



# TIGD-CI3

## v : 1.1

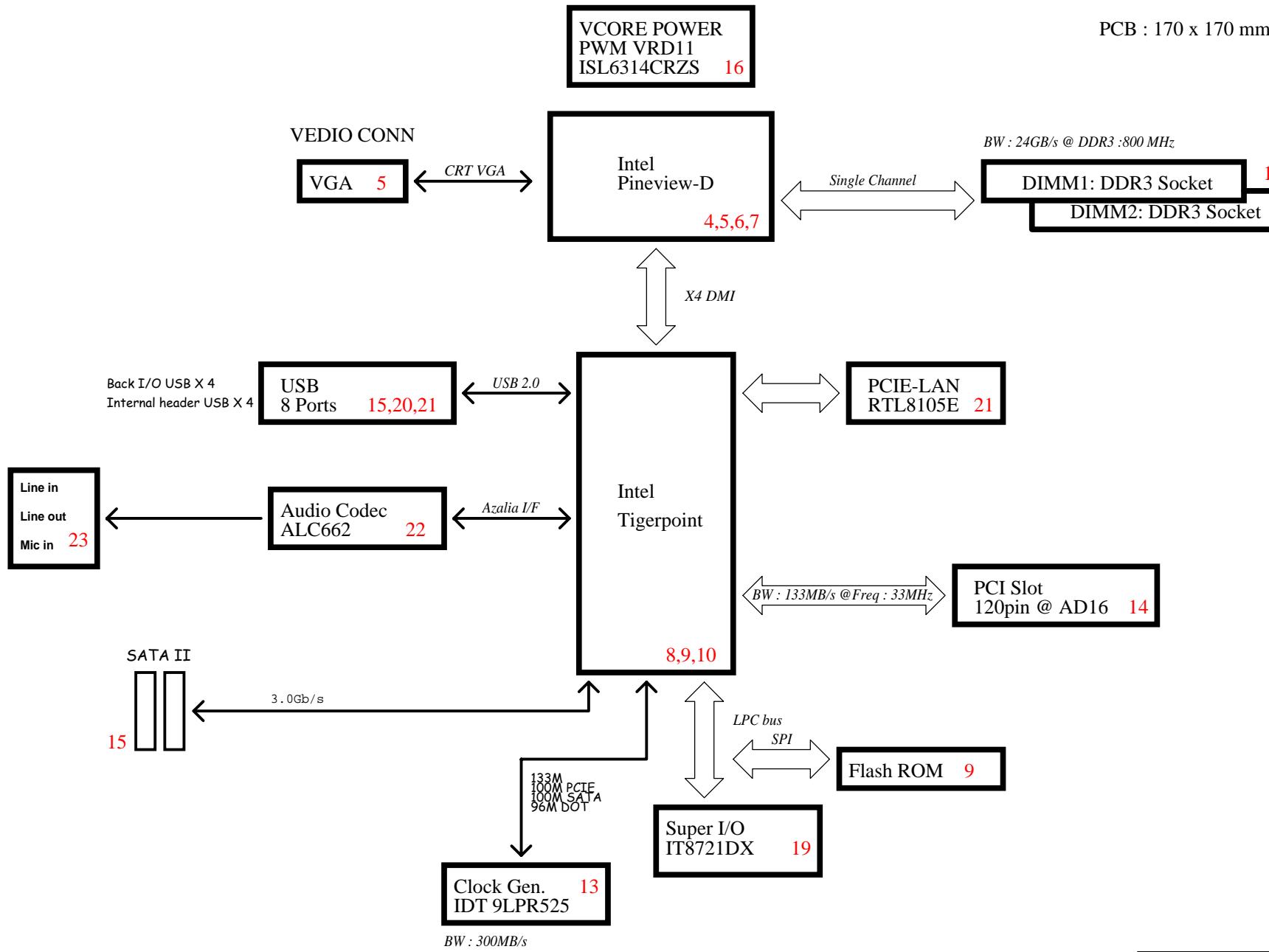
### SCHEMATICS TABLE:

Page	Index	Page	Index	REVISION HISTORY:		Notes
				Rev	Date	
1	Cover Page	18	ATX Power & Front Panel	A	2009.11.6	INITIAL RELEASE
2	Block Diagram	19	SIO - IT8721F-DX	1.0	2010.01.11	Page5:R12,R13 change to 39 ohm Fix H/VSYNC overshoot & undershoot
3	GPIO	20	PS2/COM/LPT		2010.01.11	Page5:+VCC change to +VGA_VCC ,and BC3 change to 1U For VGA noise
4	Pineview Part A & D	21	REALTEK 8103EL/8111DL		2010.01.11	Page7:add BC133 for DC noise
5	Pineview Part C, VGA Connecter	22	AUDIO Part A - ALC662		2010.01.11	Page8:add R234 pull high GPIO36
6	Pineview Part B	23	AUDIO Part B - Panel		2010.01.11	Page9:R271 change to 47 ohm for clock SI
7	Pineview Part E & F (Power)	24	FAN / THERM / TCM		2010.01.11	Page9:Add R379,R309,R266,R252,RN26,RN35,default GPI,If not used,pull high to power
8	Tigerpoint Part A & B & C & SATA	25	104, Impedance, Attention		2010.01.11	Page11:BC165 change to 0603,reserve BC181 for DC noise
9	Tigerpoint Part D, RTC	26	Power Delivery Chart		2010.01.11	Page12:ER28 change to 15.4K for OCP test,del EC30,add EC32 close to DIMM
10	Tigerpoint Part E & F (Power)	27	Power Sequencing Diagram		2010.01.11	Page13:R400,R52,R71,R398,R47 change to 47 ohm,R55,R397 change to 33 ohm for clock SI
11	DIMM 1 & 2 (DDR3 SODIMM)	28	Clock Distribution		2010.01.11	Page15:add R449,R452,R453,R454 for Discharge,EC3,4,19,20 change to 220U 16V
12	DDR / VTT_DDR				2010.01.11	Page16:L12 change footprint,+VCC3 change to +VCORE,Q15 change to 2N3904 for VRM_PWRGD glitch
13	Clock Generator - IDT 9LPR525				2010.01.11	Page17:add R347 for discharge,reserve R392 for disable EUP cost down
14	PCI Slot				2010.01.11	Page18:EC27 change to 16V value,+VCC3 change to +VCC,R377 change to 150-06,Increase LED brightness
15	USB				2010.01.11	Page19:BC181 change to 0.022uF for pin78 PWRGD glitch,
16	Vcore - ISL6314CRZS				2010.01.11	Page20:+IO_3VSB change to +5VSB,R424 change to 4.7K because power supply internal is 5V
17	MIS DC-DC				2010.01.11	Page20:+KBVCC change to +USBPOWER1,del F2 FUSE for COST DOWN
					2010.01.11	Page21:MC16,MC27,MC28 change to 4.7U-X5R for EVDD12,DVDD12 DC noise
					2010.01.11	Page22:+5VSB change to +ATX_5VSB,D42 SS14 change to D24 BAT54 for power on noise (enable EUP)
					2010.01.11	Page22:add Q47,reserve R97 for +5VA leakage current to 12V & ground through 7805
				CI3 V.A	2010.04.02	Page6:modify +V_1P8_PLLSFR circuit
					2010.04.02	Page11:change DDR2 to DDR3 slot & circuit
					2010.04.02	Page12:change DDR3 voltage to 1.5V level
					2010.04.02	Page17:modify +V_1P5,+V_1P05 LDO circuit
				CI3 V.B	2010.05.13	Page07:ADD L18,BC111 follow CRB1.0
					2010.05.13	Page09:change CMOS circuit,add D30,R344
					2010.05.13	Page11:change to SODIMM
					2010.05.13	Page18:modify BEEP circuit follow ECS MODULE
					2010.05.13	Page19:change to 8721-DX
				CI3 V.1.0	2010.07.02	Page19:Modify ATXPG circuit
					2010.07.02	Page12:ER28 from 15.4K to 14.3K for OCP TEST
				CI3 V.1.1	2010.11.23	Page16:R161 change to R159 for power report
					2010.11.23	Page21:LAN chip 8111/8103 co-lay change to 8111/8105 co-lay
						Page09:ADD Case open function
						PageALL :bottom side component change to Top side (R81,R89,R79,R84,C91,C92,C93,C94,C2,C7,C104,C105,C96,C85,C75,C79,C83,RN19)

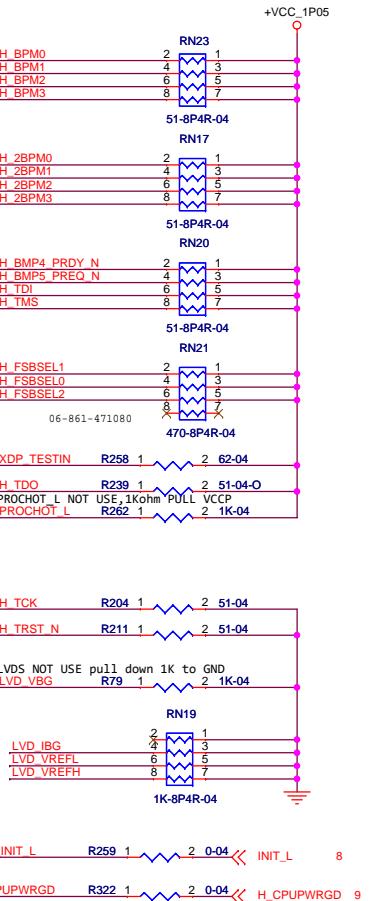
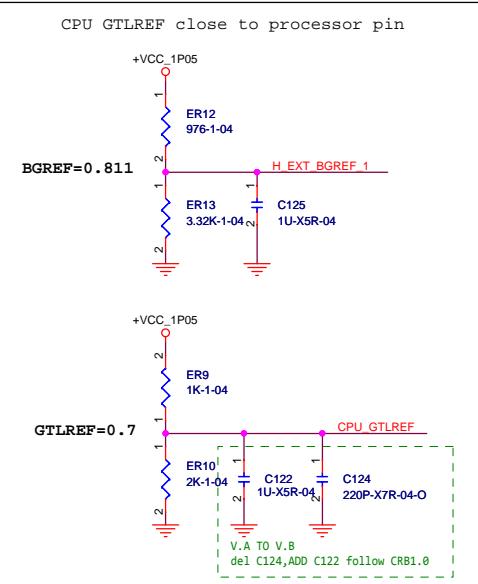
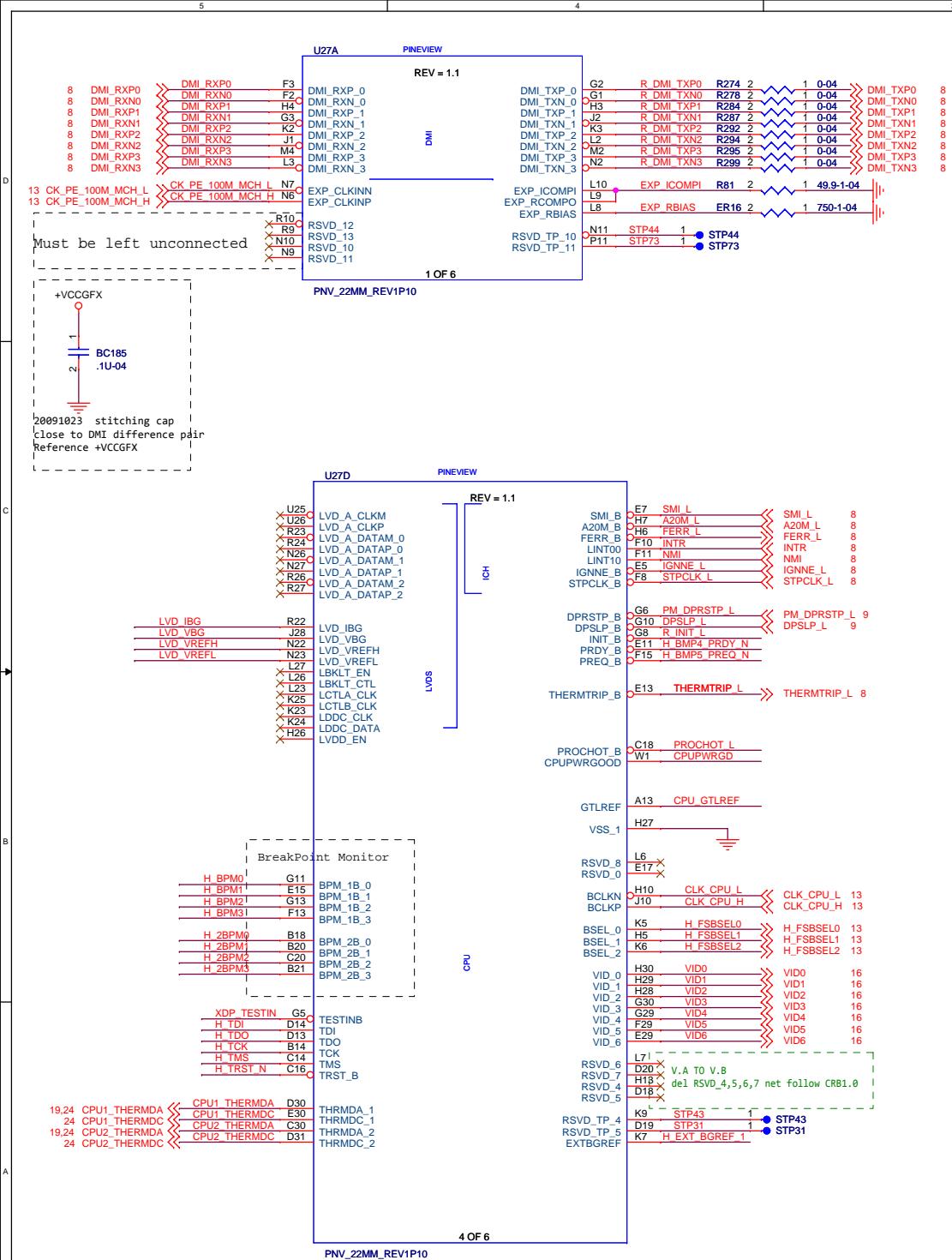
Design Guide: Doc#417605 Ver:2.5

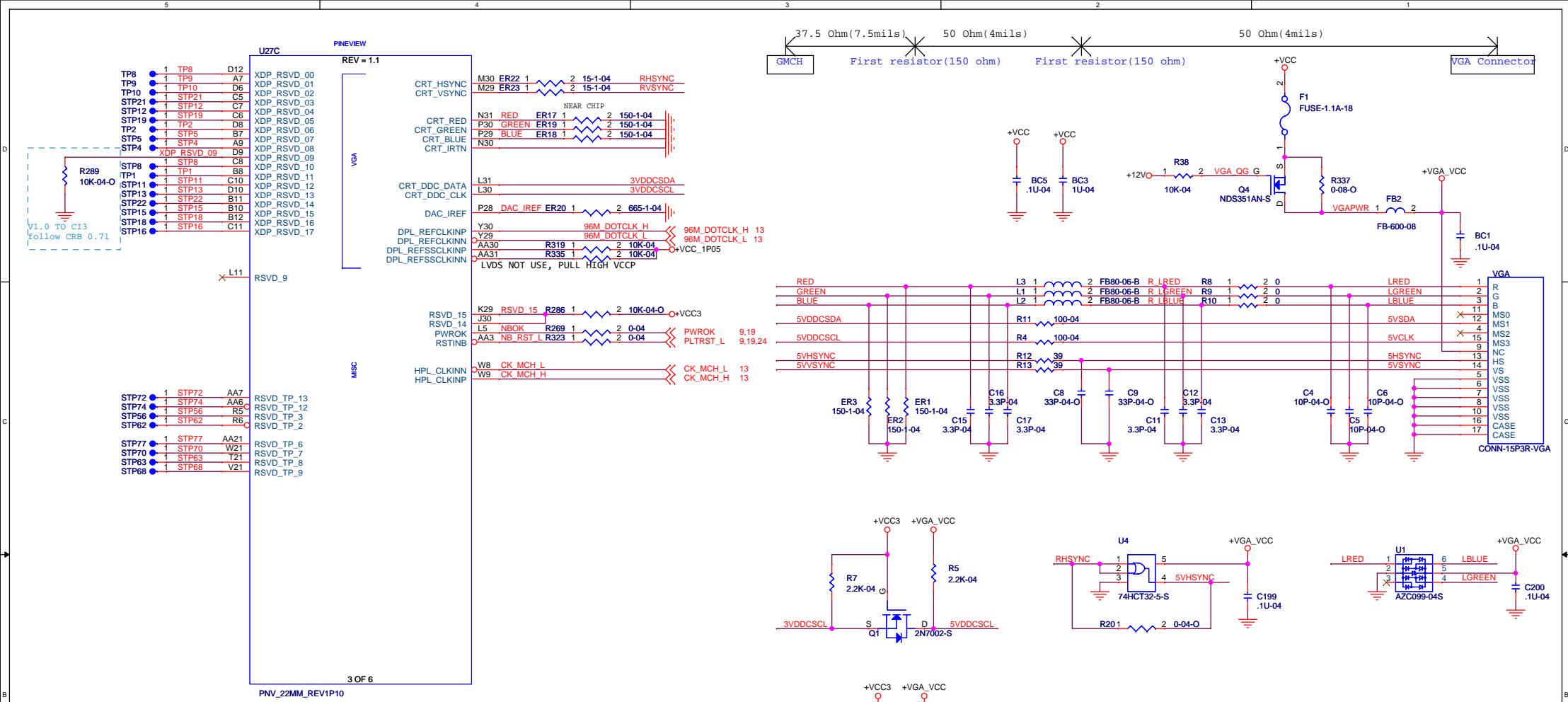
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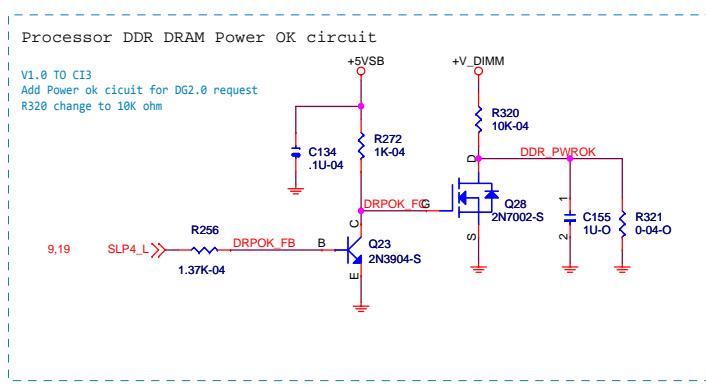
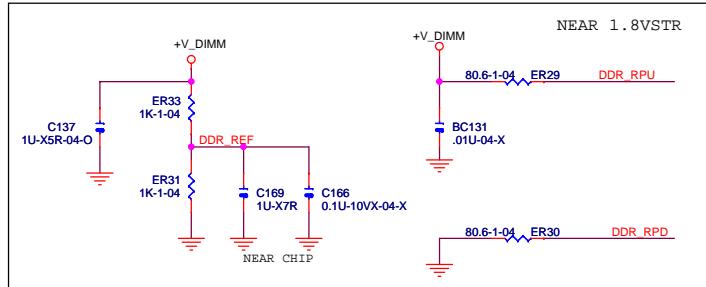
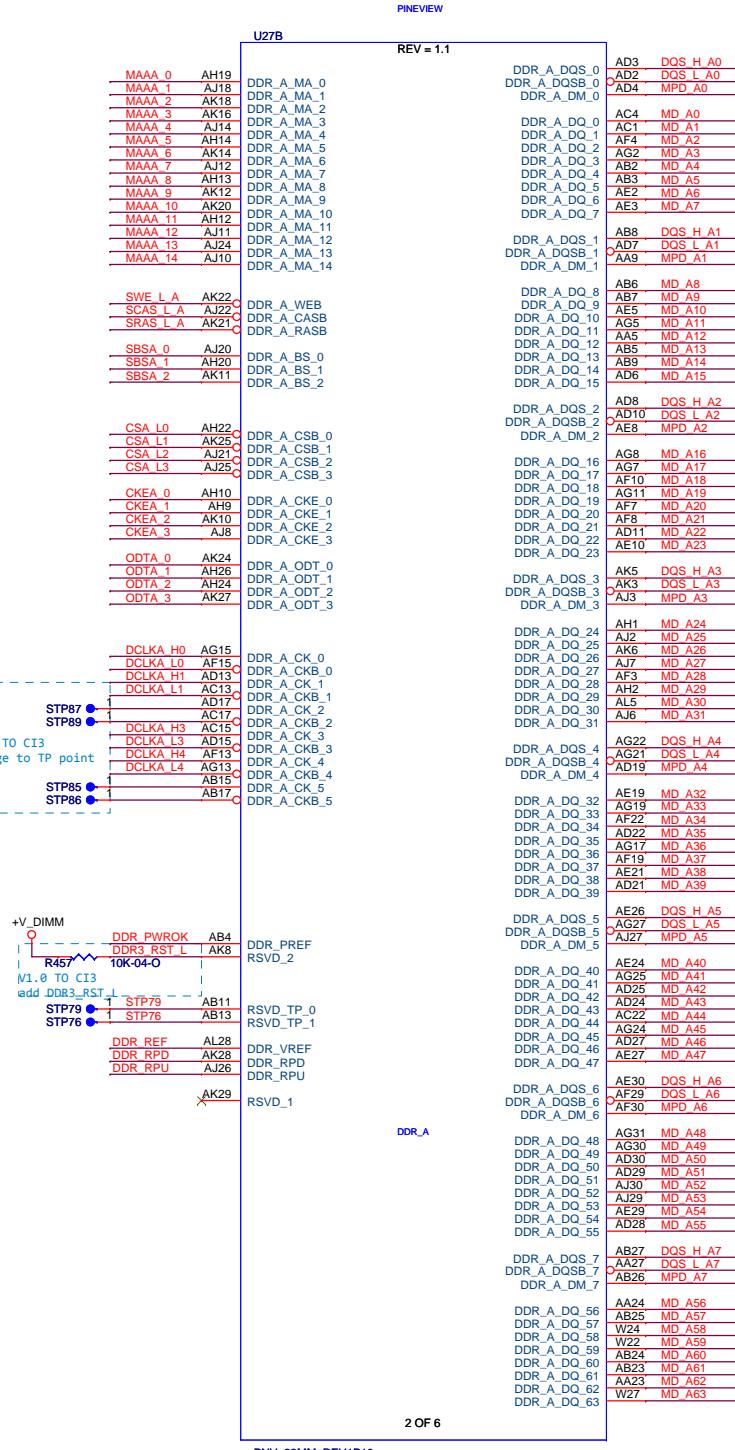
<b>Elitegroup Computer Systems</b>		
Title		
<b>Cover Page</b>		
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Page 8					Page 19					Page 19					Page 19				
Pin Name		Default	Power	USAGE	Function & Status				Pin Name		Default	Power	USAGE	Function & Status					
*	GPIO1	GPIO	VCC	GPIO1	4.7K up to VCC3, if not used				PCIRST3#/GP10	PCI Reset	3VSB	N/A	Floating						
	PIRQE#/GPIO2	GPIO	VCC	INT-E	8.2K up to VCC3, to PCI				PCIRST2#/GP11	PCI Reset	AVCC3	N/A	Floating						
	PIRQE#/GPIO3	GPIO	VCC	INT-F	8.2K up to VCC3, to PCI				PCIRST1#/GP12	PCI Reset	AVCC3	PCIRST1	330-O up to VCC3, to LANRST						
	PIRQE#/GPIO4	GPIO	VCC	INT-G	8.2K up to VCC3, to PCI				SVC/PECI_RQT//GP14	SVC	AVCC3	THRM_L	10K up to VCC3, to SB THRM						
	PIRQE#/GPIO5	GPIO	VCC	INT-H	8.2K up to VCC3, to PCI				SVD/PCIRSTIN#/CIRTX2/GP15	CIRTX2	AVCC3	GPIO	10K up to VCC3, FOR GP15						
*	GPIO17	GPO	VCC3	GPIO17	BOOT BIOS DESTINATION SELECTION 10K down to GND SPI Function				PSI_L/FAN_CTL5/CIRRX2/GP16	PSI_L	AVCC3	N/A	Floating						
	GPIO22	GPIO	VCC3	GPIO22	4.7K up to VCC3, if not used				VIDEO6/RI2/GP17	RI2	AVCC3	BEEP	4.7K-O up to VCC,to BEEP Circuit						
	OC5#/GPIO29	OC5#	3VSB	USB3_OC_L	10K up to 3VSB, to uP7533				VIDEO0/CTS2/GP20	GP20	3VSB	N/A	Floating						
	OC6#/GPIO30	OC6#	3VSB	USB4_OC_L	10K up to 3VSB, to uP7533				VIDEO1/DCD2#/GP21	GP21	3VSB	N/A	Floating						
	OC7#/GPIO31	OC7#	3VSB	USB5_OC_L	10K up to 3VSB, to uP7533				*	SCK/GP22	GP22	3VSB	LED0	2K up to 3VSB, to LED Circuit					
	GPIO36	GPIO	VCC3	GPIO36	4.7K up to VCC3, if not used				*	SI/GP23	GP23	3VSB	LED1	2K up to 3VSB, to LED Circuit					
	GPIO48	STRAP1#	VCC3	GPIO48	BOOT BIOS DESTINATION SELECTION GPI, Floating SPI Function				VIDEO2/FAN_TAC5/RTS2#/GP24	GP24/FAN_TAC5	3VSB	N/A	Floating						
Pin Name		Default	Power	USAGE	Function & Status				VIDEO3/FAN_TAC4/DSR2#/GP25	GP25/FAN_TAC4	3VSB	N/A	Floating						
*	BM_BUSY#/GPIO00	GPIO	VCC3	FRONT_AUD_DET	4.7K up to VCC3				*	VIDEO4/SOUT2/GP26	GP26	3VSB	GPIO	4.7K up to 3VSB for GPIO					
	GPIO06	GPIO	VCC3	GPIO06	10K up to VCC3, (N/A)				*	VIDEO5/SIN2#/GP27	GP27	3VSB	GPIO	4.7K up to 3VSB for GPIO					
	GPIO07	GPIO	VCC3	GPIO07	10K up to VCC3, (N/A)				*	VIDEO0/GP30	GP30	AVCC3	GPIO	4.7K up to VCC3 for GPIO					
	GPIO08	GPIO	3VSB	GPIO08	10K up to 3VSB, (N/A)														
	GPIO09	GPIO	3VSB	GPIO09	10K up to 3VSB, (N/A)				*	GP34	GP34	AVCC3	GPIO	4.7K up to VCC3 for GPIO					
	GPIO10	GPIO	3VSB	GPIO10	10K up to 3VSB, (N/A)				*	GP35	GP35	AVCC3	GPIO	4.7K up to VCC3 for GPIO					
	SMBALERT#/GPIO11	SMBALERT#	3VSB	SMBALERT_L	10K up to 3VSB, to nowhere				FAN_CTL3/GP36	FAN_CTL3	AVCC3	N/A	Floating						
	GPIO12	GPIO	3VSB	TP108	10K up to 3VSB, if not used				FAN_TAC3/GP37	FAN_TAC3	AVCC3	N/A	Floating						
	GPIO13	GPIO	3VSB	LPCPME_L	4.7K up to 3VSB, to SIO				3VSBSW#/GP40	3VSBSW#	3VSB	3VSBSW#	4.7K-O up to 3VSB, to control VDIMM circuit						
	GPIO14	GPIO	3VSB	GPIO14	10K up to 3VSB, if not used				PSON#/GP42	PSON#	3VSB	PSON_L	4.7K up to 3VSB, to ATX PSON circuit						
	GPIO15	GPIO	3VSB	GPIO15	10K up to 3VSB, if not used				PANSWH#/GP43	PANSWH#	3VSB	PWRSW	4.7K up to 3VSB, to PANEL PWRSW circuit						
	LDRQ1#/GPIO23	LDRQ1#	VCC3	TP82	Test Point				PWRON#/GP44	PWRON#	3VSB	PWRBT_L	5.1K up to 3VSB, to SB PWRBTN circuit						
	GPIO24	GPO	3VSB	TP84	Test Point				*	GP47	GP47	AVCC3	GPIO47	4.7K up to VCC3 for GPIO47					
*	GPIO25	GPO	3VSB	GPIO25	DMI_DC / AC COUPLING SELECTION 1K down to GND, AC COUPLING MOD				SO/GP50	SO	AVCC3	N/A	Floating						
	GPIO26	GPO	3VSB	N/A	Floating				FAN_CTL2/GP51	FAN_CTL2	AVCC3	FAN_CTL2	4.7K up to VCC,to CPU FAN CTL Circuit						
	GPIO27	GPO	3VSB	GPIO27	10K-O TO 3VSB control USB power				FAN_TAC2/GP52	FAN_TAC2	AVCC3	FAN_TAC2	4.7K up to VCC,to CPU FAN TAC Circuit						
	GPIO28	GPO	3VSB	TP88	Test Point				SUSC#/GP53	SUSC#	3VSB	SLP4_L	4.7K-O up to 3VSB , to SLP4_L circuit						
	GPIO33	GPIO	VCC3	GPIO33	4.7K-O up to VCC3, to nowhere				PME#/GP54	PME#	3VSB	LPCPME_L	4.7K-O up to 3VSB , to SB PME circuit						
	GPIO34	GPIO	VCC3	GPIO34	10K UP TO VCC3,for GPIO				RSMRST#/CIRRX1/GP55	RSMRST#	3VSB	RSMRST_L	680 up to 3VSB , to SB RSMRST circuit						
	GPIO38	GPIO	VCC3	GPIO38	10K UP TO VCC3,for GPIO				MCLK/GP56	MCLK	AVC33	MCLK	2.2K up to KBVCC , to MCLK circuit						
	GPIO39	GPIO	VCC3	GPIO39	10K UP TO VCC3,for GPIO				MDAT/GP57	MDAT	AVC33	MDATA	2.2K up to KBVCC , to MDATA circuit						
	CPUPWRGD/GPIO49	CPUPWRGD	V_CPU_IO_H_CPUPWRGD	1K-O up to VCC_1P05, to Pineview					KCLK/GP60	KCLK	AVC33	KCLK	2.2K up to KBVCC , to KCLK circuit						
	VCORE_GOOD/VID6/GP63	VCORE_GOOD	AVCC3	N/A	Floating				KDAT/GP61	KDAT	AVC33	KDATA	2.2K up to KBVCC , to KDATA circuit						
	VCORE_EN/VID7/GP64	VCORE_EN	AVCC3	N/A	Floating				KRST#/GP62	KRST#	AVC33	KRST_L	10K up to VCC3 , to SB KBRST_L circuit						
	VDDA_EN/GP65	VDDA_EN	AVCC3	N/A	Floating														
	VLDT_EN/GP66	VLDT_EN	AVCC3	N/A	Floating														
	CPU_GD/GP67	CPU_GD	AVCC3	N/A	Floating														
	PD0/GP70	PD0	AVCC3	PD0	1K up to VCC, to LPT circuit														
	PD1/GP71	PD1	AVCC3	PD1	1K up to VCC, to LPT circuit														
	BUSSIO_P/DP2/GP72	PD2	AVCC3	PD2	1K up to VCC, to LPT circuit														
	BUSSIO1_P/DP3/GP73	PD3	AVCC3	PD3	1K up to VCC, to LPT circuit														
	BUSSIO2_P/DP4/GP74	PD4	AVCC3	PD4	1K up to VCC, to LPT circuit														
	BUSSO0_P/DP5/GP75	PD5	AVCC3	PD5	1K up to VCC, to LPT circuit														
	BUSSO1_P/DP6/GP76	PD6	AVCC3	PD6	1K up to VCC, to LPT circuit														
	BUSSO2_P/DP7/GP77	PD7	AVCC3	PD7	1K up to VCC, to LPT circuit														
	SLCT#/GP80	SLCT#	AVCC3	SLCT	1K up to VCC, to LPT circuit														
	PE#/GP81	PE#	AVCC3	PE	1K up to VCC, to LPT circuit														
	BUSY#/GP82	BUSY#	AVCC3	BUSY	1K up to VCC, to LPT circuit														
	ACK#/GP83	ACK#	AVCC3	ACK_L	1K up to VCC, to LPT circuit														
	SMBD_R/SLIN#/GP84	SMBD_R	AVCC3	SIN_L	1K up to VCC, to LPT circuit														
	SMBD_M/INIT#/GP85	PE#/GP81	AVCC3	INIT_L	1K up to VCC, to LPT circuit														
	SMBC_R/AFD#/GP86	SMBC_R	AVCC3	AFD_L	1K up to VCC, to LPT circuit														
	SMBC_M/STB#/GP87	SMBC_M	AVCC3	STB_L	1K up to VCC, to LPT circuit														

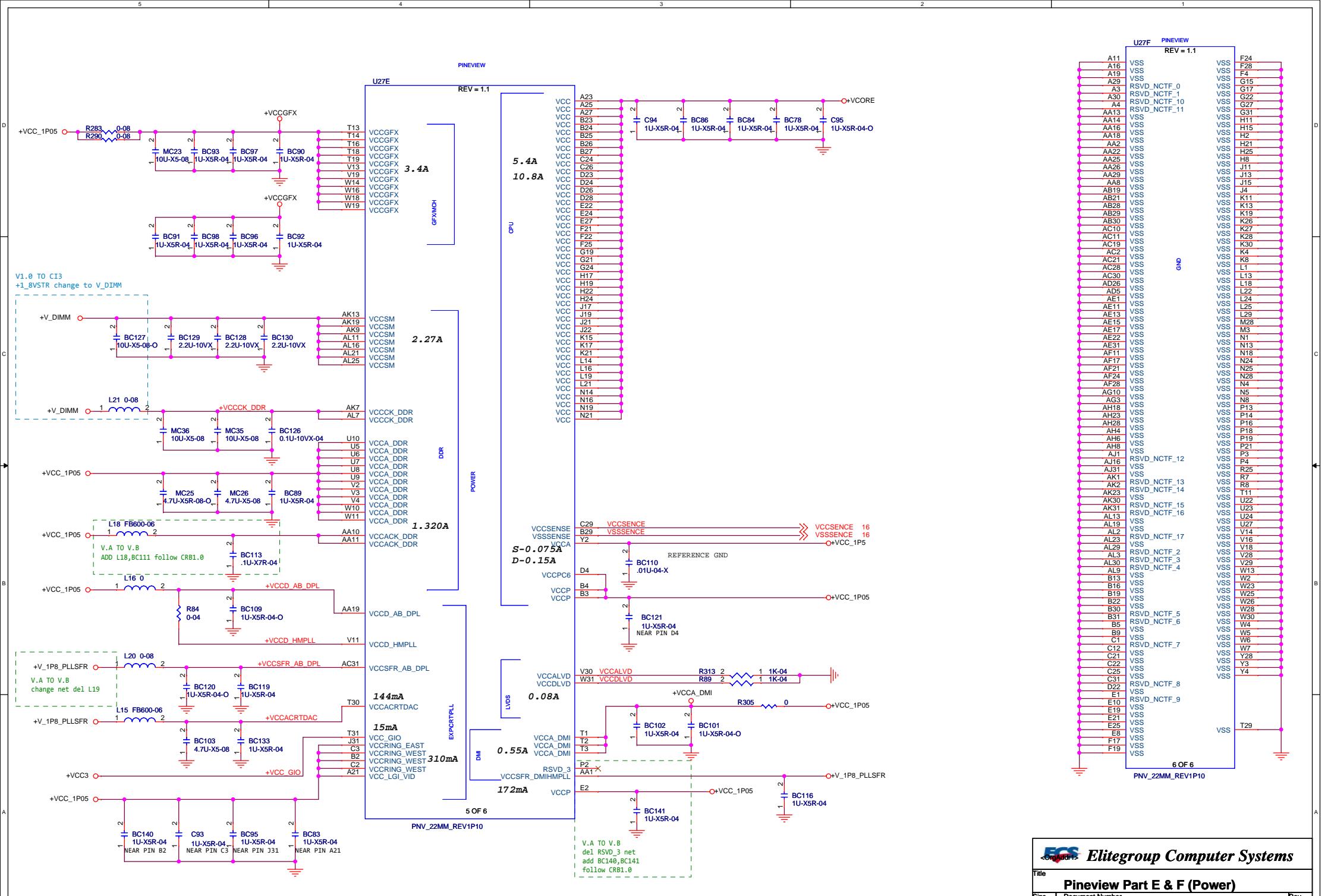


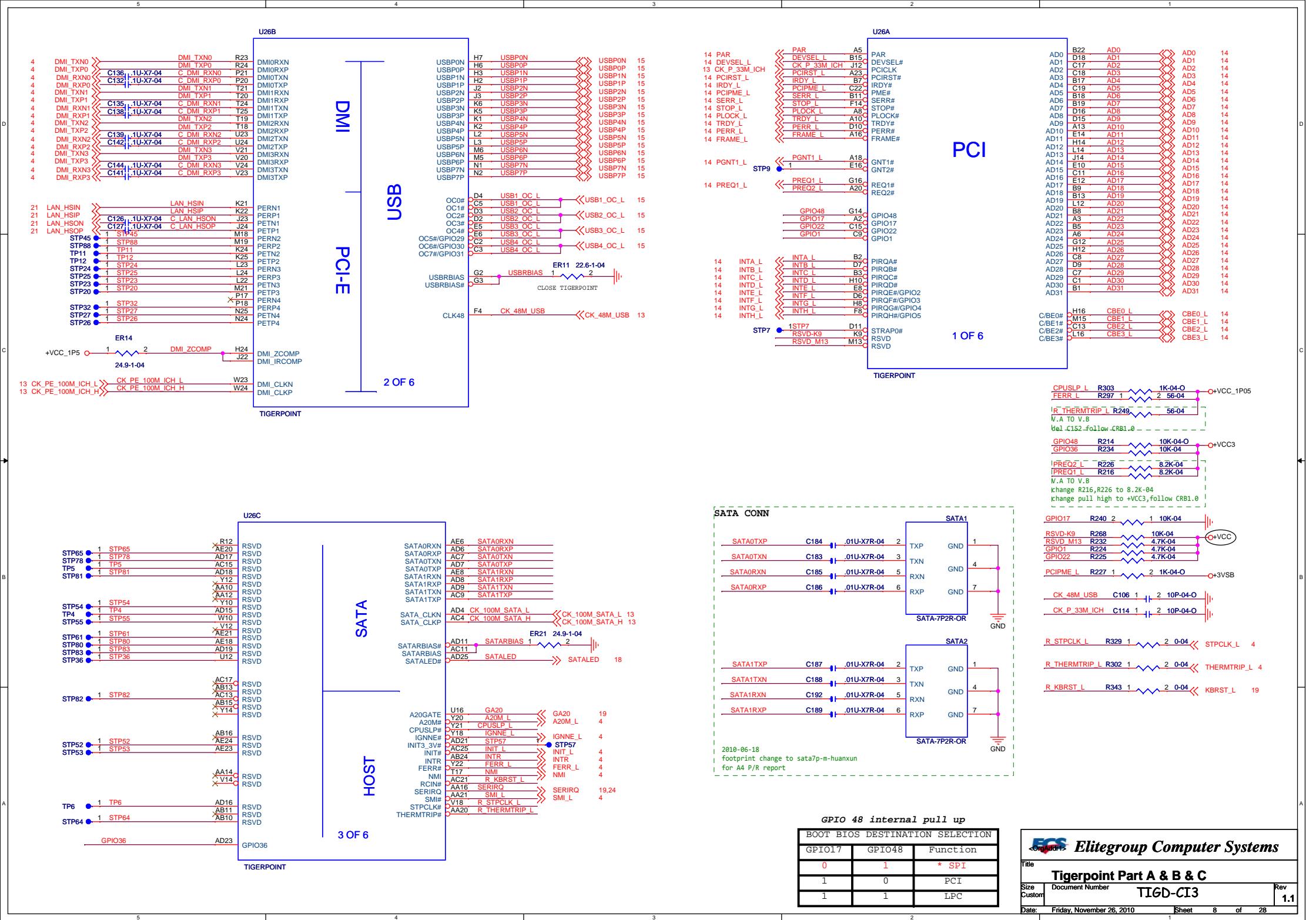


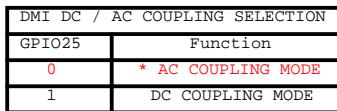
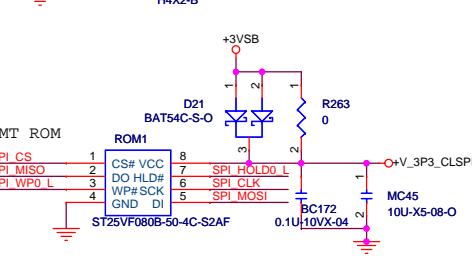
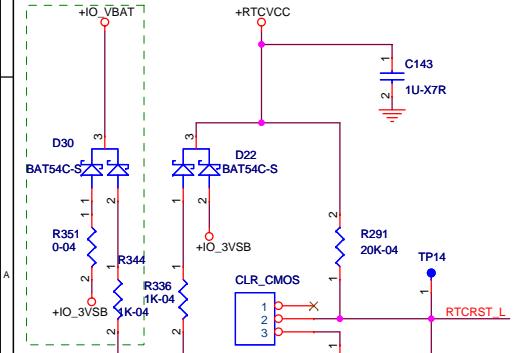
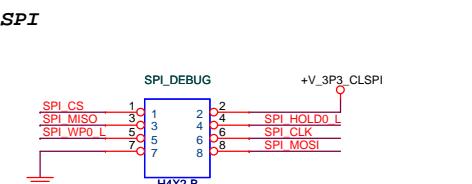
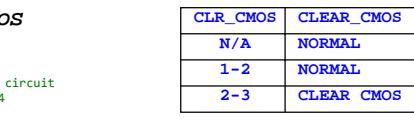
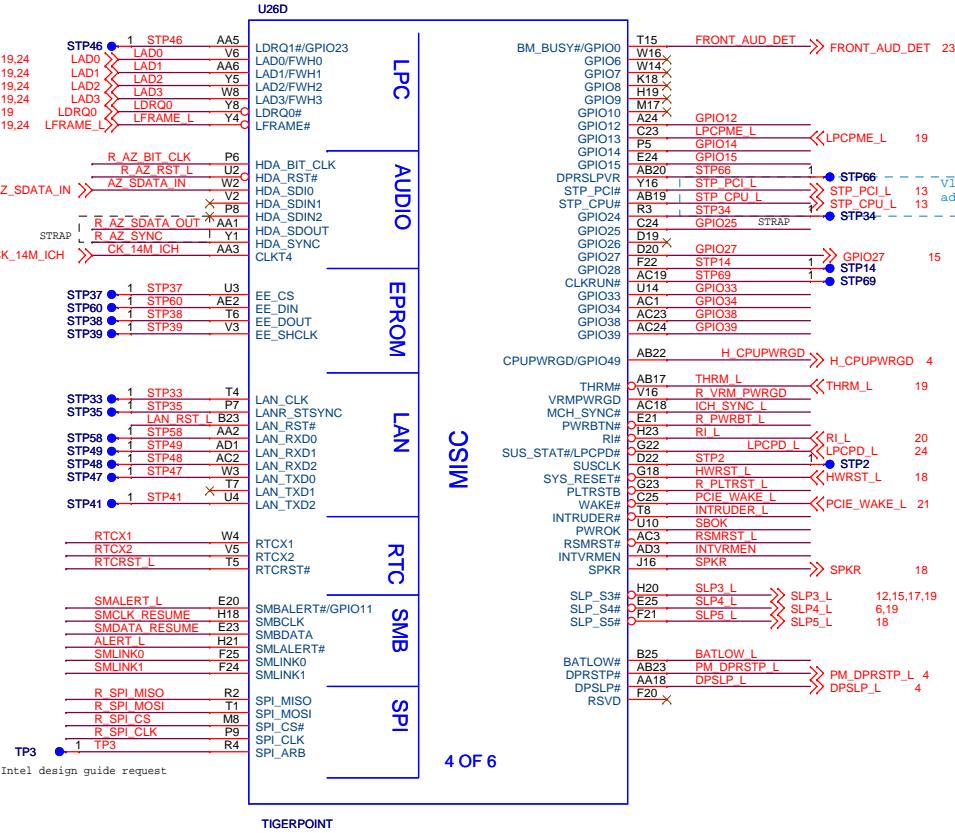


Timing diagram showing signal transitions for various memory control signals:

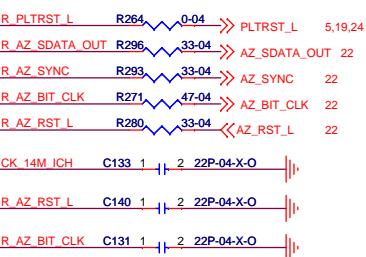
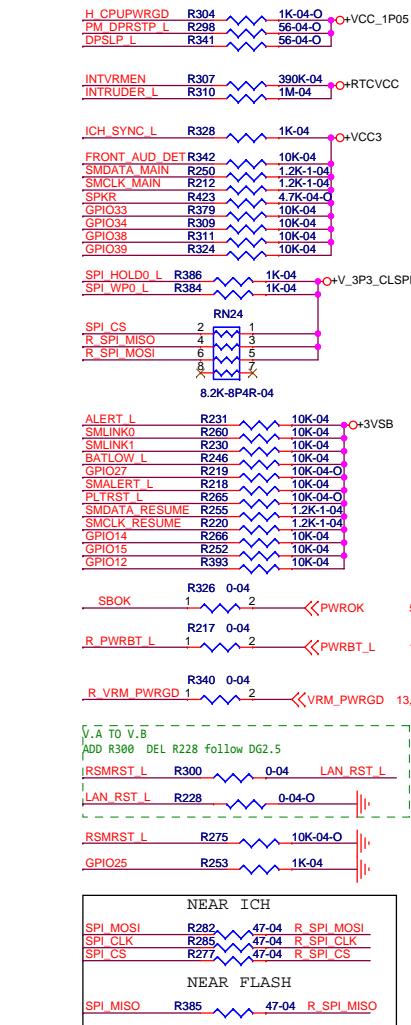
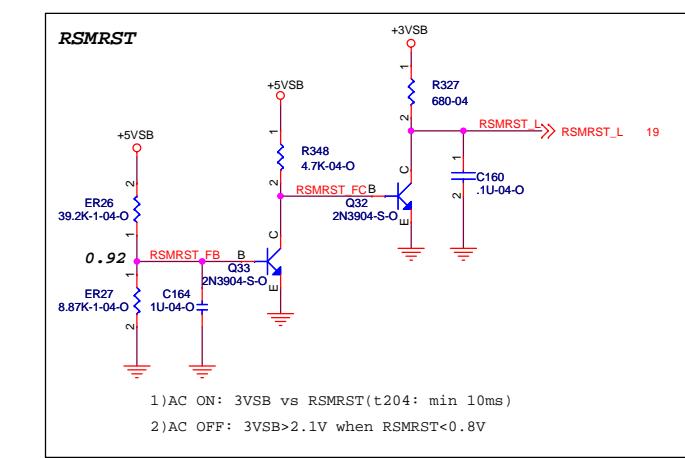
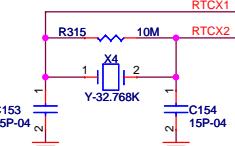
- MAAA [0..14]: Red arrow pointing right.
- CSA\_L[0..3]: Red arrow pointing right.
- CKEA [0..3]: Red arrow pointing right.
- ODTA [0..3]: Red arrow pointing right.
- DCLKA\_L[0..1]: Red arrow pointing right.
- DCLKA\_H[0..1]: Blue arrow pointing left.
- DCLKA\_L[3..4]: Red arrow pointing right.
- DCLKA\_H[3..4]: Red arrow pointing right.
- MD\_A[0..63]: Red arrow pointing right.
- DQS\_L\_A[0..7]: Red arrow pointing right.
- DQS\_H\_A[0..7]: Red arrow pointing right.
- MPD\_A[0..7]: Red arrow pointing right.
- SBSA [0..2]: Red arrow pointing right.
- SWE\_L\_A: Red arrow pointing right.
- SCAS\_L\_A: Red arrow pointing right.
- SRAS\_L\_A: Red arrow pointing right.
- DDR3\_RST\_L: Red arrow pointing right.

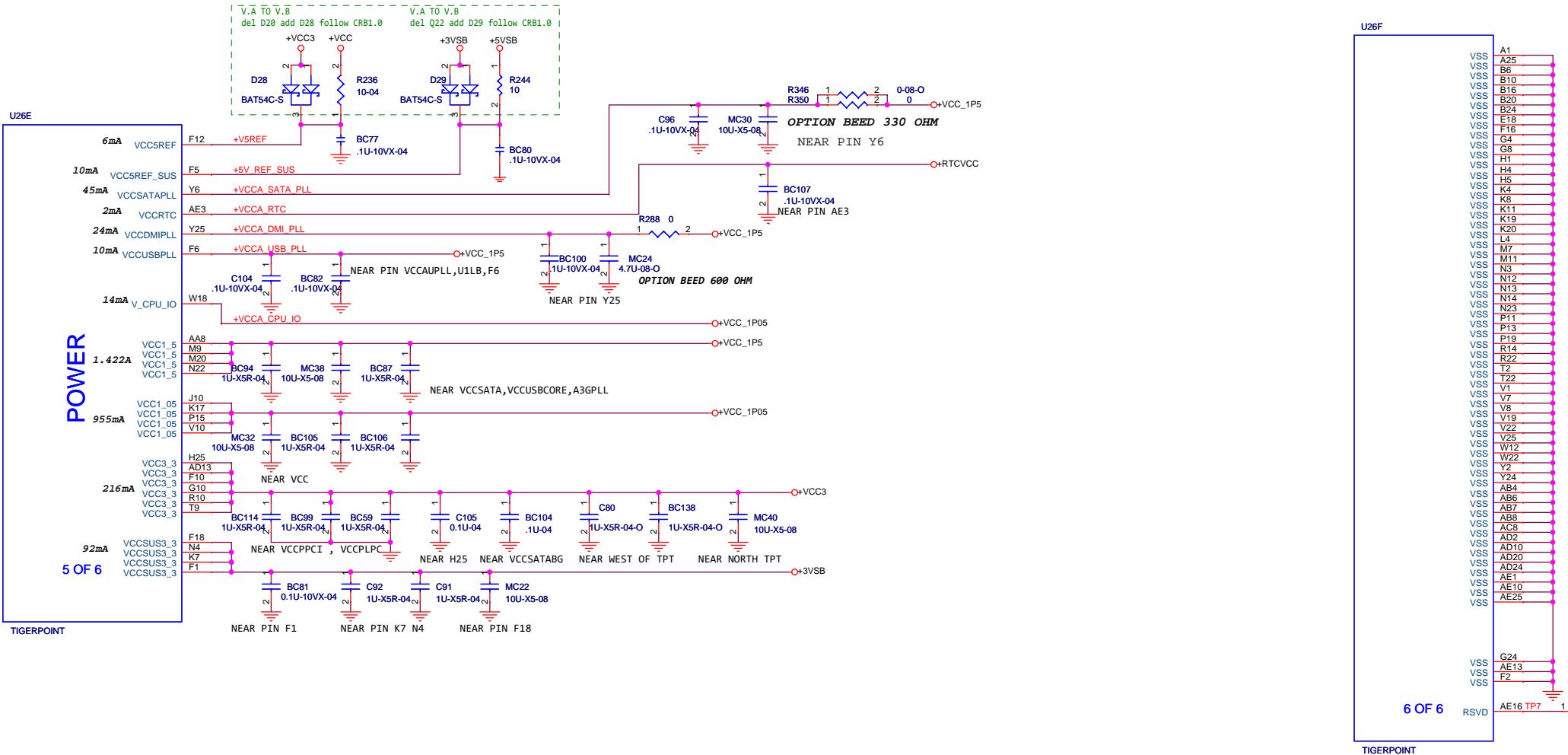


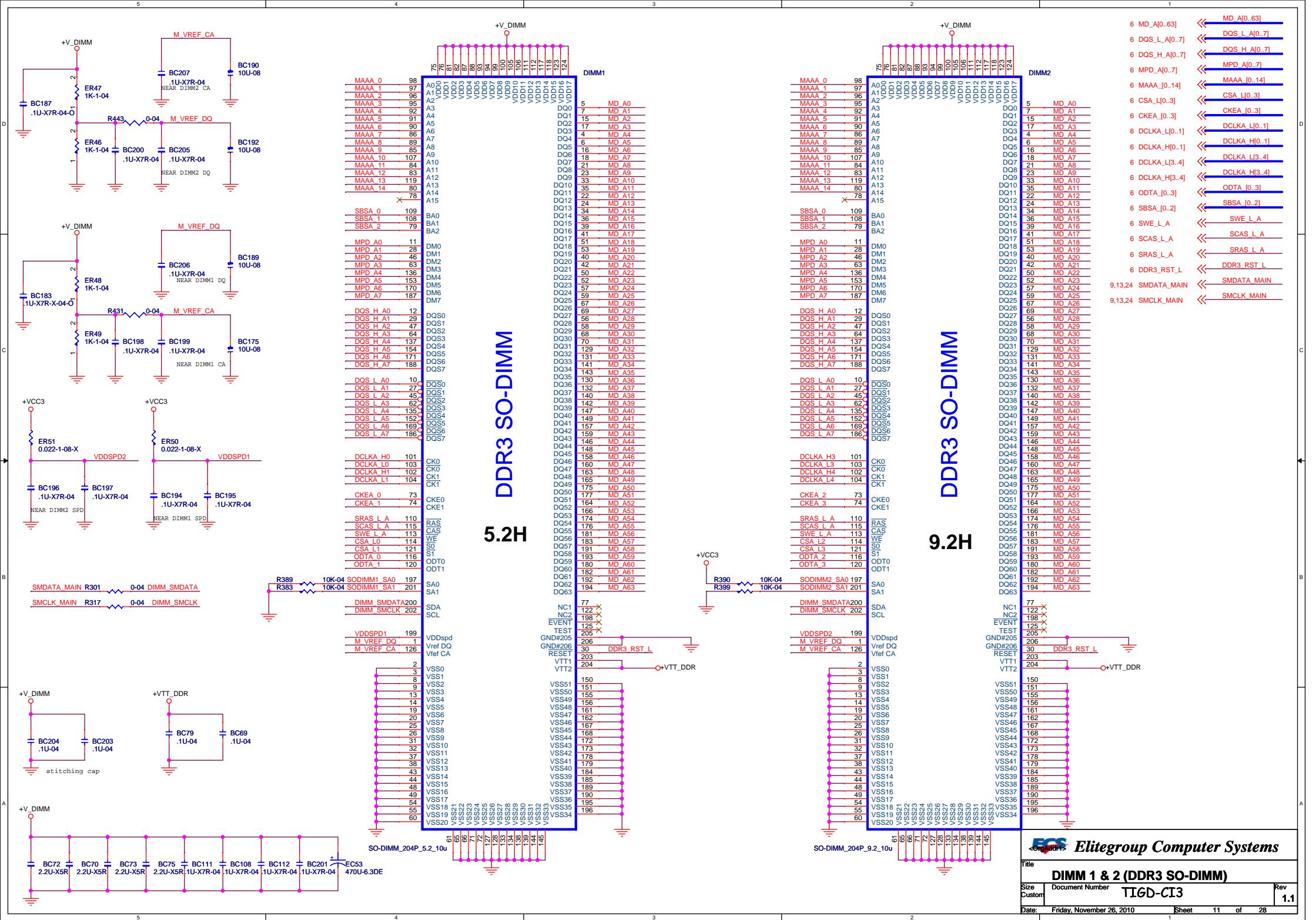




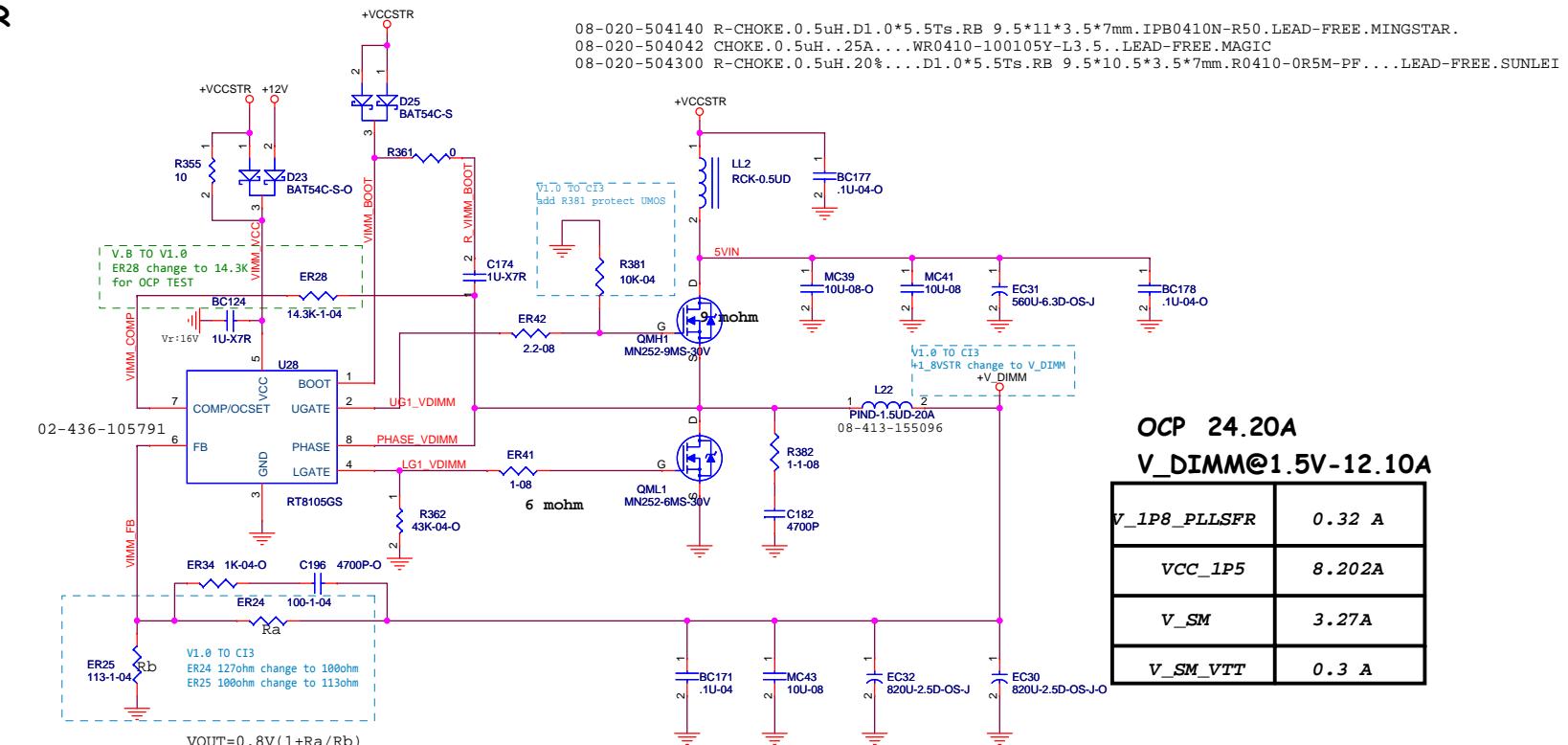
PCI EXPRESS * PORT CONFIG		
AZ_DOUT	AZ_SYNC	Function
0	0	4*1 Port
0	1	Reserved
1	0	Reserved
1	1	* 1*4 Port

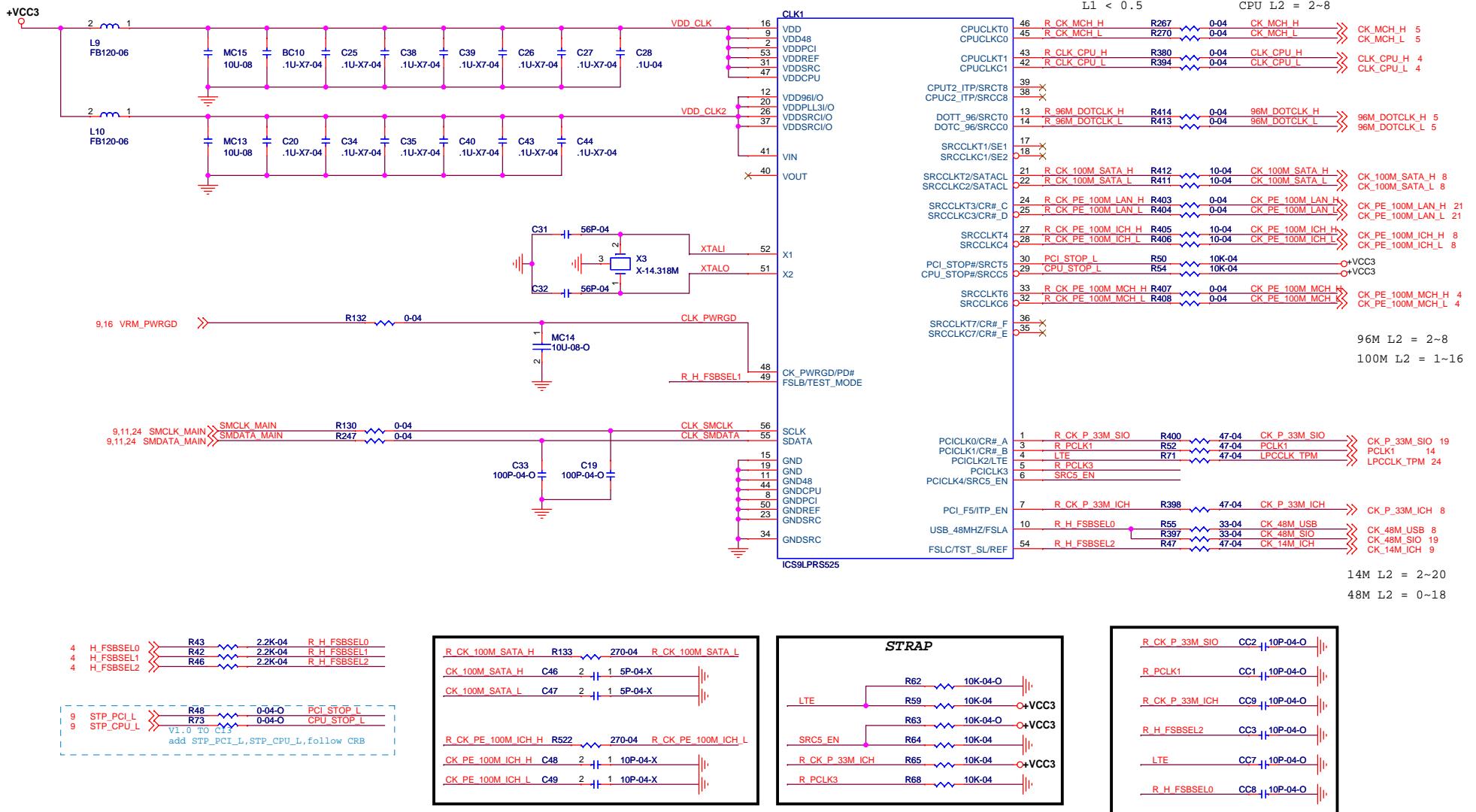






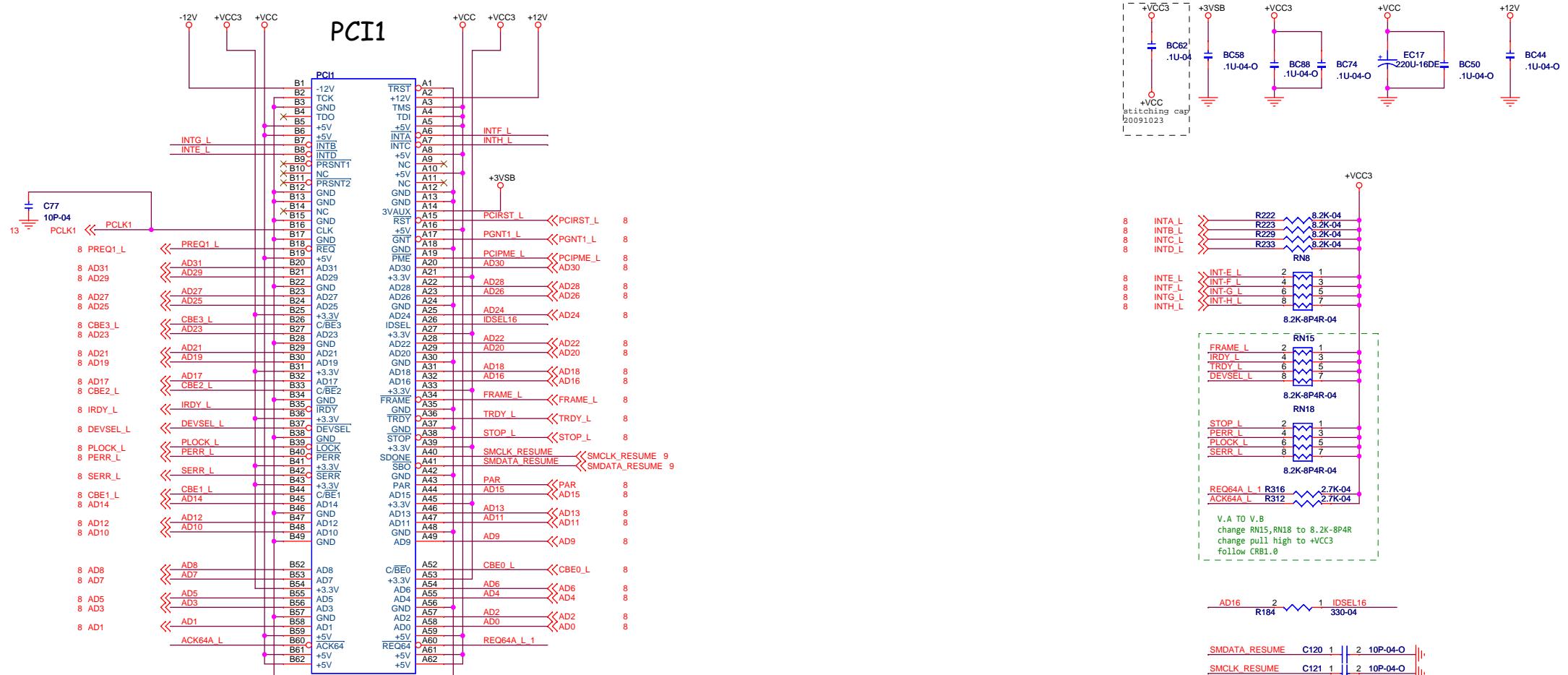
# DDR / VTT\_DDR



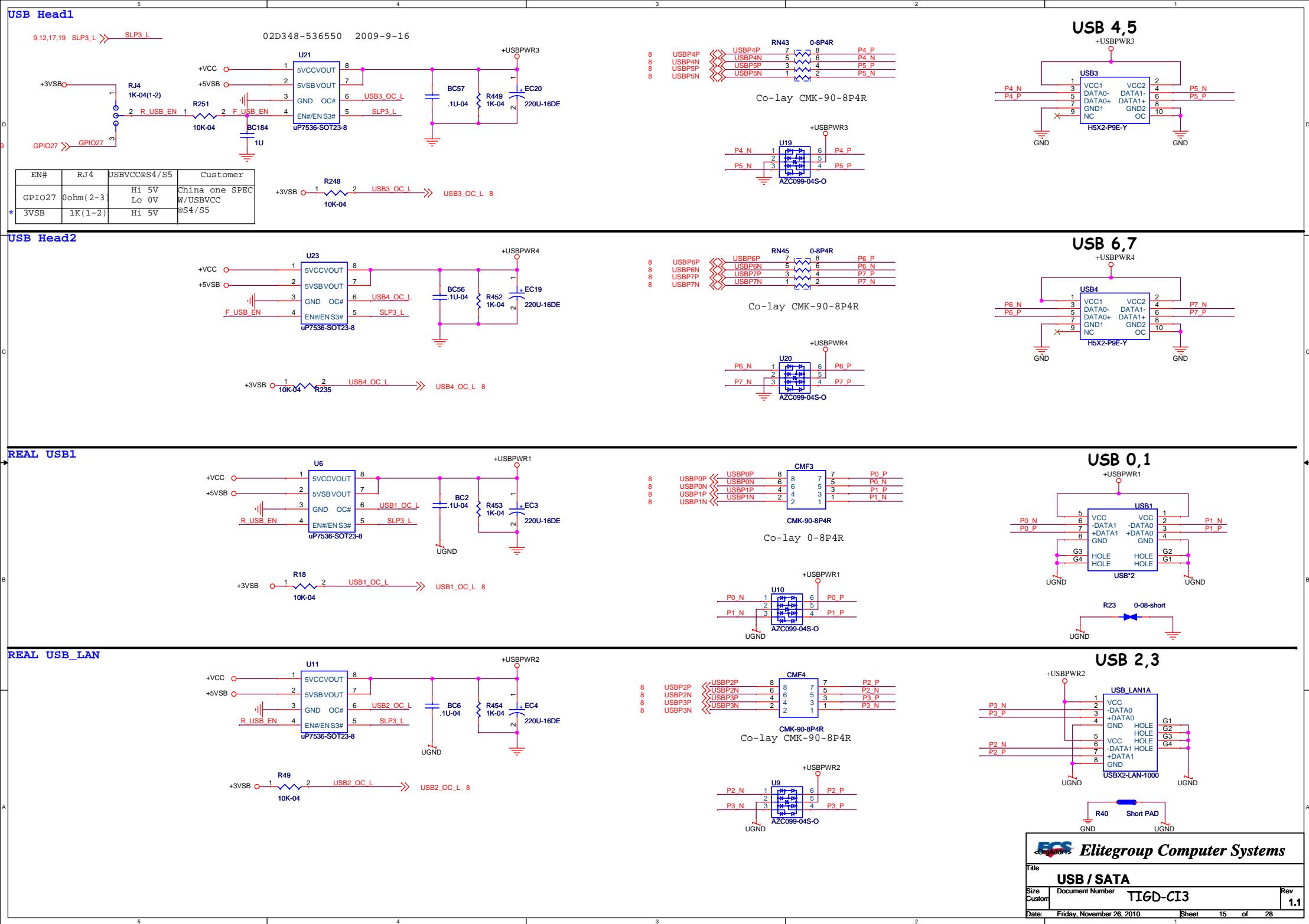


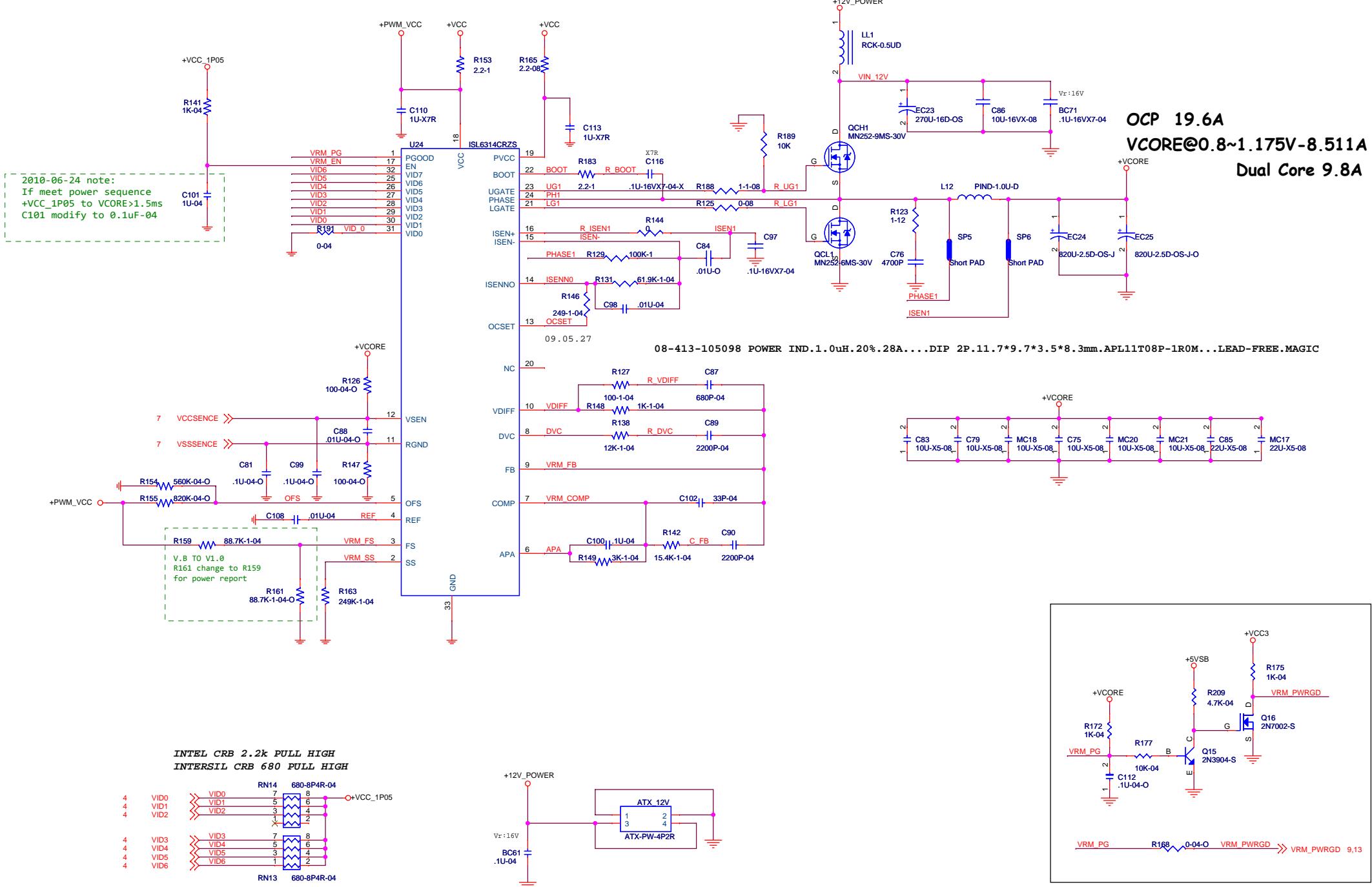
FSBSEL2	FSBSEL1	FSBSEL0	Frequence
0	0	0	266.66
0	0	1	133.33
0	1	0	200.00
0	1	1	166.66
1	0	0	333.33
1	0	1	100.00
1	1	0	400.00

	HIGH	LOW	FUNCTION
PIN4 LTE	* DISABLE	ENABLE	OVER CLOCK
PIN6 SRC5_EN	ENABLE	* DISABLE	SRC5
PIN7 ITP_EN	* ENABLE	DISABLE	ITP



<i>PCI1-INT:</i>	<i>IDSEL=AD16</i>
<i>INTA:INTC</i>	<i>REQ=PREQ1#</i>
<i>INTB:INTD</i>	<i>GNT=PGNT1#</i>
<i>INTC:INTE</i>	
<i>INTD:INTF</i>	

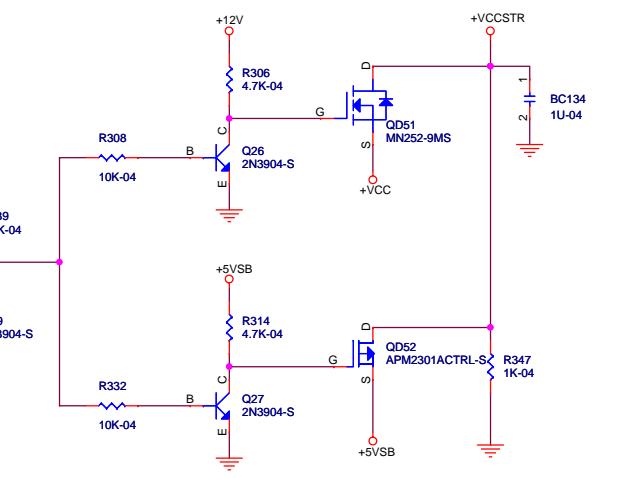




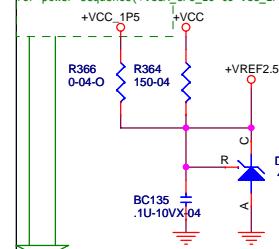
Default :

State	3VSB SW#	+VCCSTR	V Source
S0	High	v	+VCC
S1	High	v	+VCC
S2	High	v	+VCC
S3	Low	v	+5VSB
S4	High	X	N/A
S5	High	X	N/A

### 5V Dual(+VCCSTR for DIMM)

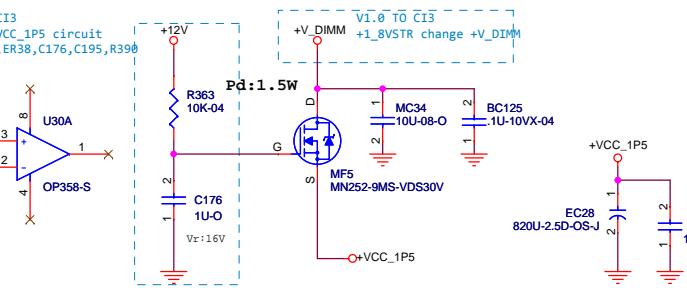


V\_B TO V1.0  
+VCC3 change to +VCC\_1P5!  
For power sequence(+VCCA|CPU\_IO to VCC\_1P5)

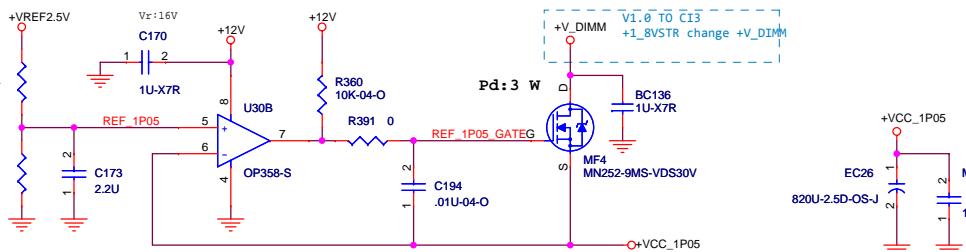


note: If use R366;  
ER35, ER32 will modify value  
to meet 1.05V level

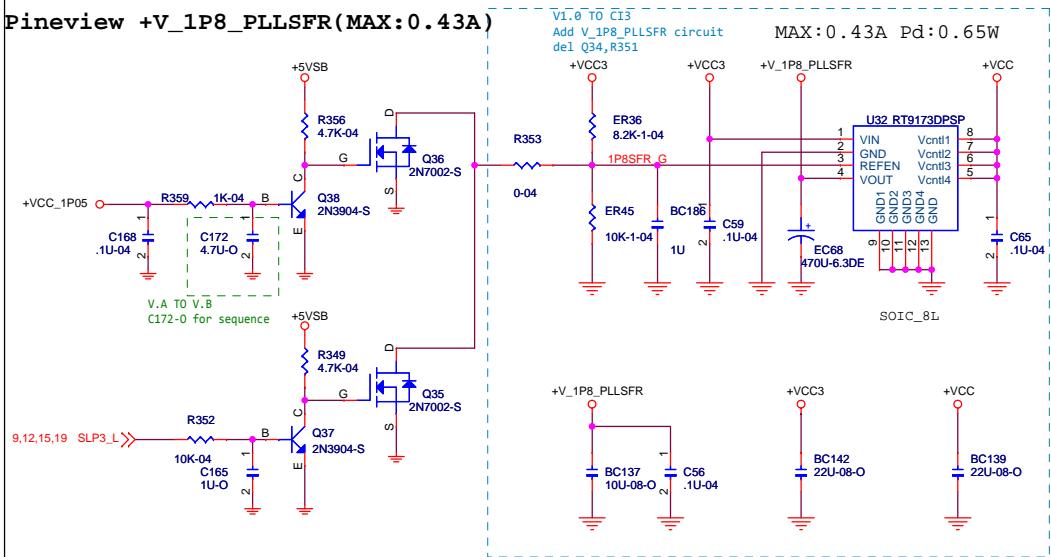
### Tigerpoint VCC\_1P5@1.5V-1.5 A



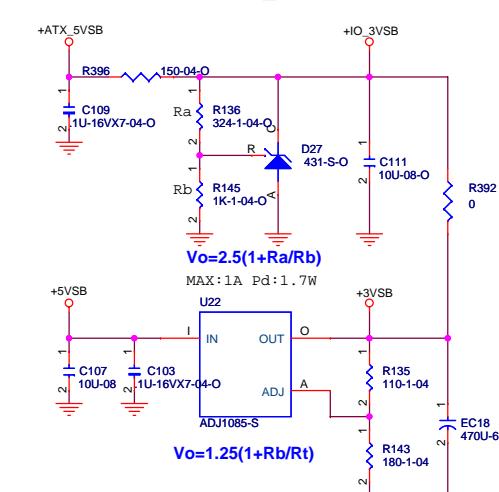
### Pineview VCC\_1P05@1.05V-6.34A

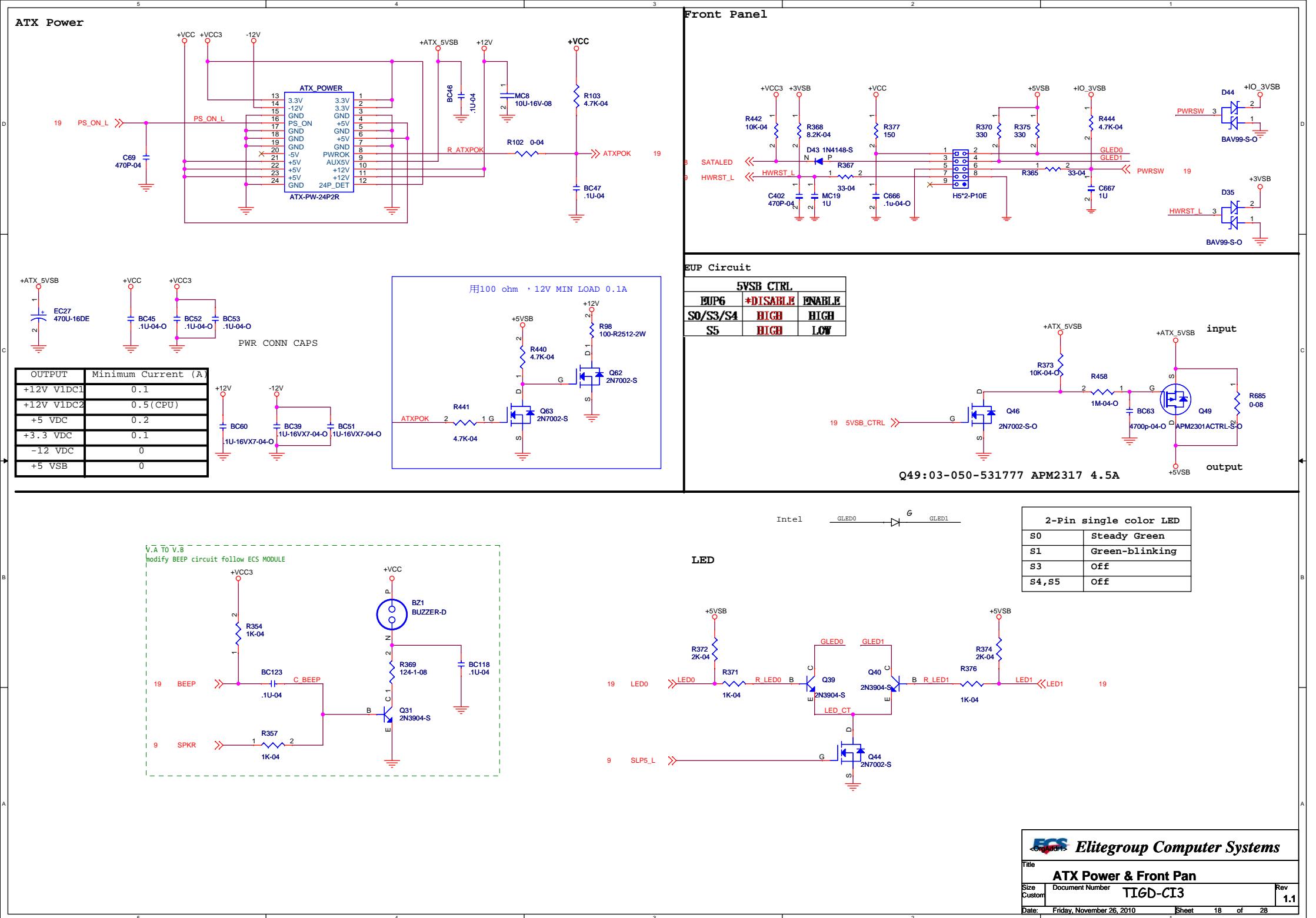


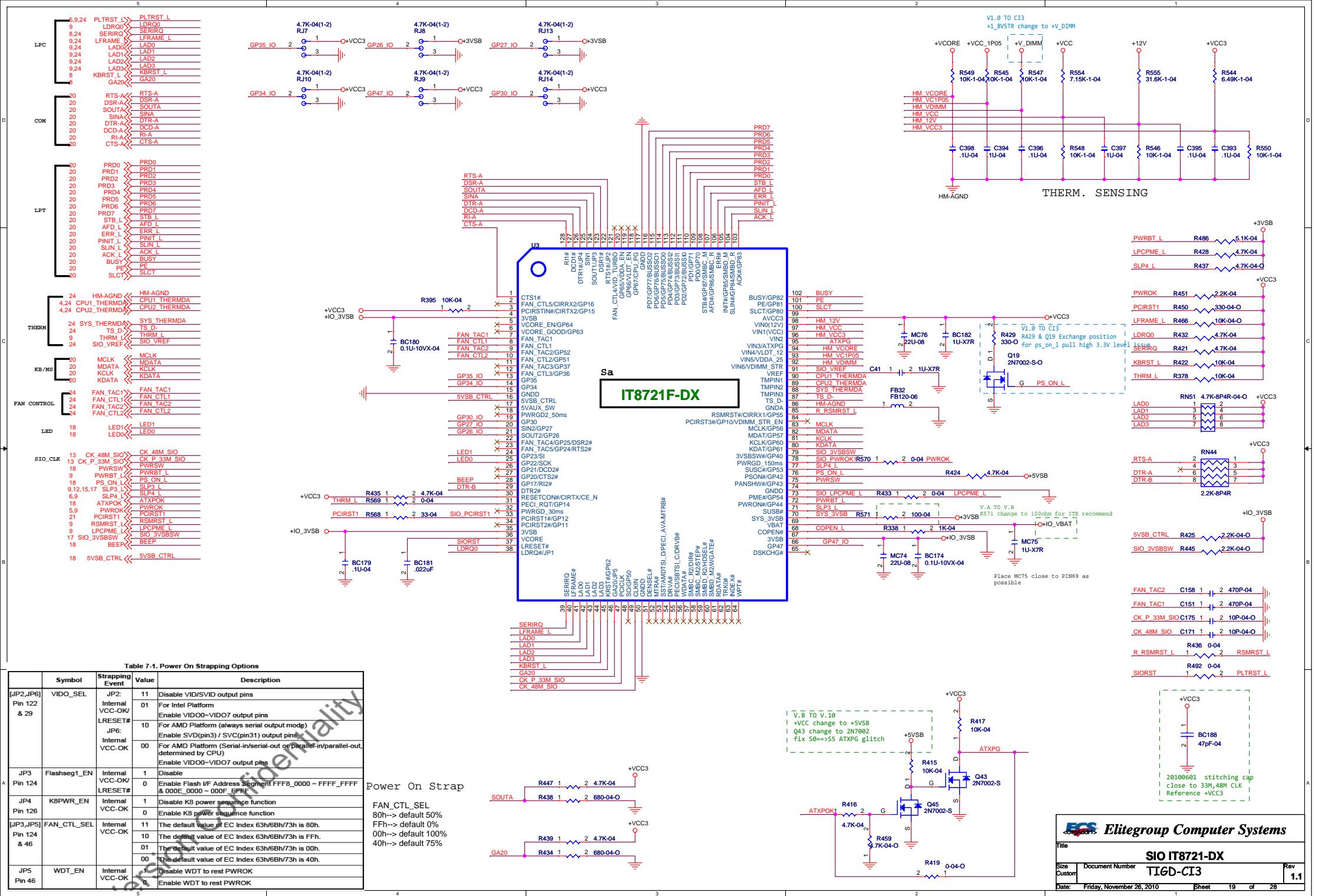
### Pineview +V\_1P8\_PLLSFR(MAX:0.43A)



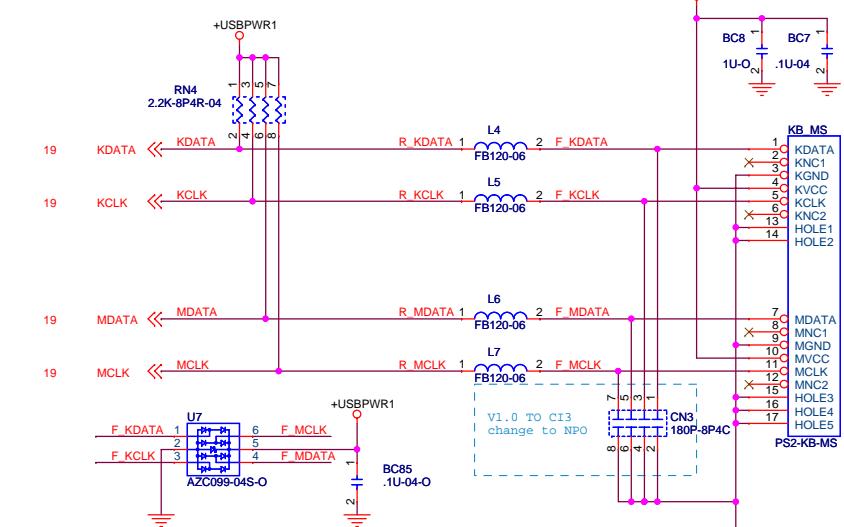
### +3VSB(3.3V-1A);+IO\_3VSB(10mA~15mA)



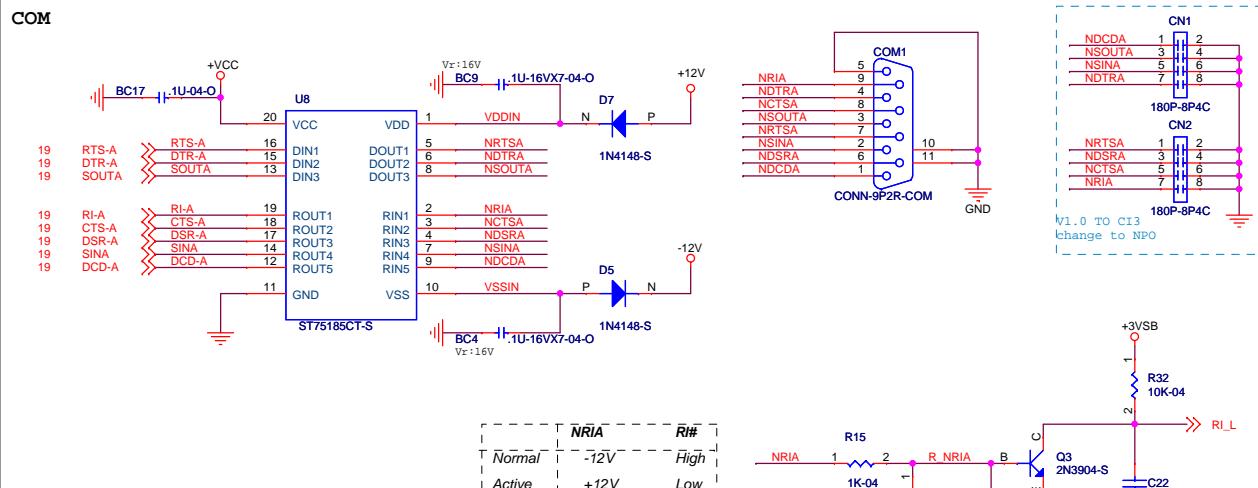




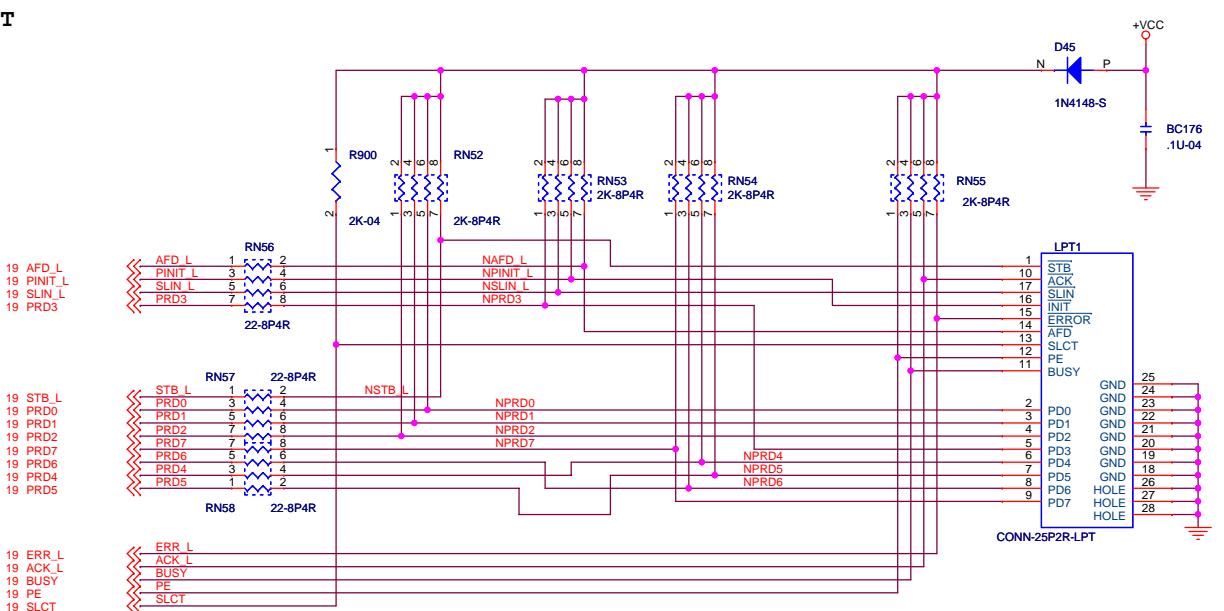
## PSKBM



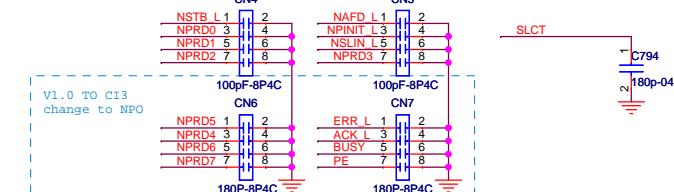
## COM

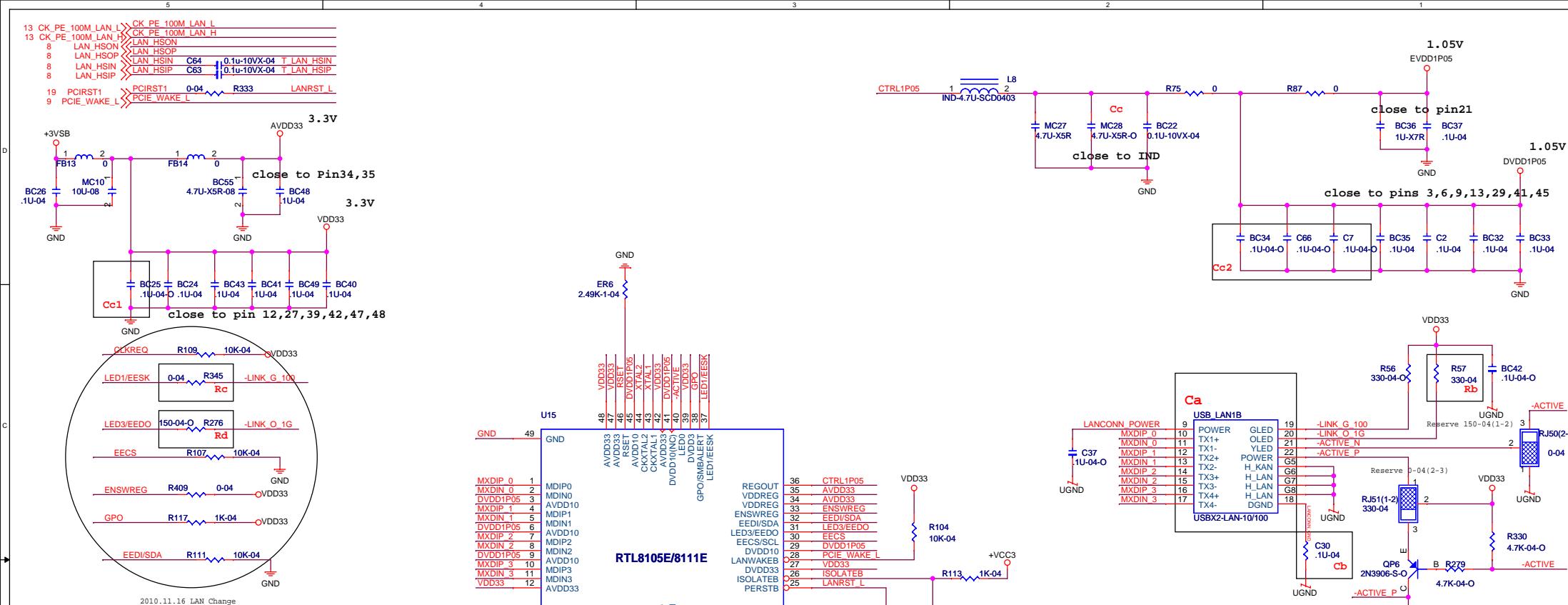


## LPT



## A





<b>BOM Difference</b>	<b>*</b>	
<b>Location</b>	<b>8111E Series</b>	<b>8105E Series</b>
Ra	V	X
Rb	X	V
Rc	150 ohm	0 ohm
Rd	150 ohm	OPEN
Cc	V	X
Ca	USBX2-LAN-1000	USBX2-LAN-100
Cb	0 ohm	.lu-04

LEDS1-0	00	01	10	11
LED0	ACT <sub>ALL</sub>	Link <sub>ALL</sub> / ACT <sub>ALL</sub>	Link10/ ACT <sub>ALL</sub>	LINK10/ ACT <sub>10</sub>
LED1	LINK100	LINK100	LINK100	LINK100 /ACT <sub>100</sub>
LED3	Reserved	Reserved	Reserved	Reserved

Speed	LINK			ACT/Full
	Link 10M	Link 100M	Link 1000M	
LED 0	Bit 0	Bit 1	Bit 2	Bit 3
LED 1	Bit 4	Bit 5	Bit 6	Bit 7
LED 3	Bit 8	Bit 9	Bit 10	Bit 11
Feature Control	Bit 12	Bit 13	Bit 14	Bit 15

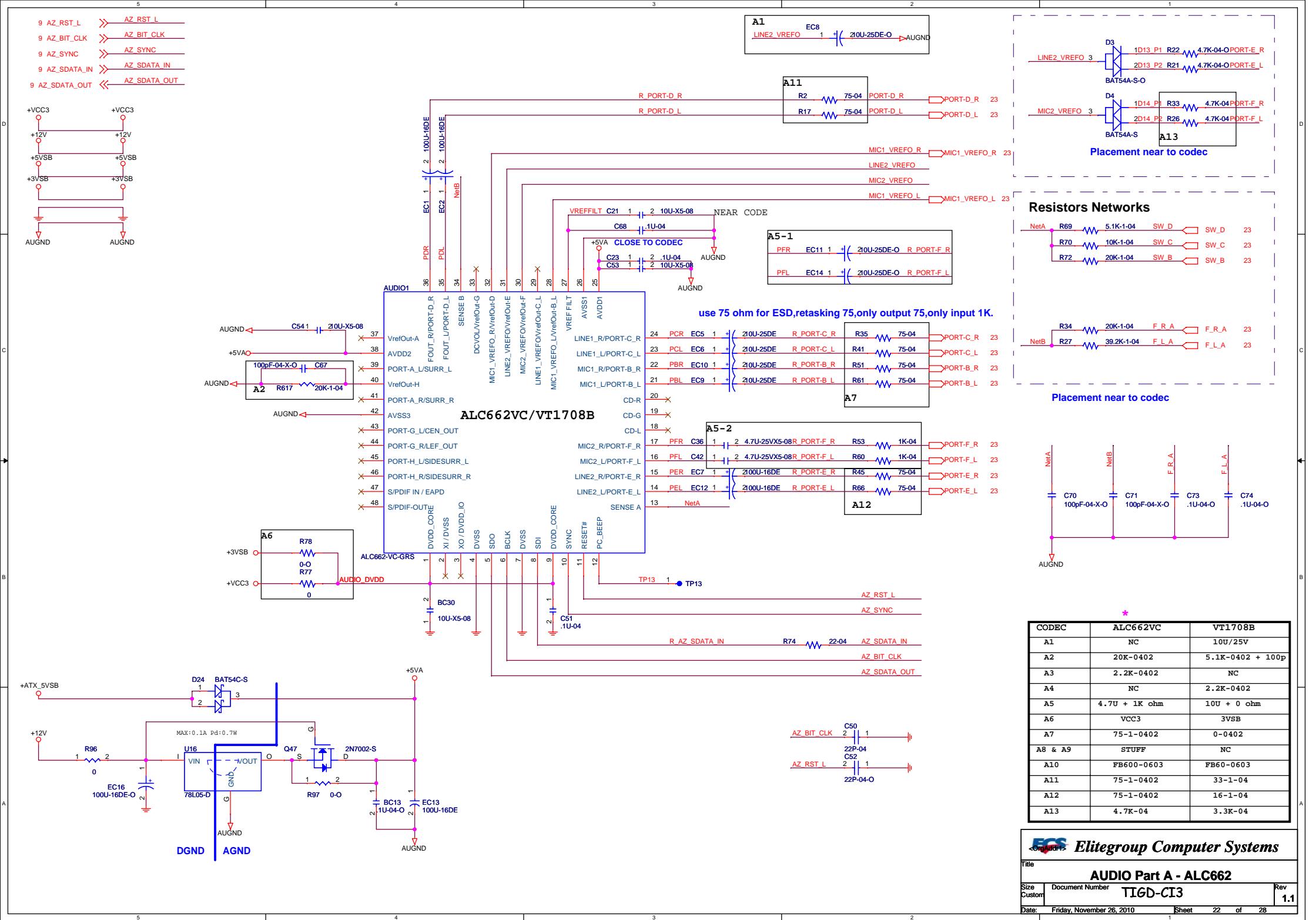


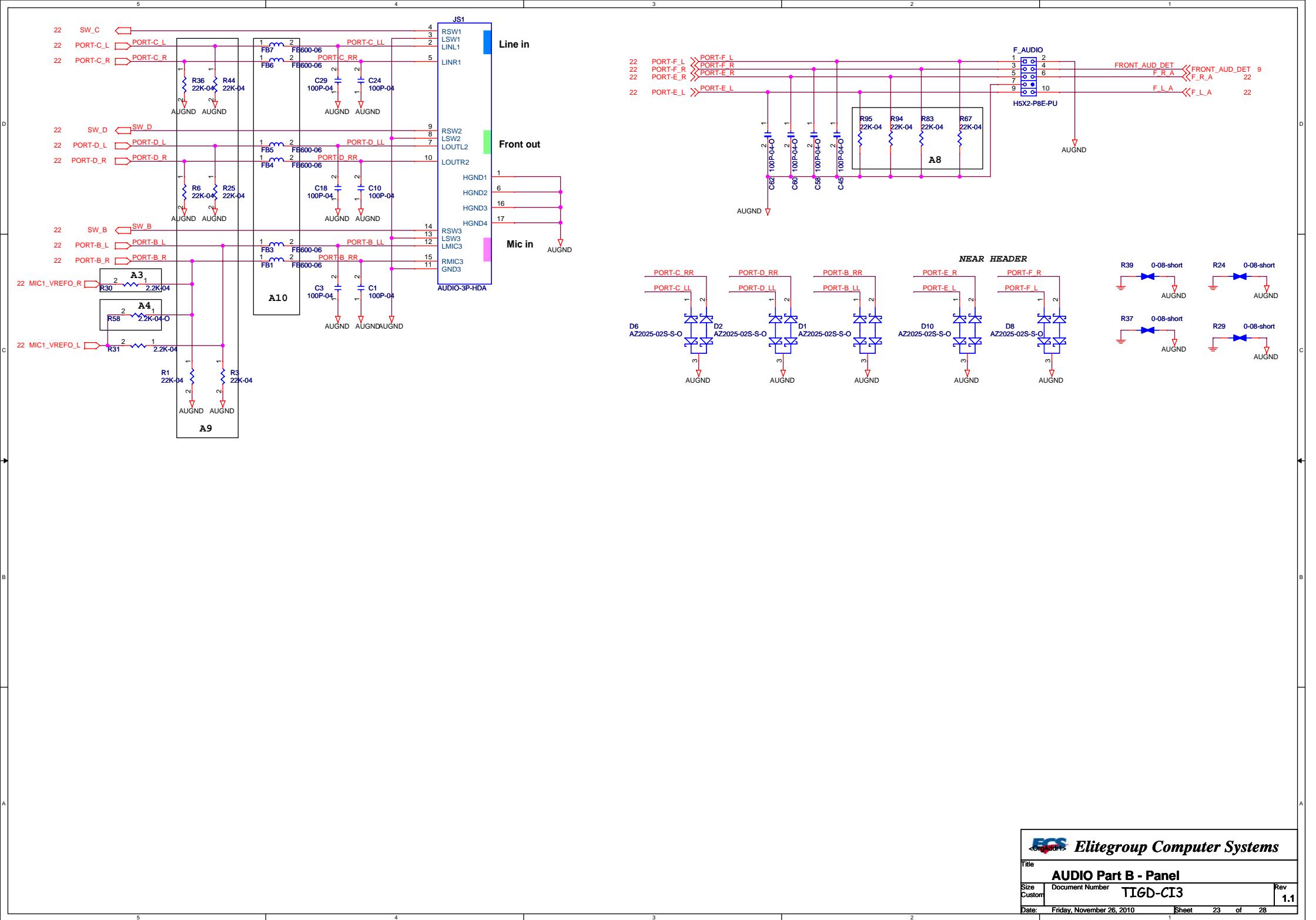
Status	Yellow	Gm/Org
No Link	Off	Off
S3/S4/S5	Off	Off
10M, inactive	Off	Off
10M, active	Yellow	Off
100M, inactive	Off	Green
100M, active	Yellow	Green
1G, inactive	Off	Yellow
1G, active	Yellow	Yellow

 *Elitegroup Computer Systems*

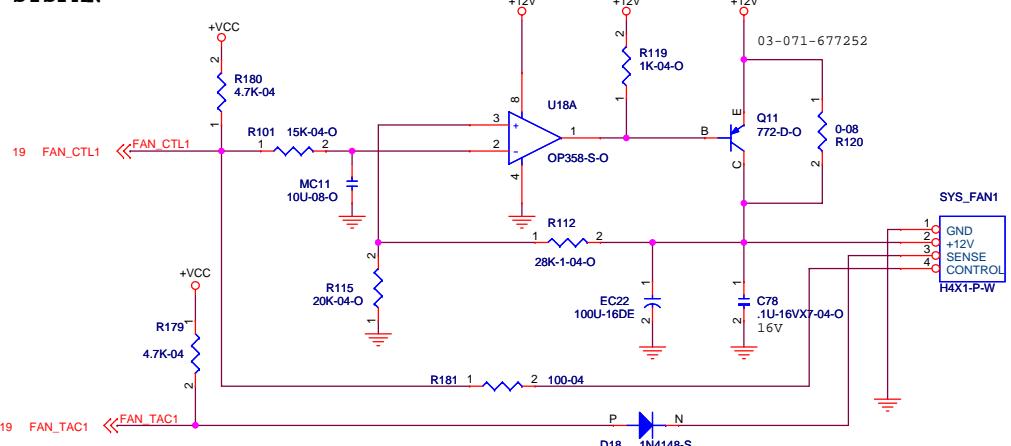
**REALTEK 8103EL/8111DL**

Date: Friday, November 26, 2010 Shoot 21 of 28

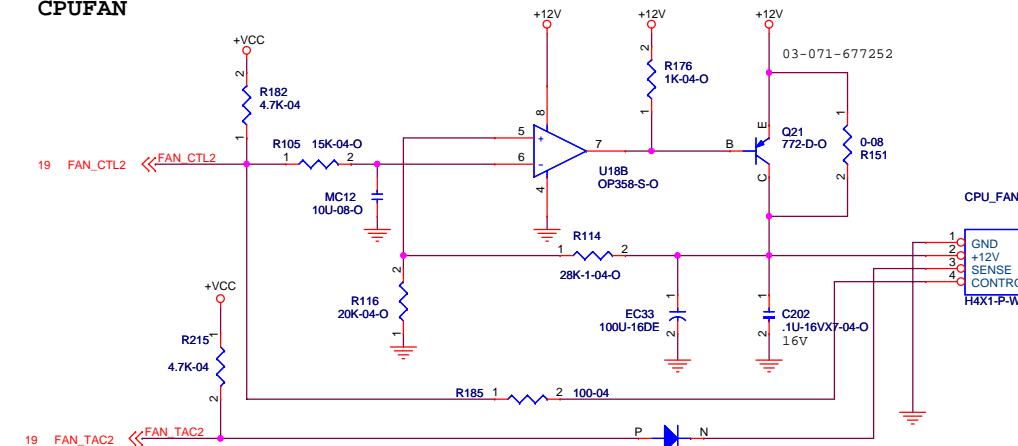




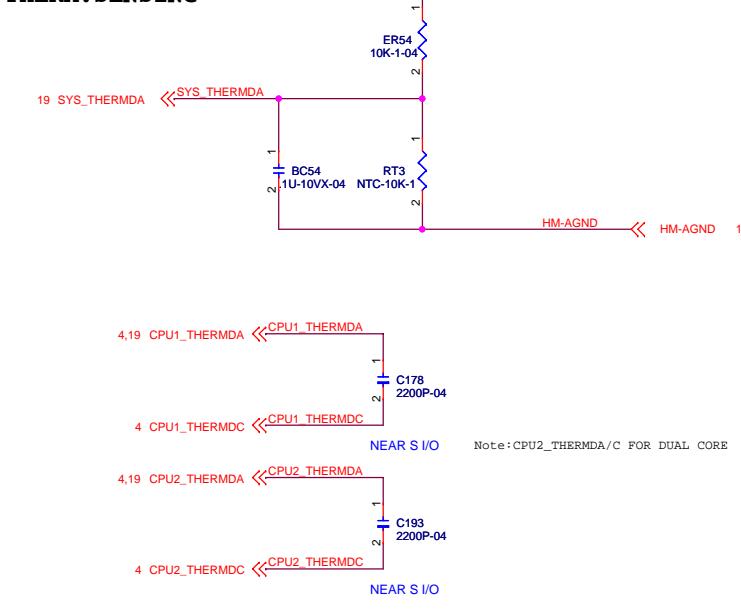
## SYSFAN



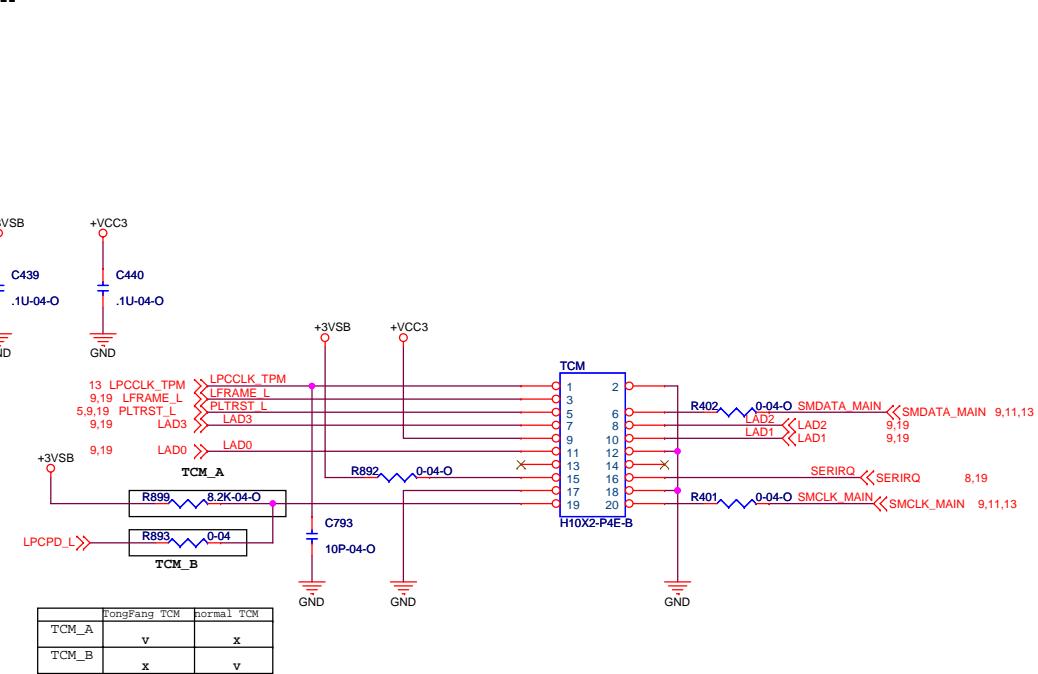
## CPUFAN



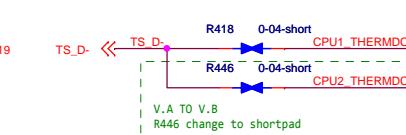
## THERM.SENSING



## TCM



## close to SIO



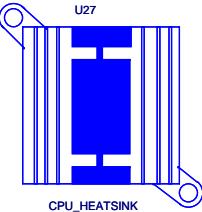
**Elitegroup Computer Systems**

Title: **FAN / THERM / TCM**

Size: Custom Document Number: **TIGD-CI3** Rev: **1.1**

Date: Friday, November 26, 2010 Sheet: 24 of 28

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CLR\_CMOS(1-2)



CPU\_HEATSINK

BAT1



BATTERY

**HEAT SINK setup**JH1  
NC  
H-UTYPE-2P

For 103

JH2  
NC  
H-UTYPE-2PJH3  
NC  
H-UTYPE-2PJH4  
NC  
H-UTYPE-2P

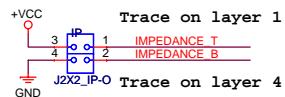
JP-WI-P6.25

**PCB Impedance control**

Impedance (ohm)	Trace Width (mil) (S/W/S)	Trace Length (inch)	Pre-preg
60	5 (20/5/20)	6	2116
50	4 (50/4/50)	6	1080
42	6 (50/6/50)	6	1080

**1) Circuit type 1**

Layer 1:TOP  
 Layer 2:PWR  
 Layer 3:GND  
 Layer 4:BOTTOM

**TigerPoint Strap****BOOT BIOS DESTINATION SELECTION**

GPIO17	GPIO48	Function
0	1	SPI
1	0	PCI
1	1	LPC

**DMI DC / AC COUPLING SELECTION**

GPIO25	Function
0	AC COUPLING MODE
1	DC COUPLING MODE

**PCI EXPRESS \* PORT CONFIG**

AZ_DOUT	AZ_SYNC	Function
0	0	4 * 1 Port
0	1	Reserved
1	0	Reserved
1	1	1 * 4 Port

