

Model Name:GA-G31M-ES2L

Revision 2.4

SHEET

TITLE

01	COVER SHEET
02	BLOCK DIAGRAM
03	BOM & PCB MODIFY HISTORY
04	P4 LGA775 A
05	P4 LGA775 B,D
06	P4 LGA775 C
07	P4 LGA775 E,F,G,H
08	G31 HOST
09	G31 DDRII
10	G31 PCI E, DMI
11	G31 VGA
12	G31 GND
13	G31 PWR
14	PCI EXPRESS*16 SLOT
15	DDRII CHANNEL A
16	DDRII CHANNEL B
17	DDRII TERMINATION
18	ICH7 PCI, USB, DMI, LAN
19	ICH7 IDE, GPIO, SATA, CTRL
20	ICH7 VCC, GND
21	CK505 CLOCK.
22	PCI SLOT 1,2,PCIE*1
23	IDE/FLOPPY
24	ITE 8718 GB/HX
25	COM LPT
26	CI,HWM,KB/MS,DUALBIOS
27	ALC888B-VD2

SHEET

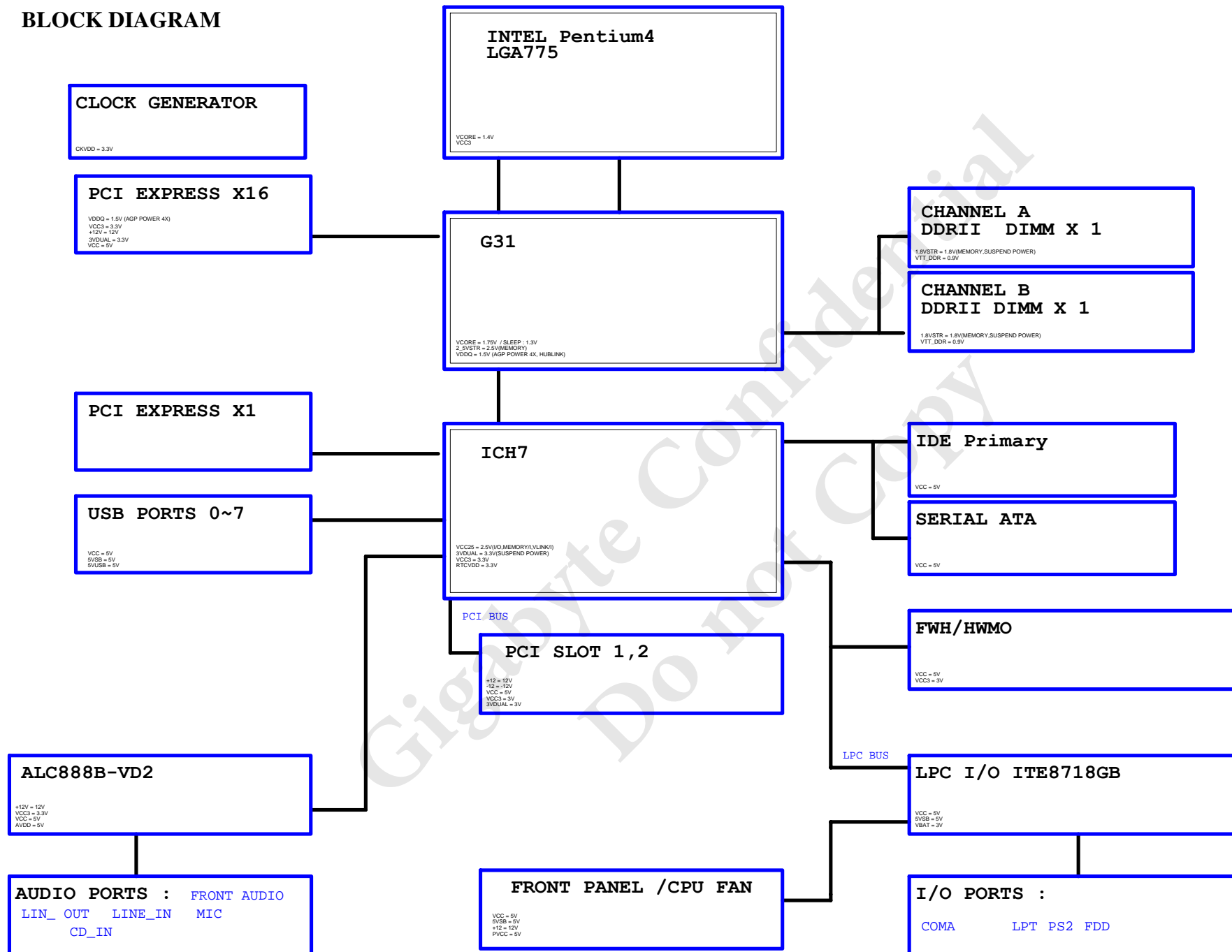
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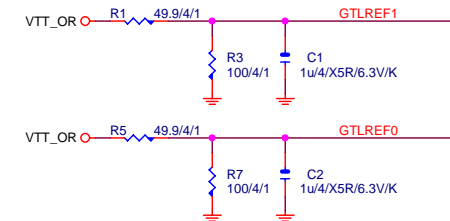
28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM ISL6312CRZ
31	ATX, OTHERS POWER
32	FRONT PANEL
33	ATHEROS AR8131M/AR8132M

Gigabyte Technology

Cover Sheet

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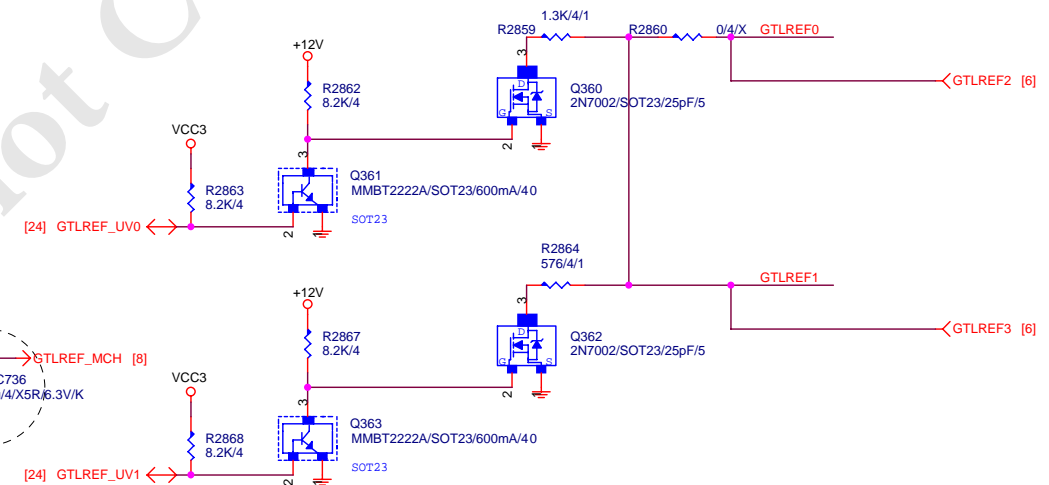
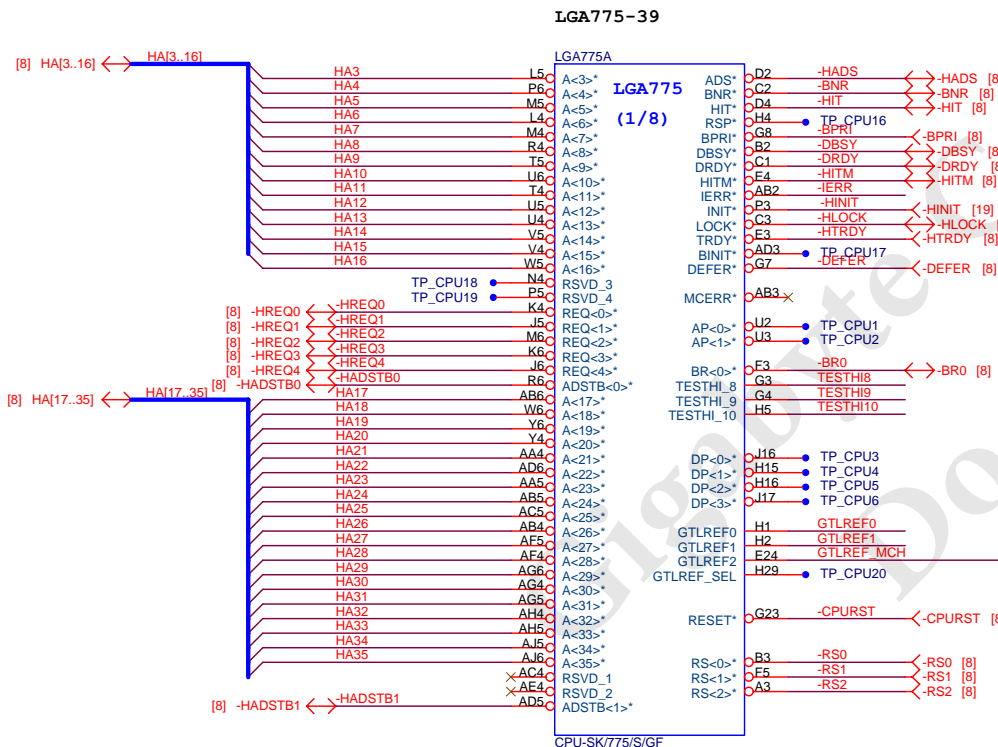
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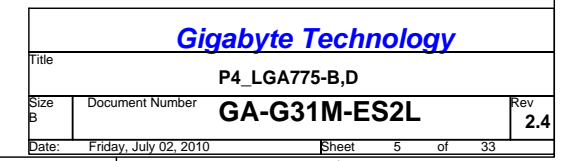


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VTT_OL R10 62/4 -BR0

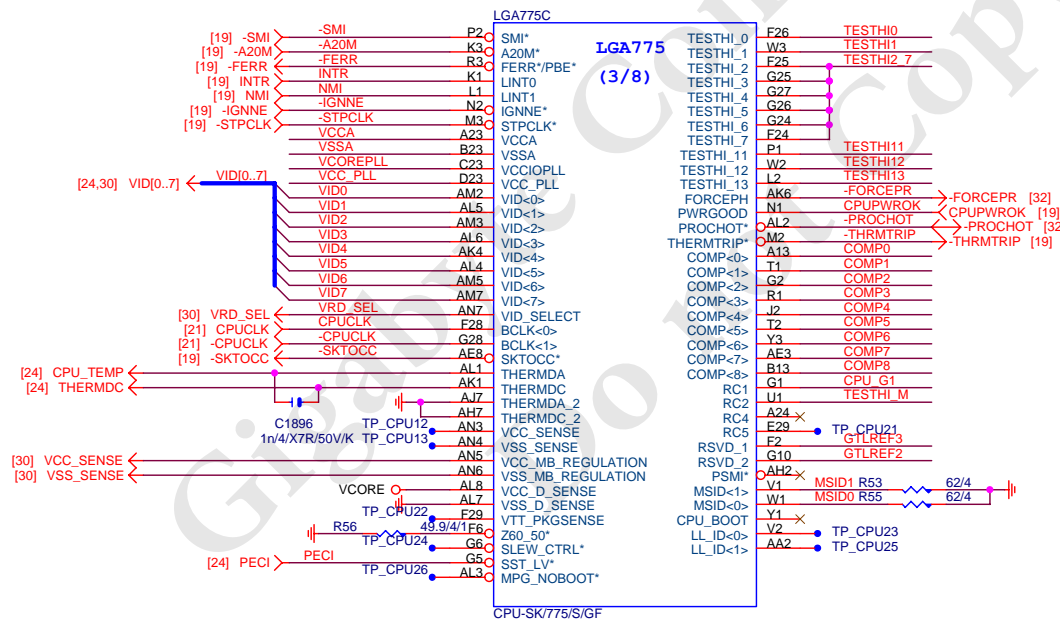
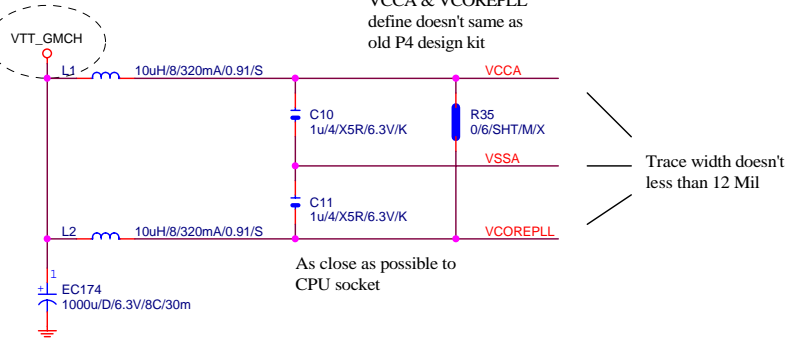
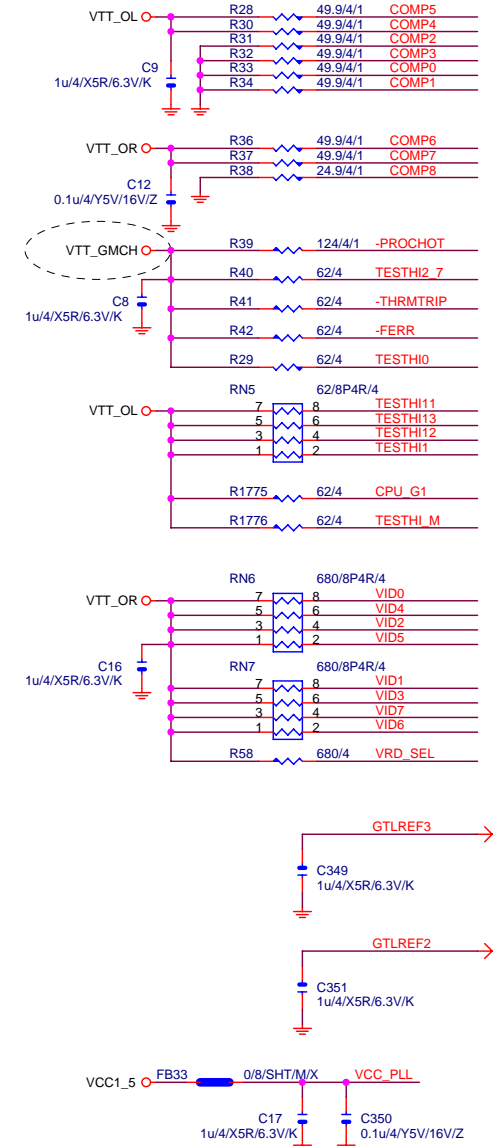
VTT_OR R12 62/4 -CPURST





Note:

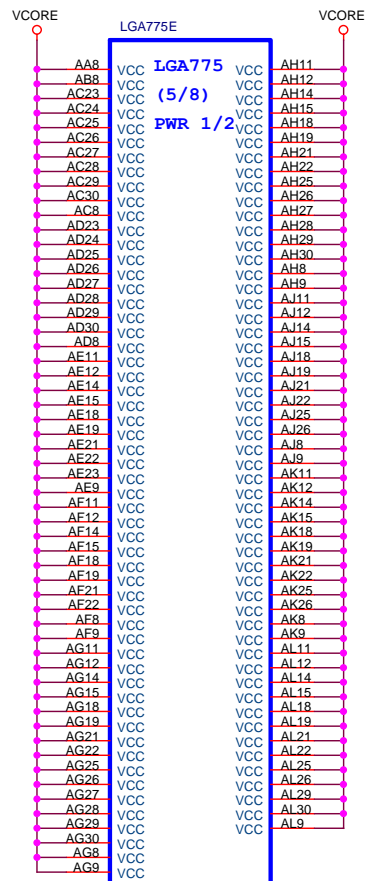
VCCA & VCOREPLL
define doesn't same as
old P4 design kit

**Place outside of CPU socket****Gigabyte Technology****P4_LGA775-C**

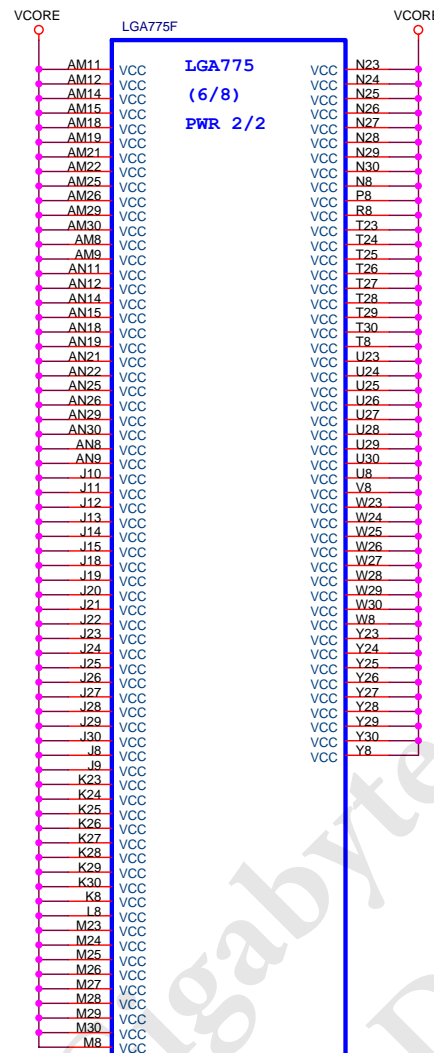
Title	Document Number	Rev
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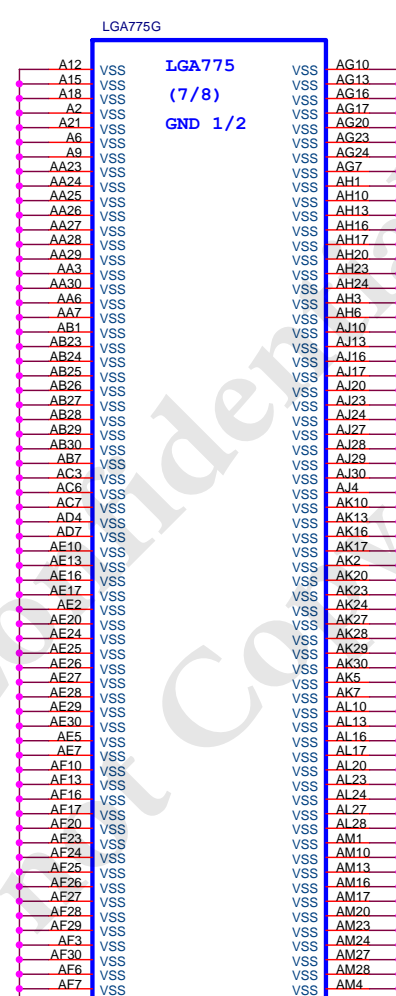
PECI: Platform Environment Control Interface



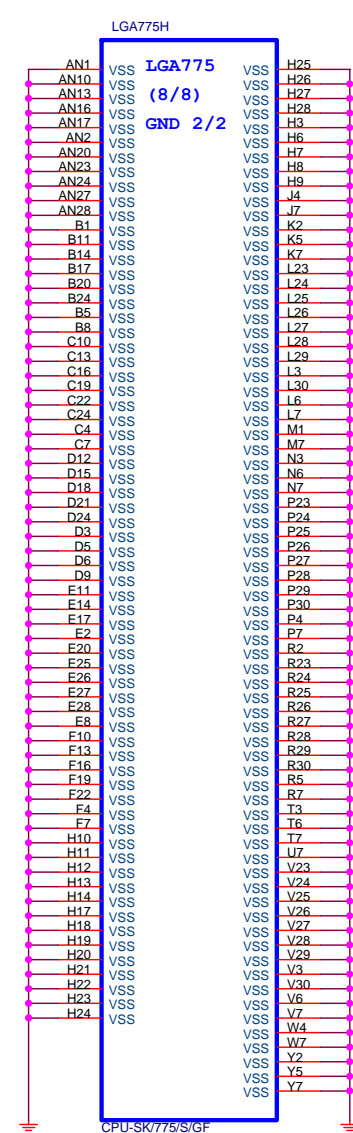
CPU-SK/775/S/GF



CPU-SK/775/S/GF



CPU-SK/775/S/GF



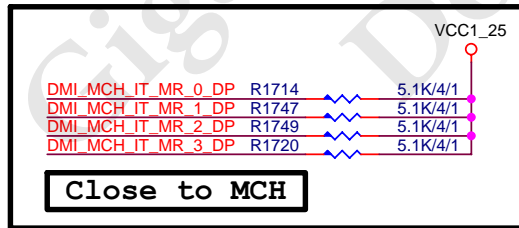
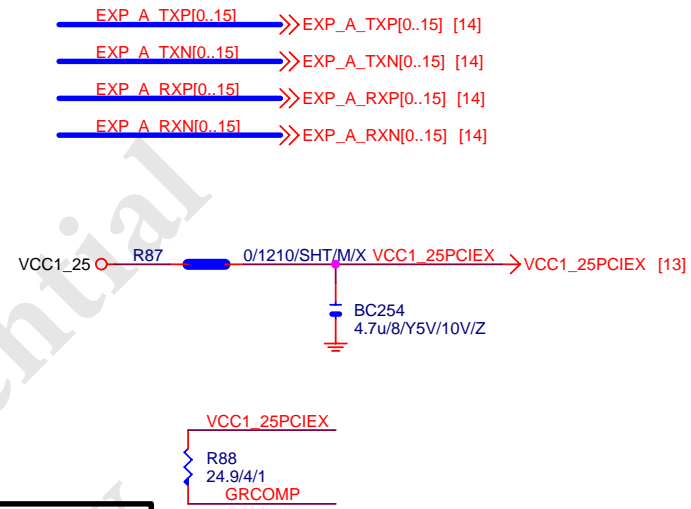
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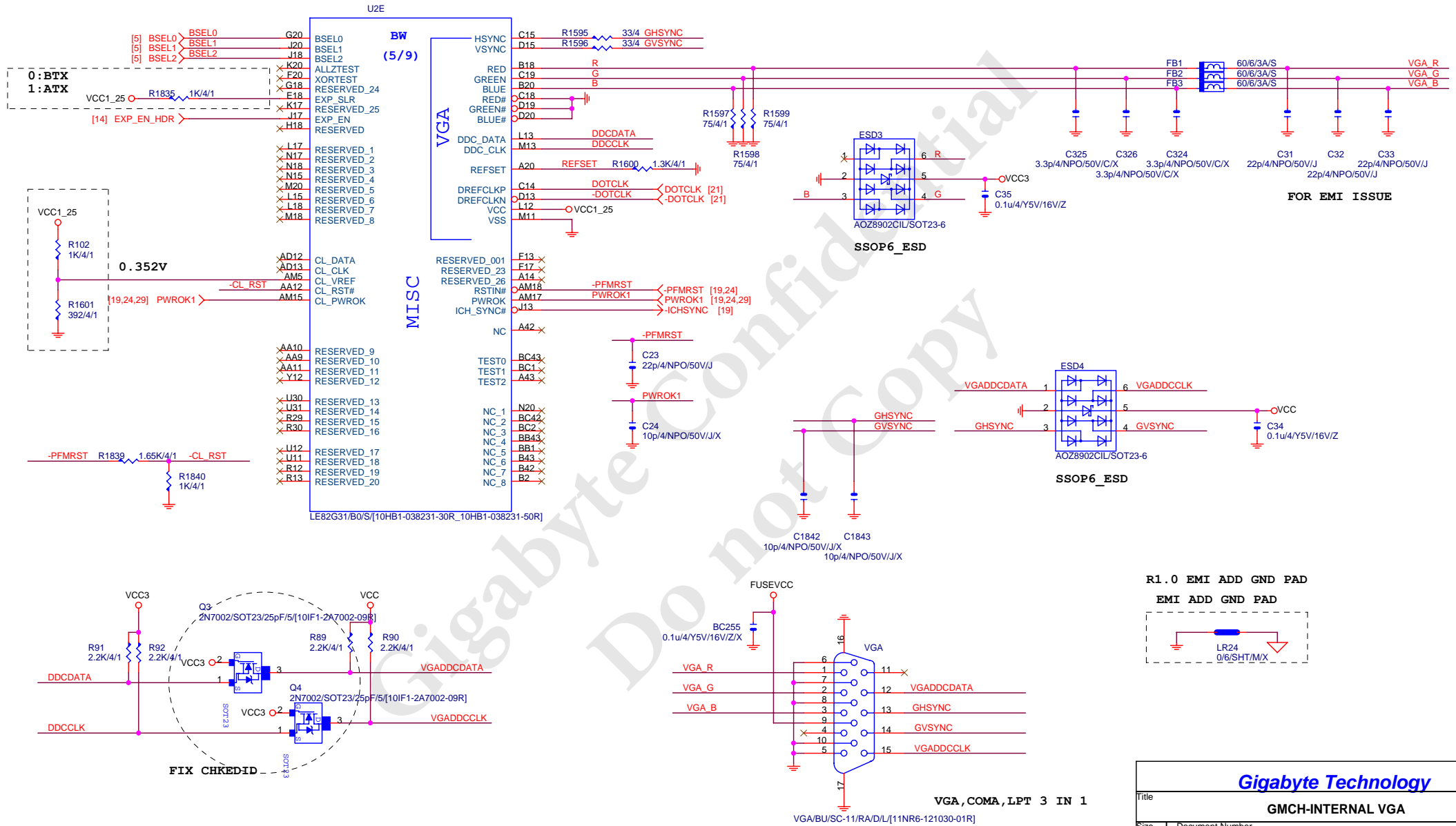
Gigabyte Technology

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U2G

BC37	VSS_1	BW	VSS_181	AF5
BC32	VSS_2	(7/9)	VSS_182	AF3
BC28	VSS_3		VSS_183	AF2
BC24	VSS_4		VSS_184	AF1
BC10	VSS_5		VSS_185	AD42
BC5	VSS_6	GND 1/2	VSS_186	AD39
BB7	VSS_7		VSS_187	AD37
AY41	VSS_8		VSS_188	AD35
AY4	VSS_9		VSS_189	AD33
AW43	VSS_10		VSS_190	AD25
AW41	VSS_11		VSS_191	AD23
AW1	VSS_12		VSS_192	AD21
AV37	VSS_13		VSS_193	AD19
AV35	VSS_14		VSS_194	AC38
AV27	VSS_15		VSS_195	AC35
AV23	VSS_16		VSS_196	AC24
AV21	VSS_17		VSS_197	AC22
AV17	VSS_18		VSS_198	AC20
AV11	VSS_19		VSS_199	AC10
AV9	VSS_20		VSS_200	AC7
AV7	VSS_21		VSS_201	AC5
AU42	VSS_22		VSS_202	AB43
AU38	VSS_23		VSS_203	AB25
AU32	VSS_24		VSS_204	AB23
AU24	VSS_25		VSS_205	AB21
AU20	VSS_26		VSS_206	AB19
AU16	VSS_27		VSS_207	AB2
AU2	VSS_28		VSS_208	AB1
AT31	VSS_29		VSS_209	AA38
AT29	VSS_30		VSS_210	AA35
AT15	VSS_31		VSS_211	AA24
AT13	VSS_32		VSS_212	AA22
AT12	VSS_33		VSS_213	AA20
AR38	VSS_34		VSS_214	AA8
AR33	VSS_35		VSS_215	Y42
AR32	VSS_36		VSS_216	Y37
AR27	VSS_37		VSS_217	Y35
AR26	VSS_38		VSS_218	Y33
AR23	VSS_39		VSS_219	Y25
AR21	VSS_40		VSS_220	Y23
AR20	VSS_41		VSS_221	Y21
AR17	VSS_42		VSS_222	Y19
AR9	VSS_43		VSS_223	Y10
AR6	VSS_44		VSS_224	Y7
AP43	VSS_45		VSS_225	Y5
AP24	VSS_46		VSS_226	Y1
AP18	VSS_47		VSS_227	W3
AP1	VSS_48		VSS_228	V43
AN38	VSS_49		VSS_229	V39
AN31	VSS_50		VSS_230	V37
AN29	VSS_51		VSS_231	V34
AN24	VSS_52		VSS_232	V32
AN23	VSS_53		VSS_233	V11
AN20	VSS_54		VSS_234	V8
AN15	VSS_55		VSS_235	V5
AN13	VSS_56		VSS_236	V2
AN12	VSS_57		VSS_237	U38
AN11	VSS_58		VSS_238	U35
AN4	VSS_59		VSS_239	U8
AM42	VSS_60		VSS_240	U7
AM40	VSS_61		VSS_241	U5
AM36	VSS_62		VSS_242	T42
AM33	VSS_63		VSS_243	T1
AM29	VSS_64		VSS_244	R36
AM24	VSS_65		VSS_245	R33
AM23	VSS_66		VSS_246	R31
AM20	VSS_67		VSS_247	R11
AM11	VSS_68		VSS_248	R8
AM9	VSS_69		VSS_249	R5
AM7	VSS_70		VSS_250	R3
AM4	VSS_71		VSS_251	P43
AM2	VSS_72		VSS_252	P30
AM1	VSS_73		VSS_253	P21
AL36	VSS_74		VSS_254	P18
AL33	VSS_75		VSS_255	P17
AK43	VSS_76		VSS_256	P2
AJ39	VSS_77		VSS_257	N36
AJ36	VSS_78		VSS_258	N33
AJ33	VSS_79		VSS_259	N31
AH42	VSS_80		VSS_260	N27
AG37	VSS_81		VSS_261	N21
AG34	VSS_82		VSS_262	N13
AF43	VSS_83		VSS_263	N10
AF37	VSS_84		VSS_264	N7
AF36	VSS_85		VSS_265	N5
AF10	VSS_86		VSS_266	M42
AF9	VSS_87		VSS_267	M37
AF8	VSS_88		VSS_268	M35
AF7	VSS_89		VSS_269	M33
AF6	VSS_90		VSS_270	

LE82G31/B0/S/[10HB1-038231-30R_10HB1-038231-50R]

M27	VSS_91	BW	VSS_271	BC41
M21	VSS_92	(9/9)	VSS_272	BC3
M17	VSS_93		VSS_273	BA1
M15	VSS_94		VSS_274	AY40
M10	VSS_95	GND 2/2	VSS_275	AF23
M7	VSS_96		VSS_276	AF21
M1	VSS_97		VSS_277	AF19
L33	VSS_98		VSS_278	AE24
L32	VSS_99		VSS_279	AE22
L31	VSS_100		VSS_280	AE20
L29	VSS_101		VSS_281	AE18
L21	VSS_102		VSS_282	AC18
L20	VSS_103		VSS_283	AA18
L11	VSS_104		VSS_284	W24
L7	VSS_105		VSS_285	W22
L5	VSS_106		VSS_286	W20
L3	VSS_107		VSS_287	R21
K43	VSS_108		VSS_288	E1
K26	VSS_109		VSS_289	C43
K21	VSS_110		VSS_290	C1
K18	VSS_111		VSS_291	A41
K13	VSS_112		VSS_292	A5
K12	VSS_113		VSS_293	A3
K2	VSS_114			
J38	VSS_115			
J35	VSS_116			
J32	VSS_117			
J27	VSS_118			
J21	VSS_119			
J9	VSS_120			
J7	VSS_121			
J5	VSS_122			
H31	VSS_123			
H29	VSS_124			
H21	VSS_125			
H20	VSS_126			
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H13	VSS_129			
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G38	VSS_131			
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G1	VSS_139			
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F27	VSS_142			
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F3	VSS_145			
E43	VSS_146			
E32	VSS_147			
E24	VSS_148			
E21	VSS_149			
E20	VSS_150			
E15	VSS_151			
E13	VSS_152			
E11	VSS_153			
E9	VSS_154			
E3	VSS_155			
D40	VSS_156			
D31	VSS_157			
D21	VSS_158			
D17	VSS_159			
D3	VSS_160			
C26	VSS_161			
C11	VSS_162			
C6	VSS_163			
C5	VSS_164			
C4	VSS_165			
B37	VSS_166			
B32	VSS_167			
B31	VSS_168			
B26	VSS_169			
B23	VSS_170			
B22	VSS_171			
B19	VSS_172			
B14	VSS_173			
B10	VSS_174			
A39	VSS_175			
A34	VSS_176			
A26	VSS_177			
A18	VSS_178			
A12	VSS_179			
A7	VSS_180			

LE82G31/B0/S/[10HB1-038231-30R_10HB1-038231-50R]

Gigabyte Technology

Title

GMCH-GND

Size
Custom

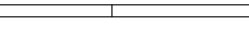
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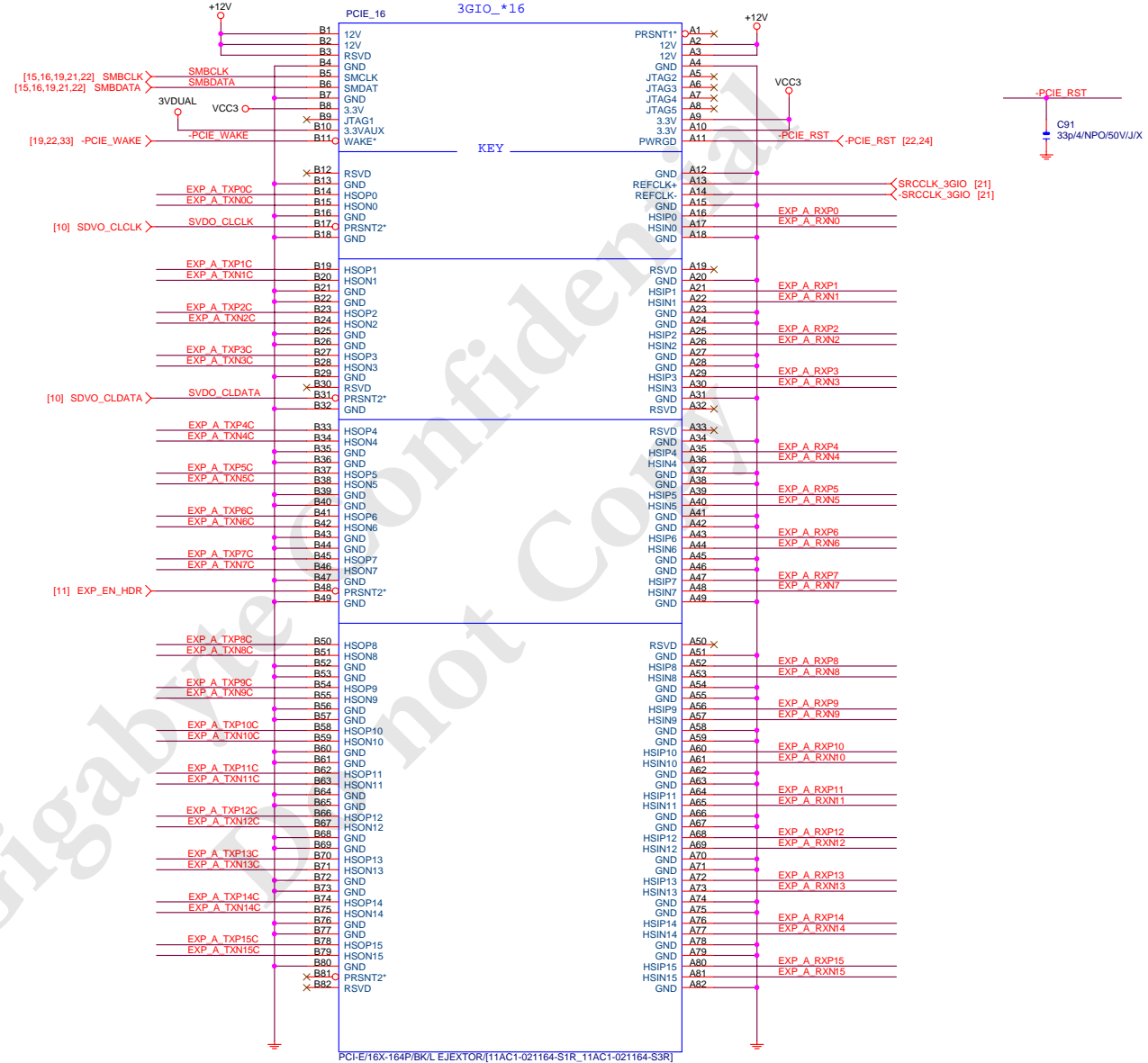
GA-G31M-ES2L

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2.4

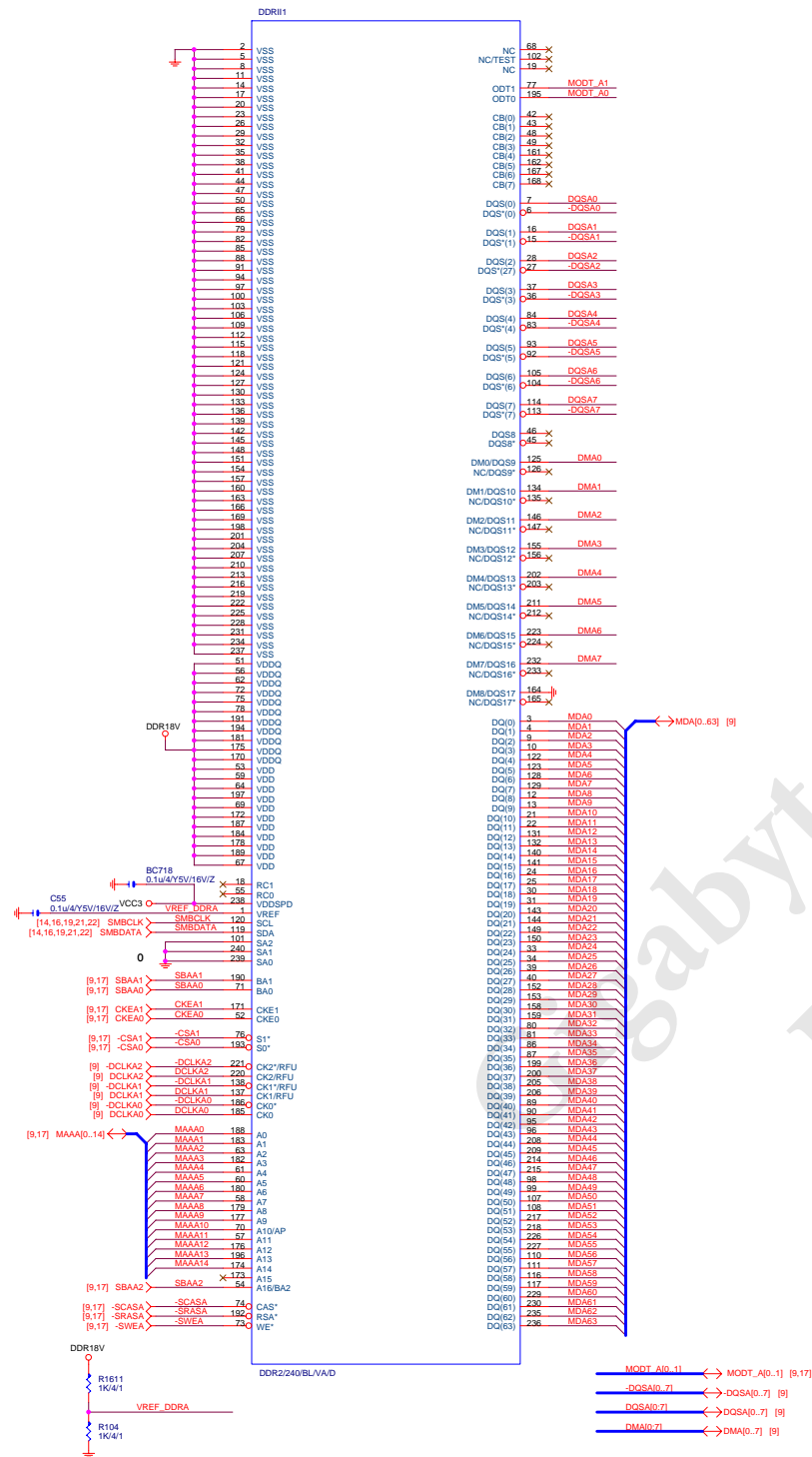
Date: Friday, July 02, 2010

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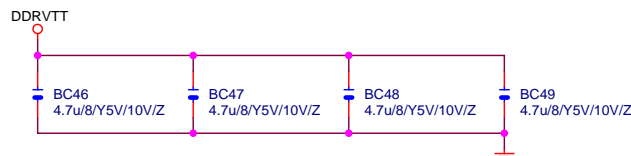
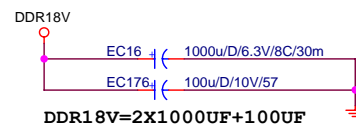
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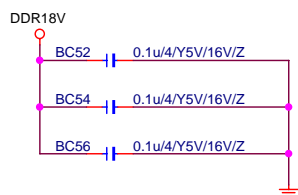


DDR TERMINATION CHANNEL A

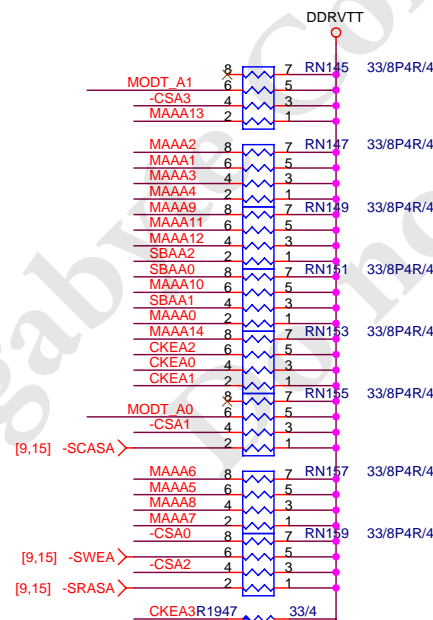
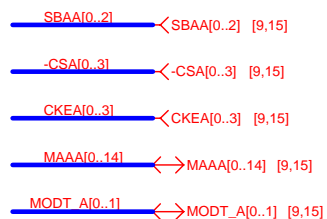
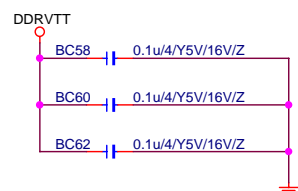
DDRVTT Decouple



DDR18V Decouple

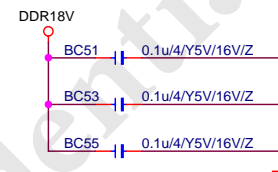


DDRVTT Decouple

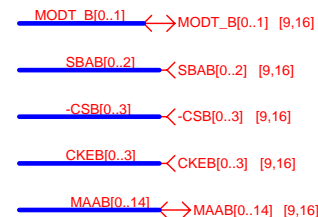
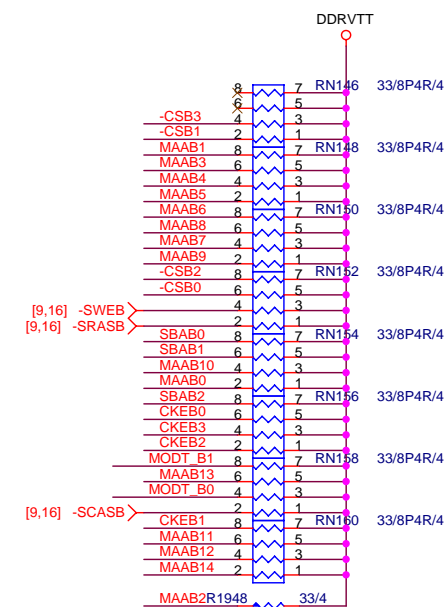
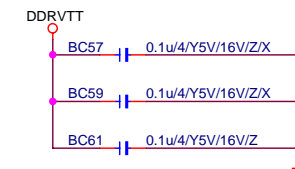


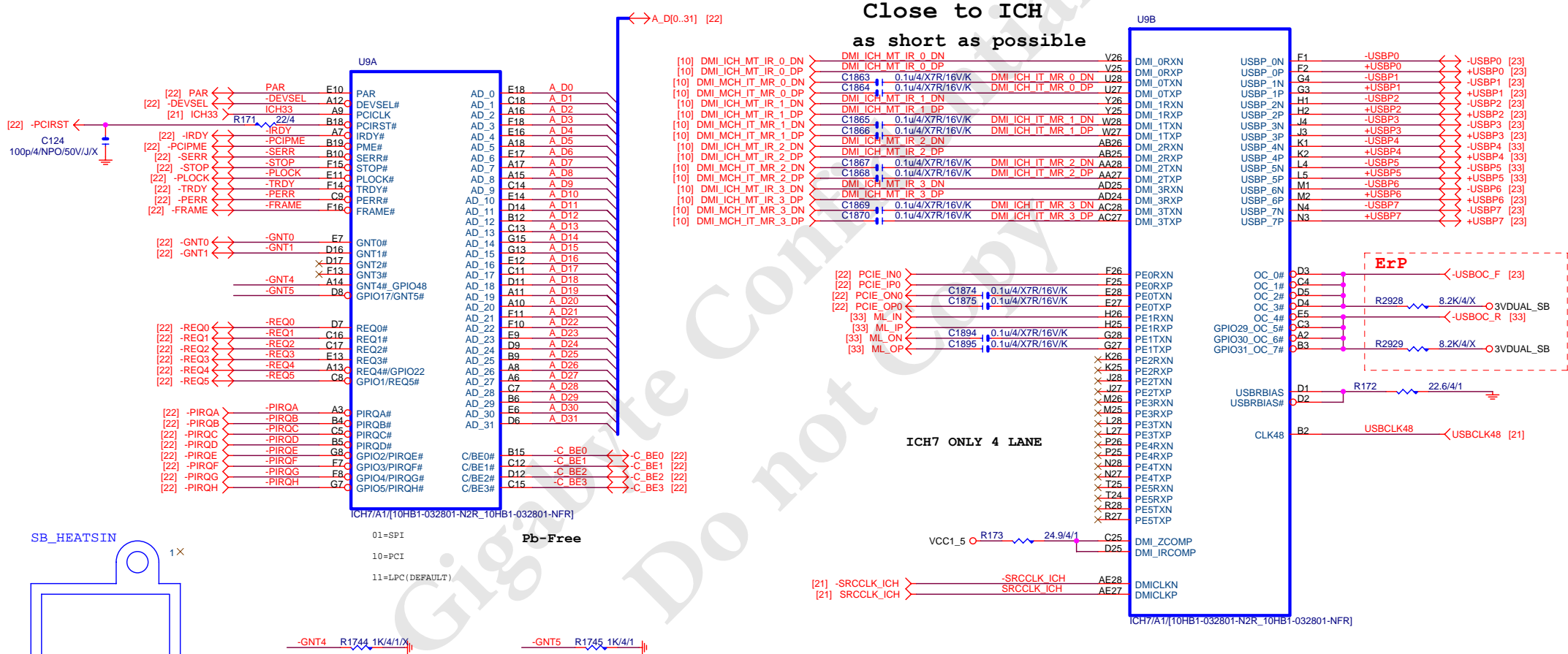
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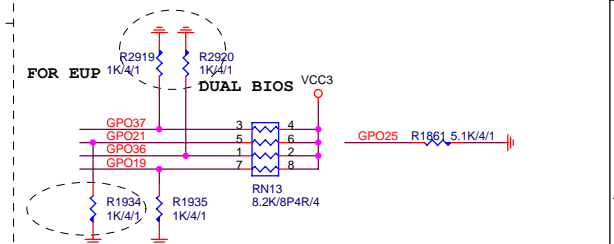
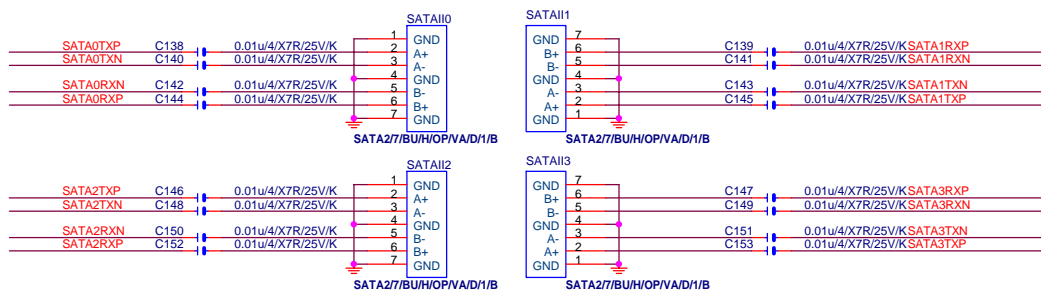
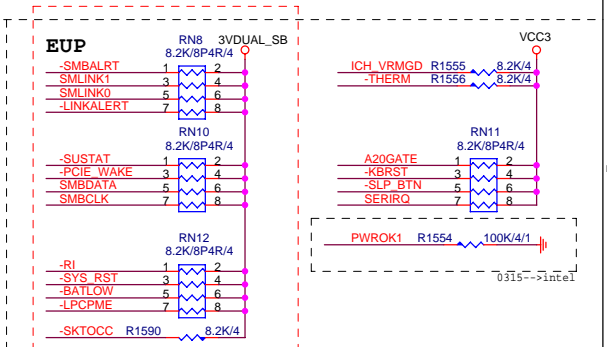
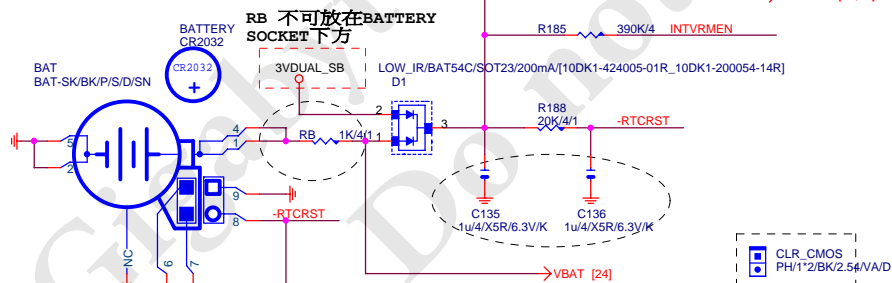
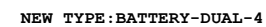
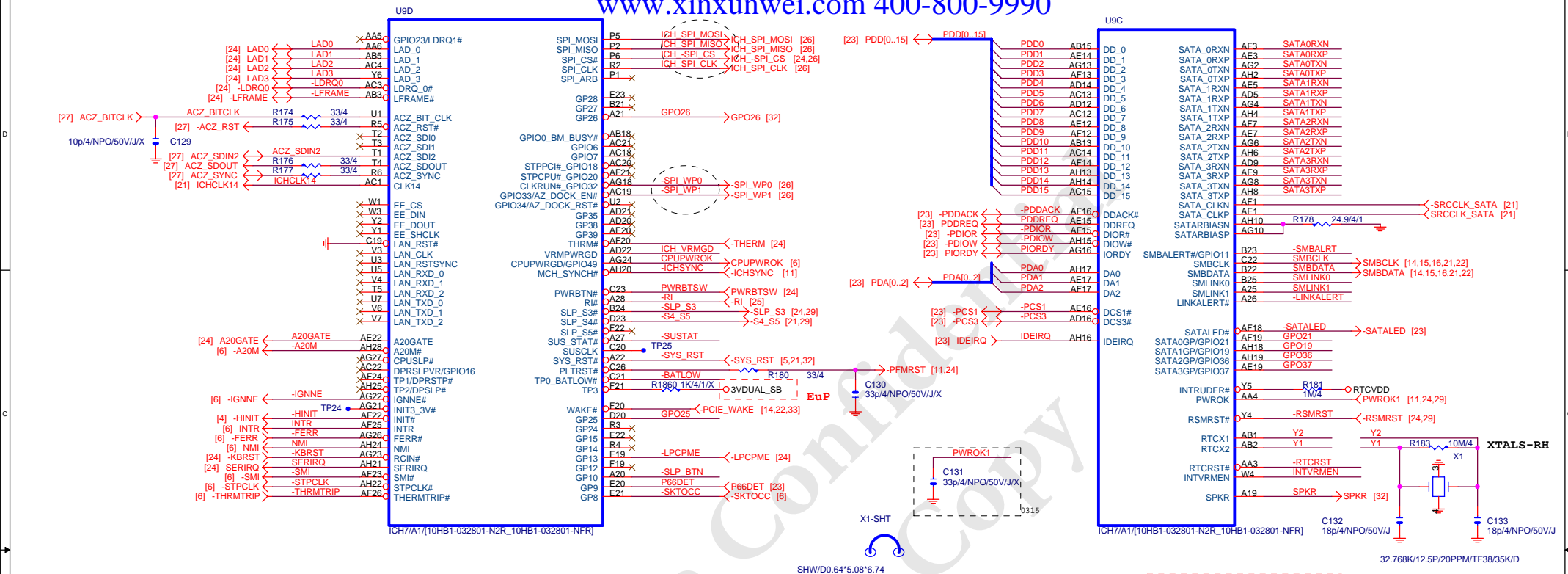
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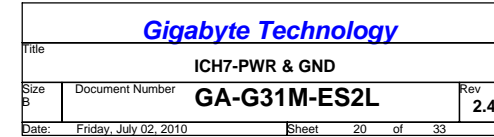
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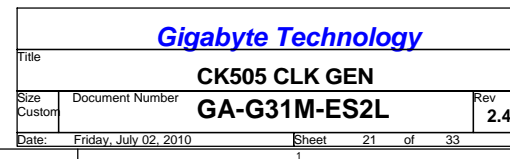






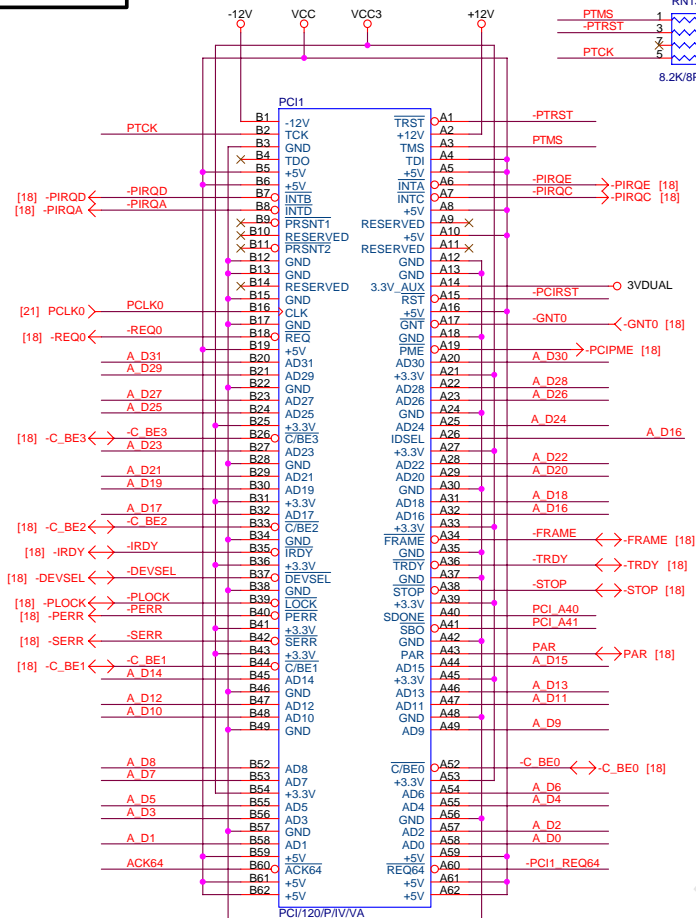
R1.1 DES LITE DESIGN



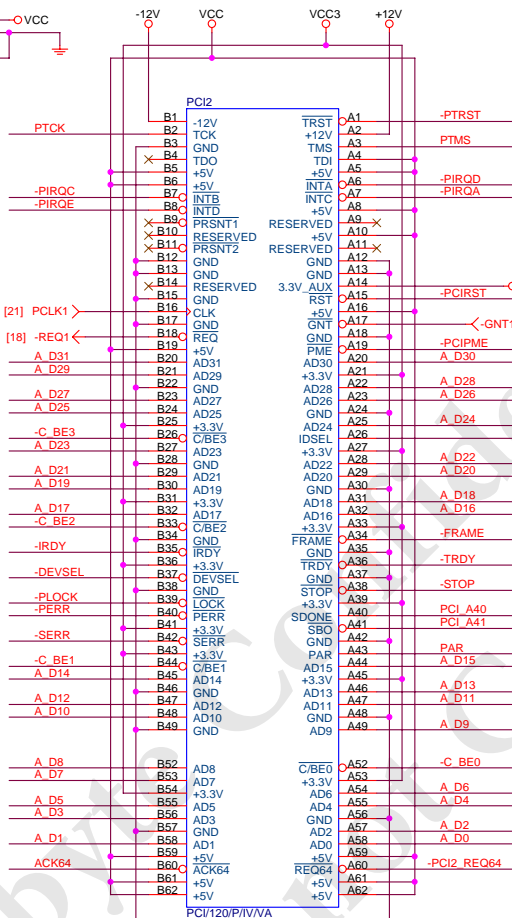


PCI1, 2 SLOT

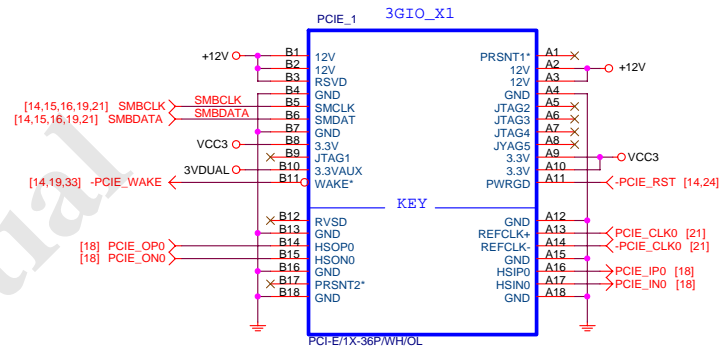
PCI1*1



AD_16/-PIRQ (E-D-C-A) /-REQ0/-GNT0



AD_17/-PIRQ (D-C-A-E) /-REQ1/-GNT1



WHITE

[18] A_D[0..31] <-> A_D[0..31]

-PCIRST <-> -PCIRST [18]

Place close to PCI1

[18] -REQ4 <-> REQ4
 [18] -REQ3 <-> REQ3
 [18] -REQ1 <-> REQ1
 [18] -REQ2 <-> REQ2

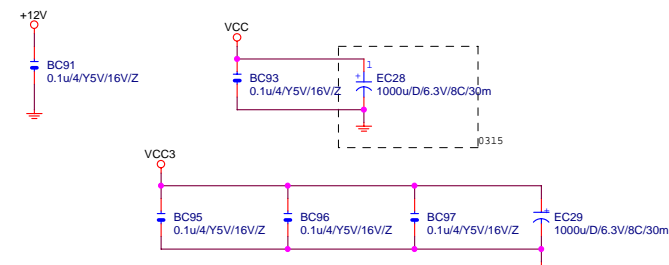
[18] -REQ0 <-> REQ0
 [18] PAR <-> PAR
 [18] -REQ5 <-> REQ5

[18] -REQ4 <-> REQ4
 [18] -REQ3 <-> REQ3
 [18] -REQ1 <-> REQ1
 [18] -REQ2 <-> REQ2

[18] -REQ4 <-> REQ4
 [18] -REQ3 <-> REQ3
 [18] -REQ1 <-> REQ1
 [18] -REQ2 <-> REQ2

[18] -REQ4 <-> REQ4
 [18] -REQ3 <-> REQ3
 [18] -REQ1 <-> REQ1
 [18] -REQ2 <-> REQ2

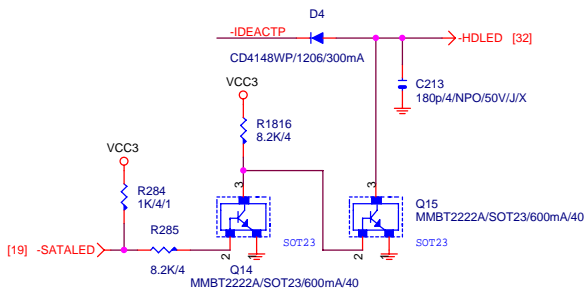
[18] -REQ4 <-> REQ4
 [18] -REQ3 <-> REQ3
 [18] -REQ1 <-> REQ1
 [18] -REQ2 <-> REQ2



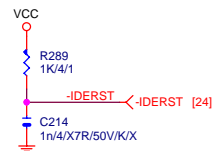
Gigabyte Technology

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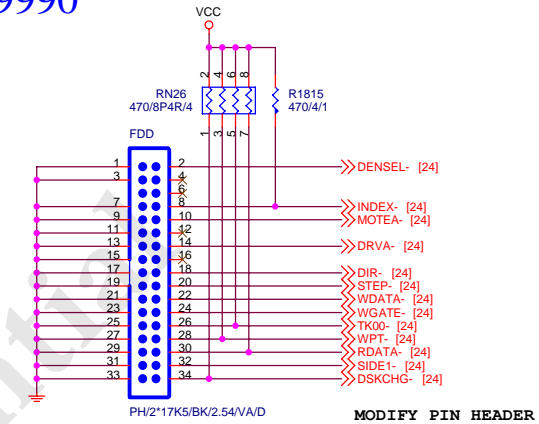
IDE/SATA LED



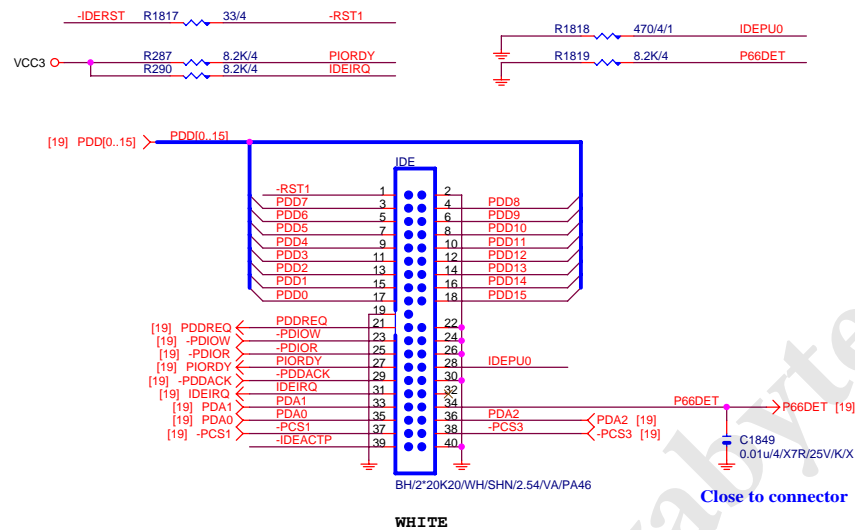
IDE RESET



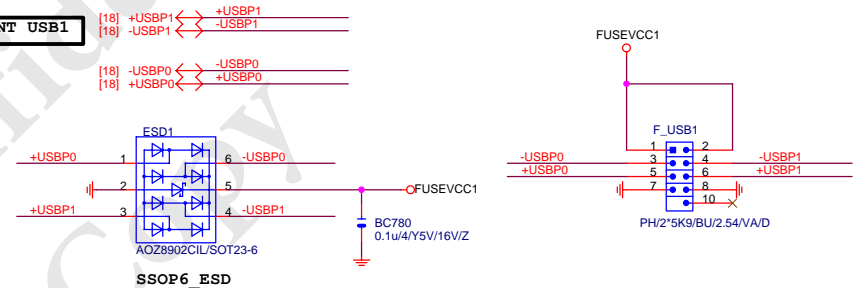
FLOPPY



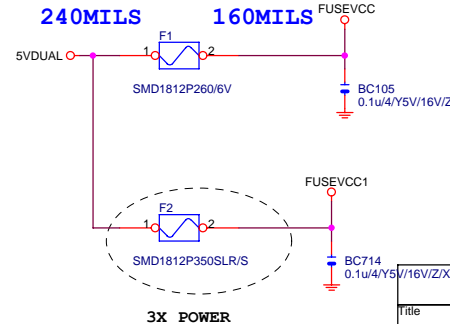
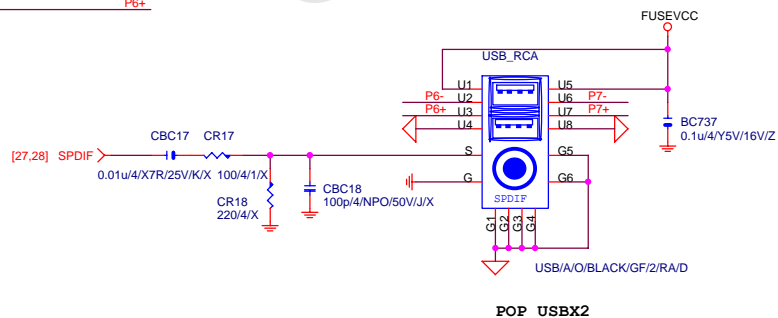
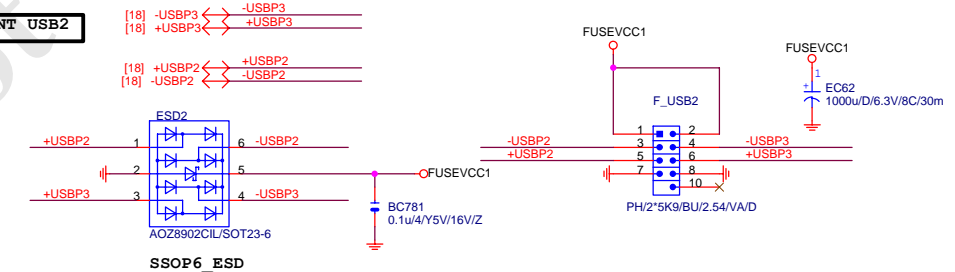
IDE



FRONT USB1



FRONT USB2



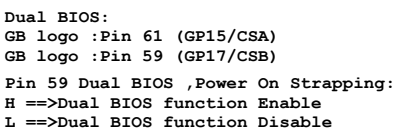
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IDE,FDD,F_USB,USB_RCA

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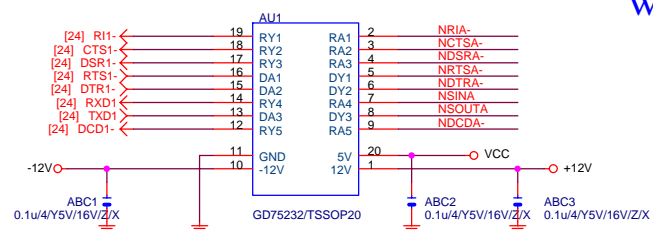
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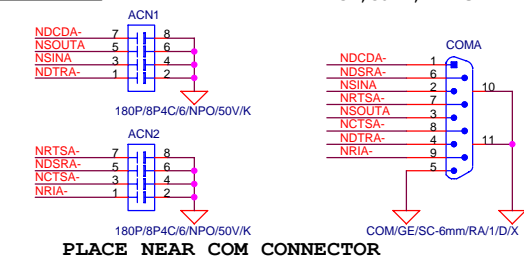
[26] -SIO_SPI_CS1<< 0/4 R412 CEB_N

[26] -SIO_SPI_CS0<< 0/4 R404 -RST_BTN

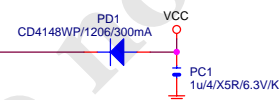
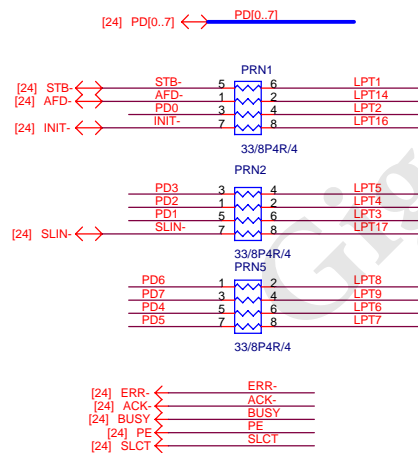
COMA



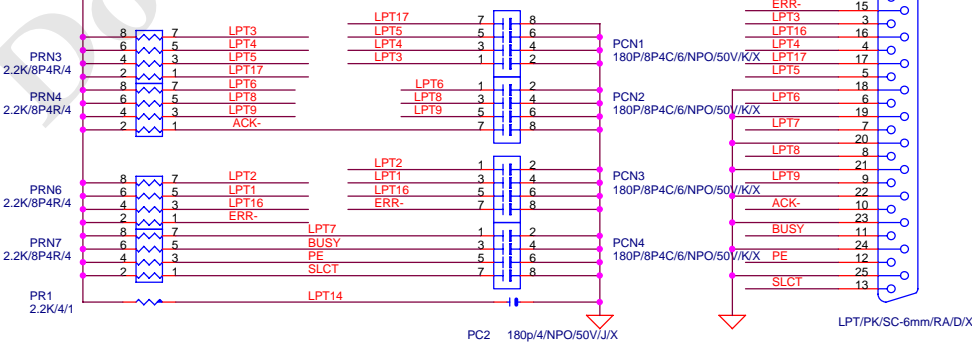
EXTERNAL COMA



LPT PORT

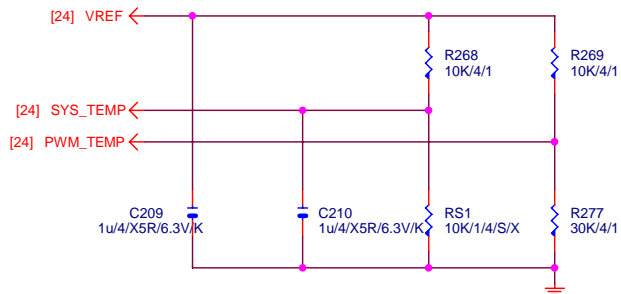
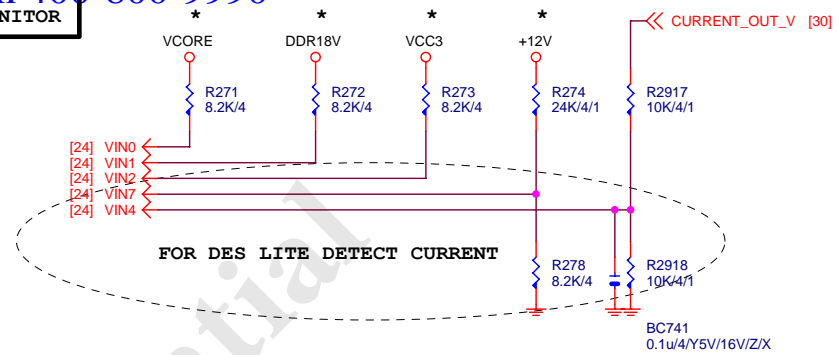
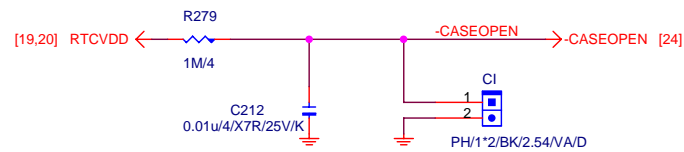


VGA, COMA, LPT 3 IN 1

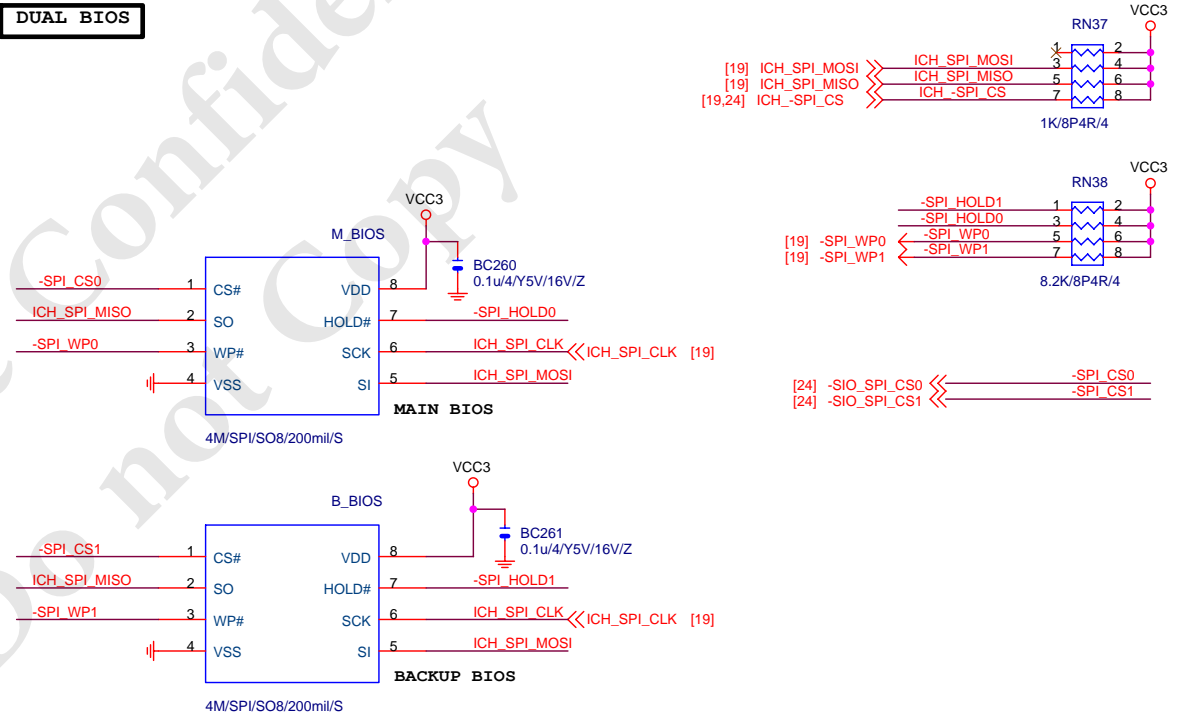
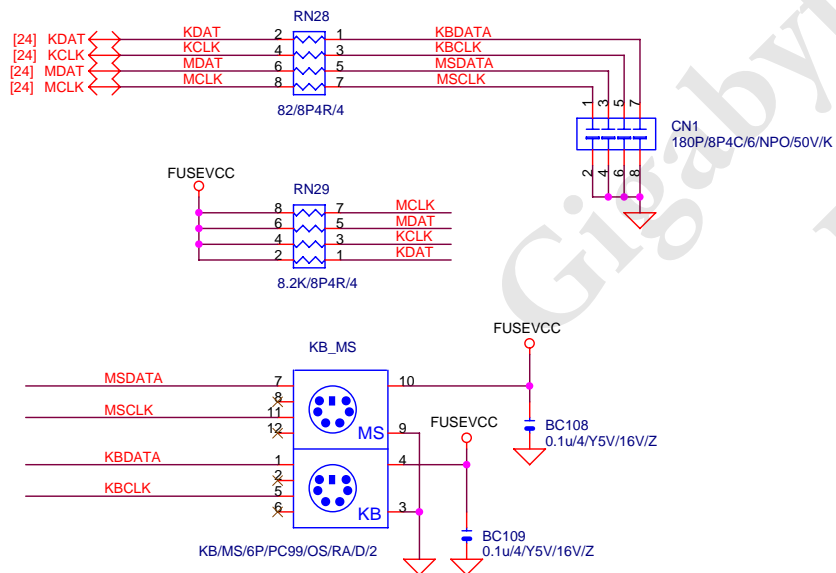


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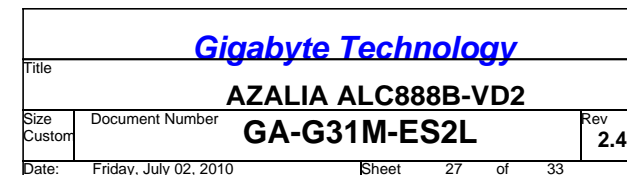
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TEMP H/W MONITOR**VOLTAGE-- H/W MONITOR****CASE OPEN**

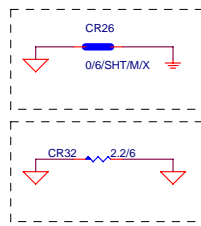
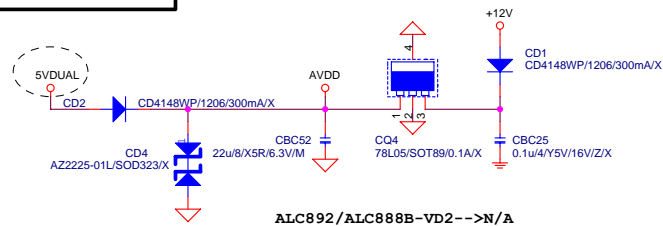
Case Open Circuits

DUAL BIOS**KB/MS****Gigabyte Technology**

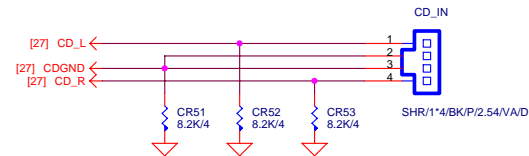
Title			HW-MONITOR/CI/KB/MS/BIOS	
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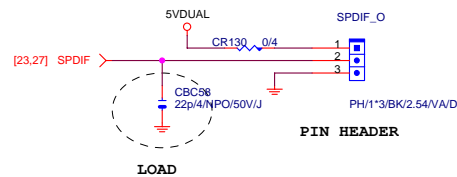
CODEC POWER/EMI PAD



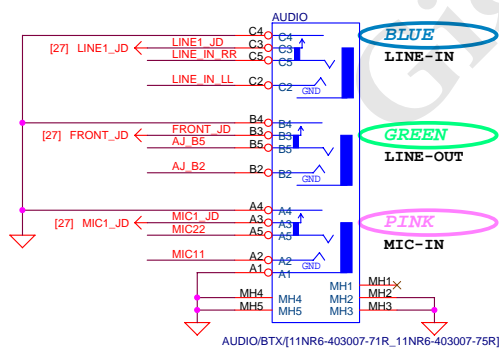
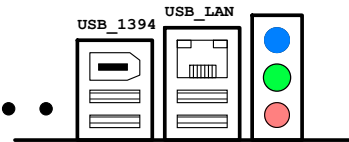
CD IN



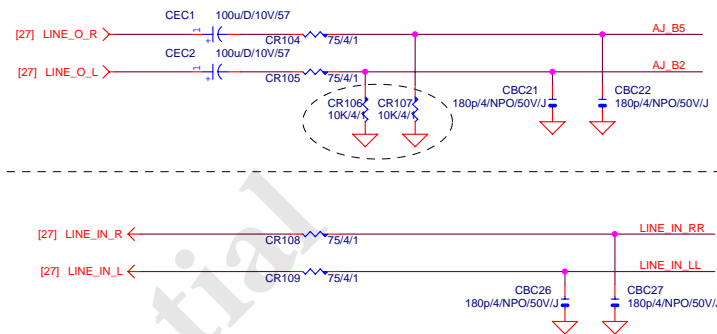
SPDIF IN



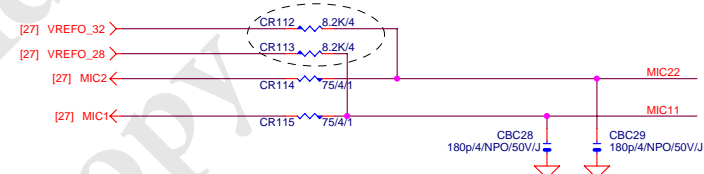
AZALIA JACK



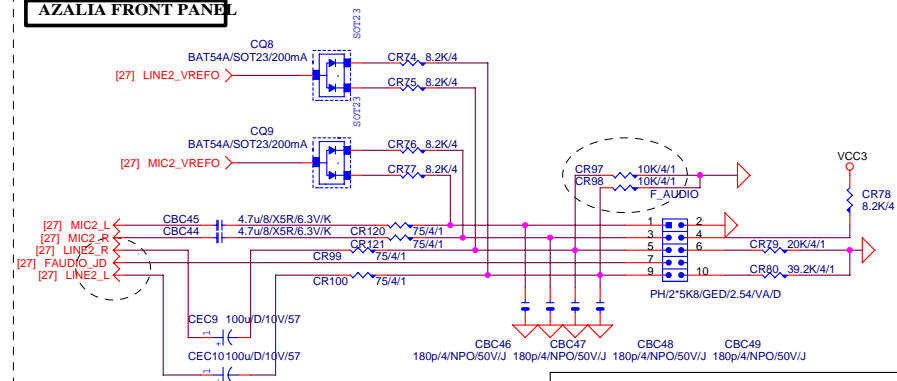
LINE-IN



MIC-IN



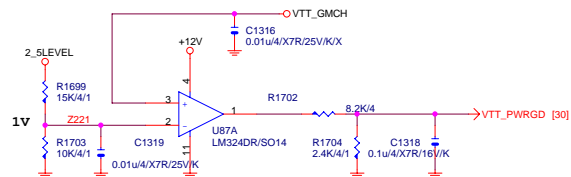
AZALIA FRONT PANEL



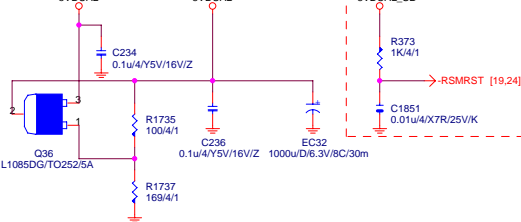
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Title	AUDIO JACK		
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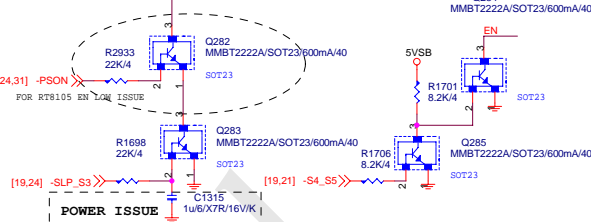
VTT_PWRGD



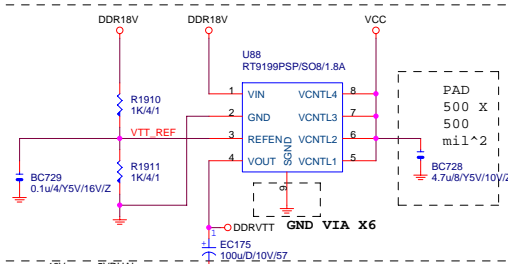
3VDUAL



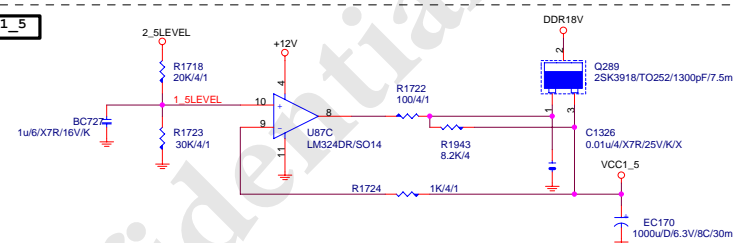
PWR_S3_S3



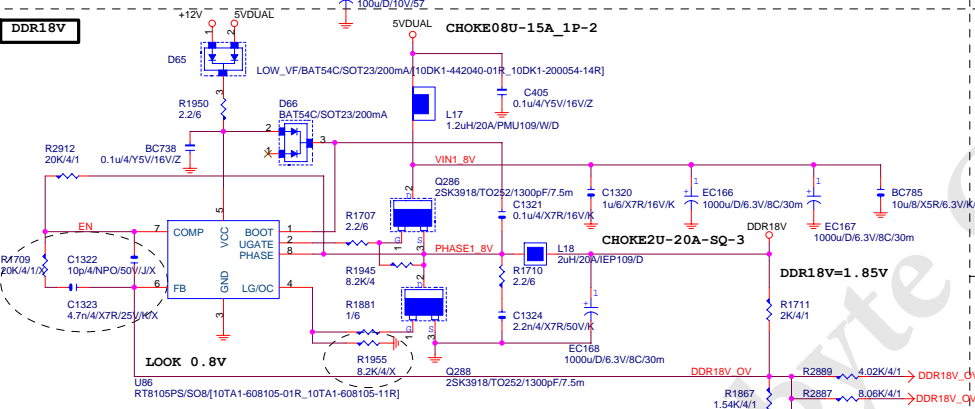
DDR1VTT



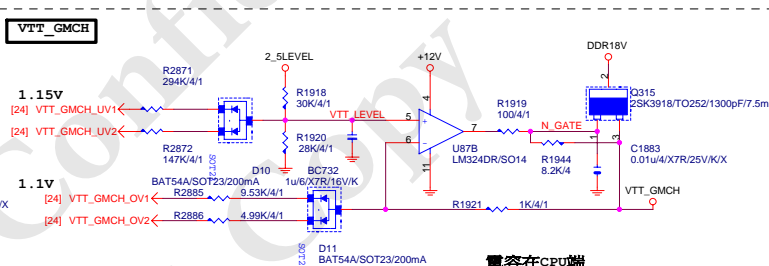
VCC1_5



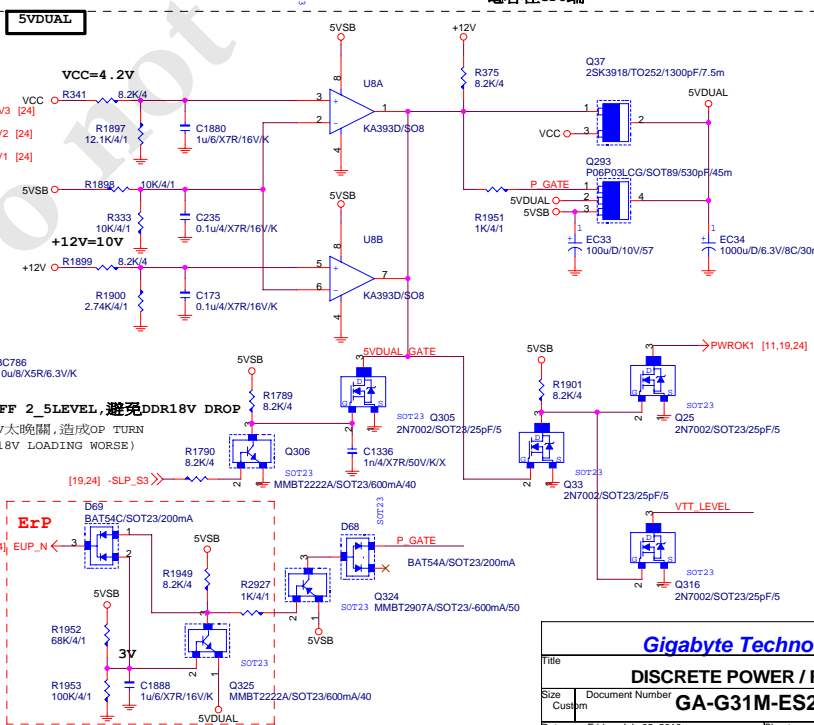
DDR18V



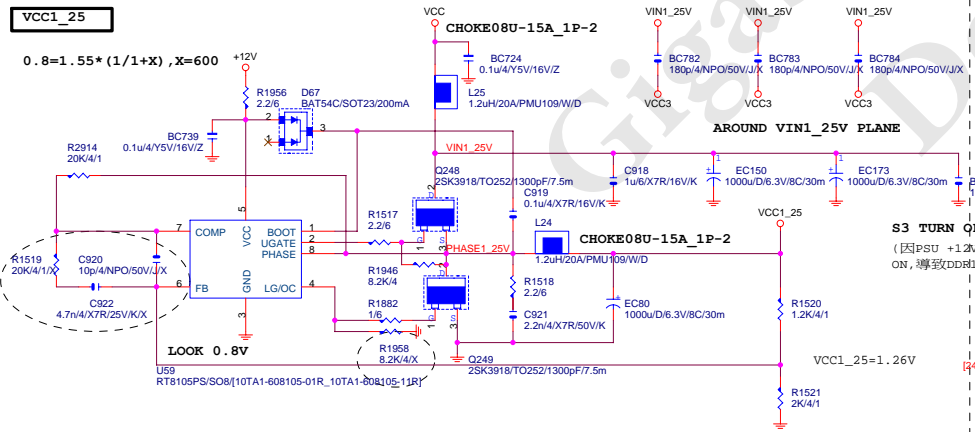
VTT_GMCH



5VDUAL



VCC1_25

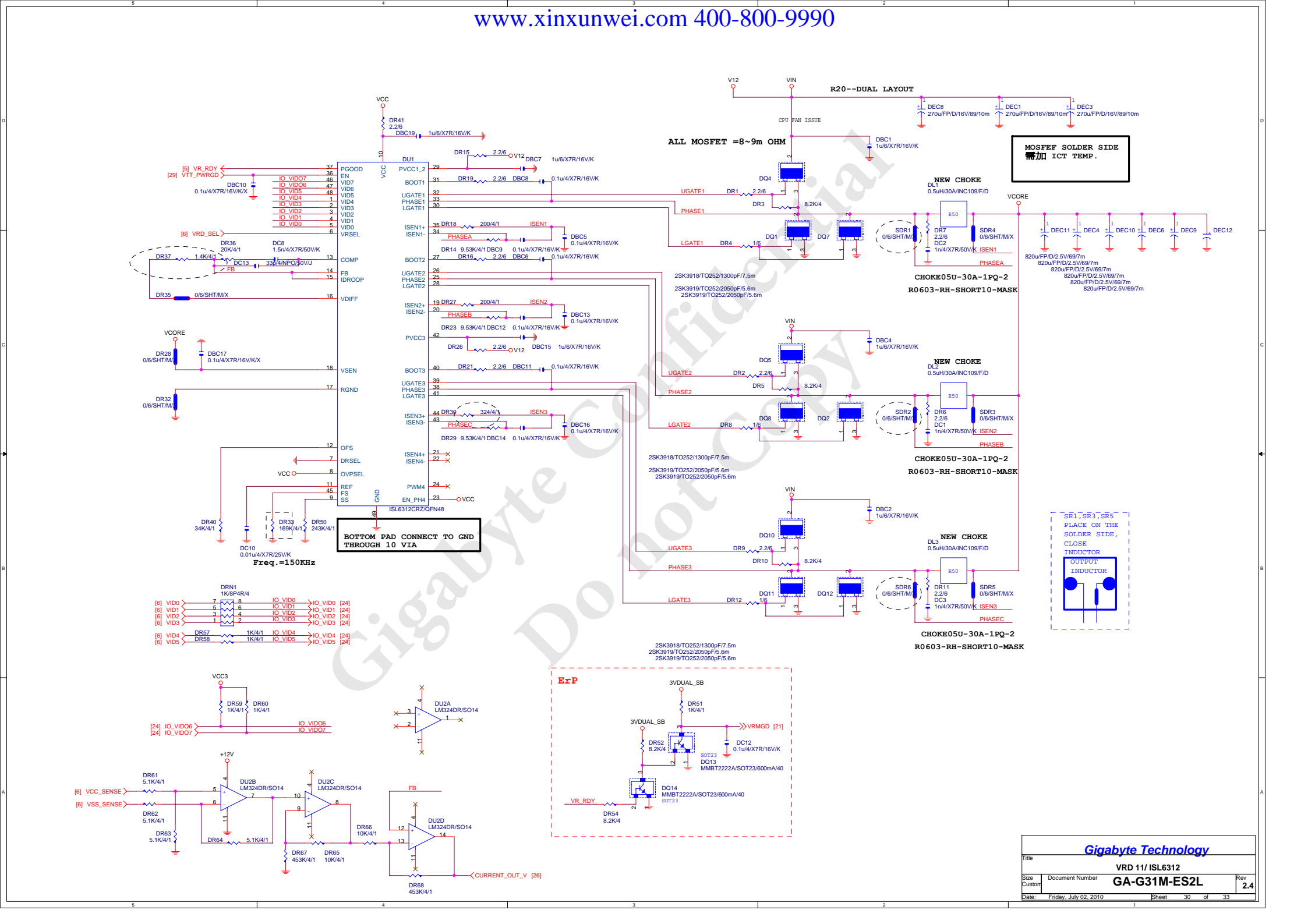


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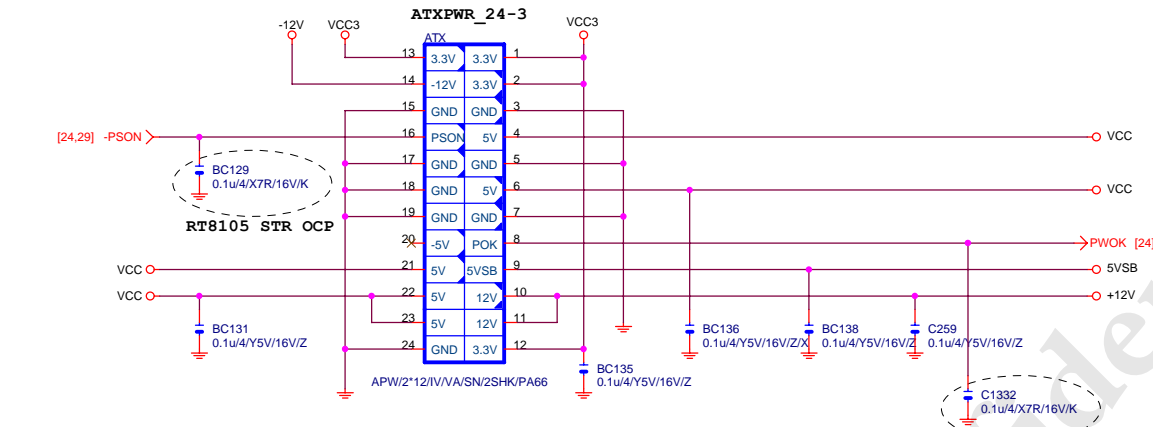
DISCRETE POWER / FAN CTRL

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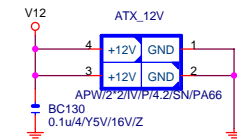
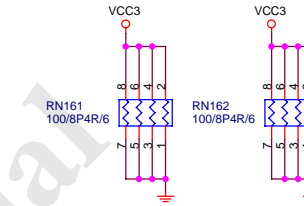
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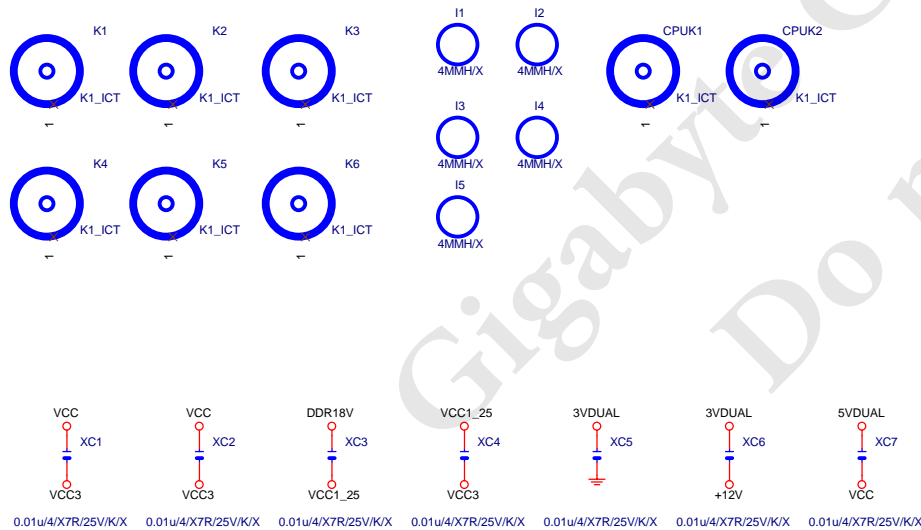
ATX POWER CONNECTOR



FIX PWR AcBel (ATX-400C-A2ADB)



ATX_4-1



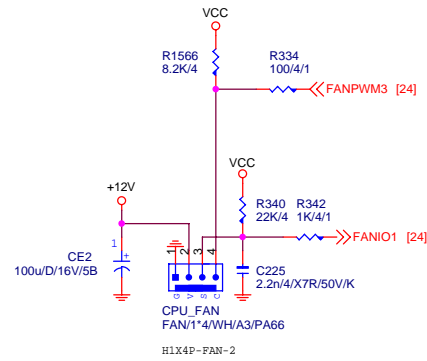
HOLE_4-RH-1

HOLE_4-RH-5MM-1

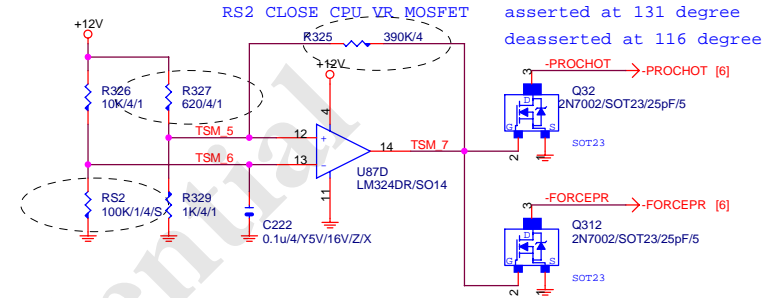
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ATX POWER CONNECTOR		
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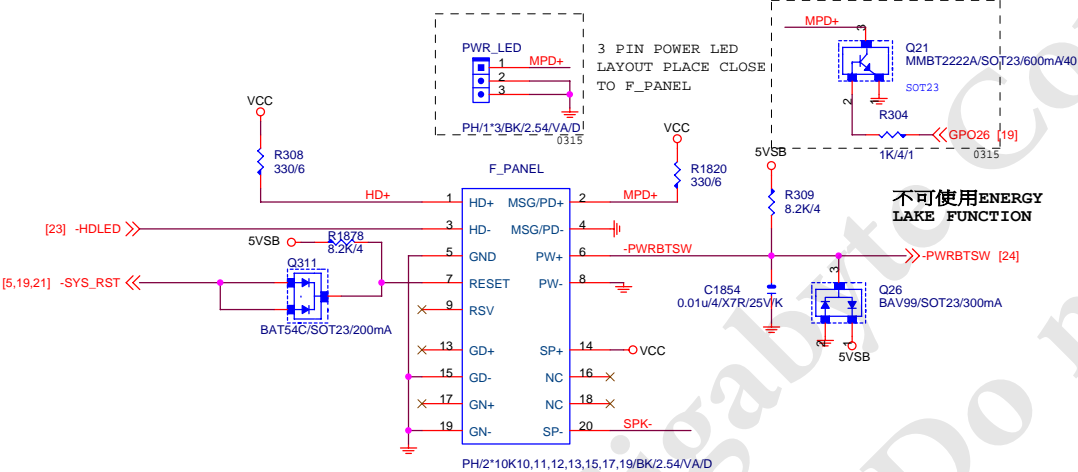
CPU SMART FAN SMART FAN



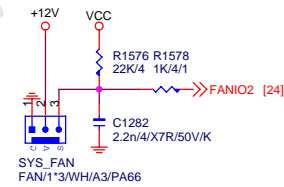
PROCESSOR HOT



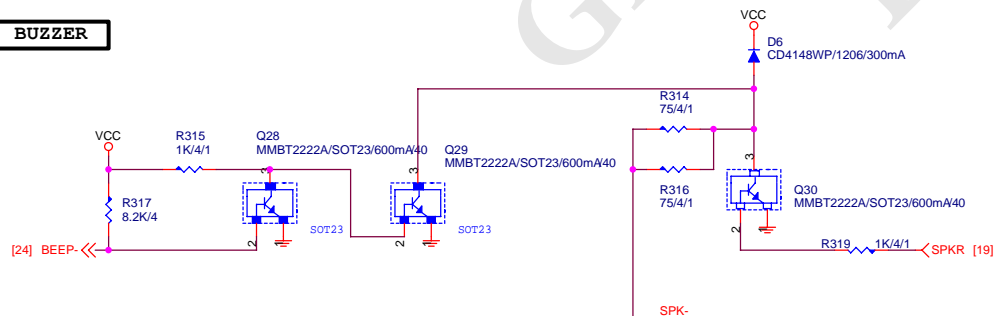
INTEL FRONT PANEL



SYS_FAN

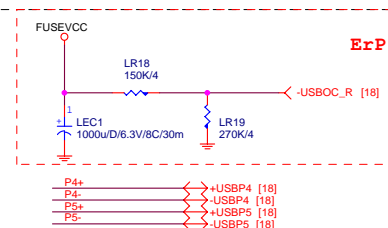
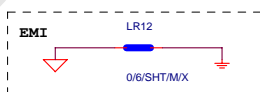
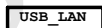
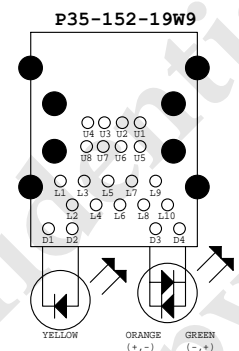
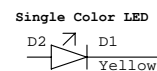



BUZZER



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ATHEROS AR8131M/AR8132M			
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