Oasis-1 SHB SOVP LOGIC SCHEMATICS

OAS1H-0
VER 1.01
Aug/08/2013

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Project Name : OAS-1 SP ASSESS	Title : TITLE PAGE	
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EC HISTORY

Oasis-1 SP ASSESS (BASE LOGIC :NZM5H-0 VER 0.44 May/18/2012)

SDV stage

VER.0.01 05/29/2012 APPLIED OAS1_SP_EC001
VER.0.02 05/31/2012 APPLIED OAS1_SP_EC002
VER.0.03 06/05/2012 APPLIED OAS1_SP_EC003,004
VER.0.04 06/06/2012 APPLIED OAS1_SP_EC005
VER.0.05 06/07/2012 APPLIED OAS1_SP_EC006-010
VER.0.06 06/08/2012 APPLIED OAS1_SP_EC011,012,014-016
VER.0.07 06/13/2012 APPLIED OAS1_SP_EC017-019
VER.0.08 06/14/2012 APPLIED OAS1_SP_EC020
VER.0.09 06/18/2012 APPLIED OAS1_SP_EC021-024
VER.0.10 06/20/2012 APPLIED OAS1_SP_EC025-027
VER.0.11 06/27/2012 APPLIED OAS1_SP_EC028-040,042
VER.0.12 06/28/2012 APPLIED OAS1_SP_EC043-055
VER.0.13 06/29/2012 APPLIED OAS1_SP_EC056,057
VER.0.14 07/02/2012 APPLIED OAS1_SP_EC058-062
VER.0.15 07/03/2012 APPLIED OAS1_SP_EC063,064
VER.0.16 07/04/2012 APPLIED OAS1_SP_EC065,066
VER.0.17 07/05/2012 APPLIED OAS1_SP_EC069-073,075,078,079
VER.0.18 07/06/2012 APPLIED OAS1_SP_EC067,068,074,076,077
VER.0.19 07/10/2012 APPLIED OAS1_SP_EC080,081
VER.0.20 07/12/2012 APPLIED OAS1_SP_EC082-087
VER.0.21 07/31/2012 APPLIED OA1_MB_SDV_EC001_0727
VER.0.22 08/03/2012 APPLIED OA1_MB_SDV_EC002_0803
VER.0.23 08/07/2012 APPLIED OA1_MB_SDV_EC003_0807
VER.0.24 08/10/2012 APPLIED OA1_MB_SDV_EC004_0810
08/14/2012 APPLIED OA1_MB_SDV_EC005_0814
VER.0.25 08/15/2012 APPLIED OA1_MB_SDV_EC006_0815
VER.0.26 08/17/2012 APPLIED OA1_MB_SDV_EC007_0817
VER.0.27 08/23/2012 APPLIED OA1_MB_SDV_EC008_0823
VER.0.28 08/28/2012 APPLIED OA1_MB_SDV_EC009_0828
VER.0.29 08/29/2012 APPLIED OA1_MB_SDV_EC010_0829
VER.0.30 08/31/2012 APPLIED OA1_MB_SDV_EC011_0831
VER.0.31 09/04/2012 APPLIED OA1_MB_SDV_EC012_0904
VER.0.32 09/06/2012 APPLIED OA1_MB_SDV_EC013_0906
VER.0.33 09/10/2012 APPLIED OA1_MB_SDV_EC014_0910
09/11/2012 APPLIED OA1_MB_SDV_EC015_0911
VER.0.34 09/12/2012 APPLIED OA1_MB_SDV_EC016_0912
VER.0.35 09/14/2012 APPLIED OA1_MB_SDV_EC017_0914
VER.0.36 09/20/2012 APPLIED OA1_MB_SDV_EC018_0920
09/21/2012 APPLIED OA1_MB_SDV_EC019_0921
VER.0.37 09/24/2012 APPLIED OA1_MB_SDV_EC020_0924
VER.0.38 09/26/2012 APPLIED OA1_MB_SDV_EC021_0926
VER.0.39 09/28/2012 APPLIED OA1_MB_SDV_EC022_0928
VER.0.40 10/02/2012 APPLIED OA1_MB_SDV_EC023_1002
VER.0.41 10/04/2012 APPLIED OA1_MB_SDV_EC024_1004
10/04/2012 APPLIED OA1_MB_SDV_EC025_1004a
10/05/2012 APPLIED OA1_MB_SDV_EC026_1005
VER.0.42 10/08/2012 APPLIED OA1_MB_SDV_EC027_1008
10/11/2012 APPLIED OA1_MB_SDV_EC028_1011
VER.0.43 10/16/2012 APPLIED OA1_MB_SDV_EC029_1015
VER.0.44 10/16/2012 APPLIED OA1_MB_SDV_EC030_1016
10/17/2012 APPLIED OA1_MB_SDV_EC031_1017
VER.0.45 10/18/2012 APPLIED OA1_MB_SDV_EC032_1018
VER.0.46 10/29/2012 APPLIED OA1_MB_SDV_EC033_1029
VER.0.47 11/02/2012 APPLIED OA1_MB_SDV_EC034_1102

MFVT stage

VER.1.01 11/22/2012 APPLIED OA1_MB_MFVT_EC001_1120
VER.1.02 12/03/2012 APPLIED OA1_MB_MFVT_EC002_1203
12/05/2012 APPLIED OA1_MB_MFVT_EC003_1205
VER.1.03 12/10/2012 APPLIED OA1_MB_MFVT_EC004_1210

FVT stage

VER.0.01 12/19/2012 APPLIED OA1_MB_FVT_EC001_1219
12/21/2012 APPLIED OA1_MB_FVT_EC002_1221
VER.0.02 12/21/2012 APPLIED OA1_MB_FVT_EC003_1221_R1
12/25/2012 APPLIED OA1_MB_FVT_EC004_1225
VER.0.03 12/26/2012 APPLIED OA1_MB_FVT_EC005_1226
VER.0.04 12/27/2012 APPLIED OA1_MB_FVT_EC006_1227
VER.0.05 12/28/2012 APPLIED OA1_MB_FVT_EC007_1228
VER.0.06 01/03/2012 APPLIED ECR_1R05VIDEO_PLL discharge.ppt
RF_EC_FVT_0103-oscar.ppt
VER.1.00 01/04/2012 APPLIED FVT gerber out
VER.1.01 01/08/2013 APPLIED OA1_MB_FVT_EC008_0108
OA1_MB_FVT_EC008_0108_R1
VER.1.02 01/17/2013 APPLIED OA1_MB_FVT_EC009_0117

SIT stage

VER.0.01 02/06/2013 APPLIED OA1_MB_SIT_EC001_0206
VER.0.02 02/18/2013 APPLIED OA1_MB_SIT_EC002_0218
VER.0.03 02/25/2013 APPLIED OA1_MB_SIT_EC003_0225
VER.0.04 03/07/2013 APPLIED OA1_MB_SIT_EC004_0307
VER.0.05 03/08/2013 APPLIED OA1_MB_SIT_EC005_0308
VER.0.06 03/11/2013 APPLIED OA1_MB_SIT_EC006_0311
03/12/2013 APPLIED OA1_MB_SIT_EC007_0312
VER.0.07 03/13/2013 APPLIED OA1_MB_SIT_EC008_0313
03/14/2013 APPLIED RF_EC_SIT_0305-Tony.pptx
Oasis EMC solution list on FVT stage 20130204
VER.0.08 03/14/2013 APPLIED OA1_MB_SIT_EC009_0314

VER.1.00 03/19/2013 APPLIED SIT gerber out
VER.1.01 03/25/2013 APPLIED OA1_MB_SIT_EC010_0325
VER.1.02 04/02/2013 Applied ECR_20130416

SIT-v stage

VER.0.01 04/19/2013 APPLIED OA1_MB_SITV_EC001_0419
VER.0.02 04/25/2013 APPLIED OA1_MB_SITV_EC002_0425
VER.1.00 05/02/2013 Applied ECR_20130502
VER.1.01 05/09/2013 APPLIED OA1_MB_SITV_EC003_05/09
05/10/2013 APPLIED OA1_MB_SITV_EC004_05/10
VER.1.02 05/20/2013 APPLIED ECR_20130520
06/14/2013 APPLIED ECR_20130614

SVT stage

VER.0.01 06/12/2013 APPLIED OA1_MB_SVT_EC001_0612
VER.0.02 06/18/2013 APPLIED OA1_MB_SVT_EC002_0618
06/18/2013 APPLIED OA1_MB_SVT_EC003_0618
VER.0.03 06/24/2013 APPLIED OA1_MB_SVT_EC004_0624
06/25/2013 APPLIED OA1_MB_SVT_EC005_0625
VER.1.00 06/26/2013 APPLIED OA1_MB_SVT_EC006_0626
06/26/2013 APPLIED OA1_MB_SVT_EC007_0626
VER.1.01 06/28/2013 APPLIED OA1_MB_SVT_EC008_0628
VER.1.02 07/11/2013 APPLIED OA1_MB_SVT_EC009_0711

SOVP stage

VER.1.00 08/06/2013 APPLIED ECR_20130806
VER.1.01 08/08/2013 APPLIED ECR_20130808

General BOM Structure

```
@     : No ASM for all model
UMA@  : ASM for UMA model, No ASM for SWG model
SWG@  : No ASM for UMA model, ASM for SWG model
CONN_ASM@ : ASM connector
CONN_NOASM@ : NO ASM connector
PLM@ : For PCB material
```

VRAM BOM Structure

```
M1G@  : ASM for SWG model with Micron 1G VRAM.
S1G@  : ASM for SWG model with Samsung 1G VRAM.
```

SPI ROM BOM Structure

```
SPI_1ST@  : ASM for Winbond SPI ROM.
SPI_2ND@  : ASM for Macronix SPI ROM.
```

BOM option

```
UMA :
PLM@ / UMA@ / CONN_ASM@

SWG + Samsung 1G VRAM :
PLM@ / SWG@ / CONN_ASM@ / X76_S1G@

SWG + Micron 1G VRAM :
PLM@ / SWG@ / CONN_ASM@ / X76_M1G@
```

ZZZ1
NM-A131_PCB
DAZ0SQ00T00
PLM@

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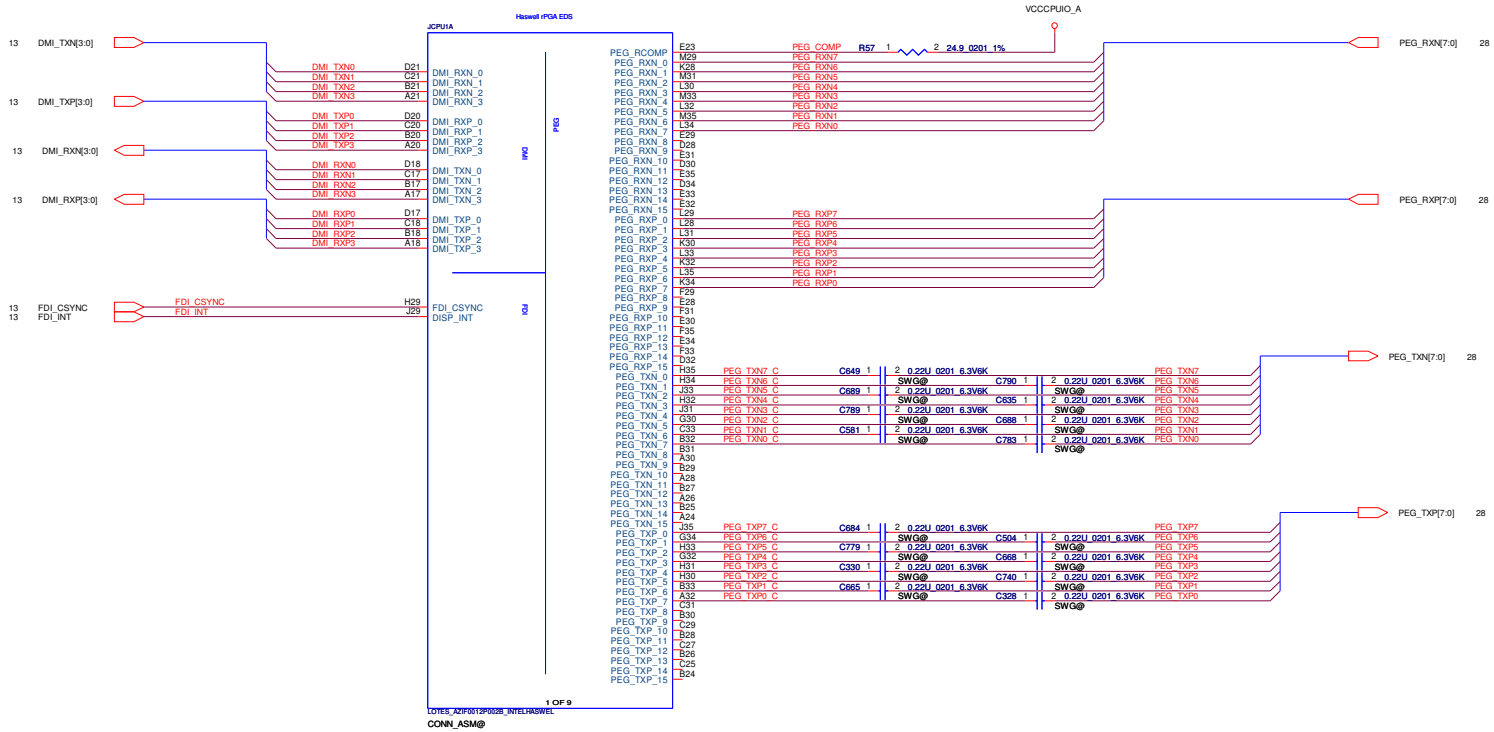

Project Name : OAS-1 SP ASSESS		Title : CPU(1/8) : DMI/FDI/PEG	
Size : C	Document Number :		Rev : 1.01
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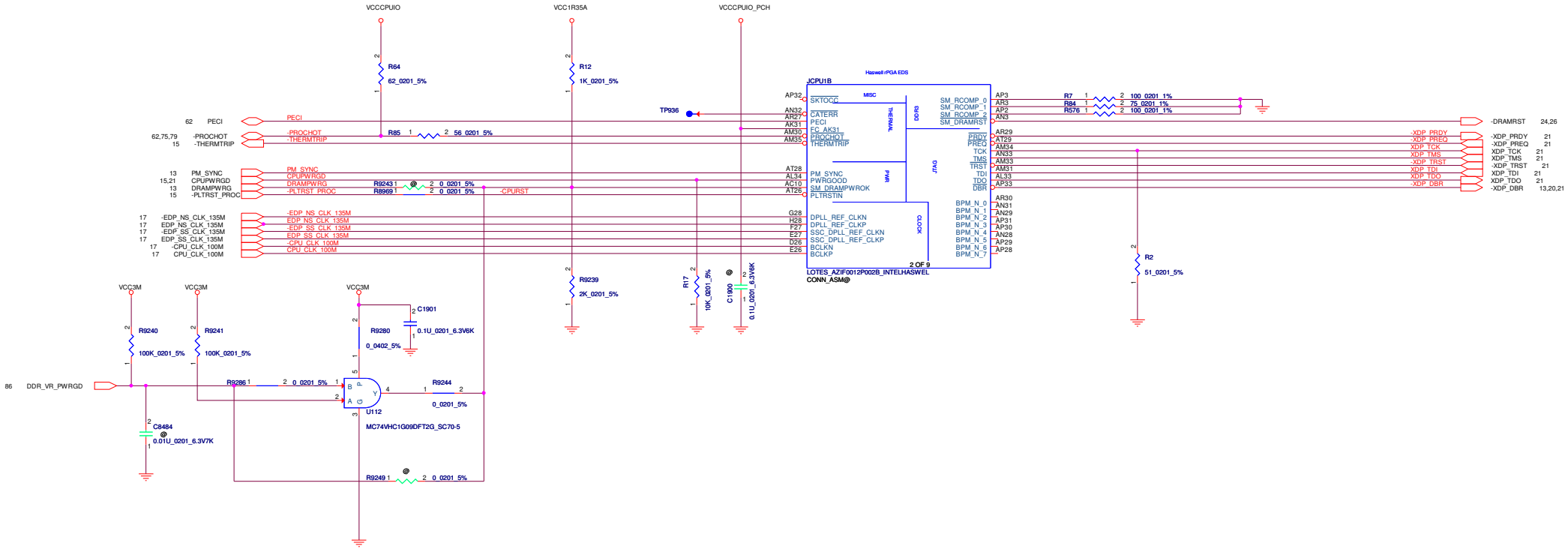

Project Name : OAS-1 SP ASSESS		Title : CPU(2/8) : MISC/JTAG/CLK	
Size : C	Document Number :		Rev : 1.01
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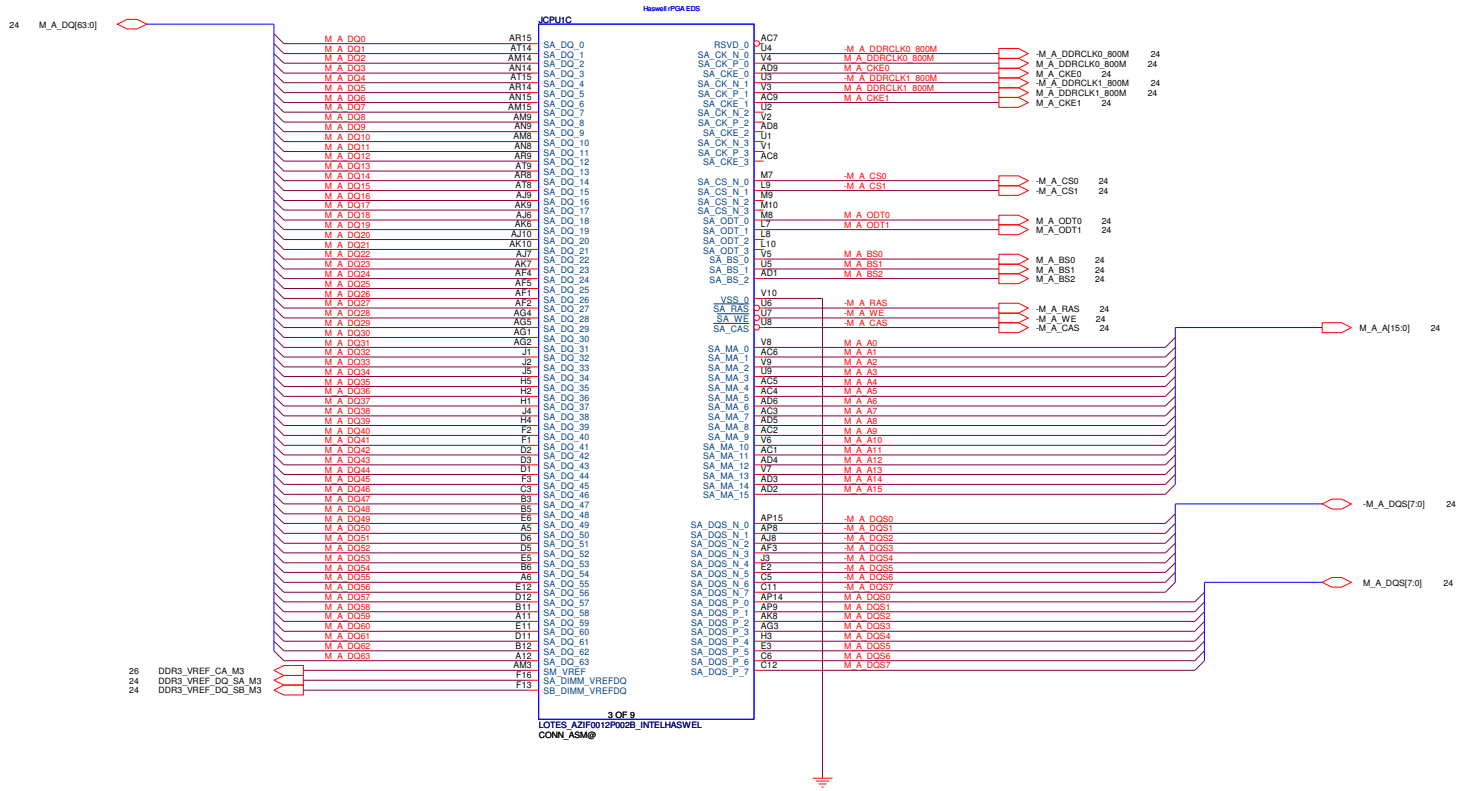

Project Name : OAS-1 SP ASSESS	Title : CPU(3/8) : DDR3L CHANNEL- A	
Size : C	Document Number :	Rev : 1.01
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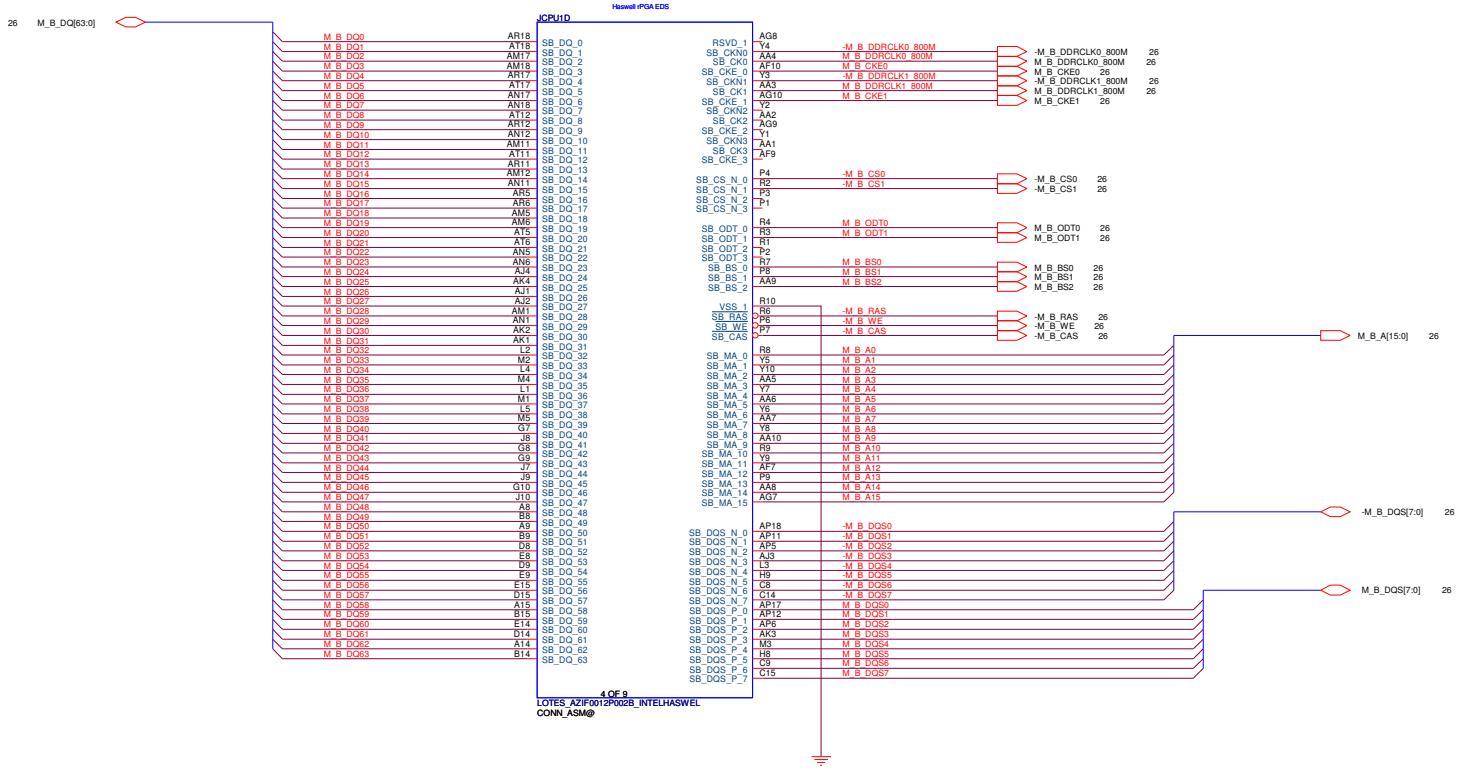

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Project Name : OAS-1 SP ASSESS	Title : CPU(4/8) : DDR3L CHANNEL- B
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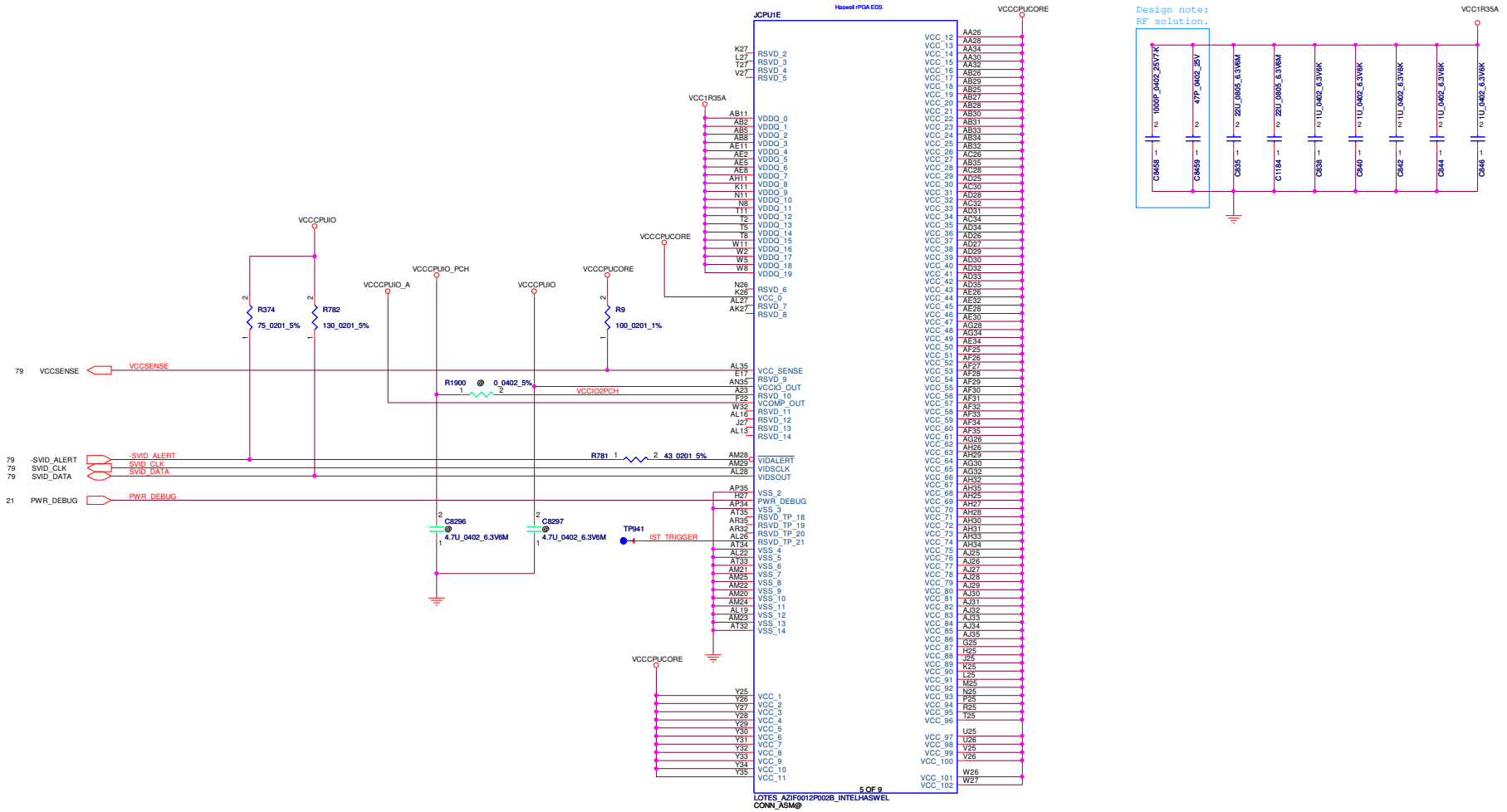

Project Name : OAS-1 SP ASSESS		Title : CPU(5/9) : POWER	
Size : C	Document Number :		Rev : 1.01
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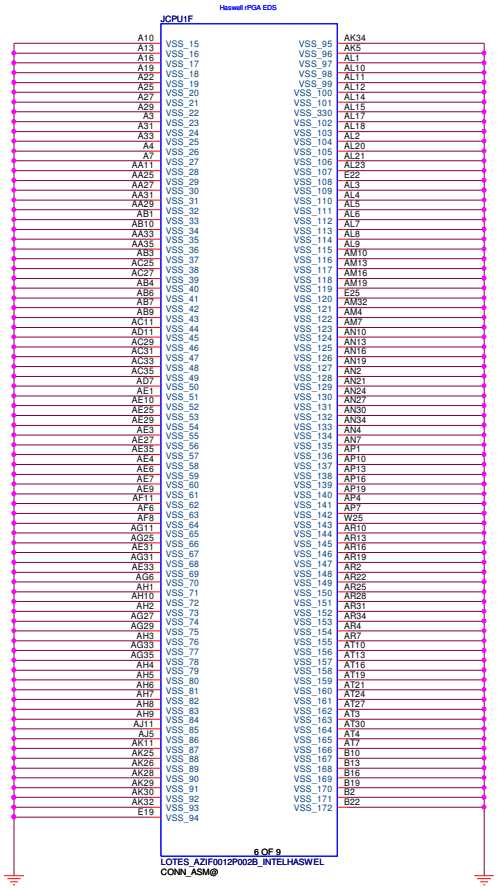

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Project Name : OAS-1 SP ASSESS	Title : CPU(6/8) : GND	
Size : C	Document Number :	Rev : 1.01
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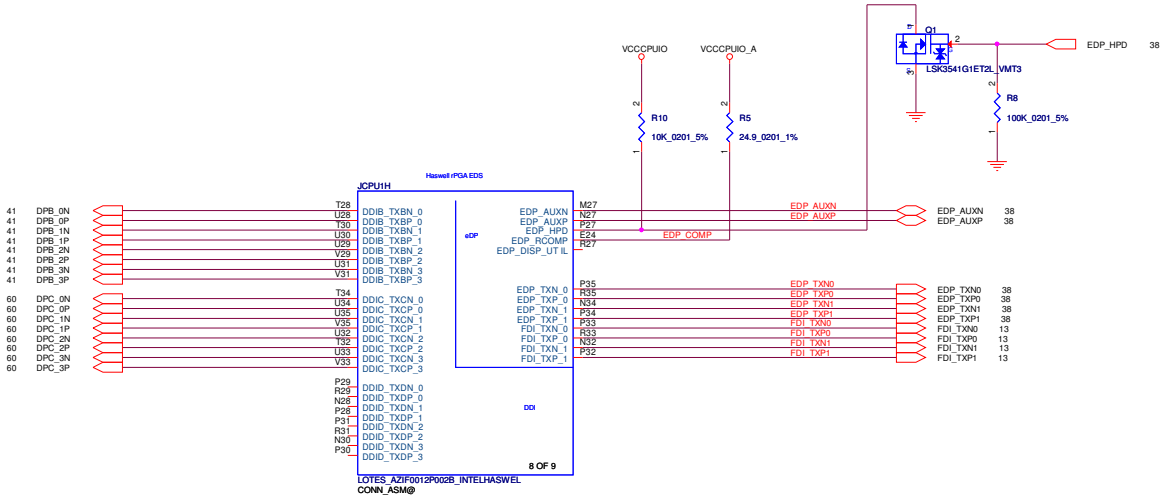

Project Name : OAS-1 SP ASSESS	Title : CPU(7/8) : EDP/DDI
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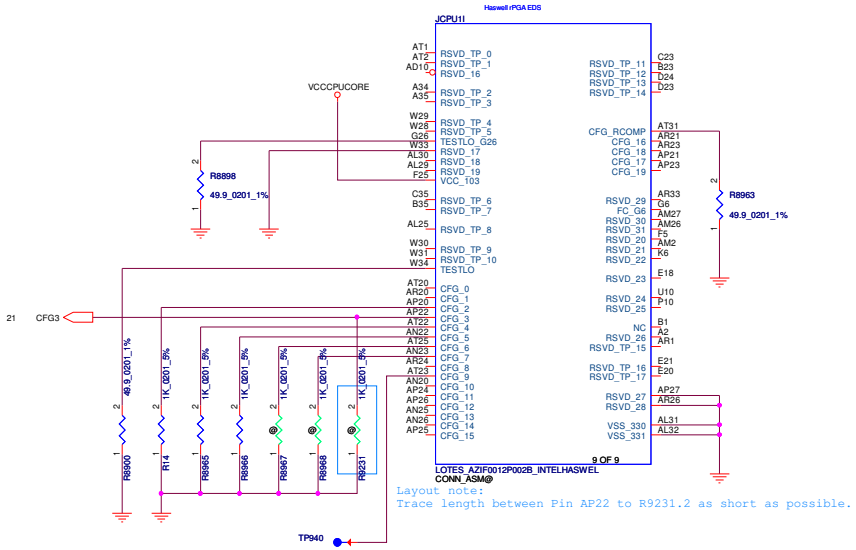

Table 10-1

CFG2 : PEG Static Lane Reversal
1 : Normal Operation
0 : Lane Reversal

CFG4 : Display Port Presence
1 : Disabled
0 : Enabled

CFG[6:5] : PEG Bifurcation
11 : Func 1 Disabled, Func 2 Disabled (x16,---,---)
10 : Func 1 Enabled, Func 2 Disabled (x8,x8,---)
01 : Func 1 Disabled, Func 2 Enabled
00 : Func 1 Enabled, Func 2 Enabled (x8,x4,x4)

CFG7 : PEG Defer Training
1 : PEG Train Immediately Following XXRESETB Deassertion
0 : PEG Wait for BIOS for Training

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Project Name : OAS-1 SP ASSESS	Title : CPU(8/8) : CFG/RESERVED
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Table 11-4

Tamper	Enable	Disable
SW1	ASM	NO_ASM
R9248	ASM	NO_ASM
C8486	ASM	NO_ASM
D255	ASM	NO_ASM
R9291	ASM	NO_ASM

SIT

Table 11-1

32.768KHz 9pF 20ppm:
KDS 1TJF090DP1A0004 TXC 9H03200033 Epson Q13FC1350000300

Table 11-2

SPKR TCO TIMER SYSTEM REBOOT	
HIGH	DISABLED (NO REBOOT)
LOW	ENABLED

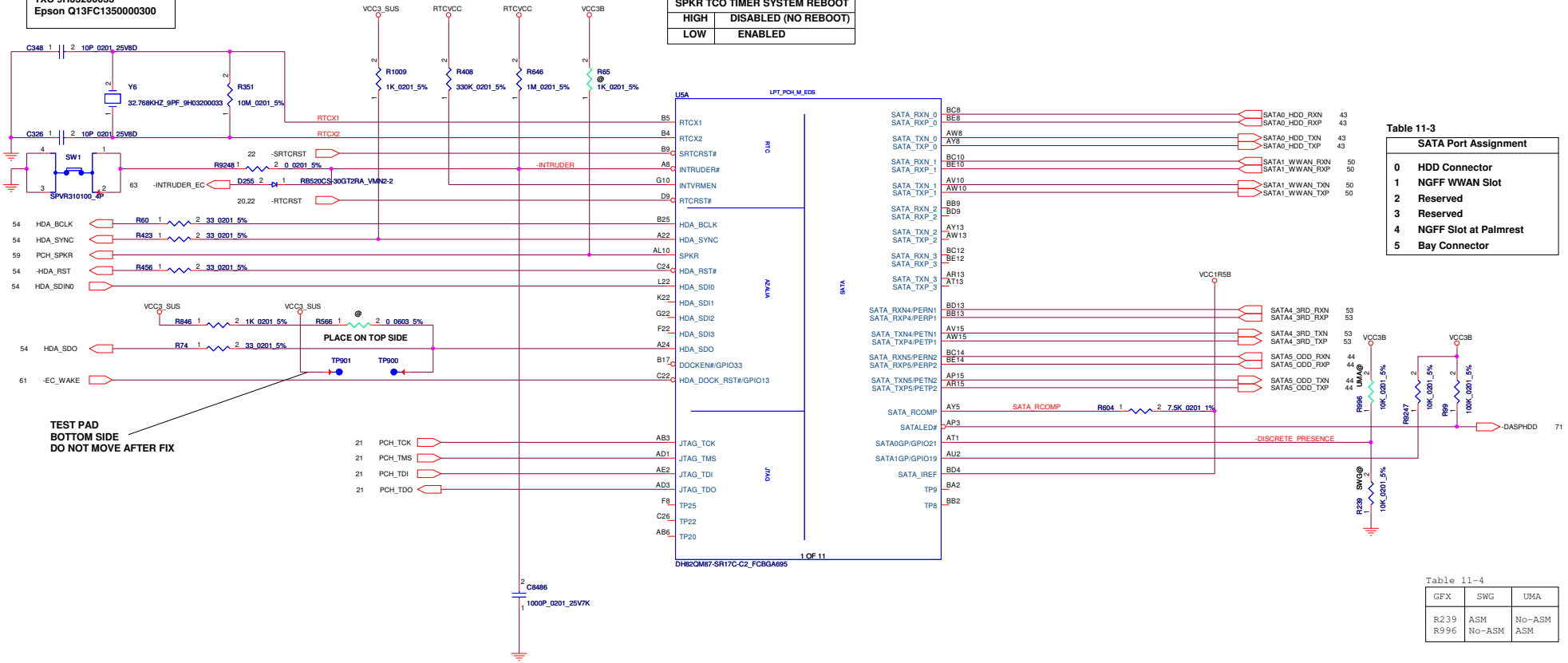

Table 11-3

SATA Port Assignment	
0	HDD Connector
1	NGFF WWAN Slot
2	Reserved
3	Reserved
4	NGFF Slot at Palmrest
5	Bay Connector

Table 11-4

GFX	SWG	UMA
R239	ASM	No-ASM
R996	No-ASM	ASM

Project Name : OAS-1 SP ASSESS	Title : PCH(1/10) : RTC/HDA/SATA/JTAG	
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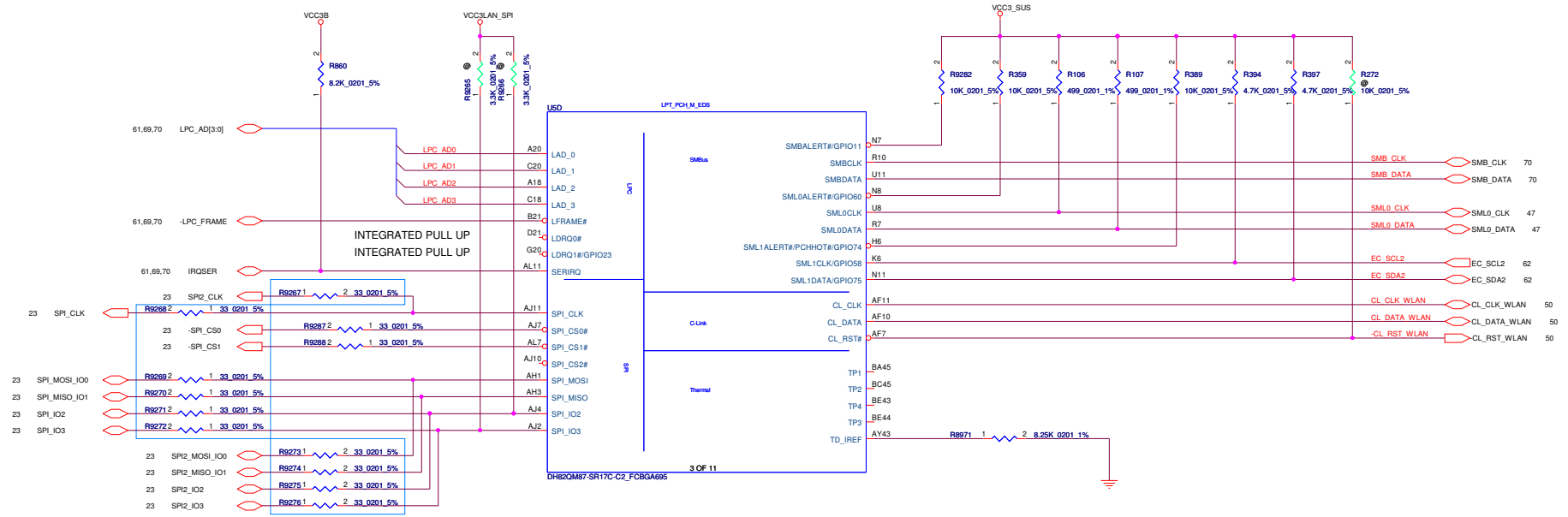

Layout note:
Put on below resistors near PCH (U5):
R9268,R9269,R9270,R9271,R9272
R9267,R9273,R9274,R9275,R9276

Project Name : OAS-1 SP ASSESS		Title : PCH(2/10) : LPC/SPI/SMBUS/C-LINK/THERMAL	
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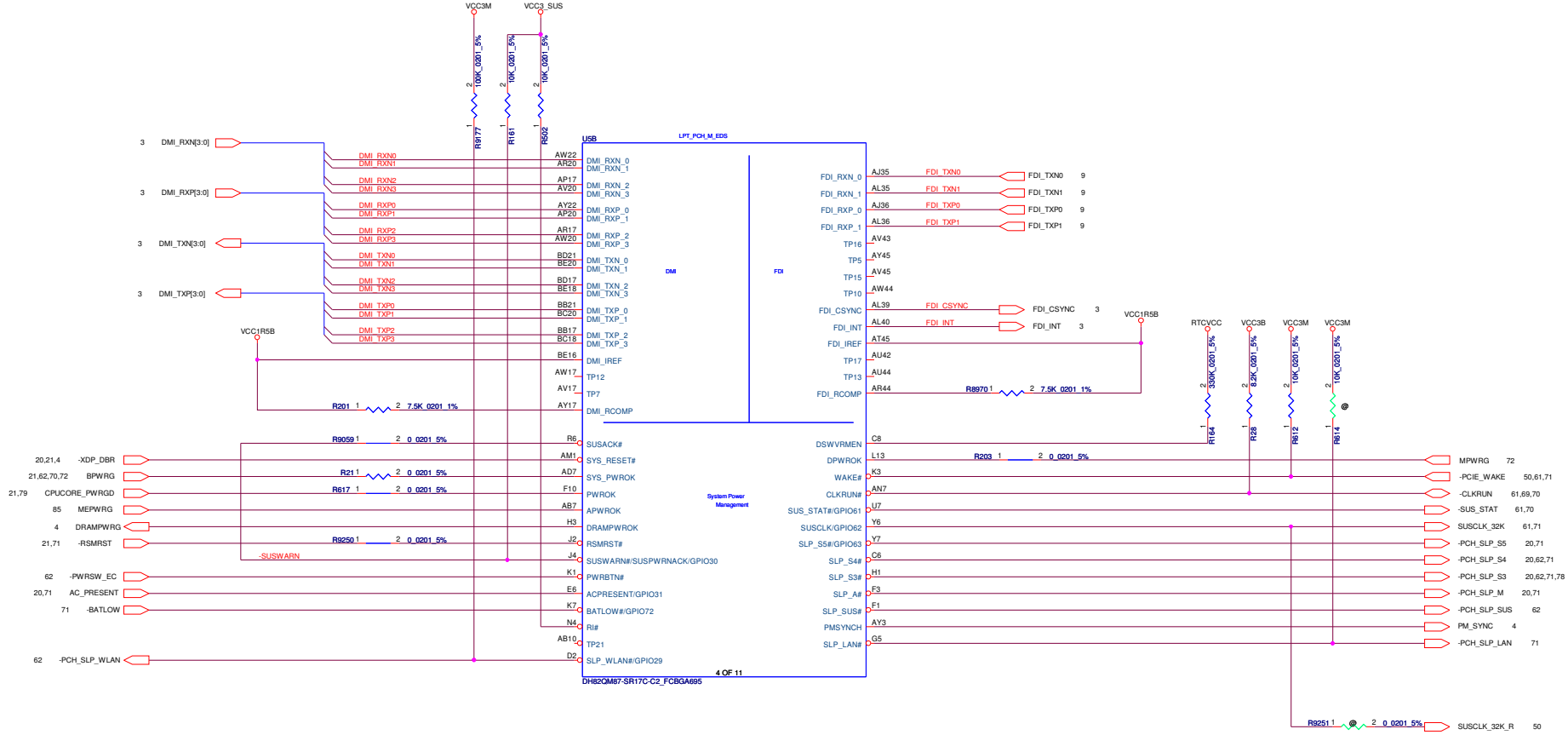

Project Name : OAS-1 SP ASSESS		Title : PCH(3/10) : DMI/FDI/PM	
Size : C	Document Number :		Rev : 1.01
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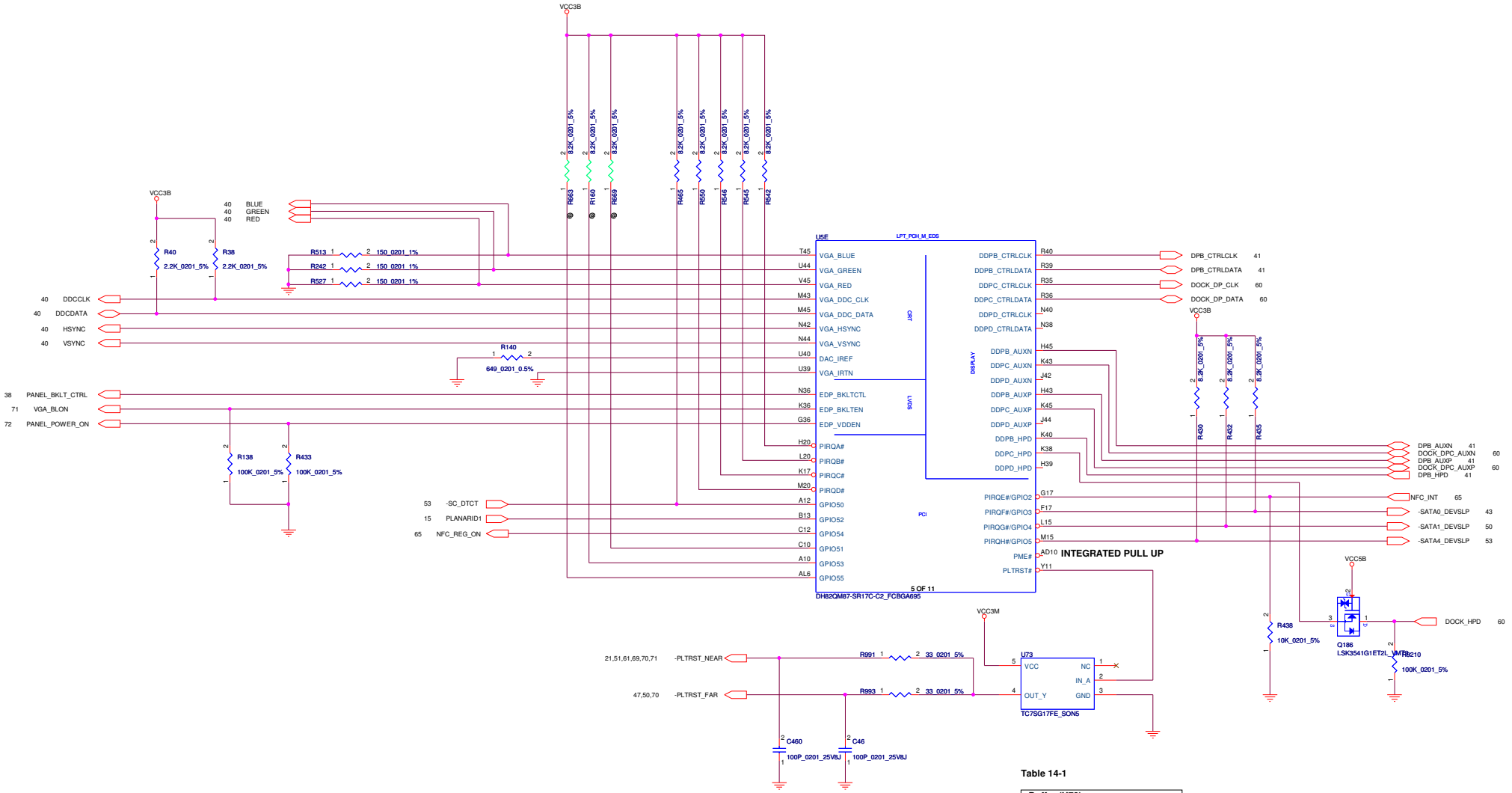

Table 14-1

Buffer (U73)	
Toshiba	TC7SG17FE
ONsemi	NL17SZ17XV5T2G

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Project Name : OAS-1 SP ASSESS		Title : PCH(4/10) : LCD/CRT/PCI/DDI CONTROL	
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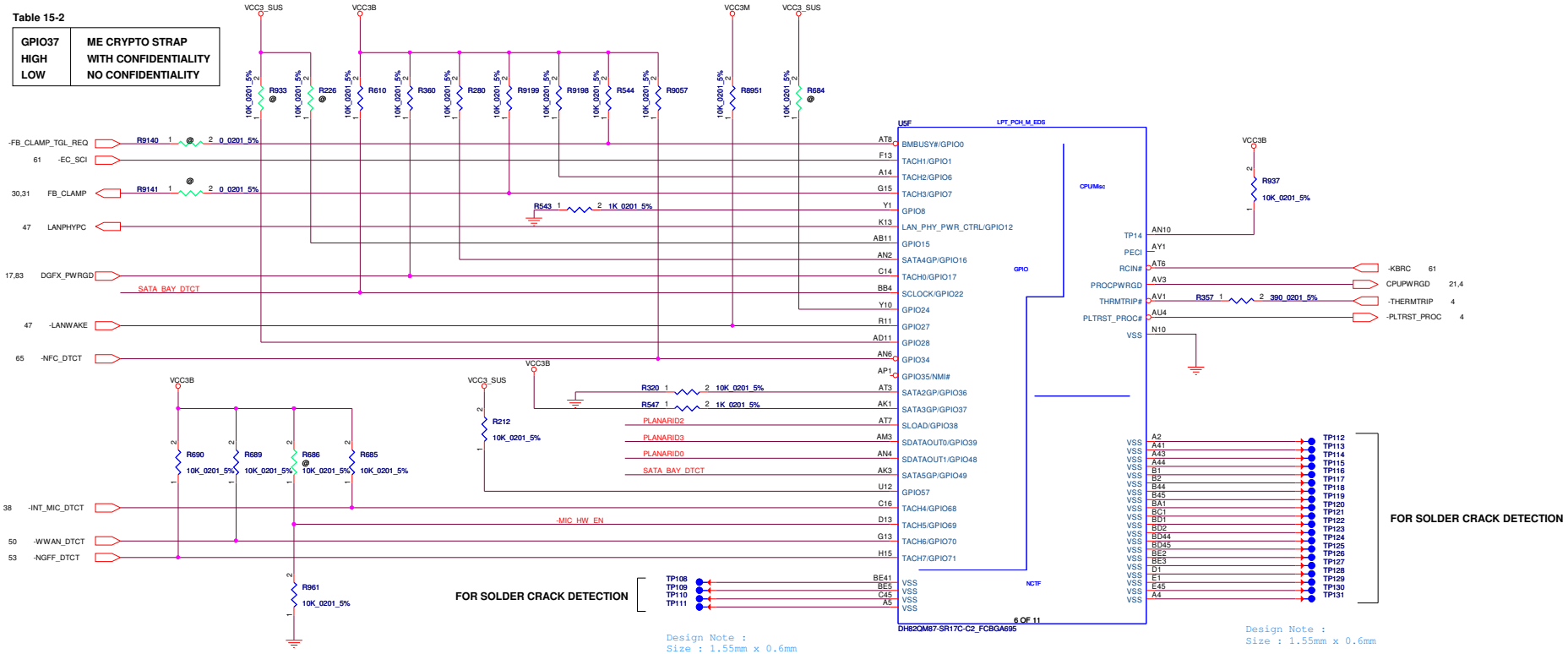
Table 15-1

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

Table 15-2

GPIO37	ME CRYPTO STRAP
HIGH	WITH CONFIDENTIALITY
LOW	NO CONFIDENTIALITY



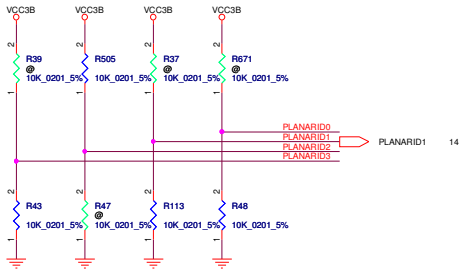


Table 15-3

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

Table 15-4

LEVEL	PLANARID[3..0]
SDV	0000B
FVT	0001B
SIT	0010B
SIT-v	0011B
SVT	0100B

Project Name : OAS-1 SP ASSESS		Title : PCH(5/10) : GPIO/CPU/MISC/NCTF/RSVD	
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Table 16-1

Flexible I/O Configuration				
I/O	**High Speed Signals**	**Configuration**	**Net Name**	**Port Assignment**
Port 1	USB3 1	USB3 1	USB3P1_SYS0	USB 3.0 System Port 0
Port 2	USB3 2	USB3 2	USB3P2_SYS1	USB 3.0 System Port 1
Port 3	USB3 5	USB3 5	USB3P5_DOCK	USB 3.0 Docking
Port 4	USB3 6	USB3 6	NC	Reserved
Port 5	PCIE 1/USB3 3	PCIE 1	PCIE1_MCC	Media Card Controller
Port 6	PCIE 2/USB3 4	PCIE 2	PCIE2_WLAN	NGFF WLAN Slot
Port 7	PCIE 3	PCIE 3	NC	Reserved
Port 8	PCIE 4	PCIE 4	PCIE4_GBE	GbE PHY
Port 9	PCIE 5	PCIE 5	NC	Reserved
Port 10	PCIE 6	PCIE 6	NC	Reserved
Port 11	PCIE 7	PCIE 7	NC	Reserved
Port 12	PCIE 8	PCIE 8	NC	Reserved
Port 13	SATA 4/PCIE 1	SATA 4	SATA4_3RD	NGFF Slot at Palmrest
Port 14	SATA 5/PCIE 2	SATA 5	SATA5_ODD	Bay Connector
Port 15	SATA 0	SATA 0	SATA0_HDD	HDD Connector
Port 16	SATA 1	SATA 1	SATA1_WWAN	NGFF WWAN Slot
Port 17	SATA 2	SATA 2	NC	Reserved
Port 18	SATA 3	SATA 3	NC	Reserved

Table 16-2

PCIe Port Assignment	
1	Media Card Controller
2	NGFF WLAN Slot
3	Reserved
4	GbE PHY
5	Reserved
6	Reserved
7	Reserved
8	Reserved

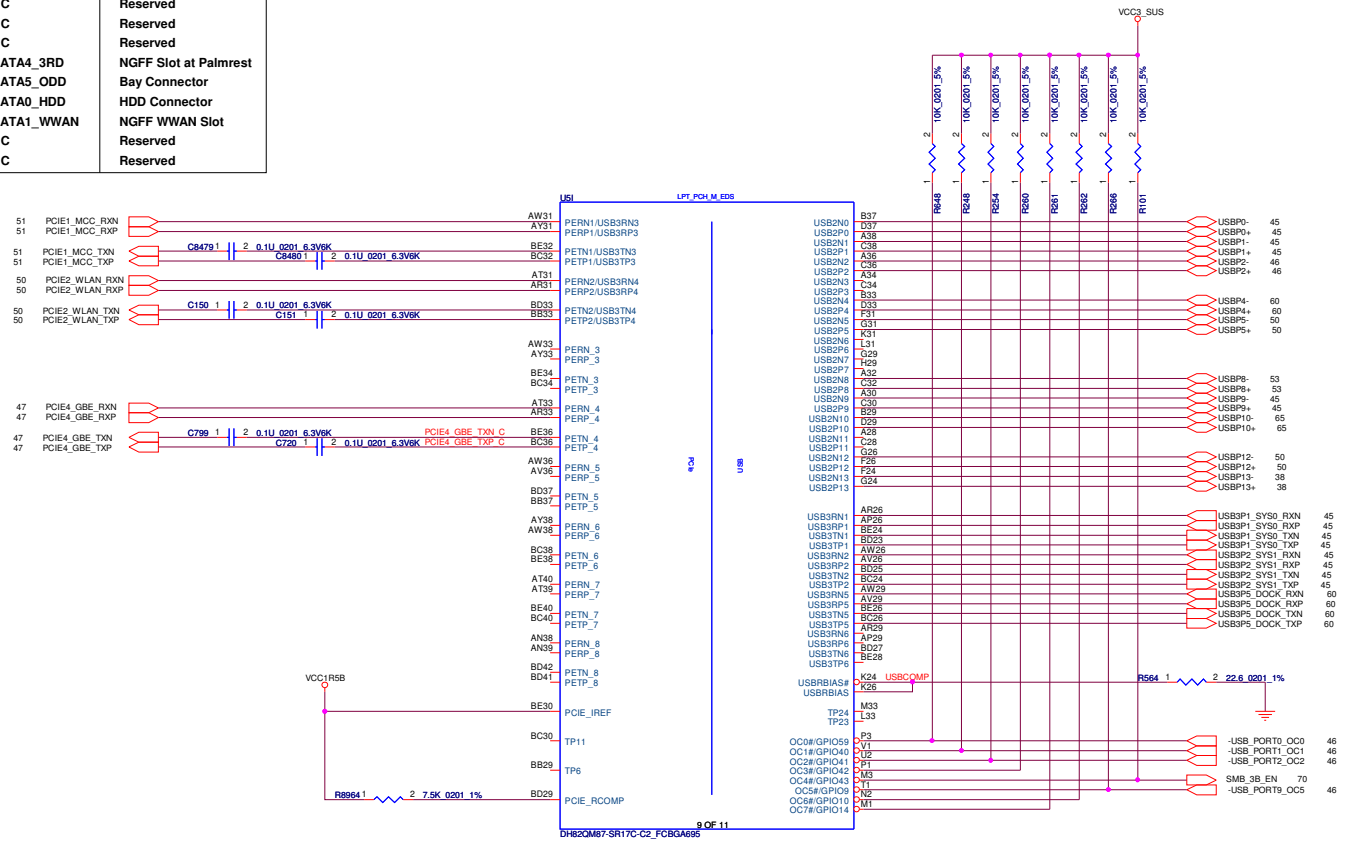

Table 16-3

USB 2.0 Port Assignment	
0	USB 3.0 System Port 0
1	USB 3.0 System Port 1
2	USB 2.0 System Port 2 (AOU)
3	Reserved
4	USB 3.0 Docking
5	NGFF WWAN Slot
6	Reserved
7	Reserved
8	Smart Card Slot
9	USB 2.0 System Port 3 (Debug)
10	Fingerprint Reader
11	Reserved
12	NGFF WLAN Slot
13	USB Camera

Table 16-4

USB 3.0 Port Assignment	
1	USB 3.0 System Port 0
2	USB 3.0 System Port 1
3	(N/A)
4	(N/A)
5	USB 3.0 Docking
6	Reserved

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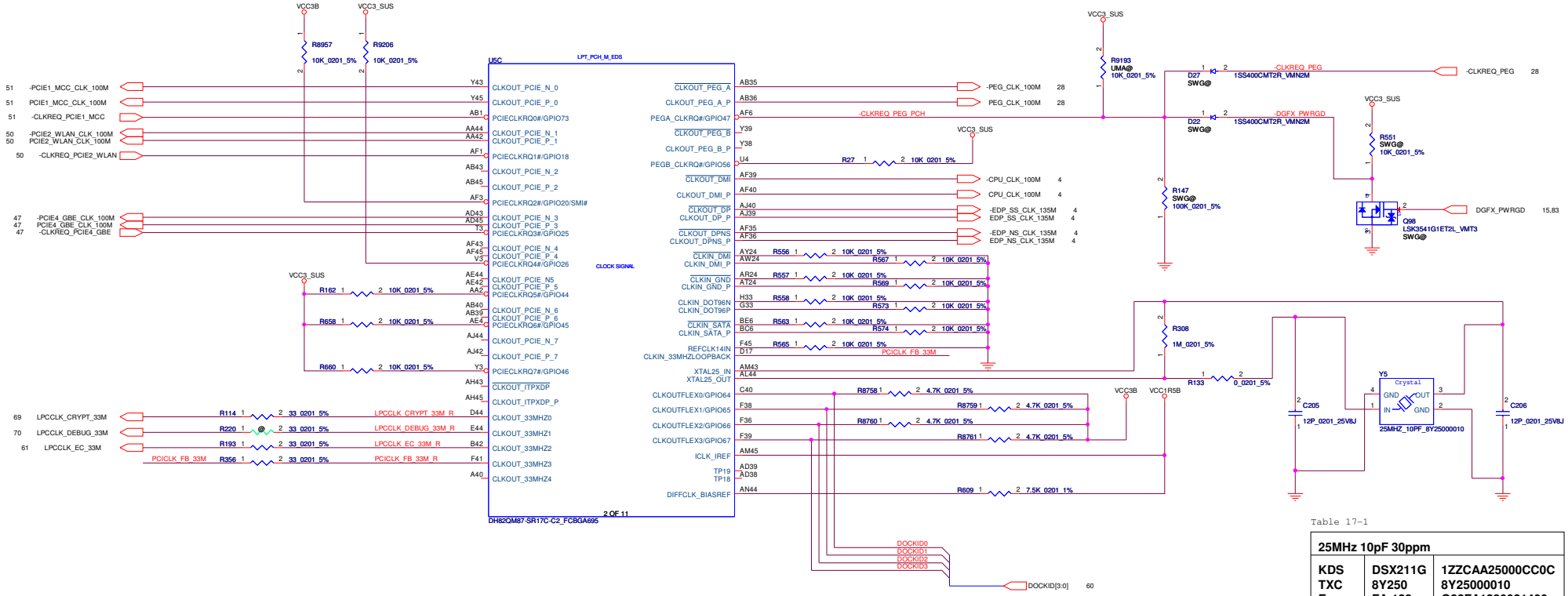

Table 17-1

25MHz 10pF 30ppm		
KDS	DSX211G	1ZZCAA25000CC0C
TXC	8Y250	8Y25000010
Epson	FA-128	Q22FA1280021400

Project Name : OAS-1 SP ASSESS	Title : PCH(7/10) : CLOCKS	
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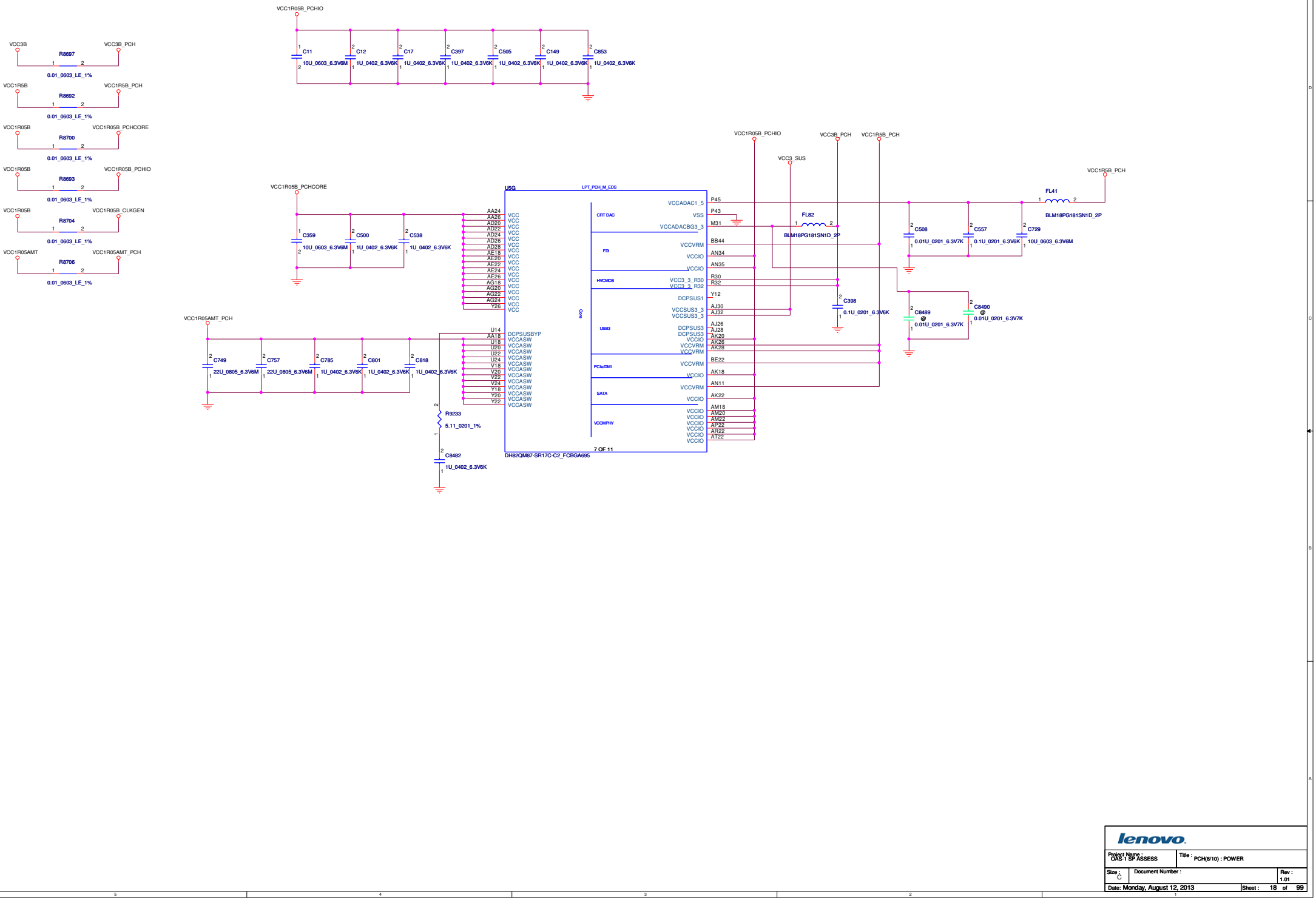

Project Name : OAS-1 SP ASSESS		Title : PCH(8/10) : POWER	
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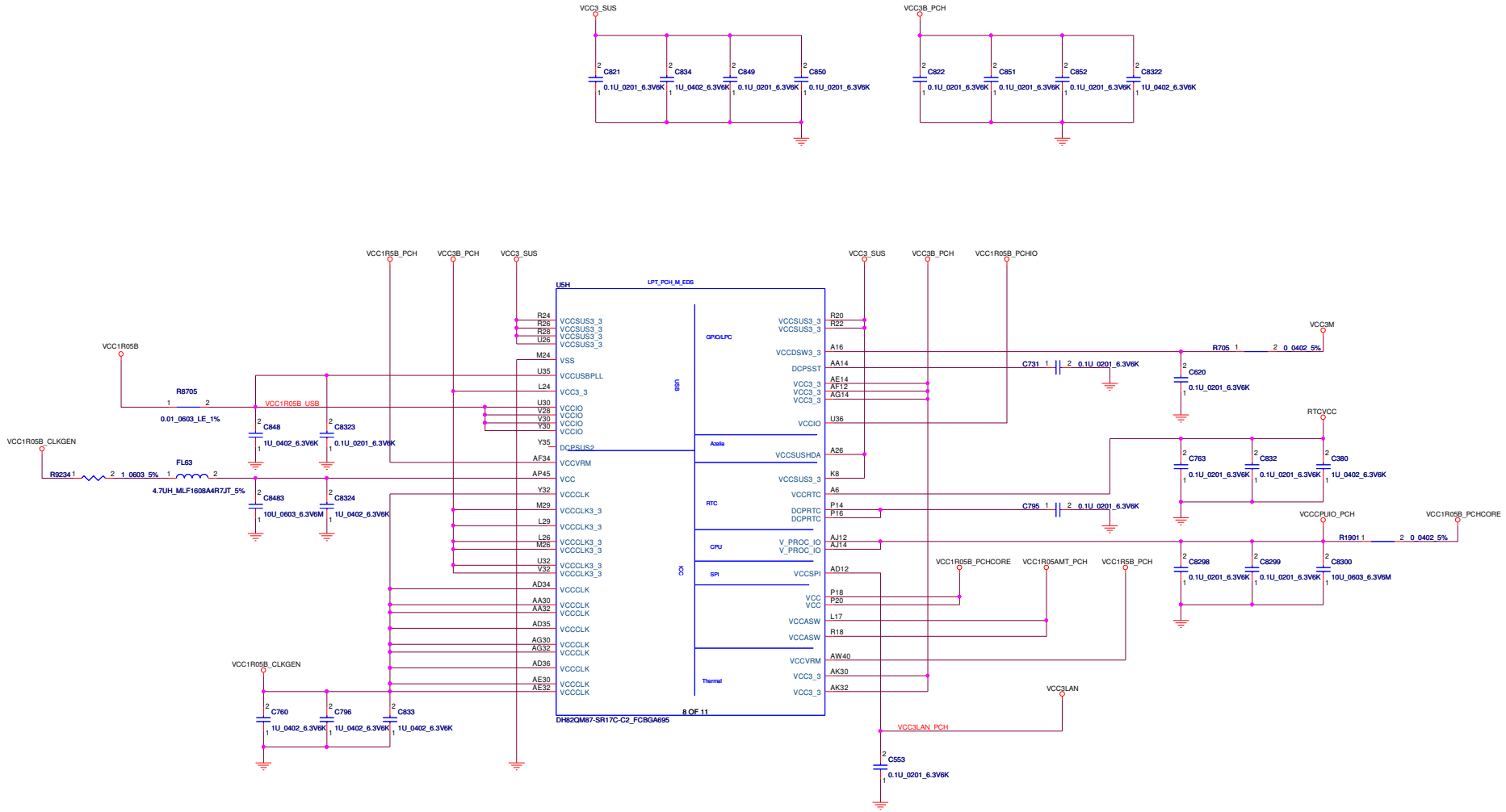

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Project Name : OAS-1 SP ASSESS	Title : PCH(9/10) : POWER	
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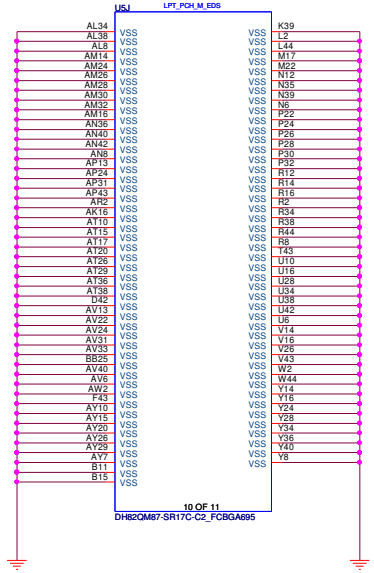
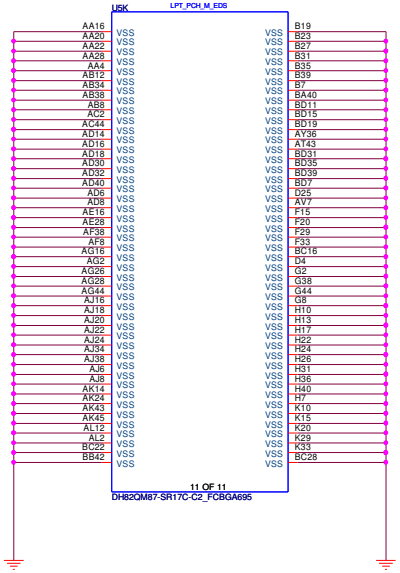
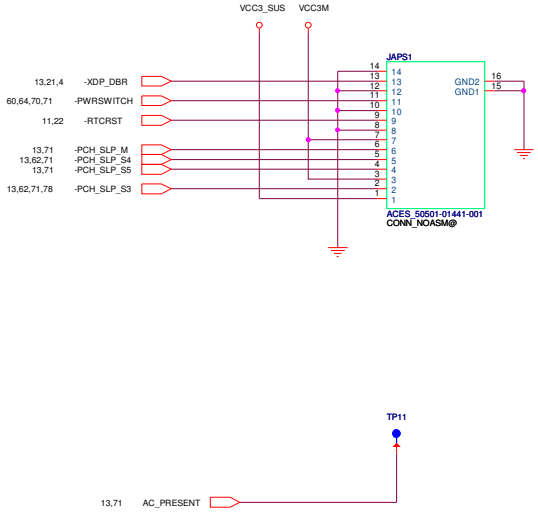
TEST PAD FOR METS/APS







Project Name : OAS-1 SP ASSESS	Title : PCH(10/10):GND	
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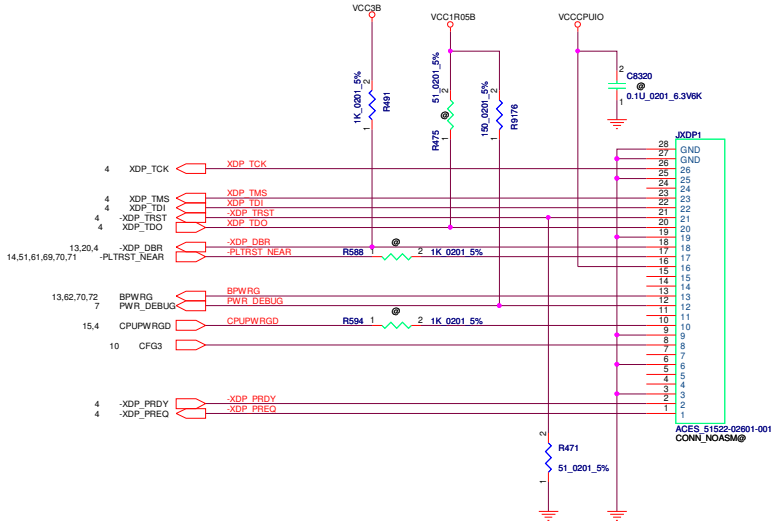

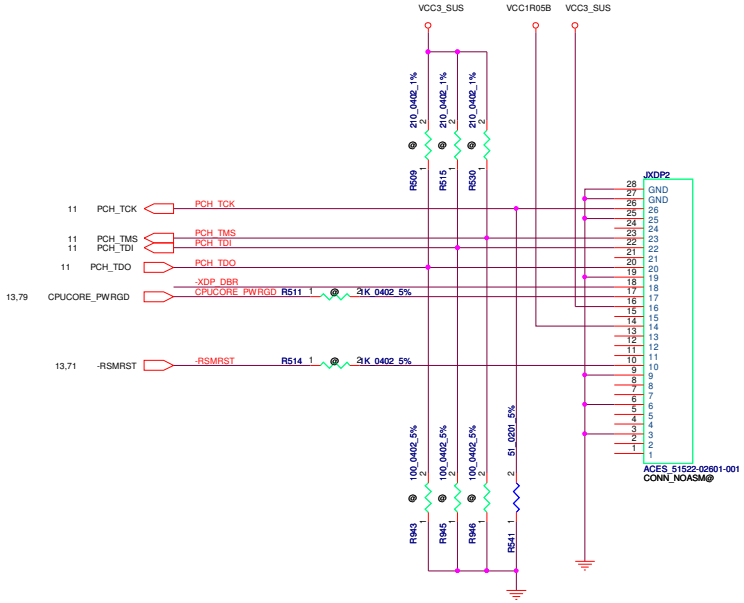

Table 21-1

SIGNAL	REF DES	ENABLE	DISABLE
TDO	R475	ASM	NO ASM
TRST#	R471	ASM	ASM
DBRST#	R491	ASM	ASM
RESET#	R588	ASM	NO ASM
CPUPWRGD	R594	ASM	NO ASM
PWR_DEBUG	R9176	ASM	ASM
	C8320	ASM	NO ASM
	JXDP1	ASM	NO ASM

LOGIC

Table 21-2

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
CPUCORE_PWRGD	R511	ASM	NO ASM
-RSMRST	R514	ASM	NO ASM
	JXDP2	ASM	NO ASM

LOGIC

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Project Name : OAS-1 SP ASSESS	Title : XDP CONNECTOR	
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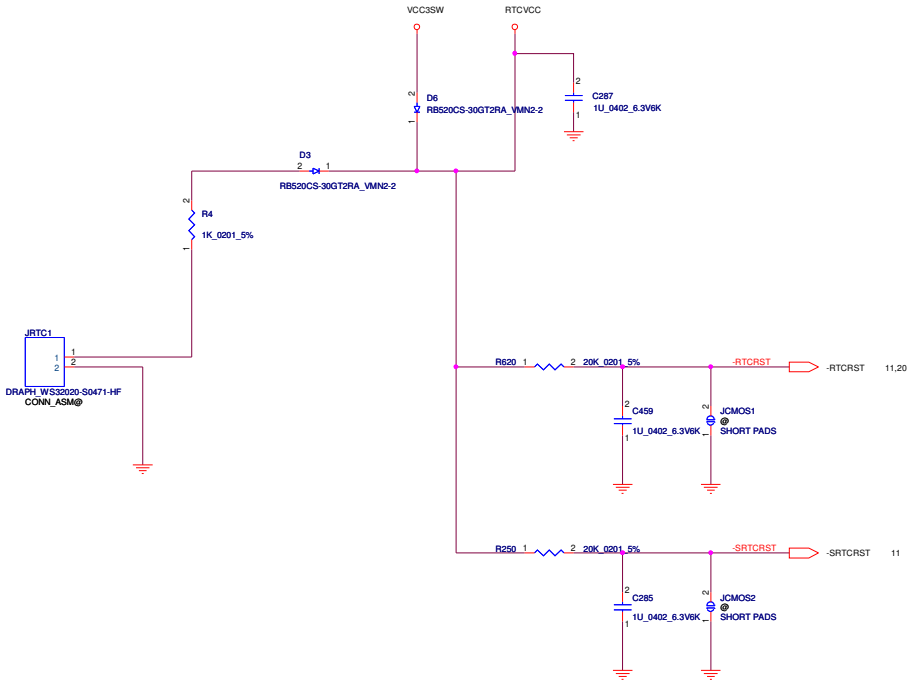

Project Name : OAS-1 SP ASSESS	Title : RTC BATTERY	
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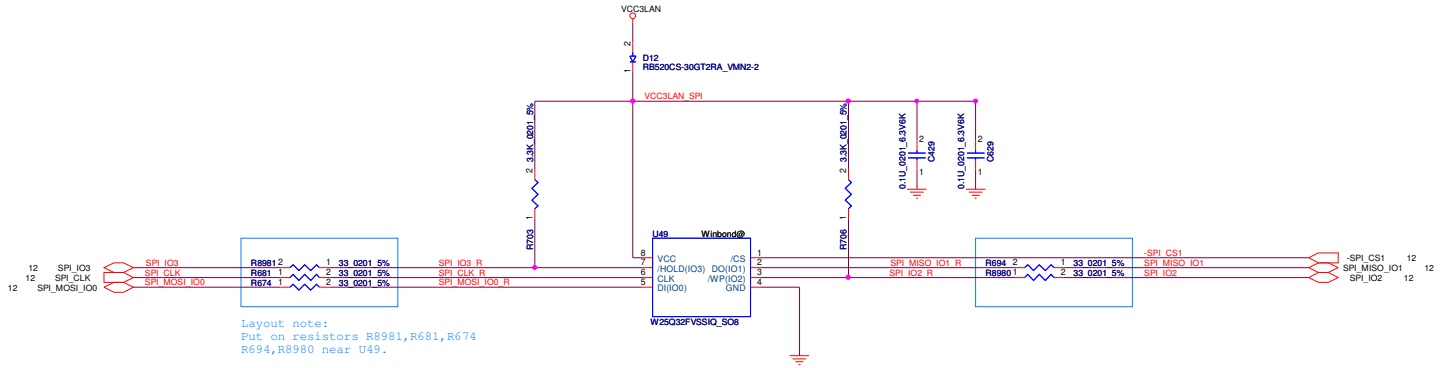
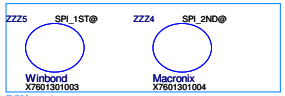


Layout note:
Put on resistors R8981,R681,R674
R694,R8980 near U49.

BOM note:
Virtual symbol for BOM control.



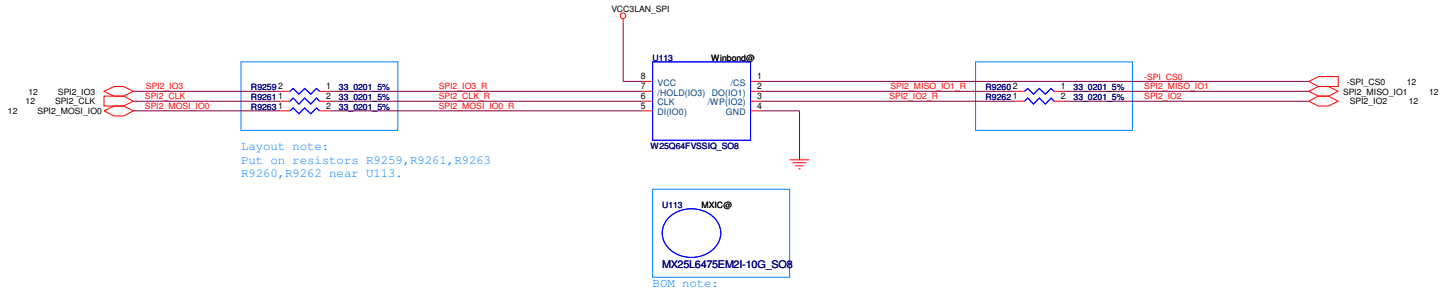
BOM note:
Virtual symbol for BOM control.

Table 23-1

SPI Configuration		Supplier	P/N
Single	Dual		
U113 (CS0#)		16MB Macronix Winbond (Numonyx)	MX25L12875FM2I-10G W25Q128FVSIQ
	U113 (CS0#)	8MB Macronix Winbond (Numonyx)	MX25L6475EM2I-10G W25Q64FVSSIQ
	U49 (CS1#)	4MB Macronix Winbond (Numonyx)	MX25L3275EM2I-10G W25Q32FVSSIQ

LOGIC

Design Note:
MX25Lxxx73E may be mixed from SIT.
Don't mix it from FVT.



Layout note:
Put on resistors R9259,R9261,R9263
R9260,R9262 near U113.

BOM note:
Virtual symbol for BOM control.

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Project Name : OAS-1 SP ASSESS	Title : SPI FLASH	
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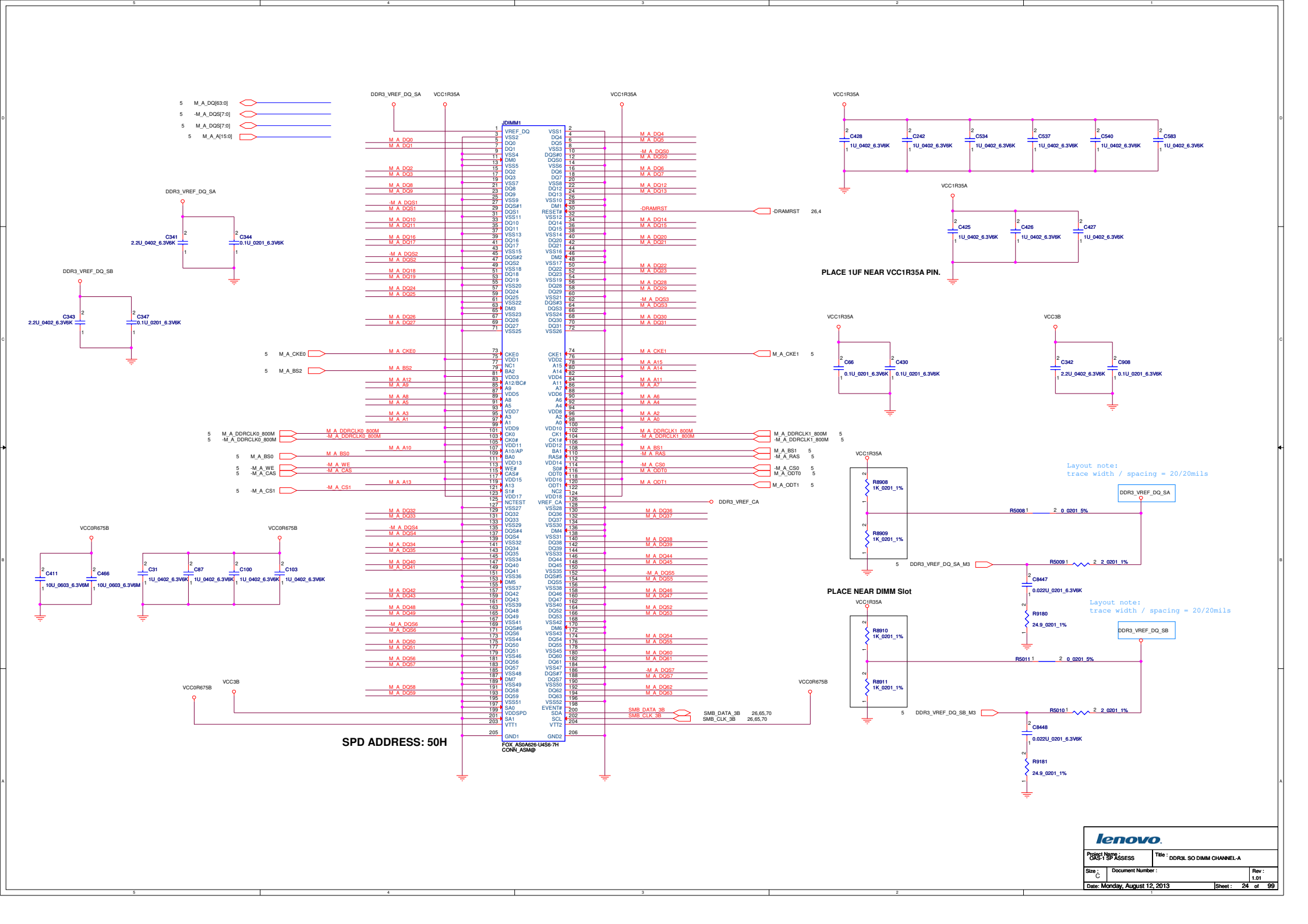
JDIMM1
FOX_AS0A626-U4S6-7H
CONN_ASM@
SPD ADDRESS: 50H
PLACE 1UF NEAR VCC1R35A PIN.
PLACE NEAR DIMM Slot
Layout note:
trace width / spacing = 20/20mils
Layout note:
trace width / spacing = 20/20mils
DDR3_VREF_DQ_SA
DDR3_VREF_DQ_SB
DDR3_VREF_CA
VCC1R35A
VCC3B
VCC0R675B
-DRAMRST
SMB_DATA_3B
SMB_CLK_3B
DDR3_VREF_DQ_SA_M3
DDR3_VREF_DQ_SB_M3
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Project Name : OAS-1 SP ASSESS
Title : DDR3L SO DIMM CHANNEL-A
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BLANK

Project Name : OAS-1 SP ASSESS	Title : BLANK	
Size : C	Document Number :	Rev : 1.01
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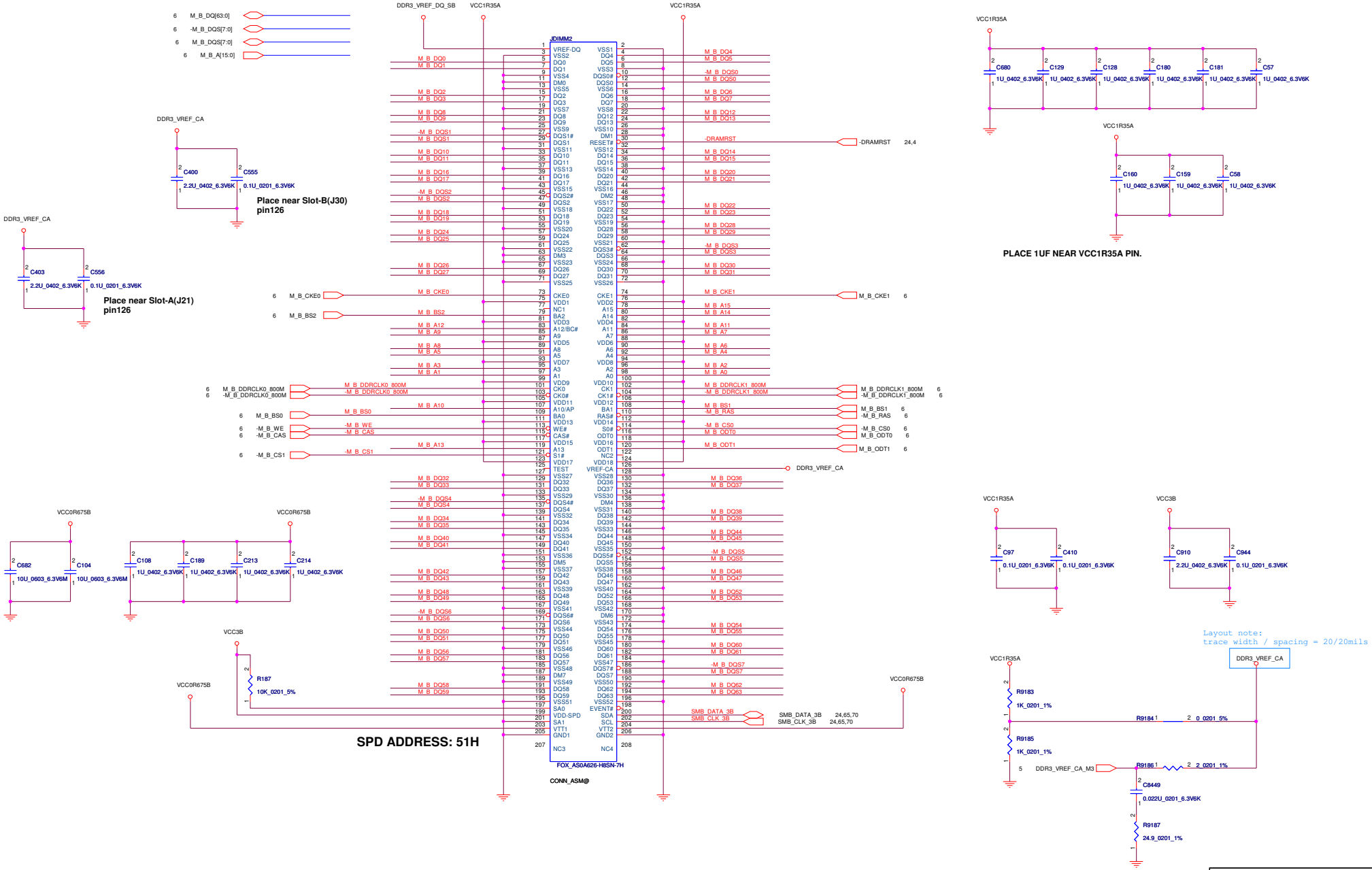

Project Name : OAS-1 SP ASSESS	Title : DDR3L SO DIMM CHANNEL-B
Size : C	Document Number :
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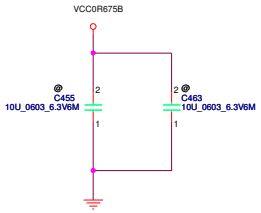
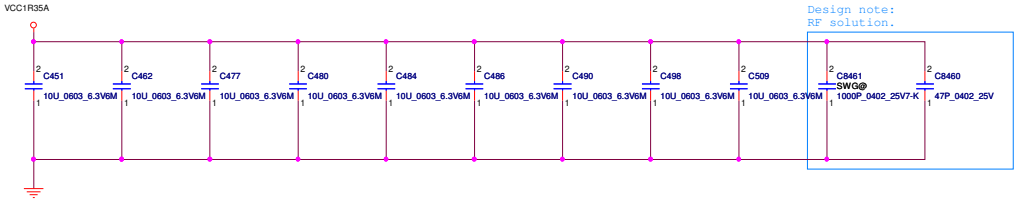
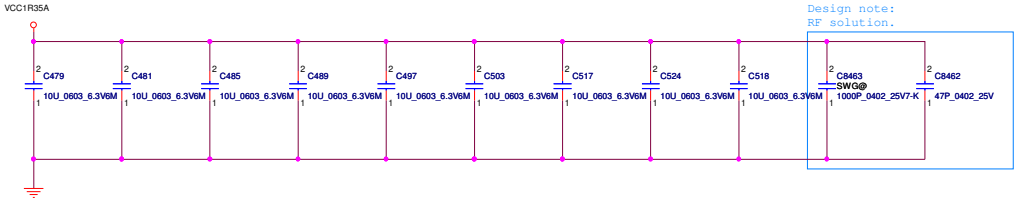


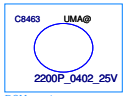


Design note:
RF solution.

BOM note:
Virtual symbol for BOM control.



Design note:
RF solution.



BOM note:
Virtual symbol for BOM control.

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Project Name : OAS-1 SP ASSESS	Title : DDR3L DECOUPLING
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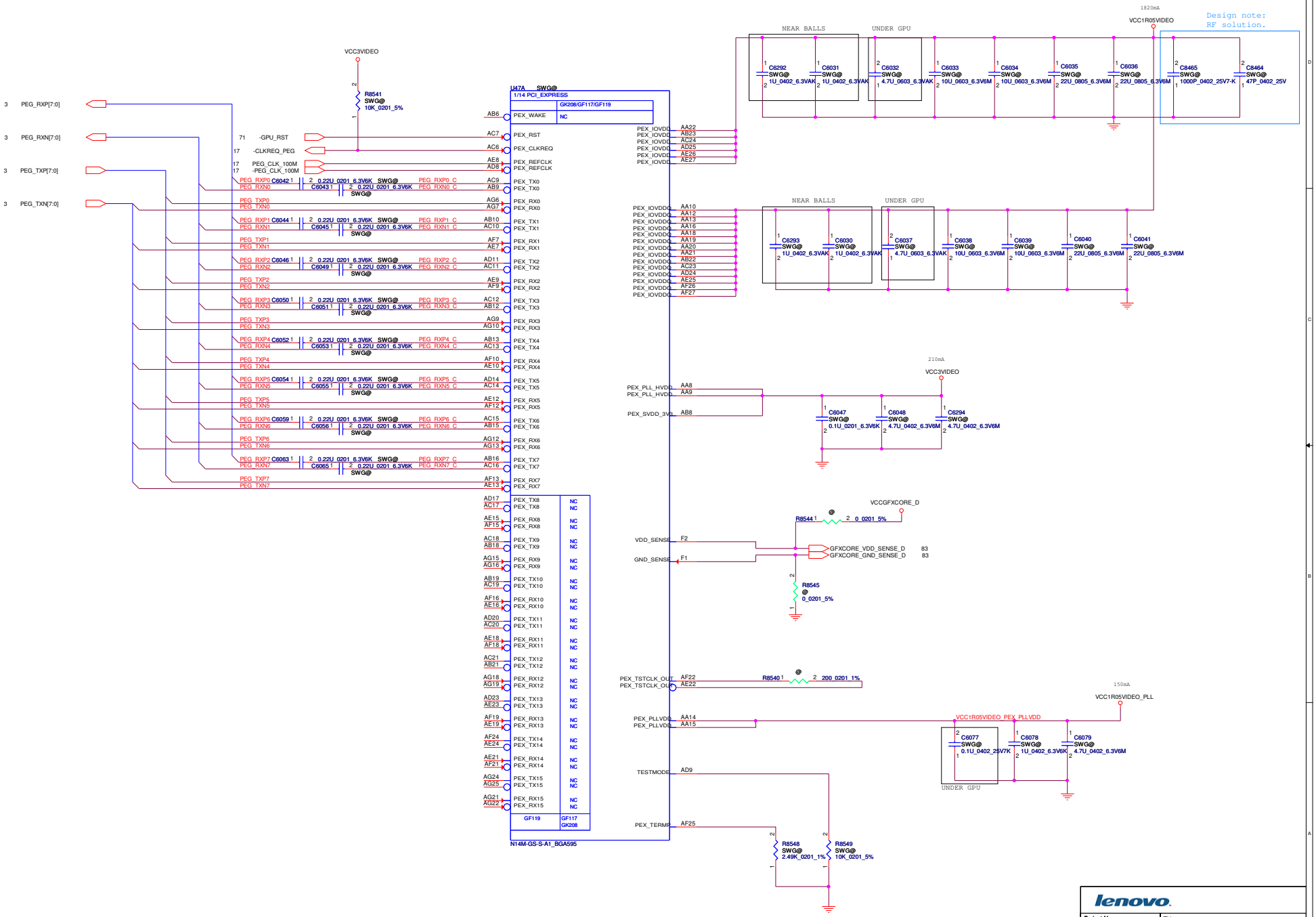
Design note:
RF solution.
VCC3VIDEO
VCC1R05VIDEO
VCC1R05VIDEO_PLL
VCCGFXCORE_D
NEAR BALLS
UNDER GPU
U47A SWG@
1/14 PCI_EXPRESS
GK208/GF117/GF119
N14M-GS-S-A1_BGA595
PEG_RXP[7:0]
PEG_RXN[7:0]
PEG_TXP[7:0]
PEG_TXN[7:0]
-GPU_RST
-CLKREQ_PEG
PEG_CLK_100M
-PEG_CLK_100M
R8541 SWG@ 10K_0201_5%
R8544 @ 0_0201_5%
R8545 @ 0_0201_5%
R8540 @ 200_0201_1%
R8548 SWG@ 2.49K_0201_1%
R8549 SWG@ 10K_0201_5%
GFXCORE_VDD_SENSE_D
GFXCORE_GND_SENSE_D
VCC1R05VIDEO_PEX_PLLVDD
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Title : N14M-GS(1/6) : PEG I/F
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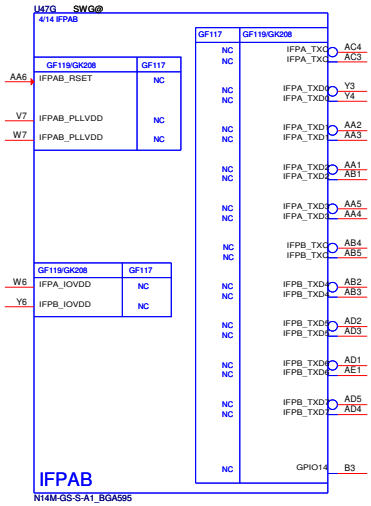

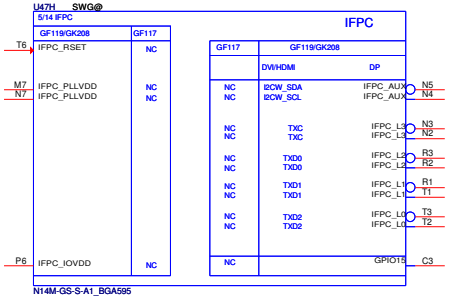

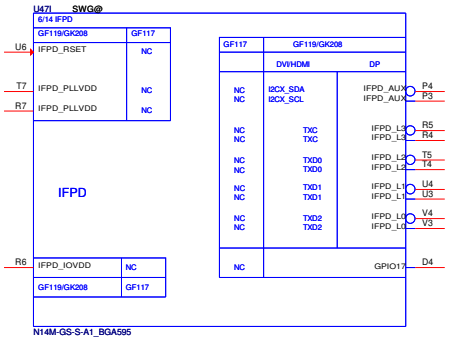

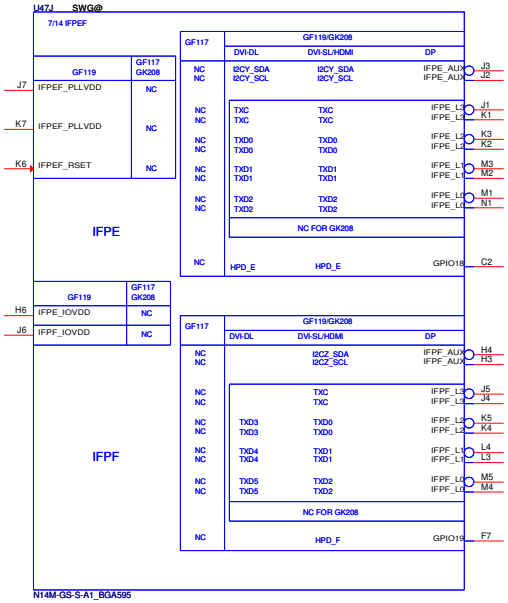

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Project Name : OAS-1 SP ASSESS	Title : N14M-GS(2/6) : DIGITAL OUT I/F
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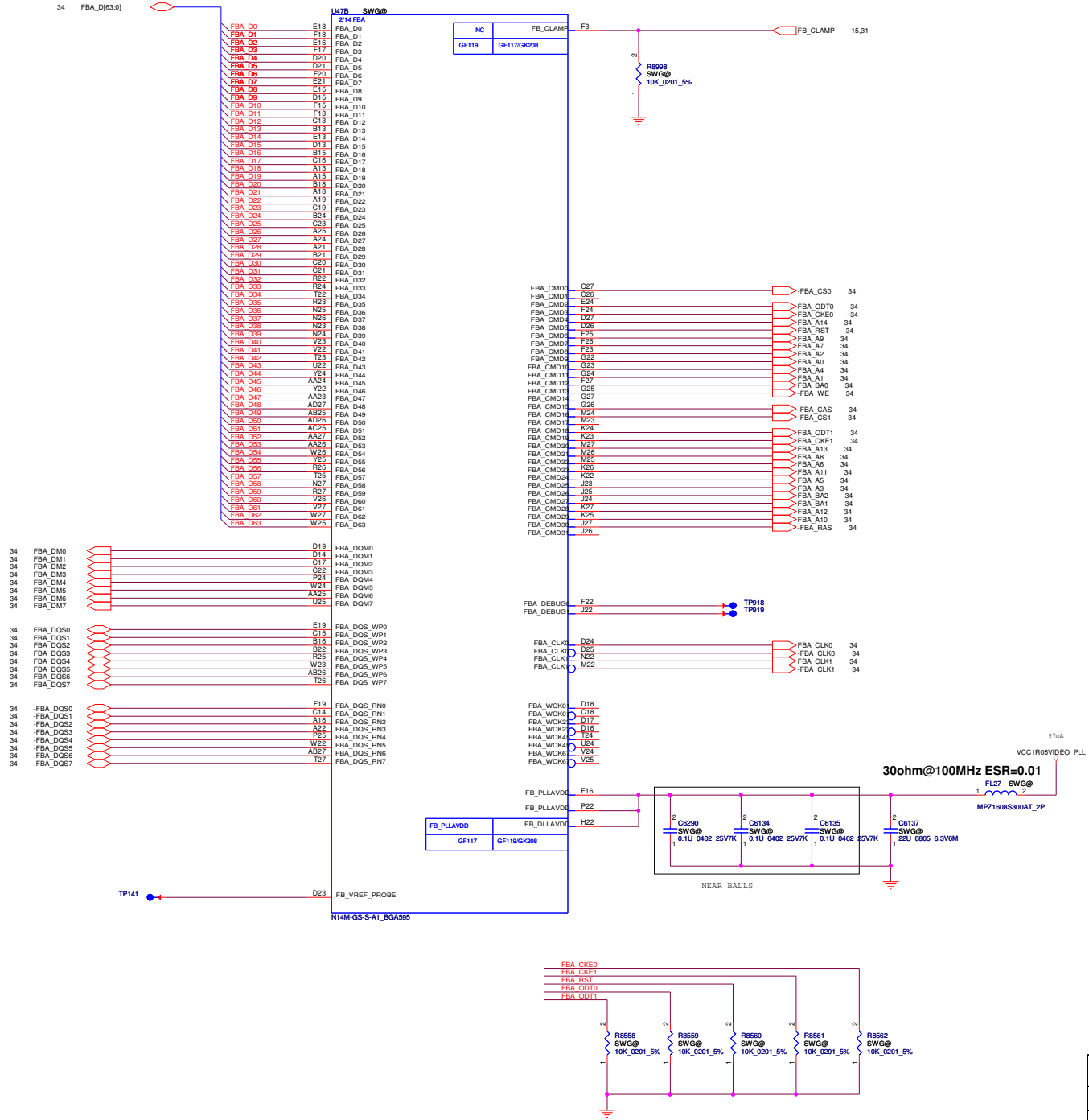

FBA_D0 E18 FBA_D0
FBA_D1 F18 FBA_D1
FBA_D2 E16 FBA_D2
FBA_D3 F17 FBA_D3
FBA_D4 D20 FBA_D4
FBA_D5 D21 FBA_D5
FBA_D6 F20 FBA_D6
FBA_D7 E21 FBA_D7
FBA_D8 E15 FBA_D8
FBA_D9 D15 FBA_D9
FBA_D10 F15 FBA_D10
FBA_D11 F13 FBA_D11
FBA_D12 C13 FBA_D12
FBA_D13 B13 FBA_D13
FBA_D14 E13 FBA_D14
FBA_D15 D13 FBA_D15
FBA_D16 B15 FBA_D16
FBA_D17 C16 FBA_D17
FBA_D18 A13 FBA_D18
FBA_D19 A15 FBA_D19
FBA_D20 B18 FBA_D20
FBA_D21 A18 FBA_D21
FBA_D22 A19 FBA_D22
FBA_D23 C19 FBA_D23
FBA_D24 B24 FBA_D24
FBA_D25 C23 FBA_D25
FBA_D26 A25 FBA_D26
FBA_D27 A24 FBA_D27
FBA_D28 A21 FBA_D28
FBA_D29 B21 FBA_D29
FBA_D30 C20 FBA_D30
FBA_D31 C21 FBA_D31
FBA_D32 R22 FBA_D32
FBA_D33 R24 FBA_D33
FBA_D34 T22 FBA_D34
FBA_D35 R23 FBA_D35
FBA_D36 N25 FBA_D36
FBA_D37 N26 FBA_D37
FBA_D38 N23 FBA_D38
FBA_D39 N24 FBA_D39
FBA_D40 V23 FBA_D40
FBA_D41 V22 FBA_D41
FBA_D42 T23 FBA_D42
FBA_D43 U22 FBA_D43
FBA_D44 Y24 FBA_D44
FBA_D45 AA24 FBA_D45
FBA_D46 Y22 FBA_D46
FBA_D47 AA23 FBA_D47
FBA_D48 AD27 FBA_D48
FBA_D49 AB25 FBA_D49
FBA_D50 AD26 FBA_D50
FBA_D51 AC25 FBA_D51
FBA_D52 AA27 FBA_D52
FBA_D53 AA26 FBA_D53
FBA_D54 W26 FBA_D54
FBA_D55 Y25 FBA_D55
FBA_D56 R26 FBA_D56
FBA_D57 T25 FBA_D57
FBA_D58 N27 FBA_D58
FBA_D59 R27 FBA_D59
FBA_D60 V26 FBA_D60
FBA_D61 V27 FBA_D61
FBA_D62 W27 FBA_D62
FBA_D63 W25 FBA_D63

34 FBA_DM0 D19 FBA_DQM0
34 FBA_DM1 D14 FBA_DQM1
34 FBA_DM2 C17 FBA_DQM2
34 FBA_DM3 C22 FBA_DQM3
34 FBA_DM4 P24 FBA_DQM4
34 FBA_DM5 W24 FBA_DQM5
34 FBA_DM6 AA25 FBA_DQM6
34 FBA_DM7 U25 FBA_DQM7

34 FBA_DQS0 E19 FBA_DQS_WP0
34 FBA_DQS1 C15 FBA_DQS_WP1
34 FBA_DQS2 B16 FBA_DQS_WP2
34 FBA_DQS3 B22 FBA_DQS_WP3
34 FBA_DQS4 R25 FBA_DQS_WP4
34 FBA_DQS5 W23 FBA_DQS_WP5
34 FBA_DQS6 AB26 FBA_DQS_WP6
34 FBA_DQS7 T26 FBA_DQS_WP7

34 -FBA_DQS0 F19 FBA_DQS_RN0
34 -FBA_DQS1 C14 FBA_DQS_RN1
34 -FBA_DQS2 A16 FBA_DQS_RN2
34 -FBA_DQS3 A22 FBA_DQS_RN3
34 -FBA_DQS4 P25 FBA_DQS_RN4
34 -FBA_DQS5 W22 FBA_DQS_RN5
34 -FBA_DQS6 AB27 FBA_DQS_RN6
34 -FBA_DQS7 T27 FBA_DQS_RN7

Project Name : OAS-1 SP ASSESS	Title : N14M-GS(3/6) : VRAM I/F
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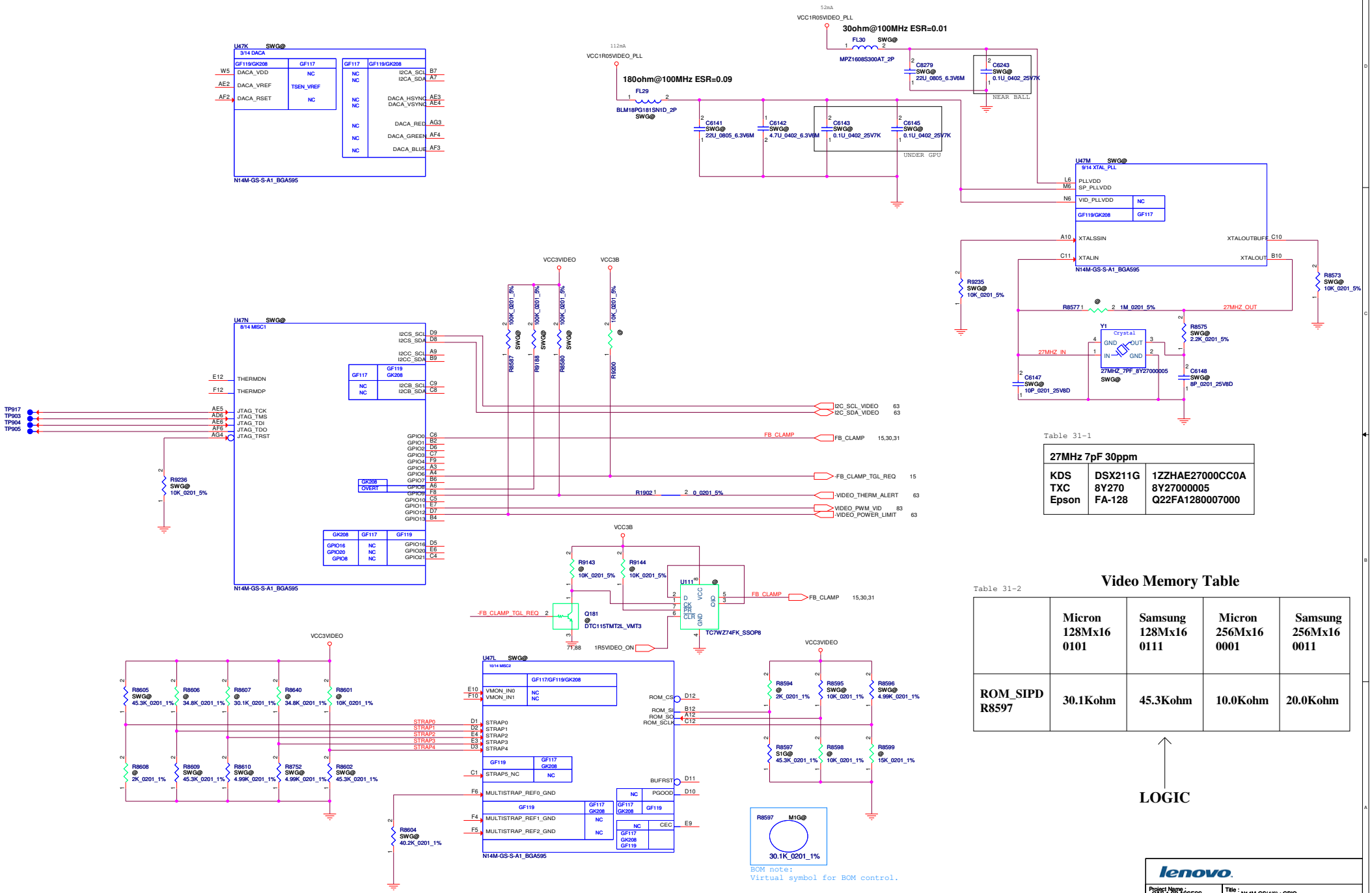

Table 31-1

27MHz 7pF 30ppm		
KDS	DSX211G	1ZZHAE27000CC0A
TXC	8Y270	8Y27000005
Epson	FA-128	Q22FA1280007000

Table 31-2

Video Memory Table

	Micron 128Mx16 0101	Samsung 128Mx16 0111	Micron 256Mx16 0001	Samsung 256Mx16 0011
ROM_SIPD R8597	30.1Kohm	45.3Kohm	10.0Kohm	20.0Kohm

LOGIC

Project Name : OAS-1 SP ASSESS	Title : N14M-GS(4/6) : GPIO	
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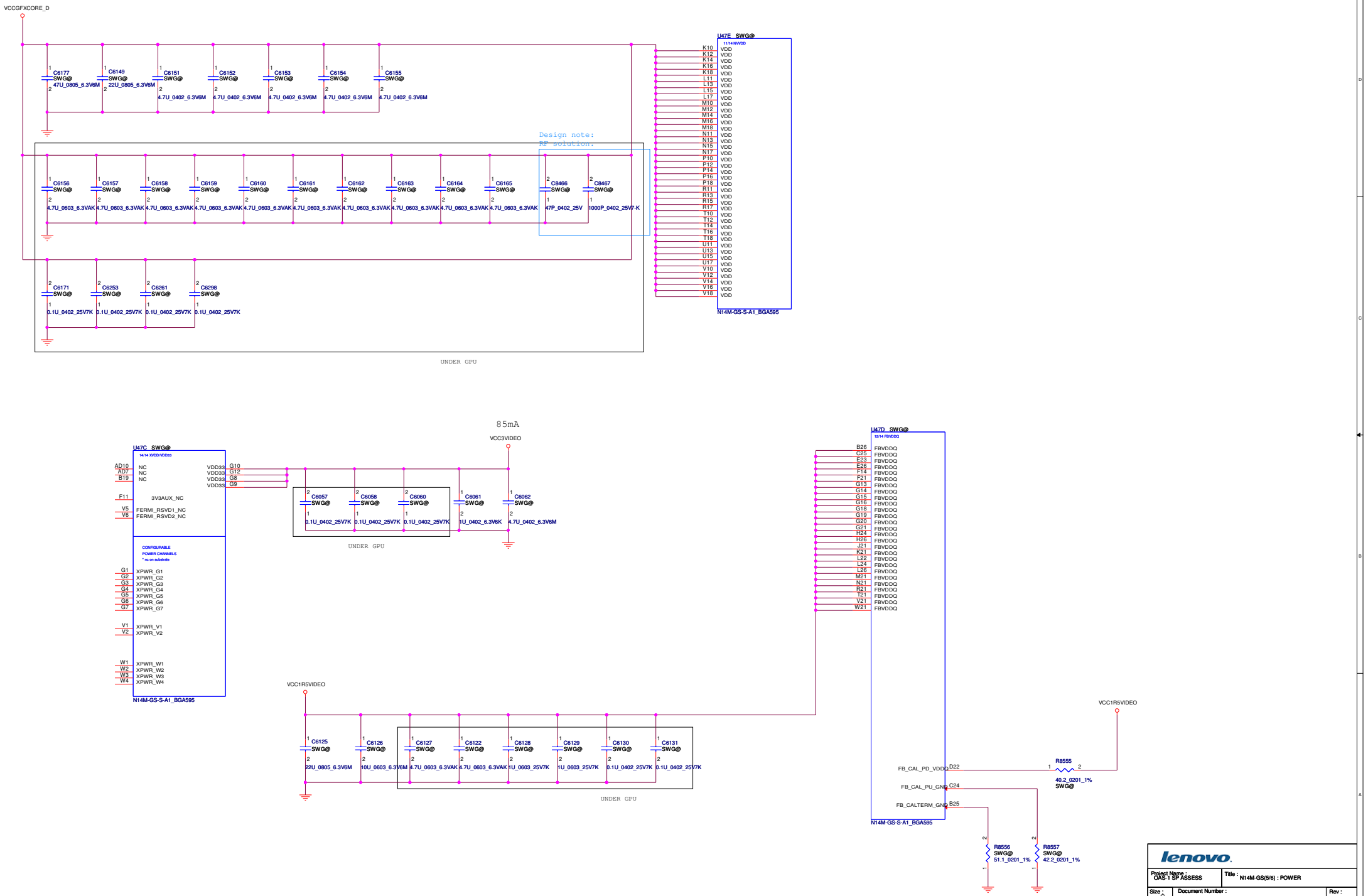

Project Name : OAS-1 SP ASSESS	Title : N14M-GS(5/6) : POWER	
Size : C	Document Number :	Rev : 1.01
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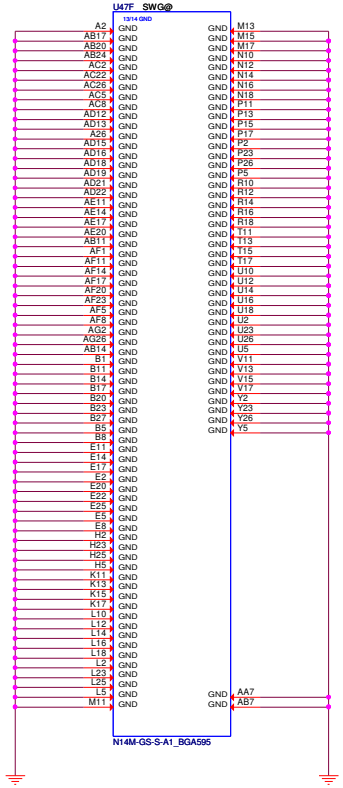

Project Name : OAS-1 SP ASSESS	Title : N14M-GS(6/6) : GND	
Size : C	Document Number :	Rev : 1.01
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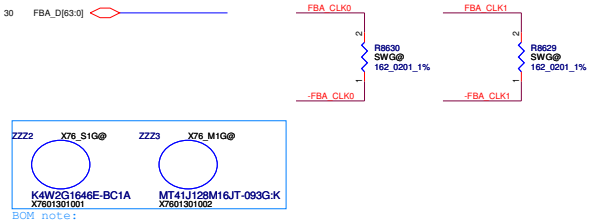
Table 34-1 DDR3 Video Memory

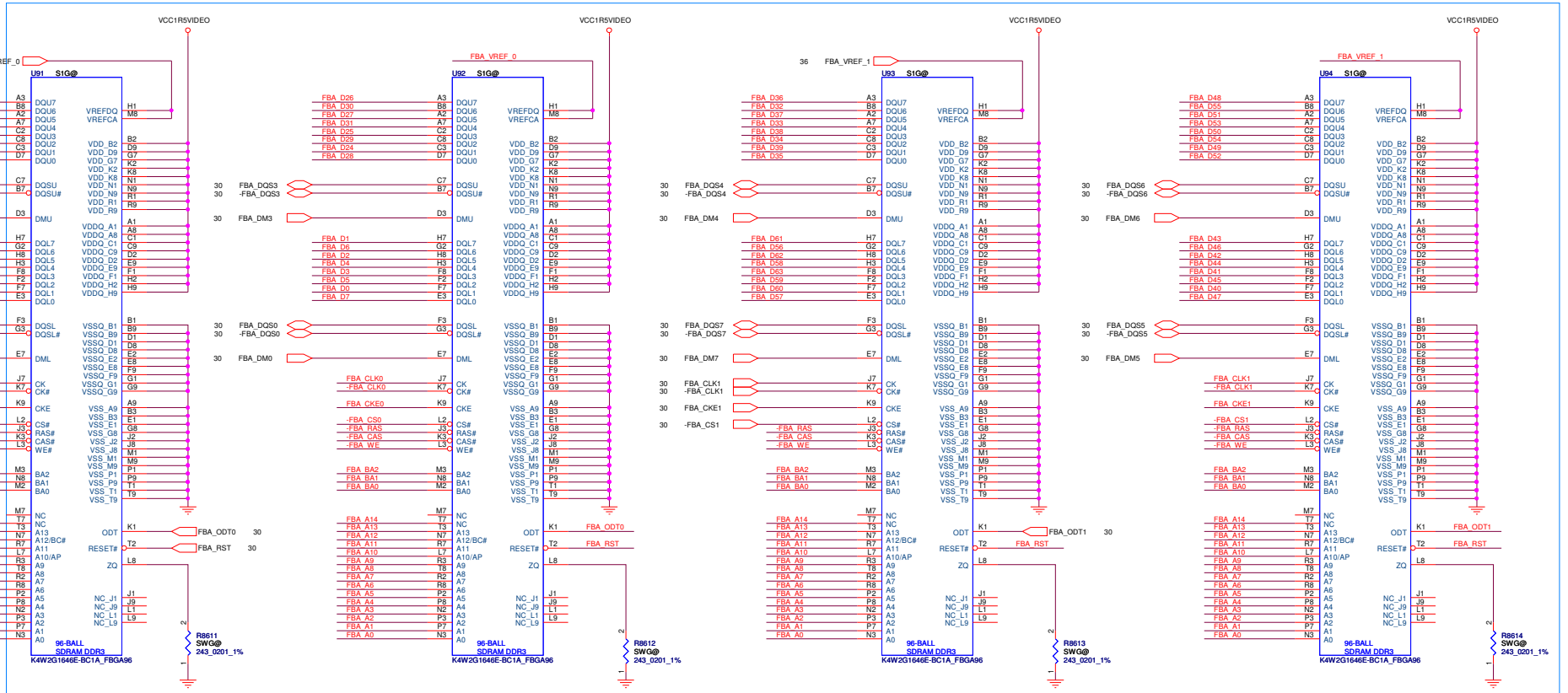
	Micron 2GBITS (128Mx16)	Samsung 2GBITS (128Mx16)	Micron 4GBITS (256Mx16)	Samsung 4GBITS (256Mx16)
U91 U92 U93 U94	MT41J128M16JT-093G:K 9mm X 14mm	K4W2G1646E-BC1A 7.5mm X 13.3mm	MT41K256M16HA-107G:E 9mm X 14mm	K4W4G1646B-HC11 10mm X 13.3mm

FB CMD mapping Mode D-N14x

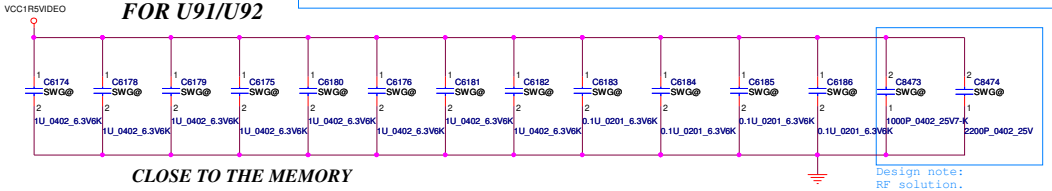
LOGIC

Design Note:
10mm * 14mm package has to be used for layout assessment.



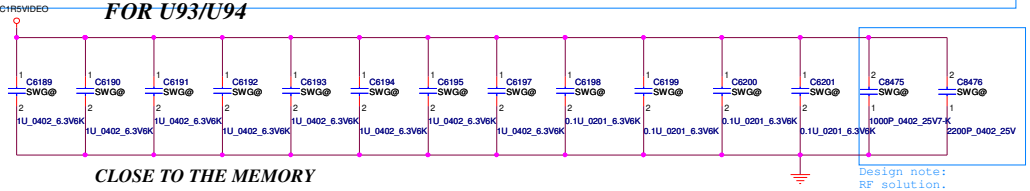


FOR U91/U92

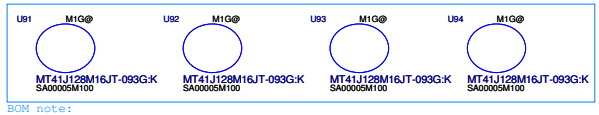


CLOSE TO THE MEMORY

FOR U93/U94



CLOSE TO THE MEMORY



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Project Name : OAS-1 SP ASSESS	Title : VRAM CHANNEL-A
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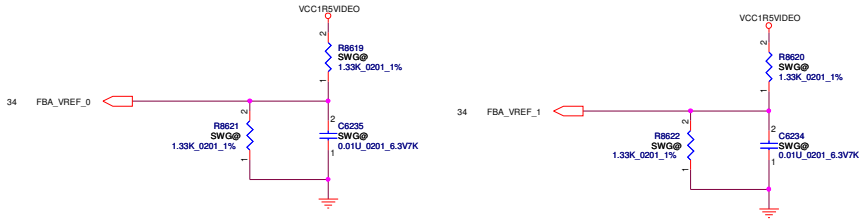
BLANK

Project Name : OAS-1 SP ASSESS	Title : BLANK	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 35 of 99	



Project Name : OAS-1 SP ASSESS	Title : MEMORY TERMINATION	
Size : C	Document Number :	Rev : 1.01
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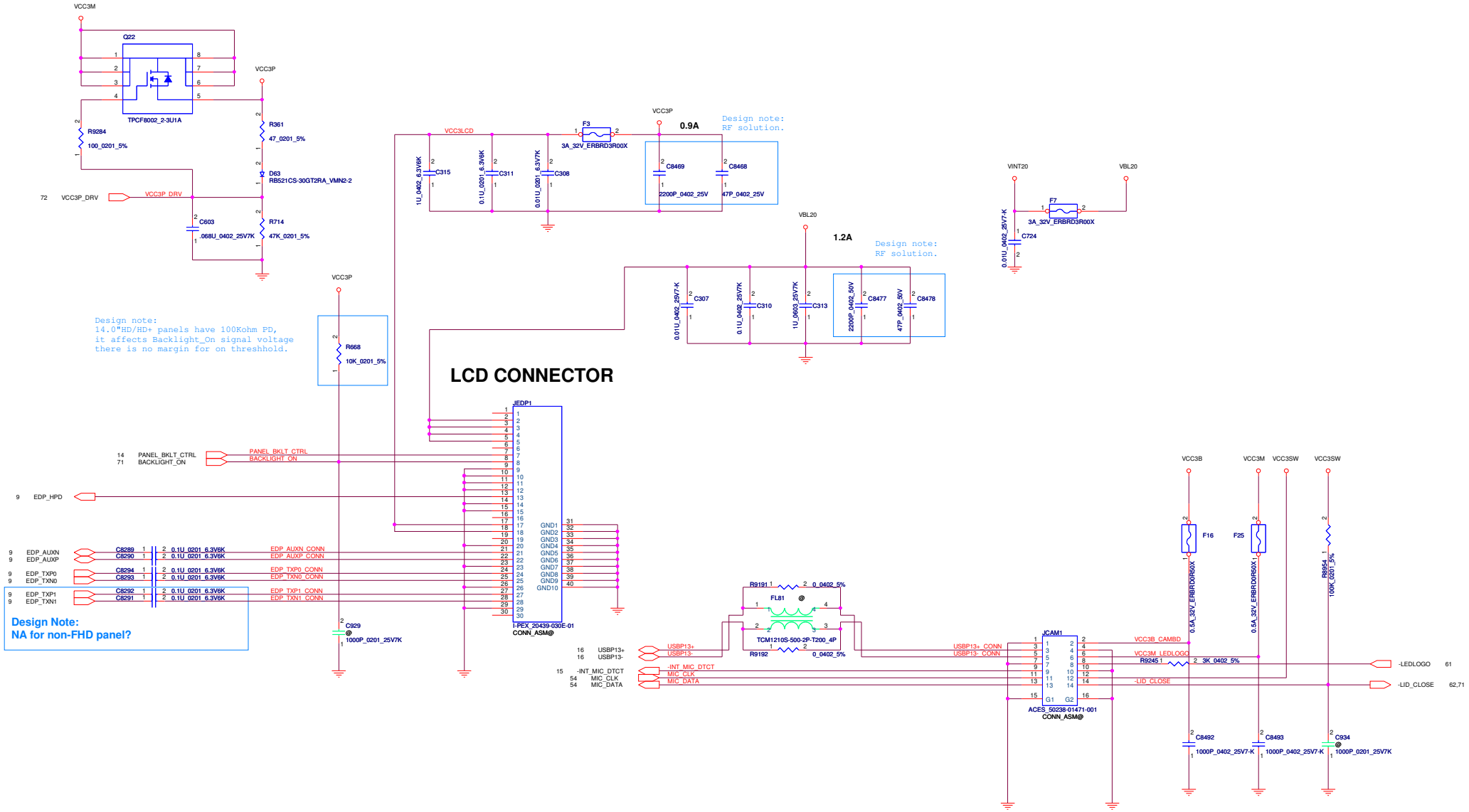
BLANK

Project Name : OAS-1 SP ASSESS	Title : BLANK	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 37 of 99	


LCD CONNECTOR
Design note:
14.0"HD/HD+ panels have 100Kohm PD,
it affects Backlight_On signal voltage
there is no margin for on threshhold.
Design Note:
NA for non-FHD panel?
Design note:
RF solution.
0.9A
1.2A
TPCF8002_2-3U1A
RB521CS-30GT2RA_VMIN2-2
3A_32V_ERBRD3R00X
TCM1210S-500-2P-T200_4P
ACES_50238-01471-001
CONN_ASM@
I-PEX_20439-030E-01
CONN_ASM@
lenovo
Project Name : OAS-1 SP ASSESS
Title : LCD CONNECTOR
Size : C
Document Number :
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BLANK

Project Name : OAS-1 SP ASSESS	Title : BLANK	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 39 of 99	

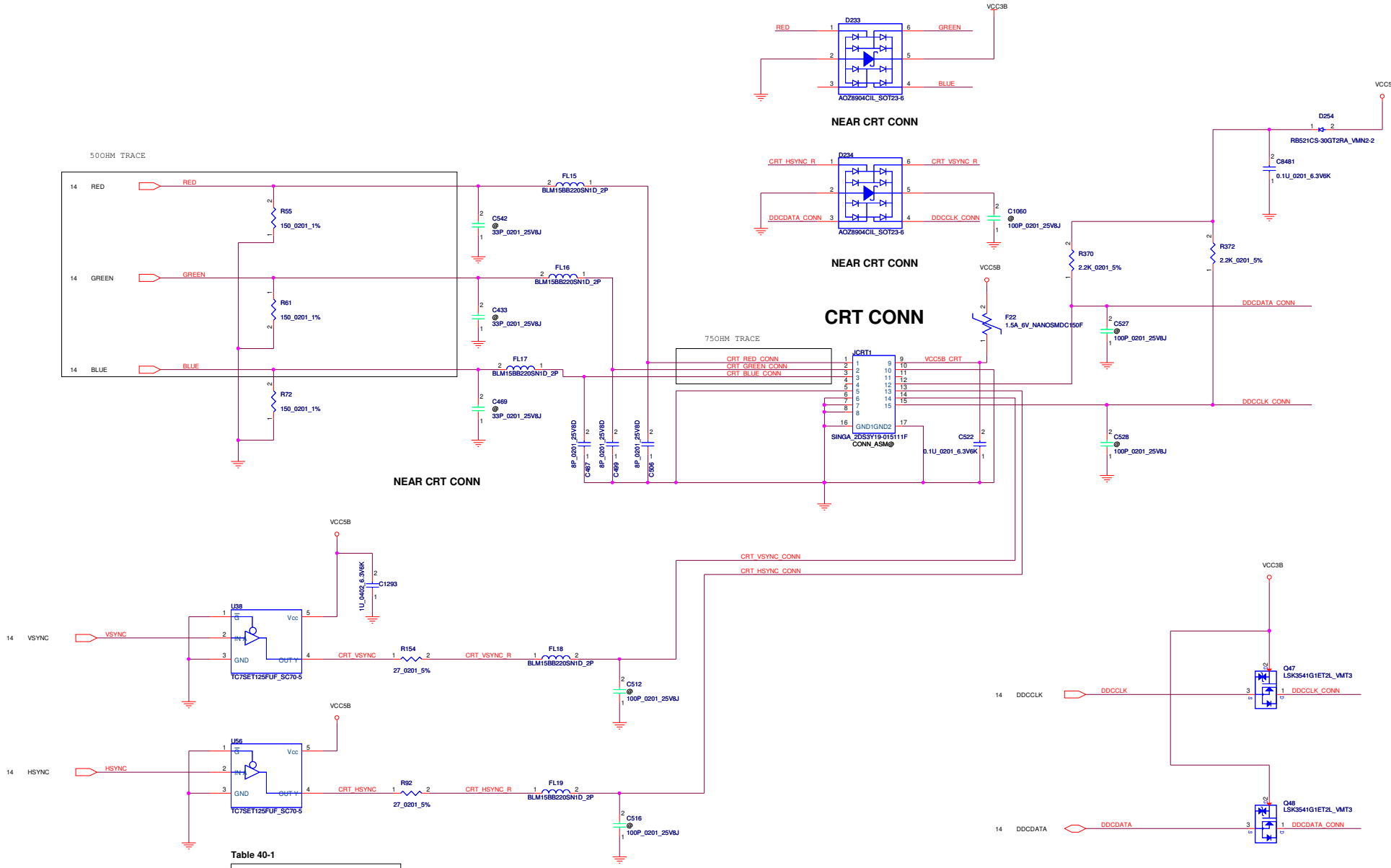
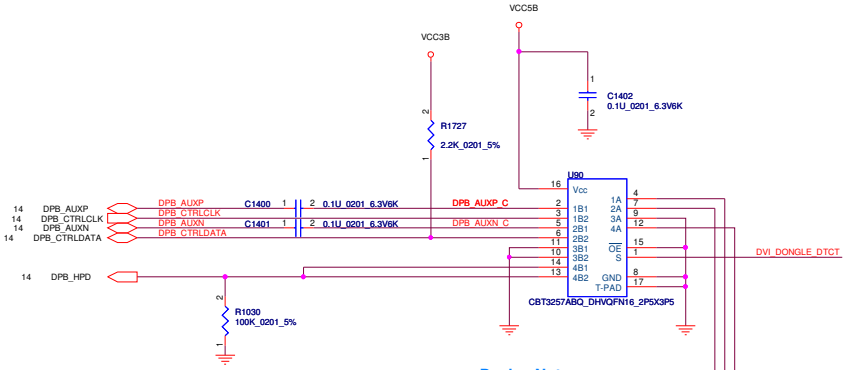


Table 40-1

CRT Sync Buffer table (U38, U56)	
TOSHIBA	TC7SET125FU
NXP	74AHCT1G125GW

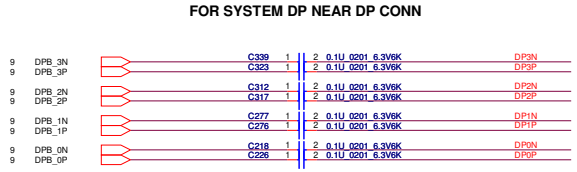
Project Name : OAS-1 SP ASSESS		Title : EXT CRT INTERFACE	
Size : C	Document Number :		Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 40 of 99	

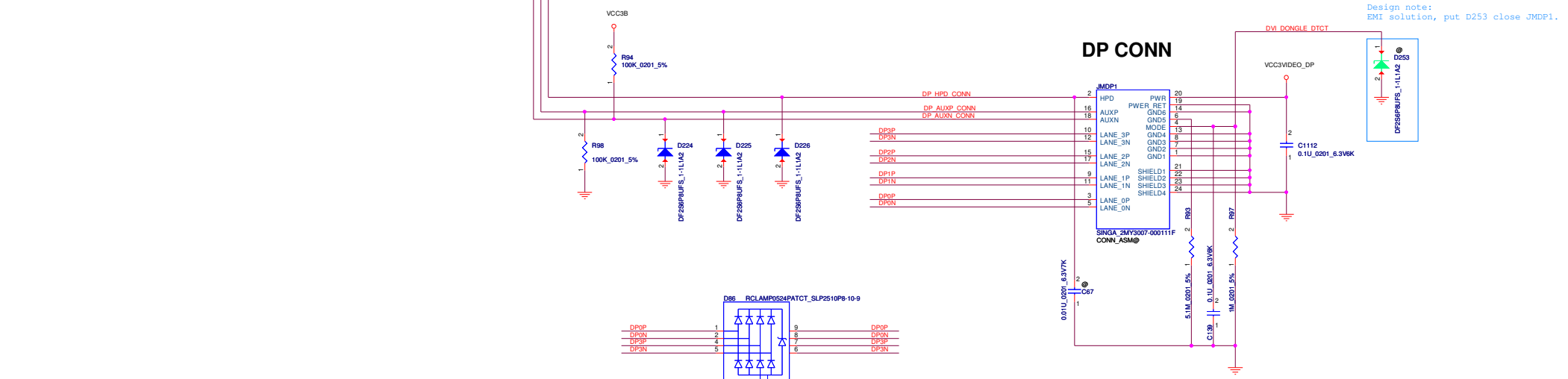


Design Note:
To check the direction of body diode with vendor.

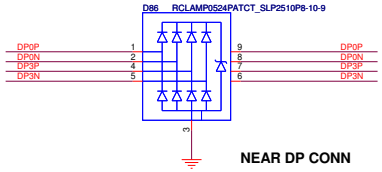
Table 41-1

U90 assignment	
NXP	CBT3257ABQ
ON-Semi	74FST3257MNTWG

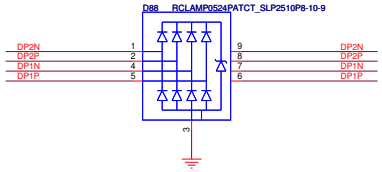




Design note:
EMI solution, put D253 close JMDP1.

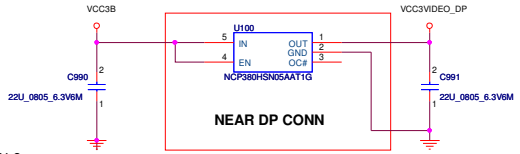


NEAR DP CONN



NEAR DP CONN

Typ. 500mA
Max. 1.5A



NEAR DP CONN

Table 41-2

U100 assignment	
TI	TPS2530
ON-Semi	NCP380HSN05AAT1G

Project Name : OAS-1 SP ASSESS	Title : DISPLAY PORT CONNECTOR		
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BLANK

Project Name : OAS-1 SP ASSESS	Title : BLANK	
Size : C	Document Number :	Rev : 1.01
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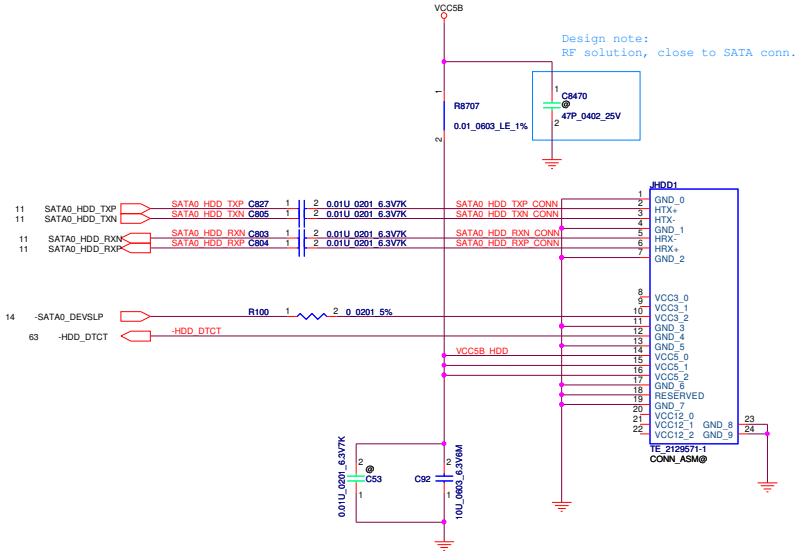
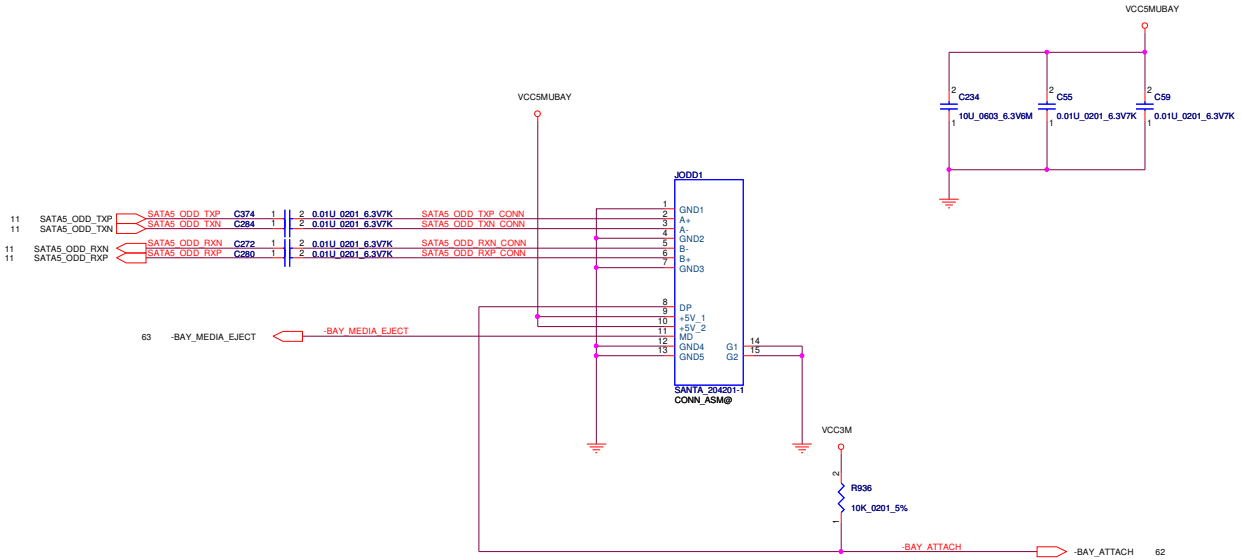
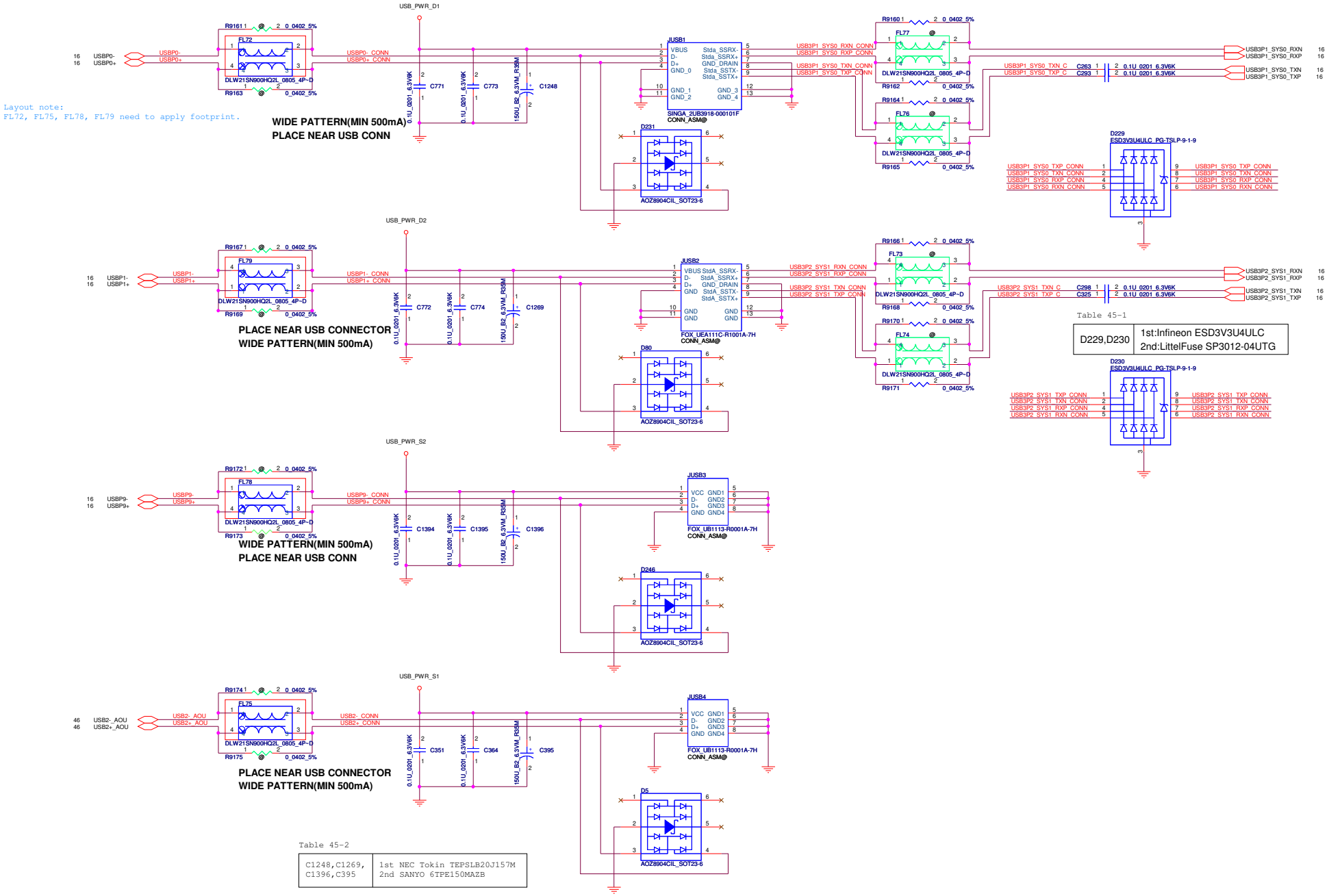


lenovo			
Project Name : OAS-1 SP ASSESS		Title : SATA HDD CONN	
Size : C	Document Number :		Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 43 of 99	



Project Name : OAS-1 SP ASSESS	Title : SATA BAY I/F CONN	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 44 of 99



Layout note:
FL72, FL75, FL78, FL79 need to apply footprint.

WIDE PATTERN(MIN 500mA)
PLACE NEAR USB CONN

PLACE NEAR USB CONNECTOR
WIDE PATTERN(MIN 500mA)

WIDE PATTERN(MIN 500mA)
PLACE NEAR USB CONN

PLACE NEAR USB CONNECTOR
WIDE PATTERN(MIN 500mA)

Table 45-1

D229,D230	1st:Infineon ESD3V3U4ULC 2nd:LittelFuse SP3012-04UTG

Table 45-2

C1248,C1269, C1396,C395	1st NEC Tokin TEPSLB20J157M 2nd SANYO 6TPE150MAZB

lenovo

Project Name : OAS-1 SP ASSESS	Title : USB CONNECTOR	
Size : C	Document Number :	Rev : 1.01
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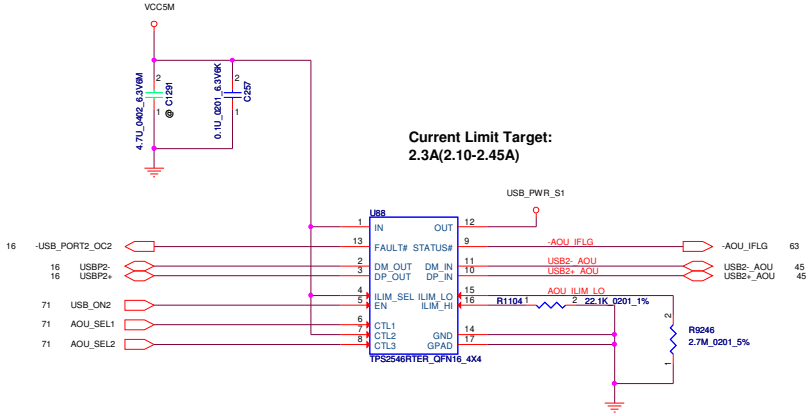

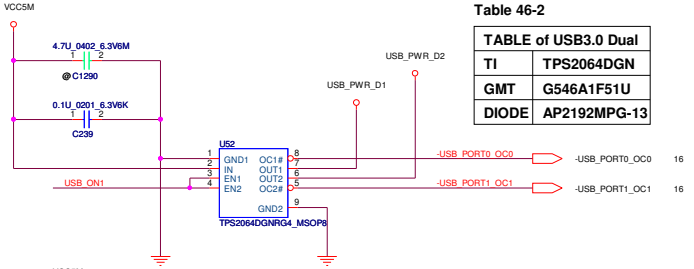

Table 46-2

TABLE of USB3.0 Dual	
TI	TPS2064DGN
GMT	G546A1F51U
DIODE	AP2192MPG-13

FOR ON BOARD DUAL USB 3.0 CONNECTOR

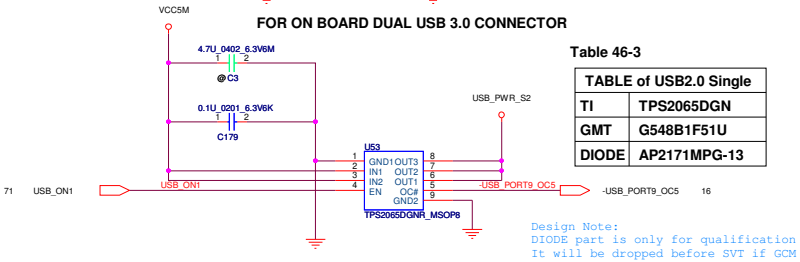

Table 46-3

TABLE of USB2.0 Single	
TI	TPS2065DGN
GMT	G548B1F51U
DIODE	AP2171MPG-13

FOR ON BOARD SINGLE USB 2.0 CONNECTOR

lenovo

Project Name : OAS-1 SP ASSESS	Title : AOU/USB POWER SWITCH	
Size : C	Document Number :	Rev : 1.01
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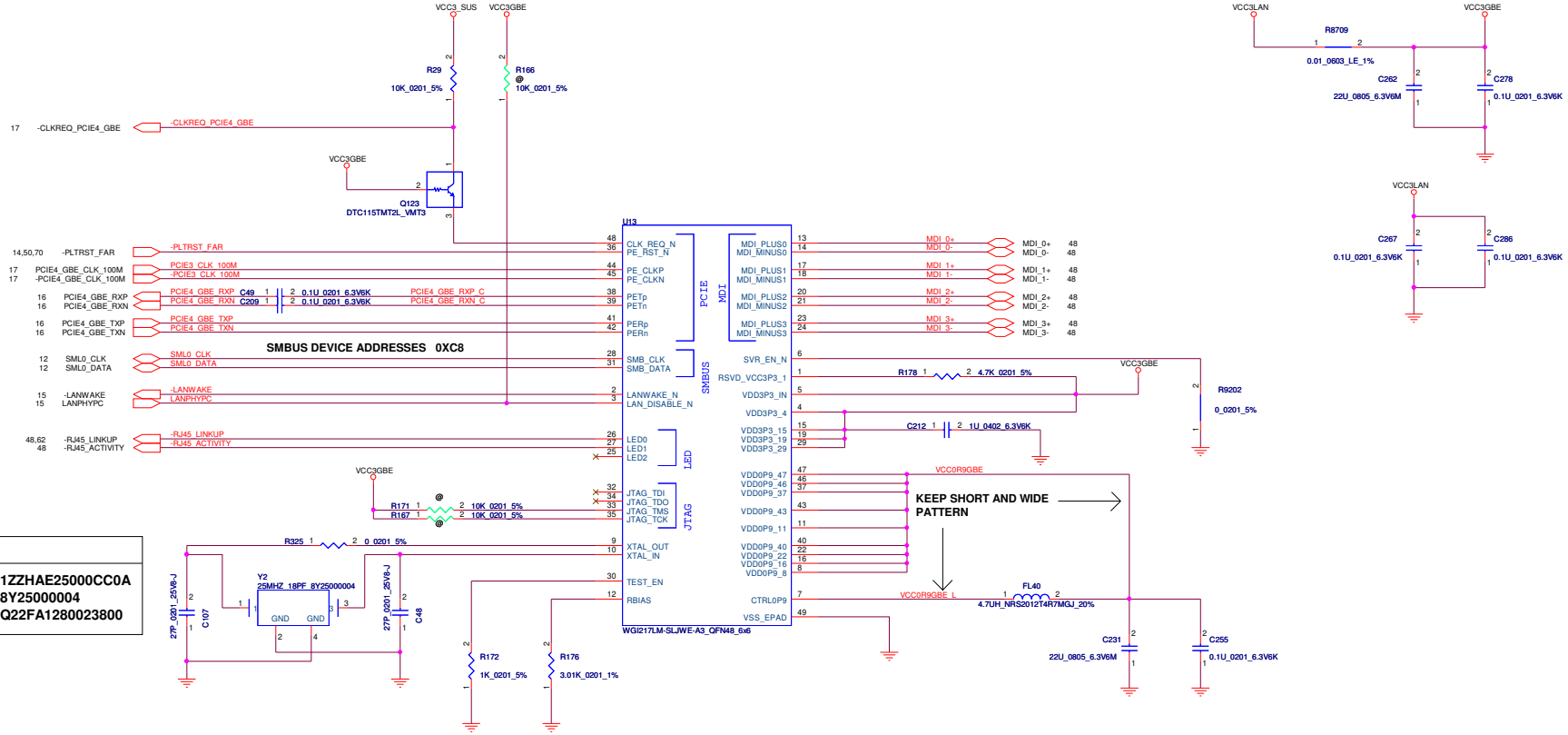

Table 47-1

25MHz 18pF 30ppm		
KDS	DSX211G	1ZZHAE25000CC0A
TXC	8Y250	8Y25000004
Epson	FA-128	Q22FA1280023800

Project Name : OAS-1 SP ASSESS	Title : GBE LAN CLARKVILLE	
Size : C	Document Number :	Rev : 1.01
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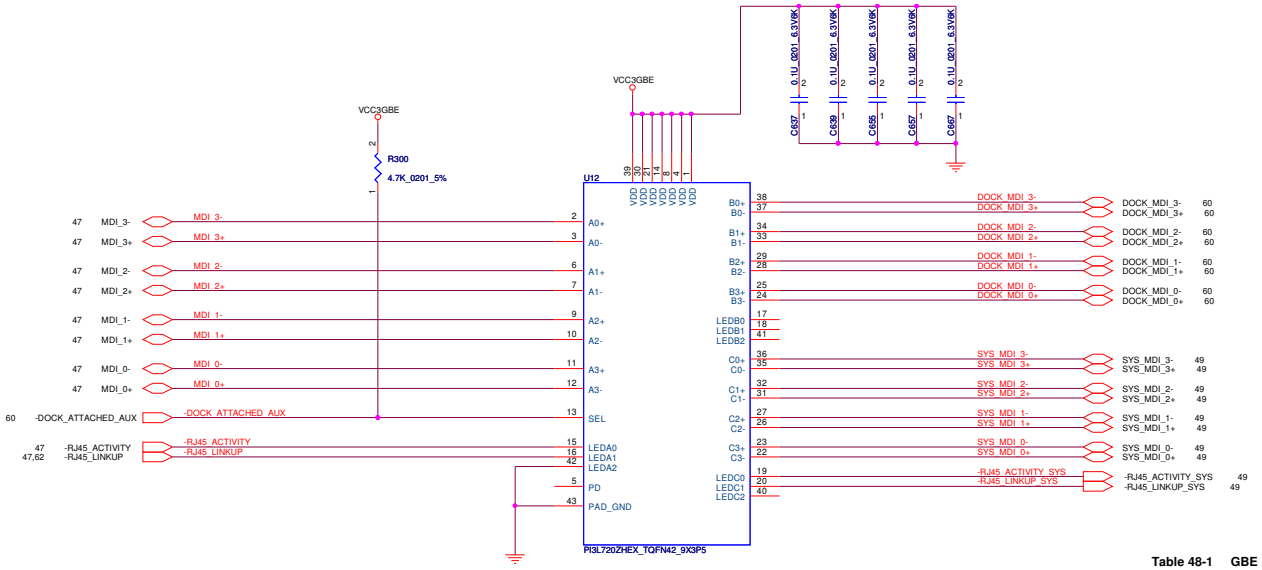

Table 48-1 GBE LAN SWITCH

Pericom	**PI3L720ZHE**
STmicro	**STMUX1800E**
Onsemi	**NCN7201**

Project Name : OAS-1 SP ASSESS		Title : GBE LAN SWITCH	
Size : C	Document Number :		Rev : 1.01
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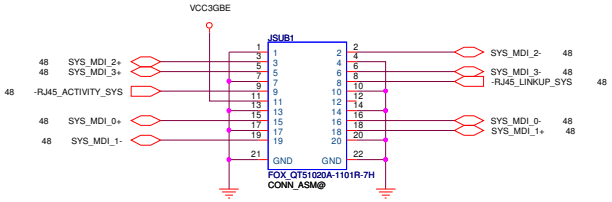

Project Name : OAS-1 SP ASSESS	Title : RJ45 SUB CARD I/F	
Size : C	Document Number :	Rev : 1.01
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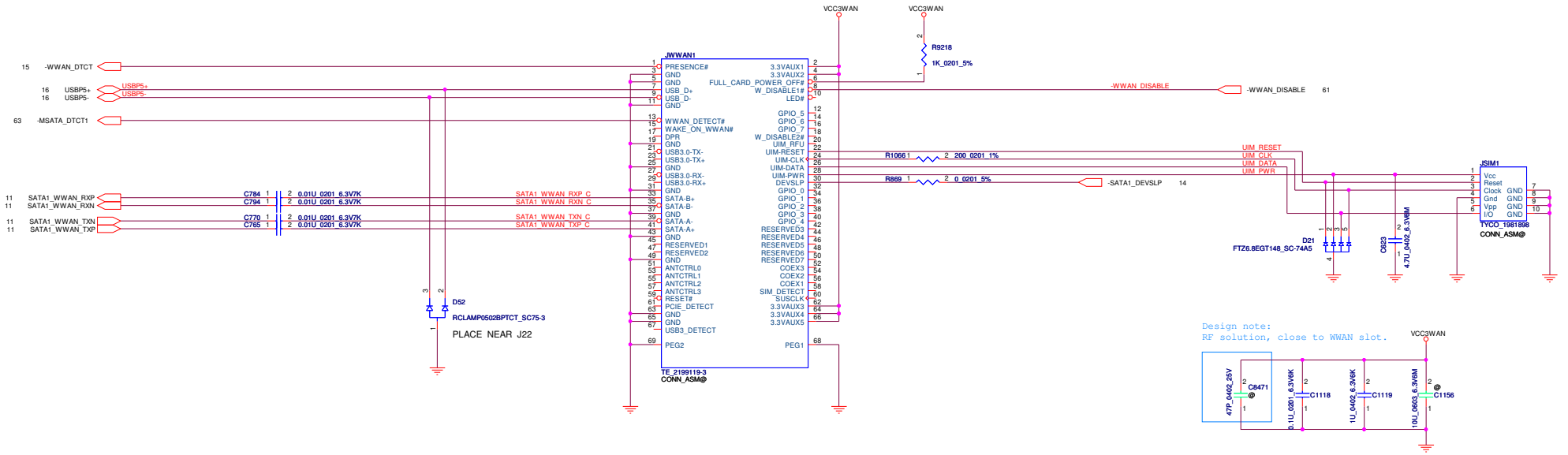
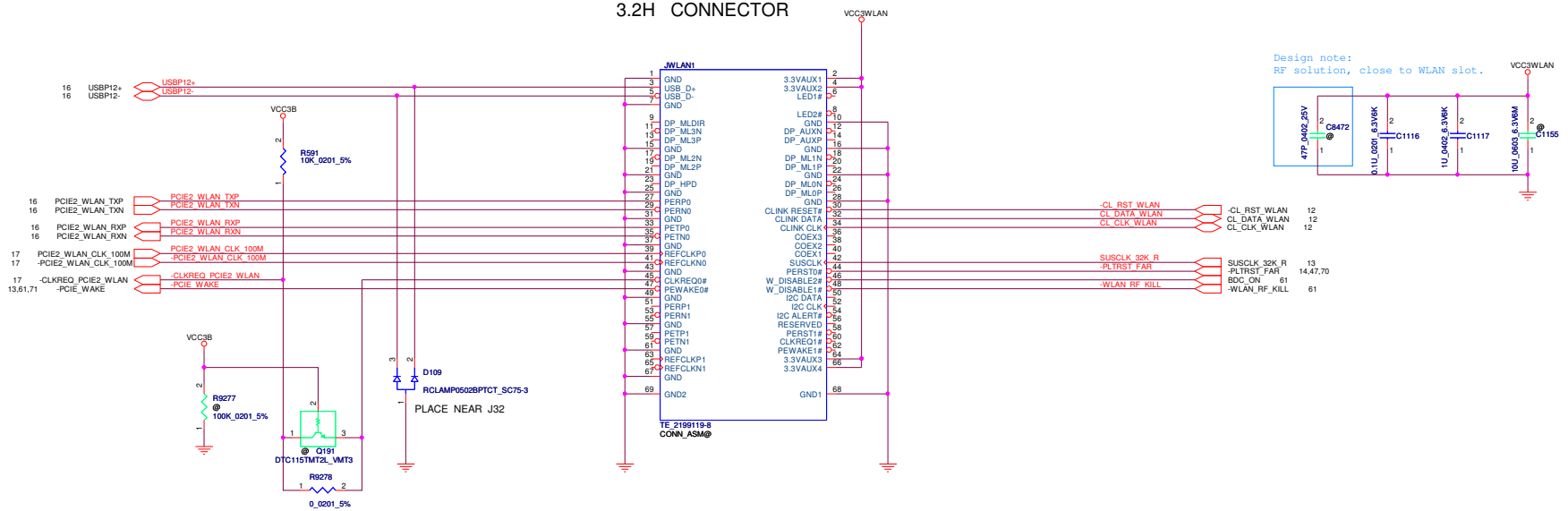
TYPE-B NGFF CARD FOR WWAN/SSD

3.2H CONNECTOR

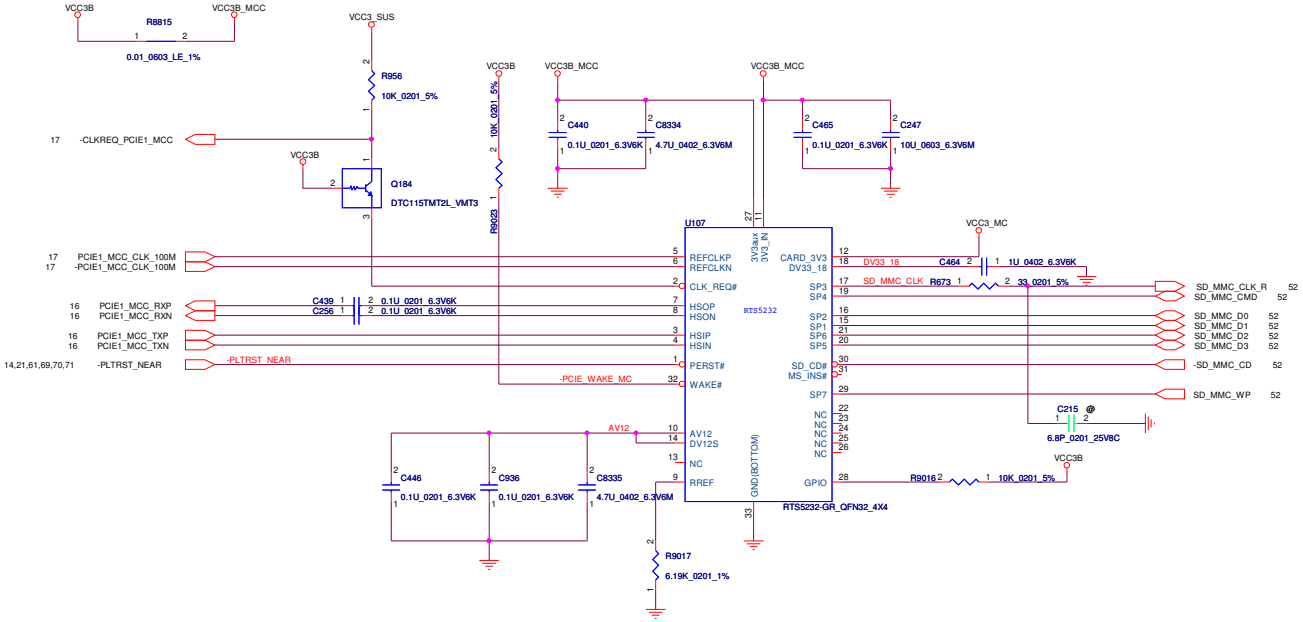


TYPE-A NGFF CARD FOR WLAN

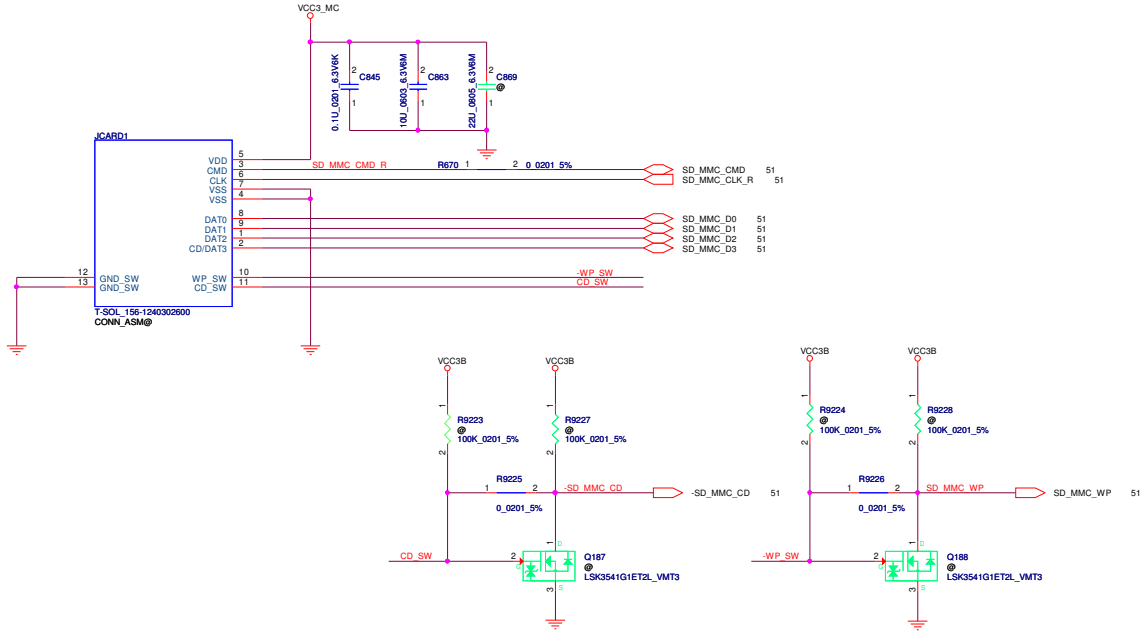
3.2H CONNECTOR



Project Name : OAS-1 SP ASSESS		Title : PCIE NGFF CARD SLOT	
Size : C	Document Number :		Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 50 of 99	

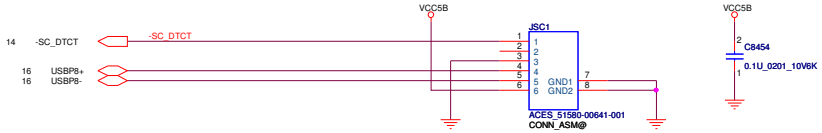


Project Name : OAS-1 SP ASSESS	Title : MEDIA CARD CONTROLLER	
Size :	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 51 of 99	



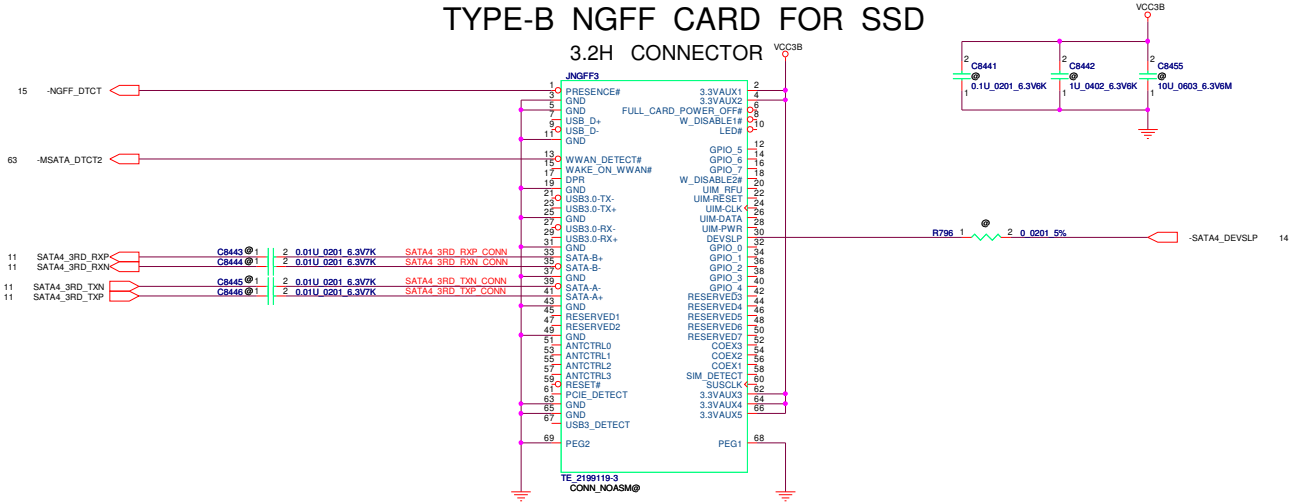
lenovo

Project Name : OAS-1 SP ASSESS	Title : MEDIA CARD INTERFACE
Size : C	Document Number :
Date: Monday, August 12, 2013	Sheet : 52 of 99
	Rev : 1.01



TYPE-B NGFF CARD FOR SSD

3.2H CONNECTOR



lenovo		
Project Name : OAS-1 SP ASSESS	Title : BAY PCIE/SMART CARD I/F	
Size : C	Document Number :	Rev : 1.01
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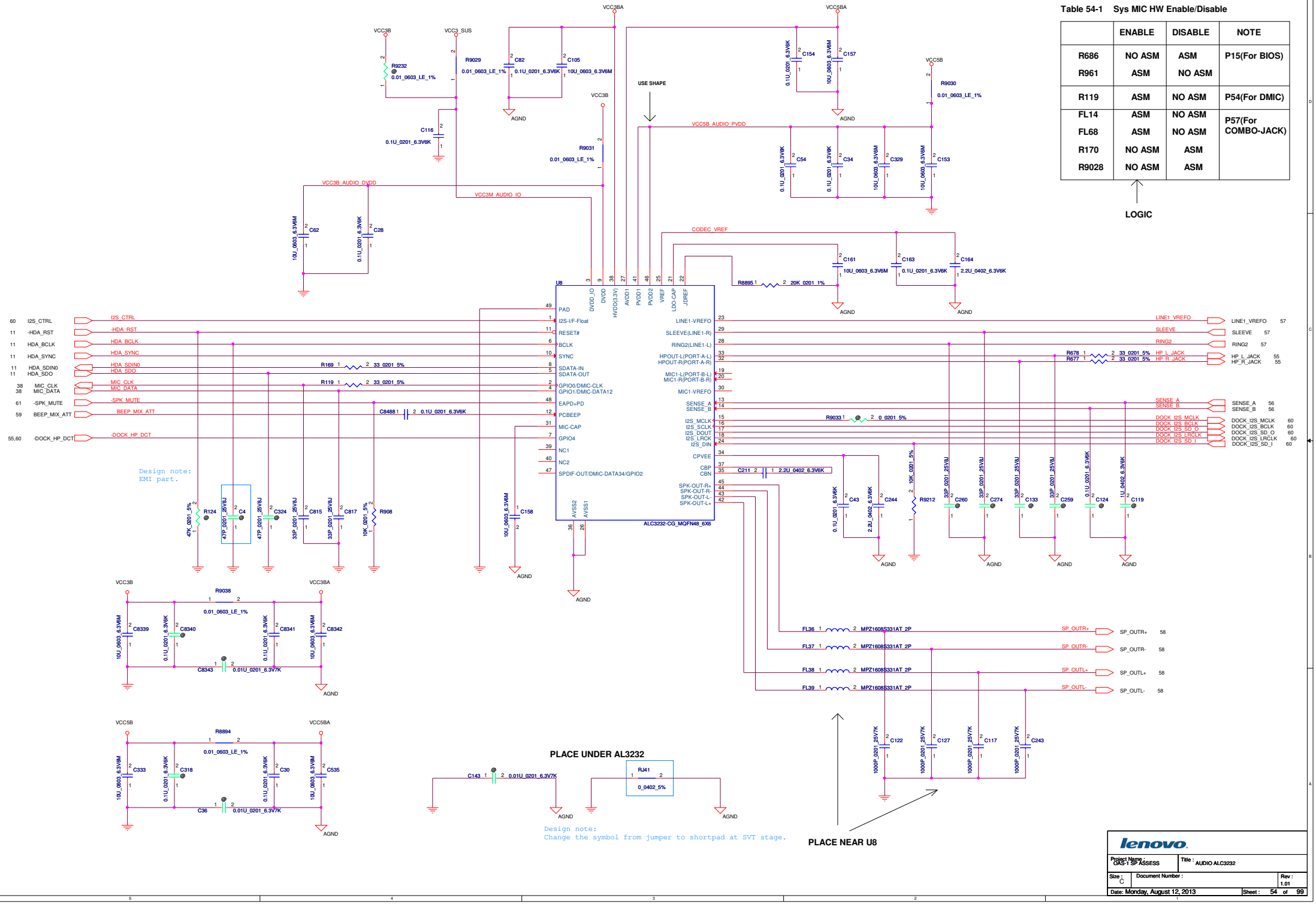
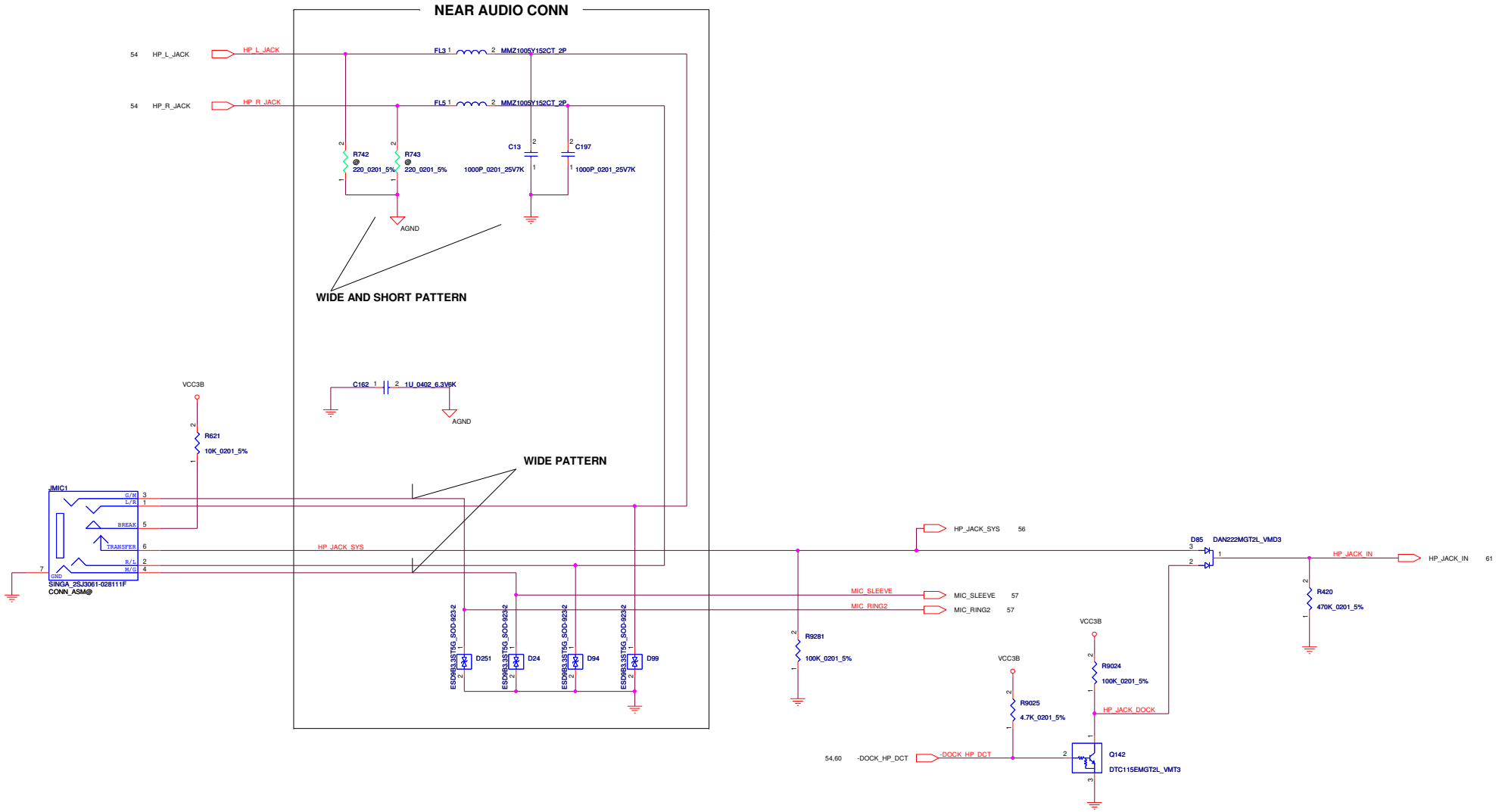
Table 54-1 Sys MIC HW Enable/Disable

	ENABLE	DISABLE	NOTE
R686 R961	NO ASM ASM	ASM NO ASM	P15(For BIOS)
R119	ASM	NO ASM	P54(For DMIC)
FL14 FL68 R170 R9028	ASM ASM NO ASM NO ASM	NO ASM NO ASM ASM ASM	P57(For COMBO-JACK)

LOGIC



Project Name : OAS-1 SP ASSESS		Title : AUDIO ALC3232	
Size : C	Document Number :		Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 54 of 99	



Project Name : OAS-1 SP ASSESS	Title : AUDIO CONNECTOR	
Size : C	Document Number :	Rev : 1.01
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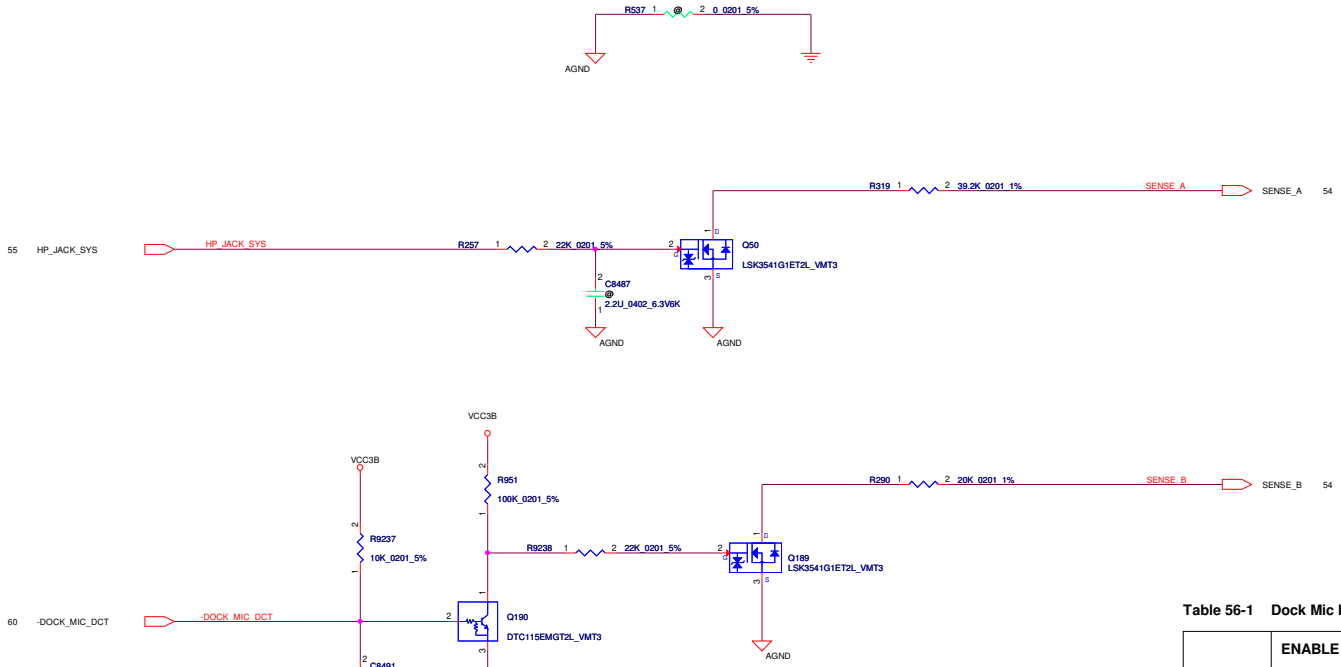

Table 56-1 Dock Mic HW Enable/Disable

	ENABLE	DISABLE
R9237	ASM	NO ASM
R951	ASM	NO ASM
R9238	ASM	NO ASM
R290	ASM	NO ASM
Q190	ASM	NO ASM
Q189	ASM	NO ASM

Logic

Project Name : OAS-1 SP ASSESS	Title : AUDIO JACK SENSE	
Size : C	Document Number :	Rev : 1.01
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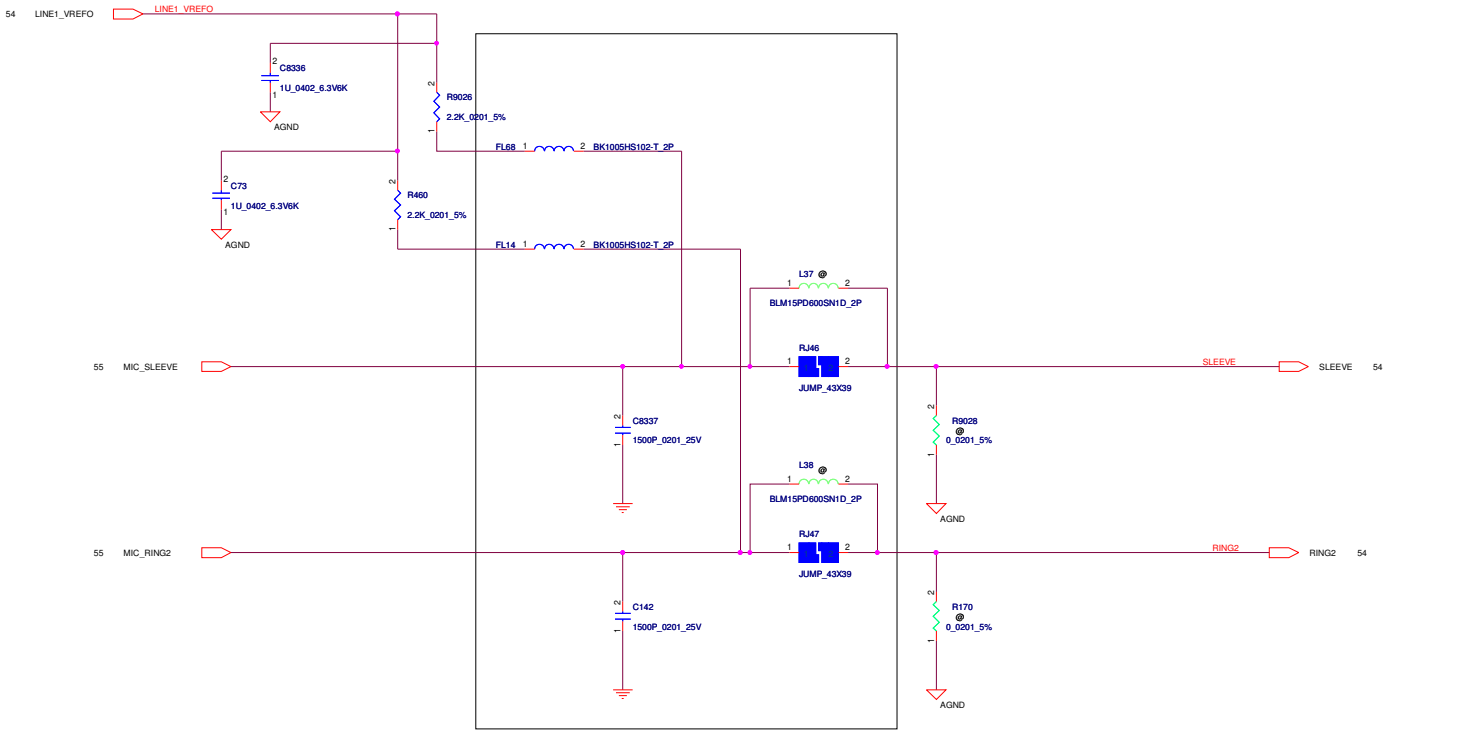
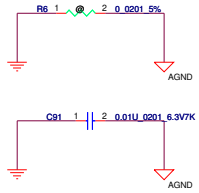


NEAR EXT MIC CONN



Project Name : OAS-1 SP ASSESS	Title : AUDIO EXT MIC I/F	
Size : C	Document Number :	Rev : 1.01
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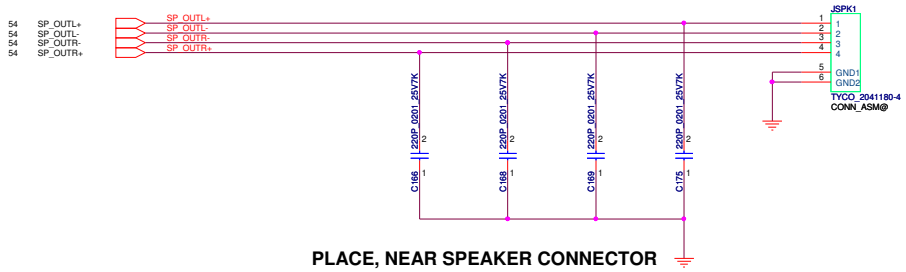
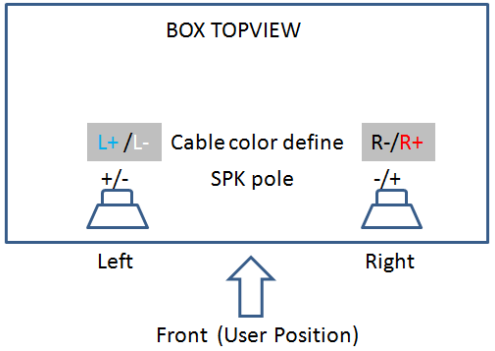


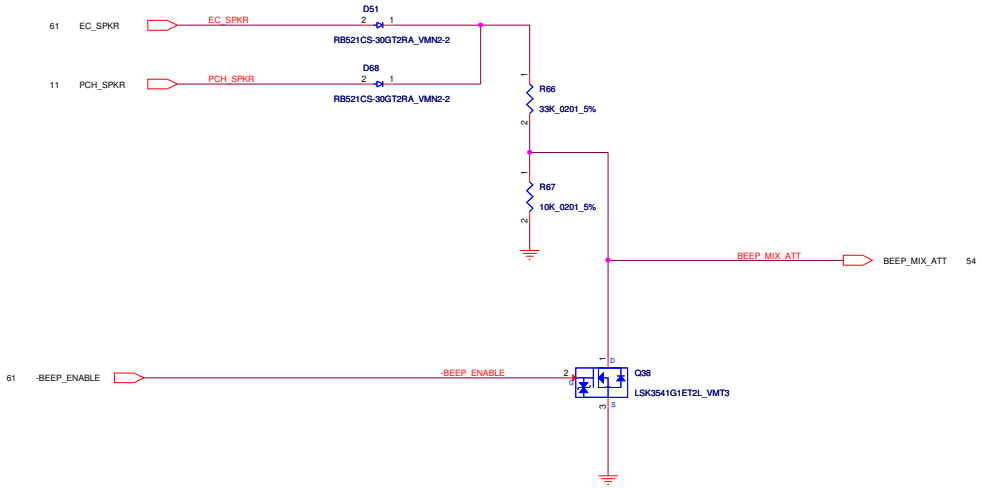
PLACE, NEAR SPEAKER CONNECTOR

Table 58-1

Assign	Netname	Cable Color
Pin 1	SP_OUTL+	Blue
Pin 2	SP_OUTL-	White
Pin 3	SP_OUTR-	Black
Pin 4	SP_OUTR+	Red

Figure 58-1





Project Name : OAS-1 SP ASSESS	Title : AUDIO BEEP	
Size : C	Document Number :	Rev : 1.01
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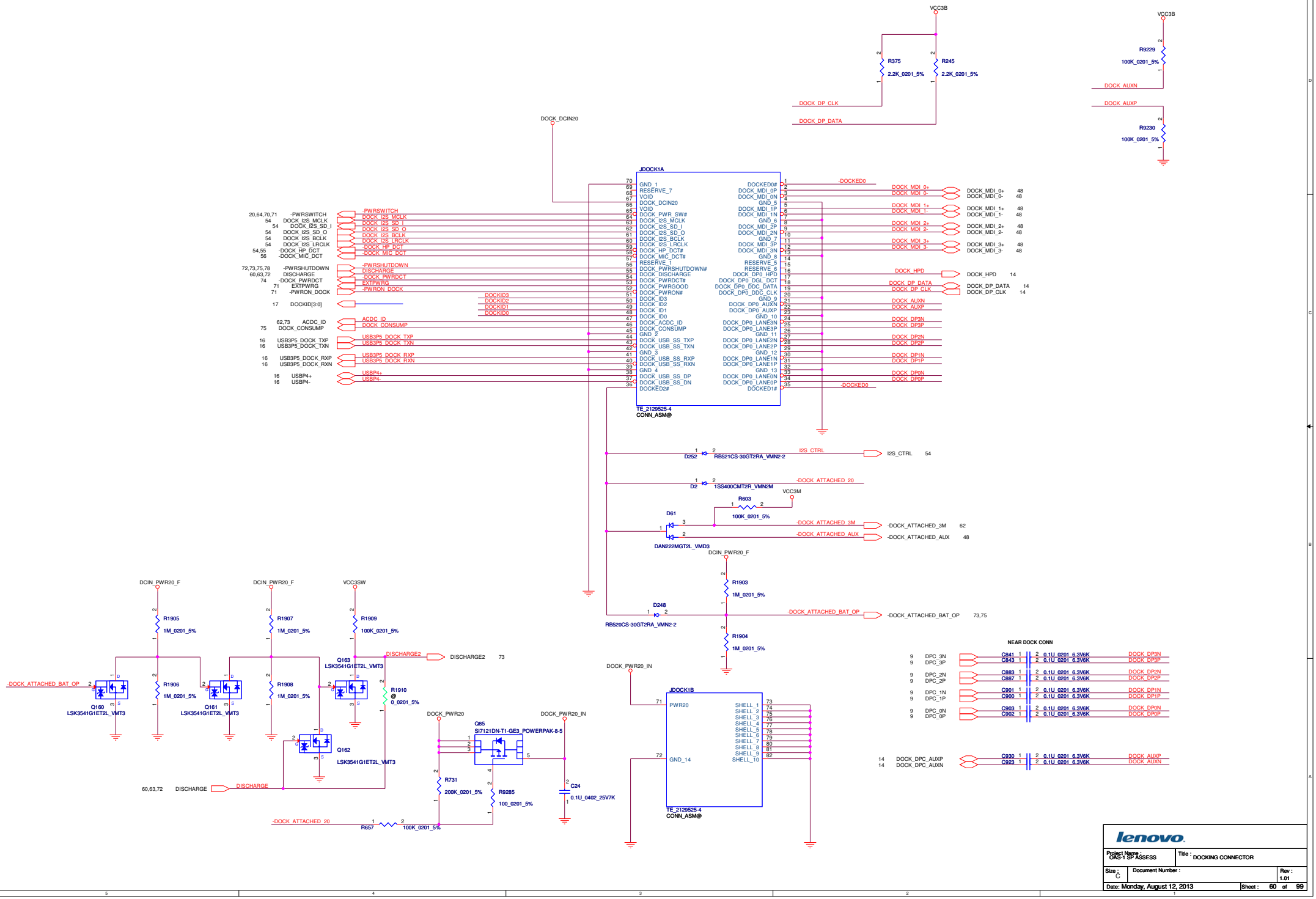
VCC3B
R375
2.2K_0201_5%
R245
2.2K_0201_5%
DOCK_DP_CLK
DOCK_DP_DATA
R9229
100K_0201_5%
DOCK_AUXN
DOCK_AUXP
R9230
100K_0201_5%
DOCK_DCIN20
JDOCK1A
TE_2129525-4
CONN_ASM@
-DOCKED0
DOCK_MDI_0+
DOCK_MDI_0-
DOCK_MDI_1+
DOCK_MDI_1-
DOCK_MDI_2+
DOCK_MDI_2-
DOCK_MDI_3+
DOCK_MDI_3-
DOCK_HPD
DOCK_DP_DATA
DOCK_DP_CLK
DOCK_AUXN
DOCK_AUXP
DOCK_DP3N
DOCK_DP3P
DOCK_DP2N
DOCK_DP2P
DOCK_DP1N
DOCK_DP1P
DOCK_DP0N
DOCK_DP0P
-PWRSWITCH
DOCK_I2S_MCLK
DOCK_I2S_SD_I
DOCK_I2S_SD_O
DOCK_I2S_BCLK
DOCK_I2S_LRCLK
-DOCK_HP_DCT
-DOCK_MIC_DCT
-PWRSHUTDOWN
DISCHARGE
-DOCK_PWRDCT
EXTPWRG
-PWRON_DOCK
DOCKID3
DOCKID2
DOCKID1
DOCKID0
ACDC_ID
DOCK_CONSUMP
USB3P5_DOCK_TXP
USB3P5_DOCK_TXN
USB3P5_DOCK_RXP
USB3P5_DOCK_RXN
USBP4+
USBP4-
I2S_CTRL
D252
RB521CS-30GT2RA_VMN2-2
-DOCK_ATTACHED_20
D2
1SS400CMT2R_VMN2M
VCC3M
R603
100K_0201_5%
D61
-DOCK_ATTACHED_3M
-DOCK_ATTACHED_AUX
DAN222MGT2L_VMD3
DCIN_PWR20_F
R1903
1M_0201_5%
D248
RB520CS-30GT2RA_VMN2-2
-DOCK_ATTACHED_BAT_OP
R1904
1M_0201_5%
DCIN_PWR20_F
R1905
1M_0201_5%
DCIN_PWR20_F
R1907
1M_0201_5%
VCC3SW
R1909
100K_0201_5%
DISCHARGE2
Q163
LSK3541G1ET2L_VMT3
-DOCK_ATTACHED_BAT_OP
R1906
1M_0201_5%
Q160
LSK3541G1ET2L_VMT3
Q161
LSK3541G1ET2L_VMT3
R1908
1M_0201_5%
R1910
@
0_0201_5%
Q162
LSK3541G1ET2L_VMT3
DISCHARGE
DOCK_PWR20
DOCK_PWR20_IN
Q85
SI7121DN-T1-GE3_POWERPAK-8-5
R731
200K_0201_5%
R9285
100_0201_5%
C24
0.1U_0402_25V7K
-DOCK_ATTACHED_20
R657
100K_0201_5%
DOCK_PWR20_IN
JDOCK1B
TE_2129525-4
CONN_ASM@
NEAR DOCK CONN
DPC_3N
DPC_3P
DPC_2N
DPC_2P
DPC_1N
DPC_1P
DPC_0N
DPC_0P
C841
C843
C883
C887
C901
C900
C903
C902
0.1U_0201_6.3V6K
DOCK_DPC_AUXP
DOCK_DPC_AUXN
C930
C923
DOCK_AUXP
DOCK_AUXN
lenovo
Project Name : OAS-1 SP ASSESS
Title : DOCKING CONNECTOR
Size : C
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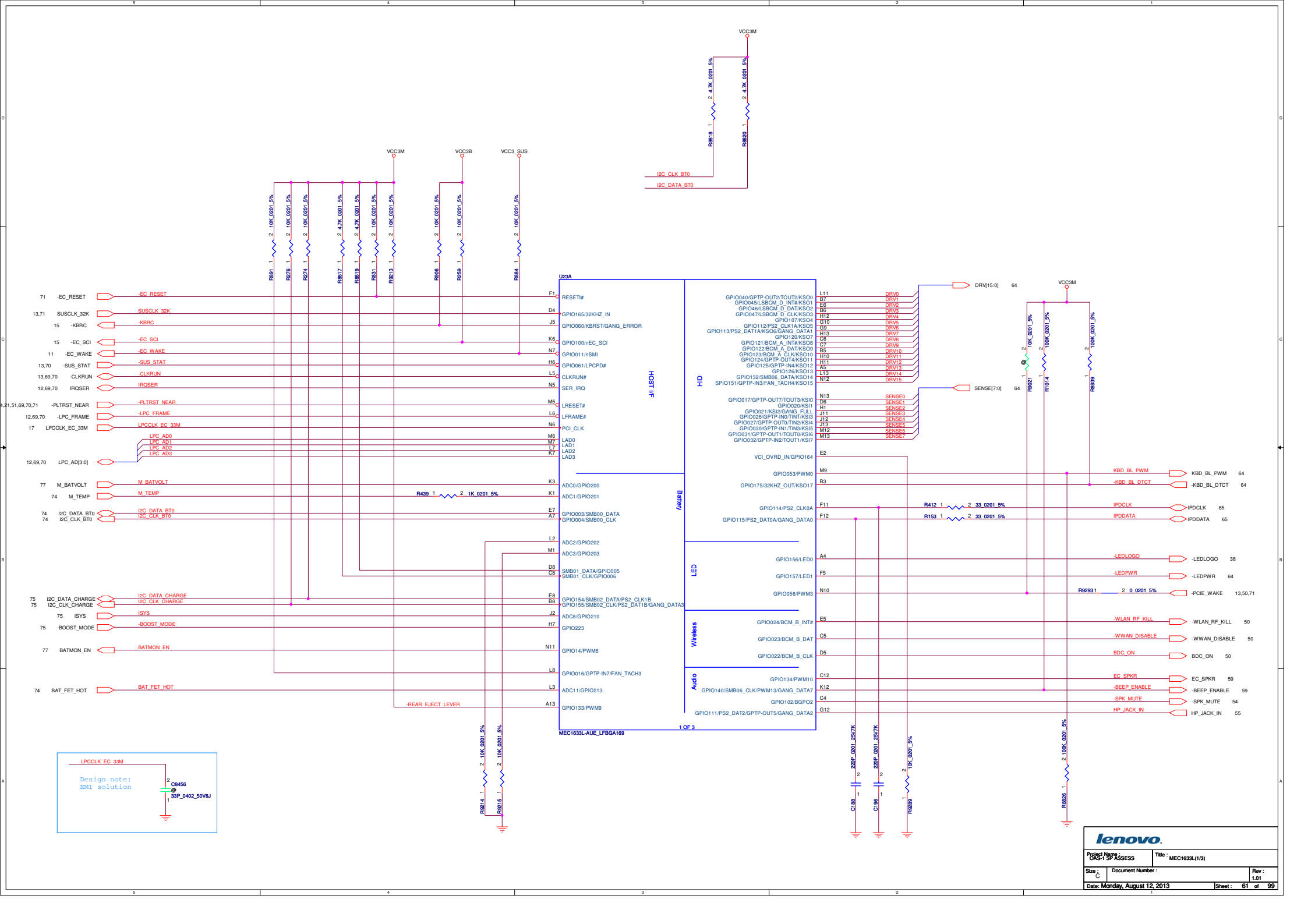

Project Name : OAS-1 SP ASSESS	Title : MEC1633L(1/3)
Size : C	Document Number :
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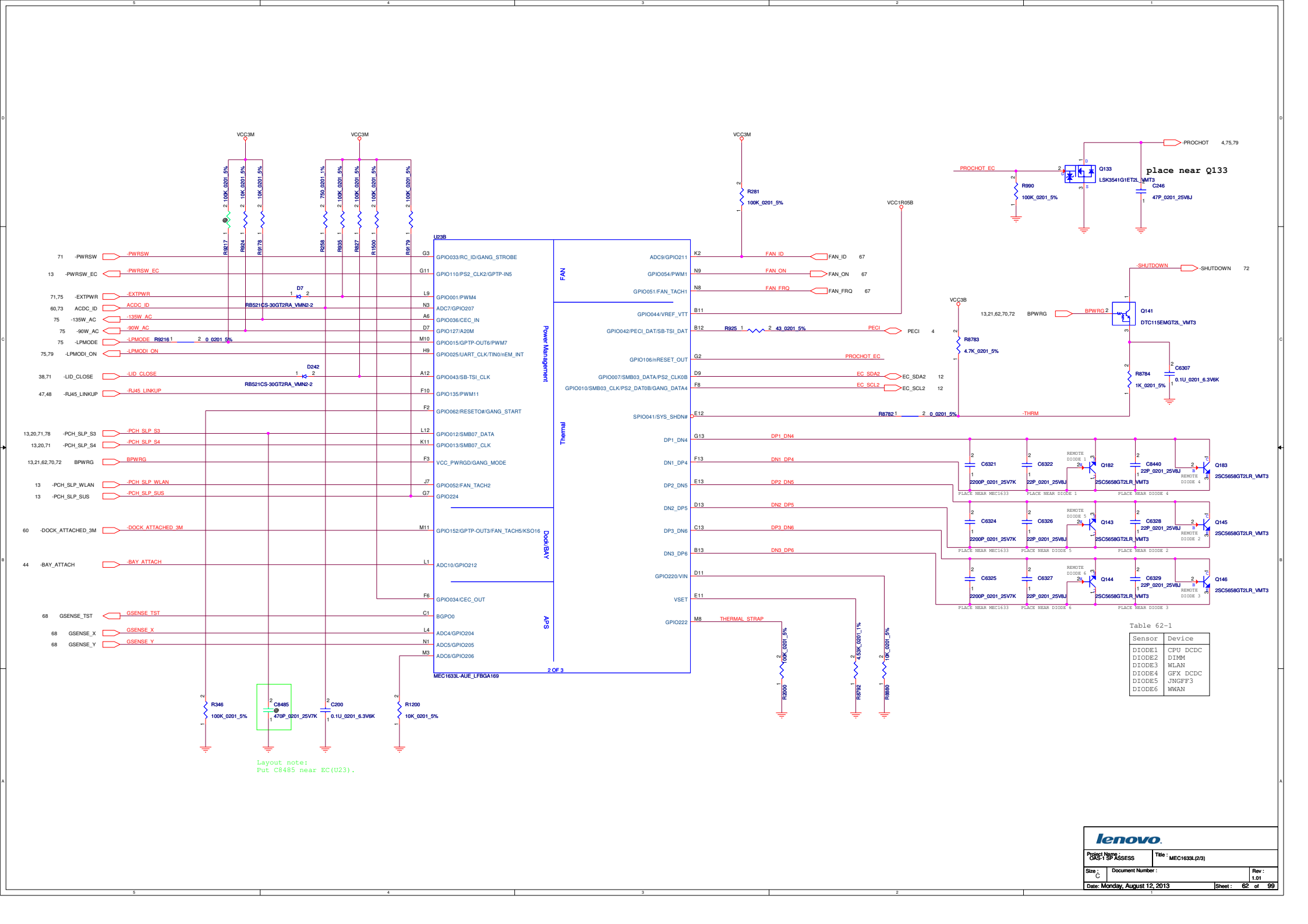

Table 62-1

Sensor	Device
DIODE1	CPU DCDC
DIODE2	DIMM
DIODE3	WLAN
DIODE4	GFX DCDC
DIODE5	JNGFF3
DIODE6	WWAN

Project Name : OAS-1 SP ASSESS		Title : MEC1633L(2/3)	
Size : C	Document Number :		Rev : 1.01
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Table 63-5

CPU SKU	47W_GAIN_EN
Dual Core CPU	Low
Quad Core CPU	High

Design Note :
47W_GAIN_EN should be driven HIGH even if QC is clipped at 37W

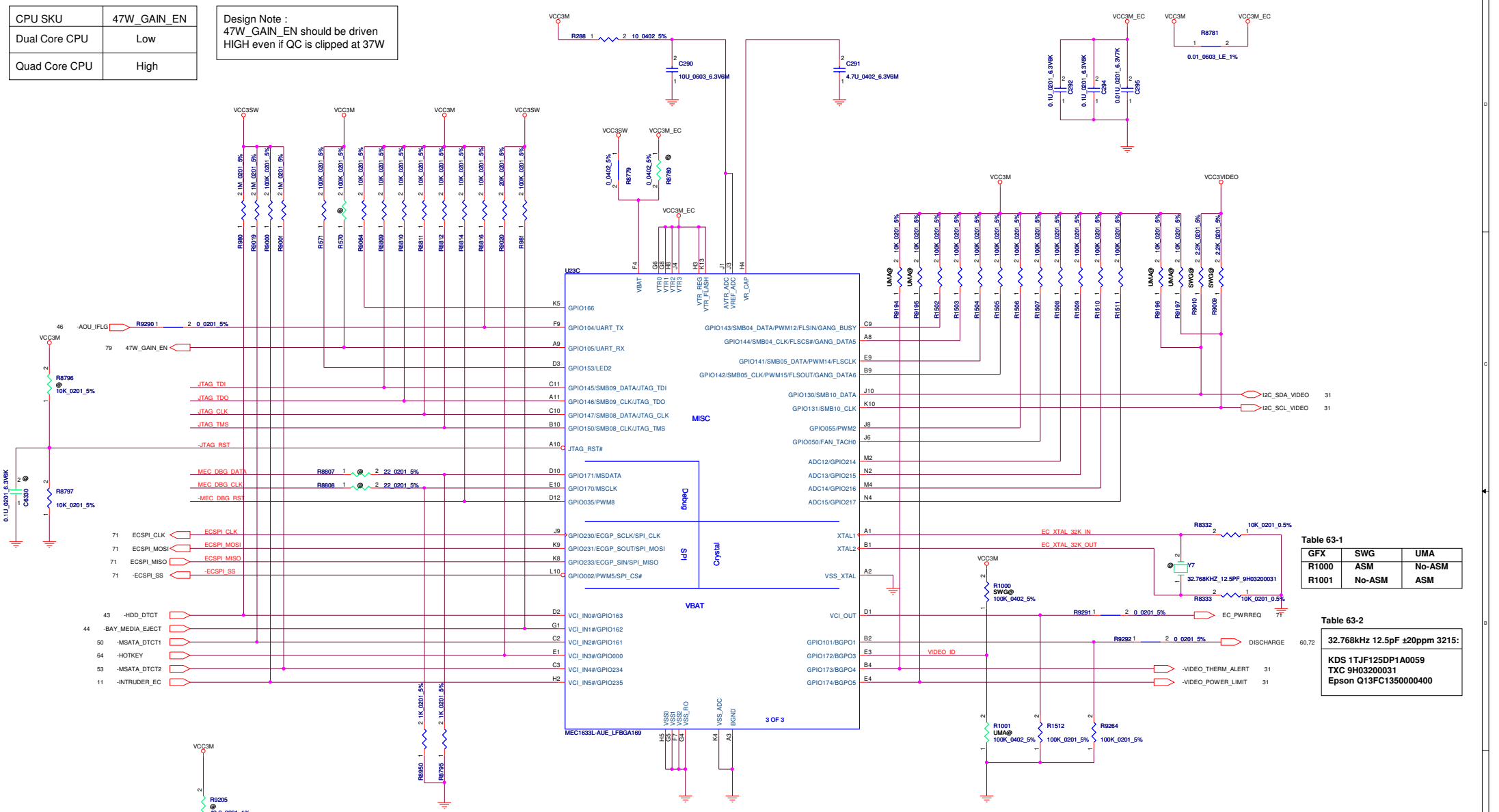

Table 63-1

GFX	SWG	UMA
R1000	ASM	No-ASM
R1001	No-ASM	ASM

Table 63-2

32.768kHz 12.5pF ±20ppm 3215:
KDS 1TJF125DP1A0059 TXC 9H03200031 Epson Q13FC1350000400

Table 63-3

JTAG debug port

	Enable	Disable
R8796	ASM	NO-ASM
R8797	NO-ASM	ASM
R9205	ASM	NO-ASM

LOGIC

Table 63-4

trace FIFO debug port

	Enable	Disable
R8807	ASM	NO-ASM
R8808	ASM	NO-ASM
R8950	NO-ASM	ASM

LOGIC

lenovo

Project Name : OAS-1 SP ASSESS	Title : MEC1633L(3/3)	
Size : C	Document Number :	Rev : 1.01
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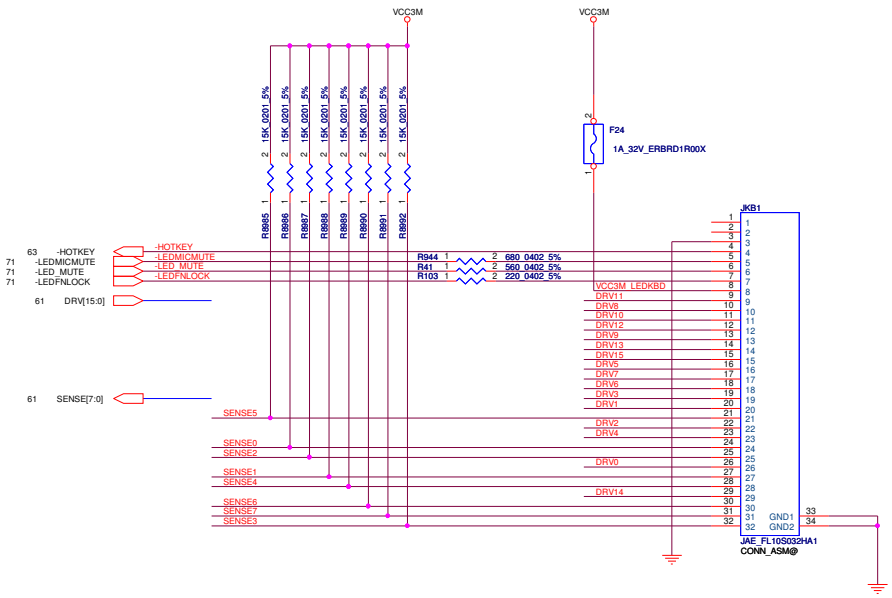

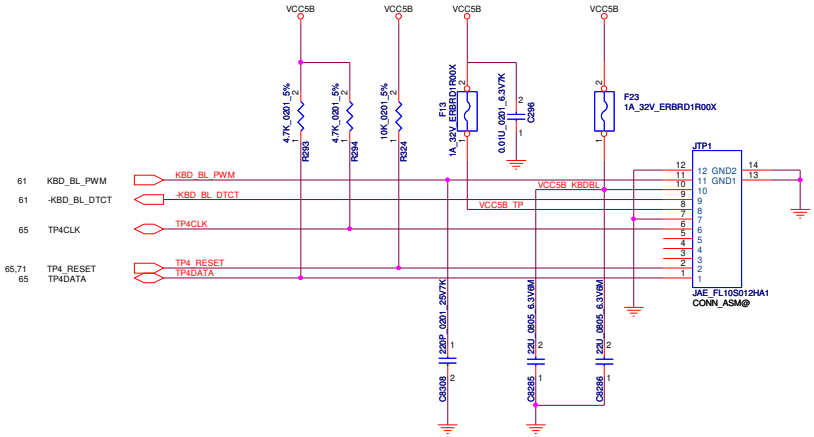

lenovo

Project Name : OAS-1 SP ASSESS	Title : KEYBOARD CONNECTOR
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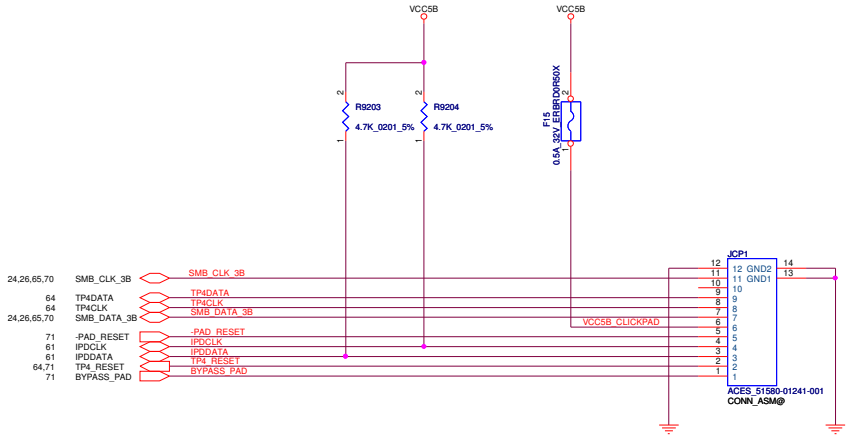

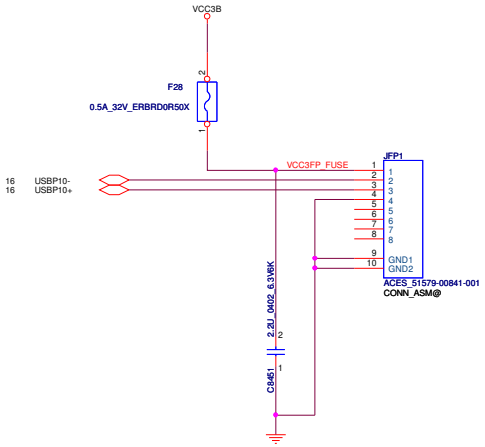

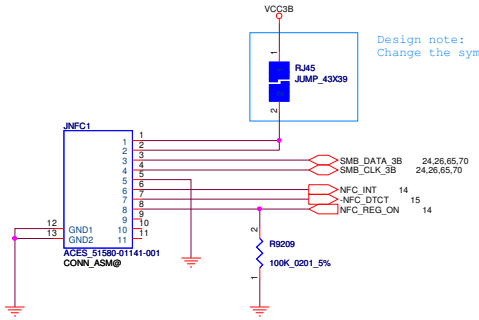

Design note:
Change the symbol from jumper to shortpad at SVT stage.

Project Name : OAS-1 SP ASSESS	Title : CLICK PAD/NFC/FPR CONNECTOR
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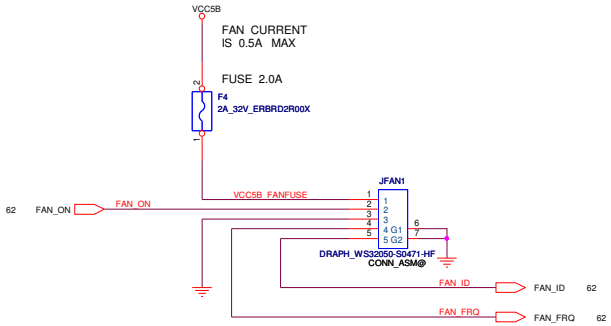
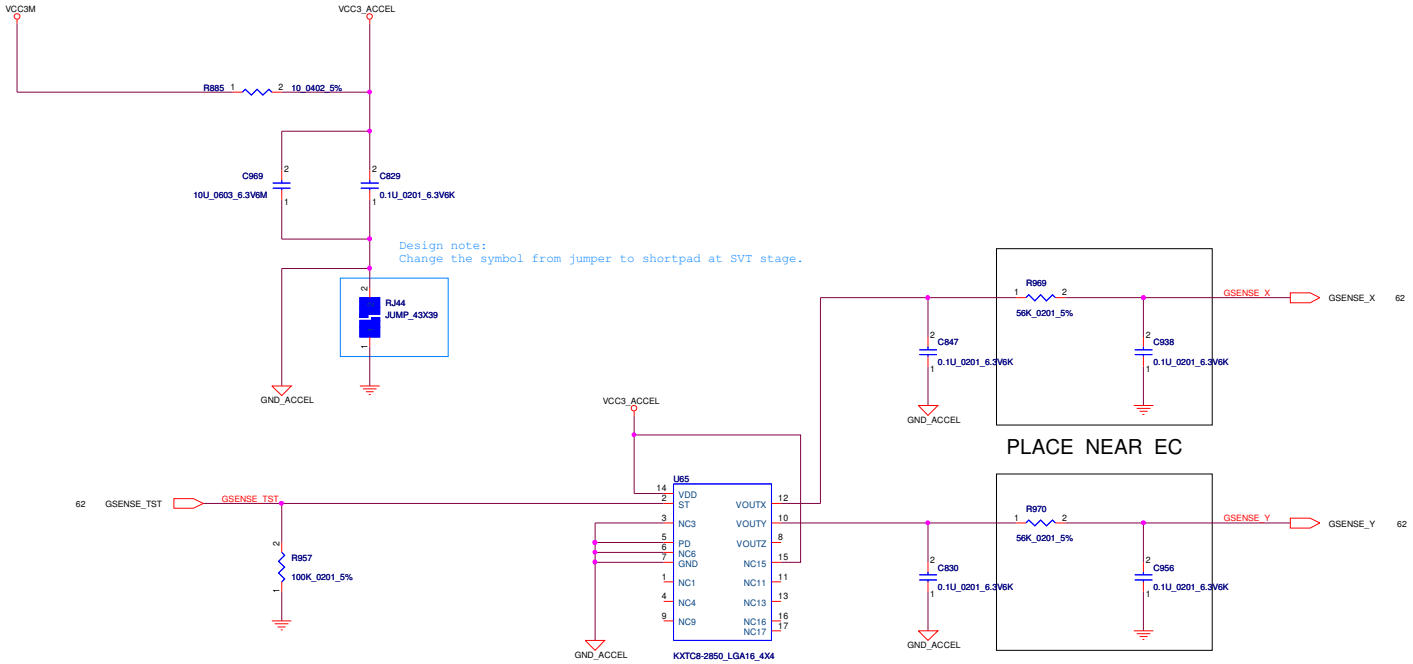
BLANK

Project Name : OAS-1 SP ASSESS	Title : BLANK	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 66 of 99	



lenovo		
Project Name : OAS-1 SP ASSESS	Title : FAN CONNECTOR	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 67 of 99	



LOGIC

Table 68-1

	LIS34AL KXTC8-2850	NO ACC.
R957	ASM	ASM
U65	ASM	NO_ASM
R885	10-OHM	NO_ASM
C829	ASM	NO_ASM
C969	ASM	NO_ASM
C830	ASM	NO_ASM
C847	ASM	NO_ASM
R969	56K	NO_ASM
C938	ASM	NO_ASM
R970	56K	NO_ASM
C956	ASM	NO_ASM
C704	NO_ASM	NO_ASM
R344	NO_ASM	NO_ASM
C703	NO_ASM	NO_ASM
R125	ASM	ASM

Table 68-2

G-Sensor Table (U65)	
Kionix	**KXTC8-2850**
STMicro	**LIS34ALTR**

lenovo		
Project Name : OAS-1 SP ASSESS	Title : G-SENSOR	
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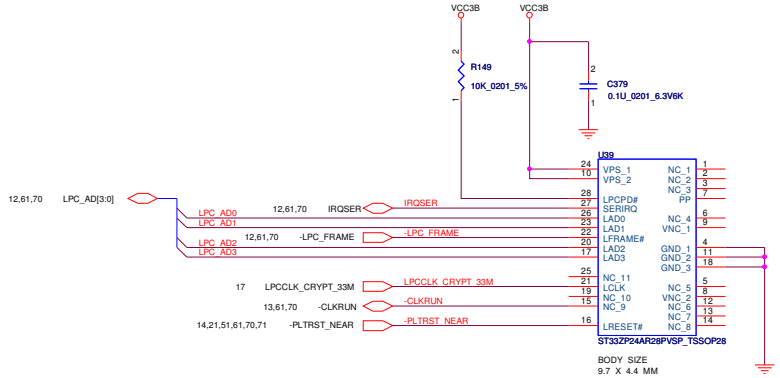

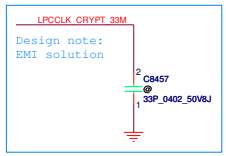

lenovo			
Project Name : OAS-1 SP ASSESS		Title : TPM	
Size : C	Document Number :		Rev : 1.01
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Table 70-1

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

LOGIC

Table 70-2

REF DES	ENABLE	DISABLE
JDB1	ASM	NO_ASM
R220	ASM	NO_ASM

LOGIC

PHILIPS 1024 X 8
EEPROM W/ACCESS
PROTECTION

VCC3M
R577 @ 4.7K_0201_5%
C1005 @ 0.1U_0201_6.3V6K
U22 @
PCA24S08DP_TSSOP8
SMB_CLK
SMB_DATA

Design note:
PCA24S08DP EOL,
suggest to change to PCA24S08ADP.

VCC3B
Q97 @ DTC115TMT2L_VMT3

14,47,50 -PLTRST_FAR
10K_0201_5% R150
10K_0201_5% R177
47K_0201_5% R291 @

24,26,65 SMB_CLK_3B
24,26,65 SMB_DATA_3B

13,21,62,72 BPWRG
Q84 @ DTC115TMT2L_VMT3

16 SMB_3B_EN

R8940 0_0201_5%
R8941 0_0201_5%
VCC5M
VCC3_SUS
10K_0201_5% R30 @
10K_0201_5% R45 @

U21 @
U31 @
TC7SB385FU_SSOP5
C25 @ 0.01U_0201_6.3V7K

SMB_CLK SMB_CLK 12
SMB_DATA SMB_DATA 12

JDB1
HRS_DF12E_3R0_14DP_0R5V_81
CONN_NOASM@

71,72,87,92 B_ON
14,21,51,61,69,71 -PLTRST_NEAR
12,61,69 IRQSER
13,61,69 -CLKRUN
12,61,69 -LPC_FRAME
17 LPCCLK_DEBUG_33M

-SUS_STAT
LPC_AD3
LPC_AD2
LPC_AD1
LPC_AD0
-PWRSWITCH

-SUS_STAT 13,61
LPC_AD[3:0] 12,61,69
-PWRSWITCH 20,60,64,71

Table 70-3

EEPROM	U22	U23
U21	ASM	NO_ASM
U31	ASM	NO_ASM
C25	ASM	NO_ASM
R291	ASM	NO_ASM
Q84	ASM	NO_ASM
R8941	NO_ASM	ASM
R8940	NO_ASM	ASM
R30	ASM	NO_ASM
R45	ASM	NO_ASM

LOGIC

lenovo

Project Name : OAS-1 SP ASSESS	Title : EEPROM/SMBUS SW
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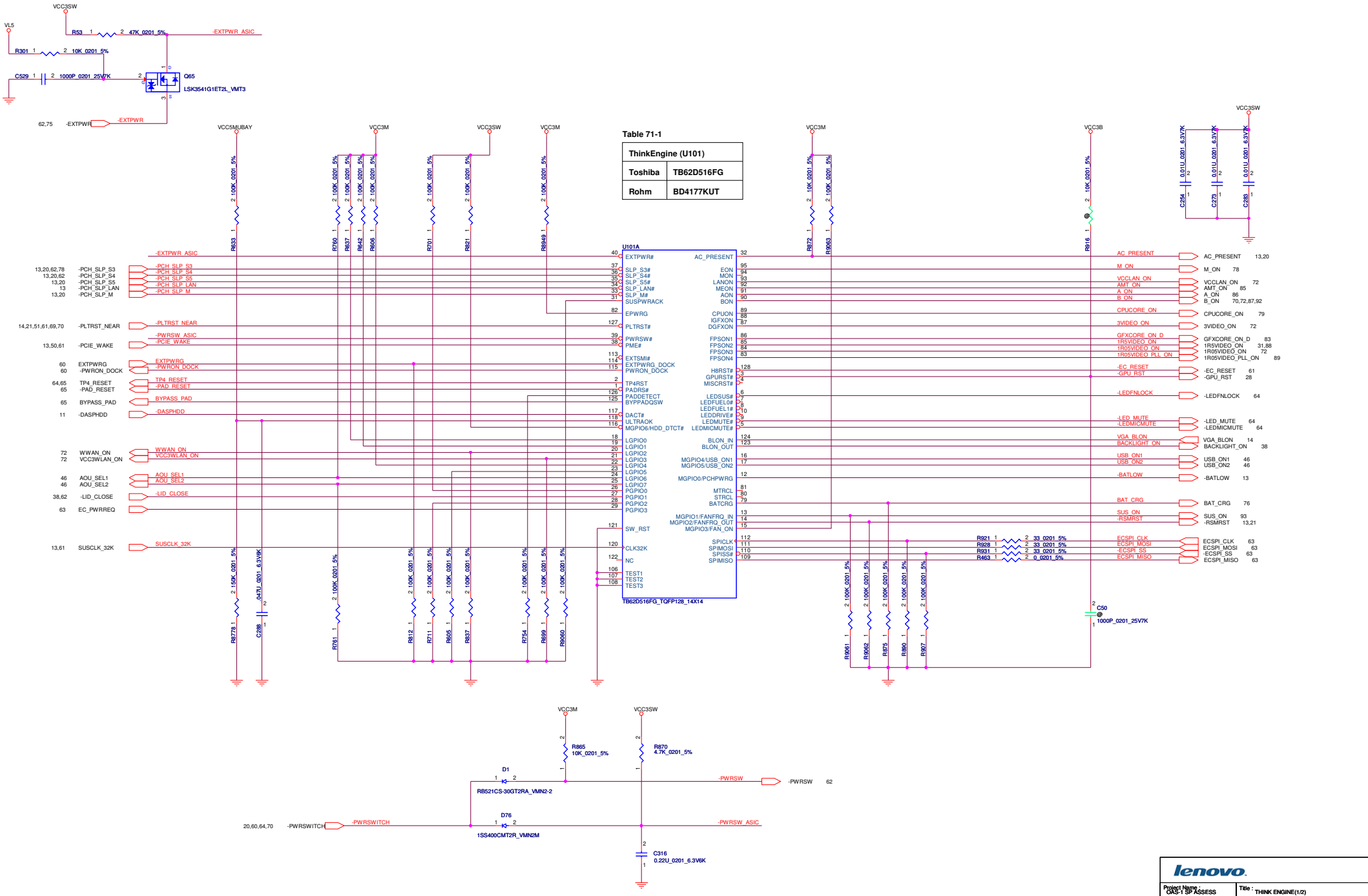
VCC3SW
VL5
R53 1 2 47K_0201_5%
-EXTPWR_ASIC
R301 1 2 10K_0201_5%
C529 1 2 1000P_0201_25V7K
Q65
LSK3541G1ET2L_VMT3
62,75 -EXTPWR
-EXTPWR
VCC5MUBAY
VCC3M
VCC3SW
VCC3M
Table 71-1
ThinkEngine (U101)
Toshiba TB62D516FG
Rohm BD4177KUT
U101A
-EXTPWR_ASIC
-PCH_SLP_S3
-PCH_SLP_S4
-PCH_SLP_S5
-PCH_SLP_LAN
-PCH_SLP_M
-PLTRST_NEAR
-PWRSW_ASIC
-PCIE_WAKE
EXTPWRG
-PWRON_DOCK
TP4_RESET
-PAD_RESET
BYPASS_PAD
-DASPHDD
WWAN_ON
VCC3WLAN_ON
AOU_SEL1
AOU_SEL2
-LID_CLOSE
EC_PWRREQ
SUSCLK_32K
EXTPWR#
SLP_S3#
SLP_S4#
SLP_S5#
SLP_LAN#
SLP_M#
SUSPWRACK
EPWRG
PLTRST#
PWRSW#
PME#
EXTSMI#
EXTPWRG_DOCK
PWRON_DOCK
TP4RST
PADRS#
PADDETECT
BYPPADQSW
DACT#
ULTRAOK
MGPIO6/HDD_DTCT#
LGPIO0
LGPIO1
LGPIO2
LGPIO3
LGPIO4
LGPIO5
LGPIO6
LGPIO7
PGPIO0
PGPIO1
PGPIO2
PGPIO3
SW_RST
CLK32K
NC
TEST1
TEST2
TEST3
AC_PRESENT
EON
MON
LANON
MEON
AON
BON
CPUON
IGFXON
DGFXON
FPSON1
FPSON2
FPSON3
FPSON4
H8RST#
GPURST#
MISCRST#
LEDSUS#
LEDFUEL0#
LEDFUEL1#
LEDDRIVE#
LEDMUTE#
LEDMICMUTE#
BLON_IN
BLON_OUT
MGPIO4/USB_ON1
MGPIO5/USB_ON2
MGPIO0/PCHPWRG
MTRCL
STRCL
BATCRG
MGPIO1/FANFRQ_IN
MGPIO2/FANFRQ_OUT
MGPIO3/FAN_ON
SPICLK
SPIMOSI
SPISS#
SPIMISO
TB62D516FG_TQFP128_14X14
VCC3B
AC_PRESENT
M_ON
VCCLAN_ON
AMT_ON
A_ON
B_ON
CPUCORE_ON
3VIDEO_ON
GFXCORE_ON_D
1R5VIDEO_ON
1R05VIDEO_ON
1R05VIDEO_PLL_ON
-EC_RESET
-GPU_RST
-LEDFNLOCK
-LED_MUTE
-LEDMICMUTE
VGA_BLON
BACKLIGHT_ON
USB_ON1
USB_ON2
-BATLOW
BAT_CRG
SUS_ON
-RSMRST
ECSPI_CLK
ECSPI_MOSI
-ECSPI_SS
ECSPI_MISO
C50
1000P_0201_25V7K
C254
C273
C288
0.01U_0201_6.3V7K
D1
RB521CS-30GT2RA_VMN2-2
-PWRSW
D76
1SS400CMT2R_VMN2M
-PWRSWITCH
C316
0.22U_0201_6.3V6K
lenovo
Project Name : OAS-1 SP ASSESS
Title : THINK ENGINE(1/2)
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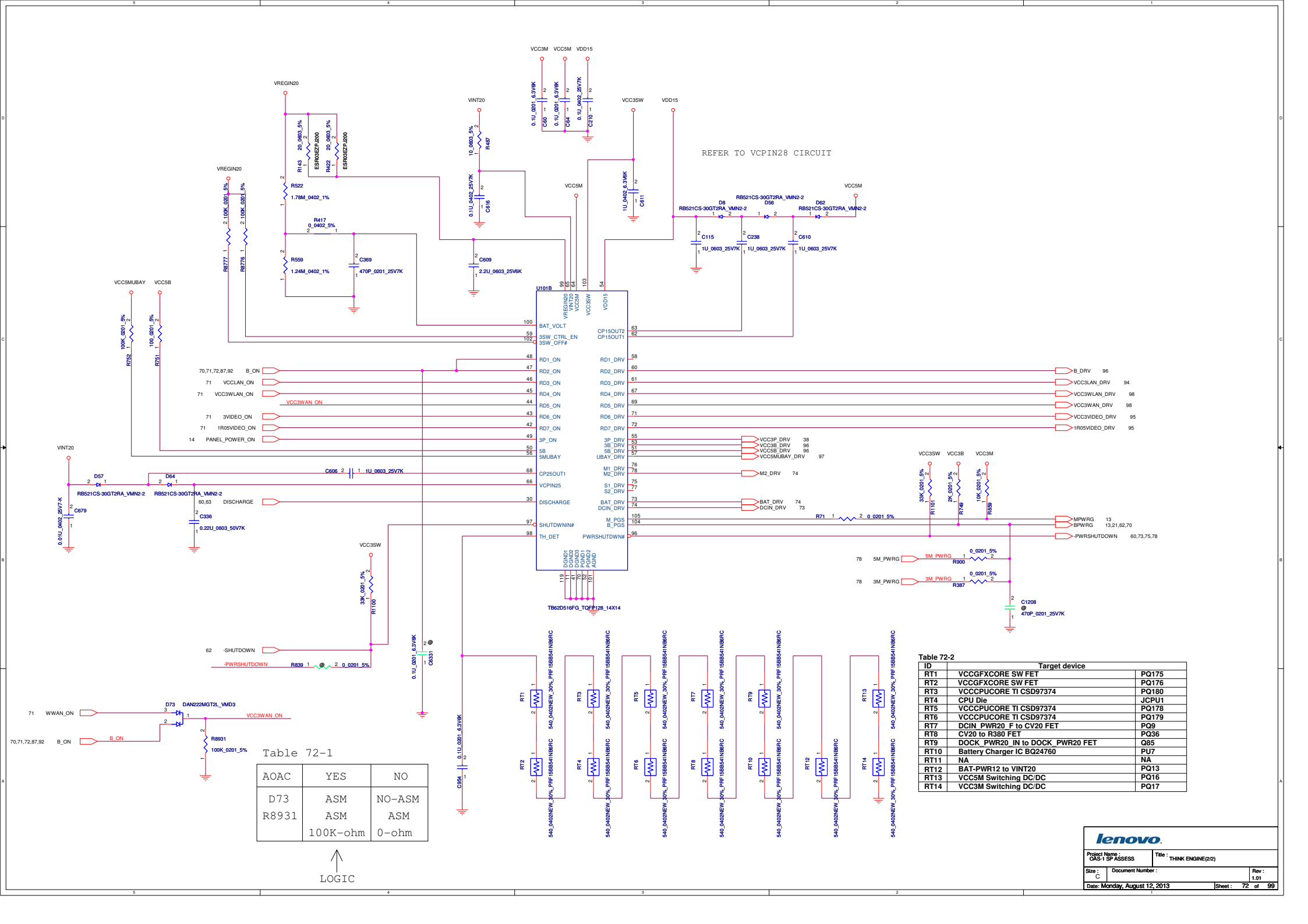
REFER TO VCPIN28 CIRCUIT
U101B
TB62D516FG_TQFP128_14X14
BAT_VOLT
3SW_CTRL_EN
3SW_OFF#
RD1_ON
RD2_ON
RD3_ON
RD4_ON
RD5_ON
RD6_ON
RD7_ON
3P_ON
5B
5MUBAY
CP25OUT1
VCPIN25
DISCHARGE
SHUTDOWNIN#
TH_DET
CP15OUT2
CP15OUT1
RD1_DRV
RD2_DRV
RD3_DRV
RD4_DRV
RD5_DRV
RD6_DRV
RD7_DRV
3P_DRV
3B_DRV
5B_DRV
UBAY_DRV
M1_DRV
M2_DRV
S1_DRV
S2_DRV
BAT_DRV
DCIN_DRV
M_PGS
B_PGS
PWRSHUTDOWN#
VREGIN20
VINT20
VCC5M
VCC3SW
VDD15
DGND1
DGND2
DGND3
PGND1
PGND2
AGND
B_ON
VCCLAN_ON
VCC3WLAN_ON
VCC3WAN_ON
3VIDEO_ON
1R05VIDEO_ON
PANEL_POWER_ON
DISCHARGE
-SHUTDOWN
-PWRSHUTDOWN
VCC3P_DRV
VCC3B_DRV
VCC5B_DRV
VCC5MUBAY_DRV
M2_DRV
BAT_DRV
DCIN_DRV
B_DRV
VCC3LAN_DRV
VCC3WLAN_DRV
VCC3WAN_DRV
VCC3VIDEO_DRV
1R05VIDEO_DRV
MPWRG
BPWRG
-PWRSHUTDOWN
5M_PWRG
3M_PWRG
WWAN_ON
D73 DAN222MGT2L_VMD3
R8931 100K_0201_5%
Table 72-1
AOAC | YES | NO
D73 | ASM | NO-ASM
R8931 | ASM | ASM
100K-ohm | 0-ohm
LOGIC
Table 72-2
ID | Target device
RT1 | VCCGFXCORE SW FET | PQ175
RT2 | VCCGFXCORE SW FET | PQ176
RT3 | VCCCPUCORE TI CSD97374 | PQ180
RT4 | CPU Die | JCPU1
RT5 | VCCCPUCORE TI CSD97374 | PQ178
RT6 | VCCCPUCORE TI CSD97374 | PQ179
RT7 | DCIN_PWR20_F to CV20 FET | PQ9
RT8 | CV20 to R380 FET | PQ36
RT9 | DOCK_PWR20_IN to DOCK_PWR20 FET | Q85
RT10 | Battery Charger IC BQ24760 | PU7
RT11 | NA | NA
RT12 | BAT-PWR12 to VINT20 | PQ13
RT13 | VCC5M Switching DC/DC | PQ16
RT14 | VCC3M Switching DC/DC | PQ17
lenovo
Project Name : OAS-1 SP ASSESS
Title : THINK ENGINE(2/2)
Size : C
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TABLE 73-1

Fuse (PF2)	
Littlefuse	0429007.WRMLHF
Cooper	3216FF7-R
AEM	F1206HI7000V024TM

Design Note:
AEM part is only for qualification purpose.
It will be dropped before SVT if GCM is not approved.

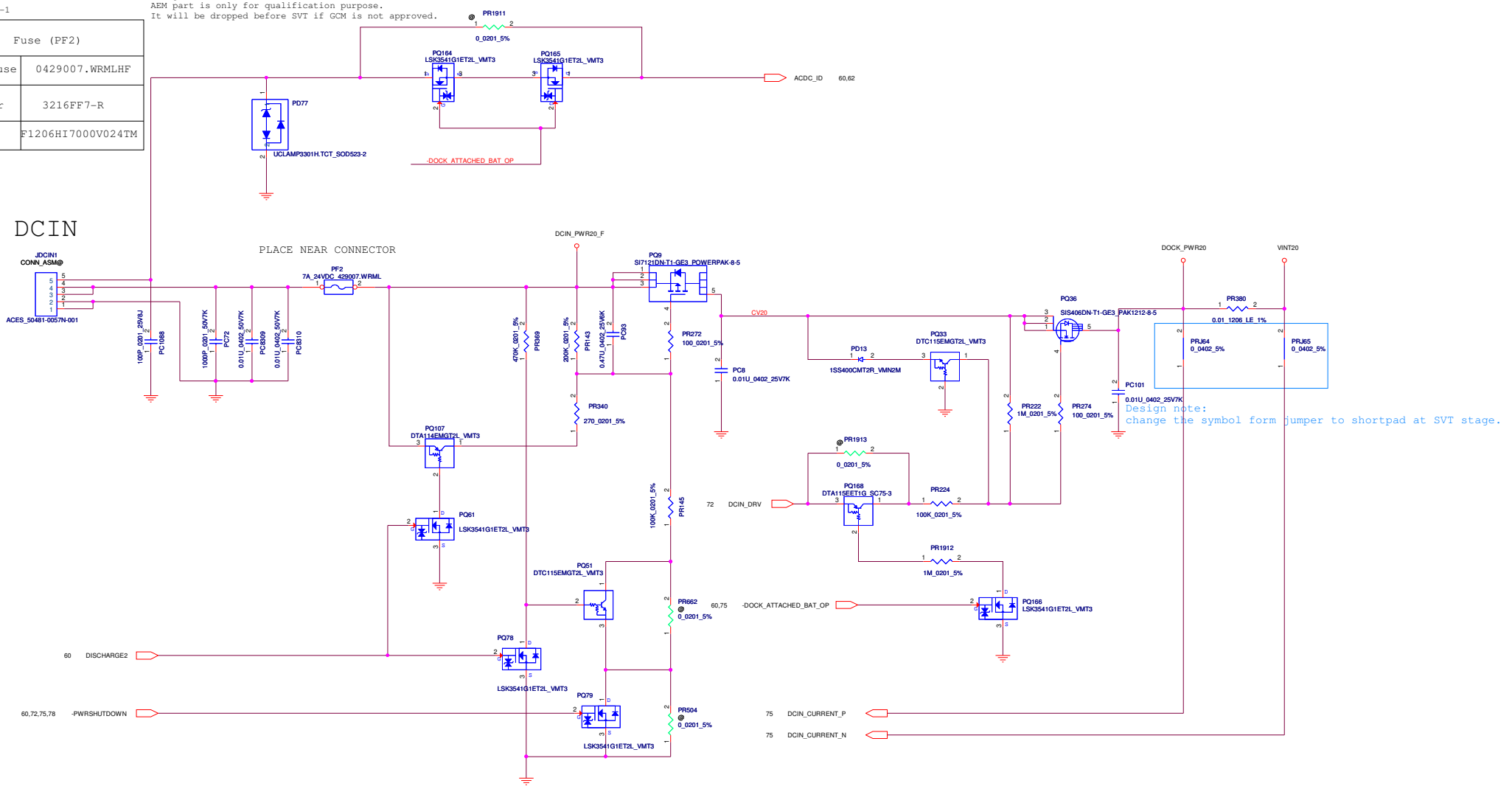

TABLE 73-1

PEAK SHIFT	YES	NO
PR662	NO-ASM	ASM
PR369	ASM	NO-ASM
PQ78	ASM	NO-ASM
PQ51	ASM	NO-ASM

LOGIC

Project Name : OAS-1 SP ASSESS	Title : DC-IN	
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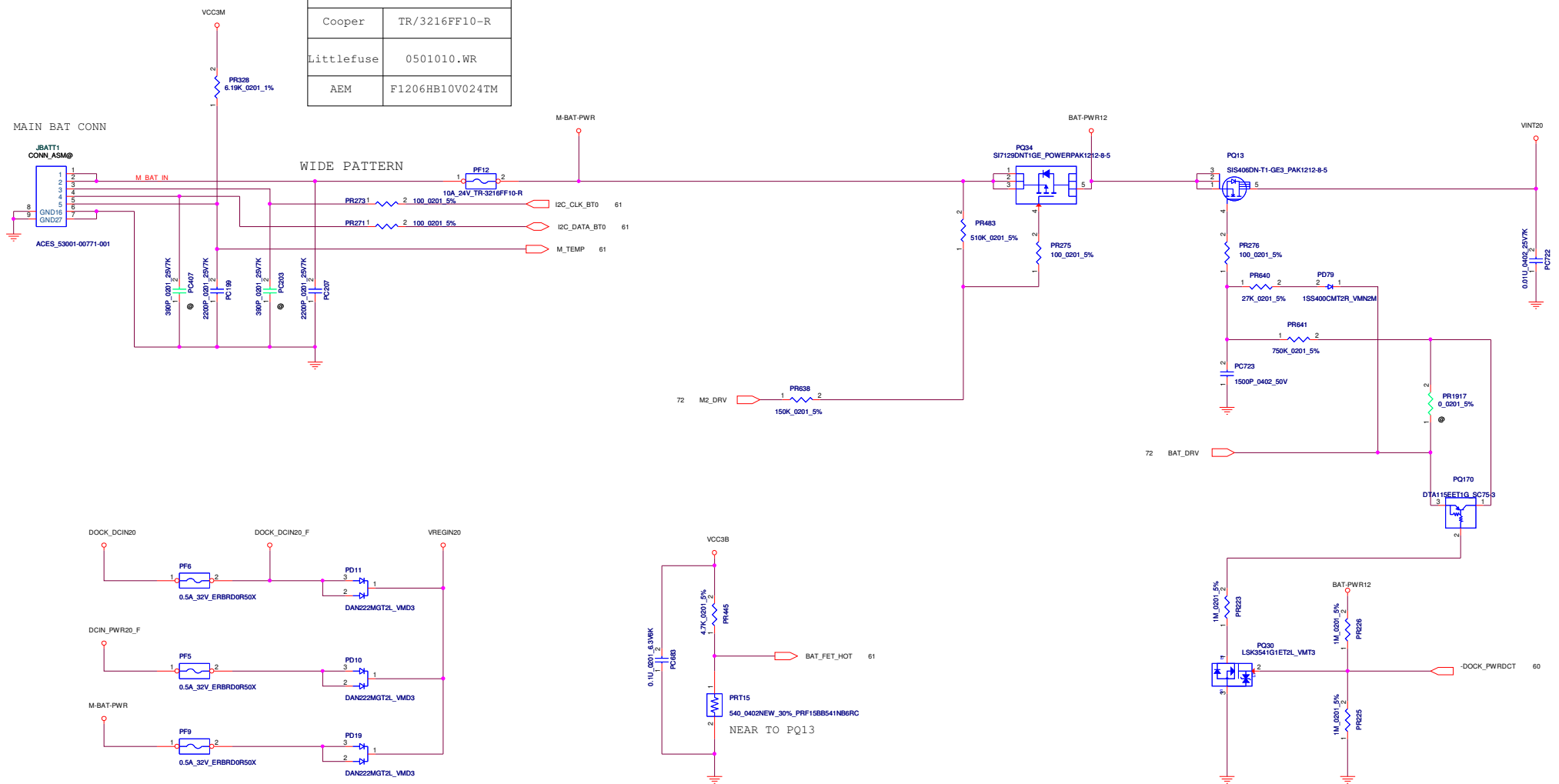
Design Note:
AEM part is only for qualification purpose.
It will be dropped before SVT if GCM is not approved.

TABLE 74-1

Fuse (PF12)	
Cooper	TR/3216FF10-R
Littlefuse	0501010.WR
AEM	F1206HB10V024TM



Project Name : OAS-1 SP ASSESS		Title : BATTERY INPUT	
Size : C	Document Number :		Rev : 1.01
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BOM note:
Virtual symbol for BOM control.

PR426 UMA@ 73.2K_0201_1%
PR864 UMA@ 31.6K_0201_1%
PR918 UMA@ 49.9K_0201_1%

TABLE 75-1

	SWG	UMA
PR426	44.2K	73.2K
PR864	35.7K	31.6K
PR918	31.6K	49.9K
PR921	40.2K	DY
PQ97	ASM	DY

TABLE 75-2

AC Adapter	-135W_AC	-90W_AC	System Power Limit SWG	UMA
135W	L	L	135W	90W
90W	H	L	90W	90W
65W	H	H	65W	65W

CAD note:
According to MFVT EC006, show part description when new symbol announce.

CAD note:
Single net.

to connect lines of I2C_DATA and I2C_CLK in parallel

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

Design note:
change the symbol form jumper to shortpad at SVT stage.

Design note:
change the symbol form jumper to shortpad at SVT stage.

place PR735 and PC299 near EC

I_limit:
In charging=>4A
In boosting=>6A

BQ24760RSBR_QFN40_5X5-D

Project Name :	OAS-1 SP ASSESS
Title :	BATTERY CHARGER(BQ24760)
Size :	C
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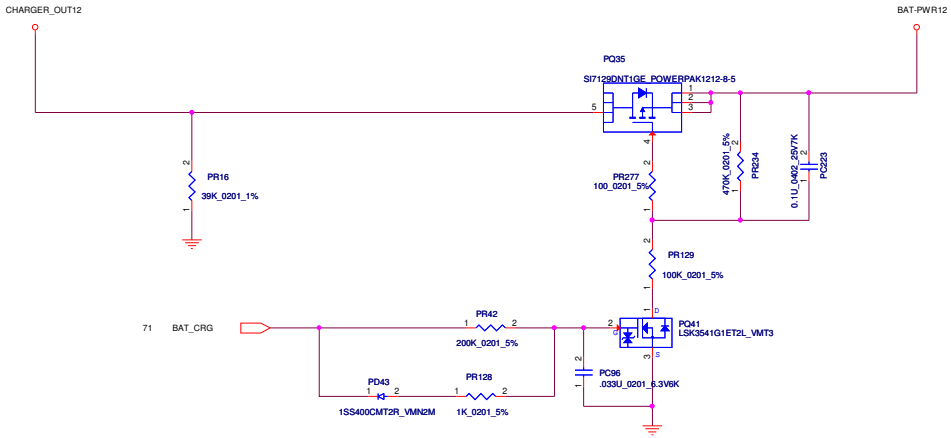

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Project Name : OAS-1 SP ASSESS	Title : CHARGER SELECTOR
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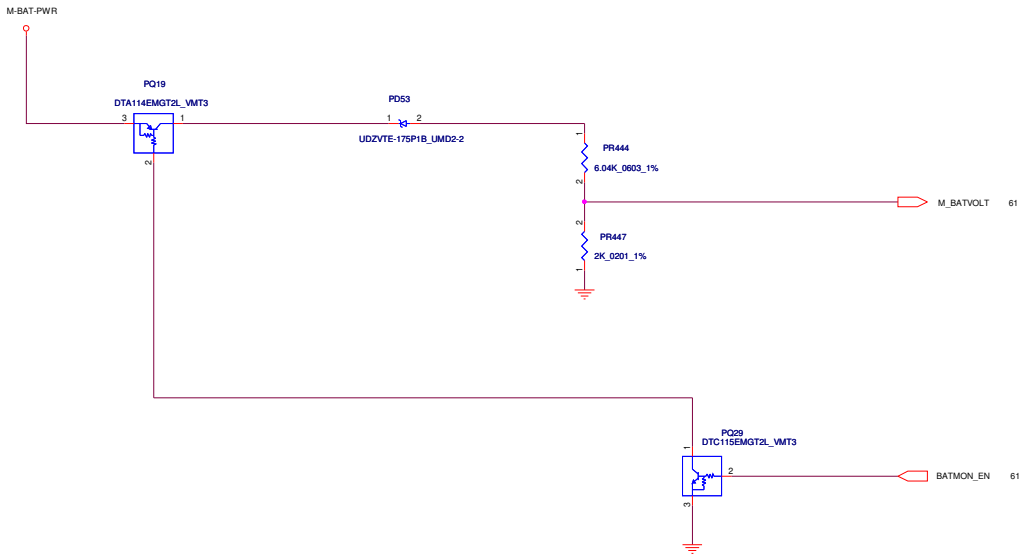

Project Name : OAS-1 SP ASSESS	Title : BATTERY MONITOR	
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All the input MLCCs on 20V must be placed symmetrically on Top and Bottom.

Max:15A
TDP:8A

Design note:
RF solution, close to PQ16.

Design note:
RF solution, close to PL3.

Design note:
change the symbol form jumper to shortpad at SVT stage.

ESR=18mOHM

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

Design note:
RF solution, close to PL4.

Max:10.5A
TDP:9.6A

Design note:
RF solution, close to PQ17.

Design note:
change the symbol form jumper to shortpad at SVT stage.

ESR=12mOHM

Design note:
change the symbol form jumper to shortpad at SVT stage.

Project Name : OAS-1 SP ASSESS	Title : DC/DC VCC5M/VCC3M (TPS51220A)
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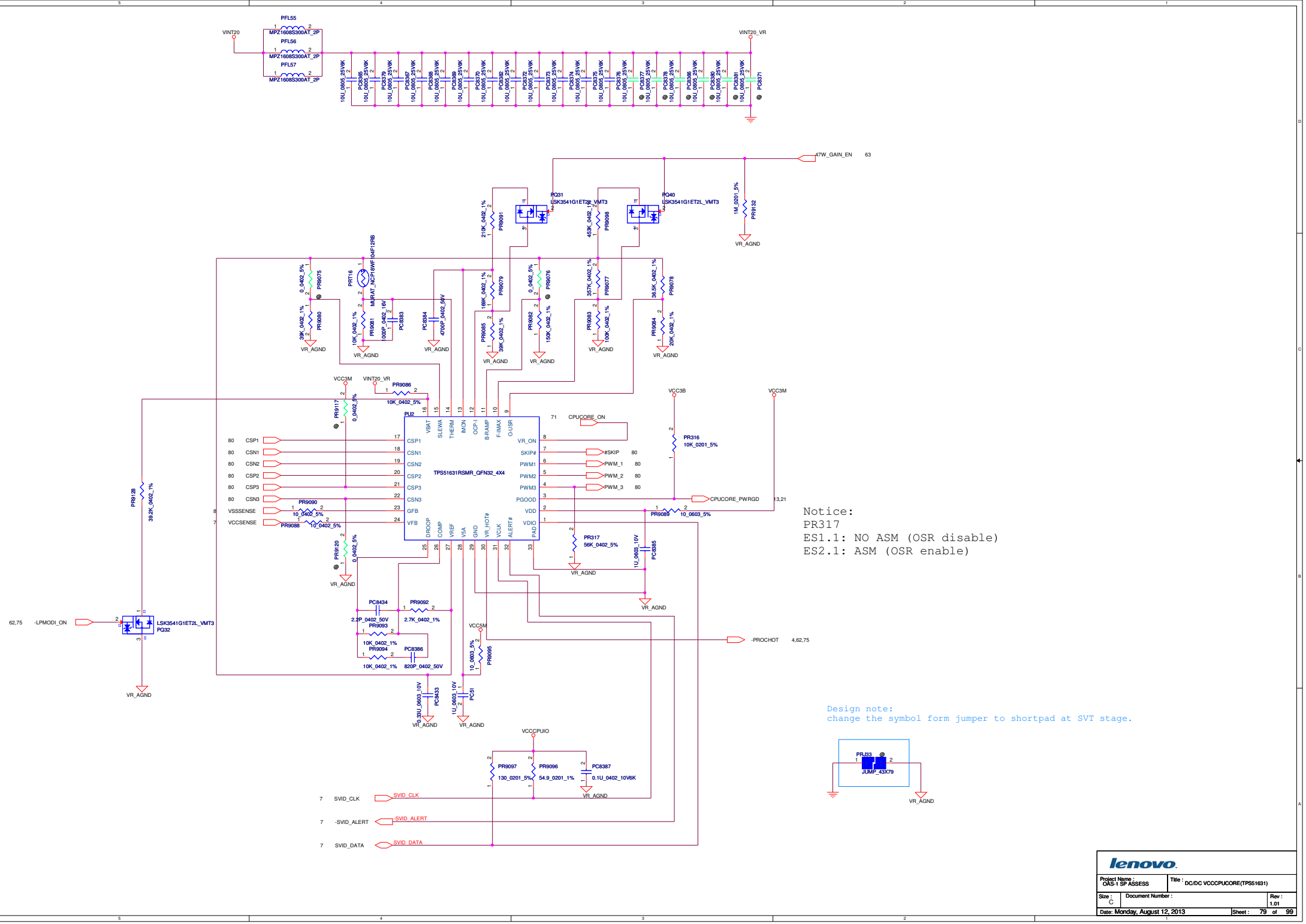

lenovo			
Project Name : OAS-1 SP ASSESS		Title : DC/DC VCCCPUCORE(TPS51631)	
Size : C	Document Number :		Rev : 1.01
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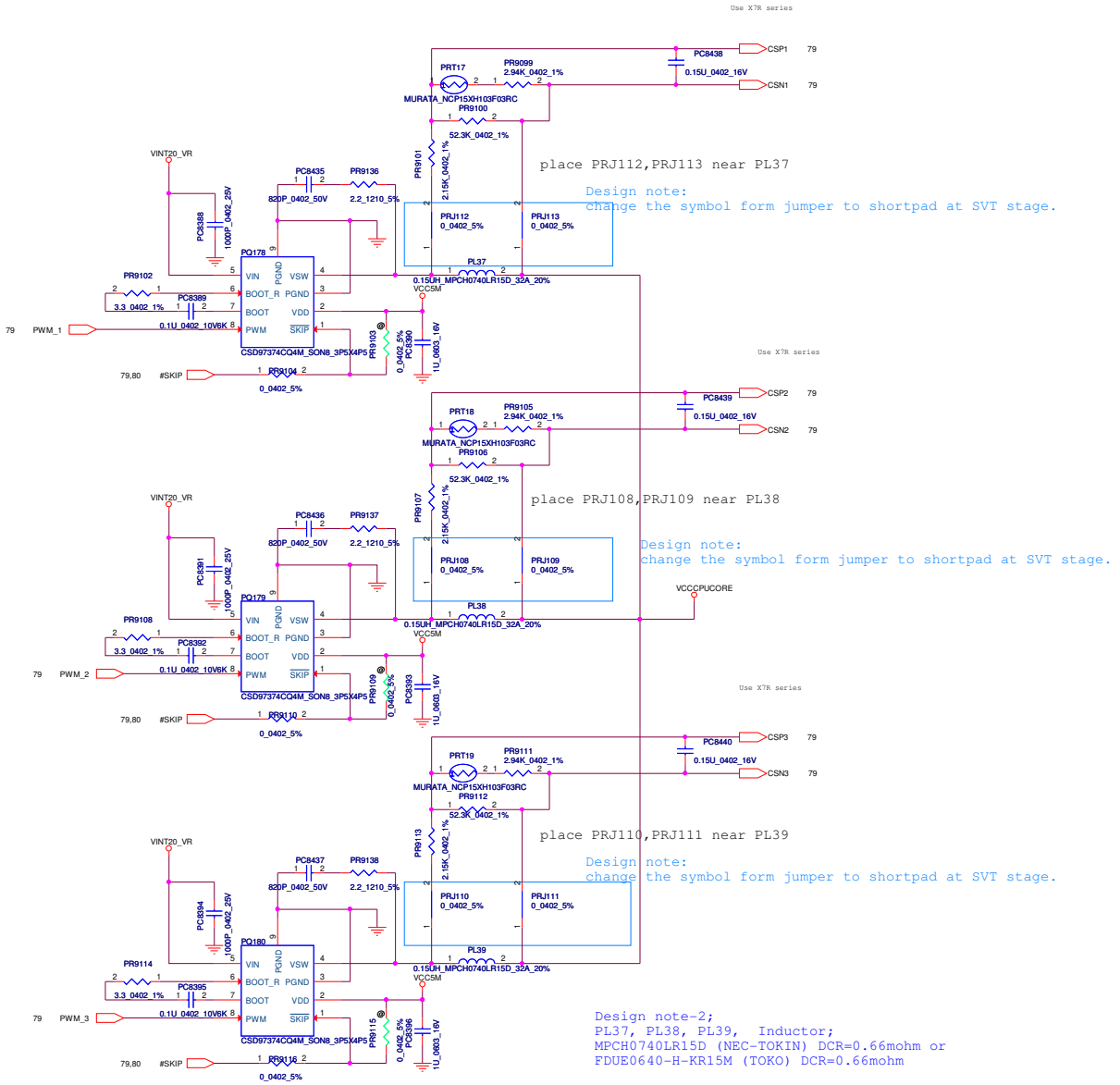

Project Name : OAS-1 SP ASSESS	Title : DC/DC VCCCPUCORE(CSD97374)	
Size : C	Document Number :	Rev : 1.01
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BLANK

Project Name : OAS-1 SP ASSESS	Title : BLANK	
Size : C	Document Number :	Rev : 1.01
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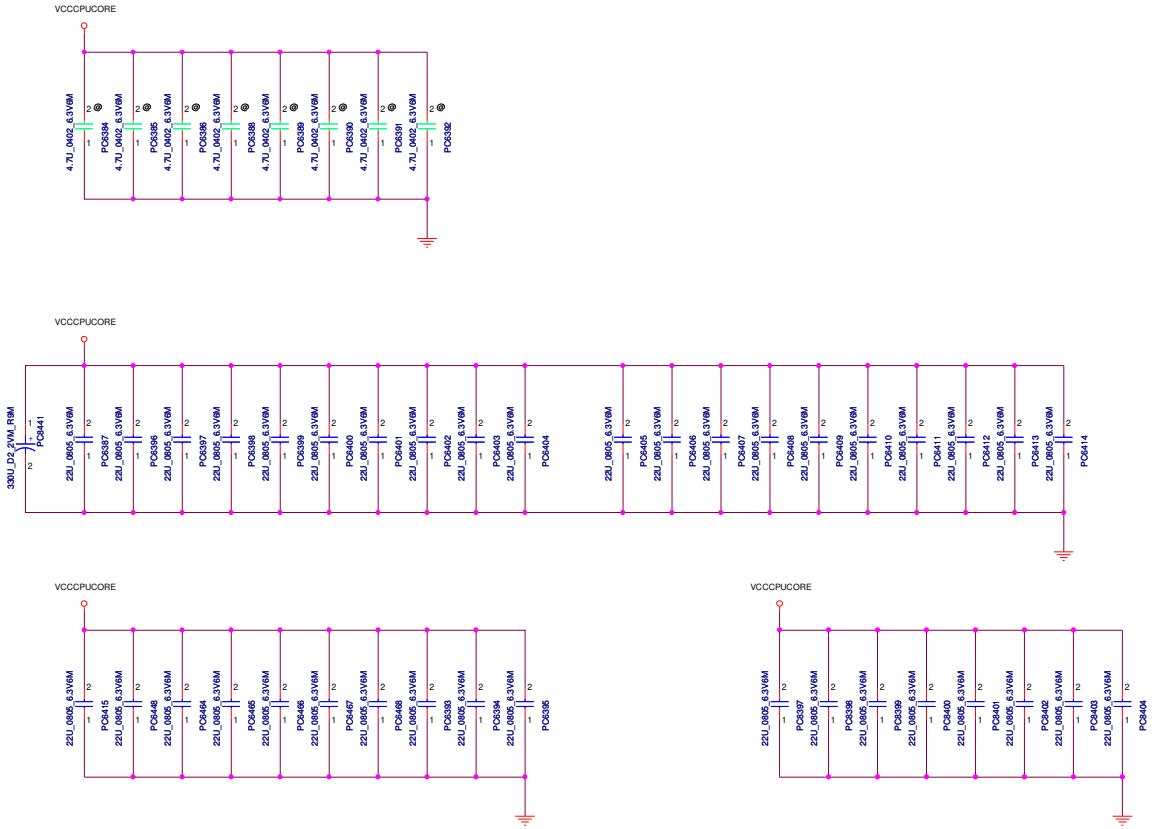

38pcs 22uF for VCCCPUCORE

Project Name : OAS-1 SP ASSESS	Title : VCCCPUCORE DECOUPLING	
Size : C	Document Number :	Rev : 1.01
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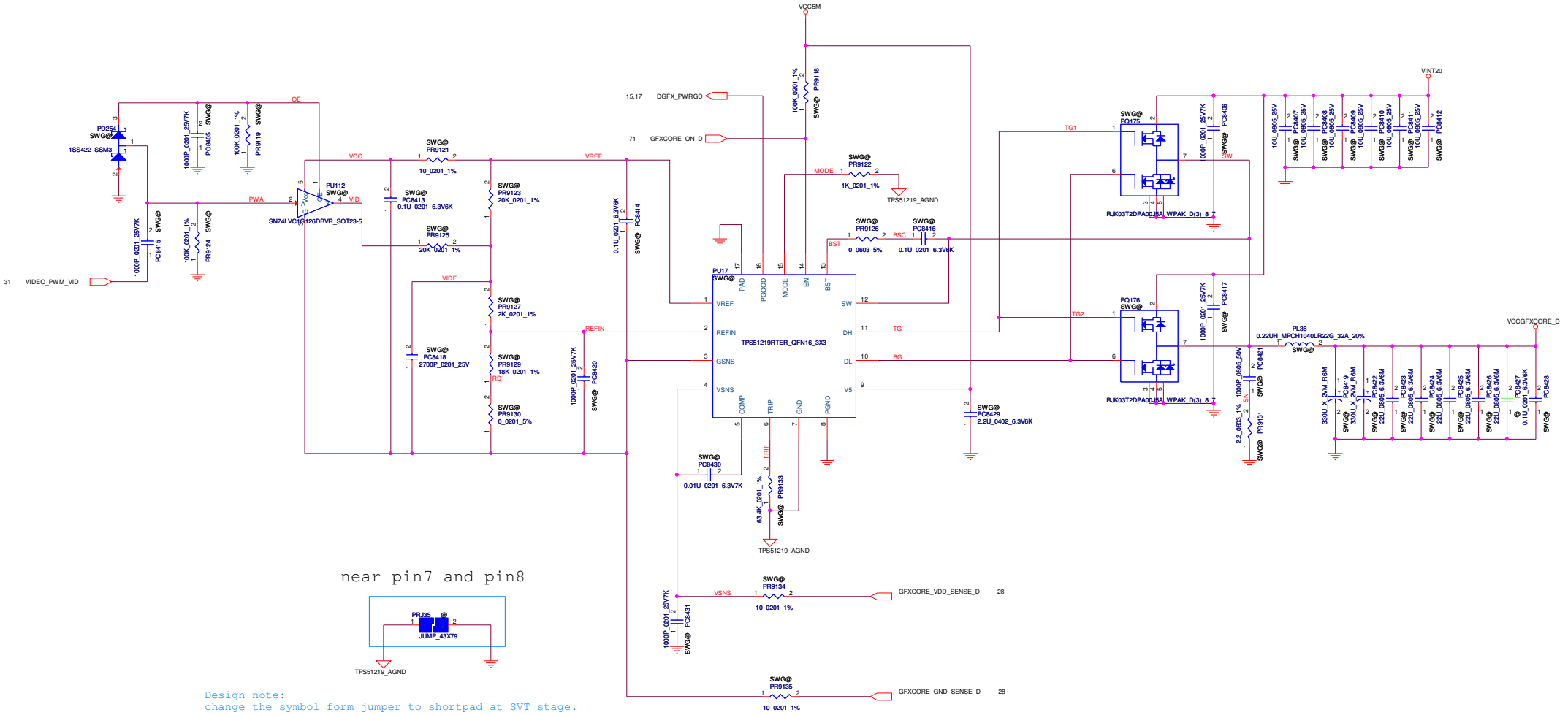

Project Name : OAS-1 SP ASSESS		Title : DC/DC VCCGFXCORE_D (TPS51219)	
Size : C	Document Number :		Rev : 1.01
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BLANK

Project Name : OAS-1 SP ASSESS	Title : BLANK	
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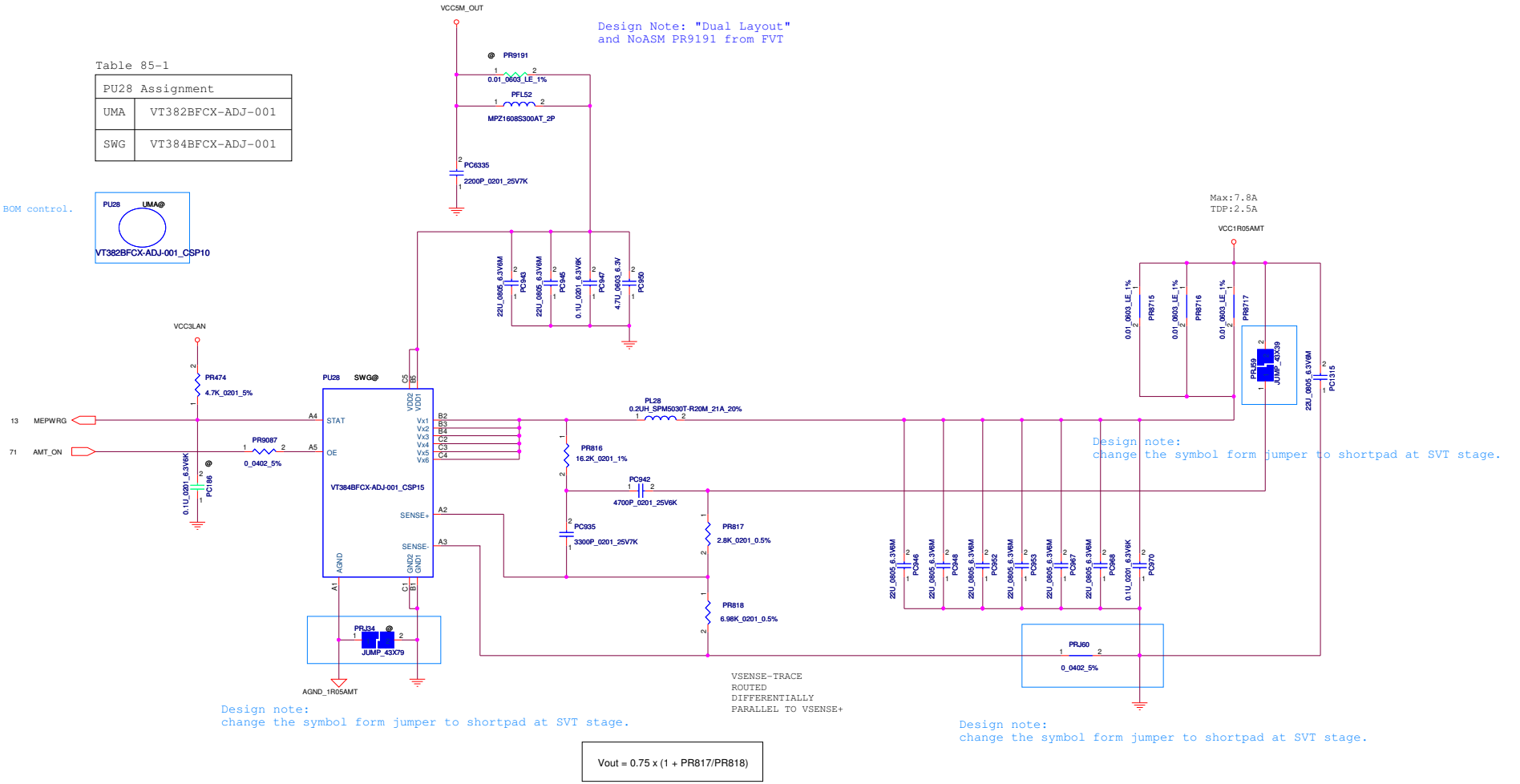
Table 85-1

PU28 Assignment	
UMA	VT382BFCX-ADJ-001
SWG	VT384BFCX-ADJ-001

BOM note:
Virtual symbol for BOM control.

PU28 UMA@
VT382BFCX-ADJ-001_CSP10

Design Note: "Dual Layout"
and NoASM PR9191 from FVT



Design note:
change the symbol form jumper to shortpad at SVT stage.

Design note:
change the symbol form jumper to shortpad at SVT stage.

Design note:
change the symbol form jumper to shortpad at SVT stage.

VSENSE-TRACE
ROUTED
DIFFERENTIALLY
PARALLEL TO VSENSE+

Vout = 0.75 x (1 + PR817/PR818)

Project Name : OAS-1 SP ASSESS	Title : DC/DC VCC1R05AMT(VT384BFCX-ADJ-001)		
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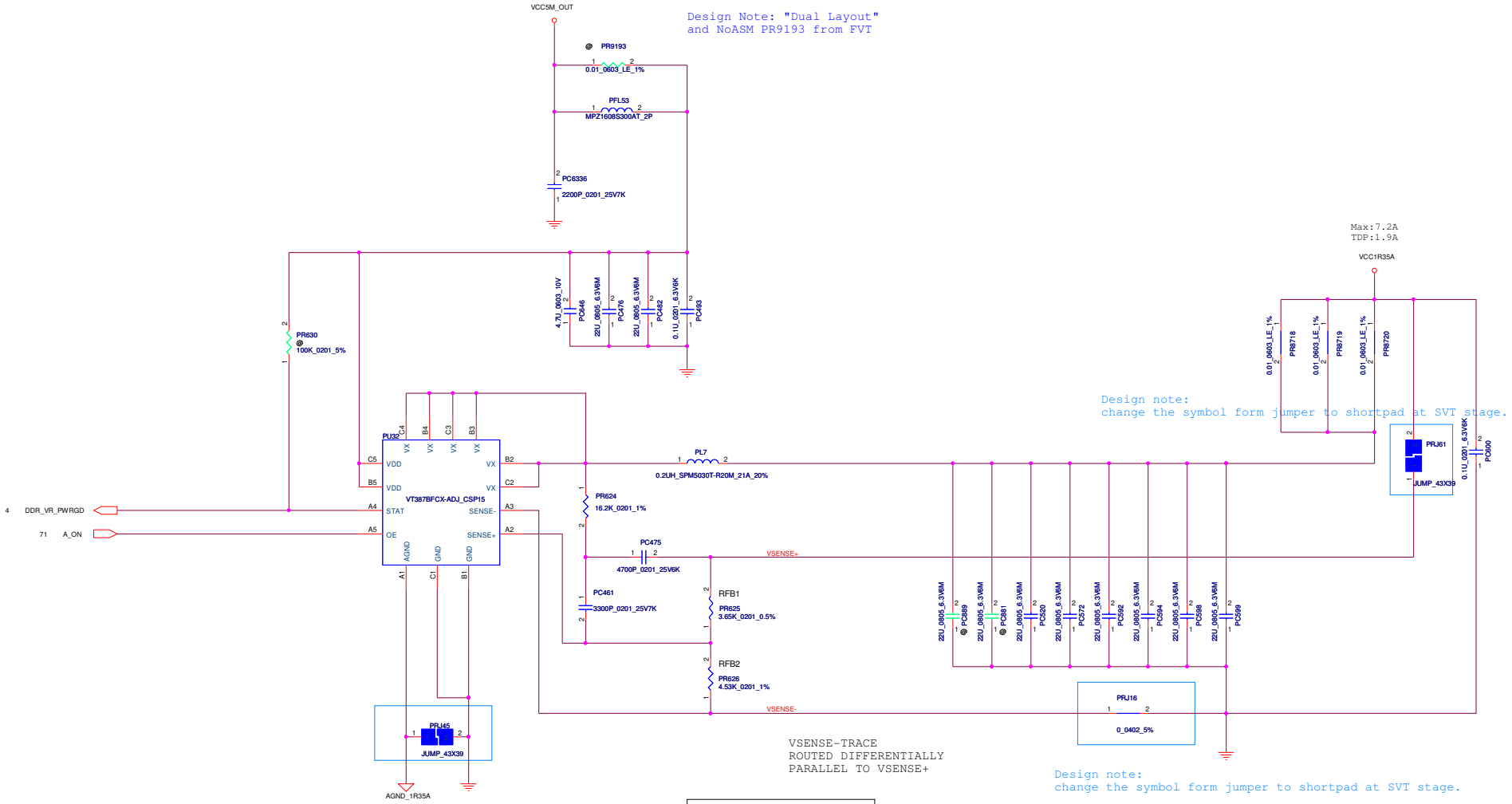
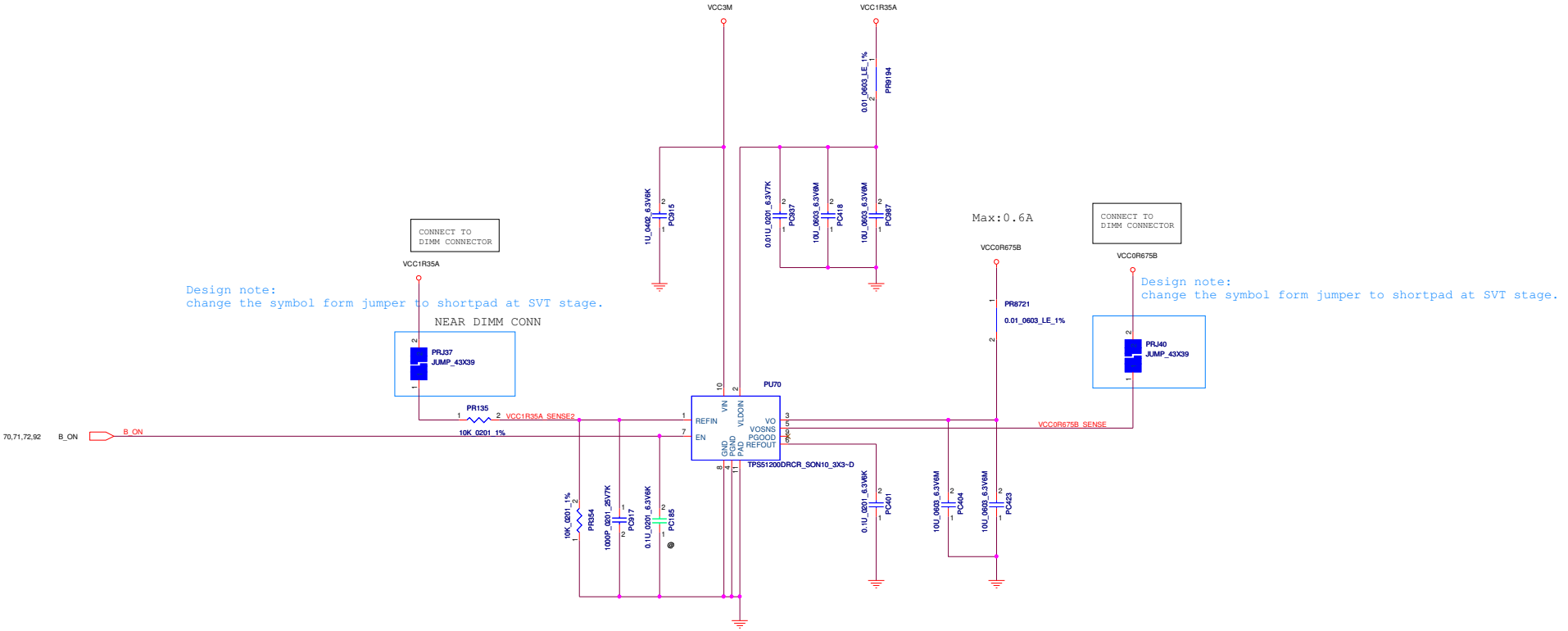


Project Name : OAS-1 SP ASSESS		Title : DC/DC VCC1R35A(VT387BFCX)	
Size : C	Document Number :		Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 86 of 99	



Project Name : OAS-1 SP ASSESS	Title : DC/DC VCC0R675B(TPS51200)	
Size : C	Document Number :	Rev : 1.01
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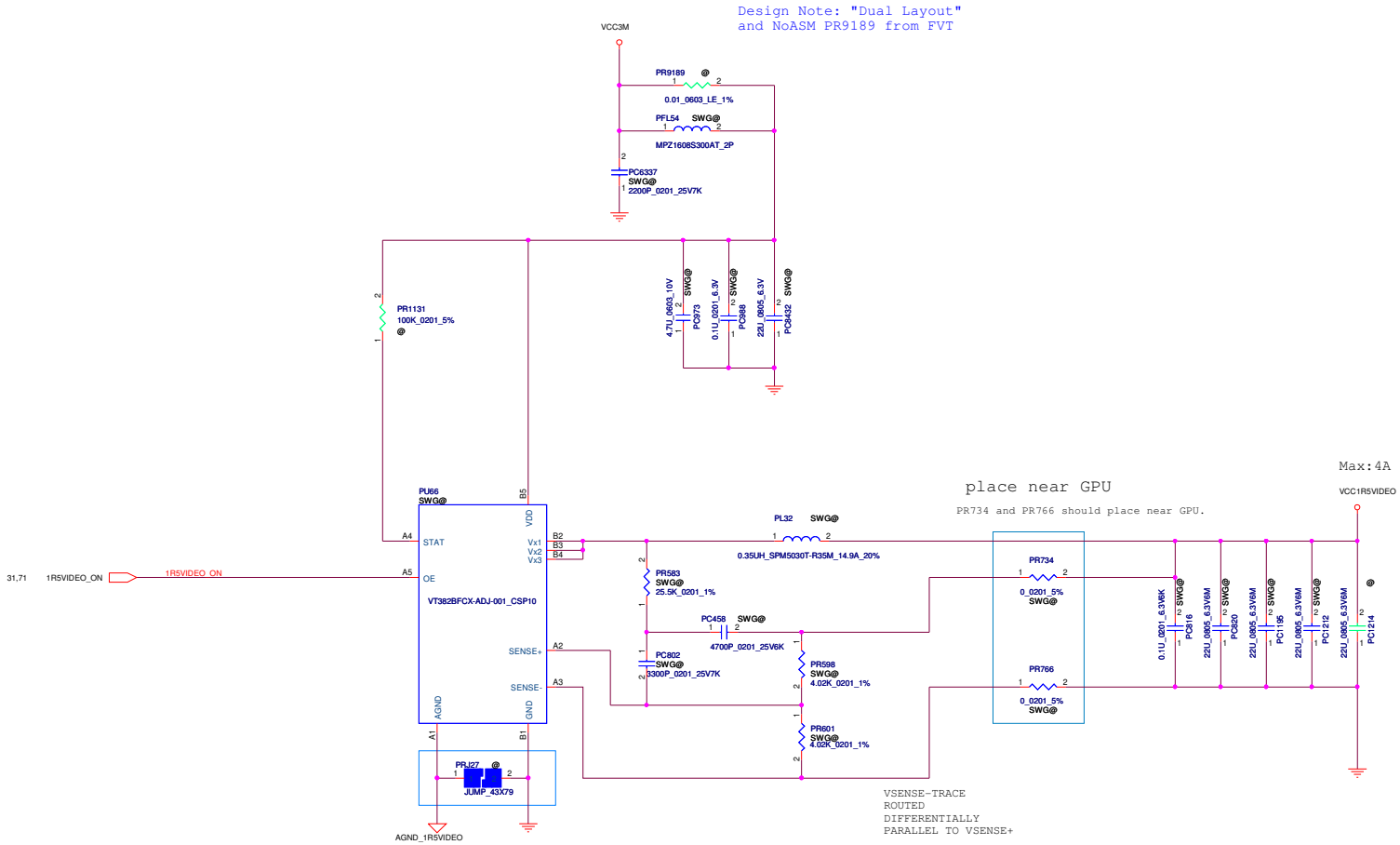

Project Name : OAS-1 SP ASSESS	Title : DC/DC VCC1R5VIDEO(VT382BFCX)	
Size : C	Document Number :	Rev : 1.01
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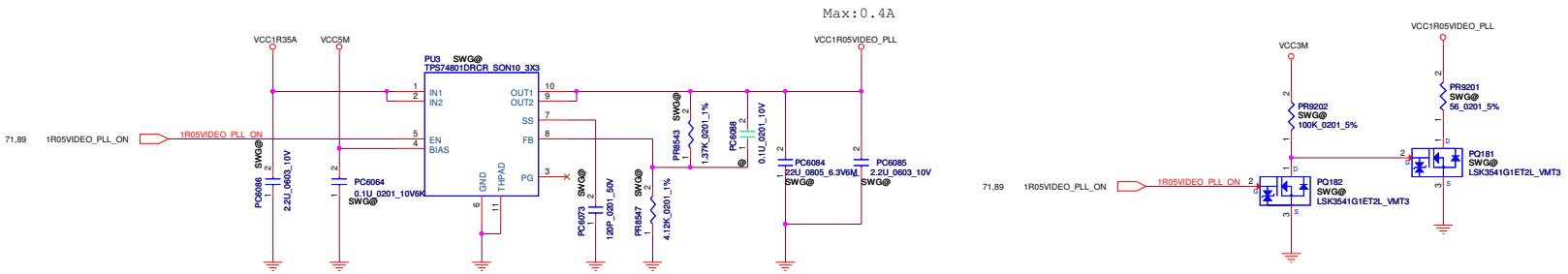

Project Name : OAS-1 SP ASSESS		Title : DC/DC VCC1R05VIDEO_PLL(TPS74801DRCR)	
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BLANK

Project Name : OAS-1 SP ASSESS	Title : BLANK	
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BLANK

Project Name : OAS-1 SP ASSESS	Title : BLANK	
Size : C	Document Number :	Rev : 1.01
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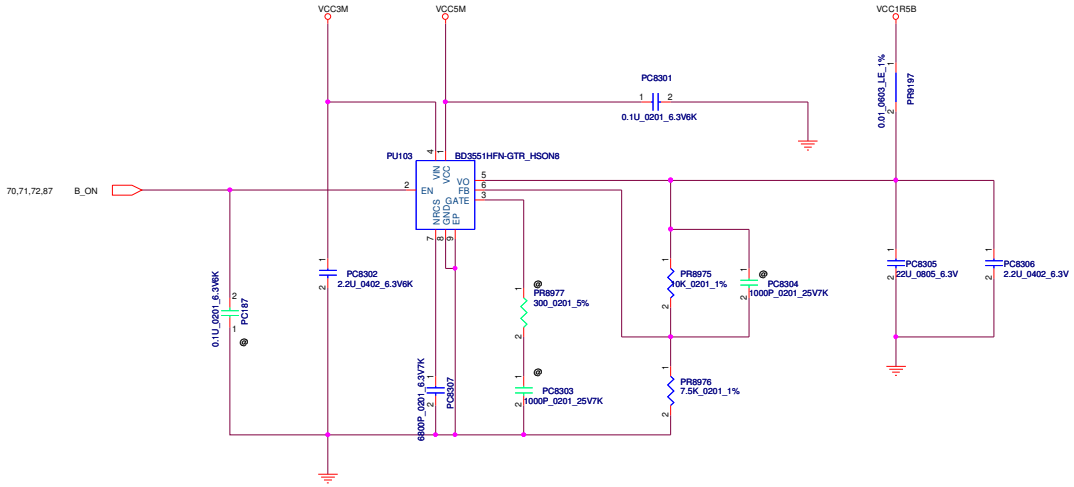
Max:0.2A
TDP:0.1A



Project Name : OAS-1 SP ASSESS	Title : DC/DC VCC1R5B(BD3551HFN)	
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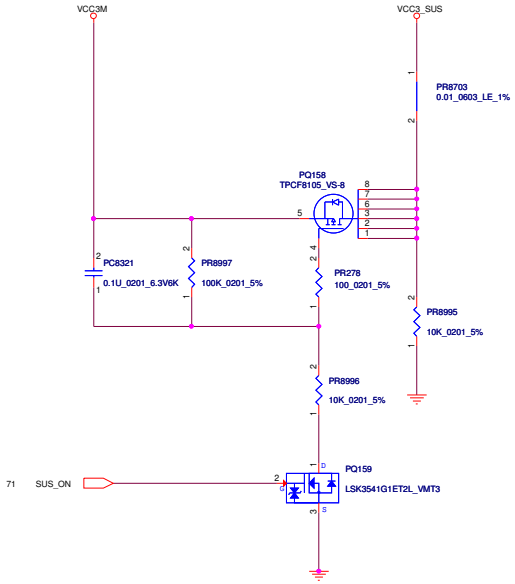

Project Name : OAS-1 SP ASSESS	Title : LOAD SW PCH SUS	
Size : C	Document Number :	Rev : 1.01
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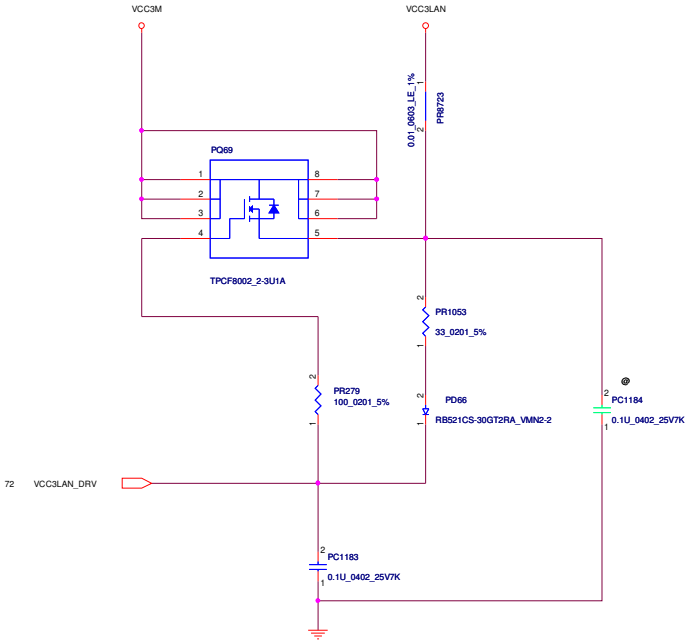
Max:0.2A



Project Name : OAS-1 SP ASSESS		Title : LOAD SW LAN	
Size : C	Document Number :		Rev : 1.01
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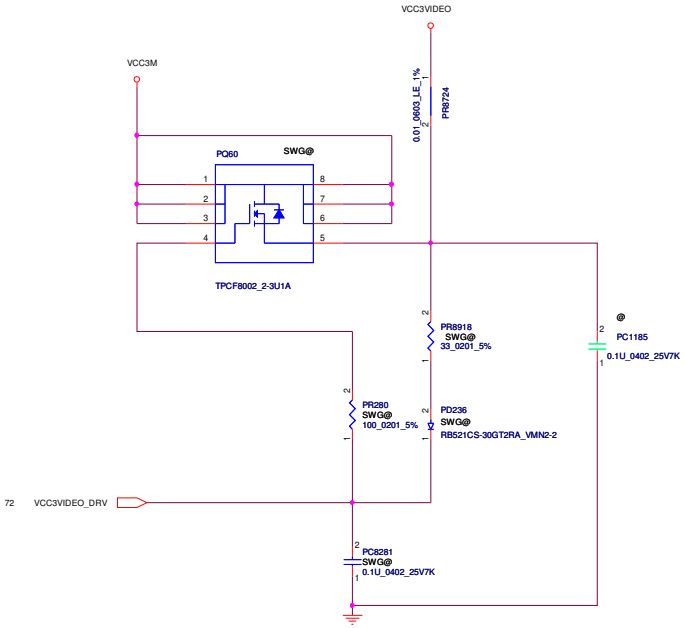

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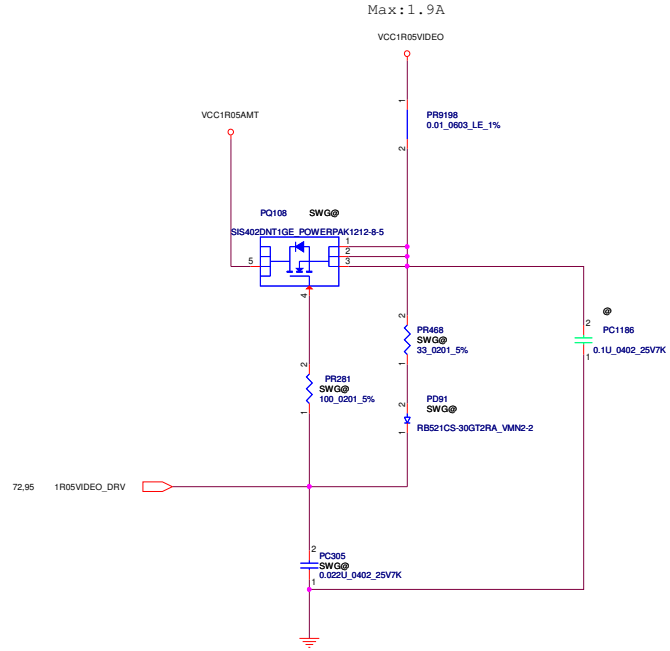

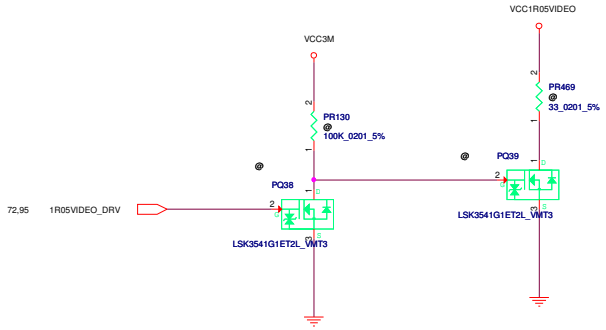

Project Name : OAS-1 SP ASSESS	Title : LOAD SW VIDEO	
Size : C	Document Number :	Rev : 1.01
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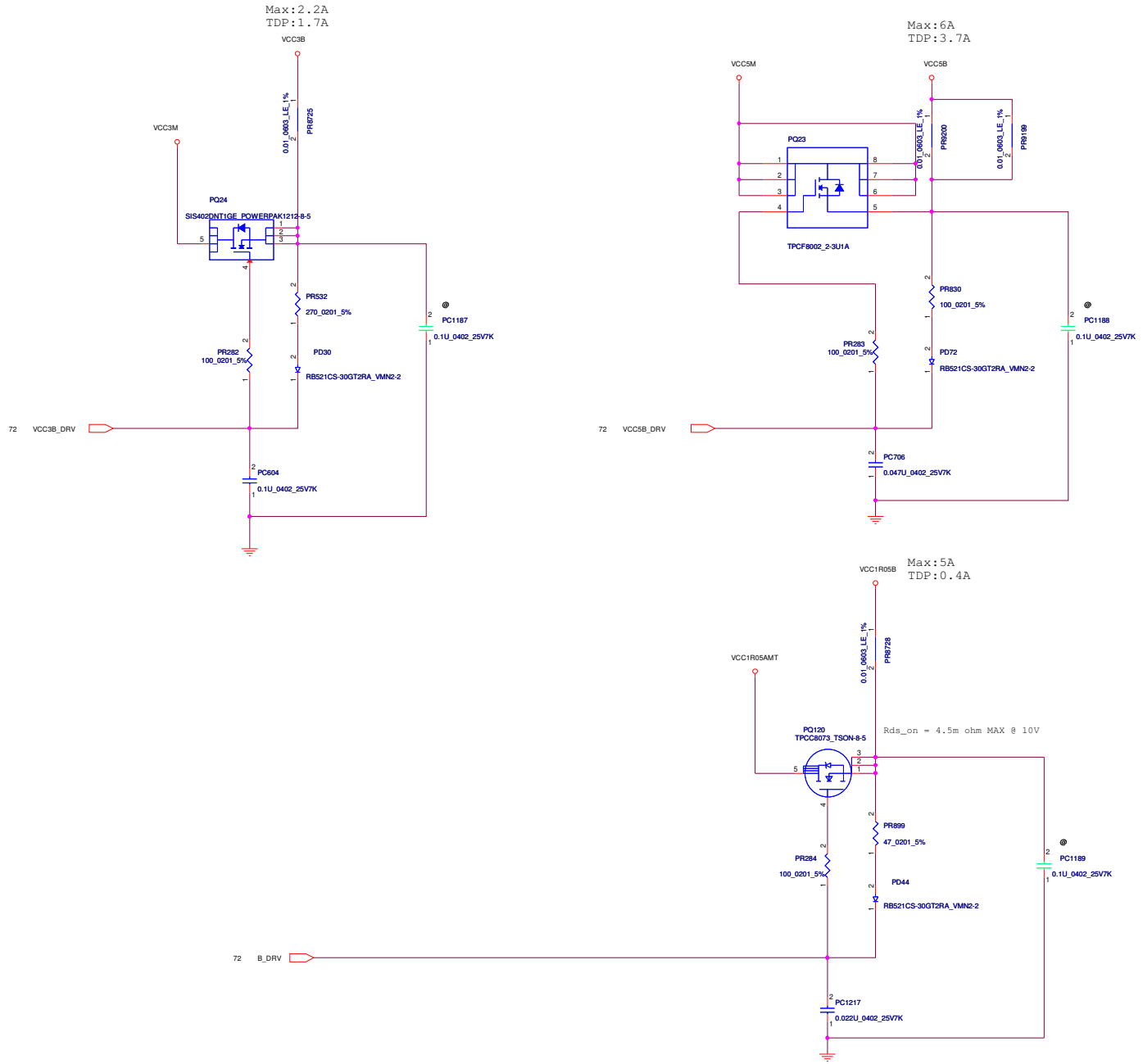

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Project Name : OAS-1 SP ASSESS	Title : LOAD SW B	
Size : C	Document Number :	Rev : 1.01
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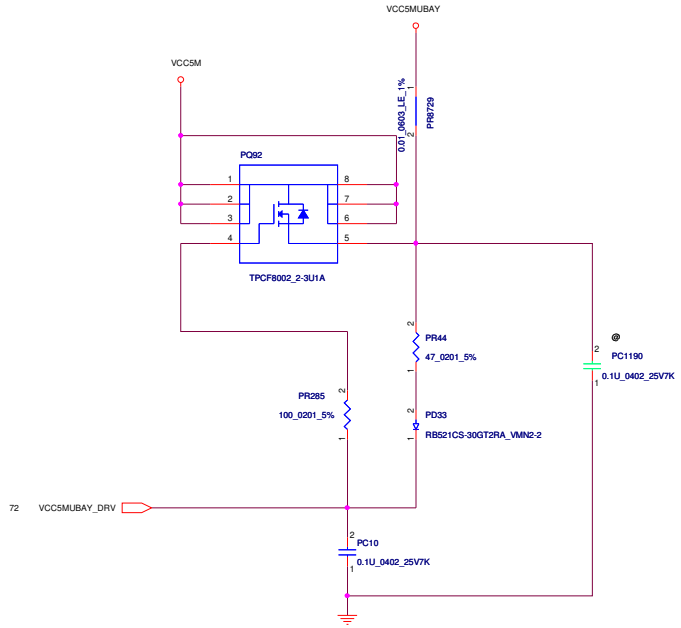
TDP:1.7A



Project Name : OAS-1 SP ASSESS	Title : LOAD SW VCC5MUBAY	
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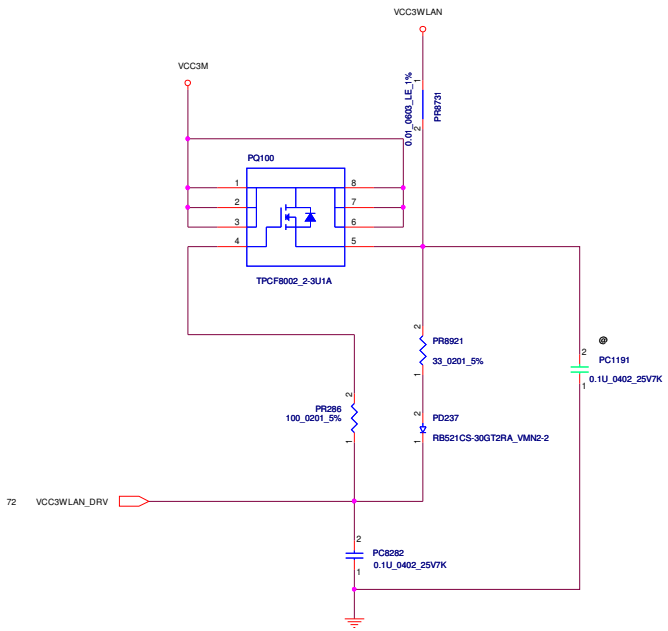
Max:0.7A



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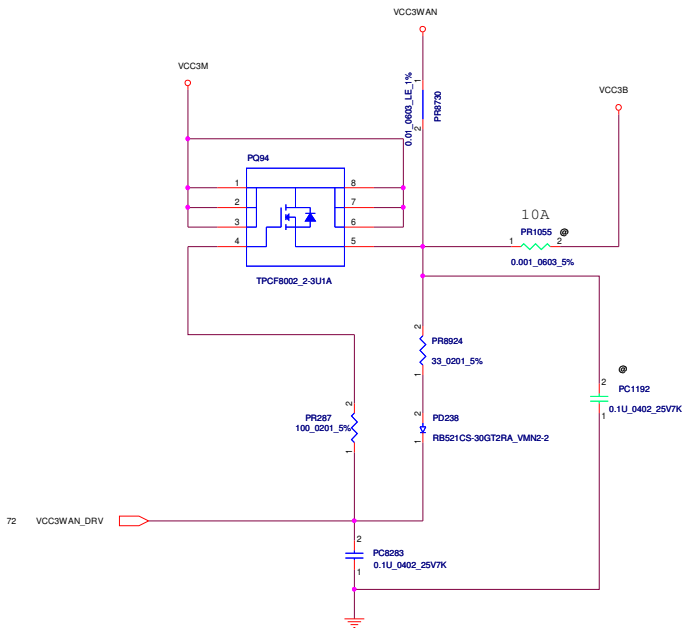

TABLE 98-1

AOAC	YES	NO
PR1055	NO-ASM	ASM
PQ94	ASM	NO-ASM
PR8924	ASM	NO-ASM
PC8283	ASM	NO-ASM
PD238	ASM	NO-ASM

LOGIC

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Project Name : OAS-1 SP ASSESS	Title : LOAD SW WWAN & WLAN
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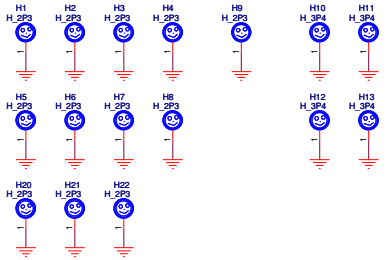
PTH FOR SCREW HOLE



NPTH

FID
Board Area

FD1 NC, NO CONNECT TO ANY.

FD2 NC, NO CONNECT TO ANY.

FD3 NC, NO CONNECT TO ANY.

FD4 NC, NO CONNECT TO ANY.

FD5 NC, NO CONNECT TO ANY.

FD6 NC, NO CONNECT TO ANY.

FID
Component Area

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Project Name : OAS-1 SP ASSESS	Title : PTH FOR SCREW HOLES
Size : C	Document Number :
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