

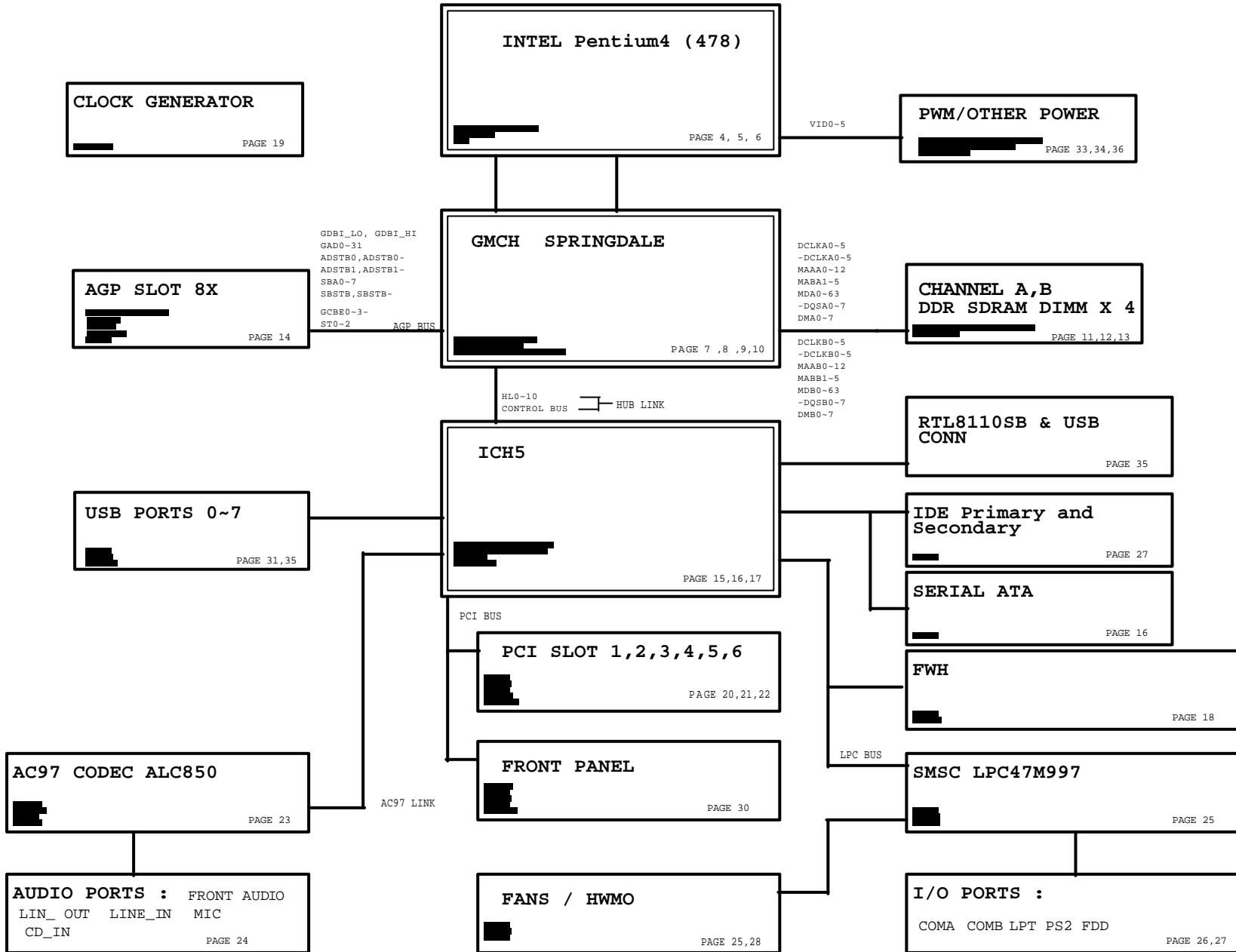
# GIGABYTE GA-8IPE1000-G REV4.0 Schematics

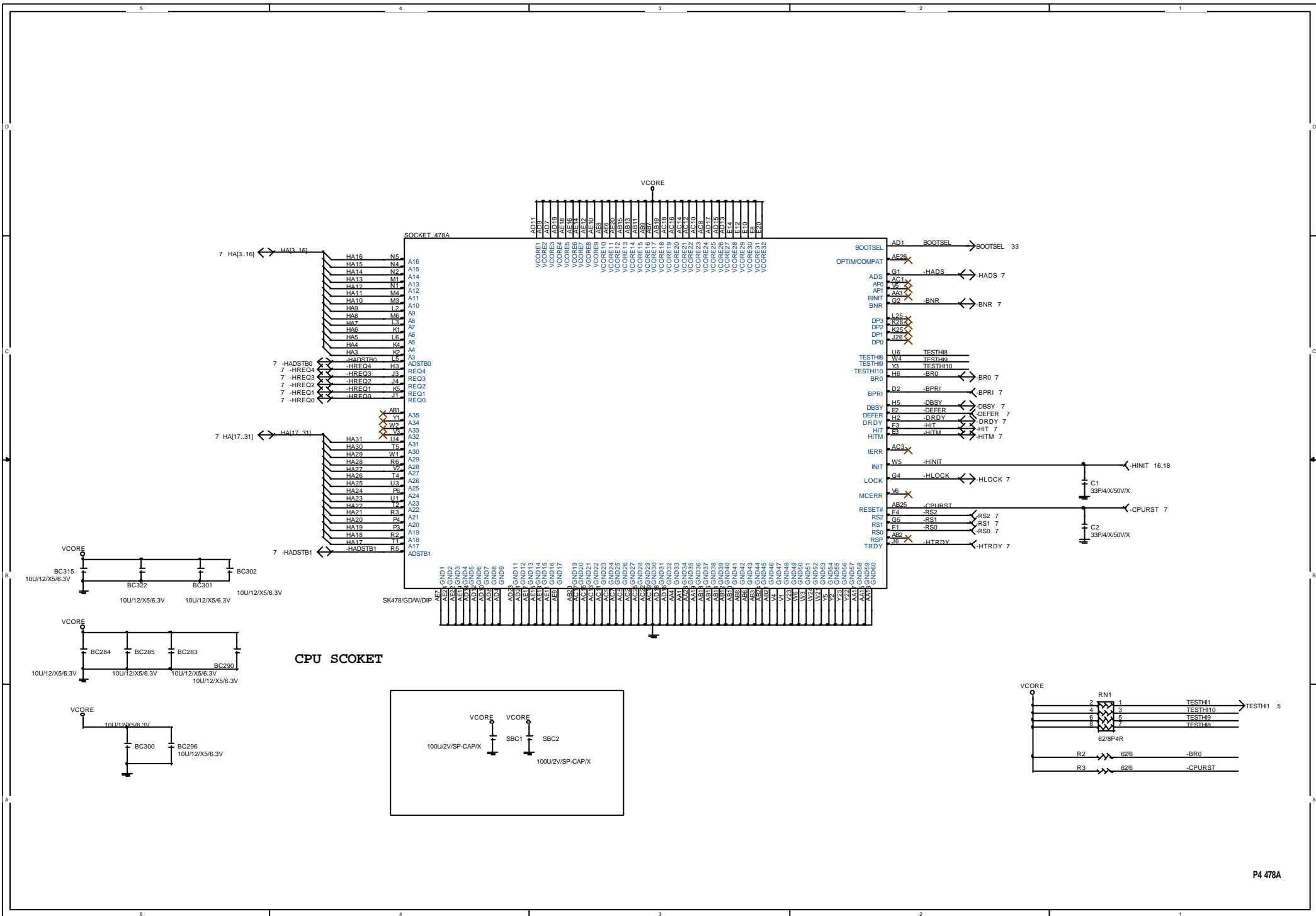
01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	P4_478A
05	P4_478B
06	P4_478C
07	SPRINGDALE HOST
08	SPRINGDALE DDR
09	SPRINGDALE AGP, HUB, CSA, VGA
10	SPRINGDALE PWR
11	DDR1,2 CHANNEL A
12	DDR3,4 CHANNEL B
13	DDR TERMINATION
14	AGP
15	ICH5 PCI, USB, HUB, LAN
16	ICH5 IDE, GPIO, SATA, CTRL
17	ICH5 VCC, GND
18	FWH
19	ICS952603 CLOCK GEN
20	PCI1_2
21	PCI3_4
22	PCI5

23	CODEC
24	AUDIO JACK, L_OUT, F_AUDIO
25	SMSC LPC47M997
26	COM LPT
27	IDE
28	FAN
29	KB_PS2
30	FPANEL
31	USB CONN
32	ALL POWER
33	VCORE POWER
34	ATX, OTHERS POWER
35	REALTEK RTL8110SB LAN
36	DDR POWER
37	PCI ROUNT LIST
38	GPIO LIST
PCB	304.8*220.091mm/C/60+-15%



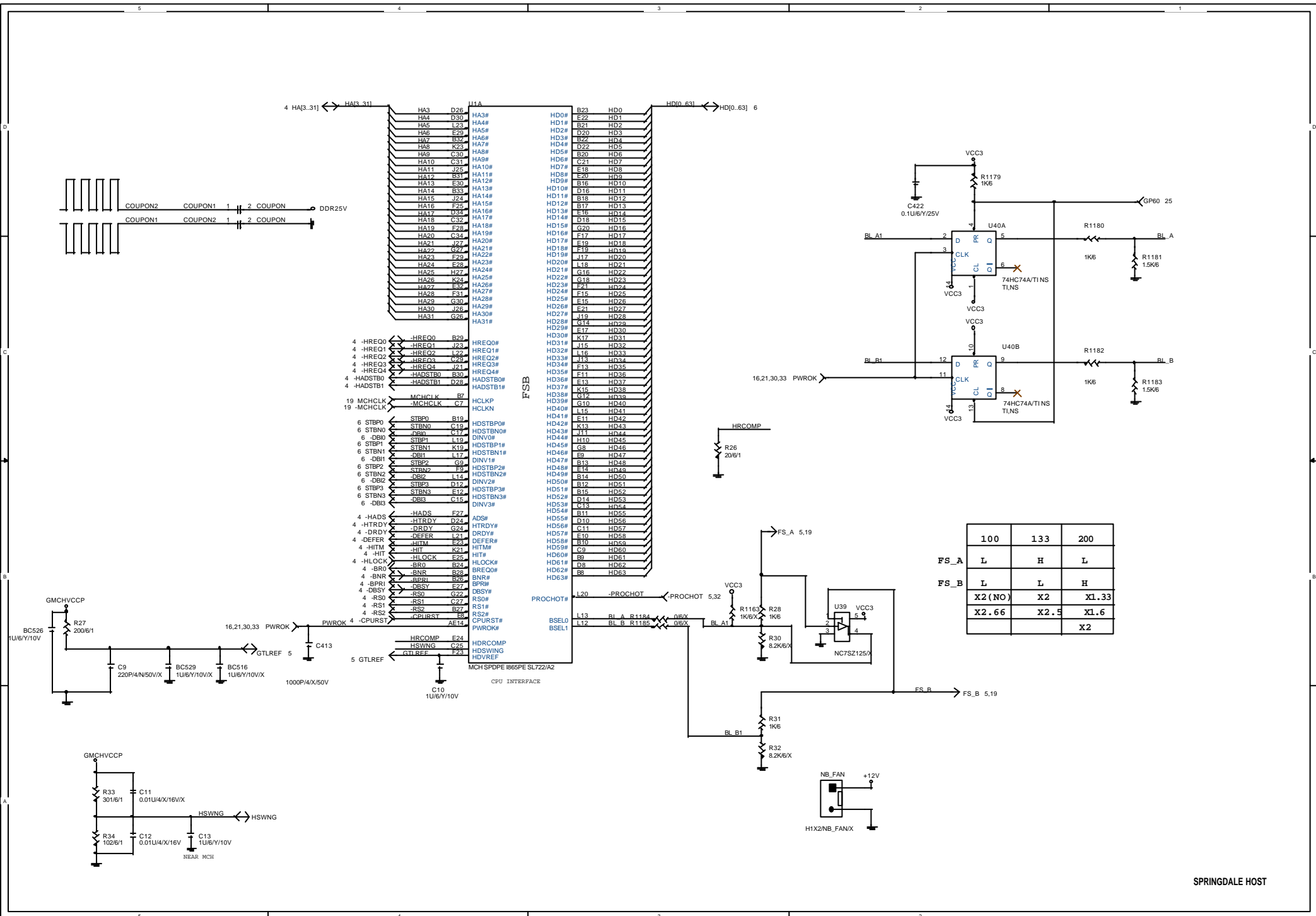
# BLOCK DIAGRAM





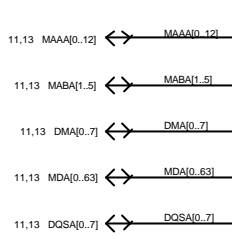






	100	133	200
FS_A	L	H	L
FS_B	L	L	H
	X2 (NO)	X2	X1.33
	X2.66	X2.5	X1.6
			X2

SPRINGDALE HOST

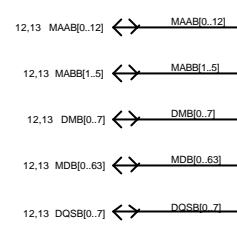
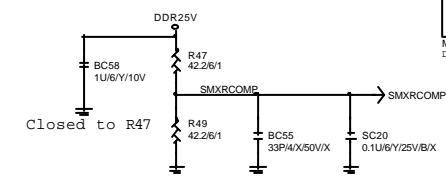


U1B	U1C
MAA0 AJ34	MAA0 AG31
MAA1 AN30	MAA1 AK31
MAA2 AK29	MAA2 AD27
MAA3 AN31	MAA3 AE24
MAA4 AL30	MAA4 AR27
MAA5 AL26	MAA5 AG25
MAA6 AL28	MAA6 AL25
MAA7 AN25	MAA7 AF21
MAA8 AP26	MAA8 AL26
MAA9 AP24	MAA9 AA29
MAA10 AJ33	MAA10 AF29
MAA11 AN23	MAA11 AL21
MAA12 AN21	MAA12 AJ20

SMAB	SMSC	SMCKE	SCMDCLK
SMAB_A1	SMSC_A0#	SMCKE_A0	SCMDCLK_A0
SMAB_A2	SMSC_A1#	SMCKE_A1	SCMDCLK_A1#
SMAB_A3	SMSC_A2#	SMCKE_A2	SCMDCLK_A2#
SMAB_A4	SMSC_A3#	SMCKE_A3	SCMDCLK_A3#
SMAB_A5			SCMDCLK_A4#

SDQS	SDM	SDQ	SDQS	SDM	SDQ
SDQS_A0	SDM_A0	SDQ_A0	SDQS_B0	SDM_B0	SDQ_B0
SDQS_A1	SDM_A1	SDQ_A1	SDQS_B1	SDM_B1	SDQ_B1
SDQS_A2	SDM_A2	SDQ_A2	SDQS_B2	SDM_B2	SDQ_B2
SDQS_A3	SDM_A3	SDQ_A3	SDQS_B3	SDM_B3	SDQ_B3
SDQS_A4	SDM_A4	SDQ_A4	SDQS_B4	SDM_B4	SDQ_B4
SDQS_A5	SDM_A5	SDQ_A5	SDQS_B5	SDM_B5	SDQ_B5

MCH SPDPE I865PE SL722/A2  
DDR INTERFACE

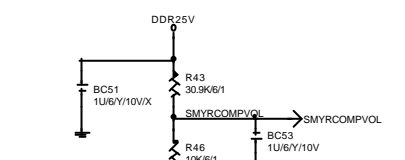
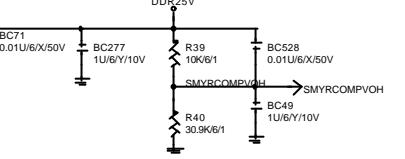
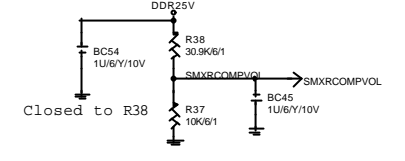
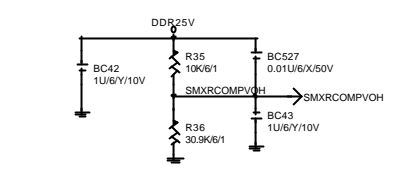
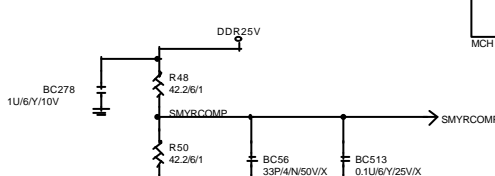


U1B	U1C
AN11 DQSA0	MAAB0 AG31
AP10 MDA0	MAAB1 AK31
AP11 MDA1	MAAB2 AD27
AP12 MDA2	MAAB3 AE24
AN13 MDA3	MAAB4 AR27
AM10 MDA4	MAAB5 AG25
AL10 MDA5	MAAB6 AL25
AL12 MDA6	MAAB7 AF21
AP13 MDA7	MAAB8 AL26
AP15 DQSA1	MAAB9 AA29
AP16 DMA1	MAAB10 AF29
AP14 MDA8	MAAB11 AL21
AL15 MDA10	MAAB12 AJ20
AP19 MDA11	
AL14 MDA12	
AN15 MDA13	
AP18 MDA14	
AM18 MDA15	

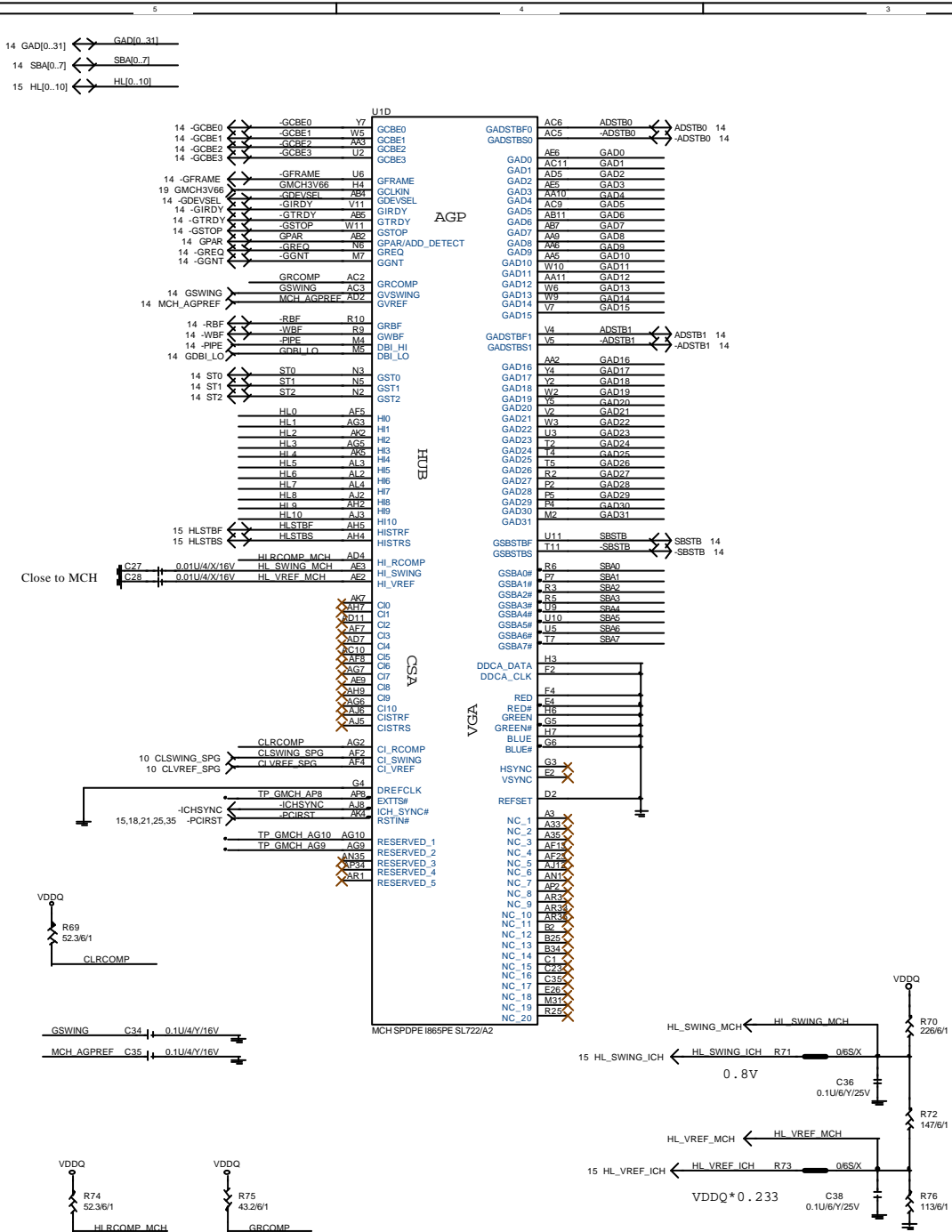
SMAB	SMSC	SMCKE	SCMDCLK
SMAB_B1	SMSC_B0#	SMCKE_B0	SCMDCLK_B0
SMAB_B2	SMSC_B1#	SMCKE_B1	SCMDCLK_B0#
SMAB_B3	SMSC_B2#	SMCKE_B2	SCMDCLK_B1
SMAB_B4	SMSC_B3#	SMCKE_B3	SCMDCLK_B1#
			SCMDCLK_B2
			SCMDCLK_B2#
			SCMDCLK_B3
			SCMDCLK_B3#
			SCMDCLK_B4
			SCMDCLK_B4#
			SCMDCLK_B5
			SCMDCLK_B5#

SDQS	SDM	SDQ	SDQS	SDM	SDQ
SDQS_B0	SDM_B0	SDQ_B0	SDQS_B32	SDM_B32	SDQ_B32
SDQS_B1	SDM_B1	SDQ_B1	SDQS_B33	SDM_B33	SDQ_B33
SDQS_B2	SDM_B2	SDQ_B2	SDQS_B34	SDM_B34	SDQ_B34
SDQS_B3	SDM_B3	SDQ_B3	SDQS_B35	SDM_B35	SDQ_B35
SDQS_B4	SDM_B4	SDQ_B4	SDQS_B36	SDM_B36	SDQ_B36
SDQS_B5	SDM_B5	SDQ_B5	SDQS_B37	SDM_B37	SDQ_B37
SDQS_B6	SDM_B6	SDQ_B6	SDQS_B38	SDM_B38	SDQ_B38
SDQS_B7	SDM_B7	SDQ_B7	SDQS_B39	SDM_B39	SDQ_B39

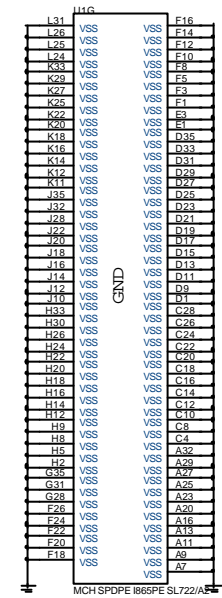
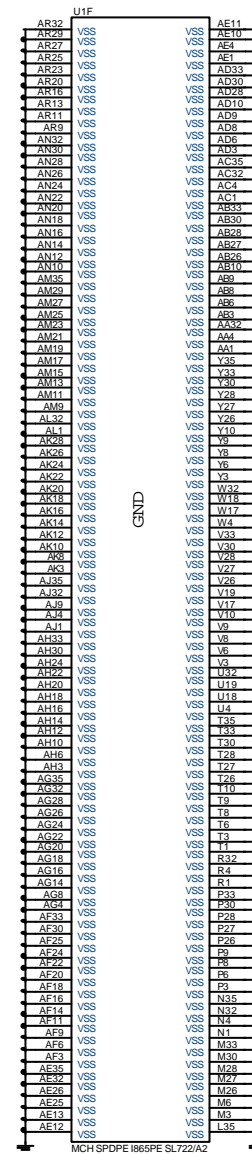
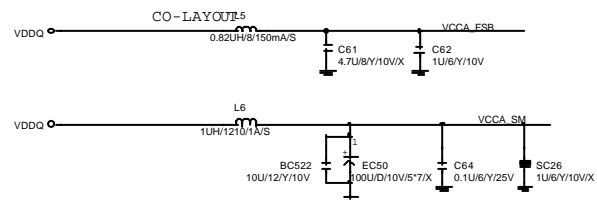
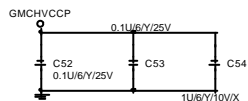
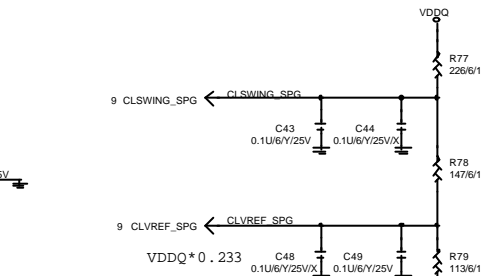
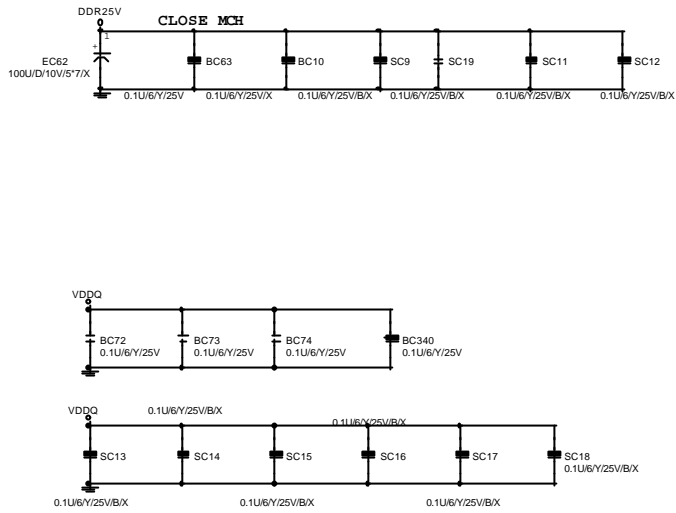
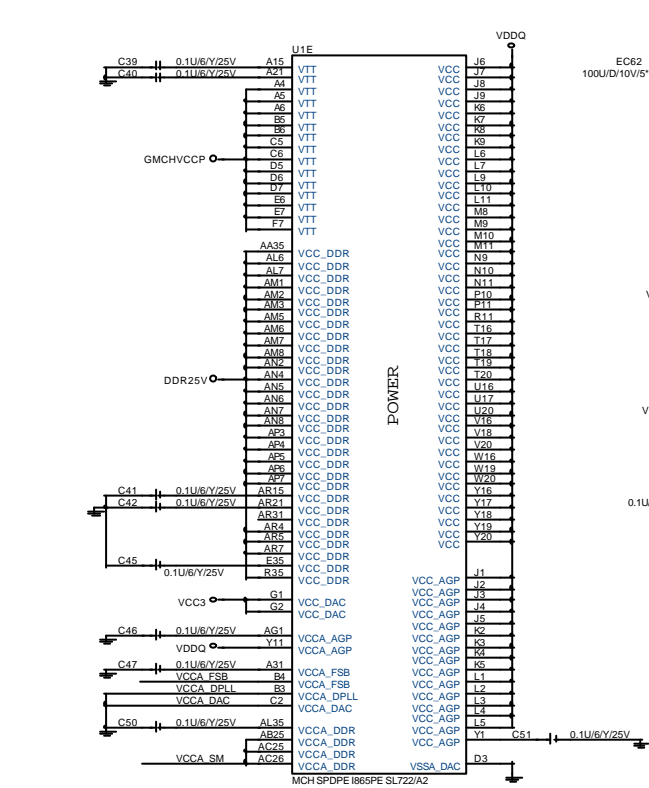
MCH SPDPE I865PE SL722/A2

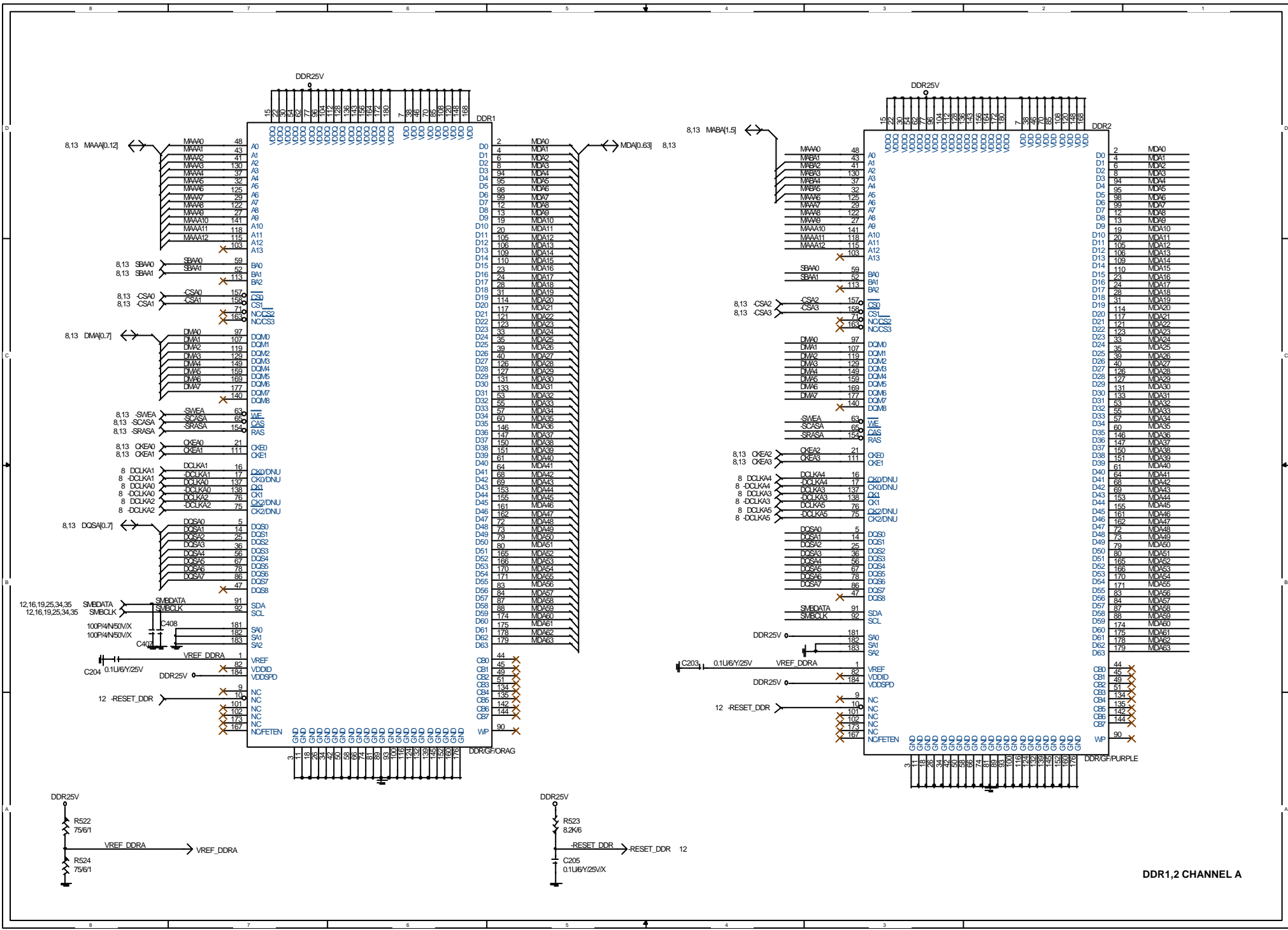




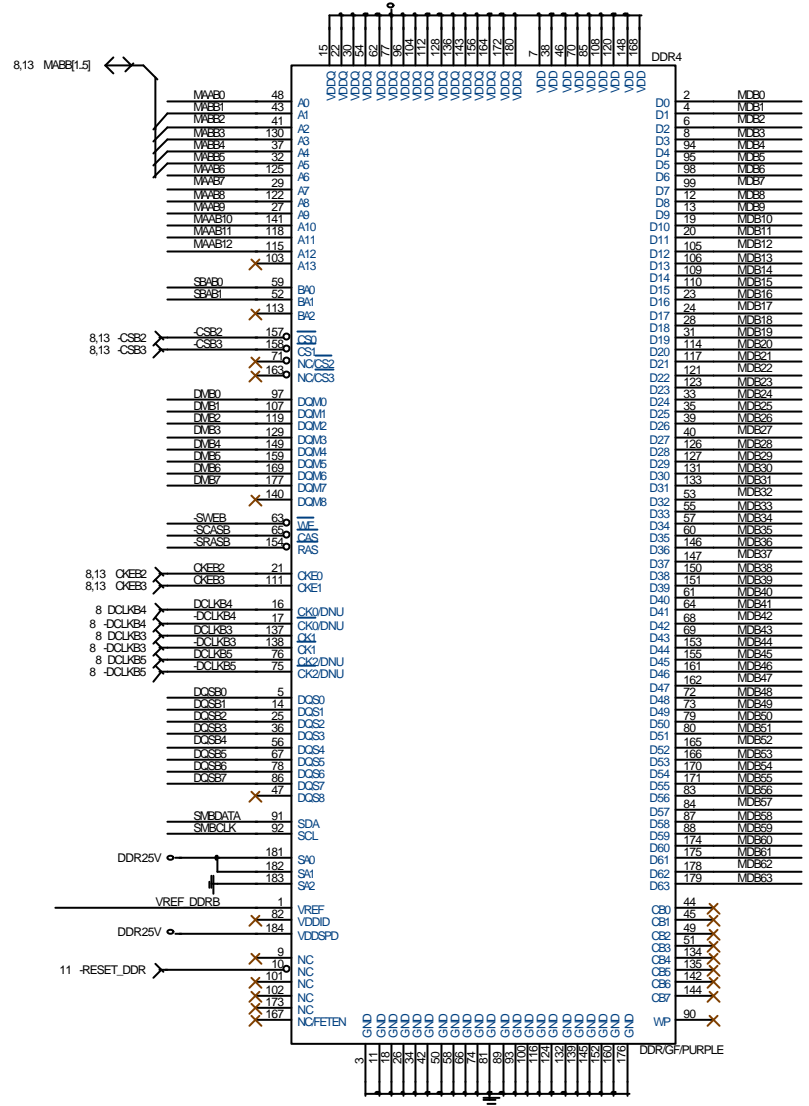
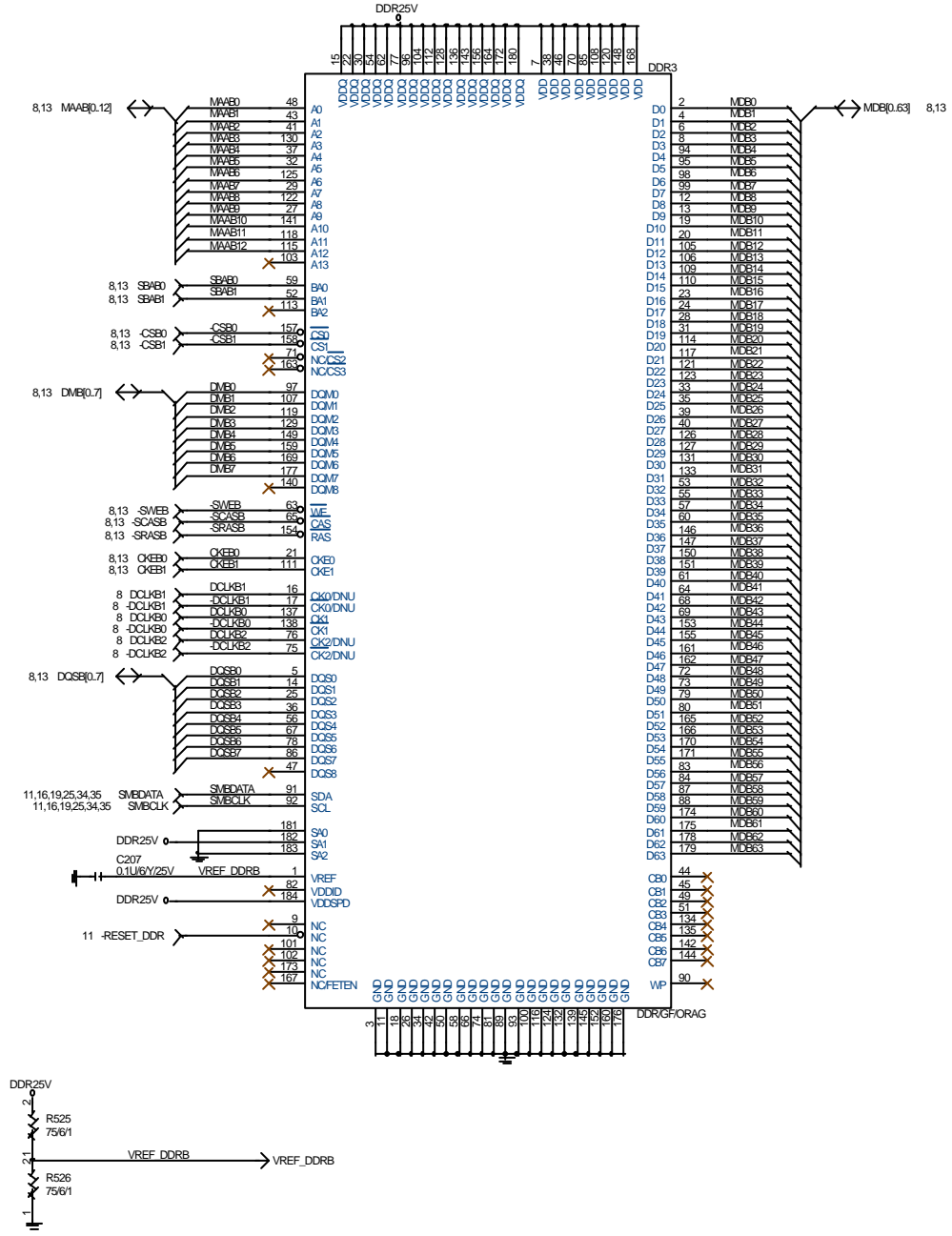


SPRINGDALE AGP,HUB,CSA,VGA





DDR1,2 CHANNEL A

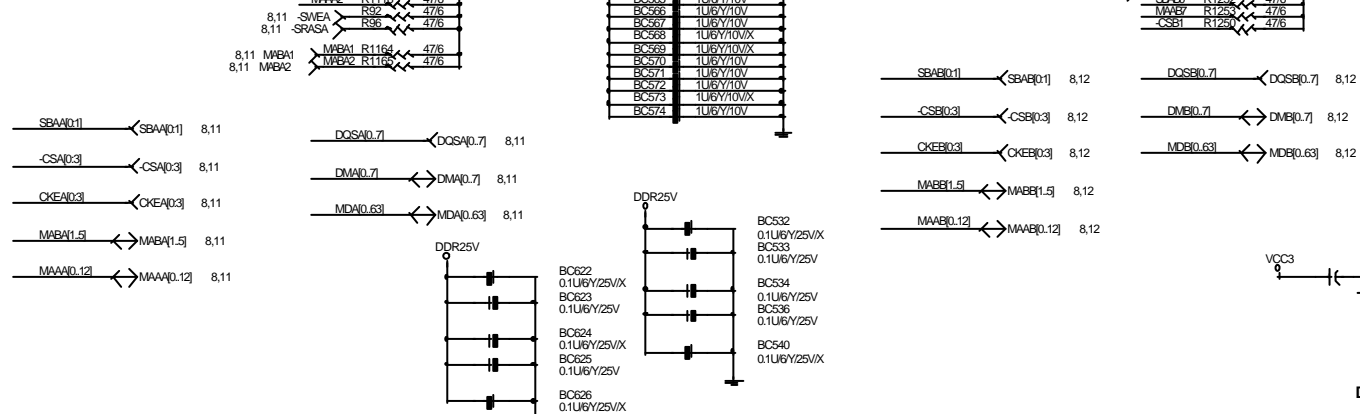
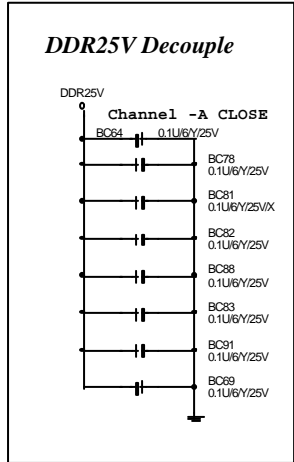
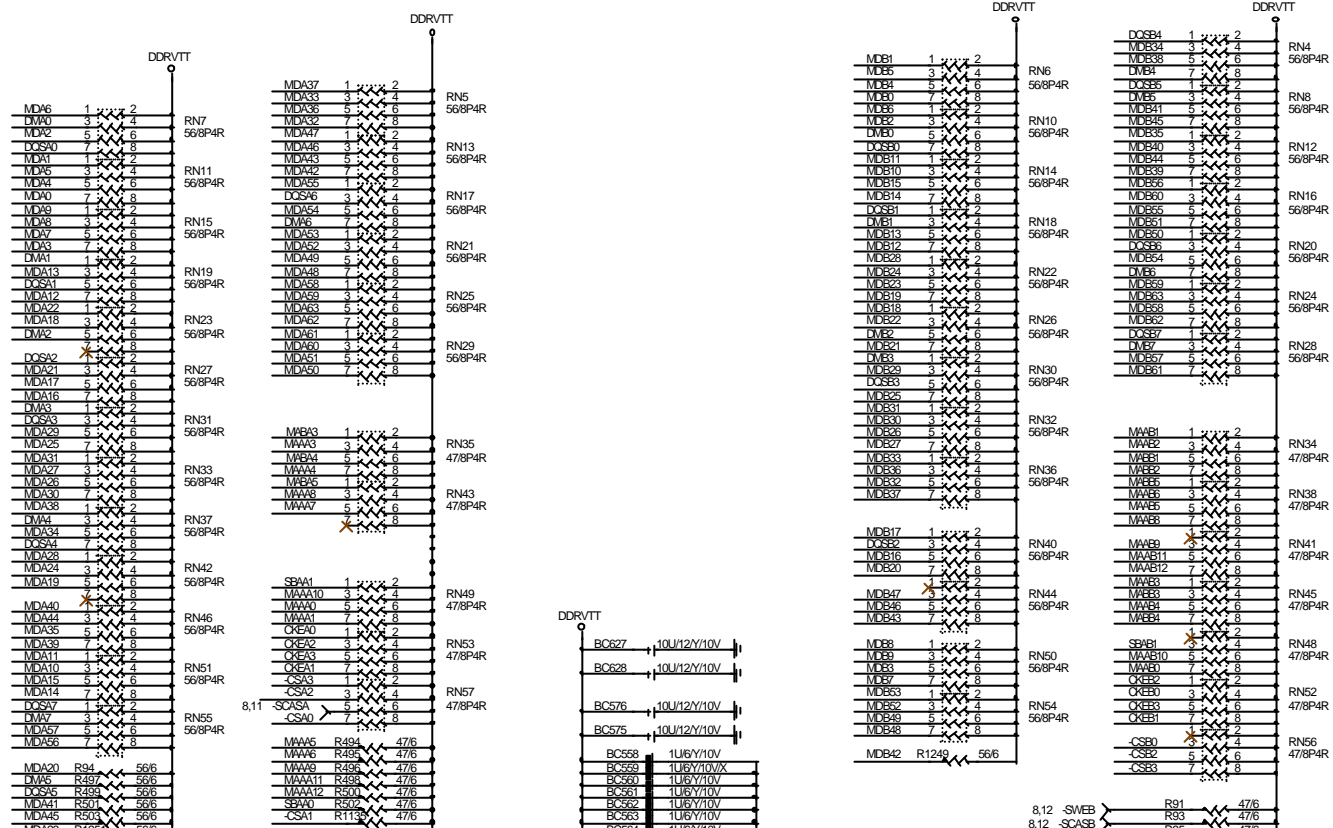


DDR3,4 CHANNEL B

# DDR TERMINATION CHANNEL A

# DDRVTT Decouple

# CHANNEL B

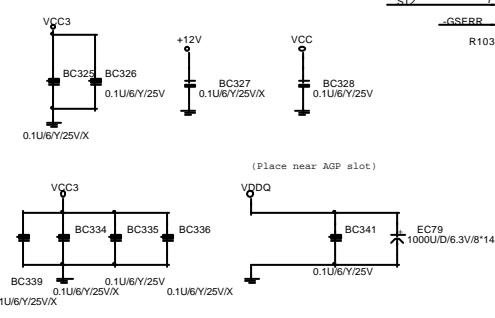
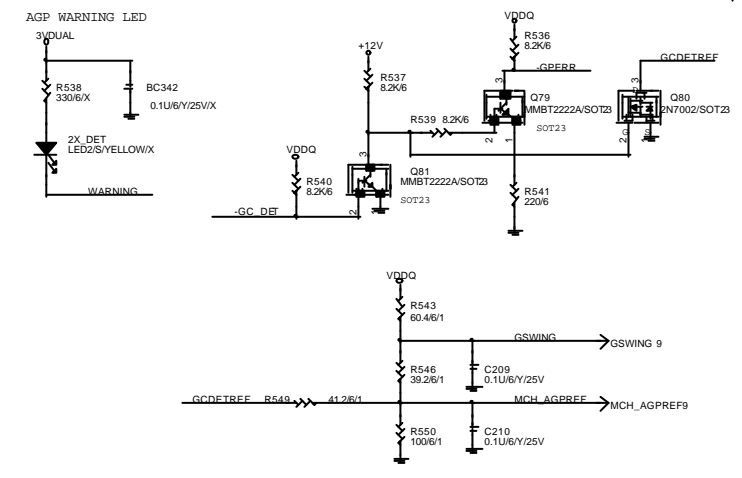
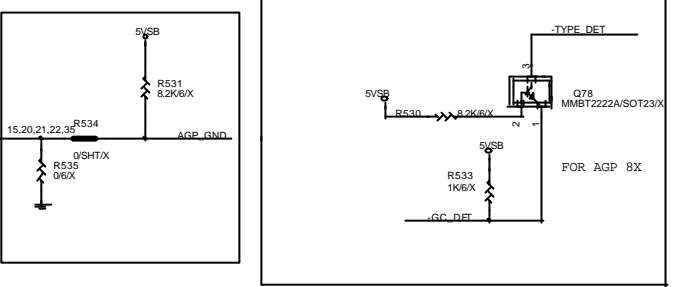
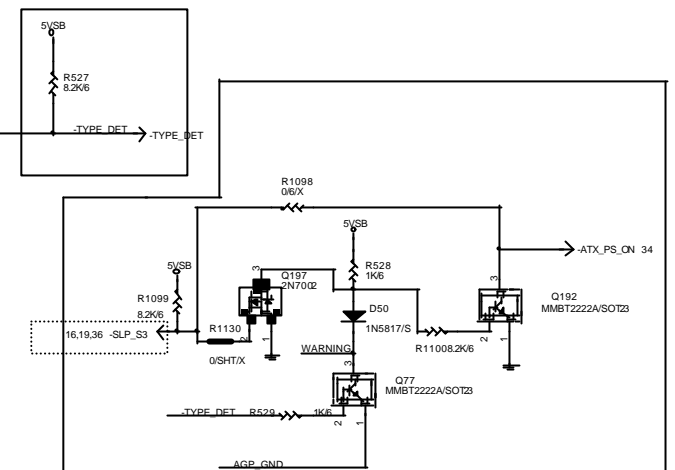
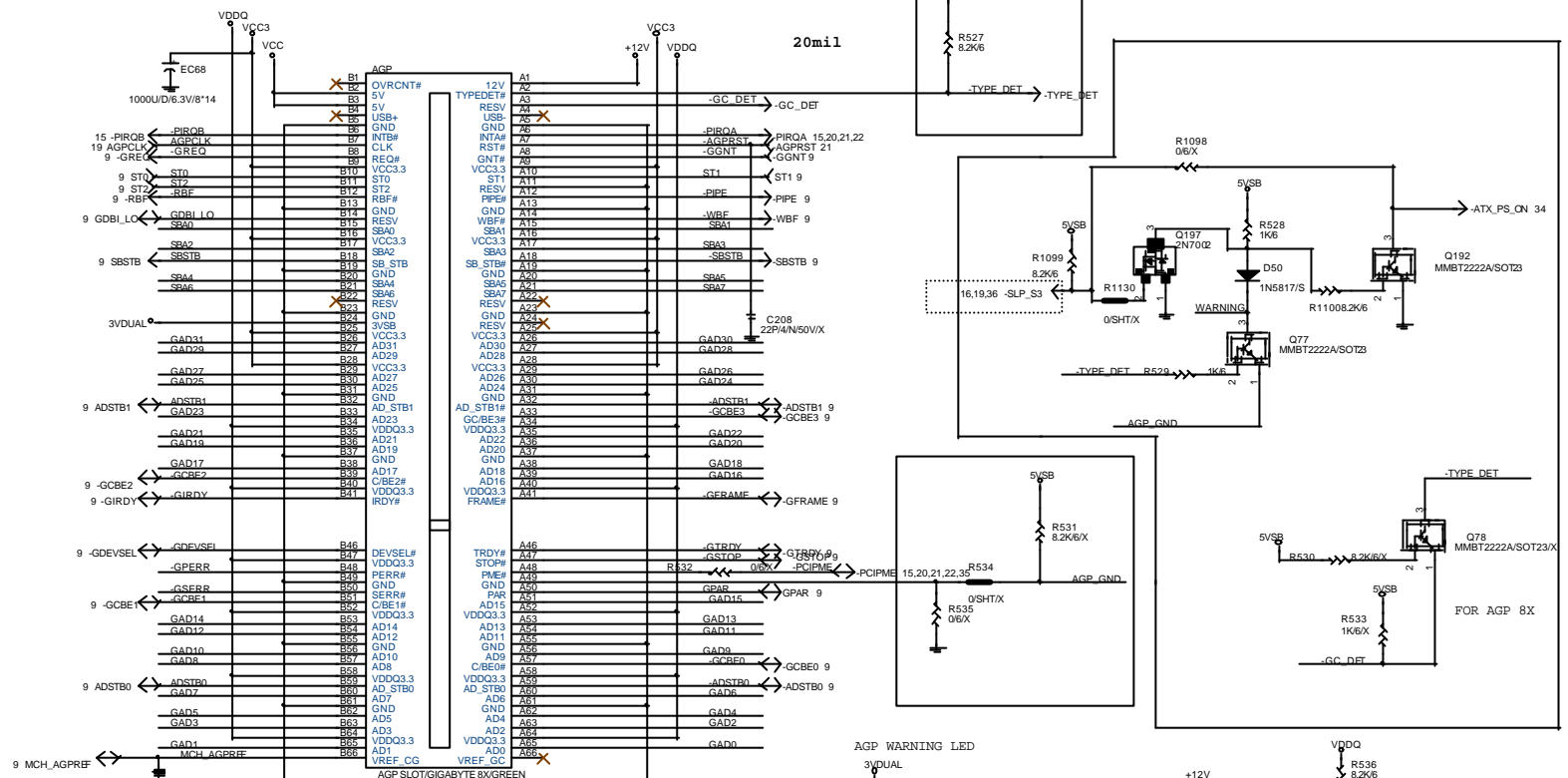


DDR TERMINATION

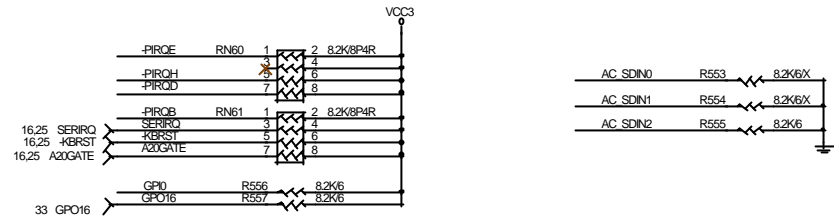
9 SBA0/7  
9 GAD0/3

# AGP 4X/8X

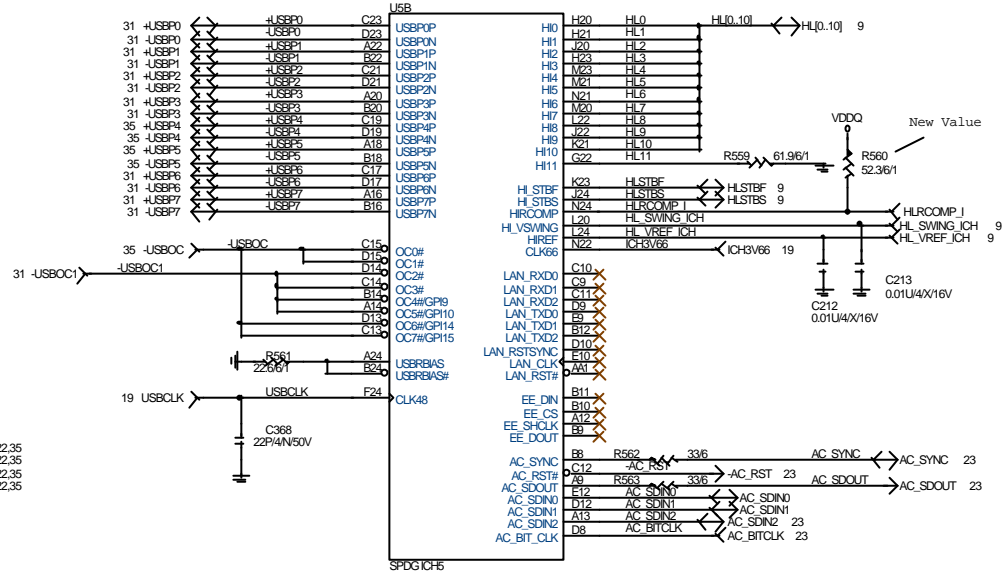
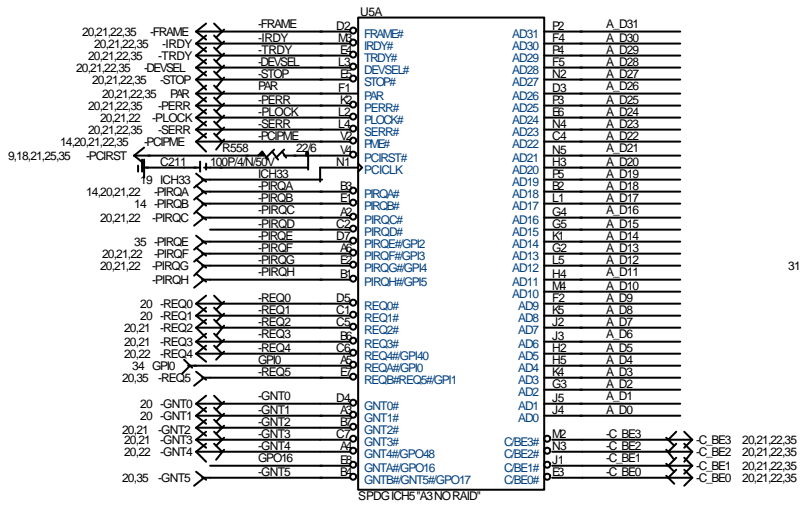
20mil



AGP SLOT



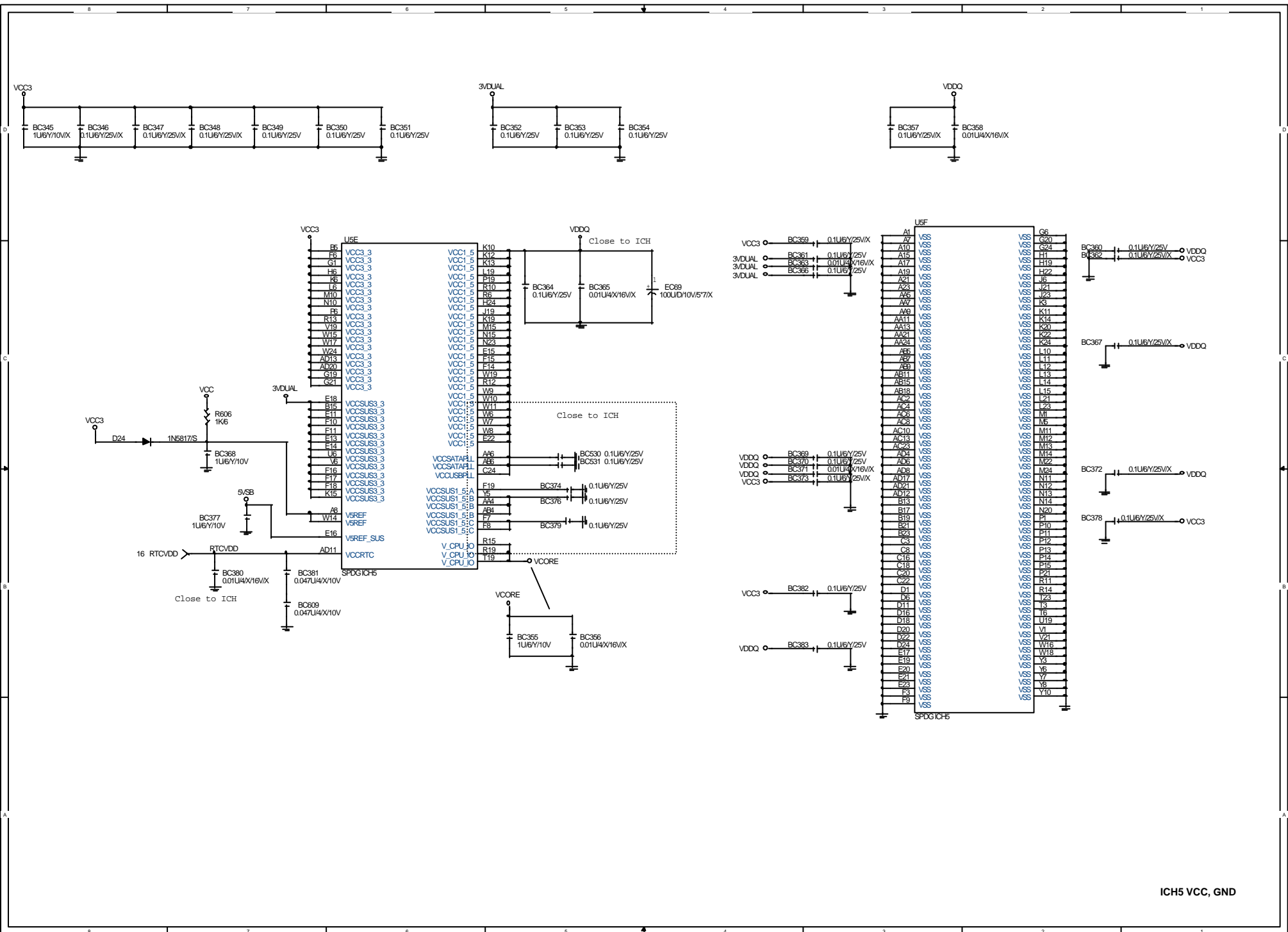
A\_D[0..31] ↔ A\_D[0..31] 20,21,22,35

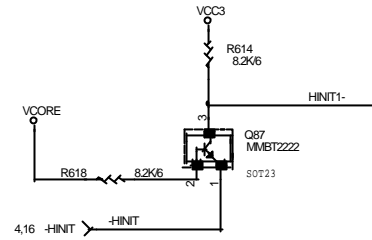
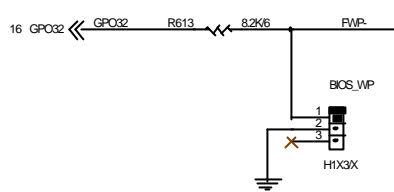


ICH5 PCI, USB, HUB, LAN

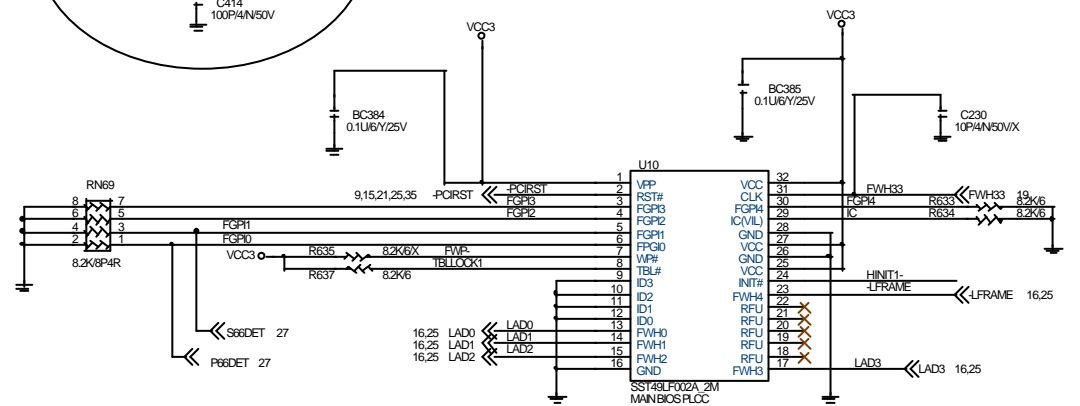
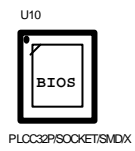
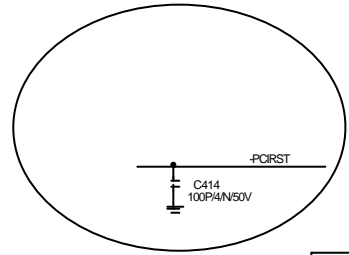






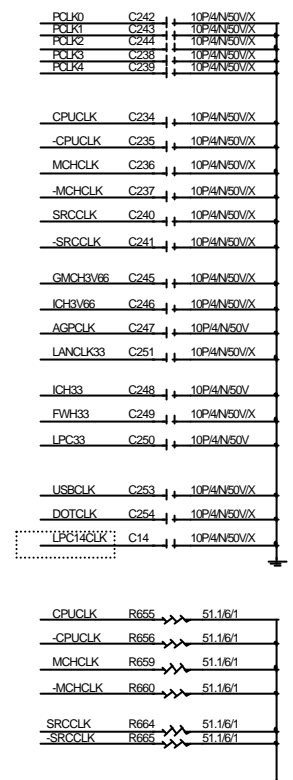
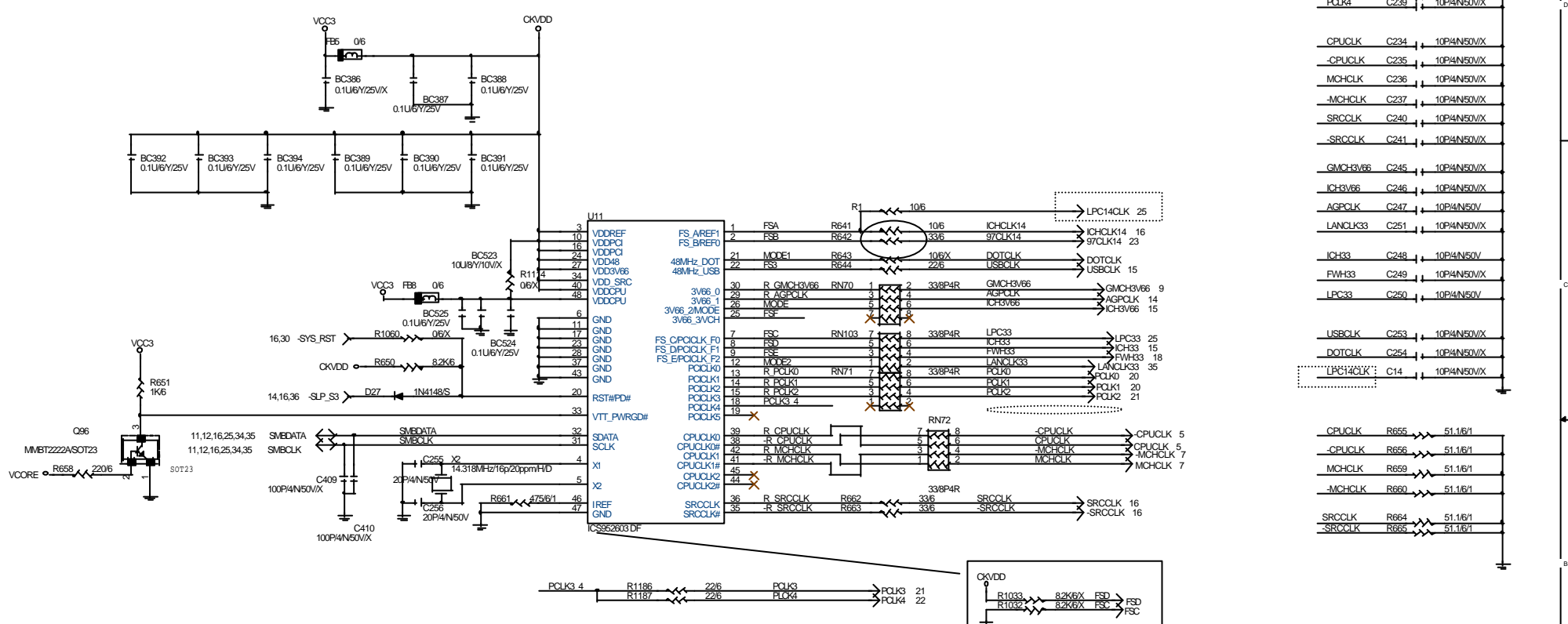


BIOS_WP:	
1-2	WRITE PROTECT
2-3	DISABLE



ADD WINBOUD FWH SEC. SOURCE

FWH

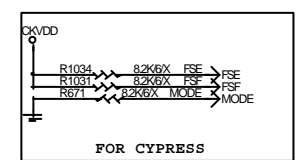
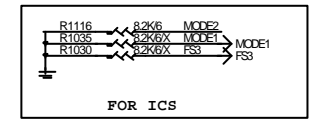
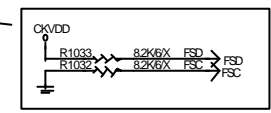
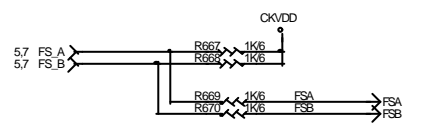
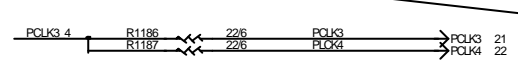


**CYPRESS CY28405**

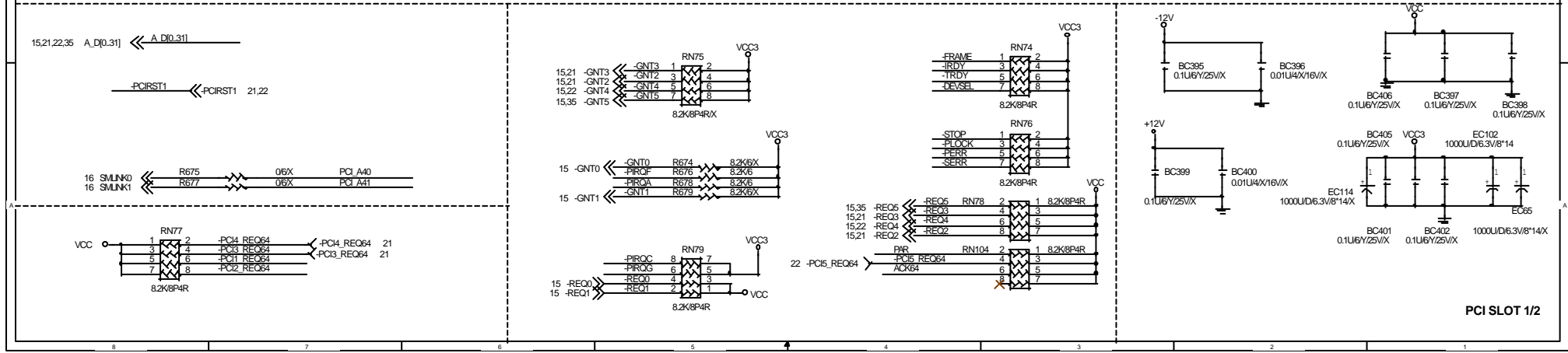
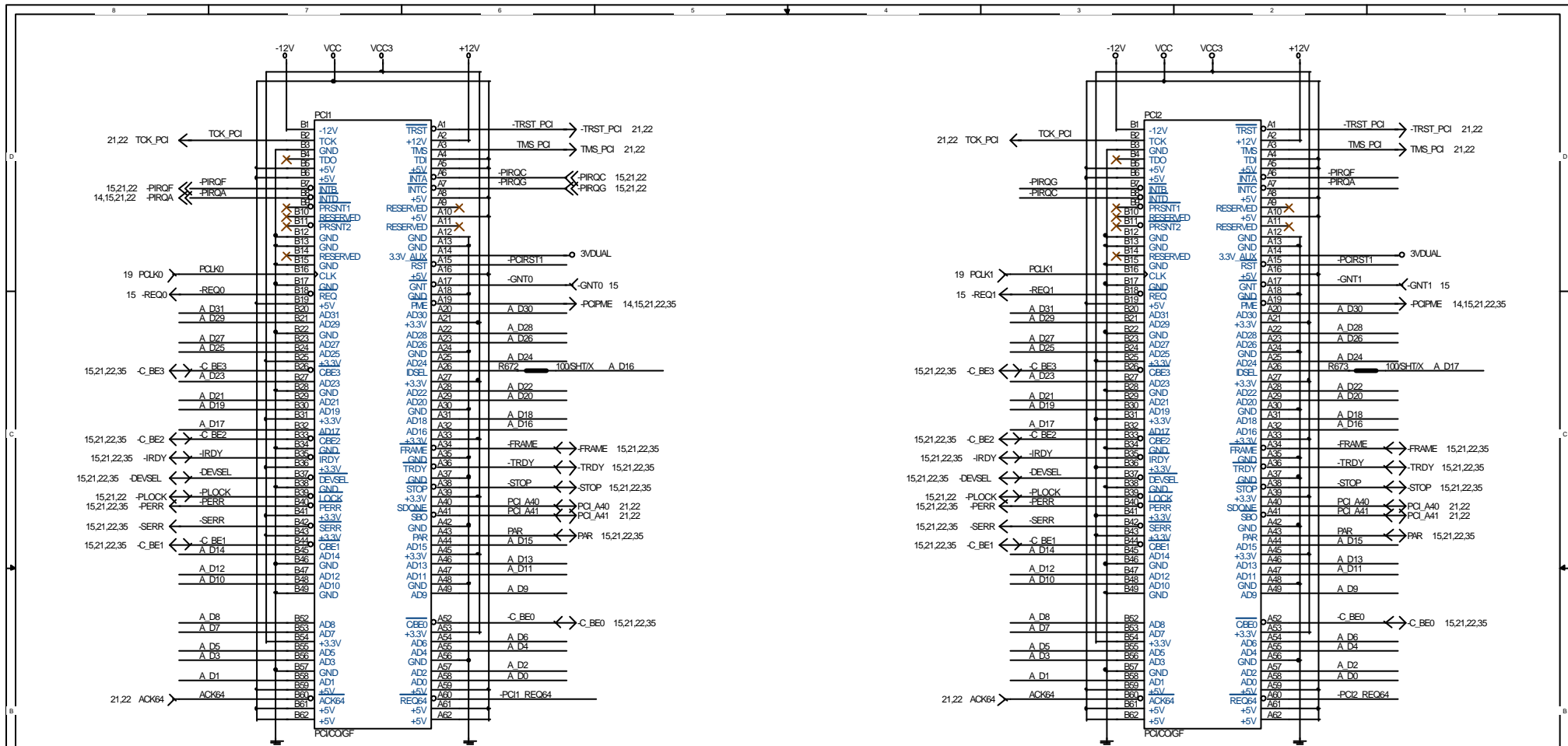
FS_E	FS_D	FS_C	FS_A	FS_B	Clock
1	1	0	0	0	100MHz
1	1	0	1	0	133MHz
1	1	0	1	1	166MHz
1	1	0	0	1	200MHz

**ICS952603**

FS_D	FS_3	FS_C	FS_A	FS_B	Clock
1	0	0	0	0	100MHz
1	0	0	1	0	133MHz
1	0	0	1	1	166MHz
1	0	0	0	1	200MHz

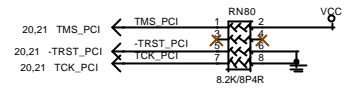
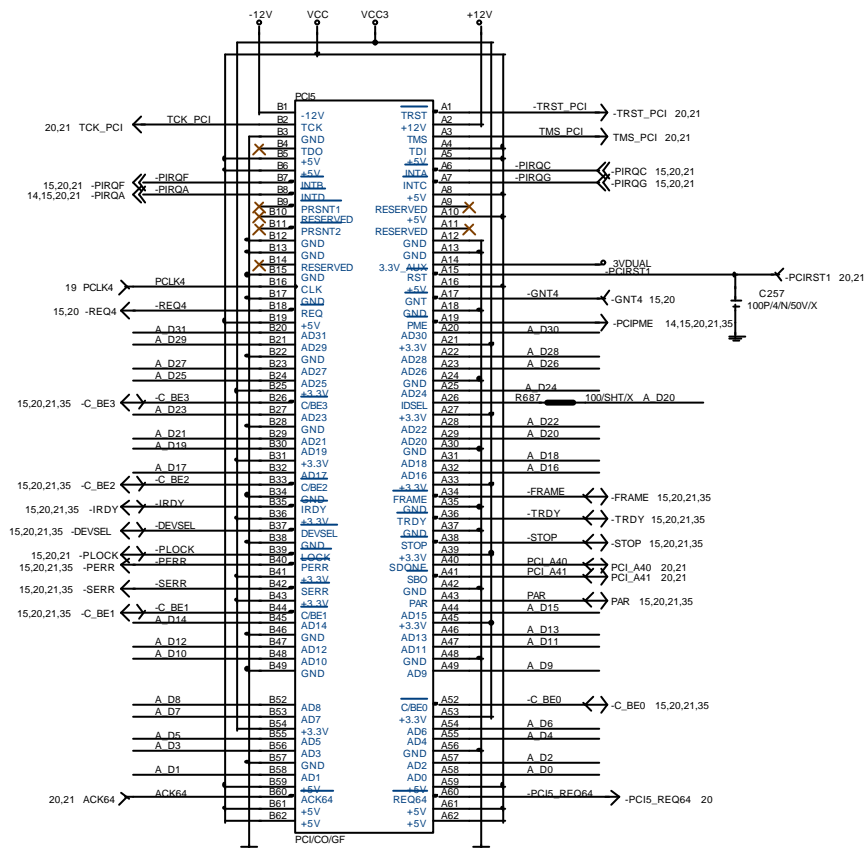


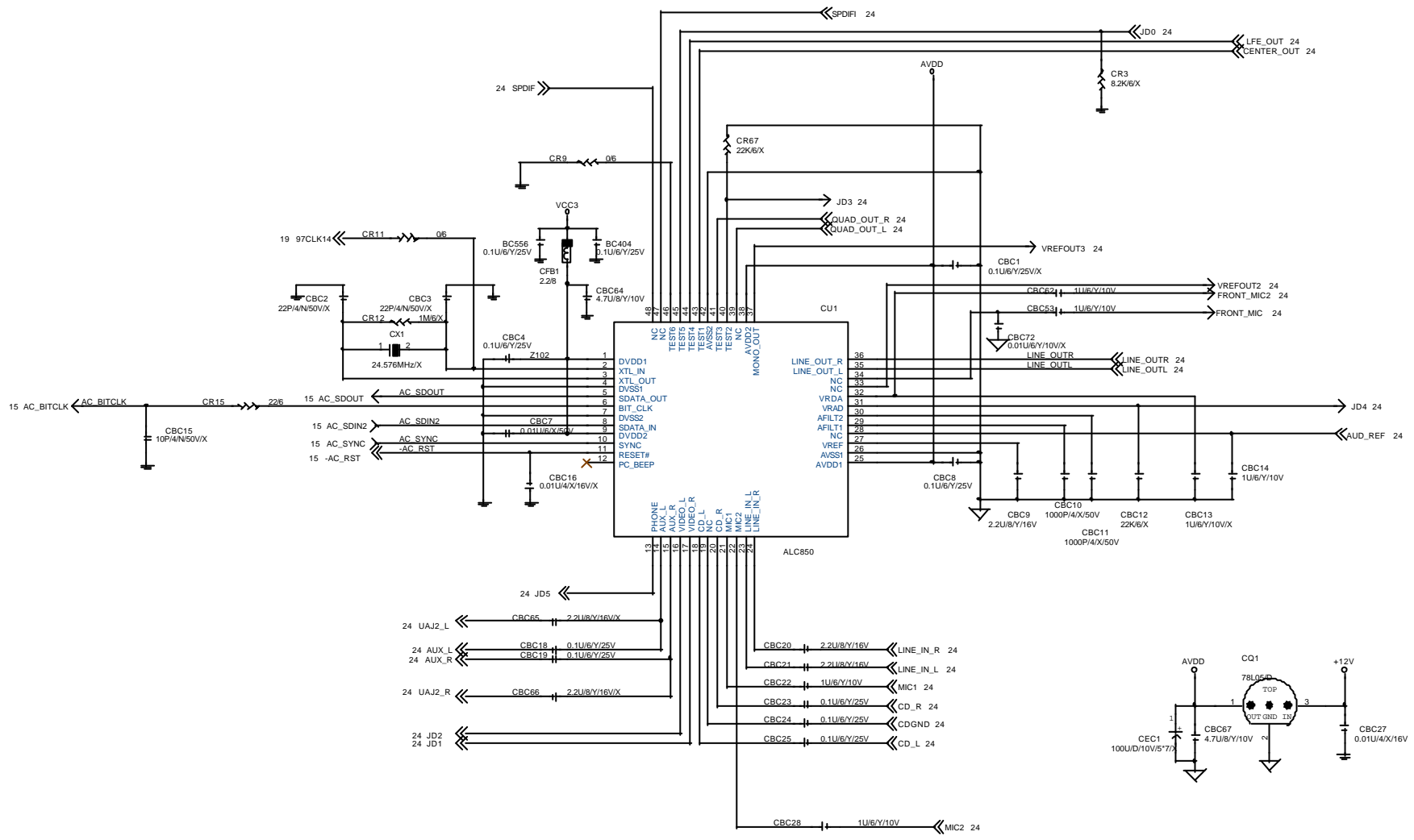
**CLOCK GENERATOR**





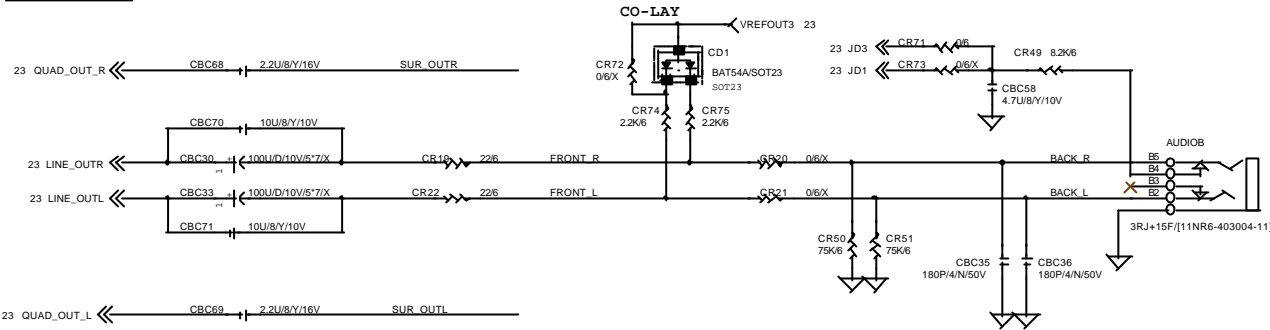
15,20,21,35 A\_D[0..31] ← A\_D[0..31]



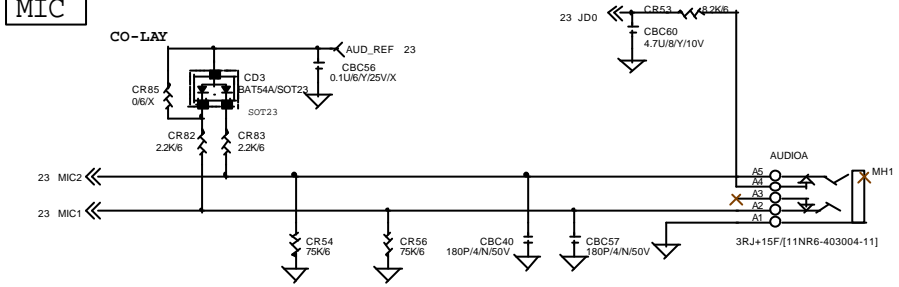


ALC850

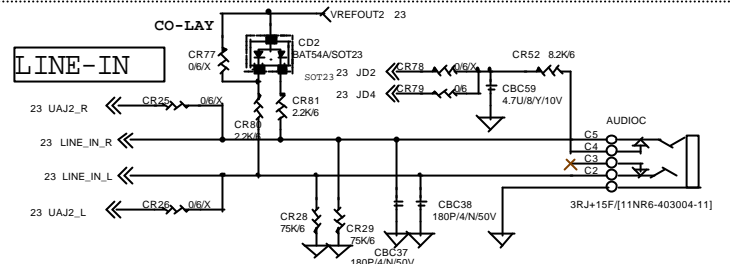
**LINE OUT**



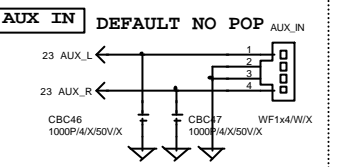
**MIC**



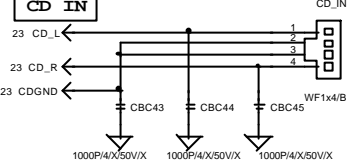
**LINE-IN**



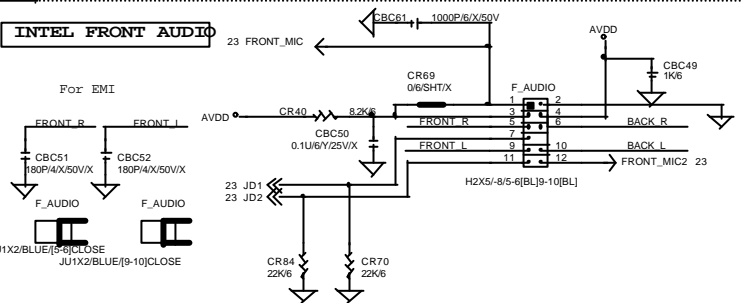
**AUX IN**



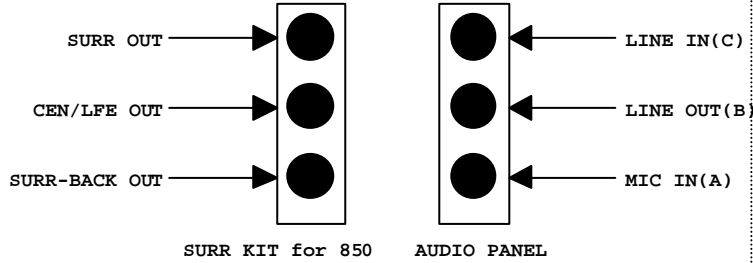
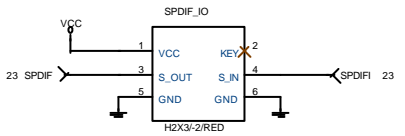
**CD IN**



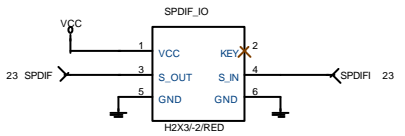
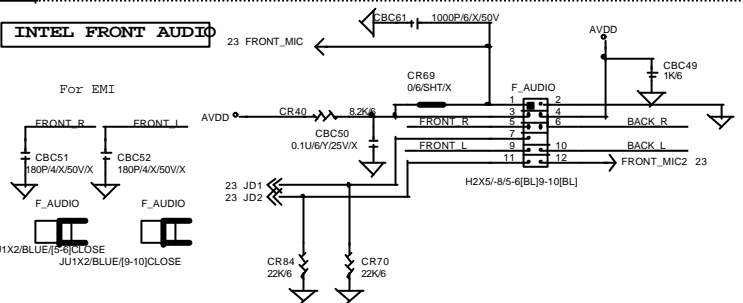
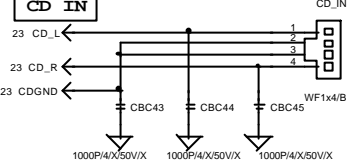
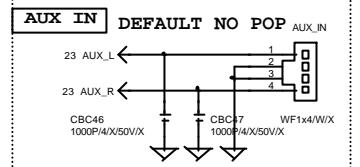
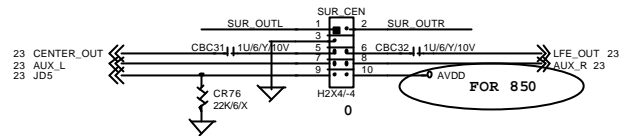
**INTEL FRONT AUDIO**



**SPDIF\_IO**



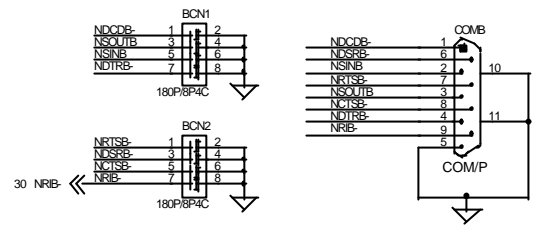
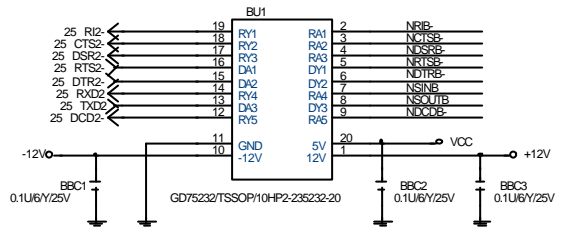
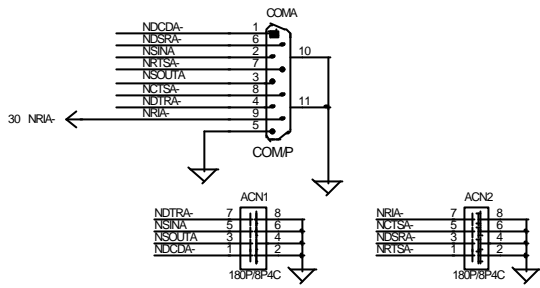
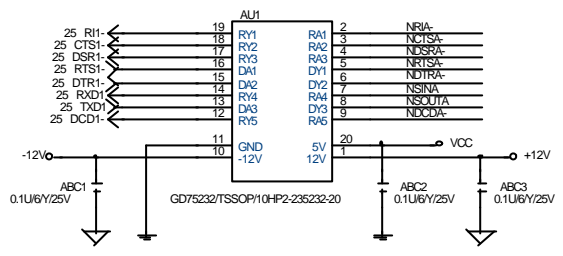
**AUDIO OUTPUT, GAMEPORT**



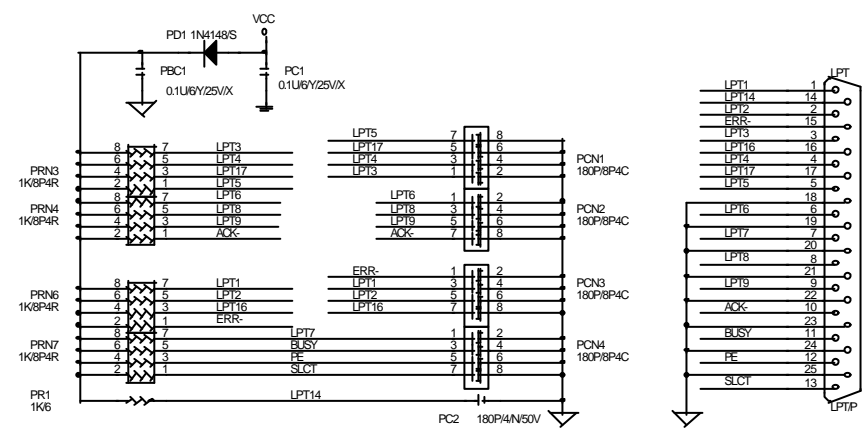
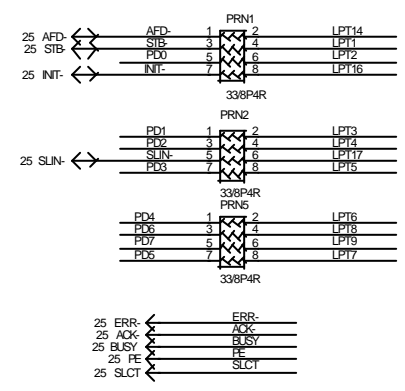
**AUDIO OUTPUT, GAMEPORT**



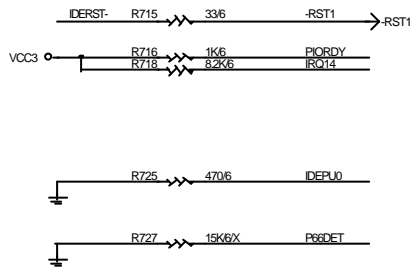
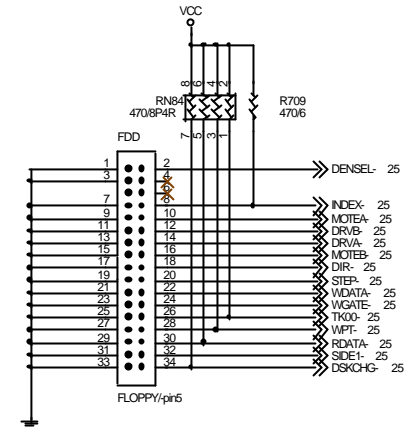
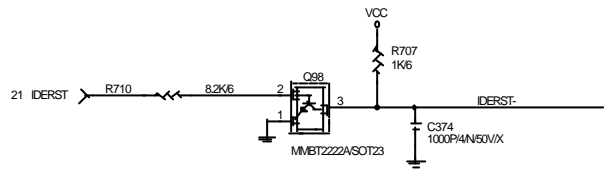




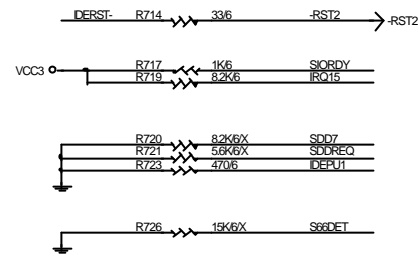
25 PD0.7 ↔ PD0.7



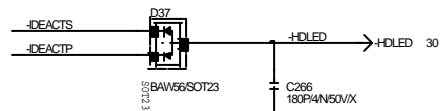
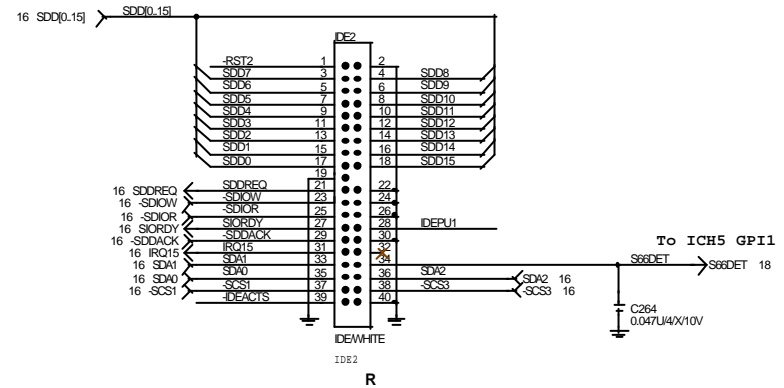
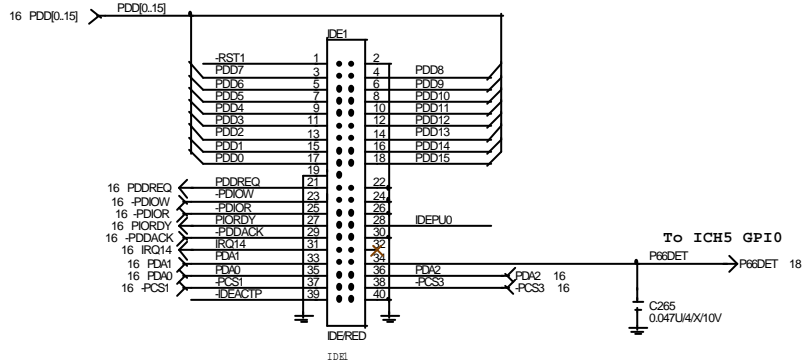
COM & IR & LPT PORT & FLOOPY



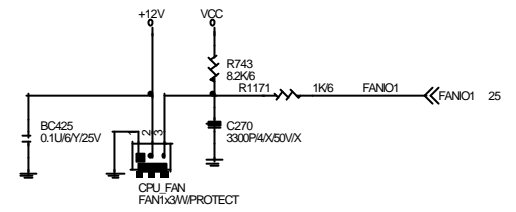
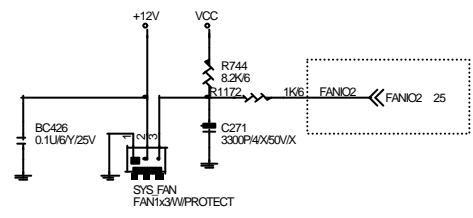
PRIMARY IDE CONNECTOR



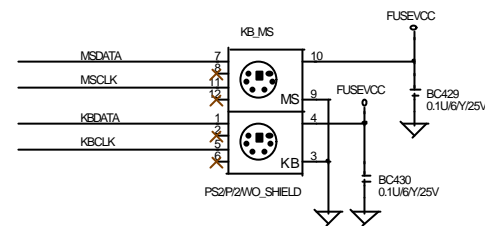
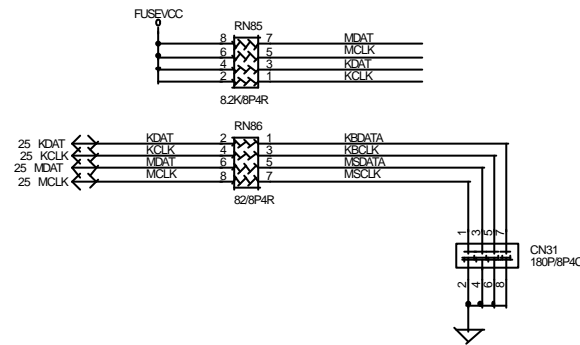
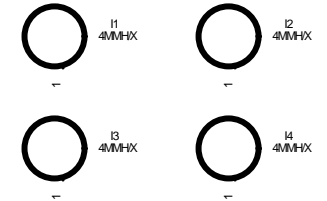
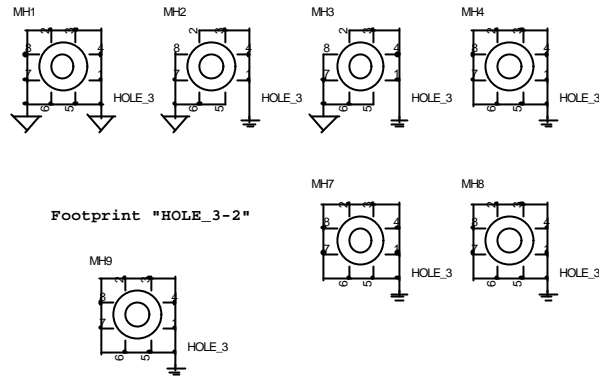
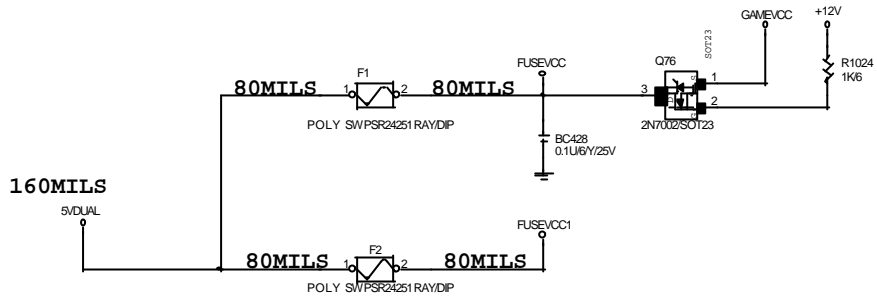
SECONDARY IDE CONNECTOR



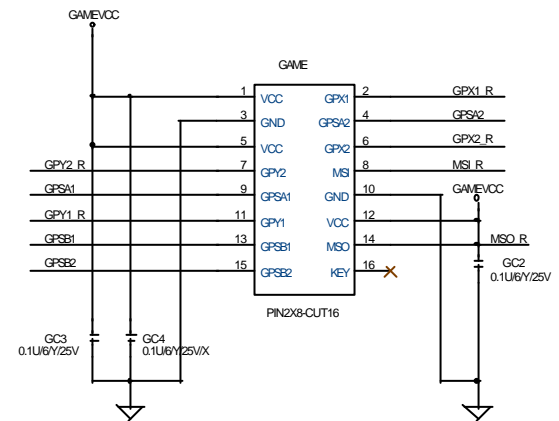
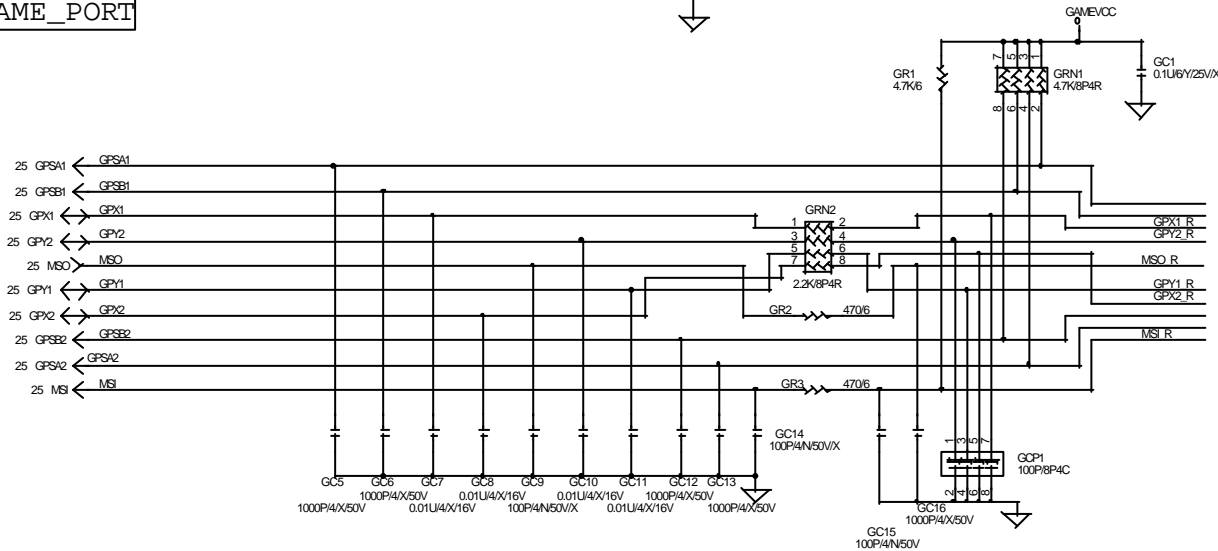
IDE CONNECTO



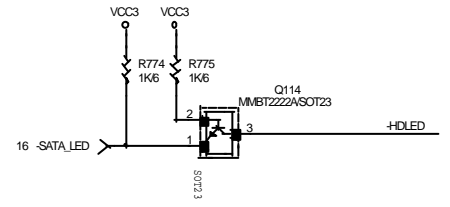
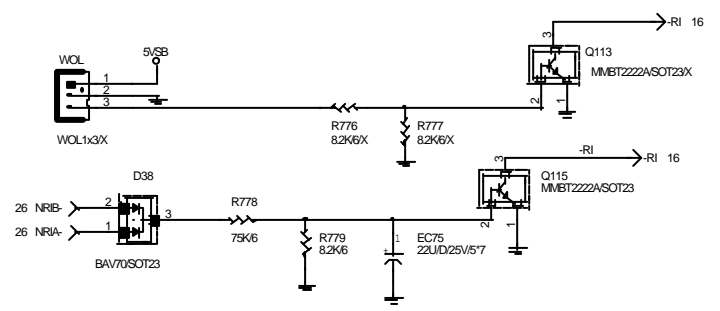
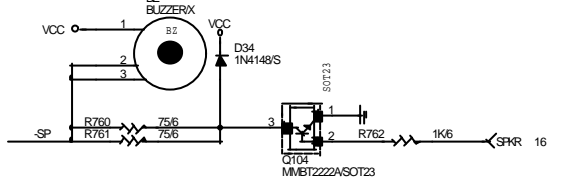
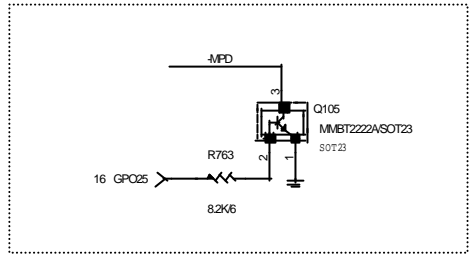
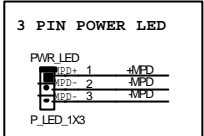
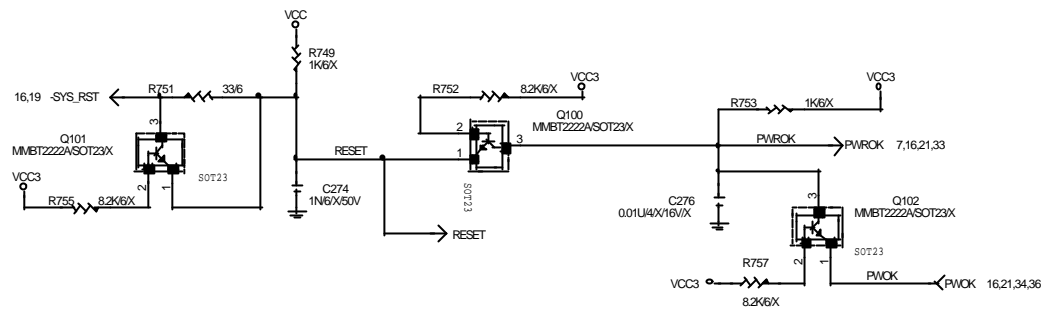
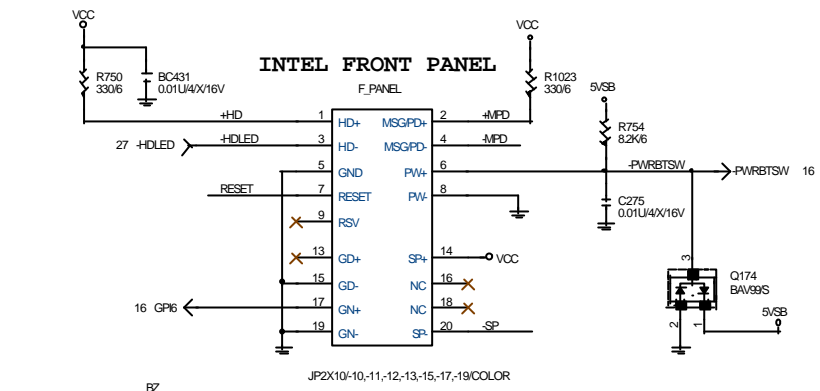
FAN/HWMO



GAME\_PORT

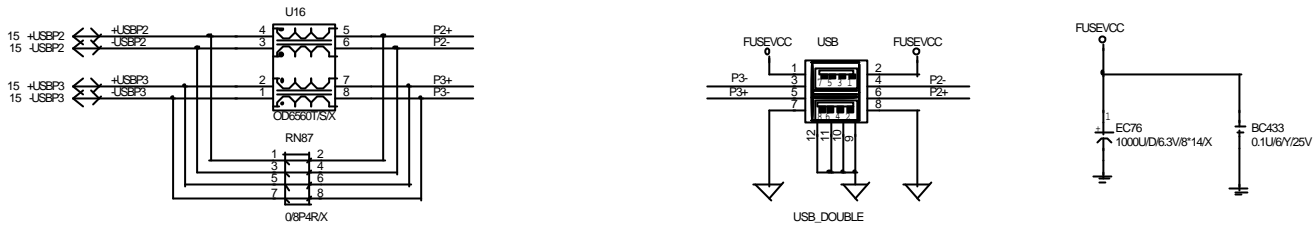


KB & PS2 MOUSE & IR

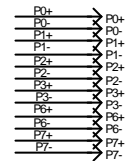
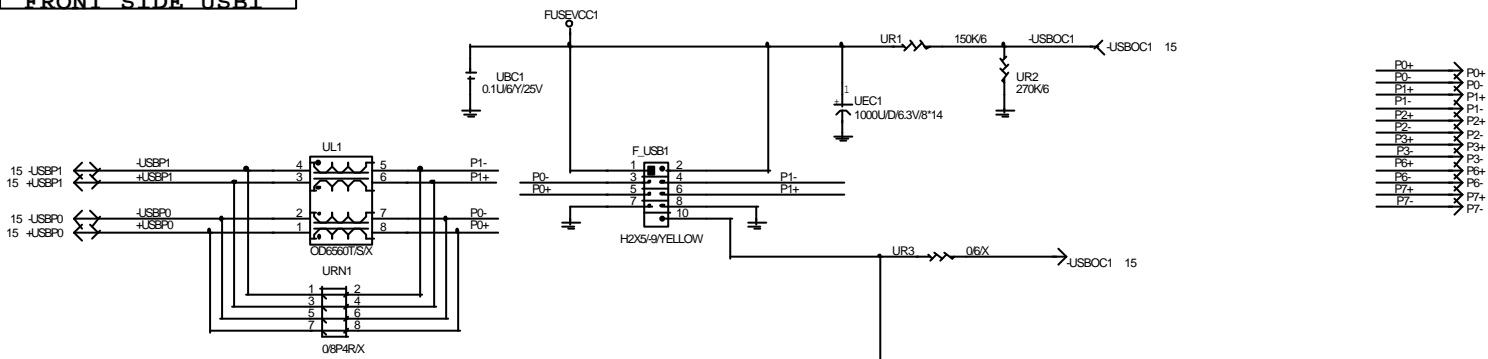


**PANEL & STR LED & RI**

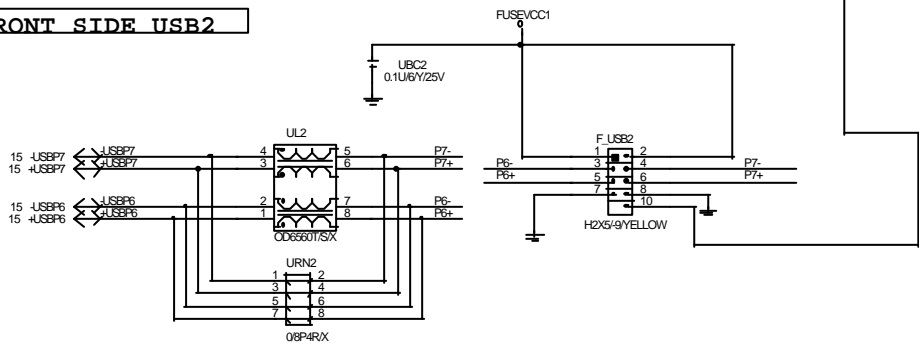
# REAR USB



# FRONT SIDE USB1



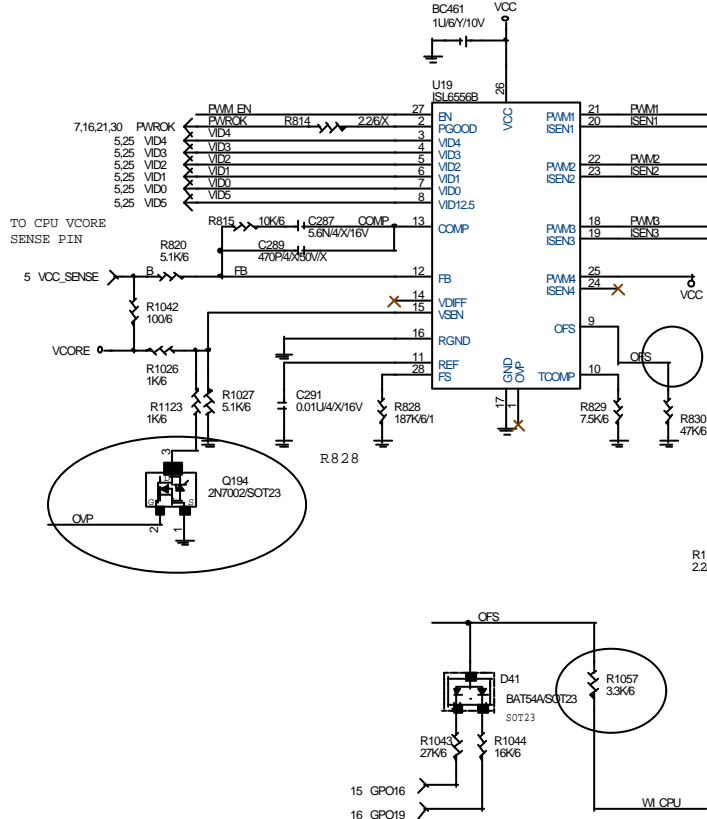
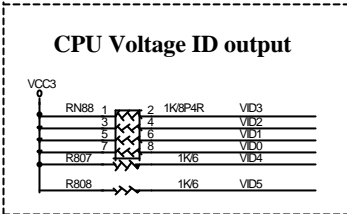
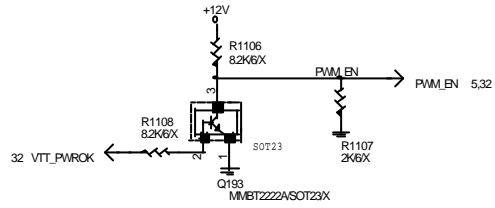
# FRONT SIDE USB2



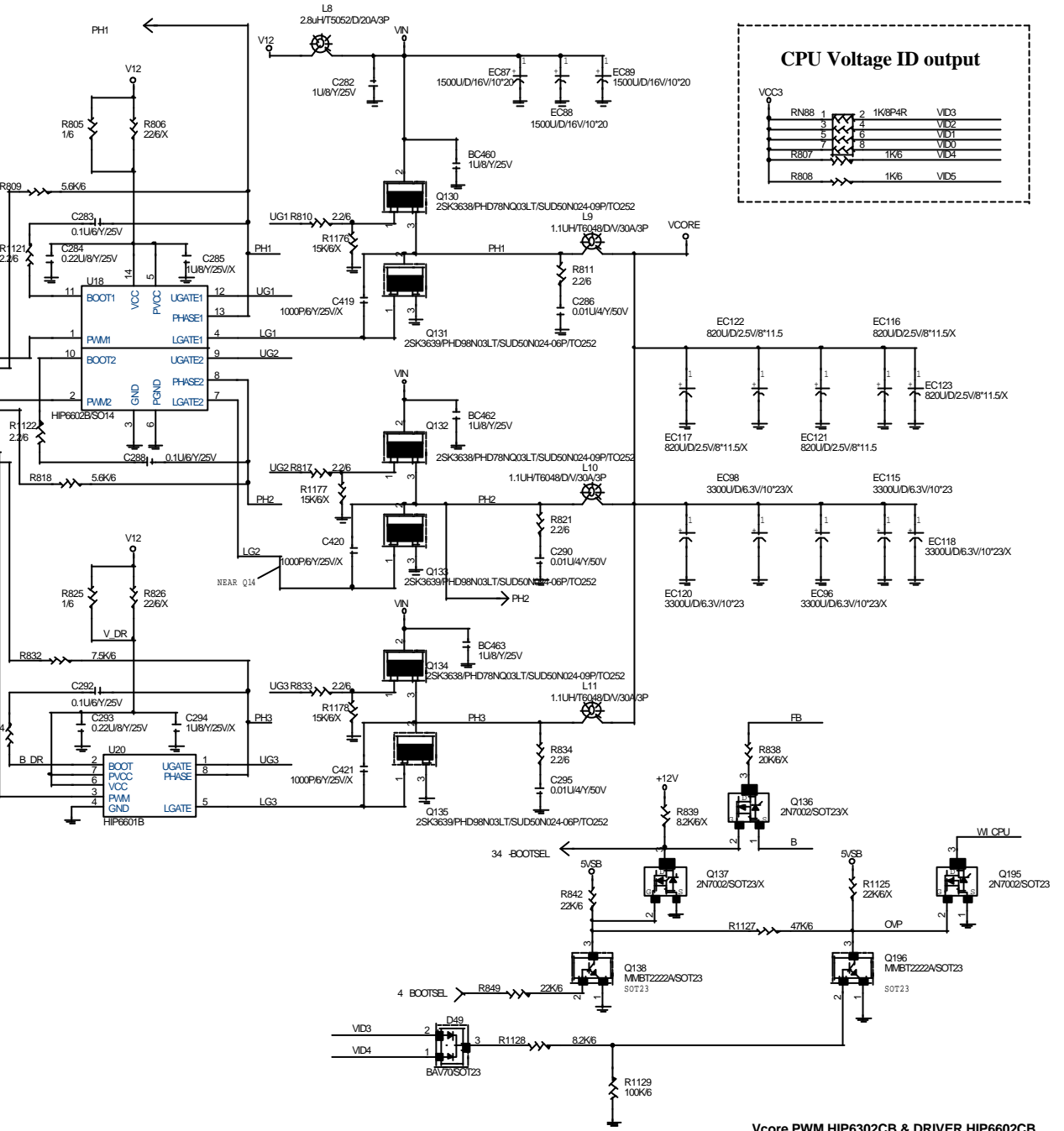
ICH USB PORT







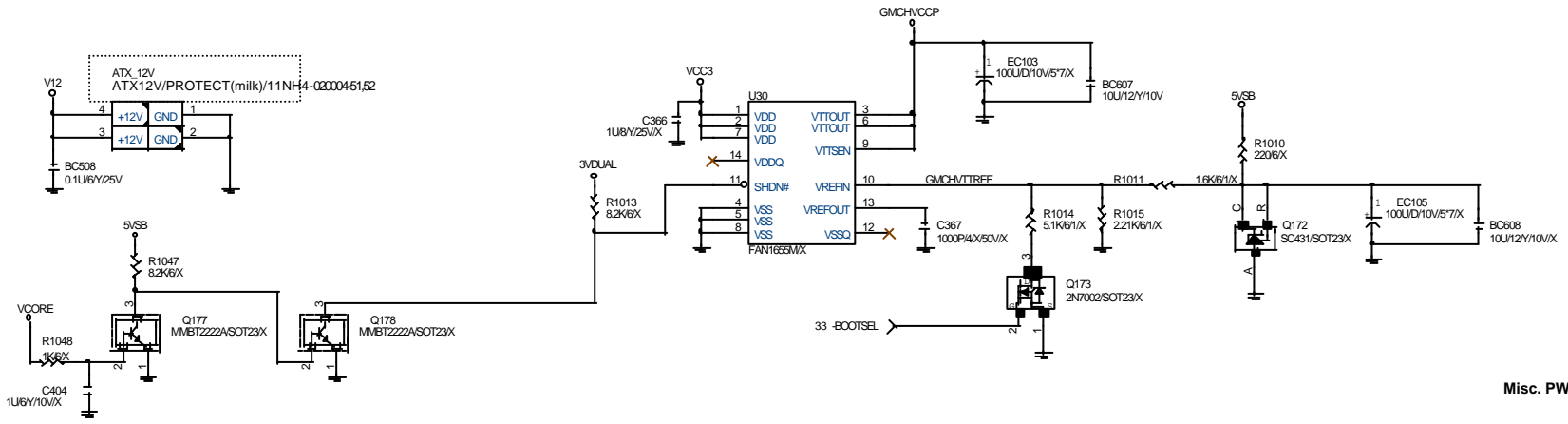
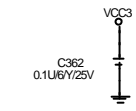
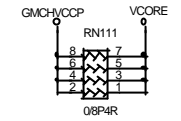
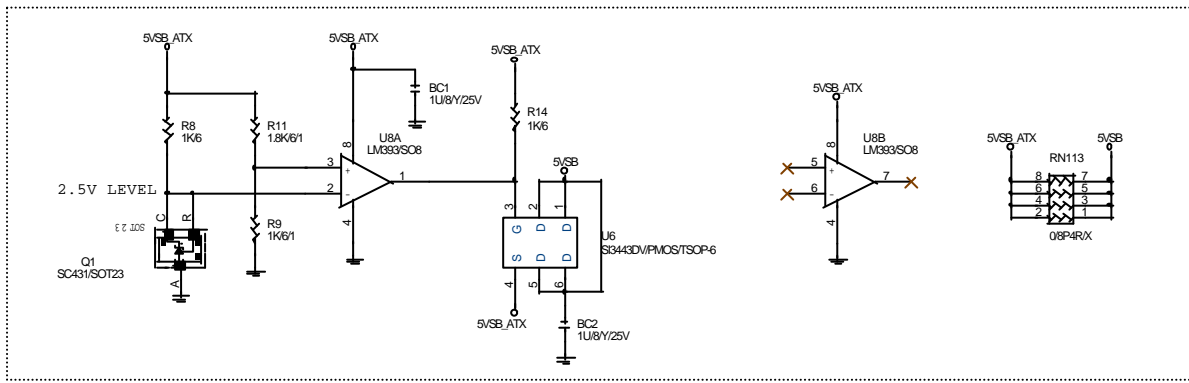
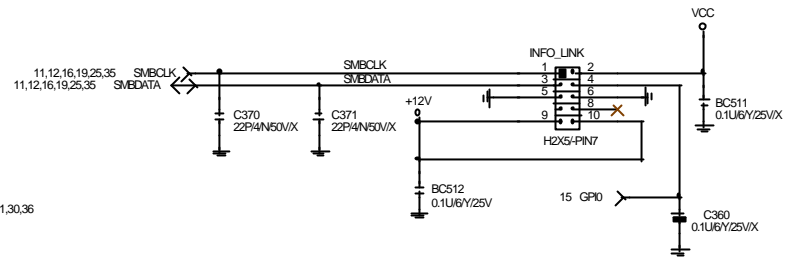
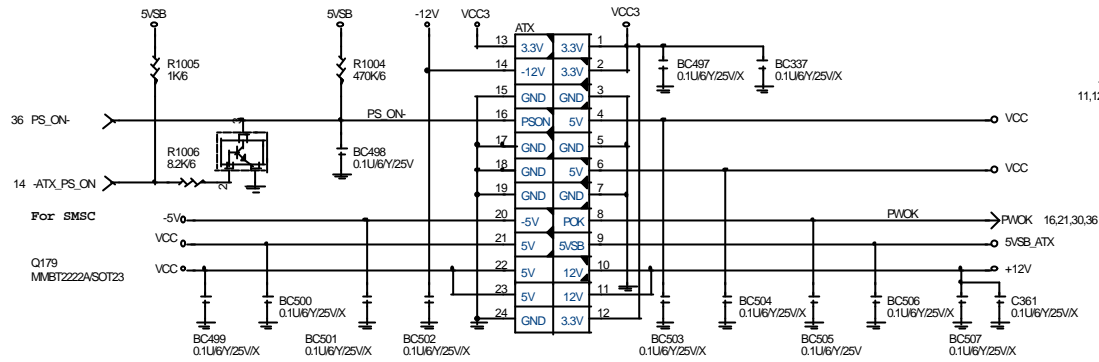
GPO16	GPO19	VCORE
1	1	normal (50mv)
0	1	5%
1	0	7.5%
0	0	10%



Vcore PWM HIP6302CB & DRIVER HIP6602CB

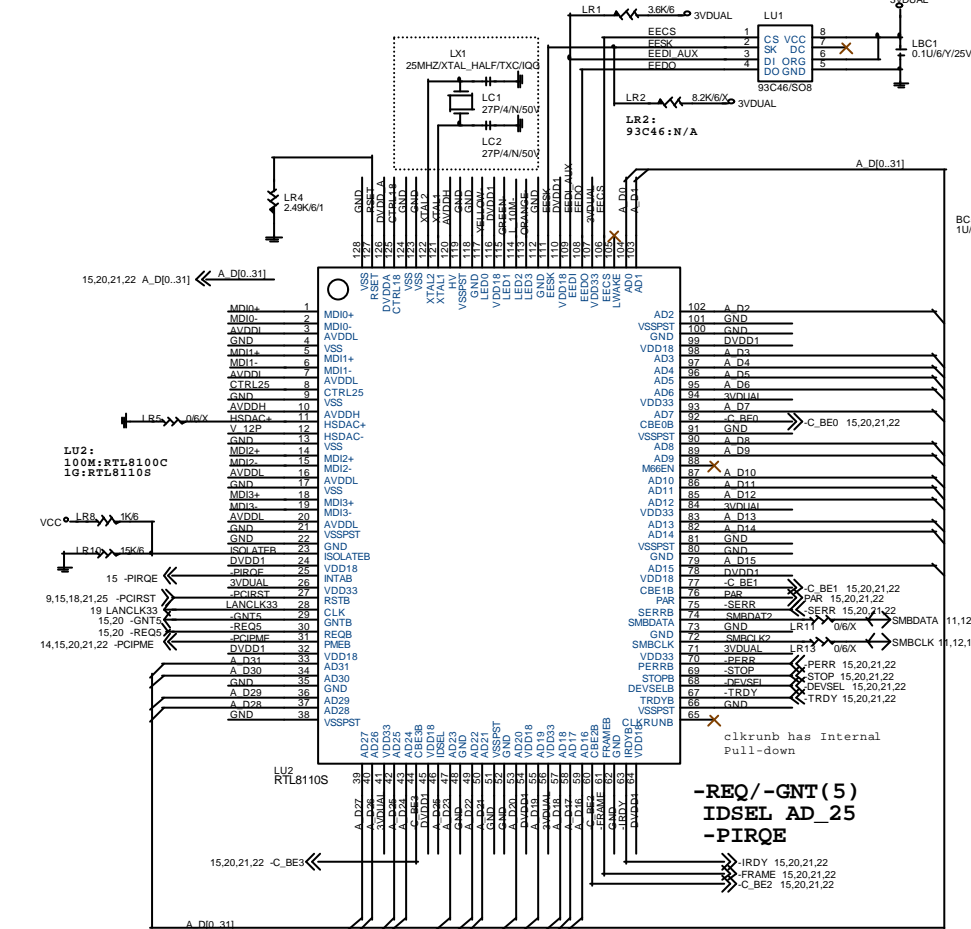
# ATX POWER CONNECTOR

# SMBUS CONN

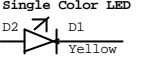
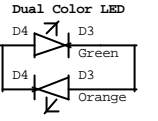
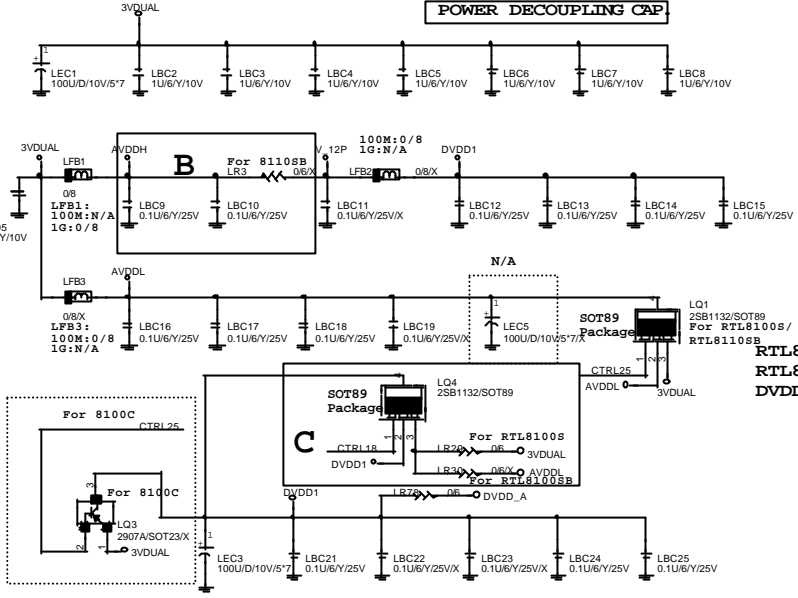


Misc. PWR & ATX CONN.

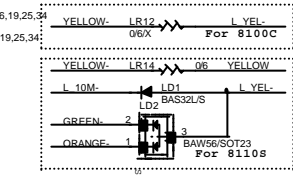
DVDD



**-REQ/-GNT(5)**  
**IDSEL AD\_25**  
**-PIRQE**

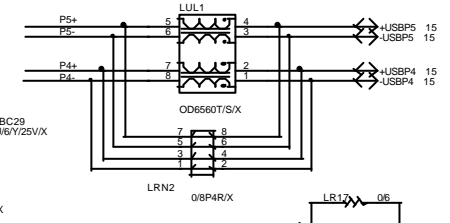


**RTL8110S DVDD1=1.8V**  
**RTL8110SB DVDD1=1.3V**



RTL8100C		Dual Color LED	
LINK	10Mb	Yellow	Green
	100Mb	ON	ON
ACTIVE	10Mb	Blink	Blink
	100Mb	Blink	Blink

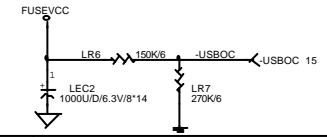
RTL8110S		Dual Color LED	
LINK/SPEED	10Mb	Yellow	Green
	100Mb	ON	ON
	1Gb	ON	ON
ACTIVE	10Mb	Blink	Blink
	100Mb	Blink	Blink

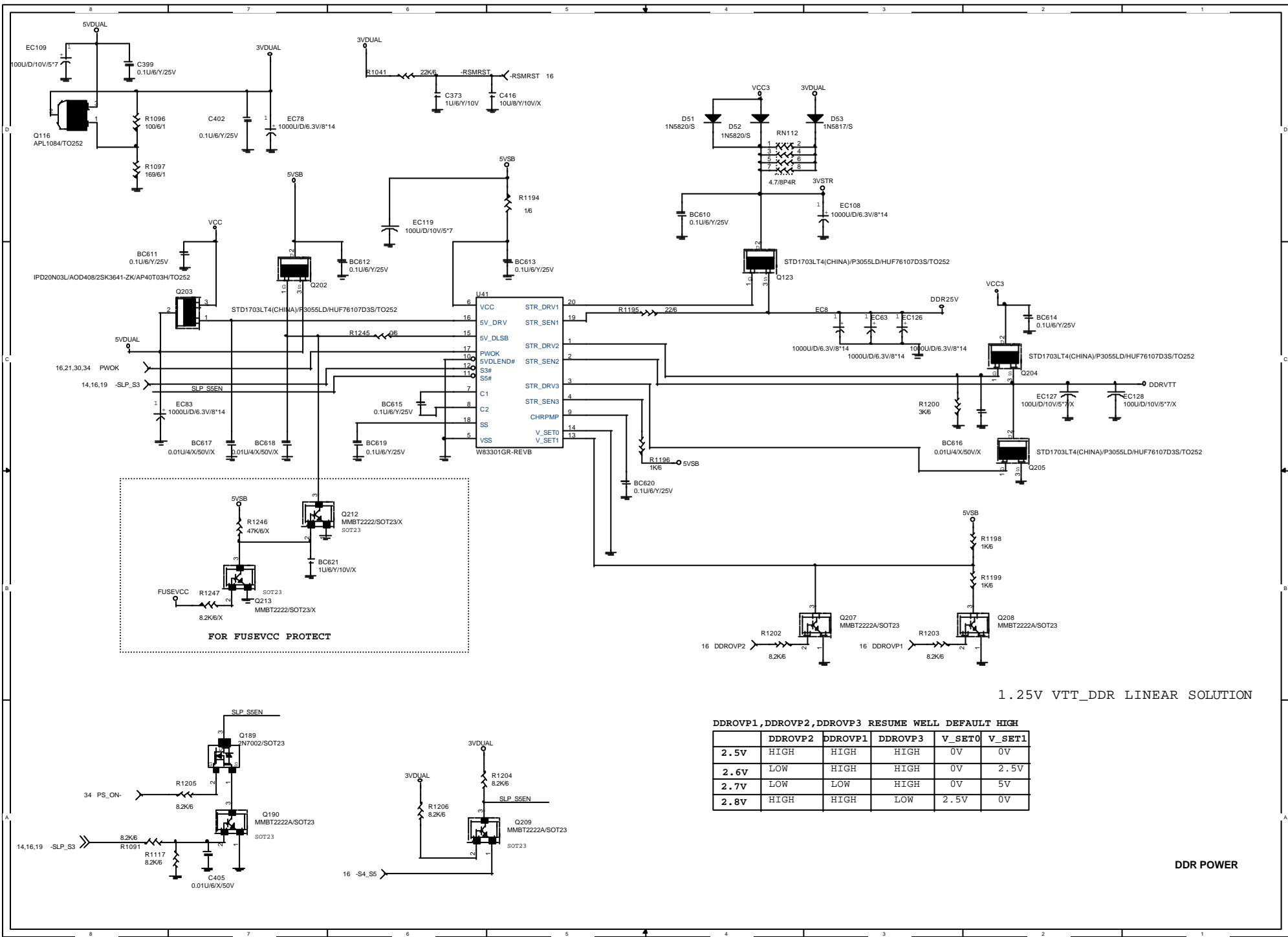


**REAR USER2**

	10/100	Giga	Giga
	8100C	8110S	8110SB
AVDDH	N/A	3.3V	3.3V
V <sub>12P</sub>	2.5V	N/A	3.3V
AVDDL	3.3V	2.5V	2.5V
V <sub>DAC</sub>	N/A	2.5V	2.5V
DVDD1	2.5V	1.8V	1.2V
DVDDA	2.5V	1.8V	1.2V

**LAN RTL8110S/8100C**





1.25V VTT\_DDR LINEAR SOLUTION

**DDROVP1, DDROVP2, DDROVP3 RESUME WELL DEFAULT HIGH**

	DDROVP2	DDROVP1	DDROVP3	V_SET0	V_SET1
2.5V	HIGH	HIGH	HIGH	0V	0V
2.6V	LOW	HIGH	HIGH	0V	2.5V
2.7V	LOW	LOW	HIGH	0V	5V
2.8V	HIGH	HIGH	LOW	2.5V	0V

DDR POWER



# GIGABYTE GA-8IPE1000-G GPIO LIST

SHEET

TITLE

GPIP	I/O	FUNCTION
GPI0/REQA-	I	PULL HIGH 8.2K to VCC3, SMB connector.
GPI1/REQ5-		PULL HIGH 8.2K to VCC, REQ5-.
GPI2/PIRQE-		PULL HIGH 8.2K to VCC3, PIRQE-.
GPI3/PIRQF-		PULL HIGH 8.2K to VCC3, PIRQF-.
GPI4/PIRQG-		PULL HIGH 8.2K to VCC, PIRQG-.
GPI5/PIRQH-	NA	PULL HIGH 8.2K to VCC
GPI6/AGPBUSY-	I	PULL 8.2K TO VCC3, PANEL GREEN_BUTTON
GPI7	I	DUAL BIOS FIRST BOOT SELECT.
GPI8	I	PULL 8.2K TO 3VDUAL, -CASPME.
GPI9/OC4-	NA	USB OC4-.
GPI10/OC5-	NA	USB OC5-.
GPI11/-SMBALRT	NA	PULL 8.2K TO 3VDUAL,-SMBALERT.
GPI12	I	PULL 8.2K TO VCC3,M/B REVERSION ID.
GPI13	I	LPC PME.
GPI14/OC6-	NA	USB OC6-.
GPI15/OC7-	NA	USB OC7-.
GPO16/GNTA-	NA	GPO16.
GPO17/GNT5-		GNT5-.
GPO18/STP_PCI-	NA	GPO18.
GPO19/SLP_S1-	O	DUAL BIOS.
GPO20/SLP_CPU-	O	DUAL BIOS.
GPO21/C3_SATA-	O	BLOCK TOP TABLE.
GPO22/CPUPERF-	O	PULL 8.2K TO VCC3,PANEL S3 POWER LED.

SHEET

TITLE

GPIP	I/O	FUNCTION
GPO16	O	PULL 8.2K TO VCC3 VCORE
GPO17	O	PULL 8.2K TO VCC3 (GNT5-)
GPO18	O	PULL 8.2K TO VCC3
GPO19	O	PULL 8.2K TO VCC3 VCORE
GPO20	O	PULL 8.2K TO VCC3 VDDQ
GPO21	O	PULL 8.2K TO VCC3 VDDQ
GPO22	O	PULL 8.2K TO VCC3 FSB H/W stripping
GPO23	O	PULL 8.2K TO VCC3 PWOK
GPO24	I/O	PULL 1K TO 3VDUAL DDR25V
GPO25	I/O	PULL 4.7K TO 3VDUAL, LAN 100/10 DETECT.
GPO26	I/O	NOT IMPLEMENTED
GPO27	I/O	PULL 8.2K TO 3VDUAL LED
GPO28	I/O	PULL 8.2K TO 3VDUAL DDR25V

GPIO LIST

[www.s-manuals.com](http://www.s-manuals.com)