

Nozomi-4 UMA SOVP LOGIC SCHEMATICS

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NZM4I-7
VER 7.53
MAR/19/2012

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84.DC/DC VCC1R05AMT(VT356)
85.DC/DC VCC1R5A(VT357)
86.DC/DC VCC0R75B(MAX1510)
87.BLANK
88.BLANK
89.DC/DC VCC1R8B(BD9139)
90.DC/DC VCCSA(VT370)
91.LOAD SW LAN
92.BLANK
93.BLANK
94.LOAD SW B
95.LOAD SW VCC5MUBAY
96.LOAD SW WAN & WLAN
97.PTH FOR SCREW HOLES

BASE LOGIC :Nozomi-4 UMA SVT
VER 7.02
Jan/17/2012

EC HISTORY

Nozomi-4 UMA MFVT (BASE LOGIC :Nozomi-4 SWG MFVT VER 2.06 May/31/2011)

- VER.2.00 06/01/2011 APPLIED UMA MFVT_EC001-006
- VER.2.01 06/02/2011 APPLIED UMA MFVT_EC007-011
- VER.2.02 06/03/2011 APPLIED UMA MFVT_EC012
- VER.2.03 06/06/2011 APPLIED UMA MFVT_EC013-015
- VER.2.04 06/07/2011 APPLIED UMA MFVT_EC016,019,020
- VER.2.05 06/08/2011 APPLIED UMA MFVT_EC027
- VER.2.06 06/09/2011 APPLIED UMA MFVT_EC030,032,033,036,037
- VER.2.07 06/14/2011 APPLIED UMA MFVT_EC039
- VER.2.08 06/21/2011 APPLIED UMA MFVT_EC042

Nozomi-4 UMA FVT (BASE LOGIC :Nozomi-4 UMA MFVT VER 2.08 Jun/21/2011)

- VER.3.00 06/23/2011 APPLIED UMA FVT_EC001-003
- VER.3.01 07/01/2011 APPLIED UMA FVT_EC007
- VER.3.02 07/04/2011 APPLIED UMA FVT_EC004,008-010
- VER.3.03 07/05/2011 APPLIED UMA FVT_EC011-014
- VER.3.04 07/06/2011 APPLIED UMA FVT_EC015-021
- VER.3.05 07/08/2011 APPLIED UMA FVT_EC024-029
- VER.3.06 07/11/2011 APPLIED UMA FVT_EC030
- VER.3.07 07/12/2011 APPLIED UMA FVT_EC034,036
- VER.3.08 07/13/2011 APPLIED UMA FVT_EC037,038
- VER.3.09 07/14/2011 APPLIED UMA FVT_EC040-043,046,047,049,050,053
- VER.3.10 07/15/2011 APPLIED UMA FVT_EC054
- VER.3.11 07/19/2011 APPLIED UMA FVT_EC042,055-058
- VER.3.12 07/21/2011 APPLIED UMA FVT_EC059-062
- VER.3.13 07/22/2011 APPLIED UMA FVT_EC063
- VER.3.14 07/26/2011 APPLIED UMA FVT_EC064,065

Nozomi-4 UMA SIT (BASE LOGIC :Nozomi-4 UMA FVT VER 3.14 Jul/26/2011)

- VER.4.00 08/01/2011 APPLIED UMA SIT_EC001-007
- VER.4.01 08/02/2011 APPLIED UMA SIT_EC008-010
- VER.4.02 08/03/2011 APPLIED UMA SIT_EC011
- VER.4.03 08/04/2011 APPLIED UMA SIT_EC012-014
- VER.4.04 08/05/2011 APPLIED UMA SIT_EC015-017
- VER.4.05 08/17/2011 APPLIED UMA SIT_EC018-025,027
- VER.4.06 08/22/2011 APPLIED UMA SIT_EC028,031-033
- VER.4.07 08/23/2011 APPLIED UMA SIT_EC035,037
- VER.4.08 08/24/2011 APPLIED UMA SIT_EC038-042
- VER.4.09 08/25/2011 APPLIED UMA SIT_EC030,044-046
- VER.4.10 08/26/2011 APPLIED UMA SIT_EC047,048
- VER.4.11 08/29/2011 APPLIED UMA SIT_EC049
- VER.4.12 09/01/2011 APPLIED UMA SIT_EC051-053
- VER.4.13 09/05/2011 APPLIED UMA SIT_EC054,055
- VER.4.14 09/07/2011 APPLIED UMA SIT_EC056,061-070
- VER.4.15 09/08/2011 APPLIED UMA SIT_EC071-079
- VER.4.16 09/09/2011 APPLIED UMA SIT_EC082,084,085
- VER.4.17 09/12/2011 APPLIED UMA SIT_EC088,089
- VER.4.18 09/13/2011 APPLIED UMA SIT_EC090
- VER.4.19 09/15/2011 APPLIED UMA SIT_EC092,093
- VER.4.20 09/21/2011 APPLIED UMA SIT_EC094

Nozomi-4 UMA SIT-R1 (BASE LOGIC :Nozomi-4 UMA SIT VER 4.20 Sep/21/2011)

- VER.5.00 09/27/2011 APPLIED UMA SITR_EC001-003
- VER.5.01 10/11/2011 APPLIED UMA SITR_EC004,005
- VER.5.02 10/28/2011 APPLIED UMA SITR_EC006
- VER.5.03 10/31/2011 APPLIED UMA SITR_EC007-010
- VER.5.04 11/01/2011 APPLIED UMA SITR_EC012
- VER.5.05 11/02/2011 APPLIED UMA SITR_EC013
- VER.5.06 11/04/2011 APPLIED UMA SITR_EC015,016,018
- VER.5.07 11/07/2011 APPLIED UMA SITR_EC019
- VER.5.08 11/09/2011 APPLIED UMA SITR_EC014
- VER.5.09 11/10/2011 APPLIED UMA SITR_EC020
- VER.5.10 11/15/2011 APPLIED UMA SITR_EC021

Nozomi-4 UMA SIT-R2 (BASE LOGIC :Nozomi-4 UMA SIT -R1 VER 5.10 Nov/15/2011)

- VER.6.00 11/18/2011 APPLIED UMA SITR2_EC001-003
- VER.6.01 11/22/2011 APPLIED UMA SITR2_EC006
- VER.6.02 11/25/2011 APPLIED UMA SITR2_EC007
- VER.6.03 11/28/2011 APPLIED UMA SITR2_EC008
- VER.6.04 11/29/2011 APPLIED UMA SITR2_EC009,010
- VER.6.05 11/30/2011 APPLIED UMA SITR2_EC011,012
- VER.6.06 12/01/2011 APPLIED UMA SITR2_EC015
- VER.6.07 12/05/2011 APPLIED UMA SITR2_EC017

Nozomi-4 UMA SVT (BASE LOGIC :Nozomi-4 UMA SIT-R2 VER 6.07 Dec/05/2011)

- VER.7.00 12/13/2011 APPLIED UMA SVT_EC001-005
- VER.7.01 12/15/2011 APPLIED UMA SVT_EC006-008
- VER.7.02 01/17/2012 APPLIED UMA SVT_EC012

Nozomi-4 UMA SOVP (BASE LOGIC :Nozomi-4 UMA SVT VER 7.02 Jan/17/2011)

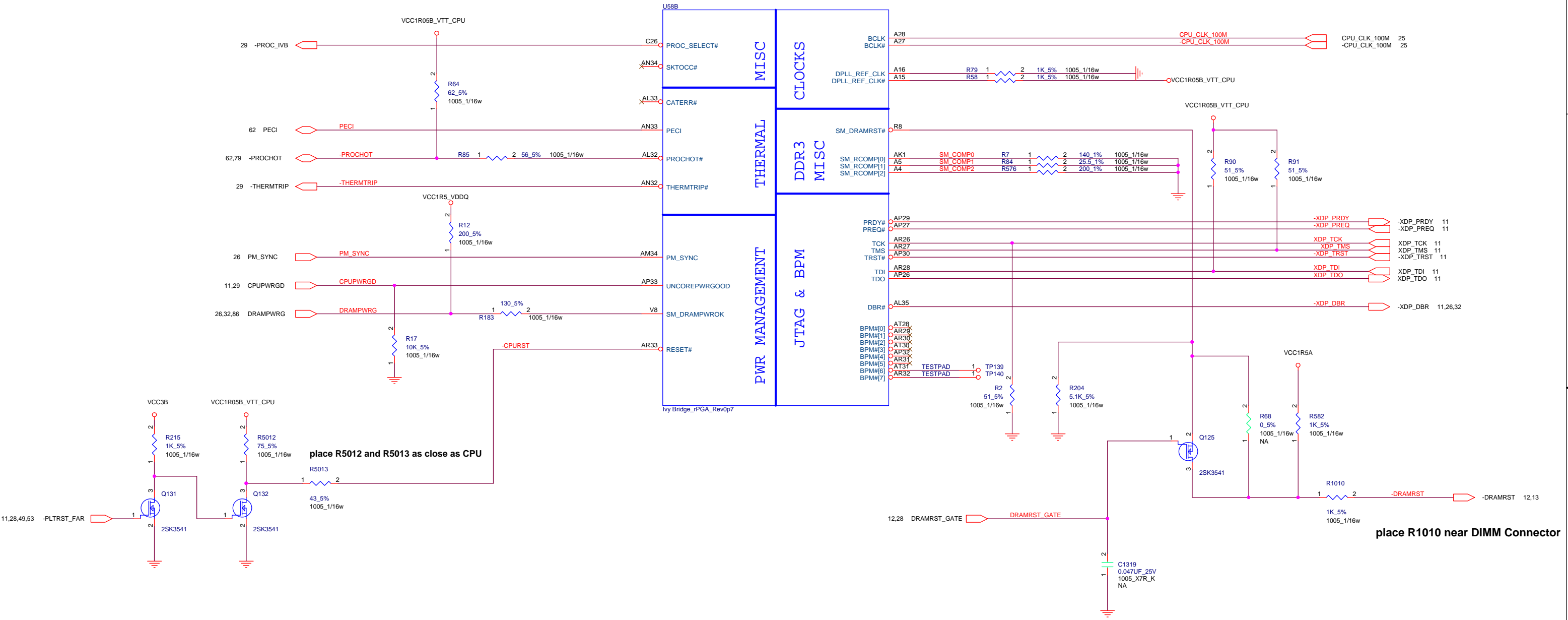
- VER.7.50 02/24/2012 APPLIED UMA SOVP_EC001-003
- VER.7.51 03/05/2012 APPLIED UMA SOVP_EC004
- VER.7.52 03/08/2012 APPLIED UMA SOVP_EC005
- VER.7.53 03/19/2012 APPLIED UMA SOVP_EC006

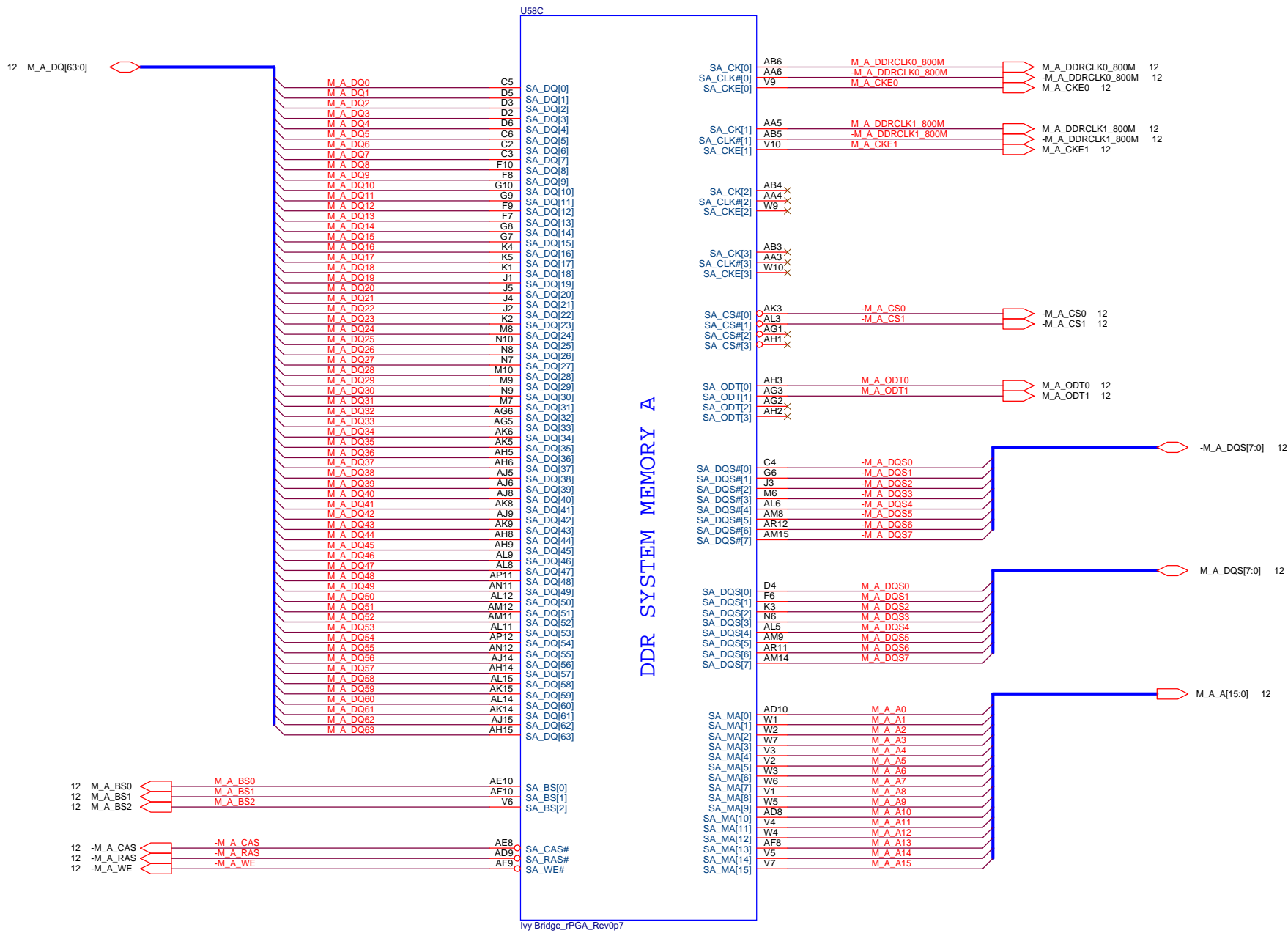


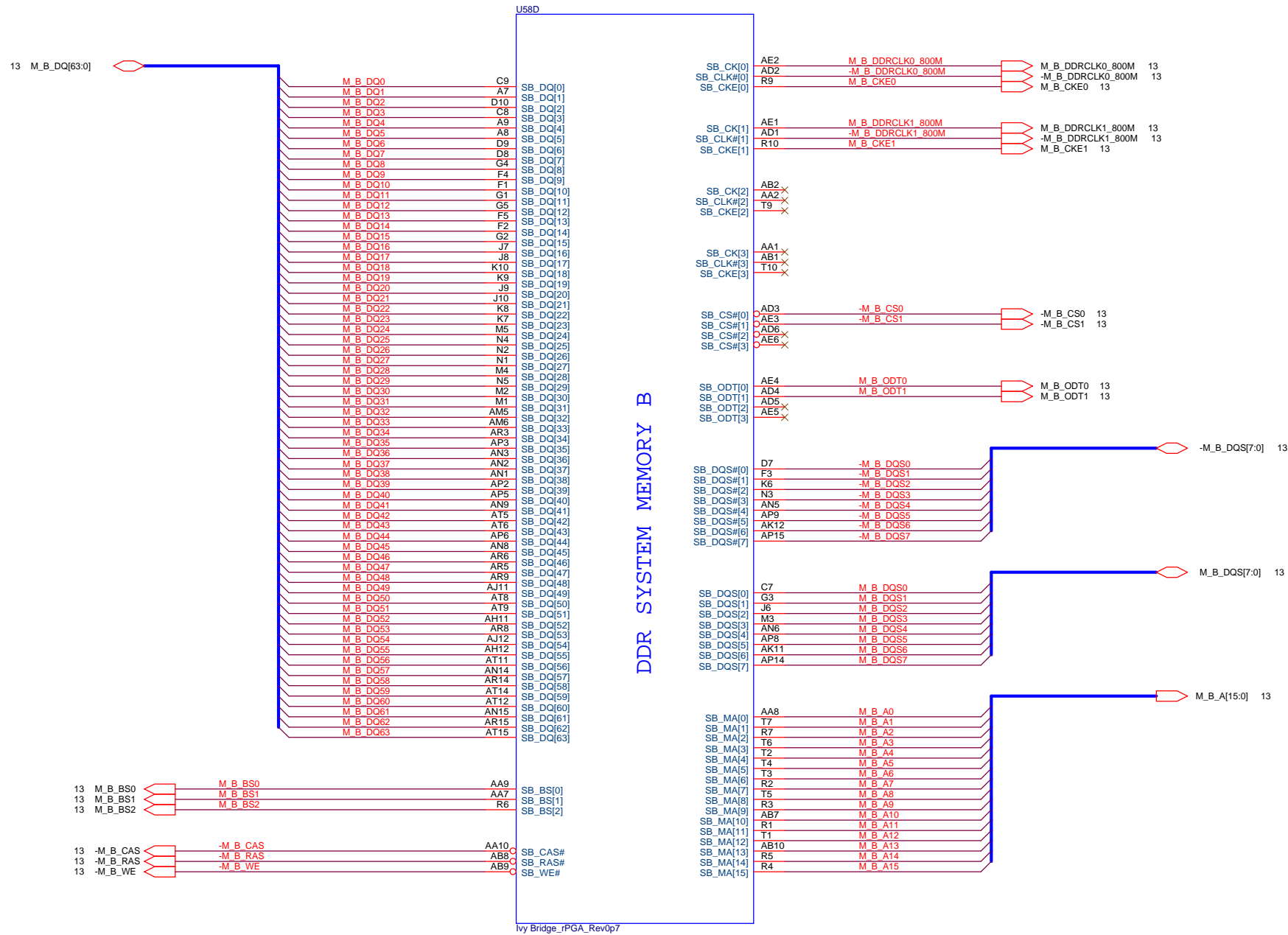
Project Name : NZM-4 UMA SOVP		Title : EC HISTORY	
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TABLE PROC_SELECT#(-PROC_IVB)

Sandy Bridge	High
Ivy Bridge	Low



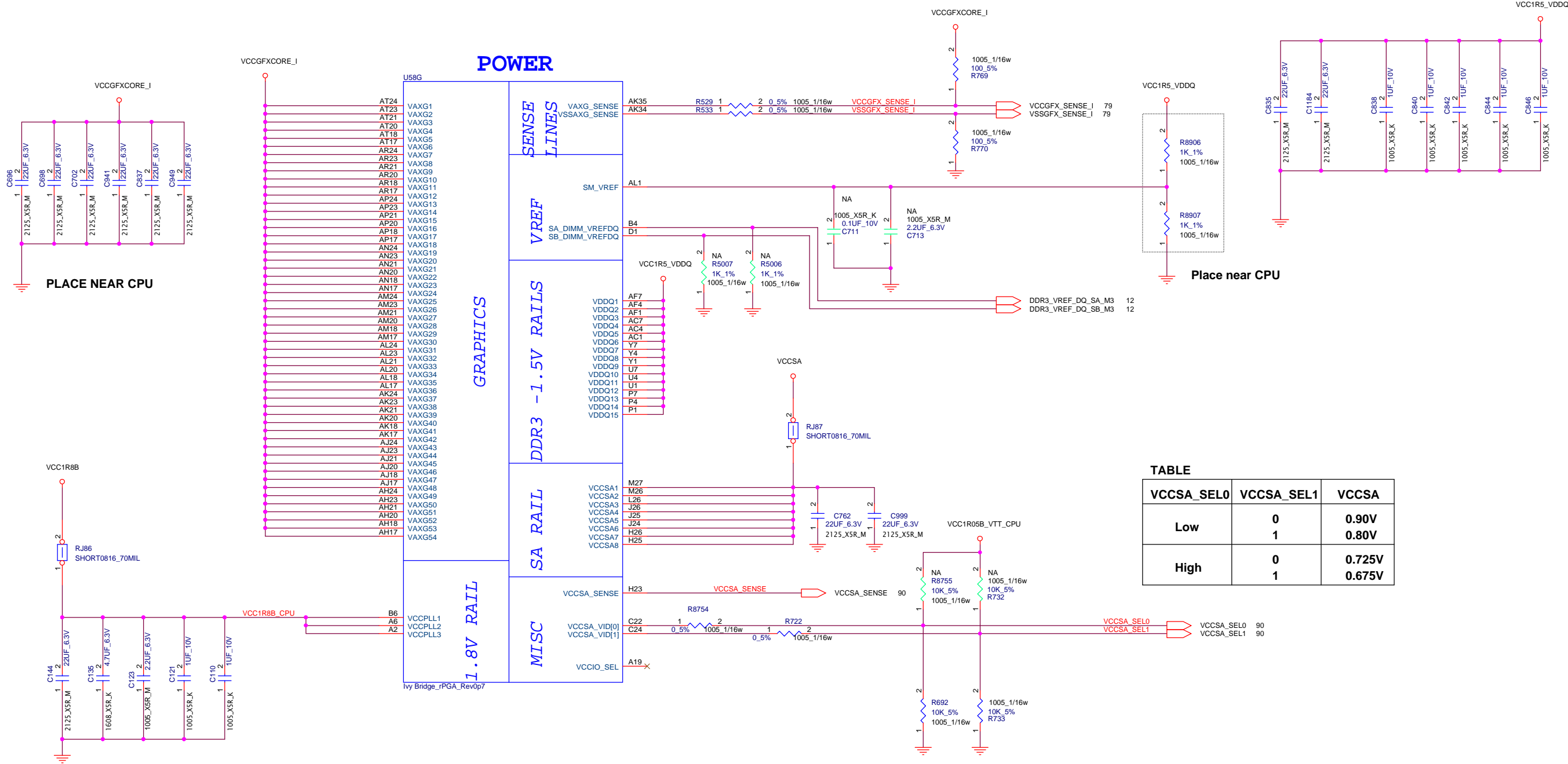


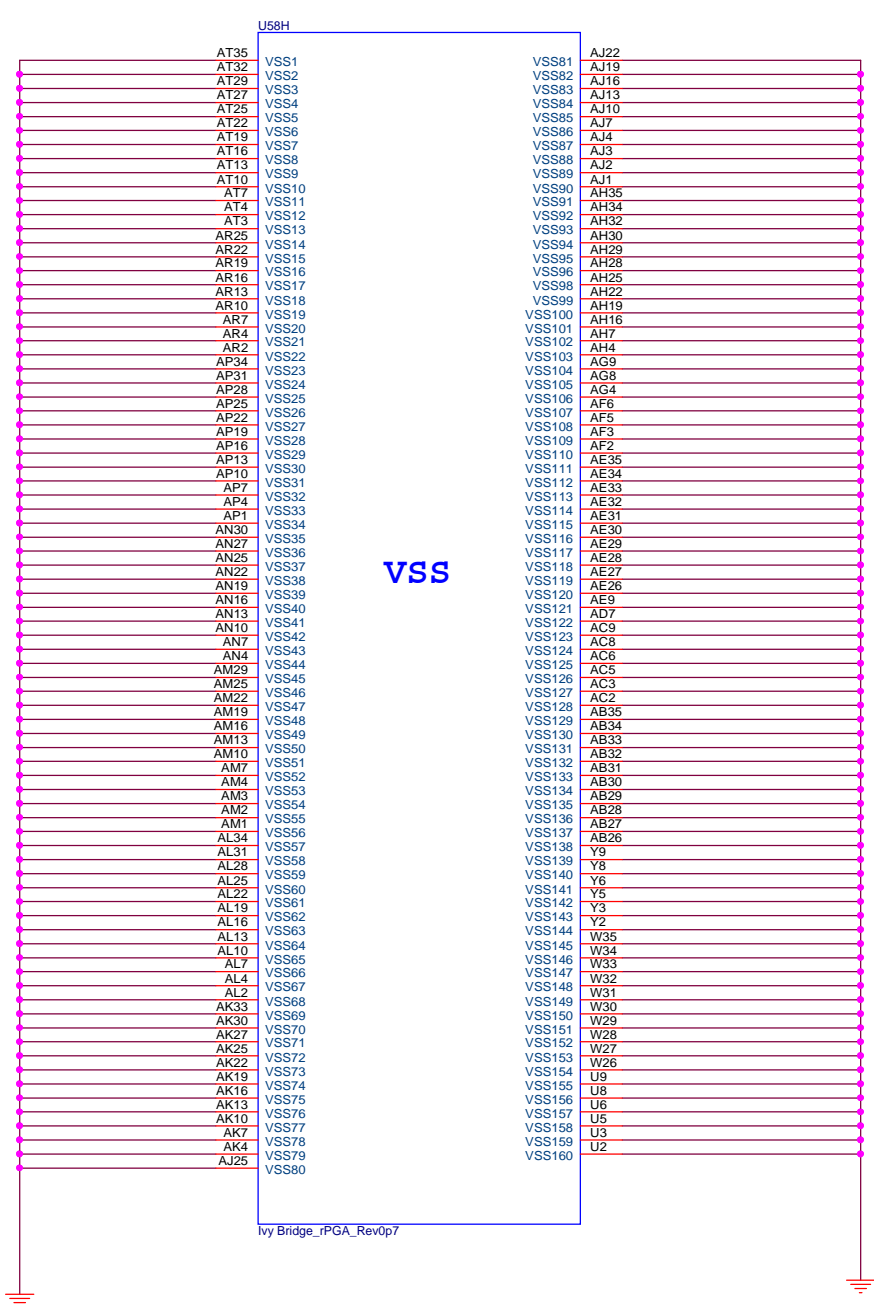
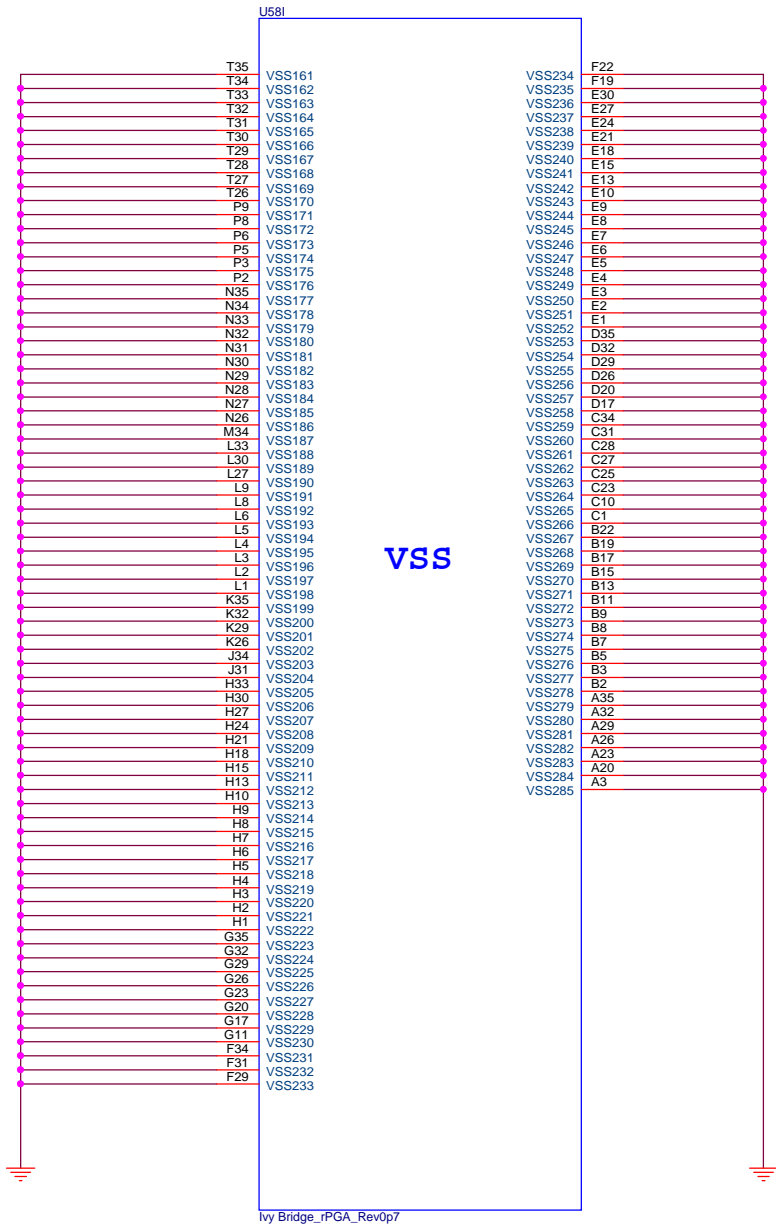


Project Name : NZM-4 UMA SOVP Title : CPU(4/8) DDR3 CH- B

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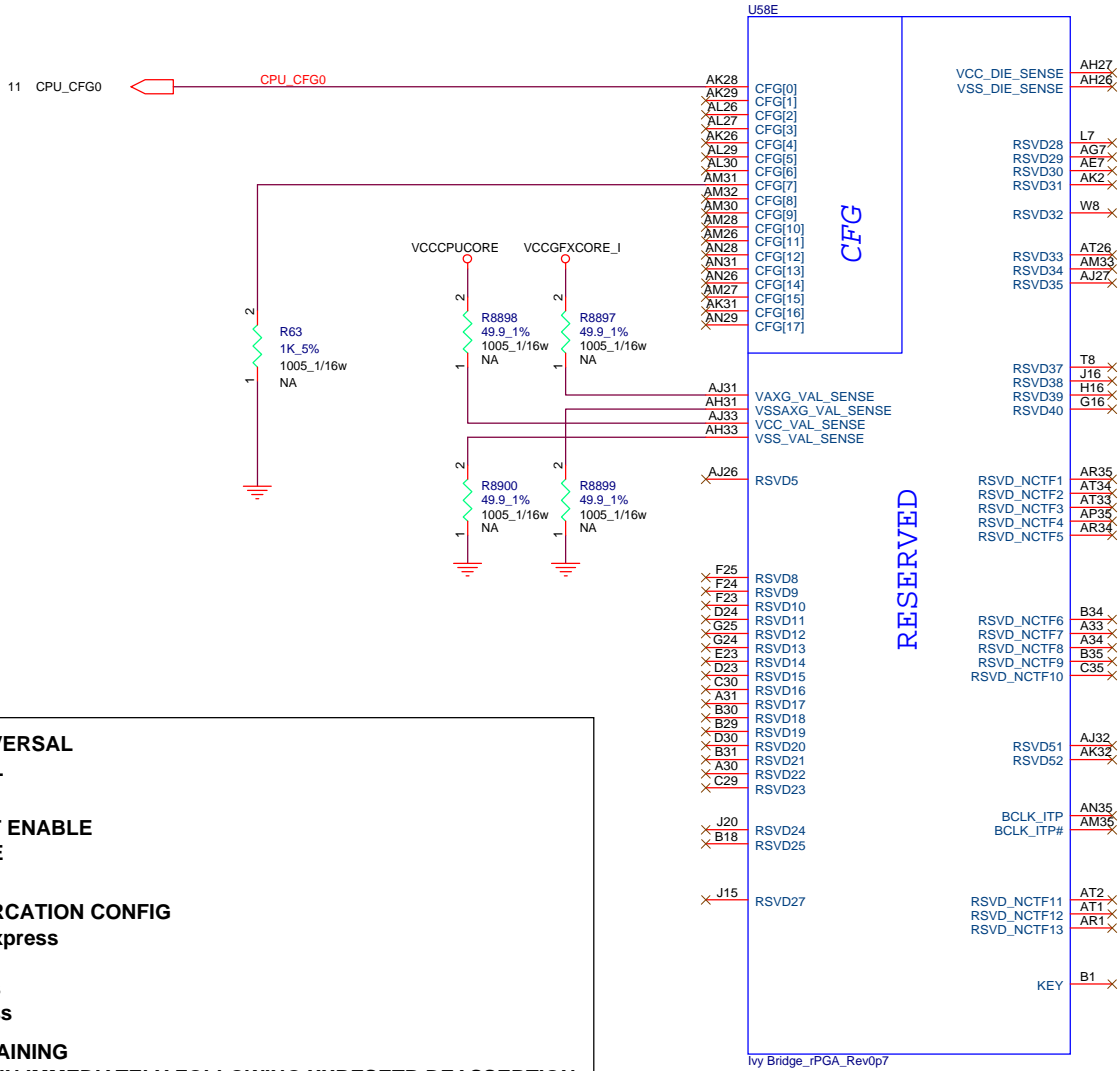
Project Name : NZM-4 UMA SOVP Title : CPU(7/8) GND

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TABLE

CFG2 PEG LANE REVERSAL	
1	-NO ASM : NORMAL
0	-ASM : RESVERSE
CFG4 DISPLAY PORT ENABLE	
1	-NO ASM : DISABLE
0	-ASM : ENABLE
CFG[6 : 5] PEG BIFURCATION CONFIG	
00	= 1 x 8, 2 x 4 PCI Express
01	= reserved
10	= 2 x 8 PCI Express
11	= 1 x 16 PCI Express
CFG7 PEG DEFER TRAINING	
1	-NO ASM :PEG TRAIN IMMEDIATELY FOLLOWING XXRESETB DEASSERTION
0	-ASM : PEG WAIT FOR BIOS FOR TRAINING



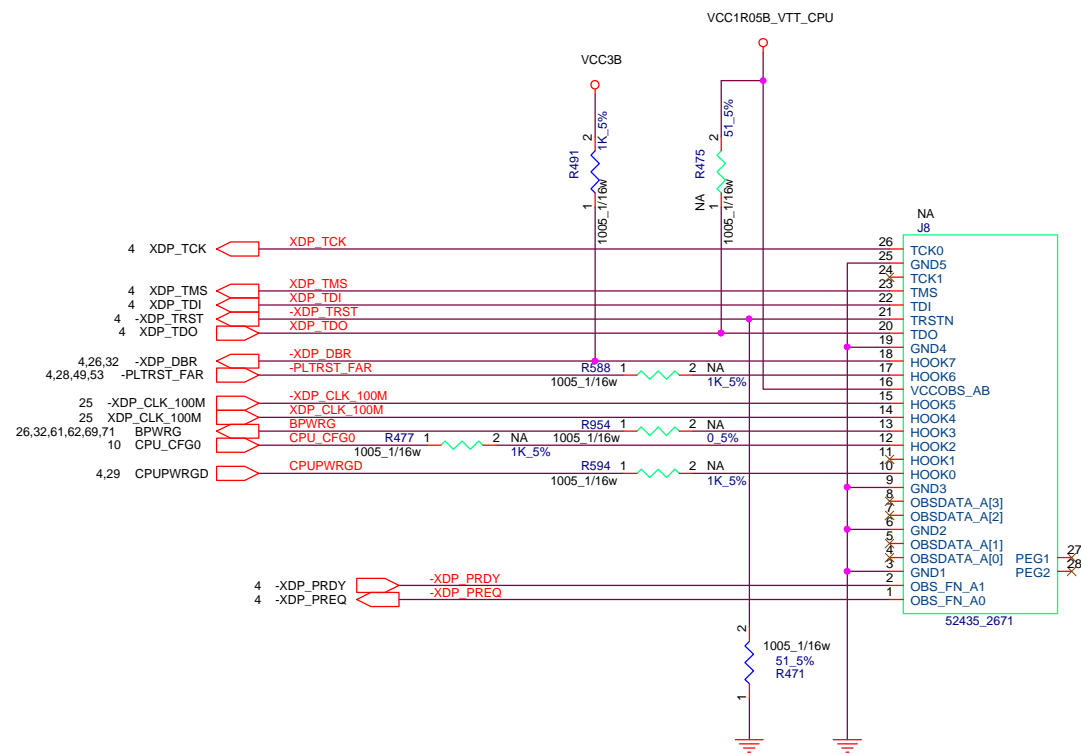


TABLE NOTE: J8 "ASM" FOR PDV/SDV ONLY.

SIGNAL	REF DES	ENABLE	DISABLE
TDO	R475	ASM	NO ASM
TRST#	R471	ASM	ASM
DBRST#	R491	ASM	ASM
RESET#	R588	ASM	NO ASM
CFG0	R477	ASM	NO ASM
PWRGD	R594	ASM	NO ASM
BPWRG	R954	ASM	NO ASM
	J8	ASM	NO ASM

LOGIC

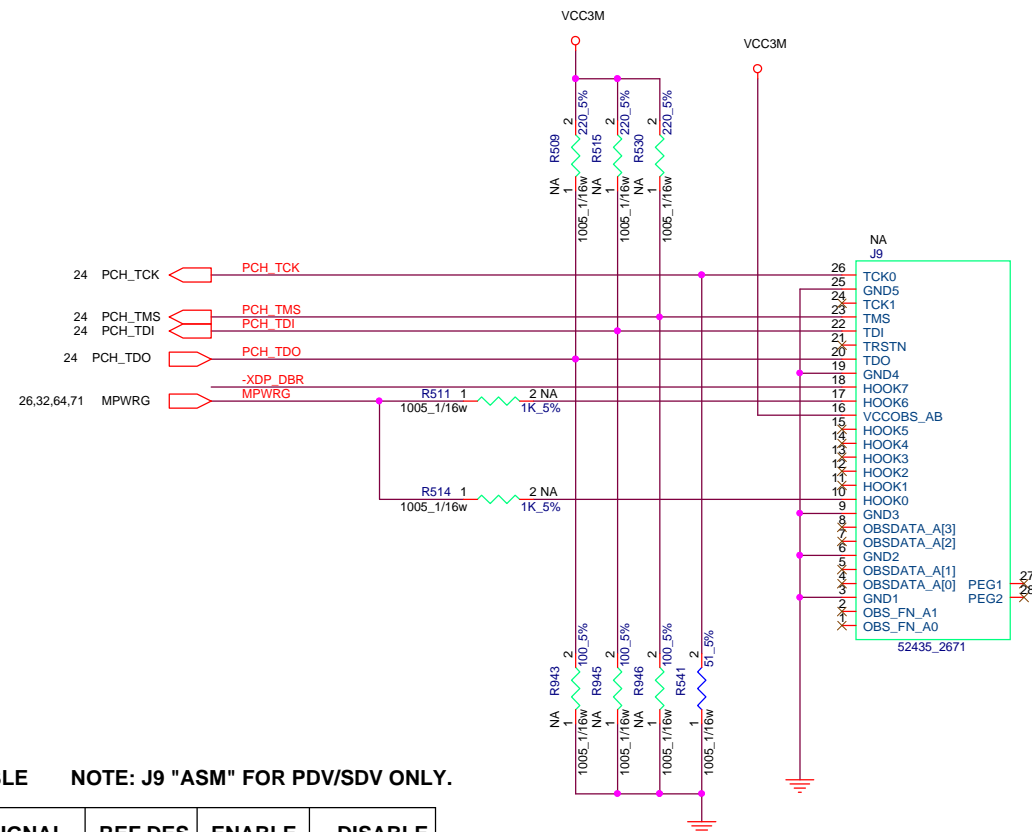
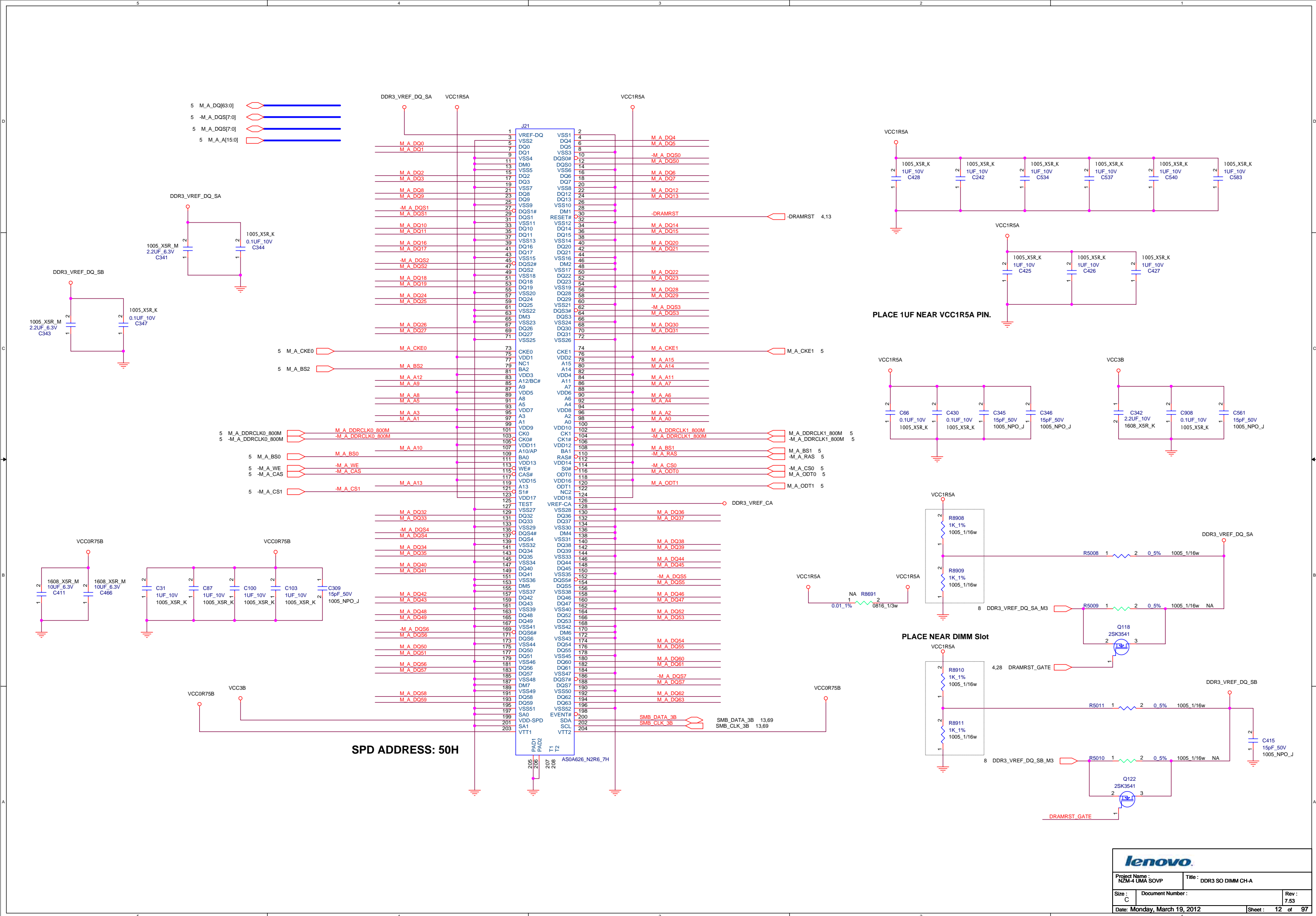
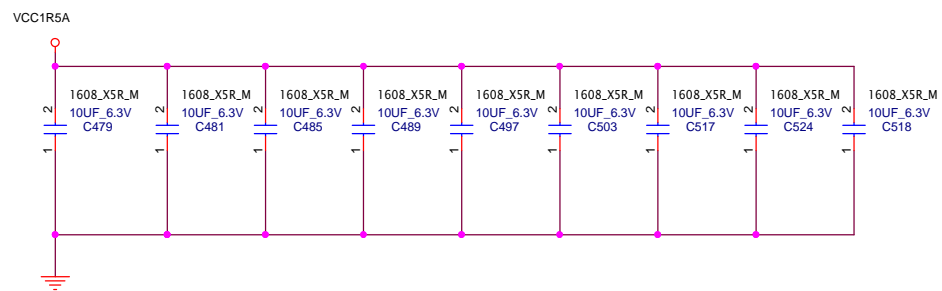
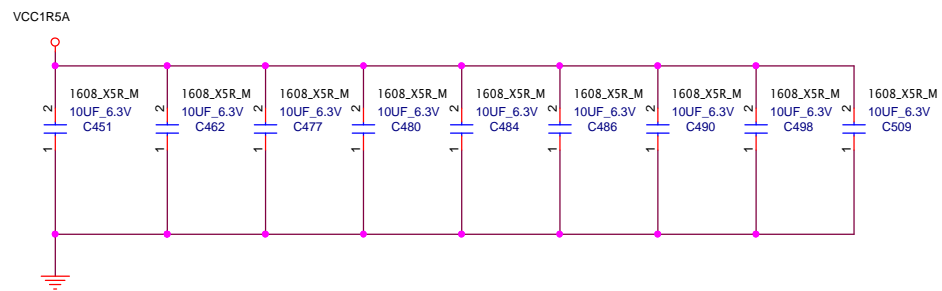
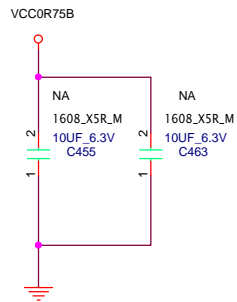


TABLE NOTE: J9 "ASM" FOR PDV/SDV ONLY.

SIGNAL	REF DES	ENABLE	DISABLE
TDO	R509 R943	220 100	NO ASM NO ASM
TMS	R530 R946	220 100	NO ASM NO ASM
TDI	R515 R945	220 100	NO ASM NO ASM
TCK	R541	51	51
MPWRG	R511 R514	ASM ASM	NO ASM NO ASM
	J9	ASM	NO ASM

LOGIC





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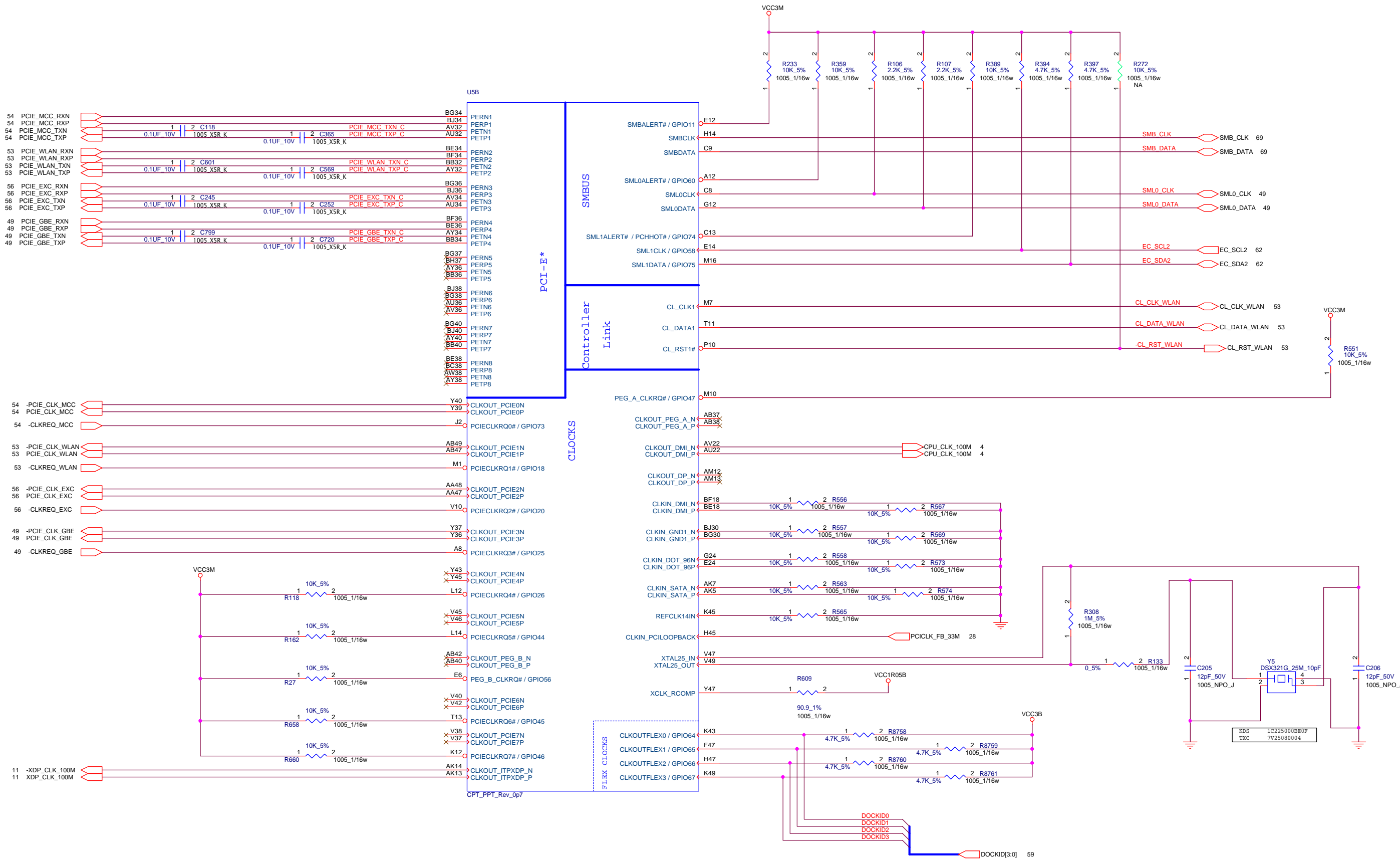


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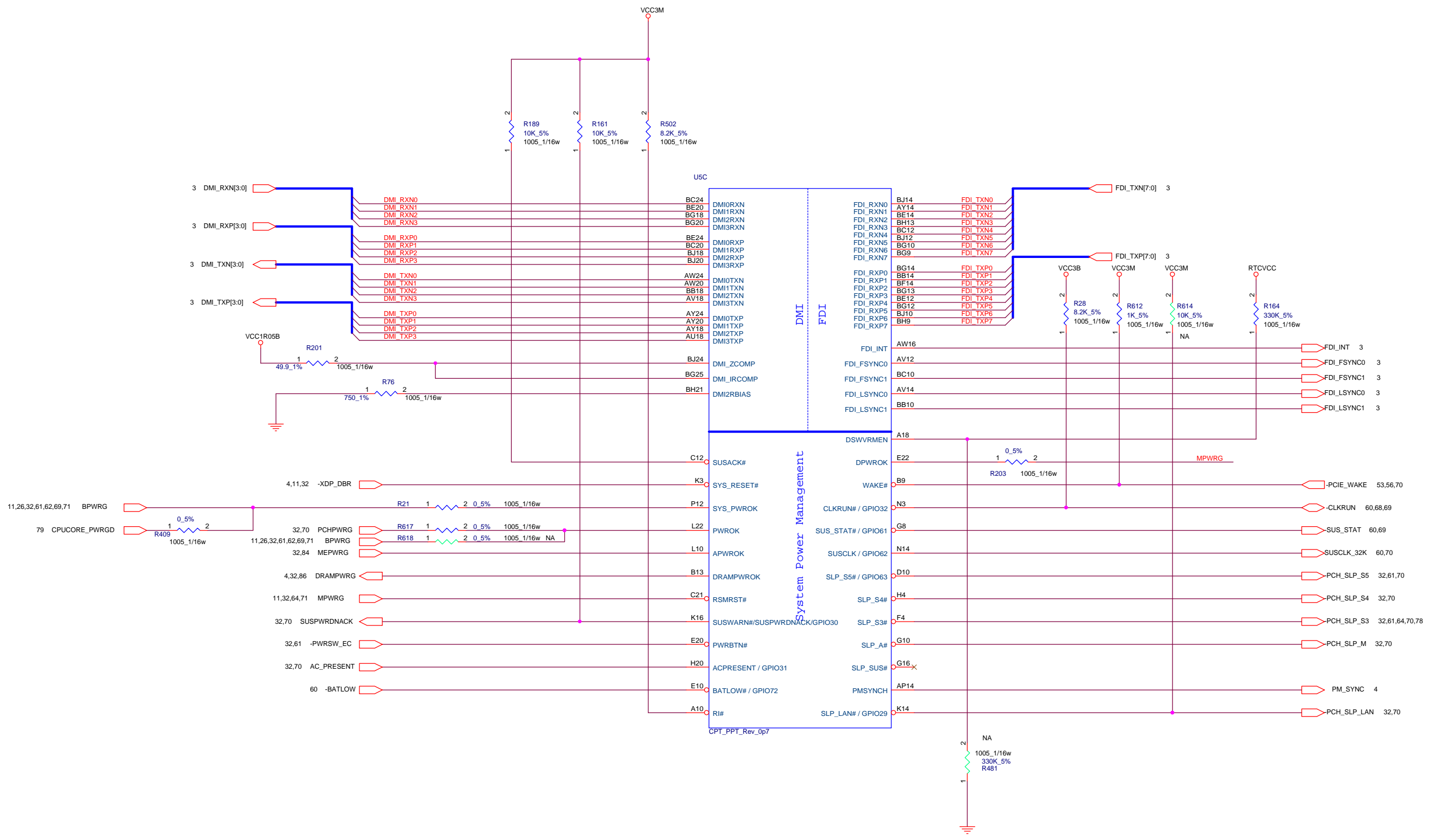
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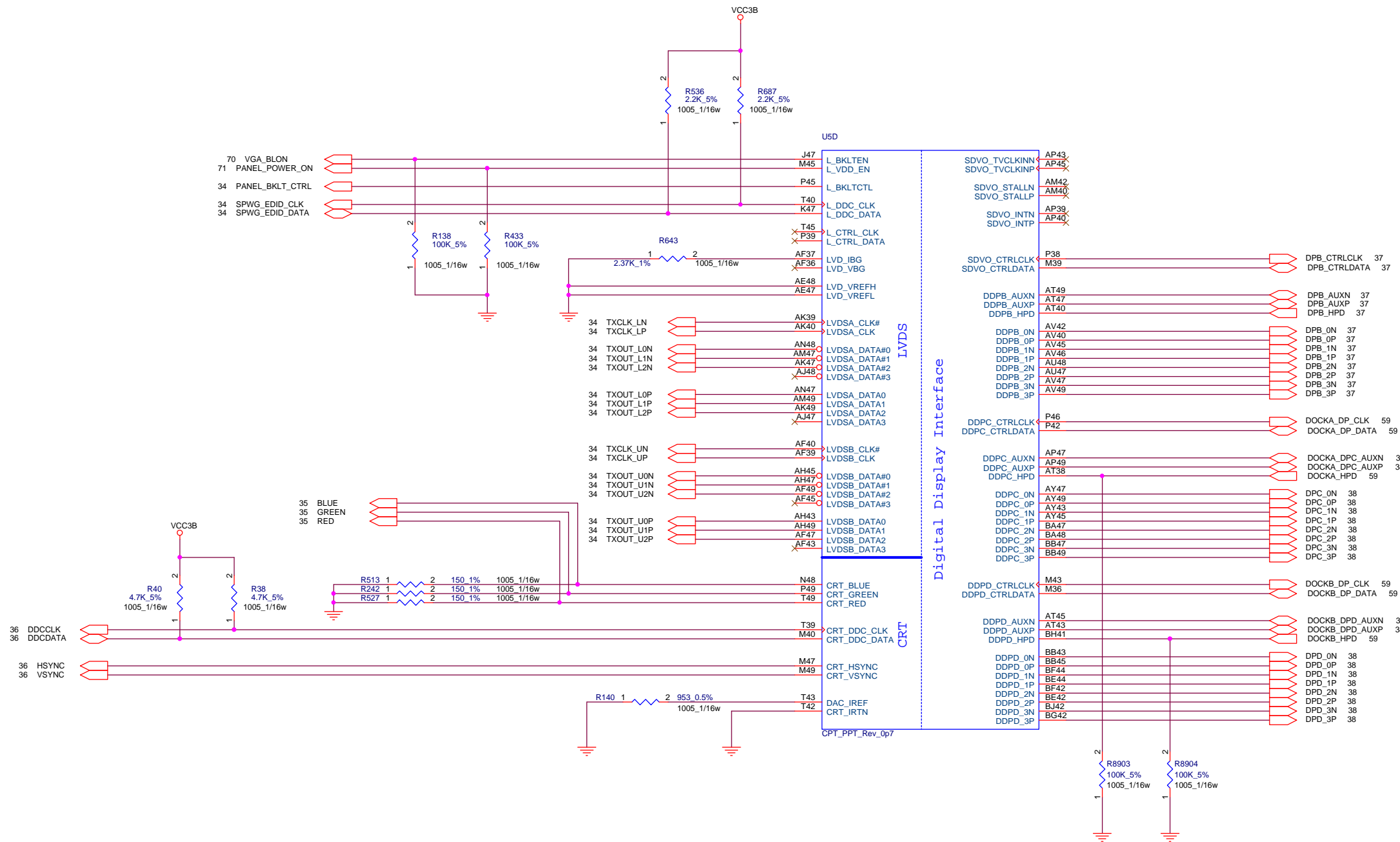


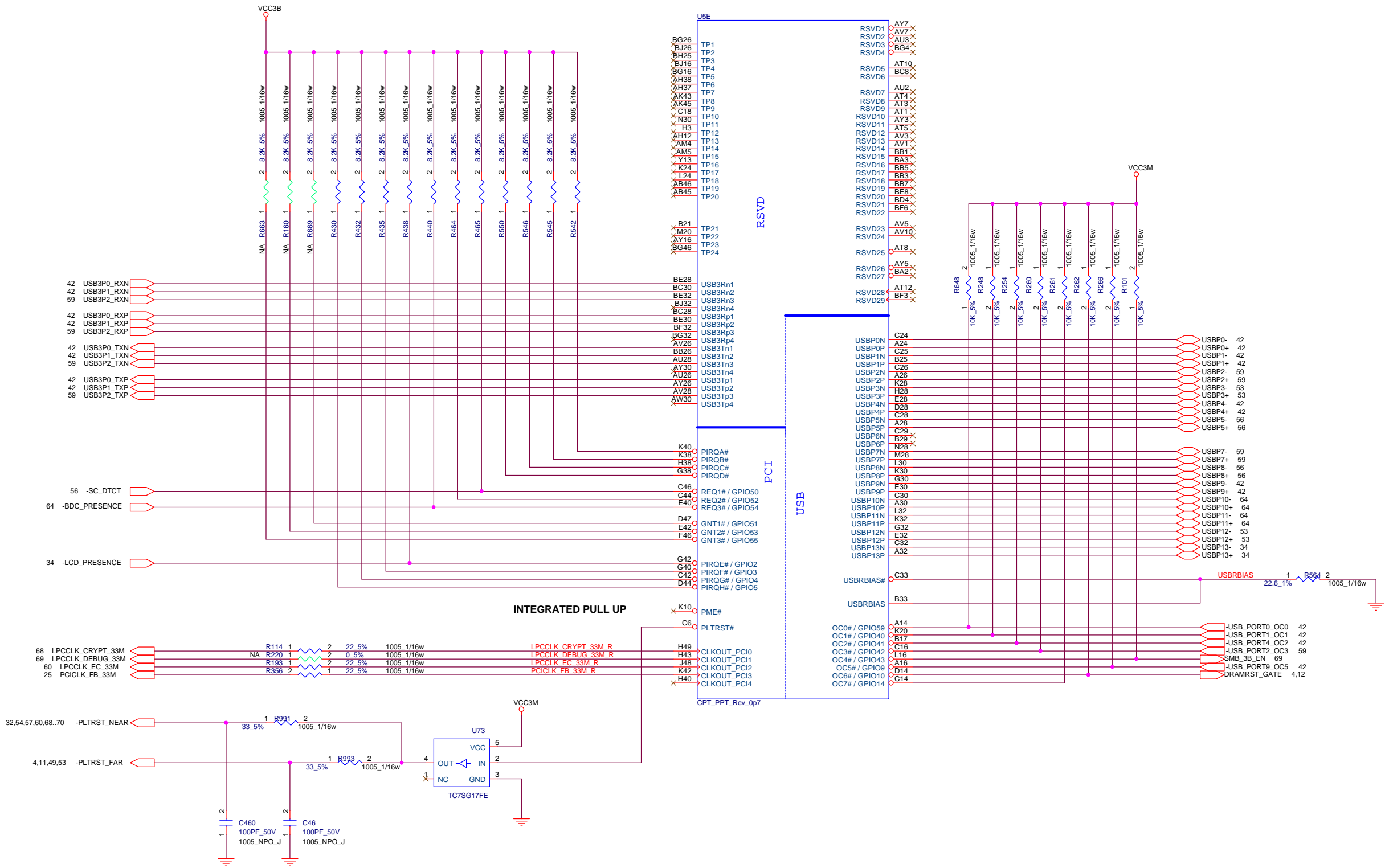
Project Name : NZM-4 UMA SOVP Title : PCH(2/9):PCI-E/SMBUS/CLK

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USB PORT TO	
0	USB 3.0 SYSTEM PORT 0
1	USB 3.0 SYSTEM PORT 1
2	USB 3.0 DOCKING
3	FULL MINICARD (WWAN)
4	USB 2.0 SYSTEM PORT (AOU)
5	EXPRESS CARD SLOT
6	RESERVED
7	USB 2.0 DOCKING
8	SMART CARD SLOT
9	USB 2.0 SYSTEM PORT (DEBUG)
10	FPR (TOUCH PAD)
11	BLUETOOTH (TOUCH PAD)
12	HALF MINICARD (WLAN)
13	USB CAMERA (LCD)



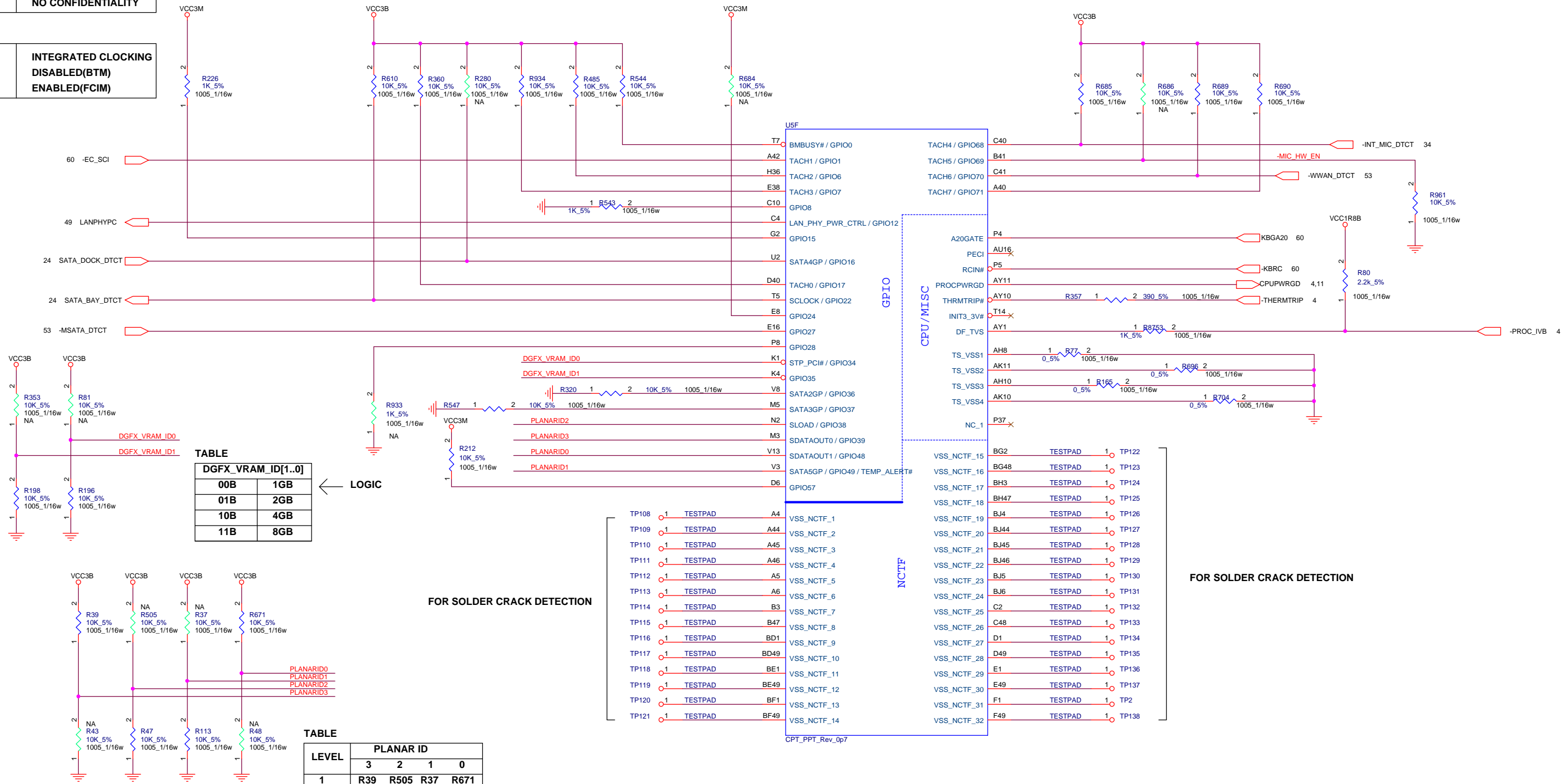
Project Name : NZM-4 UMA SOVP Title : PCH(5/9)-PCI/USB/NVRAM

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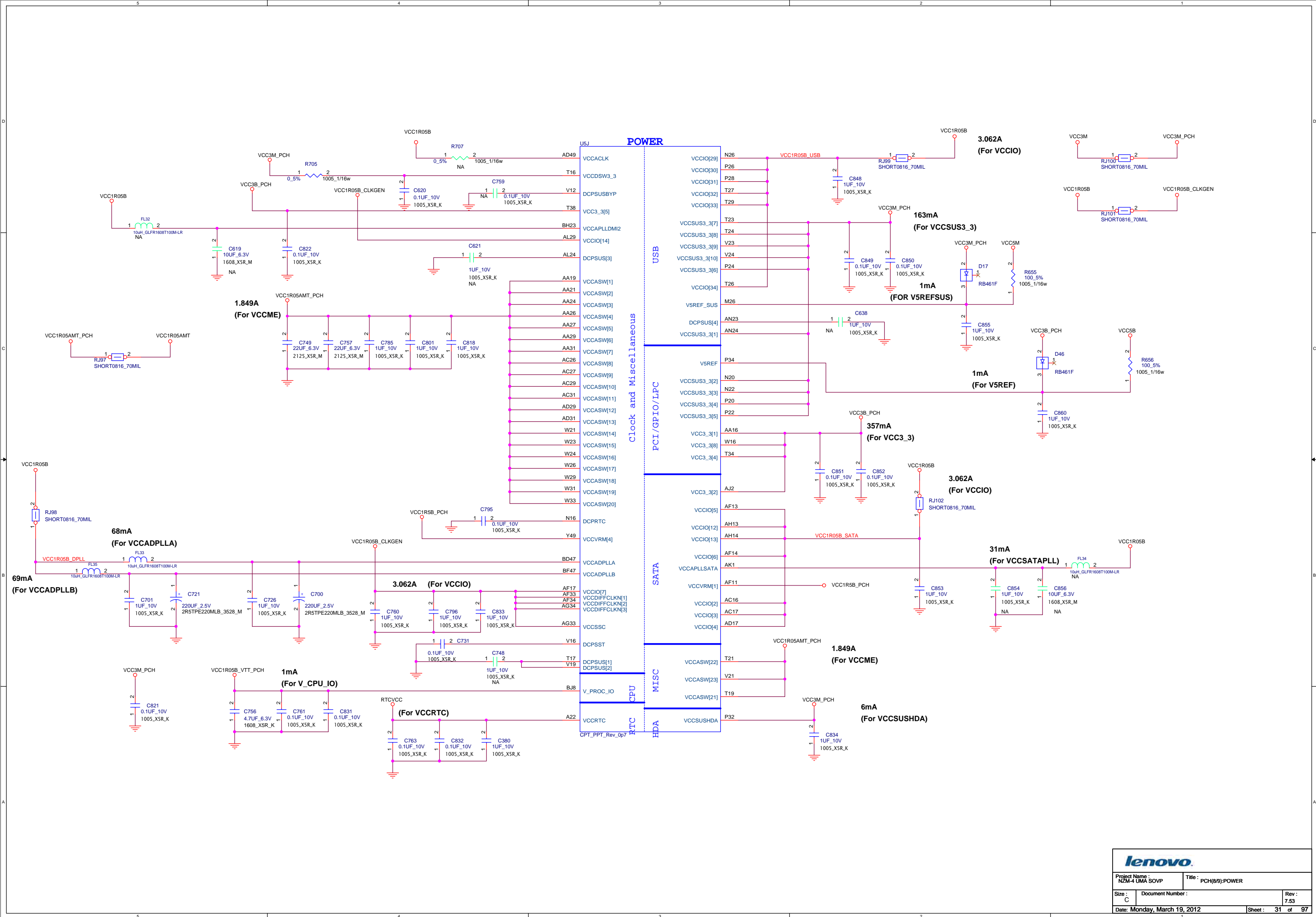
GPIO15	ME CRYPTO STRAP
HIGH	WITH CONFIDENTIALITY
LOW	NO CONFIDENTIALITY

GPIO8 HIGH LOW	INTEGRATED CLOCKING DISABLED(BTM) ENABLED(FCIM)
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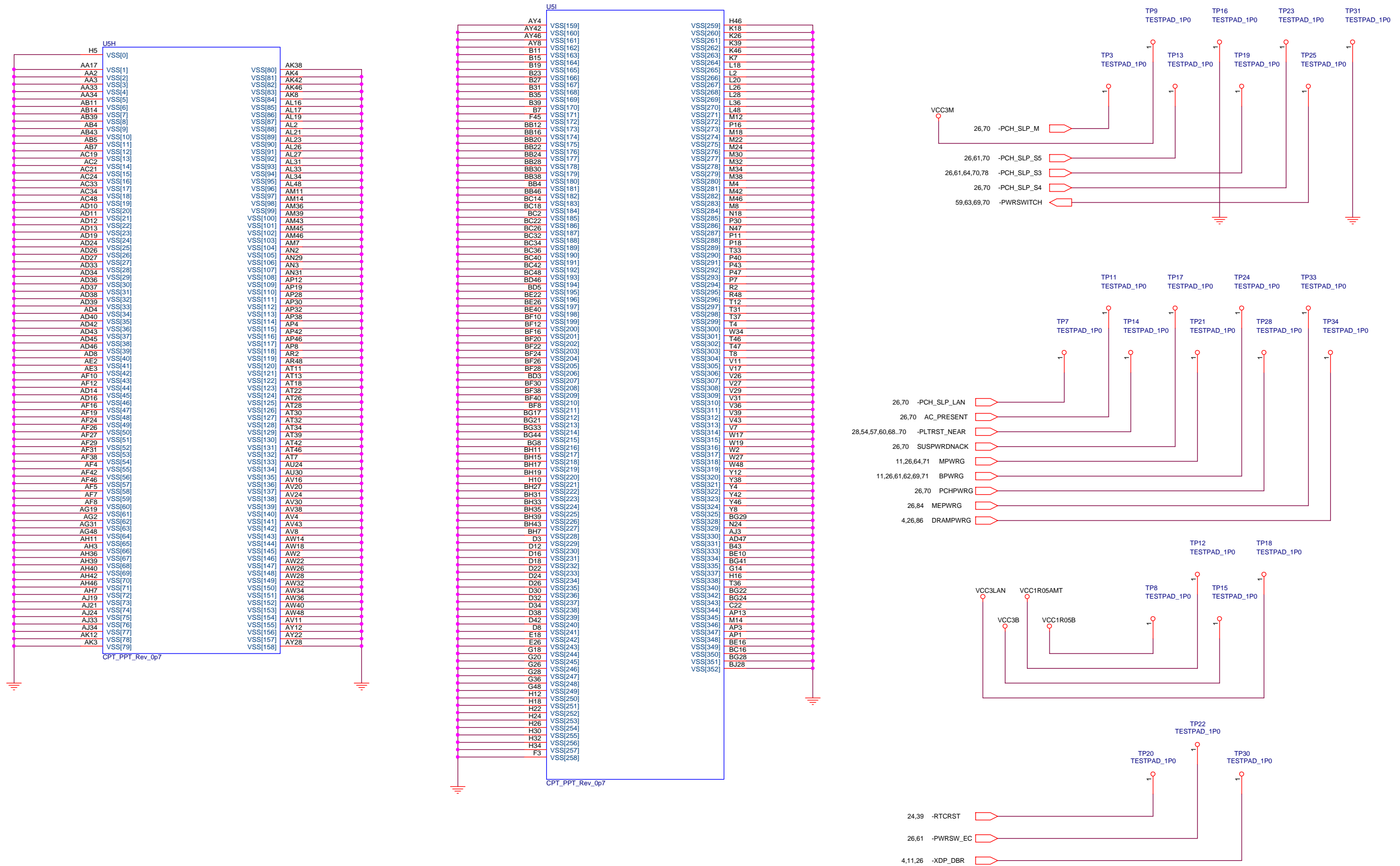


LEVEL	PLANAR ID			
	3	2	1	0
1	R39	R505	R37	R671
0	R43	R47	R113	R48

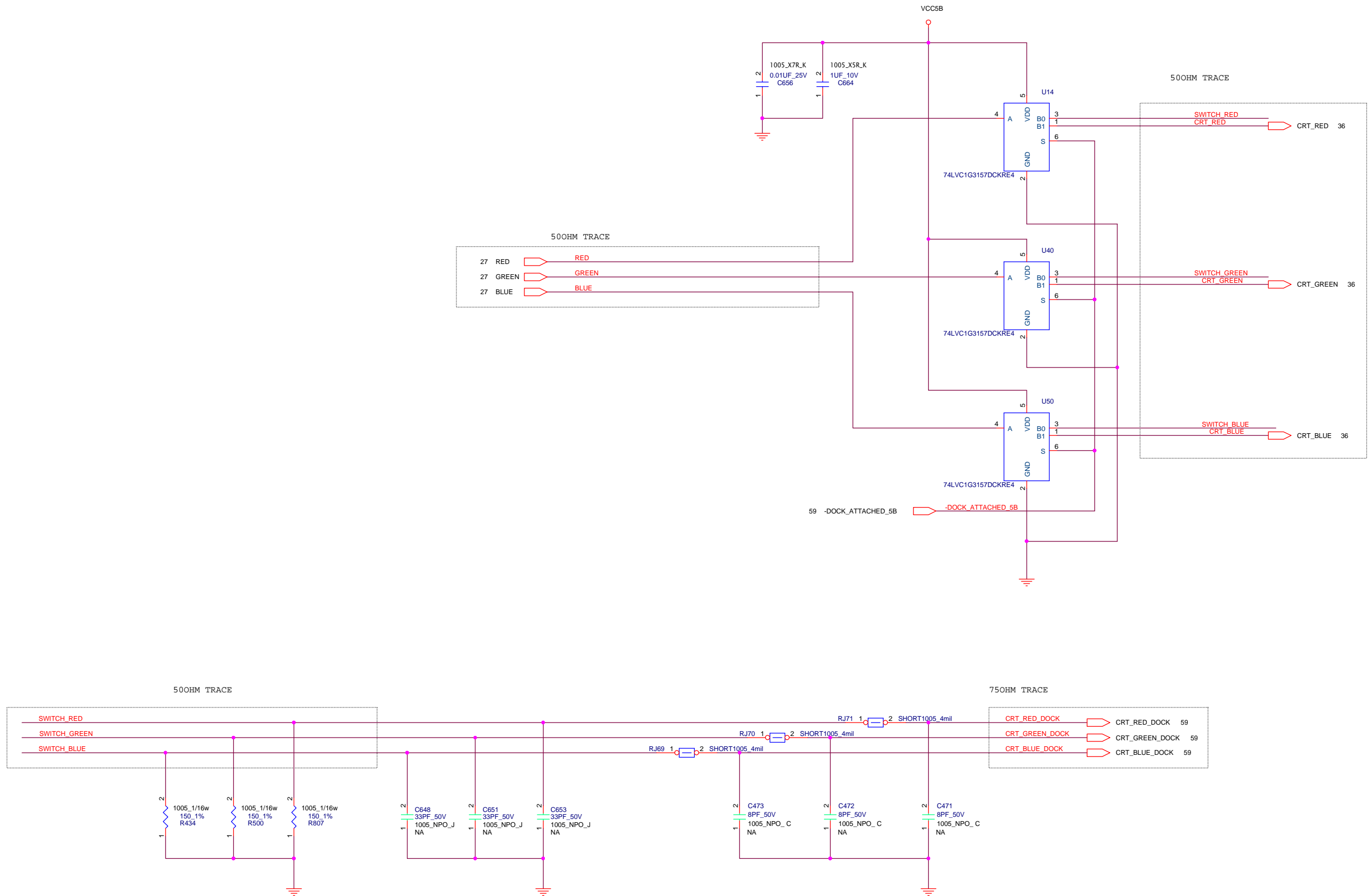
TABLE	
LEVEL	PLANARID[3..0]
PDV	0000B
SDV	0001B
MFVT	0010B
FVT	0011B
SW SIT-1	0100B
SIT	0101B
SIT-R1	0110B
SIT-R2	0111B
SVT	1000B
SOVP	1001B

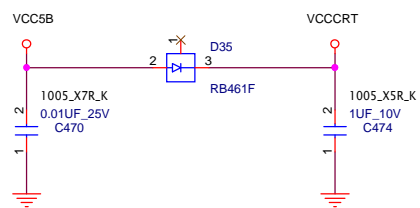
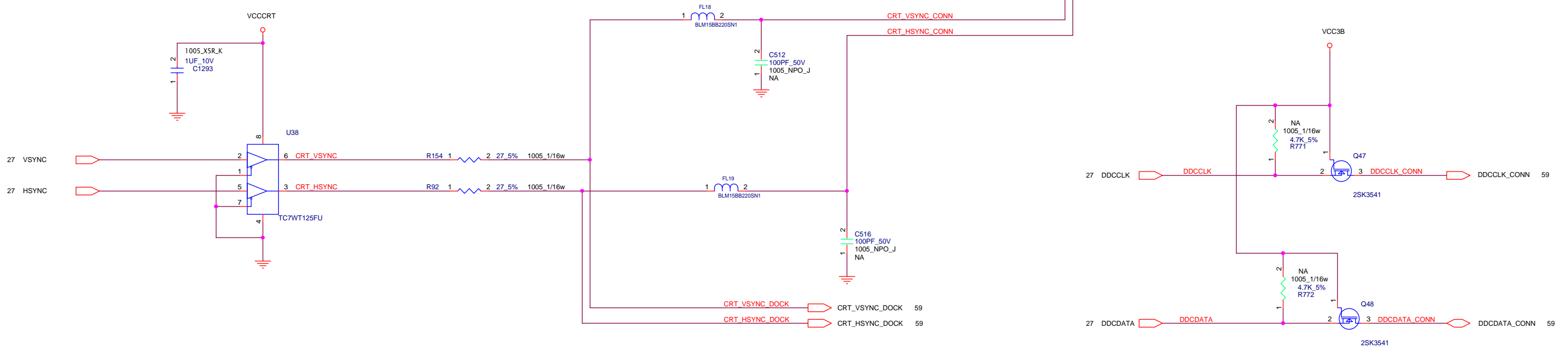
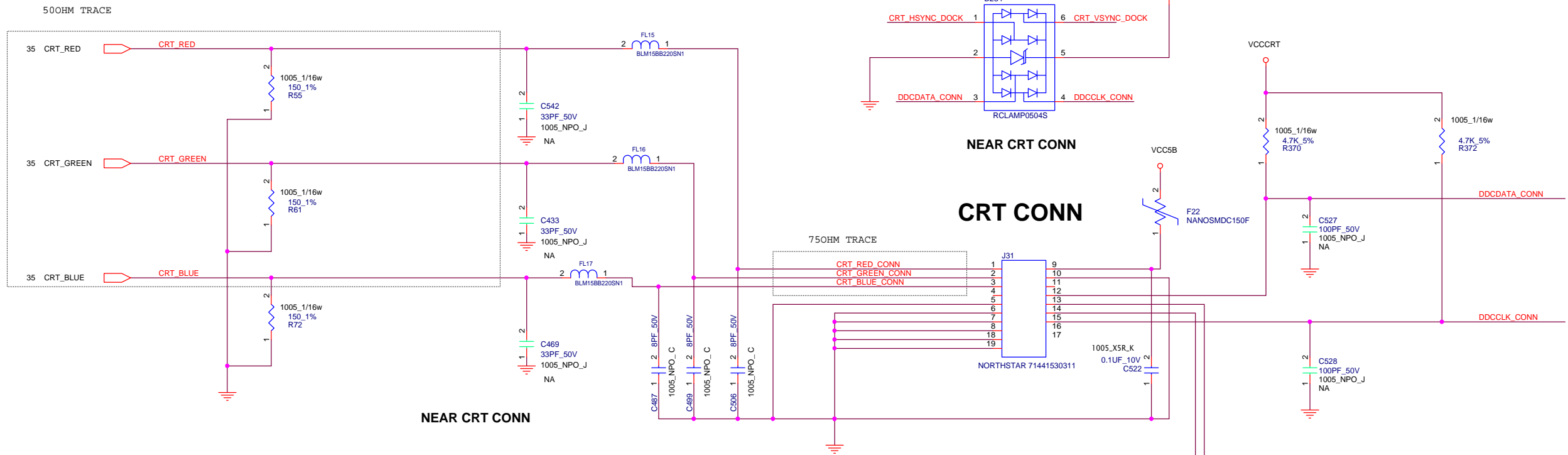


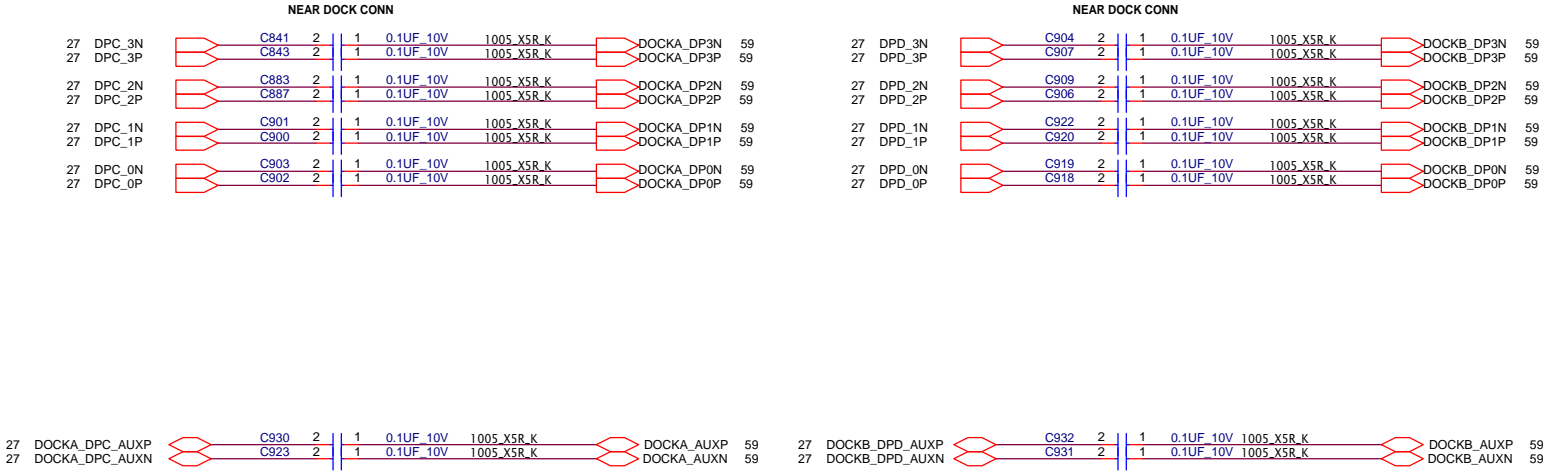
TEST PAD FOR METS/APS



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Project Name :
NZM-4 UMA SOVP

Title :
DISPLAY PORT MUX

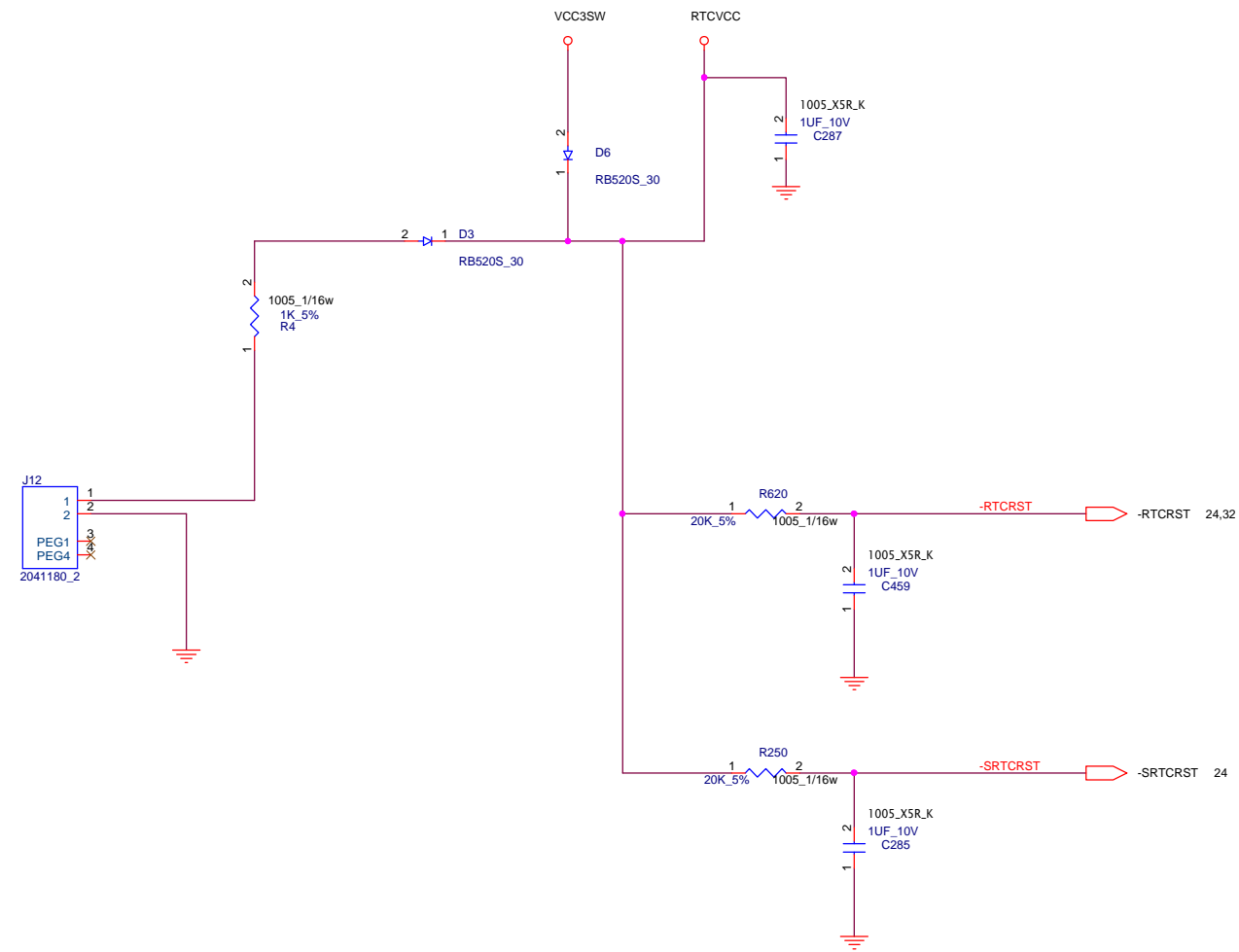
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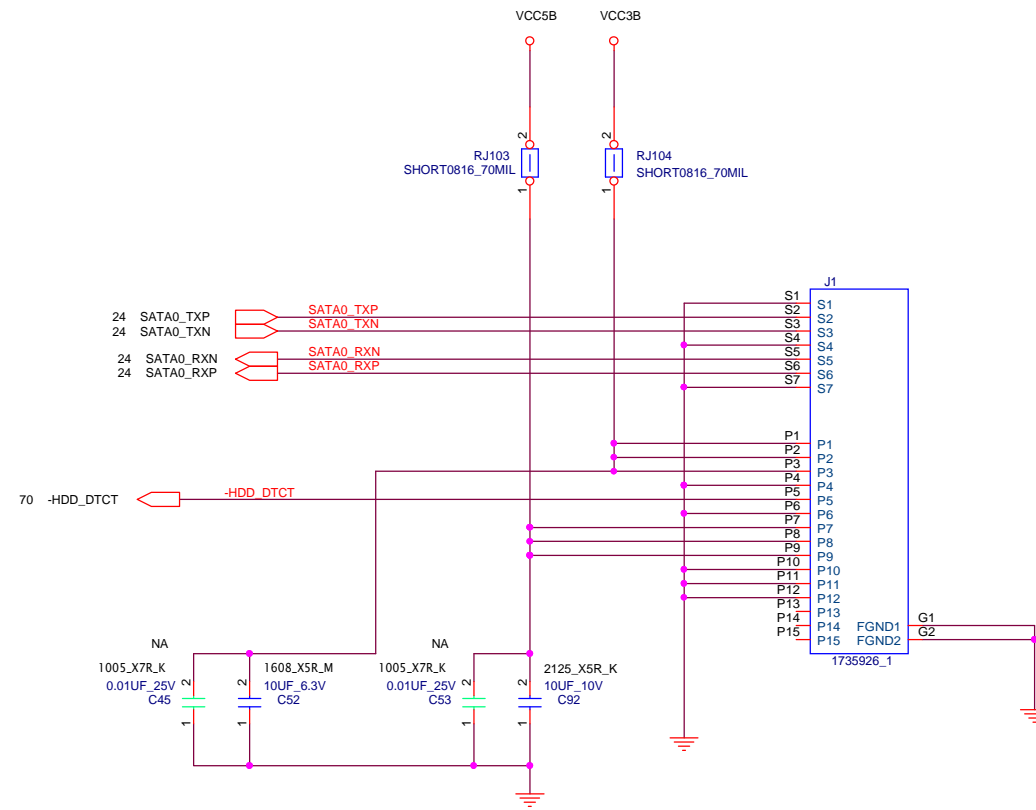
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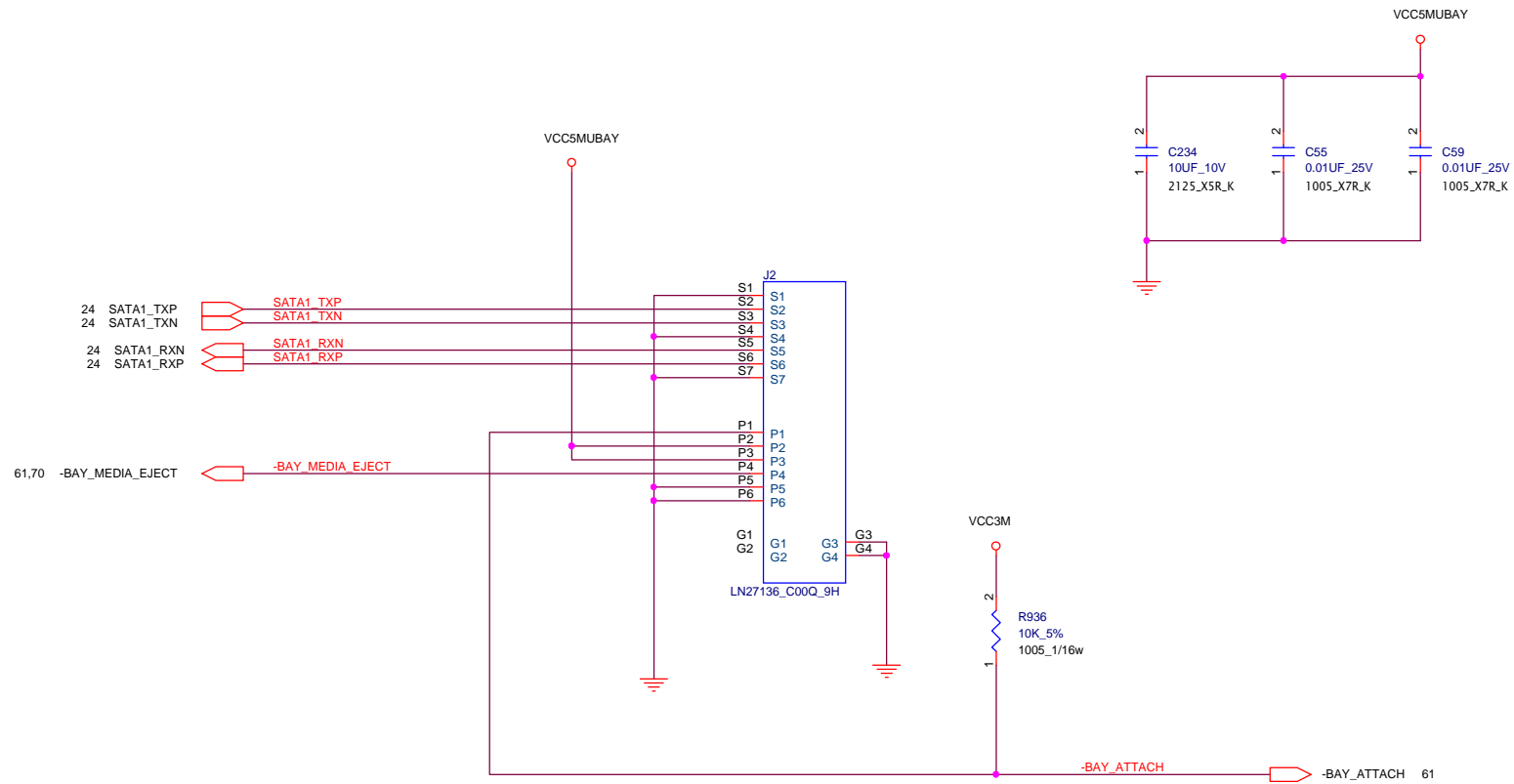
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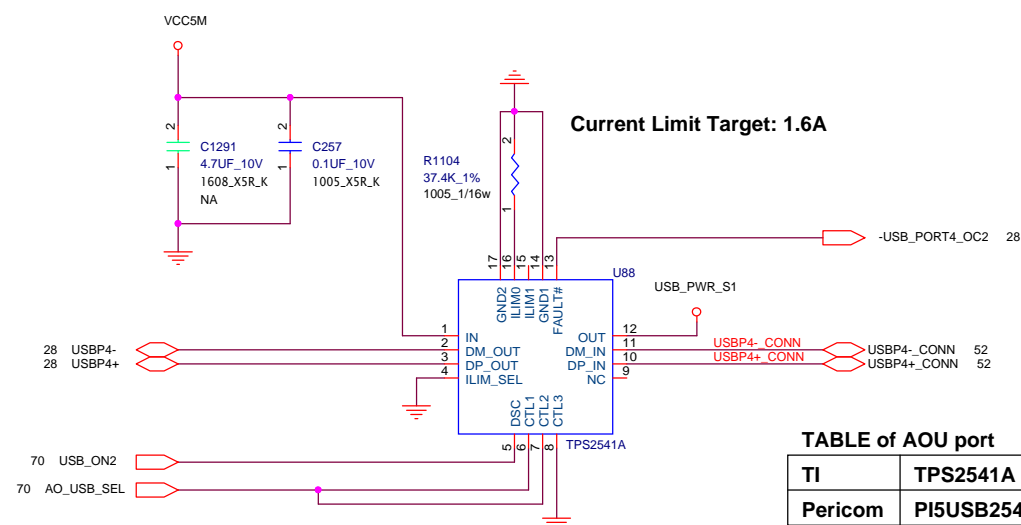
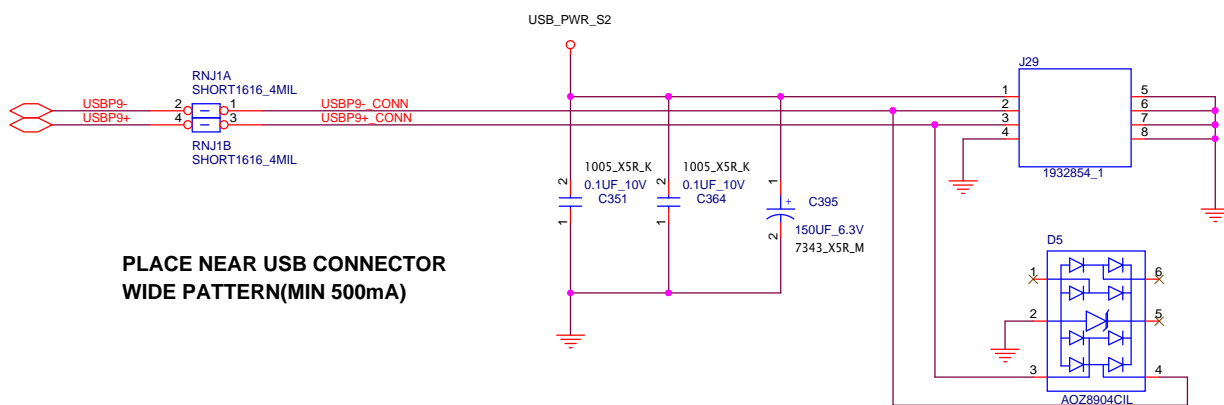
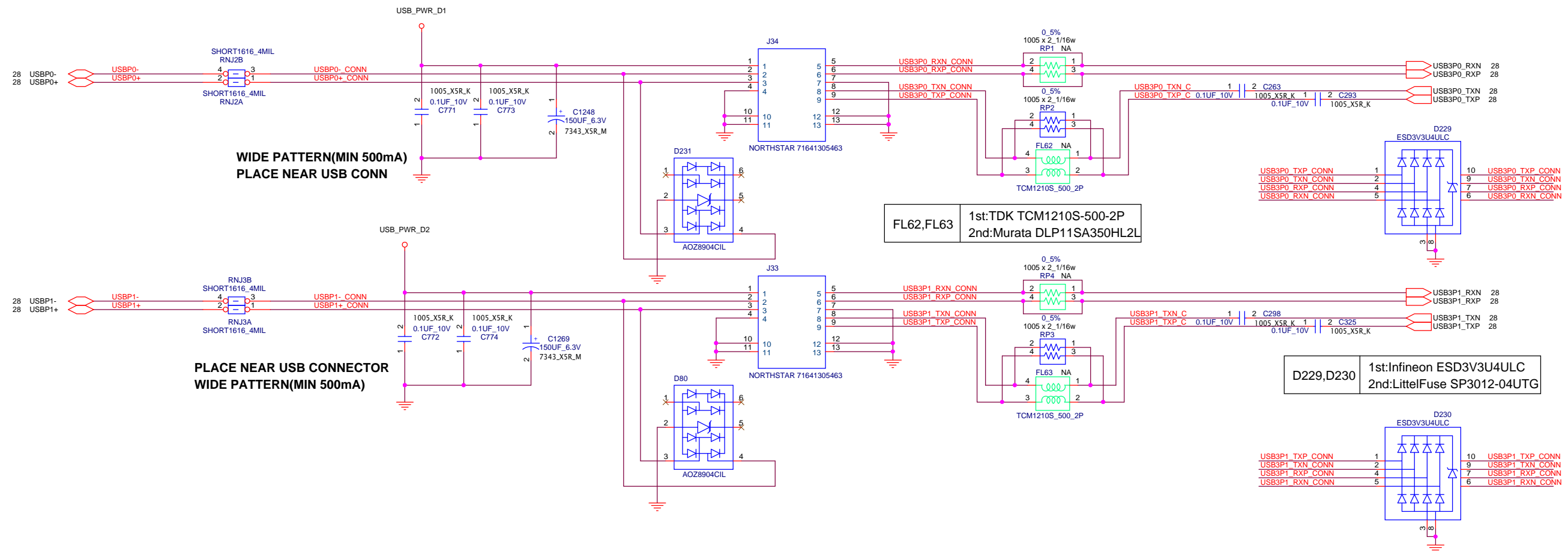


TABLE of AOU port

TI	TPS2541A
Pericom	PI5USB2541

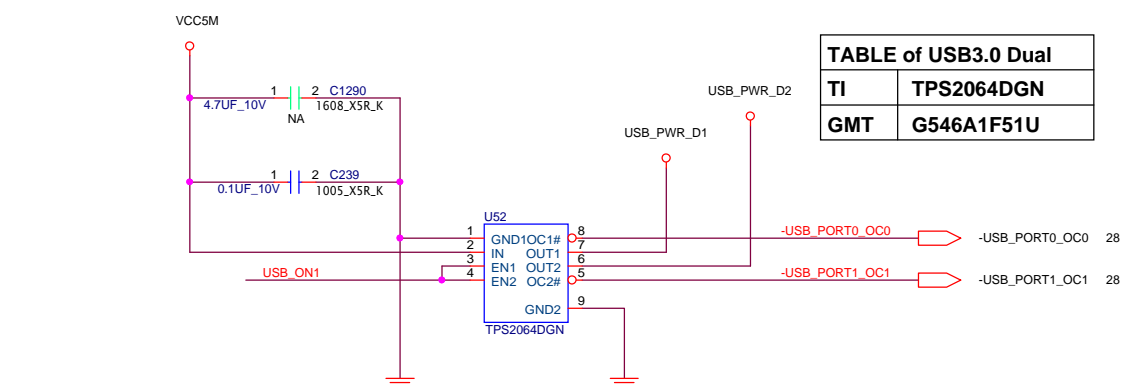


TABLE of USB3.0 Dual	
TI	TPS2064DGN
GMT	G546A1F51U

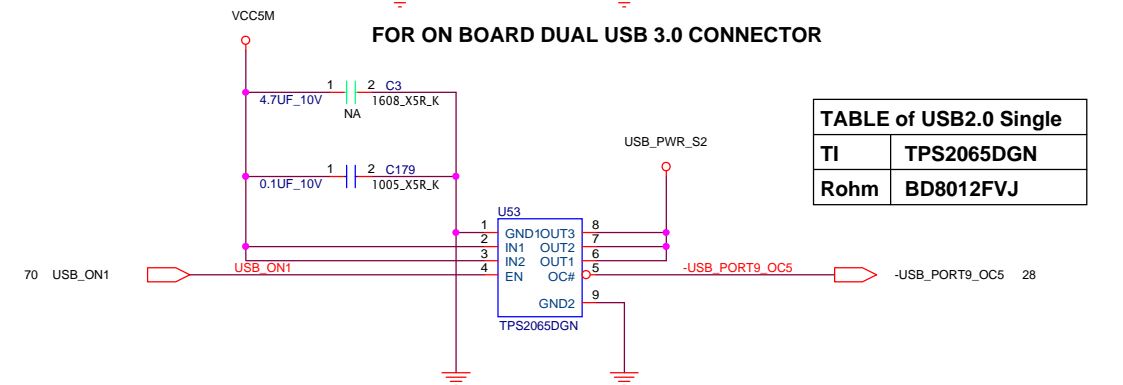
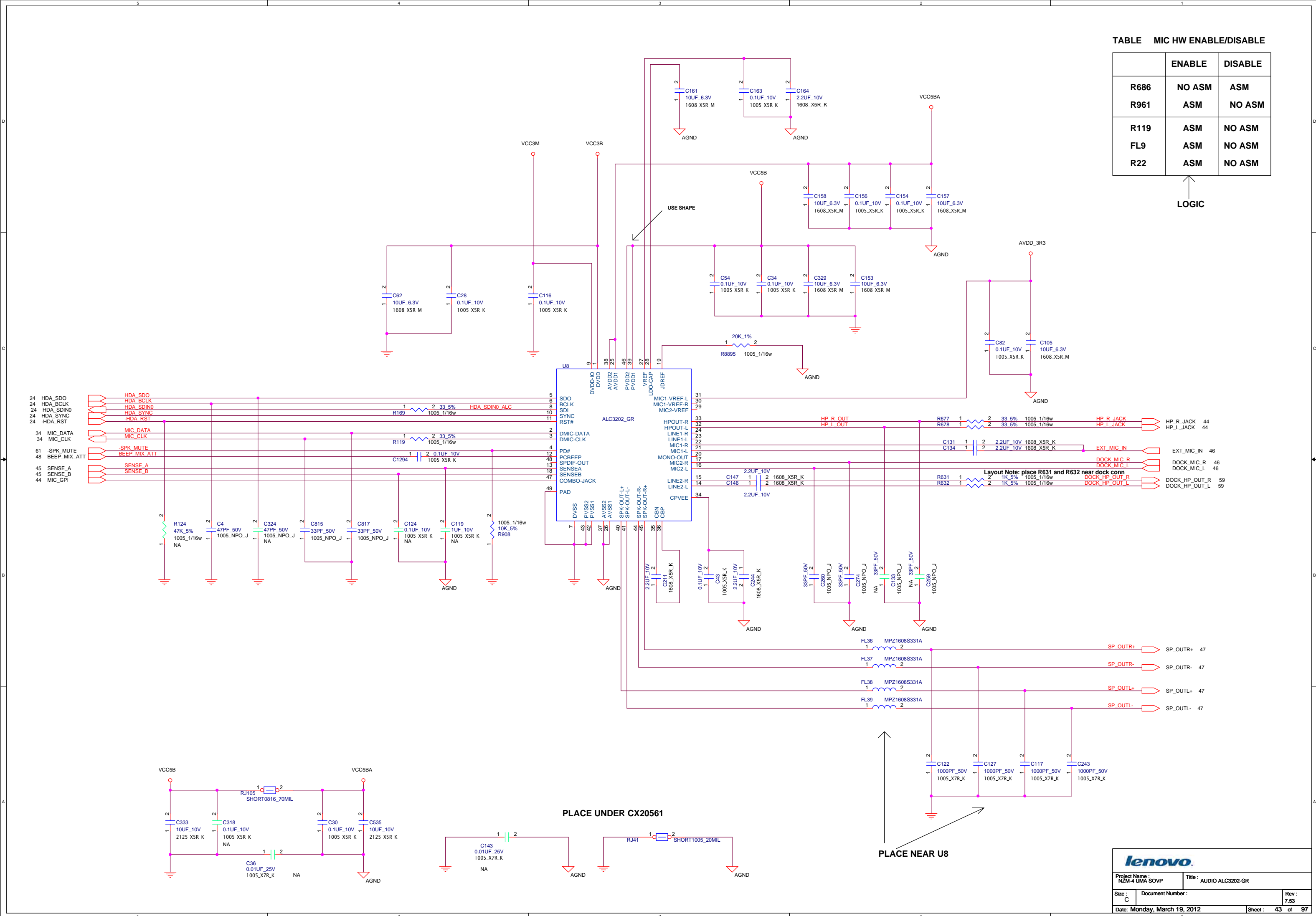


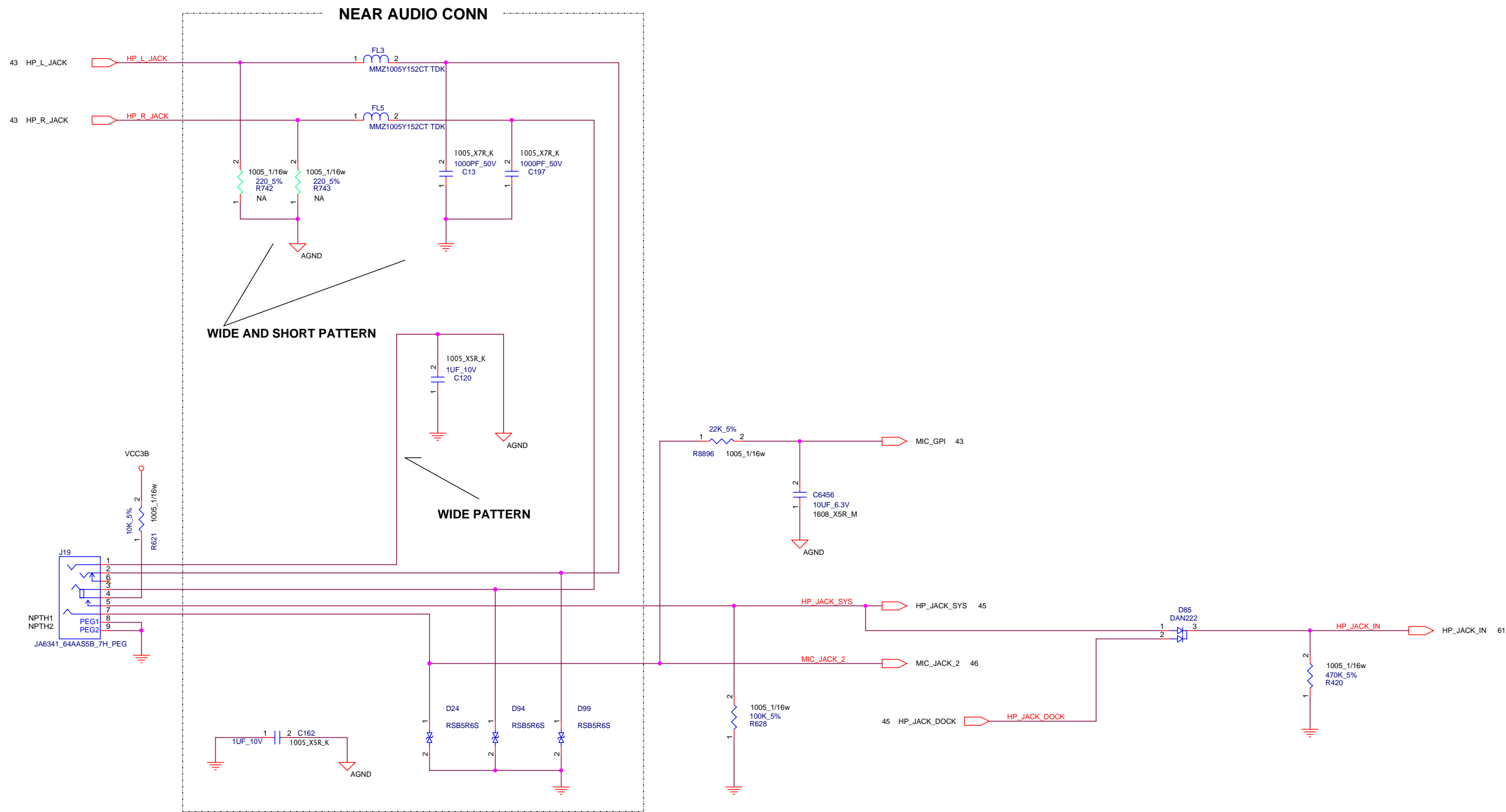
TABLE of USB2.0 Single	
TI	TPS2065DGN
Rohm	BD8012FVJ

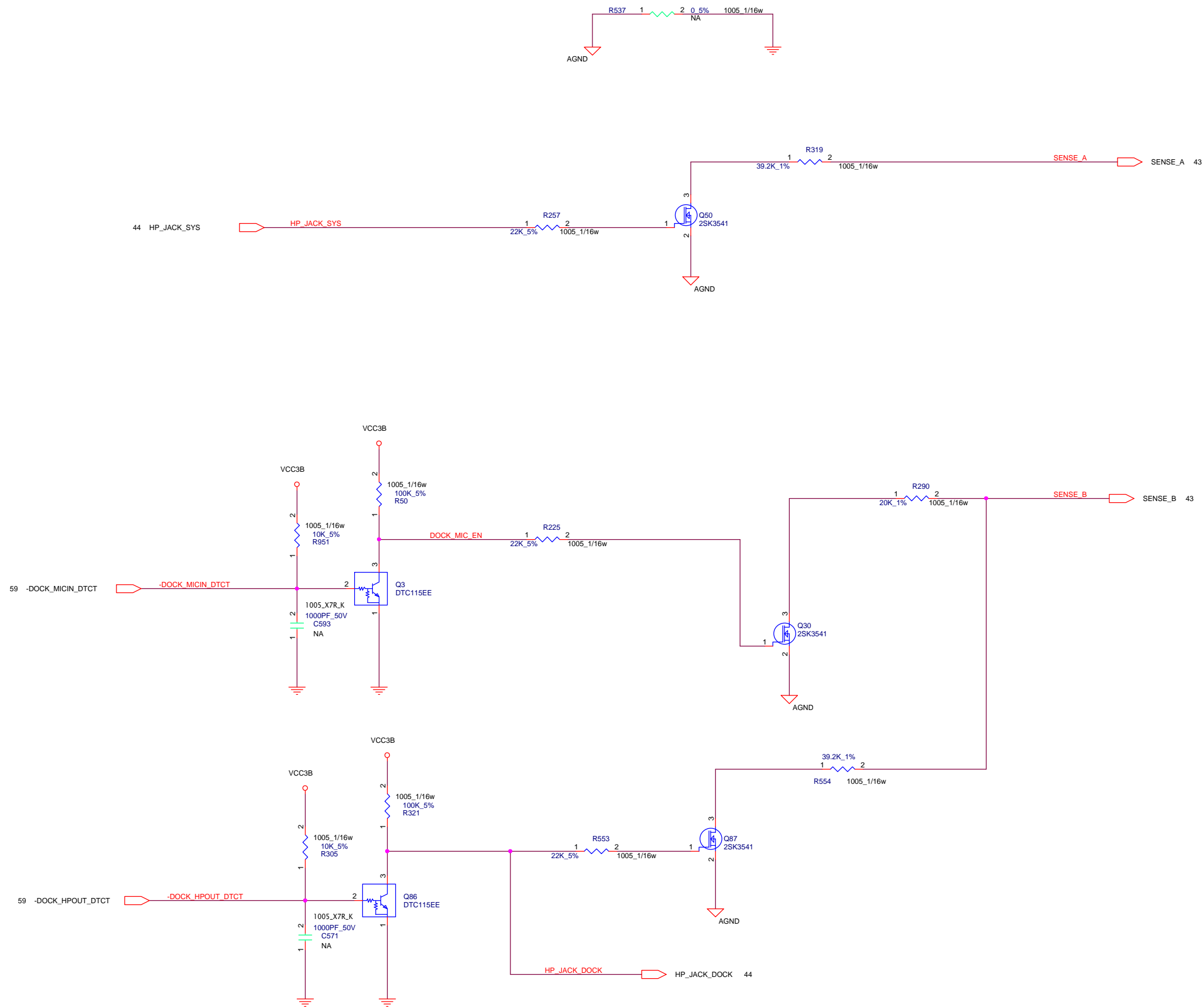
TABLE	MIC HW ENABLE/DISABLE
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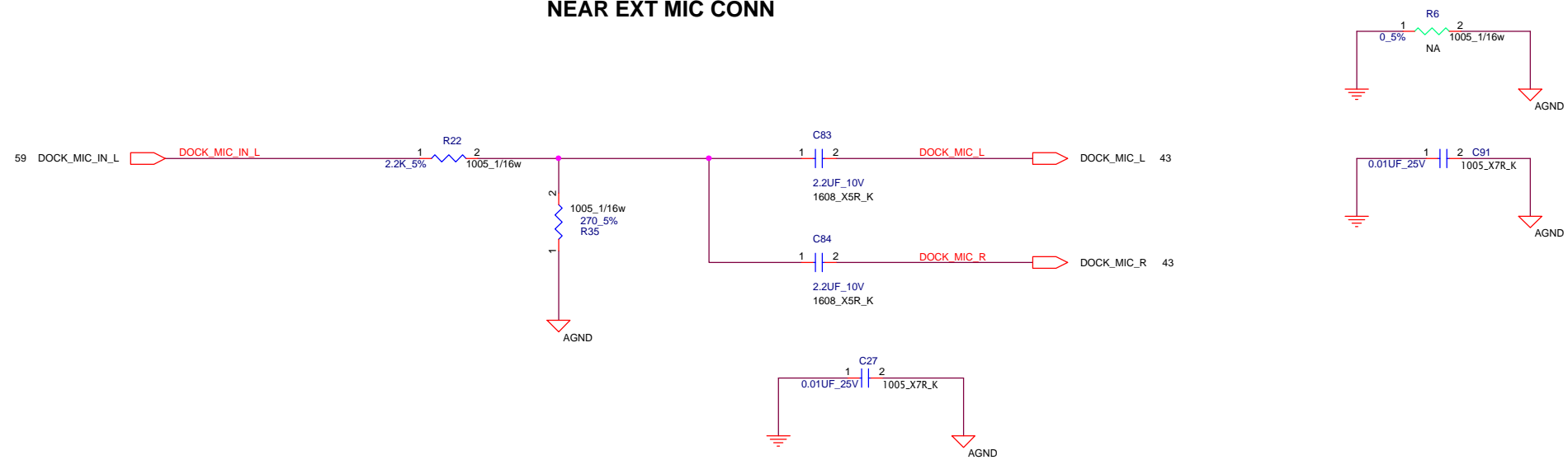
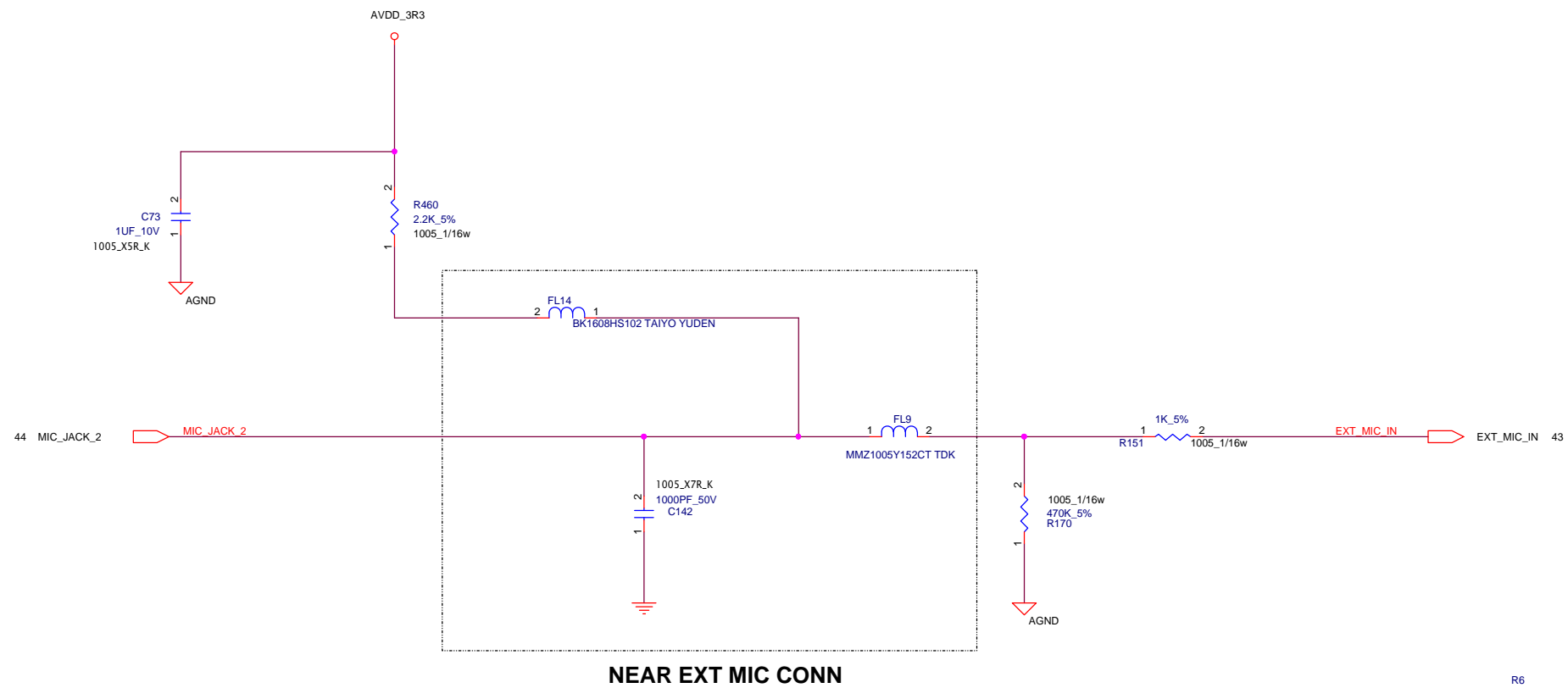
	ENABLE	DISABLE
R686	NO ASM	ASM
R961	ASM	NO ASM
R119	ASM	NO ASM
FL9	ASM	NO ASM
R22	ASM	NO ASM

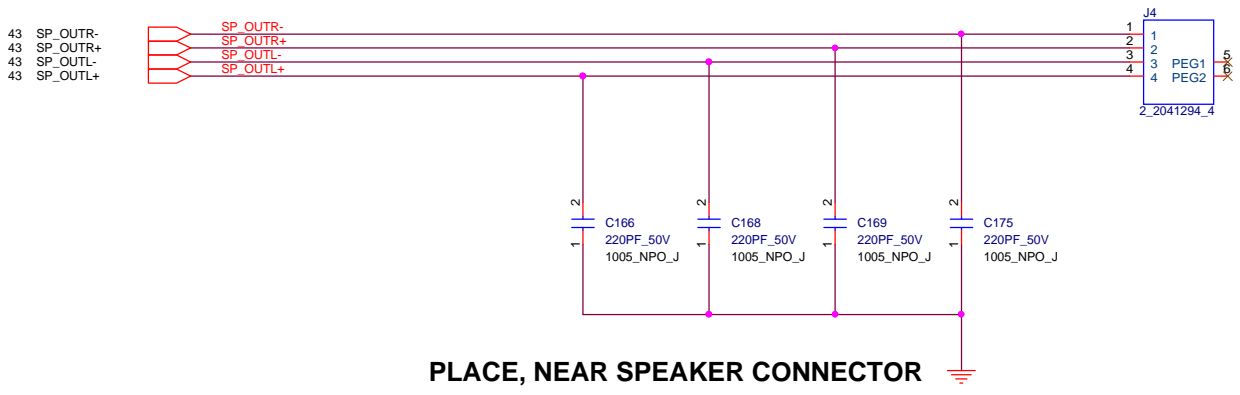
LOGIC

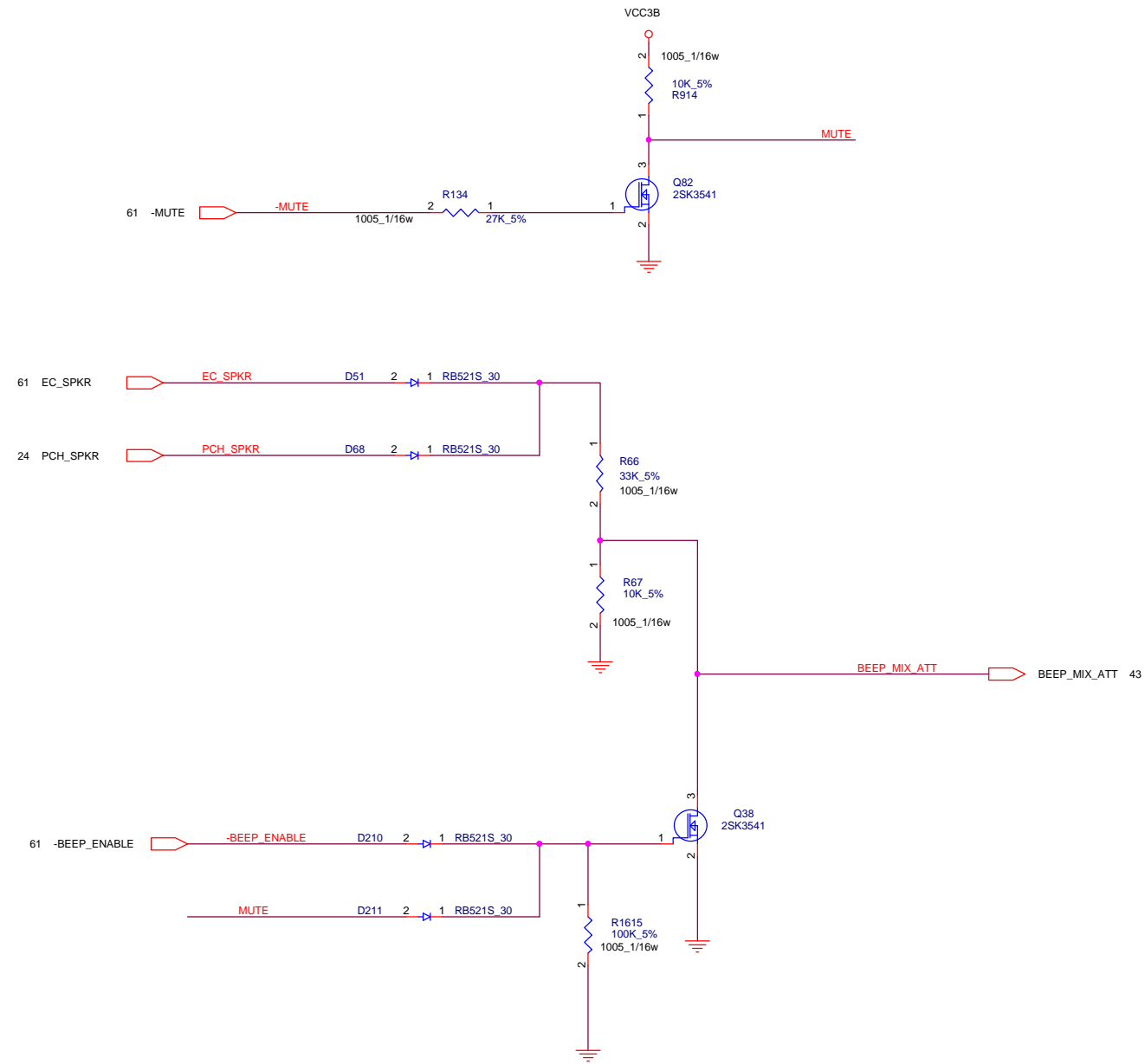


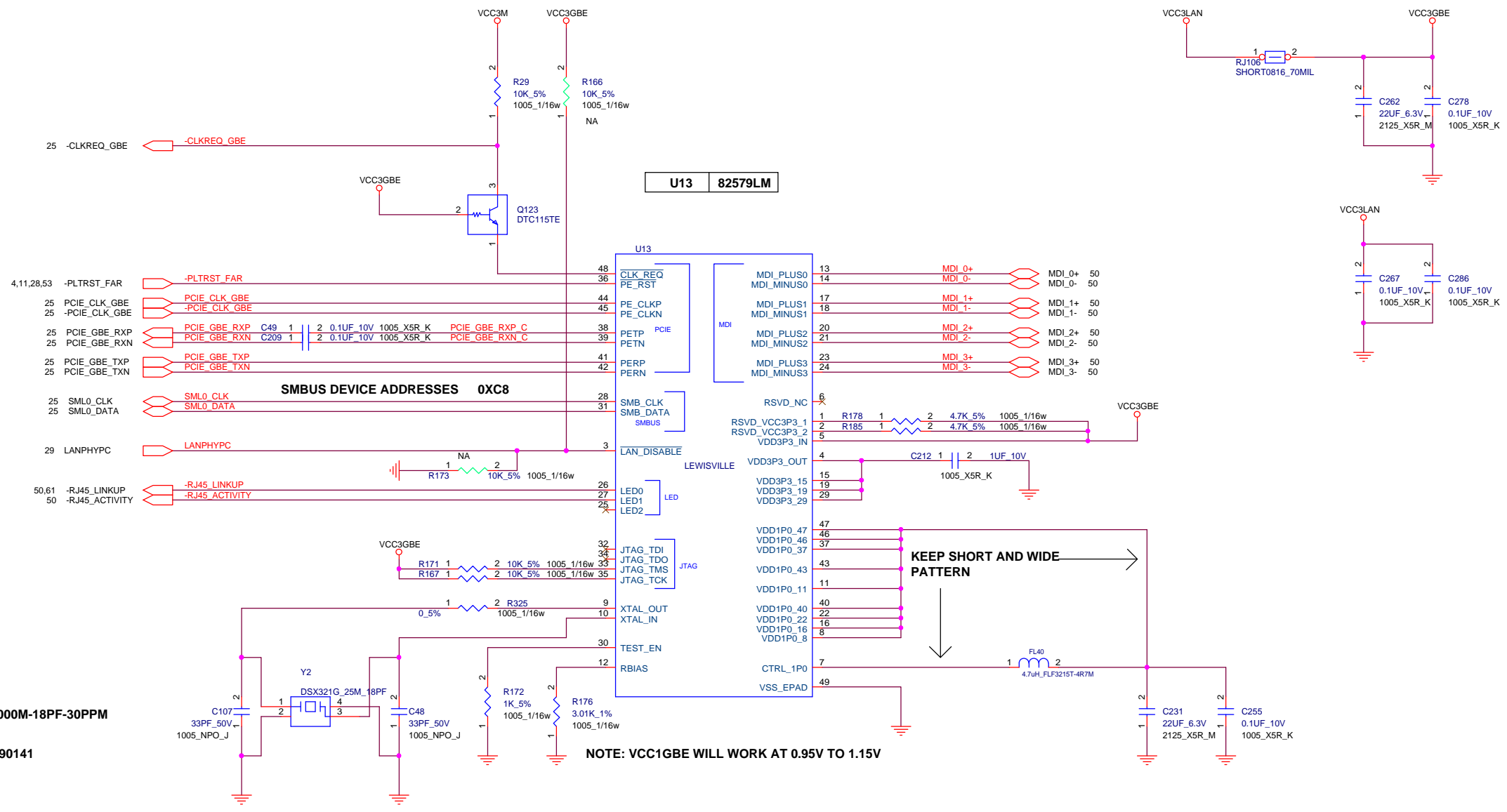






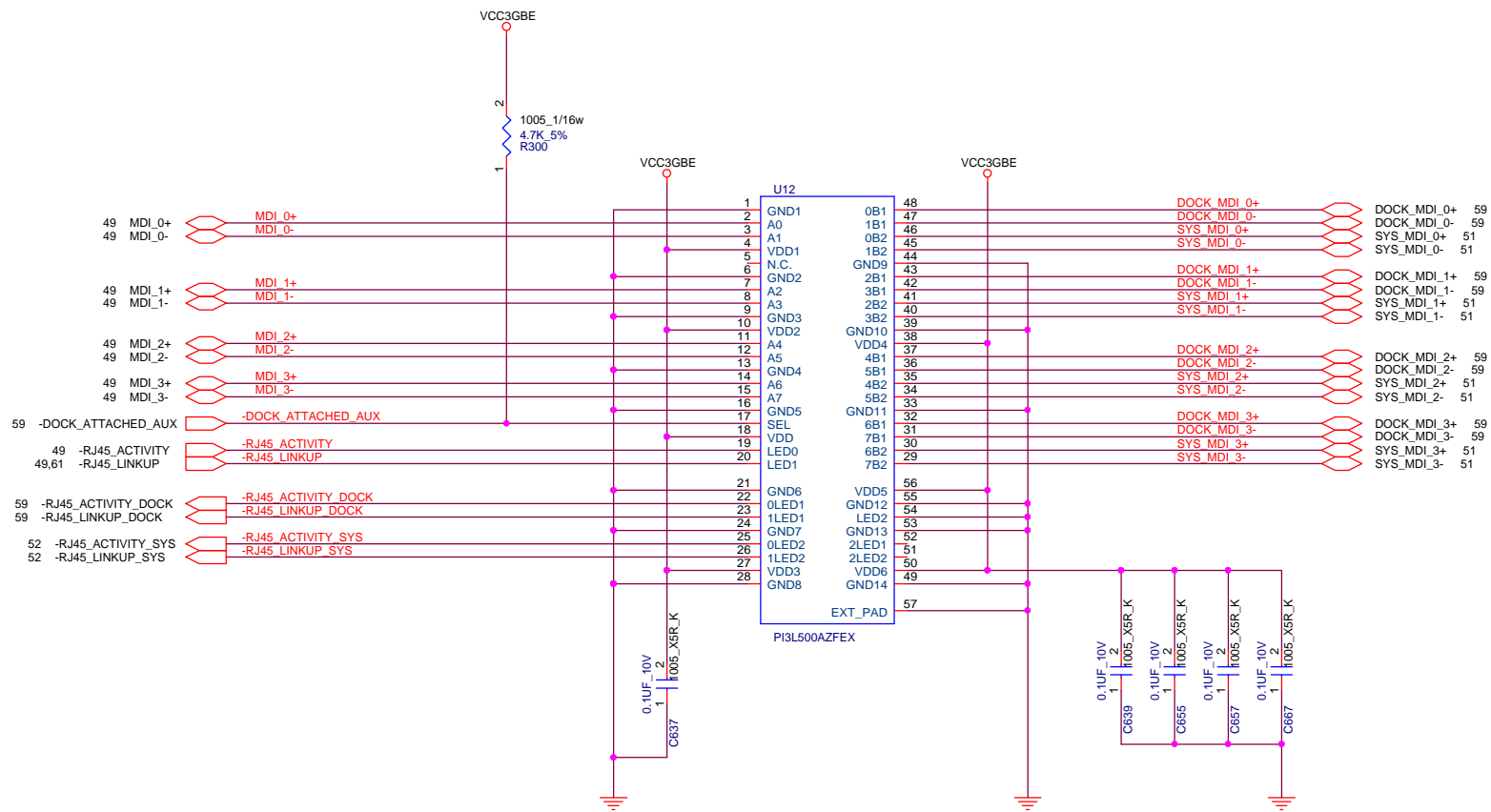






P/N 41U6141
KDS DSX321G-25.000M-18PF-30PPM
TXC 7V25020001
RIVER FCX-04-25MJ90141

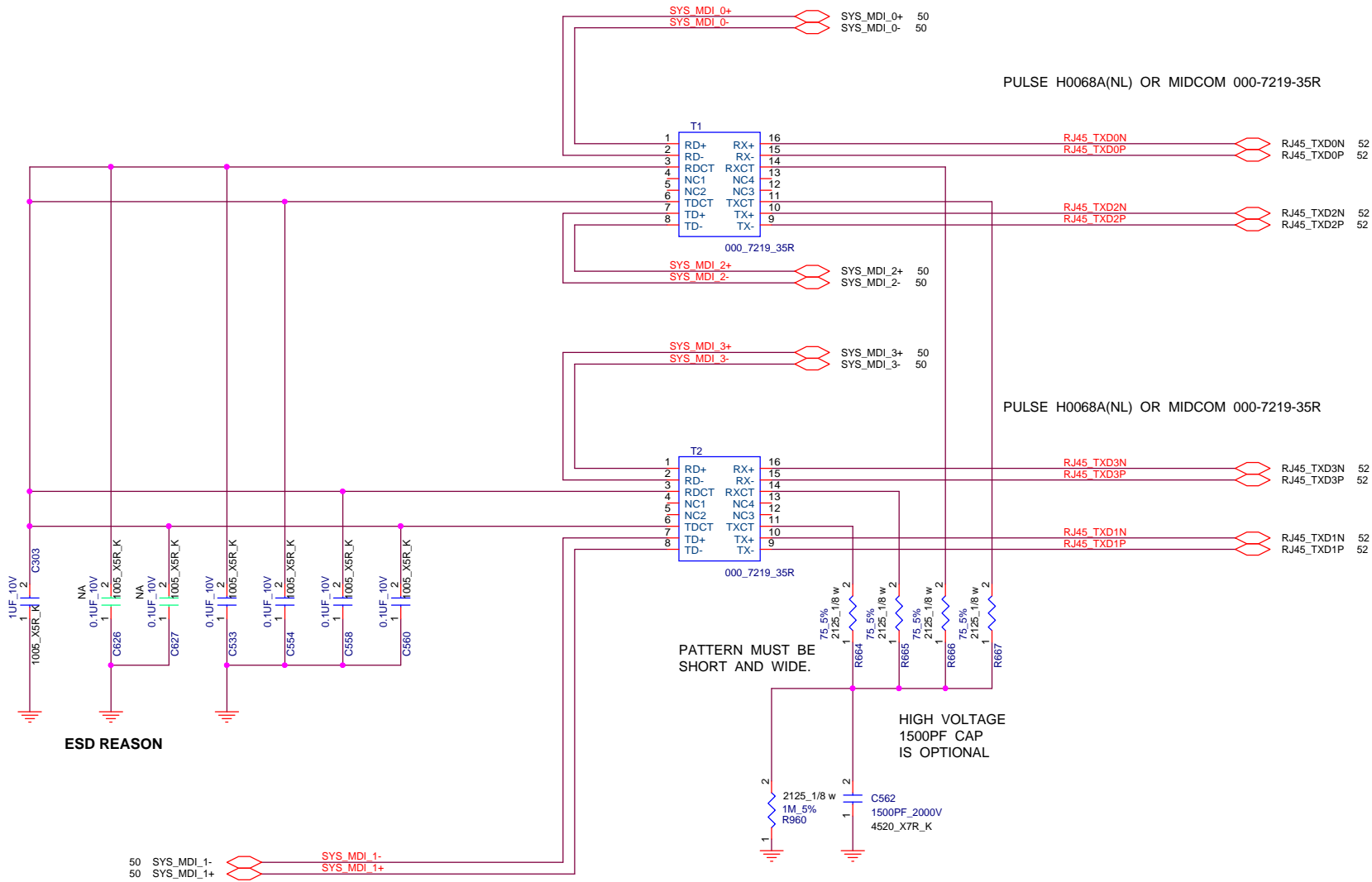
NOTE: VCC1GBE WILL WORK AT 0.95V TO 1.15V

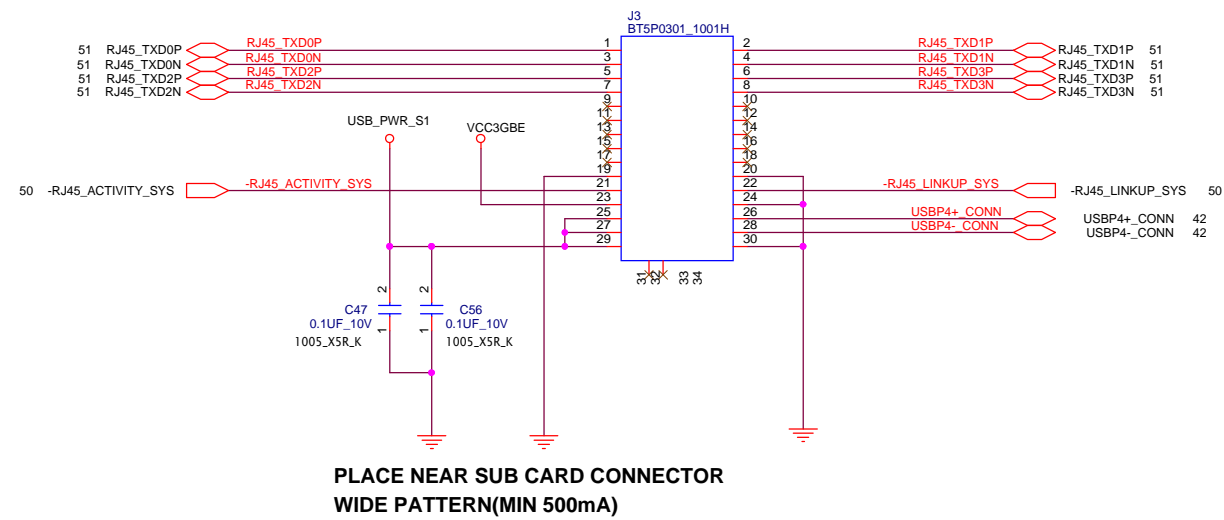


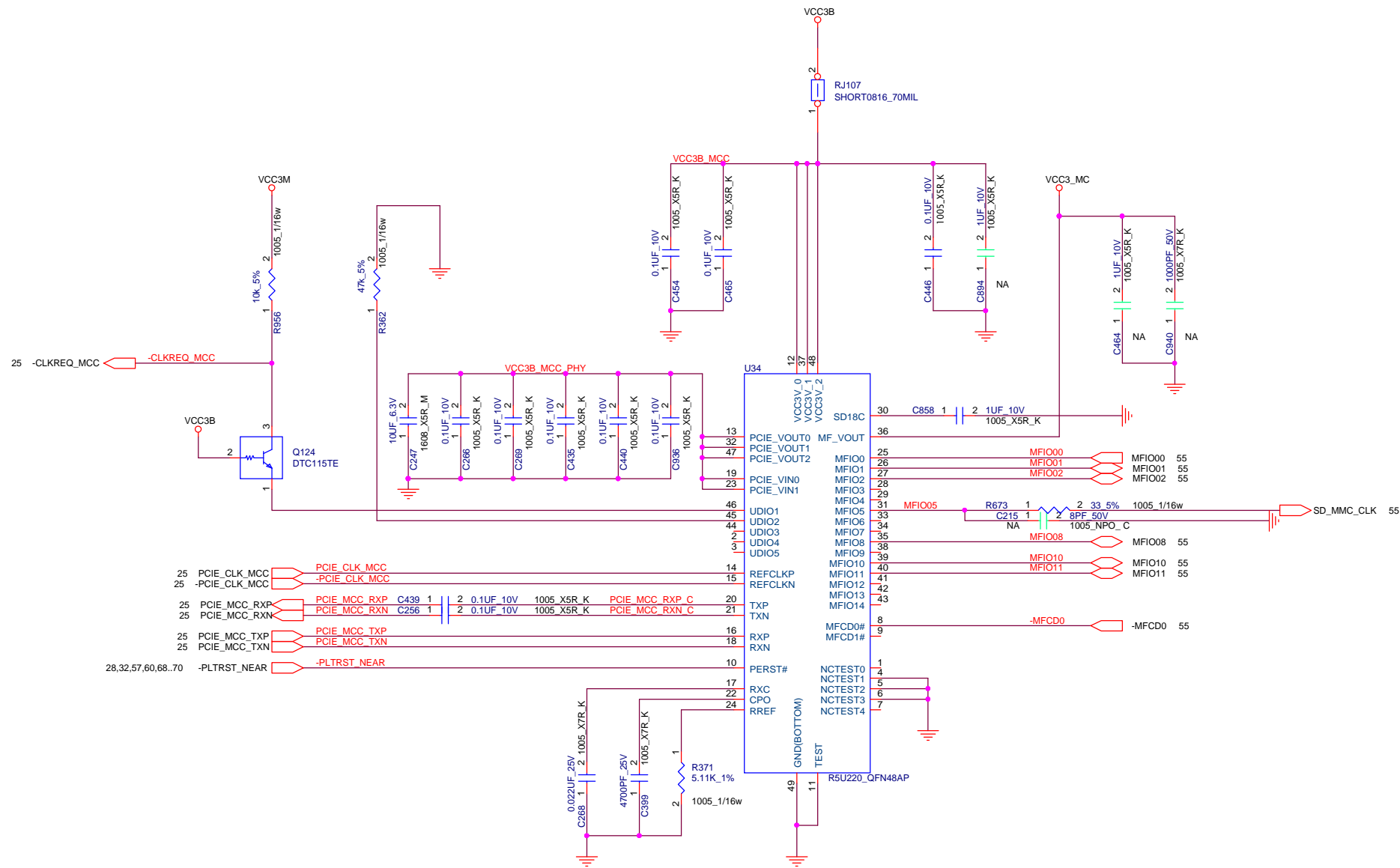
THE WIDTH OF THESE TRACE SHOULD BE WIDER THAN 35MIL TO PREVENT VOLTAGE DROP.



C303 SHOULD BE PLACED AS CLOSE TO MAGNETICS AS POSSIBLE.







TABLE

MEDIA I/F	SD/MMC	MEMORSTICK	XD
MFIO00	SDWP#	MSBS	XD_D7
MFIO01	SD_D1		XD_D6
MFIO02	SD_D0	MS_D1	XD_D5
MFIO03	(SD_D7)		XD_D4
MFIO04	(SD_D6)	(MS_D5)	XD_D3
MFIO05	SD_CLK	MS_D0	XD_D2
MFIO06			XD_D1
MFIO07	(SD_D5)	(MS_D4)	XD_D0
MFIO08	SD_CMD	MS_D2	XD_WP#
MFIO09	(SD_D4)	(MS_D6)	XD_WE#
MFIO10	SD_D3	MS_D3	XD_ALE
MFIO11	SD_D2		XD_CLE
MFIO12			XD_CE#
MFIO13		(MS_D7)	XD_RE#
MFIO14		MS_CLK	XD_R/B#
MFCD0#	SDCD#		XDCD0#
MFCD1#		MSINS#	XDCD1#

UDIO Pin Assignment Table

UDIO	Default
01	CLKREQ#
02	SCL/SROM_EN
03	SDA

MFCDxN Detection Table

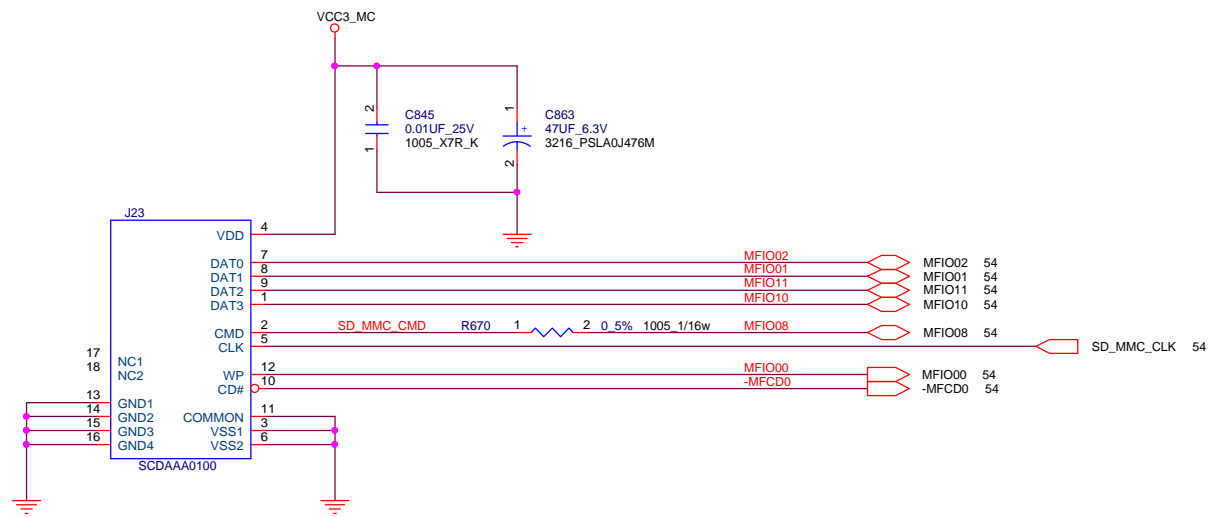
MFCDxN	Card Type
1	0
H	H
H	L
L	H
L	L

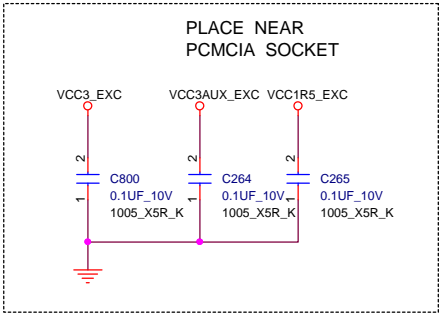
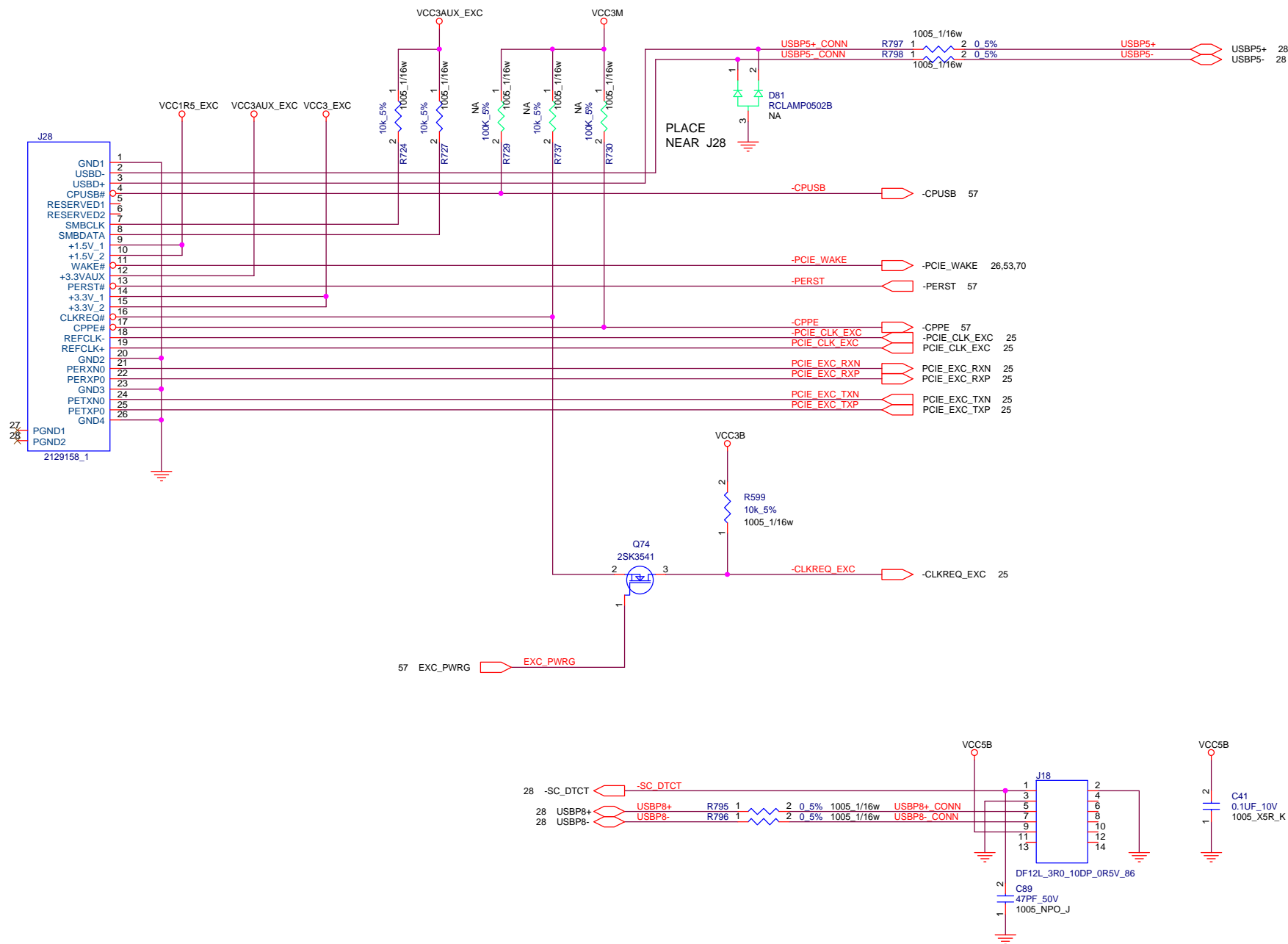


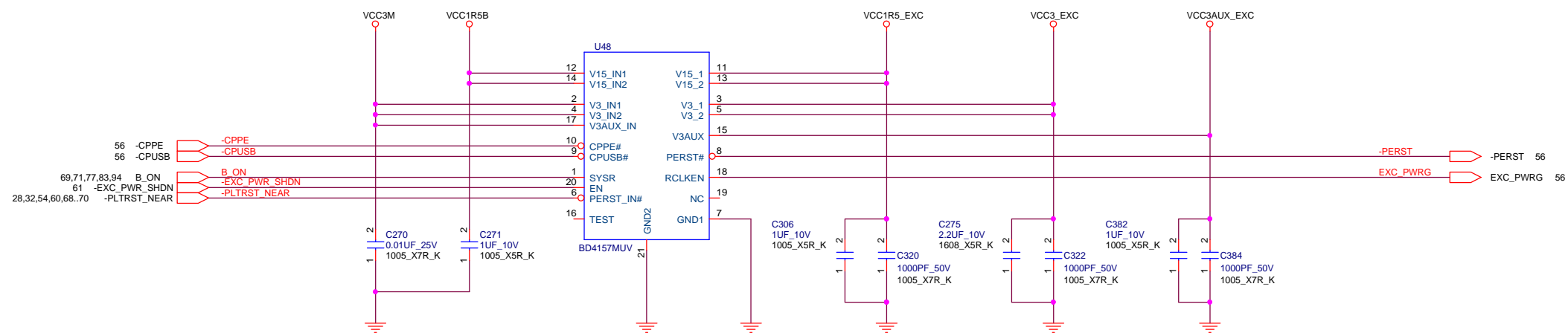
Project Name : NZM-4 UMA SOVP Title : MEDIA CARD CONTROLLER

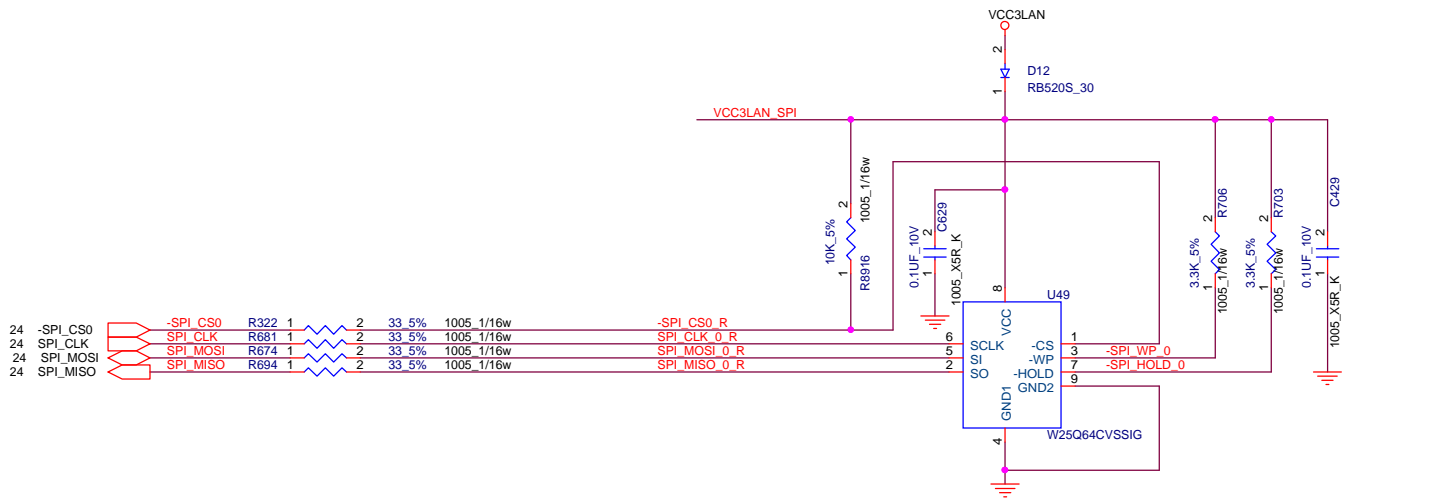
Size : C Document Number : Rev : 7.53

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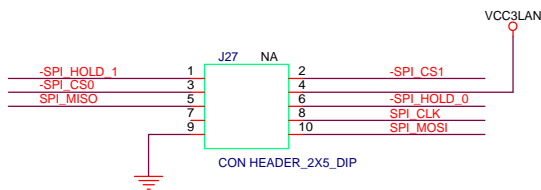




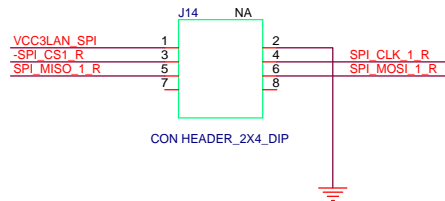


8MB SOIC8
MACRONIX MX25L6406EM2I-12G
WINBOND W25Q64CVSSIG

16MB WSON8
MACRONIX MX25L12835EZNI-10G
WINBOND W25Q128BVEIG



EM100 PIN HEADER INTERFACE (TOP VIEW)					
1	(HOLD1#)	(CS1#)	2		
3	CS0#	VCC	4		
5	MISO	HOLD0#	6		
7	WP0#	CLK	8		
9	GND	MOSI	10		

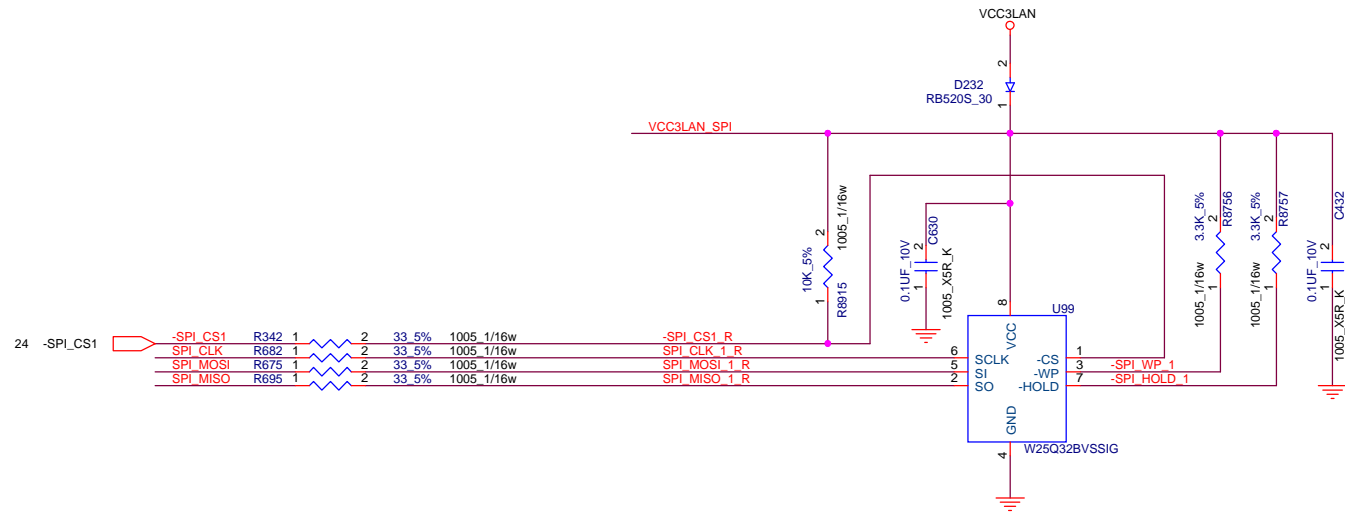


SF100 PIN HEADER INTERFACE (TOP VIEW)							
1	VCC	D232.1	GND	GND	2		
3	CS#	R342.2	R682.2	CLK	4		
5	MISO	R695.2	R675.2	MOSI	6		
7	(KEY)	N/A	N/A	(RESET)	8		

	CONFIG-1 16MB	CONFIG-2 12MB	CONFIG-3 8MB
U49 U99	16MB NO_ASM	8MB 4MB	8MB NO_ASM
D232 R8756 R8757 R8915 C432 C630	NO_ASM NO_ASM NO_ASM NO_ASM NO_ASM NO_ASM	ASM ASM ASM ASM ASM ASM	NO_ASM NO_ASM NO_ASM NO_ASM NO_ASM NO_ASM
R342 R682 R675 R695	NO_ASM NO_ASM NO_ASM NO_ASM	ASM ASM ASM ASM	NO_ASM NO_ASM NO_ASM NO_ASM

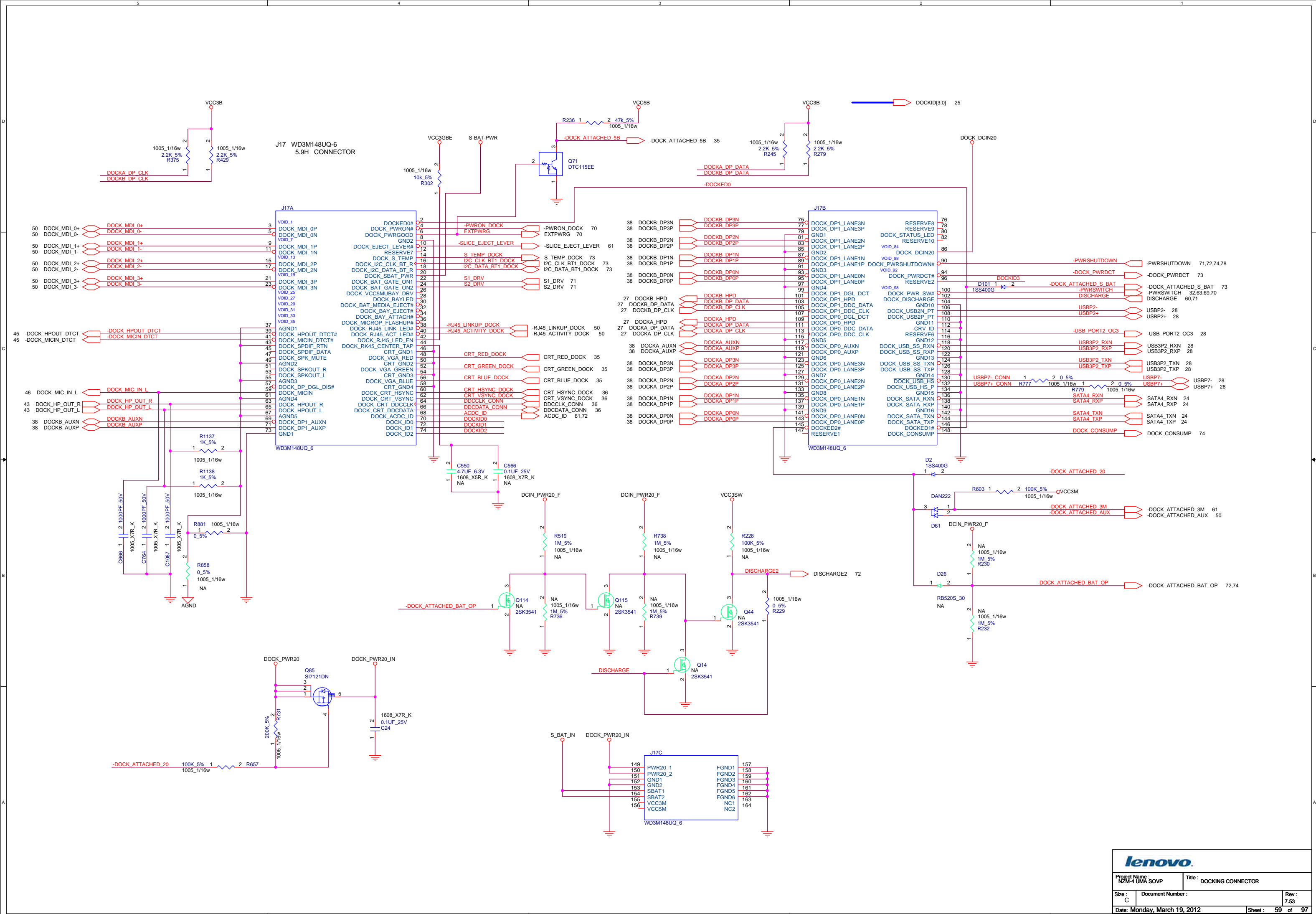


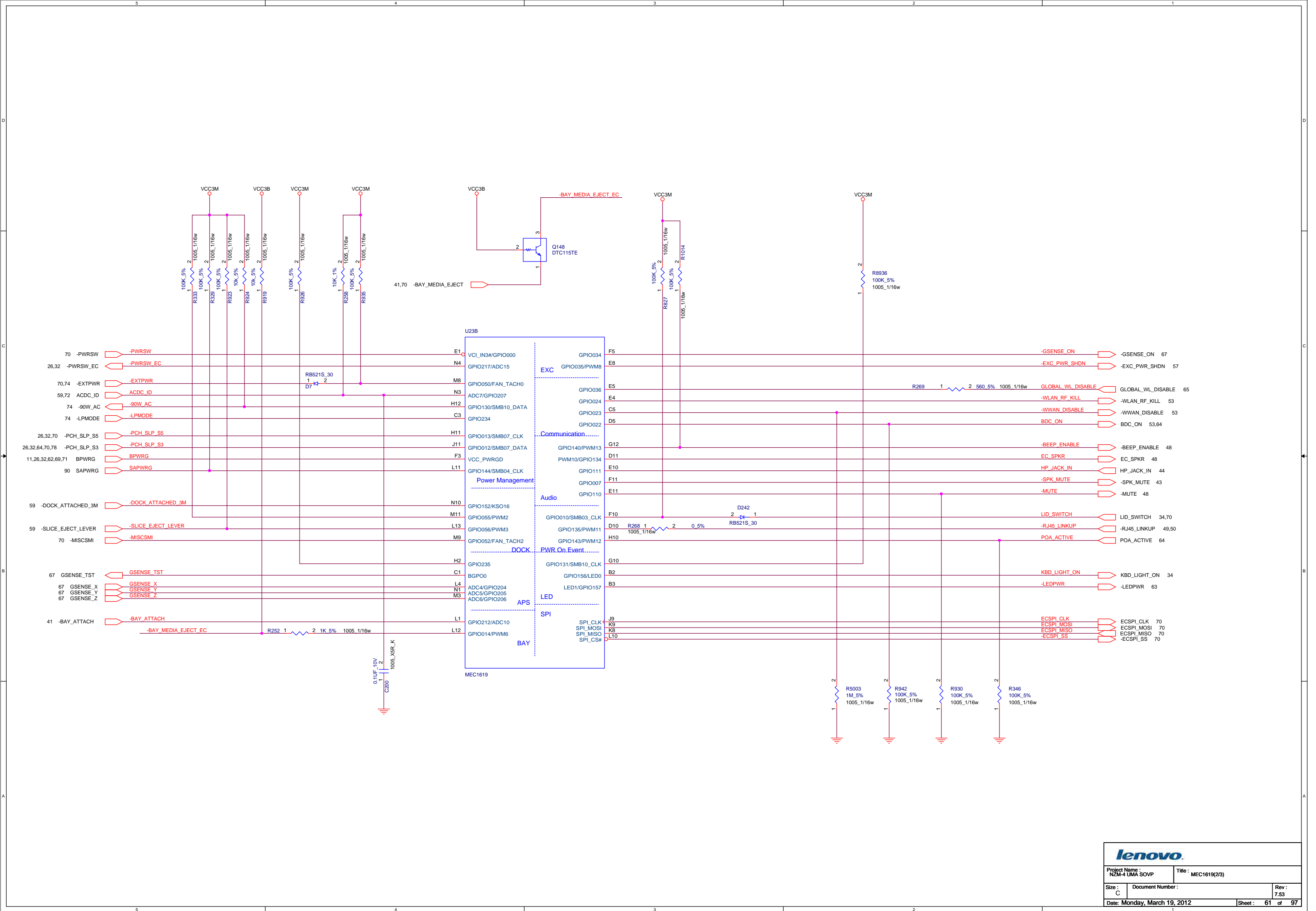
LOGIC

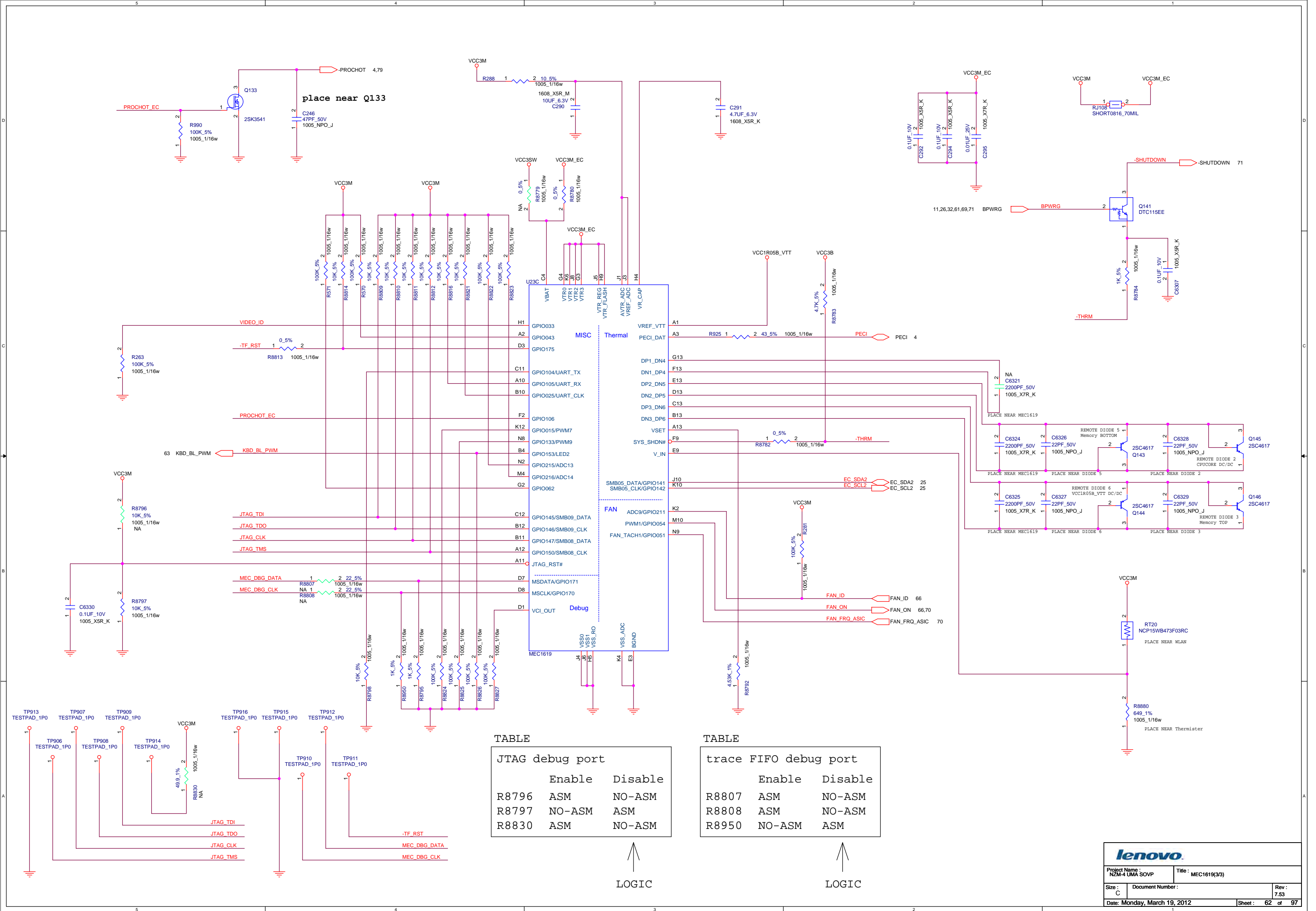


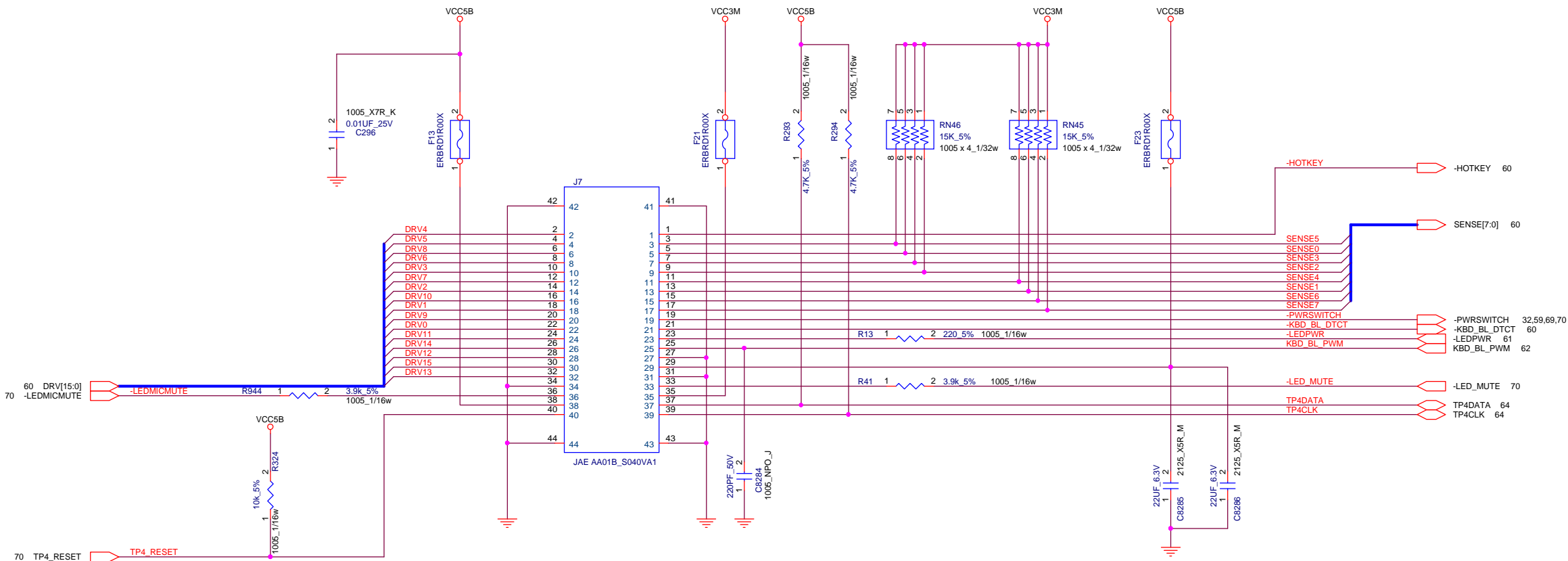
4MB SOIC8
MACRONIX MX25L3206EM2I-12G
WINBOND W25Q32BVSSIG

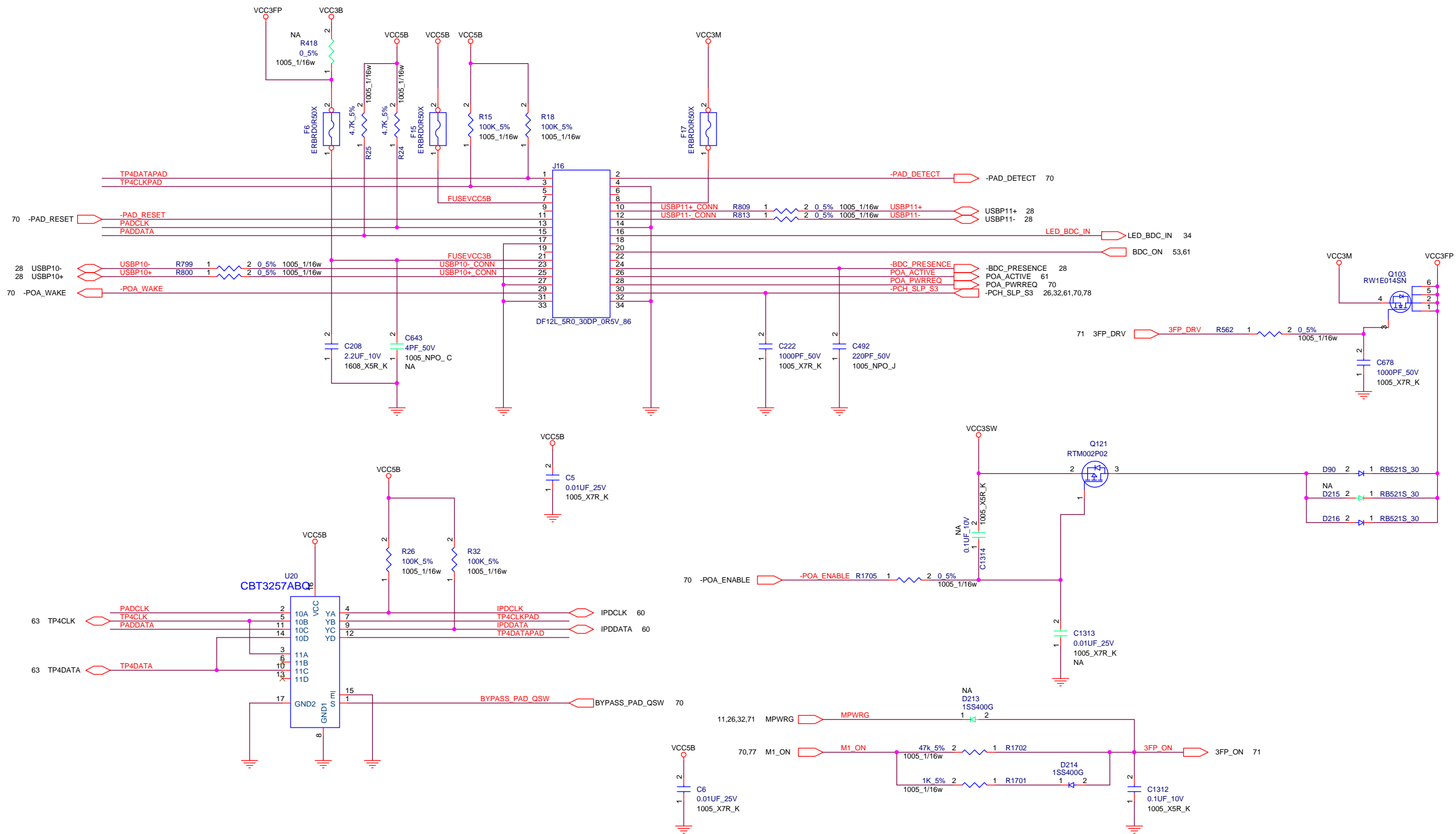


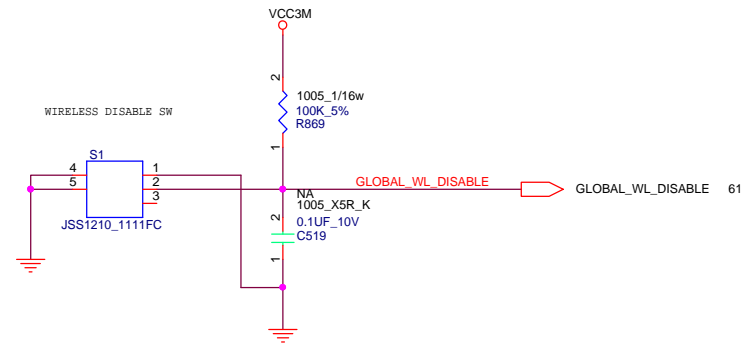


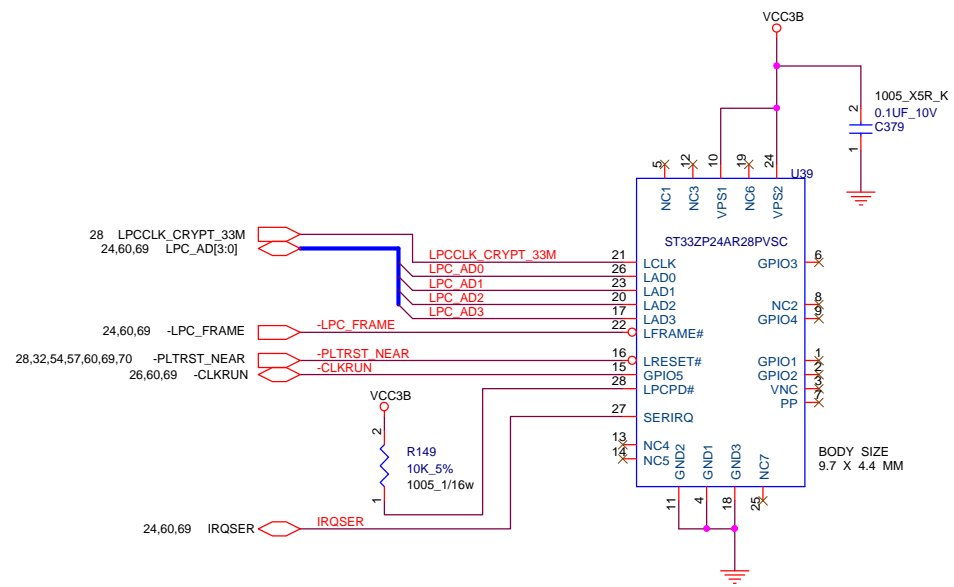












TABLE

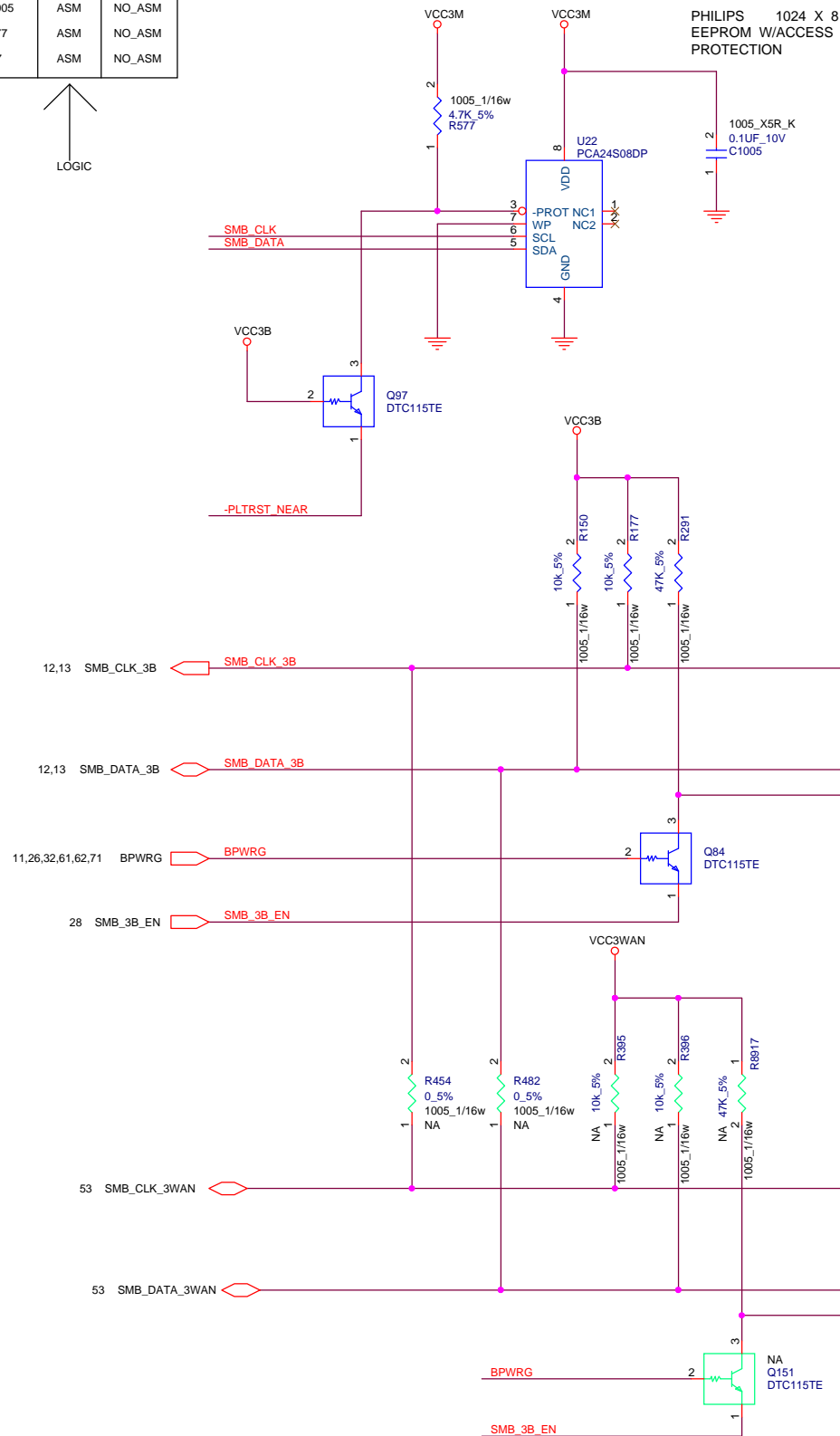
SDV and Mech FVT	ST19NP18ER28PVMO	1.2.8.20
FVT	ST33ZP24AR28PVOG	1.2.A.C
SW SIT-1,SIT, and SIT-R1	ST33ZP24AR28PVRC	1.2.C.0
SIT-R2 and SVT	ST33ZP24AR28PVSC Rev.1	1.2.D.0
SOVP	ST33ZP24AR28PVSC Rev.J	(1.2.D.0) 1.2.D.8 by FW Update
MP	ST33ZP24AR28PVSH	1.2.D.8



TABLE

EEPROM	U22	U23
U22	ASM	NO_ASM
C1005	ASM	NO_ASM
R577	ASM	NO_ASM
Q97	ASM	NO_ASM

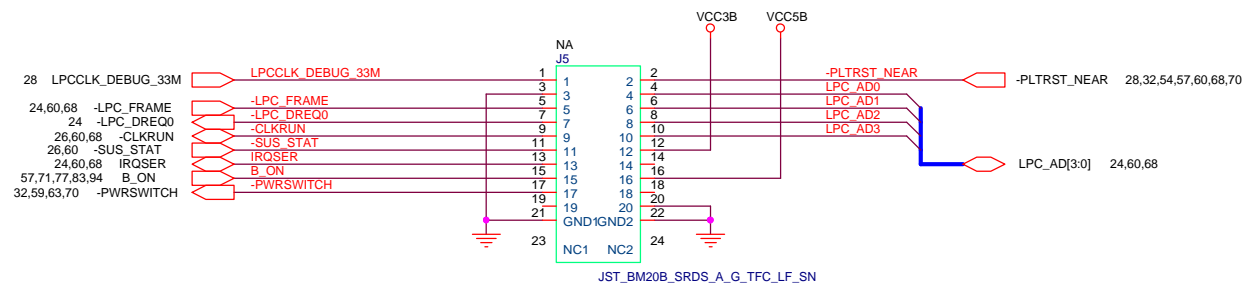
LOGIC



TABLE

REF DES	ENABLE	DISABLE
J5	ASM	NO_ASM
R220	ASM	NO_ASM

LOGIC

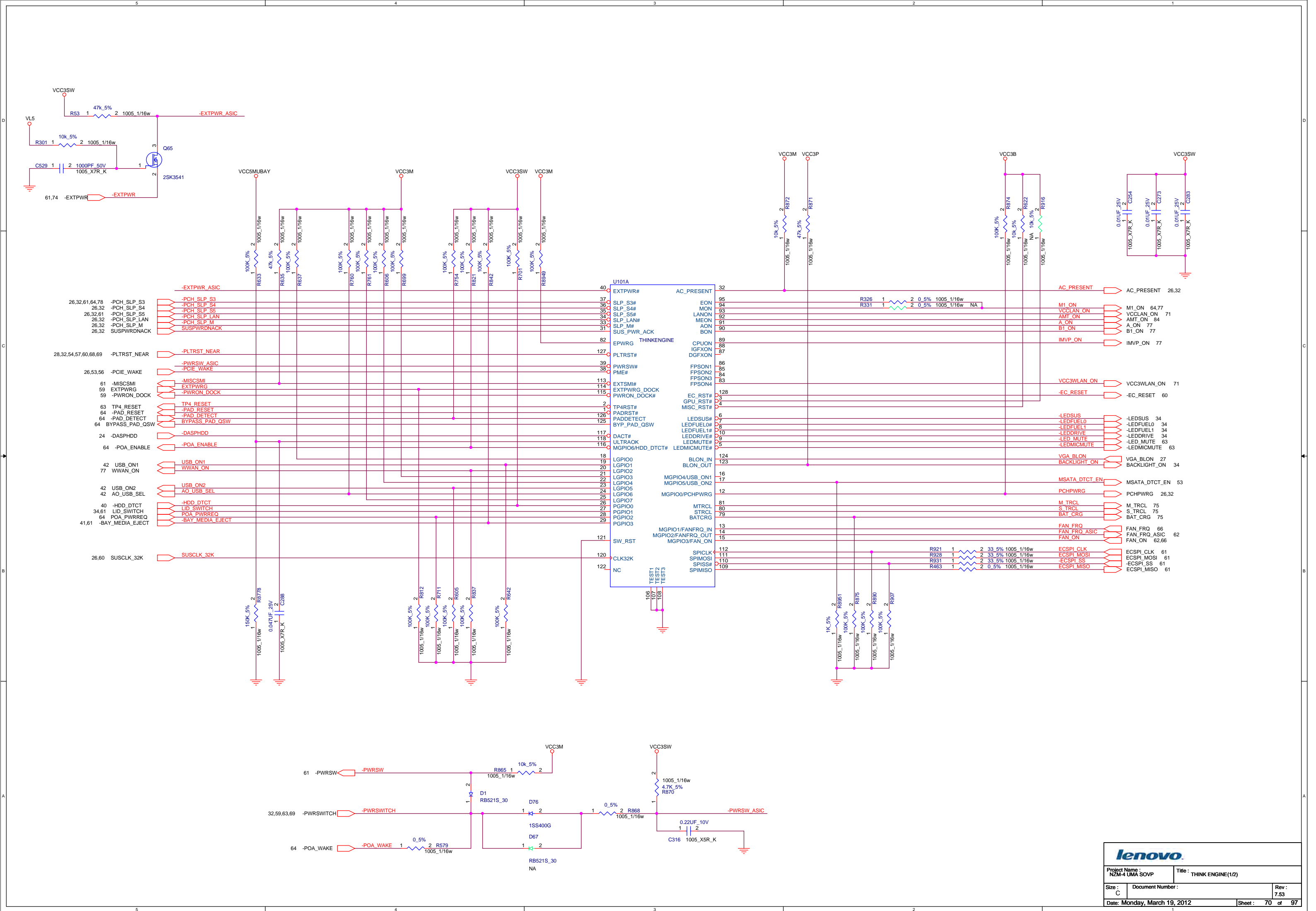


TABLE

AOAC	YES	YES	YES	YES	NO	NO	NO	NO
Anti Theft	YES	YES	NO	NO	YES	YES	NO	NO
EEPROM	U22	U23	U22	U23	U22	U23	U22	U23
U27	ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM
U33	ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM
C297	ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM
R395	ASM	ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM
R396	ASM	ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM
R8917	ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM
Q151	ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM
U21	ASM	ASM	ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM
U31	ASM	ASM	ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM
C25	ASM	ASM	ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM
R291	ASM	ASM	ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM
Q84	ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM
R454	NO_ASM	NO_ASM	NO_ASM	NO_ASM	ASM	ASM	NO_ASM	NO_ASM
R482	NO_ASM	NO_ASM	NO_ASM	NO_ASM	ASM	ASM	NO_ASM	NO_ASM
R8943	NO_ASM	ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM
R8942	NO_ASM	ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM	NO_ASM
R8941	NO_ASM	NO_ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM	ASM
R8940	NO_ASM	NO_ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM	ASM
R30	ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM
R45	ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM	ASM	NO_ASM

LOGIC





Project Name :
NZM-4 UMA SOVP

Title :
THINK ENGINE(1/2)

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DCIN

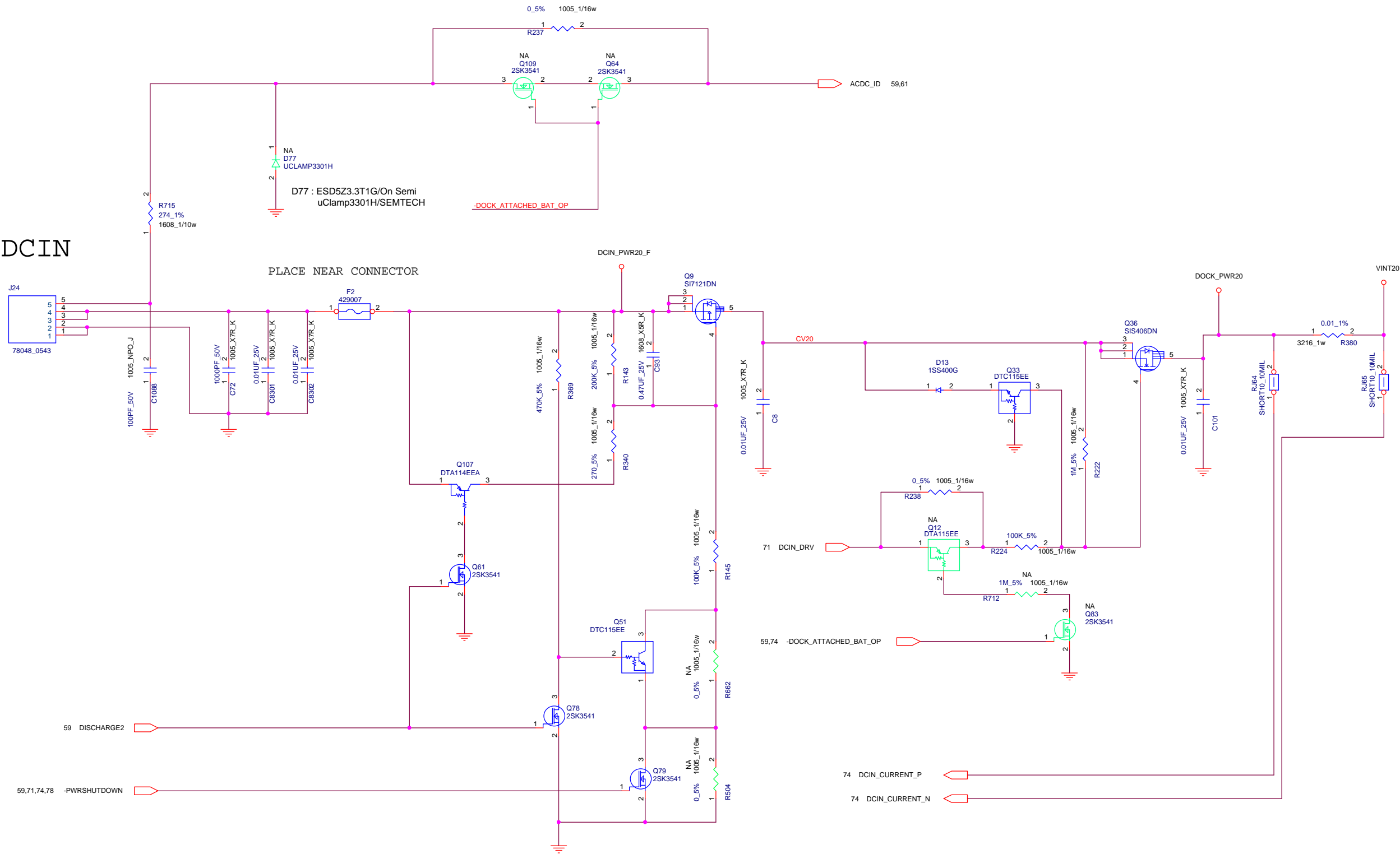
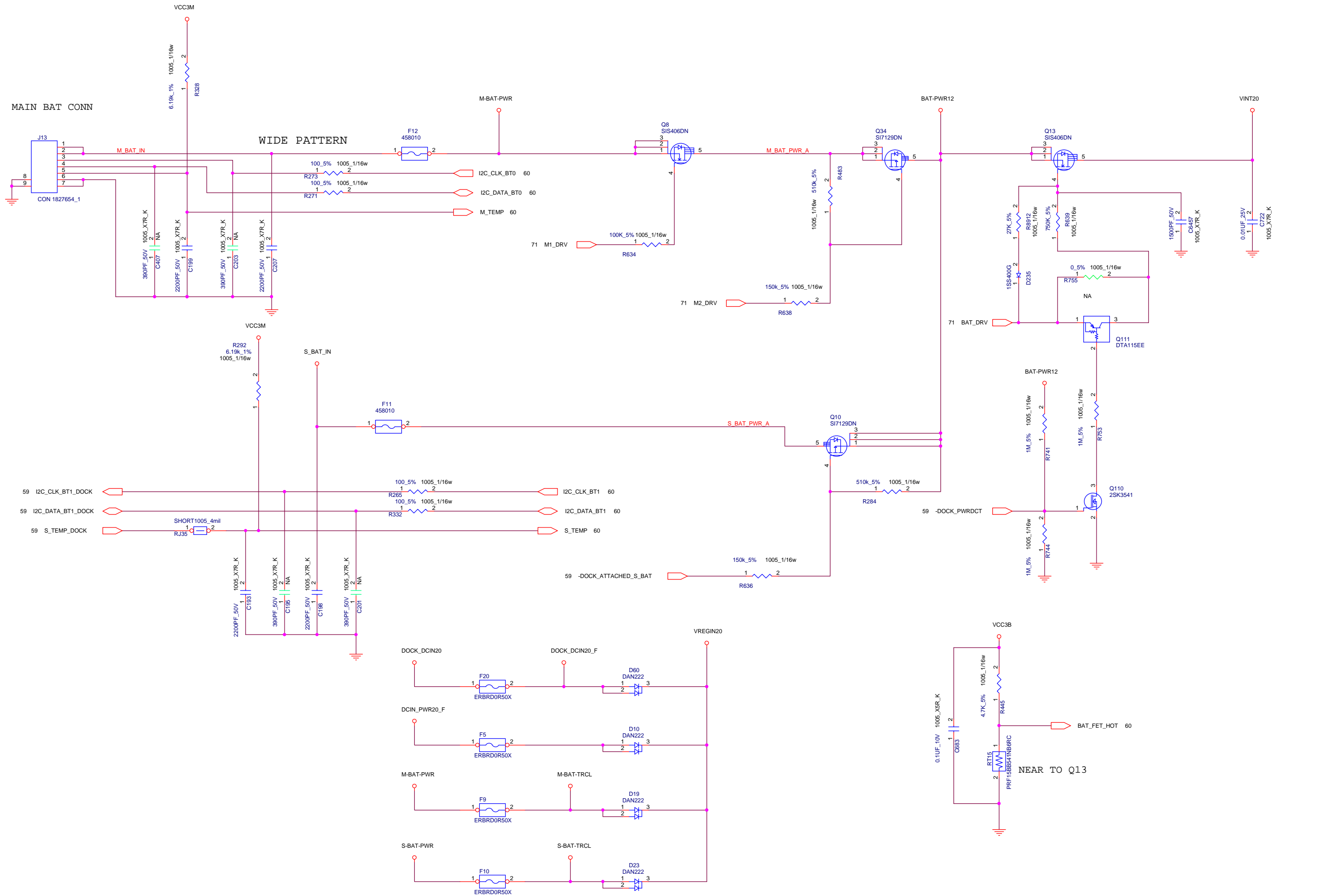
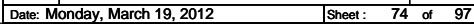
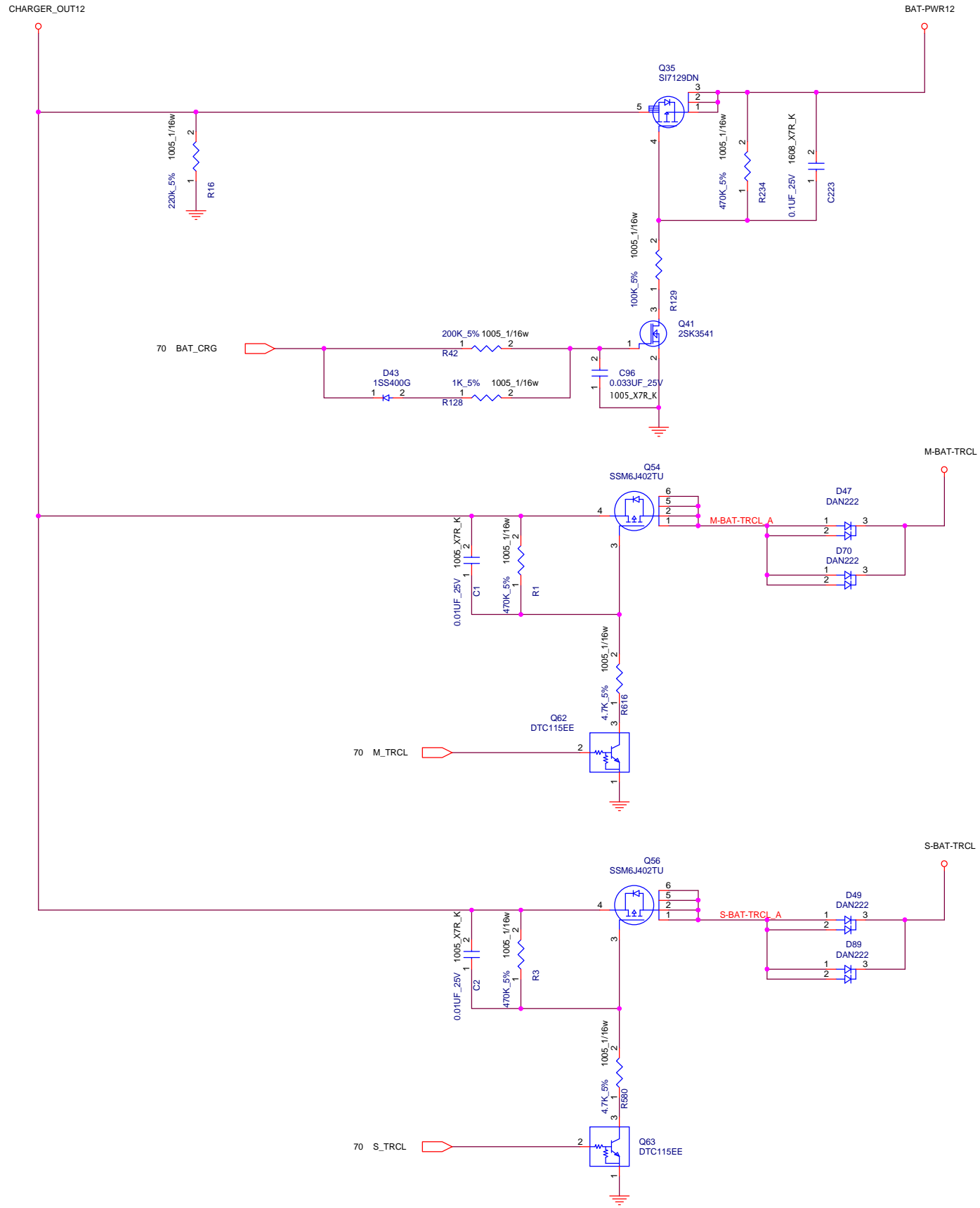


TABLE		
PEAK SHIFT	YES	NO
R662	NO-ASM	ASM
R369	ASM	NO-ASM
Q78	ASM	NO-ASM
Q51	ASM	NO-ASM

↑
LOGIC



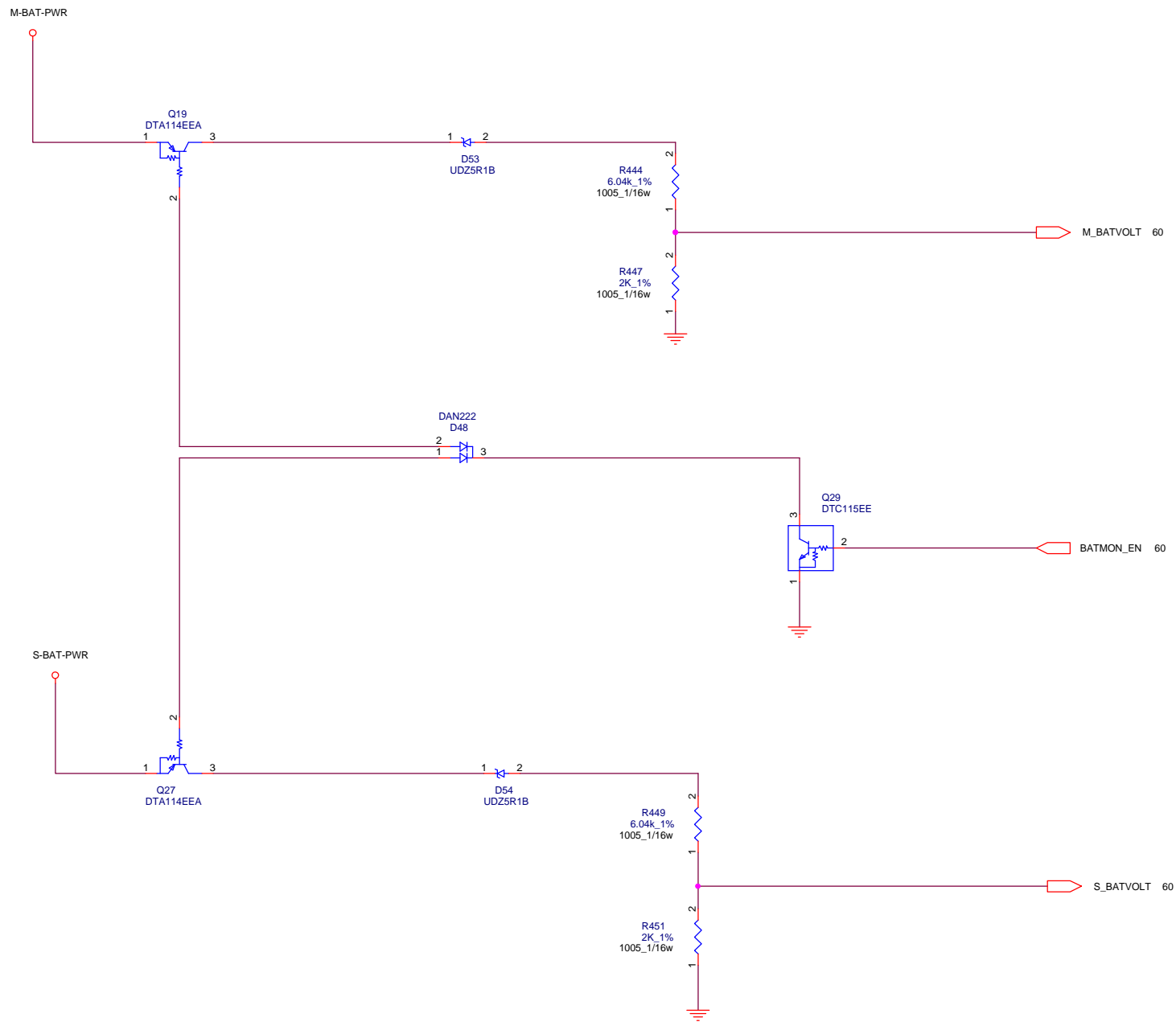


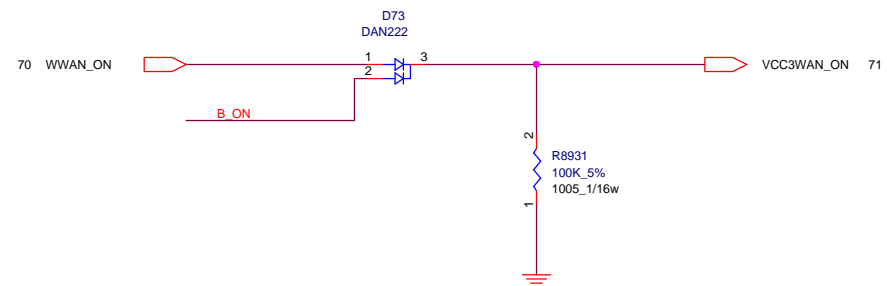
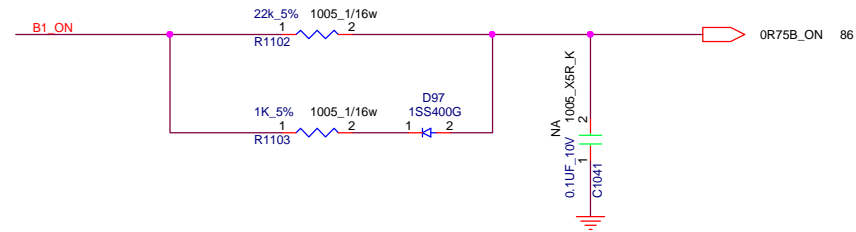
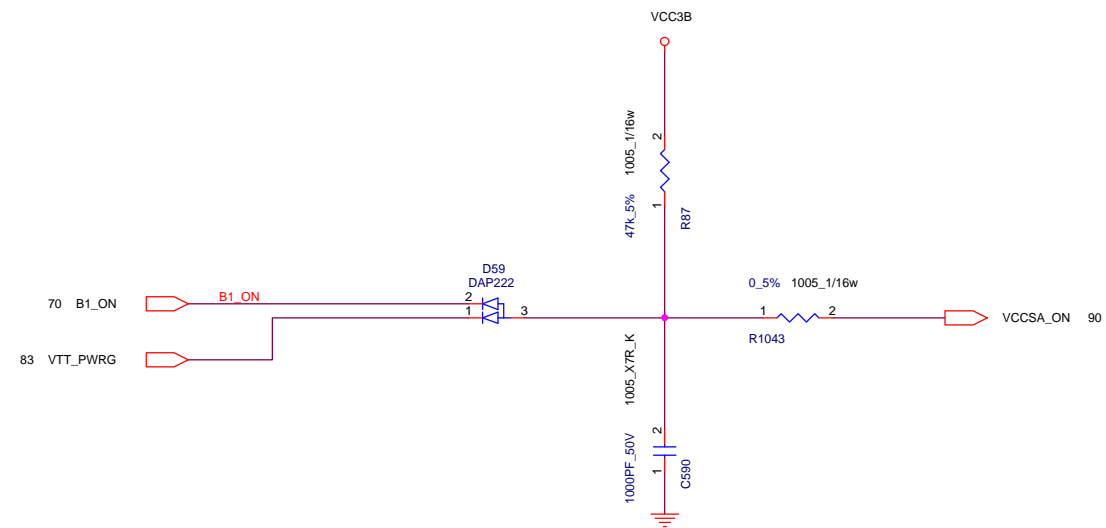
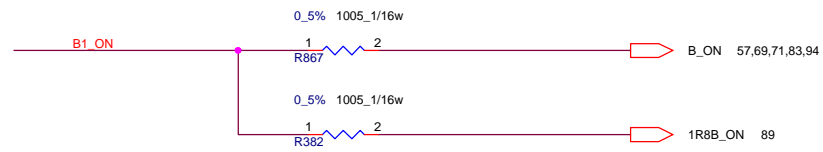
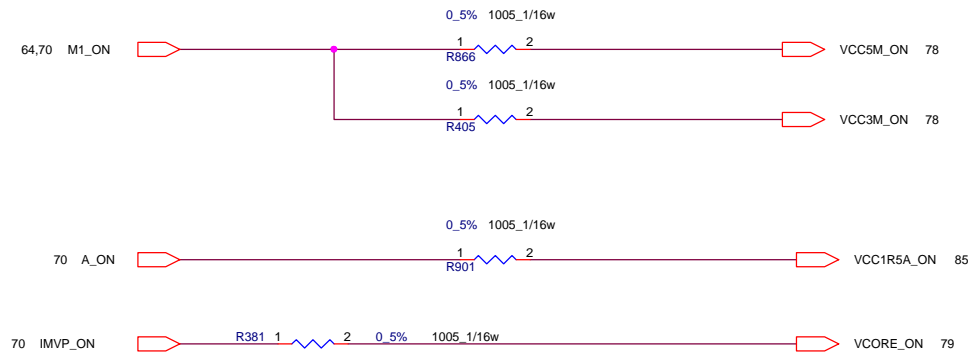


Project Name : NZM-4 UMA SOVP Title : CHARGER SELECTOR

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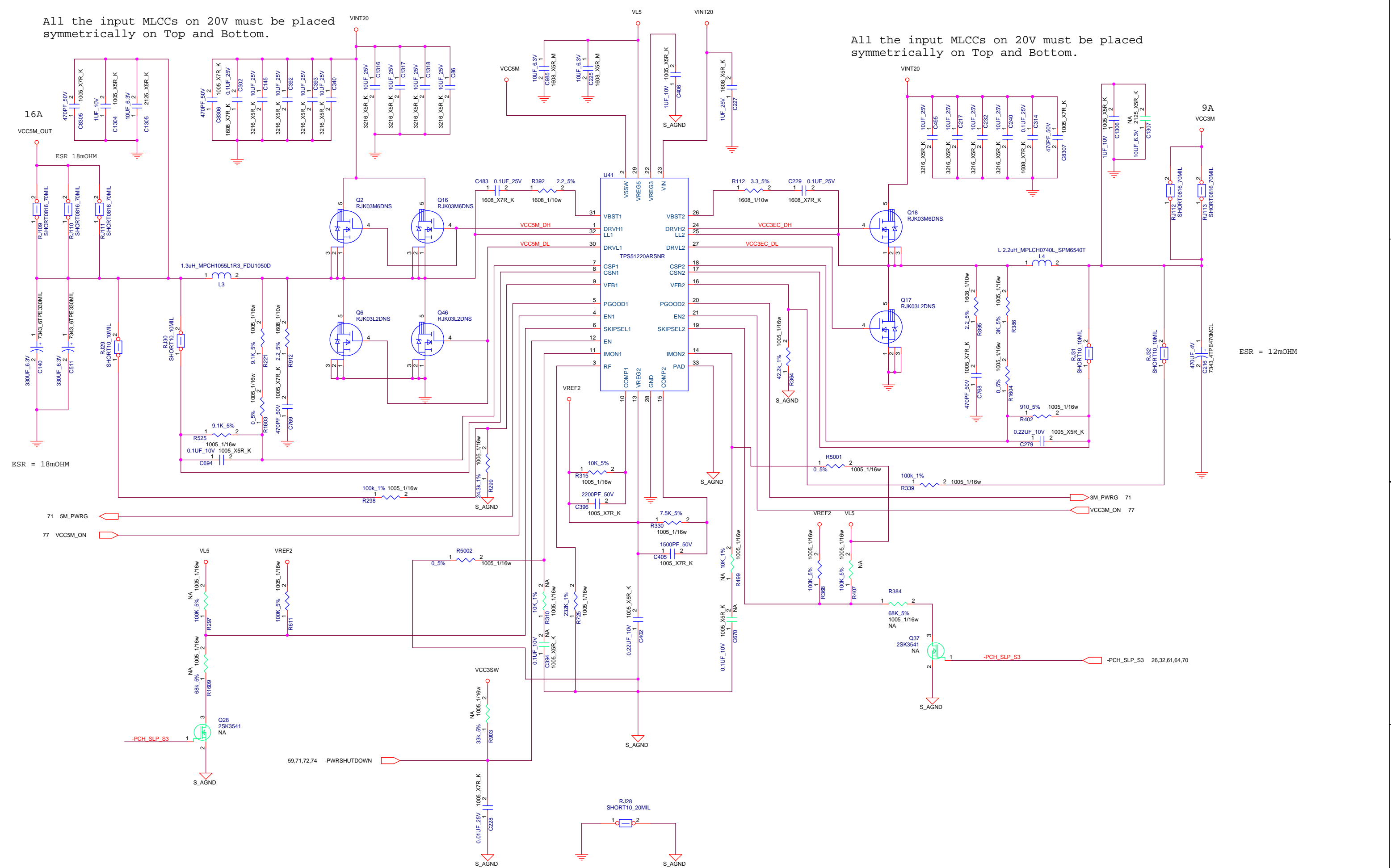
TABLE

AOAC	YES	NO
D73	ASM	NO-ASM
R8931	ASM 100K-ohm	ASM 0-ohm

↑
LOGIC

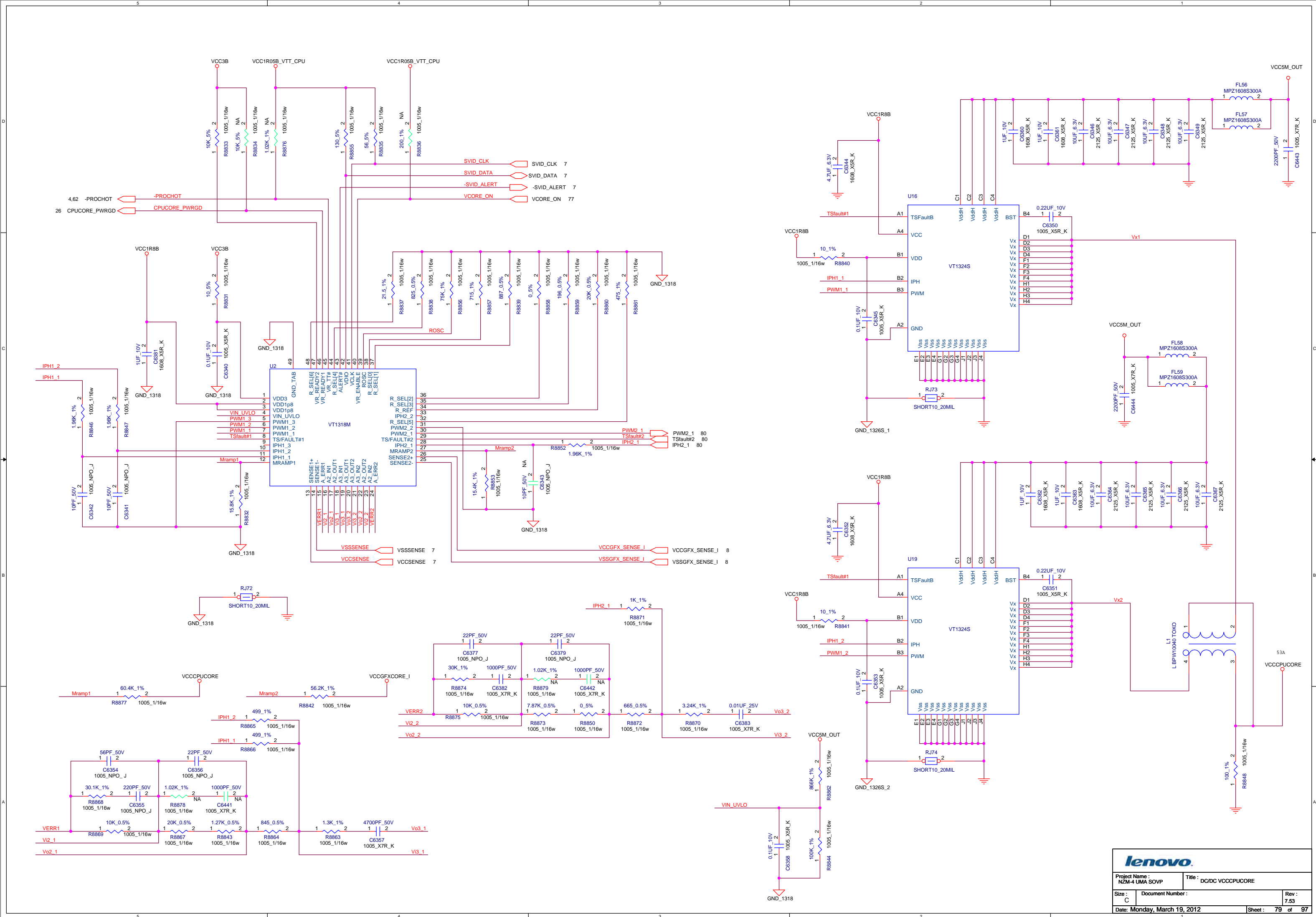
All the input MLCCs on 20V must be placed symmetrically on Top and Bottom.

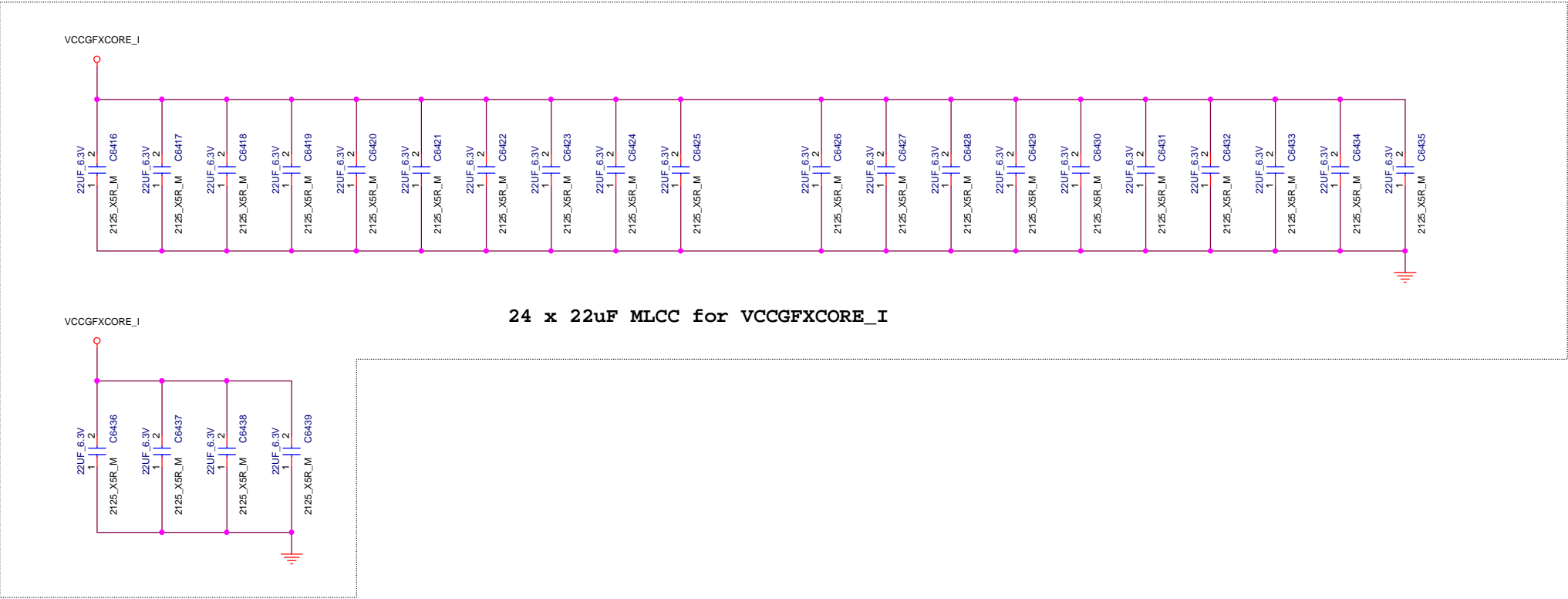
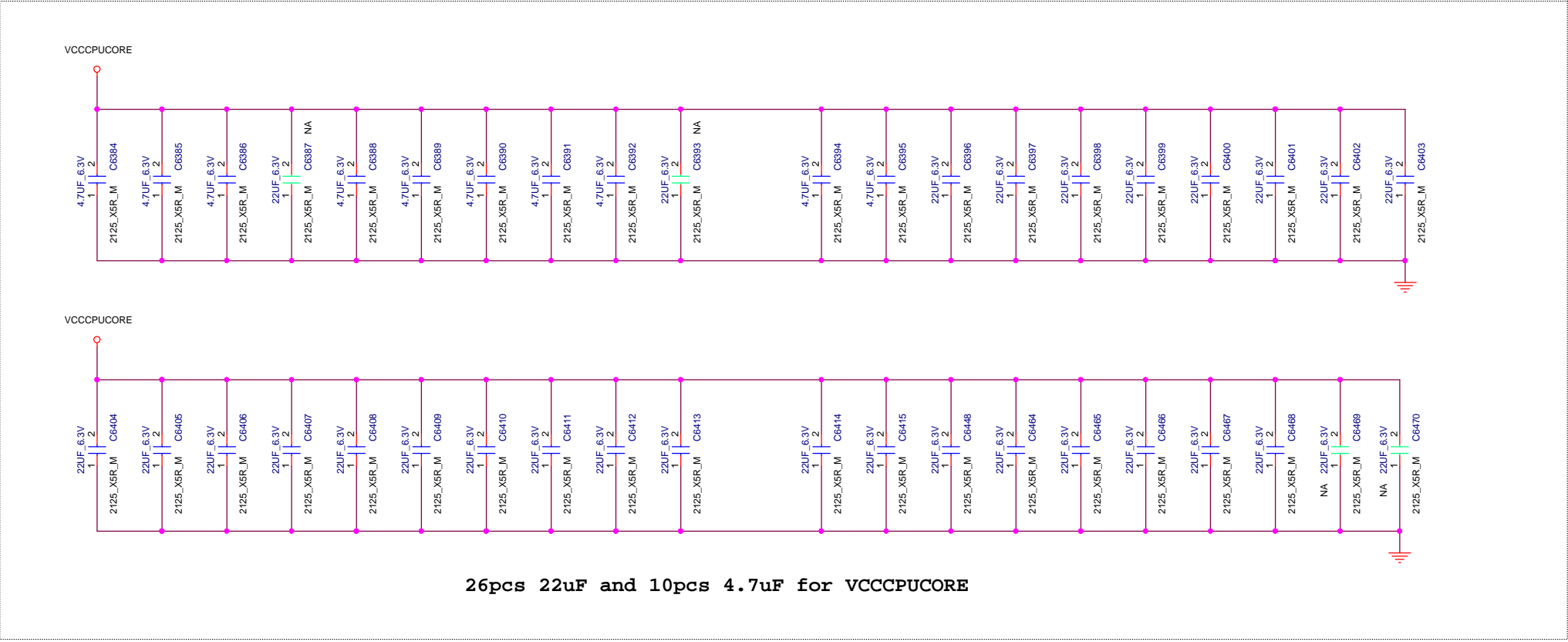
All the input MLCCs on 20V must be placed symmetrically on Top and Bottom.



ESR = 12mOHM



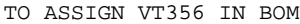




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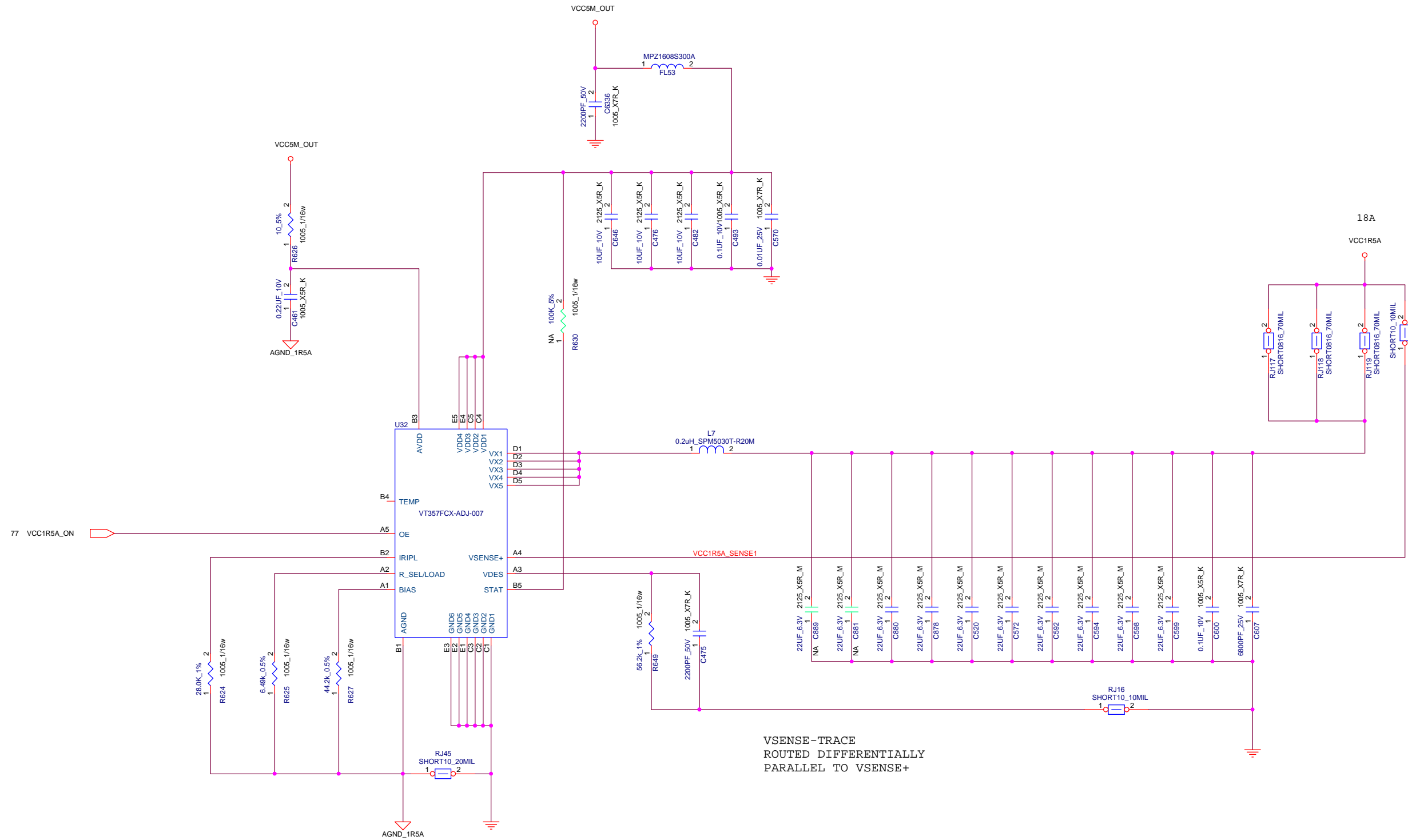
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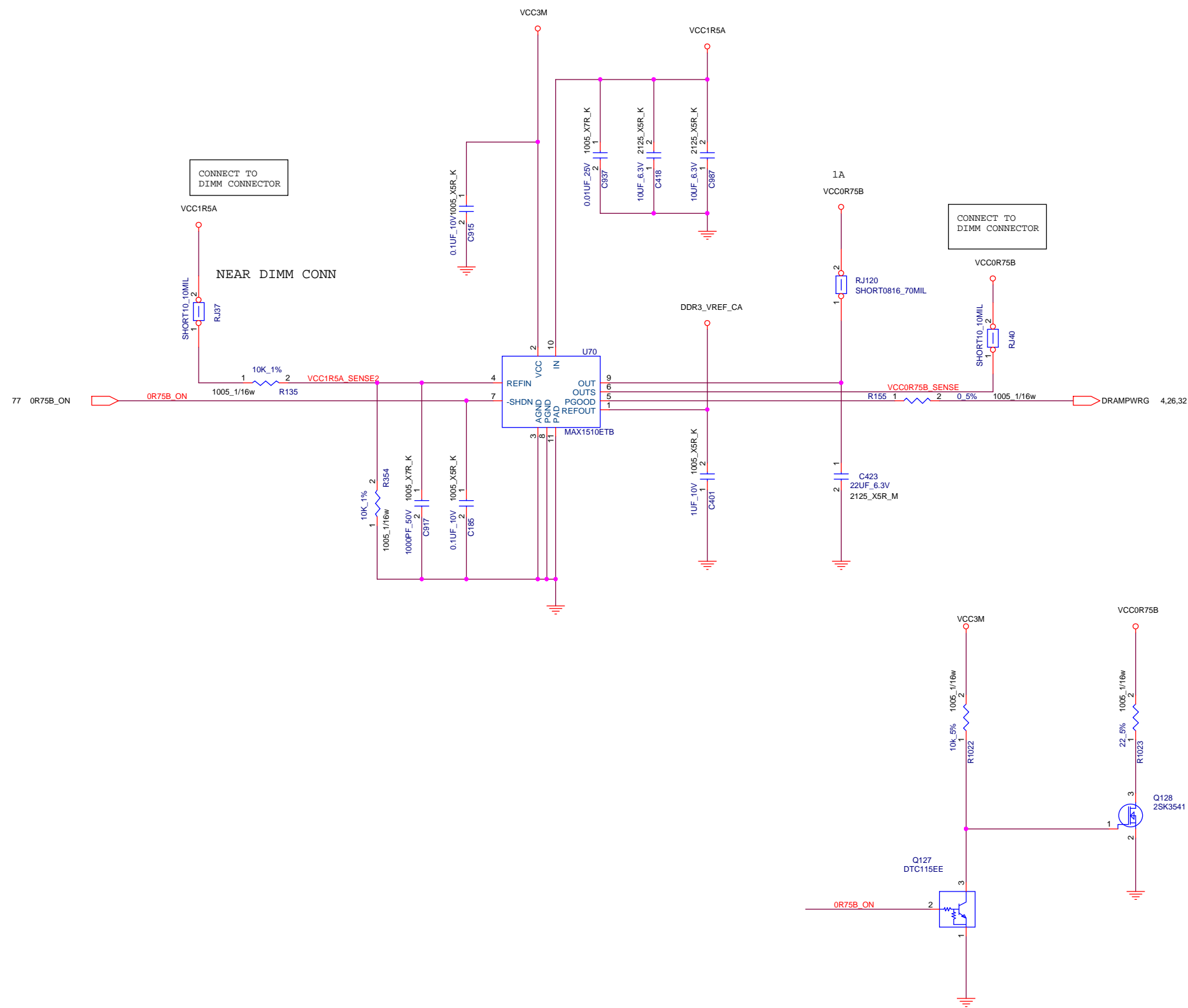
TABLE

lenovo

Project Name : NZM-4 UMA SOVP		Title : DC/DC VCC1R05B_VTT	
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VSENSE-TRACE
ROUTED DIFFERENTIALLY
PARALLEL TO VSENSE+



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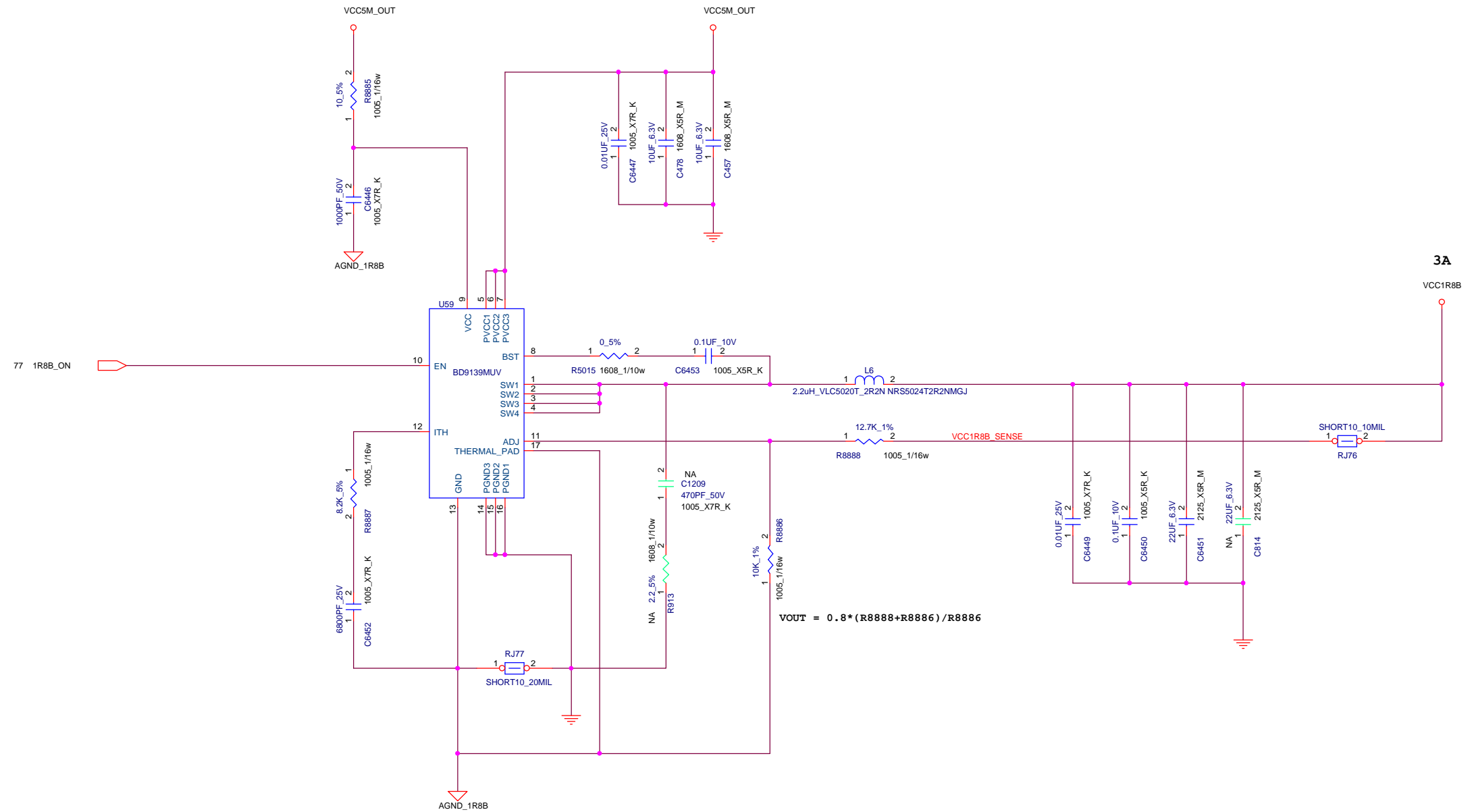


Project Name : NZM-4 UMA SOVP		Title : BLANK	
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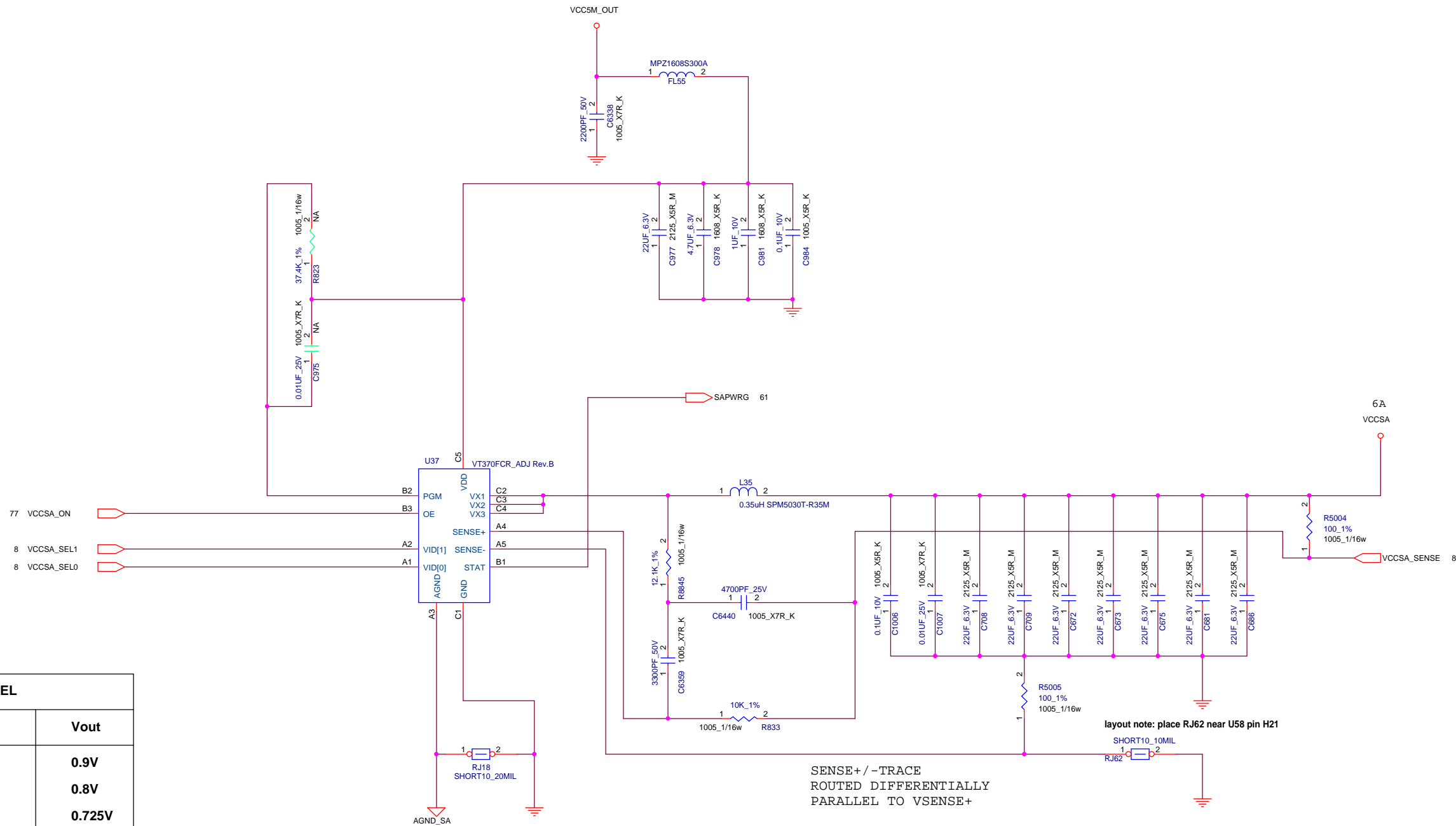
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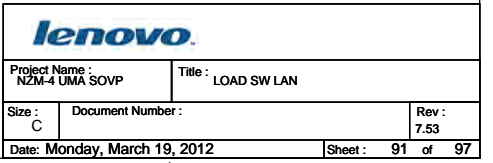


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VCCSA_SEL		
VID0	VID1	Vout
L	L	0.9V
L	H	0.8V
H	L	0.725V
H	H	0.675V

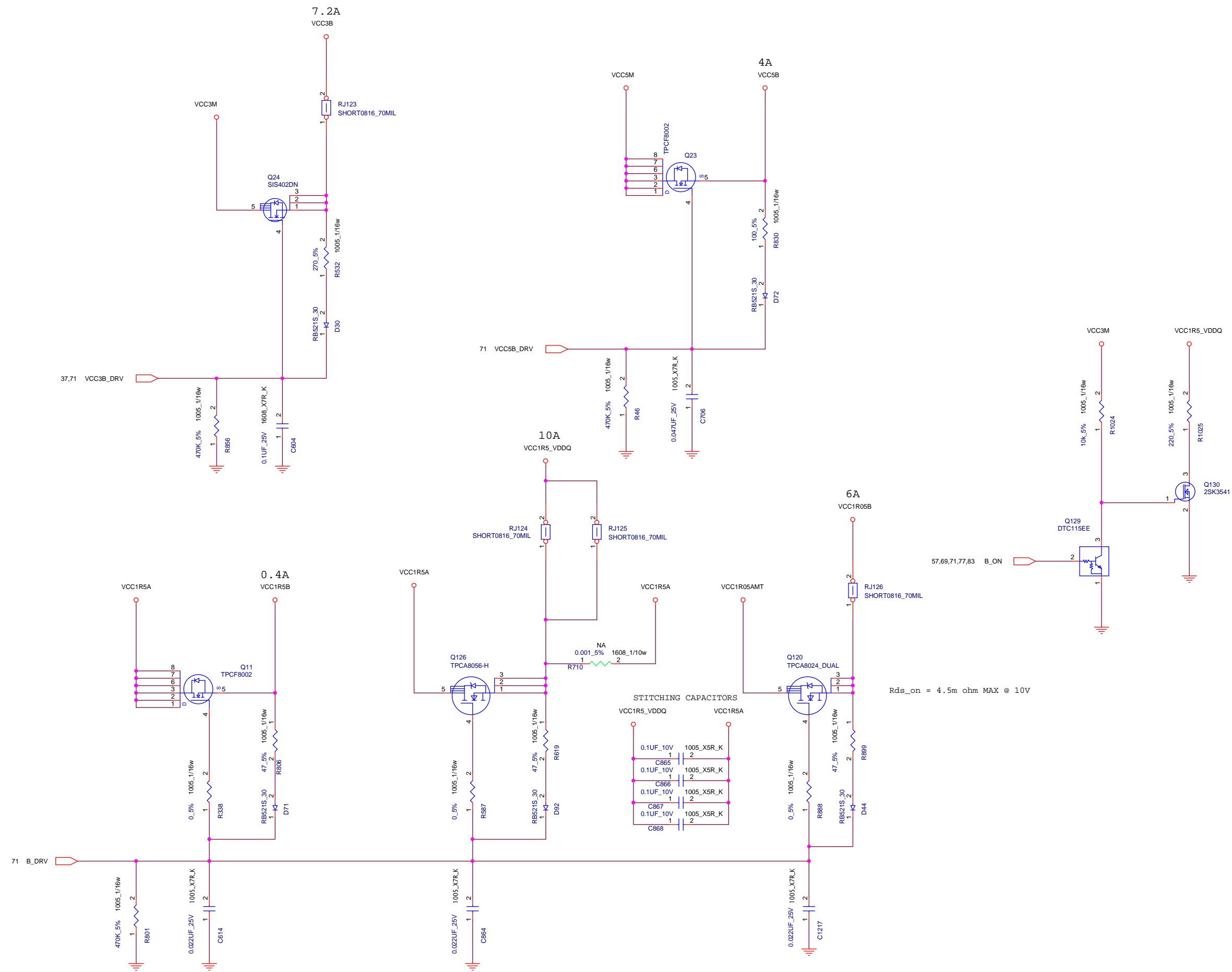


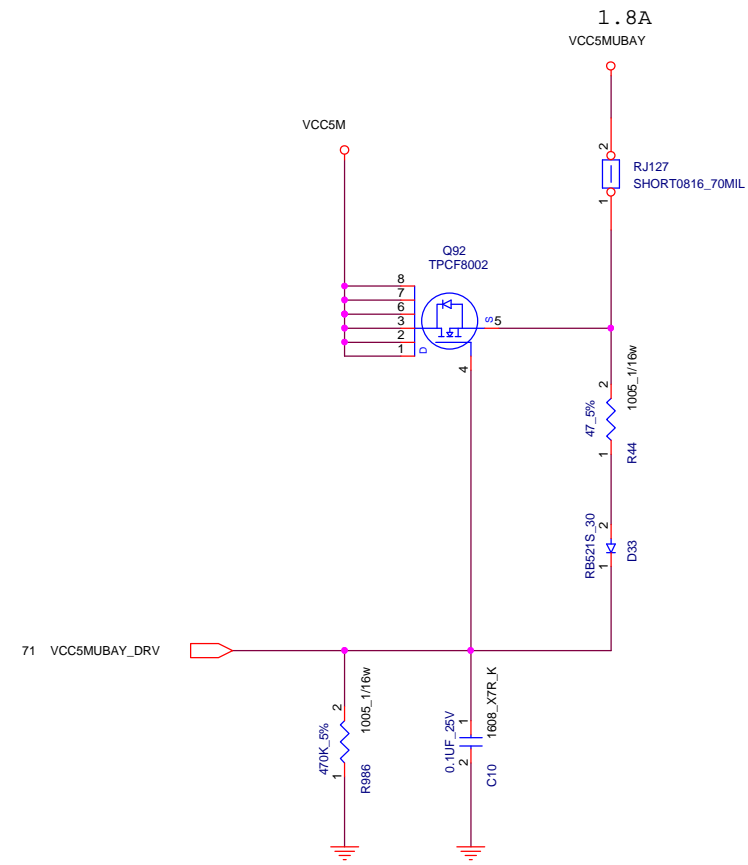


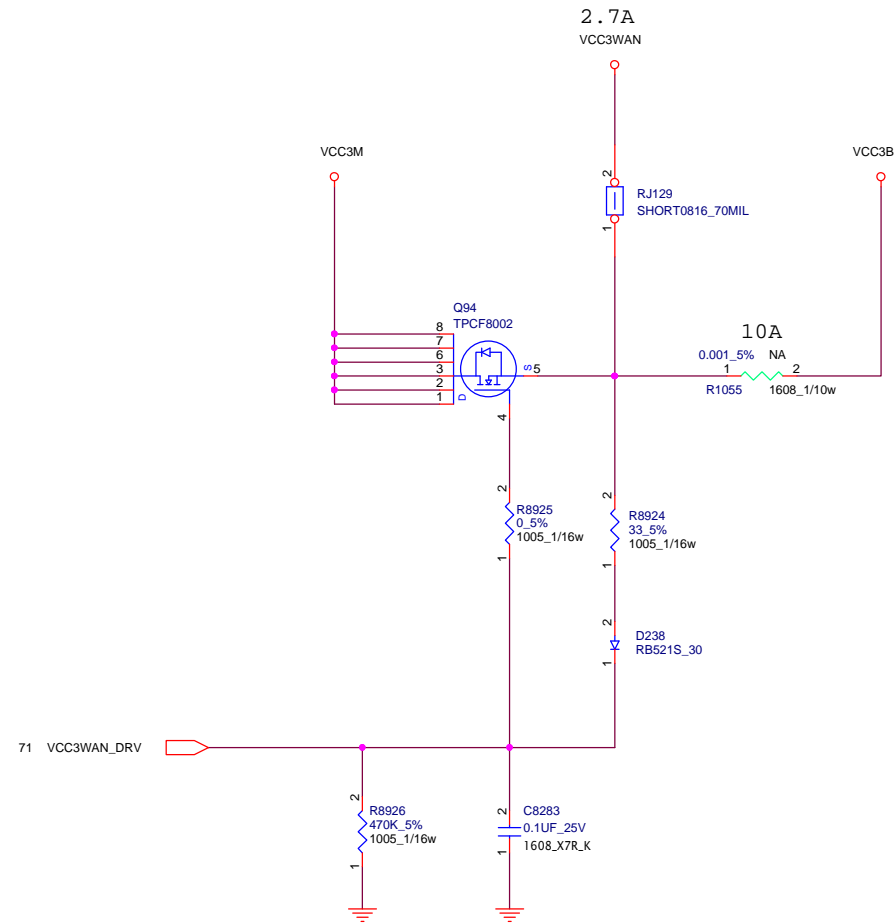
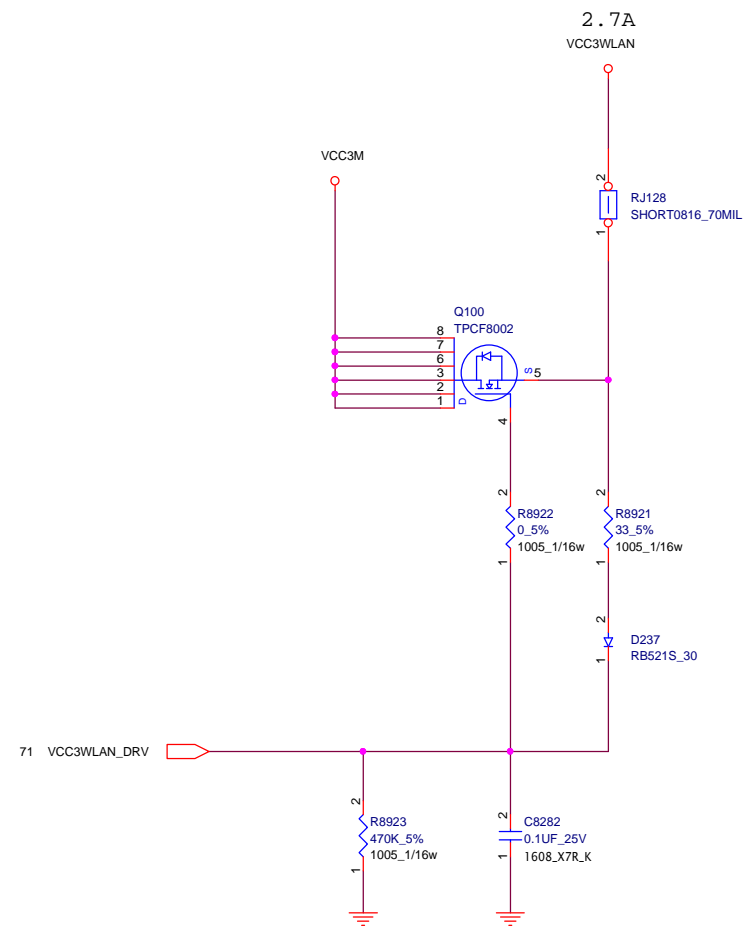
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Project Name : NZM-4 UMA SOVP		Title : BLANK
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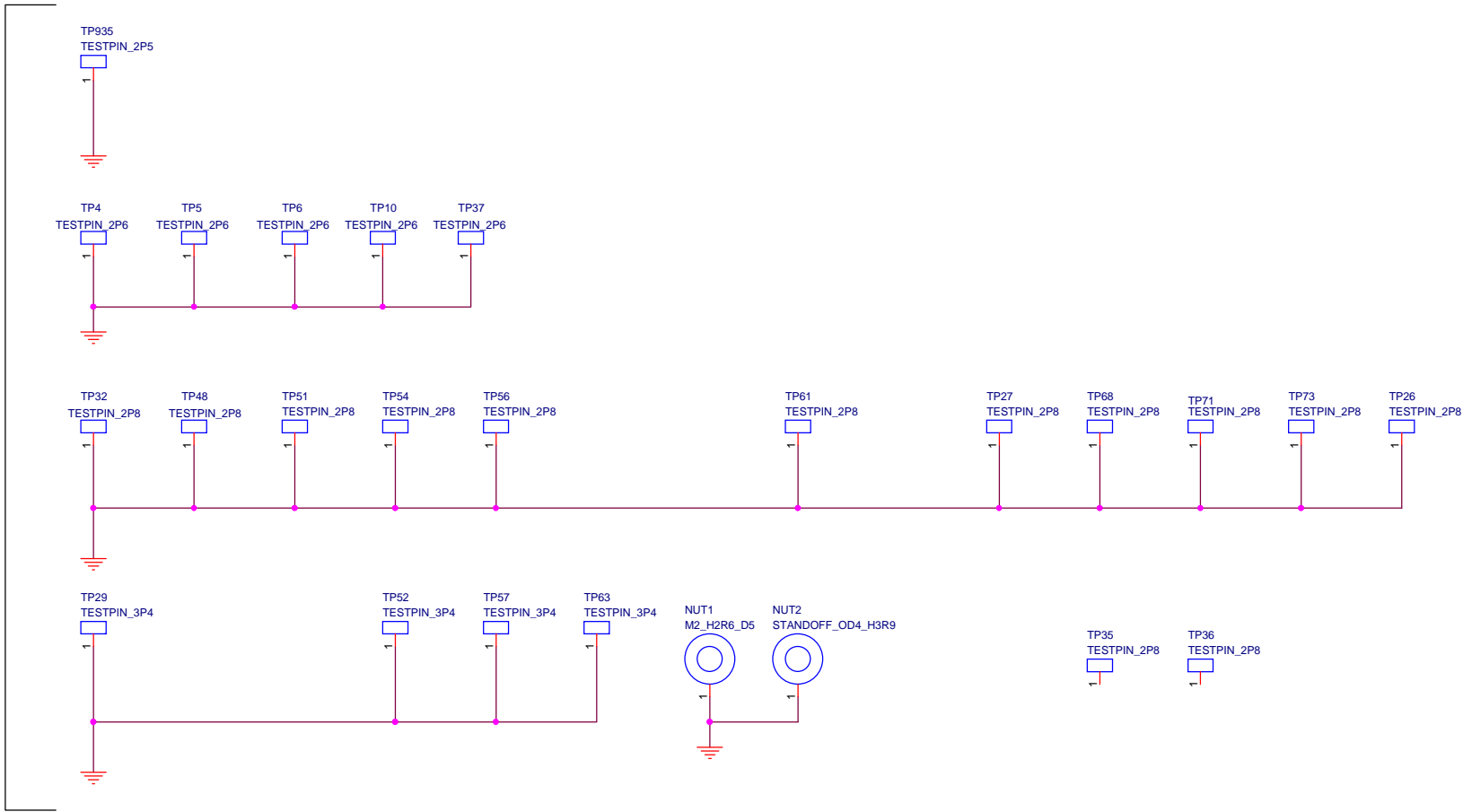


TABLE

AOAC	YES	NO
R1055	NO-ASM	ASM
Q94	ASM	NO-ASM
R8924	ASM	NO-ASM
R8925	ASM	NO-ASM
R8926	ASM	NO-ASM
C8283	ASM	NO-ASM
D238	ASM	NO-ASM

↑
LOGIC

PTH FOR SCREW HOLE



NPTH



FID
Board Area

FID
Component Area

FD1
1 NC, NO CONNECT TO ANY.
FD2
1 NC, NO CONNECT TO ANY.
FD3
1 NC, NO CONNECT TO ANY.

FD4
1 NC, NO CONNECT TO ANY.
FD5
1 NC, NO CONNECT TO ANY.
FD6
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CF1
1 NC, NO CONNECT TO ANY.
CF2
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CF3
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CF4
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CF5
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CF6
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CF7
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CF9
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CF10
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CF15
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CF16
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CF17
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CF18
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CF19
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CF20
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CF21
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CF22
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CF23
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CF24
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CF25
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CF26
1 NC, NO CONNECT TO ANY.