AMD KABINI EA/EG-40/50
PX /UMA Schematics Document
AMD FT3 APU
AMD GPU SUN XT M2/64bit

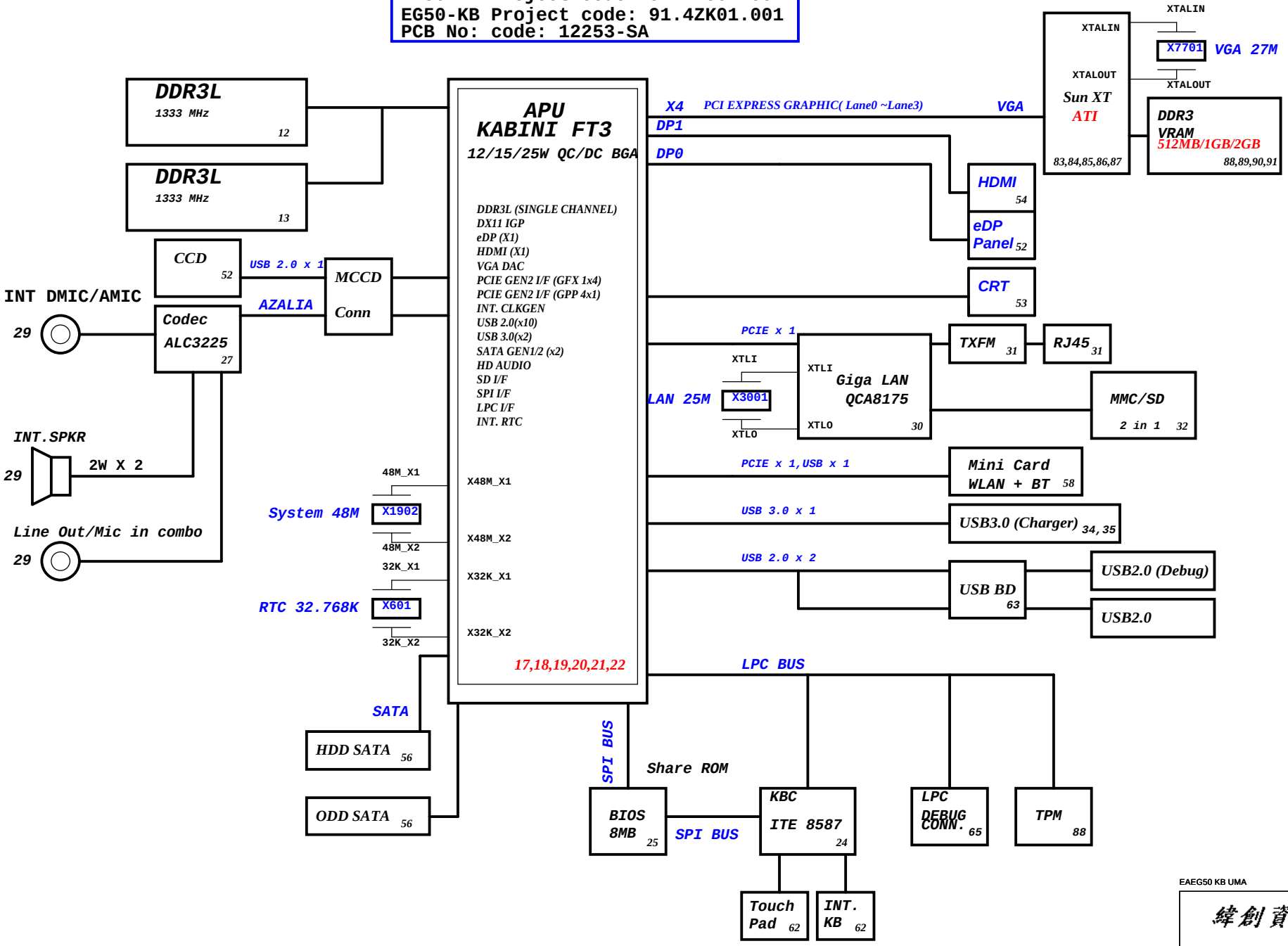
EAEG50 KB UMA

緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Cover Page		
Size: A4	Document Number: KABINI	Rev
Date: Wednesday, October 24, 2012	Sheet 1 of 102	

AMD KABINI

EA40-KB Project code: 91.4ZF01.001
PCB No: code: 12247-SA
EA50-KB Project code: 91.4YU01.001
EG50-KB Project code: 91.4ZK01.001
PCB No: code: 12253-SA



SYSTEM DC/DC TPS51225 45

INPUTS	OUTPUTS
DCBATOUT	5V_CHARGER (6.52A) 3D3V_S5(5.05A)

SYSTEM DC/DC RT8207 49

DCBATOUT	1D5V_S3(10.5A)

RT8207

DCBATOUT	0D75_S0(1.2A)

SYSTEM DC/DC RT8068 50

INPUTS	OUTPUTS
3D3V_S5	1D8V_S5(3.05A

SY8208 48 , 51

DCBATOUT	1D5V_S5(5.4A)
DCBATOUT	0D95V_S5(5.6A)

TPS22966 36

5V_CHARGER	5V_S5(5.83A)
	5V_S0(3.5A)

TPS22966 36

3D3V_S5	3D3V_S0(2.8A
1D5V_S5	1D5V_S0(0.6A

TPS22966 36

1D8V_S5	1D8V_S0(1.5A
0D95V_S5	0D95V_S0(5.6A)

CHARGER BQ24737 44

INPUTS	OUTPUTS
DCBATOUT	CHG_PWR 18V 5.5A

CPU DC/DC ISL6267 46,47

INPUTS	OUTPUTS
DCBATOUT	APU_VDD 0.3~1.4V,21A APU_VDDNB 0.7~1.325V,17A

VGA DC/DC TPS51728 82

DCBATOUT	VGA_CORE(35.5A)

TPS22966 83

3D3V_S0	3D3V_VGA_S0
1D5V_S5	1D5V_VGA_S0

TPS22966 83

1D8V_S5	1D8V_VGA_S0
0D95V_S5	0D95V_VGA_S0

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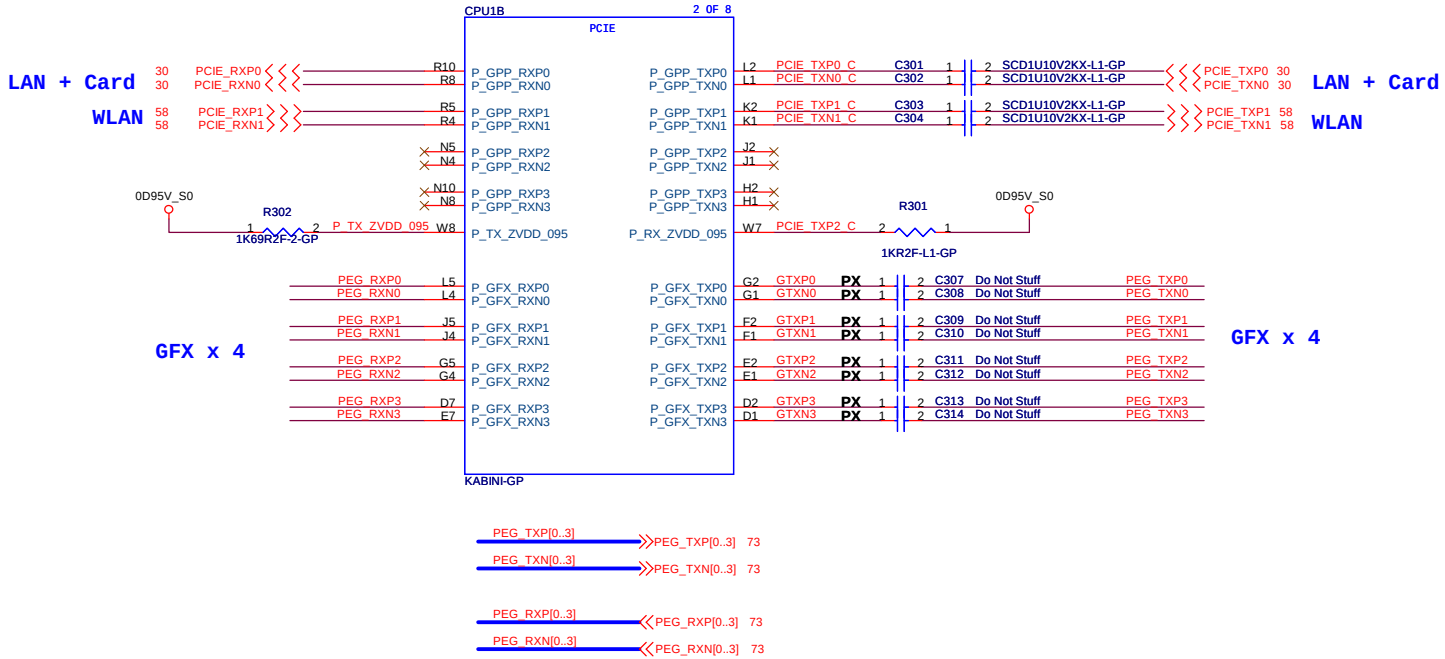
Title: Block Diagram
Size: A3
Document Number: KABINI
Rev:
Date: Friday, February 01, 2013
Sheet 2 of 102



PCIE Table

0	LAN + Card
1	WLAN
2	NC
3	NC

71.KABIN.B0U IC CPU Kabini 4110 1.5GHz 15W4C FT3 ES2 BGA

71.KABIN.C0U IC CPU Kabini 5110 2.0GHz 25W4C FT3 ES2 BGA

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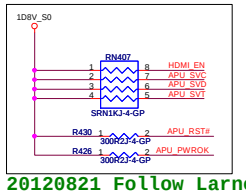
Title: CPU_PCIE

Size: A3 | Document Number: KABINI | Rev:

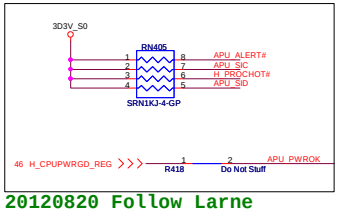
Date: Monday, February 04, 2013 | Sheet 3 of 102



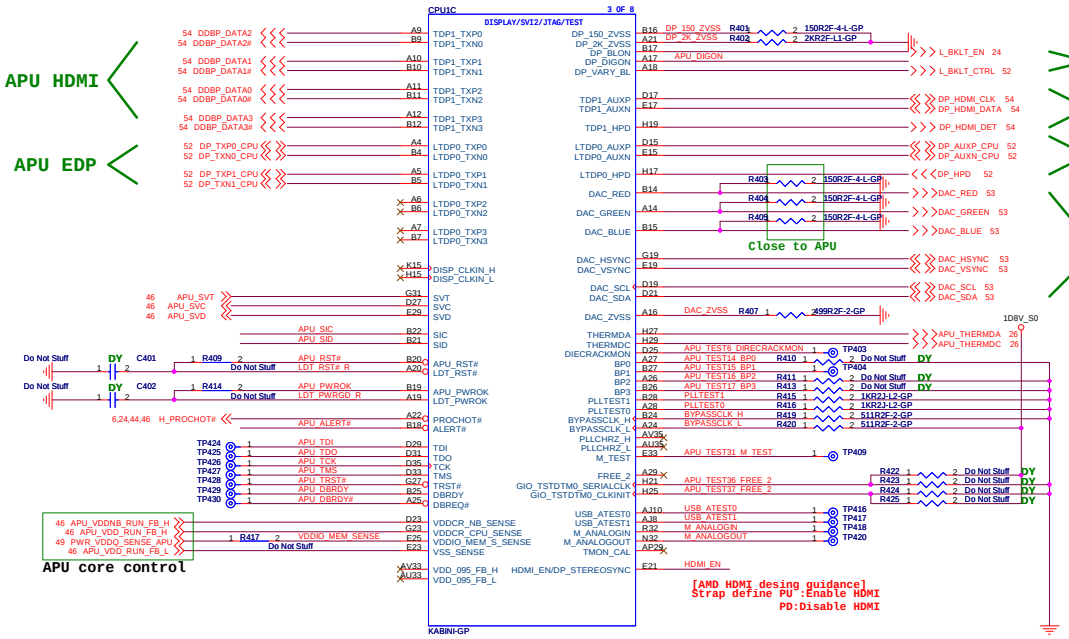
20120821 Follow Larne

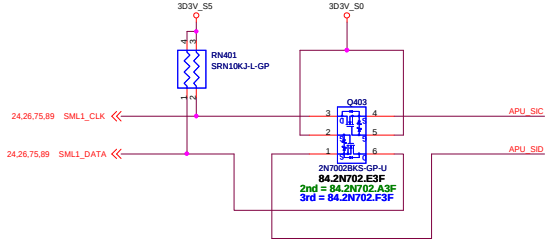
TABLE 6. PRE-PWROK METAL VID CODES

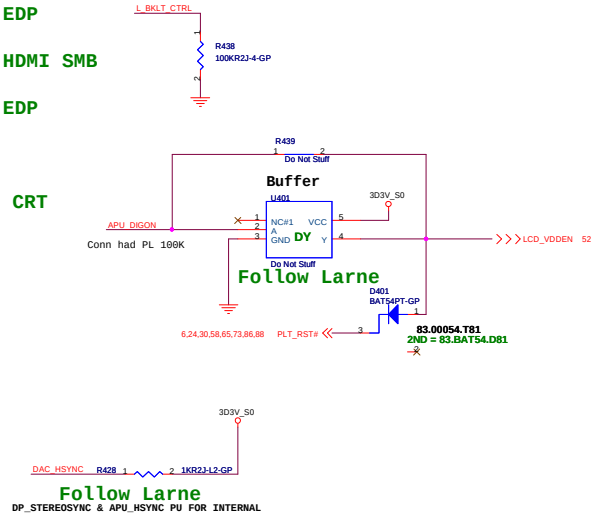
SVC	SVD	OUTPUT VOLTAGE (V)
0	0	1.1
0	1	1.0
1	0	0.9
1	1	0.8



20120820 Follow Larne







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Title: CPU_DISPLAY/CLK/MISC

Size: A2 | Document Number: KABINI | Rev:

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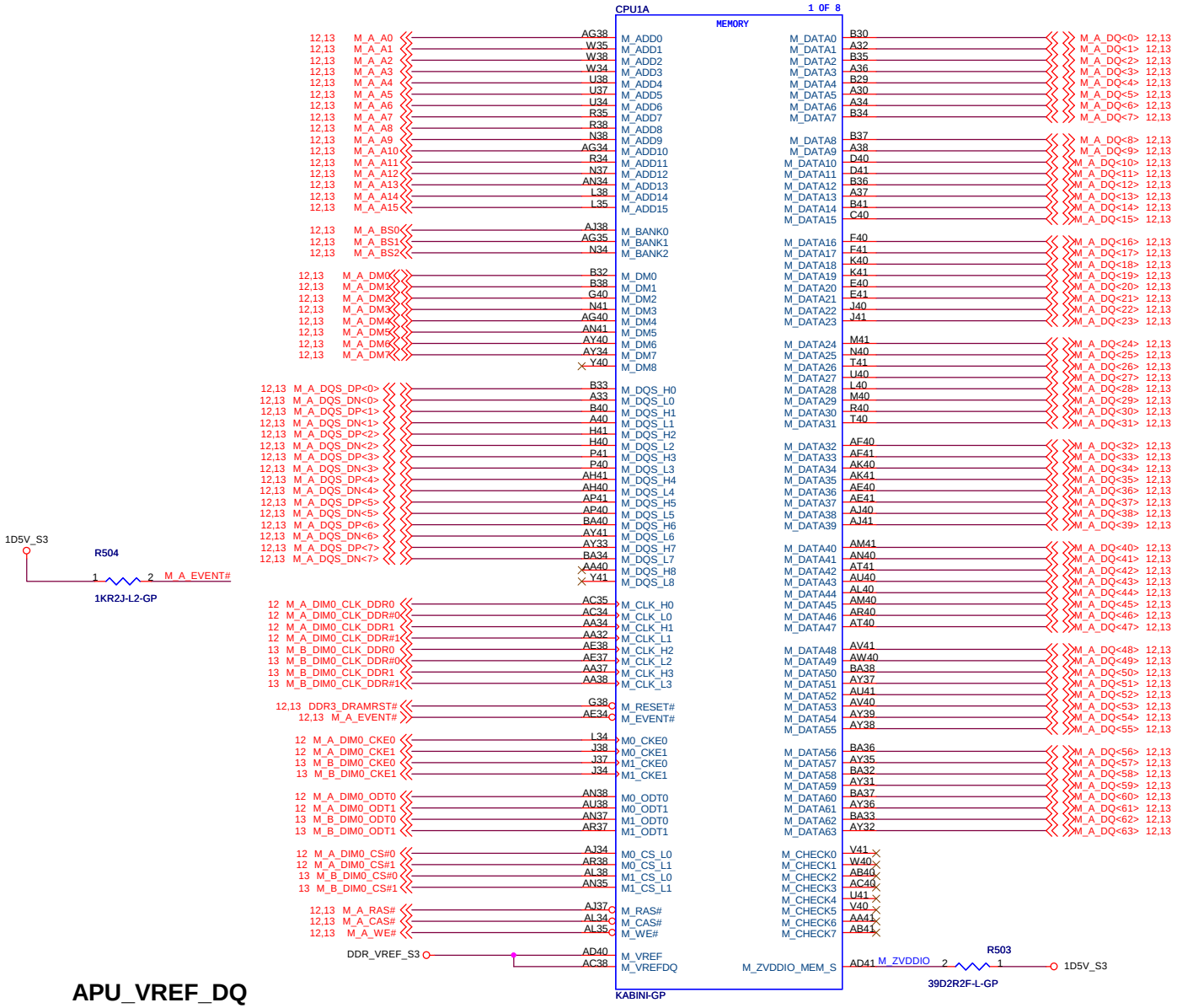
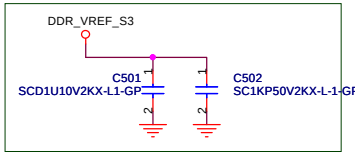


APU_VREF_DQ



LAYOUT: place them close to APU

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Title: CPU_DDR		
Size: A3	Document Number: KABINI	Rev:
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Pass Word Clear

Follow Larne

Follow Larne

SB 12/06 Vendor change to 8P

Close APU
Follow Larne

Follow CORMAL

SODIMM

SUN only 4 bank for 1G

SW switch

HW setting MEM_1V5 H = 1.5V
L = 1.35V

01/15 PD add pull down

For report APU
PH:UMA PL:PX

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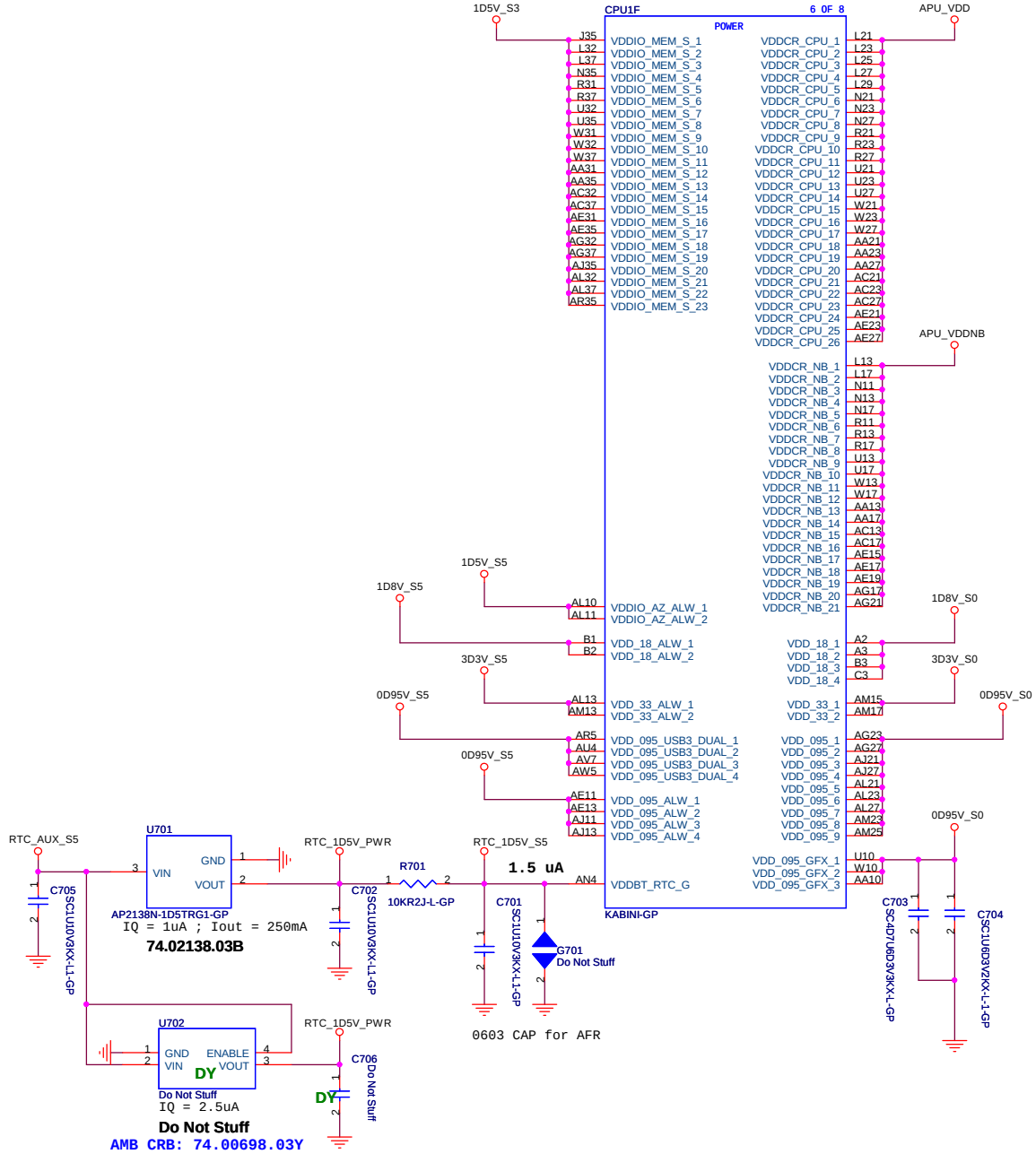
Taipei Hsien 221, Taiwan, R.O.C.

Title: CPU (ACPI/SD/AZ/GPIO/RTC)

Size: Custom | Document Number: KABINI | Rev:

Date: Tuesday, February 19, 2013 | Sheet 6 of 102



EAEG50 KB UMA

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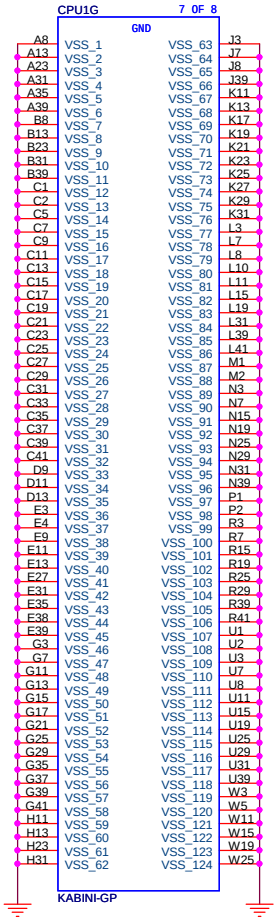
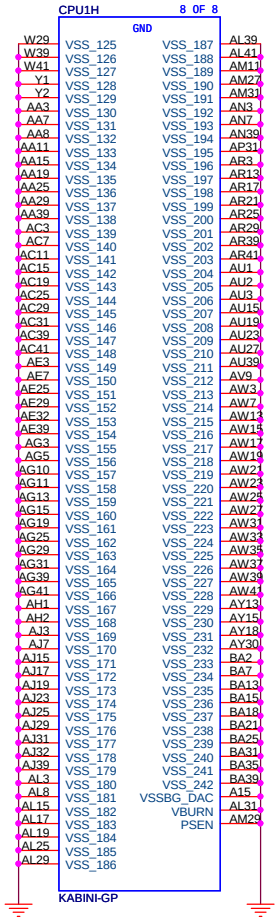
Title: **CPU_VCC CORE**

Size	Document Number	Rev
A3	KABINI	

Date: Tuesday, January 15, 2013 Sheet 7 of 102





EAEG50 KB UMA

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Title: **CPU_VSS**

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200mA

3D3V_S5

C1002 SC1U6D3V2KX-L-1-GP
C1001 SC1U6D3V2KX-L-1-GP

500mA

1D8V_S5

C1003 SC180P50V2JN-1GP
C1004 C1005 C1006 C1007 C1008 C1009 SC1U6D3V2KX-L-1-GP
C1010 SC4D7U6D3V3KX-L-GP
C1011 SC180P50V2JN-1GP

1000mA

0D95V_S5

4.7u>22u 11/01 morris

C1093 C1094 C1095 C1096 C1012 C1013 C1014 SC1U6D3V2KX-L-1-GP
C1015 SC4D7U6D3V3KX-L-GP
C1016 SC22U6D3V3MX-1-GP
C1092 SC180P50V2JN-1GP

200mA

3D3V_S0

C1022 SC180P50V2JN-1GP
C1023 C1024 SC1U6D3V2KX-L-1-GP

1500mA

1D8V_S0

C1025 SC180P50V2JN-1GP
C1026 C1027 C1028 C1029 C1030 C1031 C1032 SC1U6D3V2KX-L-1-GP
C1033 SC4D7U6D3V3KX-L-GP

100mA

1D5V_S5

C1034 SC180P50V2JN-1GP
C1035 C1036 SC1U6D3V2KX-L-1-GP
C1037 C1038 SC4D7U6D3V3KX-L-GP

5600mA

0D95V_S0

4.7u>22u 11/01 morris

C1039 SC180P50V2JN-1GP
C1040 C1041 C1042 C1043 C1044 C1045 SC1U6D3V2KX-L-1-GP
C1046 SC22U6D3V3MX-1-GP
C1047 SC4D7U6D3V3KX-L-GP

3000mA

1D5V_S3

C1049 SC180P50V2JN-1GP
C1050 C1051 C1053 C1054 C1055 C1056 C1057 C1058 C1059 C1060 C1061 C1062 SCD1U10V2KX-L-GP
C1063 SC4D7U6D3V3KX-L-GP

APU_VDDNB

C1064 C1065 C1066 C1067 C1068 C1069 C1070 C1071 C1072 C1073 C1074 C1075 SC1U6D3V2KX-L-1-GP
C1076 SC4D7U6D3V3KX-L-GP

APU_VDD

C1077 C1078 C1079 C1080 C1081 C1082 C1083 C1084 C1085 C1086 C1087 C1088 C1089 C1090 SC1U6D3V2KX-L-1-GP
C1091 SC4D7U6D3V3KX-L-GP

EAEG50 KB UMA

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Title: **CPU_POWER CAP1**

Size: A3 | Document Number: **KABINI** | Rev:

Date: Tuesday, January 15, 2013 | Sheet 10 of 102

01/14 PD change location name for factory issue

DM2

DDR3-204P-123-GP

62.10017.761

2nd = 62.10024.M51

3rd = 62.10024.G11

Intel HR DM tied to GND
AMD still following previous design

110110 for RF
Close to DM1

Place these caps close to VTT1 and VTT2.

SODIMM A DECOUPLING

Layout Note:
Place these Caps near SO-DIMMA.

Follow JE50-SB
H = 4mm

01/15 PD remove 62.10017.X31 for factory issue

EAEG50 KB UMA

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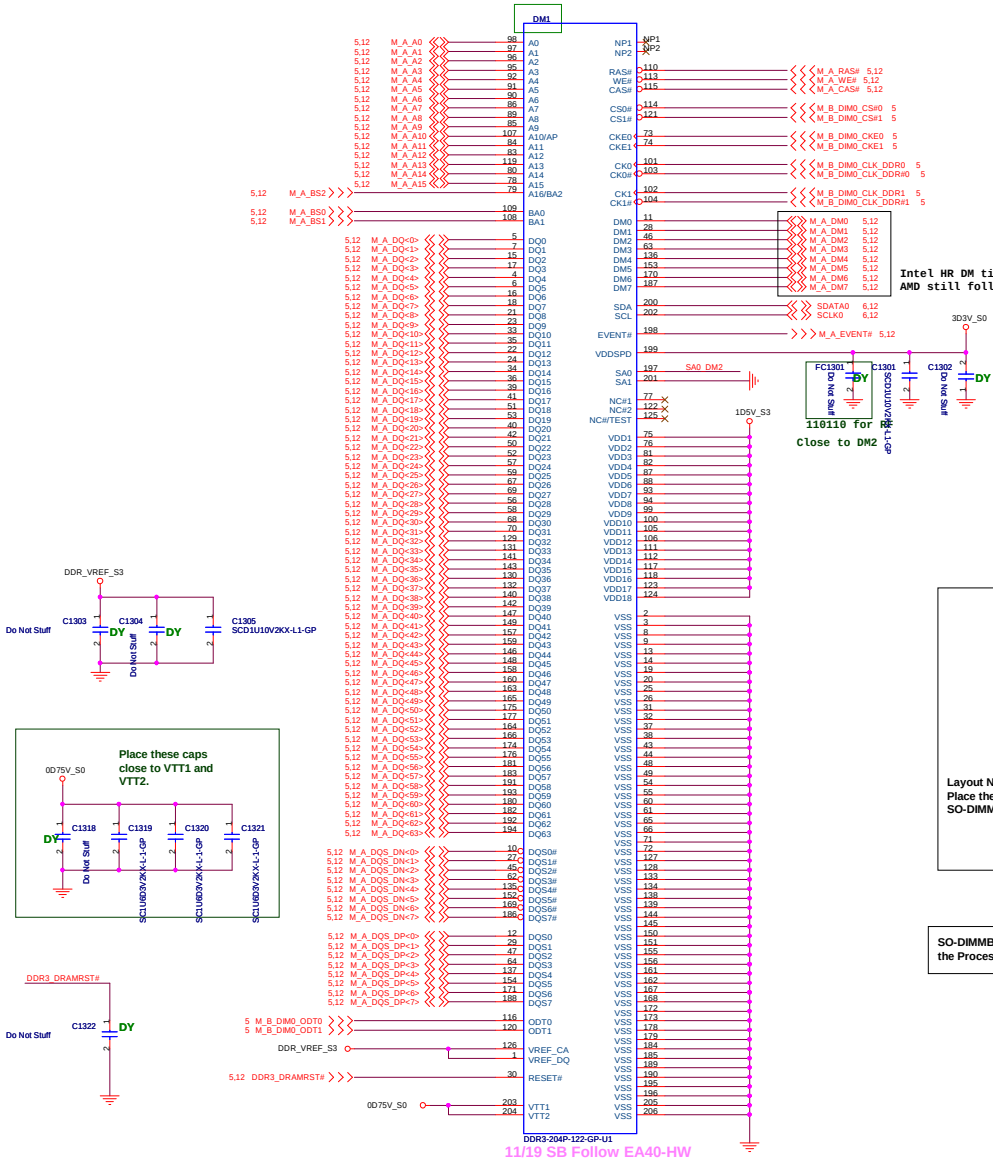
Title: DDR3 SODIMM 1

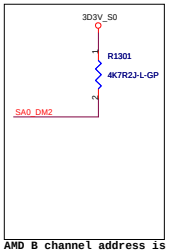
Size: A2 | Document Number: KABINI | Rev:

Date: Monday, February 04, 2013 | Sheet 12 of 102

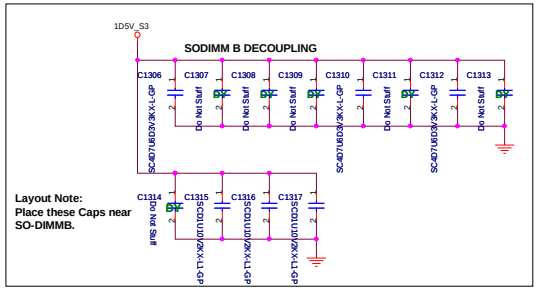
01/14 PD change location name for factory issue



Intel HR DM tied to GND
AMD still following previous design



AMD B channel address is 10
Follow Larne



SO-DIMMB is placed farther from the Processor than SO-DIMMA

11/19 SB Follow EA40-HW

62.10017.Z51

2nd = 62.10024.G21

3rd = 62.10024.M31

01/15 PD remove 62.10017.X41 for factory issue

EAEG50 KB UMA

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Title: DDR3 SODIMM 2

Size	Document Number	Rev
A2	KABINI	

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SATA Table

0	HDD
1	ODD

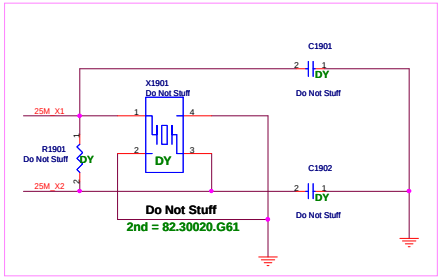
USB Table

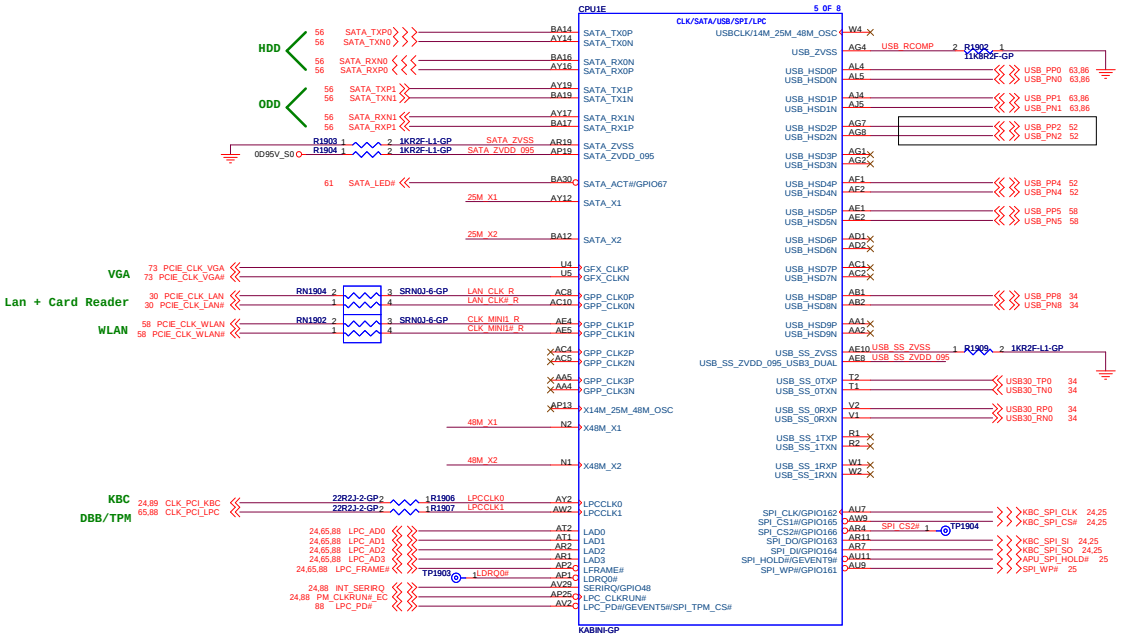
Pair	Device
0	USB2.0 Debug (DB Conn)
1	USB2.0 (DB Conn)
2	Touch Panel
3	
4	CCD (CCD Conn)
5	WLAN + BT (Mini PCI-E)
6	
7	
0/8	USB3.0 & USB 2.0 Charger (MB)
1/9	

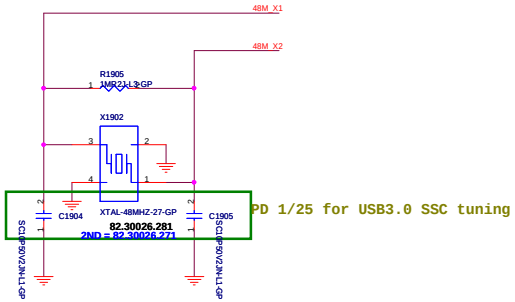
Xtal Table

		CLK
0	System & USB	48M
1	RTC	32.768K
2	SATA	25M
3	LAN	25M
4	VGA	27M

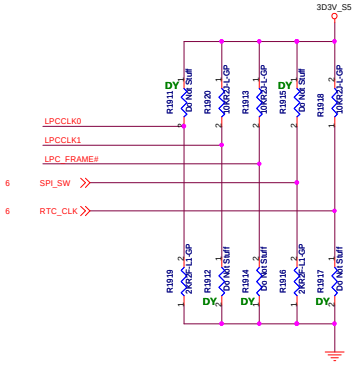
SB 11/27 25M XTAL Reserved for AMD







SYSTEM STRAPPINGS



	LPC_CLK0	LPC_CLK1	LFRAME_L	EXPCARD_PCIE_PWREN#	RTC_CLK
PULL HIGH	BOOT FAIL TIMER ENABLED	CLKGEN ENABLED (DEFAULT)	SPI ROM (DEFAULT)	1.8V SPI ROM (DEFAULT)	NORMAL POWR UP/RESET TIMING (DEFAULT)
PULL LOW	BOOT FAIL TIMER DISABLED (DEFAULT)	CLKGEN DISABLED	LPC ROM	3.3V SPI ROM	FAST POWER UP/RESET TIMING FOR SIMULATION

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Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: CPU_SATA/USB/LPC/SPI/CLK

Size: A2 | Document Number: KABINI | Rev:

Date: Monday, February 04, 2013 | Sheet 19 of 102

SSID = KBC

Close pin 127

KBC Ver Strapping:
A0G/D0G/E0G/F0G : 100K
C0G : 10K

20120821 follow VA

PD 1/31 change 14" connect placement

SPI ROM Sharing Try state

SB 11/13 DEL:5V_CHARGER_EN

SB 11/13 DEL:USB_CHARGER_CTL1

PD 01/07 AFR HDD protect

BATTERY/CHARGER/Thermal
APU/GPU

SC 12/12 change Thermal SMBus different with APU

10/02 follow EA40-CR-C

71.08587.A0G
LAB: 71.08587.C0G
ENG: 71.08587.D0G
PD: 71.08587.F0G

<---S5_PWRGD

Debug board

No stuff follow HW reserved to KBC

GPIO0 High Active

2ND = 84.2N702.W31

EA40 R2431
UMA:10K : 64.10025.L0L
PX:20K : 64.20025.L0L

EA50 R2431
UMA:33K : 64.33025.L0L
PX:47K : 64.47025.6DL

EA50_UMA_SKU

MODEL ID	PULL-LOW RESISTOR	PULL-HIGH RESISTOR	VOLTAGE
EA40-KB UMA	100.0K	10.0K	3.0V
EA40-KB PX	100.0K	20.0K	2.75V
EA/EG50-KB UMA	100.0K	33.0K	2.48V
EA/EG50-KB PX	100.0K	47.0K	2.24V
Reserved	100.0K	64.9K	2.0V
Reserved	100.0K	76.8	1.87V
Reserved	100.0K	100.0K	1.65V
Reserved	100.0K	143.0K	1.358V
Reserved	100.0K	174.0K	1.204V
Reserved	100.0K	215.0K	1.048V

PCB_VER

PCB VER AD	PULL-LOW RESISTOR	PULL-HIGH RESISTOR	VOLTAGE
SA	100.0K	10.0K	3.0V
SB	100.0K	20.0K	2.75V
SC	100.0K	33.0K	2.48V
-1	100.0K	47.0K	2.24V
Reserved	100.0K	64.9K	2.0V
Reserved	100.0K	76.8	1.87V
Reserved	100.0K	100.0K	1.65V
Reserved	100.0K	143.0K	1.358V
Reserved	100.0K	174.0K	1.204V
Reserved	100.0K	215.0K	1.048V

65W

ADT_TYPE_AD	PULL-LOW RESISTOR	PULL-HIGH RESISTOR	VOLTAGE
65W	N/A	100.0K	3.3V
90W	100.0K	N/A	0V
30W	10.0K	100.0K	0.3V
40W	20.0K	100.0K	0.55V
120W	33.0K	100.0K	0.82V

EA/EG50 KB UMA

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: KBC ITE8587

Size: A1 | Document Number: KABINI | Rev:

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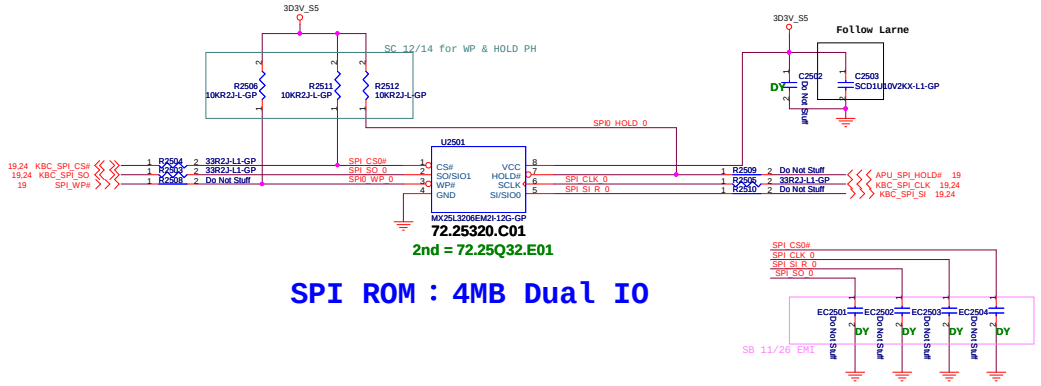
SSID = Flash.ROM

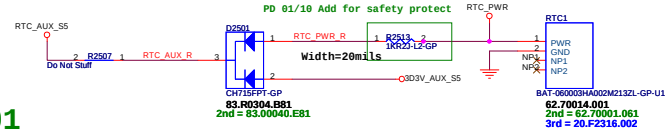
SPI FLASH ROM (4M byte) for KBC

PD 1/28 SPI ROM：4MB Dual IO
1st. MXIC : 72.25320.C01
2nd. WINBOND : 72.25Q32.E01
(手置件)請PCC移至DIP件



SPI ROM：4MB Dual IO

SSID = RBAT



CR2032額外備料:
1.KTS: 23.20068.001
2.DBV: 23.22065.001

EAEG50 KB UMA

緯創資通 Wistron Corporation
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Title: Flash/RTC
Size: | Project Name: KABINI | Rev: SA
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SSID = Thermal

Thermal sensor NCT 7718W

Layout notice :
Both DXN and DXP routing 10 mil
trace width and 10 mil spacing.

3D3V_S0
R2601 Do Not Stuff 20120831
C2601 SCD1U10V2KX-L1-GP

Q2601 PMBS3904-1-GP
84.03904.L06
2nd = 84.03904.E11 PD 01/10 Add 2nd source
R2604 Do Not Stuff DY
C2604 SC470P50V3JN-2GP
C2605 SC2K2P50V2KX-L-GP
P2800_DXP
P2800_DXN

THERM_VDD
THERM_SYS_SHDN#

SC 12/12 for change Thermal SMBus with APU
U2601 NCT7718W-GP 74.07718.0B9
VDD D+ D- T_CRIT# SCL SDA ALERT# GND
NCT_CLK NCT_DATA ALERT# SYS

3D3V_S0
T8-R5 R2605 18K7R2F-GP

2.System Sensor, Put on palm rest
1.H/W T8 Shutdown

3D3V_S0
RN2601 SRN2K2J-5-GP
2N7002BKS-GP-U
Q2602 84.2N702.E3F
2nd = 84.2N702.A3F
3rd = 84.2N702.F3F
NCT_CLK
NCT_DATA
NCT_CLK_R
NCT_DATA_R

RN2603 DY Do Not Stuff
RN2604 SRN0J-6-GP
APU PU 3D3V_S5
SML1_CLK 4,24,75,89
SML1_DATA 4,24,75,89
BAT_SCL 24,43,44
BAT_SDA 24,43,44

SC 12/12 change Thermal SMBus different with APU

SC EA50 DY RN2604 , mount RN2603

SC for EA50 & EA40: 74.83771.ABG

5V_S0
D2601 CH551H-30PT-GP
83.R5003.C8F
2ND = 83.R5003.H8H
3rd = 83.5R003.08F
C2603 SC4D7U25V5KX-L2-GP
C2602 SCD1U10V2KX-L1-GP
20120904 to 0805

24,86 FAN1_PWM
86 FAN_TACH1_C
FAN1 ETY-CON4-33-GP
20.F1579.004
2nd = 20.F1637.004
For AFTE

24 FAN_TACH1
D2602 CH551H-30PT-GP
83.R5003.C8F
2ND = 83.R5003.H8H
3rd = 83.5R003.08F

3D3V_S0
RN2602 Do Not Stuff DY
APU-R5 R2611 DY Do Not Stuff
U2602
THERM_VDD
THERM_APU_SHDN#
NCT2_CLK
NCT2_DATA
ALERT# APU
4 APU_THERMDA
4 APU_THERMDC
C2607 DY Do Not Stuff
Do Not Stuff

2.APU H/W Shutdown

For APU Remote Die THERMTRIP#

24,36 PURE_HW_SHUTDOWN#
R2608 Do Not Stuff DY
C2606 SCD1U10V2KX-L1-GP

3D3V_S0
APU-R7 R2607 DY Do Not Stuff
Q2604 DY Do Not Stuff
THERM_APU_SHDN#
2ND = 84.2N702.W31

3D3V_S0
T8-R7 R2606 2KR2F-L1-GP
Q2603 2N7002K-2-GP
84.2N702.J31
2ND = 84.2N702.W31
THERM_SYS_SHDN#

APU_VRM_PWRGD 24,46,86

ALERT# /T_CRIT#
Pull-up Resistor

R5 \ R7	2Kohm	7.5Kohm	10.5Kohm	14Kohm	18.7Kohm
2Kohm	77℃	87℃	97℃	107℃	117℃
7.5Kohm	79℃	89℃	99℃	109℃	119℃
10.5Kohm	81℃	91℃	101℃	111℃	121℃
14Kohm	83℃	93℃	103℃	113℃	123℃
18.7Kohm	85℃	95℃	105℃	115℃	125℃

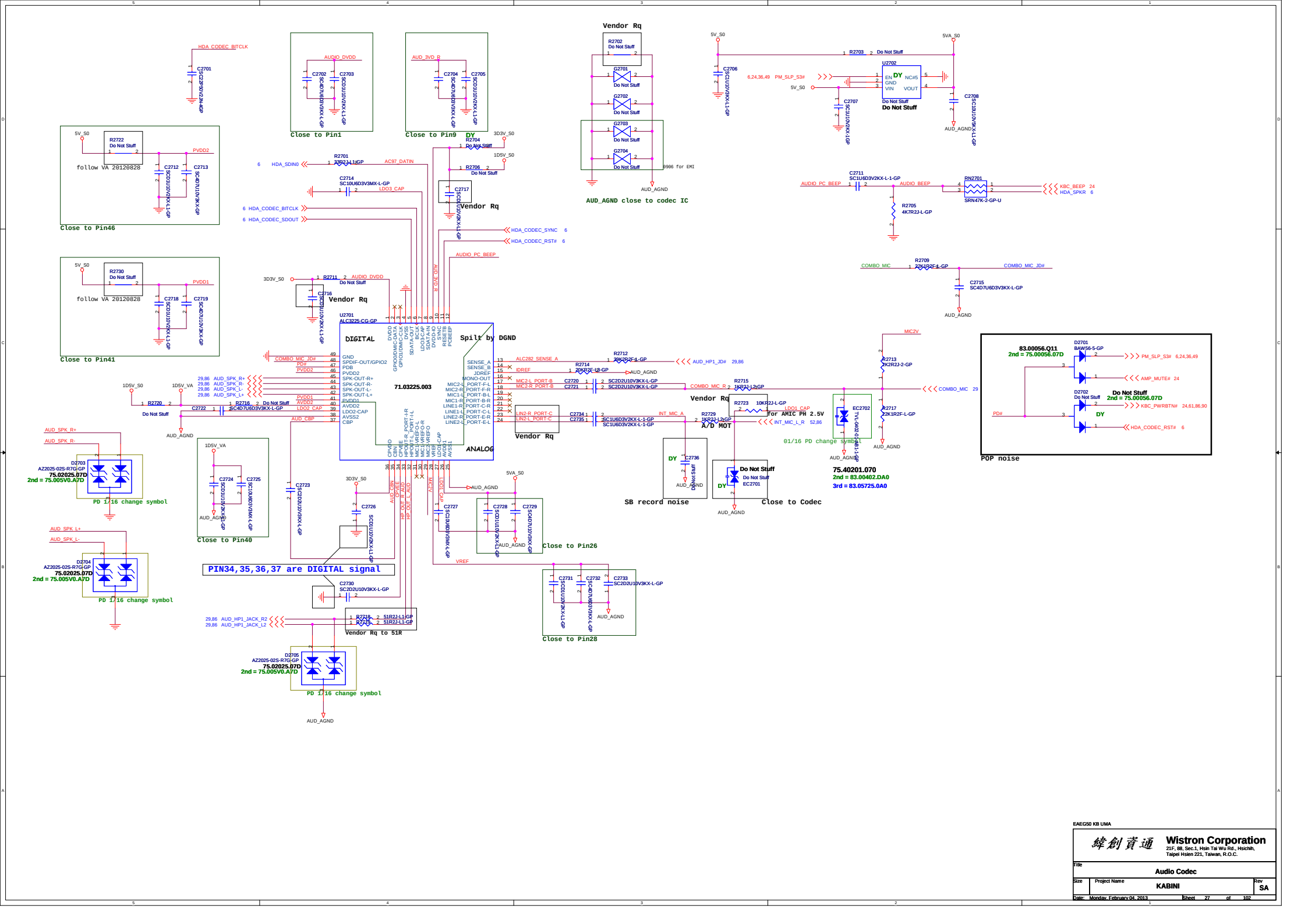
T_CRIT temperature strapping point

T8=85 degree
SYS=85 degree
APU=125 degree

EAEG50 KB UMA

緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: Thermal 7718/Fan Controllor P2793
Size | Project Name: KABINI | Rev: SA
Date: Monday, February 04, 2013 | Sheet 26 of 102



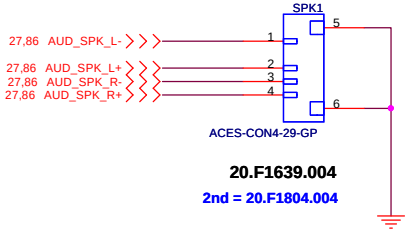
EAEG50 KB UMA

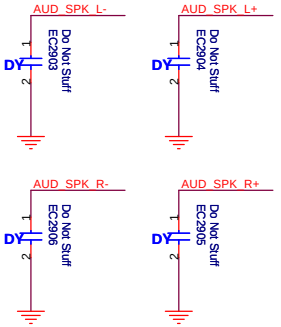
緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	**Audio Codec**	
Size	Project Name: **KABINI**	Rev: **SA**
Date: Monday, February 04, 2013	Sheet 27 of 102	

SSID = AUDIO

Speaker

2W 4ohm X 2 speaker

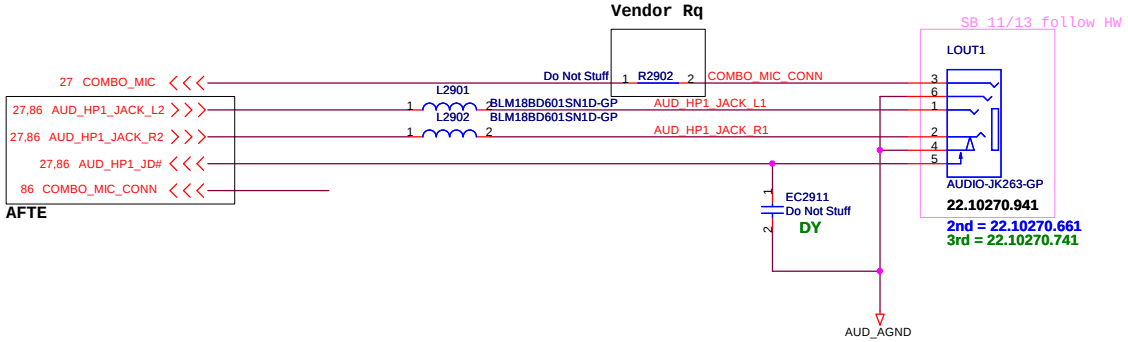




Layout Note:

Trace width=40mil

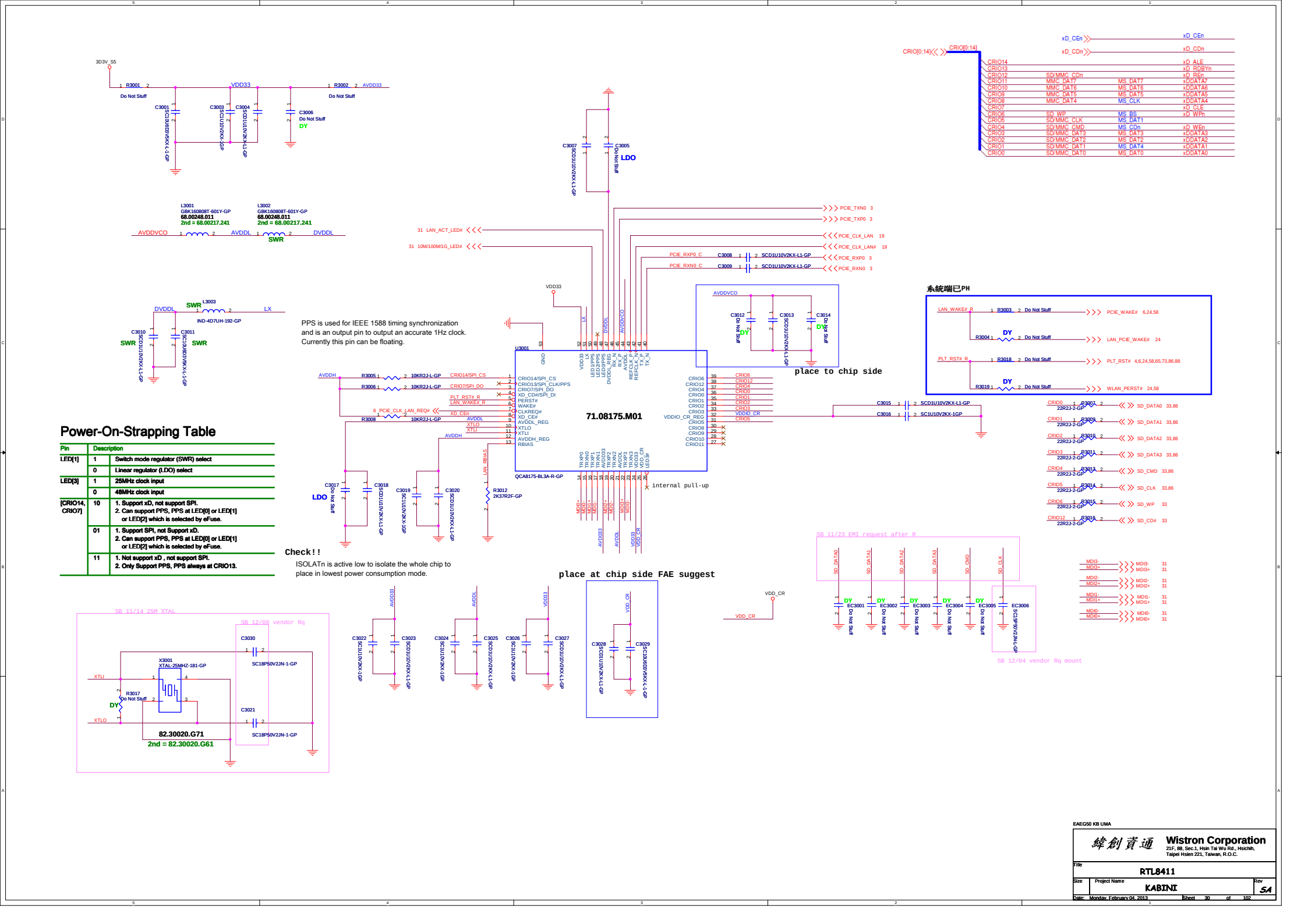
Combo Jack



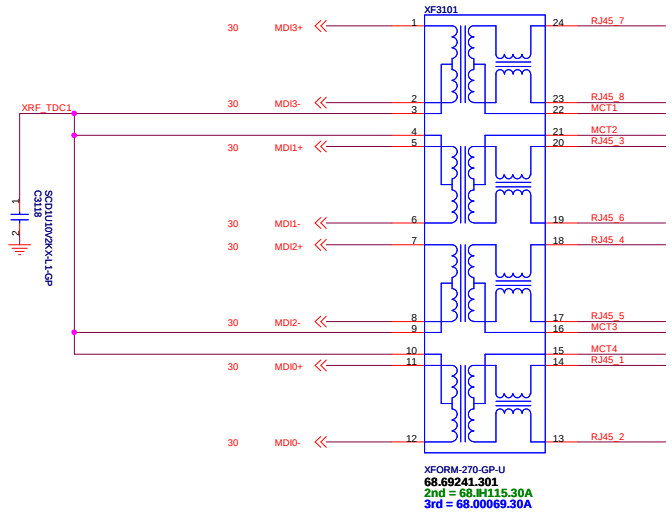
EAEG50 KB UMA

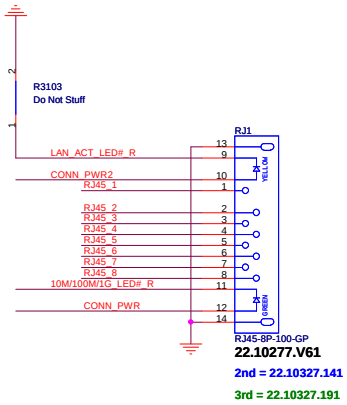
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

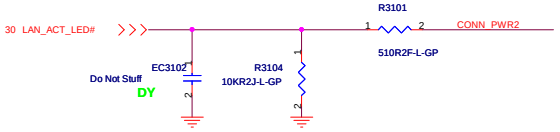
Title	Audio Jack	
Size	Project Name: KABINI	Rev: SA
Date: Monday, February 04, 2013	Sheet 29 of 102	

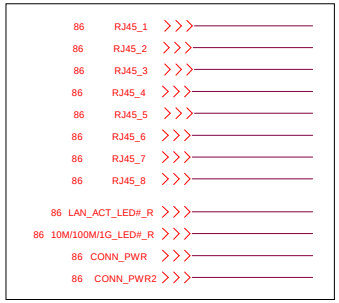

3D3V_S5
R3001 Do Not Stuff
VDD33
R3002 Do Not Stuff
AVDD33
C3001 SC1U16V3KX-1-GP
C3003 SC1U10V2KX-1GP
C3004 SCD1U10V2KX-L1-GP
C3006 Do Not Stuff DY
L3001 GBK160808T-601Y-GP 68.00248.011 2nd = 68.00217.241
L3002 GBK160808T-601Y-GP 68.00248.011 2nd = 68.00217.241
AVDDVCO
AVDDL
DVDDL
SWR
C3007 SCD1U10V2KX-L1-GP
C3005 Do Not Stuff
LDO
31 LAN_ACT_LED#
31 10M/100M/1G_LED#
PCIE_TXN0 3
PCIE_TXP0 3
PCIE_CLK_LAN 19
PCIE_CLK_LAN# 19
PCIE_RXP0_C C3008 SCD1U10V2KX-L1-GP
PCIE_RXN0_C C3009 SCD1U10V2KX-L1-GP
PCIE_RXP0 3
PCIE_RXN0 3
L3003 IND-4D7UH-192-GP
C3010 SCD1U10V2KX-L1-GP
C3011 SCD1U10V3KX-L1-GP
PPS is used for IEEE 1588 timing synchronization and is an output pin to output an accurate 1Hz clock. Currently this pin can be floating.
U3001
71.08175.M01
QCA8175-BL3A-R-GP
AVDDH
R3005 10KR2J-L-GP CRIO14/SPI_CS
R3006 10KR2J-L-GP CRIO7/SPI_DO
R3008 10KR2J-L-GP
6_PCIE_CLK_LAN_REQ#
PLT_RST# R
LAN_WAKE# R
XD_CEn
CRIO14/SPI_CS
CRIO13/SPI_CLK/PPS
CRIO7/SPI_DO
XD_CD#/SPI_DI
PERST#
WAKE#
CLKREQ#
XD_CE#
AVDDL_REG
XTLO
XTLI
AVDDH_REG
RBIAS
LAN_RBIAS
R3012 2K37R2F-GP
C3017 Do Not Stuff
C3018 SCD1U10V2KX-L1-GP
C3019 SC1U10V2KX-1GP
C3020 SCD1U10V2KX-L1-GP
LDO
internal pull-up
place to chip side
C3012 Do Not Stuff DY
C3013 SCD1U10V2KX-L1-GP
C3014 Do Not Stuff DY
C3015 SCD1U10V2KX-L1-GP
C3016 SC1U10V2KX-1GP
CRIO6 CRIO12 CRIO4 CRIO0 CRIO1 CRIO2 CRIO3 VDDIO_CR_REG CRIO5 CRIO8 CRIO9 CRIO10 CRIO11
VDDIO_CR
MDI0+ MDI0- MDI1+ MDI1- MDI2+ MDI2- MDI3+ MDI3-
AVDD33 AVDDL VDD33 VDD_CR
Power-On-Strapping Table
Pin
Description
LED[1] 1 Switch mode regulator (SWR) select
0 Linear regulator (LDO) select
LED[3] 1 25MHz clock input
0 48MHz clock input
[CRIO14, CRIO7] 10 1. Support xD, not support SPI. 2. Can support PPS, PPS at LED[0] or LED[1] or LED[2] which is selected by eFuse.
01 1. Support SPI, not Support xD. 2. Can support PPS, PPS at LED[0] or LED[1] or LED[2] which is selected by eFuse.
11 1. Not support xD , not support SPI. 2. Only Support PPS, PPS always at CRIO13.
Check!!
ISOLATn is active low to isolate the whole chip to place in lowest power consumption mode.
SB 11/14 25M XTAL
SB 12/06 vendor Rq
X3001 XTAL-25MHZ-181-GP
C3030 SC18P50V2JN-1-GP
C3021 SC18P50V2JN-1-GP
R3017 Do Not Stuff DY
82.30020.G71
2nd = 82.30020.G61
C3022 C3023 C3024 C3025 C3026 C3027
place at chip side FAE suggest
C3028 C3029
CRIO[0:14]
xD_CEn
xD_CDn
CRIO14 xD_ALE
CRIO13 xD_RDBYn
CRIO12 SD/MMC_CDn xD_REn
CRIO11 MMC_DAT7 MS_DAT7 xDDATA7
CRIO10 MMC_DAT6 MS_DAT6 xDDATA6
CRIO9 MMC_DAT5 MS_DAT5 xDDATA5
CRIO8 MMC_DAT4 MS_CLK xDDATA4
CRIO7 xD_CLE
CRIO6 SD_WP MS_BS xD_WPn
CRIO5 SD/MMC_CLK MS_DAT1
CRIO4 SD/MMC_CMD MS_CDn xD_WEn
CRIO3 SD/MMC_DAT3 MS_DAT3 xDDATA3
CRIO2 SD/MMC_DAT2 MS_DAT2 xDDATA2
CRIO1 SD/MMC_DAT1 MS_DAT4 xDDATA1
CRIO0 SD/MMC_DAT0 MS_DAT0 xDDATA0
系統端已PH
LAN_WAKE# R R3003 Do Not Stuff PCIE_WAKE# 6,24,58
R3004 DY Do Not Stuff LAN_PCIE_WAKE# 24
PLT_RST# R R3018 Do Not Stuff PLT_RST# 4,6,24,58,65,73,86,88
R3019 DY Do Not Stuff WLAN_PERST# 24,58
CRIO0 R3007 SD_DATA0 33,86
CRIO1 R3009 SD_DATA1 33,86
CRIO2 R3010 SD_DATA2 33,86
CRIO3 R3011 SD_DATA3 33,86
CRIO4 R3013 SD_CMD 33,86
CRIO5 R3014 SD_CLK 33,86
CRIO6 R3015 SD_WP 33
CRIO12 R3016 SD_CD# 33
22R2J-2-GP
SB 11/23 EMI request after R
SD_DAT40 SD_DAT41 SD_DAT42 SD_DAT43 SD_CMD SD_CLK
EC3001 EC3002 EC3003 EC3004 EC3005 EC3006
Do Not Stuff
SC1P5KV2JN-L-GP
SB 12/04 vendor Rq mount
MDI3- MDI3+ 31
MDI2- MDI2+ 31
MDI1- MDI1+ 31
MDI0- MDI0+ 31
EAEG50 KB UMA
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title RTL8411
Size Project Name KABINI Rev SA
Date: Monday, February 04, 2013 Sheet 30 of 102

SSID = LAN



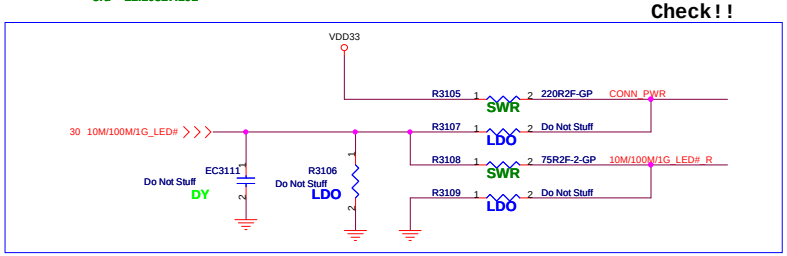


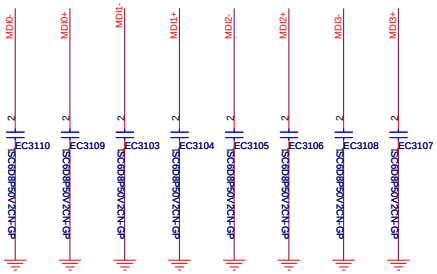


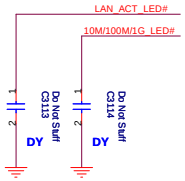


For AFTE

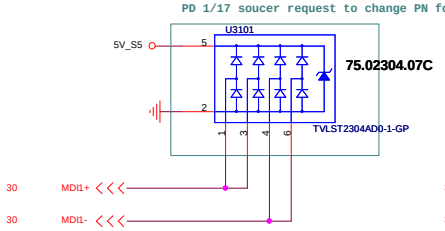
Check!!

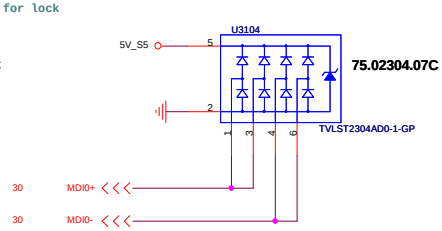


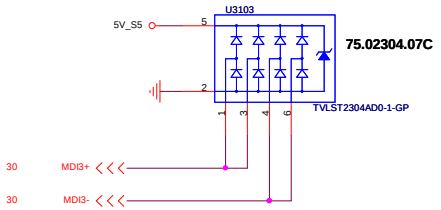


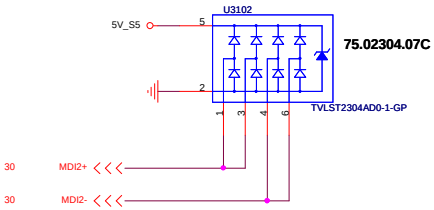


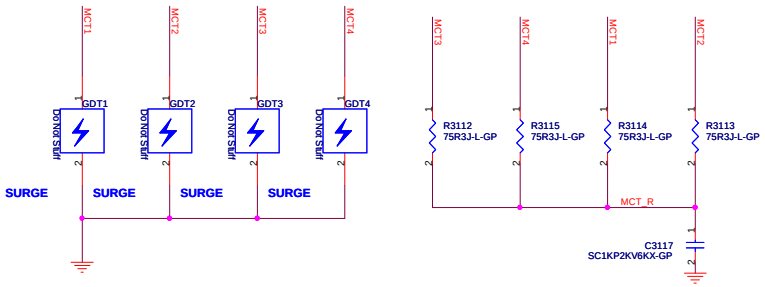
PD 1/17 soucer request to change PN for lock











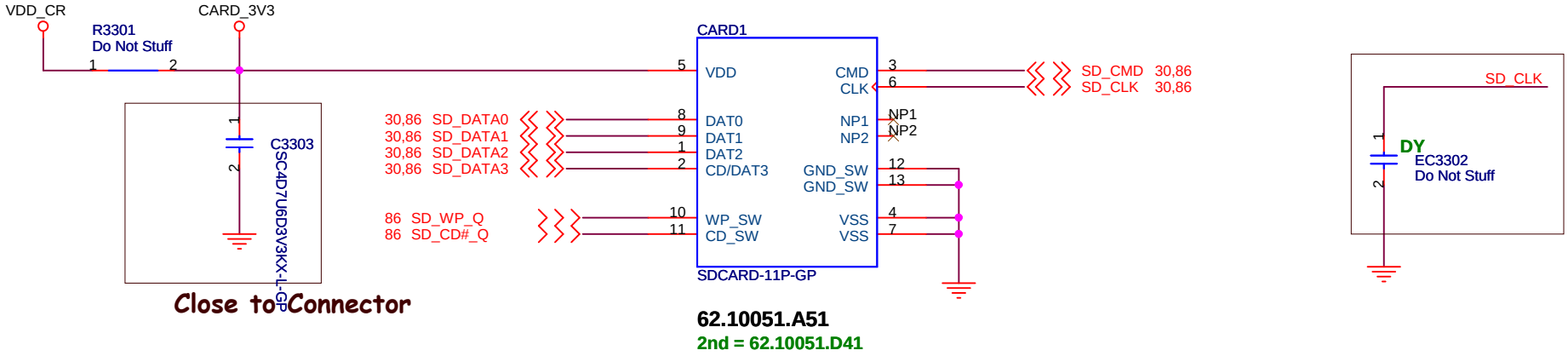
EAEG50 KB UMA

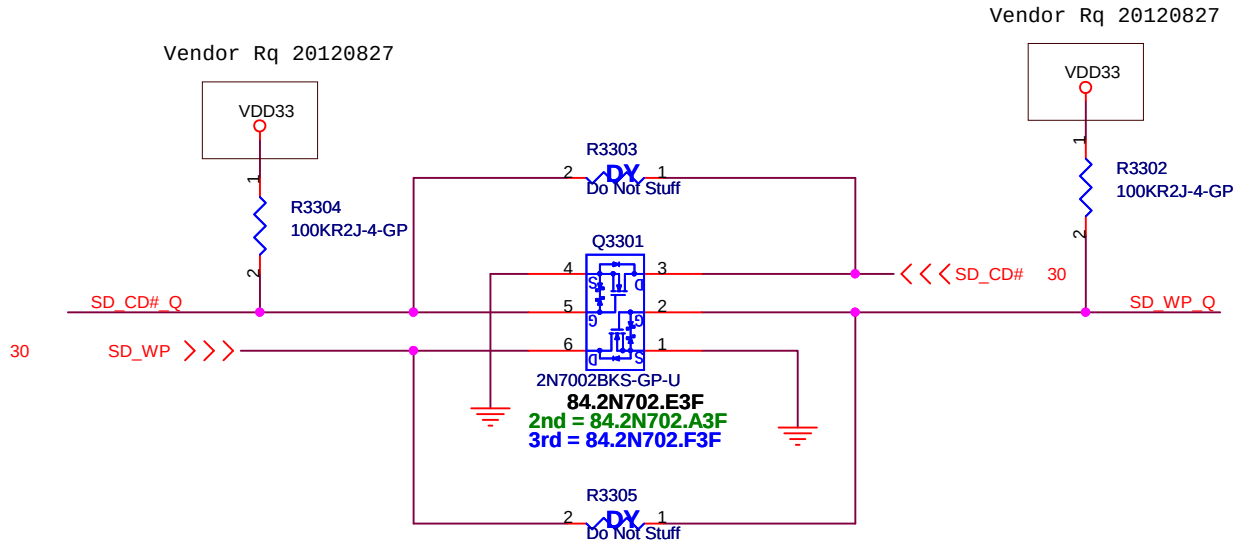
緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	LAN CONNECTOR	
Size	Project Name: KABINI	Rev: SA
Date: Monday, February 04, 2013	Sheet 31 of 102	

SSID = SDIO

SD//MS Card Reader



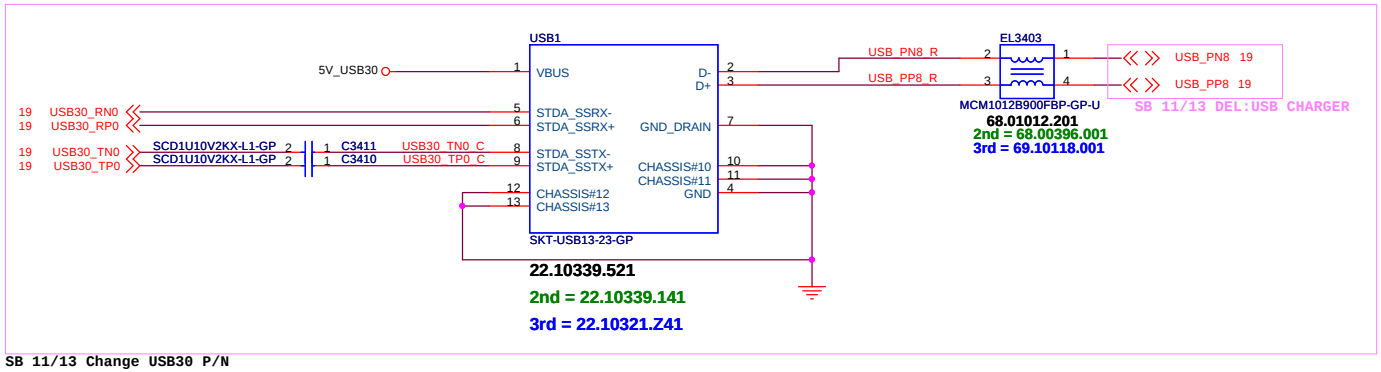


For CR conn normal colse type

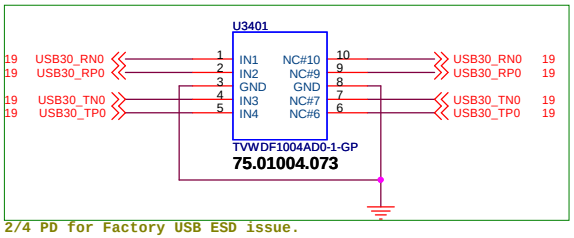
EAEG50 KB UMA

緯創資通	**Wistron Corporation** 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	**CARD Reader CONN**	
Size	Project Name: **KABINI**	Rev: **SA**
Date: Monday, February 04, 2013	Sheet 33 of 102	

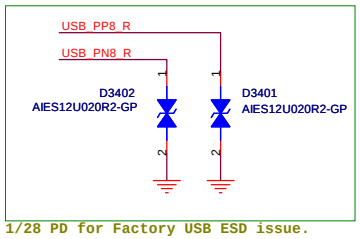
USB 2.0 CONTACT PIN		USB 3.0 CONTACT PIN	
PIN NO.	SIGNAL NAME	PIN NO.	SIGNAL NAME
1	VBUS	5	StdA_SSRX-
2	D-	6	StdA_SSRX+
3	D+	7	GND_DRAIN
4	GND	8	StdA_SSTX-
		9	StdA_SSTX+



SB 11/13 Change USB30 P/N



2/4 PD for Factory USB ESD issue.



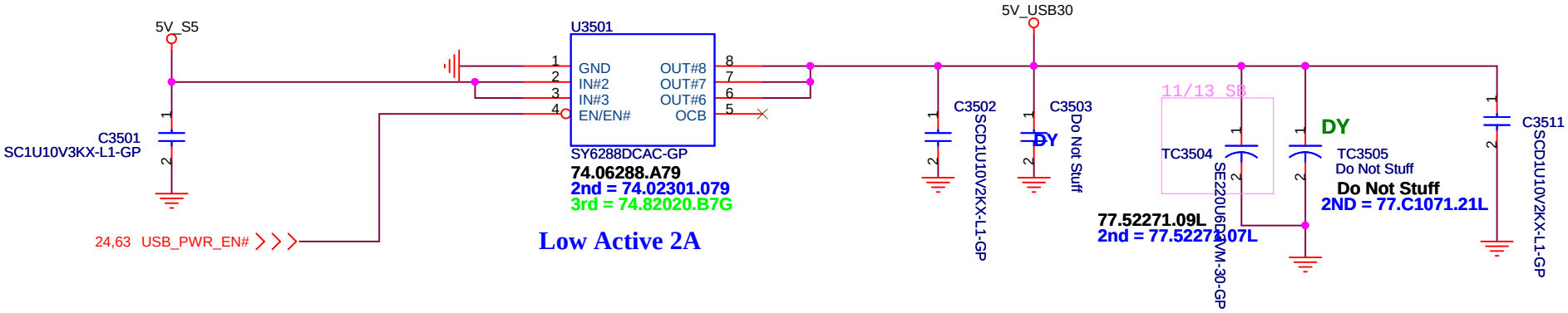
1/28 PD for Factory USB ESD issue.

EAEG50 KB UMA

緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title		
USB 3.0 Port		
Size	Project Name	Rev
	KABINI	SA
Date: Monday, February 04, 2013	Sheet 34 of 102	

SB 11/13 Change USB30



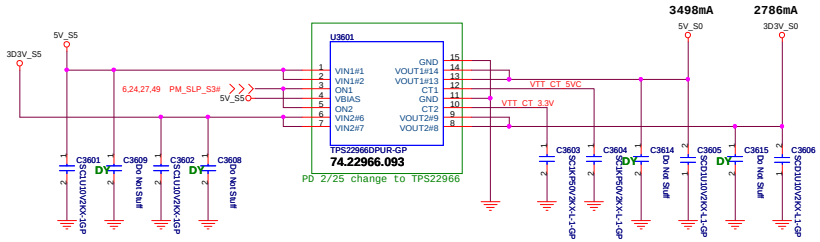
SC 12/20 EA50: Mount TC3504 , DY TC3505

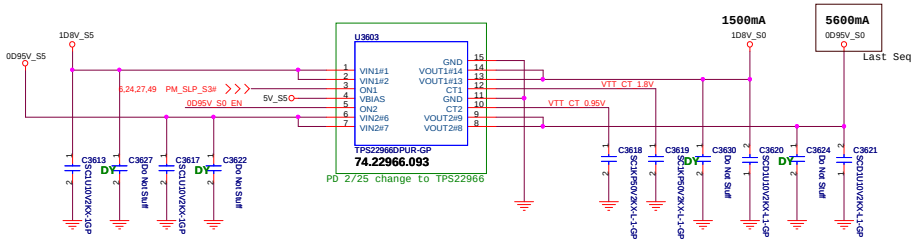
EAEG50 KB UMA

緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	USB_Charger	
Size	Project Name: KABINI	Rev: SA
Date: Monday, February 04, 2013	Sheet 35 of 102	

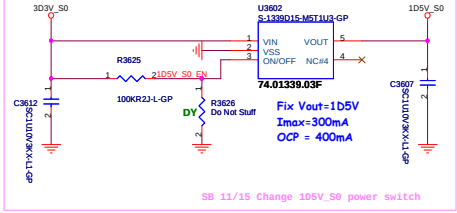
Power Sequence





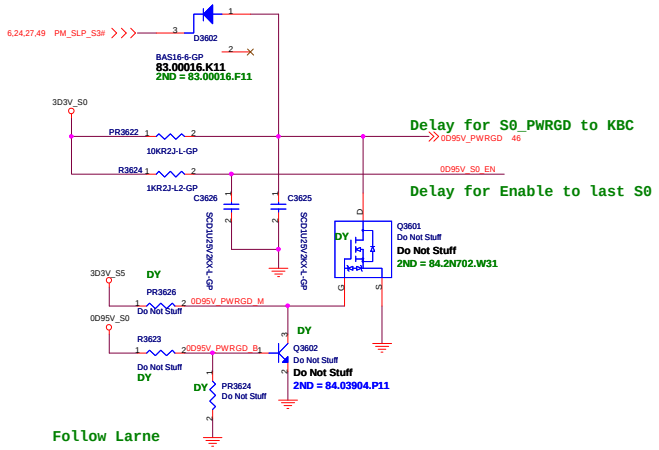
LDO for 1D5V_S0 (SB 11/15)

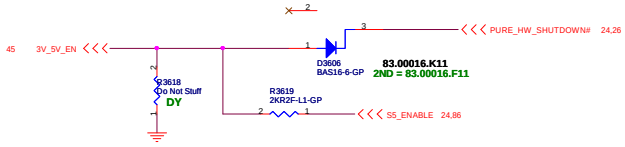
100mA for Audio chipset



48 0D95V_S5_PWRGD — PR3625 (Do Not Stuff) — 1D8V_S5_PWRGD 24,50

S5_PWRGD to KBC





EAEG50 KB UMA

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

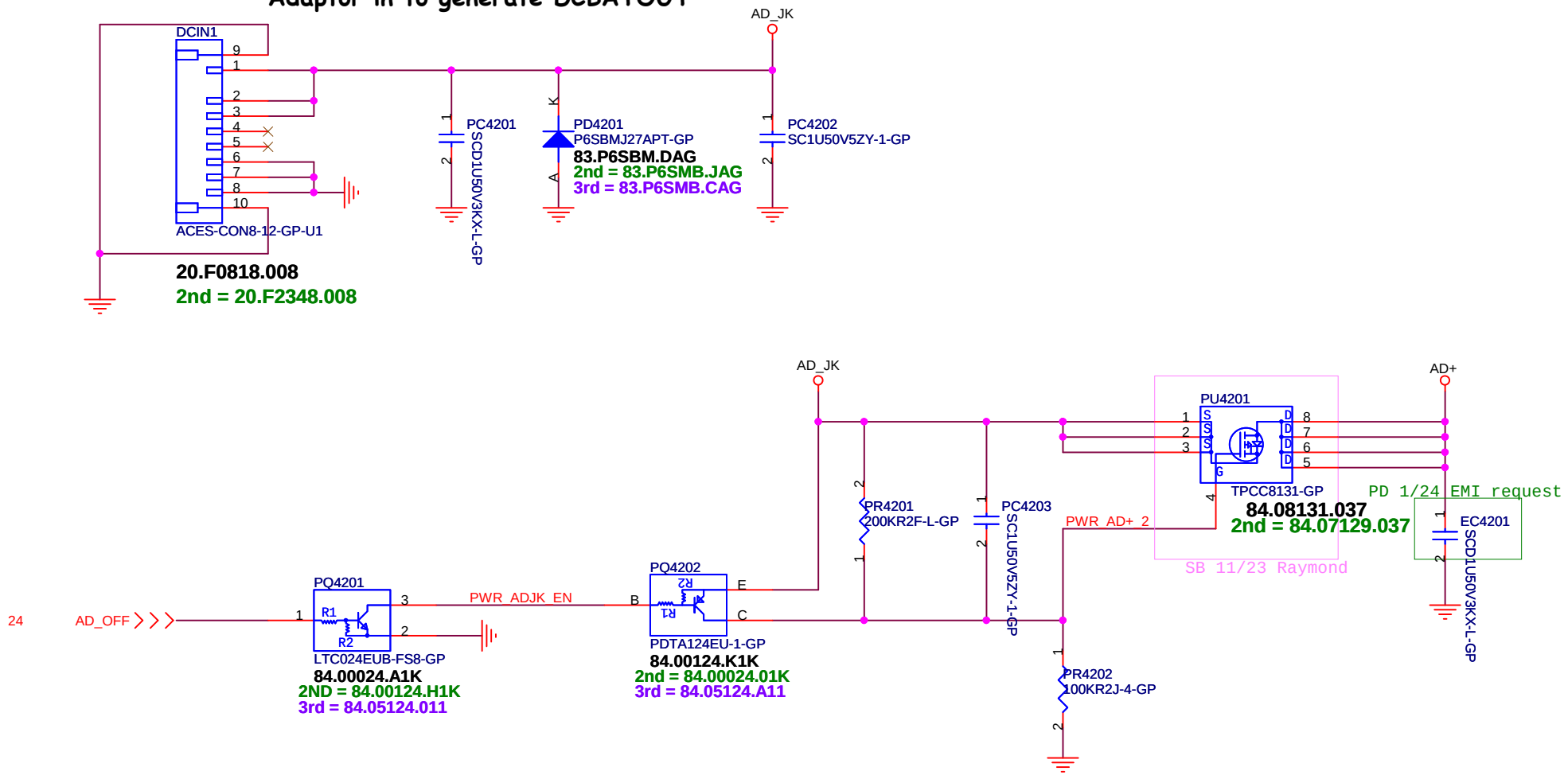
Title: Power Plane Enable

Size | Project Name: KABINI | Rev: SA

Date: Monday, February 25, 2013 | Sheet 36 of 102

ANNIE solution

Adaptor in to generate DCBATOUT



EAEG50 KB UMA

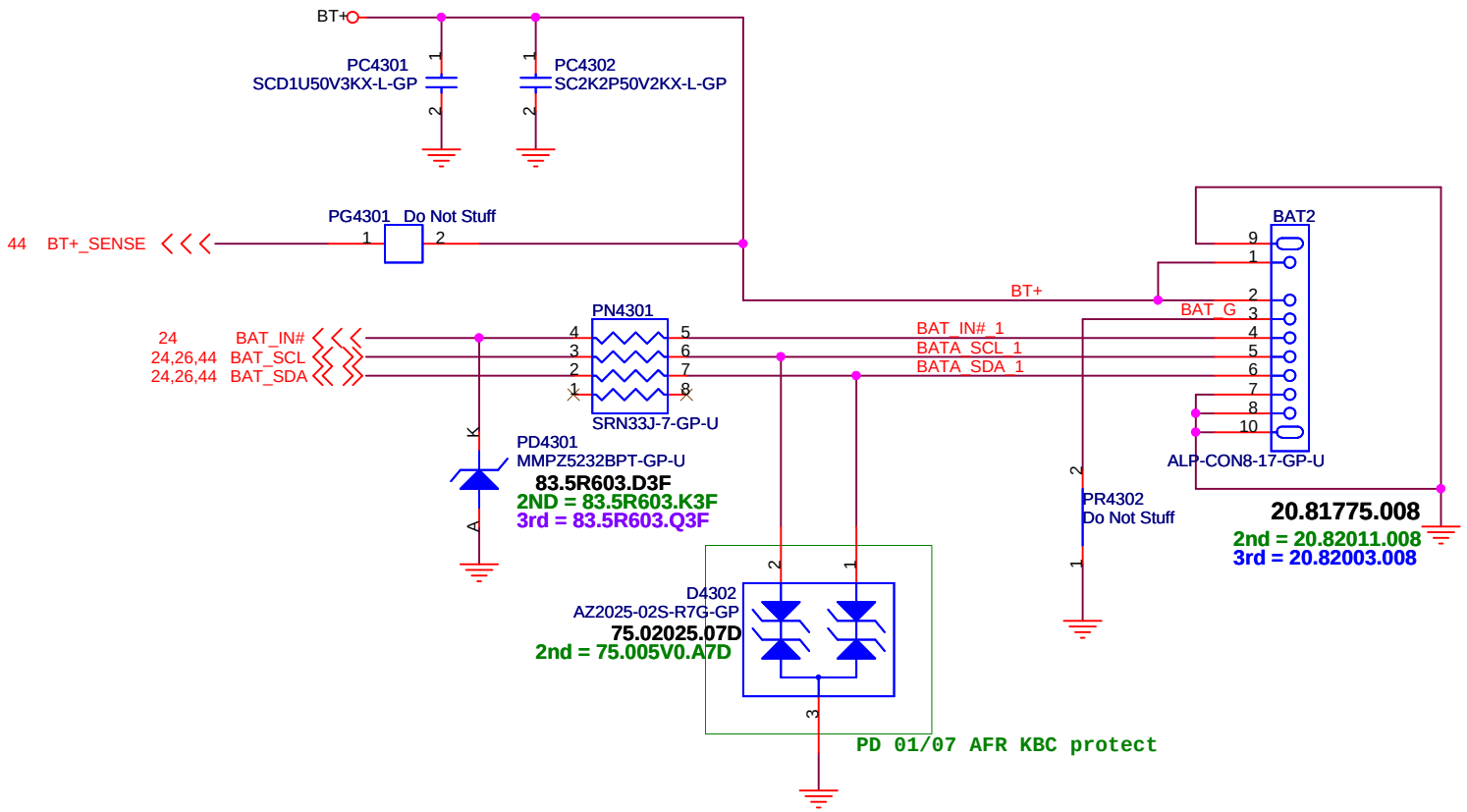
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	DCIN JACK	
Size	Project Name: KABINI	Rev: SA
Date: Tuesday, February 19, 2013	Sheet 42 of 102	

BATTERY CONNECTOR

86 BATA_SDA_1
86 BATA_SCL_1
86 BAT_IN#_1
86 BAT_G

For AFTE



EAEG50 KB UMA

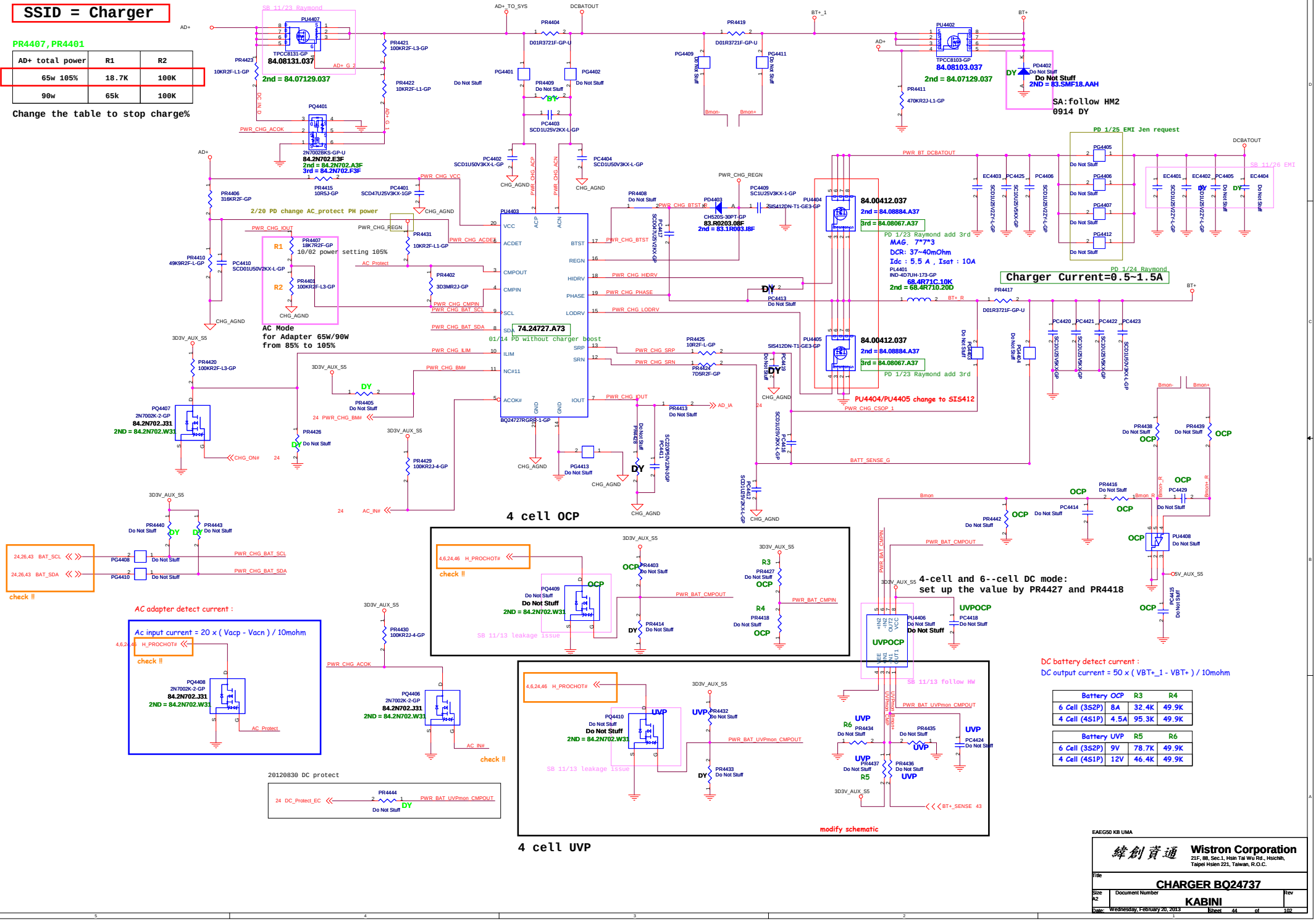
緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: BATT CONN		
Size	Project Name: KABINI	Rev: SA
Date: Wednesday, February 20, 2013	Sheet 43 of 102	

SSID = Charger

PR4407,PR4401

AD+ total power	R1	R2
65w 105%	18.7K	100K
90w	65k	100K

Change the table to stop charge%



SSID = PWR.Plane.Regulator_3p3v5v

Cut off itself

check (UVP)

check (DCBATOUT)

PWR_3D3V_DCBATOUT

PC4501 SCD01U16V3KX-L-GP

PC4507 SC10U25V5KX-GP

PU4503 SIS412DN-T1-GE3-GP 84.00412.037 2ND = 84.08067.A37

1003 Raymond
Iccmax : 4 A
OCP > 9.6 A

Mag.. MMD-06CZ-2R2M
7*7*3 DCR: 18~20mOhm
Idc : 8 A , Isat : 14A

3D3V_PWR

PL4501 IND-2D2UH-122-GP 68.2R21B.10J 2nd = 68.2R210.20B

PC4511 Do Not Stuff

PG4511 Do Not Stuff

PU4504 SIS412DN-T1-GE3-GP 84.00412.037 2ND = 84.08067.A37

PWR_3D3V_VOUT

PR4511 6K8R2F-2-GP R1

PR4513 10KR2F-L1-GP R2

Vout = 2 * (1 + R1/R2)
= 2 * (1 + 6.8K / 10K)
= 3.36V

Close to VFB Pin (pin5)

DCBATOUT

SB 11/13 short pad

PR4502 Do Not Stuff

PR4503 Do Not Stuff

H=1 limit

PC4503 DY Do Not Stuff

PC4502 SCD01U50V3KX-L-GP

PC4509 SCD1U25V3KX-L-GP

PR4501 2D2R2J-GP

PU4501 74.51225.B73 TPS51225CRUKR-1-GP

PWR_3D3V_BOOT2	9	VBST2	VBST1	17	PWR_5V_BOOT1
PWR_3D3V_UGATE2	10	DRVH2	DRVH1	16	PWR_5V_UGATE1
PWR_3D3V_PHASE2	8	SW2	SW1	18	PWR_5V_PHASE1
PWR_3D3V_LGATE2	11	DRVL2	DRVL1	15	PWR_5V_LGATE1
			VO1	14	PWR_5V_VOUT
PWR_3D3V_FB2	4	VFB2	VFB1	2	PWR_5V_FB1
PWR_3D3V_EN	6	EN2	EN1	20	PWR_5V_EN
PWR_3D3V_ENTRIP2	5	CS2	CS1	1	PWR_5V_ENTRIP1
			VCLK	19	
	7	PGOOD	GND	21	

PR4506 2D2R2J-GP PWR_5V_VOOT1_1 PC4510 SCD1U25V3KX-L-GP

3D3V_S5 PR4522 DY Do Not Stuff

6,50,51 3V_5V_POK

VREG3 VREG5

3D3V_AUX_S5 PG4514 Do Not Stuff PC4513 SC4D7U6D3V3KX-L-GP

PWR_5V3D3V_VREG3

PWR_5V3D3V_VREG5 PG4501 Do Not Stuff PC4508 SC4D7U10V3KX-GP 5V_AUX_S5

check (DCBATOUT)

PWR_5V_DCBATOUT

PC4505 DY Do Not Stuff

PC4504 SC10U25V5KX-GP

PC4506 SCD01U50V2KX-L-GP

PU4506 SIS412DN-T1-GE3-GP 84.00412.037 2ND = 84.08067.A37

1ST: 84.00031.037
2ND: 84.06934.037

1003 Raymond
Iccmax : 7.7 A
OCP > 14.5 A

Mag.. MMD-06CZ-2R2M
7*7*3 DCR: 18~20mOhm
Idc : 8 A , Isat : 14A

PL4502 IND-2D2UH-122-GP 68.2R21B.10J 2nd = 68.2R210.20B

PU4505 SIS780DN-T1-GE3-GP 84.00780.037 2ND = 84.08065.B37

5V_PWR

PG4512 Do Not Stuff PG4536 Do Not Stuff

PC4512 DY SCD01U16V3KX-L-GP

10/22 14"OSCON ; 15"POSCAP

PWR_5V_FB1_R

R1 PR4508 33KR2F-2-GP

R2 PR4512 21KSR2F-GP

Close to VFB Pin (pin2)

Vout = 2 * (1 + R1/R2)
= 2 * (1 +33K / 21K)
= 5.14V

DCBATOUT PG4502 Do Not Stuff PG4503 Do Not Stuff PG4504 Do Not Stuff PG4505 Do Not Stuff

PWR_5V_DCBATOUT

5V_PWR PG4506 Do Not Stuff PG4507 Do Not Stuff PG4508 Do Not Stuff PG4509 Do Not Stuff PG4510 Do Not Stuff PG4513 Do Not Stuff PG4515 Do Not Stuff

5V_S5 PG4517 Do Not Stuff PG4519 Do Not Stuff PG4518 Do Not Stuff PG4534 Do Not Stuff PG4516 Do Not Stuff

5V_PWR PG4535 Do Not Stuff

3D3V_S5 PG4520 PG4522 PG4524 PG4526 PG4528 PG4529 PG4530 PG4531 PG4532 PG4533 Do Not Stuff

3D3V_PWR

DCBATOUT PG4521 PG4523 PG4525 PG4527 Do Not Stuff

PWR_3D3V_DCBATOUT

10/22 14"OSCON ; 15"POSCAP

3D3V OCP PR4514 150KR2F-L-GP

PWR_3D3V_ENTRIP2 PWR_3D3V_ENTRIP2_C

PC4514 DY Do Not Stuff

10/03 Raymond

PWR_5V_EN PR4515 10KR2J-L-GP

3V_5V_EN 36

SB 11/13 Delete 5V_CHARGER

1/15 PD remove

36 3V_5V_EN PR4516 10KR2J-L-GP PWR_3D3V_EN

5V OCP PR4517 140KR2F-1-GP

PWR_5V_ENTRIP1_C PWR_5V_ENTRIP1

PC4515 DY Do Not Stuff

10/03 Raymond

5V_PWR 77.52271.09L PT4505 SE220U6D3V4M-GP-GP

11/13 SB: EA40 & EG50 => OSCON

3D3V_PWR 77.C2271.45L 2nd = 77.22271.39L PT4504 ST220U6D3V6M-GP

12/4 SB: EA40 & EG50 => POSCAP

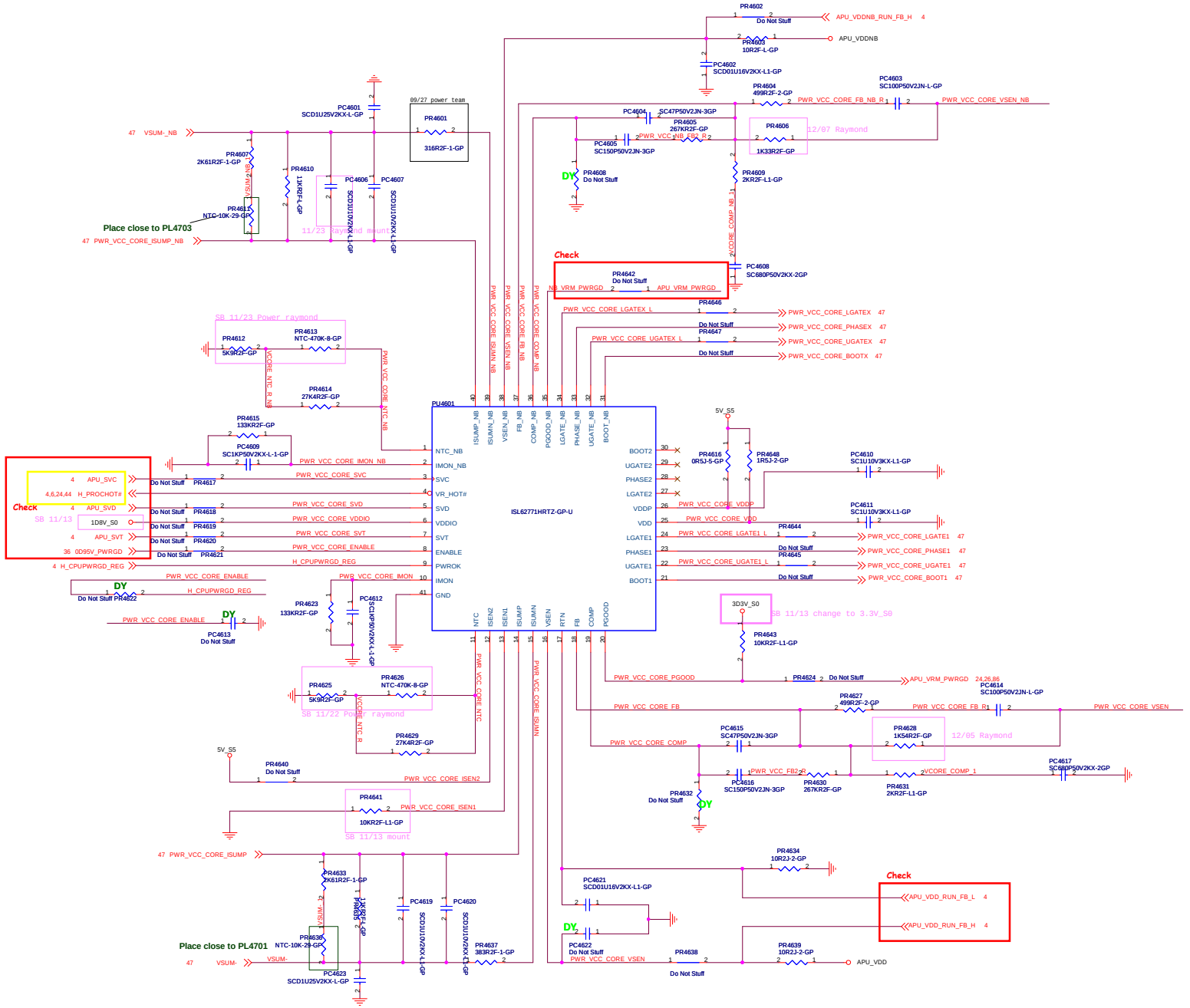
EAEG50 KB UMA

緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: TPS51225 5V/3D3V

Size: A2 | Document Number: KABINI | Rev:

Date: Monday, February 04, 2013 | Sheet 45 of 102



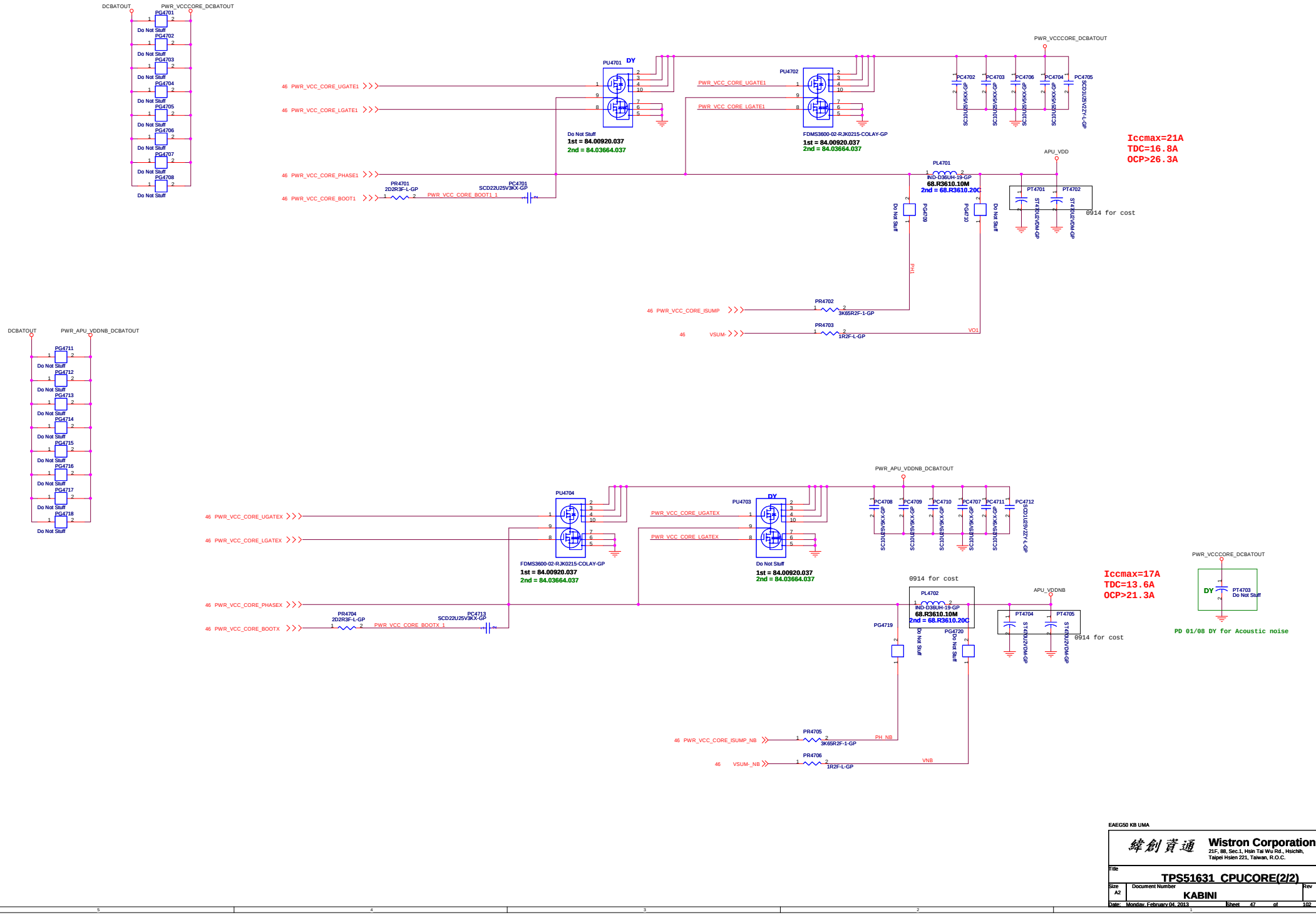
EAEG50 KB UMA

緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

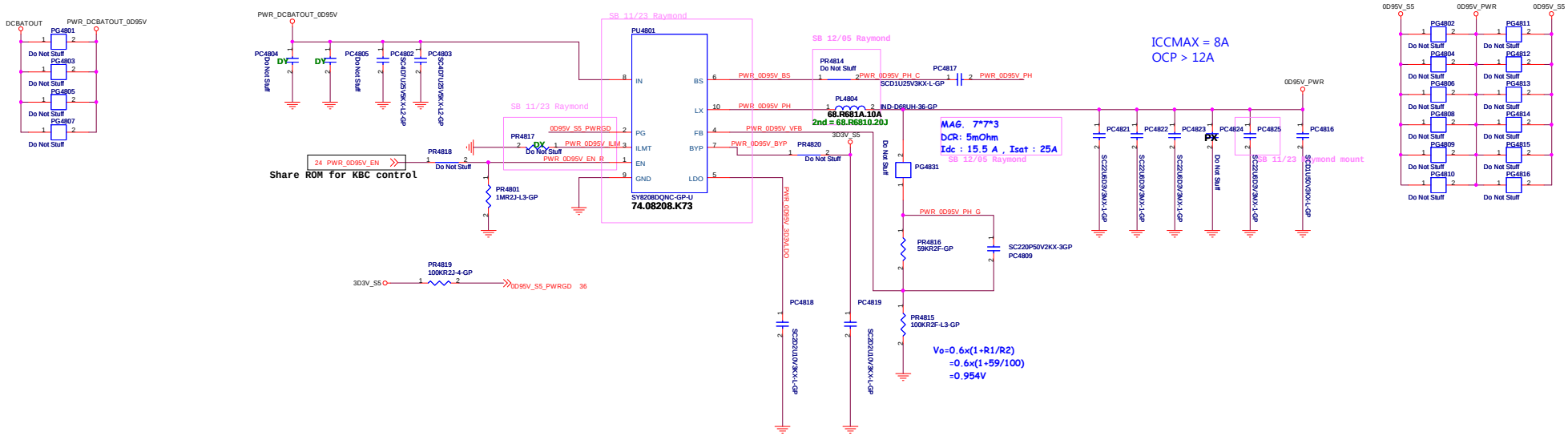
Title: TPS51631_CPUCORE(1/2)

Size	Document Number	Rev
A2	KABINI	

Date: Monday, February 04, 2013 Sheet 46 of 102


DCBATOUT
PWR_VCCCORE_DCBATOUT
PG4701
PG4702
PG4703
PG4704
PG4705
PG4706
PG4707
PG4708
Do Not Stuff
46 PWR_VCC_CORE_UGATE1
46 PWR_VCC_CORE_LGATE1
46 PWR_VCC_CORE_PHASE1
46 PWR_VCC_CORE_BOOT1
PR4701
2D2R3F-L-GP
PC4701
SCD22U25V3KX-GP
PWR_VCC_CORE_BOOT1_1
PU4701
DY
PU4702
FDMS3600-02-RJK0215-COLAY-GP
1st = 84.00920.037
2nd = 84.03664.037
PC4702
PC4703
PC4706
PC4704
PC4705
SCD1U25V3ZY-1-GP
Iccmax=21A
TDC=16.8A
OCP>26.3A
APU_VDD
PL4701
IND-D36UH-19-GP
68.R3610.10M
2nd = 68.R3610.20C
PT4701
PT4702
ST470U2VDM-GP
0914 for cost
PG4709
PG4710
PHI
46 PWR_VCC_CORE_ISUMP
PR4702
3K65R2F-1-GP
46 VSUM-
PR4703
1R2F-L-GP
VO1
DCBATOUT
PWR_APU_VDDNB_DCBATOUT
PG4711
PG4712
PG4713
PG4714
PG4715
PG4716
PG4717
PG4718
Do Not Stuff
46 PWR_VCC_CORE_UGATEX
46 PWR_VCC_CORE_LGATEX
46 PWR_VCC_CORE_PHASEX
46 PWR_VCC_CORE_BOOTX
PR4704
2D2R3F-L-GP
PC4713
SCD22U25V3KX-GP
PWR_VCC_CORE_BOOTX_1
PU4704
FDMS3600-02-RJK0215-COLAY-GP
1st = 84.00920.037
2nd = 84.03664.037
PU4703
DY
PC4708
PC4709
PC4710
PC4707
PC4711
PC4712
SCD1U16V2ZY-1-GP
Iccmax=17A
TDC=13.6A
OCP>21.3A
0914 for cost
PL4702
IND-D36UH-19-GP
68.R3610.10M
2nd = 68.R3610.20C
APU_VDDNB
PT4704
PT4705
ST470U2VDM-GP
PG4719
PG4720
46 PWR_VCC_CORE_ISUMP_NB
PR4705
3K65R2F-1-GP
PH_NB
46 VSUM-_NB
PR4706
1R2F-L-GP
VNB
PWR_VCCCORE_DCBATOUT
PT4703
PD 01/08 DY for Acoustic noise
EAEGS0 KB UMA
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
TPS51631_CPUCORE(2/2)
Size
A2
Document Number
KABINI
Rev
Date: Monday, February 04, 2013
Sheet 47 of 102

SY8208D for 0D95V



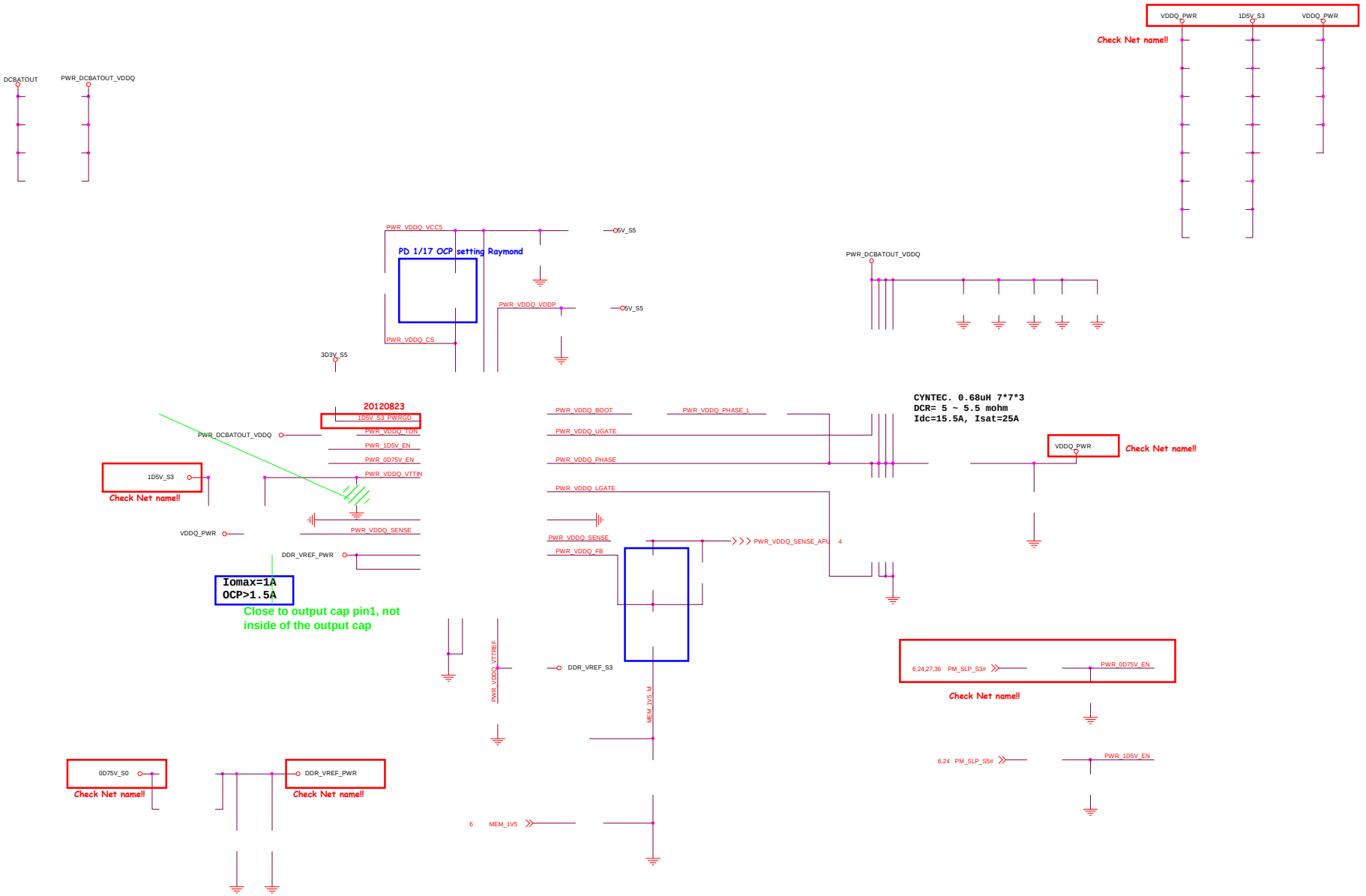
EAEG50 KB UMA

緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: **DC to DC 0D95V(RT8237C)**

Size	Document Number	Rev
A2	KABINI	

Date: Tuesday, February 19, 2013 Sheet 48 of 102



EAEG50 KB UMA

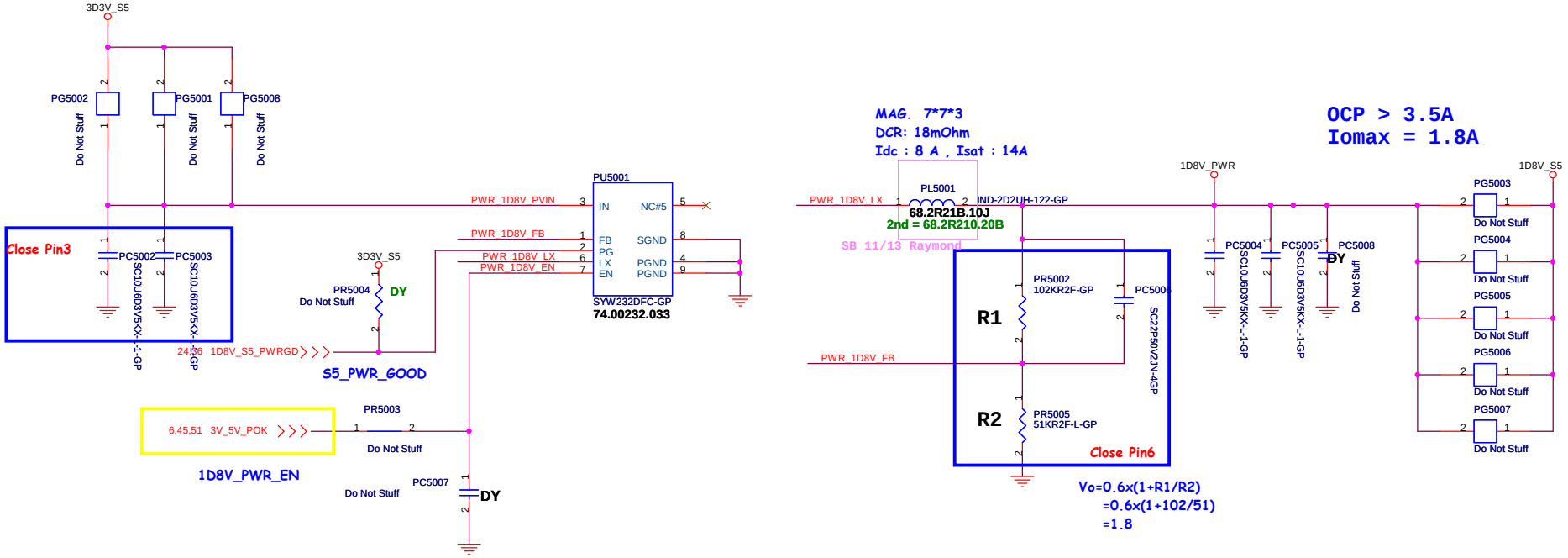
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: **RT8207**

Size: A2 | Document Number: **KABINI** | Rev:

Date: Monday, February 04, 2013 | Sheet 49 of 102

SSID = PWR.Plane.Regulator_1p8v

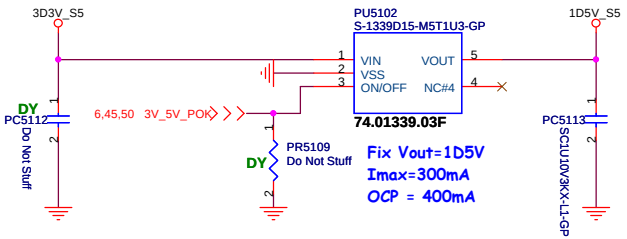


EAEG50 KB UMA

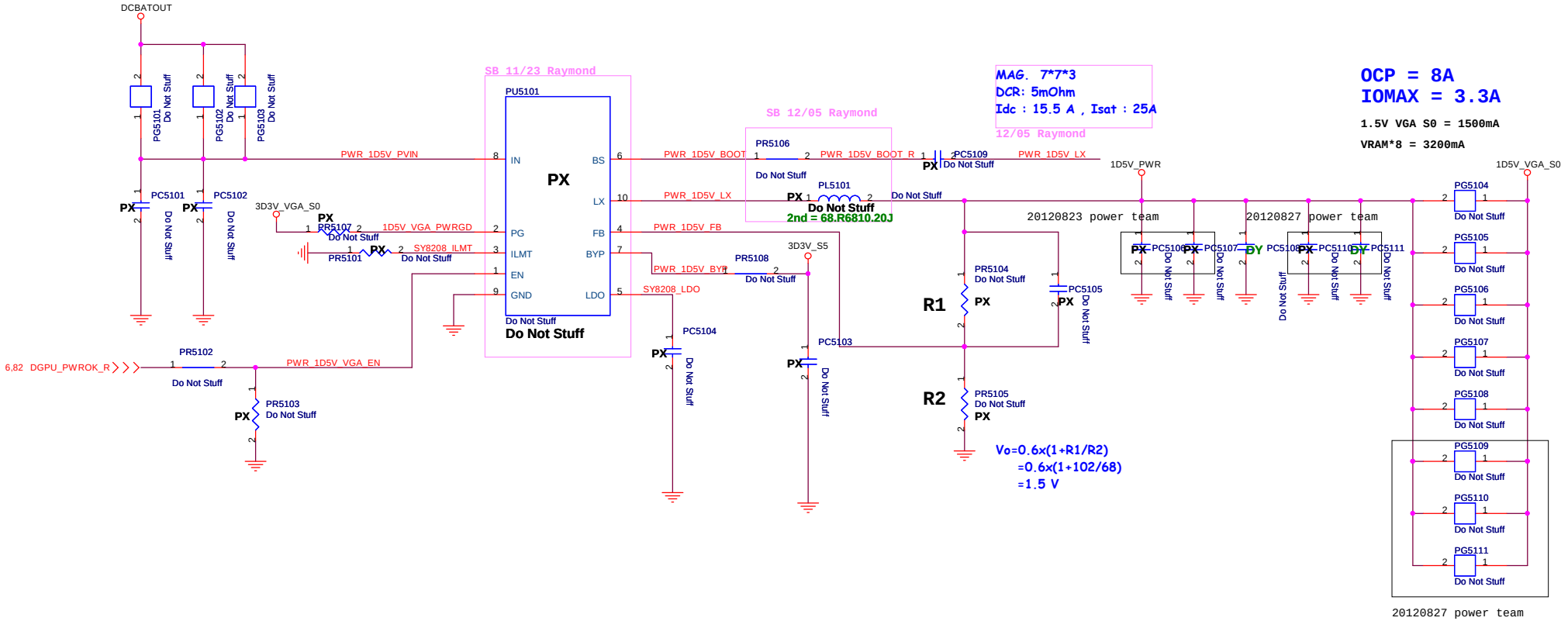
緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: 1D8V_S0 SYW232		
Size: A3	Document Number: KABINI	Rev:
Date: Monday, February 04, 2013	Sheet 50 of 102	

LDO for 1D5V_S5 (SB 11/13)

1.5V S0 = 100mA(VDDIO_AZ) + 100mmA(Audio) + 600mA(Minicard DY) = 200mA



SY8208D for 1D5V_VGA_S0 (SB 11/13)

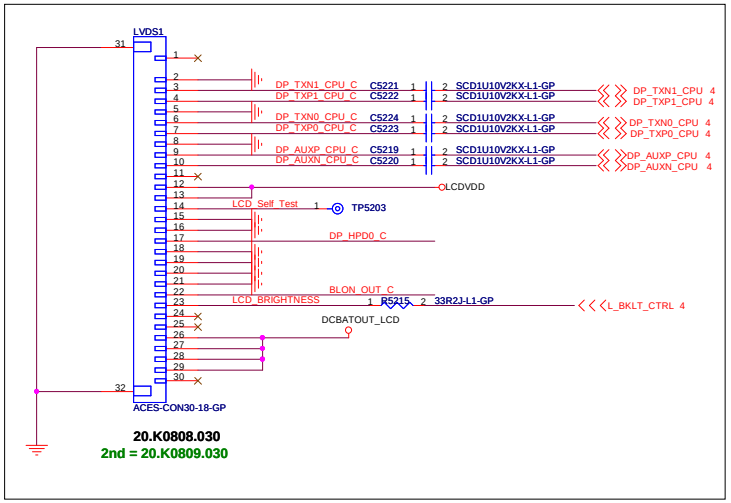


EAEG50 KB UMA

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: 1D5V_S5 SY8208D		
Size: A3	Document Number: KABINI	Rev:
Date: Tuesday, February 19, 2013	Sheet 51 of 102	

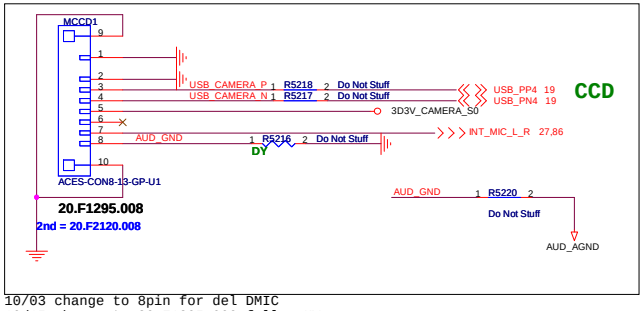
SSID = VIDEO

eDP Conn.



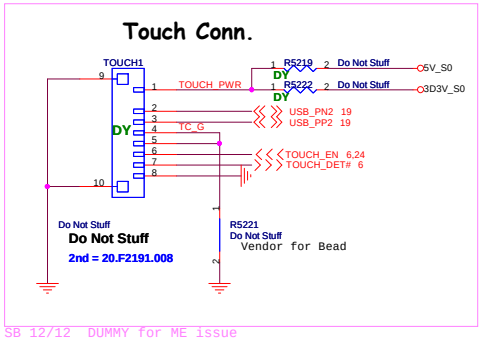
10/04 change to 20.K0808.030 for ME request

Camera+MIC Conn.



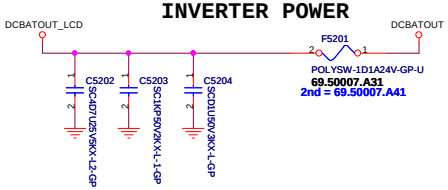
10/03 change to 8pin for del DMIC
10/15 change to 20.F1295.008 follow HW

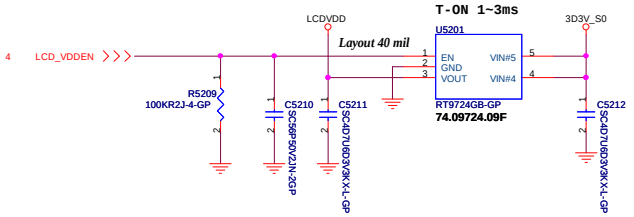
Touch Conn.

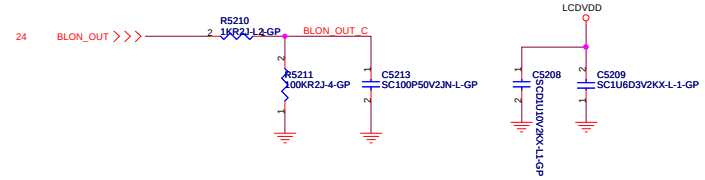


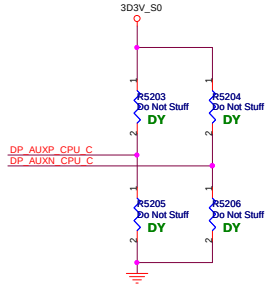
SB 12/12 DUMMY for ME issue
SC NO support

INVERTER POWER

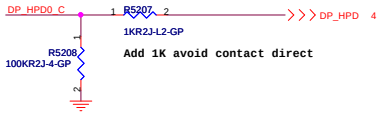




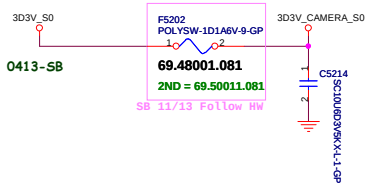




EDP HPD High active



Camera Power



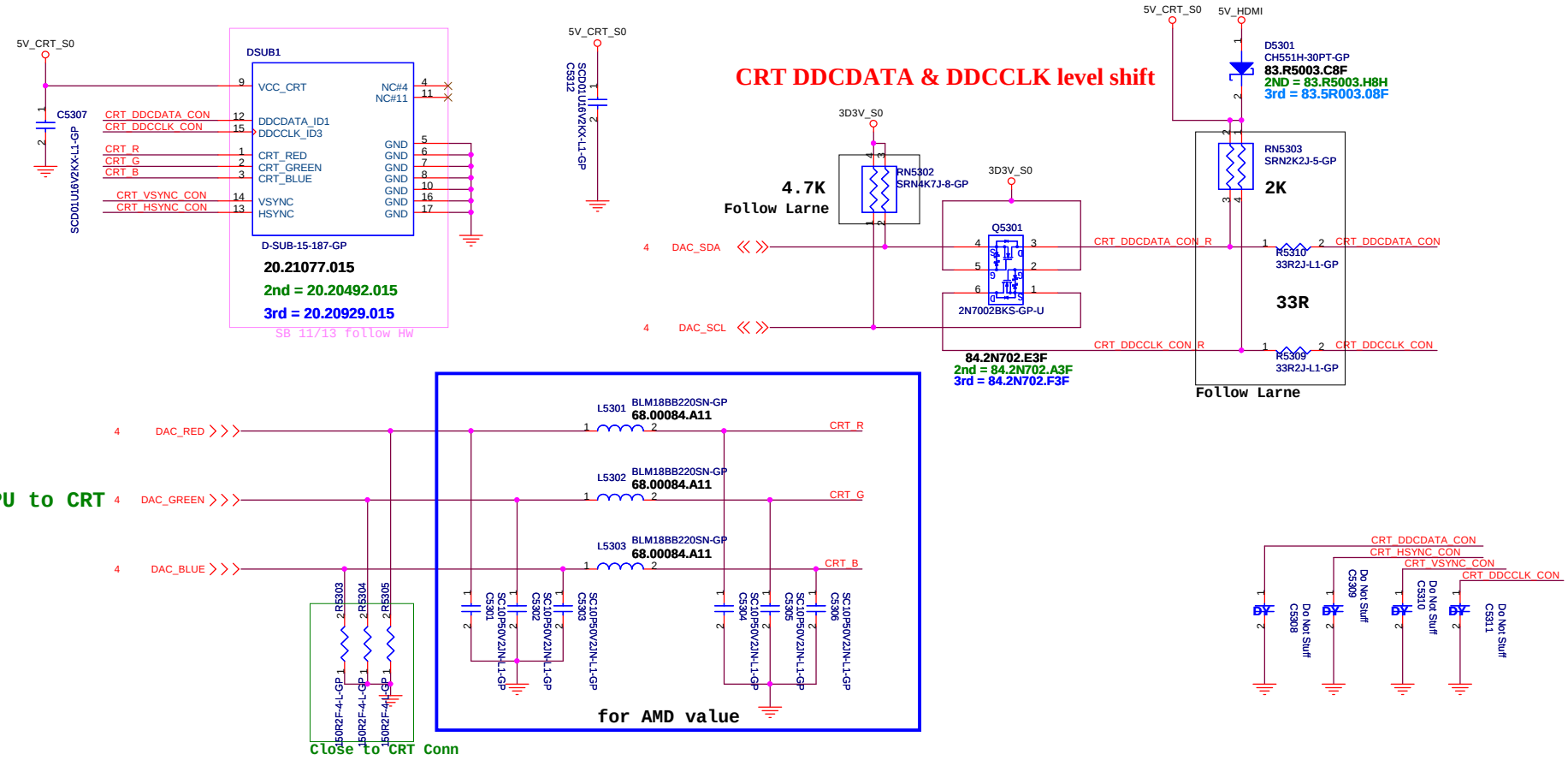
86 AUD_GND
86 DP_HPD0_C
86 BLON_OUT_C
86 LCD_BRIGHTNESS
86 DP_TXN1_CPU_C
86 DP_TXP1_CPU_C
86 DP_TXN0_CPU_C
86 DP_TXP0_CPU_C
86 DP_AUXP_CPU_C
86 DP_AUXN_CPU_C

For AFTE

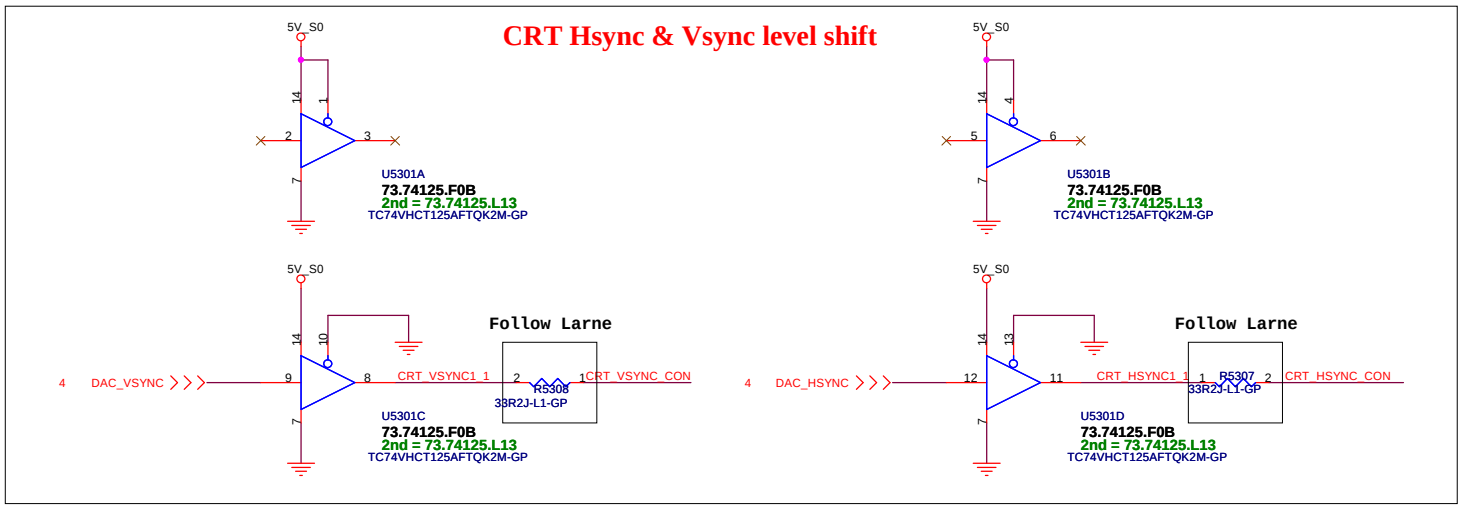
EAEG50 KB UMA

緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	LCD Connector	
Size	Project Name: KABINI	Rev: SA
Date: Monday, February 25, 2013	Sheet 52 of 102	



10/16 follow COMAL



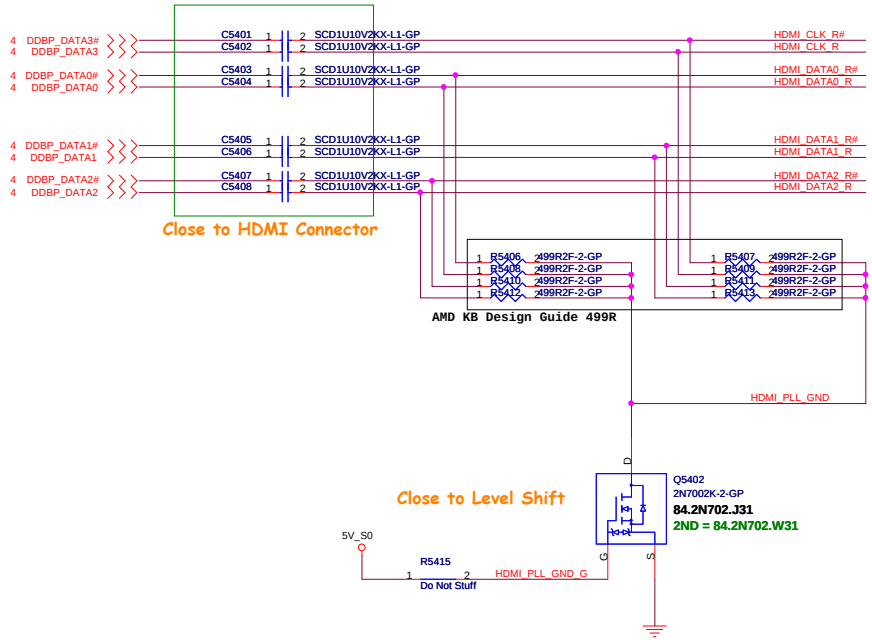
EAEG50 KB UMA

緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

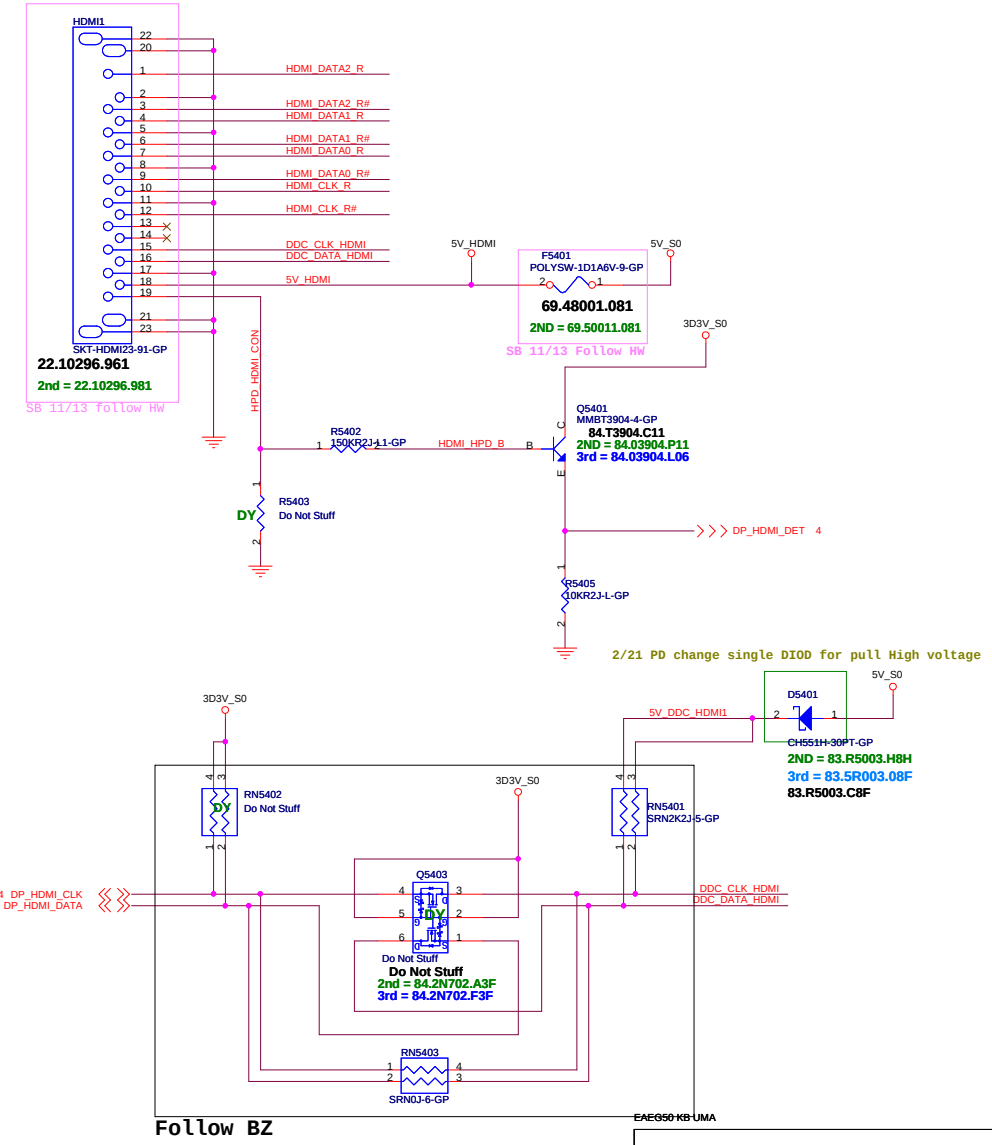
Title	CRT Board Connector	
Size	Project Name: KABINI	Rev: SA
Date: Monday, February 04, 2013	Sheet 53 of 102	

SSID = VIDEO

HDMI Level Shifter & CONNECTOR



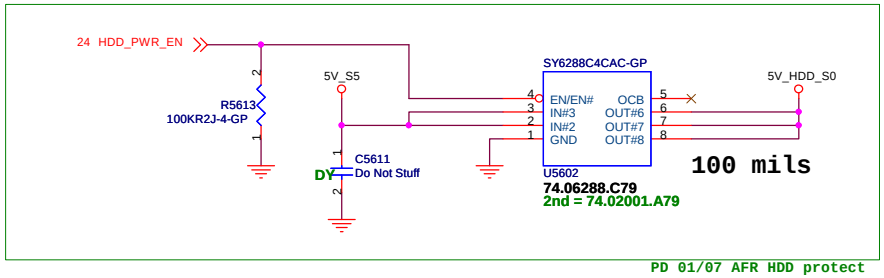
HDMI CONN

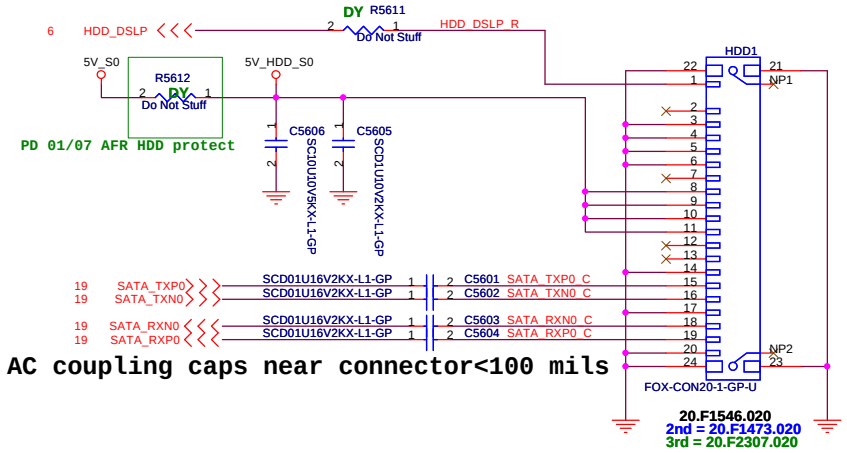


緯創資通	Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.	
Title	HDMI Level Shifter/Connector	
Size	Project Name: KABINI	Rev: SA
Date: Thursday, February 21, 2013	Sheet 54 of 102	

SSID = SATA

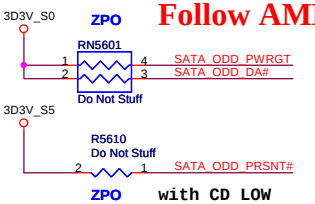
SATA HDD Connector

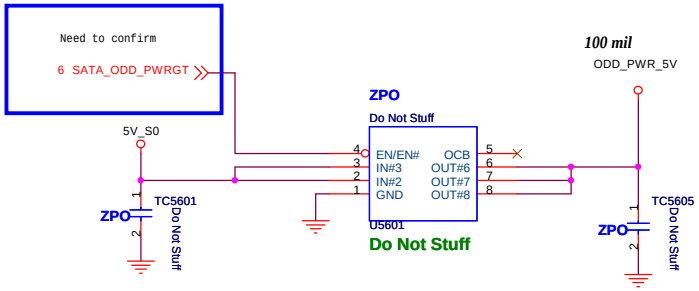


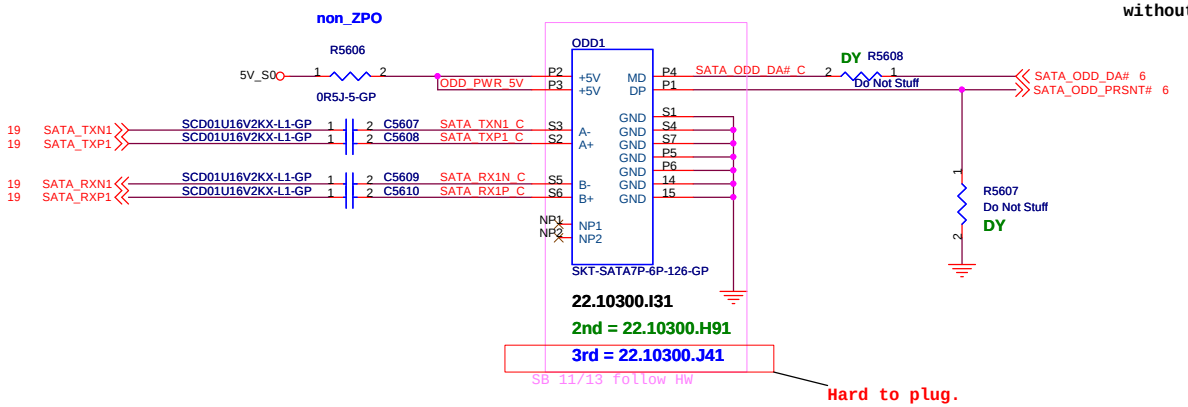


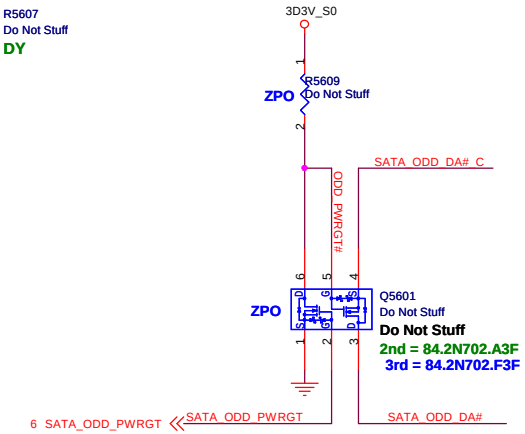
ODD Connector

SATA Zero Power ODD
Follow AMD Larne









Current limit Active High MIN =>2.01A

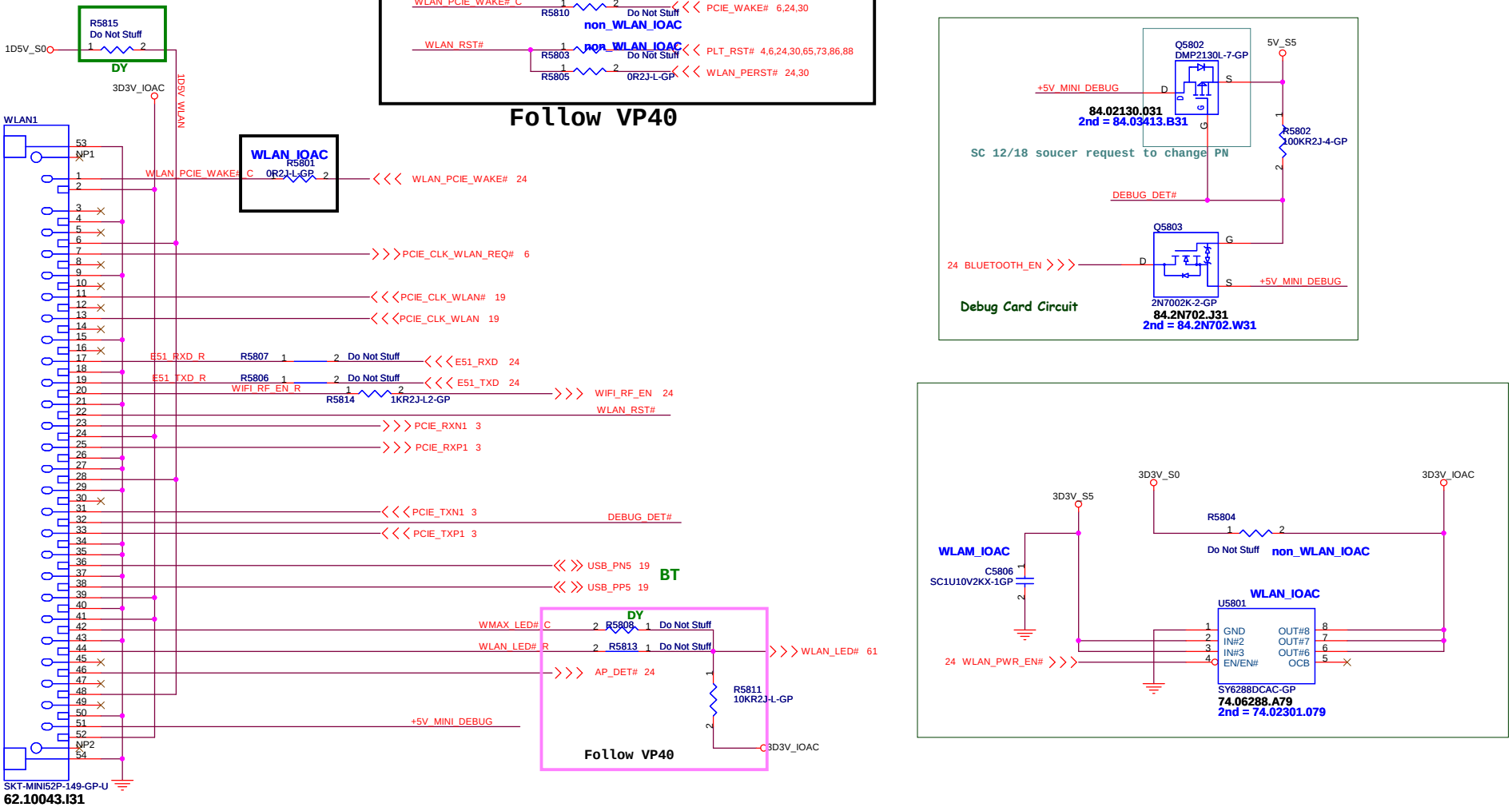
EAEG50 KB UMA

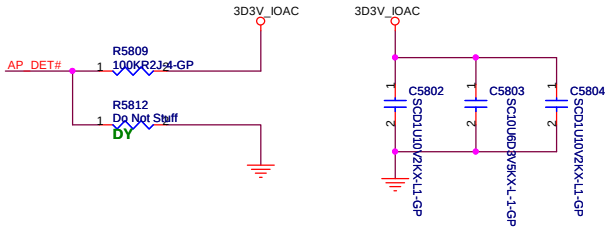
緯創資通	Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.
Title	HDD/ODD
Size	Project Name: KABINI — Rev: SA
Date: Monday, February 04, 2013	Sheet 56 of 102

SSID = Wireless

Mini Card Connector(802.11a/b/g/n)

10/15 follow EA40-HW





EAEG50 KB UMA

緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	MINICARD(WLAN)	
Size	Project Name: KABINI	Rev: SA
Date: Tuesday, February 19, 2013	Sheet 58 of 102	

SSID = Wireless

Mini Card Connector(WWAN)

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緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	WWAN CONN	
Size	Project Name: KABINI	Rev: SA
Date: Friday, September 07, 2012	Sheet 59 of 102	

SSID = mSATA

Mini Card Connector(mSATA)

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緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	mSATA Connector	
Size	Project Name: KABINI	Rev: SA
Date: Friday, September 07, 2012	Sheet 60 of 102	

SSID = User.Interface

System LED (BLU/ORG)

PD 1/24 LED tuning

STDBY_LED# Q — R6101 1K2R2F-1-GP — STDBY_LED# R

FRONT_PWRLED# Q — R6102 390R2F-2GP — FRONT_PWRLED# R

PLED1 — LED-BO-22-GP

11/21 EG50 LED fine tune

83.00326.M70

2nd = 83.01212.A70

Battery LED (BLU/ORG)

PD 1/24 LED tuning

CHARGE_LED# Q — R6103 1K2R2F-1-GP — CHARGE_LED# R

DC_BATFULL# Q — R6104 330R2F-GP — DC_BATFULL# R

CHLED1 — LED-BO-22-GP — 5V_AUX_S5

11/21 EG50 LED fine tune

83.00326.M70

2nd = 83.01212.A70

SATA HDD LED (BLU)

SATA_LED# 1 — R6105 680R2F-GP — MEDIA_LED# R

HLED1 — ZENER — LED-B-162-GP — 5V_S0

11/21 EG50 LED fine tune

83.00320.B70

2nd = 83.01211.070

RF LED (ORG)

WLAN_LED# — R6106 560R2F-GP — WLAN_LED_EA

RFLED1 — LED-O-36-GP-U — 3D3V_IOAC

11/21 EG50 LED fine tune

83.00270.D70

EA40 Power LED (BLU)

FRONT_PWRLED# Q — R6107 14" Do Not Stuff — FRONT_PWRLED# EA

PWLED1 — 5V_S5

14" Do Not Stuff

SB 11/19 for LED turning

Do Not Stuff

2nd = 83.19117.070

WLAN_LED

From module

WLAN_LED# 58

Q6107 2N7002K-2-GP

84.2N702.J31

2ND = 84.2N702.W31

WLAN_TEST_LED 24

for factory test

Q6101 — PWRLED — FRONT_PWRLED# Q

24 PWRLED — Q6101 LTC043ZUB-FS8-GP — FRONT_PWRLED# Q

84.00043.011

2nd = 84.00143.D1K

Q6103 — STDBY_LED — STDBY_LED# Q

24 STDBY_LED — Q6103 LTC043ZUB-FS8-GP — STDBY_LED# Q

84.00043.011

2nd = 84.00143.D1K

Q6104 — DC_BATFULL — DC_BATFULL# Q

24 DC_BATFULL — Q6104 LTC043ZUB-FS8-GP — DC_BATFULL# Q

84.00043.011

2nd = 84.00143.D1K

Q6105 — 3D3V_S0 — SATA_LED# 1

3D3V_S0 — Q6105 LTC043ZUB-FS8-GP — SATA_LED# 1 — SATA_LED# 19

84.00043.011

2nd = 84.00143.D1K

Q6106 — CHARGE_LED — CHARGE_LED# Q

24 CHARGE_LED — Q6106 LTC043ZUB-FS8-GP — CHARGE_LED# Q

84.00043.011

2nd = 84.00143.D1K

For EA-50

5V_S5 — SB 11/26 EMI Close PBD1 — EC6101 SCD1U10W2KX-1-GP

PBD1 — PTWO-CON6-13-GP — 15" — 5V_S5 — KBC_PWRBTN# — FRONT_PWRLED# Q

PW1 Do Not Stuff — 14" — Do Not Stuff

2nd = 62.40089.441

20.K0397.006

2nd = 20.K0610.006

For AFTE

KBC_PWRBTN# — KBC_PWRBTN# 24,27,86,90

FRONT_PWRLED#_Q 90

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緯創資通 Wistron Corporation

21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.

Title: LED Bard/Power Button

Size | Project Name: KABINI | Rev: SA

Date: Monday, February 04, 2013 | Sheet 61 of 102

SSID = KBC

Internal KeyBoard Connector

86,89,90 TP_DATA
86,89,90 TP_CLK
86,89,90 SWR
86,89,90 SWL

for AFTP

3D3V_S0

RN6203
SRN4K7J-8-GP

RN6202
SRN33J-5-GP-U

24 TPCLK
24 TPDATA

TP_CLK
TP_DATA

TP_CLK 86,89,90
TP_DATA 86,89,90

14" & 15" TOUCH PAD

PD 1/14 Diffferent 14" & 15" TOUCH PAD reversion

14"& 15" use the same KB

KB1
ACES-CON26-13-GP-U

20.K0615.026
2nd = 20.K0449.026

KCOL0 KCOL1 KCOL2 KCOL3 KCOL4 KCOL5 KCOL6 KCOL7 KCOL8 KCOL9 KCOL10 KCOL11 KCOL12 KCOL13 KCOL14 KCOL15 KCOL16 KCOL17

KROW0 KROW1 KROW2 KROW3 KROW4 KROW5 KROW6 KROW7

KROW[0..7] 24,86
KCOL[0..17] 24,86

26 K/B 1

MB PIN DEFINE 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1
KB PIN DEFINE 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26

for EA/EG-50
Pin3 : NC
Pin2 : DET

for EA-40
Pin3 : DET
Pin2 : NC

ELKB1
ACES-CON4-50-GP
20.K0722.004
2nd = 20.K0397.004

KB_BL_DET_R R6205
KB_BL_DET_15 R6206
14" Do Not Stuff
15" 200KR2J-4-GP

KB_LED_PWM_D

KB_BL_DET 24

5V_S0

C6201
SCD1U25V2KX-L-GP

R6202
200KR2F-L-GP

24 KB_BL_PWM
R6203
0R2J-L-GP
KB_BL_PWM_R

Q6201
AO3418L-GP
84.03418.A31

1016

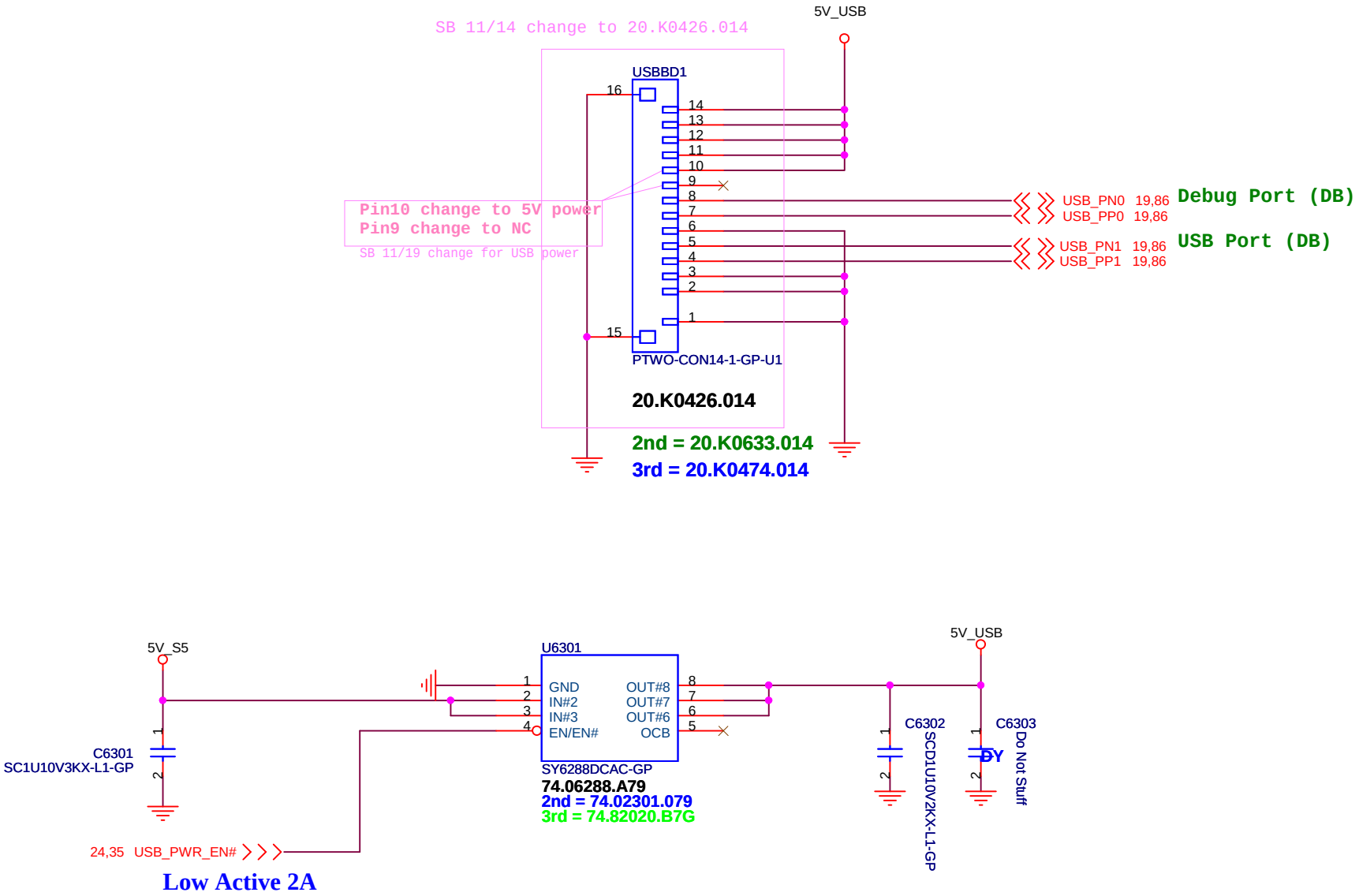
C6202
Do Not Stuff

For BL KB current 303mA
84.03418.A31 = 3.8A

EAEG50 KB UMA

緯創資通 Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

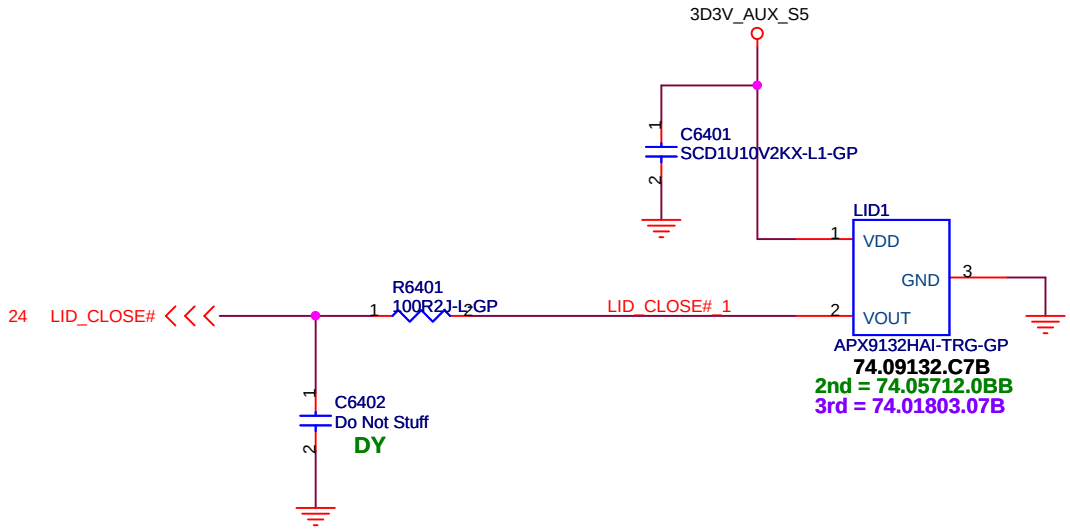
Title	Key Board/Touch Pad	
Size	Project Name: KABINI	Rev: SA
Date: Tuesday, February 19, 2013	Sheet 62 of 102	



EAEG50 KB UMA

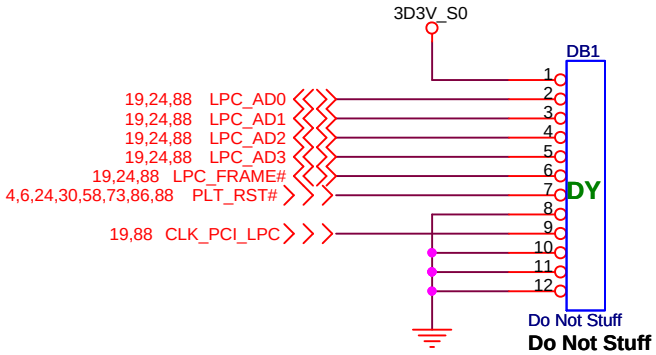
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	IO Board Connector	
Size	Project Name: KABINI	Rev: SA
Date: Monday, February 04, 2013	Sheet 63 of 102	



EAEG50 KB UMA

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: Hall Sensor		
Size	Project Name: KABINI	Rev: SA
Date: Monday, February 04, 2013	Sheet 64 of 102	



EAEG50 KB UMA

緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title	**Dubug connector**	
Size	Project Name **KABINI**	Rev **SA**
Date: Monday, February 04, 2013	Sheet 65 of 102	

(Blanking)

EAEG50 KB UMA

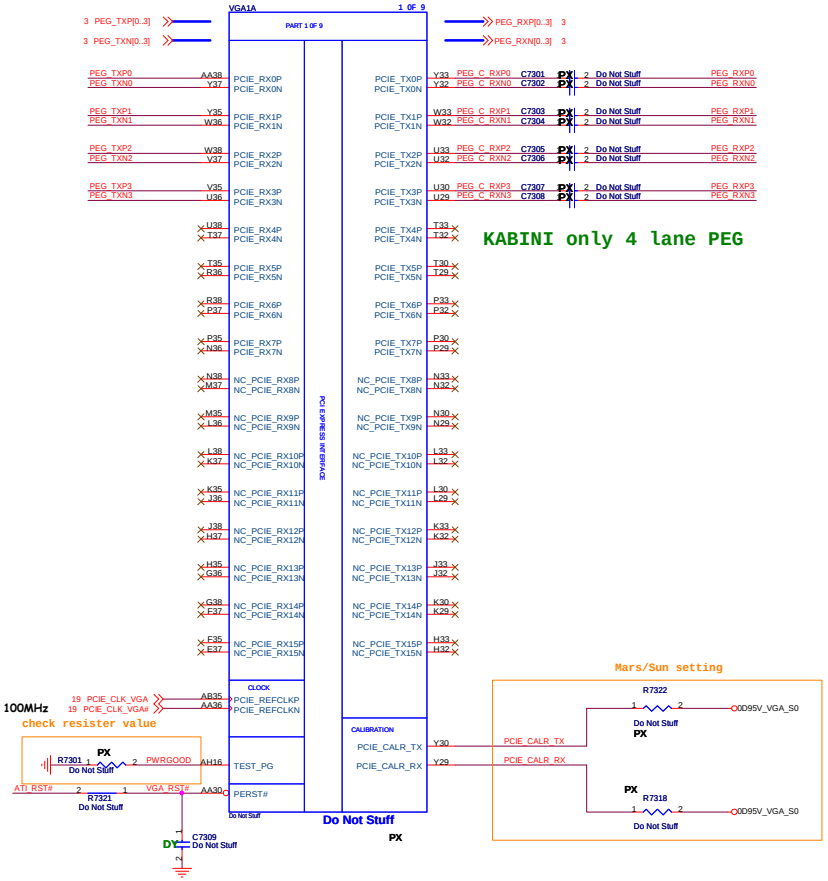
緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: **Reserved**		
Size	Project Name: **KABINI**	Rev: **SA**
Date: Friday, September 07, 2012	Sheet 66 of 102	

SSID = User.Interface

EAEG50 KB UMA

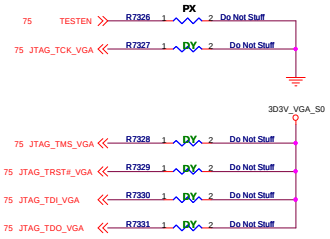
緯創資通 **Wistron Corporation**
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

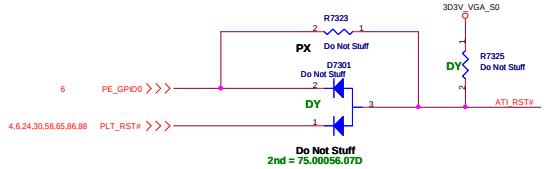
Title	G Sensor	
Size	Project Name: KABINI	Rev: SA
Date: Friday, September 07, 2012	Sheet 67 of 102	



JTAG SIGNAL OPTION

Signal	Normal mode	Debug mode	pilot run mode
TESTEN	"0"(PD)	"1"(PU)	"0"(PD)
JTAG_TRST#	"1"(PU)	"1"(PU)	NC
JTAG_TCK	"0"(PD)	"1"(PU)	NC
JTAG_TMS	"1"(PU)	"1"(PU)	NC





	PE_GPIO0
dGPU mode	H
IGPU	L
IGPU with BACO	H

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緯創資通 Wistron Corporation
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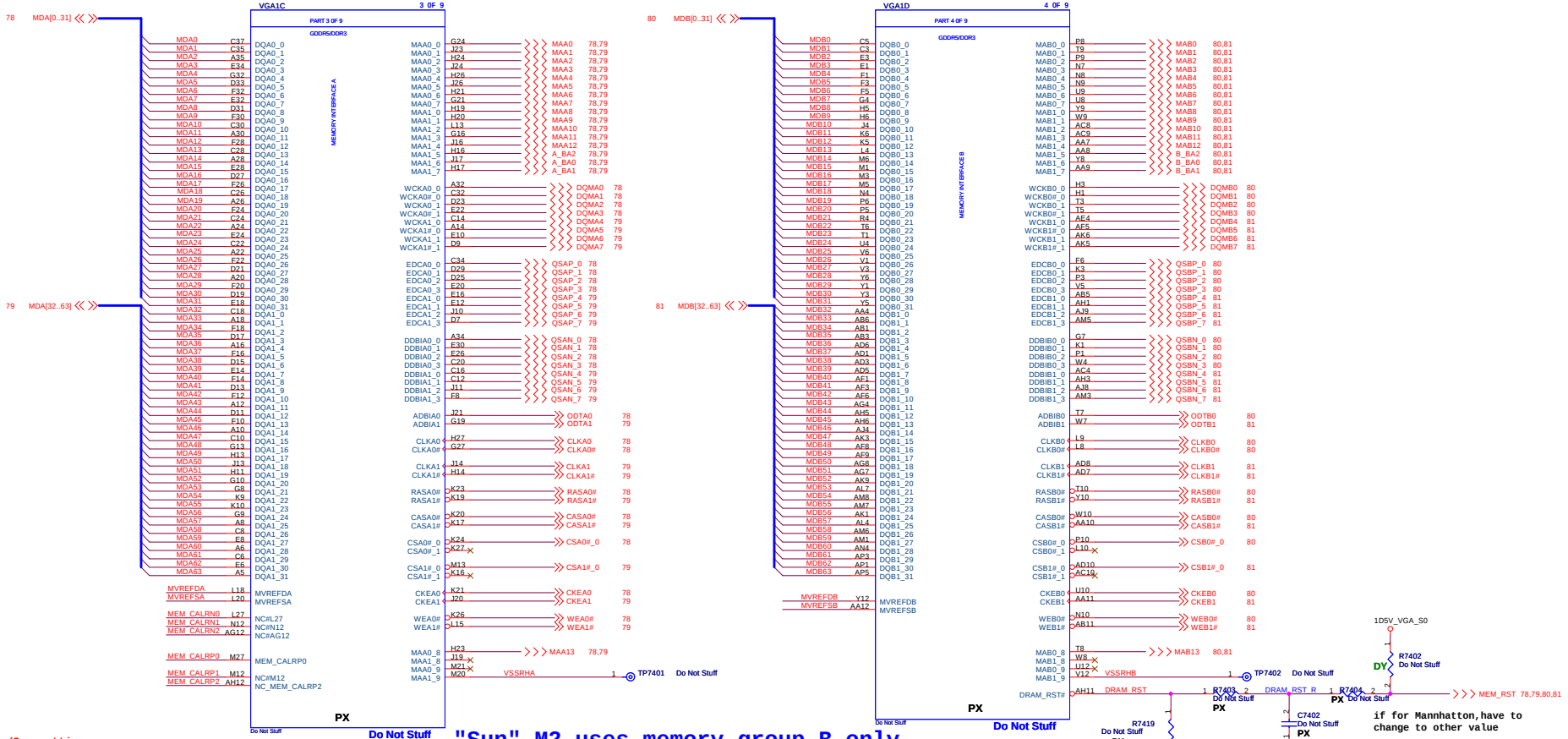
Taipei Hsien 221, Taiwan, R.O.C.

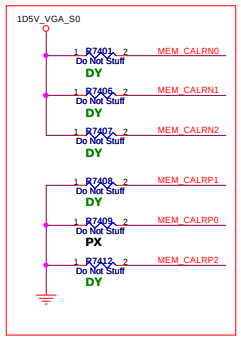
Title: GPU PCIE/STRAPPING

Size | Project Name: KABINI | Rev: SA

Date: Monday, February 04, 2013 | Sheet 73 of 102



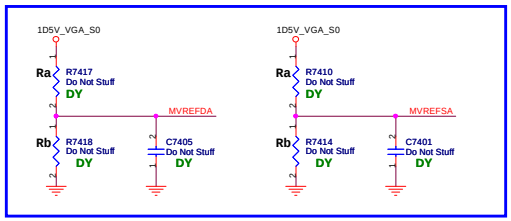
Mars/Sun setting



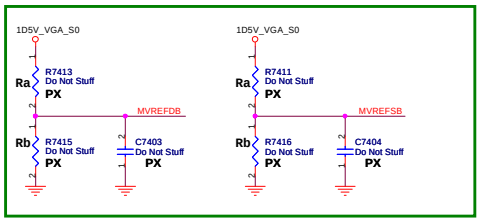
This basic topology should be used for DRAM_RAT for DDR3/GDDR5

PLACE MVREF DIVIDERS AND CAPS CLOSE TO ASIC

SUN S3 package



SUN M2 package



DDR3/GDDR3 Memory Stuff Option(Mad/Park)

	GDDR5	GDDR3	DDR3
MVDDQ	1.5V	1.8V/1.5V	1.5V
Ra	40.2R	40.2R	40.2R
Rb	100R	100R	100R

MEM_CALRN0	Whistler/Thames: Connect to VDDR1 through a 240Ω (±0.5%) resistor, Preferred resistor tolerance is 0.5%, but 1% is acceptable. Seymour: NC Heathrow/Chelsea :NC
MEM_CALRN1	Whistler/Thames: NC Seymour: Connect to VDDR1 through a 240Ω (±0.5%) resistor Heathrow/Chelsea :NC
MEM_CALRN2	Whistler/Thames: Connect to VDDR1 through a 240Ω (±0.5%) resistor Seymour: NC Heathrow/Chelsea :NC

MEM_CALRP0	Whistler/Thames: need a 240 Ω (1%) termination to ground Seymour: NC Heathrow/Chelsea: Need a 120Ω (1%) termination to ground
MEM_CALRP1	Whistler/Thames: NC Seymour: MEM_CALRP1—need a 240Ω (1%) termination to ground
MEM_CALRP2	Whistler/Thames: MEM_CALRP2—need a 240Ω (1%) termination to ground Seymour: NC Heathrow/Chelsea: Need a 120Ω (1%) termination to ground

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21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
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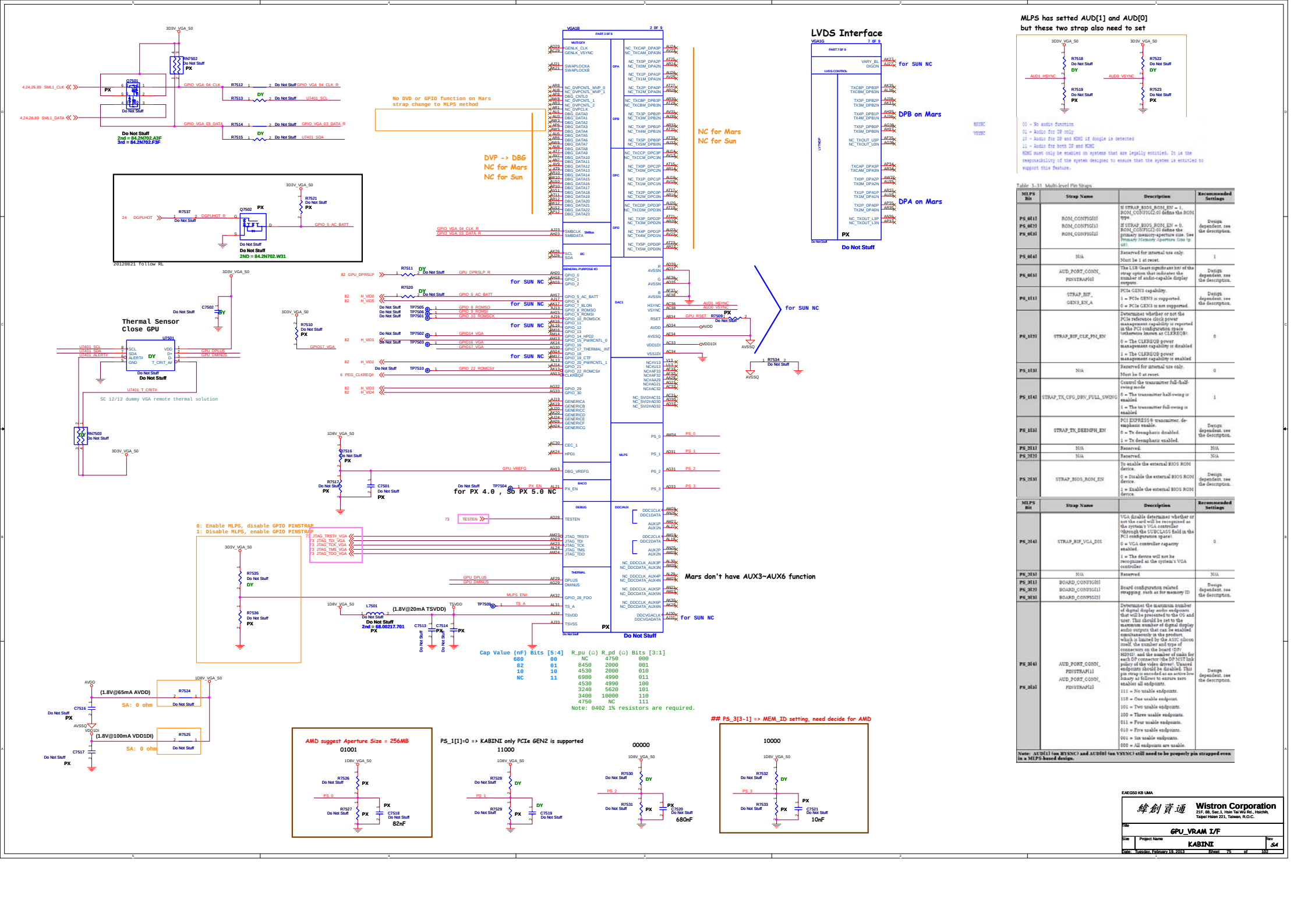
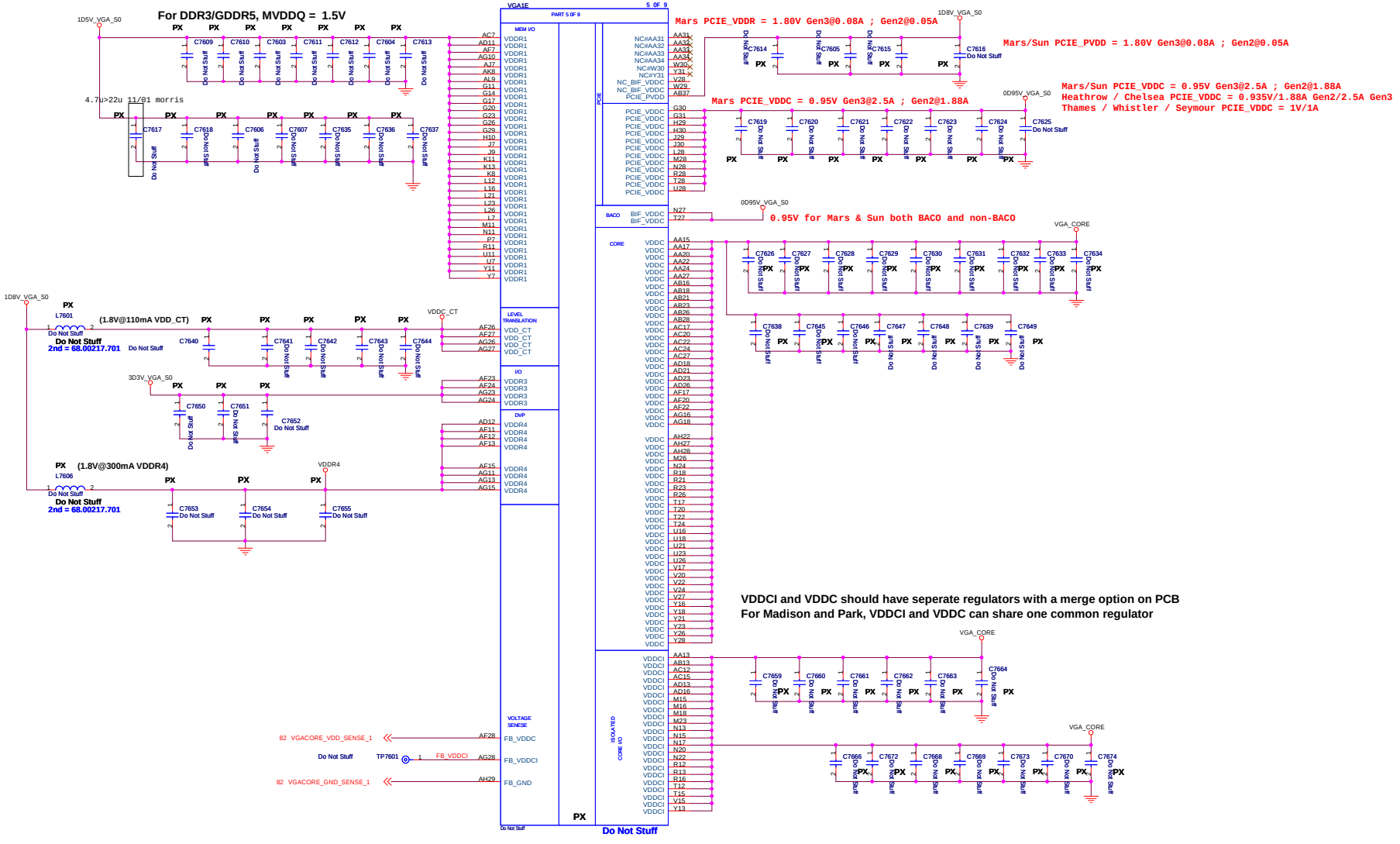
Title: GPU_Digitalout

Size | Project Name: KABINI | Rev: SA

Date: Monday, February 04, 2013 | Sheet 74 of 102


LVDS Interface
for SUN NC
DPB on Mars
DPA on Mars
NC for Mars
NC for Sun
DVP -> DBG
NC for Mars
NC for Sun
No DVD or GPIO function on Mars
strap change to MLPS method
MLPS has setted AUD[1] and AUD[0]
but these two strap also need to set
Thermal Sensor
Close GPU
SC 12/12 dummy VGA remote thermal solution
for PX 4.0 , So PX 5.0 NC
Mars don't have AUX3~AUX6 function
0: Enable MLPS, disable GPIO PINSTRAP
1: Disable MLPS, enable GPIO PINSTRAP
Do Not Stuff
Cap Value (nF) Bits [5:4]
680 00
82 01
10 10
NC 11
R_pu (Ω) R_pd (Ω) Bits [3:1]
NC 4750 000
8450 2000 001
4530 2000 010
6980 4990 011
4530 4990 100
3240 5620 101
3400 10000 110
4750 NC 111
Note: 0402 1% resistors are required.
AMD suggest Aperture Size = 256MB
01001
PS_1[1]=0 => KABINI only PCIe GEN2 is supported
11000
00000
680nF
PS_3[3-1] => MEM_ID setting, need decide for AMD
10000
10nF
Table 3-31 Multi-level Pin Straps
Note: AUD[1] (on HSYNC) and AUD[0] (on VSYNC) still need to be properly pin strapped even in a MLPS-based design.
EAEG50 K8 UMA
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
GPU_VRAM I/F
KABINI
Rev SA
Date: Tuesday, February 19, 2013
Sheet 75 of 102



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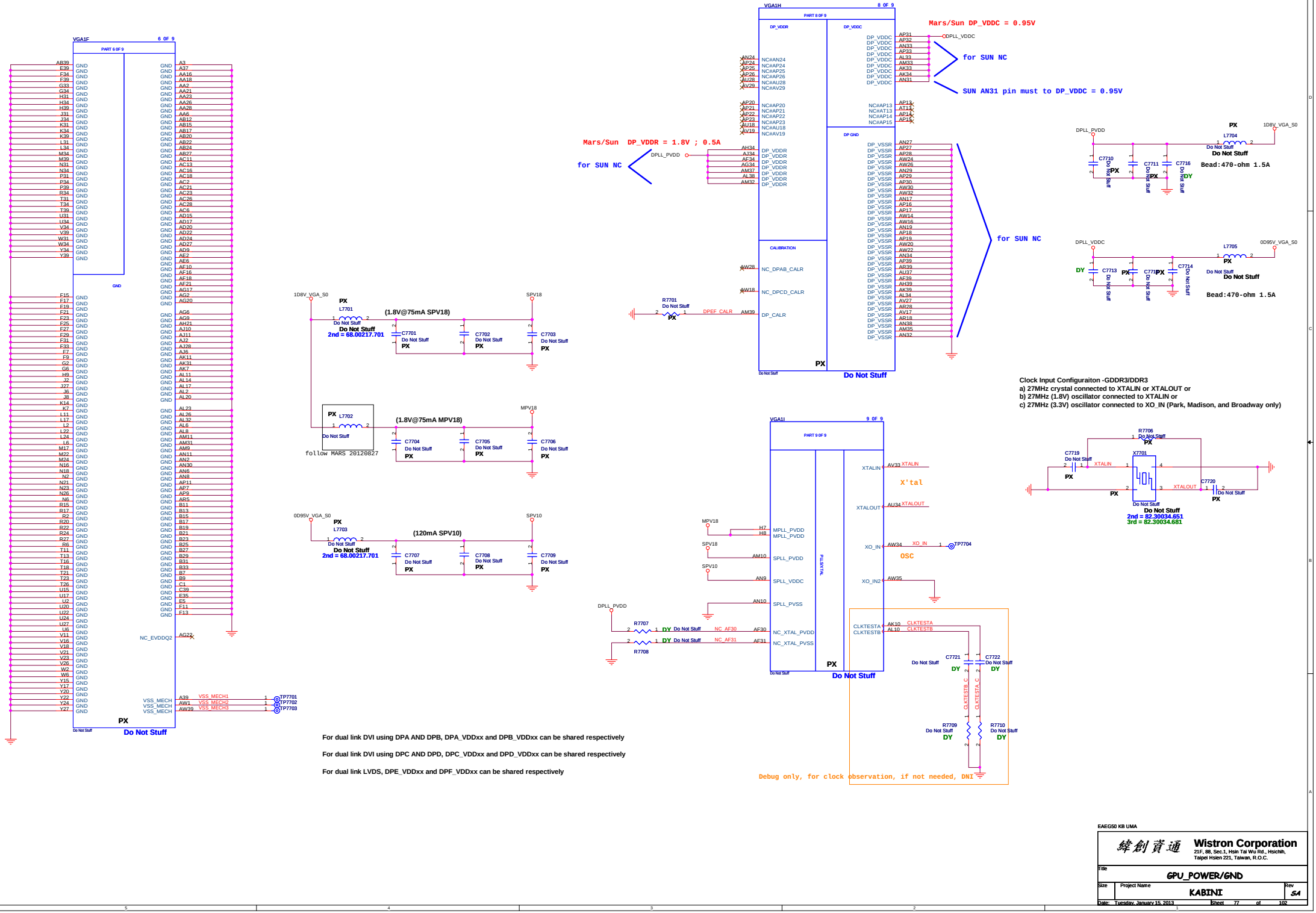
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: GPU_GPIO/STRAP

Size | Project Name: KABINI | Rev: SA

Date: Monday, February 04, 2013 | Sheet 76 of 102



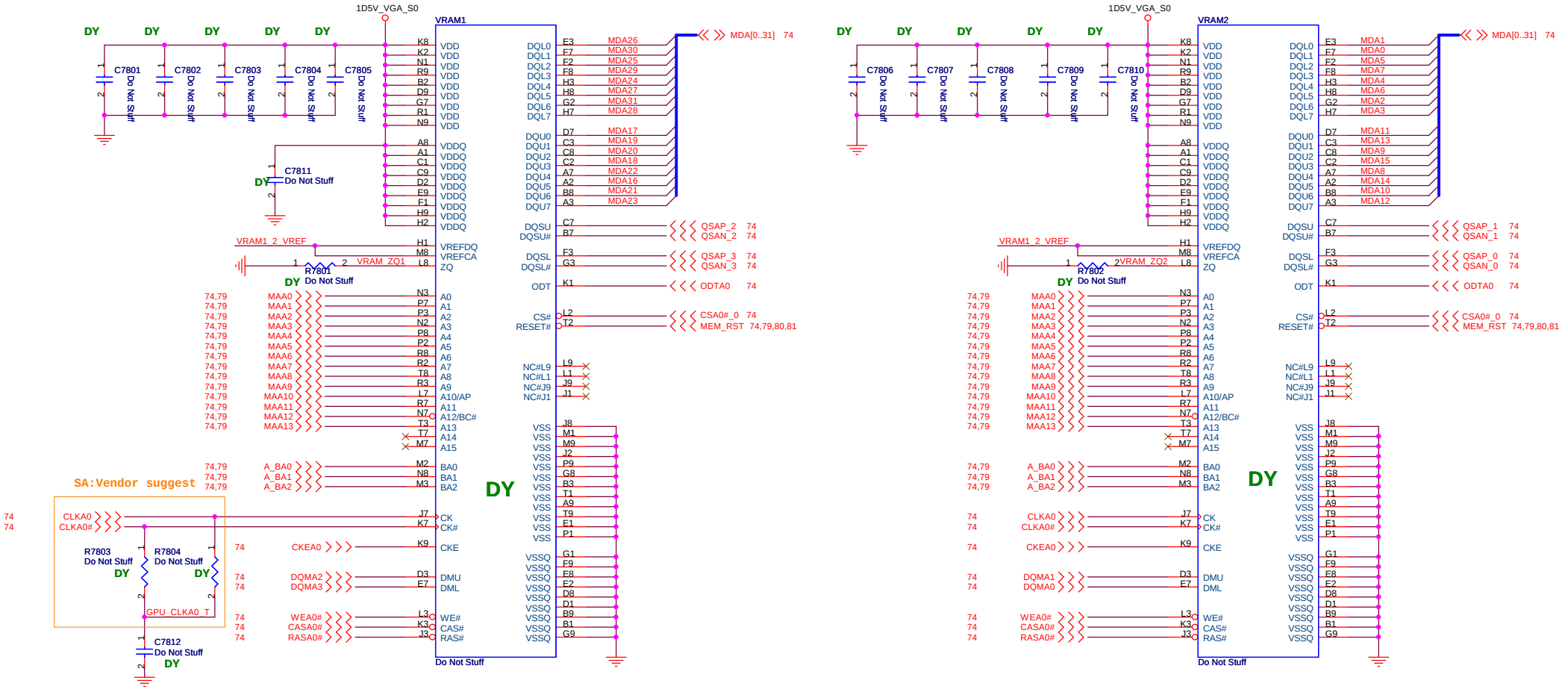
EAEG50 KB UMA

Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: GPU_POWER/GND

Size | Project Name: KABINI | Rev: SA

Date: Tuesday, January 15, 2013 | Sheet 77 of 102



Do Not Stuff

Do Not Stuff

1D5V_VGA_S0

R7805 Do Not Stuff DY

VRAM1_2_VREF

R7806 Do Not Stuff DY

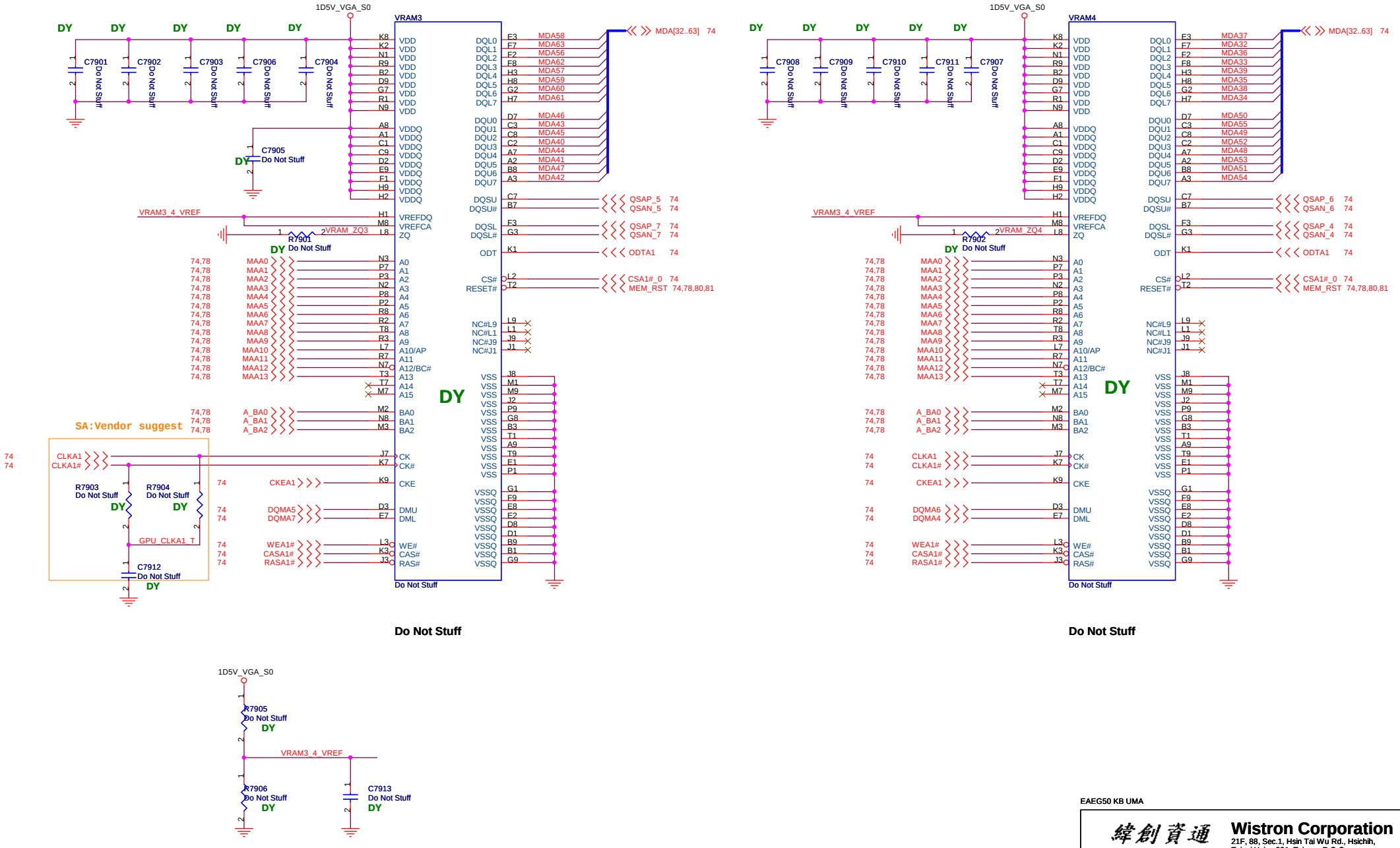
C7813 Do Not Stuff DY

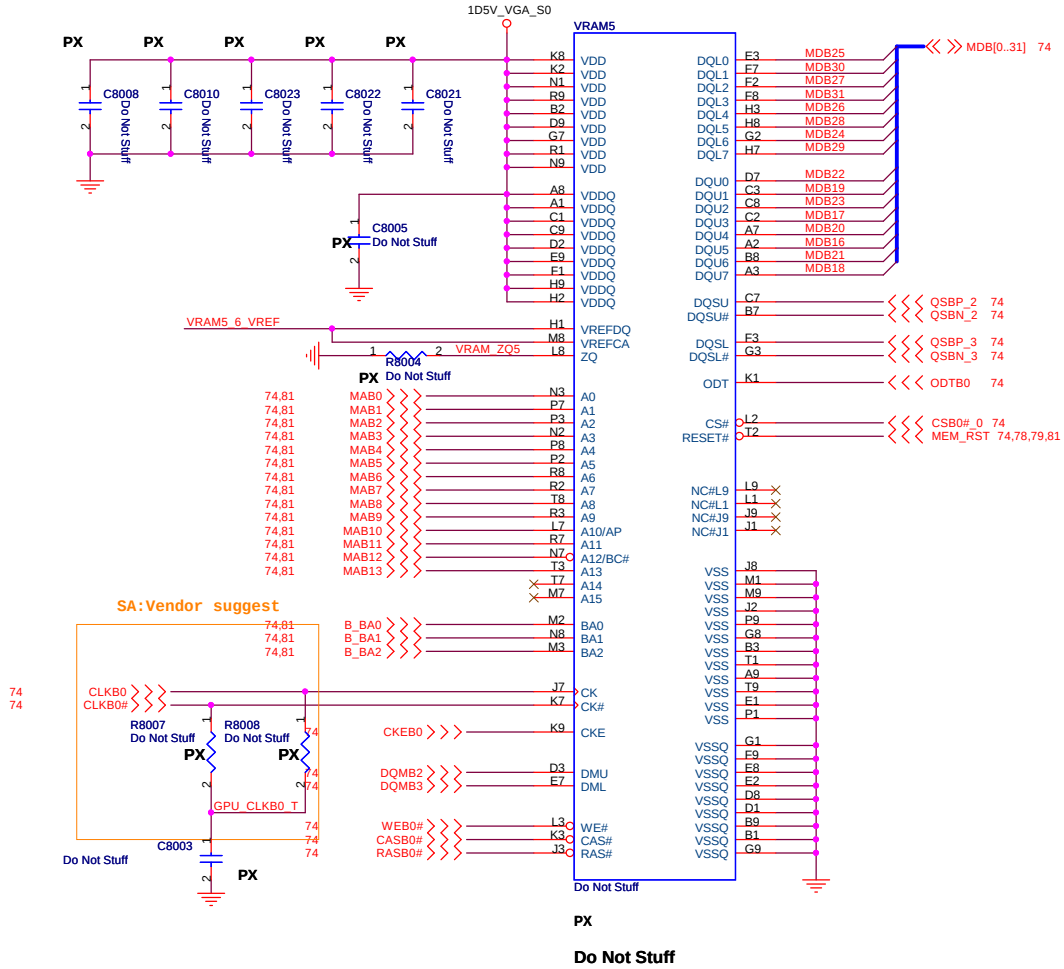
EAEG50 KB UMA

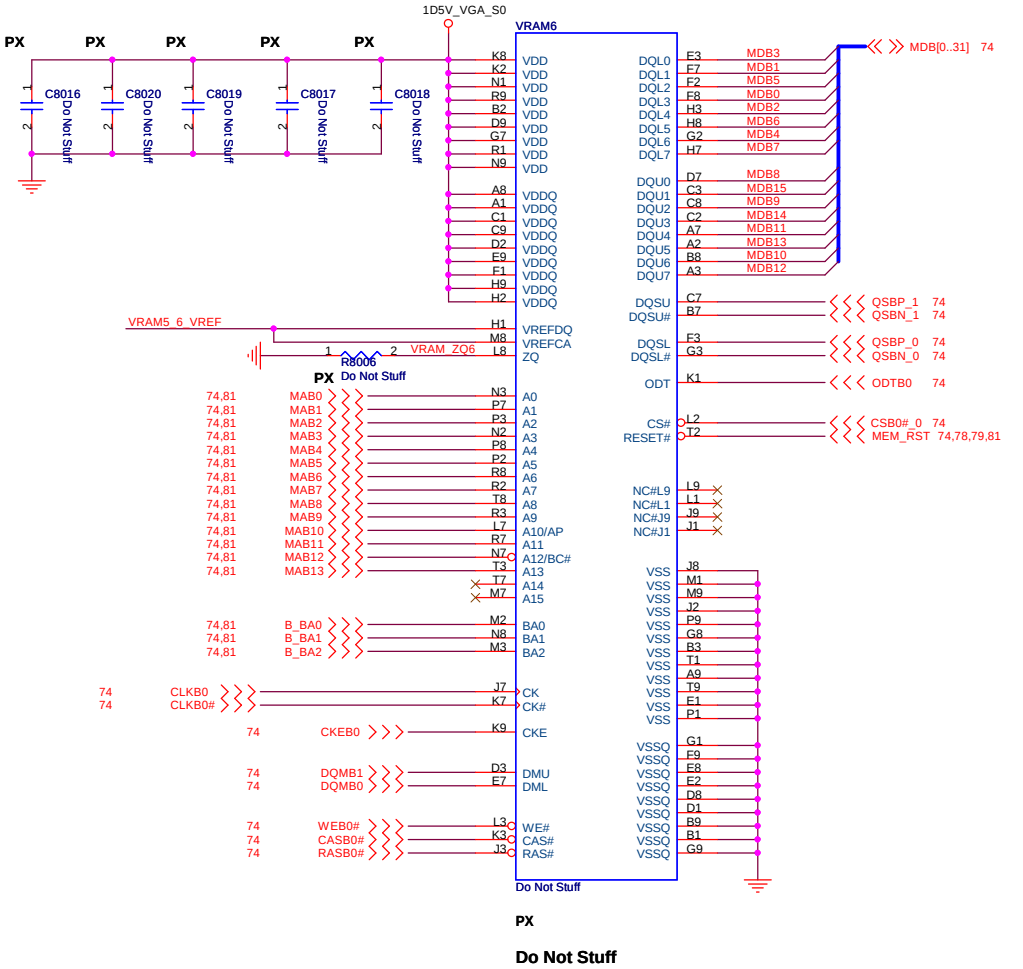
緯創資通 **Wistron Corporation**

21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title: VRAM 1,2		
Size	Project Name: KABINI	Rev: SA
Date: Monday, February 04, 2013	Sheet 78 of 102	


1D5V_VGA_S0
VRAM3
VRAM4
C7901 C7902 C7903 C7906 C7904 C7905 C7908 C7909 C7910 C7911 C7907
Do Not Stuff
DY
R7901 R7902
VRAM3_4_VREF
VRAM_ZQ3
VRAM_ZQ4
MDA[32..63] 74
QSAP_5 74
QSAN_5 74
QSAP_7 74
QSAN_7 74
ODTA1 74
CSA1#_0 74
MEM_RST 74,78,80,81
QSAP_6 74
QSAN_6 74
QSAP_4 74
QSAN_4 74
MAA0 MAA1 MAA2 MAA3 MAA4 MAA5 MAA6 MAA7 MAA8 MAA9 MAA10 MAA11 MAA12 MAA13
A_BA0 A_BA1 A_BA2
CLKA1 CLKA1#
CKEA1
DQMA5 DQMA7
DQMA6 DQMA4
WEA1# CASA1# RASA1#
SA:Vendor suggest
R7903 R7904
GPU_CLKA1_T
C7912
R7905 R7906 C7913
Do Not Stuff
Do Not Stuff
Do Not Stuff
Do Not Stuff
EAEG50 KB UMA
緯創資通
Wistron Corporation
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.
Title
VRAM 3,4
Size
Project Name
KABINI
Rev
SA
Date: Monday, February 04, 2013
Sheet 79 of 102

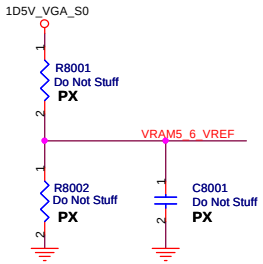




Do Not Stuff

PX

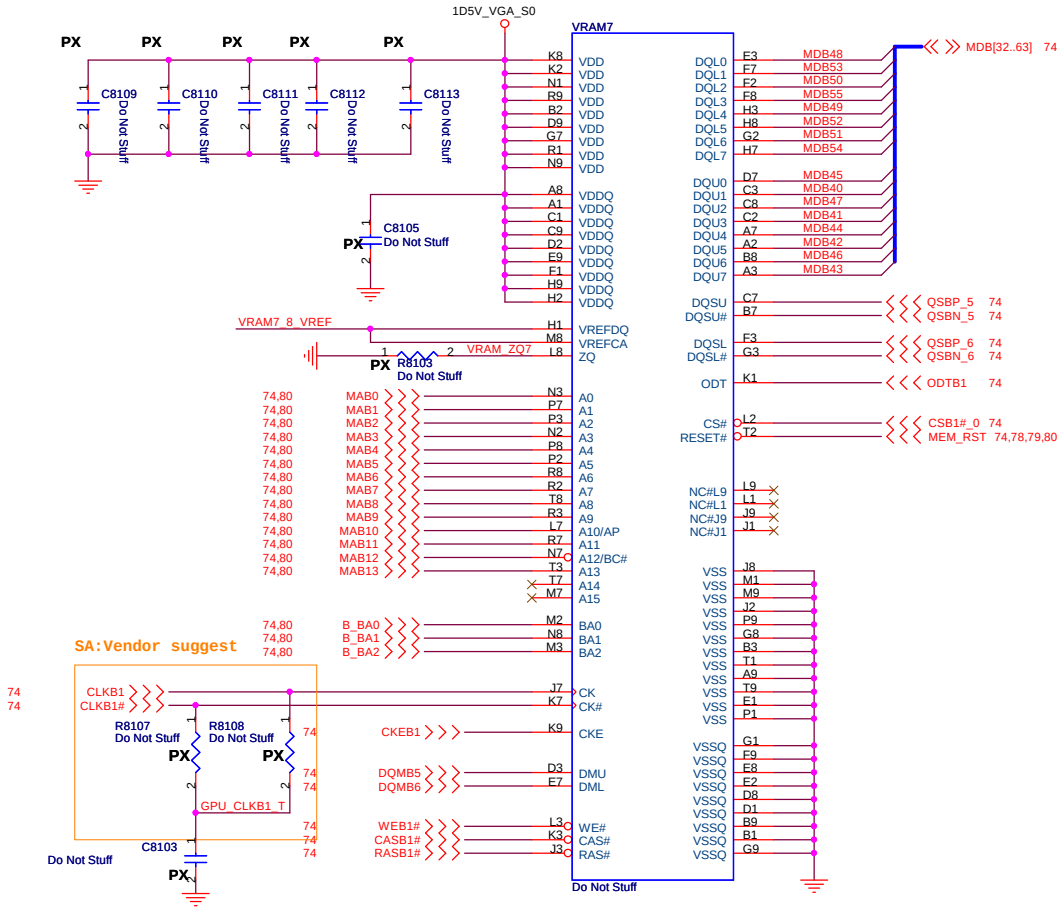
Do Not Stuff

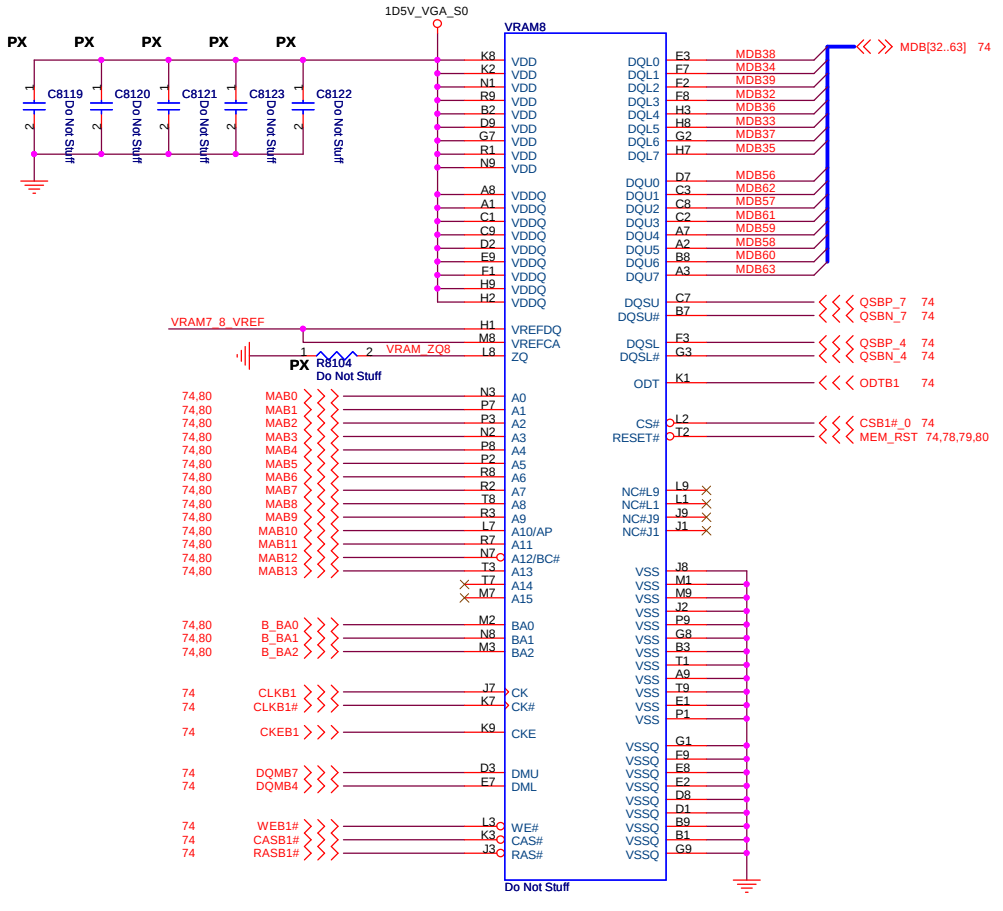


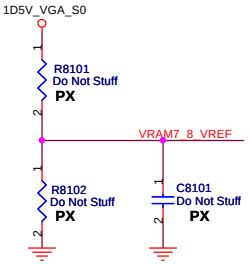
EG50 VRAM: 72.52G63.C0U (VR.2GB0G.005)
IC VRAM H5TQ2G63DFR-11C FBGA 96P 128M*16 x4

EAEG50 KB UMA

緯創資通 Wistron Corporation 21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih, Taipei Hsien 221, Taiwan, R.O.C.		
Title: VRAM 5,6		
Size	Project Name: KABINI	Rev: SA
Date: Monday, February 04, 2013	Sheet 80 of 102	







EG50 VRAM: 72.52G63.C0U (VR.2GB0G.005)
IC VRAM H5TQ2G63DFR-11C FBGA 96P 128M*16 x4

EAEG50 KB UMA

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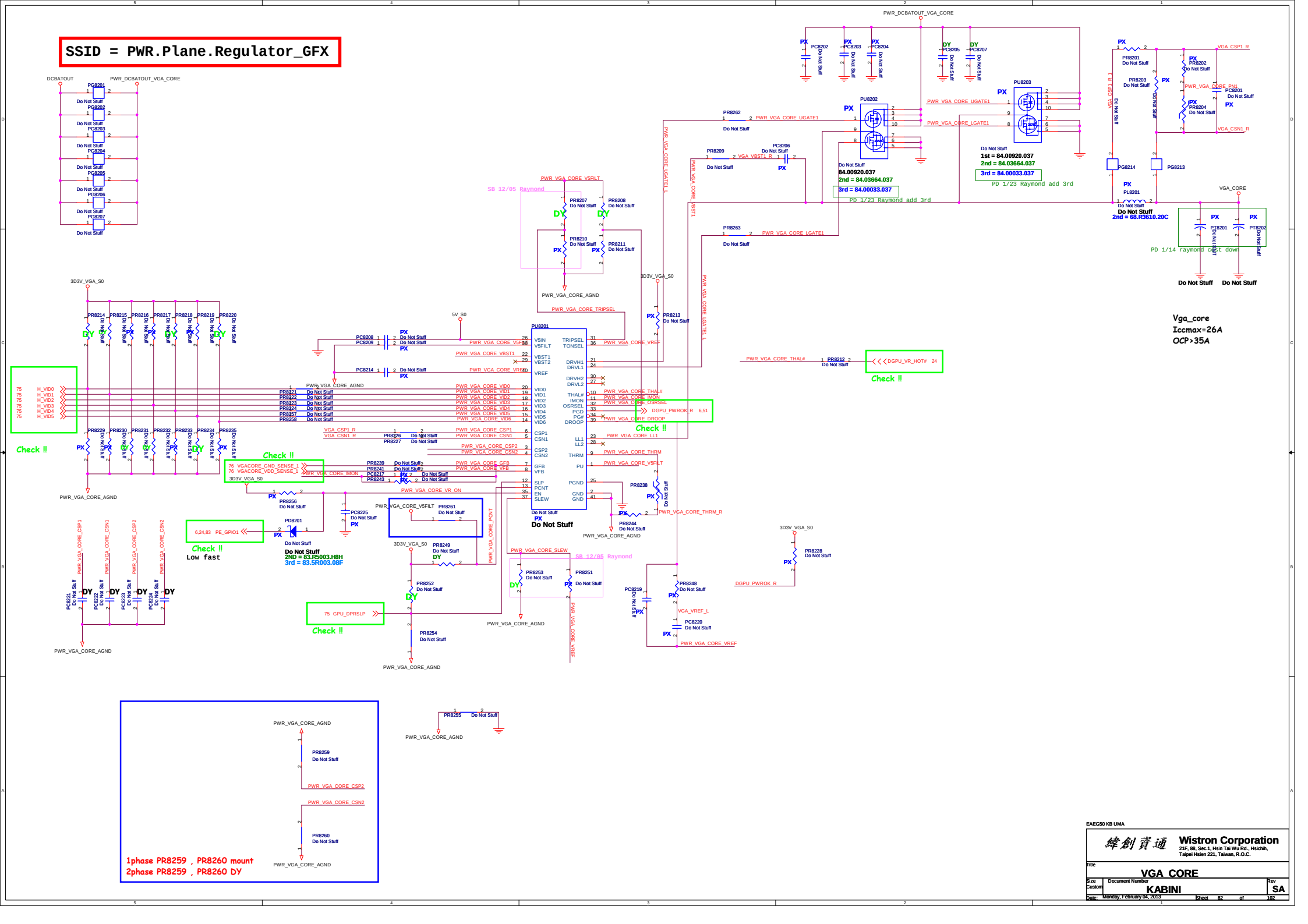
Title: VRAM 7,8		
Size	Project Name: KABINI	Rev: SA
Date: Monday, February 04, 2013	Sheet 81 of 102	

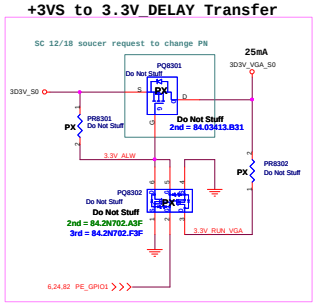
SSID = PWR.Plane.Regulator_GFX

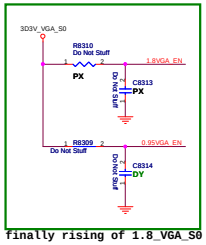


APL3523 for VGA_Power

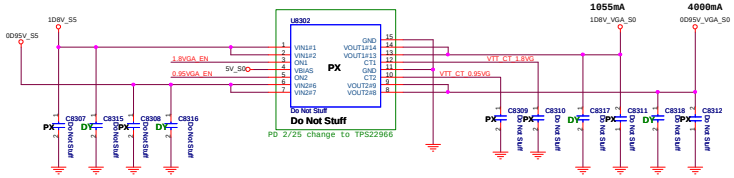
	PE_GPIO0	PE_GPIO1
dGPU mode	H	H
IGPU	L	L
IGPU with BACO	H	H

+3VS to 3.3V_DELAY Transfer





finally rising of 1.8_VGA_S0



Mars : 1000mA
Sun : 500mA
1055mA

Mars GEN3.0 : 4500mA
Sun GEN3.0 : 4000mA
4000mA

EAEG50 K8 UMA

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Taipei Hsien 221, Taiwan, R.O.C.

Title: DISCRETE VGA POWER

Size	Document Number	Rev
Custom	KABINI	SA

Date: Monday, February 25, 2013 Sheet 83 of 89

ZZ.00PAD.2N1

SB 11/14 follow HW for factory issue

H1 Do Not Stuff

H3 Do Not Stuff

ZZ.00PAD.D01

H9 Do Not Stuff

ZZ.00PAD.E01

H7 Do Not Stuff

H8 Do Not Stuff

SB 11/20 ZZ.00pad.2T1 for change BKT size

H12 Do Not Stuff

H13 Do Not Stuff

H14 Do Not Stuff

H15 Do Not Stuff

H16 Do Not Stuff

Check test point

3D3V_S0	1	AFTP1 Do Not Stuff
3D3V_AUX_S5	1	AFTP7 Do Not Stuff
3D3V_S5	1	AFTP8 Do Not Stuff
5V_S5	1	AFTP9 Do Not Stuff
6,24 PM_PWRBTN#	1	AFTP10 Do Not Stuff
24,26,46 APU_VRM_PWRGD	1	AFTP11 Do Not Stuff
24,36 S5_ENABLE	1	AFTP12 Do Not Stuff
4,6,24,30,58,65,73,88 PLT_RST#	1	AFTP13 Do Not Stuff

Test Point放在Dimm Door打開可量測處

10/15 follow HW

24,27,61,90 KBC_PWRBTN#	1	AFTP31 Do Not Stuff

EDP + MIC connector

DCBATOUT_LCD	1	AFTP26 Do Not Stuff
DCBATOUT_LCD	1	AFTP27 Do Not Stuff
	1	AFTP21 Do Not Stuff
	1	AFTP24 Do Not Stuff
LCDVDD	1	AFTP23 Do Not Stuff
52 BLON_OUT_C	1	AFTP22 Do Not Stuff
52 LCD_BRIGHTNESS	1	AFTP20 Do Not Stuff
52 DP_HPD0_C	1	AFTP34 Do Not Stuff
27,52 INT_MIC_L_R	1	AFTP35 Do Not Stuff
52 AUD_GND	1	AFTP38 Do Not Stuff
52 DP_TXN1_CPU_C	1	AFTP32 Do Not Stuff
52 DP_TXP1_CPU_C	1	AFTP33 Do Not Stuff
52 DP_TXN0_CPU_C	1	AFTP36 Do Not Stuff
52 DP_TXP0_CPU_C	1	AFTP37 Do Not Stuff
52 DP_AUXP_CPU_C	1	AFTP47 Do Not Stuff
52 DP_AUXN_CPU_C	1	AFTP48 Do Not Stuff

LAN_RJ45 connector

31 RJ45_1	1	AFTPB7 Do Not Stuff
31 RJ45_2	1	AFTPB8 Do Not Stuff
31 RJ45_3	1	AFTPB9 Do Not Stuff
31 RJ45_4	1	AFTPC0 Do Not Stuff
31 RJ45_5	1	AFTPC1 Do Not Stuff
31 RJ45_6	1	AFTPC2 Do Not Stuff
31 RJ45_7	1	AFTPC3 Do Not Stuff
31 RJ45_8	1	AFTPC4 Do Not Stuff
31 LAN_ACT_LED#_R	1	AFTPC5 Do Not Stuff
31 10M/100M/1G_LED#_R	1	AFTPC6 Do Not Stuff

10/15 follow HW

31 CONN_PWR	1	AFTPC7 Do Not Stuff
31 CONN_PWR2	1	AFTPC8 Do Not Stuff

Card reader connector

30,33 SD_DATA0	1	AFTPB4 Do Not Stuff
30,33 SD_DATA1	1	AFTPB6 Do Not Stuff
30,33 SD_DATA2	1	AFTPB0 Do Not Stuff
30,33 SD_DATA3	1	AFTPB1 Do Not Stuff
CARD_3V3	1	AFTPB2 Do Not Stuff
30,33 SD_CMD	1	AFTPB3 Do Not Stuff
30,33 SD_CLK	1	AFTPB4 Do Not Stuff
33 SD_WP_Q	1	AFTPB5 Do Not Stuff
33 SD_CD#_Q	1	AFTPB6 Do Not Stuff

USBBD connector

5V_USB	1	AFTP93 Do Not Stuff
5V_USB	1	AFTPA3 Do Not Stuff
	1	AFTPA8 Do Not Stuff
	1	AFTPA9 Do Not Stuff
19,63 USB_PN0	1	AFTPD1 Do Not Stuff
19,63 USB_PP0	1	AFTPD2 Do Not Stuff
19,63 USB_PN1	1	AFTPD3 Do Not Stuff
19,63 USB_PP1	1	AFTPD4 Do Not Stuff

DC IN connector

AD_JK	1	AFTP2 Do Not Stuff
AD_JK	1	AFTP3 Do Not Stuff
	1	AFTP5 Do Not Stuff
	1	AFTP6 Do Not Stuff

Battery connector

BT+	1	AFTP29 Do Not Stuff
BT+	1	AFTP30 Do Not Stuff
	1	AFTP25 Do Not Stuff
	1	AFTP28 Do Not Stuff
43 BATA_SDA_1	1	AFTP46 Do Not Stuff
43 BATA_SCL_1	1	AFTP45 Do Not Stuff
43 BAT_INH_1	1	AFTP44 Do Not Stuff
43 BAT_G	1	AFTP50 Do Not Stuff

Speaker connector

27,29 AUD_SPK_L-	1	AFTP39 Do Not Stuff
27,29 AUD_SPK_L+	1	AFTP40 Do Not Stuff
27,29 AUD_SPK_R-	1	AFTP41 Do Not Stuff
27,29 AUD_SPK_R+	1	AFTP42 Do Not Stuff

HP connector

27,29 AUD_HP1_JACK_L2	1	AFTP90 Do Not Stuff
27,29 AUD_HP1_JACK_R2	1	AFTP43 Do Not Stuff
27,29 AUD_HP1_JD#	1	AFTP91 Do Not Stuff
29 COMBO_MIC_CONN	1	AFTP92 Do Not Stuff

FAN connector

24,26 FAN1_PWM	1	AFTP56 Do Not Stuff
5V_S0	1	AFTP57 Do Not Stuff
26 FAN_TACH1_C	1	AFTP58 Do Not Stuff

Normal KB connector

24,62 KCOL0	1	AFTP64 Do Not Stuff
24,62 KCOL1	1	AFTP65 Do Not Stuff
24,62 KCOL2	1	AFTP66 Do Not Stuff
24,62 KCOL3	1	AFTP67 Do Not Stuff
24,62 KCOL4	1	AFTP68 Do Not Stuff
24,62 KCOL5	1	AFTP69 Do Not Stuff
24,62 KCOL6	1	AFTP70 Do Not Stuff
24,62 KCOL7	1	AFTP71 Do Not Stuff
24,62 KCOL8	1	AFTP72 Do Not Stuff
24,62 KCOL9	1	AFTP73 Do Not Stuff
24,62 KCOL10	1	AFTP74 Do Not Stuff
24,62 KCOL11	1	AFTP75 Do Not Stuff
24,62 KCOL12	1	AFTP76 Do Not Stuff
24,62 KCOL13	1	AFTP77 Do Not Stuff
24,62 KCOL14	1	AFTP78 Do Not Stuff
24,62 KCOL15	1	AFTP79 Do Not Stuff
24,62 KCOL16	1	AFTP80 Do Not Stuff
24,62 KCOL17	1	AFTP81 Do Not Stuff
24,62 KROW0	1	AFTP82 Do Not Stuff
24,62 KROW1	1	AFTP83 Do Not Stuff
24,62 KROW2	1	AFTP84 Do Not Stuff
24,62 KROW3	1	AFTP85 Do Not Stuff
24,62 KROW4	1	AFTP86 Do Not Stuff
24,62 KROW5	1	AFTP87 Do Not Stuff
24,62 KROW6	1	AFTP88 Do Not Stuff
24,62 KROW7	1	AFTP89 Do Not Stuff

Touch Pad connector

62,89,90 TP_DATA	1	AFTP98 Do Not Stuff
62,89,90 TP_CLK	1	AFTPA0 Do Not Stuff
6 TP_INT#	1	AFTP99 Do Not Stuff
3D3V_S0	1	AFTP49 Do Not Stuff

10/15 follow HW

89,90 SWR	1	AFTP95 Do Not Stuff
89,90 SWL	1	AFTP97 Do Not Stuff

SB 11/20 Follow EA40-CX

EAEQ50 KB UMA

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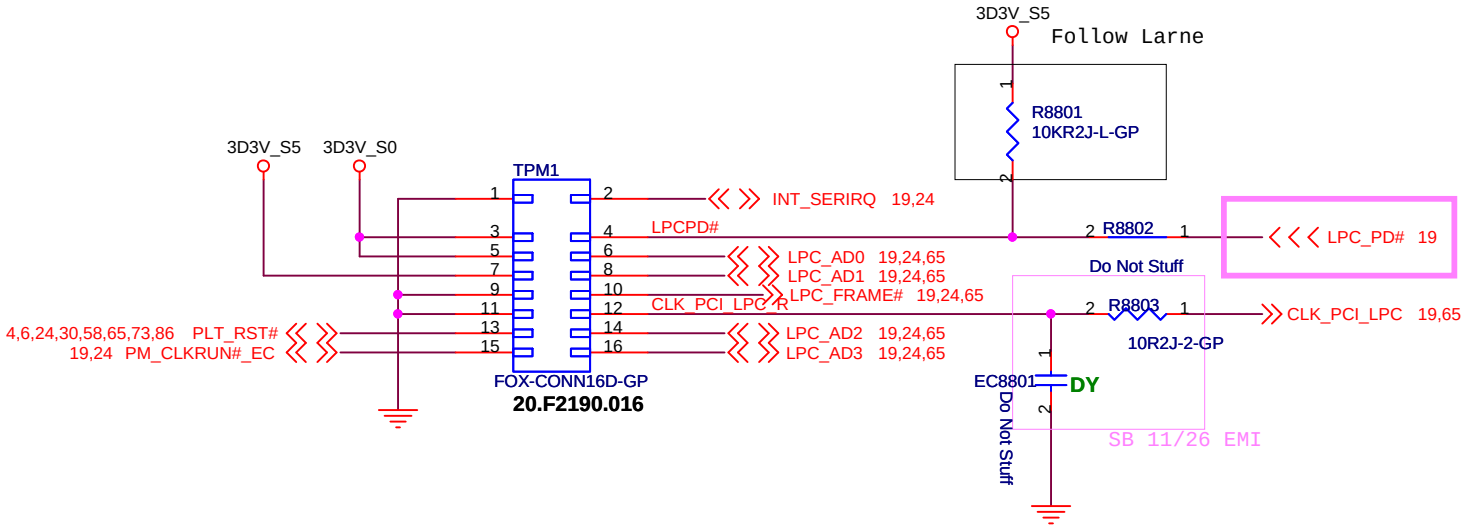
Title: UNUSED PARTS/EMI Capacitors

Size | Project Name: KABINI | Rev: SA

Date: Monday, February 04, 2013 | Sheet 86 of 102



EAEG50 KB UMA

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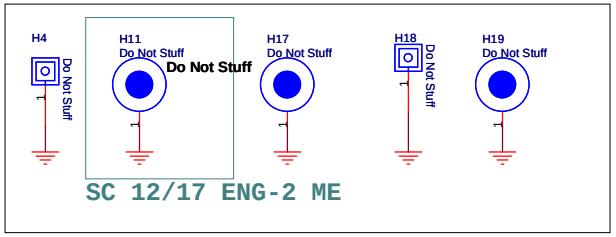
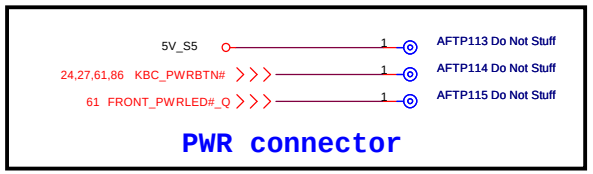
Title	TPM	
Size	Project Name: KABINI	Rev: SA
Date: Monday, February 04, 2013	Sheet 88 of 102	

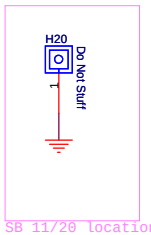
H4 & H11 & H17 & H18 & H19 for EG50



PWRBD AFTP for EG50

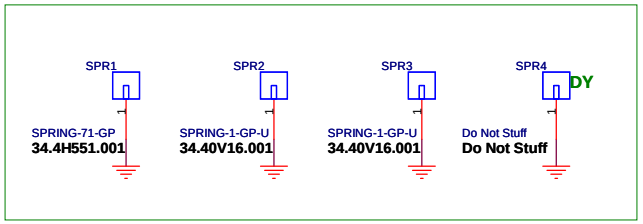


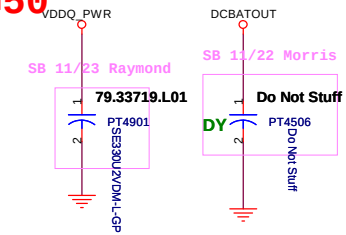
ZZ.00PAD.571



SB 11/20 location same with 14" H2

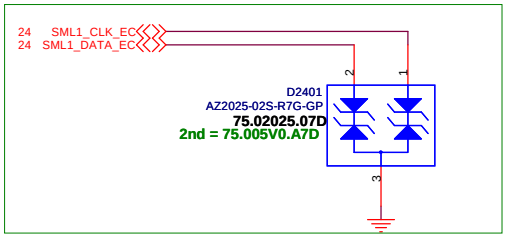
PD 1/23 EMI Jen

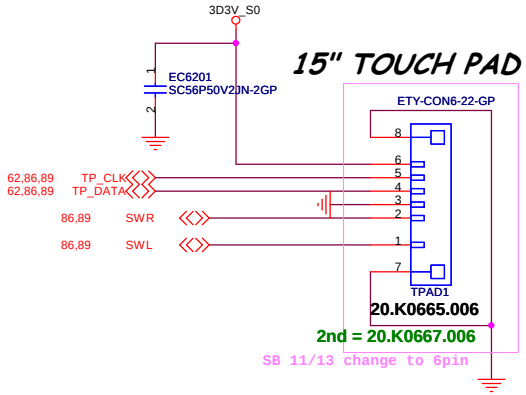


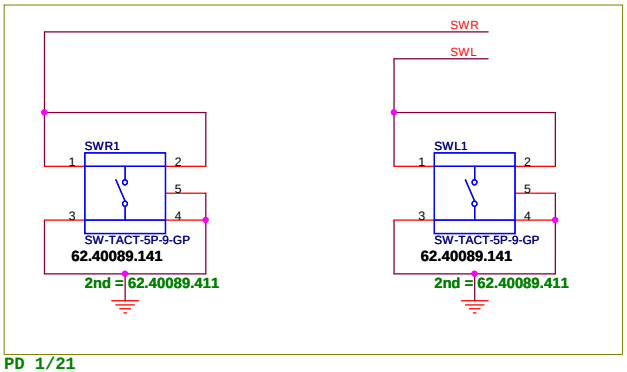


SB 11/23 3mm high limit in EG50

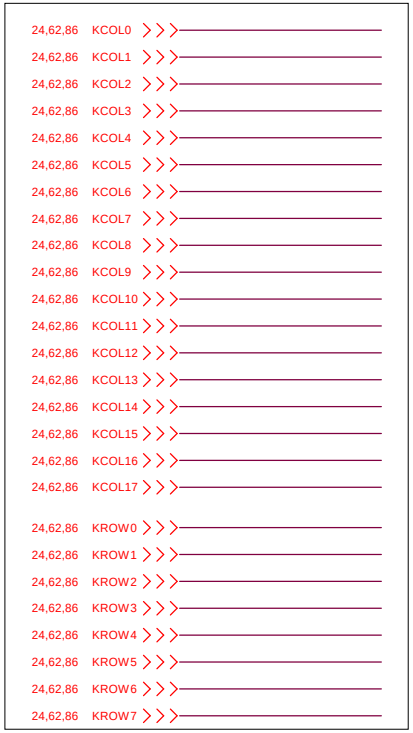
PD 01/31 Different Net name in 14" & 15" for placement







PD 1/21
SWL1 / SWR1 1st change to 62.40089.141,2nd change to 62.40089.411 ,
because 160kg change to 100kg.



For AFTE

EAEG50 KB UMA

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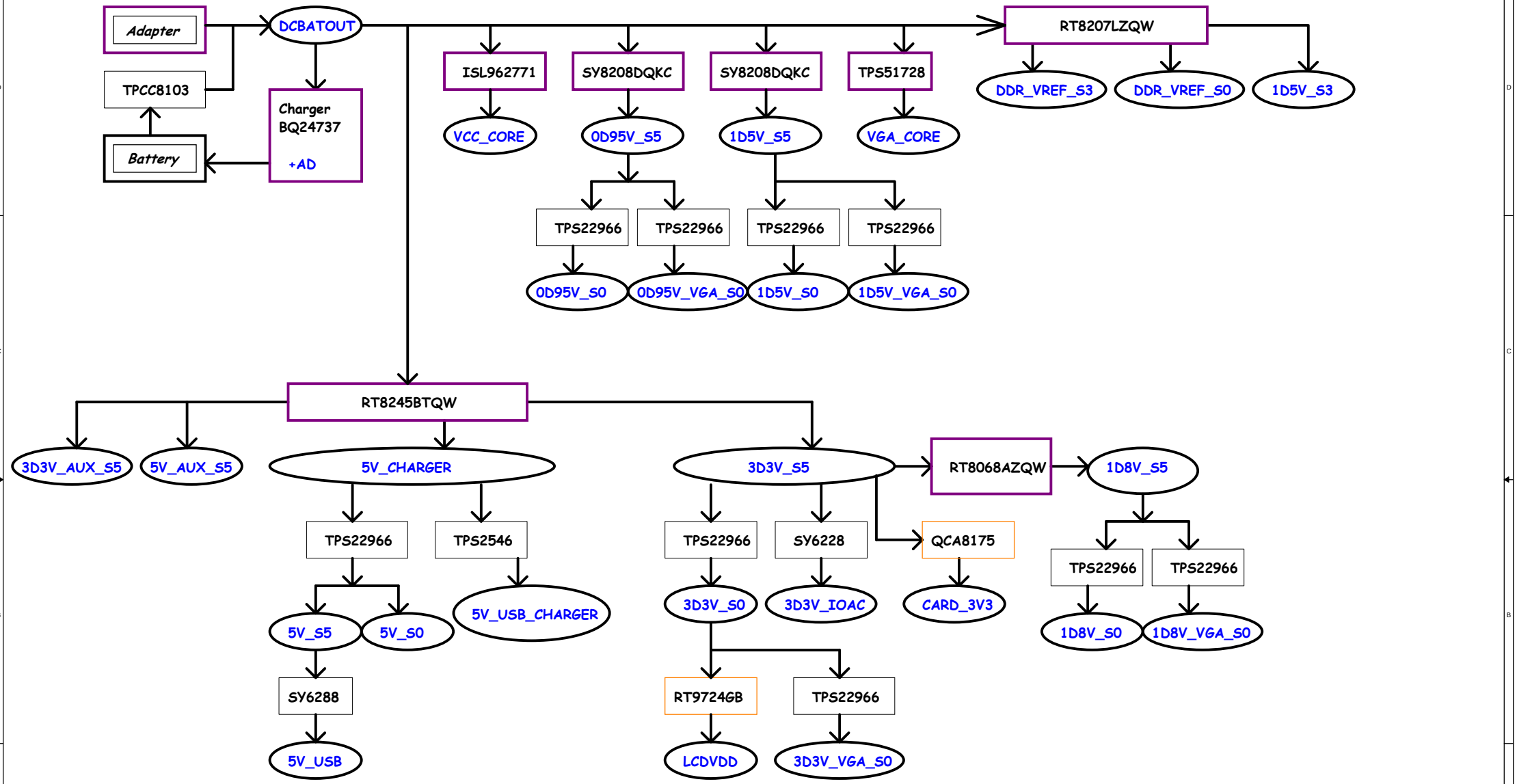
Taipei Hsien 221, Taiwan, R.O.C.

Title		
15"		
Size	Project Name	Rev
	KABINI	SA
Date: Monday, February 25, 2013	Sheet 90 of 102	



Power Shape

Regulator	LDO	Switch

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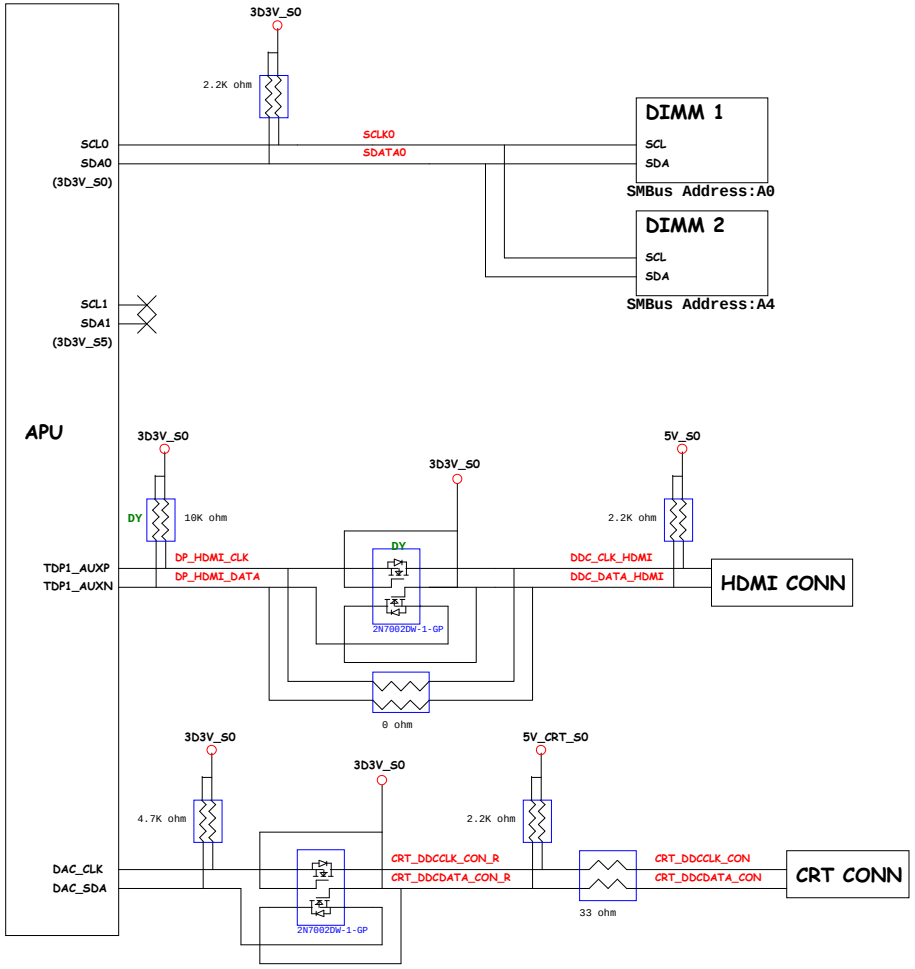
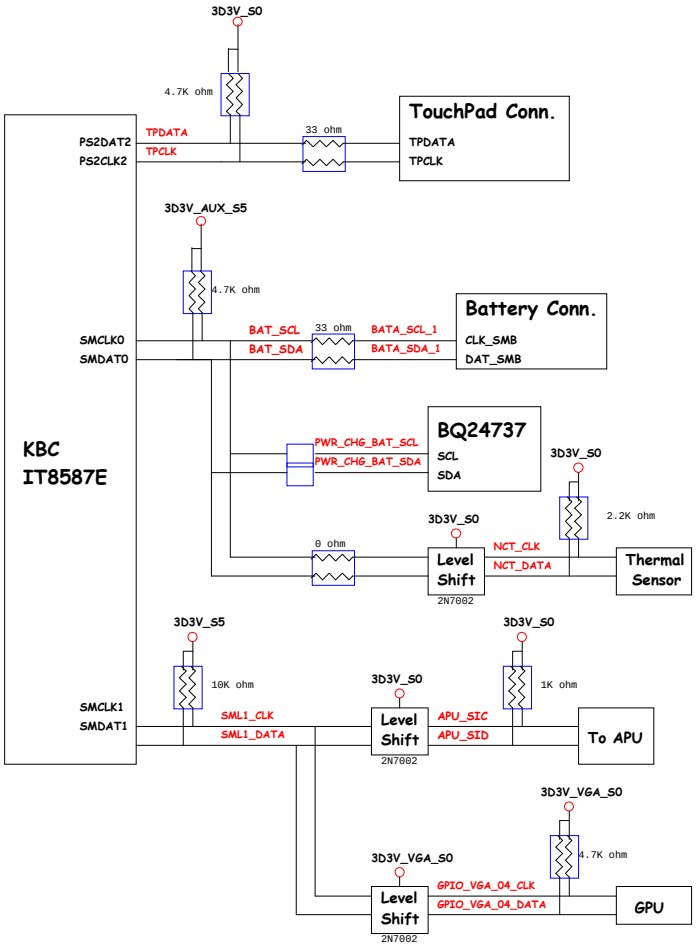
21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih,
Taipei Hsien 221, Taiwan, R.O.C.

Title		
Power block Diagram		
Size	Project Name: **KABINI**	Rev: SA
Date: Friday, September 07, 2012	Sheet 100 of 102	

SMBus Block Diagram



KBC SMBus Block Diagram



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Title: SMBUS Block Diagram

Size	Project Name	Rev
	KABINI	SA

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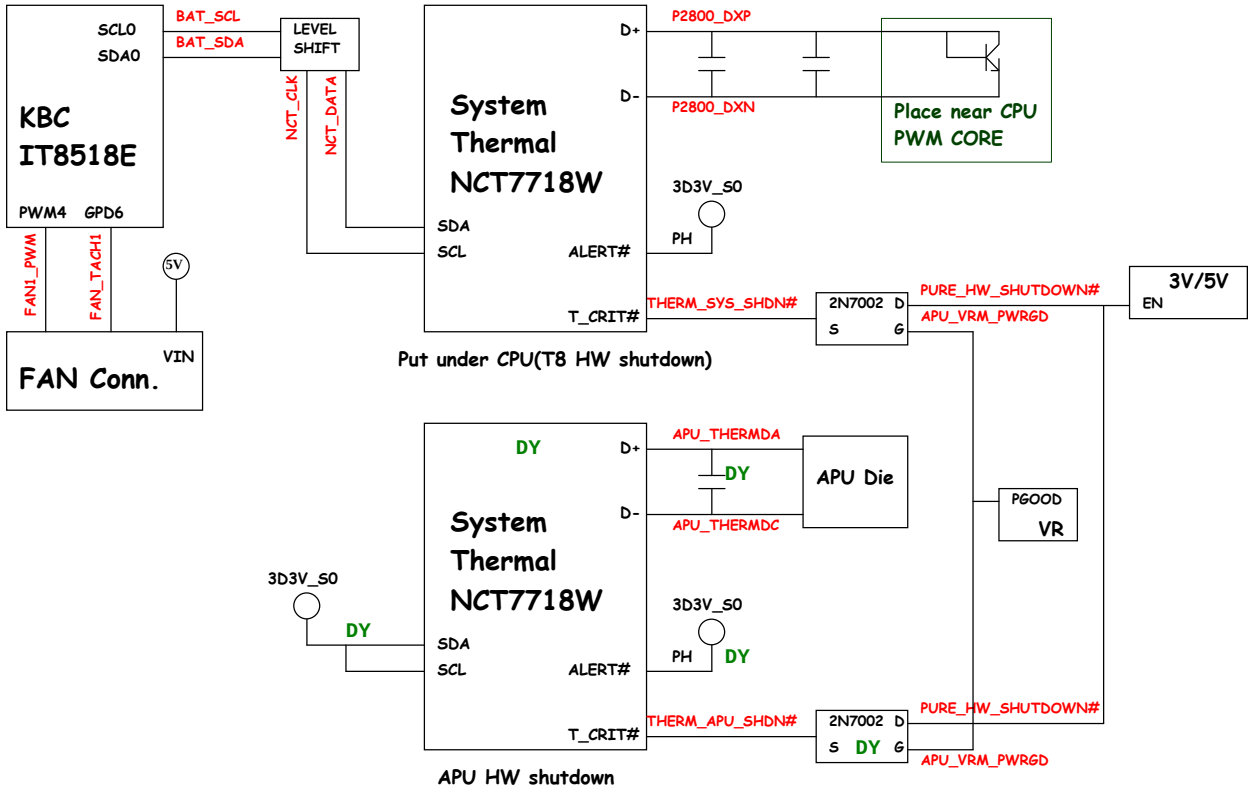
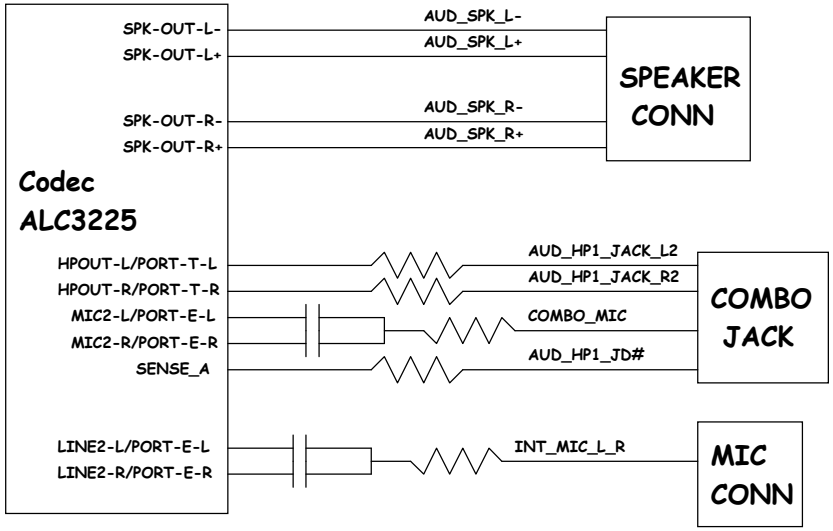
Thermal Block Diagram



Audio Block Diagram



EAEG50 KB UMA

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Taipei Hsien 221, Taiwan, R.O.C.

Title	Thermal/Audio Block Diagram	
Size	Project Name: KABINI	Rev: SA
Date: Wednesday, December 26, 2012	Sheet 102 of 102	