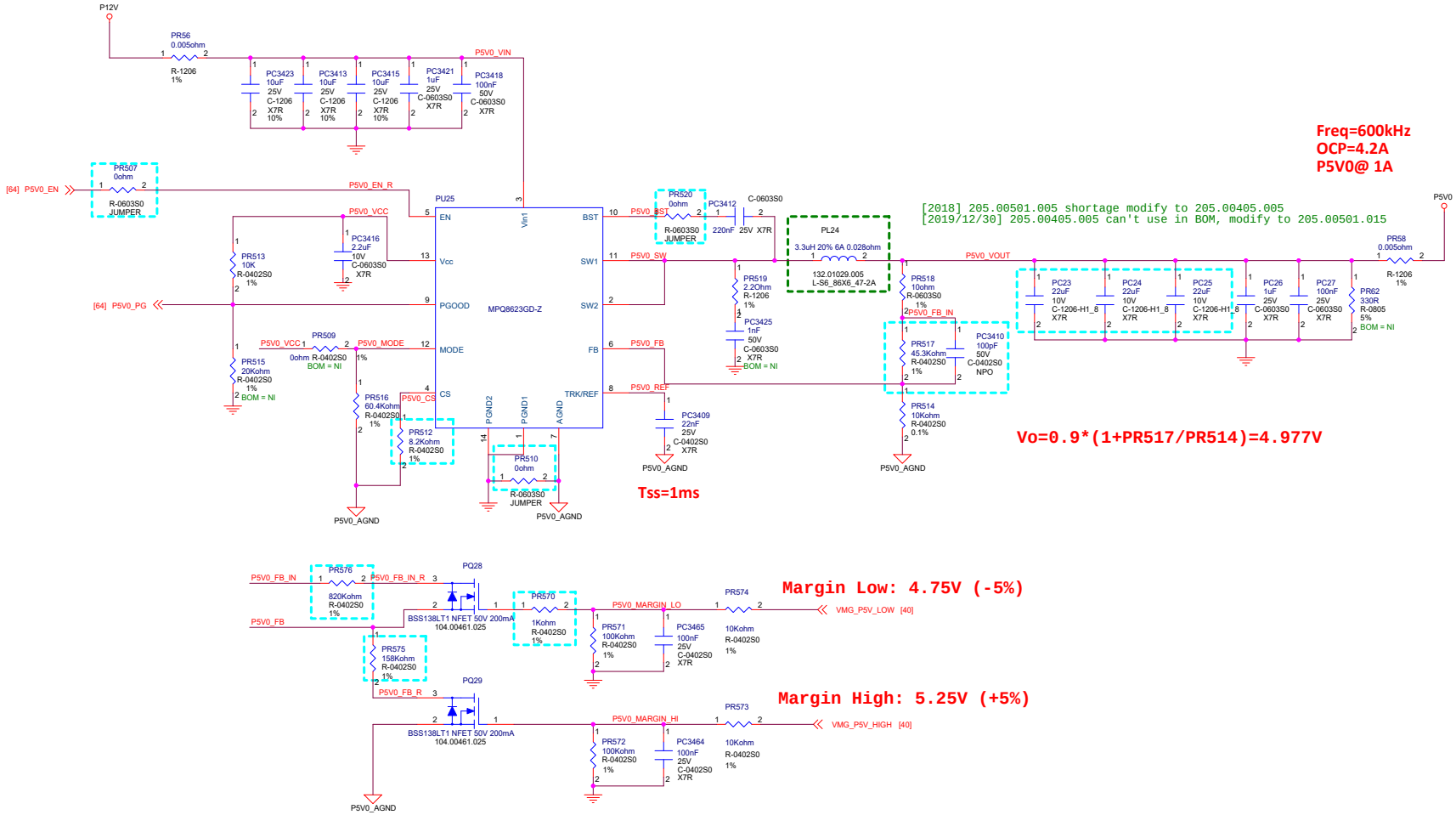




DC_PWR UP SEQUENCE

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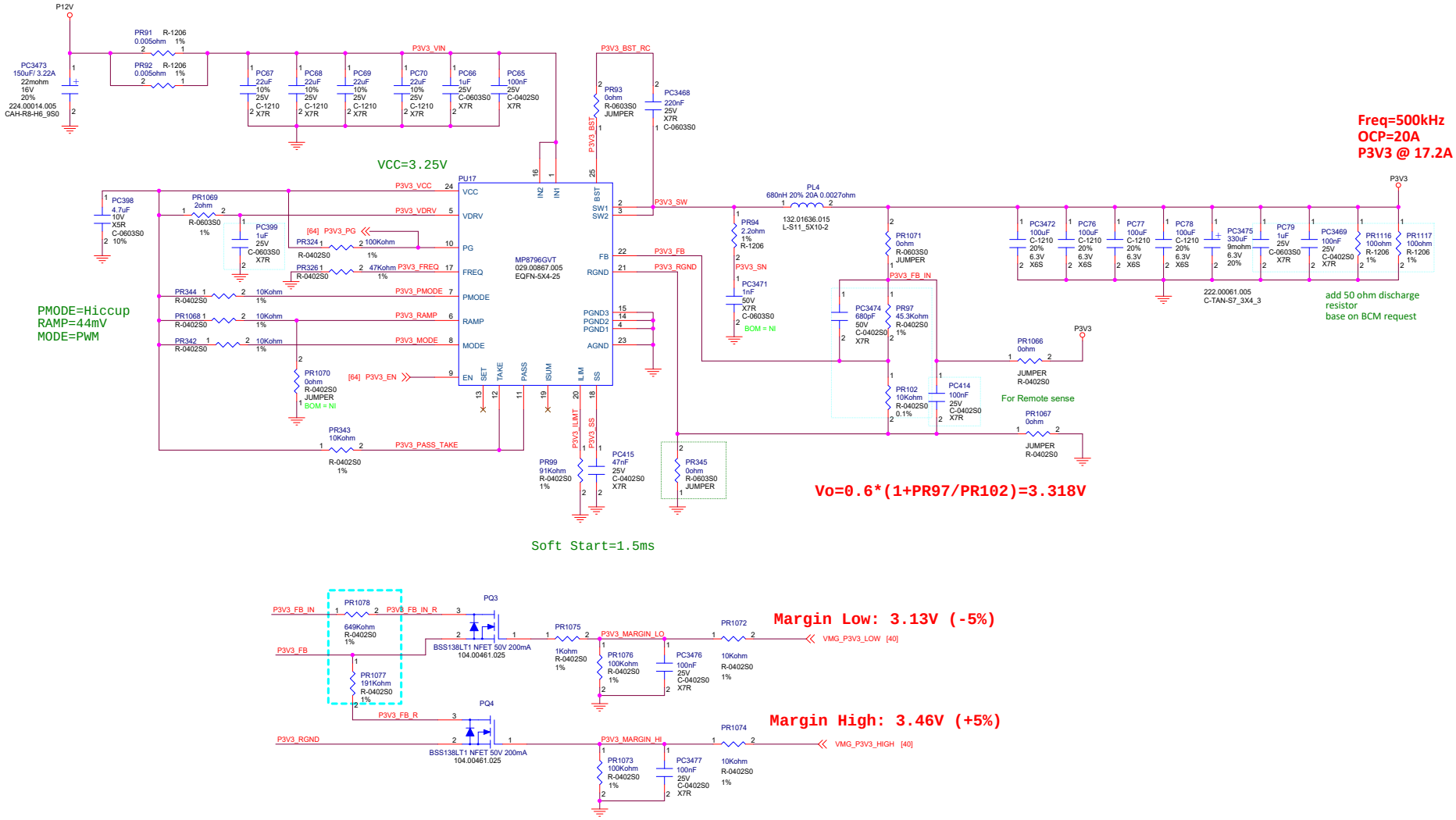
SWITCH R&D CENTER	CONFIDENTIAL
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DC_PWR_12V TO 5V

<Core Design>

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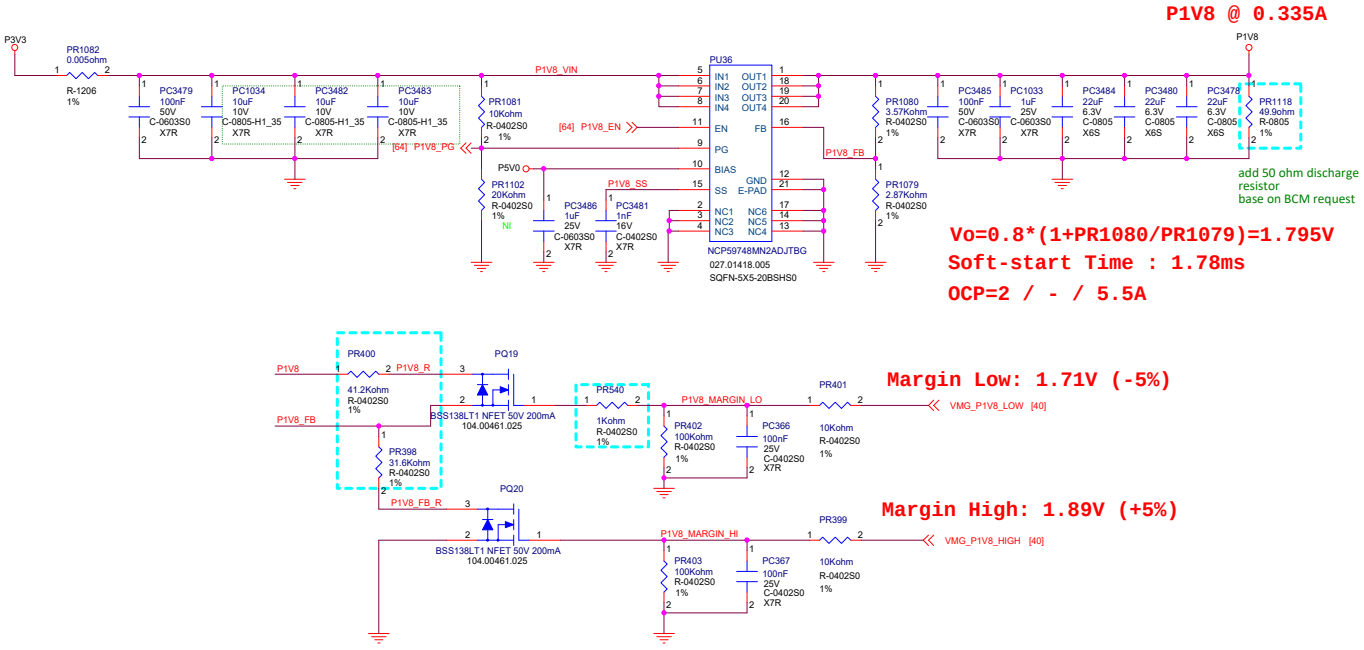


DC_PWR_12V TO 3.3V

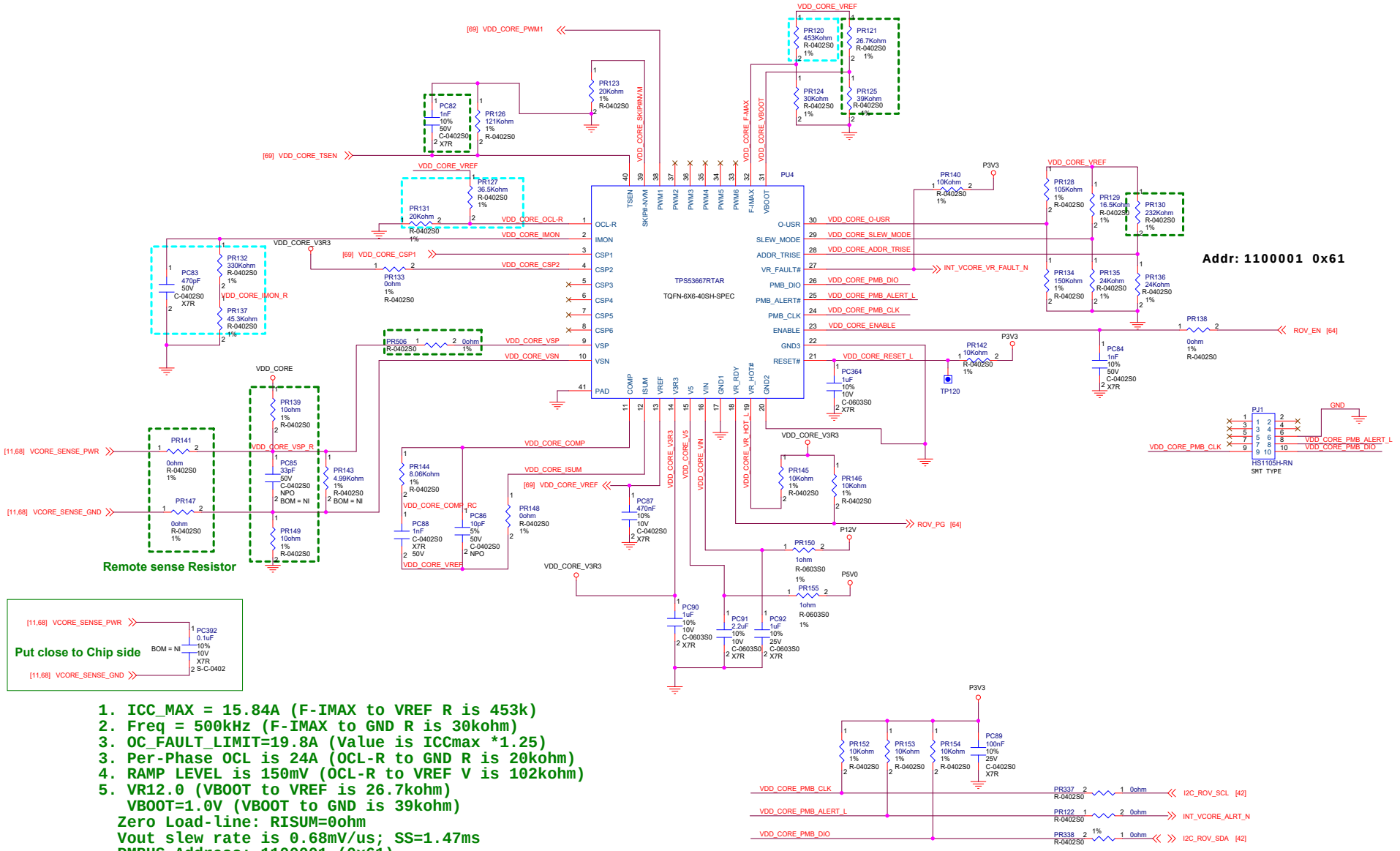
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P1V8/0.335A


P1V8 @ 0.335A
P3V3
PR1082
0.005ohm
R-1206
1%
PC3479
100nF
50V
C-0603S0
X7R
PC1034
10uF
10V
C-0805-H1_35
X7R
PC3482
10uF
10V
C-0805-H1_35
X7R
PC3483
10uF
10V
C-0805-H1_35
X7R
P1V8_VIN
PR1081
10Kohm
R-0402S0
1%
[64] P1V8_PG
[64] P1V8_EN
P5V0
PR1102
20Kohm
R-0402S0
1%
NI
PC3486
1uF
25V
C-0603S0
X7R
P1V8_SS
PC3481
1nF
16V
C-0402S0
X7R
PU36
IN1 IN2 IN3 IN4
OUT1 OUT2 OUT3 OUT4
EN
FB
PG
BIAS
SS
GND
E-PAD
NC1 NC2 NC3
NC6 NC5 NC4
NCP59748MN2ADJTBG
027.01418.005
SQFN-5X5-20BSHS0
P1V8_FB
PR1080
3.57Kohm
R-0402S0
1%
PR1079
2.87Kohm
R-0402S0
1%
PC3485
100nF
50V
C-0603S0
X7R
PC1033
1uF
25V
C-0603S0
X7R
PC3484
22uF
6.3V
C-0805
X6S
PC3480
22uF
6.3V
C-0805
X6S
PC3478
22uF
6.3V
C-0805
X6S
PR1118
49.9ohm
R-0805
1%
P1V8
add 50 ohm discharge
resistor
base on BCM request
Vo=0.8*(1+PR1080/PR1079)=1.795V
Soft-start Time : 1.78ms
OCP=2 / - / 5.5A
PR400
41.2Kohm
R-0402S0
1%
P1V8_R
PQ19
BSS138LT1 NFET 50V 200mA
104.00461.025
PR540
1Kohm
R-0402S0
1%
P1V8_MARGIN_LO
PR401
VMG_P1V8_LOW [40]
PR402
100Kohm
R-0402S0
1%
PC366
100nF
25V
C-0402S0
X7R
10Kohm
R-0402S0
1%
Margin Low: 1.71V (-5%)
PR398
31.6Kohm
R-0402S0
1%
P1V8_FB_R
PQ20
BSS138LT1 NFET 50V 200mA
104.00461.025
P1V8_MARGIN_HI
PR399
VMG_P1V8_HIGH [40]
PR403
100Kohm
R-0402S0
1%
PC367
100nF
25V
C-0402S0
X7R
10Kohm
R-0402S0
1%
Margin High: 1.89V (+5%)

VCORE CONTROLLER



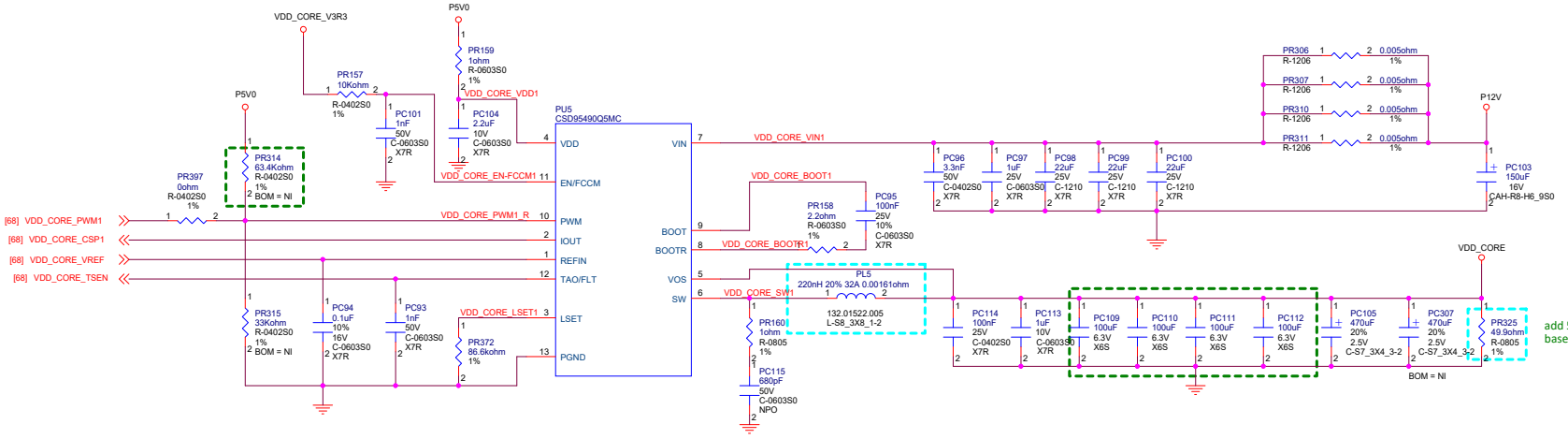
1. ICC_MAX = 15.84A (F-IMAX to VREF R is 453k)
2. Freq = 500kHz (F-IMAX to GND R is 30kohm)
3. OC_FAULT_LIMIT=19.8A (Value is ICCmax *1.25)
3. Per-Phase OCL is 24A (OCL-R to GND R is 20kohm)
4. RAMP LEVEL is 150mV (OCL-R to VREF V is 102kohm)
5. VR12.0 (VBOOT to VREF is 26.7kohm)
   VBOOT=1.0V (VBOOT to GND is 39kohm)
   Zero Load-line: RISUM=0ohm
   Vout slew rate is 0.68mV/us; SS=1.47ms
   PMBUS Address: 1100001 (0x61)

DC_PWR_12V TO VCORE_CNTRL

<Variant Name>

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Freq=500kHz
OCP=19.8A
P1V0 @ 12A



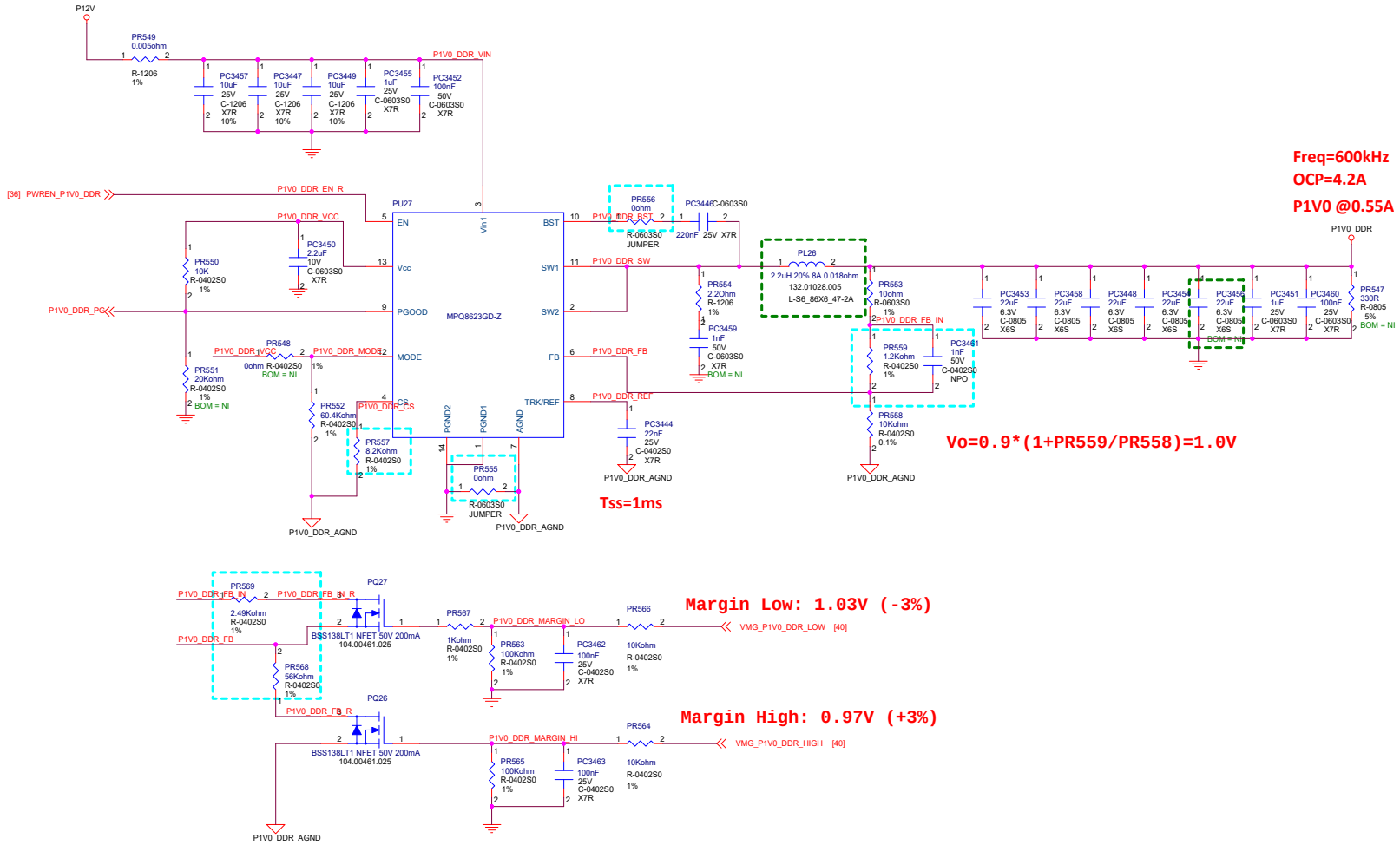
add 50 ohm discharge resistor base on BCM request

Delete Phase2

DC_PWR_12V TO VCORE_DRVR

<Core Design>

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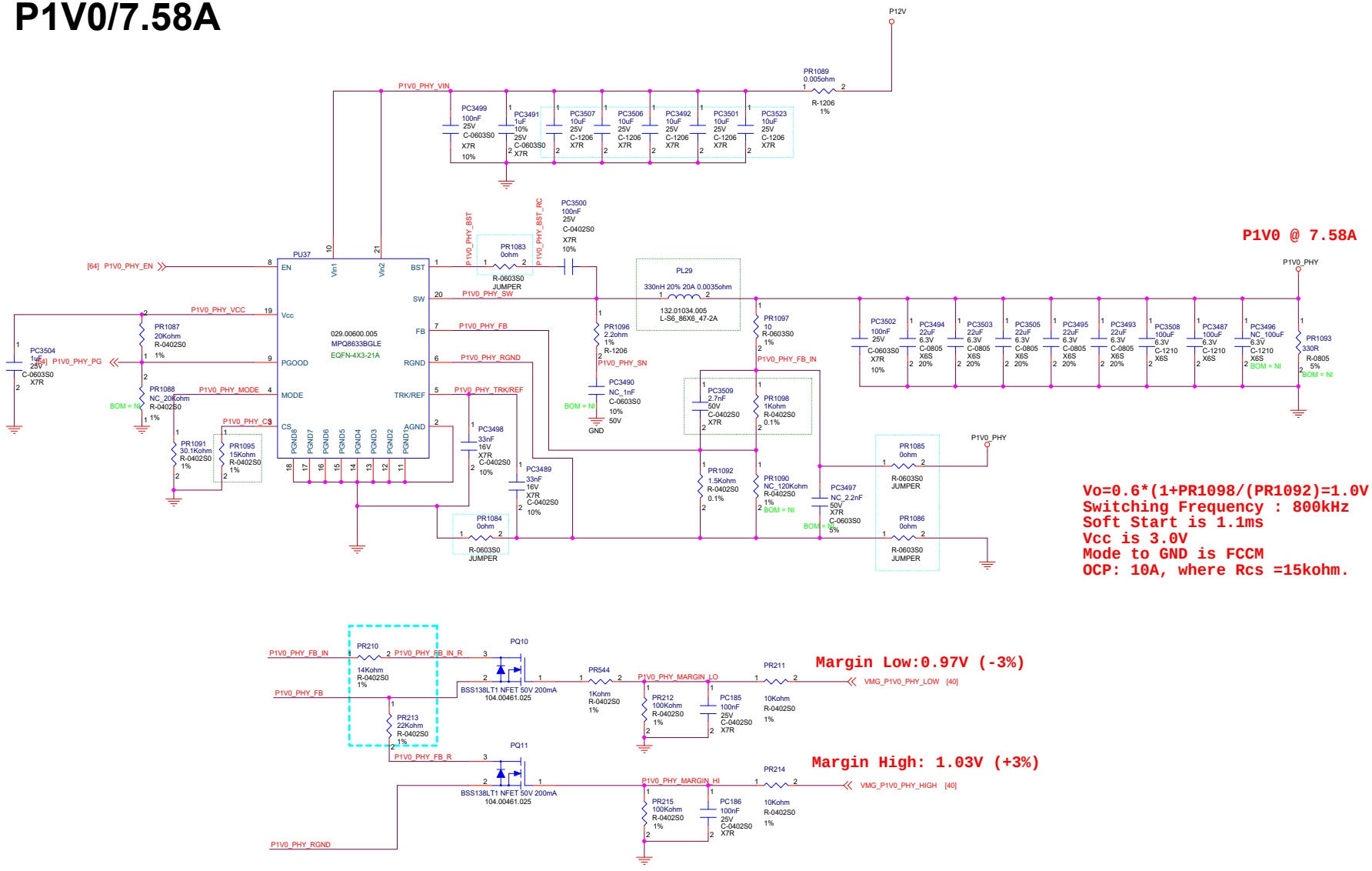


DC_PWR_12V TO P1V0_DDR

<Core Design>

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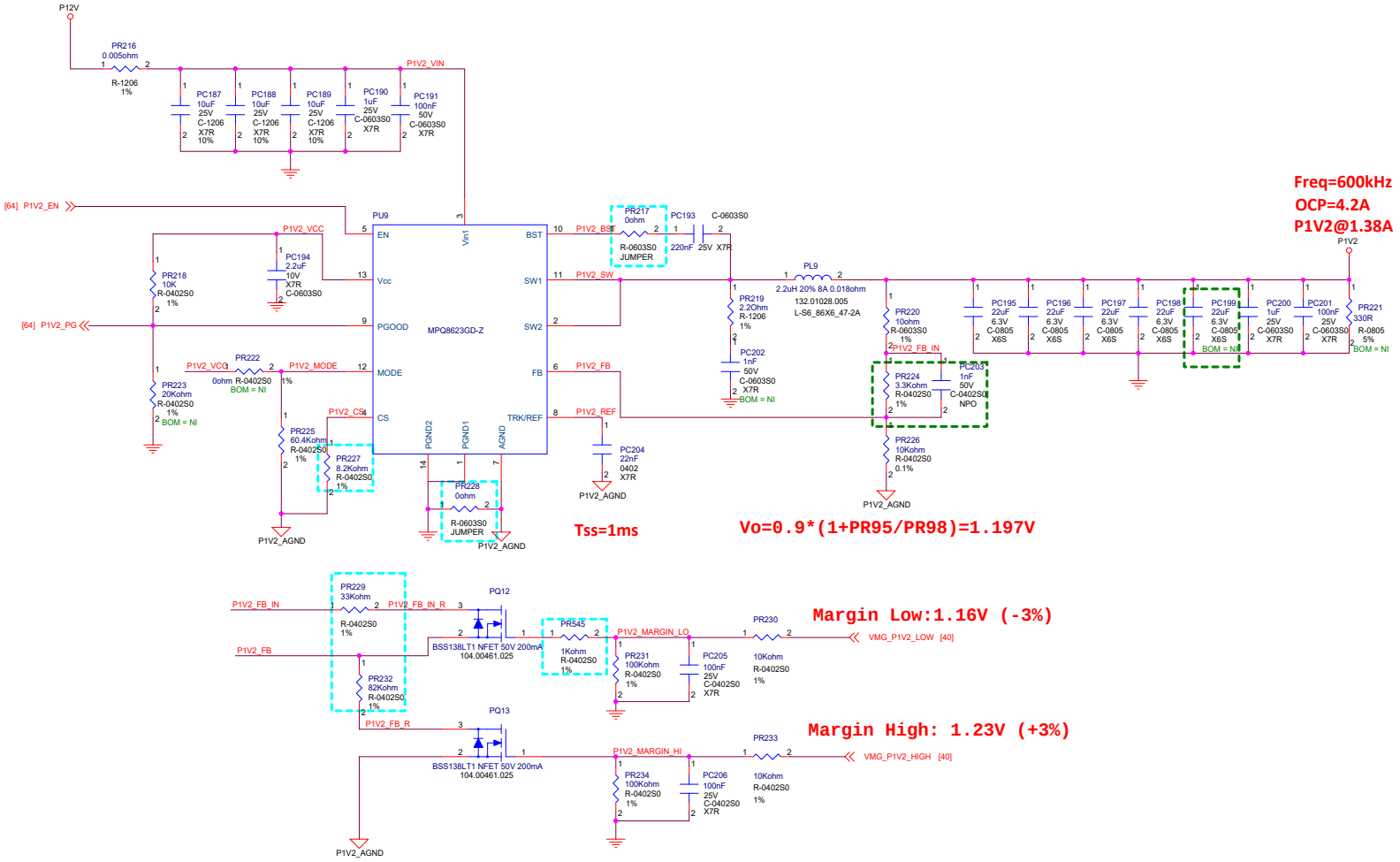
P1V0/7.58A



DC_PWR_12V TO P1V0_PHY

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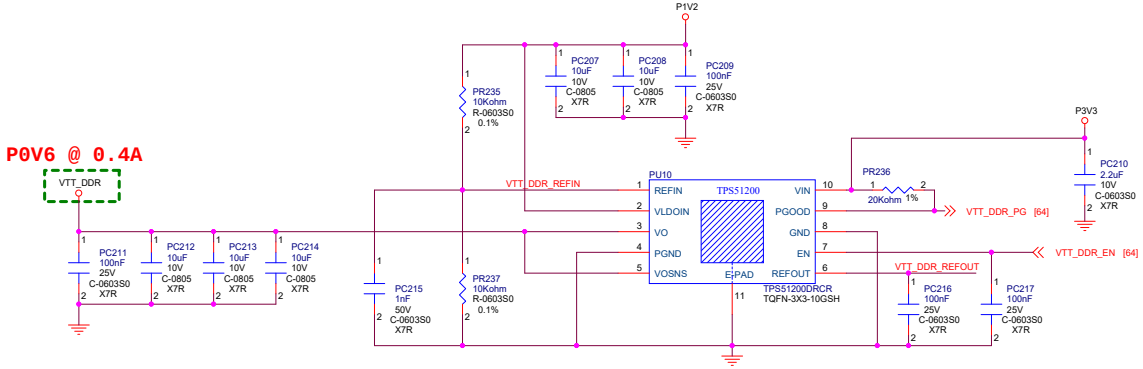
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DC_PWR_12V TO P1V2

<Core Design>

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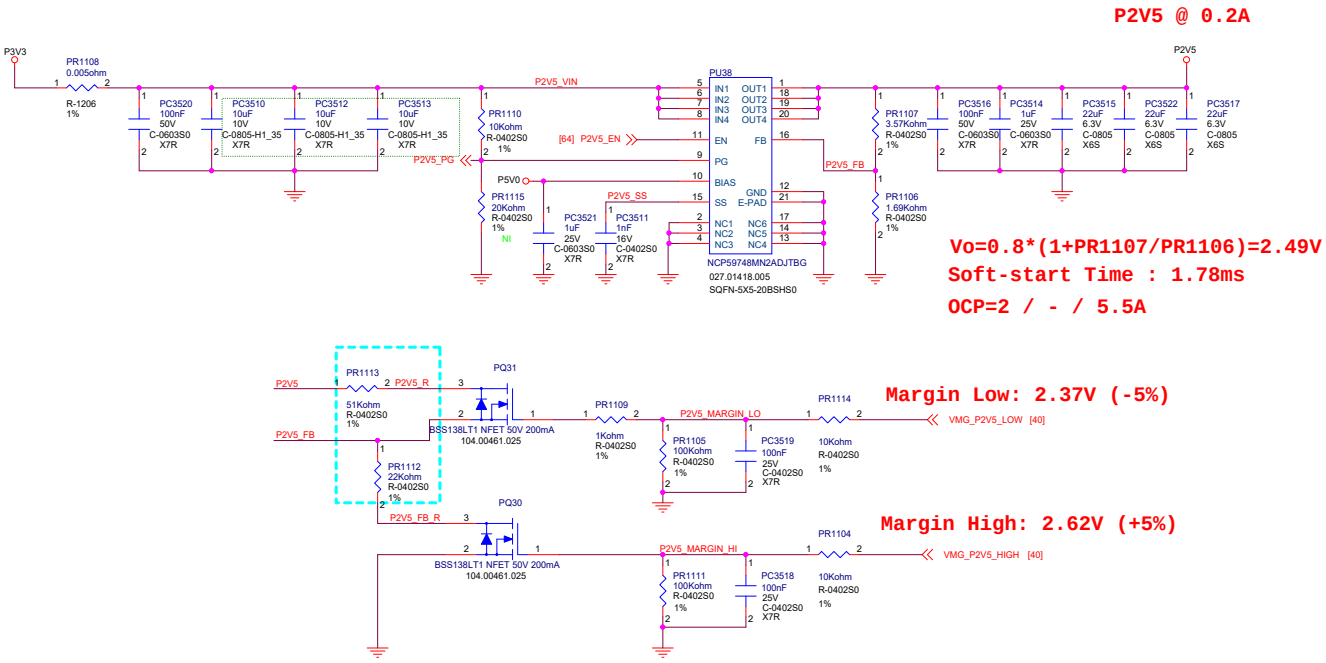


DC_PWR_1.2V TO P0V6

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P2V5/0.2A

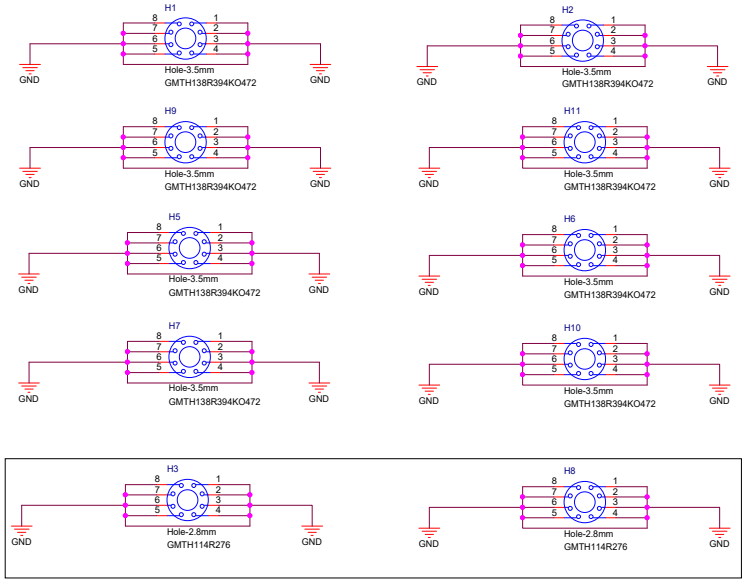


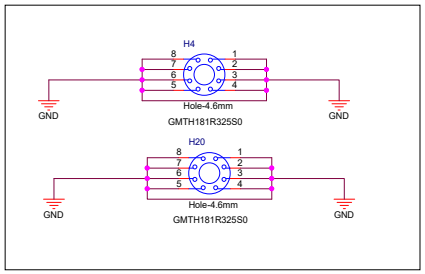
DC_PWR_12V TO 2.5V

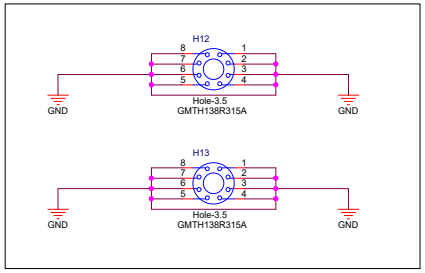
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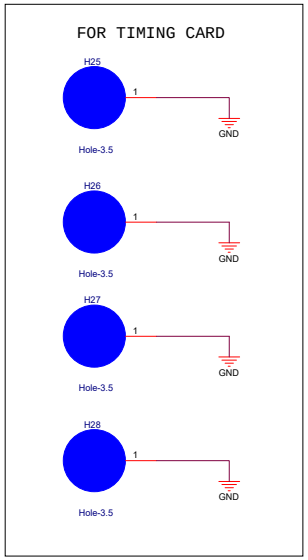
SWITCH R&D CENTER	CONFIDENTIAL
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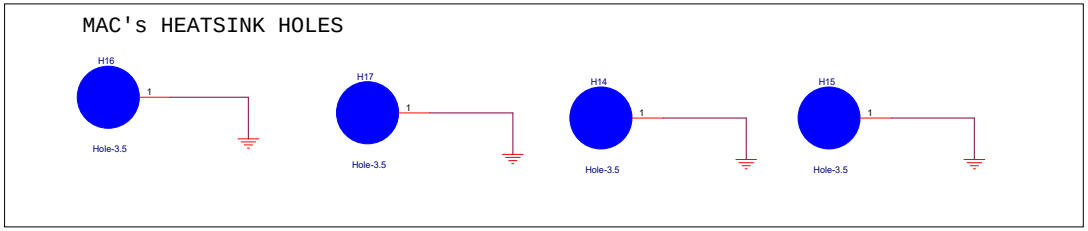
MOUNTING HOLES

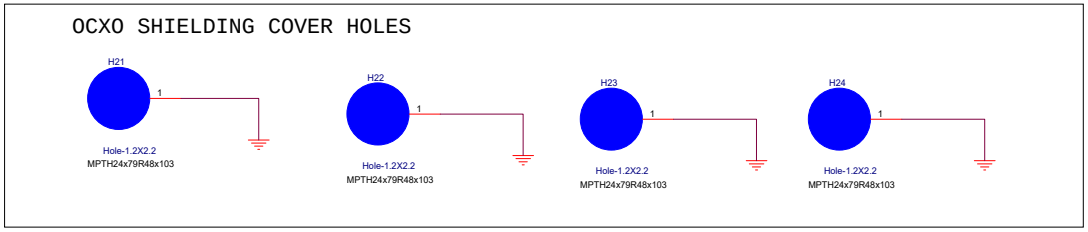












SN_LABEL
503.00899.005
SN_LABEL
SN Label

PCB
304.xxxxx.045
PCB Rev. 045
PCB

HS1
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FOR BCM82391
HS_PHY_100G

HS2
400.00747.015
FOR BCM8278O
HS_PHY_10G

SHIELDING_COVER
426.05394.015
OCXO SHIELDING COVER
SHIELDING COVER

SHIELDING_FRAME
432.00718.015
OCXO SHIELDING FRAME
SHIELDING FRAME

HOLES & BOM ONLY PARTS

<Core Design>

SWITCH R&D CENTER	CONFIDENTIAL
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