

Model Name:GA-G41M-Combo

Revision 2.0

SHEET

TITLE

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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
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09	G41_DDRII/DDRIII
10	G41_PCIE, DMI
11	G41_VGA
12	G41_GND
13	G41_PWR
14	PCI EXPRESS*16 SLOT
15	DDR2/3 CHANNEL A
16	DDR2/3 CHANNEL B
17	DDR2/3 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 8720 GB
25	COM_LPT
26	CI,HWM,KB/MS,DUALBIOS
27	ALC887-VD2

SHEET

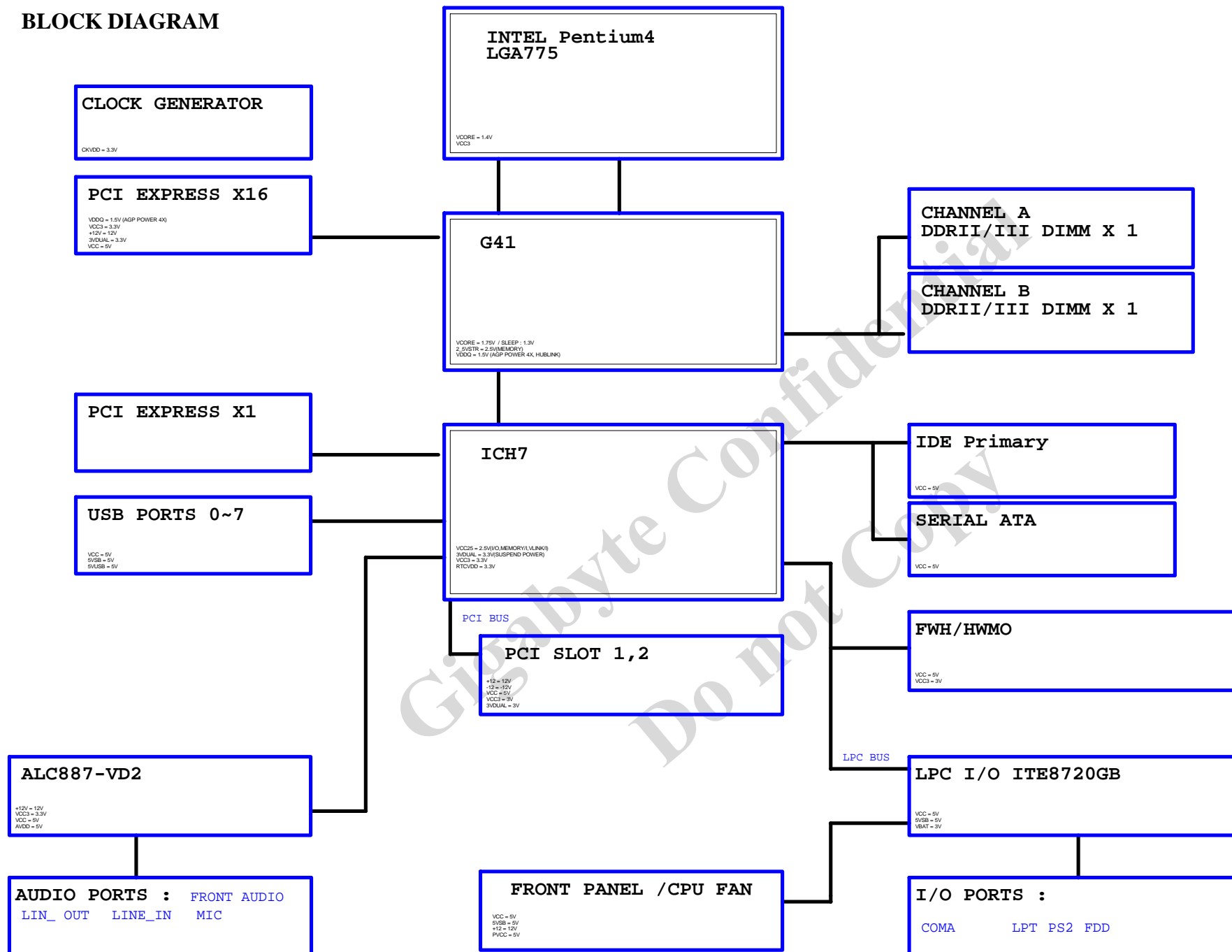
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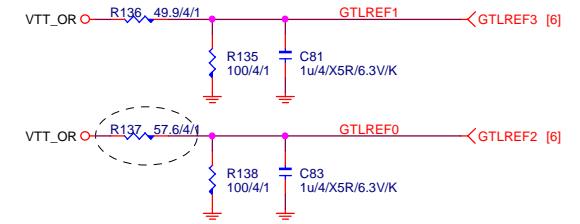
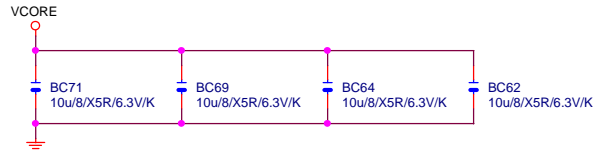
28	REAR AUDIO JACK
29	DISCRETE POWER
30	VCORE PWM_ISL6312
31	ATX, OTHERS POWER
32	FRONT PANEL
33	ATHEROS AR8151

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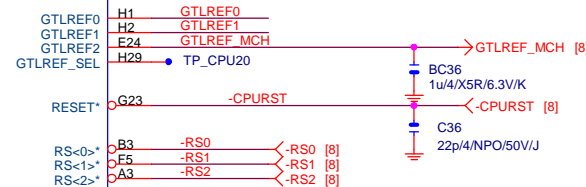
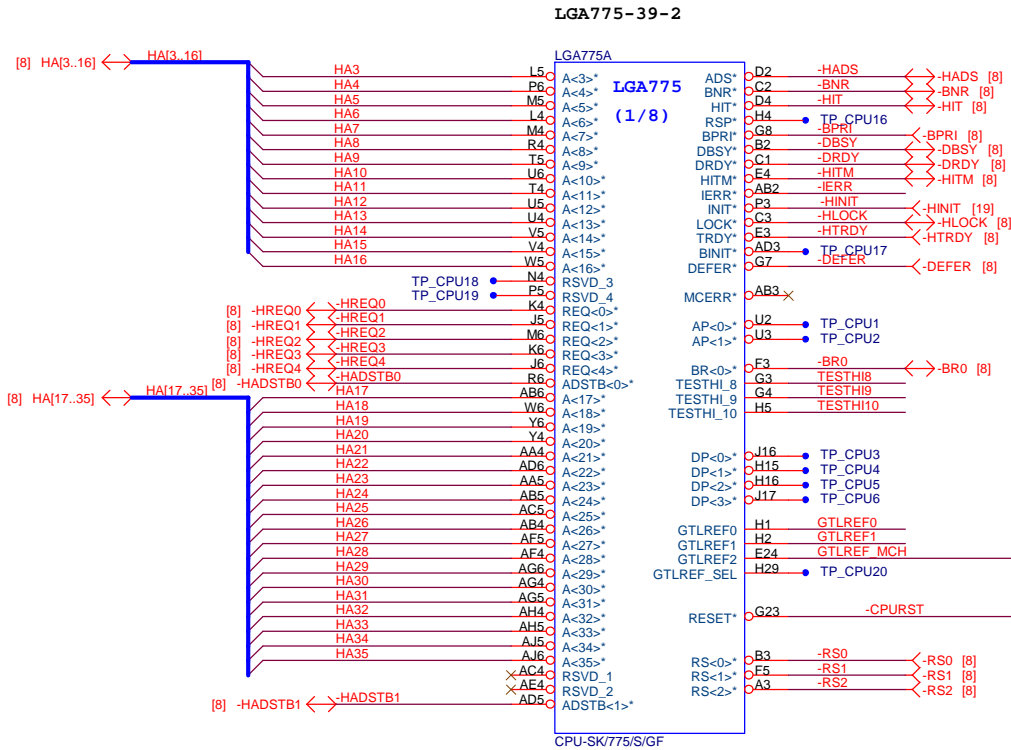
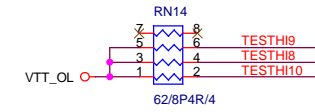
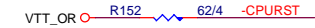
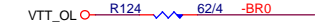
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Cover Sheet		
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BLOCK DIAGRAM

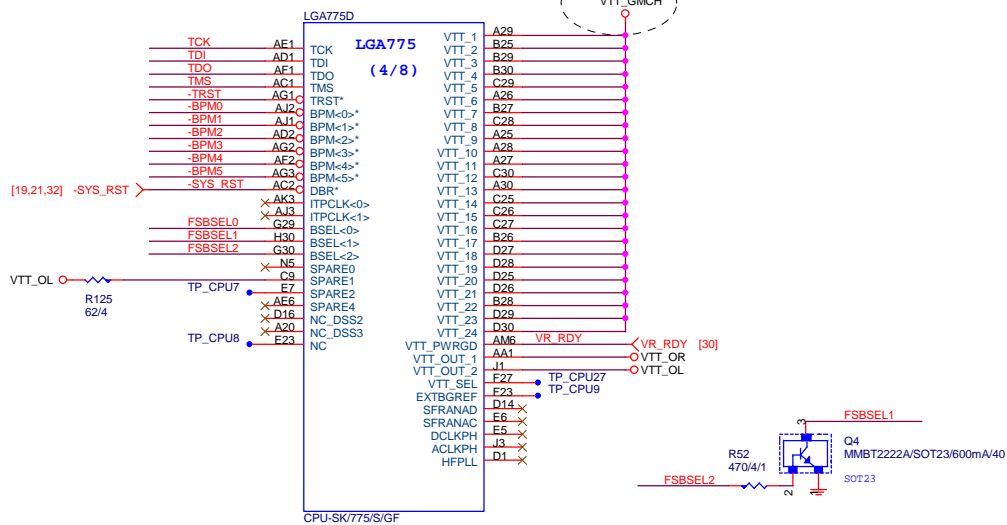
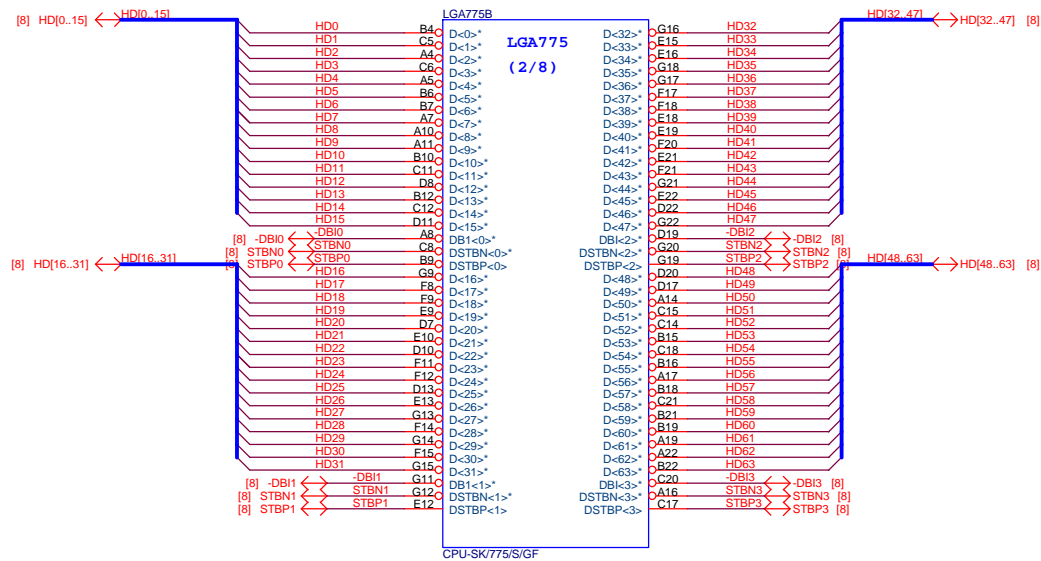




中間値0.9V

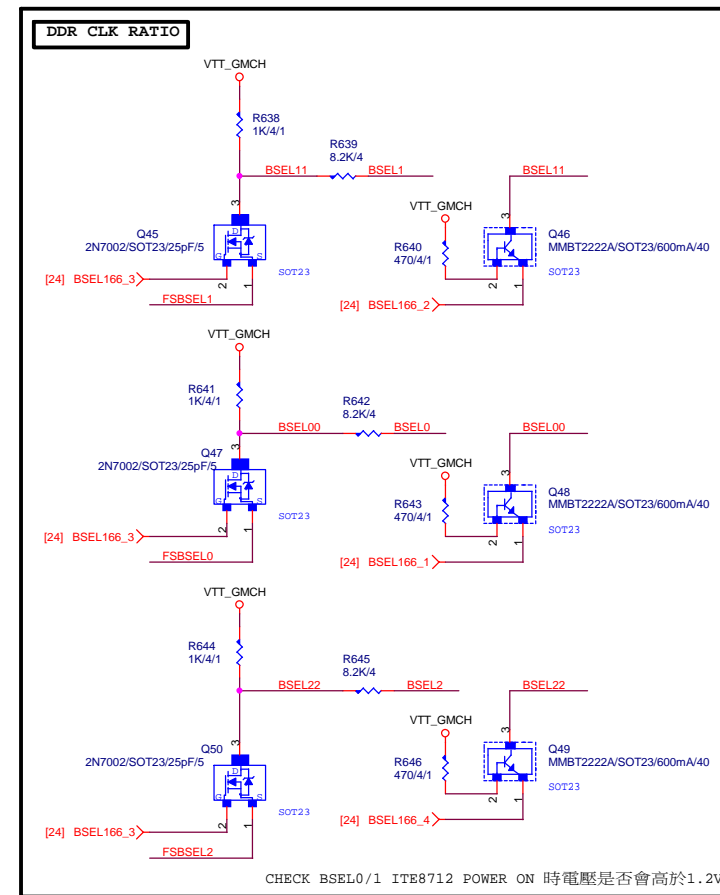
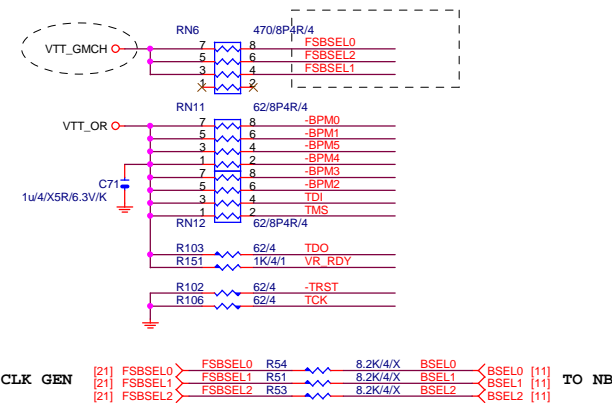


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P4_LGA775-A			
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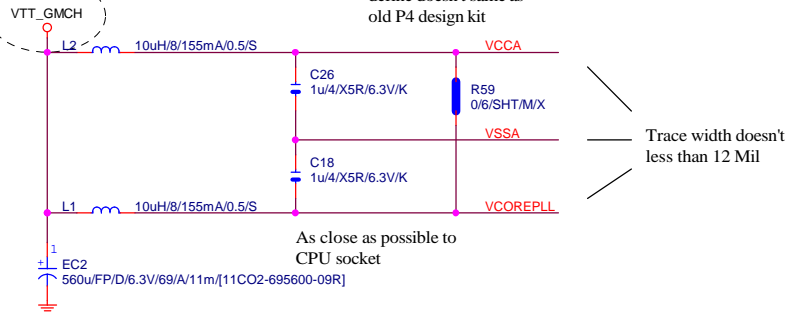
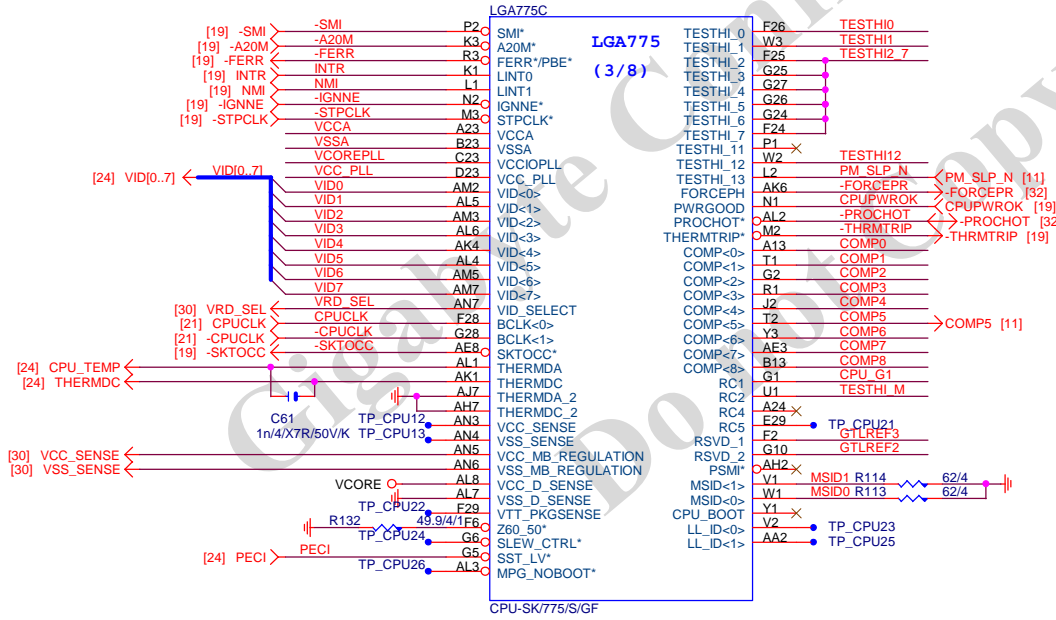
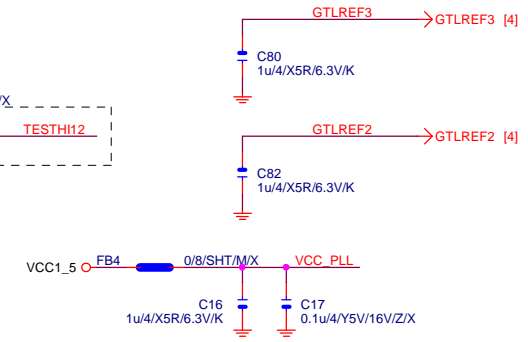
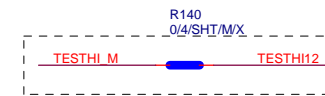
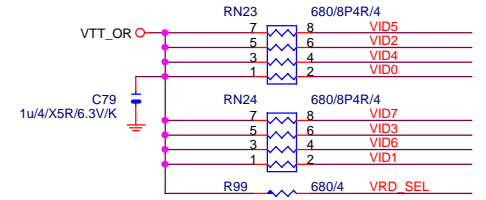
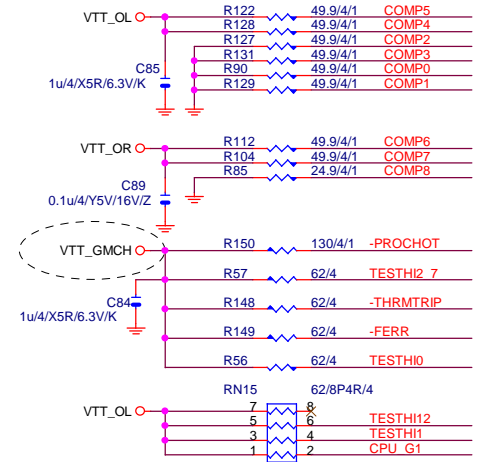
FIX FSB1600 LATCH FAIL

	FSA	FSB	FSC			
	FSBSEL0	FSBSEL1	FSBSEL2	Clock		
?	1	0	1	100MHz		
?	1	0	0	133MHz	3/4	400/533
G33	0	1	0	200MHz	2/2.66/3.33/4~	400/533/667/800
G33	0	0	0	266MHz	2/2.5/3/4~	533/667/800/1066
G33	0	0	1	333MHz	2/2.4/3.2/4#	667/800/1066/1333



Note:

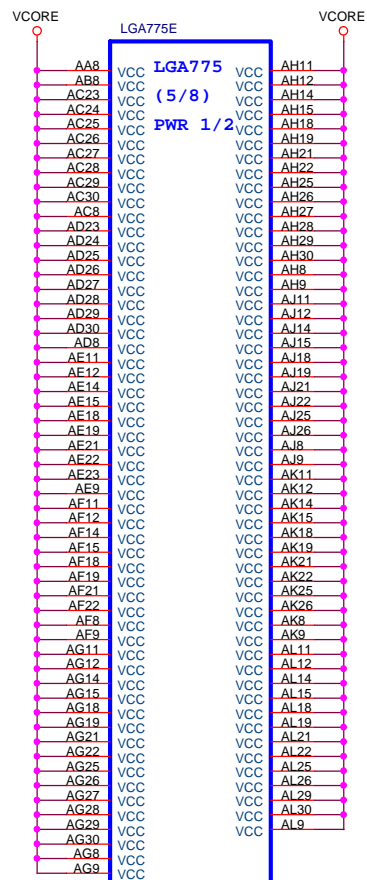
VCCA & VCOREPLL
define doesn't same as
old P4 design kit

**Place outside of CPU socket**

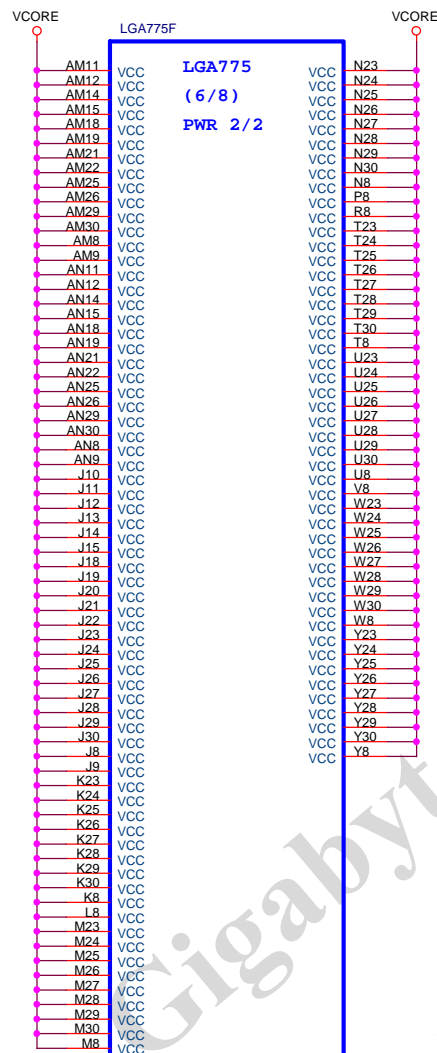
PECI:Platform Environment Control Interface

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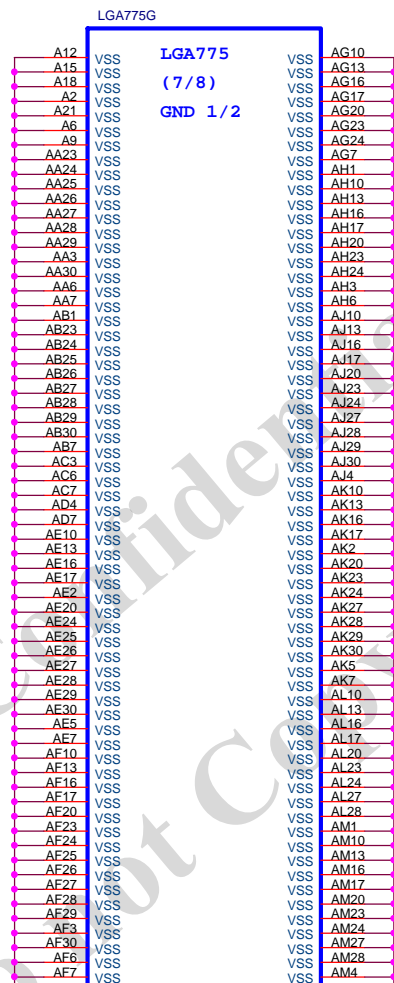
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Size B	Document Number	GA-G41M-Combo		Rev 2.0
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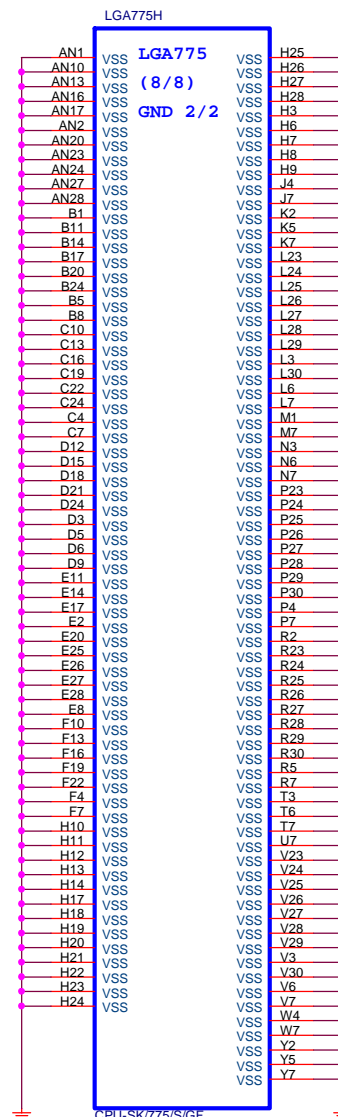
CPU-SK/775/S/GF



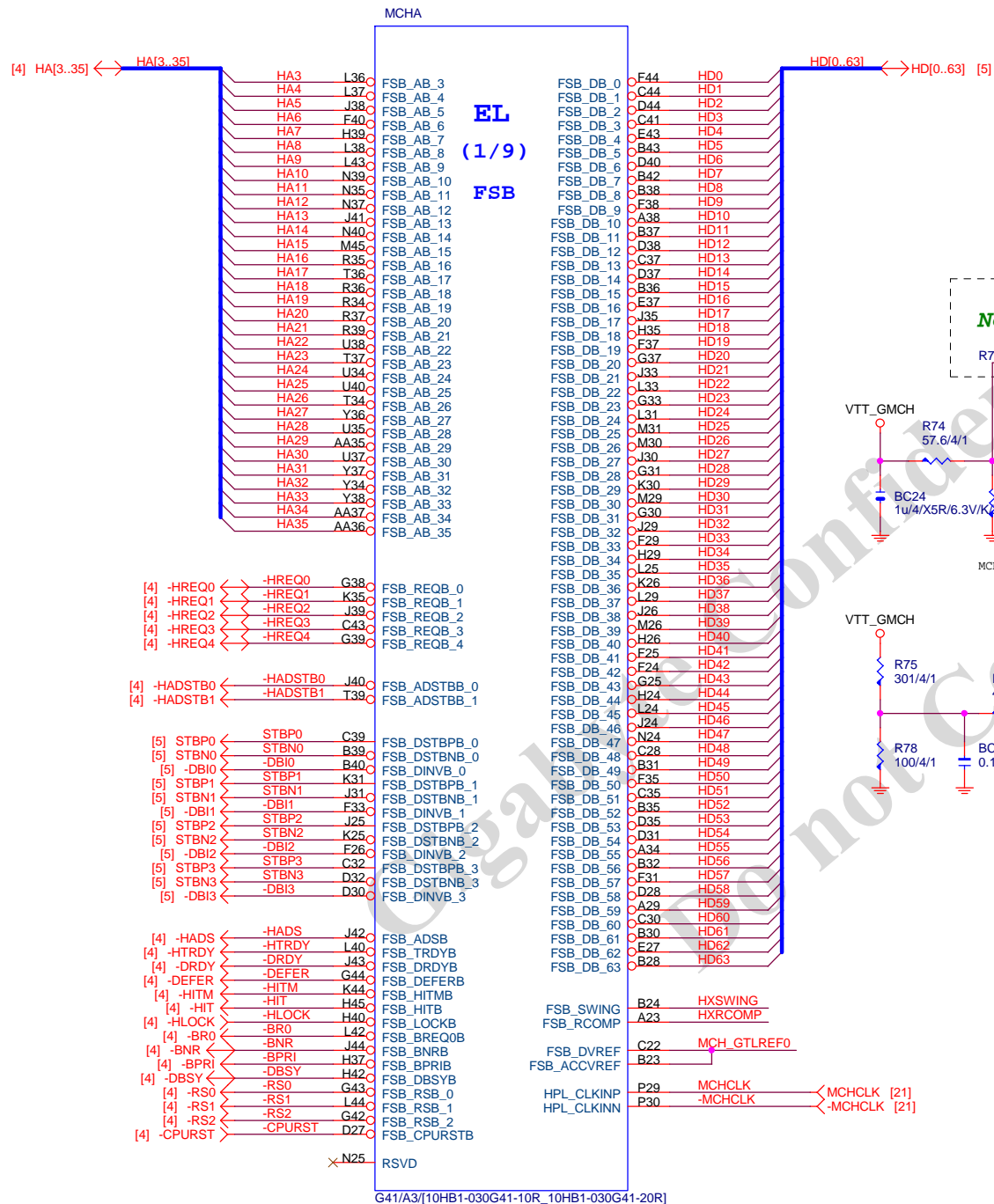
CPU-SK/775/S/GF



CPU-SK/775/S/GF



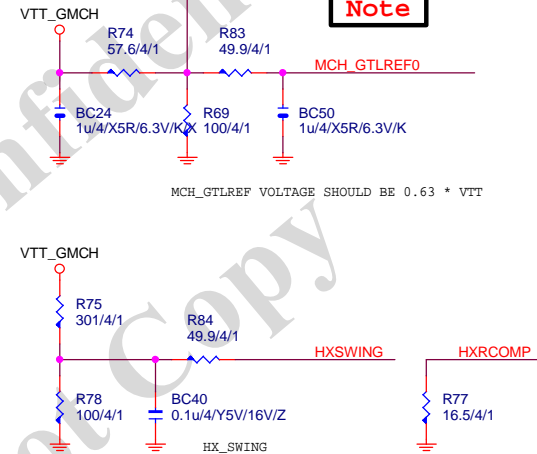
CPU-SK/775/S/GF



Not used for CoreTM2 Duo and Wolfdale

R70 0/4/SHT/M/X GTLREF_MCH GTLREF_MCH [4]

Note

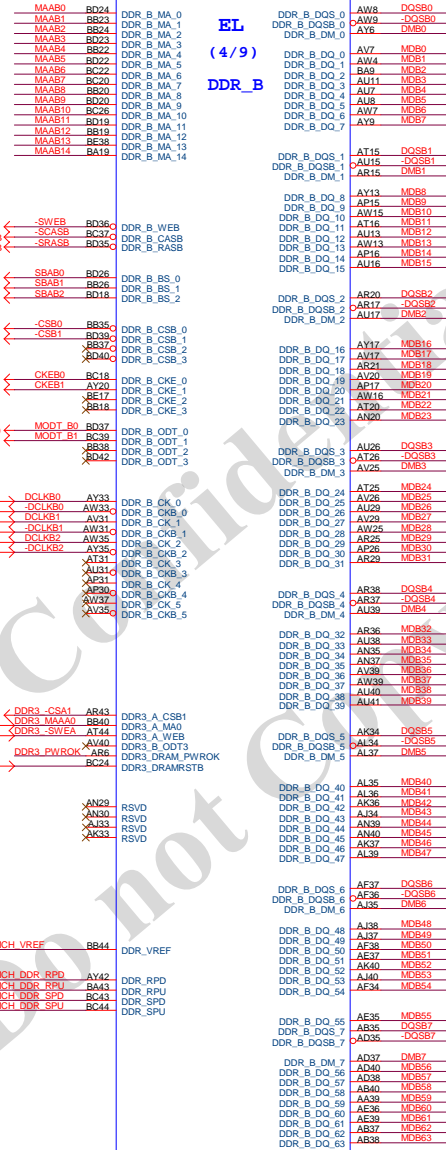


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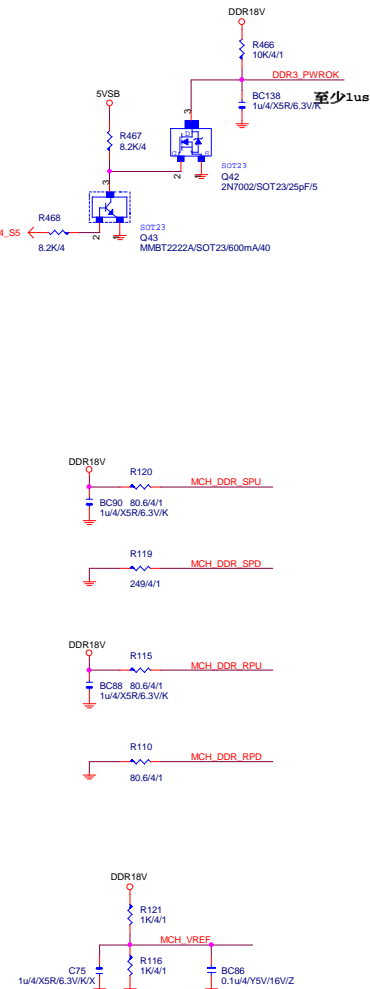
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G41/A3/[10HB1-030G41-10R_10HB1-030G41-20R]

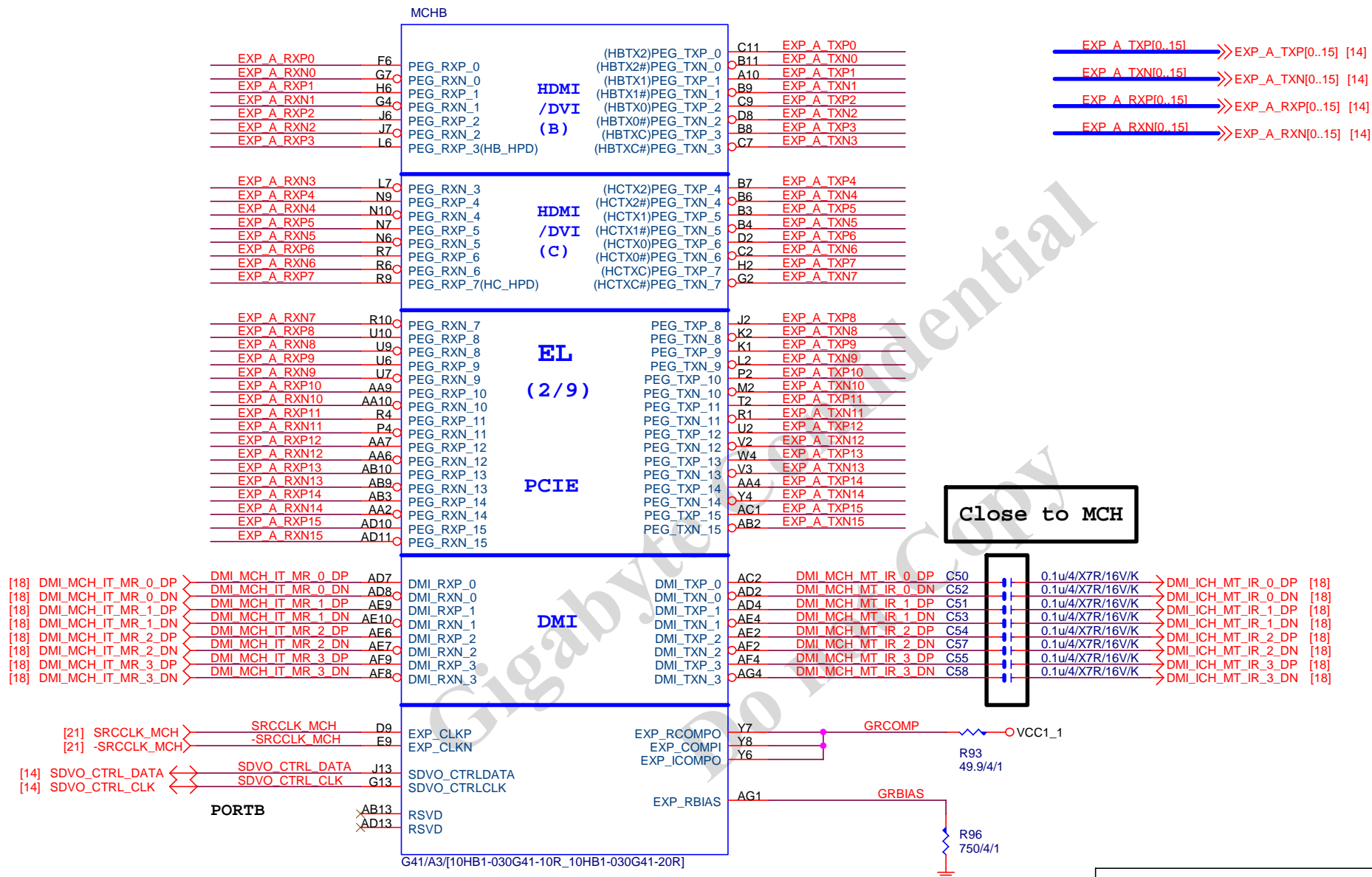


G41/A3/[10HB1-030G41-10R_10HB1-030G41-20R



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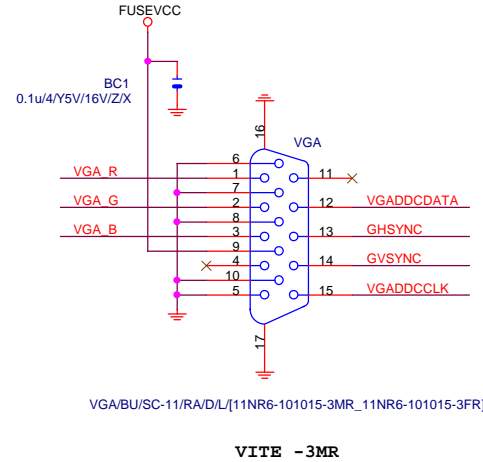
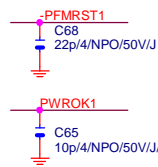
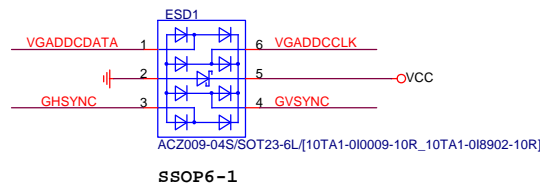
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Title GMCH-MEMORY			
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C3 C4 C5
22p/4/NPO/50V/J
22p/4/NPO/50V/J
22p/4/NPO/50V/J
FOR EMI ISS



Title			
GMCH-INTERNAL VGA			
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MCHH

A12	VSS	AK35
A15	VSS	AK38
A19	VSS	AK39
A27	VSS	AL38
A31	VSS	BB8
A36	VSS	BD12
A40	VSS	BD17
AA1	VSS	BD8
AA8	VSS	BE10
AA11	VSS	BE15
AA12	VSS	BE19
AA13	VSS	BE22
AA20	VSS	BE24
AA22	VSS	BE29
AA24	VSS	AP45
AA26	VSS	AR3
AA34	VSS	AR8
AA38	VSS	AR9
AA40	VSS	AR10
AA44	VSS	C5
AB4	VSS	D11
AB6	VSS	D16
AB7	VSS	D21
AB8	VSS	D25
AB11	VSS	D26
AB12	VSS	D38
AB19	VSS	D8
AB21	VSS	D7
AB23	VSS	E3
AB25	VSS	E31
AB27	VSS	E41
AB34	VSS	E5
AB36	VSS	F16
AB39	VSS	F2
AC5	VSS	F30
AC20	VSS	F4
AC22	VSS	F42
AC24	VSS	F45
AC26	VSS	G11
AC45	VSS	G11
AD3	VSS	G26
AD6	VSS	G29
AD9	VSS	G3
AD12	VSS	G35
AD19	VSS	H1
AD21	VSS	H11
AD23	VSS	H13
AD25	VSS	H15
AD27	VSS	H16
AD34	VSS	H20
AD36	VSS	H25
AD39	VSS	H30
AE1	VSS	H31
AE8	VSS	H33
AE11	VSS	H38
AE20	VSS	H44
AE22	VSS	H7
AE24	VSS	H8
AE26	VSS	H9
AE34	VSS	J3
AE38	VSS	J37
AE40	VSS	J4
AE44	VSS	J5
AF6	VSS	J8
AF7	VSS	J9
AF10	VSS	K11
AF11	VSS	K13
AF12	VSS	K17
AF13	VSS	K20
AF33	VSS	K24
AF35	VSS	K29
AF39	VSS	K3
AG5	VSS	K45
AG19	VSS	L10
AG21	VSS	L16
AG23	VSS	L20
AG25	VSS	U11
AG27	VSS	U12
AG45	VSS	U13
AH2	VSS	U16
AH3	VSS	U17
AH4	VSS	U19
AJ20	VSS	U20
AJ22	VSS	U36
AJ24	VSS	U39
AJ26	VSS	U44
AJ36	VSS	U8
AJ39	VSS	W1
AJ44	VSS	W16
AJ45	VSS	W17
	VSS	A3
	VSS	A43
	VSS	A6
	VSS	B44
	VSS	BC1

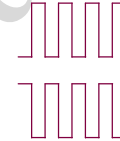
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G41/A3[10HB1-030G41-10R_10HB1-030G41-20R]

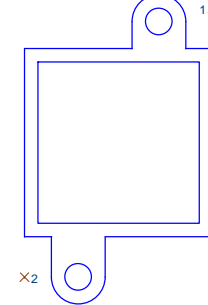
EL
(9/9)
GND

BA5	VSS
BB21	VSS
BB25	VSS
BB28	VSS
BB8	VSS
BD12	VSS
BD17	VSS
BD8	VSS
BE10	VSS
BE15	VSS
BE19	VSS
BE22	VSS
BE24	VSS
BE29	VSS
BE34	VSS
BE40	VSS
AR3	VSS
AR8	VSS
AR9	VSS
AR10	VSS
C5	VSS
D11	VSS
D16	VSS
D21	VSS
D25	VSS
D26	VSS
D38	VSS
D8	VSS
D7	VSS
E3	VSS
E31	VSS
E41	VSS
E5	VSS
F16	VSS
F2	VSS
F30	VSS
F4	VSS
F42	VSS
F45	VSS
G11	VSS
G11	VSS
G26	VSS
G29	VSS
G3	VSS
G35	VSS
H1	VSS
H11	VSS
H13	VSS
H15	VSS
H16	VSS
H20	VSS
H25	VSS
H30	VSS
H31	VSS
H33	VSS
H38	VSS
H44	VSS
H7	VSS
H8	VSS
H9	VSS
J3	VSS
J37	VSS
J4	VSS
J5	VSS
J8	VSS
J9	VSS
K11	VSS
K13	VSS
K17	VSS
K20	VSS
K24	VSS
K29	VSS
K3	VSS
K45	VSS
L10	VSS
L16	VSS
L20	VSS
U11	VSS
U12	VSS
U13	VSS
U16	VSS
U17	VSS
U19	VSS
U20	VSS
U36	VSS
U39	VSS
U44	VSS
U8	VSS
W1	VSS
W16	VSS
W17	VSS
A3	VSS
A43	VSS
A6	VSS
B44	VSS
BC1	VSS

L26	VSS
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L35	VSS
L39	VSS
L4	VSS
L8	VSS
L9	VSS
M1	VSS
M24	VSS
M25	VSS
M44	VSS
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N16	VSS
N26	VSS
N29	VSS
N30	VSS
N33	VSS
N36	VSS
N38	VSS
N8	VSS
P16	VSS
P17	VSS
P25	VSS
P26	VSS
P31	VSS
R11	VSS
R12	VSS
R16	VSS
R17	VSS
R19	VSS
R2	VSS
R30	VSS
R38	VSS
R45	VSS
R5	VSS
R8	VSS
T10	VSS
T11	VSS
T12	VSS
T13	VSS
T16	VSS
T17	VSS
T19	VSS
T20	VSS
T3	VSS
T30	VSS
T31	VSS
T32	VSS
T33	VSS
T35	VSS
T38	VSS
T4	VSS
T40	VSS
T6	VSS
T7	VSS
T8	VSS
T9	VSS
U1	VSS
W2	VSS
W20	VSS
W22	VSS
W24	VSS
W26	VSS
W44	VSS
W45	VSS
W5	VSS
Y10	VSS
Y11	VSS
Y12	VSS
Y13	VSS
Y16	VSS
Y17	VSS
Y19	VSS
Y2	VSS
Y21	VSS
Y23	VSS
Y25	VSS
Y27	VSS
Y3	VSS
Y35	VSS
Y39	VSS
Y9	VSS
BD45	VSS
BD9	VSS
BD44	VSS
BE3	VSS
BE43	VSS
C1	VSS
C45	VSS
F1	VSS
BD43	VSS
AD30	NC
AC30	NC
AF30	NC
AE30	NC



NB_HEATSIN



NB_HS

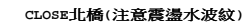
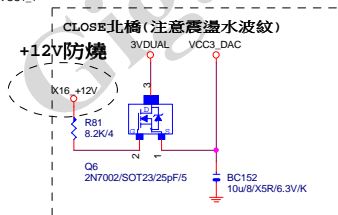
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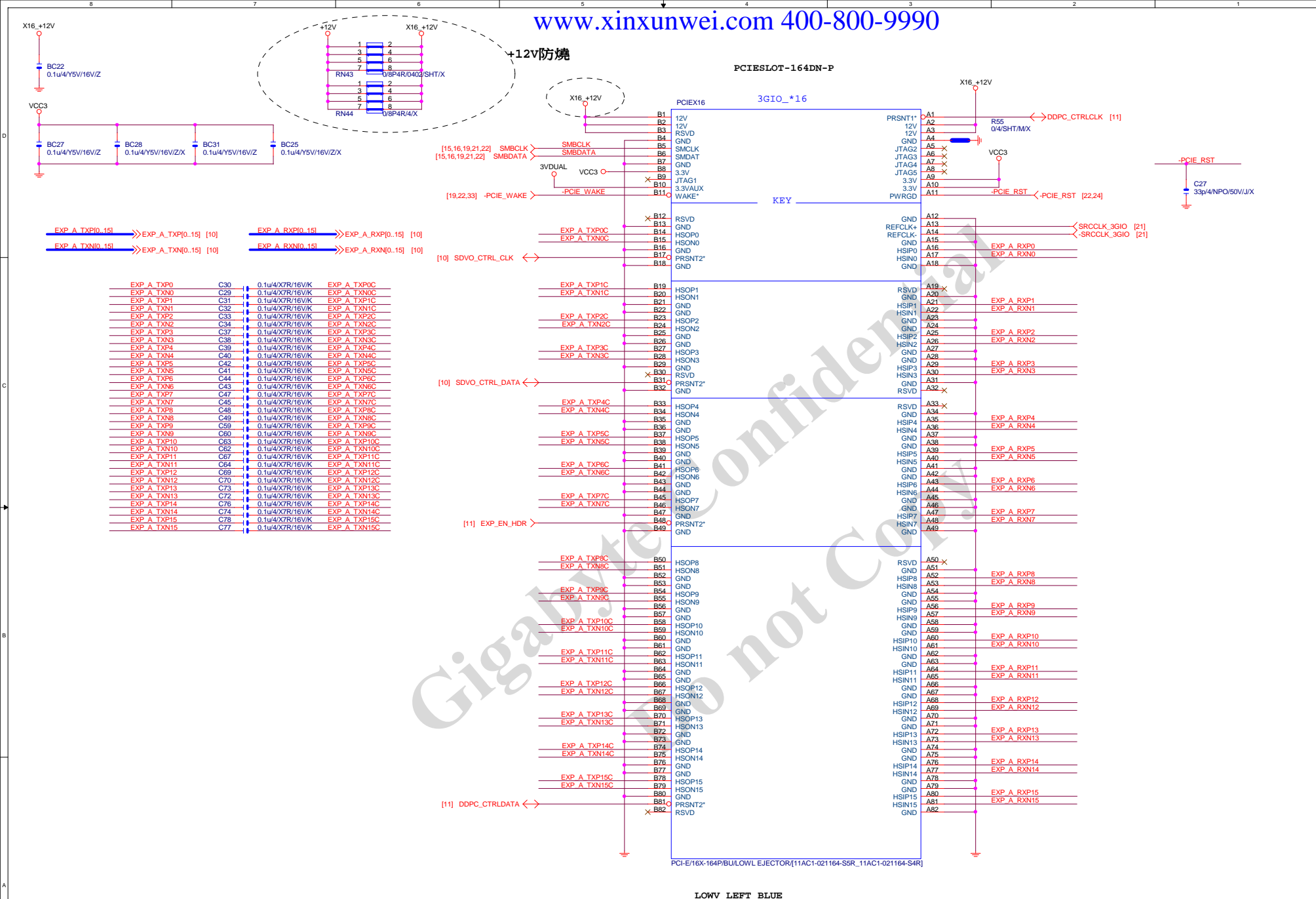
BGASINK445A-L

NEW COST DOWN

Gigabyte Technology

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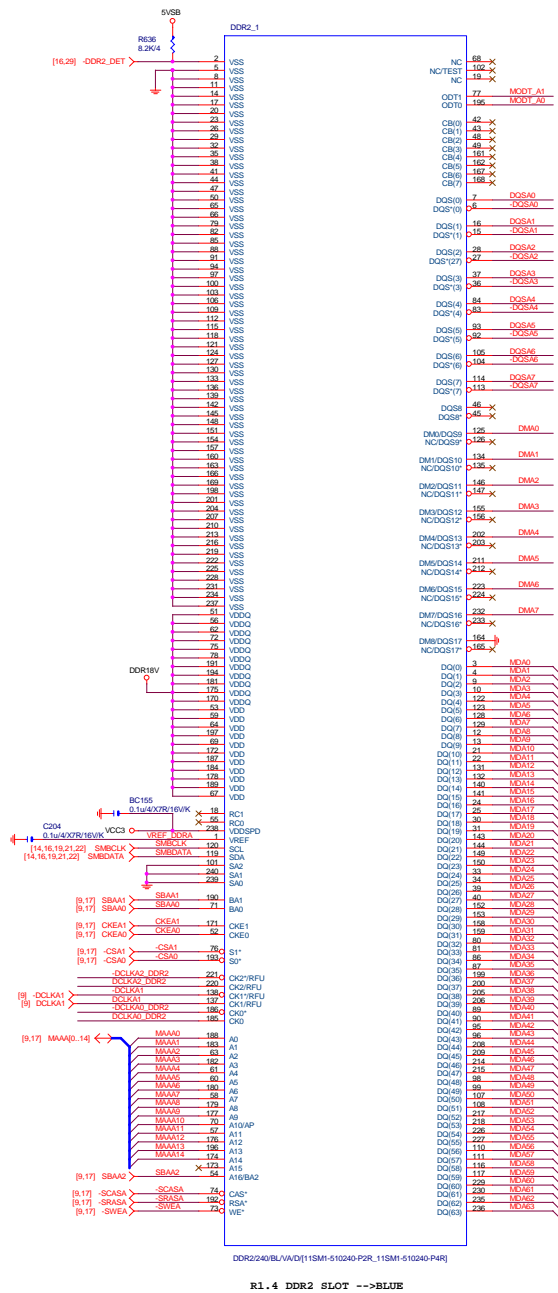


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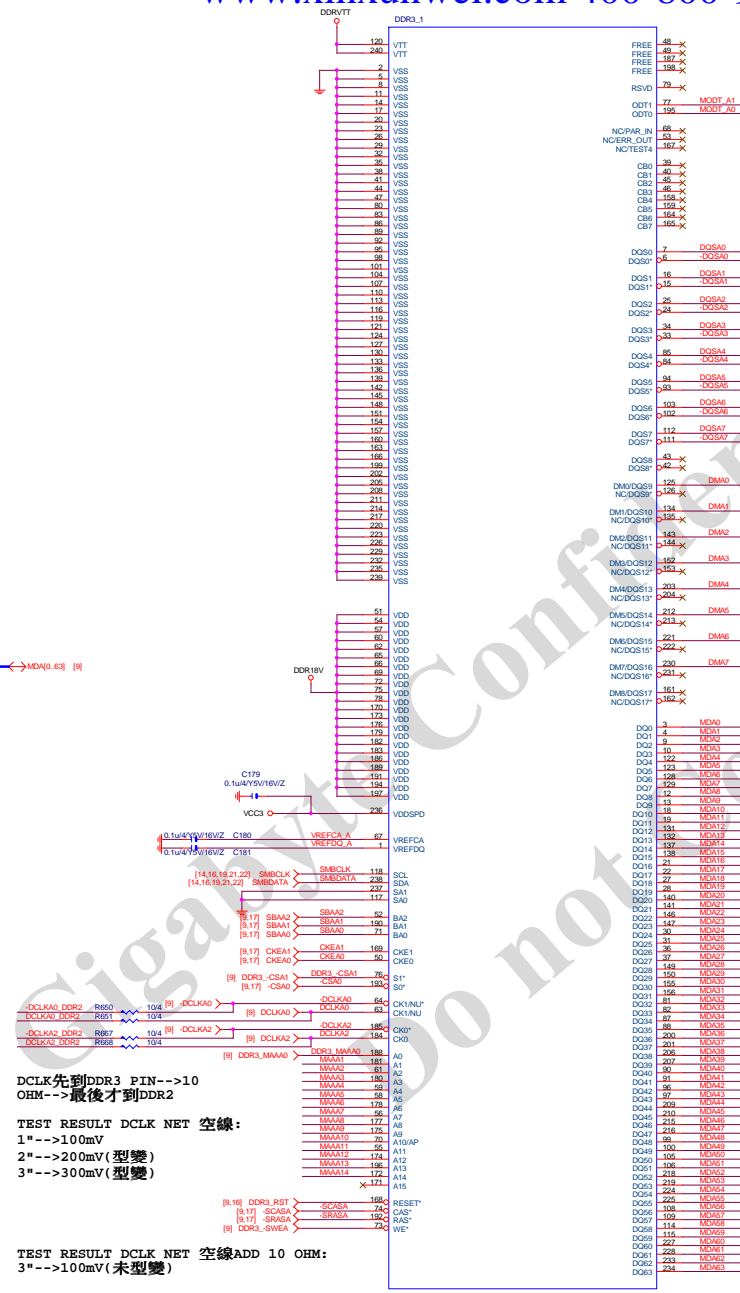
PCI EXPRESS * 16

Size Custom Document Number **GA-G41M-Combo**Rev **2.0**

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R1.4 DDR2 SLOT -->BLUE



DCLK先到DDR3 PIN-->10
OHM-->最後才到DDR2

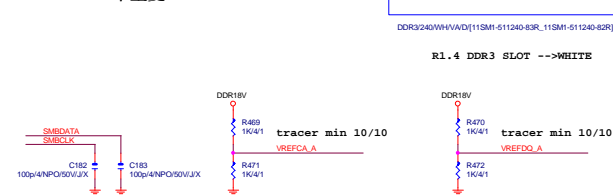
TEST RESULT DCLK NET 空線:

1" --> 100mV

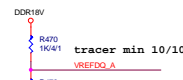
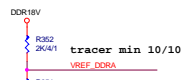
2" --> 200mV (型變)

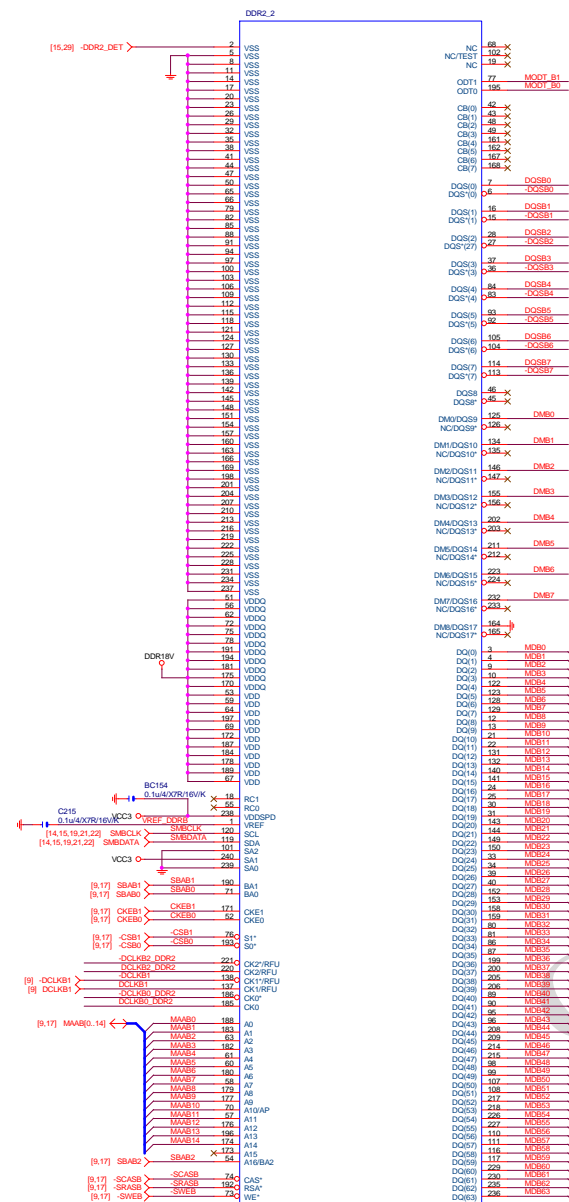
3" --> 300mV (型變)

TEST RESULT DCLK NET 空線ADD 10 OHM:
3"-->100mV(未型變)



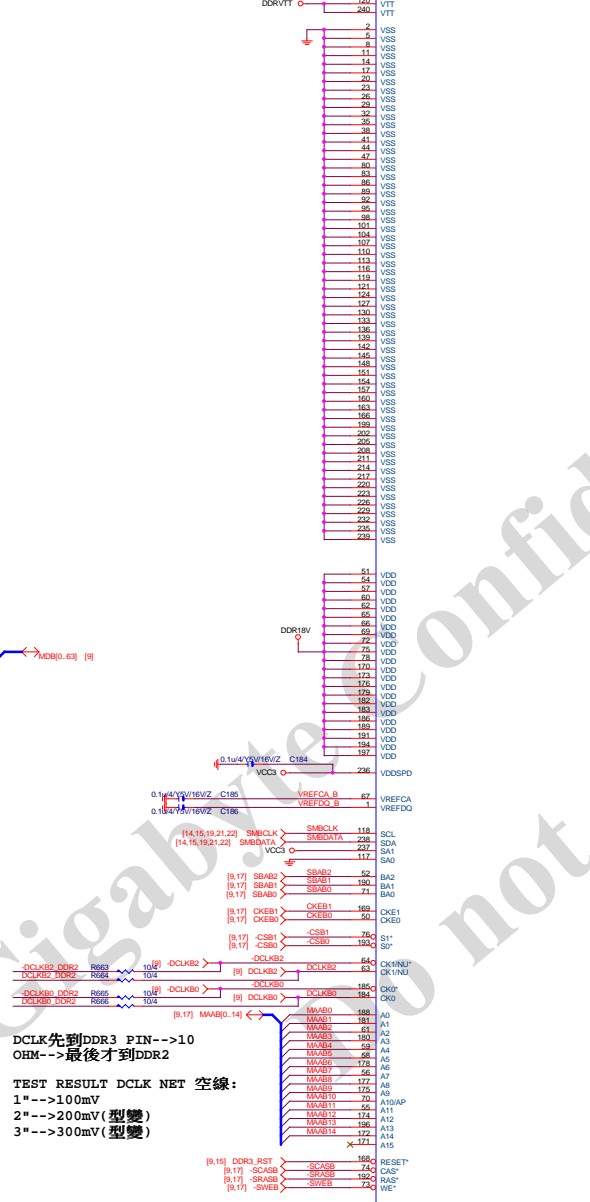
R1.4 DDR3 SLOT -->WHITE





00R2/240/BL/VAD/[11SM1-510240-P2R_11SM1-510240-P4R]

R1.4 DDR2 SLOT -->BLUE



DCLK先到DDR3 PIN-->10
OHM-->最後才到DDR2

TEST RESULT DCLK NET 空線:

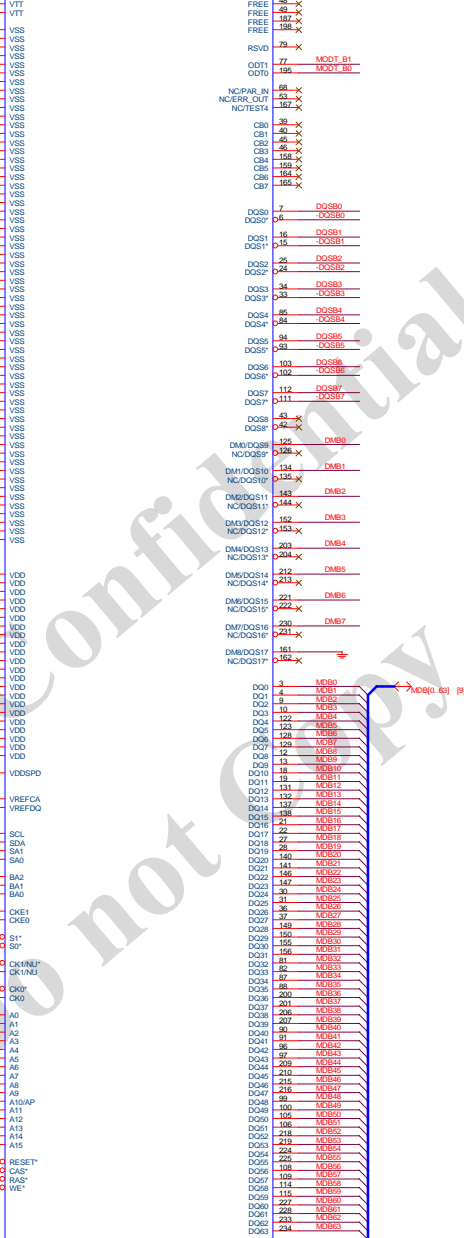
1" --> 100mV

3" → 300mV (型變)

二、(五) (主文)

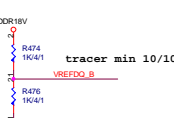
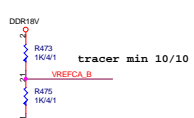
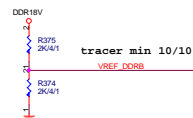
TEST RESULT DCLK NET 空線ADD 10 OHM:

3" --> 100mV (未型)



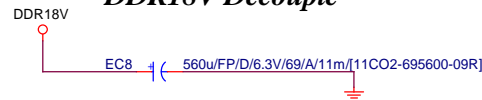
DDR3/240/WH/VA/D/11SM1-511240-83R_11SM1-511240-83R

R1.4 DDR3 SLOT -->WHITE

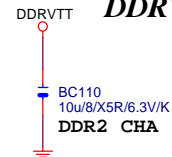


DDR TERMINATION CHANNEL A

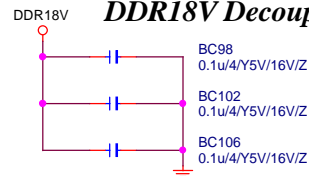
DDR18V Decouple



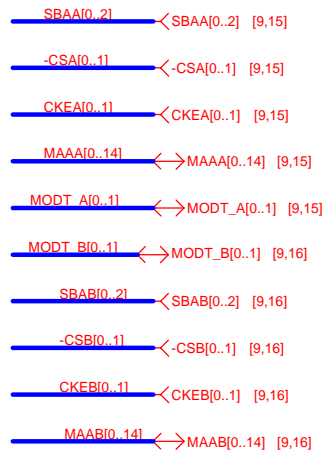
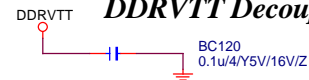
DDRVTT Decouple



DDR18V Decouple

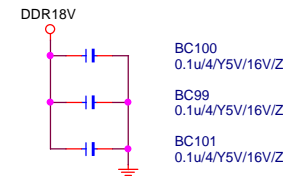


DDRVTT Decouple

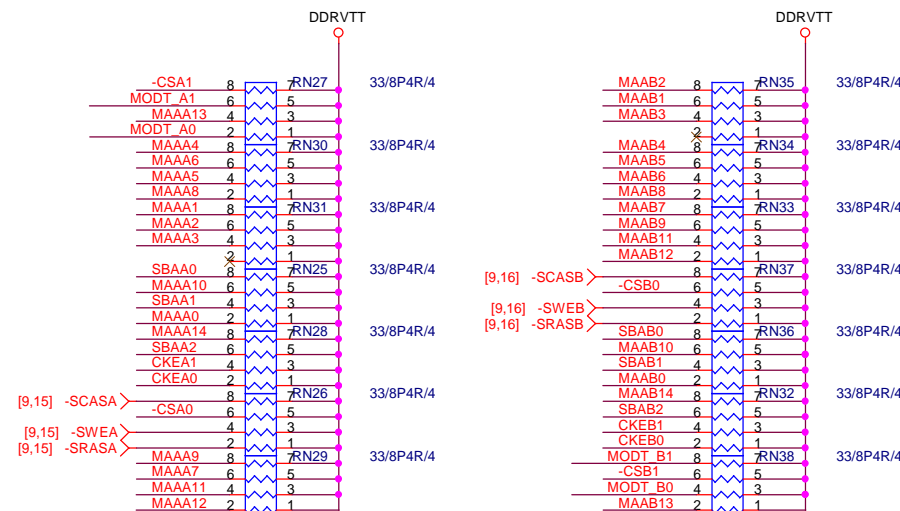
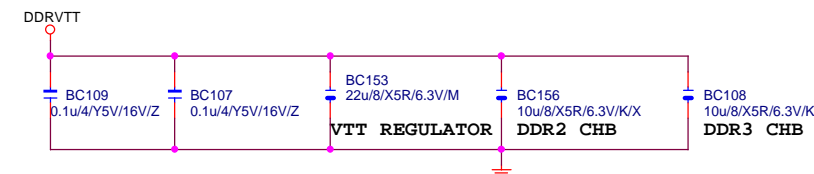


DDR TERMINATION CHANNEL B

DDR18V Decouple

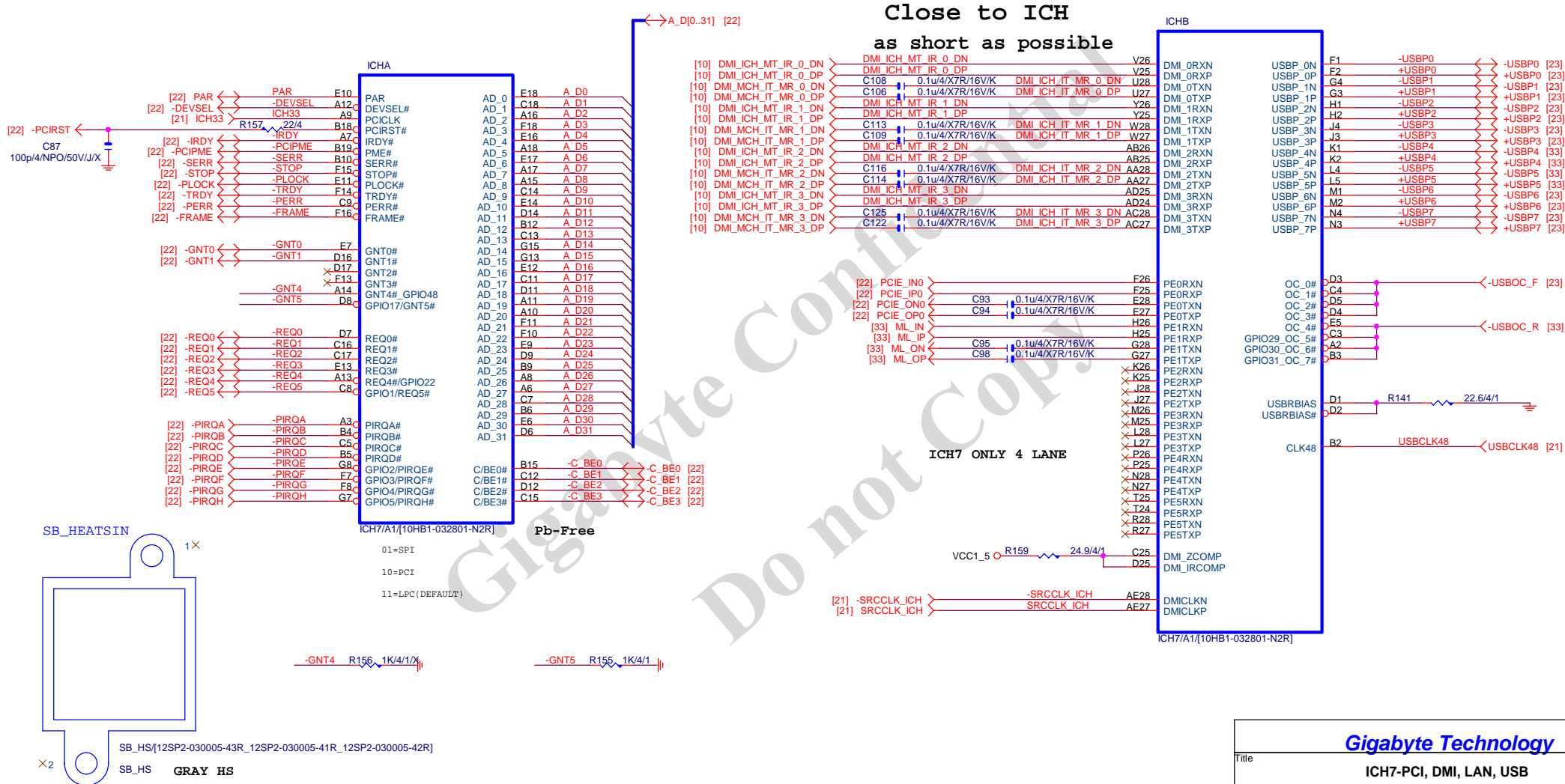


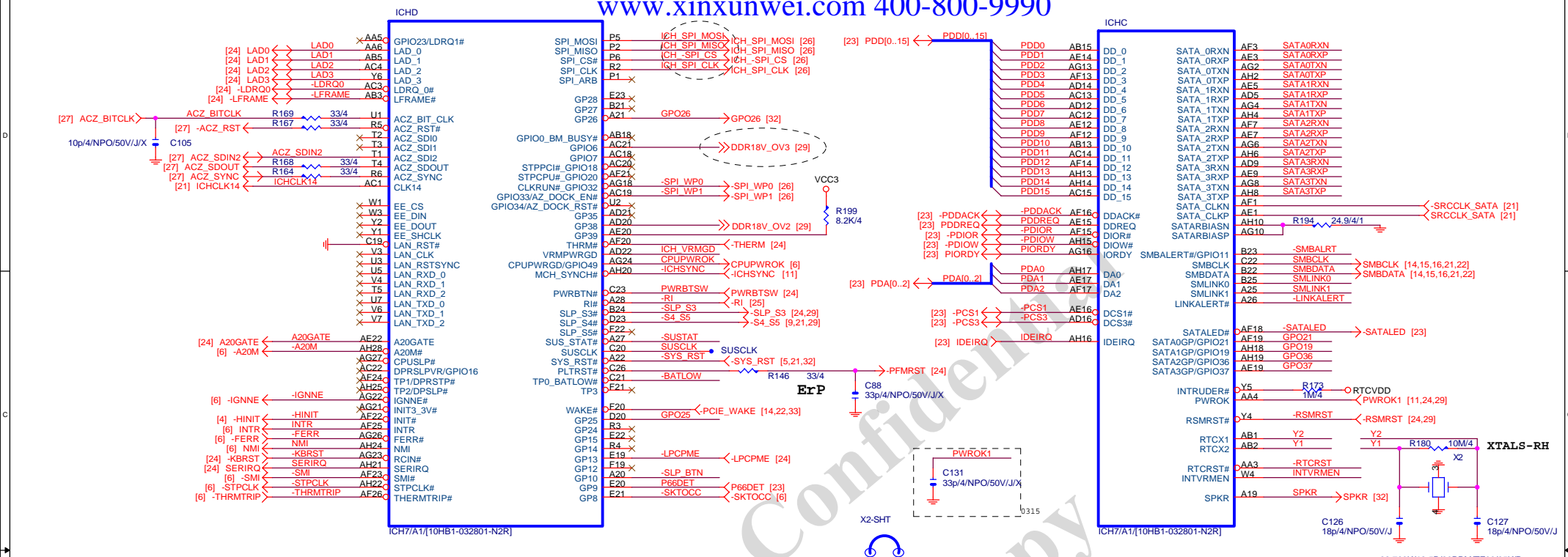
DDRVTT Decouple



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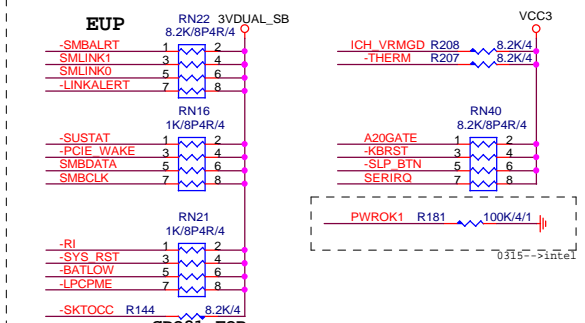
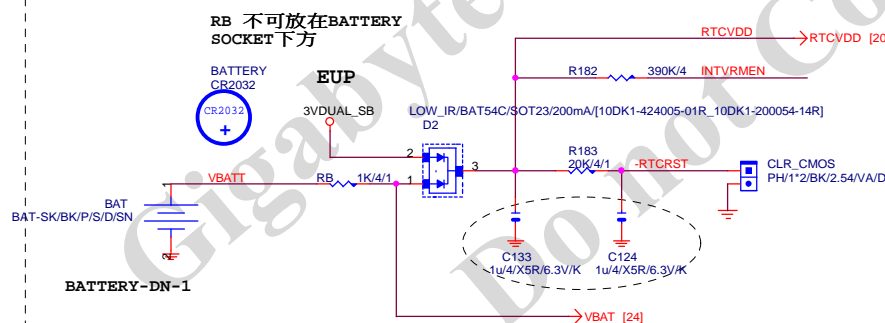
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DDRII TERMINATOR & DDR CLOCK			
Size	Document Number	Rev	
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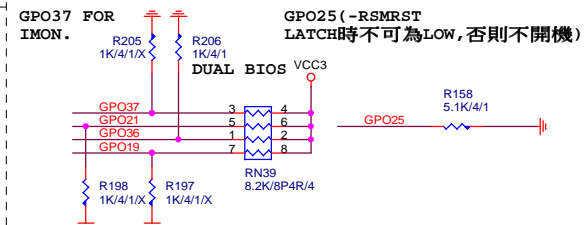
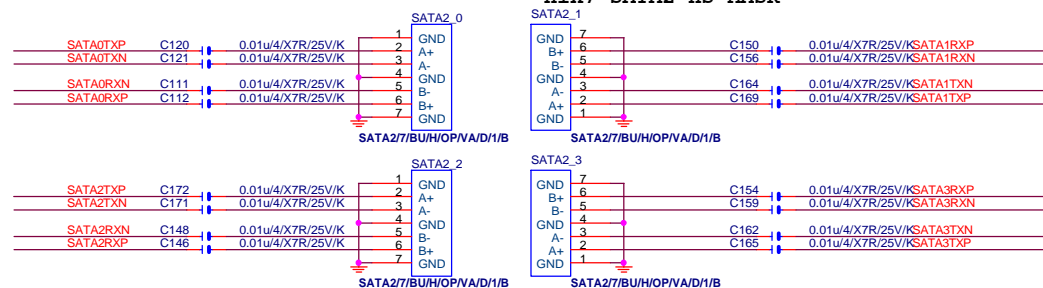


NEW TYPE: BATTERY-DUAL-4

SHW/D0.64*5.08*6.74



BLUE H1X7-SATA2-HS-MASK

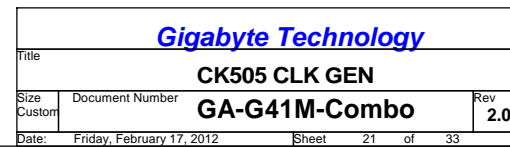


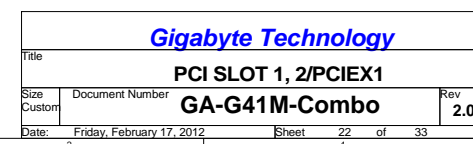
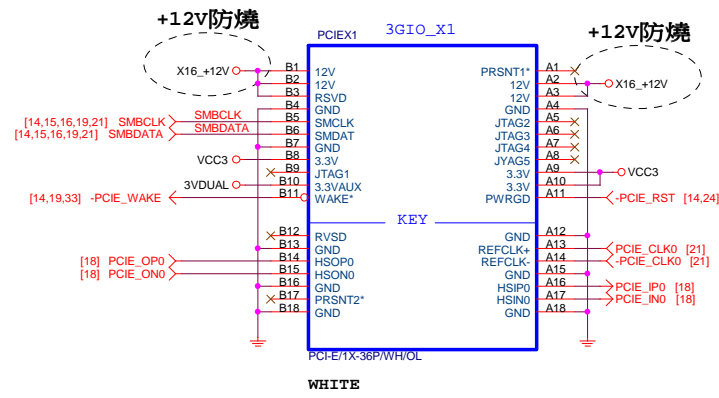


ICH7-PWR & GND

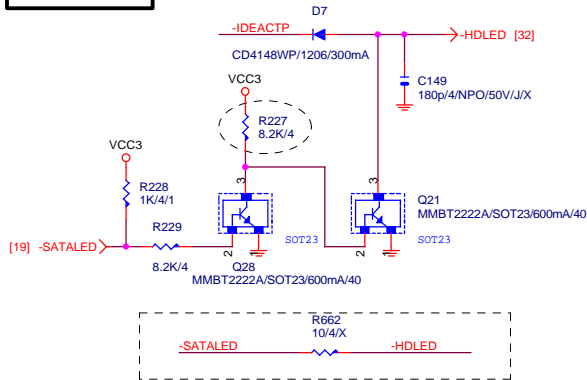
Size B	Document Number GA-G41M-Combo	Rev 2.0
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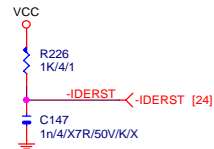




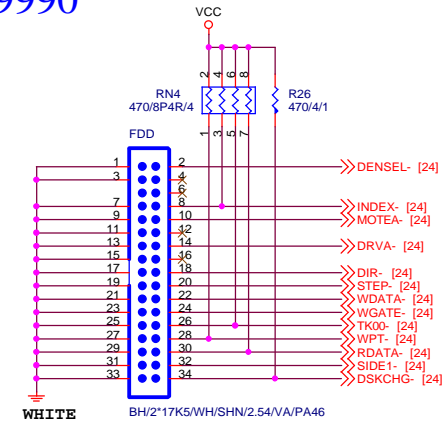
IDE/SATA LED



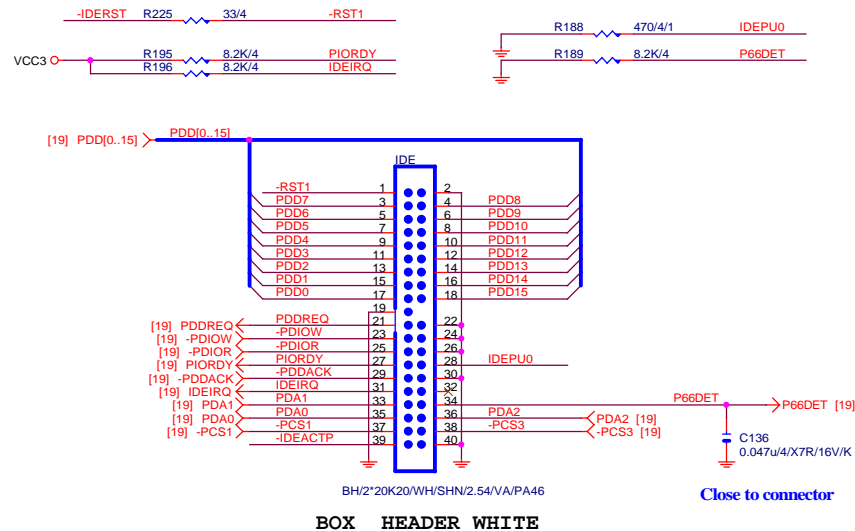
IDE RESET



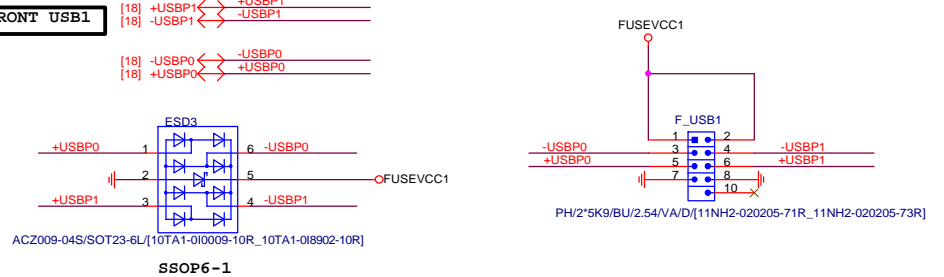
FLOPPY



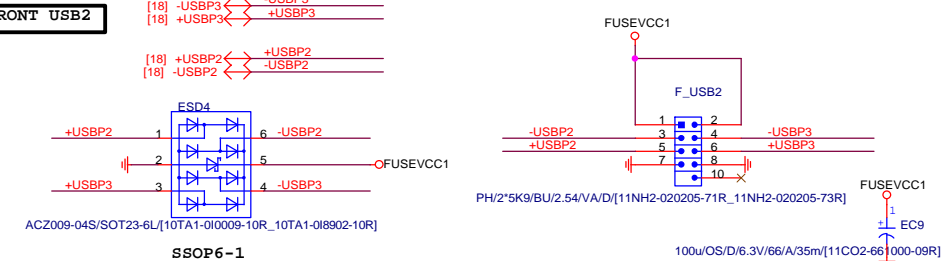
IDE



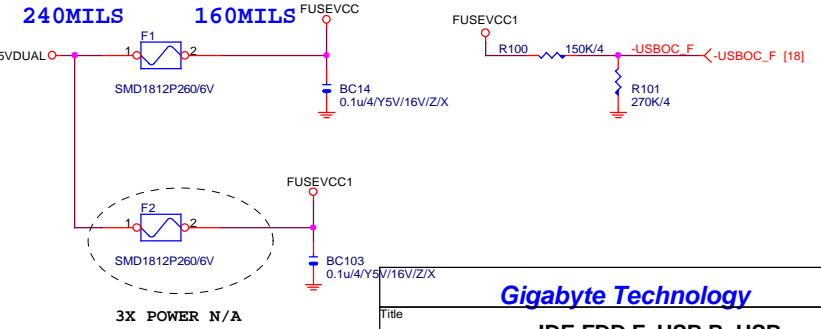
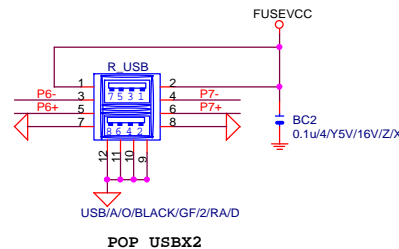
FRONT USB1



FRONT USB2

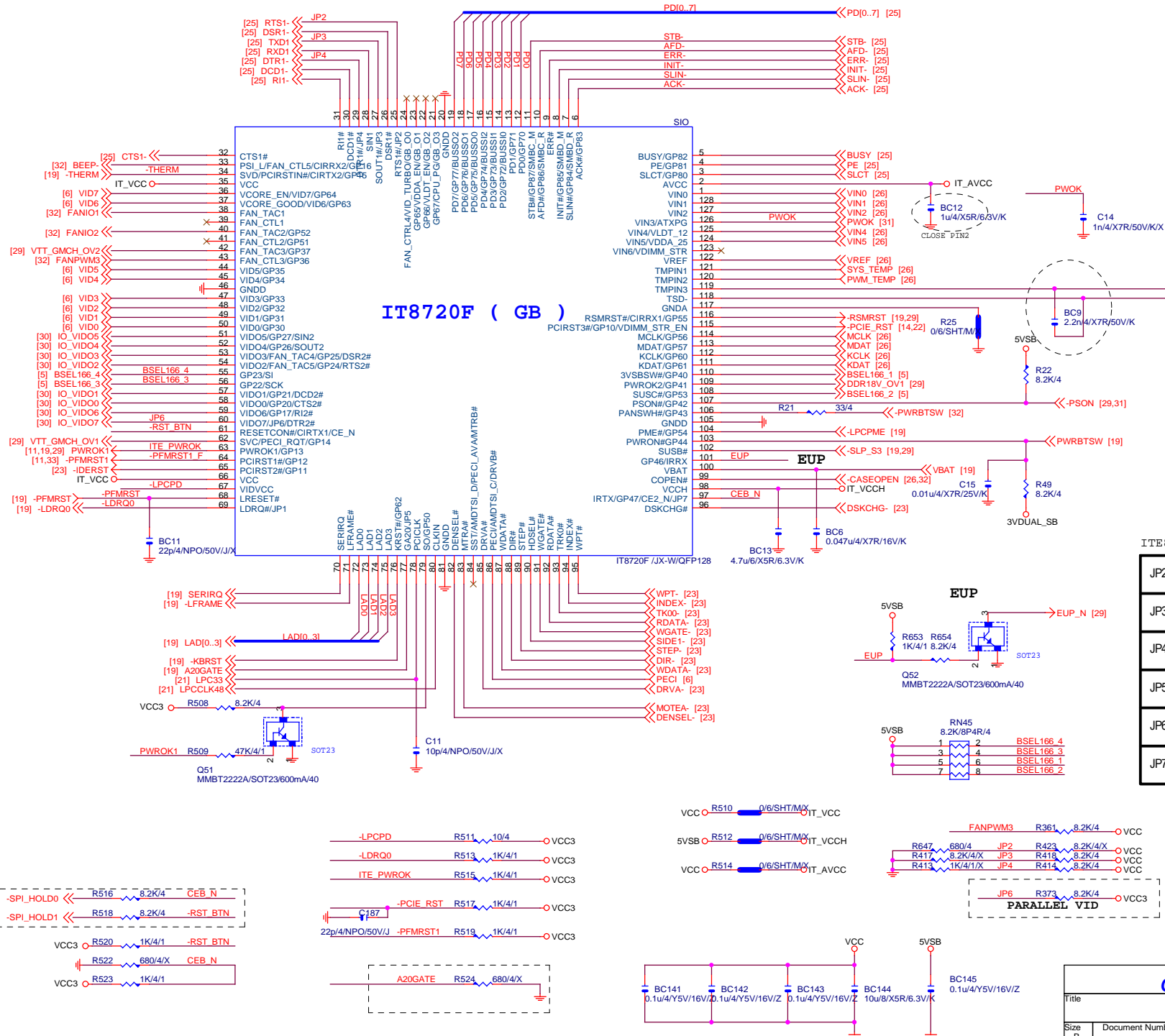


BOX HEADER WHITE



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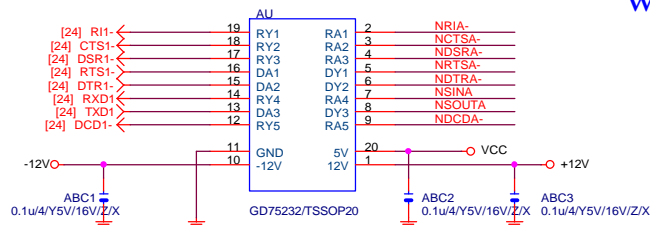
Title			IDE,FDD,F_USB,R_USB
Size			Document Number
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ITE8720 Power on Strapping

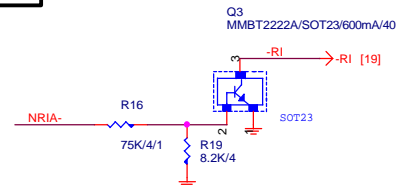
JP2	1	Disable VID/SVID output pins
	0	Enable VIDO0~7 output pins
JP3	1	SPI-Flash Disable
	0	SPI-Flash Enable
JP4	1	k8 power sequency function is Disable
	0	k8 power sequency function is Enable
JP5	1	Disable WDT reset PWROK
	0	Enable WDT reset PWROK
JP6	1	Parallel VID output
	0	Serial VID output
JP7	1	Enable Dual BIOS Function
	0	Disable Dual BIOS Function

COM

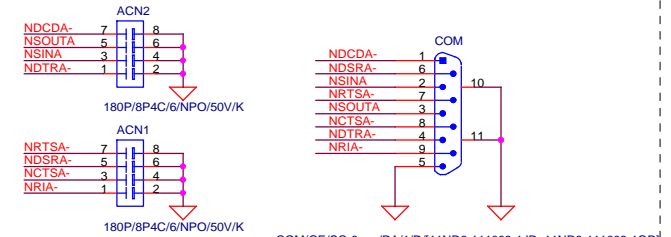


IC20TSSOP-1

RING IN



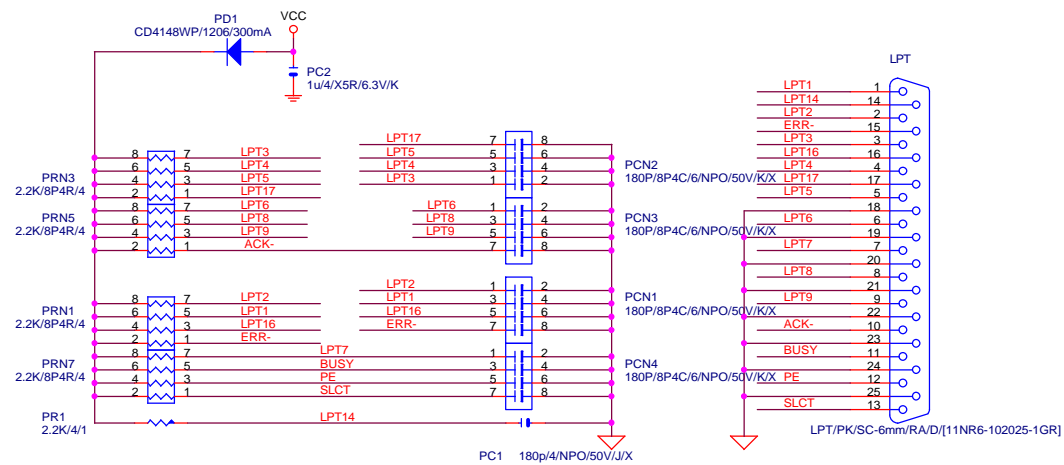
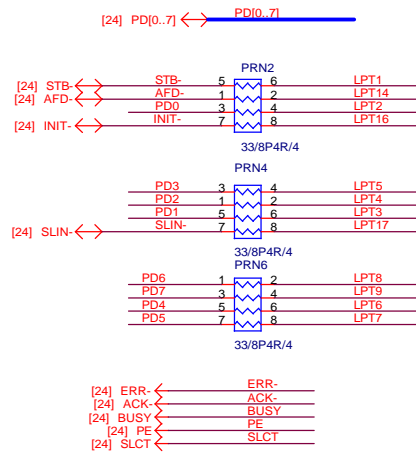
EXTERNAL COMA



PLACE NEAR COM CONNECTOR

COM/GE/SC-6mm/RA/1/D/11NR6-111009-1JR_11NR6-111009-1QR

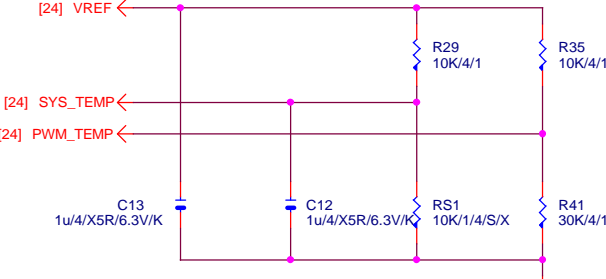
LPT PORT



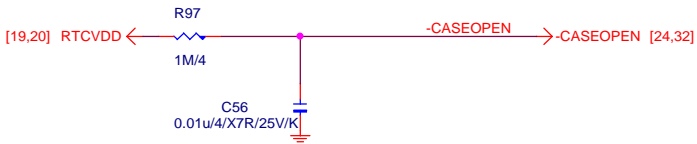
Gigabyte Technology

Title			
COM & LPT PORT			
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TEMP H/W MONITOR

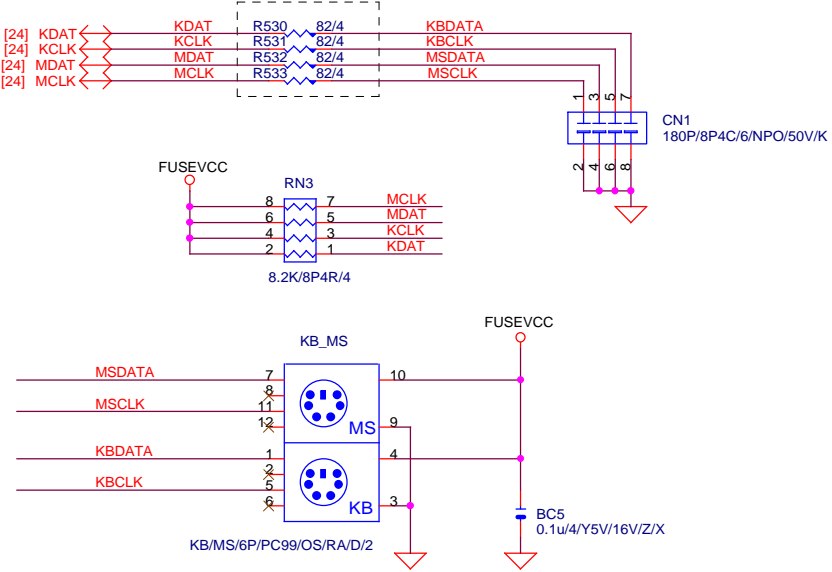


CASE OPEN



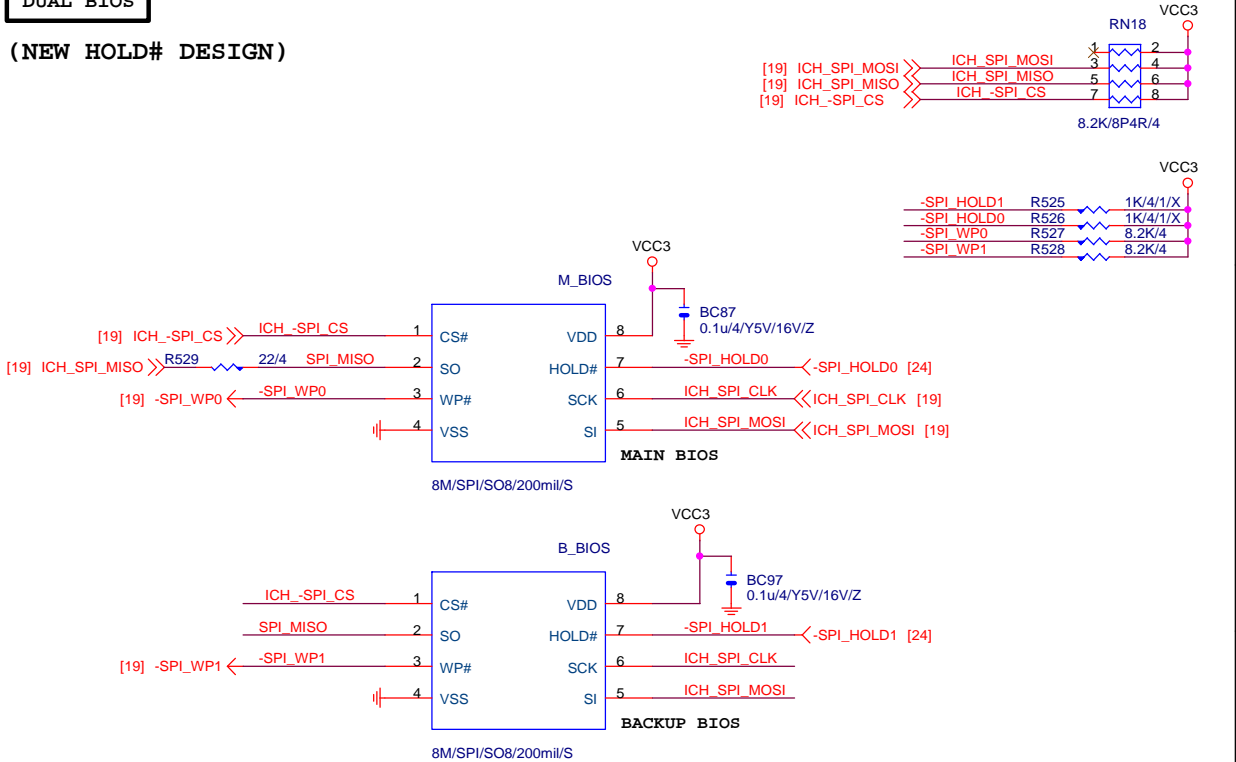
Case Open Circuits

KB/MS



DUAL BIOS

(NEW HOLD# DESIGN)



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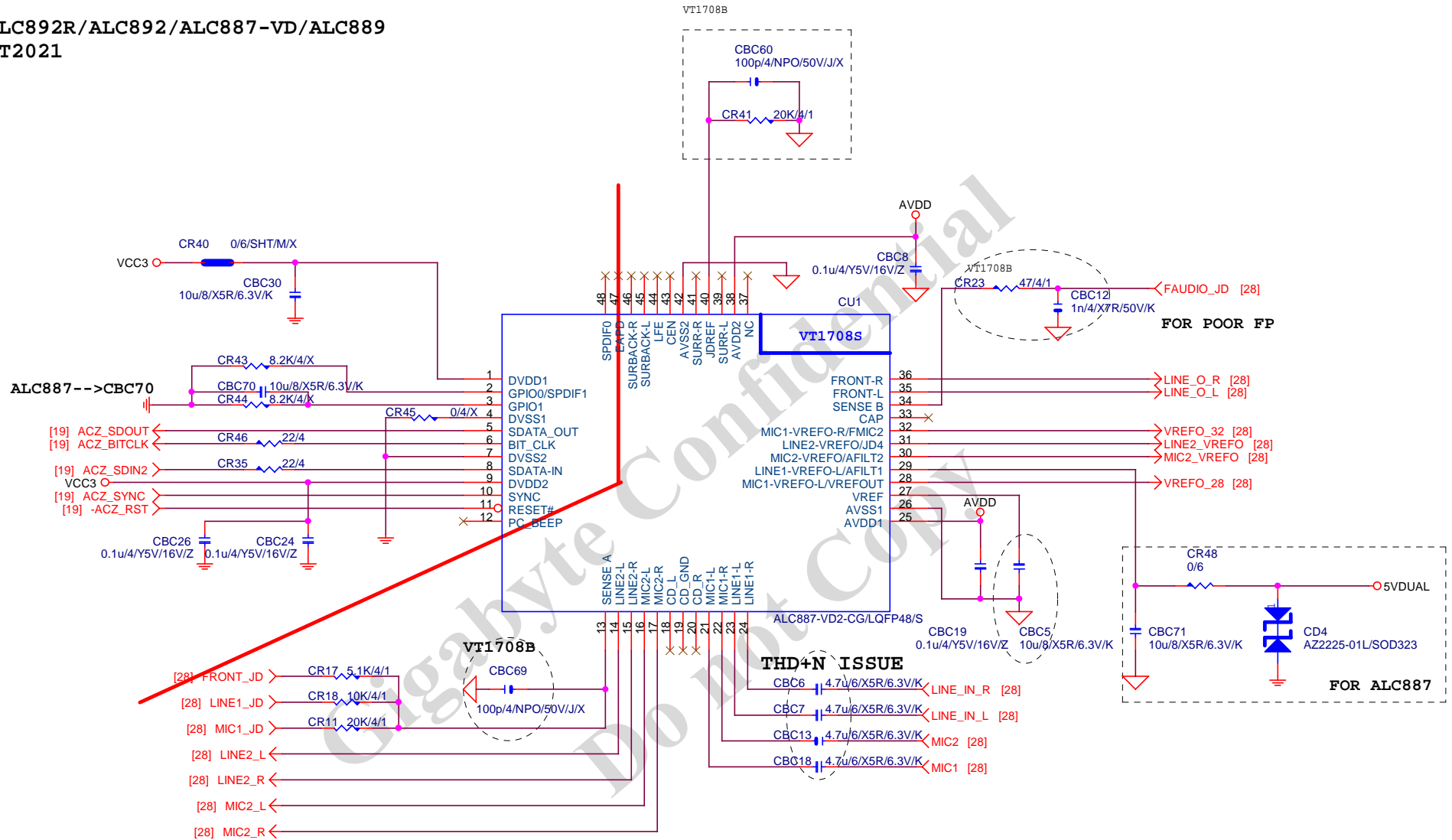
Title	HW-MONITOR/CI/KB/MS/BIOS
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Size Custom	Document Number GA-G41M-Combo	Rev 2.0
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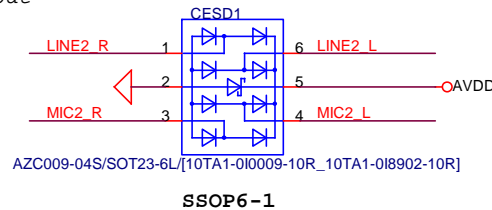
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AZALIA CODEC

CO-LAY
ALC888B/ALC892R/ALC892/ALC887-VD/ALC889
VT1708S/VT2021

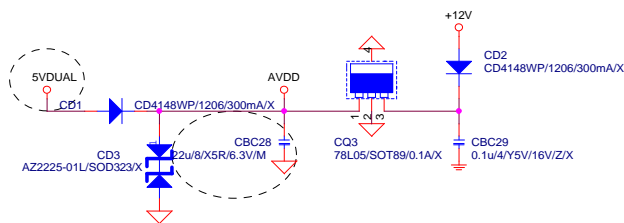


Can Support Amp Out



Gigabyte Technology			
Title			
ALC887-VD2			
Size	Document Number	Rev	
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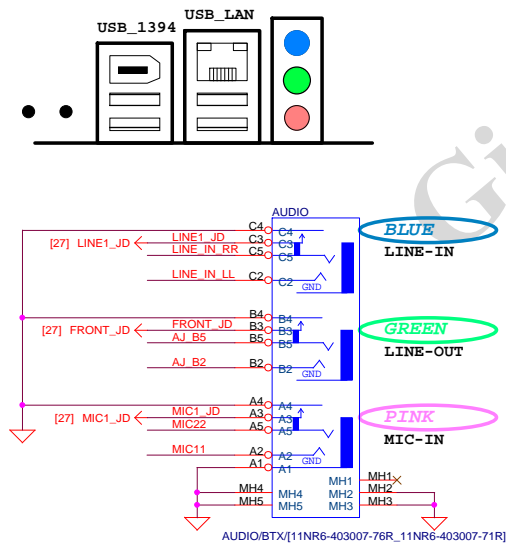
CODEC POWER/EMI PAD



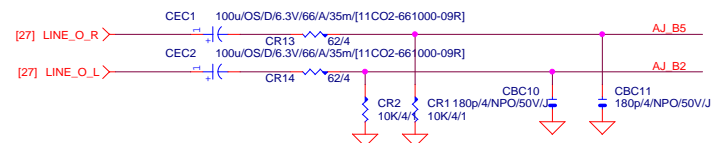
CD IN N/A

SPDIF OUT N/A

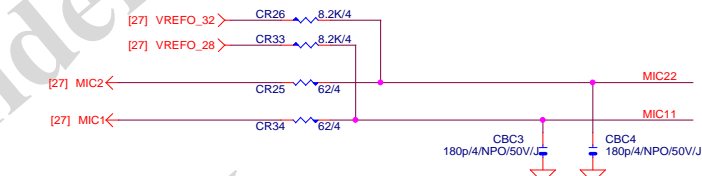
AZALIA JACK



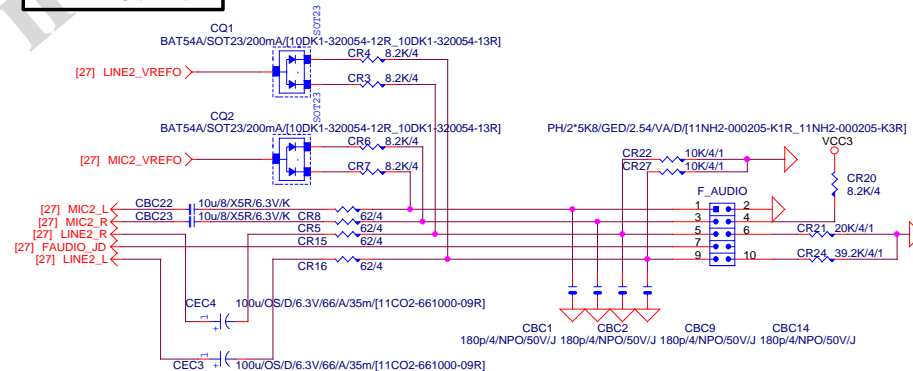
LINE-IN



MIC-IN



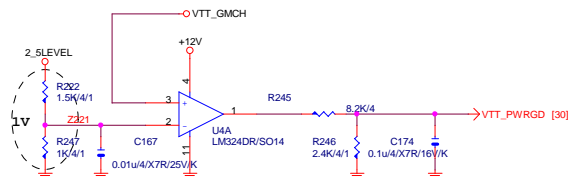
AZALIA FRONT PANEL



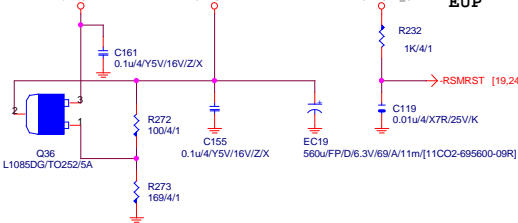
Gigabyte Technology

Title		AUDIO JACK	
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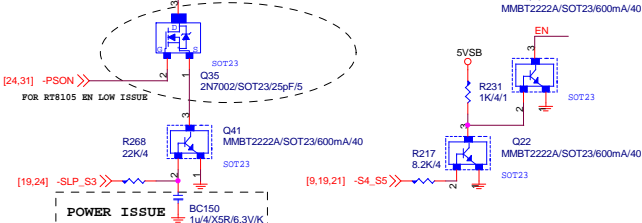
VTT_PWRGD



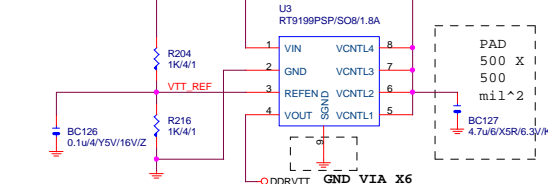
3VDUAL



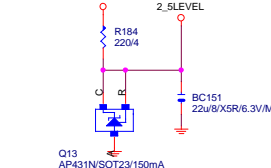
5VSB



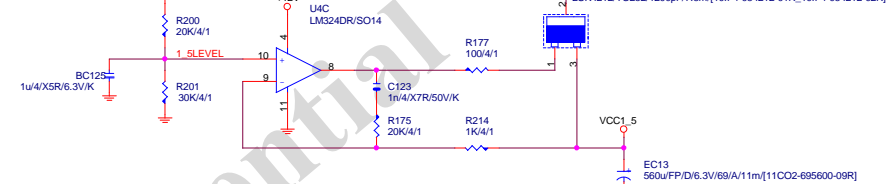
DDR_VTT



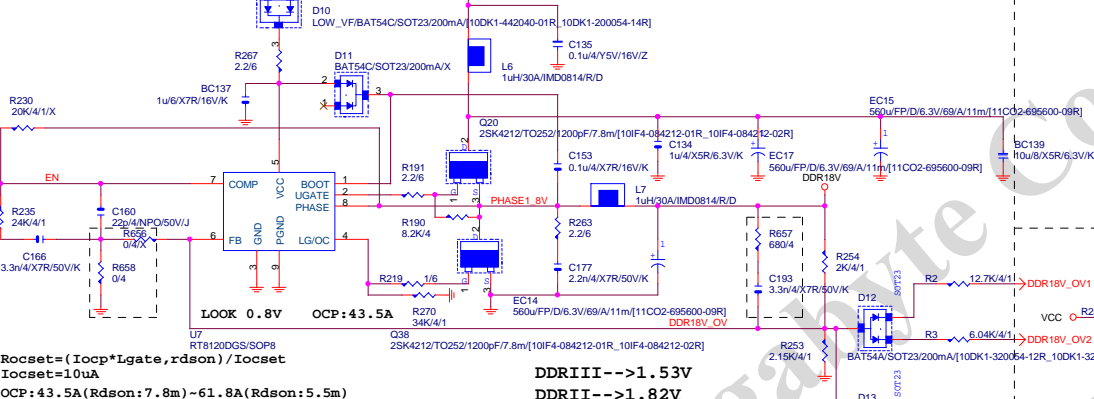
2_5LEVEL



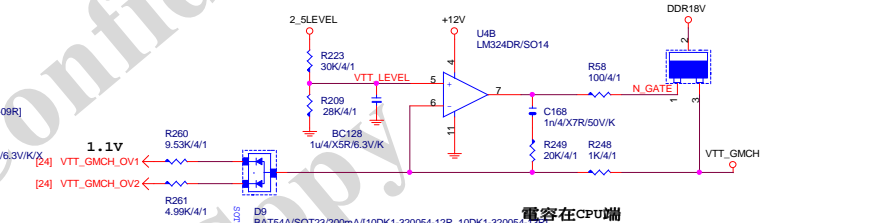
VCC1_5



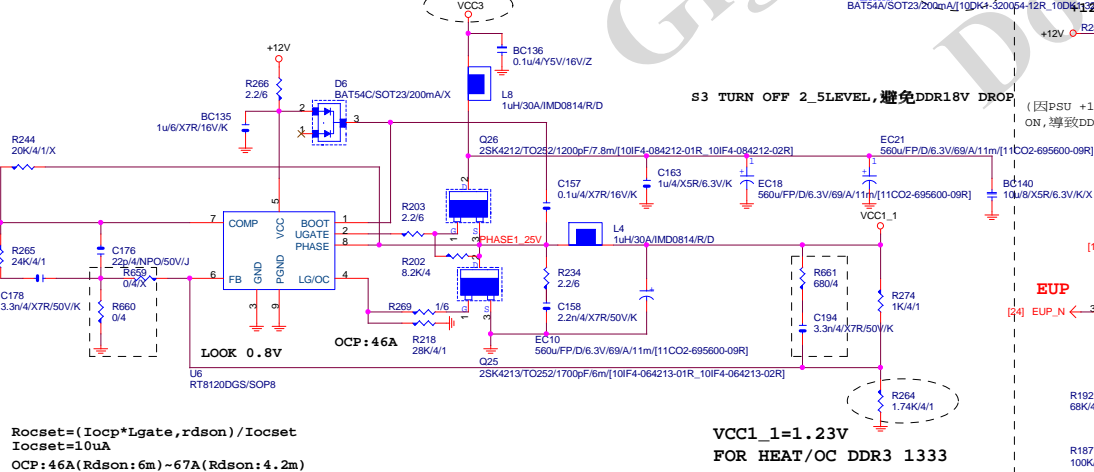
DDR18V



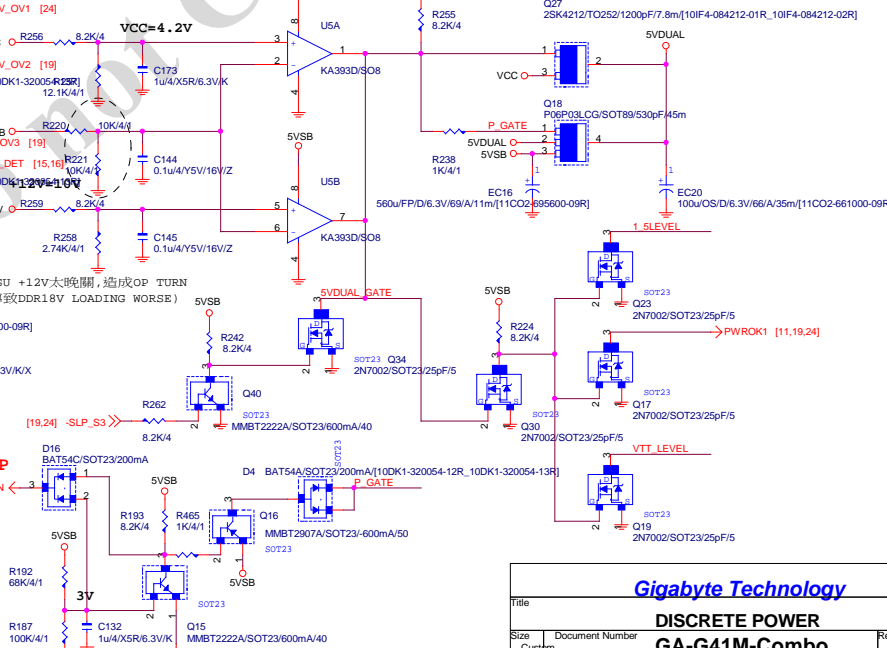
VTT_GMCH



VCC1_1



5VDUAL



Gigabyte Technology

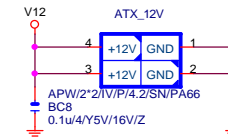
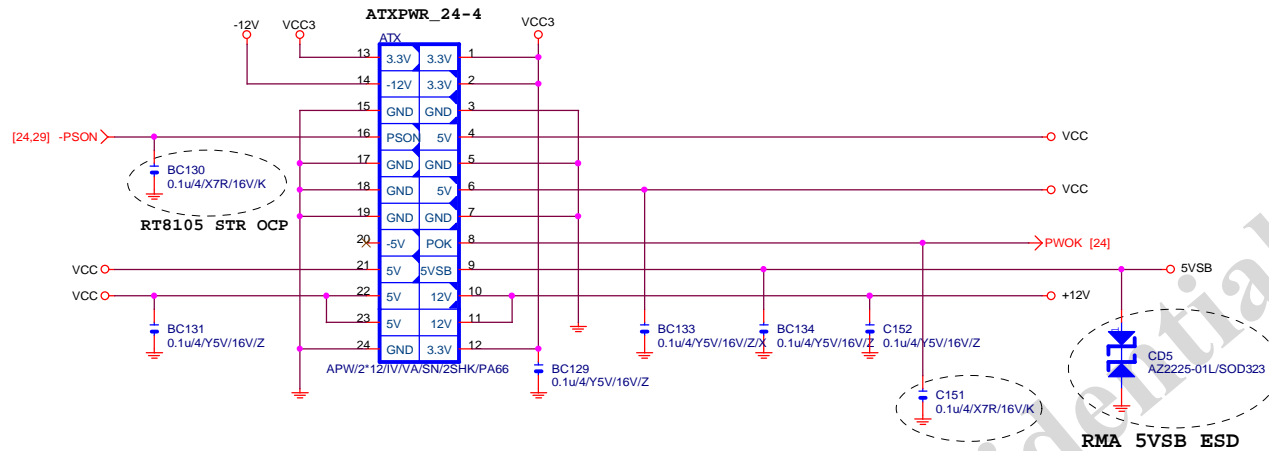
DISCRETE POWER

GA-G41M-Combo

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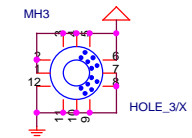
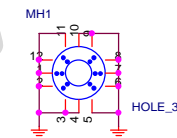
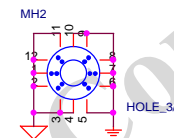
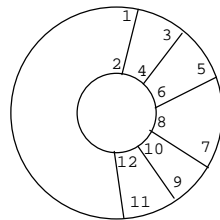
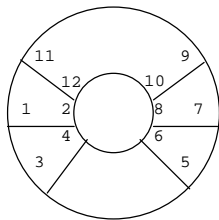
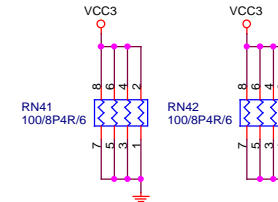


ATX POWER CONNECTOR



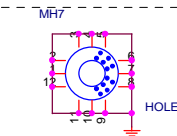
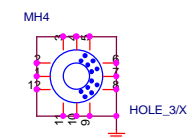
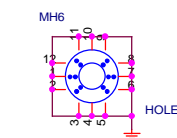
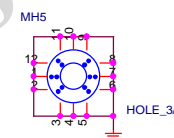
ATX_4-4

FIX PWR AcBel (ATX-400C-A2ADB)

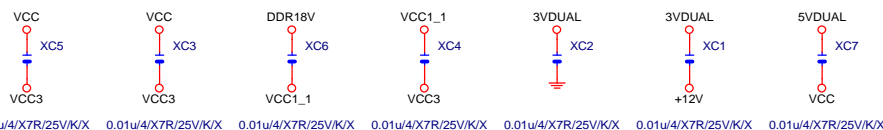
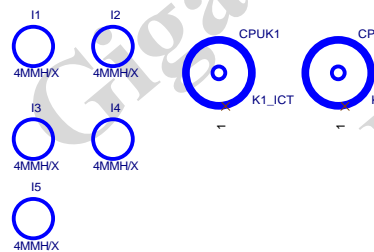
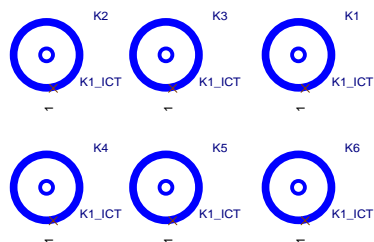


HOLE_4-RH-1

HOLE_4-RH-5MM-1

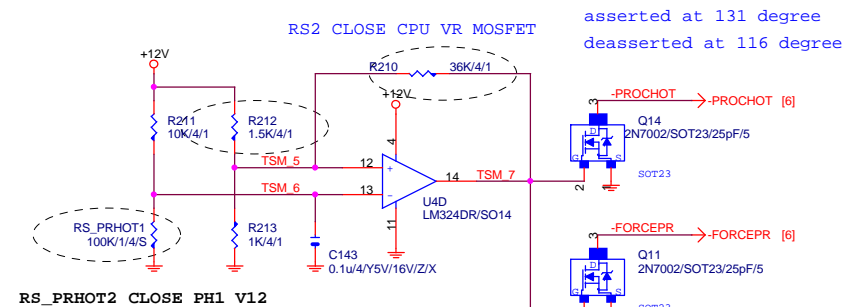
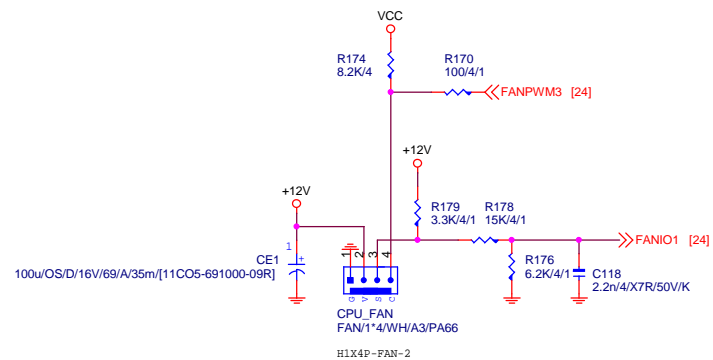


HOLE_4-RH-5MM-1

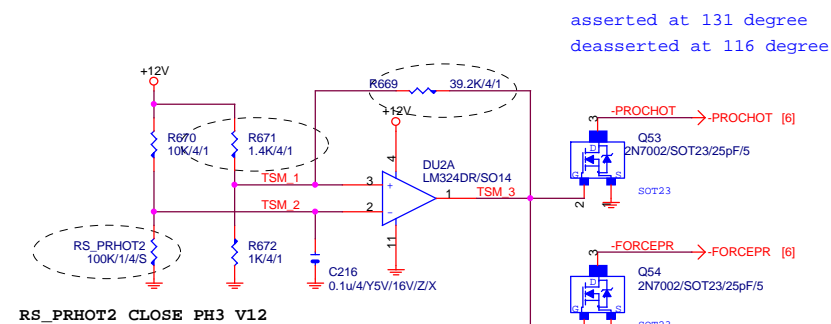
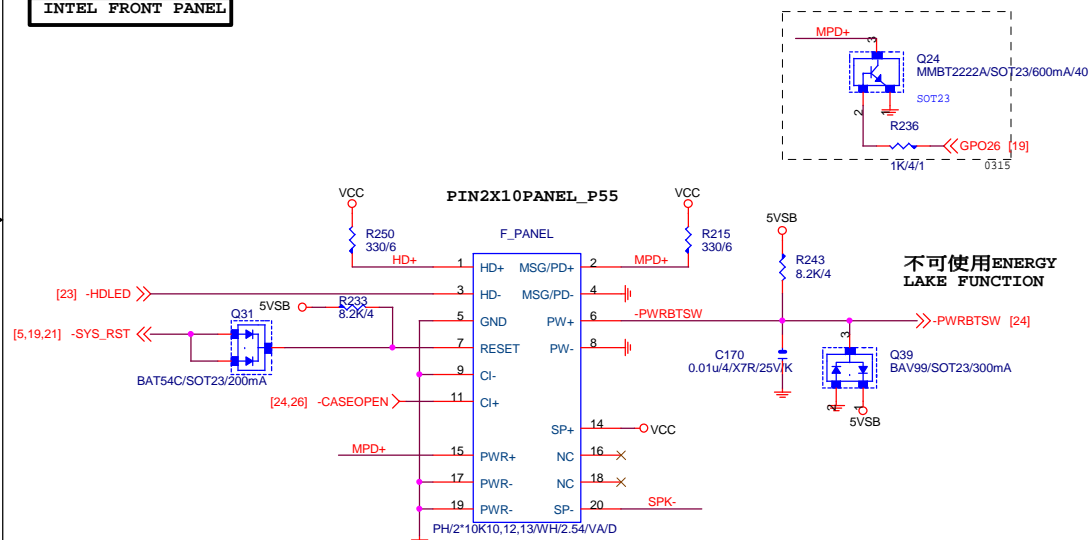


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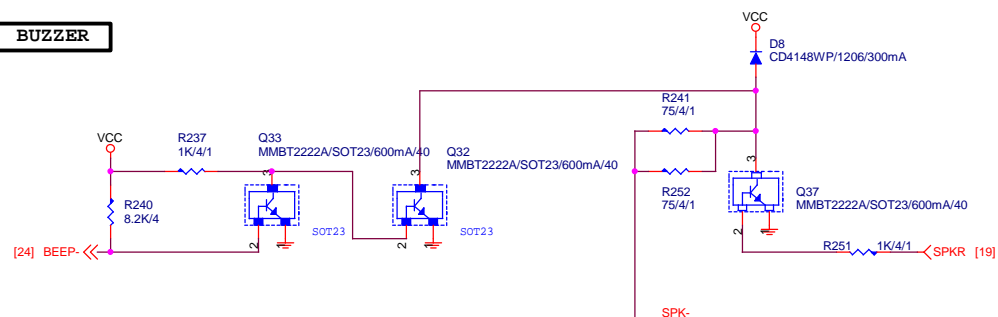
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ATX POWER CONNECTOR		
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INTEL FRONT PANEL



BUZZER



SYS_FAN

