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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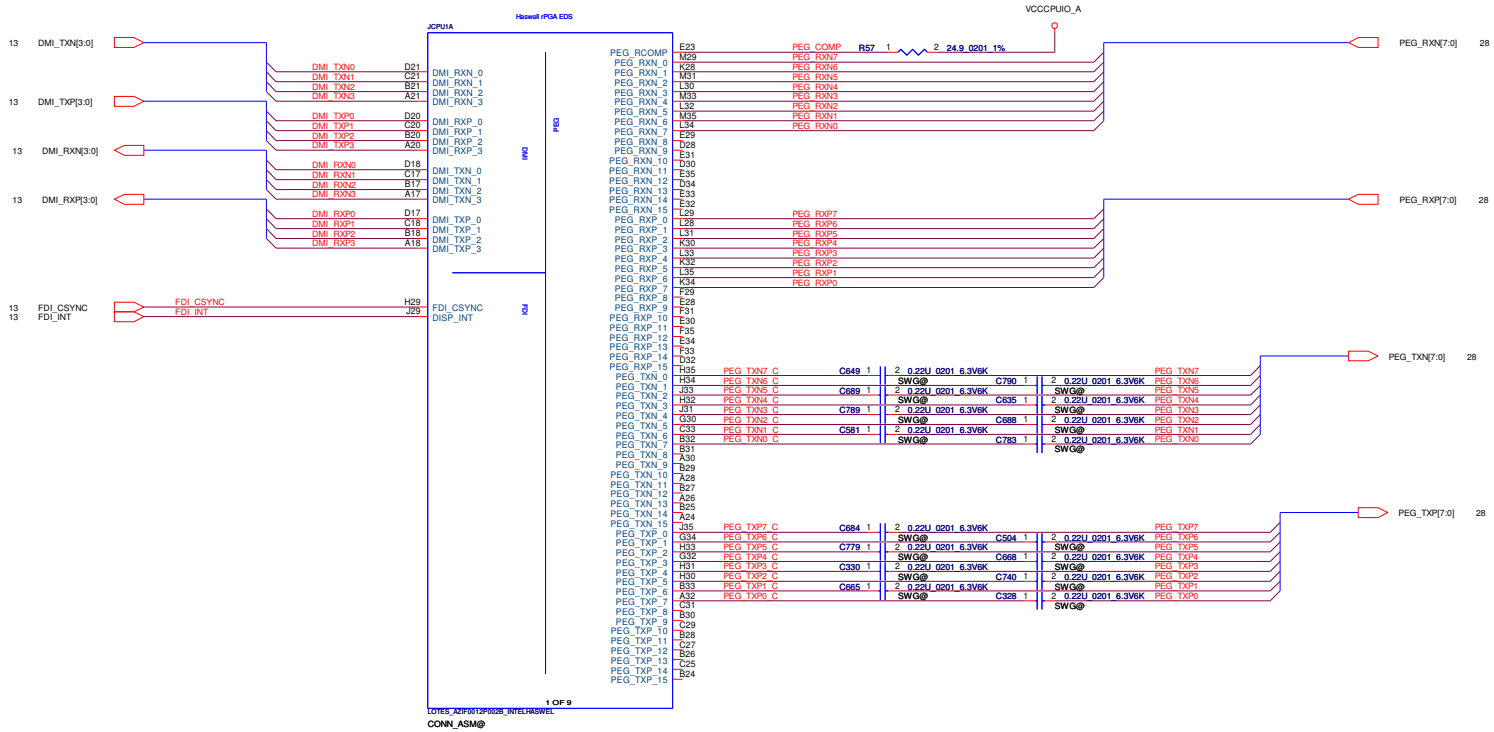

Project Name : OAS-1 SP ASSESS	Title : CPU(1/8) : DMI/FDI/PEG		
Size : C	Document Number :		Rev : 1.01
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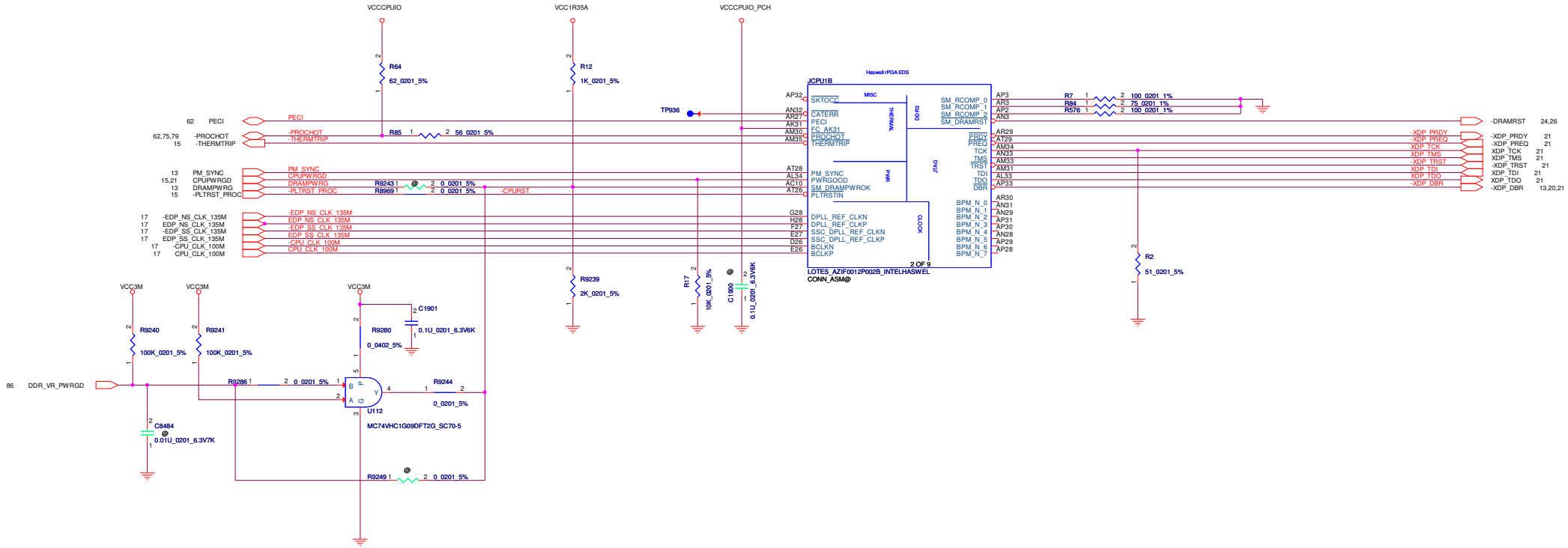

Project Name : OAS-1 SP ASSESS	Title : CPU(2/8) : MISC/JTAG/CLK	
Size : C	Document Number :	Rev : 1.01
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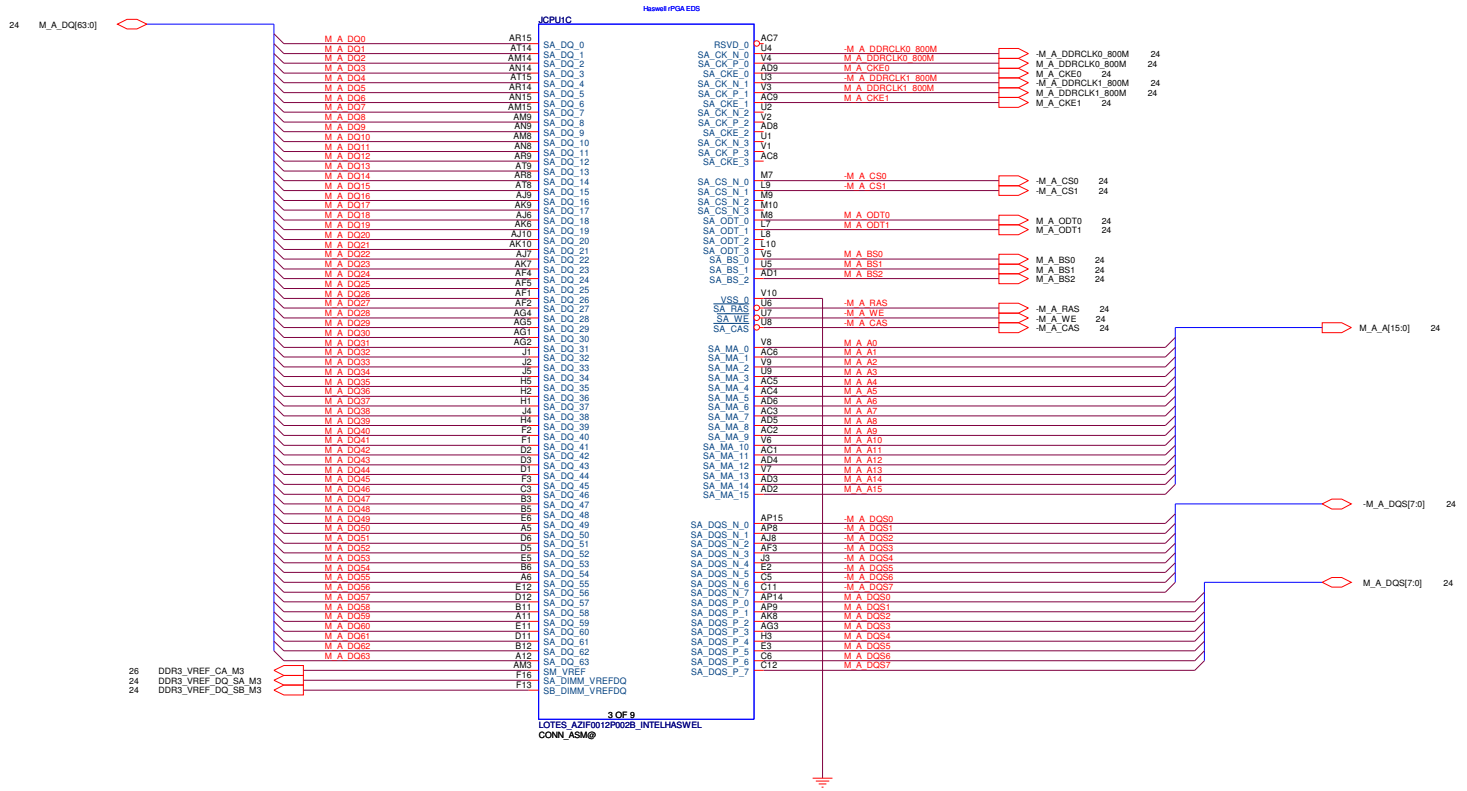

Project Name : OAS-1 SP ASSESS		Title : CPU(3/6) : DDR3L CHANNEL- A	
Size : C	Document Number :		Rev : 1.01
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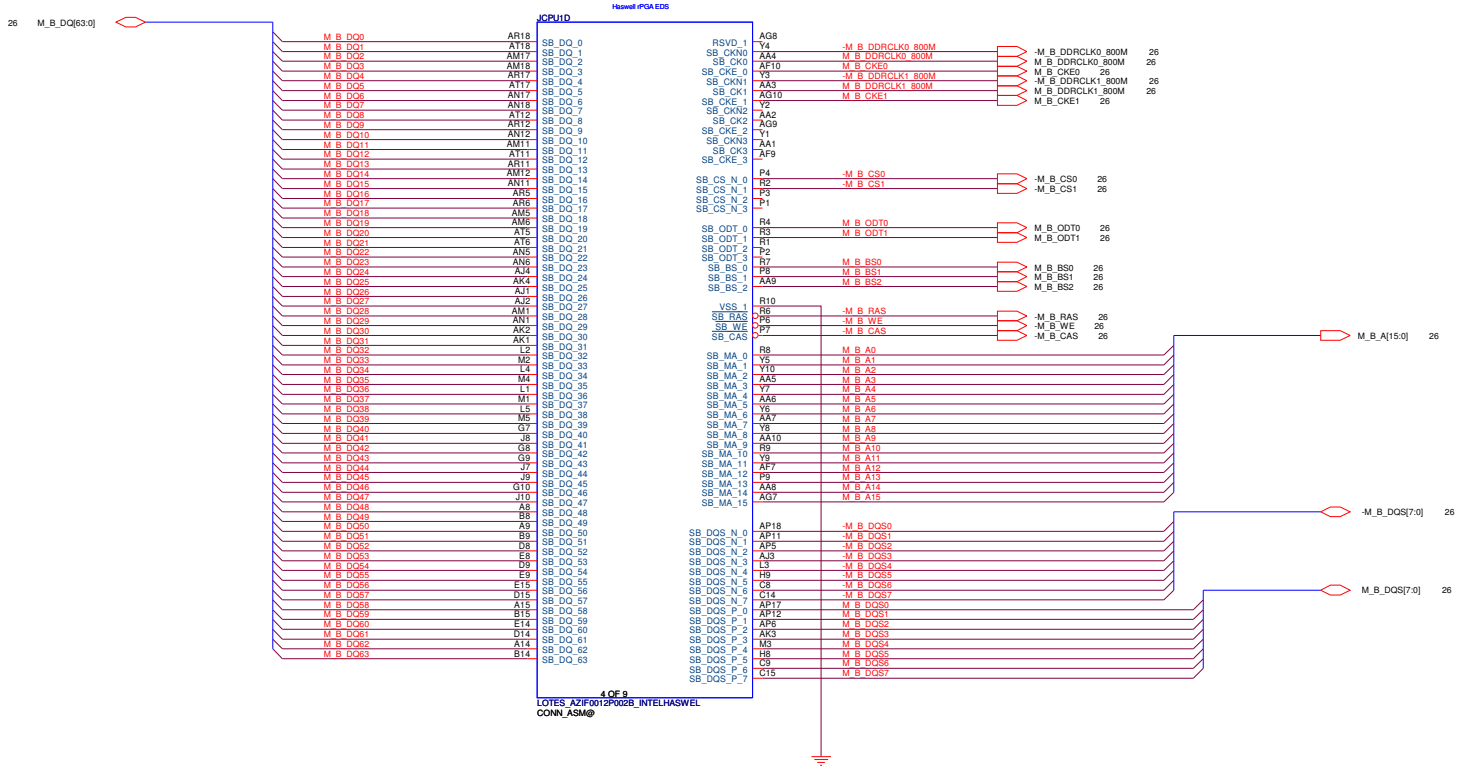

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Project Name : OAS-1 SP ASSESS	Title : CPU(4/8) : DDR3L CHANNEL- B
Size : C	Document Number : Rev : 1.01
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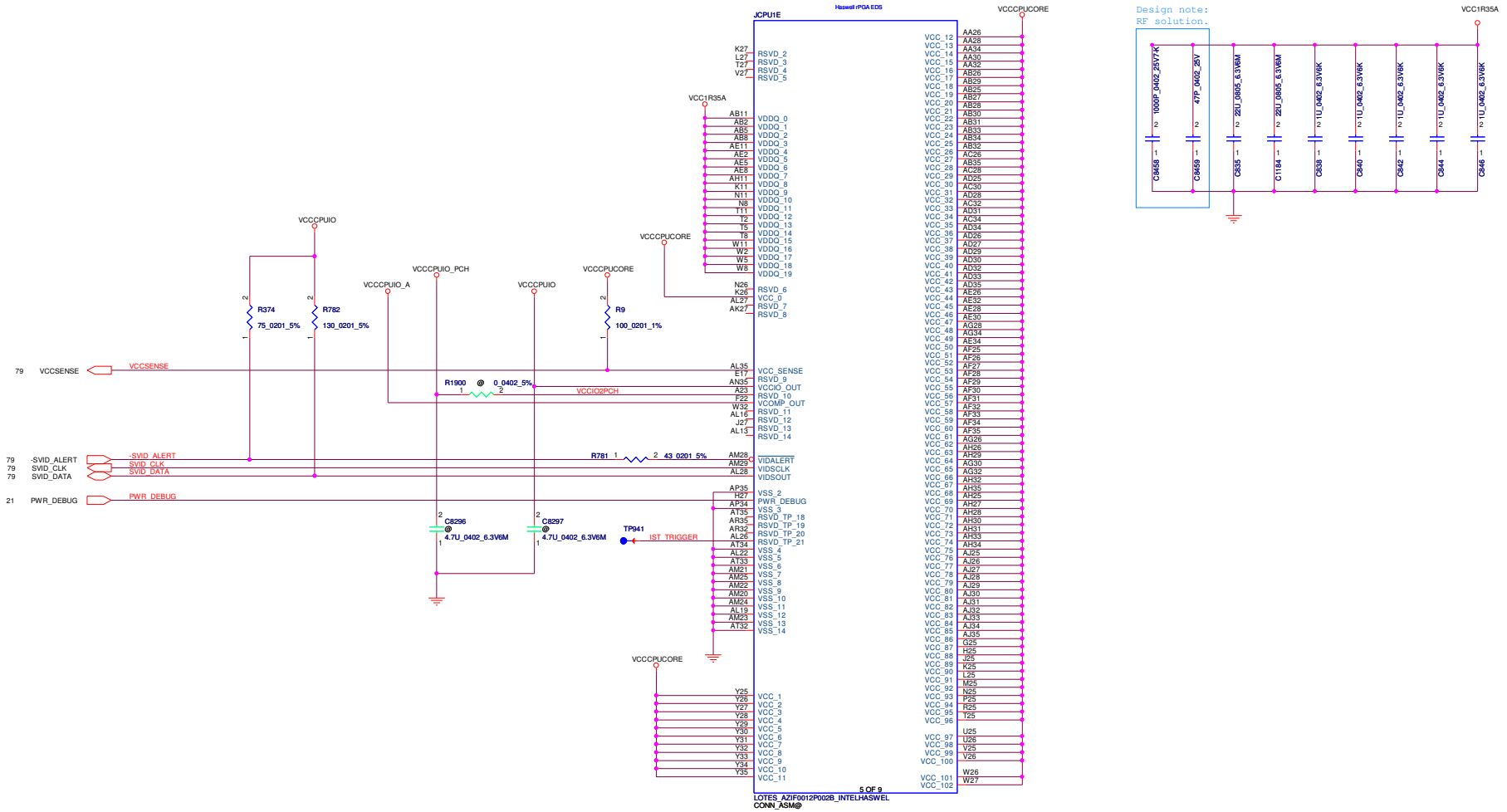

Project Name : OAS-1 SP ASSESS	Title : CPU(5/9) : POWER
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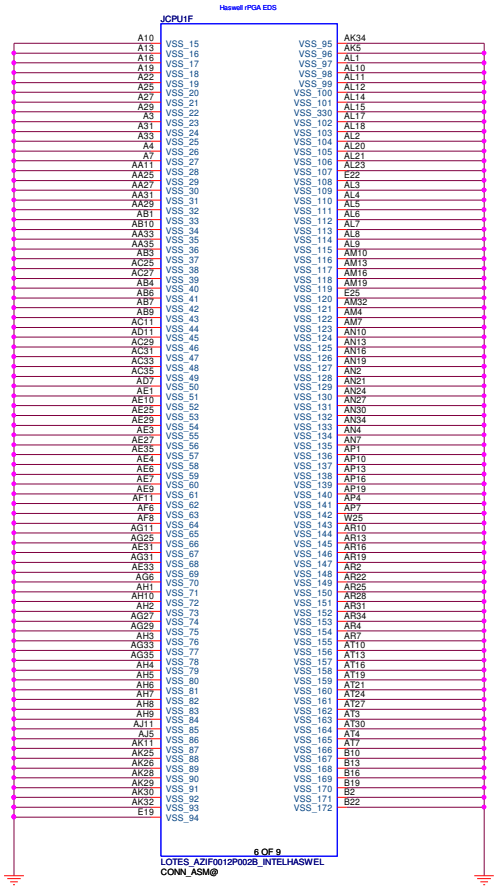

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Project Name : OAS-1 SP ASSESS	Title : CPU(6/6) : GND	
Size : C	Document Number :	Rev : 1.01
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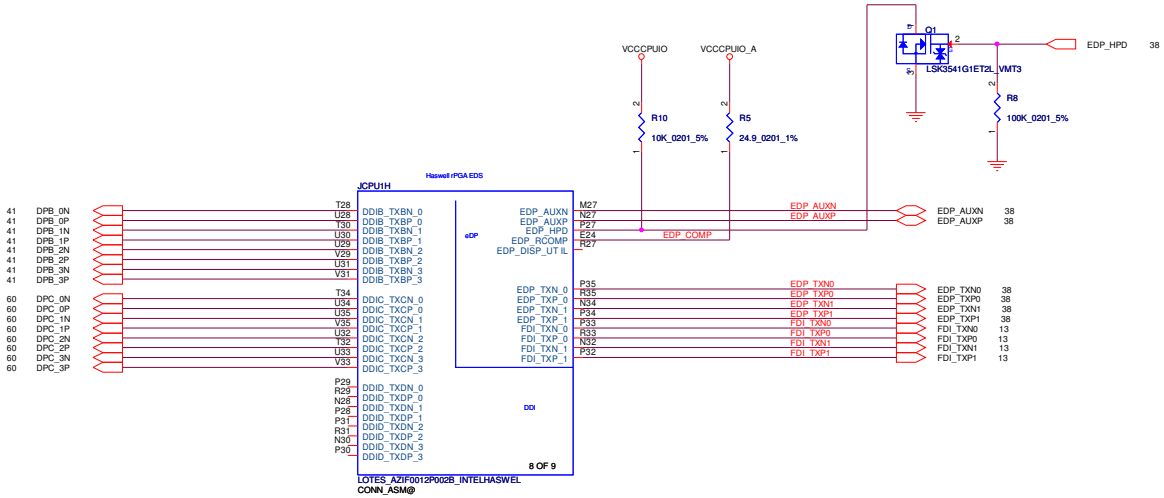

Project Name : OAS-1 SP ASSESS	Title : CPU(7/8) : EDP/DDI
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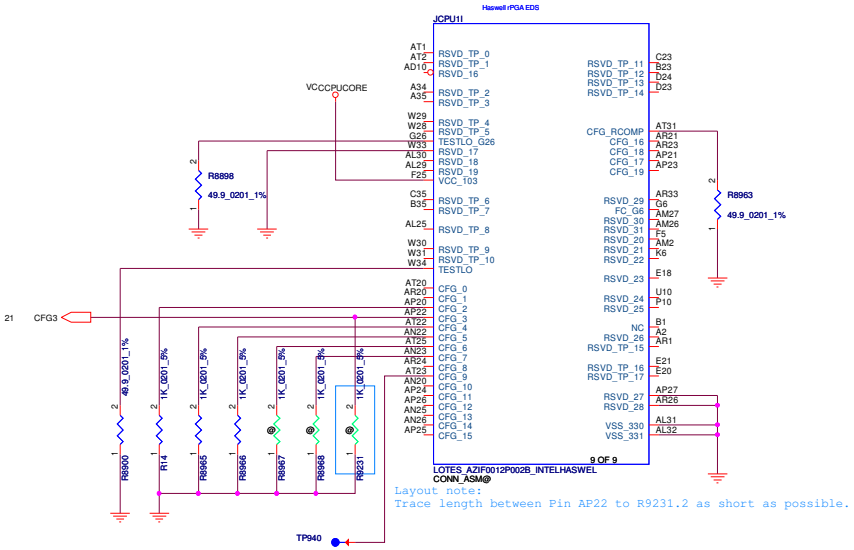

Table 10-1

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

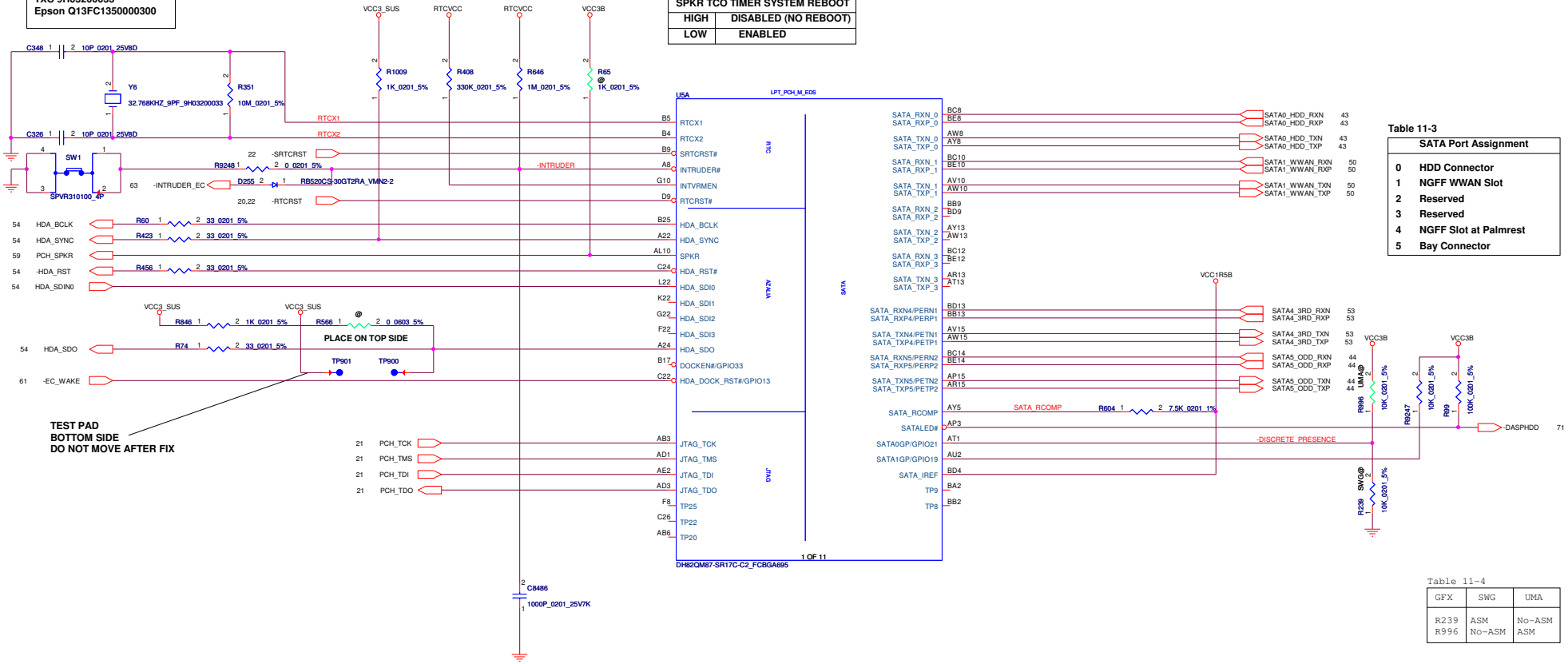

Table 11-3

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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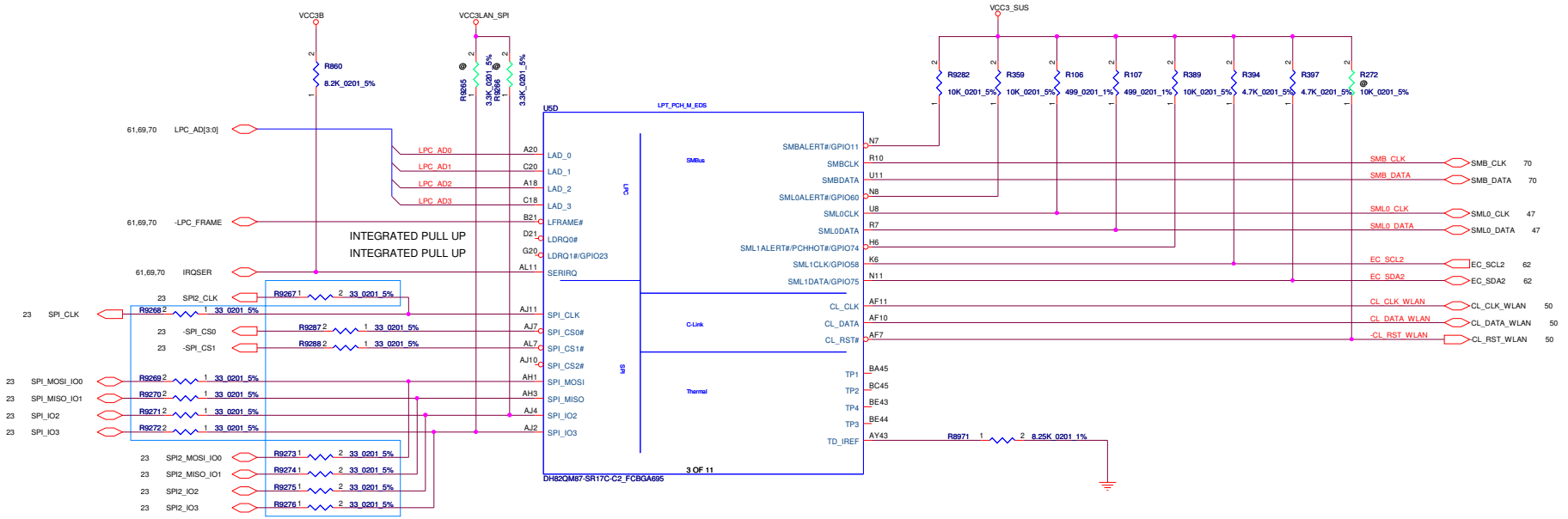

Layout note:
Put on below resistors near PCH (U5):
R9268,R9269,R9270,R9271,R9272
R9267,R9273,R9274,R9275,R9276

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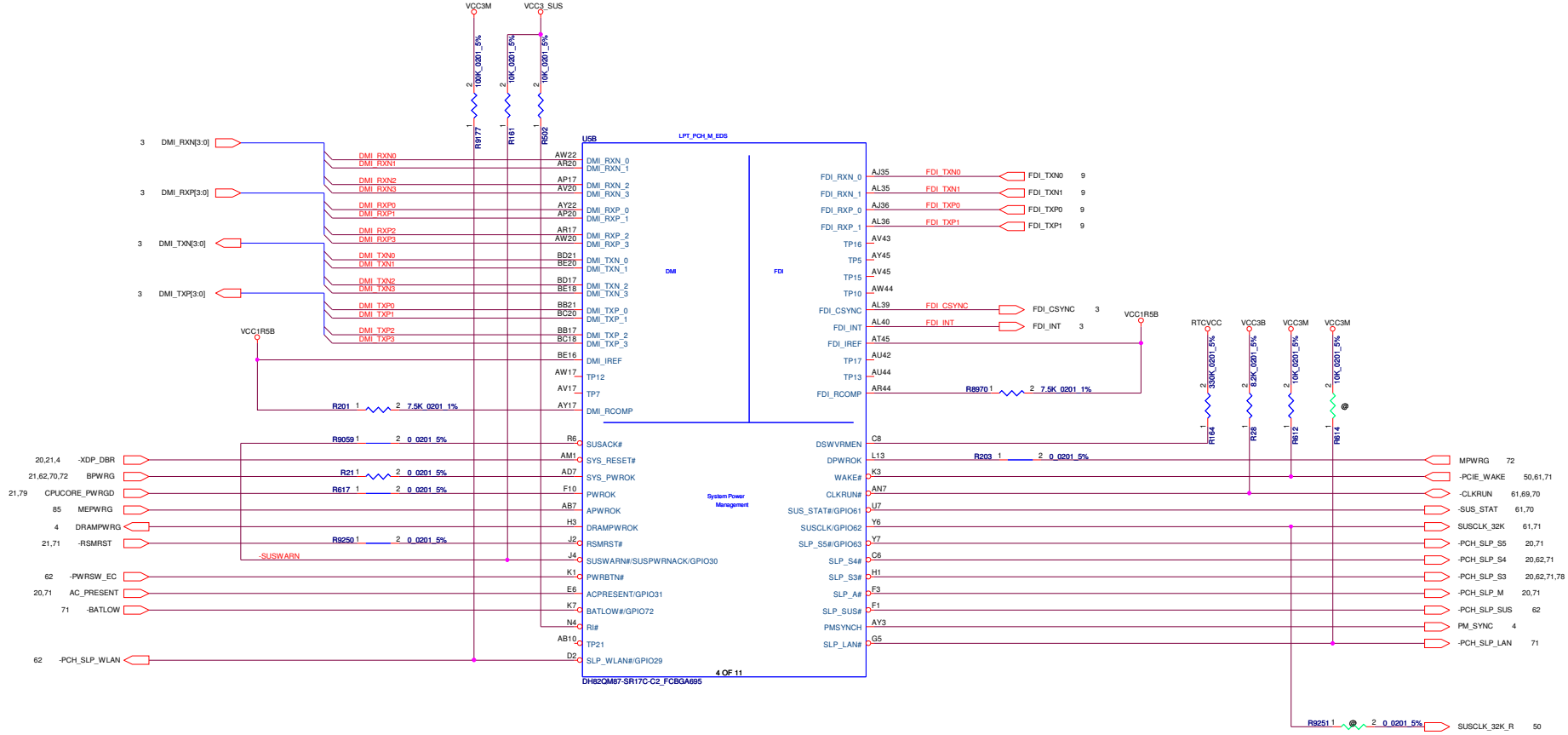

Design Note :
Put R9251 near PCH (U5) in order to shorten the stub of SUSCLK_32K.

Project Name : OAS-1 SP ASSESS		Title : PCH(3/10) : DMI/FDI/PM	
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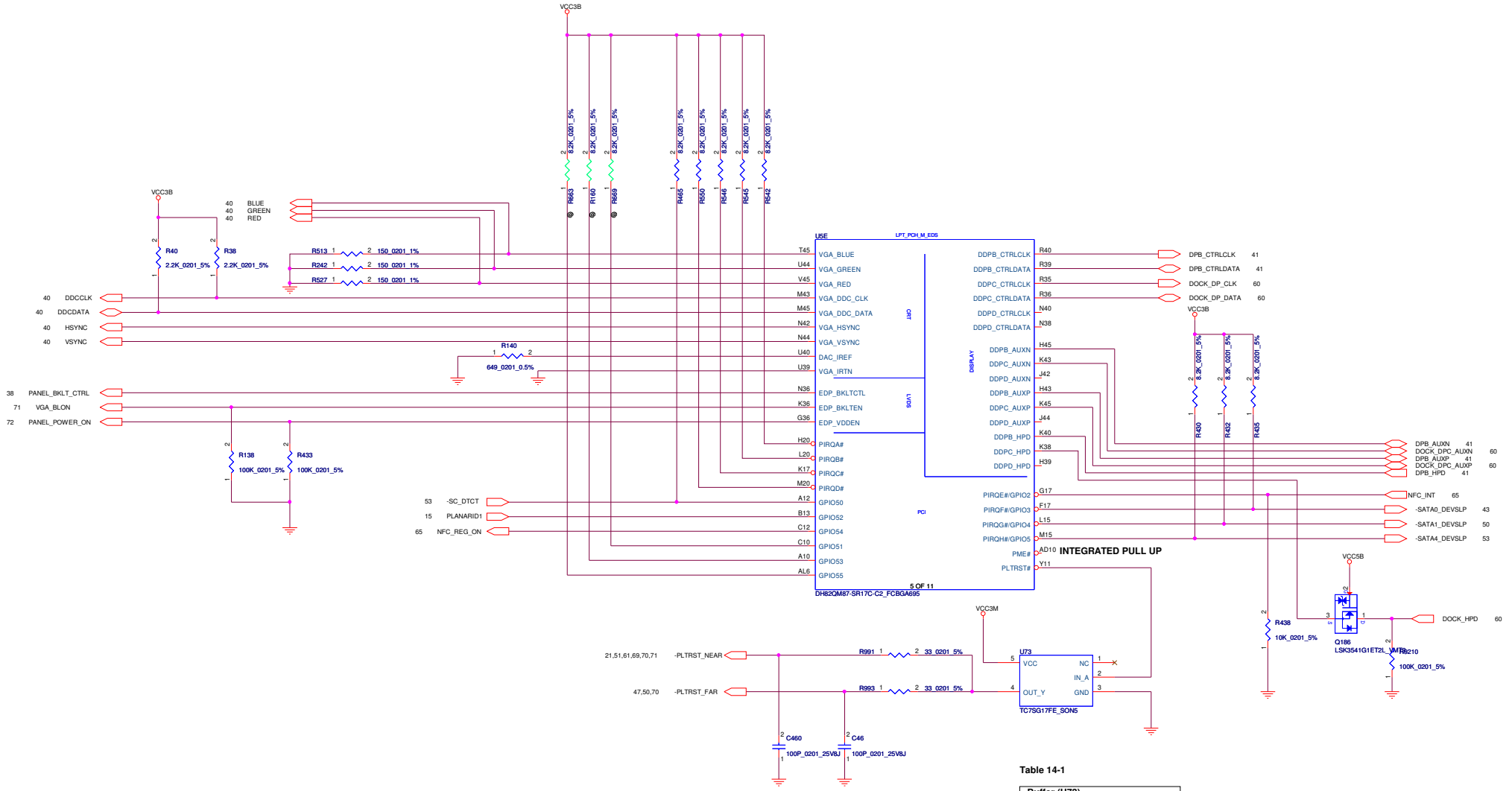

Table 14-1

Buffer (U73)	
Toshiba	TC7SG17FE
ONsemi	NL17SZ17XV5T2G

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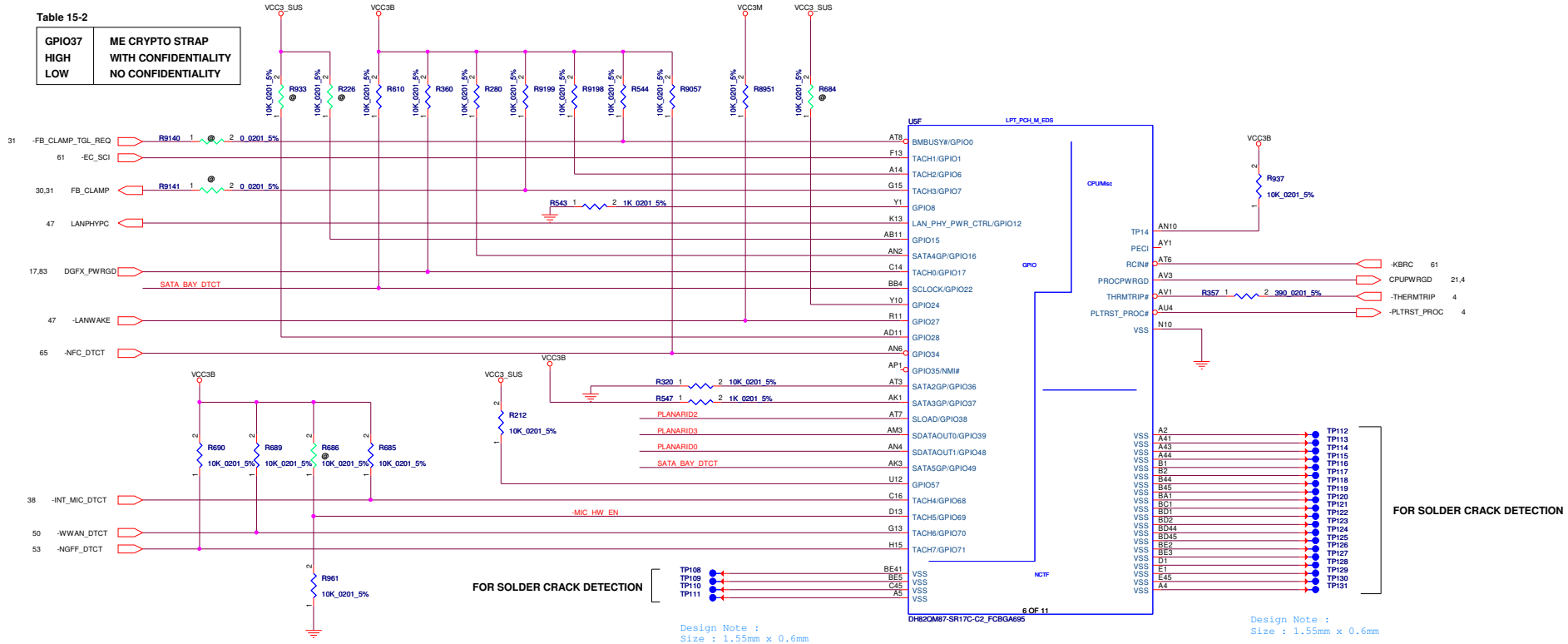
Table 15-1

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

Table 15-2

GPIO37	ME CRYPTO STRAP
HIGH	WITH CONFIDENTIALITY
LOW	NO CONFIDENTIALITY



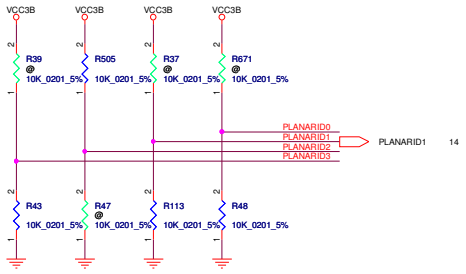


Table 15-3

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

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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

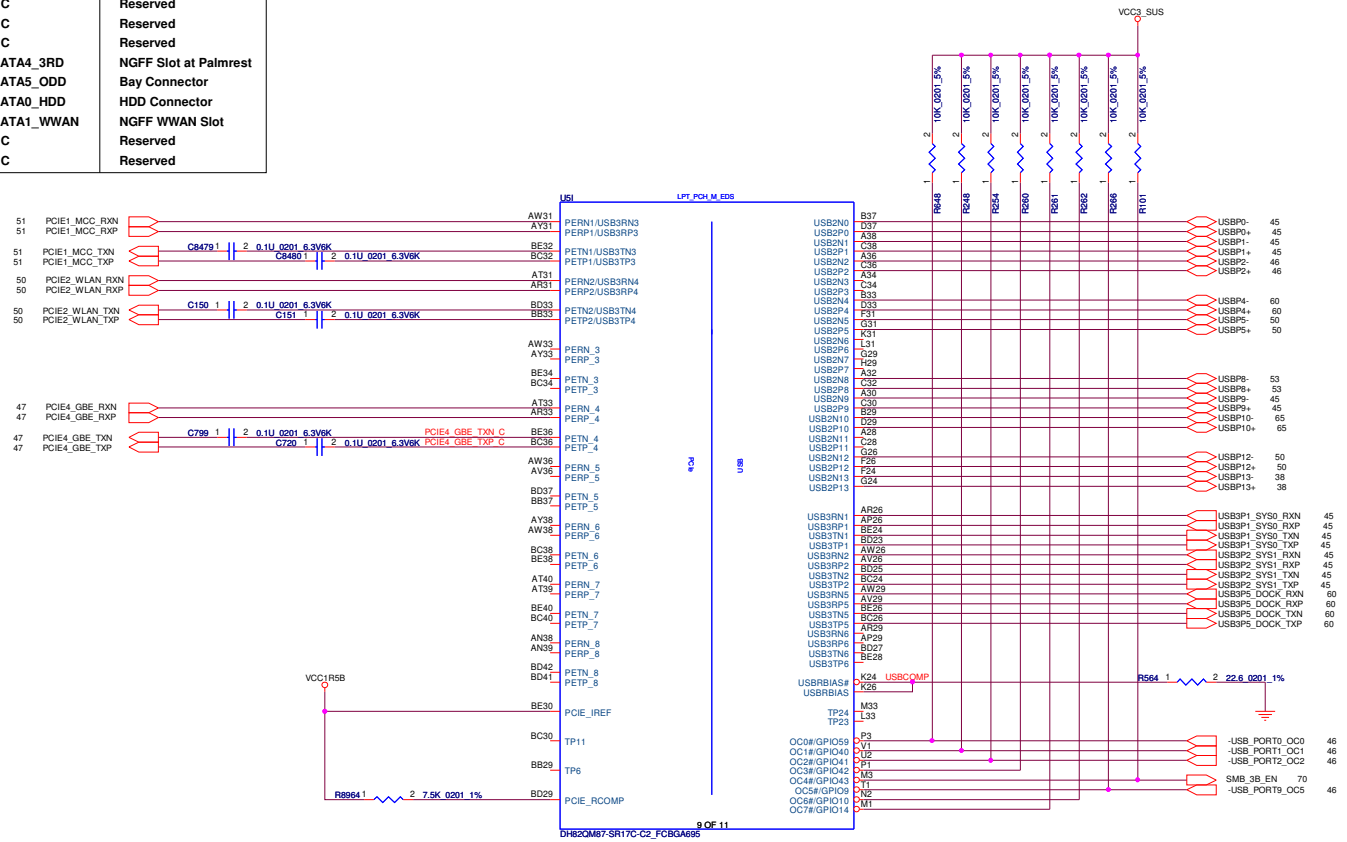

Table 16-3

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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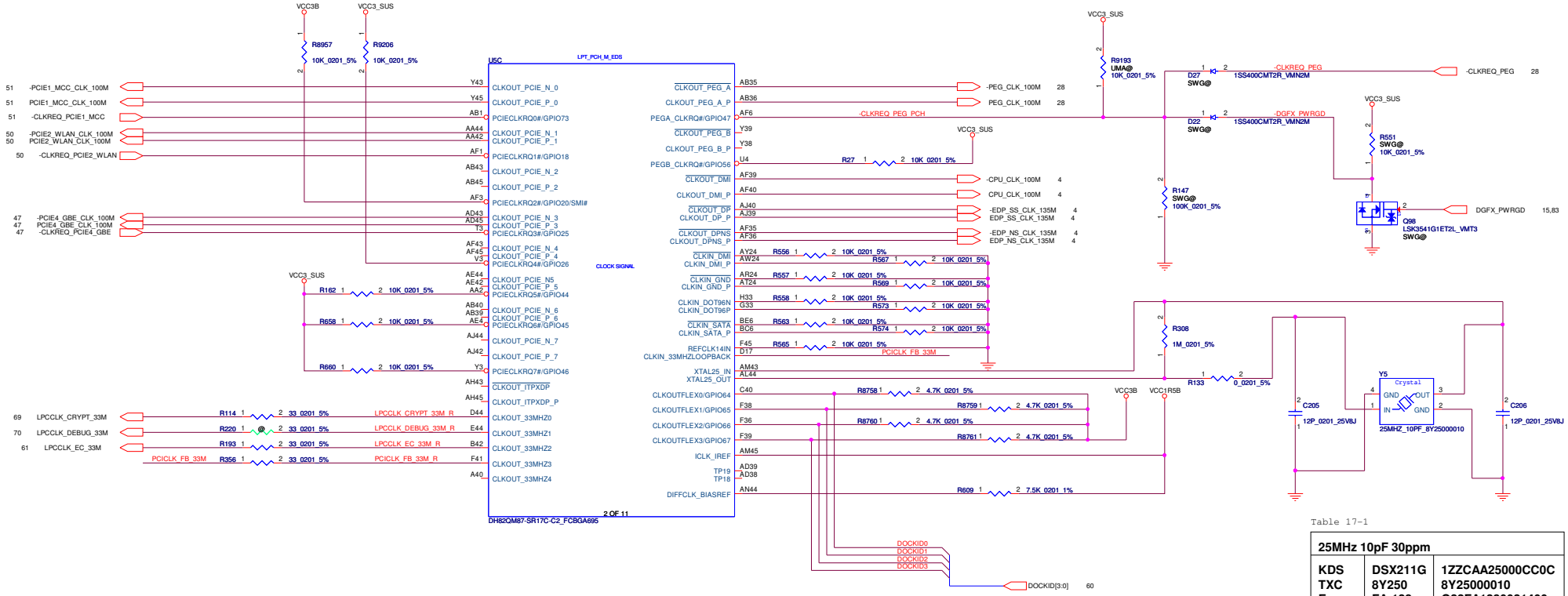

Table 17-1

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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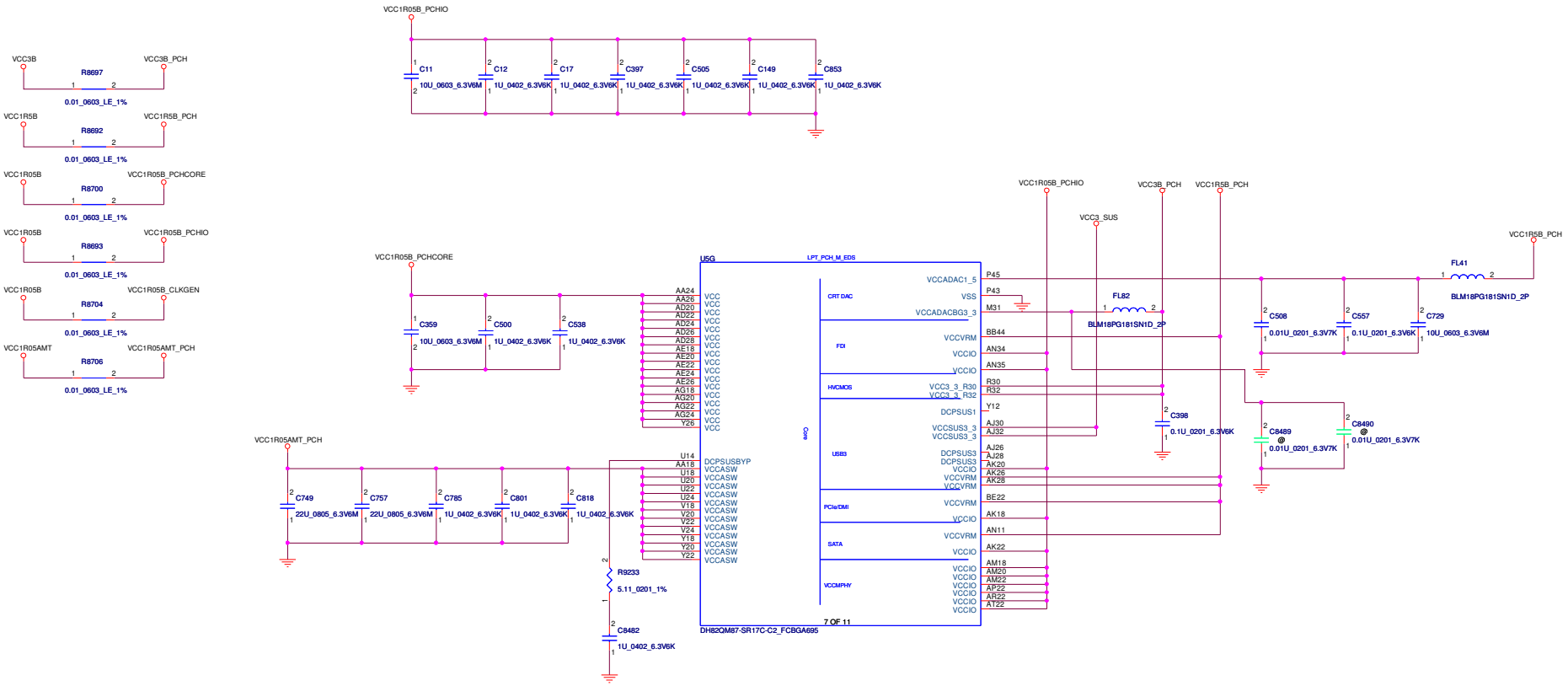

Project Name : OAS-1 SP ASSESS	Title : PCH(8/10) : POWER
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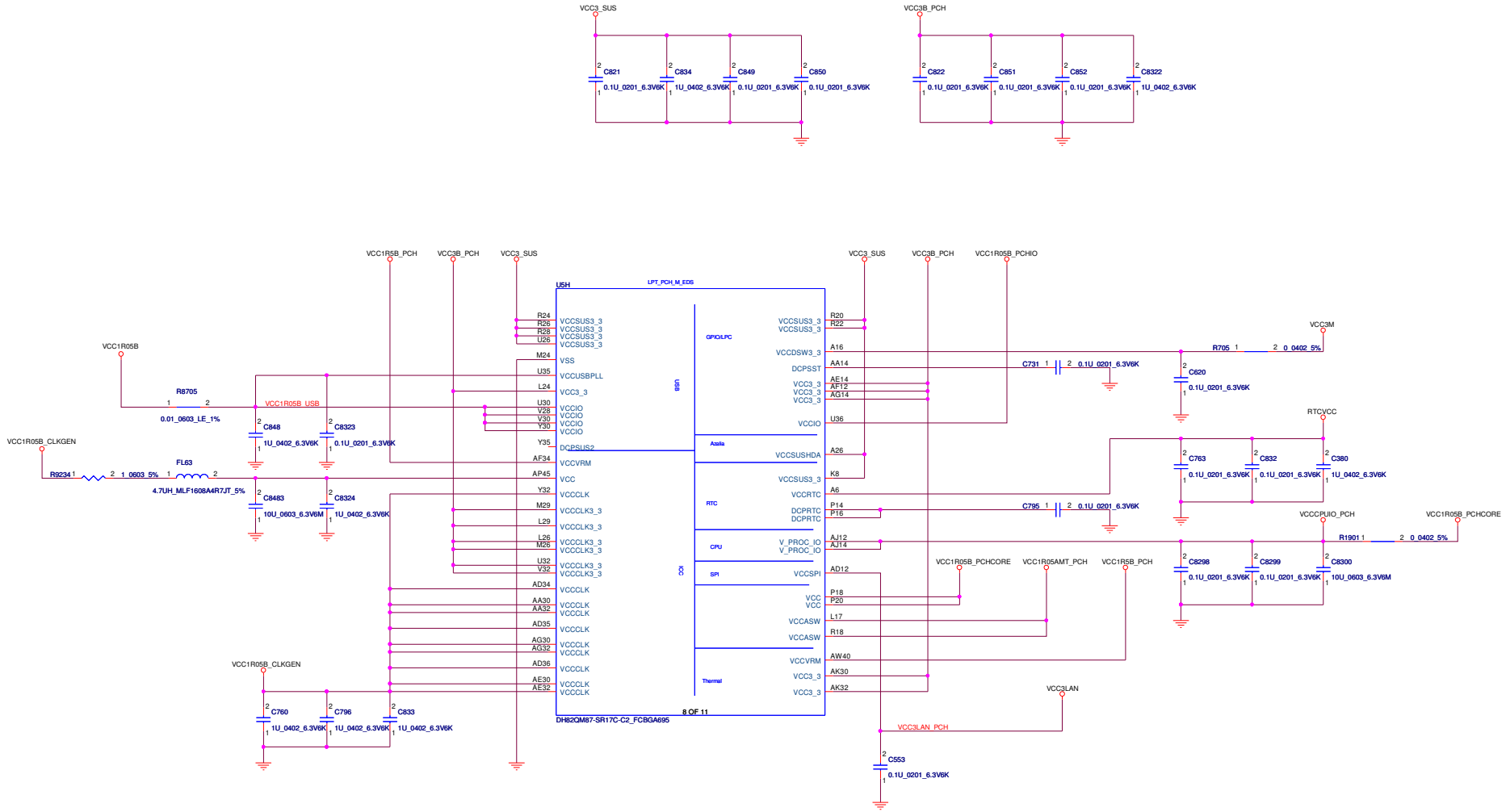

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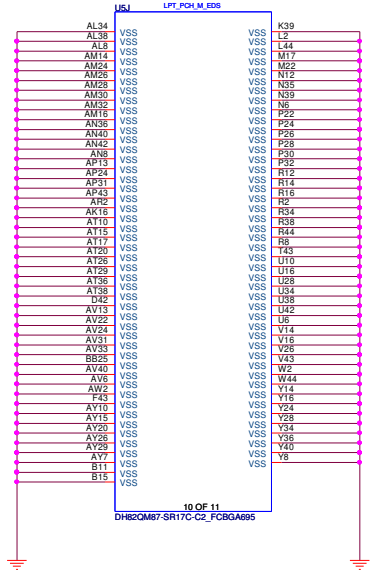
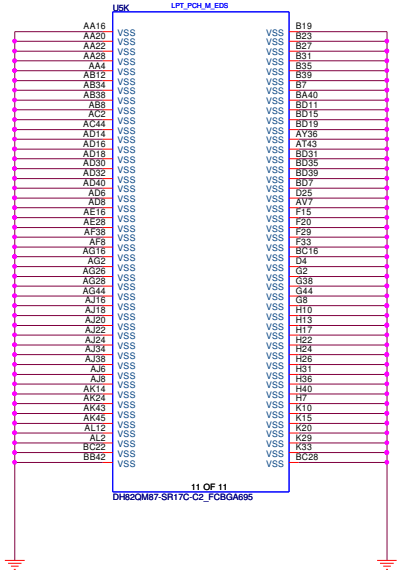
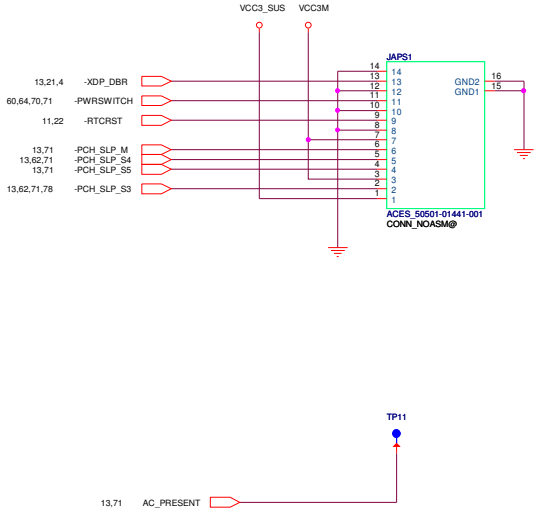
TEST PAD FOR METS/APS







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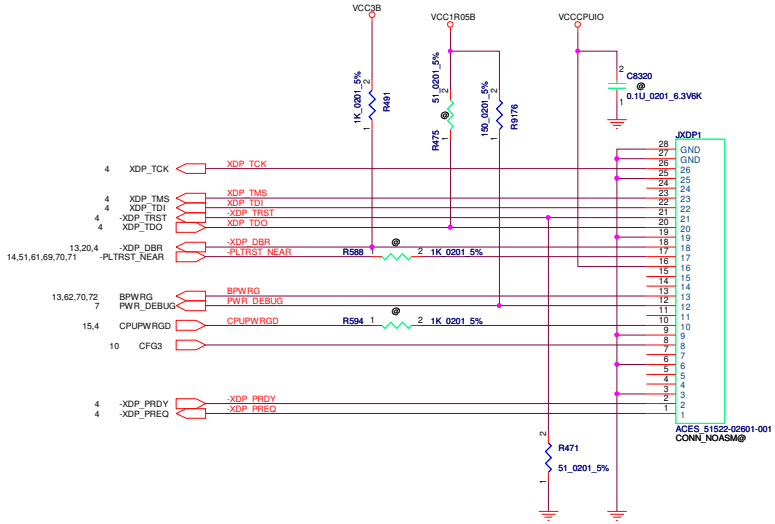

Table 21-1

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

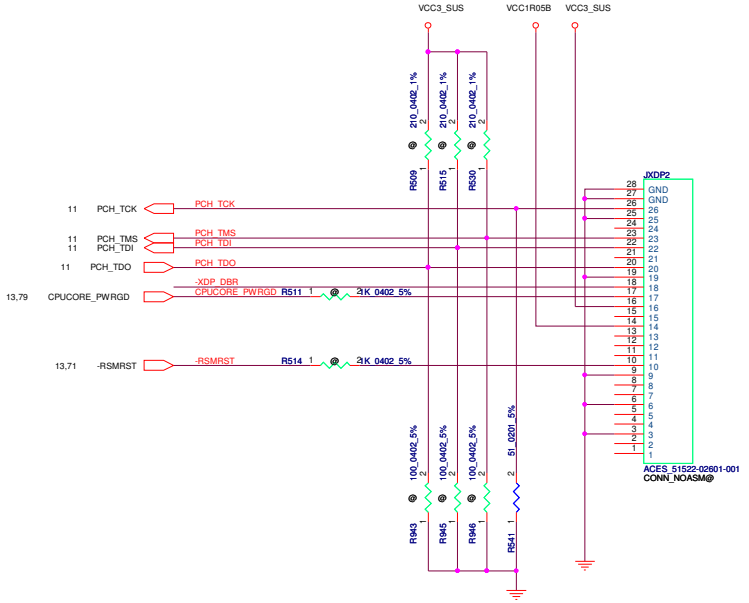

Table 21-2

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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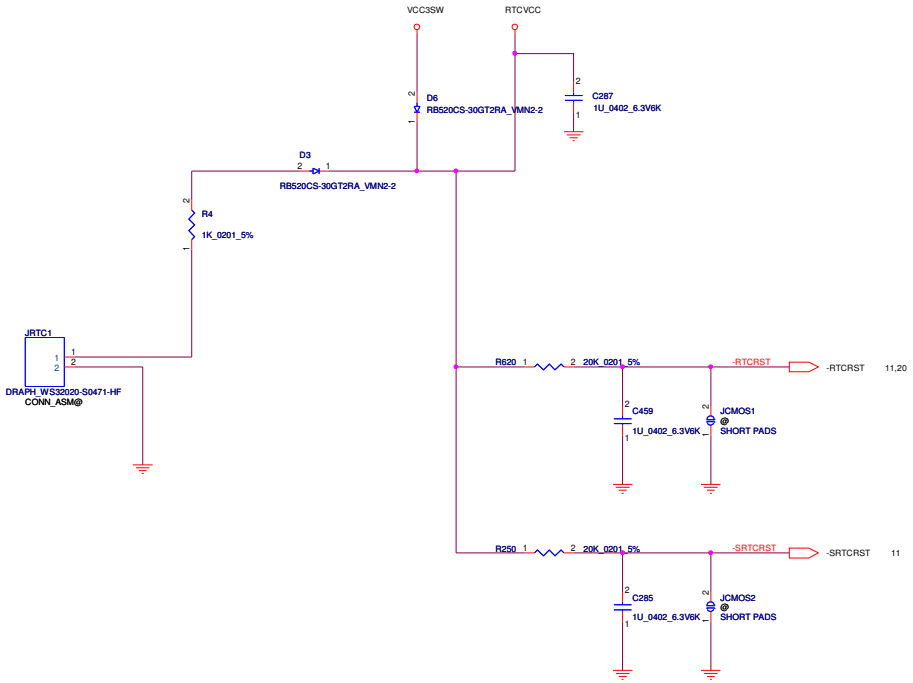

Project Name : OAS-1 SP ASSESS	Title : RTC BATTERY	
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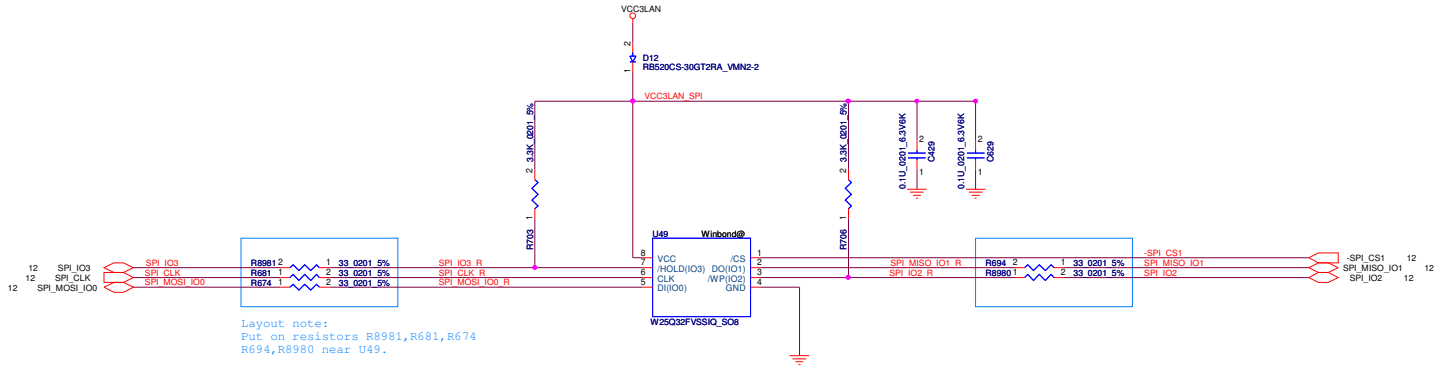
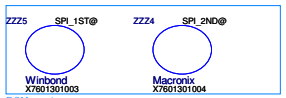




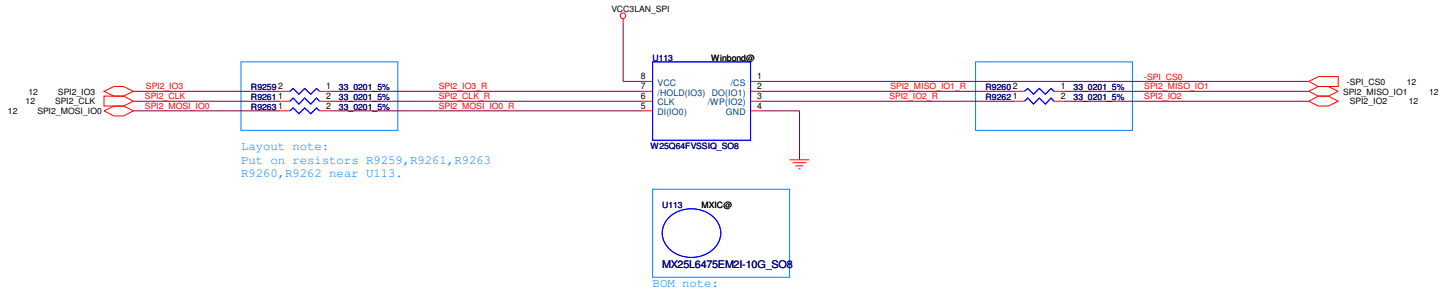
BOM note:
Virtual symbol for BOM control.

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.



Project Name : OAS-1 SP ASSESS		Title : SPI FLASH	
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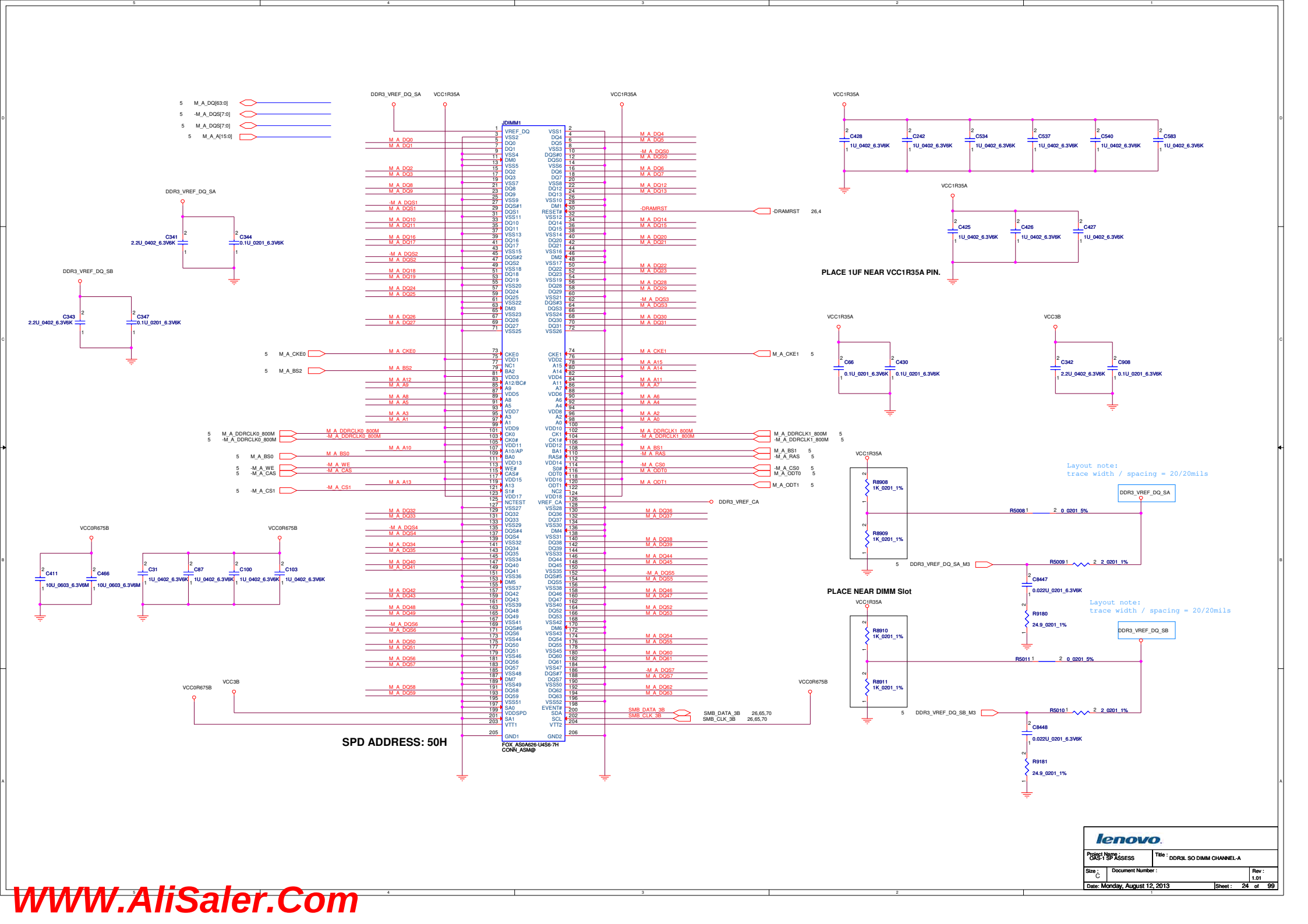

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Project Name : OAS-1 SP ASSESS	Title : BLANK	
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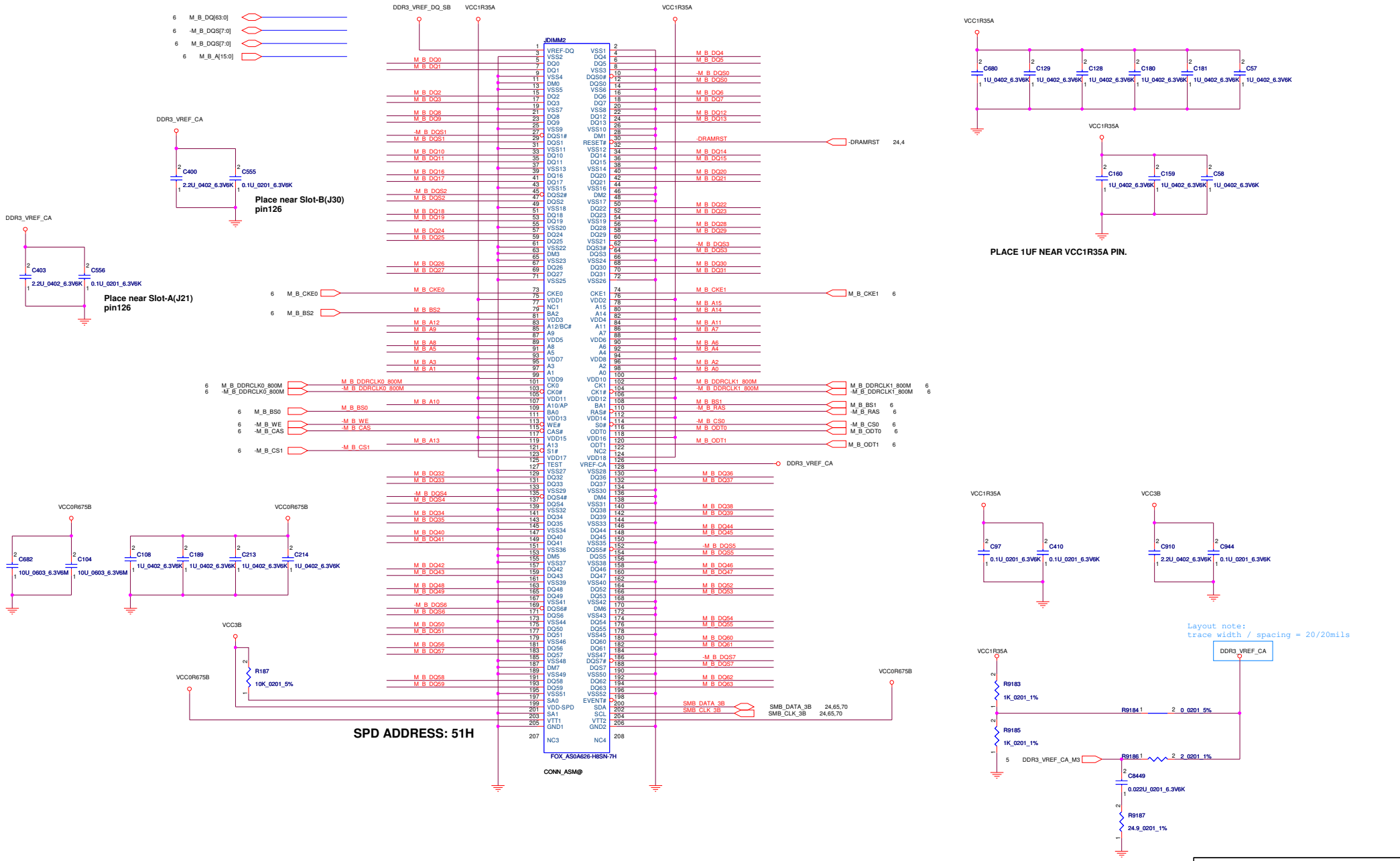

Project Name : OAS-1 SP ASSESS

Title : DDR3L SO DIMM CHANNEL-B

Size : C

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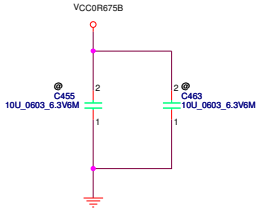
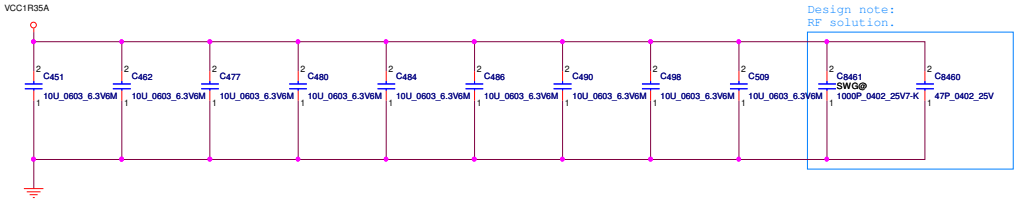
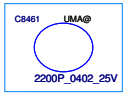
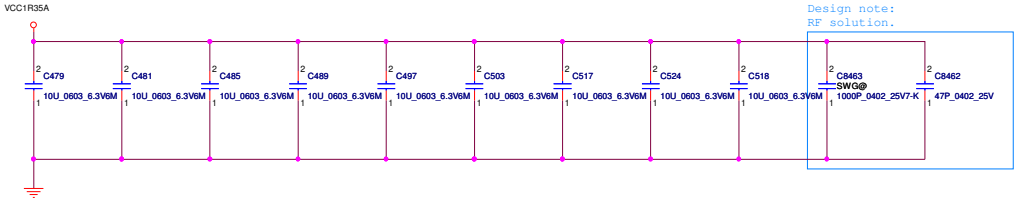
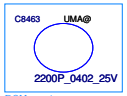






BOM note:
Virtual symbol for BOM control.





BOM note:
Virtual symbol for BOM control.

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Project Name : OAS-1 SP ASSESS	Title : DDR3L DECOUPLING	
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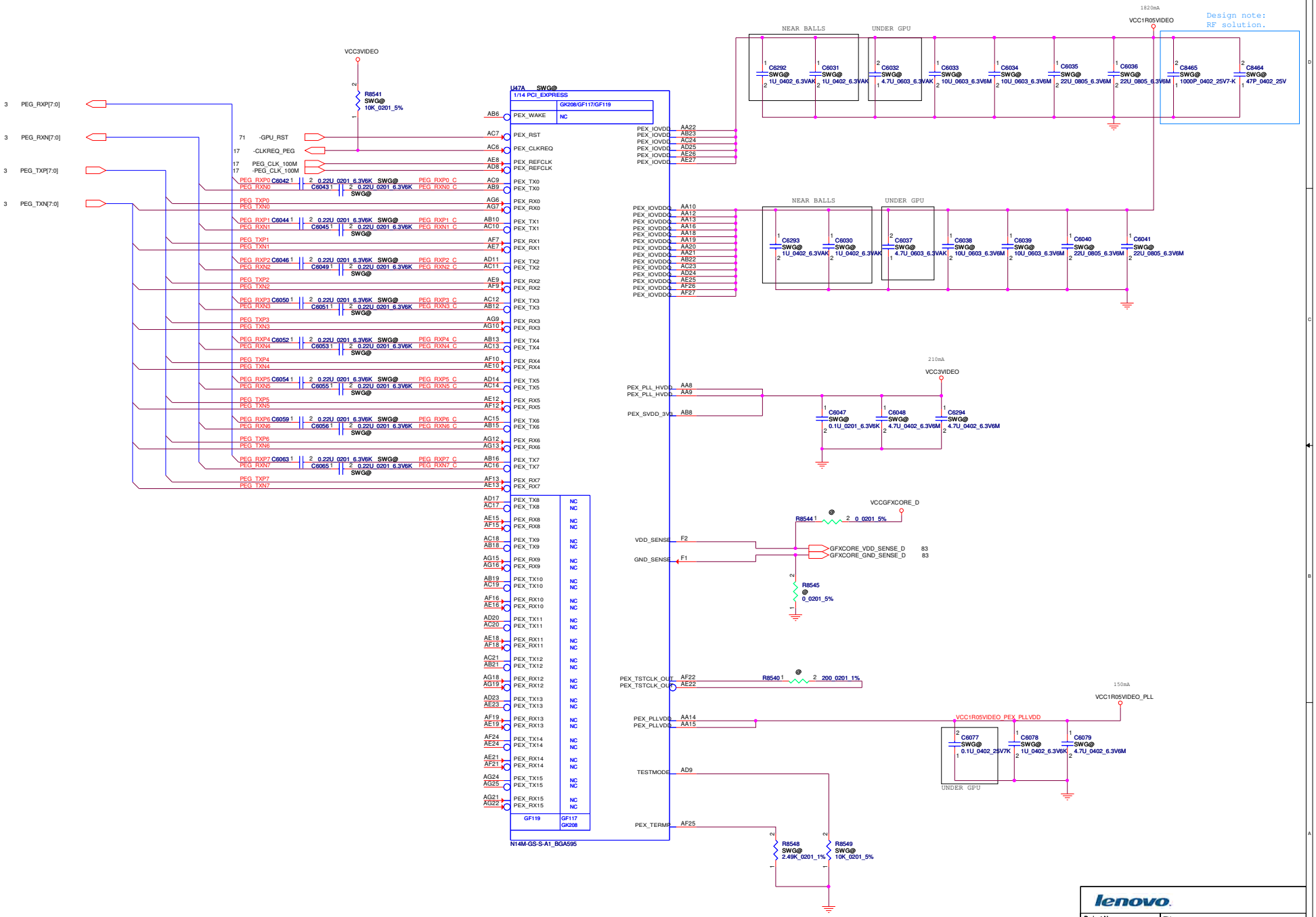

Project Name : OAS-1 SP ASSESS	Title : N14M-GS(1/6) : PEG I/F	
Size : C	Document Number :	Rev : 1.01
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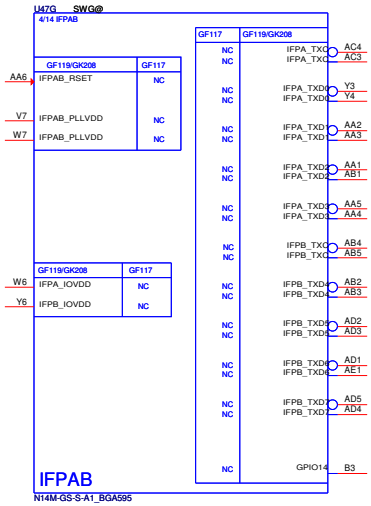

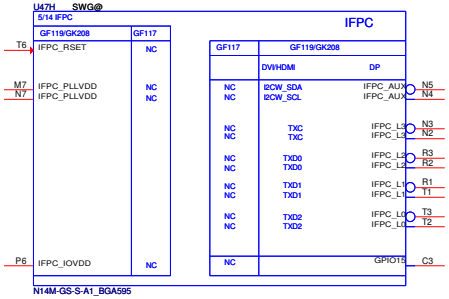

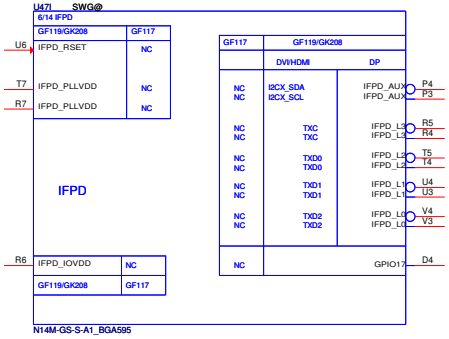

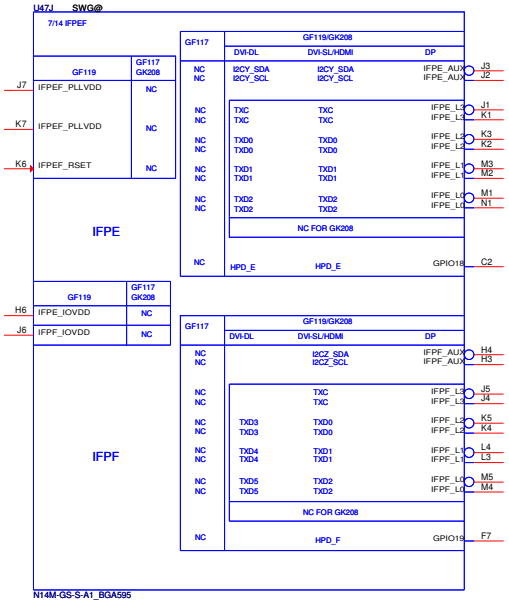

Project Name : OAS-1 SP ASSESS		Title : N14M-GS(2/6) : DIGITAL OUT I/F	
Size : C	Document Number :		Rev : 1.01
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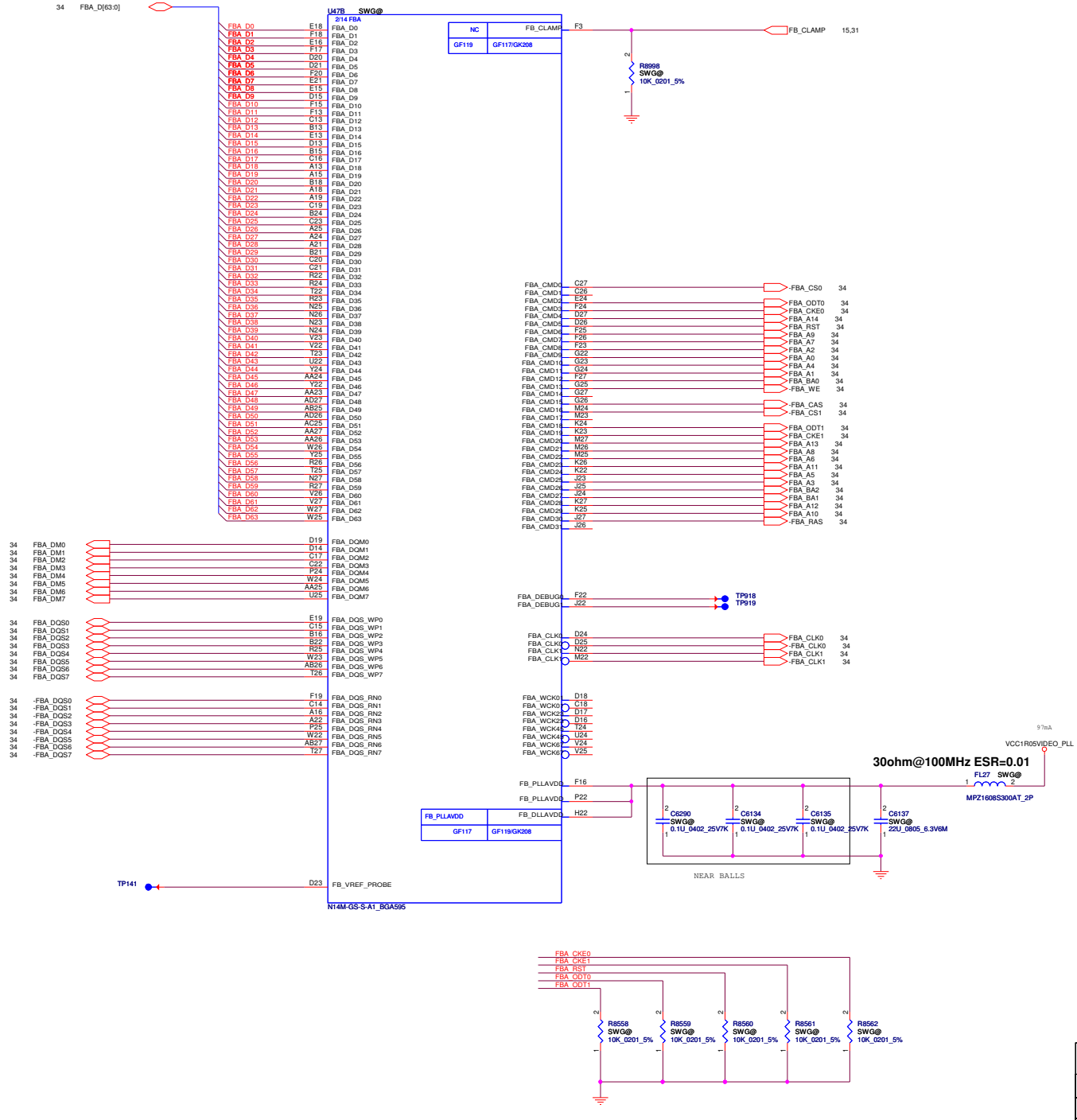

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Project Name : OAS-1 SP ASSESS	Title : N14M-GS(3/6) : VRAM I/F
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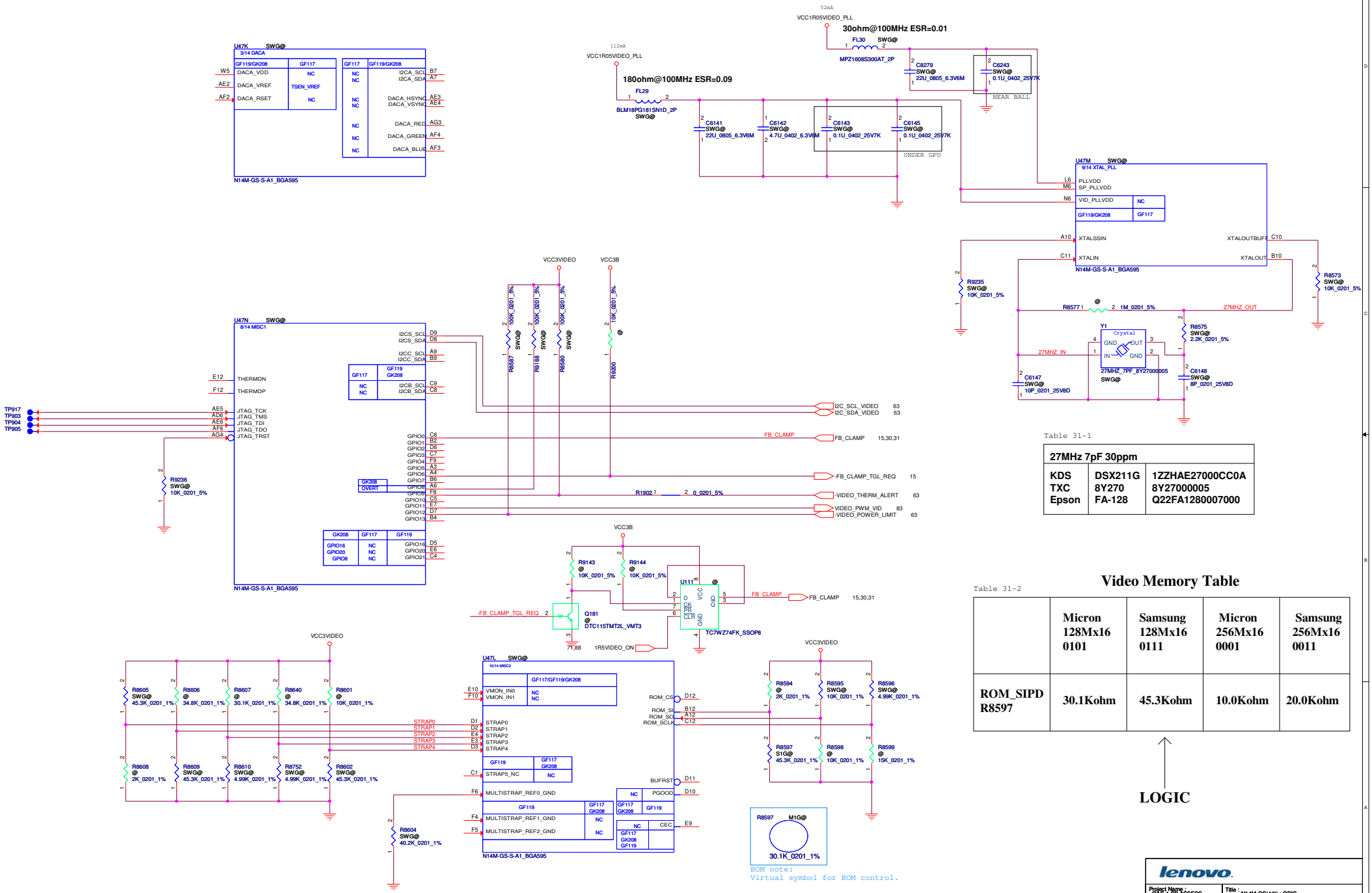

Table 31-1

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

Video Memory Table

Table 31-2

	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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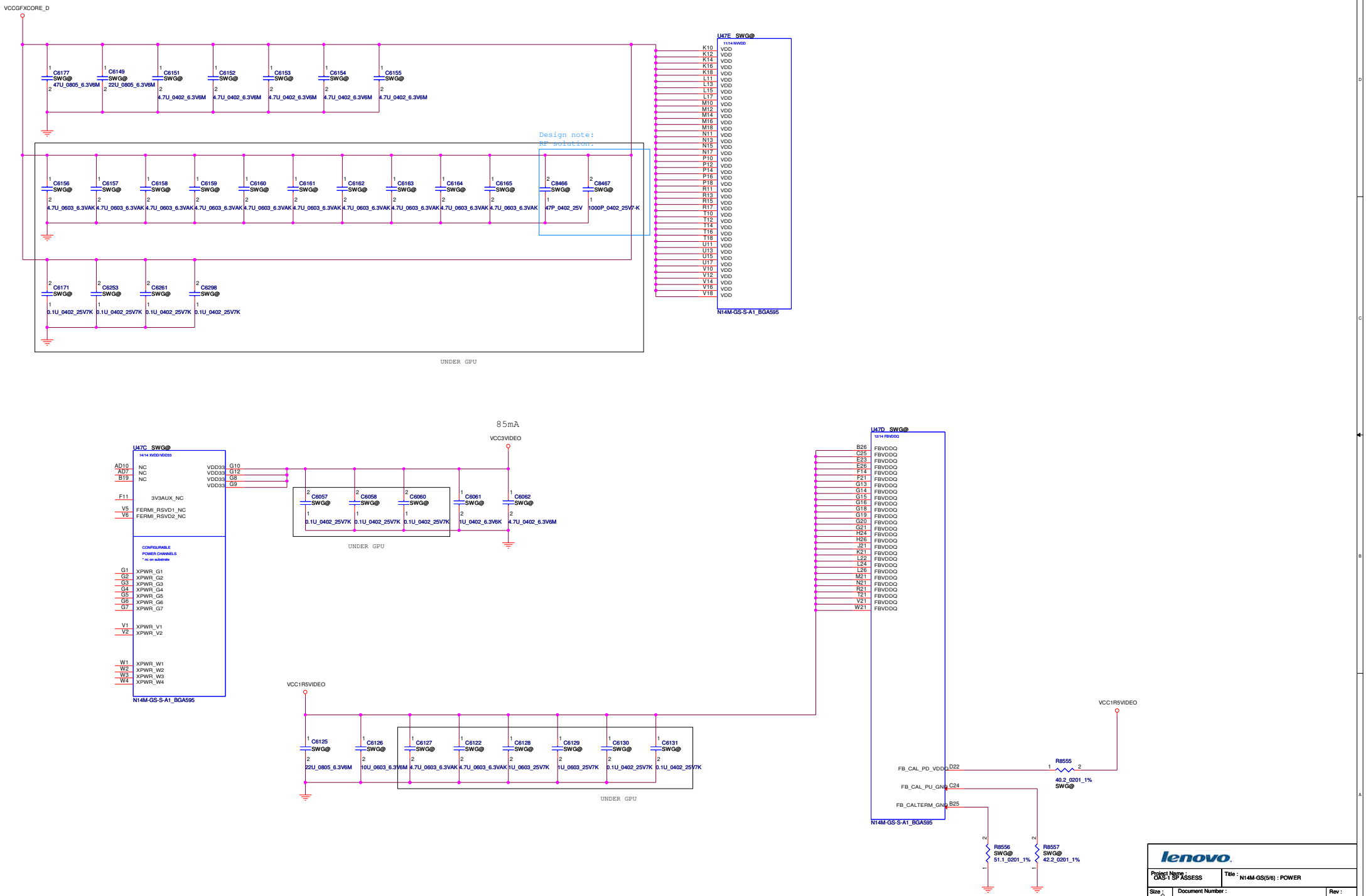

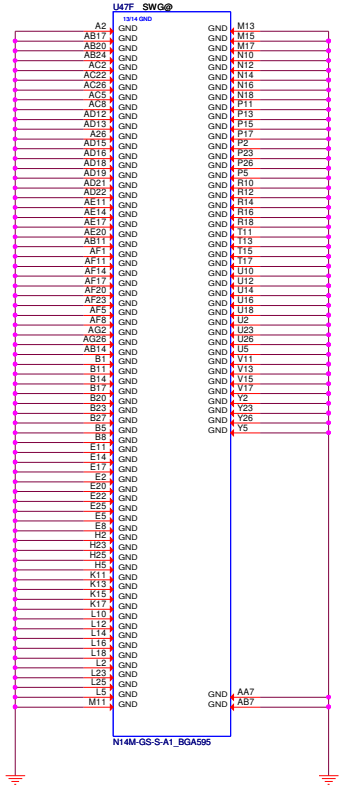

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Project Name : OAS-1 SP ASSESS	Title : N14M-GS(6/6) : GND	
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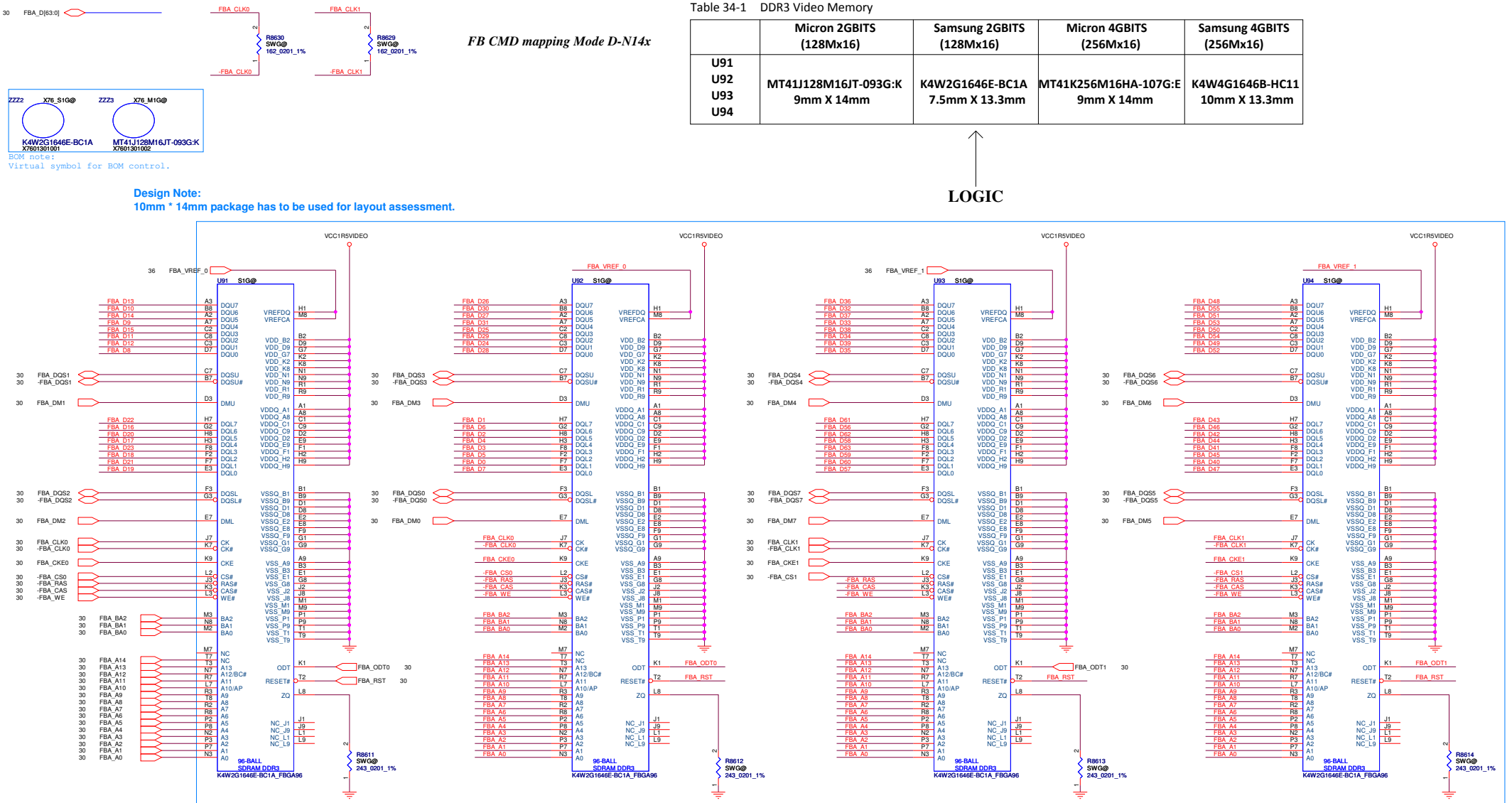
Table 34-1 DDR3 Video Memory

	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.



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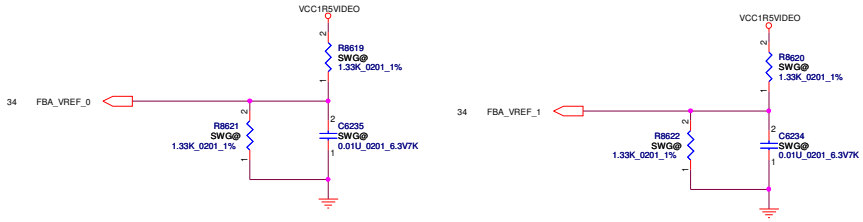

Project Name : OAS-1 SP ASSESS	Title : MEMORY TERMINATION	
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Project Name : OAS-1 SP ASSESS	Title : BLANK	
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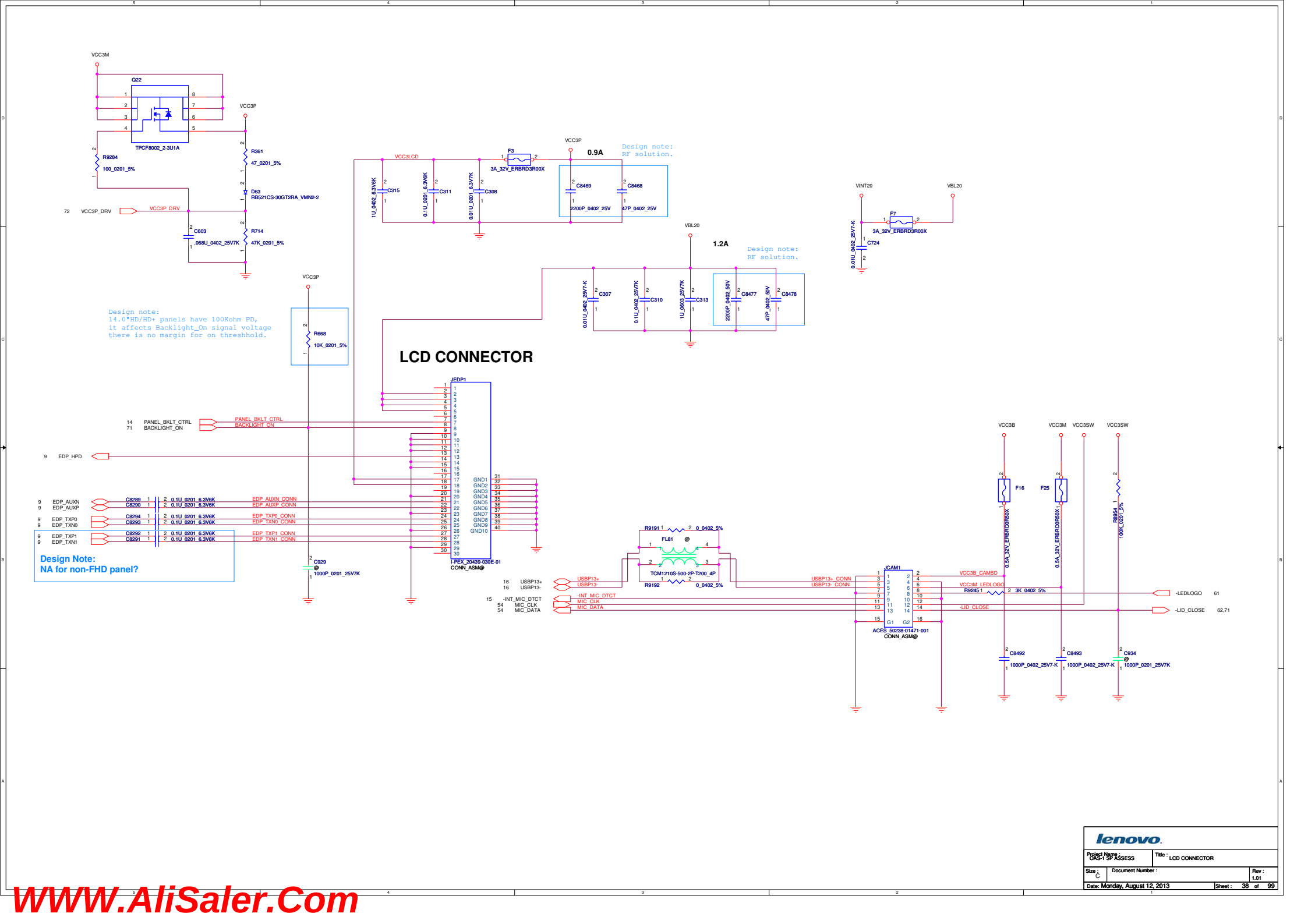

Project Name : OAS-1 SP ASSESS	Title : LCD CONNECTOR
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Project Name : OAS-1 SP ASSESS	Title : BLANK	
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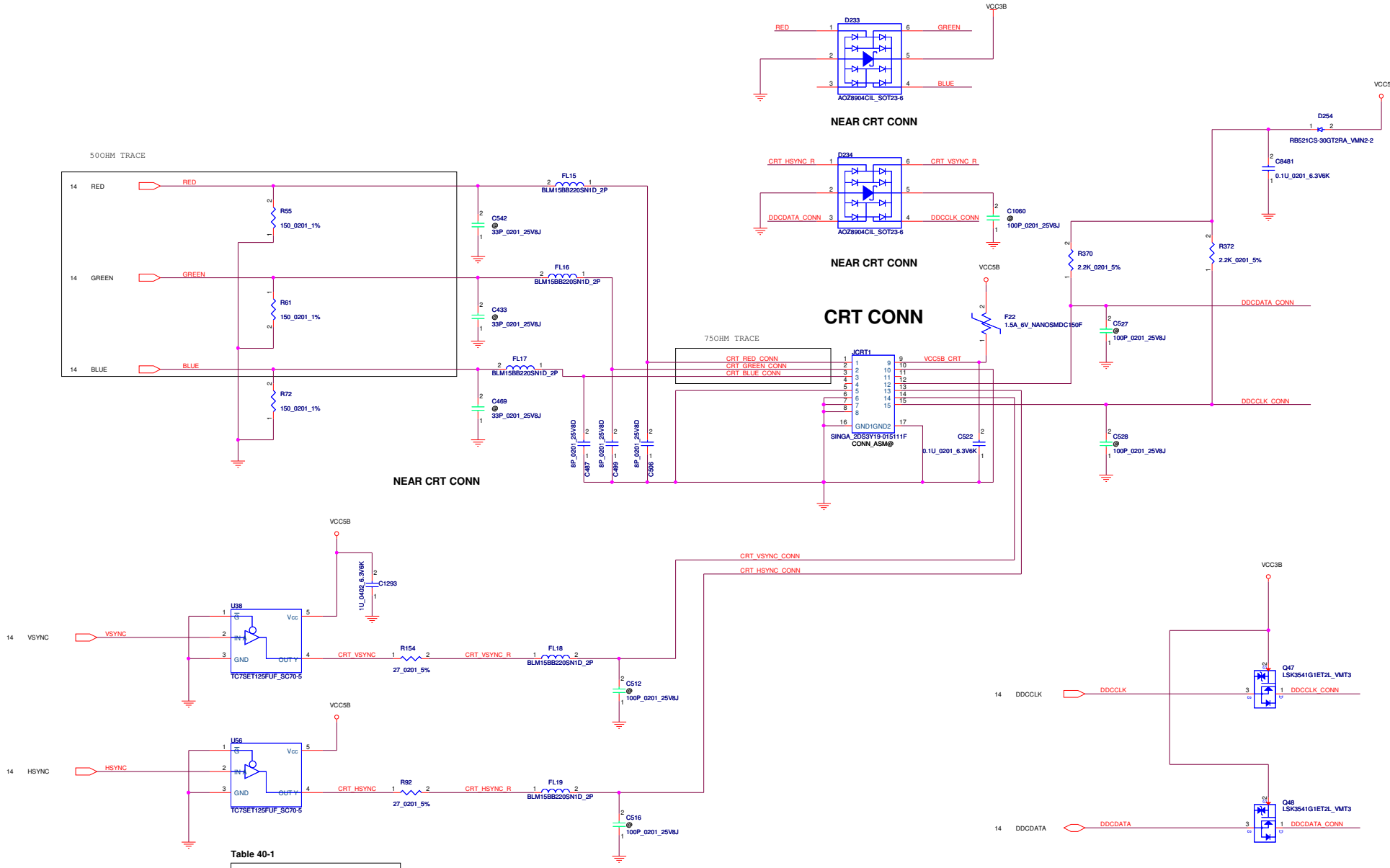

Table 40-1

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

Project Name : OAS-1 SP ASSESS	Title : EXT CRT INTERFACE
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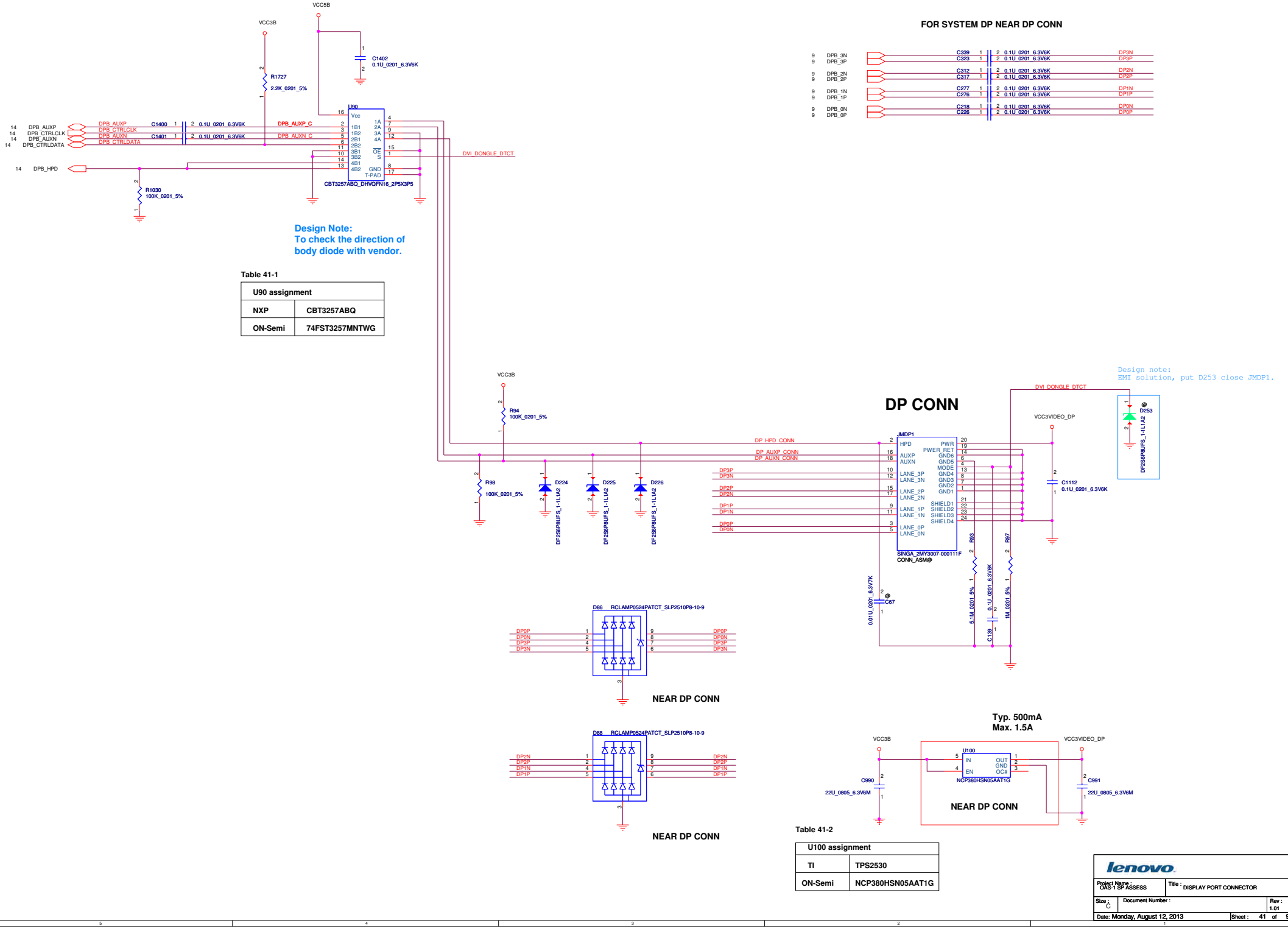

Table 41-1

U90 assignment	
NXP	CBT3257ABQ
ON-Semi	74FST3257MNTWG

Table 41-2

U100 assignment	
TI	TPS2530
ON-Semi	NCP380HSN05AAT1G

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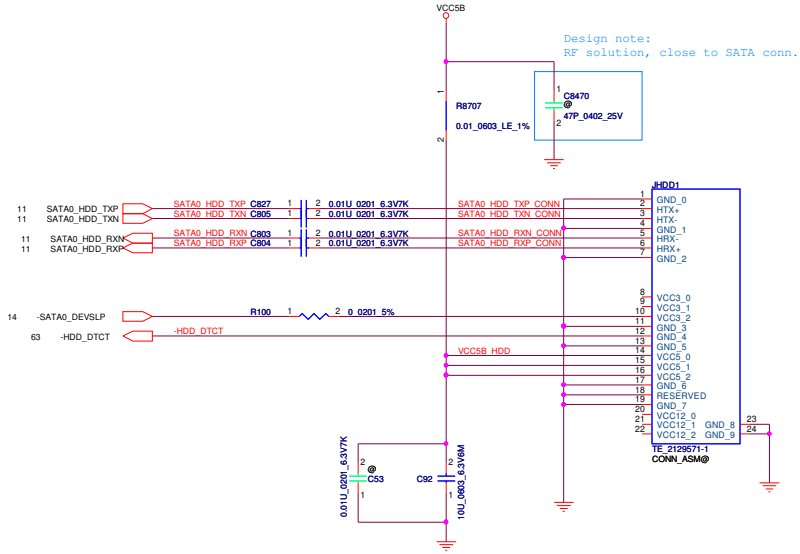

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Project Name : OAS-1 SP ASSESS		Title : SATA HDD CONN	
Size : C	Document Number :		Rev : 1.01
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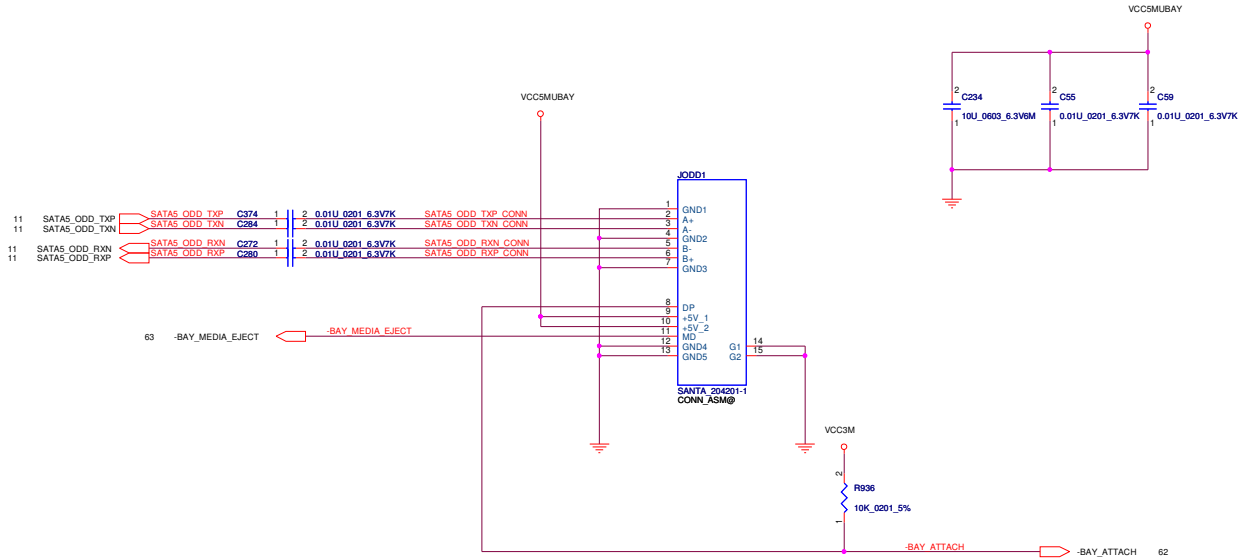

Project Name : OAS-1 SP ASSESS	Title : SATA BAY I/F CONN	
Size : C	Document Number :	Rev : 1.01
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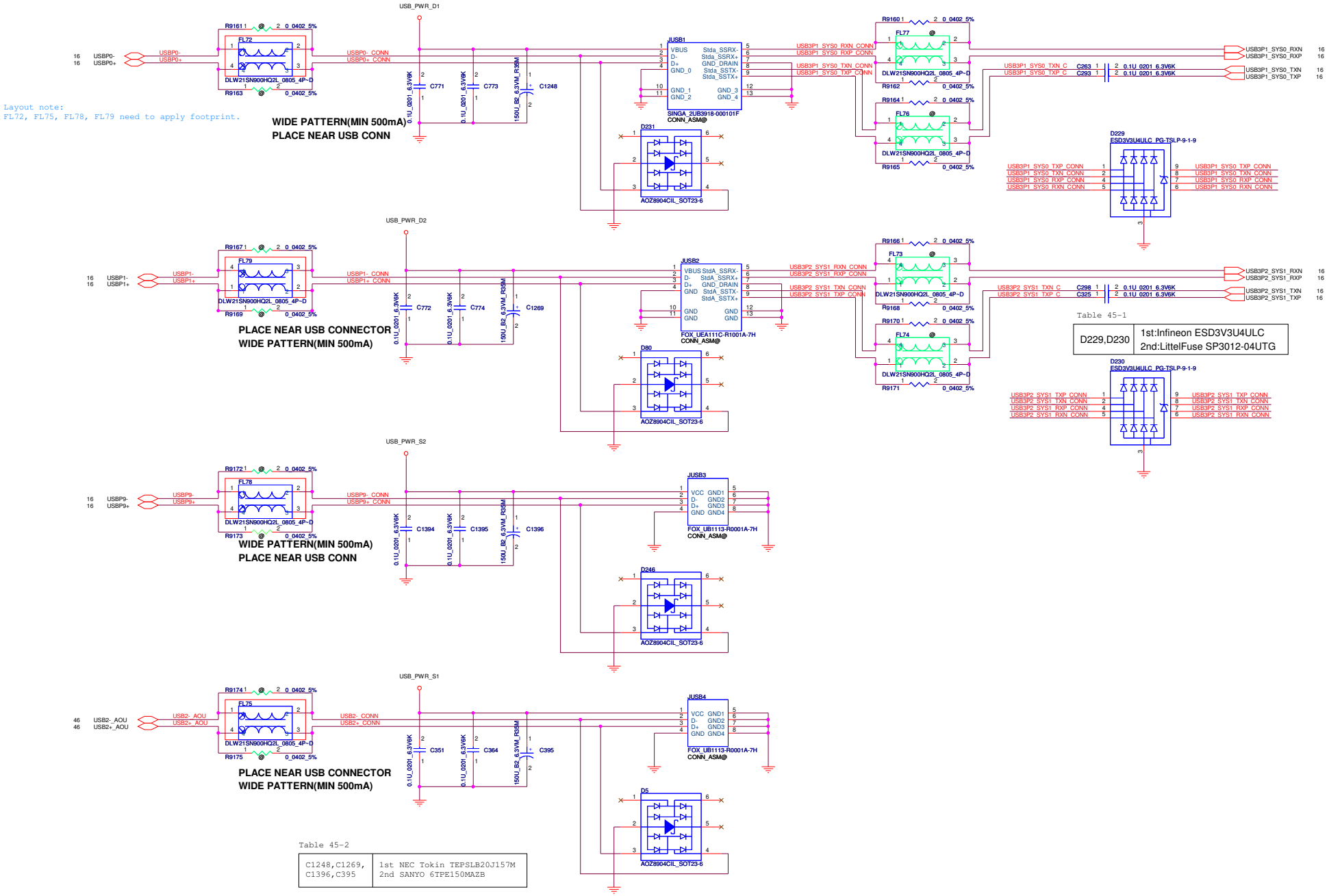

Table 45-1

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

Table 45-2

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

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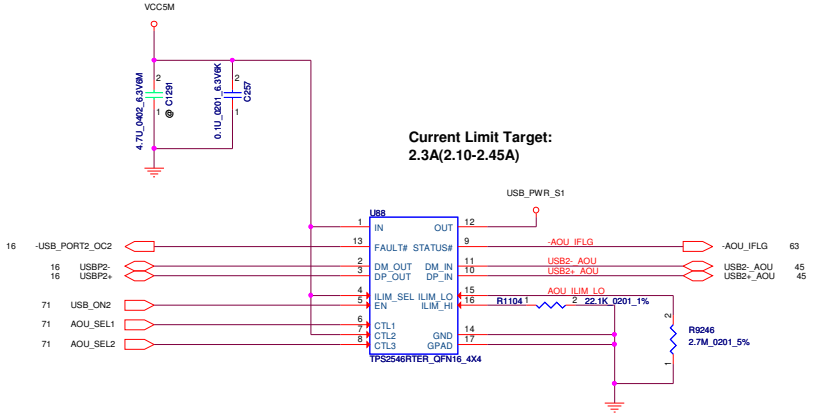

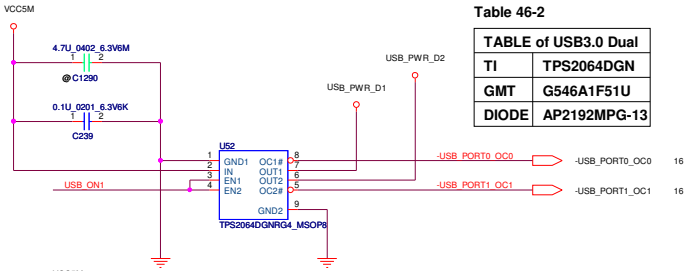

FOR ON BOARD DUAL USB 3.0 CONNECTOR

Table 46-2

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

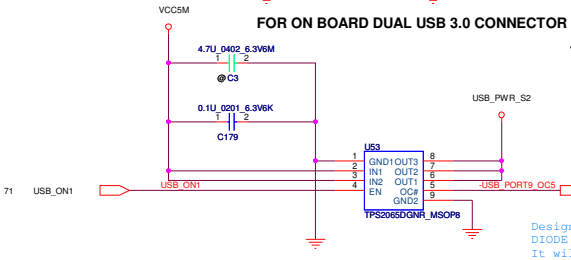

Table 46-3

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

Design Note:
DIODE part is only for qualification purpose.
It will be dropped before SVT if GCM does not approve.

FOR ON BOARD SINGLE USB 2.0 CONNECTOR

Project Name : OAS-1 SP ASSESS		Title : AOU/USB POWER SWITCH	
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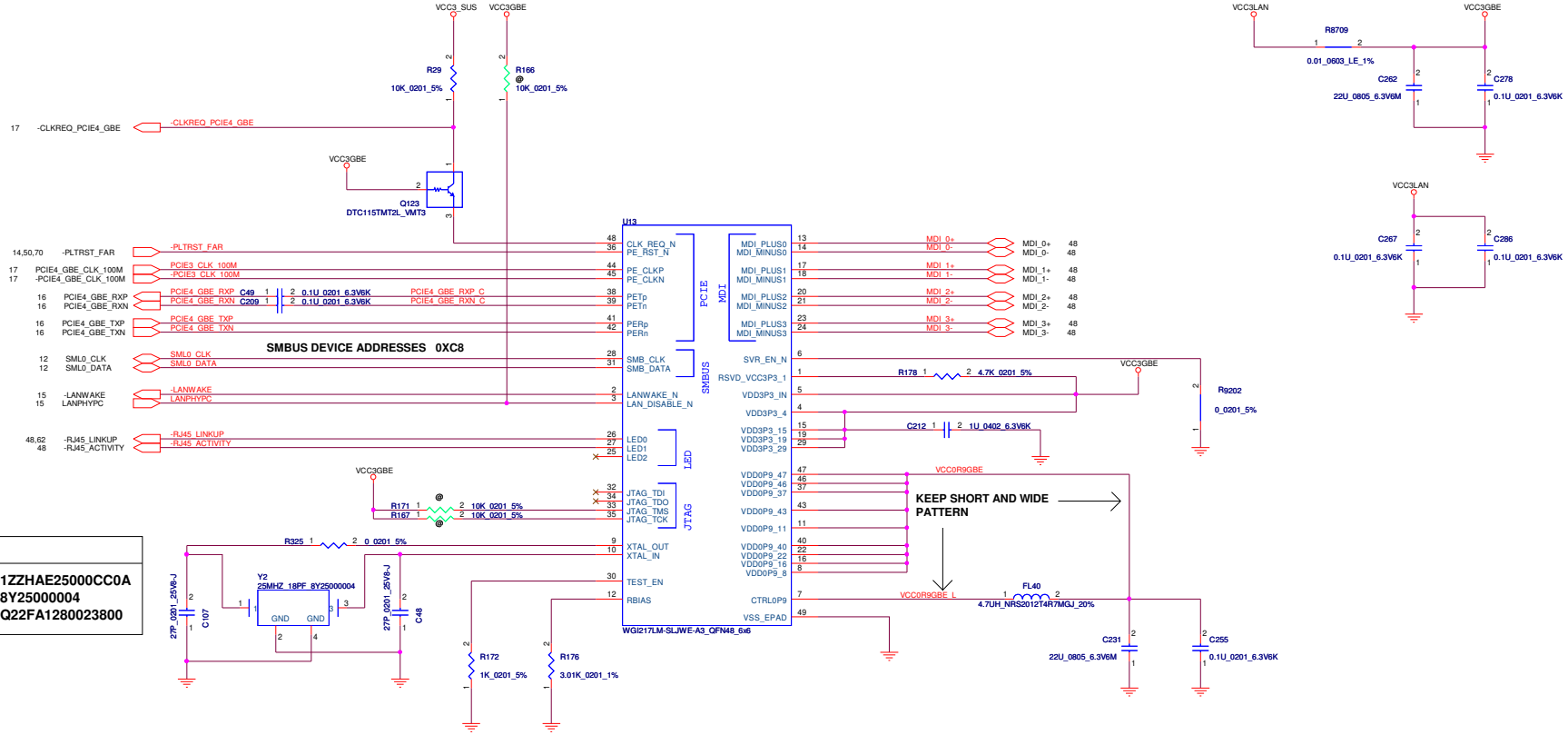

Table 47-1

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

Project Name : OAS-1 SP ASSESS		Title : GBE LAN CLARKVILLE	
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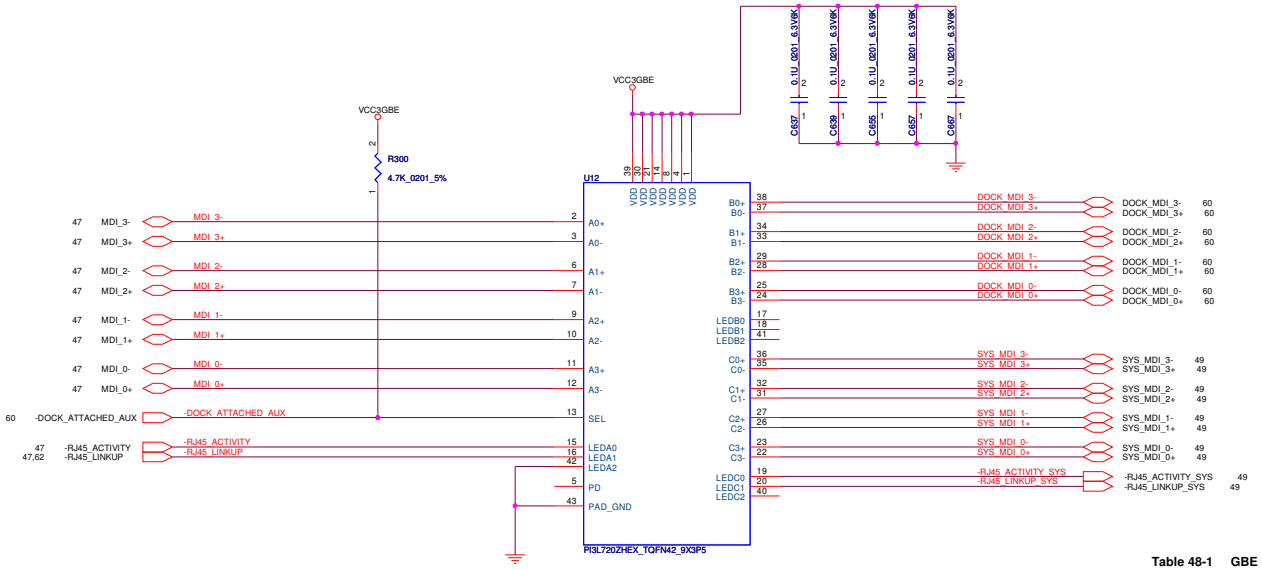

Table 48-1 GBE LAN SWITCH

Pericom	PI3L720ZHE
STmicro	STMUX1800E
Onsemi	NCN7201

Project Name : OAS-1 SP ASSESS	Title : GBE LAN SWITCH		
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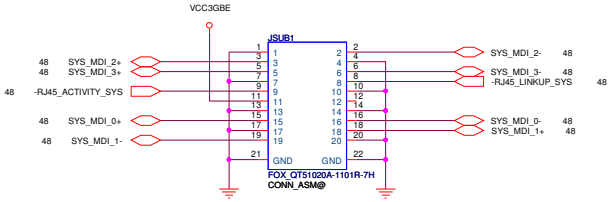

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Project Name : OAS-1 SP ASSESS	Title : RJ45 SUB CARD I/F
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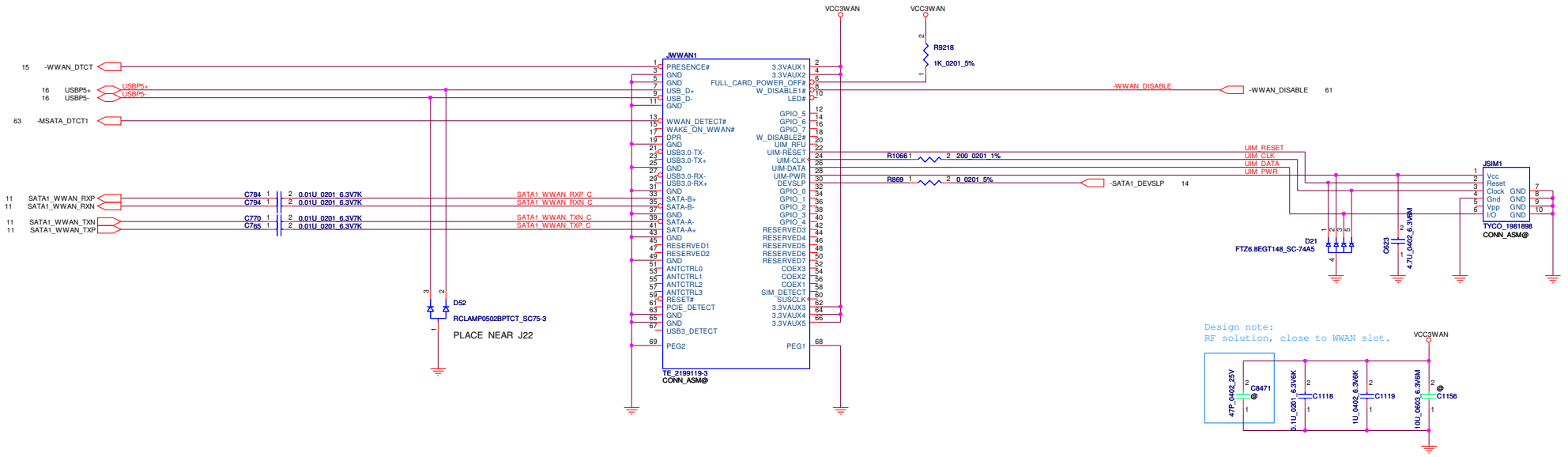
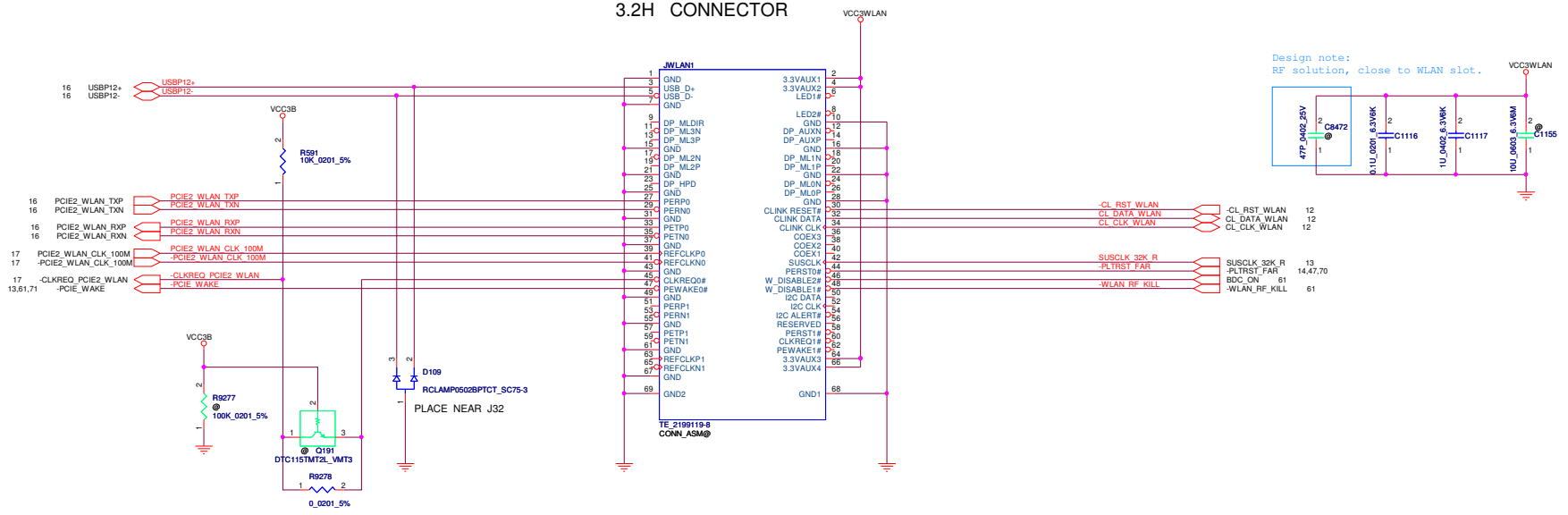
TYPE-B NGFF CARD FOR WWAN/SSD

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
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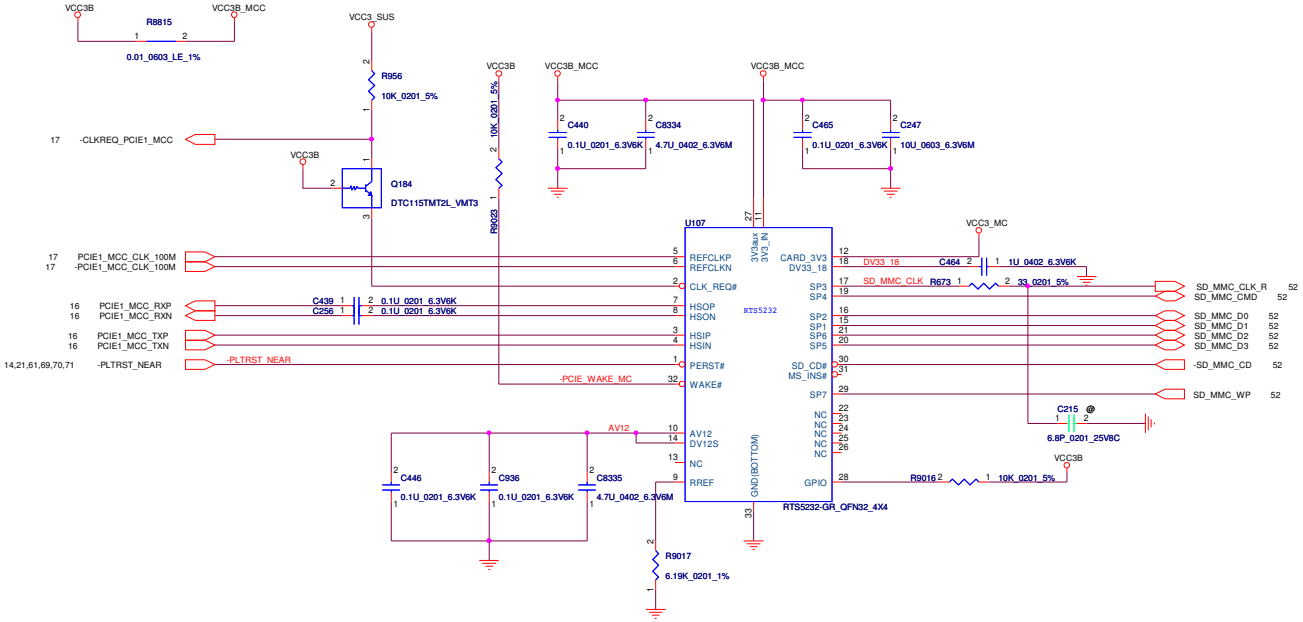
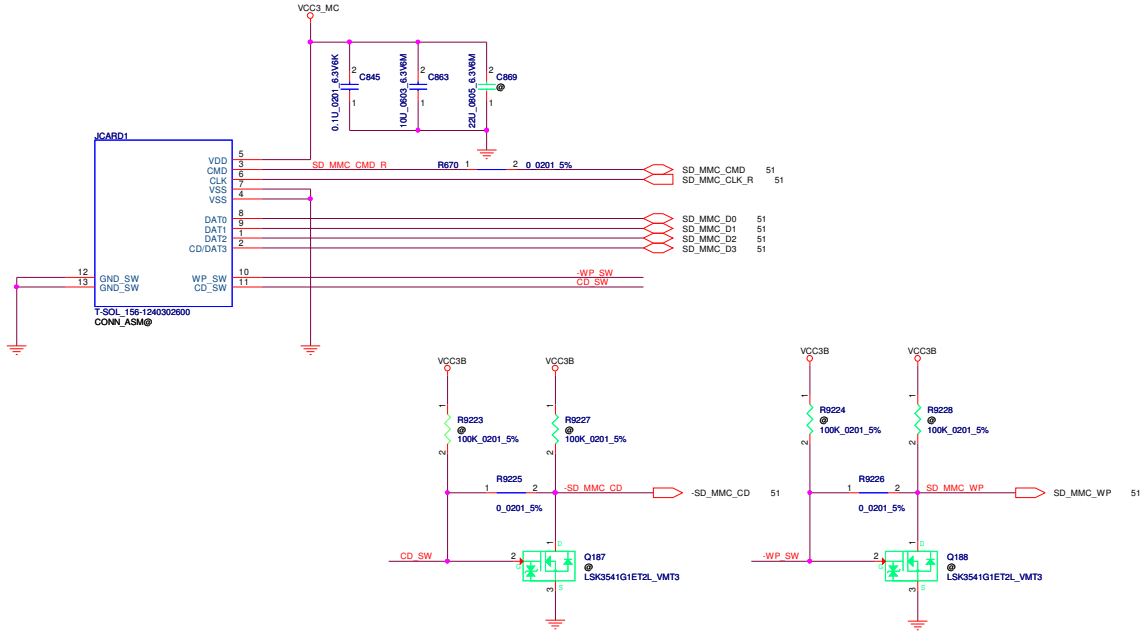


lenovo			
Project Name : OAS-1 SP ASSESS		Title : MEDIA CARD CONTROLLER	
Size :	Document Number :		Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 51 of 99	



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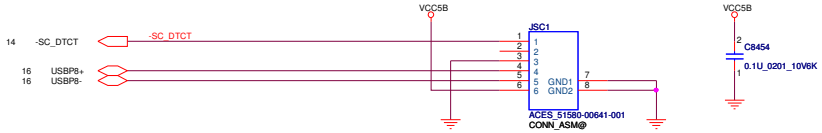
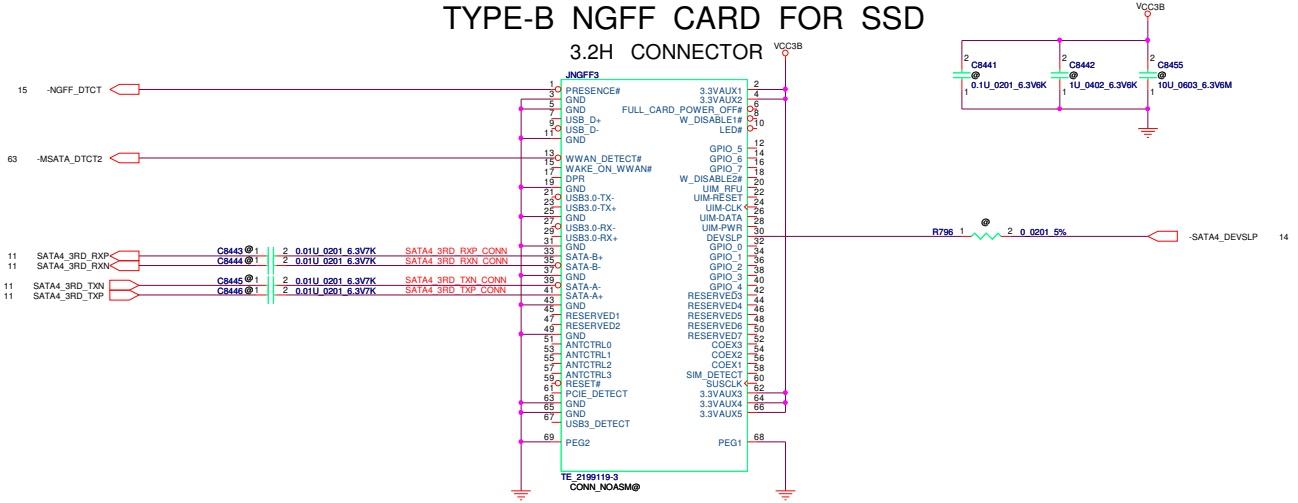
Project Name : OAS-1 SP ASSESS	Title : MEDIA CARD INTERFACE
Size : C	Document Number :
Rev : 1.01	
Date: Monday, August 12, 2013	Sheet : 52 of 99

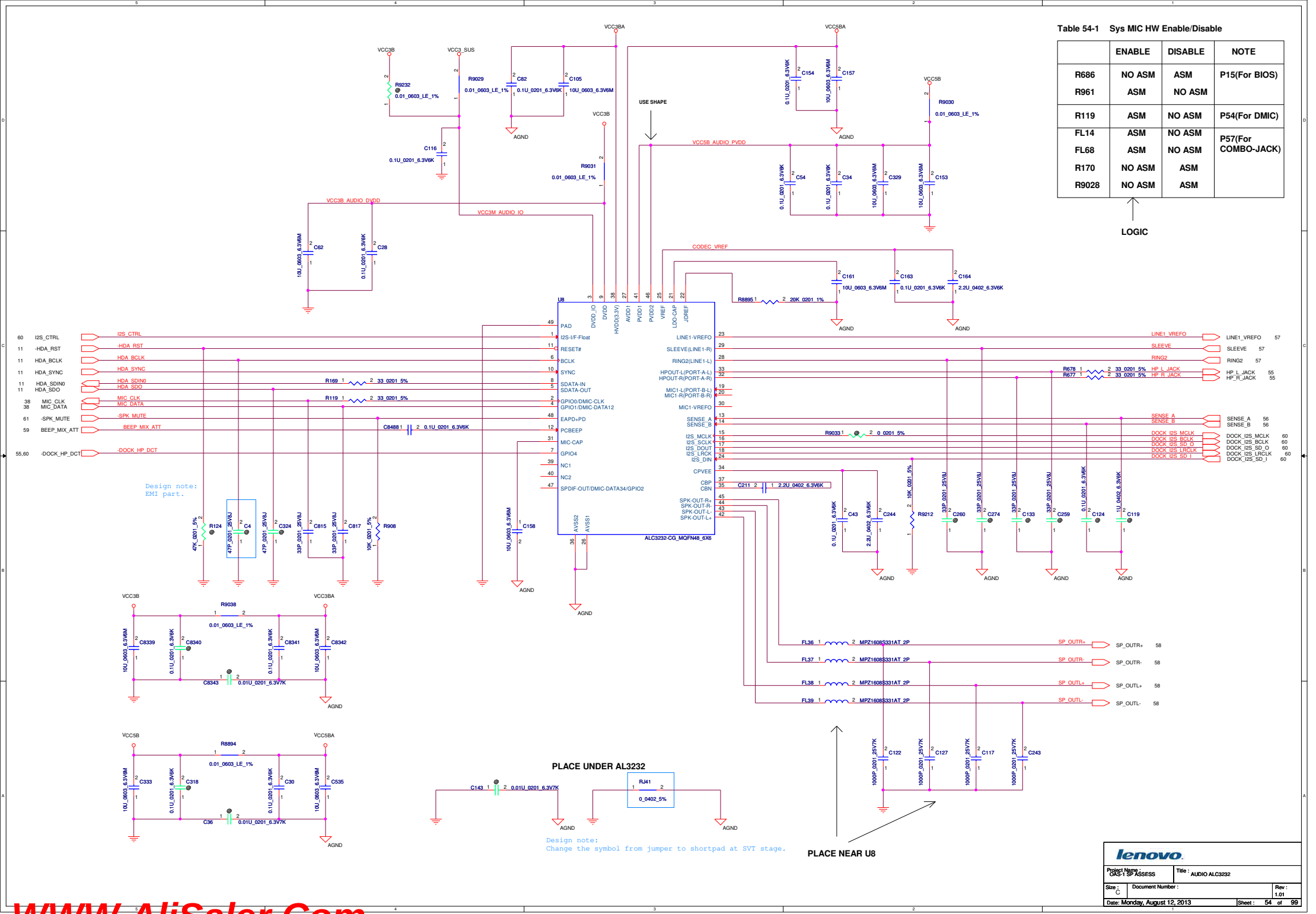


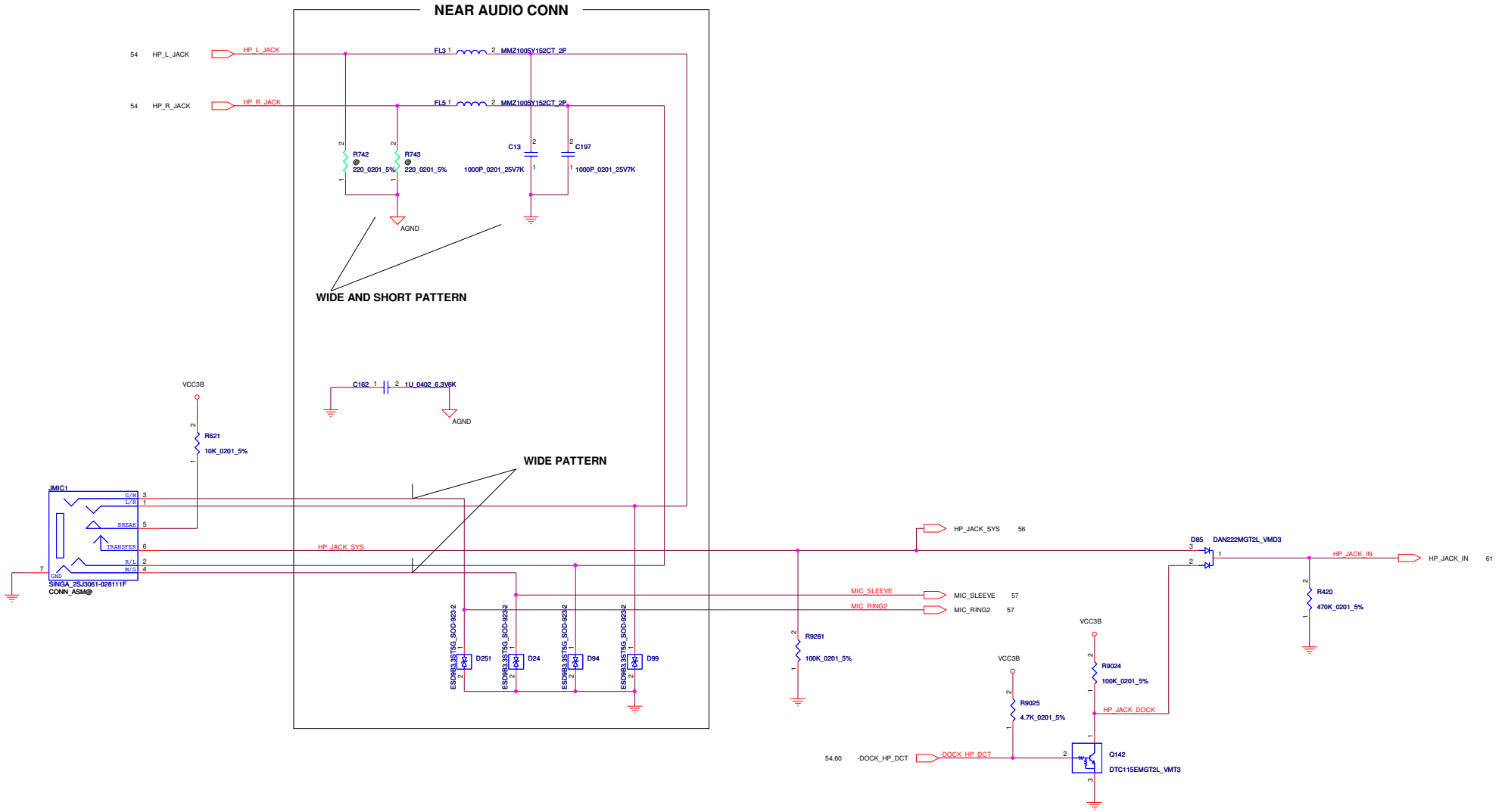
TYPE-B NGFF CARD FOR SSD

3.2H CONNECTOR



lenovo		
Project Name : OAS-1 SP ASSESS	Title : BAY PCIE/SMART CARD I/F	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 53 of 99	





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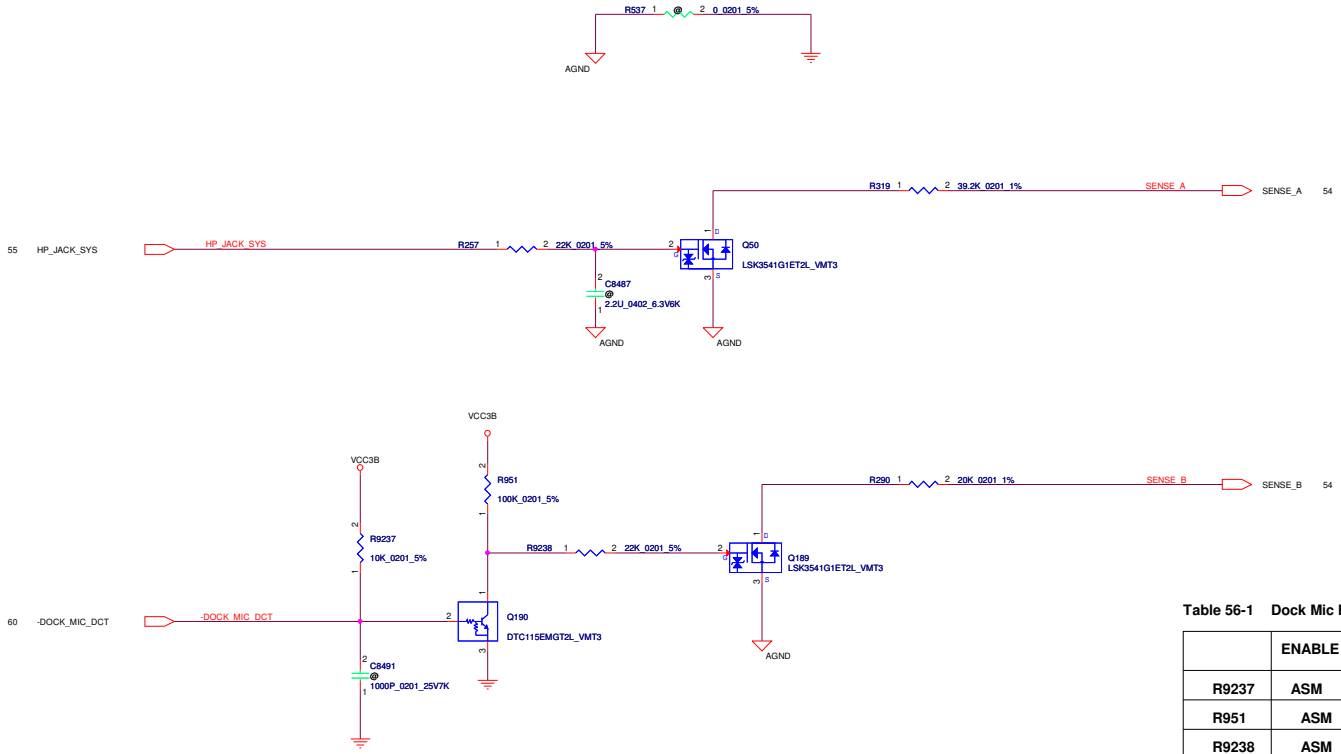

Table 56-1 Dock Mic HW Enable/Disable

	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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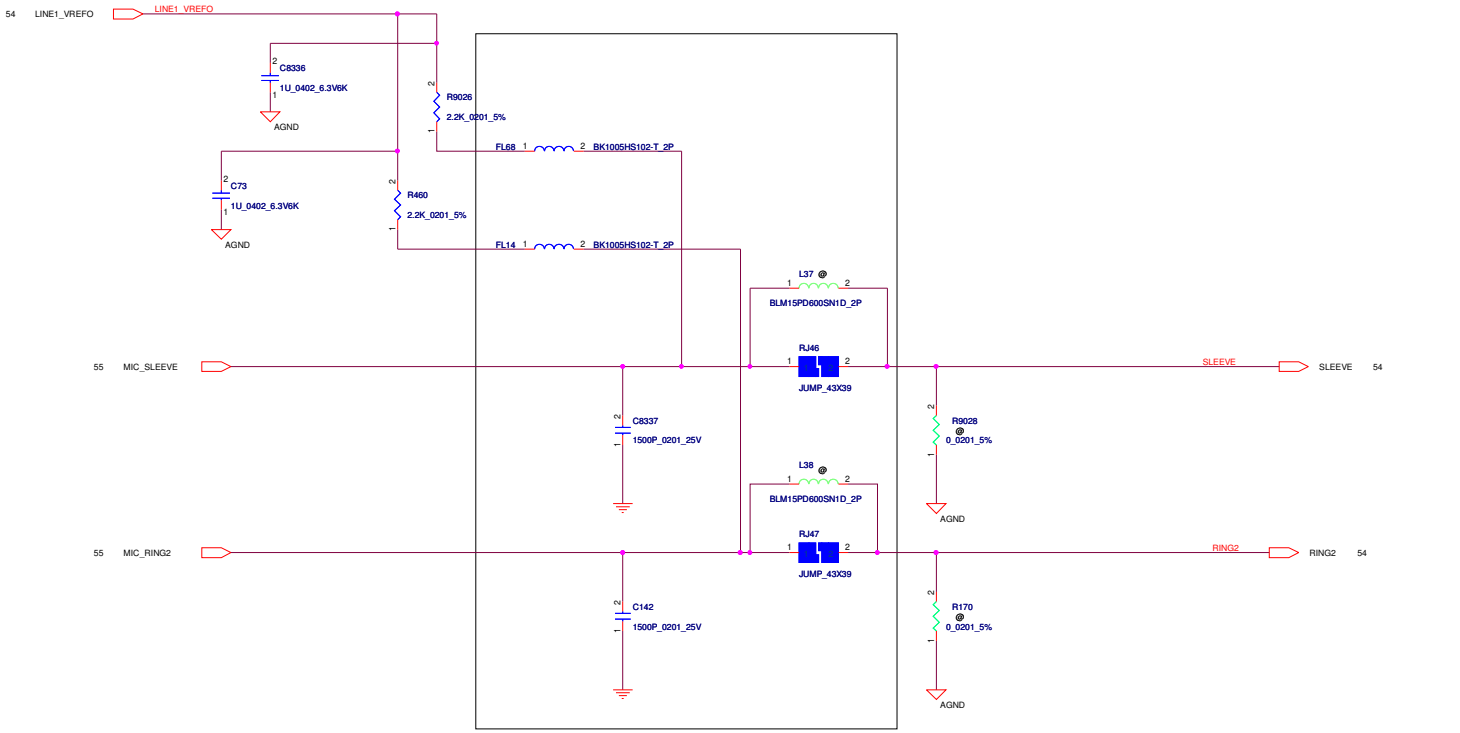
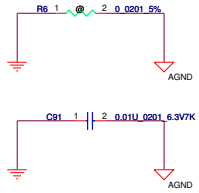


NEAR EXT MIC CONN



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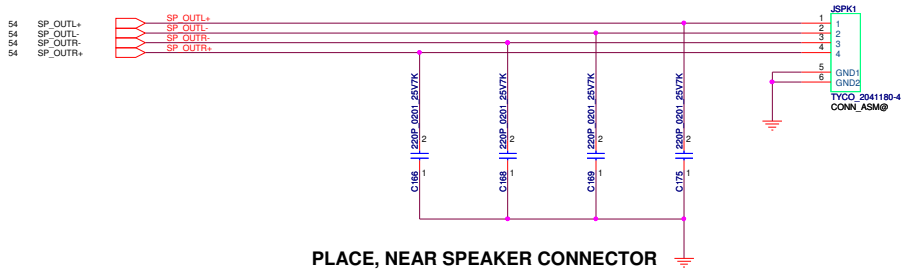
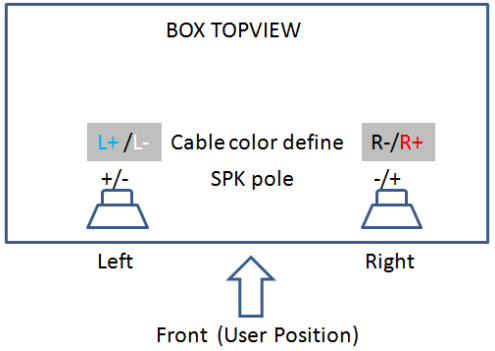


PLACE, NEAR SPEAKER CONNECTOR

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



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Project Name : OAS-1 SP ASSESS	Title : AUDIO SPEAKER
Size : C	Document Number :
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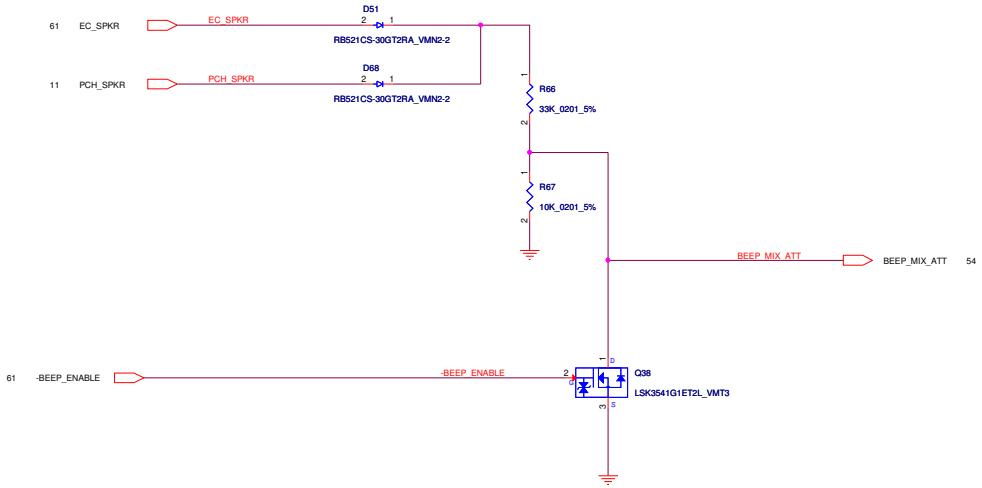

Project Name : OAS-1 SP ASSESS		Title : AUDIO BEEP	
Size : C	Document Number :		Rev : 1.01
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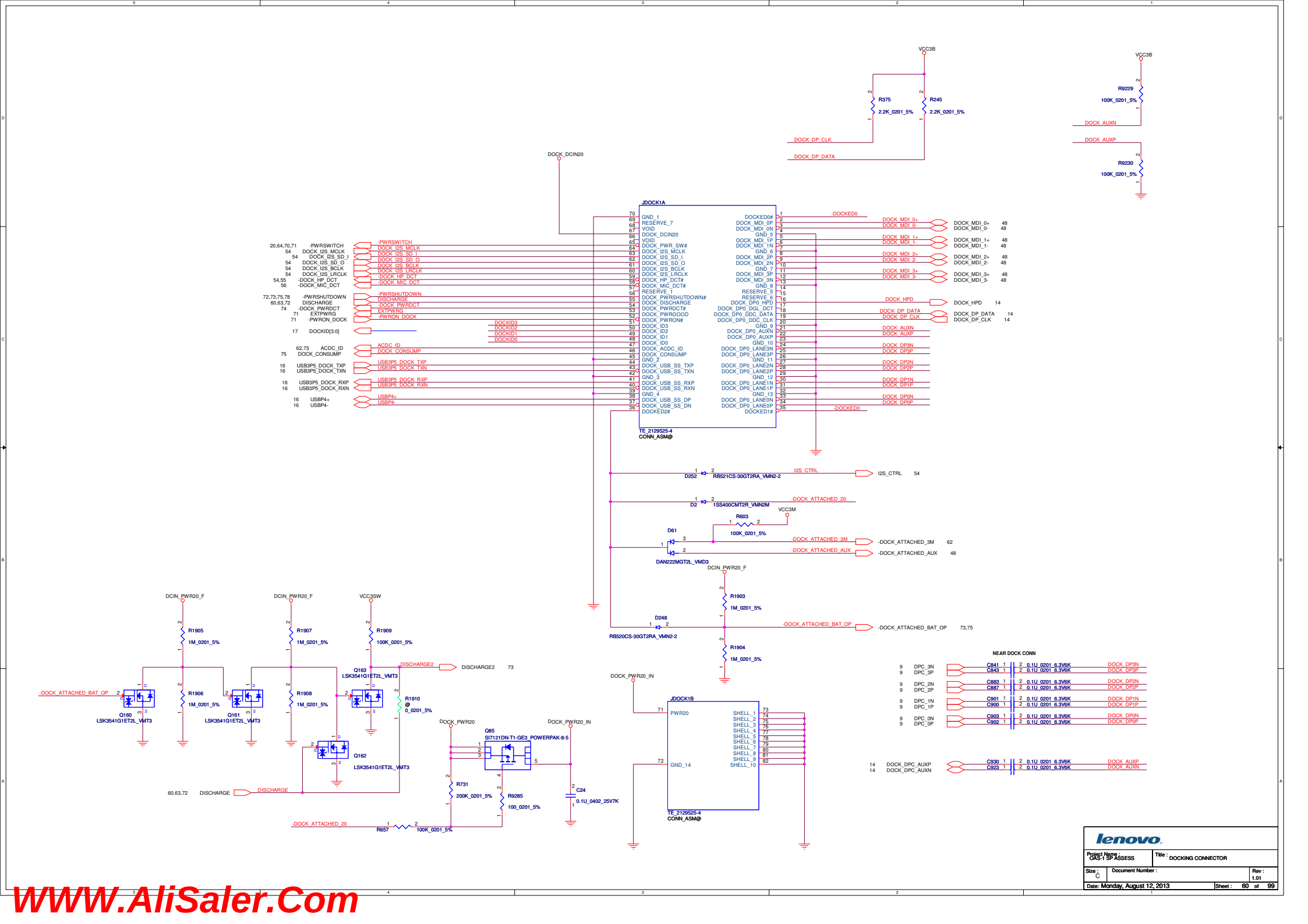
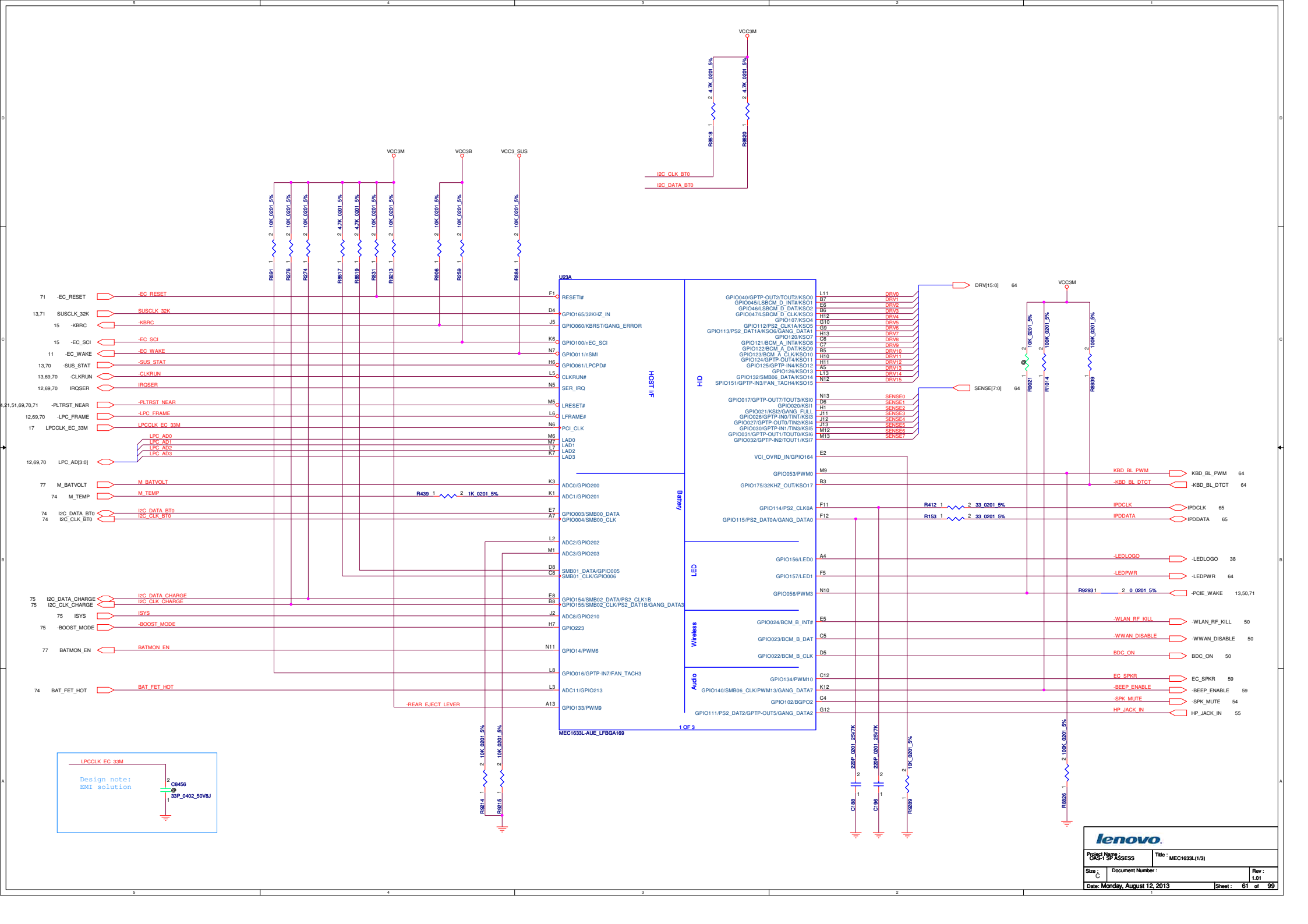


Project Name : OAS-1 SP ASSESS	Title : DOCKING CONNECTOR
Size : C	Document Number :
Date: Monday, August 12, 2013	Sheet : 60 of 99
	Rev : 1.01



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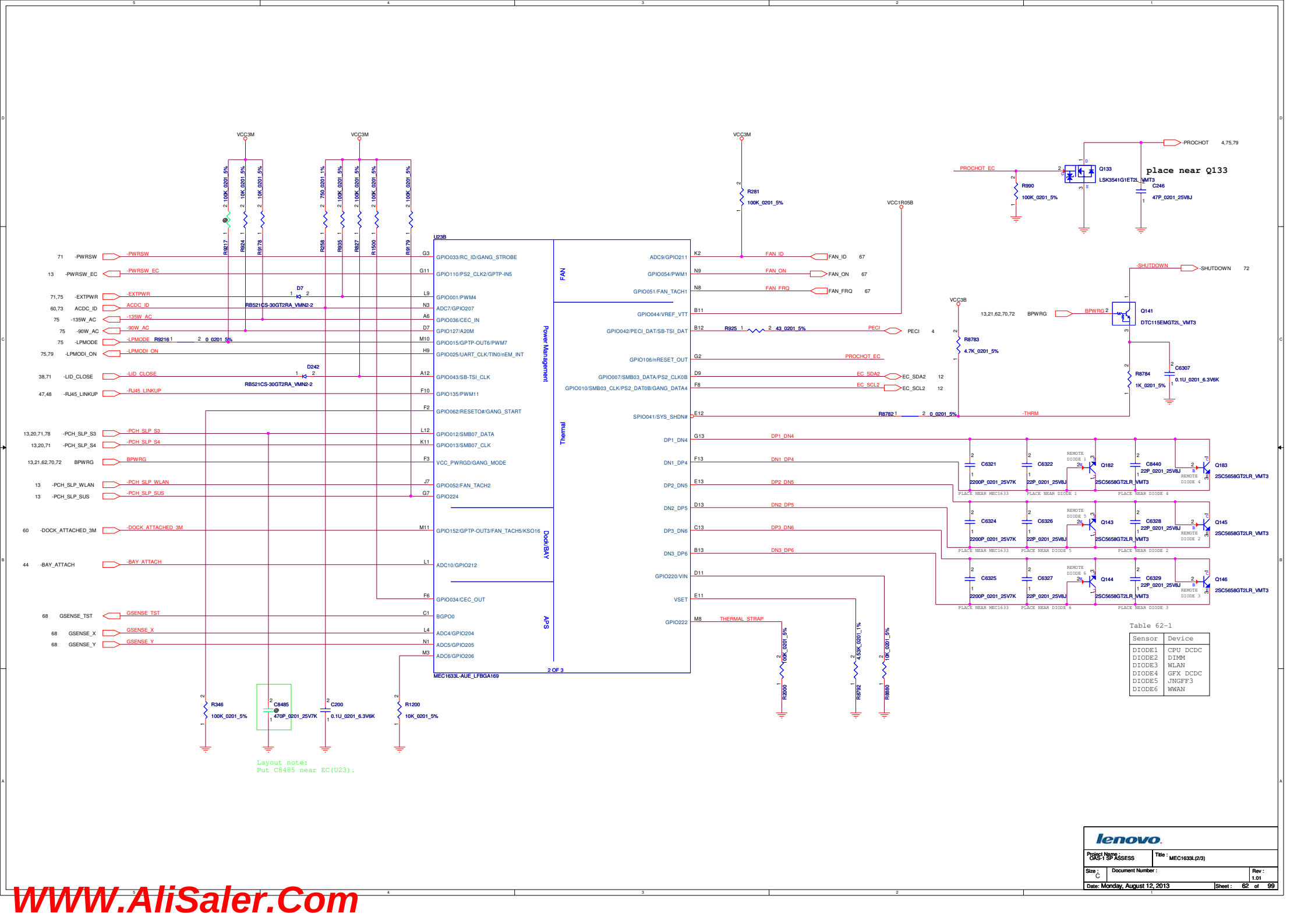

Table 62-1

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

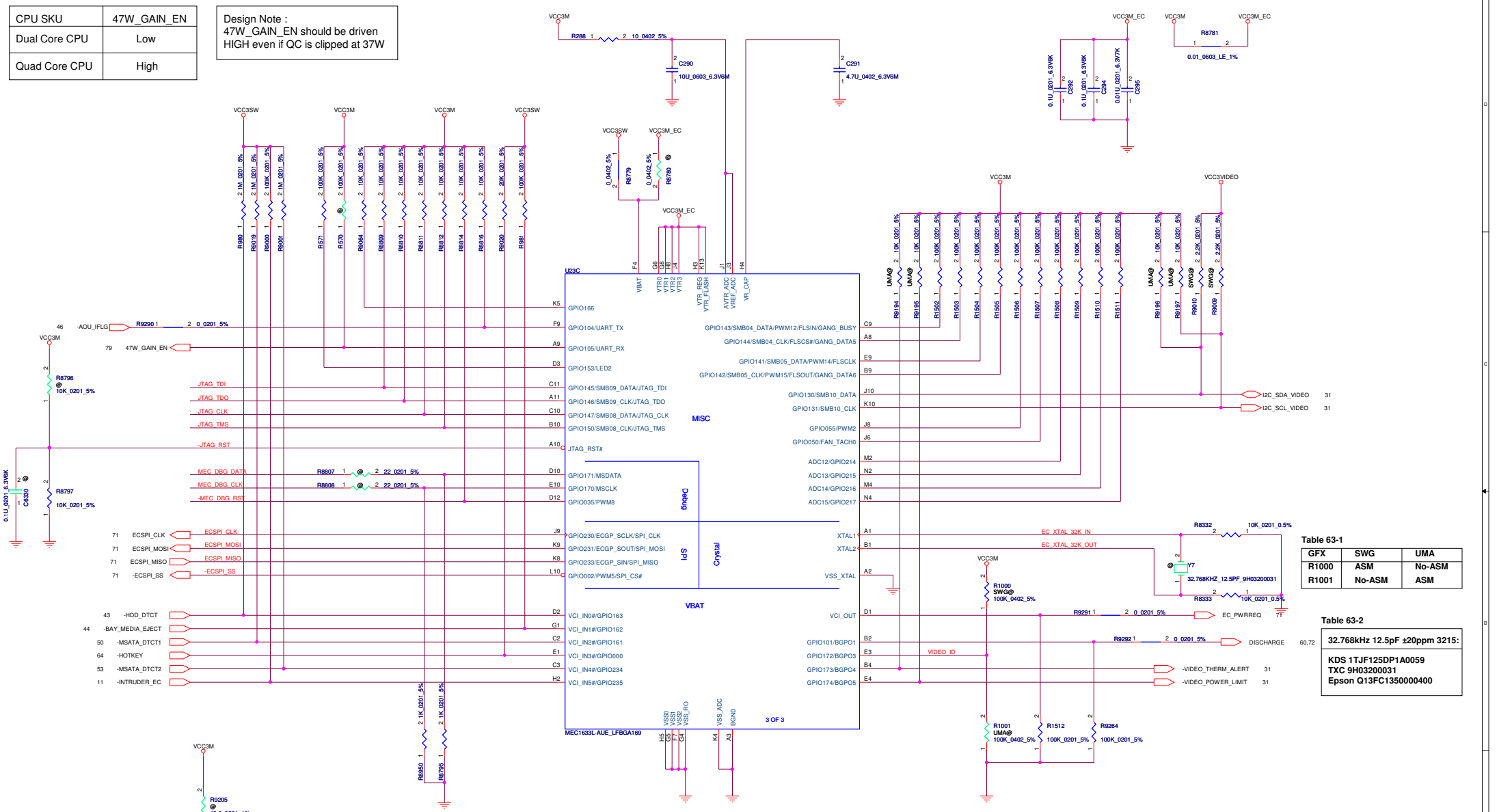

Table 63-1

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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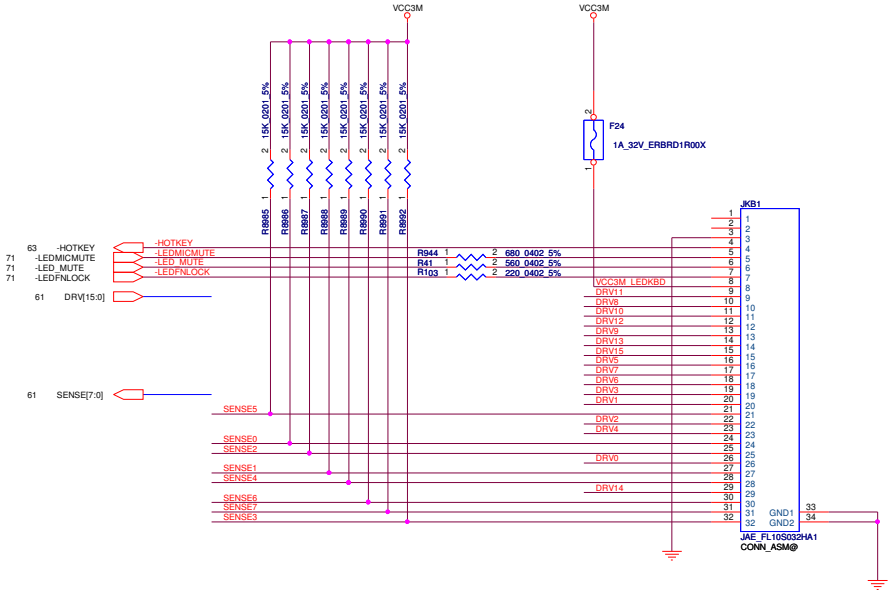

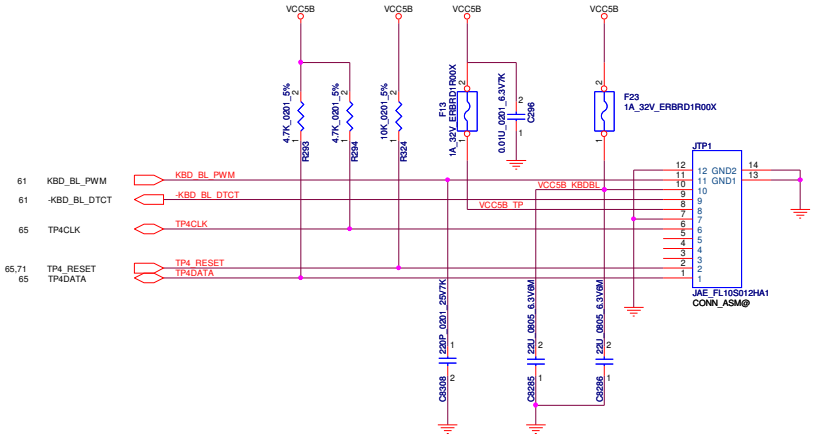

Project Name : OAS-1 SP ASSESS	Title : KEYBOARD CONNECTOR	
Size : C	Document Number :	Rev : 1.01
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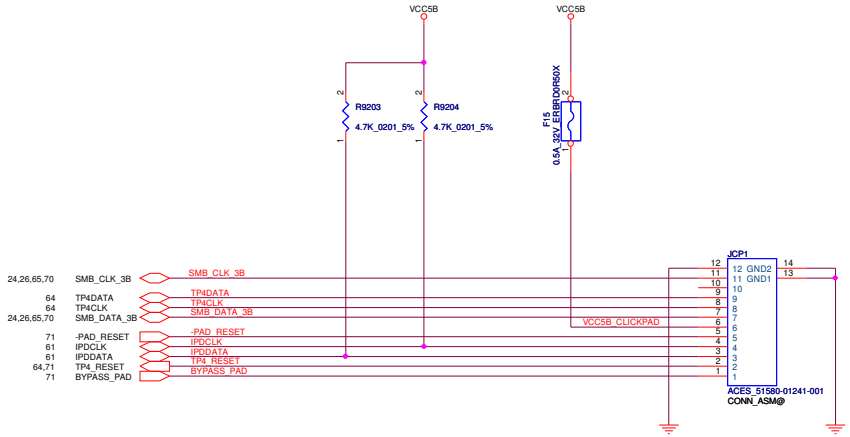

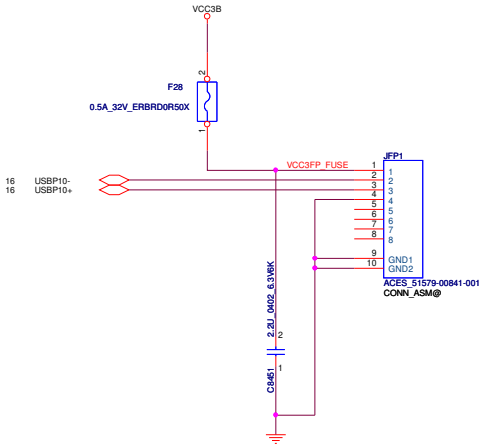

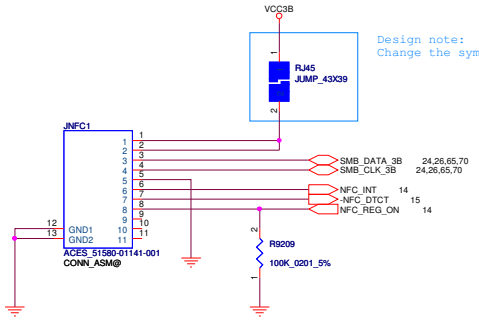

Design note:
Change the symbol from jumper to shortpad at SVT stage.

Project Name : OAS-1 SP ASSESS	Title : CLICK PAD/NFC/FPR CONNECTOR	
Size : C	Document Number :	Rev : 1.01
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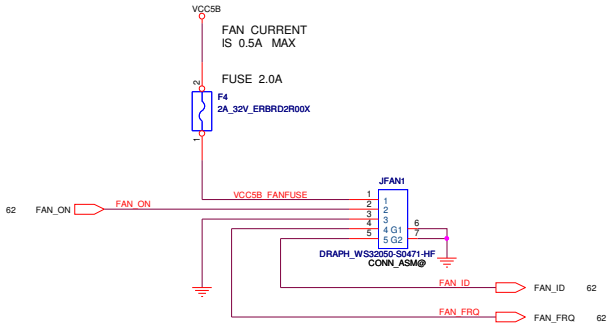
BLANK

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



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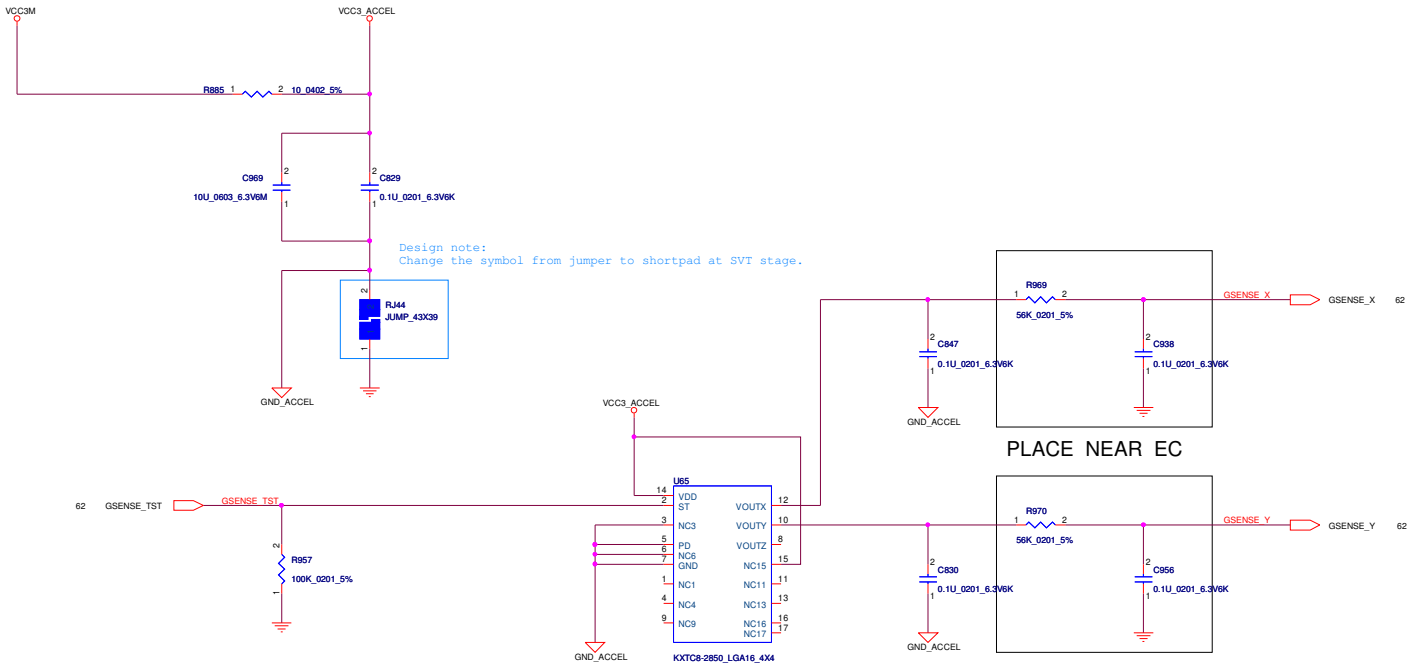

LOGIC

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		
Size : C	Document Number :		Rev : 1.01
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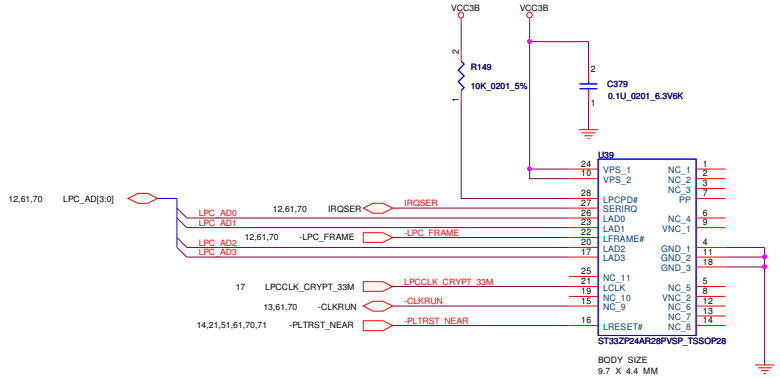

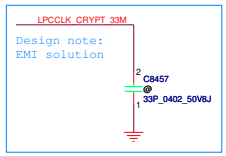

lenovo			
Project Name : OAS-1 SP ASSESS		Title : TPM	
Size : C	Document Number :		Rev : 1.01
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Table 70-1

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.

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

JDB1
HRS_DF12E_3R0_14DP_0R5V_81
CONN_NOASM@

-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

VCC3B
Q97 @ DTC115TMT2L_VMT3

14,47,50 -PLTRST_FAR
24,26,65 SMB_CLK_3B
24,26,65 SMB_DATA_3B
13,21,62,72 BPWRG
16 SMB_3B_EN

10K_0201_5% R150
10K_0201_5% R177
47K_0201_5% R291
Q84 @ DTC115TMT2L_VMT3

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

VCC5M
U21 @
U31 @
TC7SB385FU_SSOP5
C25 @ 0.01U_0201_6.3V7K

SMB_CLK
SMB_DATA

SMB_CLK 12
SMB_DATA 12

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

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Project Name : OAS-1 SP ASSESS	Title : EEPROM/SMBUS SW
Size : C	Document Number : Rev : 1.01
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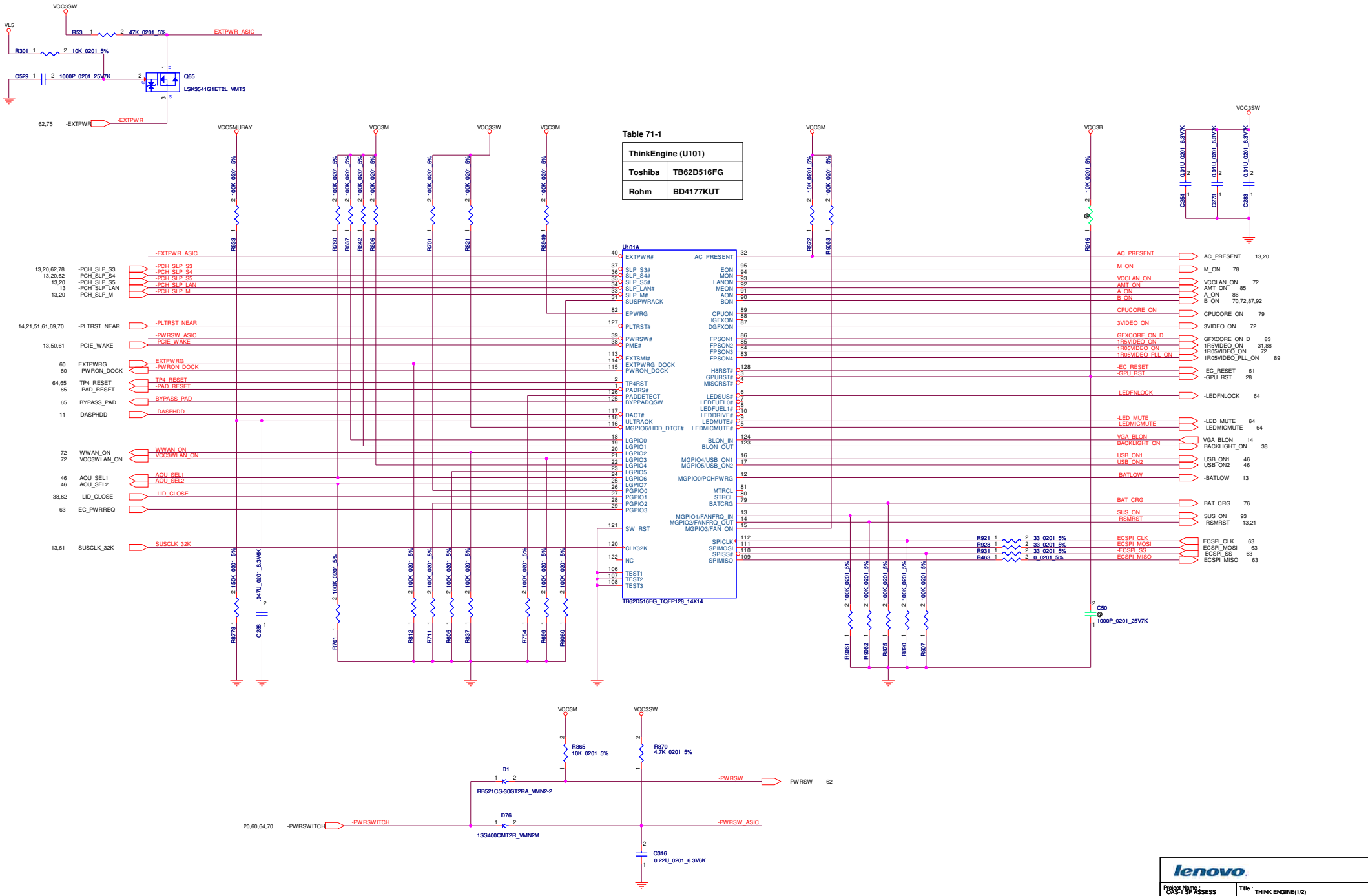

Project Name : OAS-1 SP ASSESS	Title : THINK ENGINE(1/2)
Size : C	Document Number :
Date: Monday, August 12, 2013	Rev : 1.01
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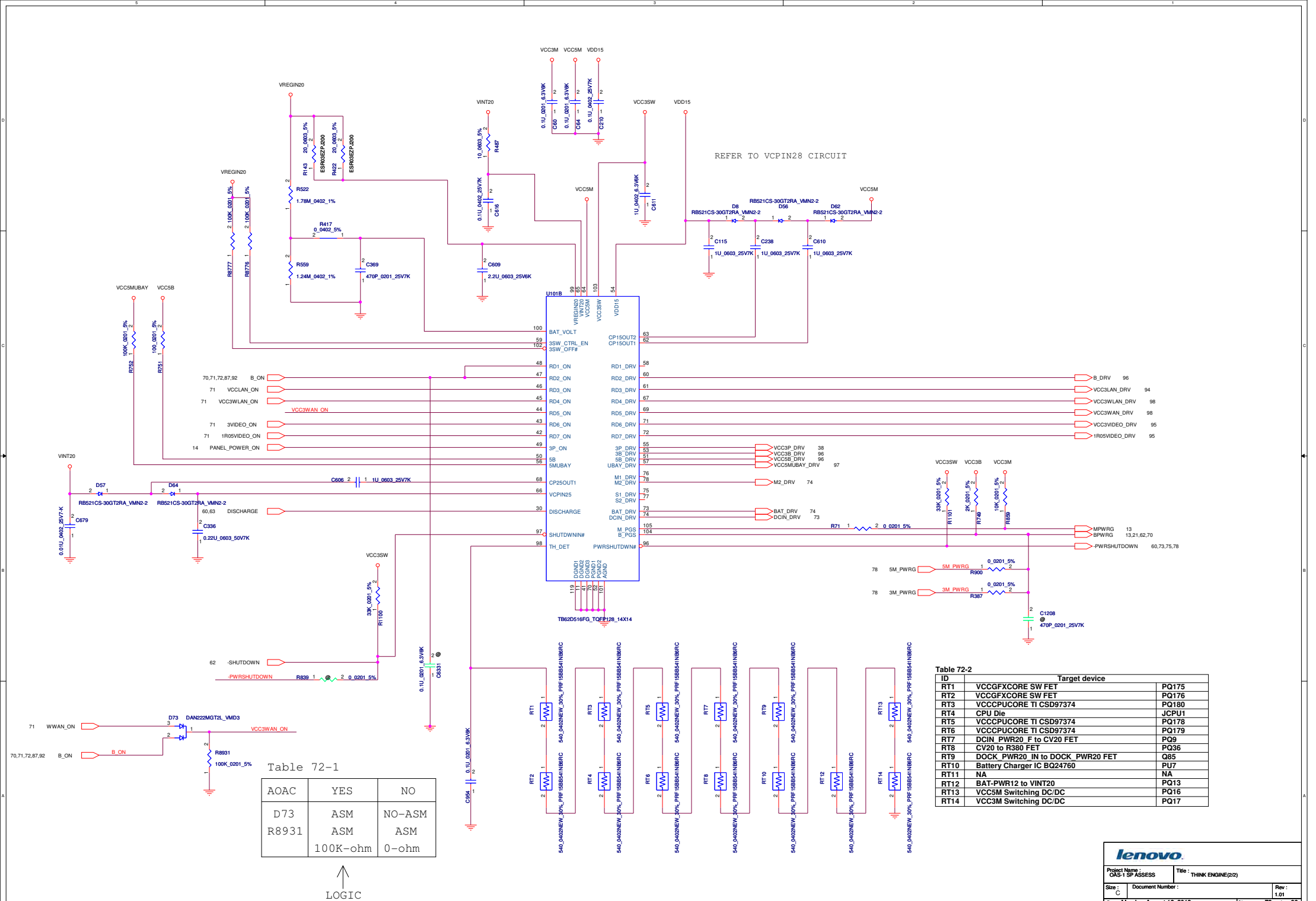

Table 72-1

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

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Project Name : OAS-1 SP ASSESS	Title : THINK ENGINE(2/2)	
Size : C	Document Number :	Rev : 1.01
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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.

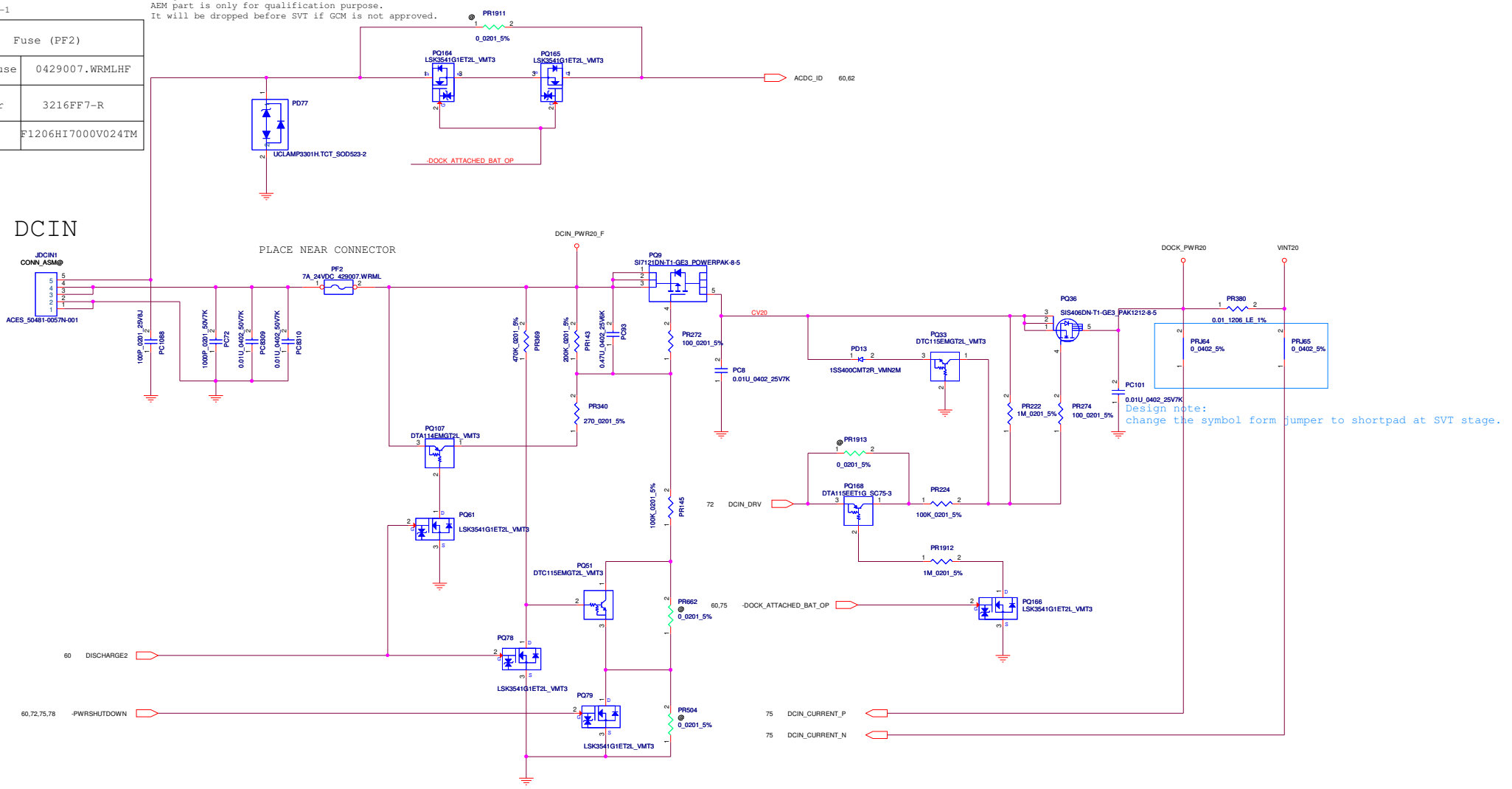


TABLE 73-1

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

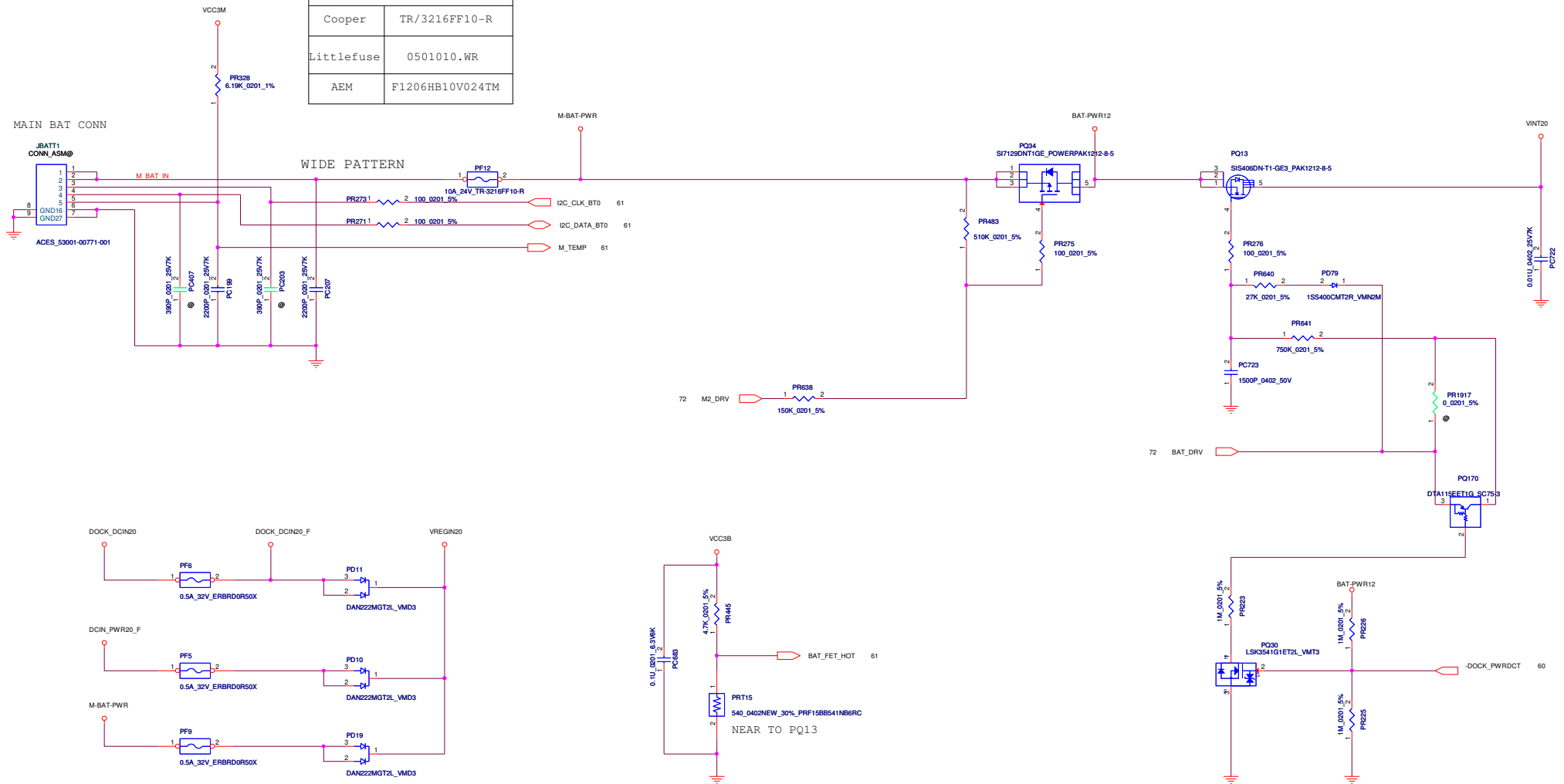
LOGIC

Project Name : OAS-1 SP ASSESS	Title : DC-IN	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 73 of 99	

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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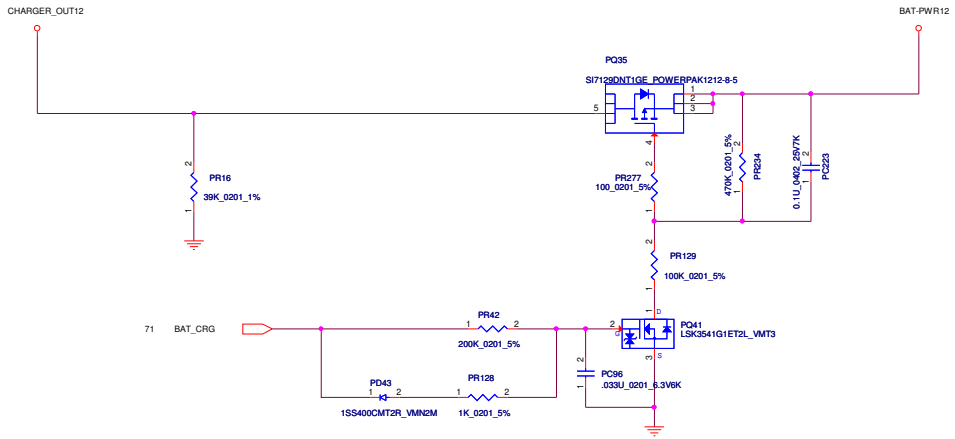
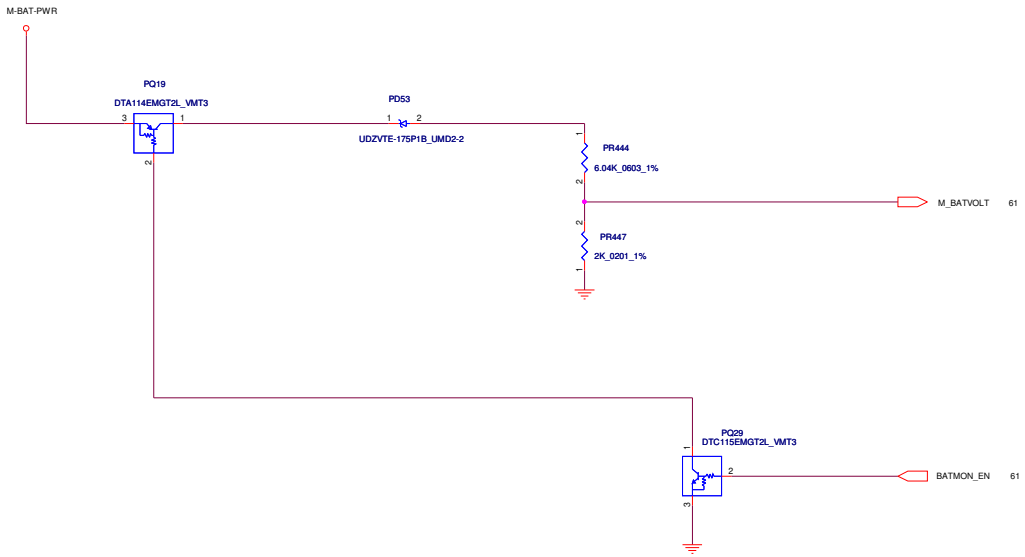


lenovo		
Project Name : OAS-1 SP ASSESS	Title : CHARGER SELECTOR	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 76 of 99	



lenovo

Project Name : OAS-1 SP ASSESS	Title : BATTERY MONITOR
Size : C	Document Number :
Rev : 1.01	
Date: Monday, August 12, 2013	Sheet : 77 of 99

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

Design note:
RF solution, close to PQ16.

Max:15A
TDP:8A

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

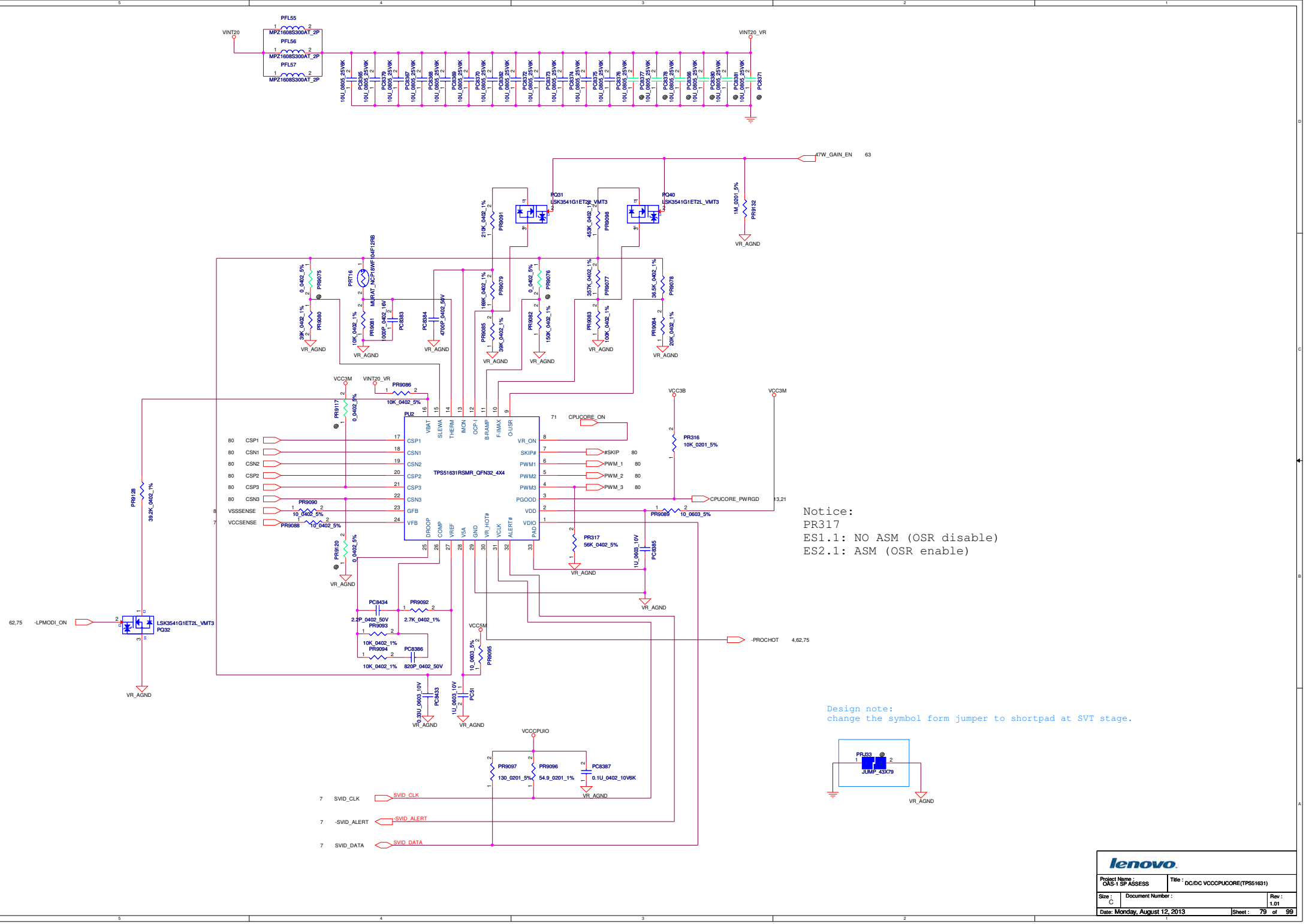
Design note:
RF solution, close to PQ17.

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

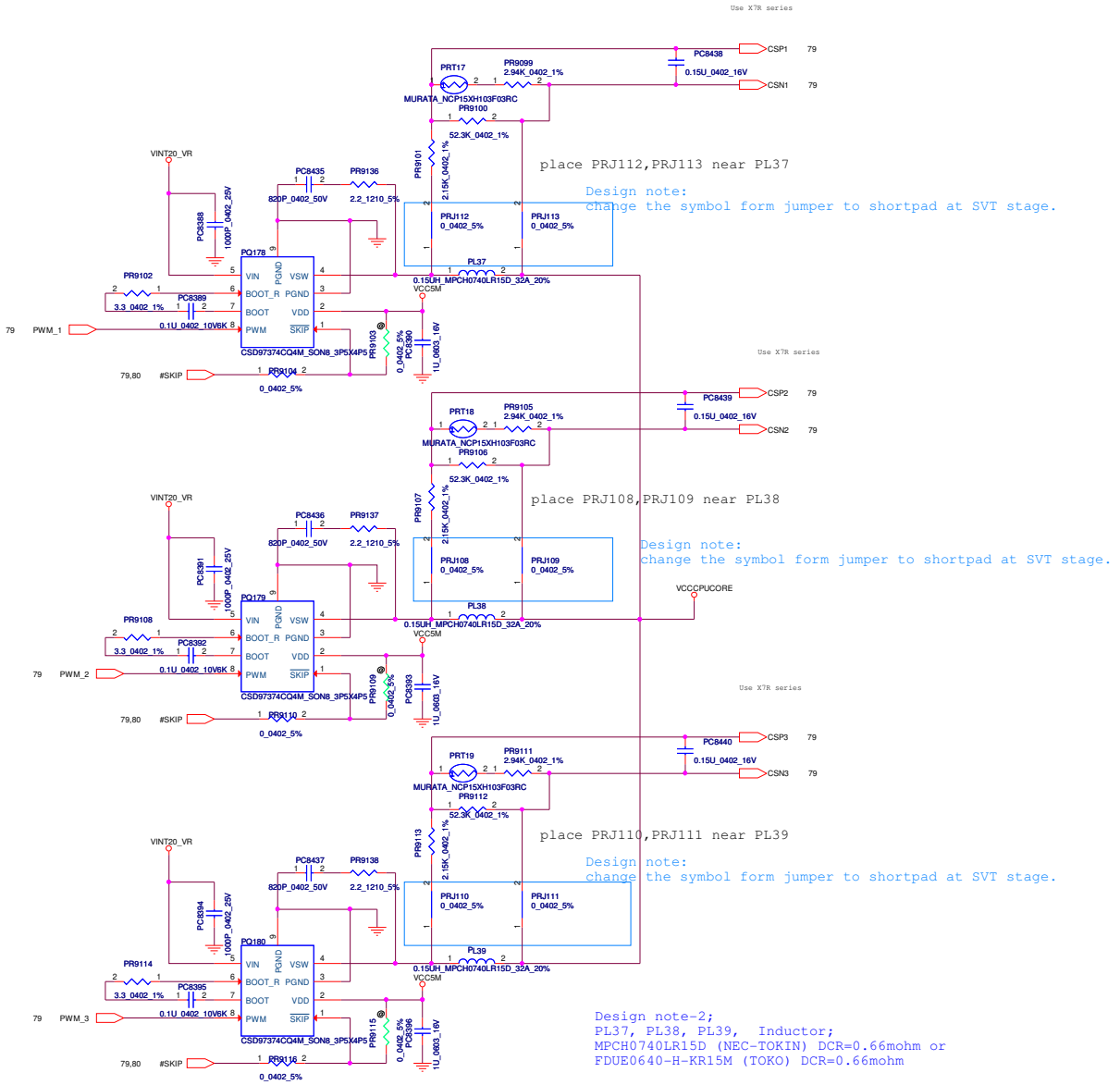
ESR=12mOHM

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

Project Name : OAS-1 SP ASSESS	Title : DC/DC VCC5M/VCC3M (TPS51220A)
Size : C	Document Number :
Rev : 1.01	
Date: Monday, August 12, 2013	Sheet : 78 of 99



Project Name : OAS-1 SP ASSESS		Title : DC/DC VCCCPUCORE(TPS51631)	
Size : C	Document Number :		Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 79 of 99	



Project Name : OAS-1 SP ASSESS	Title : DC/DC VCCCPUCORE(CSD97374)	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 80 of 99	

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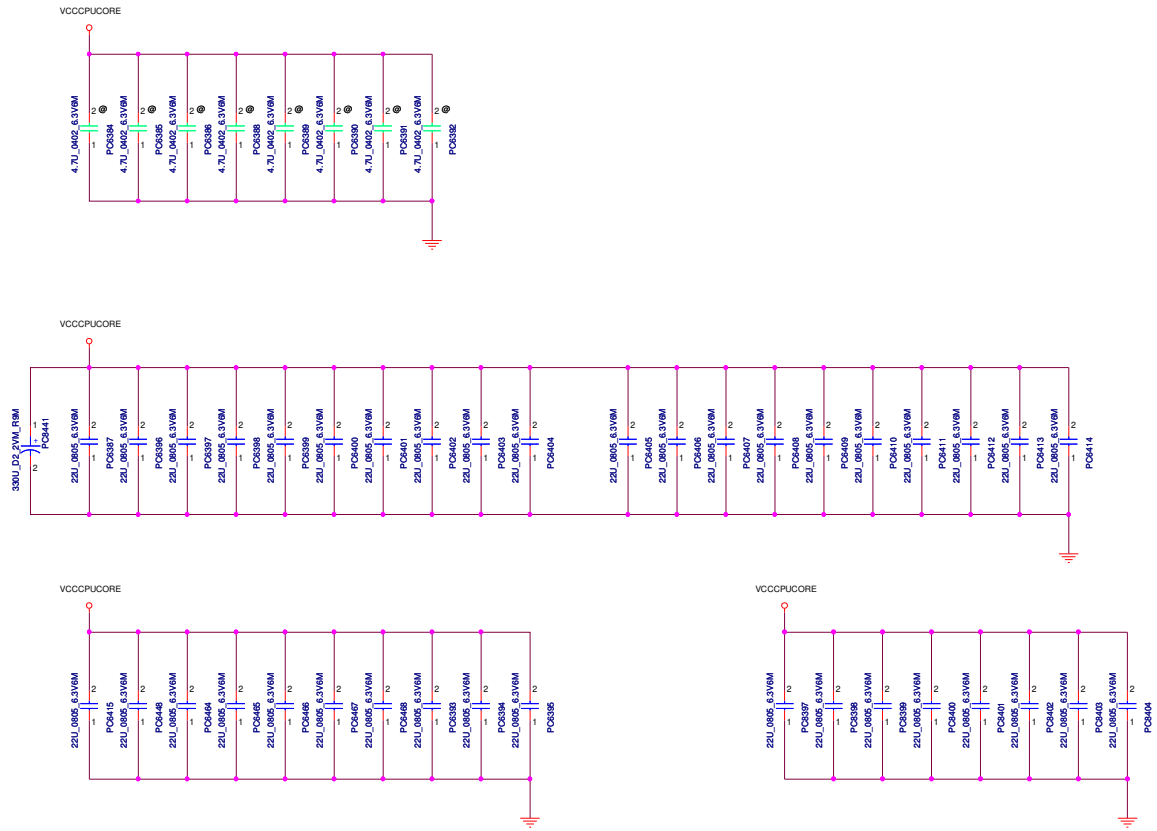
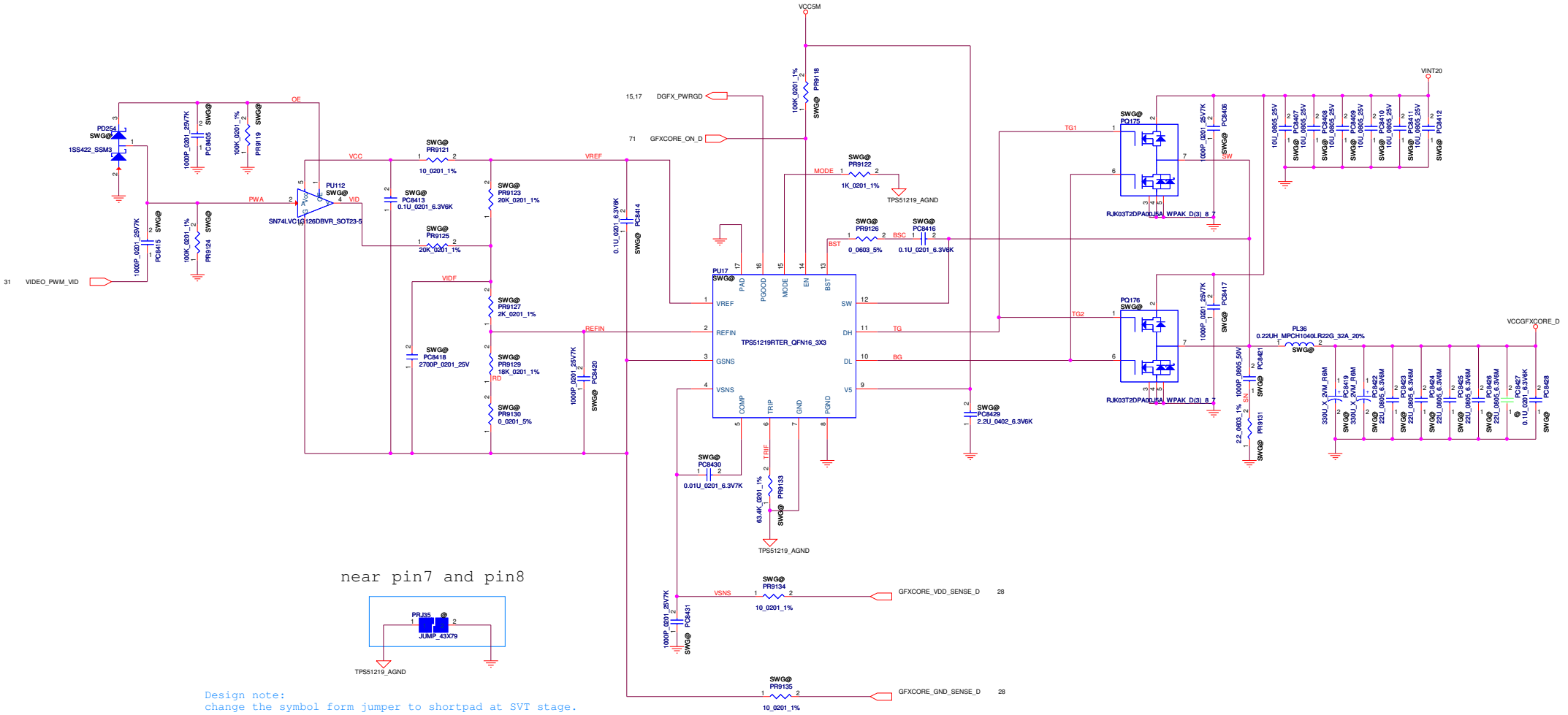
Project Name : OAS-1 SP ASSESS	Title : BLANK	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 81 of 99	



38pcs 22uF for VCCCPUCORE

Project Name : OAS-1 SP ASSESS	Title : VCCCPUCORE DECOUPLING	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 82 of 99	



Project Name : OAS-1 SP ASSESS		Title : DC/DC VCCGFXCORE_D (TPS51219)	
Size : C	Document Number :		Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 83 of 99	

BLANK

Project Name : OAS-1 SP ASSESS	Title : BLANK	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 84 of 99	

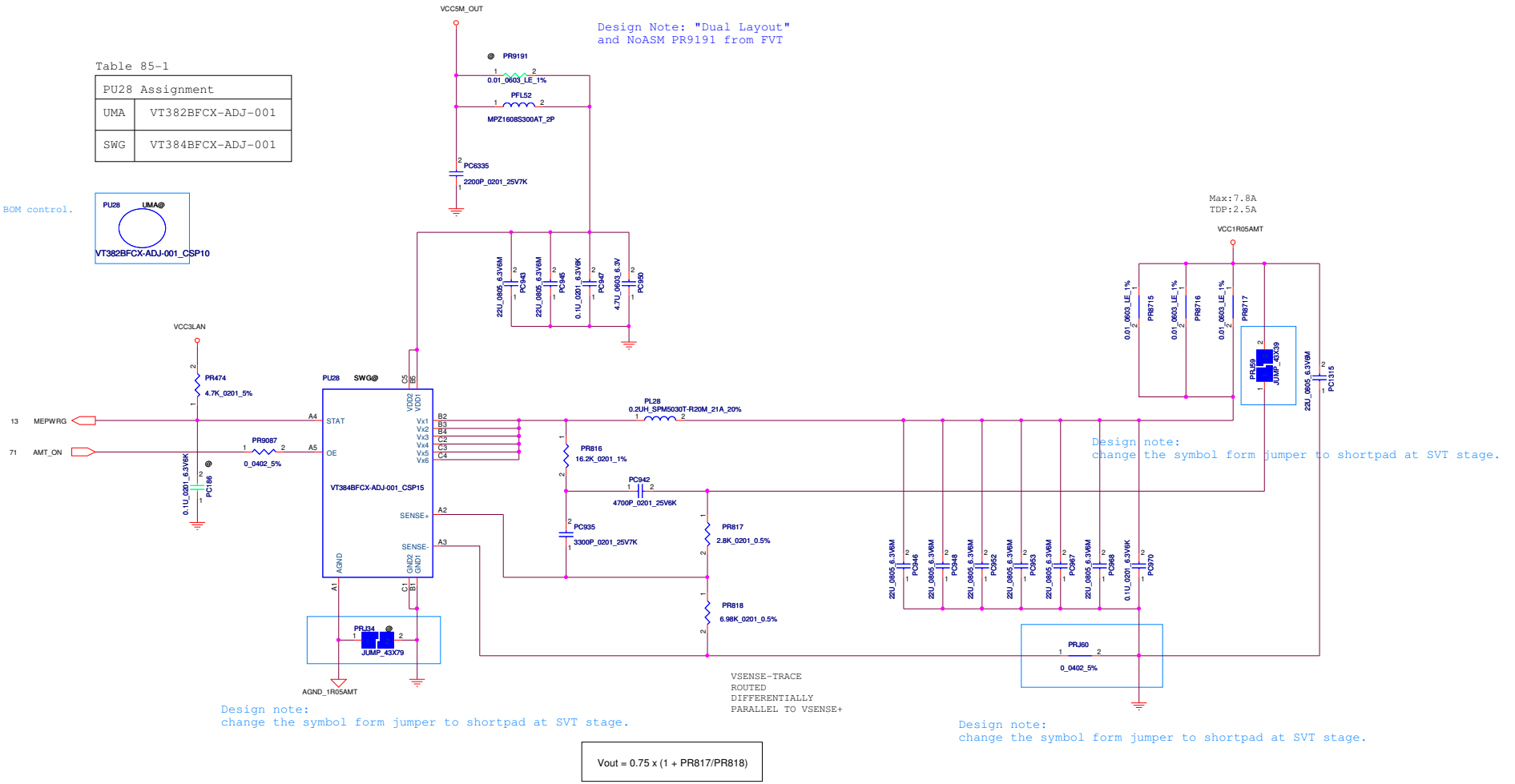
Table 85-1

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



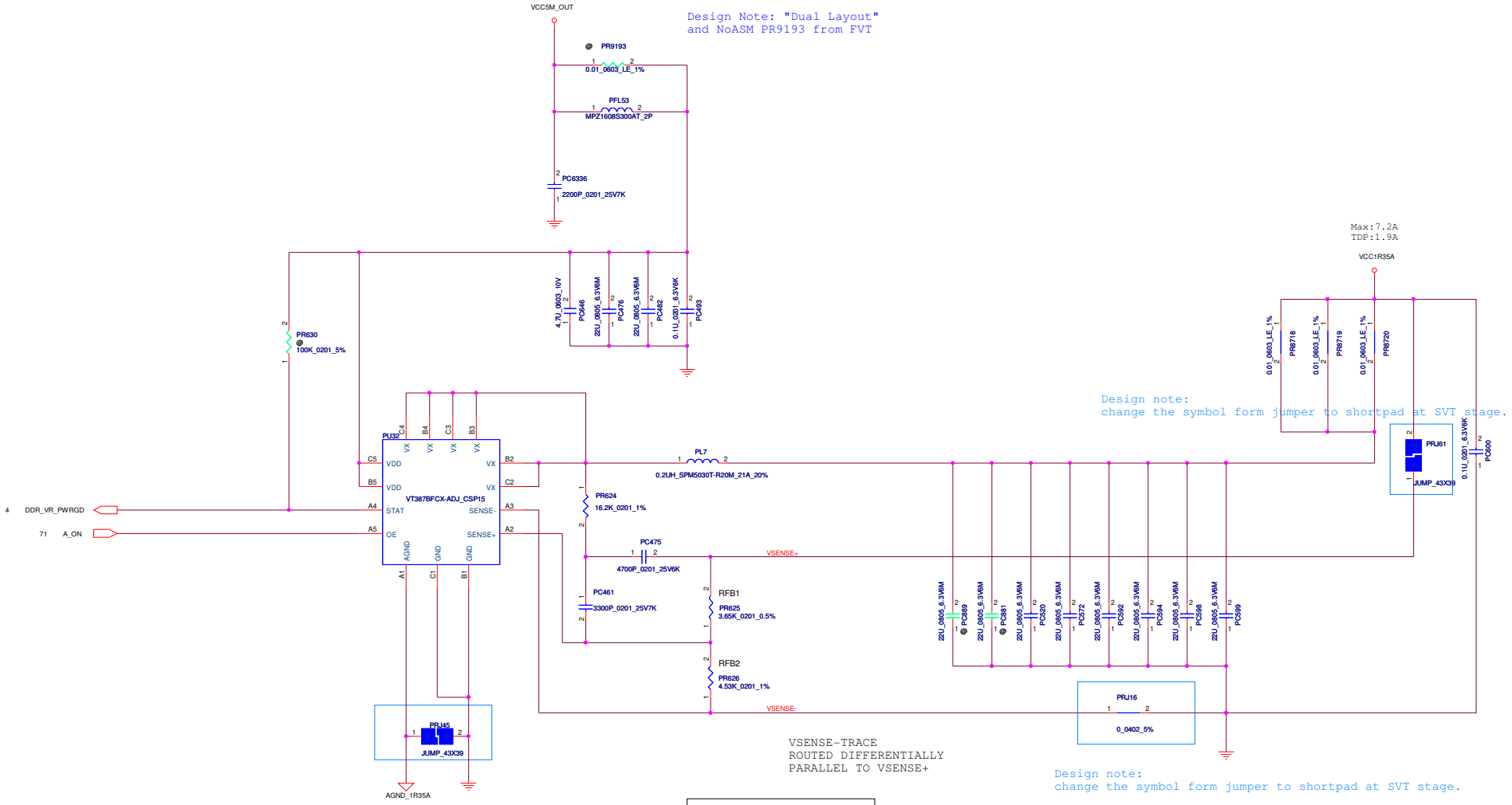
Design note:
change the symbol form jumper to shortpad at SVT stage.

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

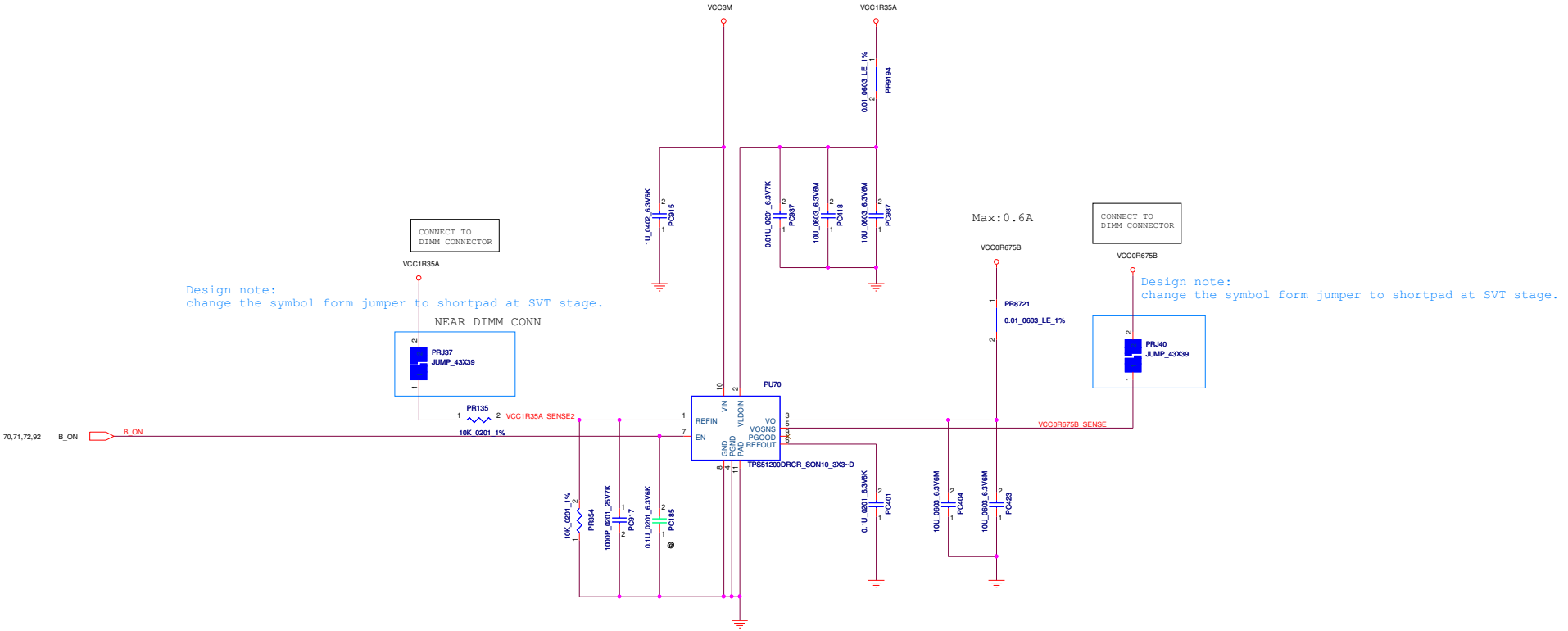
Design note:
change the symbol form jumper to shortpad at SVT stage.

Vout = 0.75 x (1 + PR817/PR818)

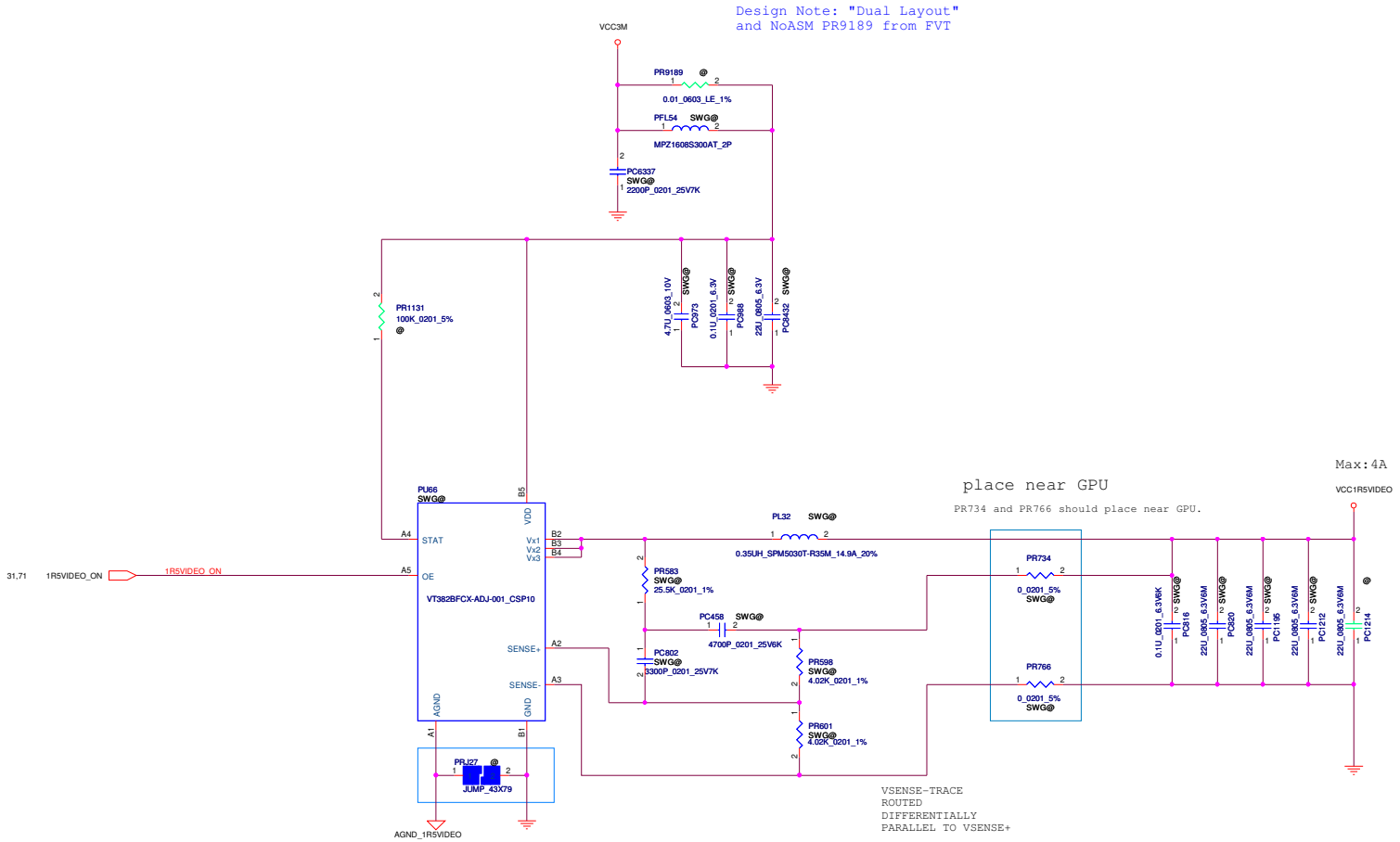
Project Name : OAS-1 SP ASSESS		Title : DC/DC VCC1R05AMT(VT384BFCX-ADJ-001)	
Size : C	Document Number :		Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 85 of 99	



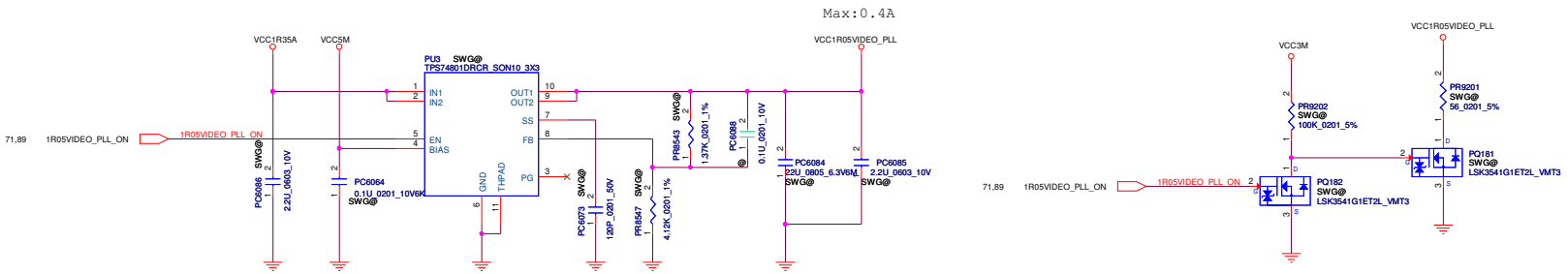
Project Name : OAS-1 SP ASSESS	Title : DC/DC VCC1R35A(VT387BFCX)		
Size : C	Document Number :	Rev : 1.01	
Date: Monday, August 12, 2013	Sheet : 86 of 99		



Project Name : OAS-1 SP ASSESS	Title : DC/DC VCC0R675B(TPS51200)	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 87 of 99	



Project Name : OAS-1 SP ASSESS		Title : DC/DC VCC1R5VIDEO(VT382BFCX)	
Size : C	Document Number :		Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 88 of 99	



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

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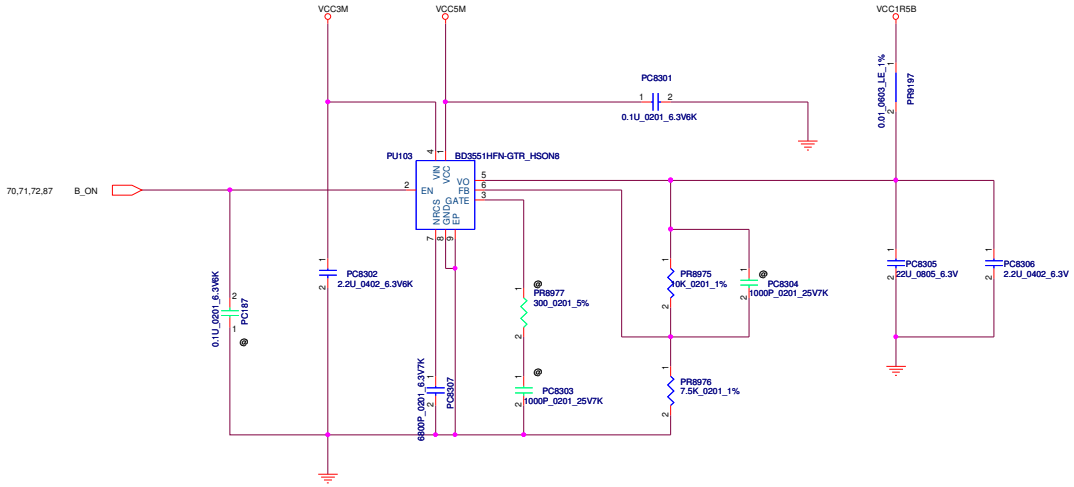
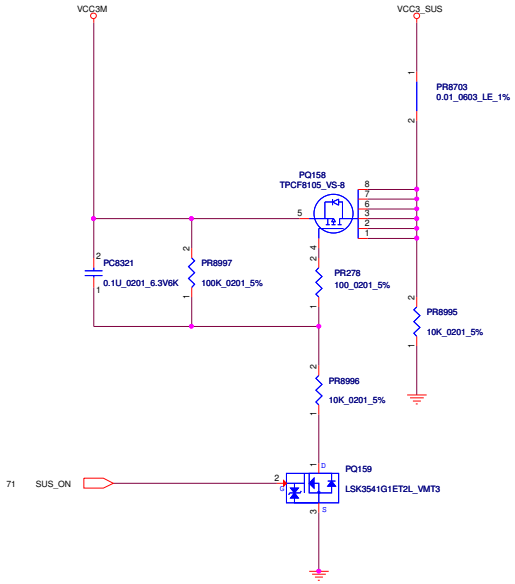
Max:0.2A
TDP:0.1A

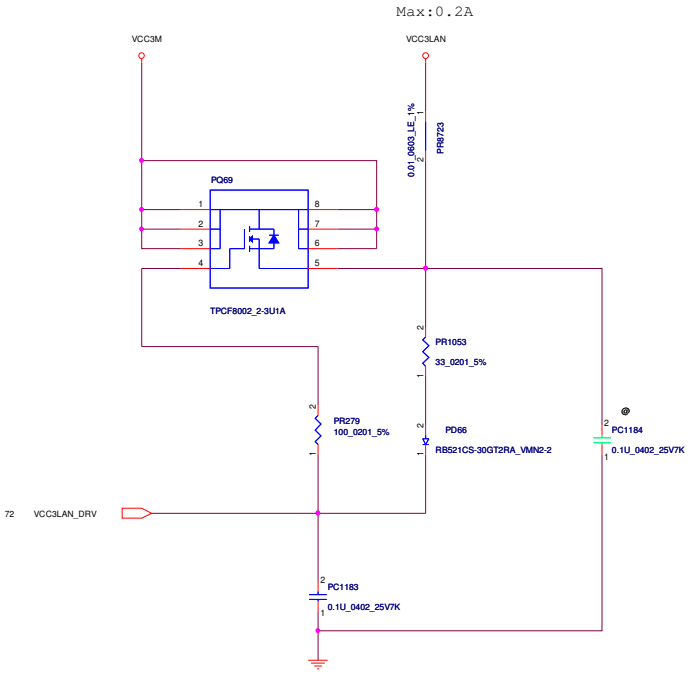


Project Name : OAS-1 SP ASSESS	Title : DC/DC VCC1R5B(BD3551HFN)	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 92 of 99	

Max:0.3A

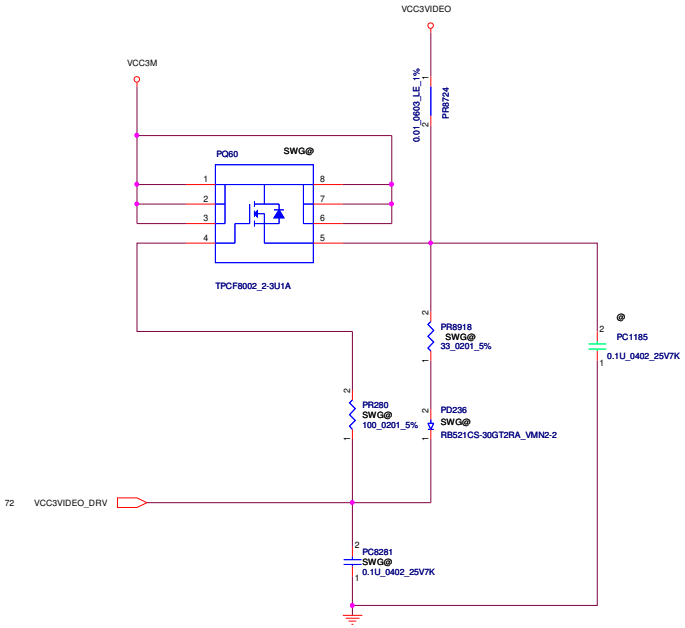


Project Name : OAS-1 SP ASSESS	Title : LOAD SW PCH SUS	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 93 of 99	

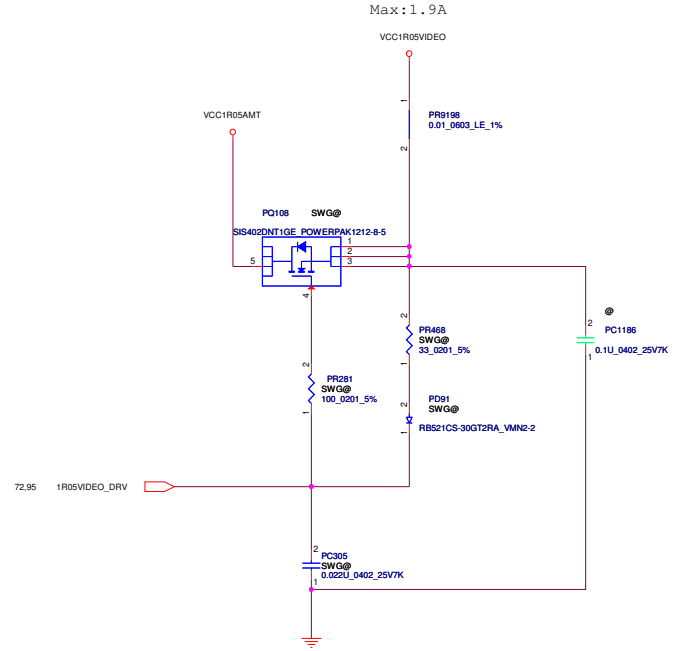


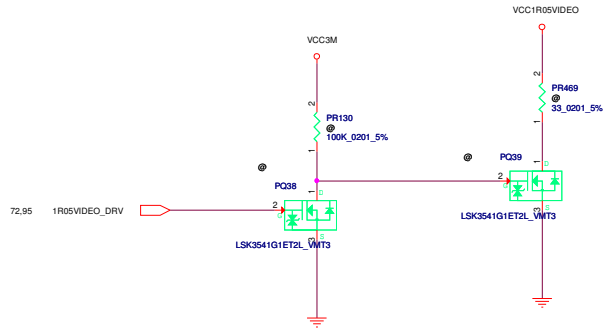
Project Name : OAS-1 SP ASSESS		Title : LOAD SW LAN	
Size : C	Document Number :		Rev : 1.01
Date: Monday, August 12, 2013		Sheet : 94 of 99	

Max:0.3A

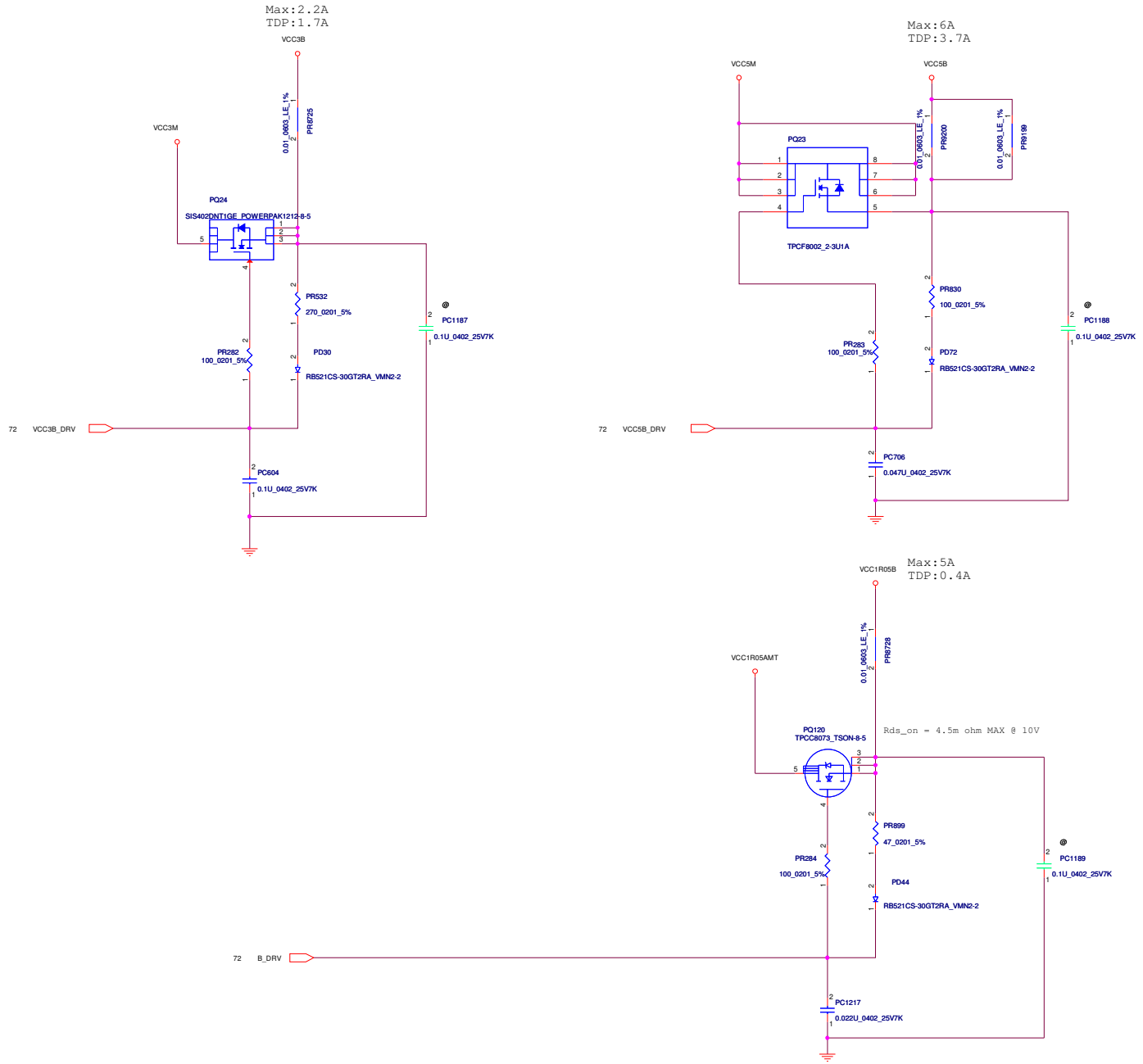


Max:1.9A





Project Name : OAS-1 SP ASSESS	Title : LOAD SW VIDEO	
Size : C	Document Number :	Rev : 1.01
Date: Monday, August 12, 2013	Sheet : 95 of 99	



Project Name : OAS-1 SP ASSESS	Title : LOAD SW B	
Size : C	Document Number :	Rev : 1.01
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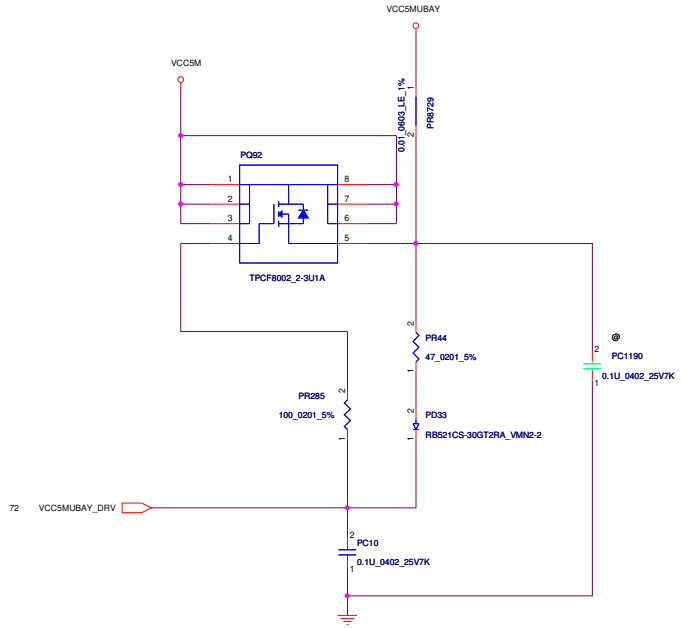
Max:2.5A
TDP:1.7A



Project Name : OAS-1 SP ASSESS	Title : LOAD SW VCC5MUBAY	
Size : C	Document Number :	Rev : 1.01
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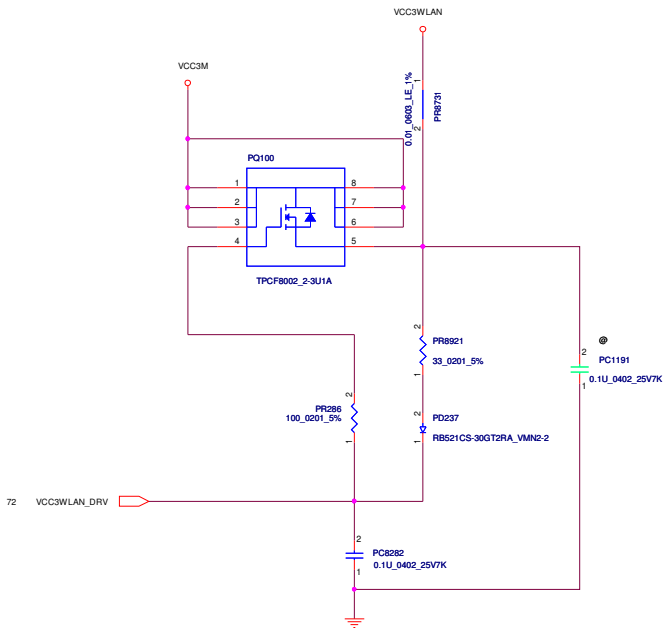
Max:0.7A



Max:2.7A

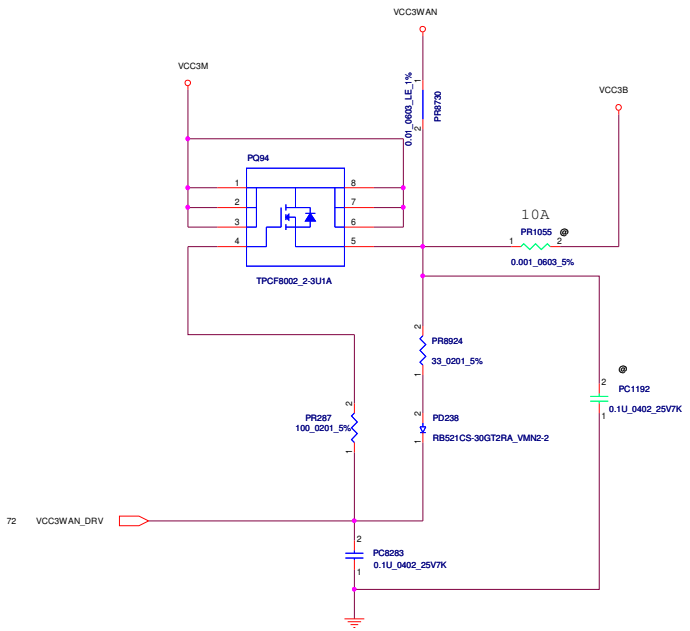


TABLE 98-1

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

LOGIC

lenovo

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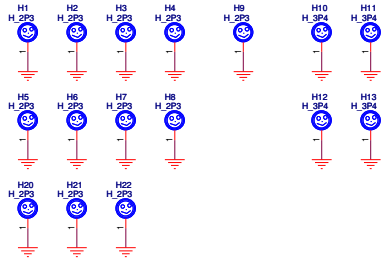
PTH FOR SCREW HOLE



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

lenovo

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