

Model Name: GA-B75M-D3V

SHEET

TITLE

01	COVER SHEET
02	BOM & PCB MODIFY HISTORY
03	BLOCK DIAGRAM
04	CPU_LGA1155-A
05	CPU_LGA1155-B
06	CPU_LGA1155-C
07	DDR III CHANNEL A
08	DDR III CHANNEL B
09	PCH_FDI,DMI,USB,PCIE,NVRAM
10	PCH_DP,CLK BUFFER
11	PCH_HOST,SATA,PCI
12	PCH_GPIO,CTRL,AUDIO
13	PCH_PWR,GND
14	PCI EXPRESS*16 SLOT
15	PCI EXPRESS*1 X2 SLOT
16	PCI SLOT1
17	ITE 8728 LPC IO
18	COM,KB_MS_USB,USB30_20
19	HWM,FAN CTRL,OV,-PROCHOT
20	DUAL BIOS
21	FP,FUSB,SPK,SATALED
22	Realtek ALC887-VD2
23	REAR AUDIO JACK
24	REALTEK RTL8111F-VL
25	DISCRETE POWER
26	ATX, M3 POWER
27	RT8120_CPU_VTT

SHEET

TITLE

28	VCORE ISL95836_1
29	VCORE ISL95836_2
30	RT8120_DDR POWER
31	LPT
32	DVI

Gigabyte Technology

Cover Sheet		
Size Custom	Document Number GA-B75M-D3V	Rev 1.12
Date: Monday, November 12, 2012	Sheet 1 of 32	

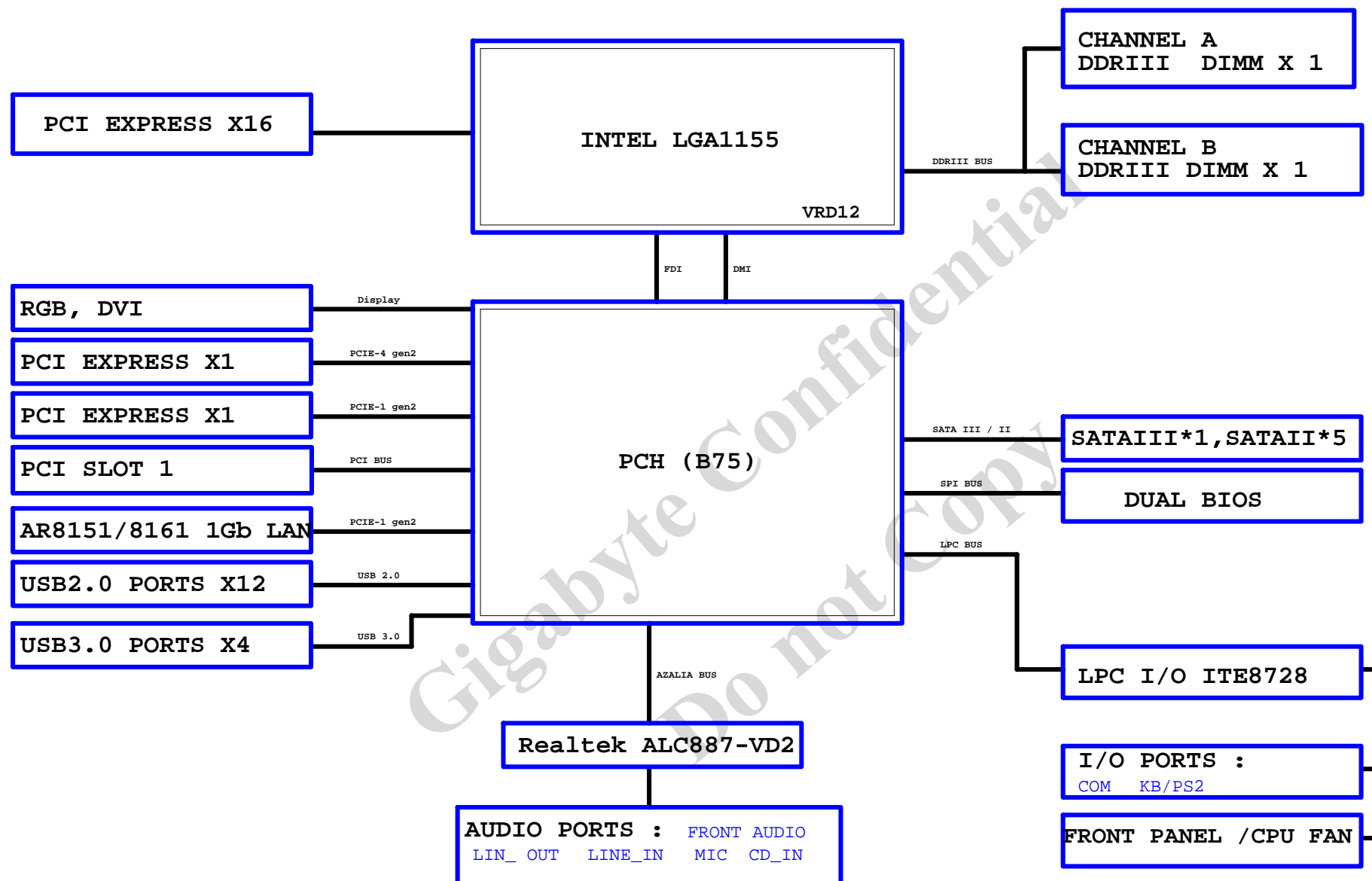
Circuit or PCB layout change

Component value change history

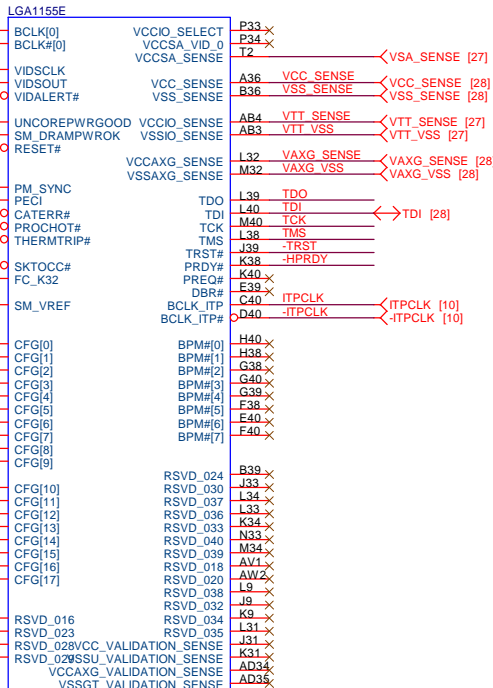
2012/09/19

[illegible][illegible]

BLOCK DIAGRAM



(E)



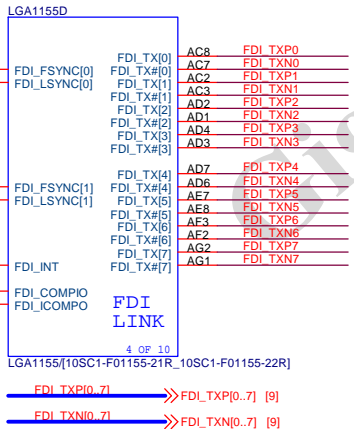
CFG	H	L	NOTE
0	R5VD	R5VD	R5VD
1	R5VD	R5VD	R5VD
2	NORM	Reverse	LANE REVERSAL[0],x16
3	R5VD	R5VD	R5VD
4	R5VD	R5VD	R5VD
7	R5VD	R5VD	R5VD
8	R5VD	R5VD	R5VD
9	R5VD	R5VD	R5VD
10	R5VD	R5VD	R5VD
11	R5VD	R5VD	R5VD
12	R5VD	R5VD	R5VD
13	R5VD	R5VD	R5VD
14	R5VD	R5VD	R5VD
15	R5VD	R5VD	R5VD
16	R5VD	R5VD	R5VD
17	R5VD	R5VD	R5VD

CFG6	CFG5	PCIE CONFIG
1	1	x16, Default
1	0	x8
0	1	R5VD
0	0	x8, x4, x4

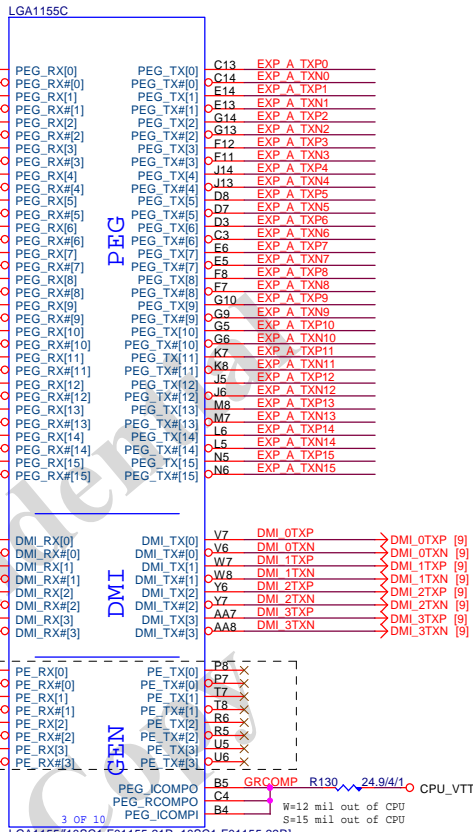
CFG 0-17 all internal PULL-UP



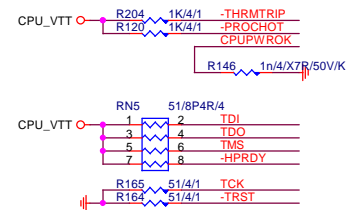
(D)



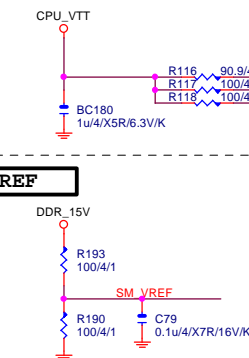
(c)



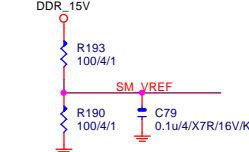
CPU PU/PD



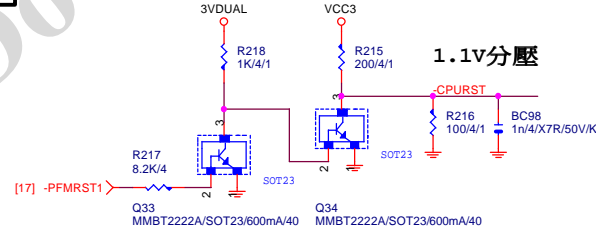
CPU SVID



SM	REF
----	-----



-CPURST



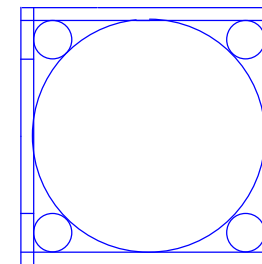
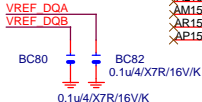
Gigabyte Technology

Title			
CPU LGA1155-A			
Size	Document Number		Rev
Custom	GA-B75M-D3V		1.12
Date:	Monday, November 12, 2012	Sheet	4 of 32



DDR_1

LGA1155/[10SC1-F01155-21R_10SC1-F01155-22R]



LGA1155_P



ILM_BP/1156/CSP/ILM_BP/1156/CSP/[12KRC-0F0001-05R_12KRC-0F0001-31R]

LGA1155

(F,G,H)

www.xinxun.com 400-800-9990

LGA1155 (1,2,3)

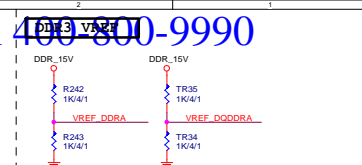
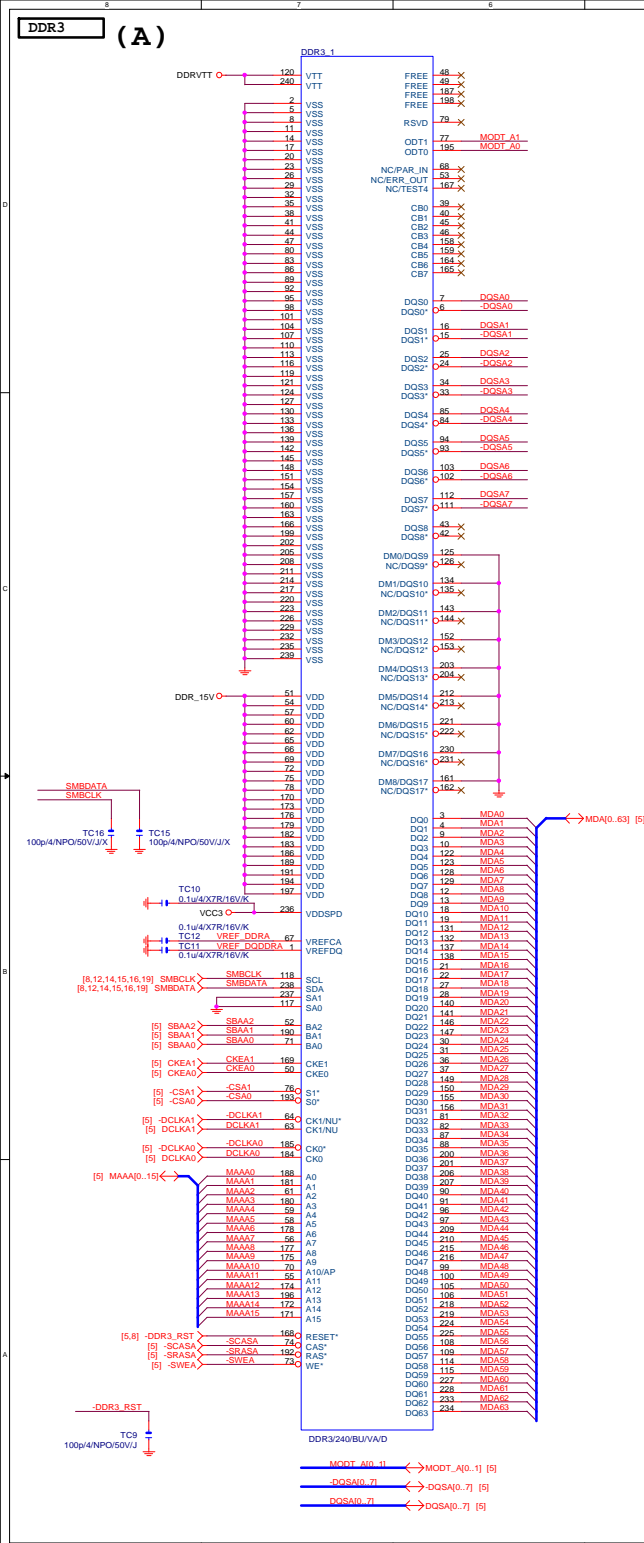
CAP

A12	VCC	F32	VCC
A13	VCC	F34	VCC
A14	VCC	F35	VCC
A15	VCC	G16	VCC
A16	VCC	G18	VCC
A18	VCC	G19	VCC
A24	VCC	G21	VCC
A25	VCC	G22	VCC
A27	VCC	G23	VCC
A28	VCC	G25	VCC
B15	VCC	G27	VCC
B16	VCC	G28	VCC
B18	VCC	G30	VCC
B24	VCC	G31	VCC
B25	VCC	G32	VCC
B27	VCC	G33	VCC
B28	VCC	H13	VCC
B30	VCC	H14	VCC
B31	VCC	H15	VCC
B34	VCC	H16	VCC
C15	VCC	H18	VCC
C16	VCC	H19	VCC
C18	VCC	H21	VCC
C19	VCC	H22	VCC
C21	VCC	H24	VCC
C22	VCC	H25	VCC
C24	VCC	J3	VCC
C25	VCC	J4	VCC
C27	VCC	J7	VCC
C28	VCC	J8	VCC
C30	VCC	J9	VCC
C31	VCC	J12	VCC
C33	VCC	J15	VCC
C34	VCC	M13	VCC
C36	VCC	M18	VCC
D13	VCC	M19	VCC
D14	VCC	M21	VCC
D15	VCC	M22	VCC
D16	VCC	M24	VCC
D18	VCC	M25	VCC
D19	VCC	M27	VCC
D22	VCC	M28	VCC
D24	VCC	M30	VCC
D25	VCC	M31	VCC
D27	VCC	M32	VCC
D28	VCC	M33	VCC
D30	VCC	M34	VCC
D31	VCC	M35	VCC
D33	VCC	M36	VCC
D34	VCC	M37	VCC
D35	VCC	M38	VCC
D36	VCC	M39	VCC
E15	VCC	M40	VCC
E16	VCC	M41	VCC
E18	VCC	M42	VCC
E19	VCC	M43	VCC
E21	VCC	M44	VCC
E22	VCC	M45	VCC
E24	VCC	M46	VCC
E25	VCC	M47	VCC
E27	VCC	M48	VCC
E28	VCC	M49	VCC
E30	VCC	M50	VCC
E31	VCC	M51	VCC
E33	VCC	M52	VCC
E34	VCC	M53	VCC
E35	VCC	M54	VCC
F15	VCC	M55	VCC
F16	VCC	M56	VCC
F18	VCC	M57	VCC
F19	VCC	M58	VCC
F21	VCC	M59	VCC
F22	VCC	M60	VCC
F24	VCC	M61	VCC
F25	VCC	M62	VCC
F27	VCC	M63	VCC
F28	VCC	M64	VCC
F30	VCC	M65	VCC
F31	VCC	M66	VCC

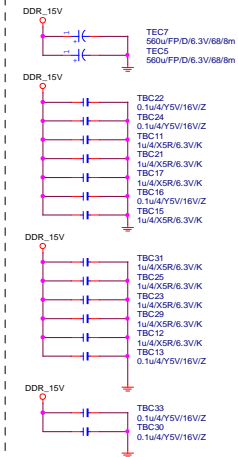
A11	VCCIO_01	VDDQ_01	A113	VCCIO_01
A7	VCCIO_02	VDDQ_02	A114	VCCIO_02
AA3	VCCIO_03	VDDQ_03	A115	VCCIO_03
AB8	VCCIO_04	VDDQ_04	A116	VCCIO_04
AG3	VCCIO_05	VDDQ_05	A117	VCCIO_05
AJ16	VCCIO_06	VDDQ_06	A118	VCCIO_06
G21	VCCIO_07	VDDQ_07	A119	VCCIO_07
G22	VCCIO_08	VDDQ_08	A120	VCCIO_08
G23	VCCIO_09	VDDQ_09	A121	VCCIO_09
G25	VCCIO_10	VDDQ_10	A122	VCCIO_10
G27	VCCIO_11	VDDQ_11	A123	VCCIO_11
G28	VCCIO_12	VDDQ_12	A124	VCCIO_12
G30	VCCIO_13	VDDQ_13	A125	VCCIO_13
G31	VCCIO_14	VDDQ_14	A126	VCCIO_14
G32	VCCIO_15	VDDQ_15	A127	VCCIO_15
G33	VCCIO_16	VDDQ_16	A128	VCCIO_16
H13	VCCIO_17	VDDQ_17	A129	VCCIO_17
H14	VCCIO_18	VDDQ_18	A130	VCCIO_18
H15	VCCIO_19	VDDQ_19	A131	VCCIO_19
H16	VCCIO_20	VDDQ_20	A132	VCCIO_20
H18	VCCIO_21	VDDQ_21	A133	VCCIO_21
H19	VCCIO_22	VDDQ_22	A134	VCCIO_22
H21	VCCIO_23	VDDQ_23	A135	VCCIO_23
H22	VCCIO_24	VDDQ_24	A136	VCCIO_24
H24	VCCIO_25	VDDQ_25	A137	VCCIO_25
H25	VCCIO_26	VDDQ_26	A138	VCCIO_26
J3	VCCIO_27	VDDQ_27	A139	VCCIO_27
J4	VCCIO_28	VDDQ_28	A140	VCCIO_28
J7	VCCIO_29	VDDQ_29	A141	VCCIO_29
J8	VCCIO_30	VDDQ_30	A142	VCCIO_30
J9	VCCIO_31	VDDQ_31	A143	VCCIO_31
L4	VCCIO_32	VDDQ_32	A144	VCCIO_32
L7	VCCIO_33	VDDQ_33	A145	VCCIO_33
M13	VCCIO_34	VDDQ_34	A146	VCCIO_34
M18	VCCIO_35	VDDQ_35	A147	VCCIO_35
M19	VCCIO_36	VDDQ_36	A148	VCCIO_36
M21	VCCIO_37	VDDQ_37	A149	VCCIO_37
M22	VCCIO_38	VDDQ_38	A150	VCCIO_38
M24	VCCIO_39	VDDQ_39	A151	VCCIO_39
M25	VCCIO_40	VDDQ_40	A152	VCCIO_40
M27	VCCIO_41	VDDQ_41	A153	VCCIO_41
M28	VCCIO_42	VDDQ_42	A154	VCCIO_42
M30	VCCIO_43	VDDQ_43	A155	VCCIO_43
M31	VCCIO_44	VDDQ_44	A156	VCCIO_44
M32	VCCIO_45	VDDQ_45	A157	VCCIO_45

POWER
7 OF 10

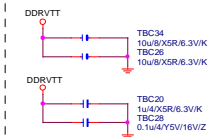
AB33	VCCAXG		AB7	X
AB34	VCCAXG	RSVD_04	AD37	X
AB35	VCCAXG	RSVD_05	AE28	X
AB36	VCCAXG	RSVD_08	AE30	X
AB37	VCCAXG	RSVD_10	AE34	X
AB38	VCCAXG	RSVD_11	AE35	X
AB39	VCCAXG	RSVD_12	AE37	X
AB40	VCCAXG	RSVD_19	AE42	X
AC33	VCCAXG	RSVD_21	AE43	X
AC34	VCCAXG		P35	X
AC35	VCCAXG	RSVD_43	P37	X
AC36	VCCAXG	RSVD_44	P39	X
AC37	VCCAXG	RSVD_46	R32	X
AC38	VCCAXG	RSVD_47	R34	X
AC39	VCCAXG	RSVD_47	R40	X
AC40	VCCAXG	RSVD_48	R38	X
AC41	VCCAXG	RSVD_49	R36	X
T34	VCCAXG		A38	X
T35	VCCAXG	NCTF_01	AI14	X
T36	VCCAXG	NCTF_02	AW38	X
T37	VCCAXG	NCTF_04	C2	X
T38	VCCAXG	NCTF_05	D1	X
T39	VCCAXG			
T40	VCCAXG			
U33	VCCAXG			
U34	VCCAXG			
U35	VCCAXG			
U36	VCCAXG	RSVD_15	AT11	X
U37	VCCAXG	RSVD_14	AP20	X
U38	VCCAXG	RSVD_13	AE22	X
U40	VCCAXG	RSVD_17	AE10	X
U41	VCCAXG	RSVD_22	AE16	X
W33	VCCAXG		AE14	X
W34	VCCAXG	RSVD_07	AE6	X
W35	VCCAXG	RSVD_03	AE6	X
W37	VCCAXG	RSVD_09	AE11	X
W38	VCCAXG			
Y33	VCCAXG		D38	X
Y34	VCCAXG	RSVD_26	C39	X
Y35	VCCAXG	RSVD_25	C38	X
Y36	VCCAXG	RSVD_31	J34	X
Y37	VCCAXG	RSVD_31	N34	X
Y38	VCCAXG			



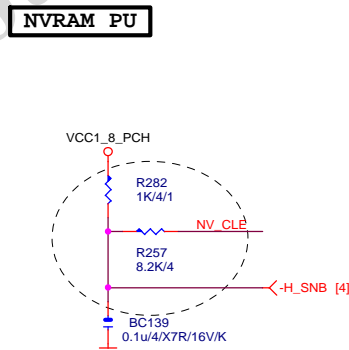
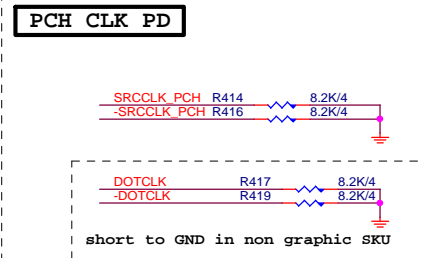
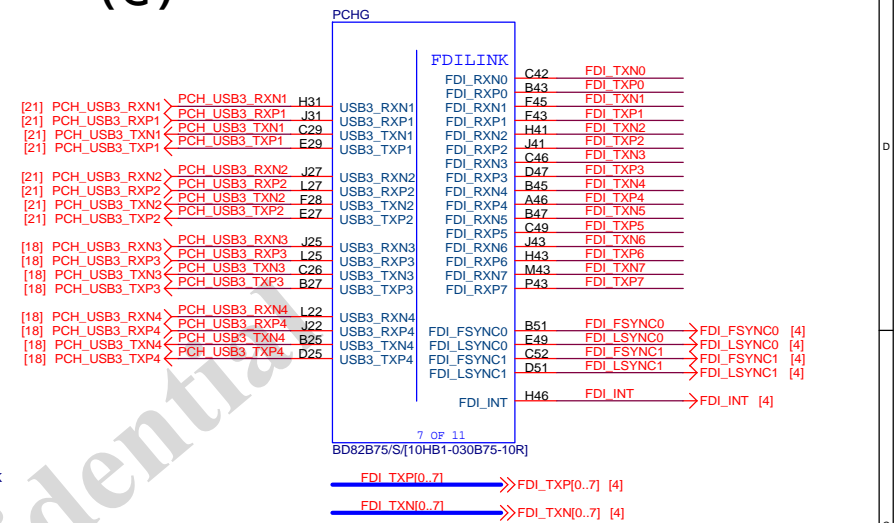
DDR15V Decouple



DDRVTT Decouple



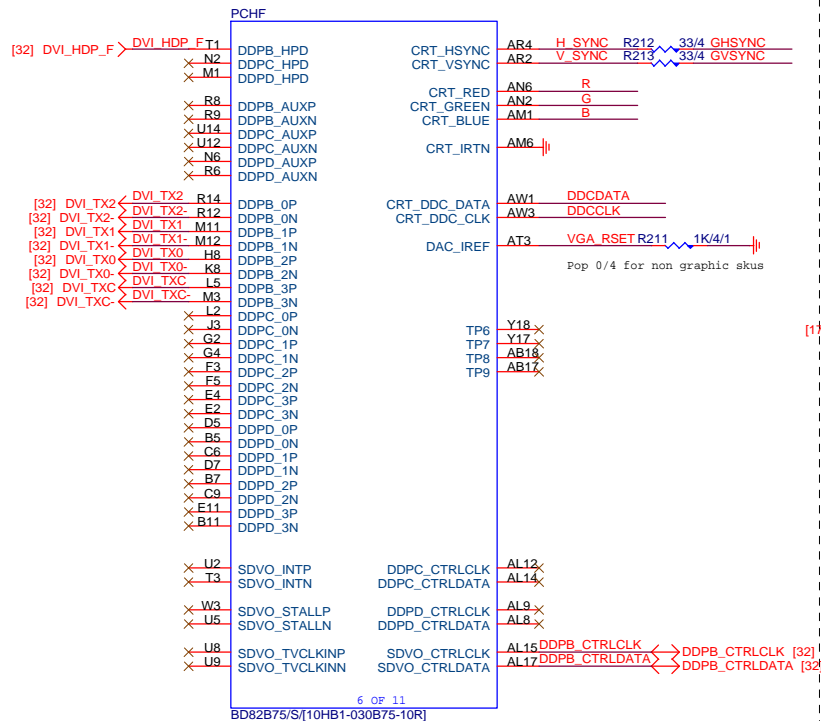




USB TABLE	
USB OC#	Configure
OC0#	USB0,1(F_USB30)
OC1#	USB2,3(USB30_20)
OC2#	USB4,5(F_USB1)
OC3#	USB6,7(B75:N/A)
OC4#	USB8,9(F_USB2)
OC5#	USB10,11(USB_LAN)
OC6#	USB12,13(KB_USB)
OC7#	N/A

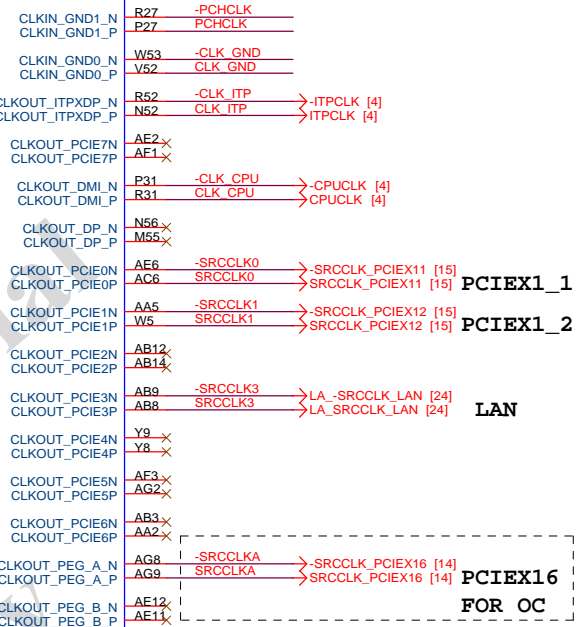
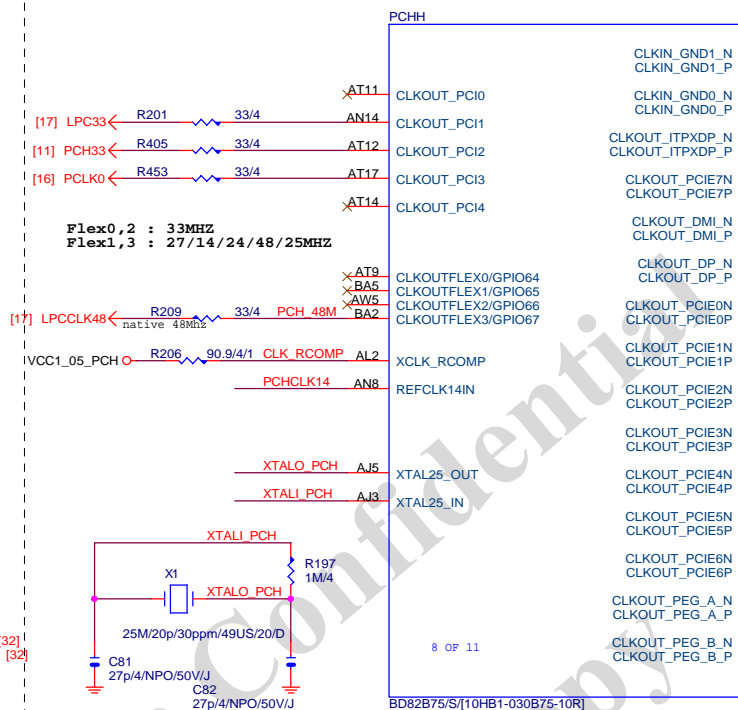
PCH

(F)

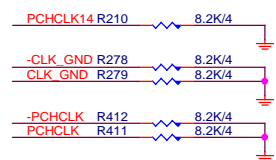


PCH

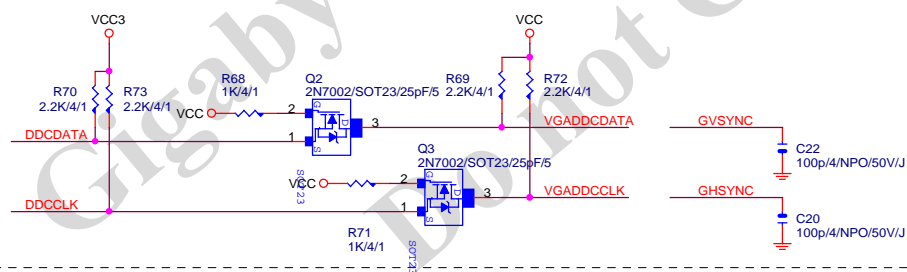
(F)



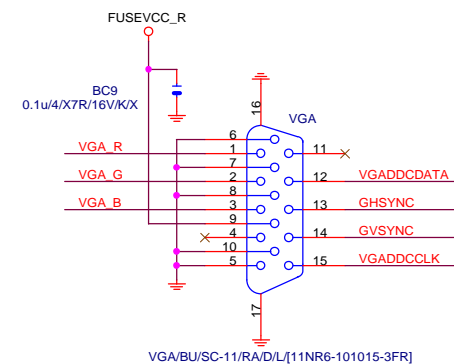
PCH CLK PD



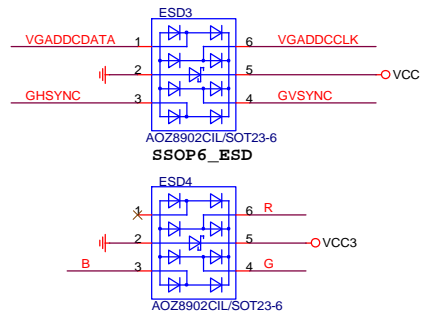
VGA DDC



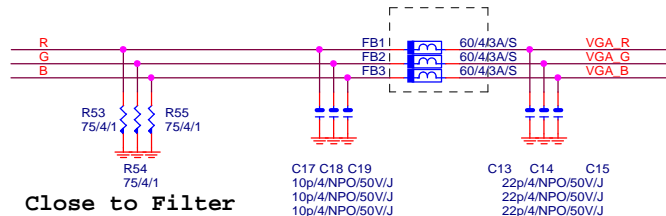
VGA CONNECTOR



VGA ESD

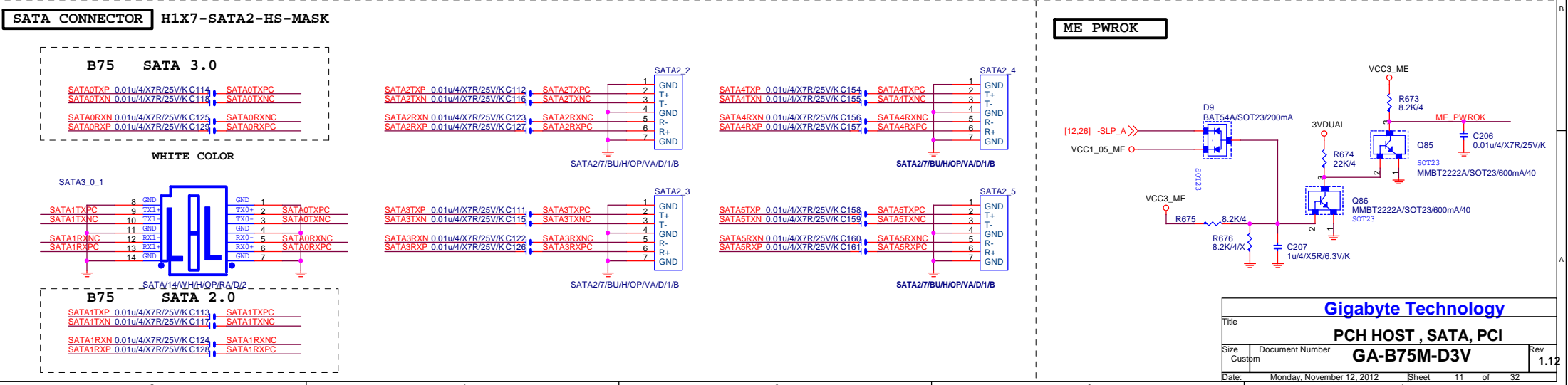
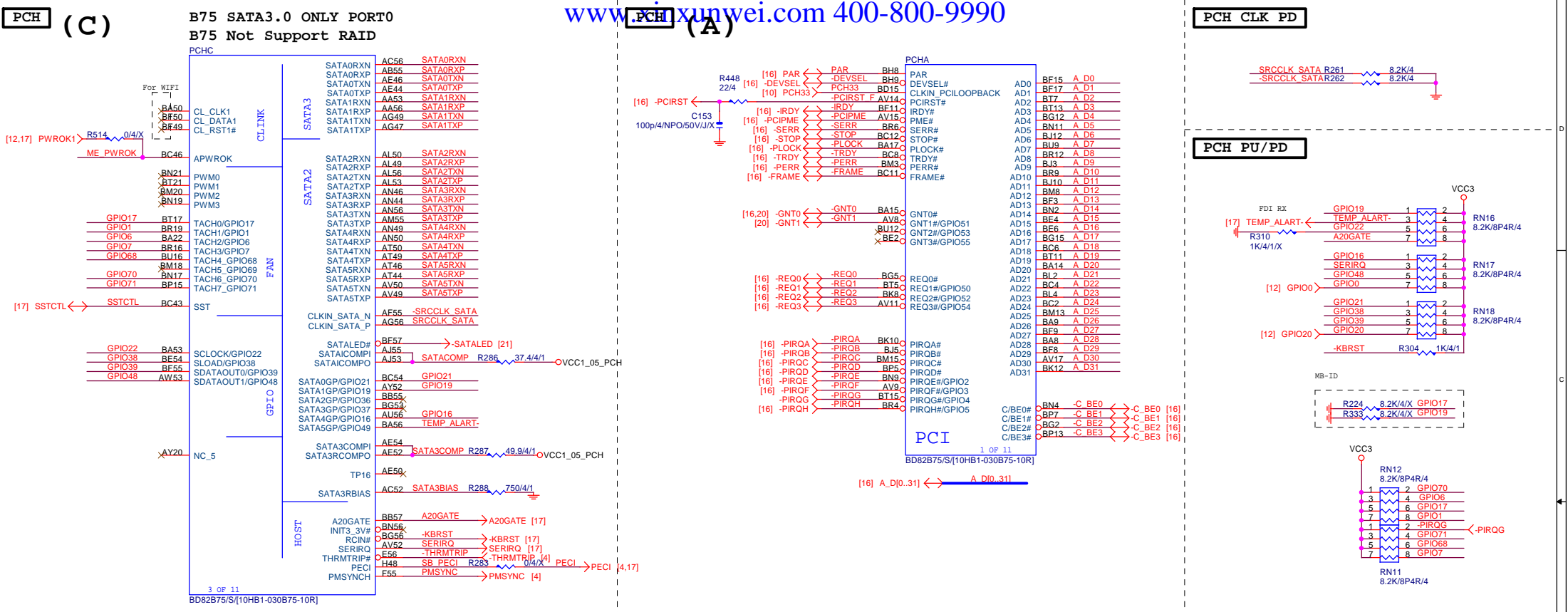


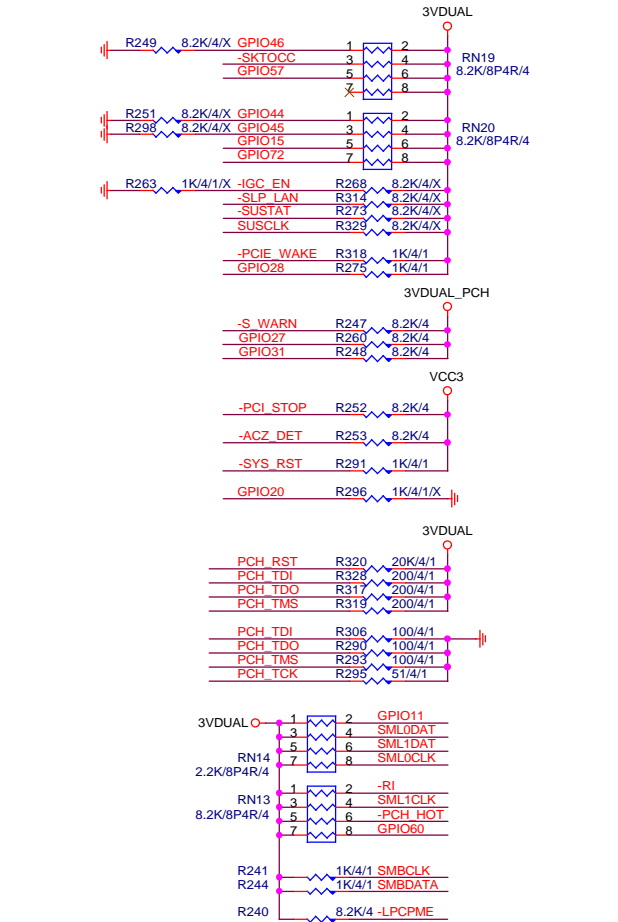
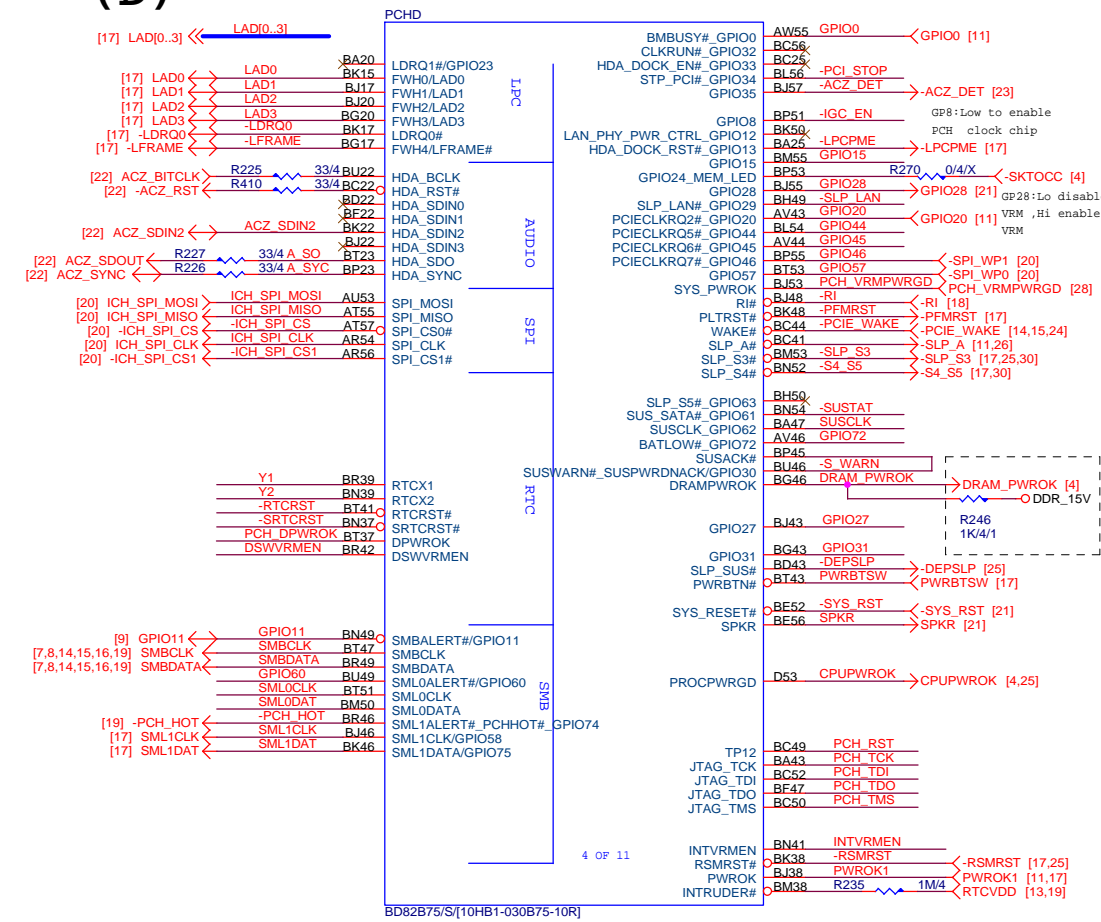
VGA DDC



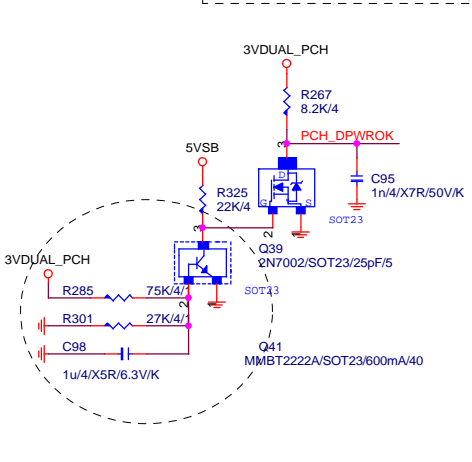
Gigabyte Technology

Title			PCH DISPLAY ,CLK BUFFER
Size	Document Number	GA-B75M-D3V	
Custom			Rev 1.12
Date:	Monday, November 12, 2012	Sheet 10	of 32

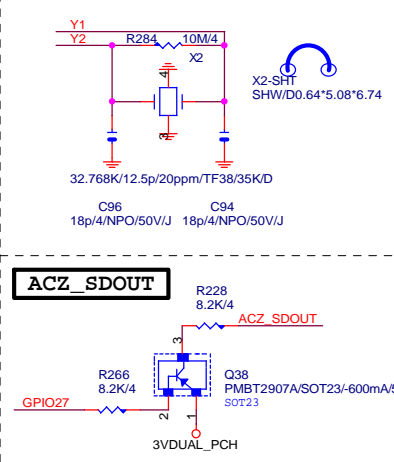




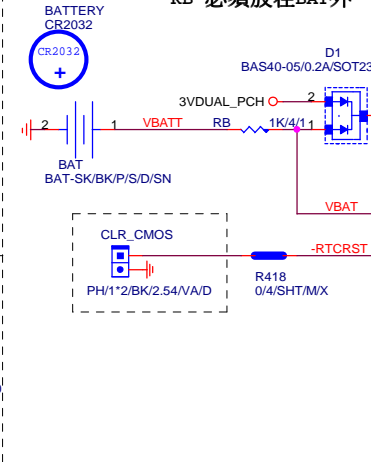
PCH_DPWROK



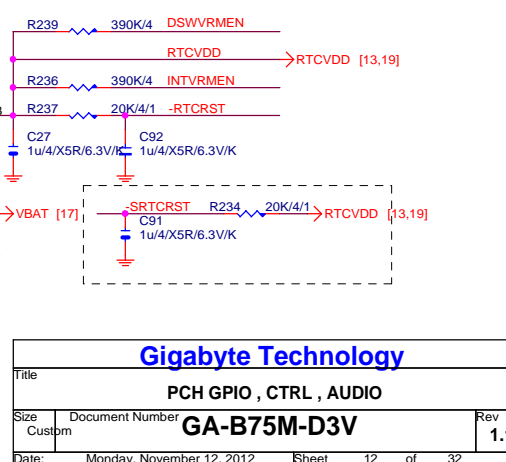
32.768KHZ



CLR_CMOS BATTERY-DUAL-4

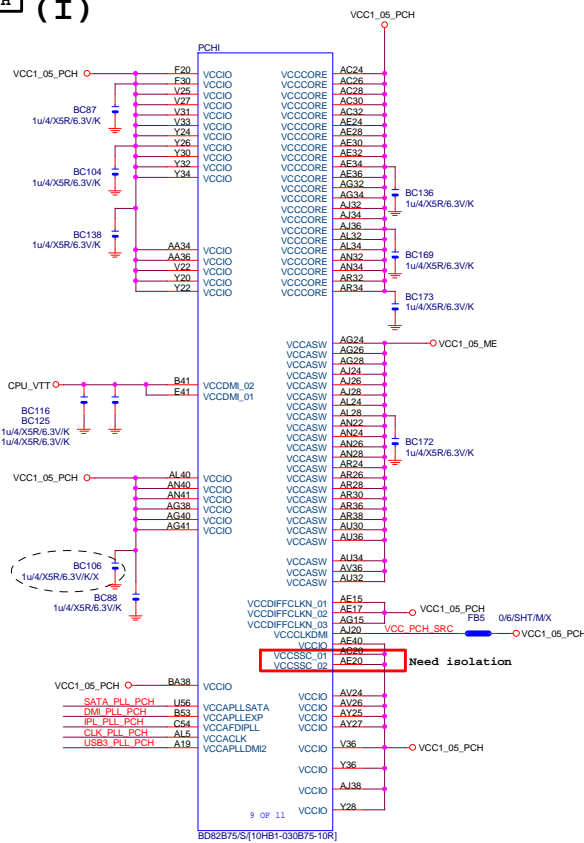


ACZ_SDOUT

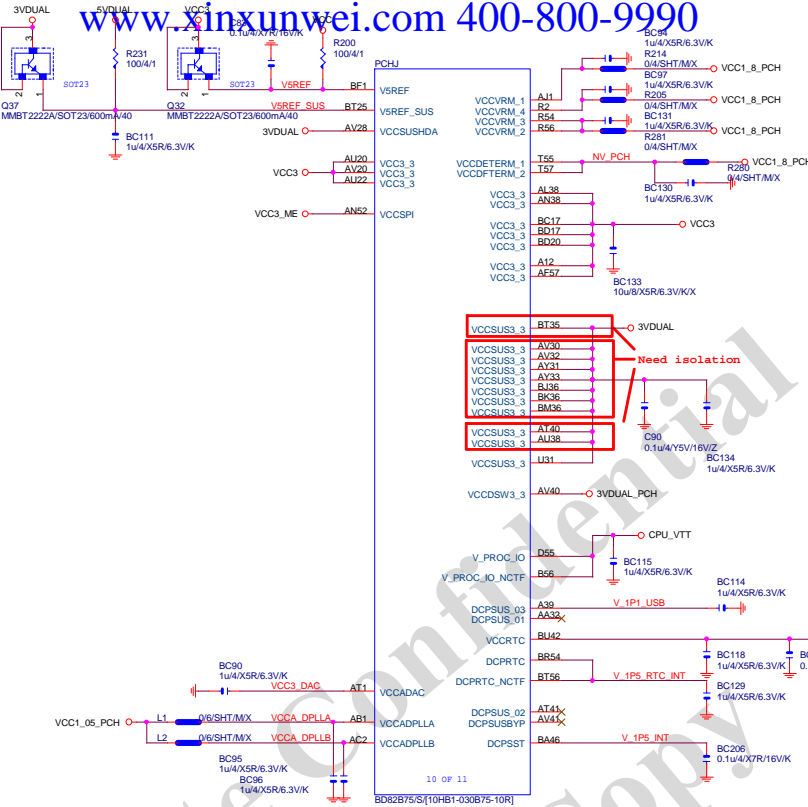


Gigabyte Technology		
Title PCH GPIO , CTRL , AUDIO		
Size	Document Number	Rev
Custbrn	GA-B75M-D3V	1.12
Date:	Monday, November 12, 2012	Sheet 12 of 32

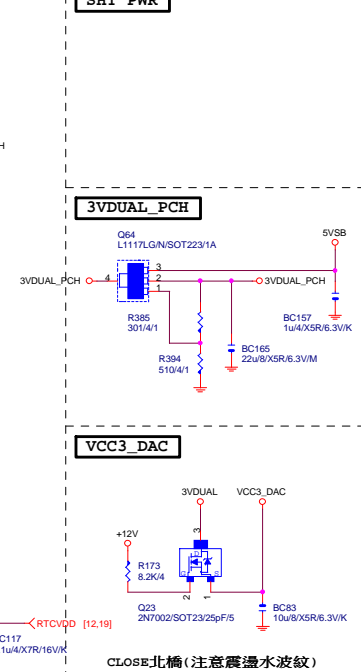
(I)



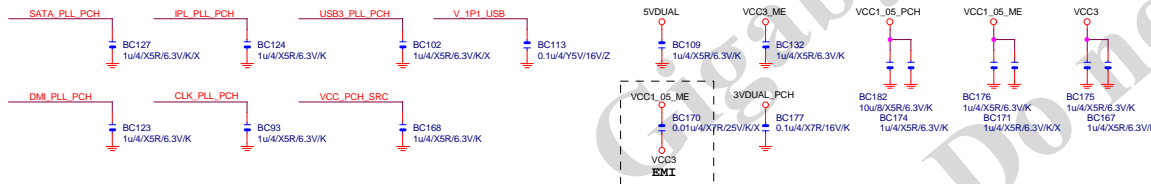
(J)



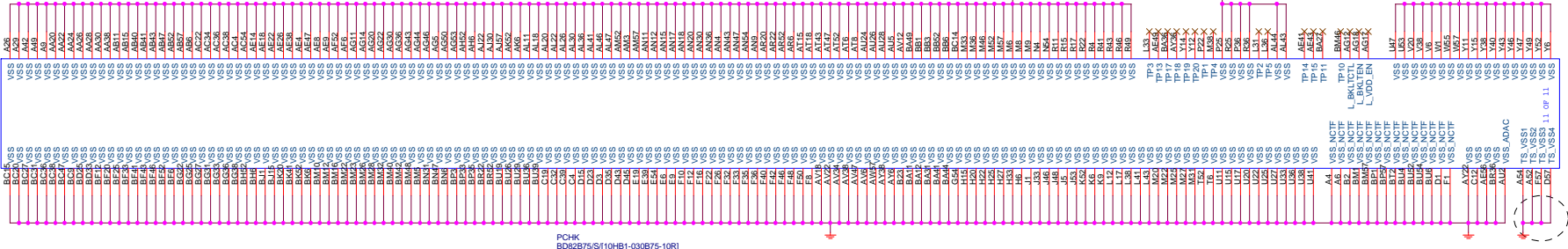
SHT	PWR
-----	-----



CAP



(I)

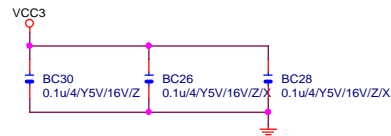


PCIEX16 CAP

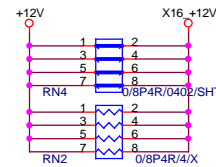
PCIEX16 SLOT

www.xinxunwei.com 400-800-9990

PCIESLOT-164DN-P



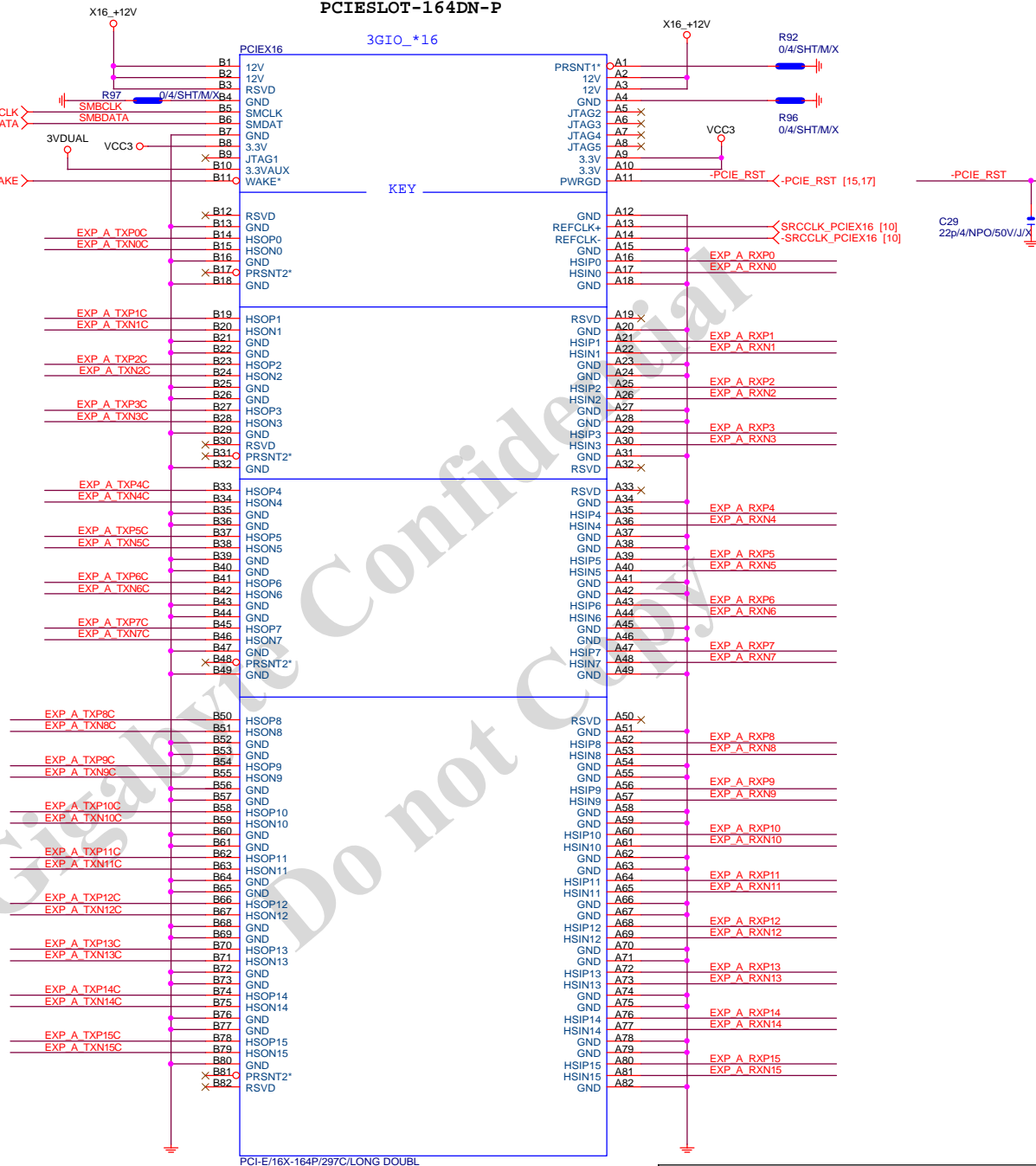
PCIEX16	PROTECT	SHT
---------	---------	-----



PCIEX16	AC	CAP
---------	----	-----

EXP A TXP0	C32	0.22u4/X5R/6.3V/K	EXP A TXP0C
EXP A TXN0	C30	0.22u4/X5R/6.3V/K	EXP A TXN0C
EXP A TXP1	C35	0.22u4/X5R/6.3V/K	EXP A TXP1C
EXP A TXN1	C37	0.22u4/X5R/6.3V/K	EXP A TXN1C
EXP A TXP2	C39	0.22u4/X5R/6.3V/K	EXP A TXP2C
EXP A TXN2	C41	0.22u4/X5R/6.3V/K	EXP A TXN2C
EXP A TXP3	C43	0.22u4/X5R/6.3V/K	EXP A TXP3C
EXP A TXN3	C45	0.22u4/X5R/6.3V/K	EXP A TXN3C
EXP A TXP4	C46	0.22u4/X5R/6.3V/K	EXP A TXP4C
EXP A TXN4	C49	0.22u4/X5R/6.3V/K	EXP A TXN4C
EXP A TXP5	C50	0.22u4/X5R/6.3V/K	EXP A TXP5C
EXP A TXN5	C51	0.22u4/X5R/6.3V/K	EXP A TXN5C
EXP A TXP6	C52	0.22u4/X5R/6.3V/K	EXP A TXP6C
EXP A TXN6	C54	0.22u4/X5R/6.3V/K	EXP A TXN6C
EXP A TXP7	C57	0.22u4/X5R/6.3V/K	EXP A TXP7C
EXP A TXN7	C58	0.22u4/X5R/6.3V/K	EXP A TXN7C
EXP A TXP8	C60	0.22u4/X5R/6.3V/K	EXP A TXP8C
EXP A TXN8	C61	0.22u4/X5R/6.3V/K	EXP A TXN8C
EXP A TXP9	C62	0.22u4/X5R/6.3V/K	EXP A TXP9C
EXP A TXN9	C63	0.22u4/X5R/6.3V/K	EXP A TXN9C
EXP A TXP10	C64	0.22u4/X5R/6.3V/K	EXP A TXP10C
EXP A TXN10	C65	0.22u4/X5R/6.3V/K	EXP A TXN10C
EXP A TXP11	C66	0.22u4/X5R/6.3V/K	EXP A TXP11C
EXP A TXN11	C67	0.22u4/X5R/6.3V/K	EXP A TXN11C
EXP A TXP12	C68	0.22u4/X5R/6.3V/K	EXP A TXP12C
EXP A TXN12	C70	0.22u4/X5R/6.3V/K	EXP A TXN12C
EXP A TXP13	C72	0.22u4/X5R/6.3V/K	EXP A TXP13C
EXP A TXN13	C73	0.22u4/X5R/6.3V/K	EXP A TXN13C
EXP A TXP14	C74	0.22u4/X5R/6.3V/K	EXP A TXP14C
EXP A TXN14	C75	0.22u4/X5R/6.3V/K	EXP A TXN14C
EXP A TXP15	C77	0.22u4/X5R/6.3V/K	EXP A TXP15C
EXP A TXN15	C78	0.22u4/X5R/6.3V/K	EXP A TXN15C

EXP_A_RXP[0..15] >>> EXP_A_RXP[0..15] [4]
EXP_A_RXN[0..15] >>> EXP_A_RXN[0..15] [4]
EXP_A_TXP[0..15] >>> EXP_A_TXP[0..15] [4]
EXP_A_TXN[0..15] >>> EXP_A_TXN[0..15] [4]



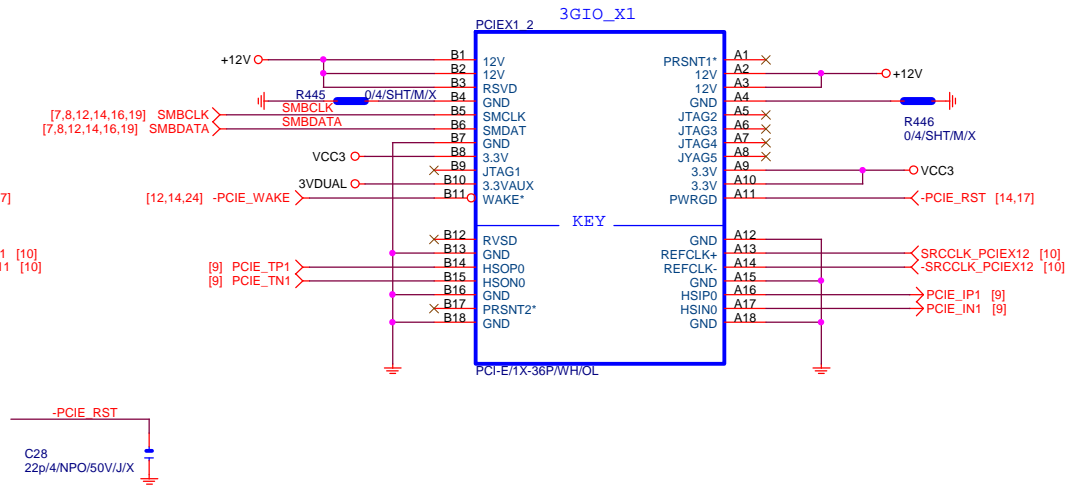
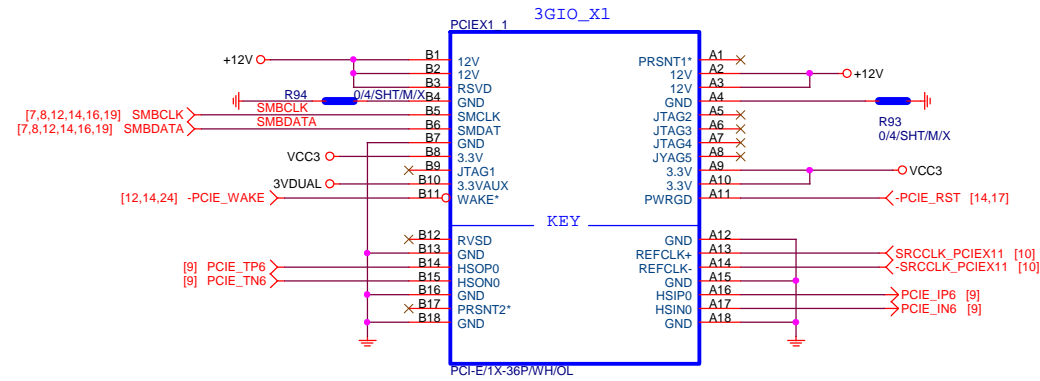
PCI-E/16X-164P/297C/LONG DOUBL

Gigabyte Technology

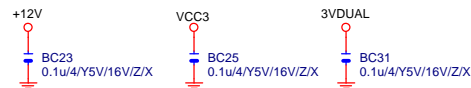
PCI EXPRESS * 16

Size Custom	Document Number GA-B75M-D3V	Rev 1.12
Date:	Monday, November 12, 2012	Sheet 14 of 32

PCIEX1 SLOT



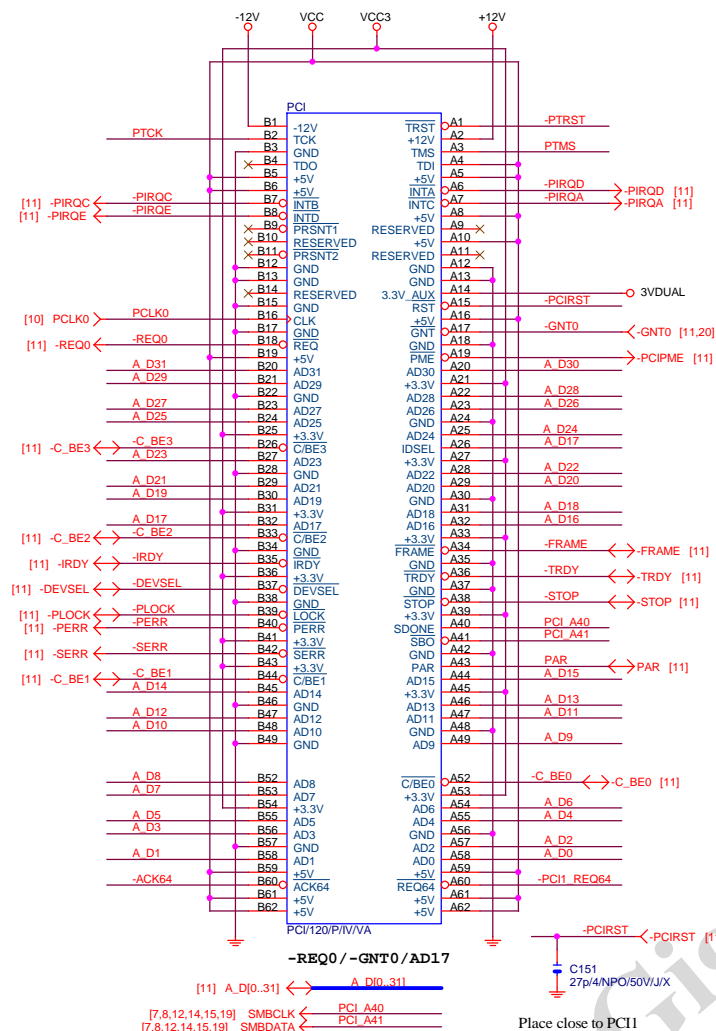
PCIEX1 CAP



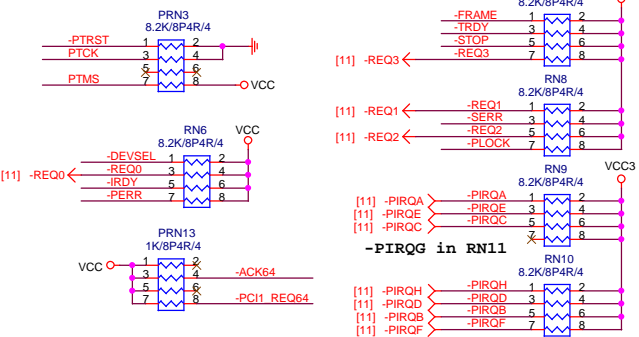
Gigabyte Technology

Title		
PCI EXPRESS X 1 PORT		
Size	Document Number	Rev
Custom	GA-B75M-D3V	1.12
Date:	Monday, November 12, 2012	Sheet 15 of 32

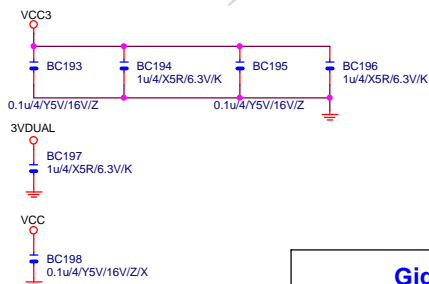
PCI SLOT



PCI PU



PCI CAP



Gigabyte Technology

Title		
PCI SLOT 1&2		
Size		
Document Number		
GA-B75M-D3V		
Date:		
Monday, November 12, 2012		
Sheet		
16 of 32		
Rev		
1.12		

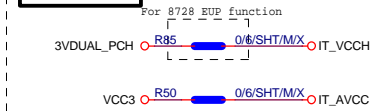


Figure 1 illustrates the proposed 16T1S1D1R1B1A1C1 architecture. The diagram shows a 4x4 array of crossbares. Each crossbar is formed by a wordline (horizontal) and a bitline (vertical). The wordlines are labeled R5, R79, R35, R52, R47, R77, R61, and R30. The bitlines are labeled C1, C2, C3, and C4. The crossbar elements are labeled with their respective resistances: 8.2K/4, 1K/4/1, and 1K/4. The architecture is designed to implement a 16T1S1D1R1B1A1C1 architecture.

[2]

JP2 R11 8.2K/4 VCC3

JP3 R9 8.2K/4 VCC3

JP4 R6 8.2K/4 VCC3

JP6 R46 1K/4/1X VCC3

R43 8.2K/4/X

IT8728-EX
PULL DOWN ENABLE OVP

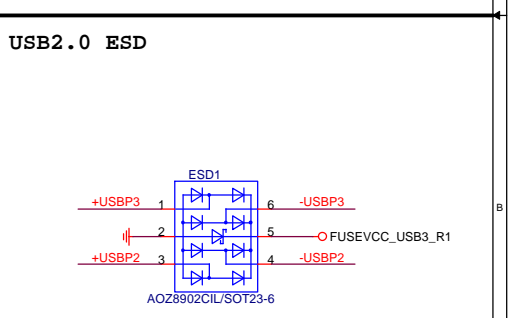
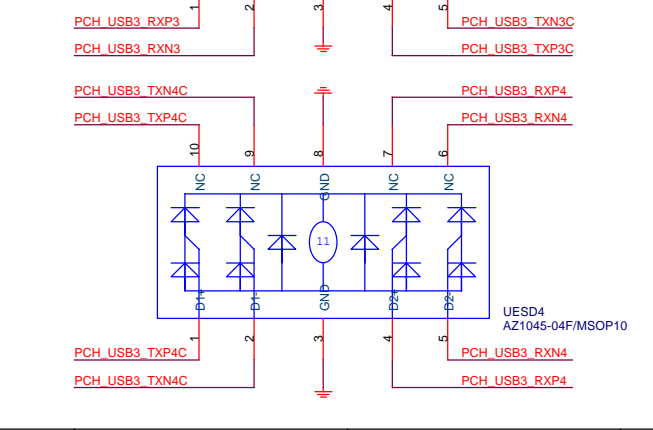
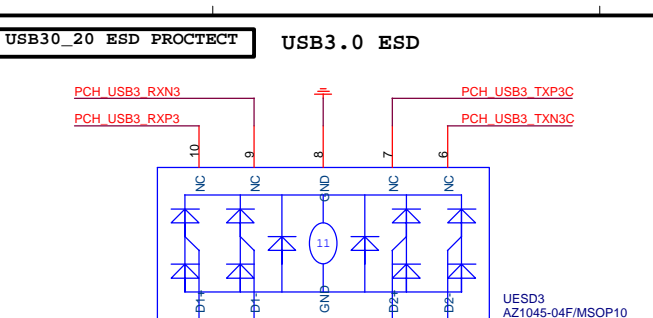
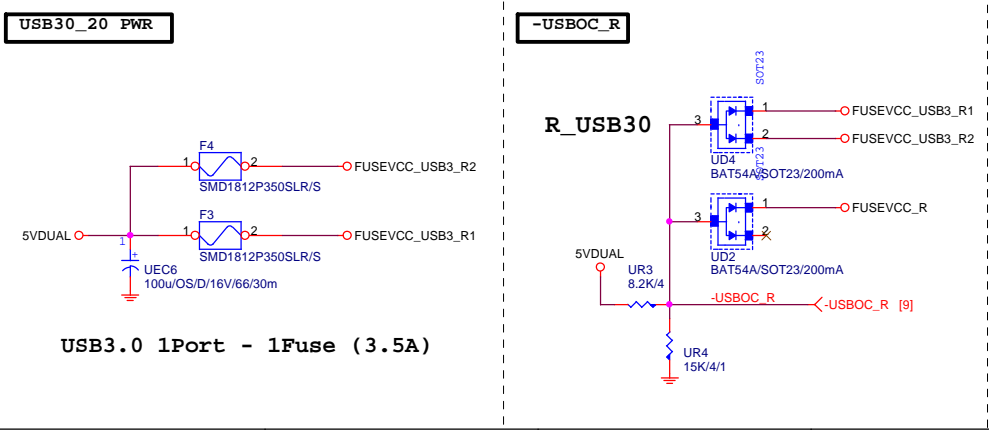
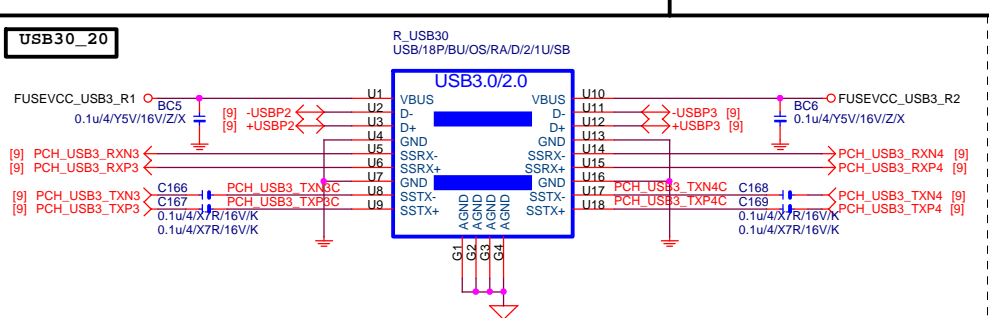
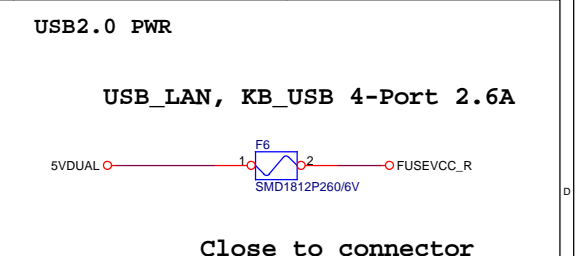
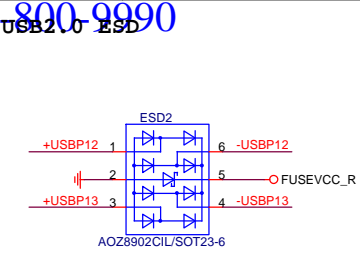
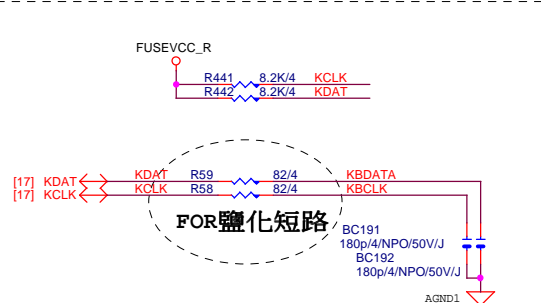
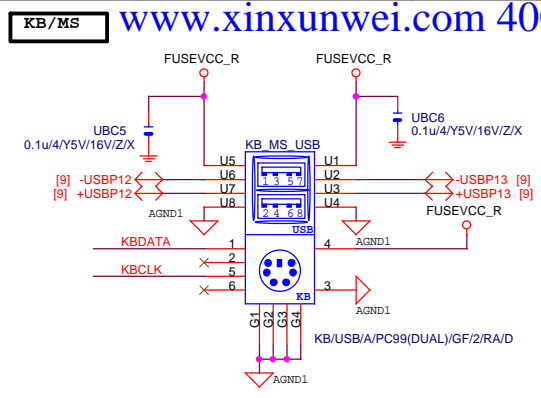
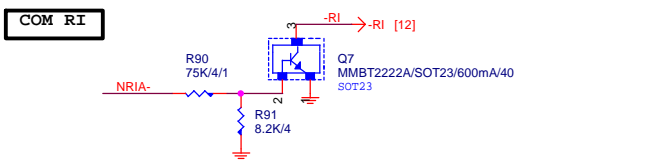
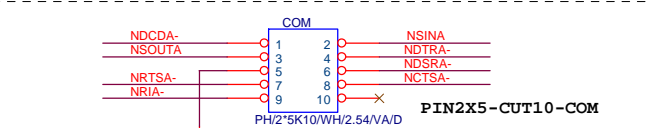
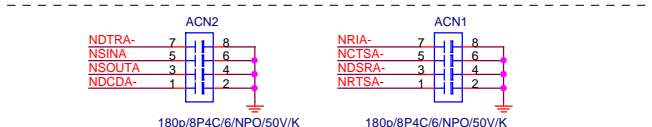
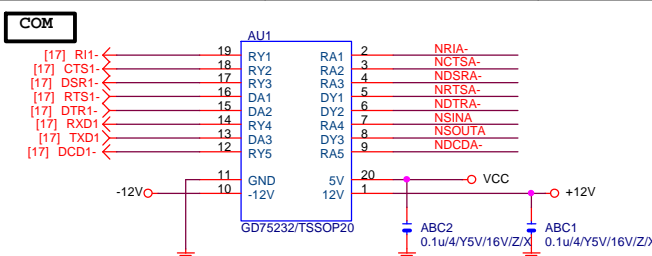
EUP control by PCH

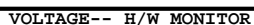
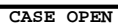
3VDUAL 100/4/1 R83 28 3VSB

JP3--- High SPI-Flash Disable
Low SPI-Flash Enable

VCC3 R87 8.2K/4
R89 8.2K/4 MB_ID2

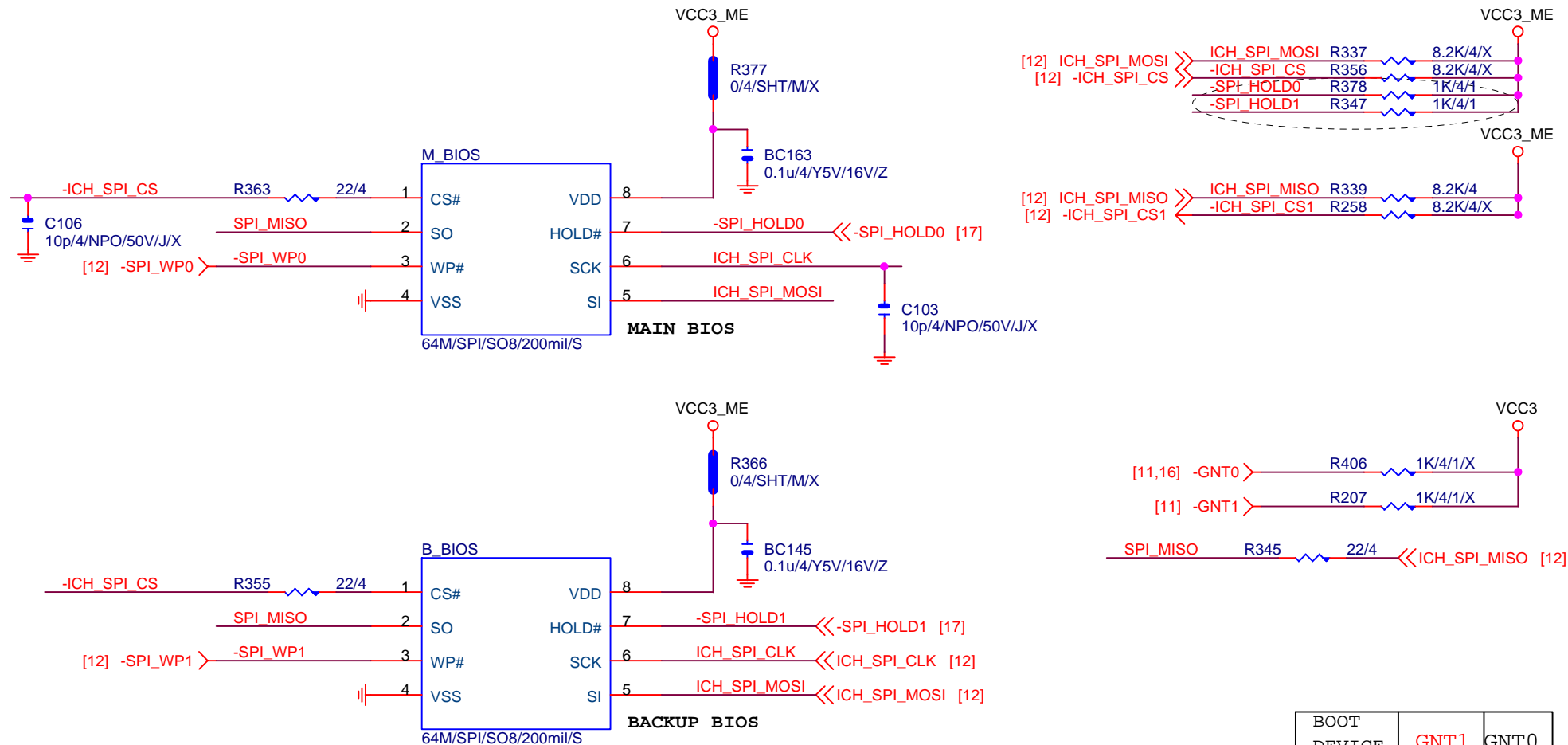
Title			
ITE 8728 LPC IO			
Size	Document Number	Rev	
Custom	GA-B75M-D3V	1.12	
Date:	Monday, November 12, 2012	Sheet	17 of 32





Title				HWM,FAN CTRL,OV			
Size	Document Number						Rev
Custom	GA-B75M-D3V						1.12
Date:	Monday, November 12, 2012			Sheet	19	of	32

DUAL BIOS



B65使用64M BIOS

使用H67暫用32M

H61使用32M BIOS

Gigabyte Technology

Title

DUAL BIOS

Size
A

Document Number

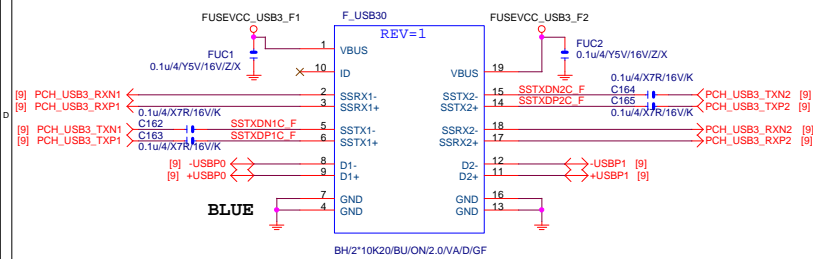
GA-B75M-D3V

Rev
1.12

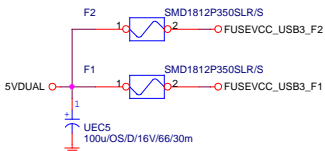
Date: Monday, November 12, 2012

Sheet 20 of 32

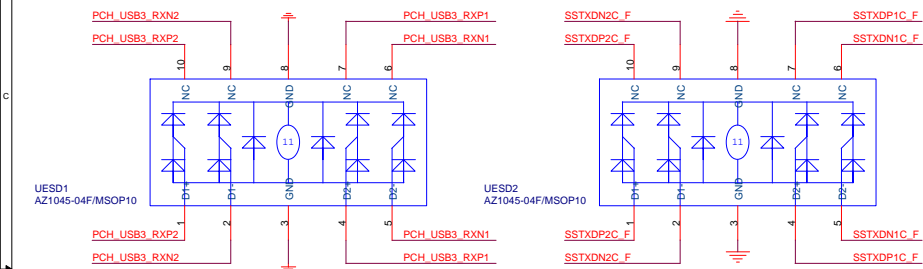
F_USB30



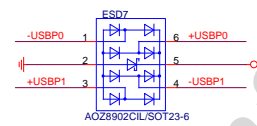
USB3.0 1Port - 1Fuse (3.5A)



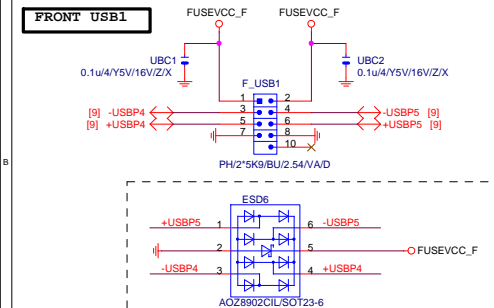
F_USB30 ESD PROTECT



Close to connector



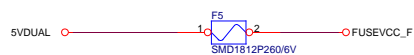
FRONT USB1



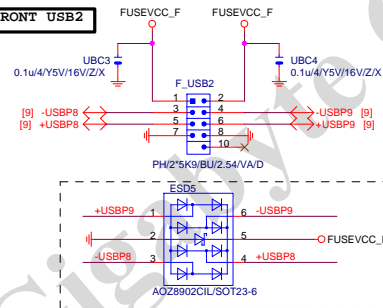
Close to connector

FUSEVCC_F

F_USB1, F_USB2 4-Port 2.6A



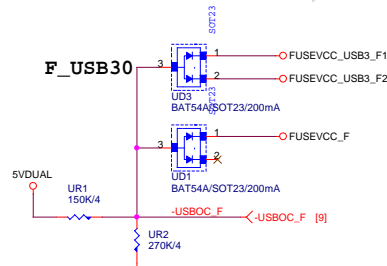
FRONT USB2



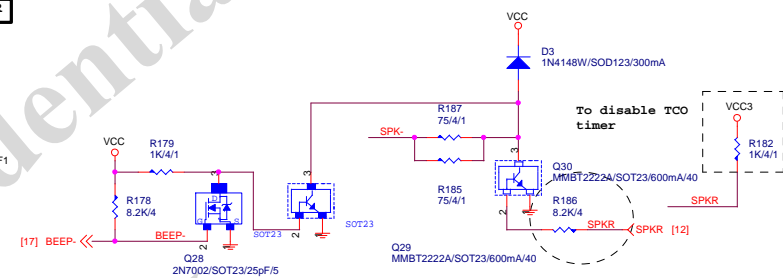
Close to connector

-USB0C_F

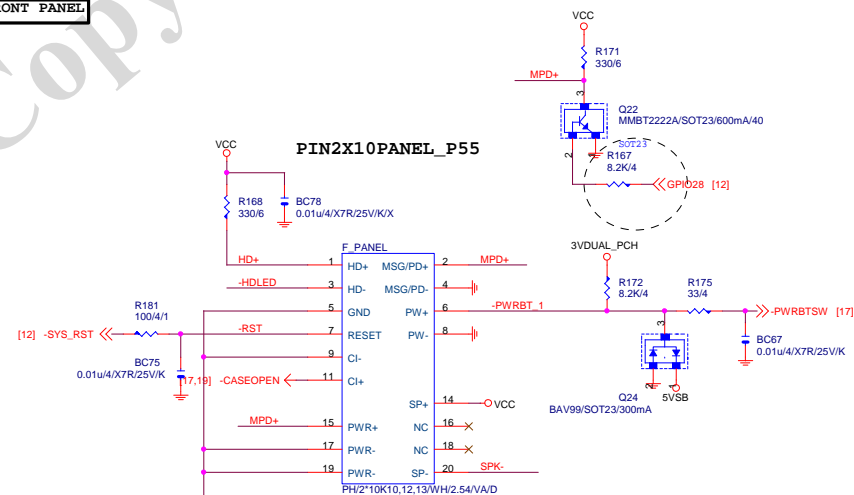
F USB30



SPKR



INTEL FRONT PANEL

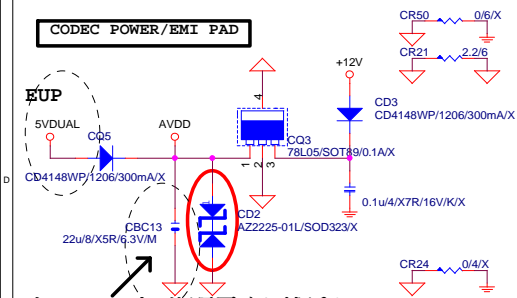


CR34: 20K/4/1% @Realtek cdec
CR34: 5.1K/4/1% @VIA cdec
CBC39 100P @VIA codec

The diagram shows a 20K resistor (CR34) connected to a 100pF capacitor (CBC42), which is then connected to ground. A blue oval highlights the components and their values.



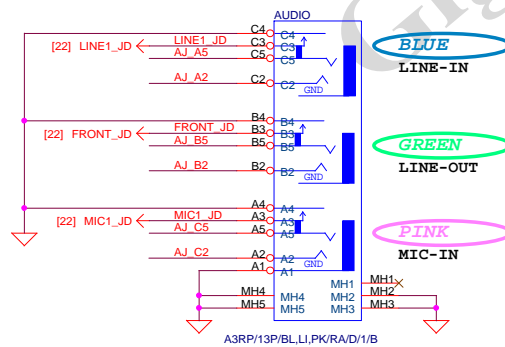
CODEC POWER/EMI PAD



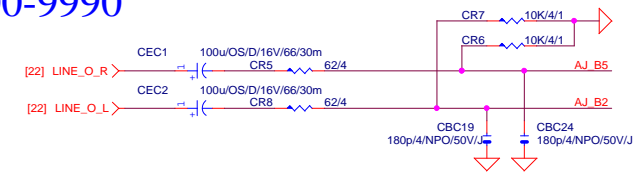
上ALC892時,此顆電容要保留

ADD CD2 For ESD PROTECT DIODE

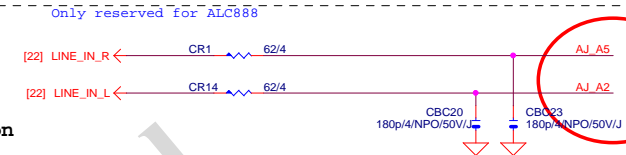
SPDIF_OUT



LINE-OUT

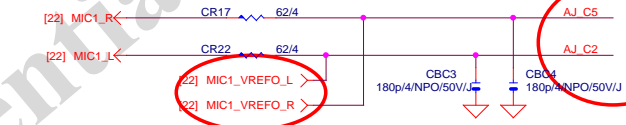


LINE-IN

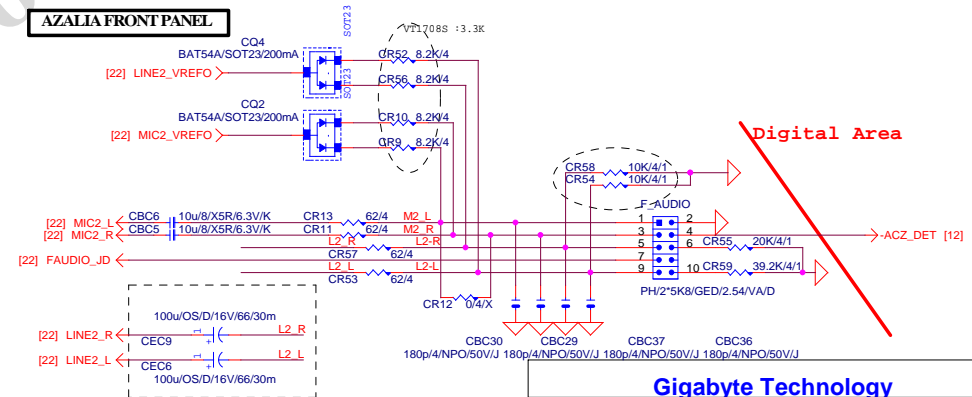
Verify MIC function
in LINE-in

For 889A/888

MIC-IN



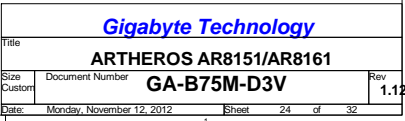
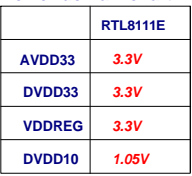
AZALIA FRONT PANEL



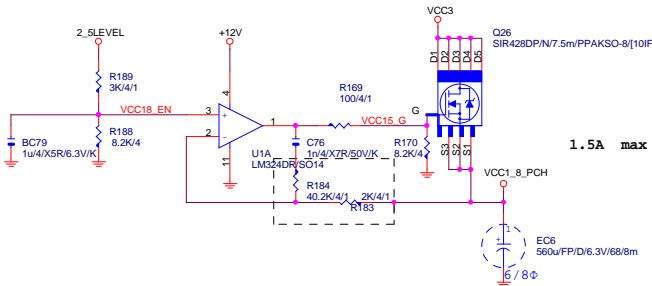
Digital Area

Gigabyte Technology

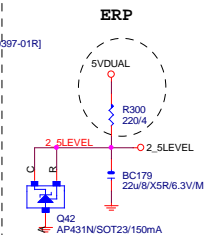
Title		
AUDIO JACK		
Size	Document Number	Rev
Custom	GA-B75M-D3V	1.12
Date:	Monday, November 12, 2012	Sheet 23 of 32



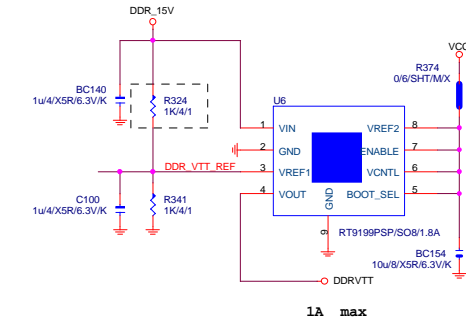
VCC1_8_PCH



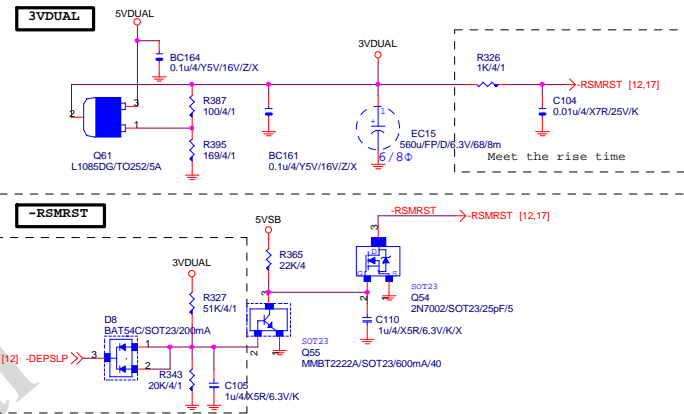
2_5LEVEL



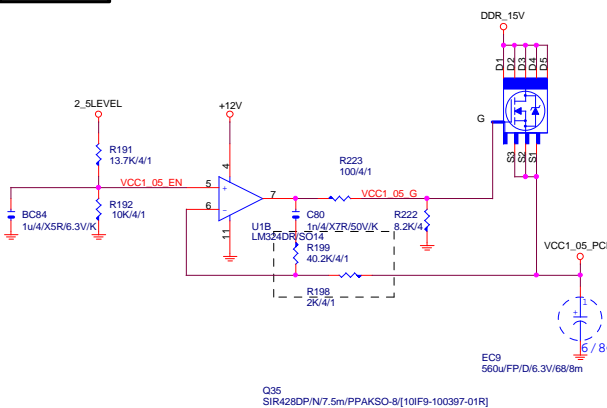
DDR_VTT



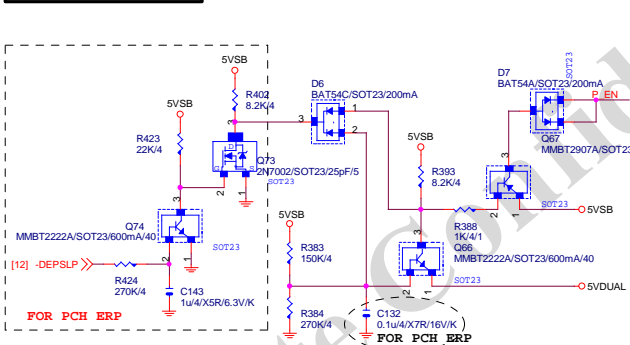
3VDUAL



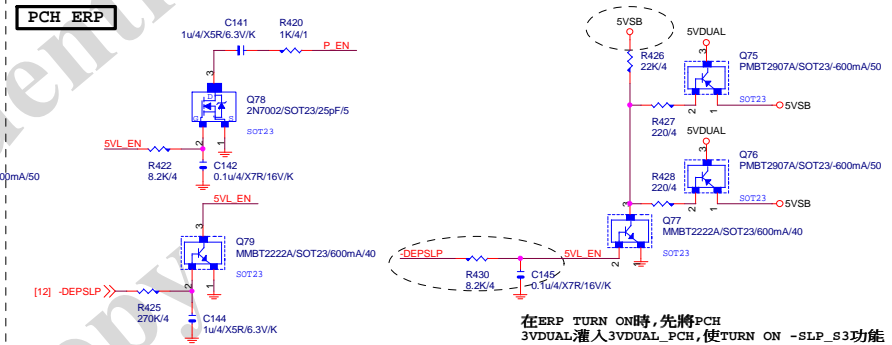
VCC1_05_PCH



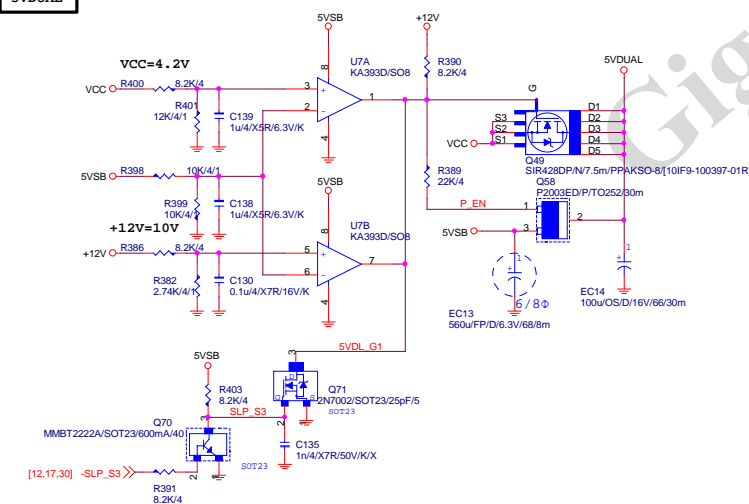
5VDUAL SHORT PROTECT



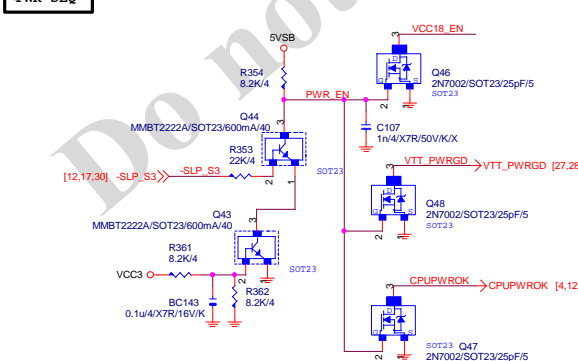
PCH ERP

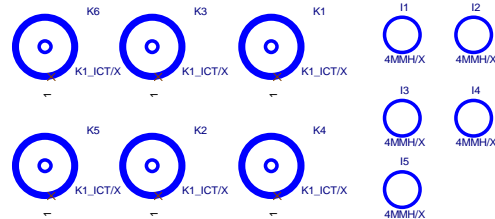
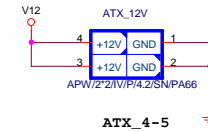


5VDUAL

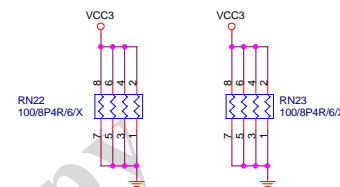


PWR SEQ

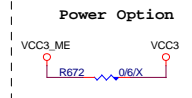
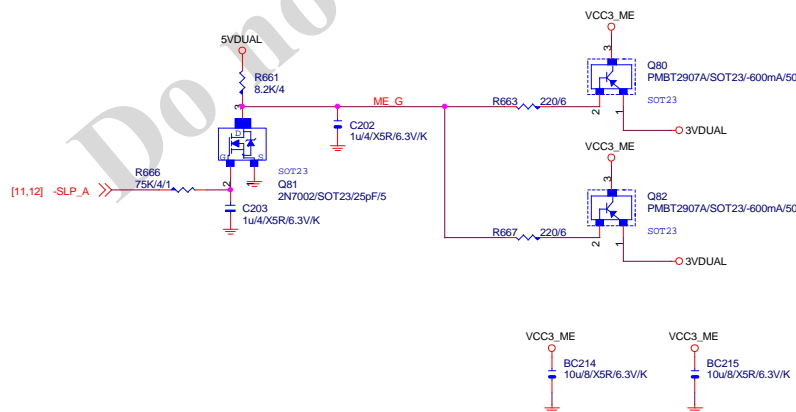


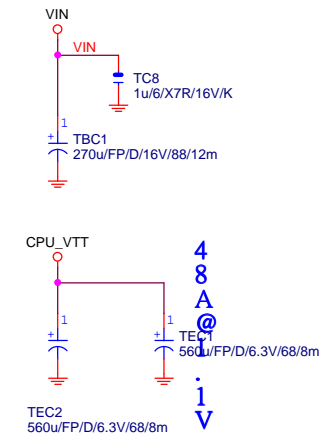
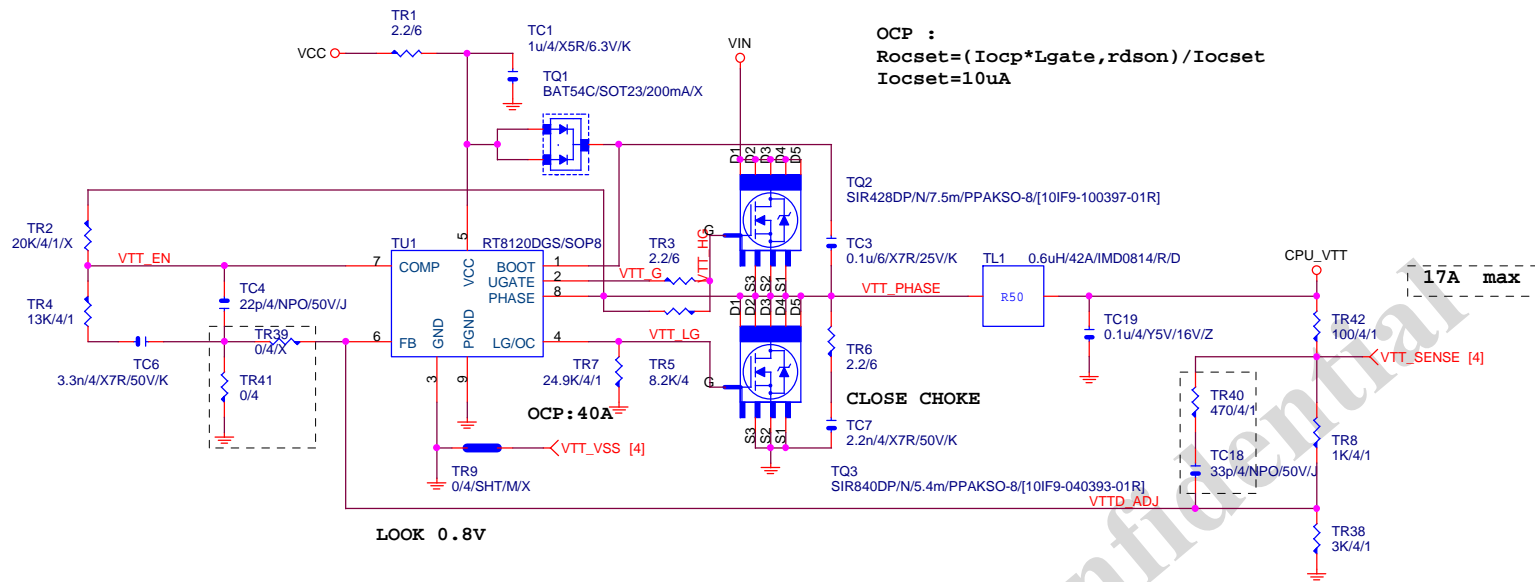


FIX PWR MINMUN LOAD



VCC3_ME

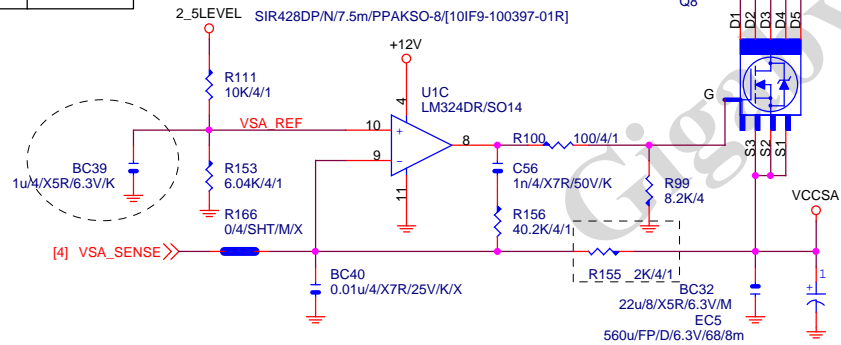




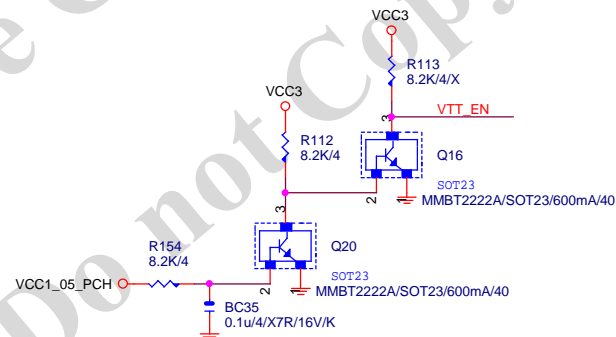
VCCSA

PDG 0.8

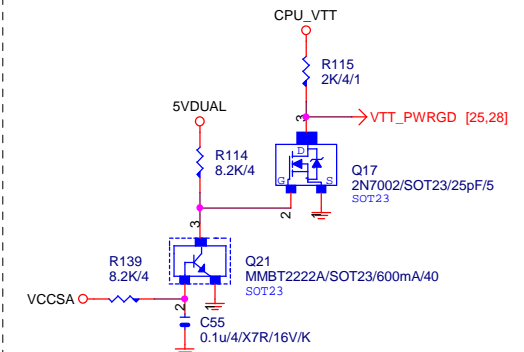
	VSA_SEL
HI	0.85V
LO	0.925V



CPU_VTT	PWR	SEQ
0.70	0.80	0.90
0.60	0.70	0.80
0.50	0.60	0.70
0.40	0.50	0.60
0.30	0.40	0.50
0.20	0.30	0.40
0.10	0.20	0.30
0.00	0.10	0.20

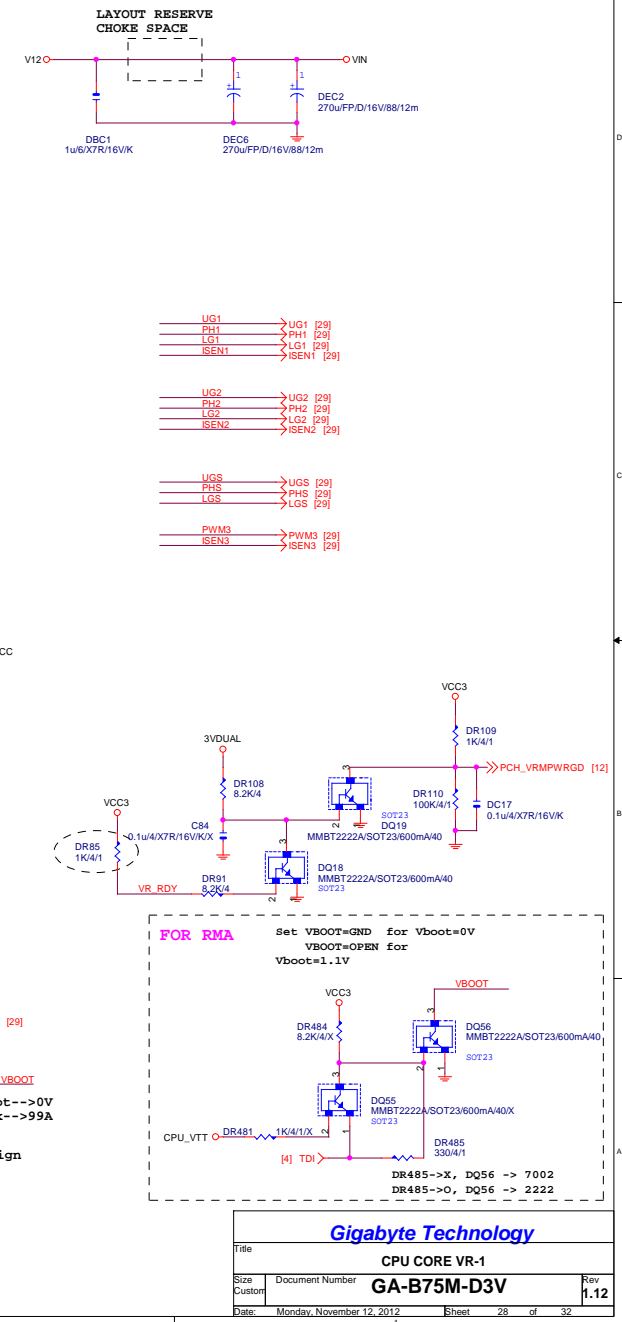


VTT_PWRGD

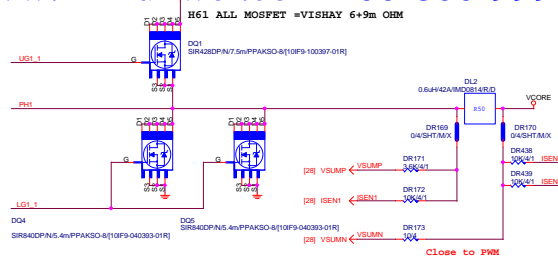
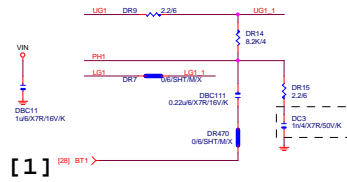
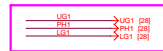


GIGABYTE™

Title			
CPU_VTT PWM_RT8120			
Size	Document Number	Rev	
Custom	GA-B75M-D3V	1.12	
Date:	Monday, November 12, 2012	Sheet	27 of 32



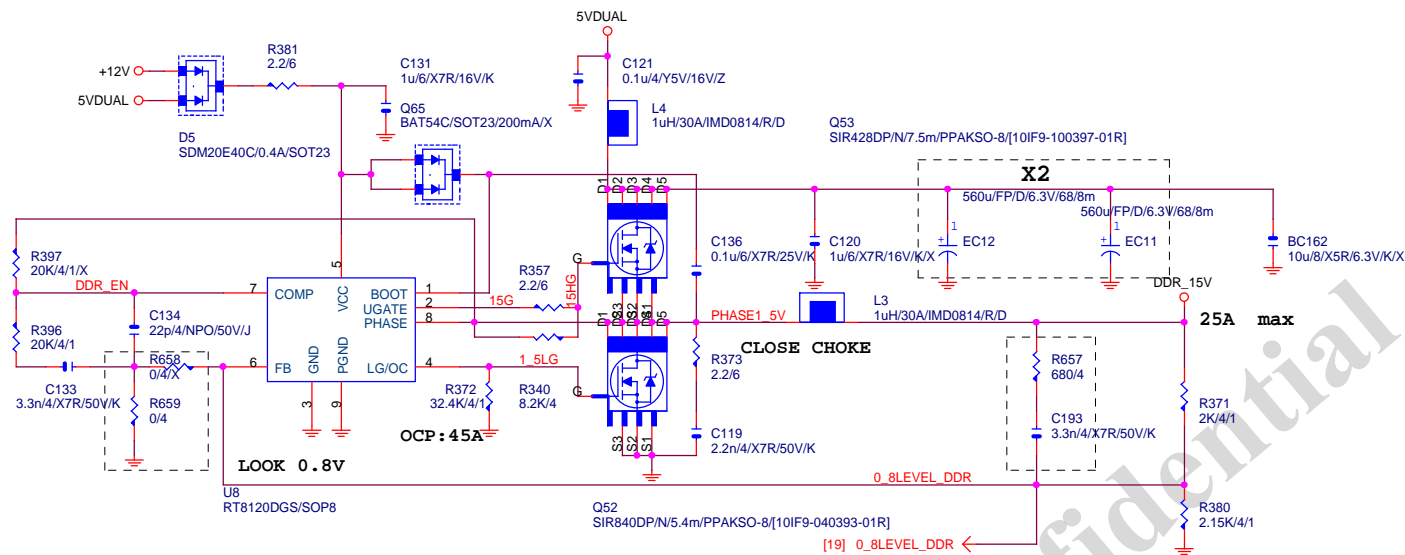
PHASE 1



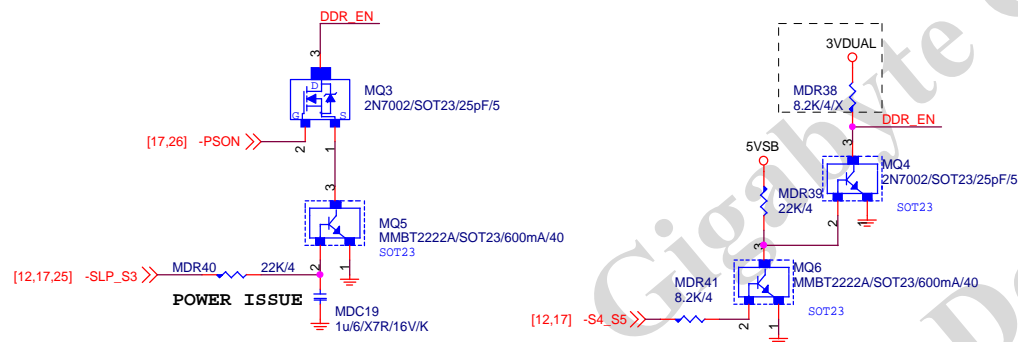
PHASE 3

Pin 120, 66, 50, 38, 26, 14, 2, 10, 18, 26, 34, 42, 50, 58, 66, 74, 82, 90, 98, 106, 114, 122, 130, 138, 146, 154, 162, 170, 178, 186, 194, 202, 210, 218, 226, 234, 242, 250, 258, 266, 274, 282, 290, 298, 306, 314, 322, 330, 338, 346, 354, 362, 370, 378, 386, 394, 402, 410, 418, 426, 434, 442, 450, 458, 466, 474, 482, 490, 498, 506, 514, 522, 530, 538, 546, 554, 562, 570, 578, 586, 594, 602, 610, 618, 626, 634, 642, 650, 658, 666, 674, 682, 690, 698, 706, 714, 722, 730, 738, 746, 754, 762, 770, 778, 786, 794, 802, 810, 818, 826, 834, 842, 850, 858, 866, 874, 882, 890, 898, 906, 914, 922, 930, 938, 946, 954, 962, 970, 978, 986, 994, 1002, 1010, 1018, 1026, 1034, 1042, 1050, 1058, 1066, 1074, 1082, 1090, 1098, 1106, 1114, 1122, 1130, 1138, 1146, 1154, 1162, 1170, 1178, 1186, 1194, 1202, 1210, 1218, 1226, 1234, 1242, 1250, 1258, 1266, 1274, 1282, 1290, 1298, 1306, 1314, 1322, 1330, 1338, 1346, 1354, 1362, 1370, 1378, 1386, 1394, 1402, 1410, 1418, 1426, 1434, 1442, 1450, 1458, 1466, 1474, 1482, 1490, 1498, 1506, 1514, 1522, 1530, 1538, 1546, 1554, 1562, 1570, 1578, 1586, 1594, 1602, 1610, 1618, 1626, 1634, 1642, 1650, 1658, 1666, 1674, 1682, 1690, 1698, 1706, 1714, 1722, 1730, 1738, 1746, 1754, 1762, 1770, 1778, 1786, 1794, 1802, 1810, 1818, 1826, 1834, 1842, 1850, 1858, 1866, 1874, 1882, 1890, 1898, 1906, 1914, 1922, 1930, 1938, 1946, 1954, 1962, 1970, 1978, 1986, 1994, 2002, 2010, 2018, 2026, 2034, 2042, 2050, 2058, 2066, 2074, 2082, 2090, 2098, 2106, 2114, 2122, 2130, 2138, 2146, 2154, 2162, 2170, 2178, 2186, 2194, 2202, 2210, 2218, 2226, 2234, 2242, 2250, 2258, 2266, 2274, 2282, 2290, 2298, 2306, 2314, 2322, 2330, 2338, 2346, 2354, 2362, 2370, 2378, 2386, 2394, 2402, 2410, 2418, 2426, 2434, 2442, 2450, 2458, 2466, 2474, 2482, 2490, 2498, 2506, 2514, 2522, 2530, 2538, 2546, 2554, 2562, 2570, 2578, 2586, 2594, 2602, 2610, 2618, 2626, 2634, 2642, 2650, 2658, 2666, 2674, 2682, 2690, 2698, 2706, 2714, 2722, 2730, 2738, 2746, 2754, 2762, 2770, 2778, 2786, 2794, 2802, 2810, 2818, 2826, 2834, 2842, 2850, 2858, 2866, 2874, 2882, 2890, 2898, 2906, 2914, 2922, 2930, 2938, 2946, 2954, 2962, 2970, 2978, 2986, 2994, 3002, 3010, 3018, 3026, 3034, 3042, 3050, 3058, 3066, 3074, 3082, 3090, 3098, 3106, 3114, 3122, 3130, 3138, 3146, 3154, 3162, 3170, 3178, 3186, 3194, 3202, 3210, 3218, 3226, 3234, 3242, 3250, 3258, 3266, 3274, 3282, 3290, 3298, 3306, 3314, 3322, 3330, 3338, 3346, 3354, 3362, 3370, 3378, 3386, 3394, 3402, 3410, 3418, 3426, 3434, 3442, 3450, 3458, 3466, 3474, 3482, 3490, 3498, 3506, 3514, 3522, 3530, 3538, 3546, 3554, 3562, 3570, 3578, 3586, 3594, 3602, 3610, 3618, 3626, 3634, 3642, 3650, 3658, 3666, 3674, 3682, 3690, 3698, 3706, 3714, 3722, 3730, 3738, 3746, 3754, 3762, 3770, 3778, 3786, 3794, 3802, 3810, 3818, 3826, 3834, 3842, 3850, 3858, 3866, 3874, 3882, 3890, 3898, 3906, 3914, 3922, 3930, 3938, 3946, 3954, 3962, 3970, 3978, 3986, 3994, 4002, 4010, 4018, 4026, 4034, 4042, 4050, 4058, 4066, 4074, 4082, 4090, 4098, 4106, 4114, 4122, 4130, 4138, 4146, 4154, 4162, 4170, 4178, 4186, 4194, 4202, 4210, 4218, 4226, 4234, 4242, 4250, 4258, 4266, 4274, 4282, 4290, 4298, 4306, 4314, 4322, 4330, 4338, 4346, 4354, 4362, 4370, 4378, 4386, 4394, 4402, 4410, 4418, 4426, 4434, 4442, 4450, 4458, 4466, 4474, 4482, 4490, 4498, 4506, 4514, 4522, 4530, 4538, 4546, 4554, 4562, 4570, 4578, 4586, 4594, 4602, 4610, 4618, 4626, 4634, 4642, 4650, 4658, 4666, 4674, 4682, 4690, 4698, 4706, 4714, 4722, 4730, 4738, 4746, 4754, 4762, 4770, 4778, 4786, 4794, 4802, 4810, 4818, 4826, 4834, 4842, 4850, 4858, 4866, 4874, 4882, 4890, 4898, 4906, 4914, 4922, 4930, 4938, 4946, 4954, 4962, 4970, 4978, 4986, 4994, 5002, 5010, 5018, 5026, 5034, 5042, 5050, 5058, 5066, 5074, 5082, 5090, 5098, 5106, 5114, 5122, 5130, 5138, 5146, 5154, 5162, 5170, 5178, 5186, 5194, 5202, 5210, 5218, 5226, 5234, 5242, 5250, 5258, 5266, 5274, 5282, 5290, 5298, 5306, 5314, 5322, 5330, 5338, 5346, 5354, 5362, 5370, 5378, 5386, 5394, 5402, 5410, 5418, 5426, 5434, 5442, 5450, 5458, 5466, 5474, 5482, 5490, 5498, 5506, 5514, 5522, 5530, 5538, 5546, 5554, 5562, 5570, 5578, 5586, 5594, 5602, 5610, 5618, 5626, 5634, 5642, 5650, 5658, 5666, 5674, 5682, 5690, 5698, 5706, 5714, 5722, 5730, 5738, 5746, 5754, 5762, 5770, 5778, 5786, 5794, 5802, 5810, 5818, 5826, 5834, 5842, 5850, 5858, 5866, 5874, 5882, 5890, 5898, 5906, 5914, 5922, 5930, 5938, 5946, 5954, 5962, 5970, 5978, 5986, 5994, 6002, 6010, 6018, 6026, 6034, 6042, 6050, 6058, 6066, 6074, 6082, 6090, 6098, 6106, 6114, 6122, 6130, 6138, 6146, 6154, 6162, 6170, 6178, 6186, 6194, 6202, 6210, 6218, 6226, 6234, 6242, 6250, 6258, 6266, 6274, 6282, 6290, 6298, 6306, 6314, 6322, 6330, 6338, 6346, 6354, 6362, 6370, 6378, 6386, 6394, 6402, 6410, 6418, 6426, 6434, 6442, 6450, 6458, 6466, 6474, 6482, 6490, 6498, 6506, 6514, 6522, 6530, 6538, 6546, 6554, 6562, 6570, 6578, 6586, 6594, 6602, 6610, 6618, 6626, 6634, 6642, 6650, 6658, 6666, 6674, 6682, 6690, 6698, 6706, 6714, 6722, 6730, 6738, 6746, 6754, 6762, 6770, 6778, 6786, 6794, 6802, 6810, 6818, 6826, 6834, 6842, 6850, 6858, 6866, 6874, 6882, 6890, 6898, 6906, 6914, 6922, 6930, 6938, 6946, 6954, 6962, 6970, 6978, 6986, 6994, 7002, 7010, 7018, 7026, 7034, 7042, 7050, 7058, 7066, 7074, 7082, 7090, 7098, 7106, 7114, 7122, 7130, 7138, 7146, 7154, 7162, 7170, 7178, 7186, 7194, 7202, 7210, 7218, 7226, 7234, 7242, 7250, 7258, 7266, 7274, 7282, 7290, 7298, 7306, 7314, 7322, 7330, 7338, 7346, 7354, 7362, 7370, 7378, 7386, 7394, 7402, 7410, 7418, 7426, 7434, 7442, 7450, 7458, 7466, 7474, 7482, 7490, 7498, 7506, 7514, 7522, 7530, 7538, 7546, 7554, 7562, 7570, 7578, 7586, 7594, 7602, 7610, 7618, 7626, 7634, 7642, 7650, 7658, 7666, 7674, 7682, 7690, 7698, 7706, 7714, 7722, 7730, 7738, 7746, 7754, 7762, 7770, 7778, 7786, 7794, 7802, 7810, 7818, 7826, 7834, 7842, 7850, 7858, 7866, 7874, 7882, 7890, 7898, 7906, 7914, 7922, 7930, 7938, 7946, 7954, 7962, 7970, 7978, 7986, 7994, 8002, 8010, 8018, 8026, 8034, 8042, 8050, 8058, 8066, 8074, 8082, 8090, 8098, 8106, 8114, 8122, 8130, 8138, 8146, 8154, 8162, 8170, 8178, 8186, 8194, 8202, 8210, 8218, 8226, 8234, 8242, 8250, 8258, 8266, 8274, 8282, 8290, 8298, 8306, 8314, 8322, 8330, 8338, 8346, 8354, 8362, 8370, 8378, 8386, 8394, 8402, 8410, 8418, 8426, 8434, 8442, 8450, 8458, 8466, 8474, 8482, 8490, 8498, 8506, 8514, 8522, 8530, 8538, 8546, 8554, 8562, 8570, 8578, 8586, 8594, 8602, 8610, 8618, 8626, 8634, 8642, 8650, 8658, 8666, 8674, 8682, 8690, 8698, 8706, 8714, 8722, 8730, 8738, 8746, 8754, 8762, 8770, 8778, 8786, 8794, 8802, 8810, 8818, 8826, 8834, 8842, 8850, 8858, 8866, 8874, 8882, 8890, 8898, 8906, 8914, 8922, 8930, 8938, 8946, 8954, 8962, 8970, 8978, 8986, 8994, 9002, 9010, 9018, 9026, 9034, 9042, 9050, 9058, 9066, 9074, 9082, 9090, 9098, 9106, 9114, 9122, 9130, 9138, 9146, 9154, 9162, 9170, 9178, 9186, 9194, 9202, 9210, 9218, 9226, 9234, 9242, 9250, 9258, 9266, 9274, 9282, 9290, 9298, 9306, 9314, 9322, 9330, 9338, 9346, 9354, 9362, 9370, 9378, 9386, 9394, 9402, 9410, 9418, 9426, 9434, 9442, 9450, 9458, 9466, 9474, 9482, 9490, 9498, 9506, 9514, 9522, 9530, 9538, 9546, 9554, 9562, 9570, 9578, 9586, 9594, 9602, 9610, 9618, 9626, 9634, 9642, 9650, 9658, 9666, 9674, 9682, 9690, 9698, 9706, 9714, 9722, 9730, 9738, 9746, 9754, 9762, 9770, 9778, 9786, 9794, 9802, 9810, 9818, 9826, 9834, 9842, 9850, 9858, 9866, 9874, 9882, 9890, 9898, 9906, 9914, 9922, 9930, 9938, 9946, 9954, 9962, 9970, 9978, 9986, 9994, 10002, 10010, 10018, 10026, 10034, 10042, 10050, 10058, 10066, 10074, 10082, 10090, 10098, 10106, 10114, 10122, 10130, 10138, 10146, 10154, 10162, 10170, 10178, 10186, 10194, 10202, 10210, 10218, 10226, 10234, 10242, 10250, 10258, 10266, 10274, 10282, 10290, 10298, 10306, 10314, 10322, 10330, 10338, 10346, 10354, 10362, 10370, 10378, 10386, 10394, 10402, 10410, 10418, 10426, 10434, 10442, 10450, 10458, 10466, 10474, 10482, 10490, 10498, 10506, 10514, 10522, 10530, 10538, 10546, 10554, 10562, 10570, 10578, 10586, 10594, 10602, 10610, 10618, 10626, 10634, 10642, 10650, 10658, 10666, 10674, 10682, 10690, 10698, 10706, 10714, 10722, 10730, 10738, 10746, 10754, 10762, 10770, 10778, 10786, 10794, 10802, 10810, 10818, 10826, 10834, 10842, 10850, 10858, 10866, 10874, 10882, 10890, 10898, 10906, 10914, 10922, 10930, 10938, 10946, 10954, 10962, 10970, 10978, 10986, 10994, 11002, 11010, 11018, 11026, 11034, 11042, 11050, 11058, 11066, 11074, 11082, 11090, 11098, 11106, 11114, 11122, 11130, 11138, 11146, 11154, 11162, 11170, 11178, 11186, 11194, 11202, 11210, 11218, 11226, 11234, 11242, 11250, 11258, 11266, 11274, 11282, 11290, 11298, 11306, 11314, 11322, 11330, 11338, 11346, 11354, 11362, 11370, 11378, 11386, 11394, 11402, 11410, 11418, 11426, 11434, 11442, 11450, 11458, 11466, 11474, 11482, 11490, 11498, 11506, 11514, 11522, 11530, 11538, 11546, 11554, 11562, 11570, 11578, 11586, 11594, 11602, 11610, 11618, 11626, 11634, 11642, 11650, 11658, 11666, 11674, 11682, 11690, 11698, 11706, 11714, 11722, 11730, 11738, 11746, 11754, 11762, 11770, 11778, 11786, 11794, 11802, 11810, 11818, 11826, 11834, 11842, 11850, 11858, 11866, 11874, 11882, 11890, 11898, 11906, 11914, 11922, 11930, 11938, 11946, 11954, 11962, 11970, 11978, 11986, 11994, 12002, 12010, 12018, 12026, 12034, 12042, 12050, 12058, 12066, 12074, 12082, 12090, 12098, 12106, 12114, 12122, 12130, 12138, 12146, 12154, 12162, 12170, 12178, 12186, 12194, 12202, 12210, 12218, 12226, 12234, 12242, 12250, 12258, 12266, 12274, 12282, 12290, 12298, 12306, 12314, 12322, 12330, 12338, 12346, 12354, 12362, 12370, 12378, 12386, 12394, 12402, 12410, 12418, 12426, 12434, 12442, 12450, 12458, 12466, 12474, 12482, 12490, 12498, 12506, 12514, 12522, 12530, 12538, 12546, 12554, 12562, 12570, 12578, 12586, 12594, 12602, 12610, 12618, 12626, 12634, 12642, 12650, 12658, 12666, 12674, 12682, 12690, 12698, 12706, 12714, 12722, 12730, 12738, 12746, 12754, 12762, 12770, 12778, 12786, 12794, 12802, 12810, 12818, 12826, 12834, 12842, 12850, 12858, 12866, 12874, 12882, 12890, 12898, 12906, 12914, 12922, 12930, 12938, 12946, 12954, 12962, 12970, 12978, 12986, 12994, 13002, 13010, 13018, 13026, 13034, 13042, 13050, 13058, 13066, 13074, 13082, 13090, 13098, 13106, 13114, 13122, 13130, 13138, 13146, 13154, 13162, 13170, 13178, 13186, 13194, 13202, 13210, 13218, 13226, 13234, 13242, 13250, 13258, 13266, 13274, 13282, 13290, 13298, 13306, 13314, 13322, 13330, 13338, 13346, 13354, 13362, 13370, 13378, 13386, 13394, 13402, 13410, 13418, 13426, 13434, 13442, 13450, 13458, 13466, 13474, 13482, 13490, 13498, 13506, 13514, 13522, 13530, 13538, 13546, 13554, 13562, 13570, 13578, 13586, 13594, 13602, 13610, 13618, 13626, 13634, 13642, 13650, 13658, 13666, 13674, 13682, 13690, 13698, 13706, 13714, 13722, 13730, 13738, 13746, 13754, 13762, 13770, 13778, 13786, 13794, 13802, 13810, 13818, 13826, 13834, 13842, 13850, 13858, 13866, 13874, 13882, 13890, 13898, 13906, 13914, 13922, 13930, 13938, 13946, 13954, 13962, 13970, 13978, 13986, 13994, 14002, 14010, 14018, 14026, 14034, 14042, 14050, 14058, 14066, 14074, 14082, 14090, 14098, 14106, 14114, 14122, 14130, 14138, 14146, 14154, 14162, 14170, 14178, 14186, 14194, 14202, 14210, 14218, 14226, 14234, 14242, 14250, 14258, 14266, 14274, 14282, 14290, 14298, 14306, 14314, 14322, 14330, 14338, 14346, 14354, 14362, 14370, 14378, 14386, 14394, 14402, 14410, 14418, 14426, 14434, 14442, 14450, 14458, 14466, 14474, 14482, 14490, 14498, 14506, 14514, 14522, 14530,

DDR1.5V



PWR_SEQ



VIN=5V, VOUT=1.5V, IOUT=25A, PHASE=1

IRMS=11.45A

560u/FP/D/6.3V/68/8m RIPPLe CURRENT=4.7A

Coefficient=1.7(85°C), 1(105°C)

VIN Ripple current=4.7X1.7=7.99A(85°C)

-->故固態電容須2X7.99=15.98>11.45A

 $R_{ocset} = (I_{ocp} * L_{gate, rdson}) / I_{ocset}$ $R_{ocset} = (45A * 6.7m\Omega) / 10uA = 30K$

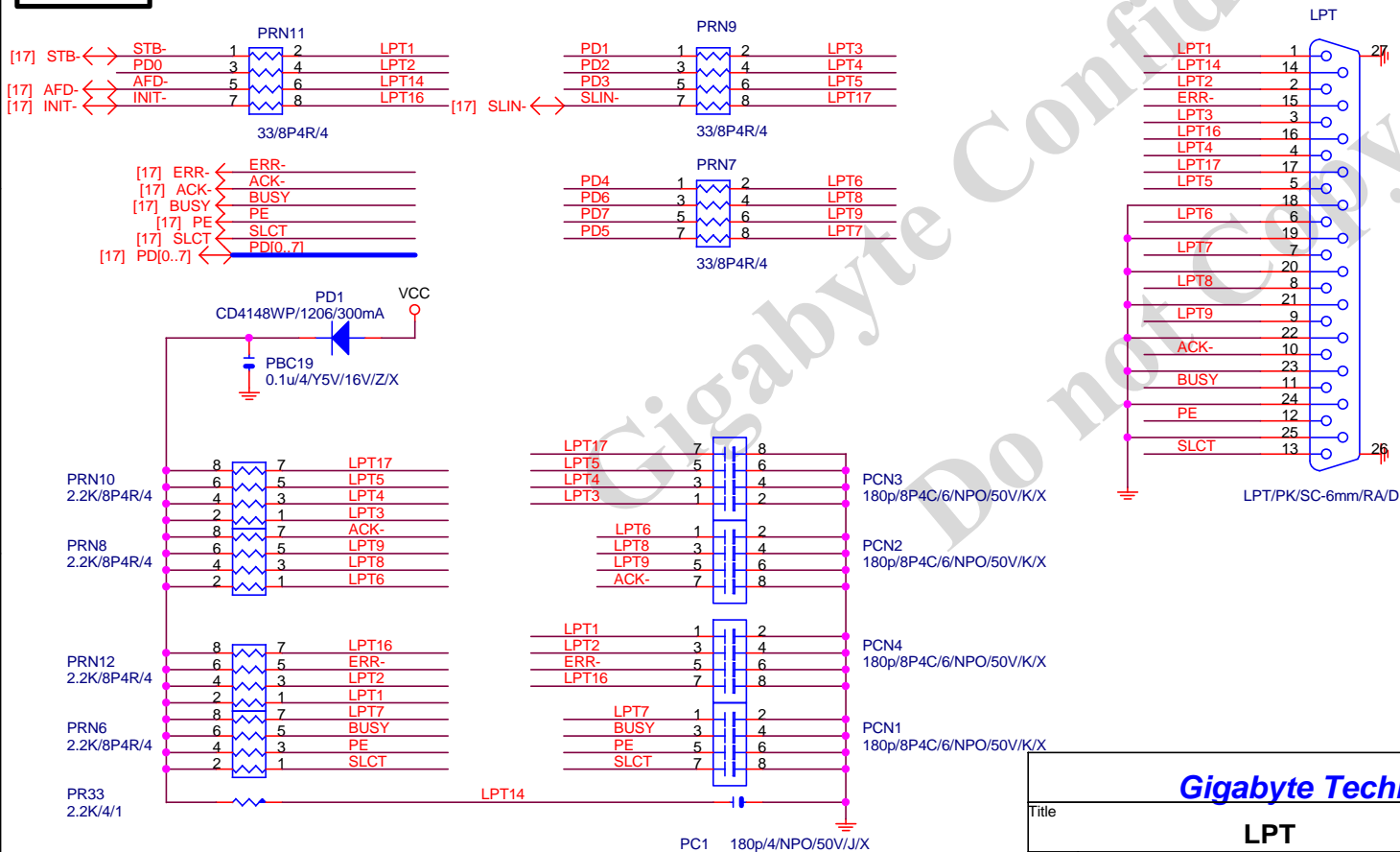
Iocset=10uA

Gigabyte Technology

Title			
DDR POWER			
Size	Document Number	Rev	
Custom	GA-B75M-D3V	1.12	
Date:	Monday, November 12, 2012	Sheet	30 of 32

TPM

LPT PORT



Gigabyte Technology

LPT

Title

Size
Custom

Document Number

GA-B75M-D3V

Rev
1.12

Date: Monday, November 12, 2012

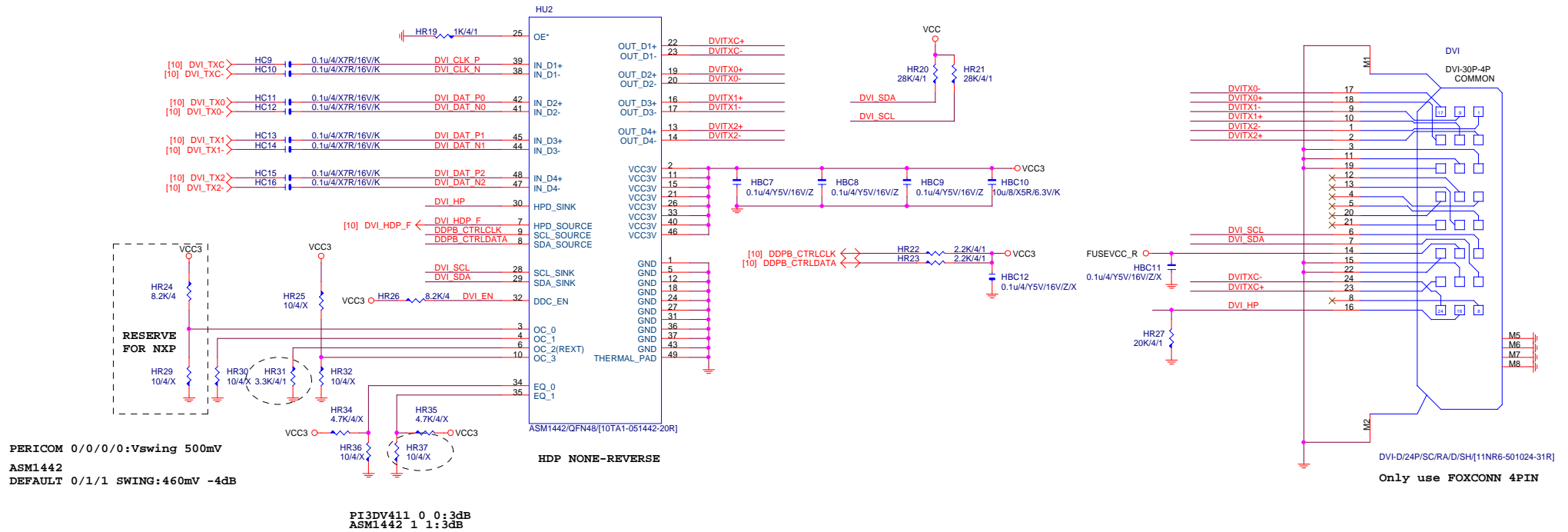
Sheet

31

of

32

DVI LEVEL SHIFT



Gigabyte Technology

DVI

GA-B75M-D3V

Rev
1.12

Date: Monday, November 12, 2012 Sheet 32 of 32