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35	MEMORY DC-DC Conver
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40	BOM

IH618-MHS H61MGP REV 6.1

CPU:
Intel Sandy/Ivy Bridge processors in LGA1155 Package 95W

System Chipset:
Cugar Point H61

Main Memory:
Dual Channel/DDR-III*2(Max 16GB) 1066/1333
DDR3-1333 /1066 /800

Onboard Device:
Super I/O:IT8728
LAN:Realtek 8111G
HD Codec:ALC662

Power solution:
CPU Voltage Regulators:2phase by ISL6363
AXG voltage Regulators:1phase by ISL6363
VTT voltage Regulators:1Phase by uP1514
DDR voltage Regulators:1Phase by uP1514


Expansion Slots:
PCI EXPRESS 16X SLOT*1
PCI EXPRESS 1X SLOT*2

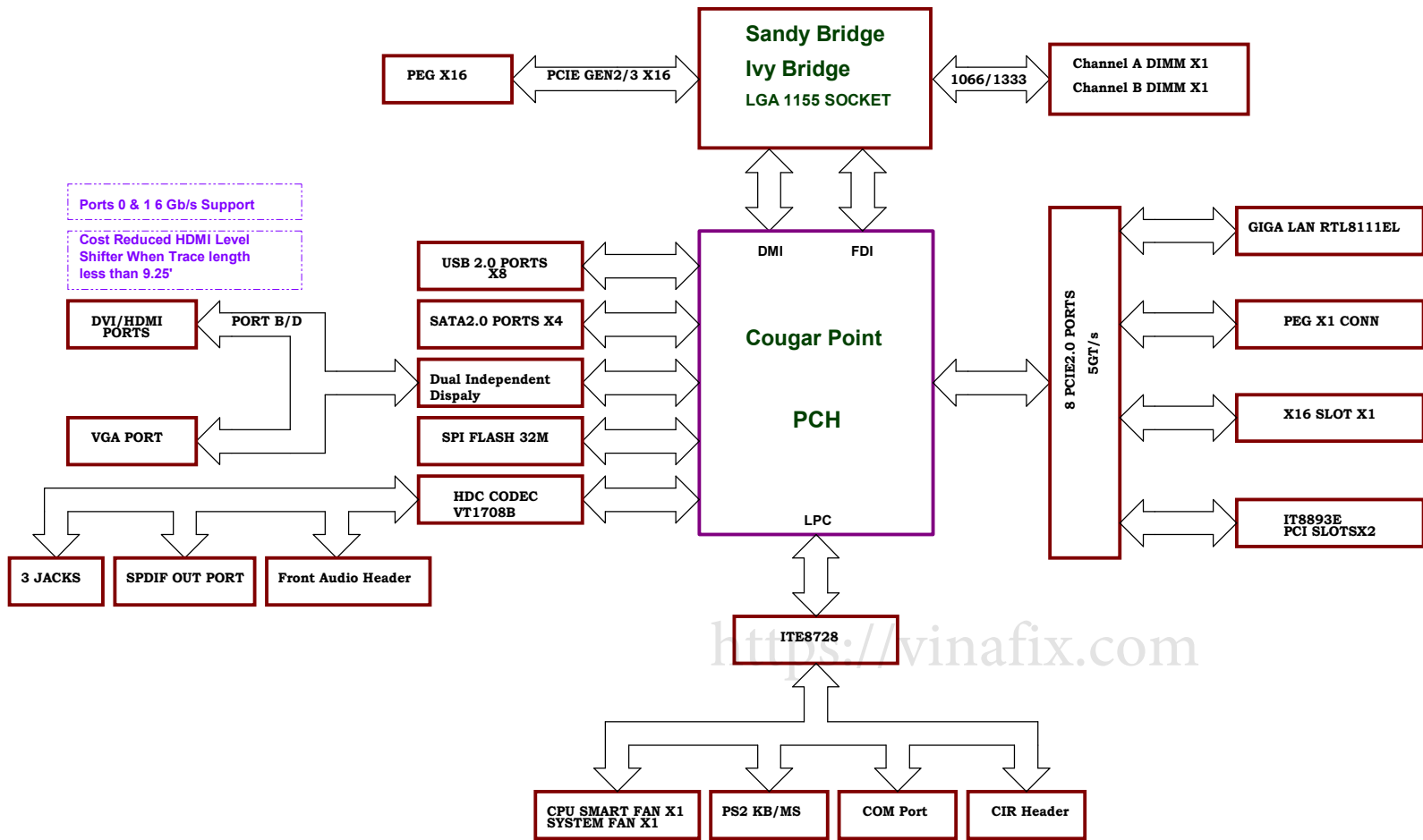
REAR IO:
PS/2 KB/MS
HDMI Port
VGA
2 layer USB2.0 Ports
2 layer USB2.0 + Gb RJ-45 Ports
Audio Jacks
LPT1
COM1

Front I/O:
SATA2 * 4
USB Header * 2
CPU /System1
Front Audio Header

HW Engineer		Date	
HW Leader1		Date	
HW Leader2		Date	

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Feature Set		SKU Name(s)					
		Q67	Q65	B65	H67	P67	H61
PCI Express* 2.0 Ports		8	8	8	8	8	6 ⁹
PCI Interface		Yes	Yes	Yes	No ¹⁰	No ¹⁰	No ¹⁰
USB 2.0 Ports		14	14	12 ⁶	14	14	10 ⁷
Total number of SATA ports		6	6	6	6	6	4
• SATA Ports (6 Gb/s, 3 Gb/s, and 1.5 Gb/s)		2 ⁴	1 ⁵	1 ⁵	2 ⁴	2 ⁴	0
• SATA Ports (3 Gb/s and 1.5 Gb/s only)		4	5	5	4	4	4 ⁸
HDMI/DVI/VGA/DisplayPort*/eDP*		Yes	Yes	Yes	Yes	No	Yes
Integrated Graphics Support with PAVP		Yes	Yes	Yes	Yes	No	Yes
Intel® Rapid Storage Technology	AHCI	Yes	Yes	Yes	Yes	Yes	No
	RAID 0/1/5/10 Support	Yes	No	No	Yes	Yes	No
Intel® AT		Yes	Yes	No	No	No	No
Intel® AMT 7.0		Yes	No	No	No	No	No
Intel® Remote PC Assist Technology - Proactive		Yes	No	Yes	No	No	No
Intel® Remote PC Assist Technology - Reactive		No	No	Yes	Yes	No	No

- 54321
- D
- C
- B
- A
- 54321
- Change from V6.2
- 1, Page 21,22,26,32 : del +3V3_AUX regulator, change net_name +3v3_DUAL
- 2, Page 23 : del VSYNC & HSYNC LEVEL SHIFT 74HC08
- 3, Page 24 : co-lay VT1708B/ALC662/ALC662VD
- 4, Page 26 : Add Switching regulator disabled cricuit
- 5, Page 31 : FP_RST circuit modify

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Title

CHANGE LIST

Size
B

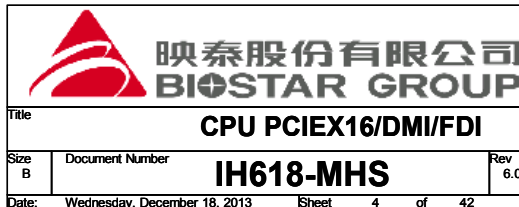
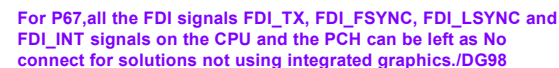
Document Number
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1



D

C

B

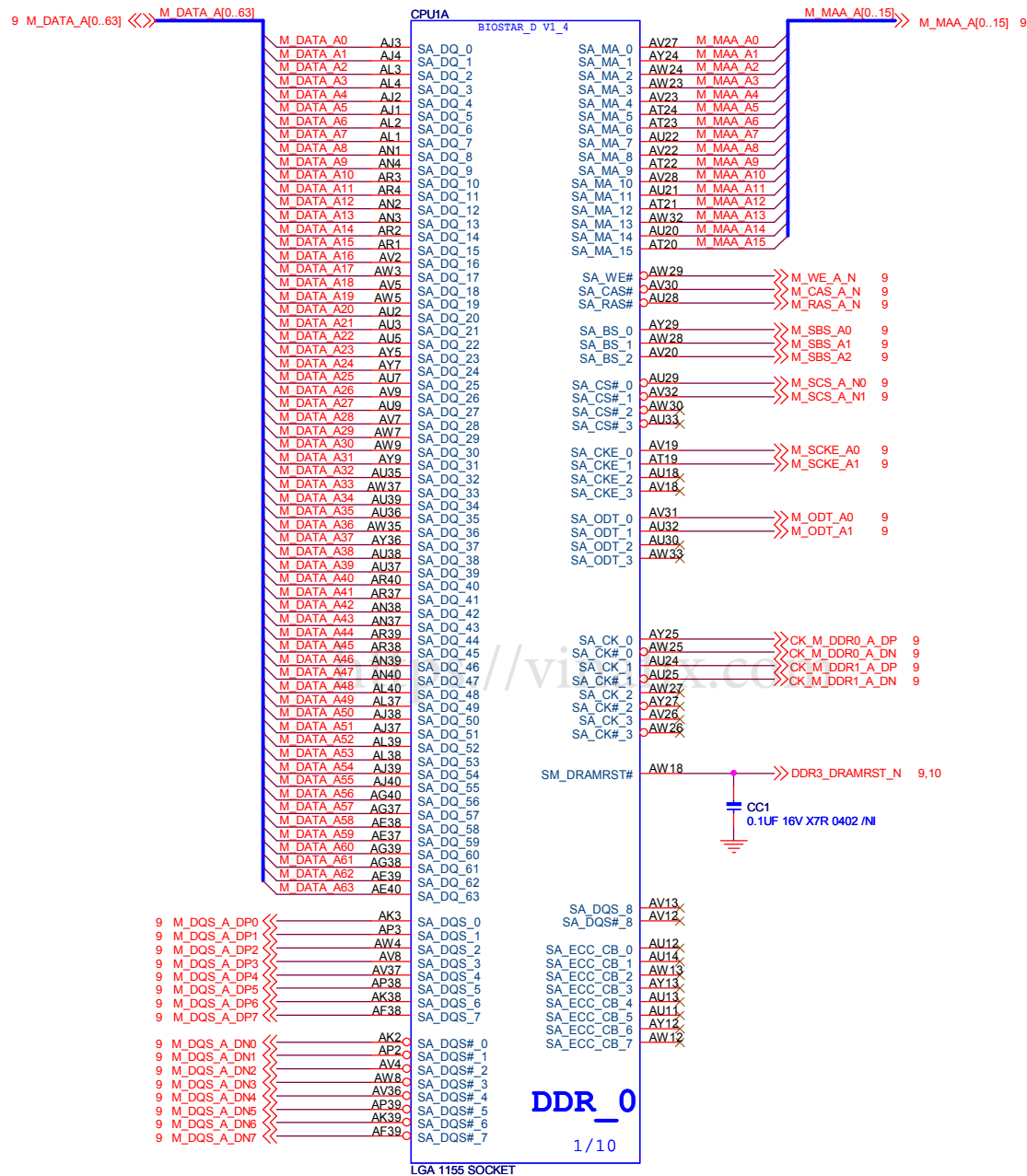
A


D

C

B

A

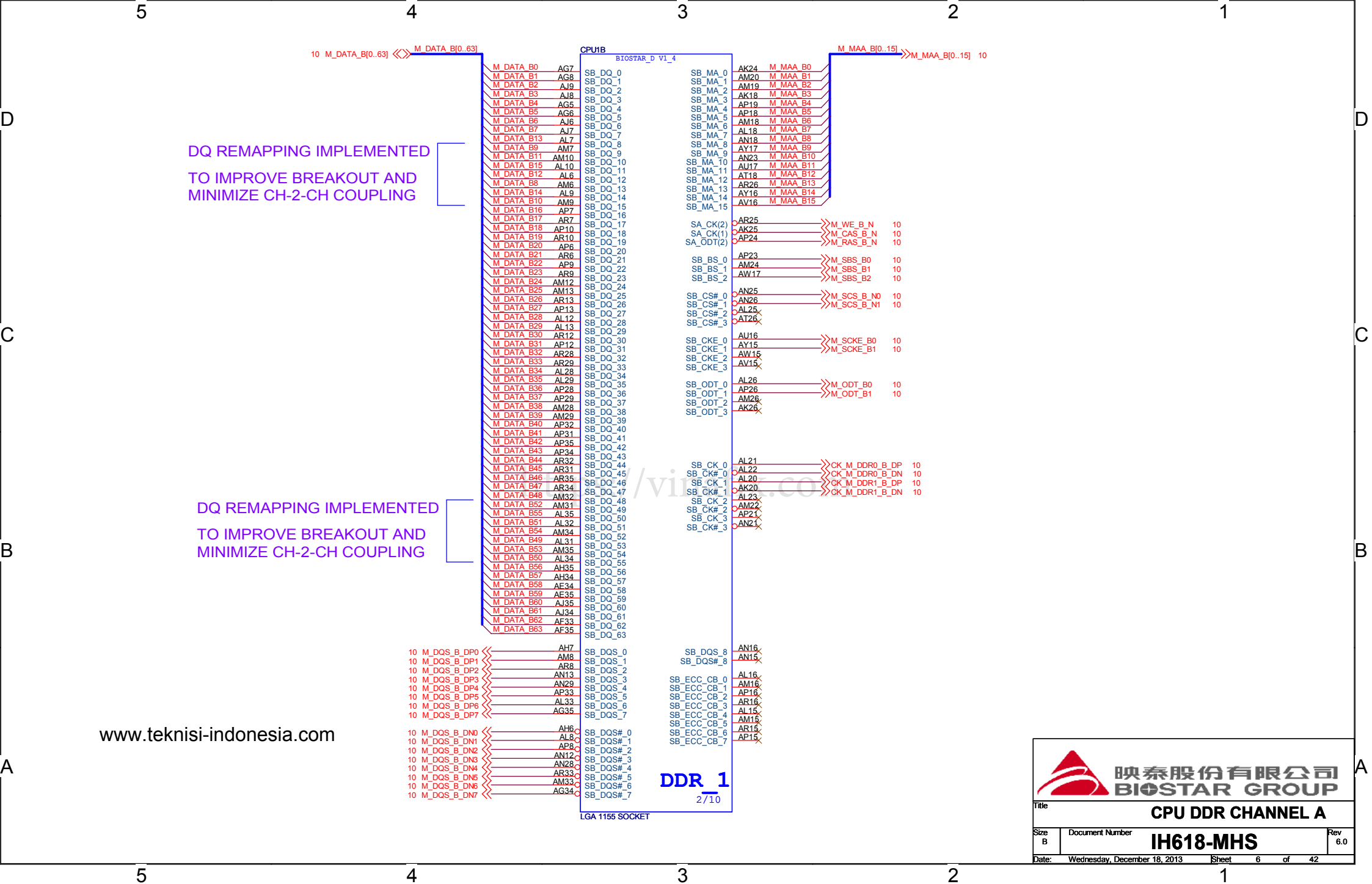


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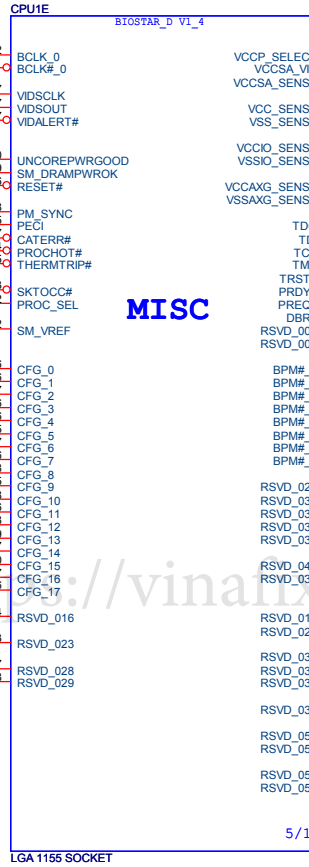
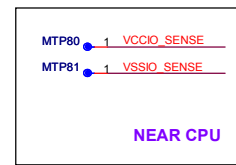
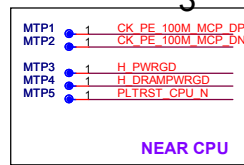
Title CPU DDR CHANNEL A

Size B Document Number IH618-MHS Rev 6.0

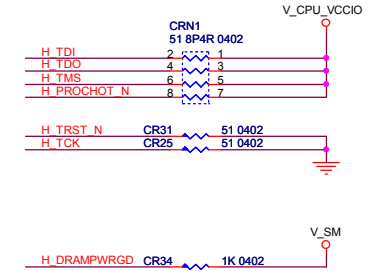
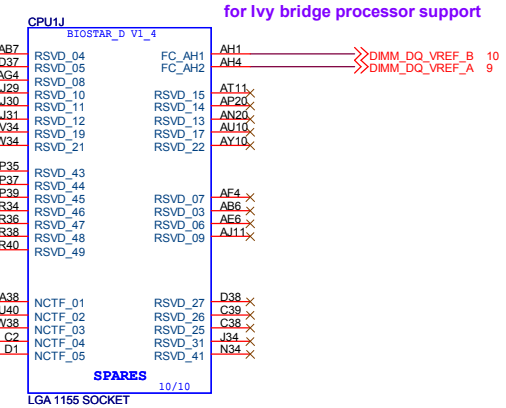
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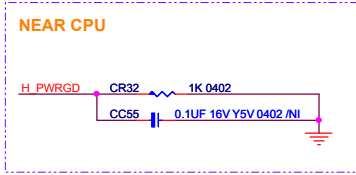
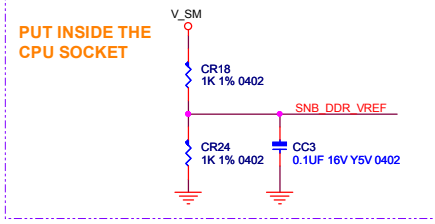
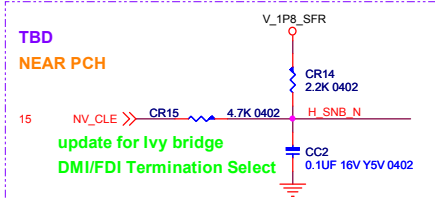
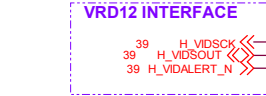
FROM CLK GEN.
FROM PCH



MISC



CPU RESET LOGIC



PCH NO PECI SUPPORTED

CFG6	CFG5	PCIE CONFIG
1	1	1 X 16
1	0	2 X 8
0	1	RESERVED
0	0	X8,X4,X4

CFG	H	L	DESCRIPTION
2	NORM	RESERVED	PEGLANE REVERSAL[0].X16
5	*	*	SEL0
6	*	*	SEL1

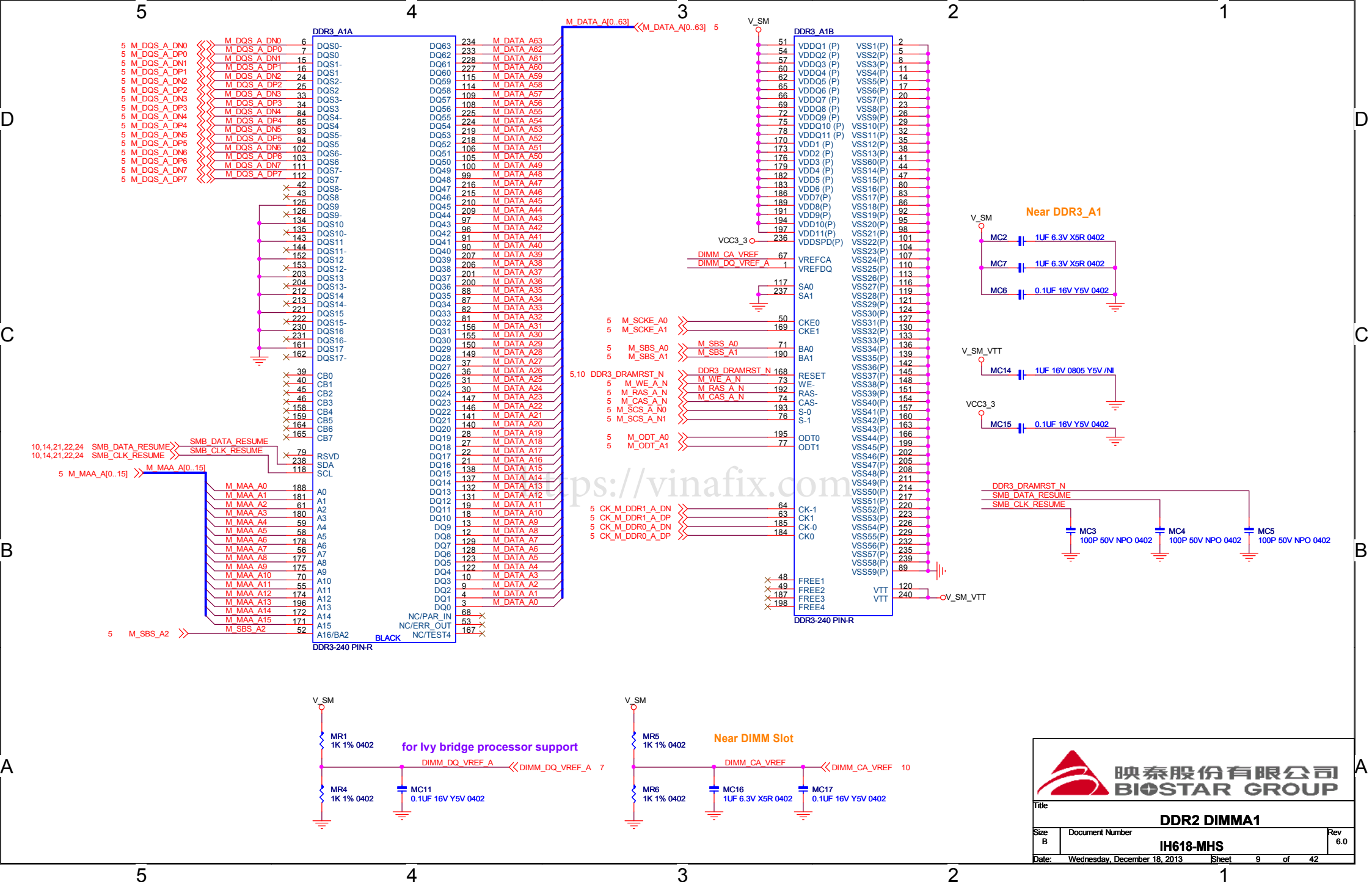
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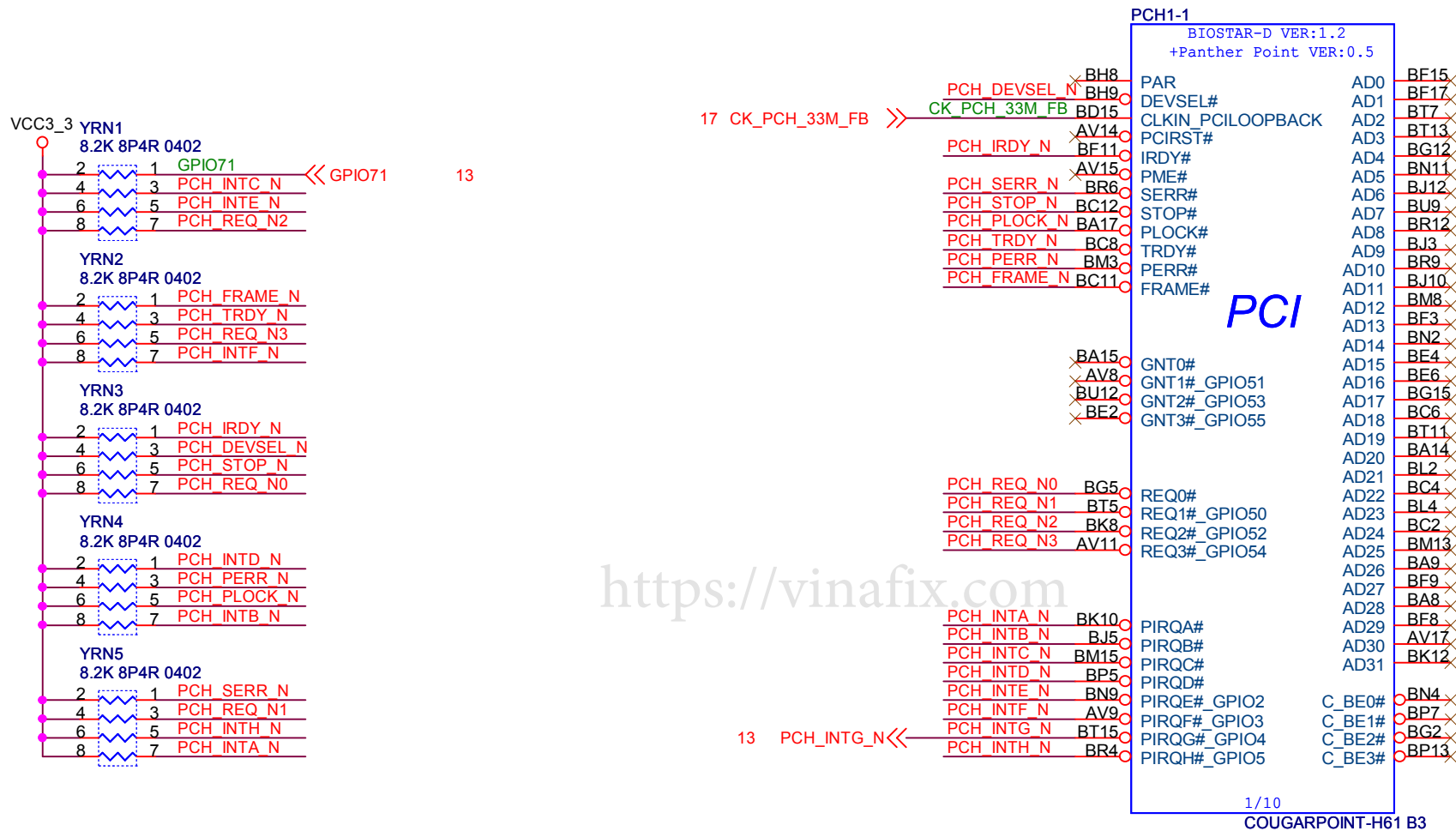
Title CPU MISC

Size Custom Document Number IH618-MHS Rev 6.0

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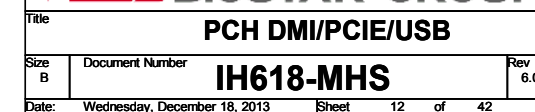
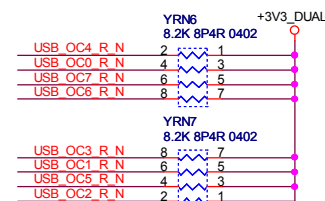


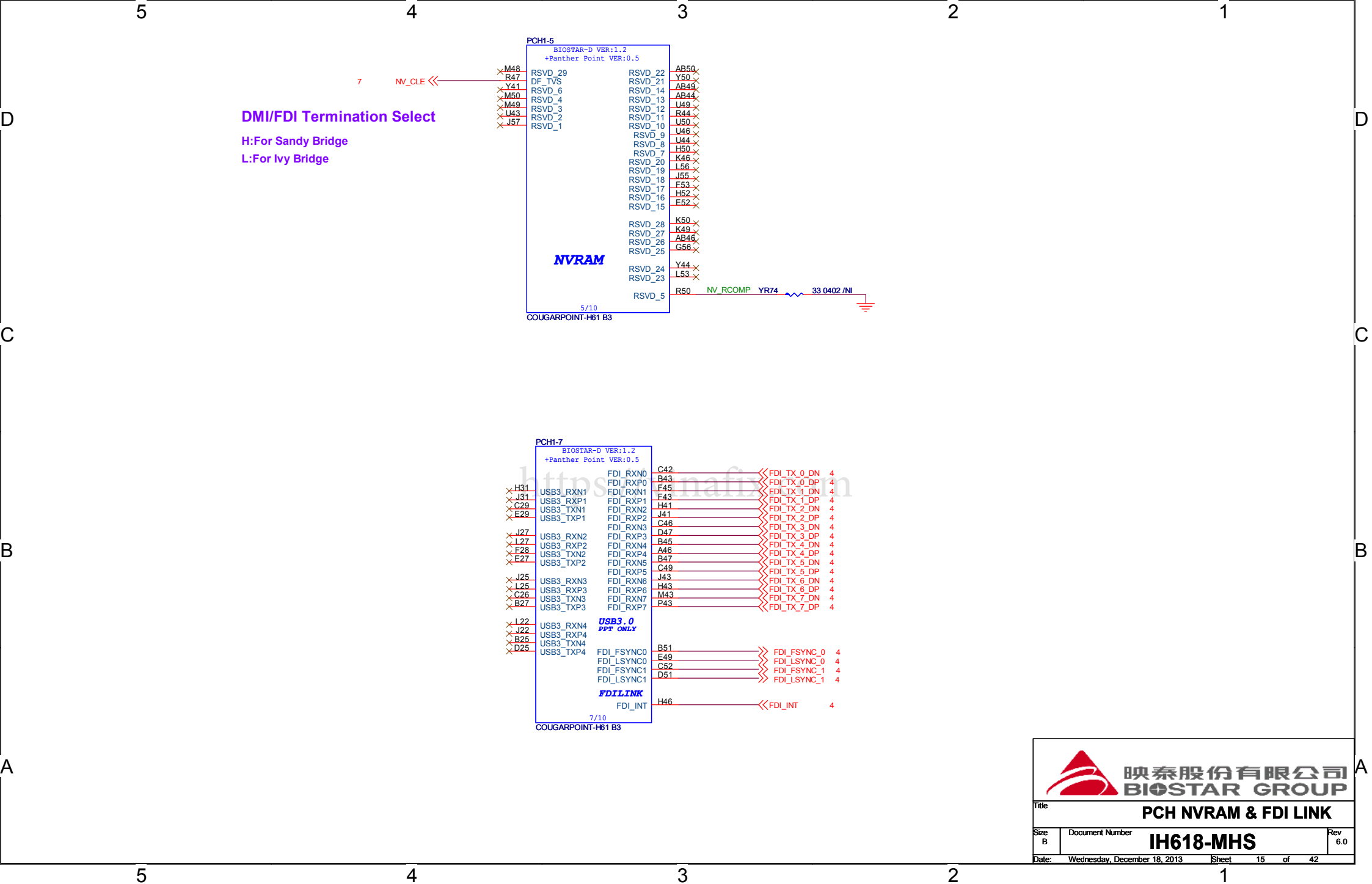
WEAK INTERNAL PULLUPS ON GNT*.DEFAULT SPI BOOT DEVICE

GNT1	GNT0/SATA1GP	BOOT DEVICE
0	0	LPC
0	1	NANO
1	0	PCI
1	1	SPI

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Title PCH PCI		
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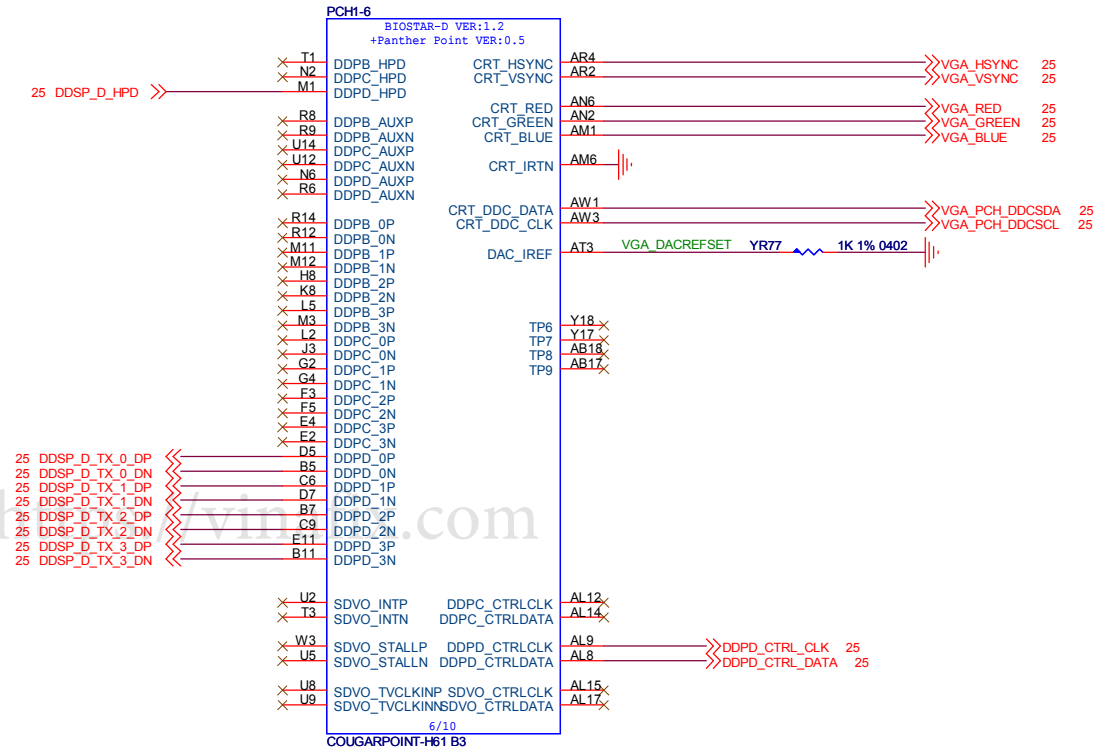



3.3V TOLERANT,HIGH ACTIVE

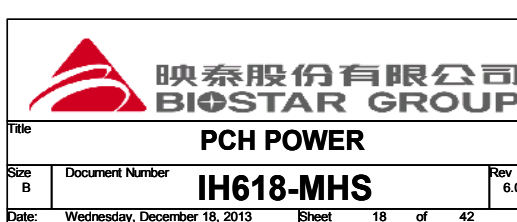
	FUNCTION
PORTB	DVI OR SDVO
PORTC	DISPLAY PORT
PORTD	HDMI/DVI/eDP

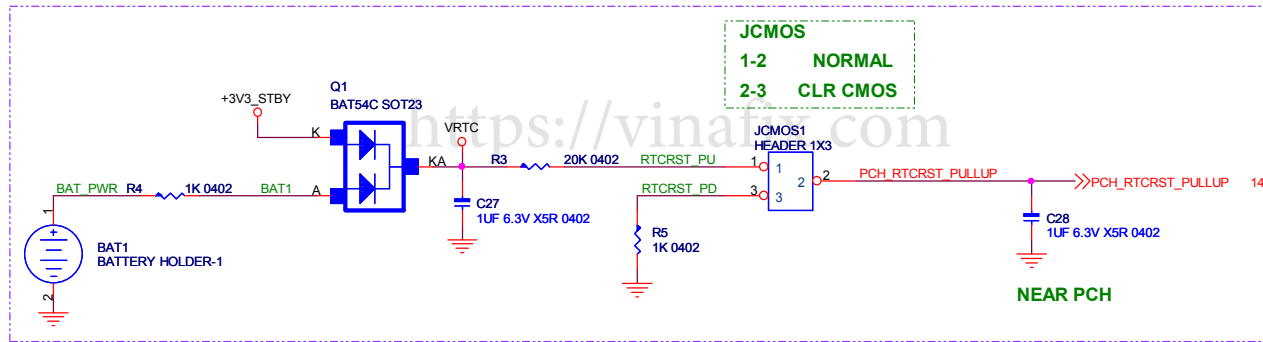
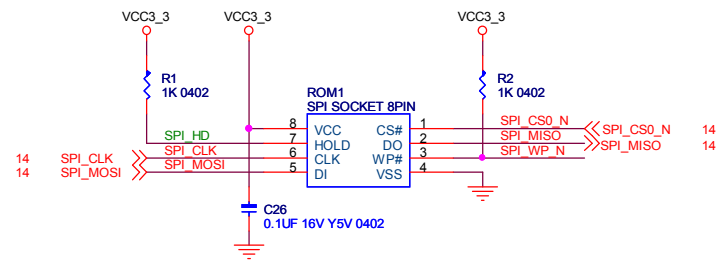
REMOVE LEVEL SHIFTER WHEN TRACE
LENGHT LESS THAN 9.25 INCHES

If DisplayPort interface is not implemented,
the Main Link, aux channel differential
signals and HPD signals can be left as No
Connects./DG108

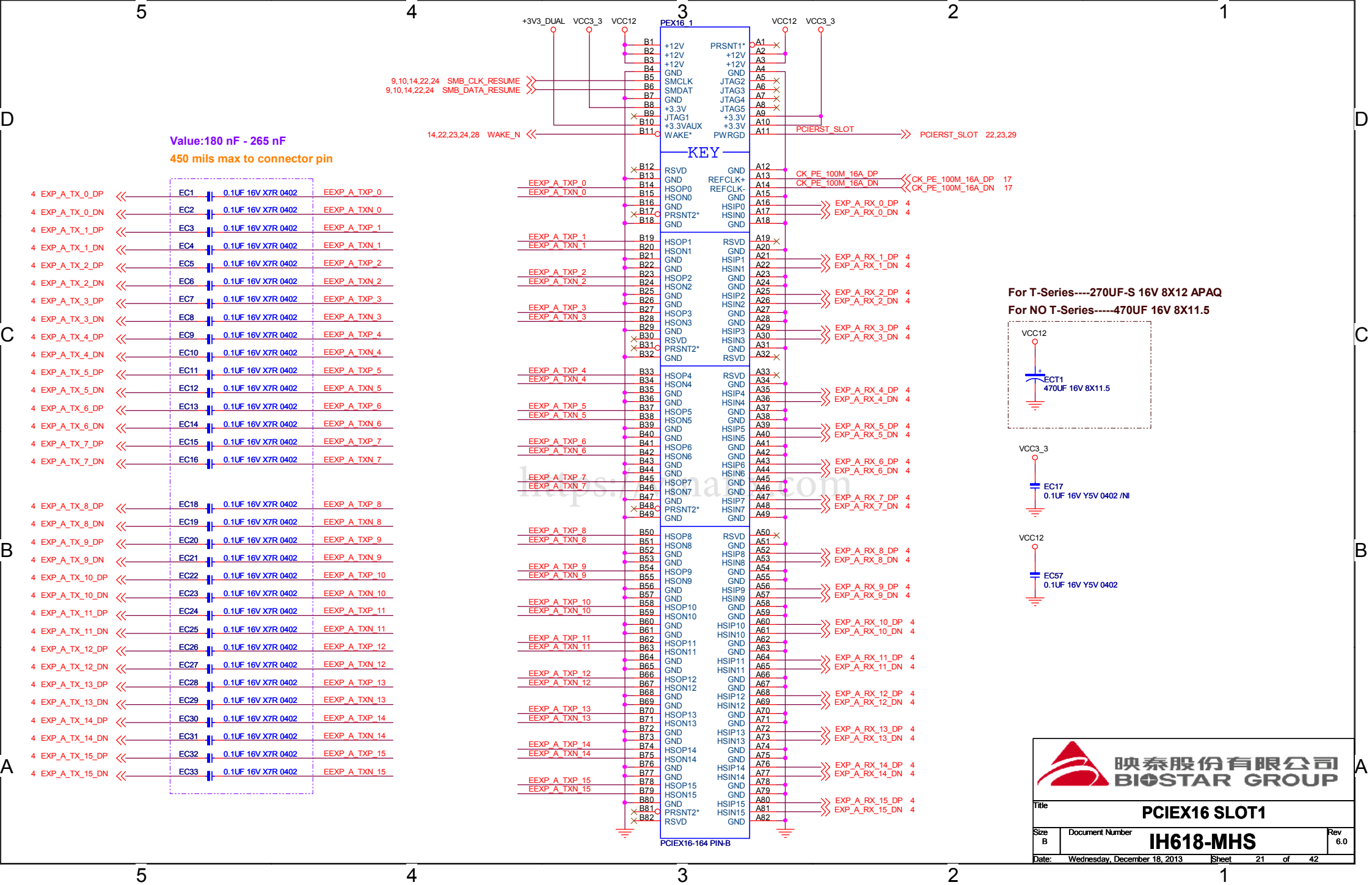


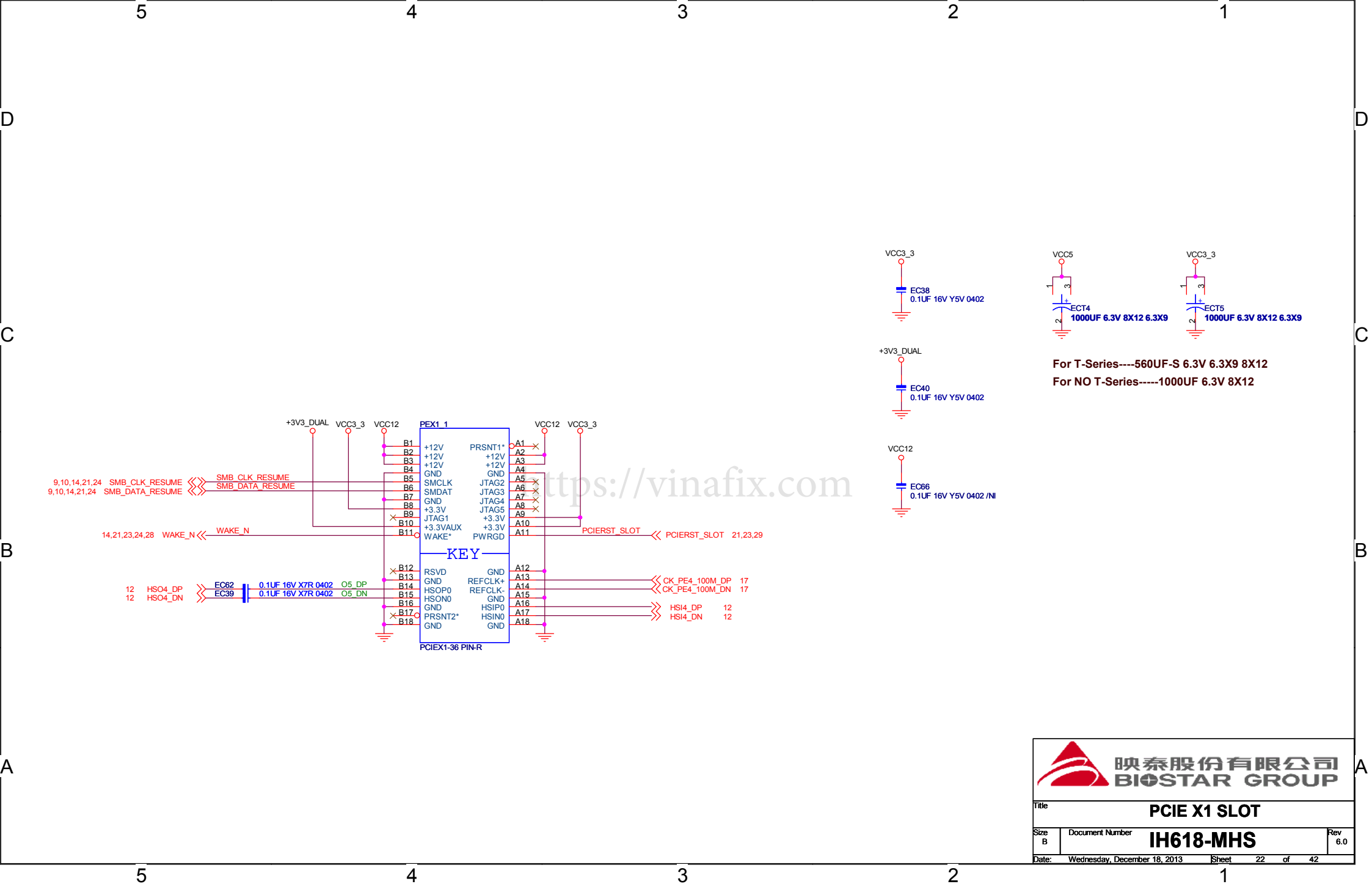
 映泰股份有限公司 BIOSTAR GROUP		
Title PCH VGA/DISPLAY PORT		
Size B	Document Number IH618-MHS	Rev 6.0
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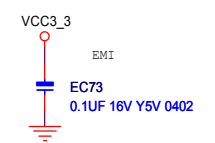
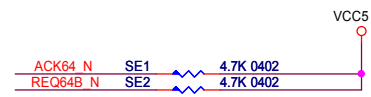
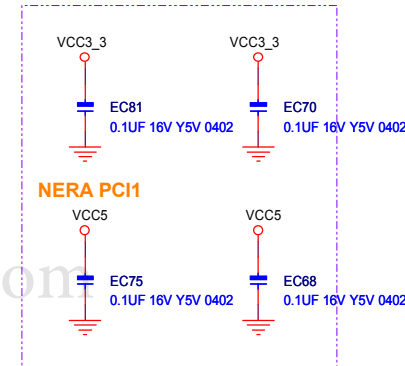
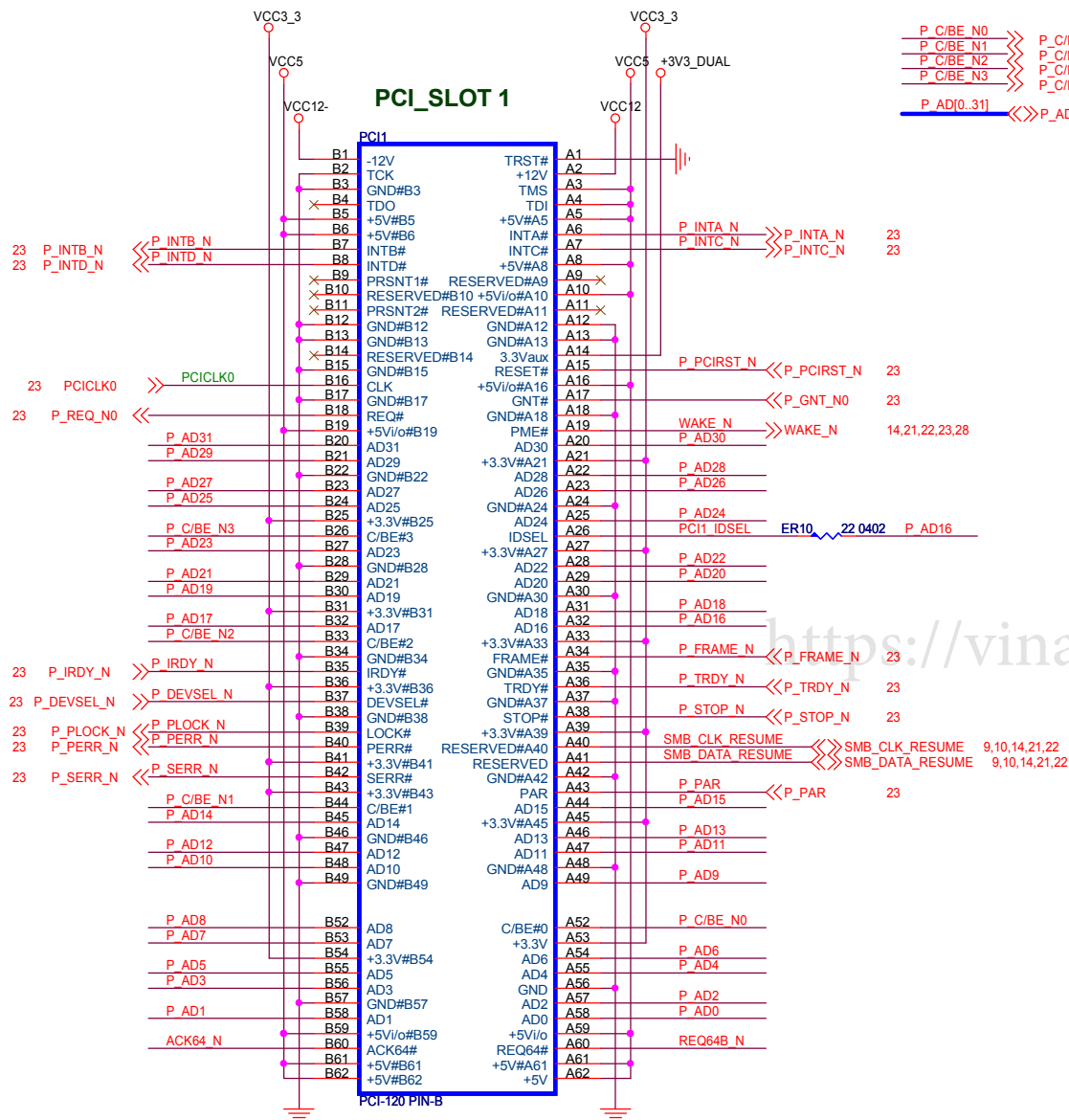


VSS018-MHS_VSS013_3 Part#: PCH GND VSS013_3		VS018	VSS_0125	VSS_0005	AA8
BC12	VSS_0126	VSS_0006	AA9		
BC13	VSS_0127	VSS_0007	AA10		
BC14	VSS_0128	VSS_0008	AA11		
BC15	VSS_0129	VSS_0009	AA12		
BC16	VSS_0130	VSS_0010	AA20		
BC17	VSS_0131	VSS_0011	AA24		
BC18	VSS_0132	VSS_0012	AA25		
BC19	VSS_0133	VSS_0013	AA26		
BC20	VSS_0134	VSS_0014	AA27		
BC21	VSS_0135	VSS_0015	AA28		
BC22	VSS_0136	VSS_0016	AA29		
BC23	VSS_0137	VSS_0017	AA30		
BC24	VSS_0138	VSS_0018	AA31		
BC25	VSS_0139	VSS_0019	AA32		
BC26	VSS_0140	VSS_0020	AA33		
BC27	VSS_0141	VSS_0021	AA34		
BC28	VSS_0142	VSS_0022	AA35		
BC29	VSS_0143	VSS_0023	AA36		
BC30	VSS_0144	VSS_0024	AA37		
BC31	VSS_0145	VSS_0025	AA38		
BC32	VSS_0146	VSS_0026	AA39		
BC33	VSS_0147	VSS_0027	AA40		
BC34	VSS_0148	VSS_0028	AA41		
BC35	VSS_0149	VSS_0029	AA42		
BC36	VSS_0150	VSS_0030	AA43		
BC37	VSS_0151	VSS_0031	AA44		
BC38	VSS_0152	VSS_0032	AA45		
BC39	VSS_0153	VSS_0033	AA46		
BC40	VSS_0154	VSS_0034	AA47		
BC41	VSS_0155	VSS_0035	AA48		
BC42	VSS_0156	VSS_0036	AA49		
BC43	VSS_0157	VSS_0037	AA50		
BC44	VSS_0158	VSS_0038	AA51		
BC45	VSS_0159	VSS_0039	AA52		
BC46	VSS_0160	VSS_0040	AA53		
BC47	VSS_0161	VSS_0041	AA54		
BC48	VSS_0162	VSS_0042	AA55		
BC49	VSS_0163	VSS_0043	AA56		
BC50	VSS_0164	VSS_0044	AA57		
BC51	VSS_0165	VSS_0045	AA58		
BC52	VSS_0166	VSS_0046	AA59		
BC53	VSS_0167	VSS_0047	AA60		
BC54	VSS_0168	VSS_0048	AA61		
BC55	VSS_0169	VSS_0049	AA62		
BC56	VSS_0170	VSS_0050	AA63		
BC57	VSS_0171	VSS_0051	AA64		
BC58	VSS_0172	VSS_0052	AA65		
BC59	VSS_0173	VSS_0053	AA66		
BC60	VSS_0174	VSS_0054	AA67		
BC61	VSS_0175	VSS_0055	AA68		
BC62	VSS_0176	VSS_0056	AA69		
BC63	VSS_0177	VSS_0057	AA70		
BC64	VSS_0178	VSS_0058	AA71		
BC65	VSS_0179	VSS_0059	AA72		
BC66	VSS_0180	VSS_0060	AA73		
BC67	VSS_0181	VSS_0061	AA74		
BC68	VSS_0182	VSS_0062	AA75		
BC69	VSS_0183	VSS_0063	AA76		
BC70	VSS_0184	VSS_0064	AA77		
BC71	VSS_0185	VSS_0065	AA78		
BC72	VSS_0186	VSS_0066	AA79		
BC73	VSS_0187	VSS_0067	AA80		
BC74	VSS_0188	VSS_0068	AA81		
BC75	VSS_0189	VSS_0069	AA82		
BC76	VSS_0190	VSS_0070	AA83		
BC77	VSS_0191	VSS_0071	AA84		
BC78	VSS_0192	VSS_0072	AA85		
BC79	VSS_0193	VSS_0073	AA86		
BC80	VSS_0194	VSS_0074	AA87		
BC81	VSS_0195	VSS_0075	AA88		
BC82	VSS_0196	VSS_0076	AA89		
BC83	VSS_0197	VSS_0077	AA90		
BC84	VSS_0198	VSS_0078	AA91		
BC85	VSS_0199	VSS_0079	AA92		
BC86	VSS_0200	VSS_0080	AA93		
BC87	VSS_0201	VSS_0081	AA94		
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BC111	VSS_0225	VSS_0105	AA118		
BC112	VSS_0226	VSS_0106	AA119		
BC113	VSS_0227	VSS_0107	AA120		
BC114	VSS_0228	VSS_0108	AA121		
BC115	VSS_0229	VSS_0109	AA122		
BC116	VSS_0230	VSS_0110	AA123		
BC117	VSS_0231	VSS_0111	AA124		
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BC120	VSS_0234	VSS_0114	AA127		
BC121	VSS_0235	VSS_0115	AA128		
BC122	VSS_0236	VSS_0116	AA129		
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BC139	VSS_0253	VSS_0133	AA146		
BC140	VSS_0254	VSS_0134	AA147		
BC141	VSS_0255	VSS_0135	AA148		
BC142	VSS_0256	VSS_0136	AA149		
BC143	VSS_0257	VSS_0137	AA150		
BC144	VSS_0258	VSS_0138	AA151		
BC145	VSS_0259	VSS_0139	AA152		
BC146	VSS_0260	VSS_0140	AA153		
BC147	VSS_0261	VSS_0141	AA154		
BC148	VSS_0262	VSS_0142	AA155		
BC149	VSS_0263	VSS_0143	AA156		
BC150	VSS_0264	VSS_0144	AA157		
BC151	VSS_0265	VSS_0145	AA158		
BC152	VSS_0266	VSS_0146	AA159		
BC153	VSS_0267	VSS_0147	AA160		
BC154	VSS_0268	VSS_0148	AA161		
BC155	VSS_0269	VSS_0149	AA162		
BC156	VSS_0270	VSS_0150	AA163		
BC157	VSS_0271	VSS_0151	AA164		
BC158	VSS_0272	VSS_0152	AA165		
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BC160	VSS_0274	VSS_0154	AA167		
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BC164	VSS_0278	VSS_0158	AA171		
BC165	VSS_0279	VSS_0159	AA172		
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BC169	VSS_0283	VSS_0163	AA176		
BC170	VSS_0284	VSS_0164	AA177		
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BC172	VSS_0286	VSS_0166	AA179		
BC173	VSS_0287	VSS_0167	AA180		
BC174	VSS_0288	VSS_0168	AA181		
BC175	VSS_0289	VSS_0169	AA182		
BC176	VSS_0290	VSS_0170	AA183		
BC177	VSS_0291	VSS_0171	AA184		
BC178	VSS_0292	VSS_0172	AA185		
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BC181	VSS_0295	VSS_0175	AA188		
BC182	VSS_0296	VSS_0176	AA189		
BC183	VSS_0297	VSS_0177	AA190		
BC184	VSS_0298	VSS_0178	AA191		
BC185	VSS_0299	VSS_0179	AA192		
BC186	VSS_0300	VSS_0180	AA193		
BC187	VSS_0301	VSS_0181	AA194		
BC188	VSS_0302	VSS_0182	AA195		
BC189	VSS_0303	VSS_0183	AA196		
BC190	VSS_0304	VSS_0184	AA197		
BC191	VSS_0305	VSS_0185	AA198		
BC192	VSS_0306	VSS_0186	AA199		
BC193	VSS_0307	VSS_0187	AA200		
BC194	VSS_0308	VSS_0188	AA201		
BC195	VSS_0309	VSS_0189	AA202		
BC196	VSS_0310	VSS_0190	AA203		
BC197	VSS_0311	VSS_0191	AA204		
BC198	VSS_0312	VSS_0192	AA205		
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BC200	VSS_0314	VSS_0194	AA207		
BC201	VSS_0315	VSS_0195	AA208		
BC202	VSS_0316	VSS_0196	AA209		
BC203	VSS_0317	VSS_0197	AA210		
BC204	VSS_0318	VSS_0198	AA211		
BC205	VSS_0319	VSS_0199	AA212		
BC206	VSS_0320	VSS_0200	AA213		
BC207	VSS_0321	VSS_0201	AA214		
BC208	VSS_0322	VSS_0202	AA215		
BC209	VSS_0323	VSS_0203	AA216		
BC210	VSS_0324	VSS_0204	AA217		
BC211	VSS_0325	VSS_0205	AA218		
BC212	VSS_0326	VSS_0206	AA219		
BC213	VSS_0327	VSS_0207	AA220		
BC214	VSS_0328	VSS_0208	AA221		
BC215	VSS_0329	VSS_0209	AA222		
BC216	VSS_0330	VSS_0210	AA223		
BC217	VSS_0331	VSS_0211	AA224		
BC218	VSS_0332	VSS_0212	AA225		
BC219	VSS_0333	VSS_0213	AA226		
BC220	VSS_0334	VSS_0214	AA227		
BC221	VSS_0335	VSS_0215	AA228		
BC222	VSS_0336	VSS_0216	AA229		
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BC225	VSS_0339	VSS_0219	AA232		
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BC228	VSS_0342	VSS_0222	AA235		
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BC234	VSS_0348	VSS_0228	AA241		
BC235	VSS_0349	VSS_0229	AA242		
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BC237	VSS_0351	VSS_0231	AA244		
BC238	VSS_0352	VSS_0232	AA245		
BC239	VSS_0353	VSS_0233	AA246		
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BC243	VSS_0357	VSS_0237	AA250		
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BC246	VSS_0360	VSS_0240	AA253		
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BC286	VSS_0400	VSS_0280	AA293		
BC287	VSS_0401	VSS_0281	AA294		
BC288	VSS_0402	VSS_0282	AA295		
BC289	VSS_0403	VSS_0283	AA296		
BC290	VSS_0404	VSS_0284	AA297		
BC291	VSS_0405	VSS_0285			






IDSEL:AD16, INT:ABCD, REQ0 & GNT0, PCICLK0



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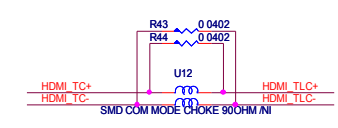
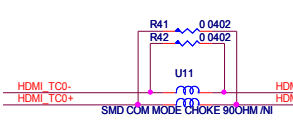
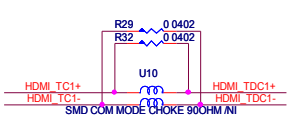
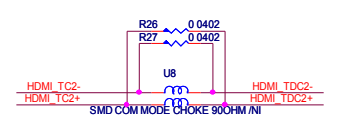
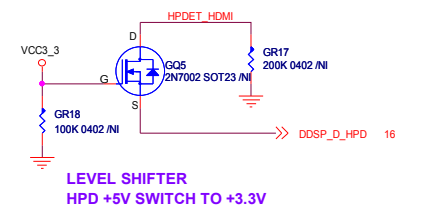
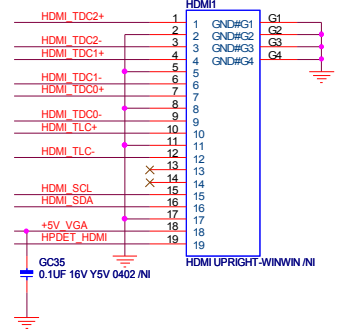
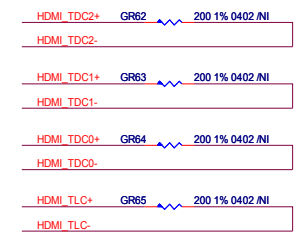
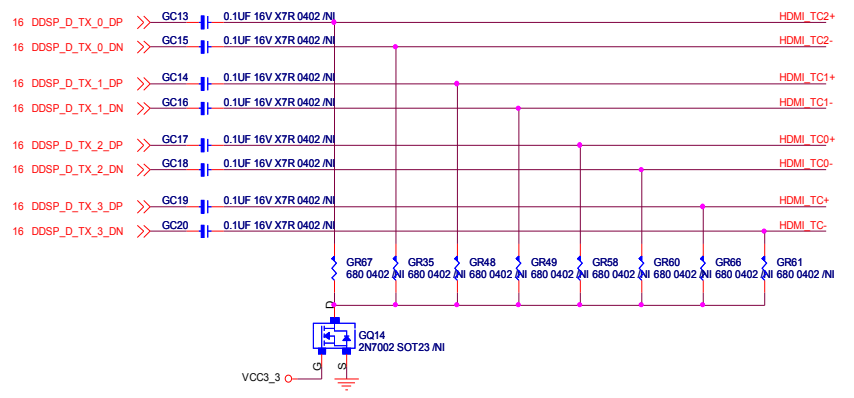
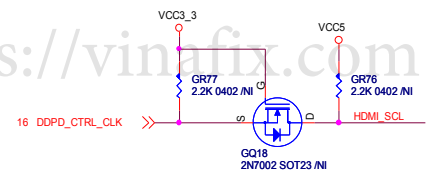
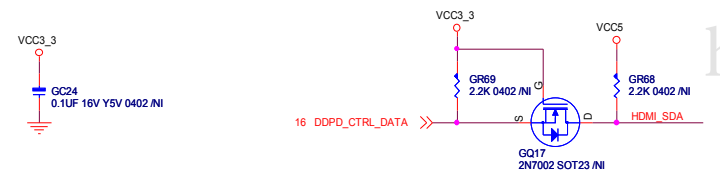
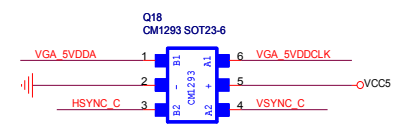
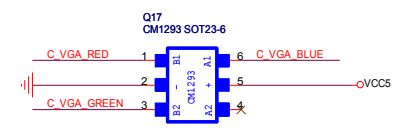
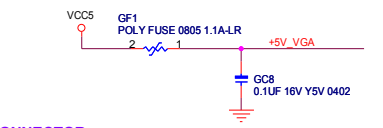
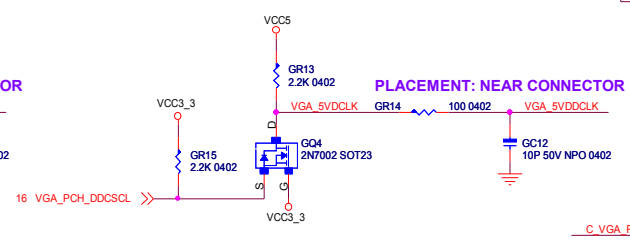
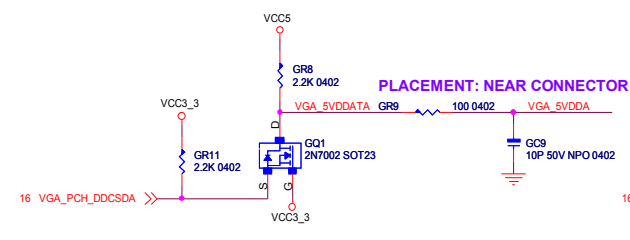
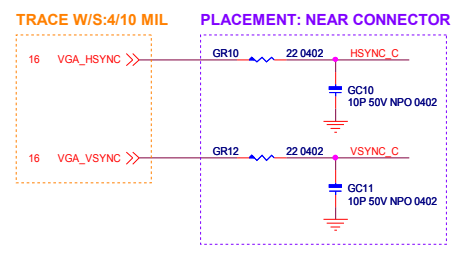
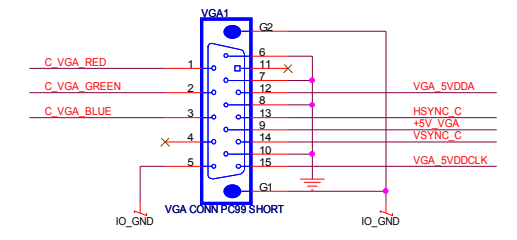
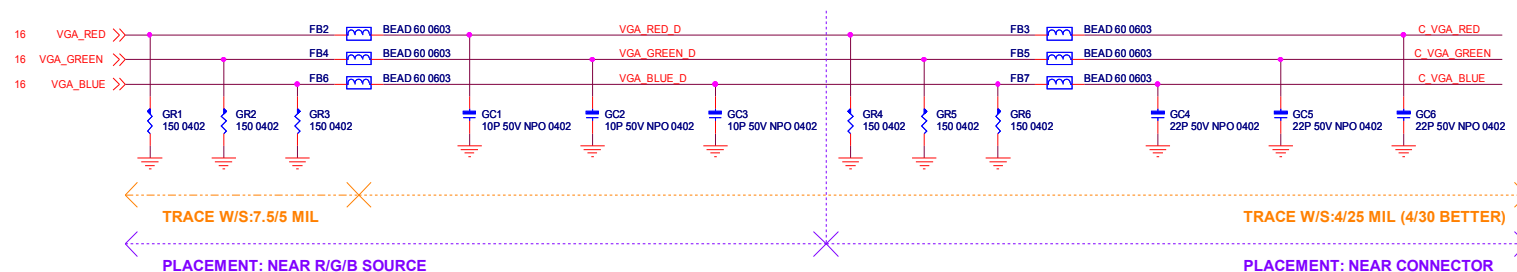
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Date: Wednesday, December 18, 2013

Document Number: **IH618-MHS**

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File: **VGA/DVI CONNECTOR**

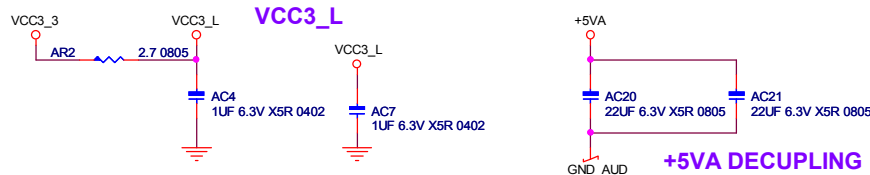
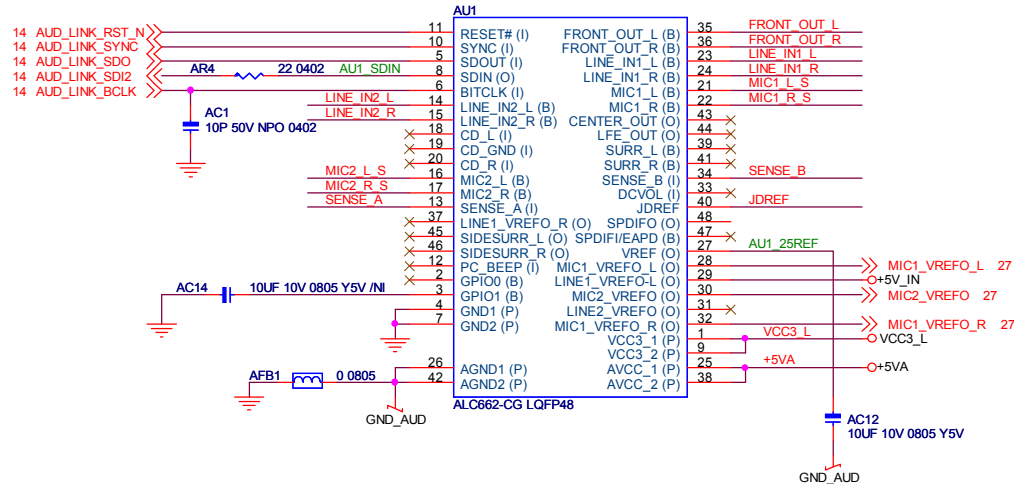
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AUDIO PART: A+Reference



$$V_{out} = V_{ref} (1.25V) \times (1 + R2/R1) = 5.11V$$

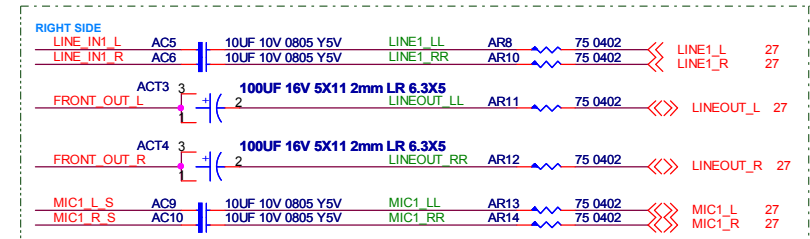
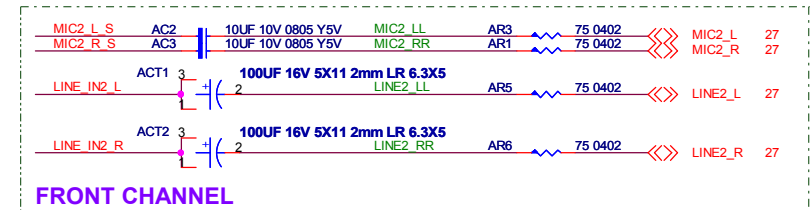
NETIN: 100UF 16V 5X11 2MM LR 6.3X5
BOM: 100UF 16V 5X11 2mm LR 6.3X5
100UF-S 16V 6.3X9 APAQ

Near PIN 29

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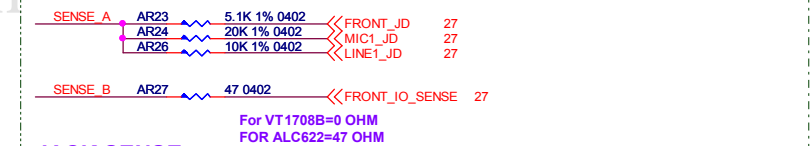
COMPONENT CONTRAST LIST

AUDIO	AR7	ACT5	AR15	AC13	AC14	AC20	AC21	AR27	AR30
ALC662VD	X	X	2.7	O	O	10UF 10V 0805 Y5V	10UF 10V 0805 Y5V	47 OHM	20K
VT1708	2.7 0805	O	X	X	X	1UF 16V 0805 Y5V	1UF 16V 0805 Y5V	0 OHM	5.1K
ALC662CG	2.7 0805	O	X	X	X	1UF 16V 0805 Y5V	1UF 16V 0805 Y5V	47 OHM	20K



REAR CHANNEL

CD IN CONNECTOR

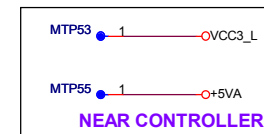


JACK SENSE



FOR VT1708B LQFP48: AR30=5.1K

FOR ALC662 LQFP48: AR30=20K



Title: **CODEC VT1708B**

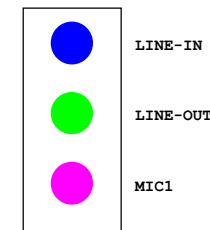
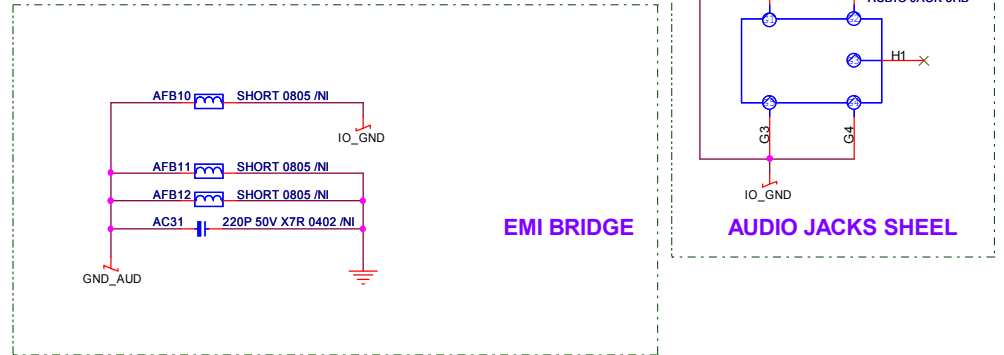
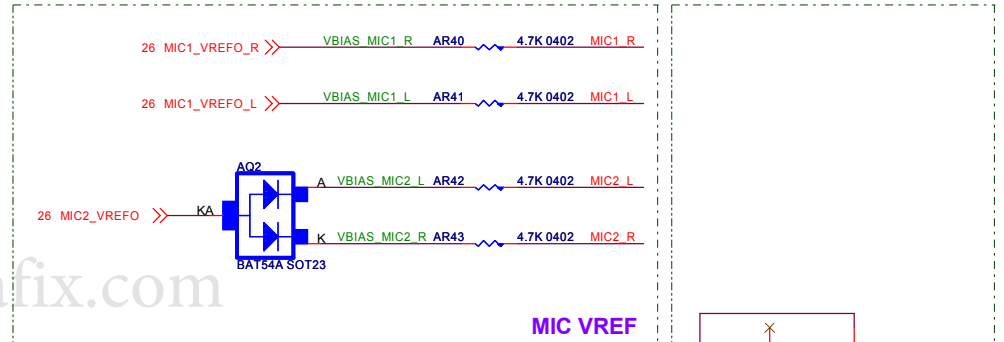
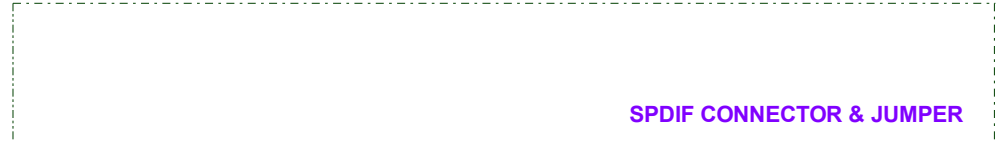
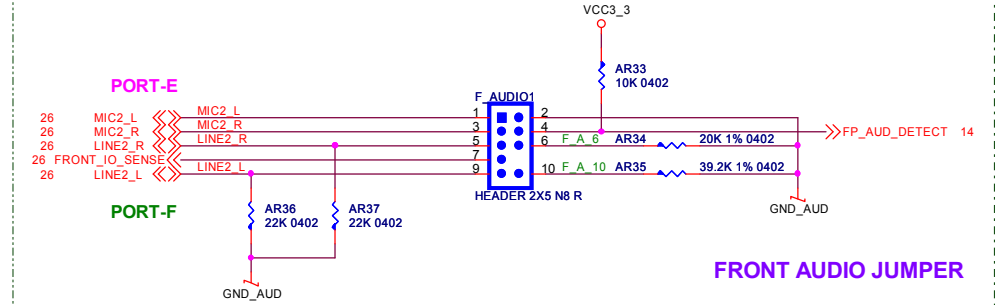
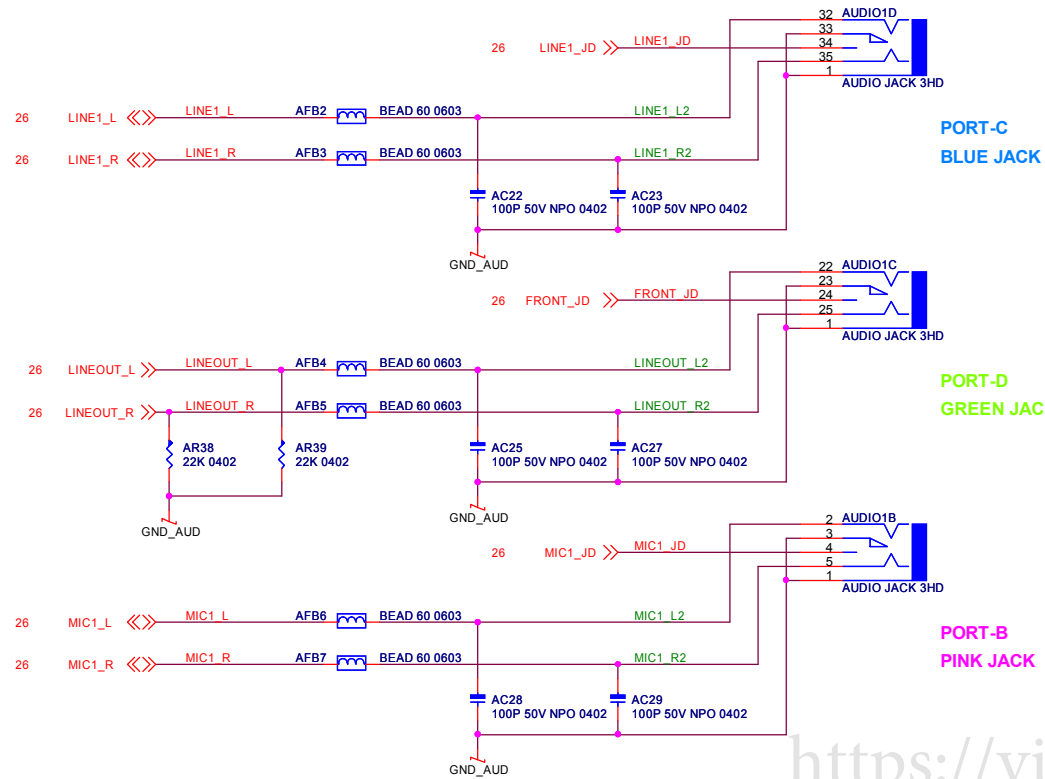
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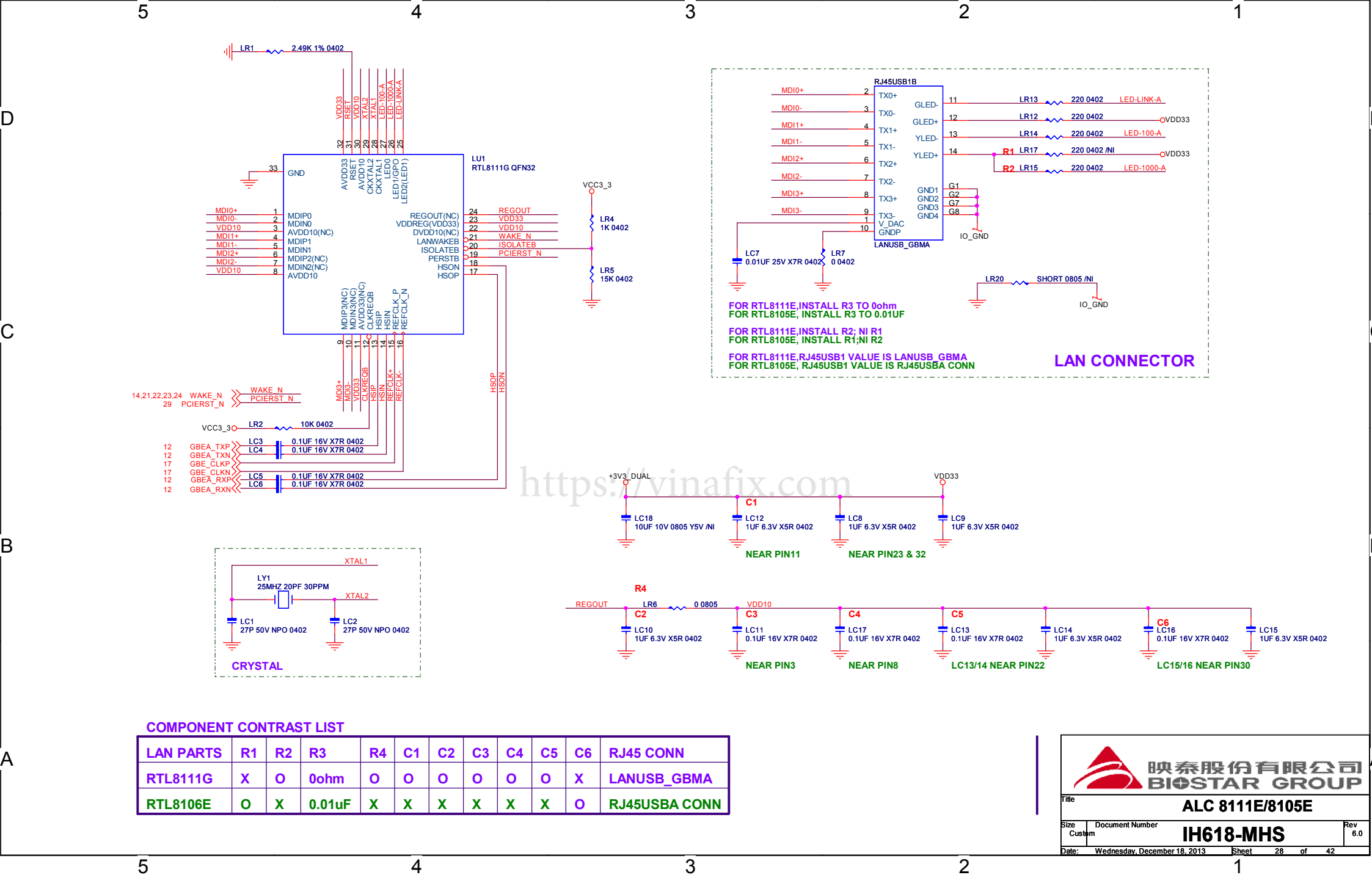
Document Number: **IH618-MHS**

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VCC3_3

SR29 4.7K 0402 DTR2#

SR34 4.7K 0402 CHIP_THERM

SR3 2.2K 0402 PCIRSTIN#

SR7 2.2K 0402 PWRGD 50MS

SR8 2.2K 0402 PWRGD 3V

SR6 2.2K 0402 SYS_RST_N

SR62 4.7K 0402 ATXPG

SC20 0.1uF 16V 5V 0402

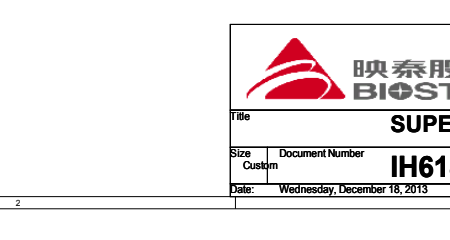
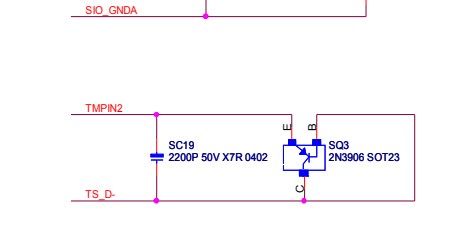
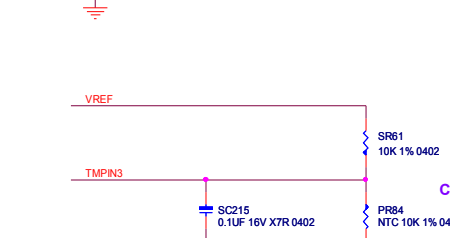
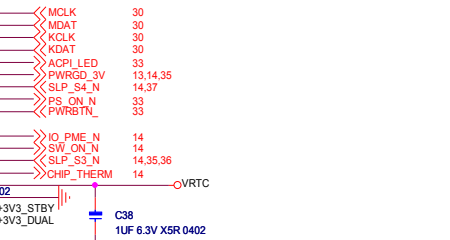
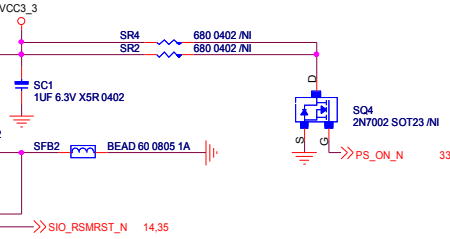
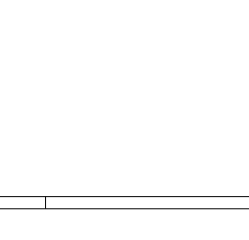
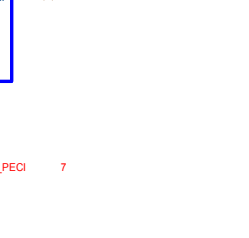
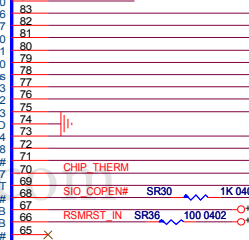
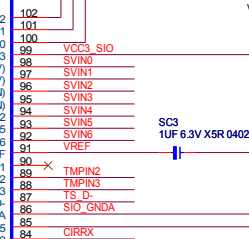
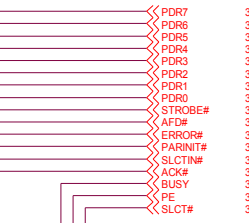
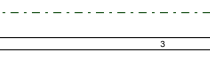
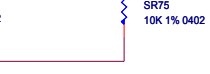
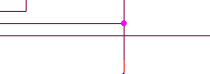
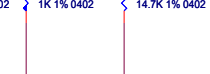
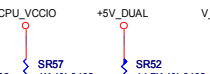
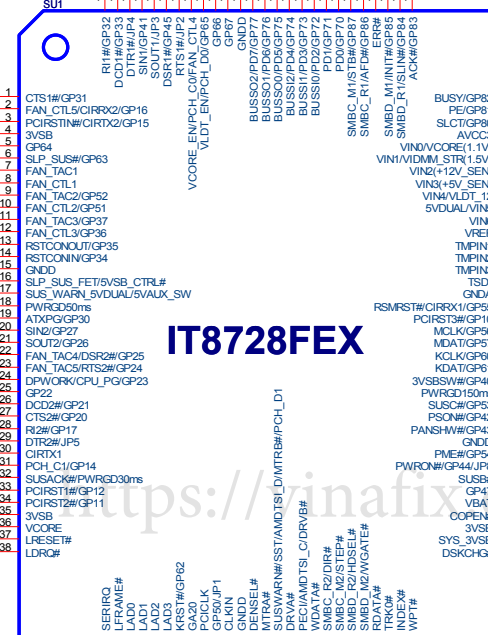
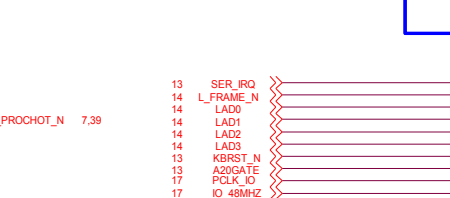
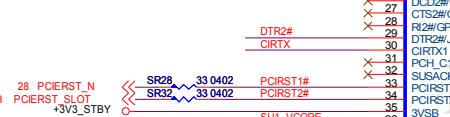
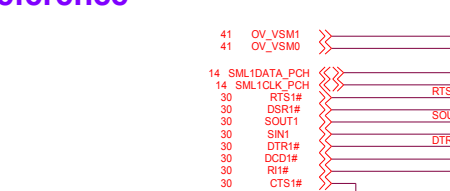
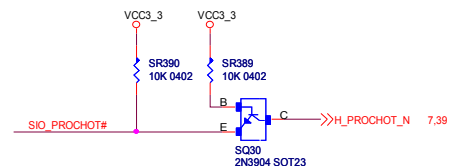
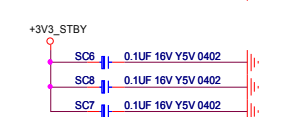
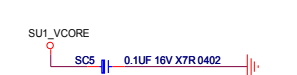
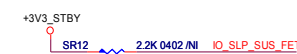
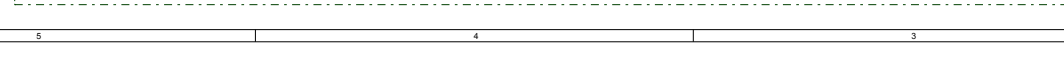
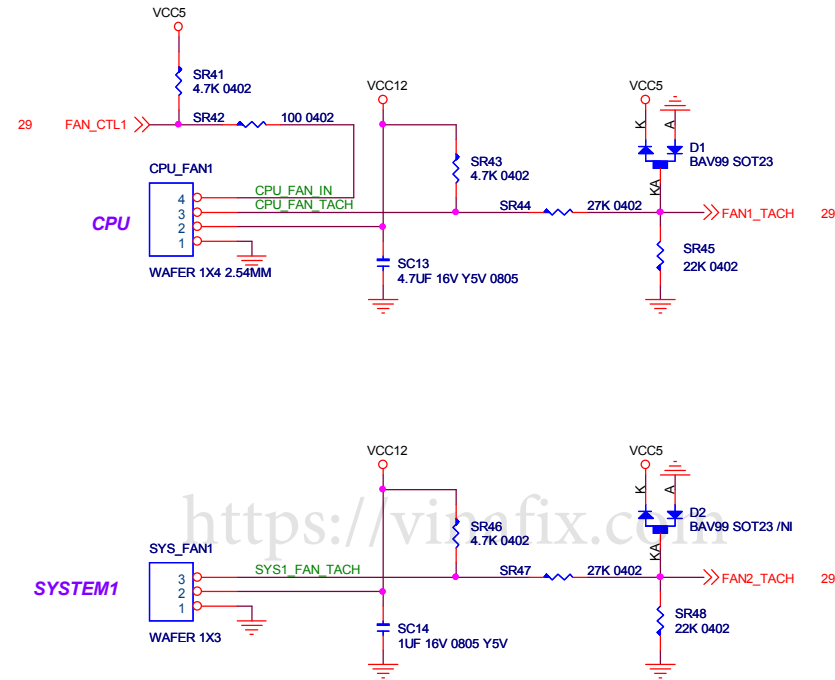


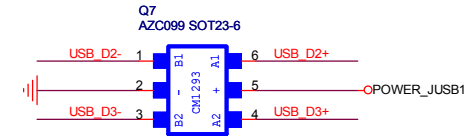
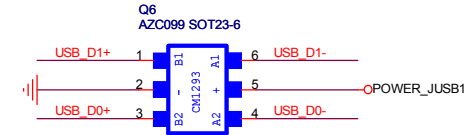
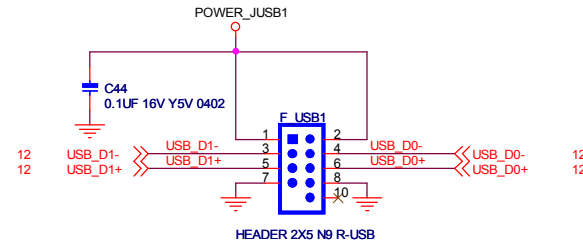
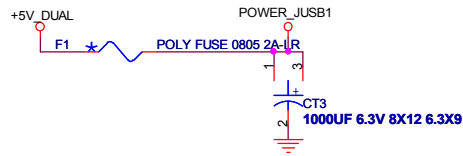
Figure 10. Power supply section of the iCE7000 SoC



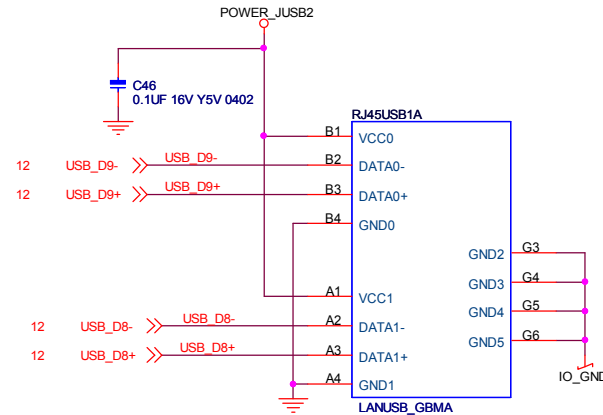
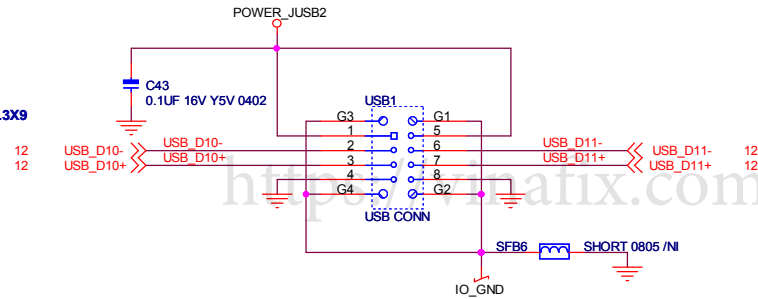
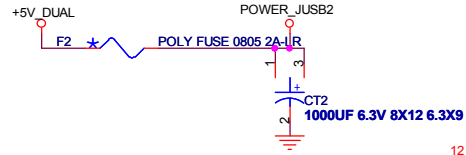
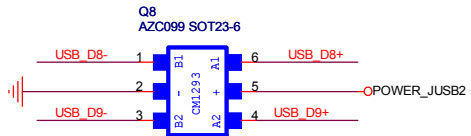
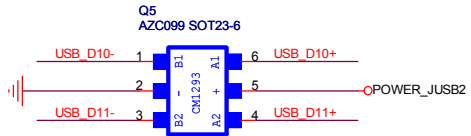
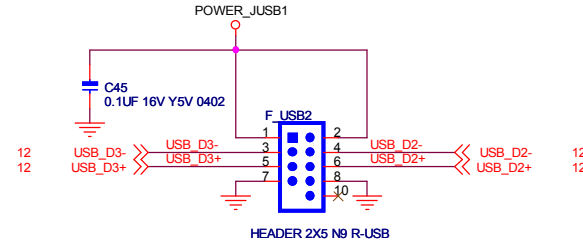
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CPU FAN/SYSTEM FAN1





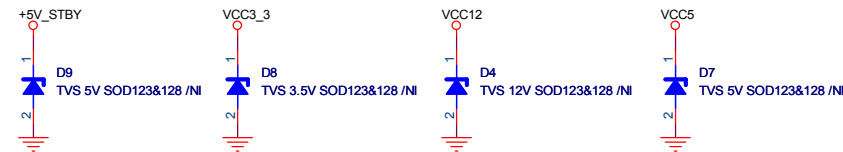
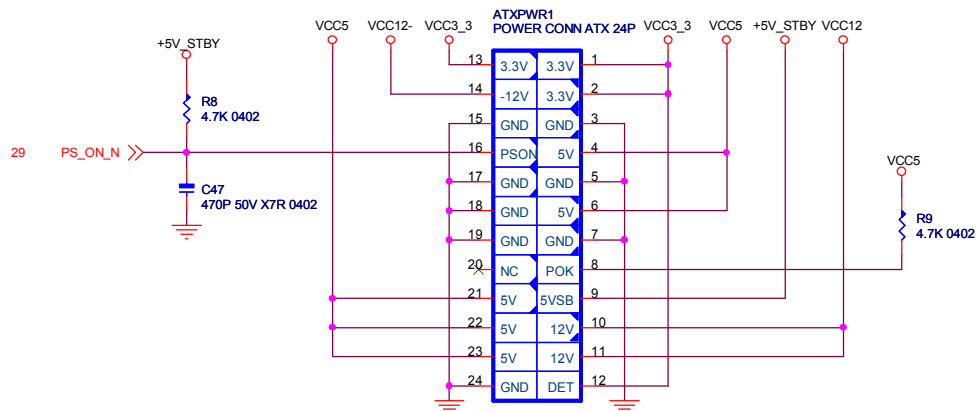
For T-Series----- 560UF-S 6.3V 6.3X9 APAQ
For NO T-Series-----1000UF 6.3V 8X12 6.3X9



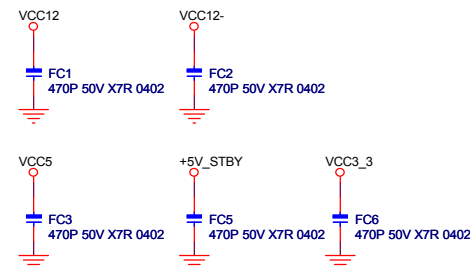
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24 PIN POWER CONNECTOR

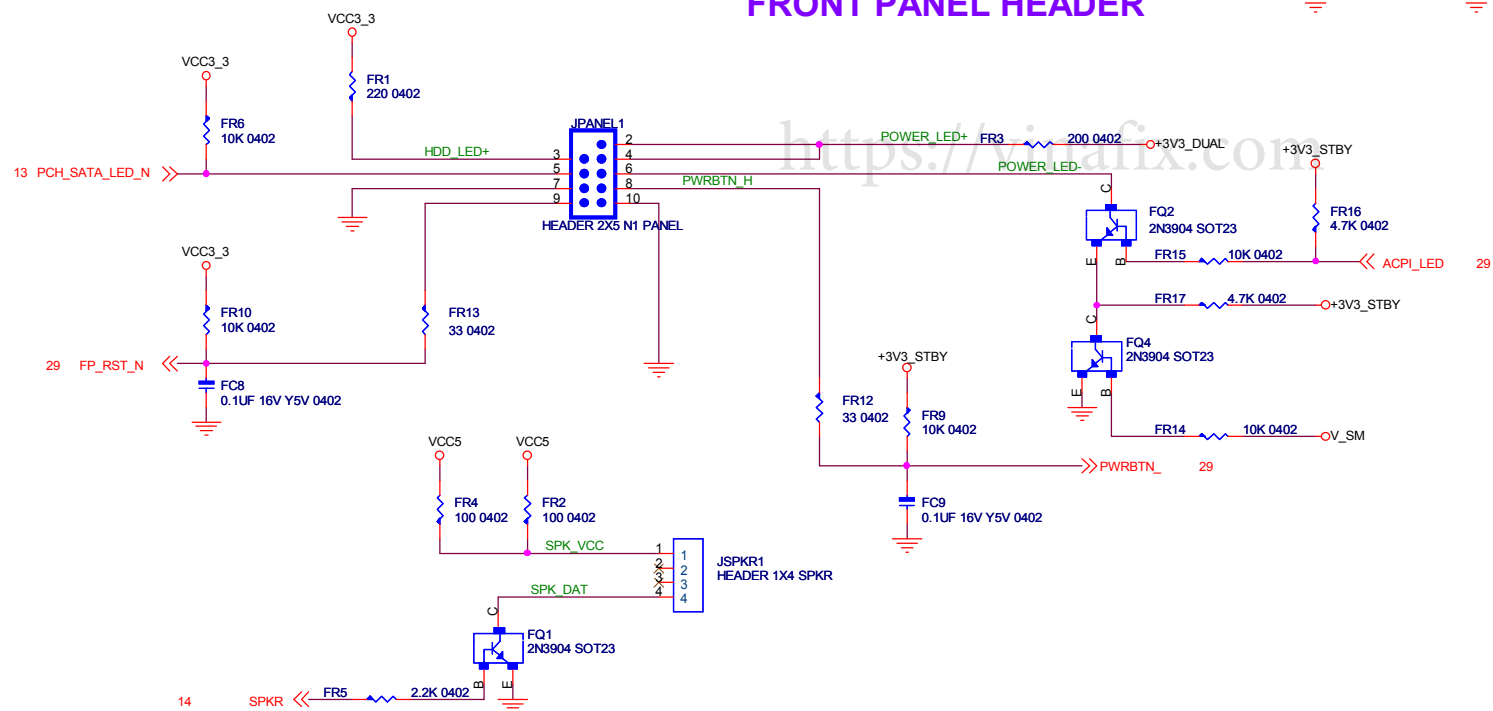
JATXPWR




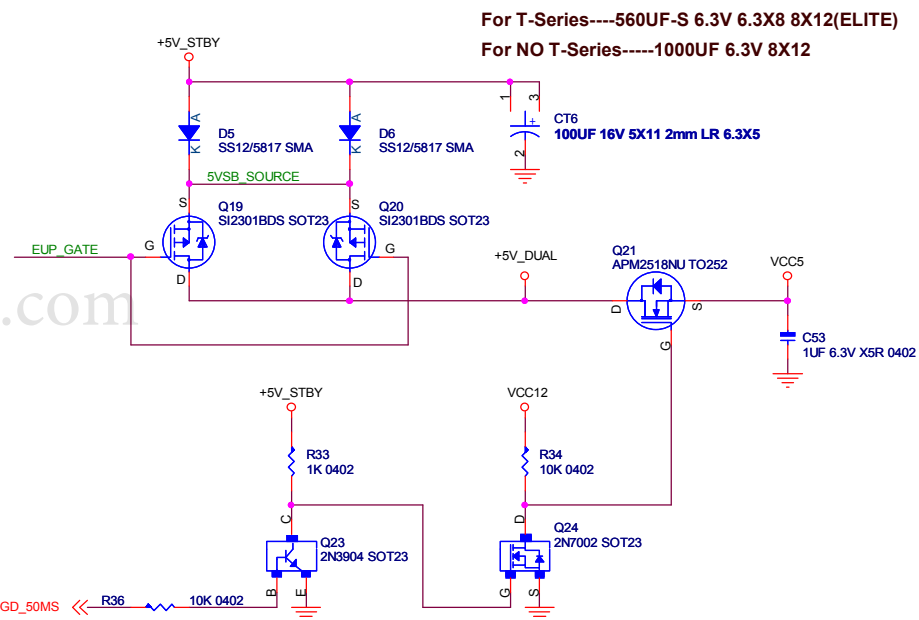
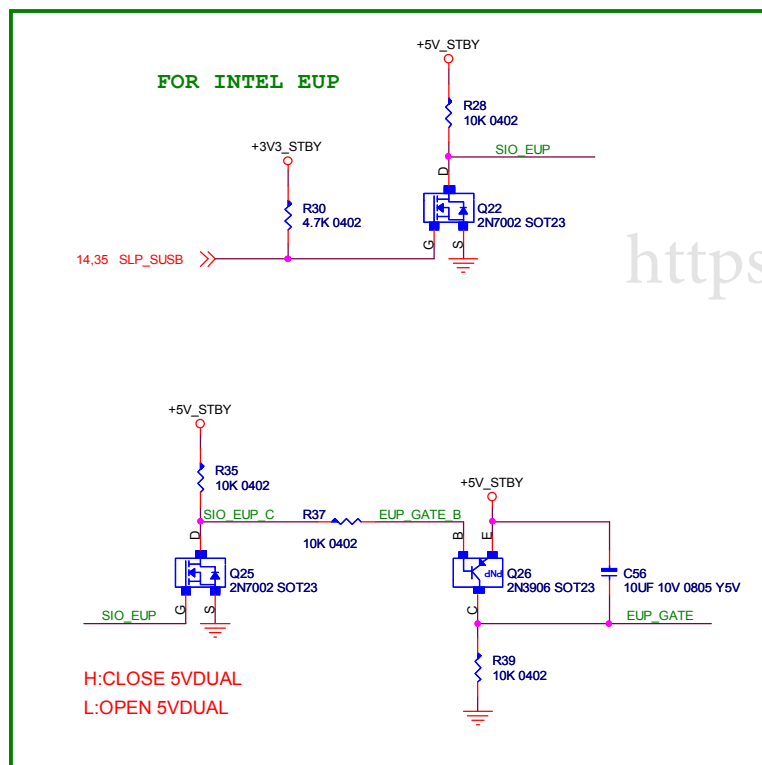
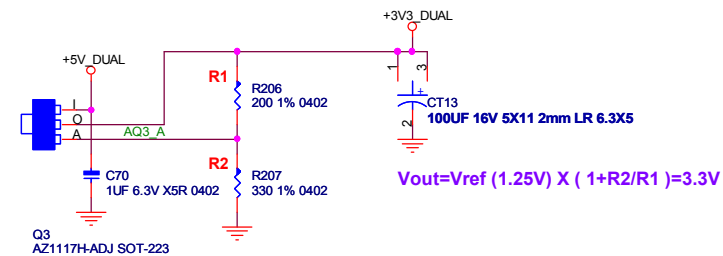
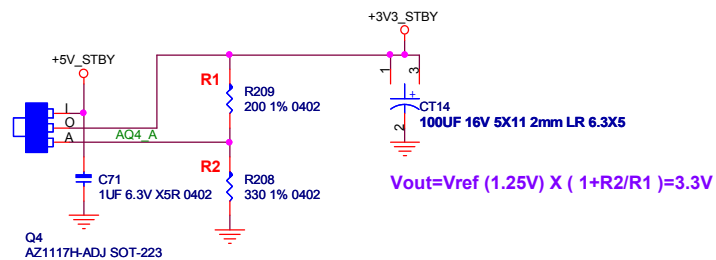
FOR EMI



FRONT PANEL HEADER

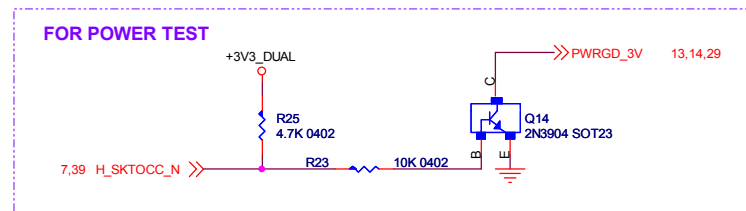
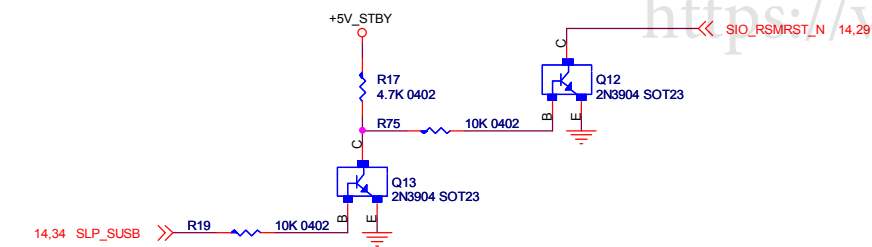
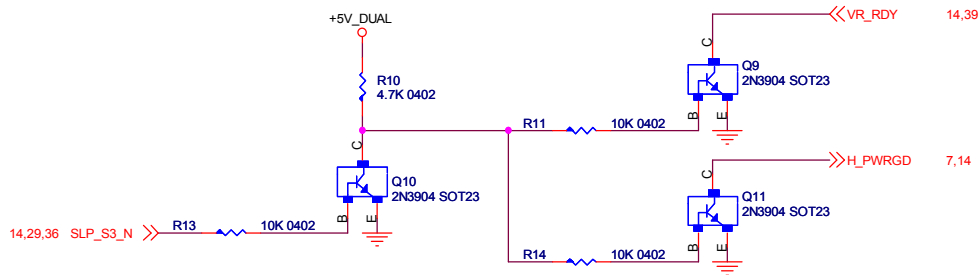


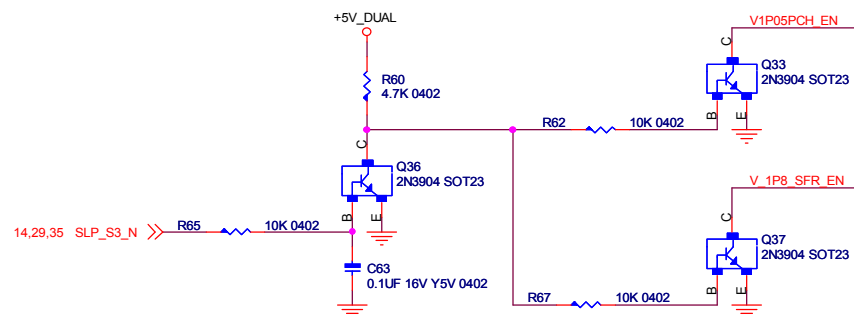
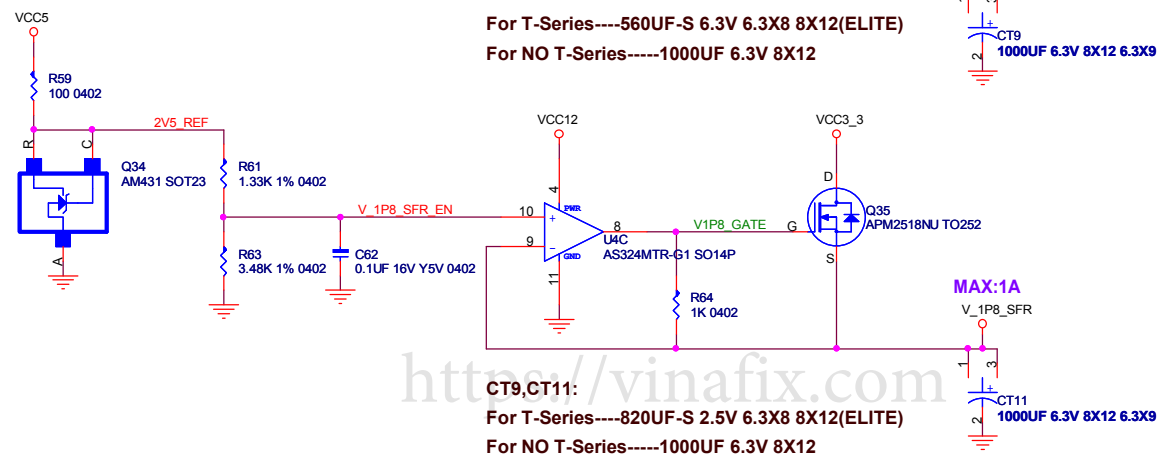
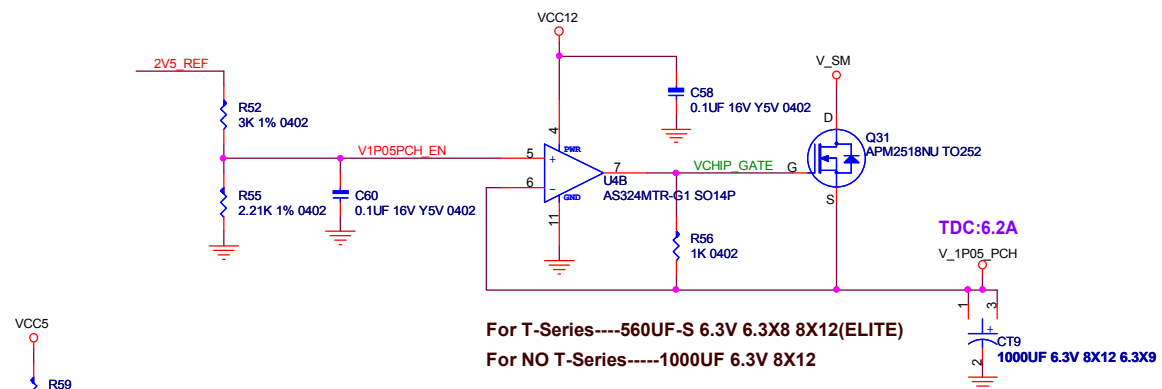
		
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24PIN POWER CONN&FP		
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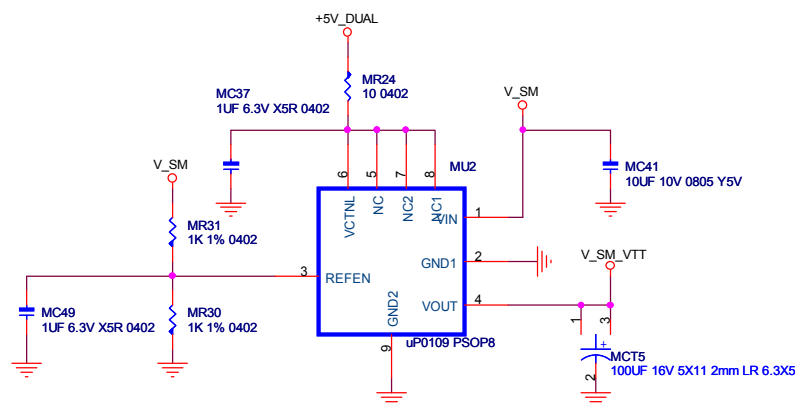
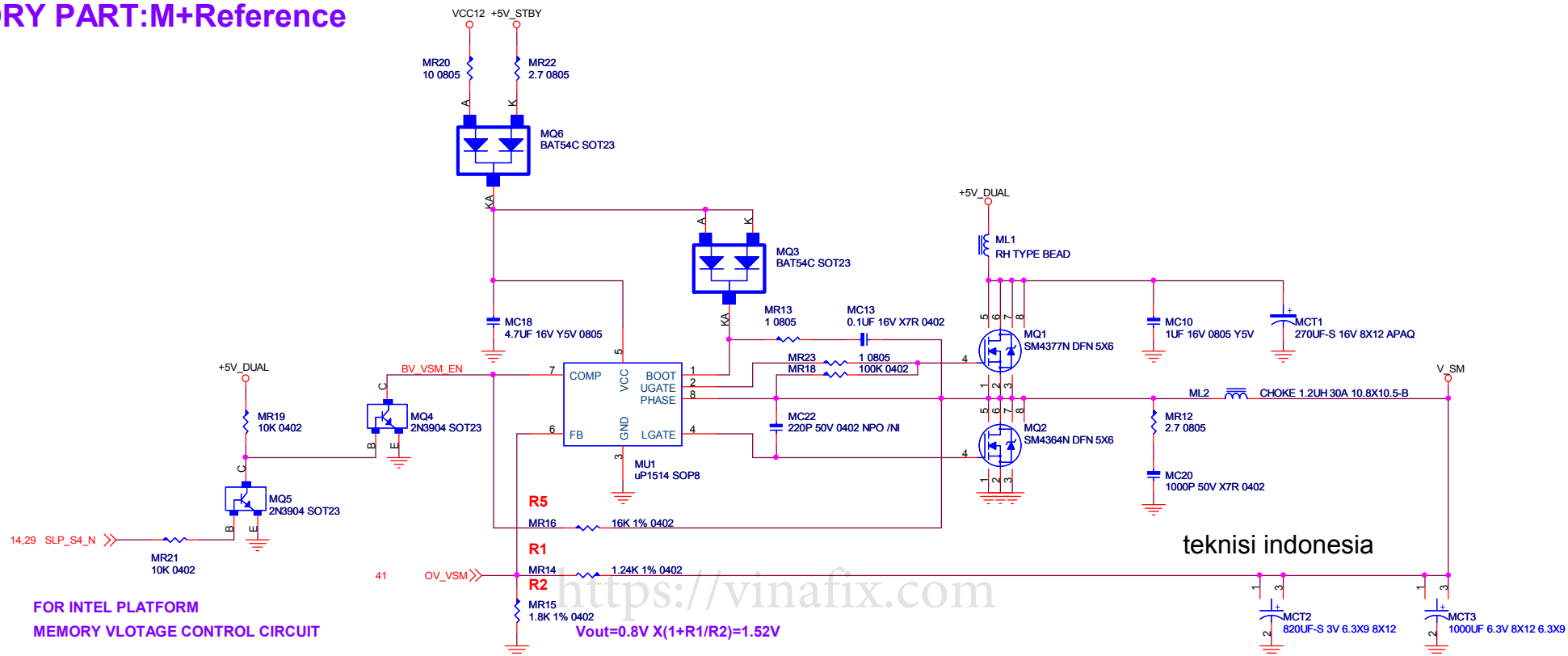
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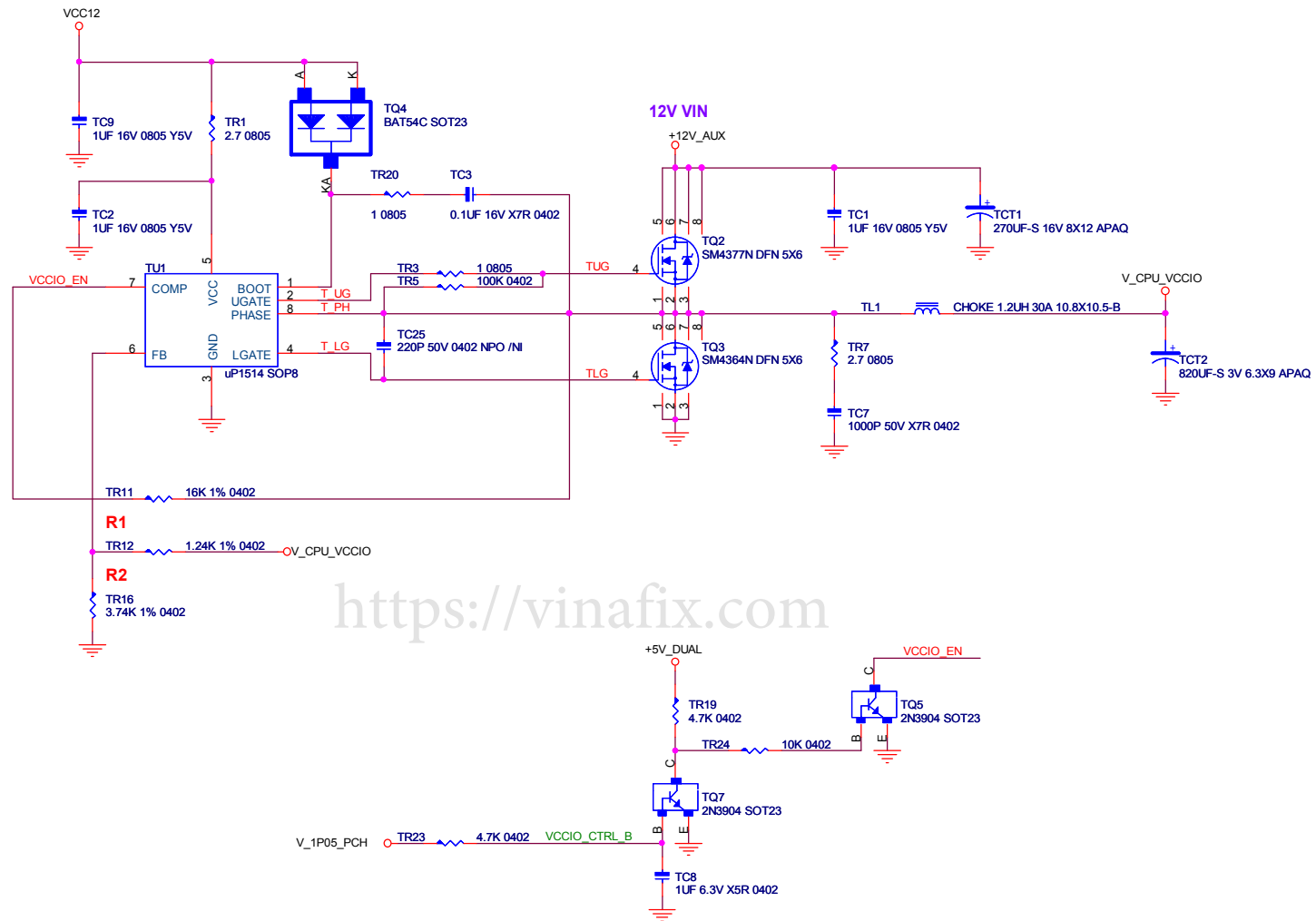




MEMORY PART:M+Reference

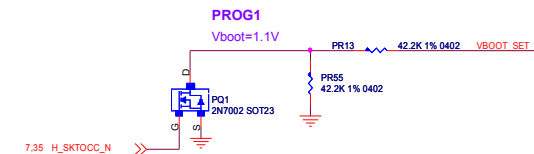
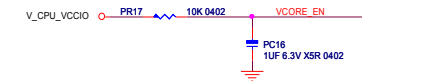
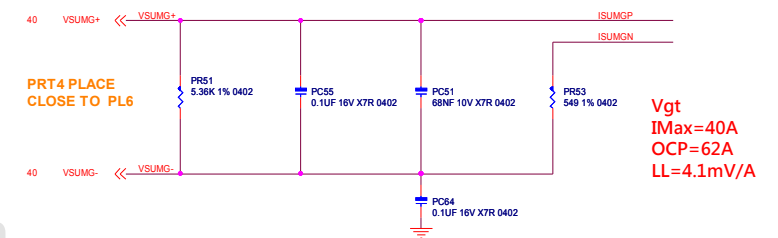
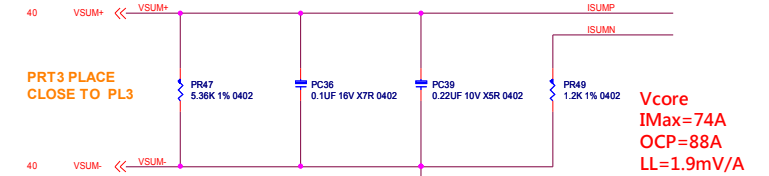
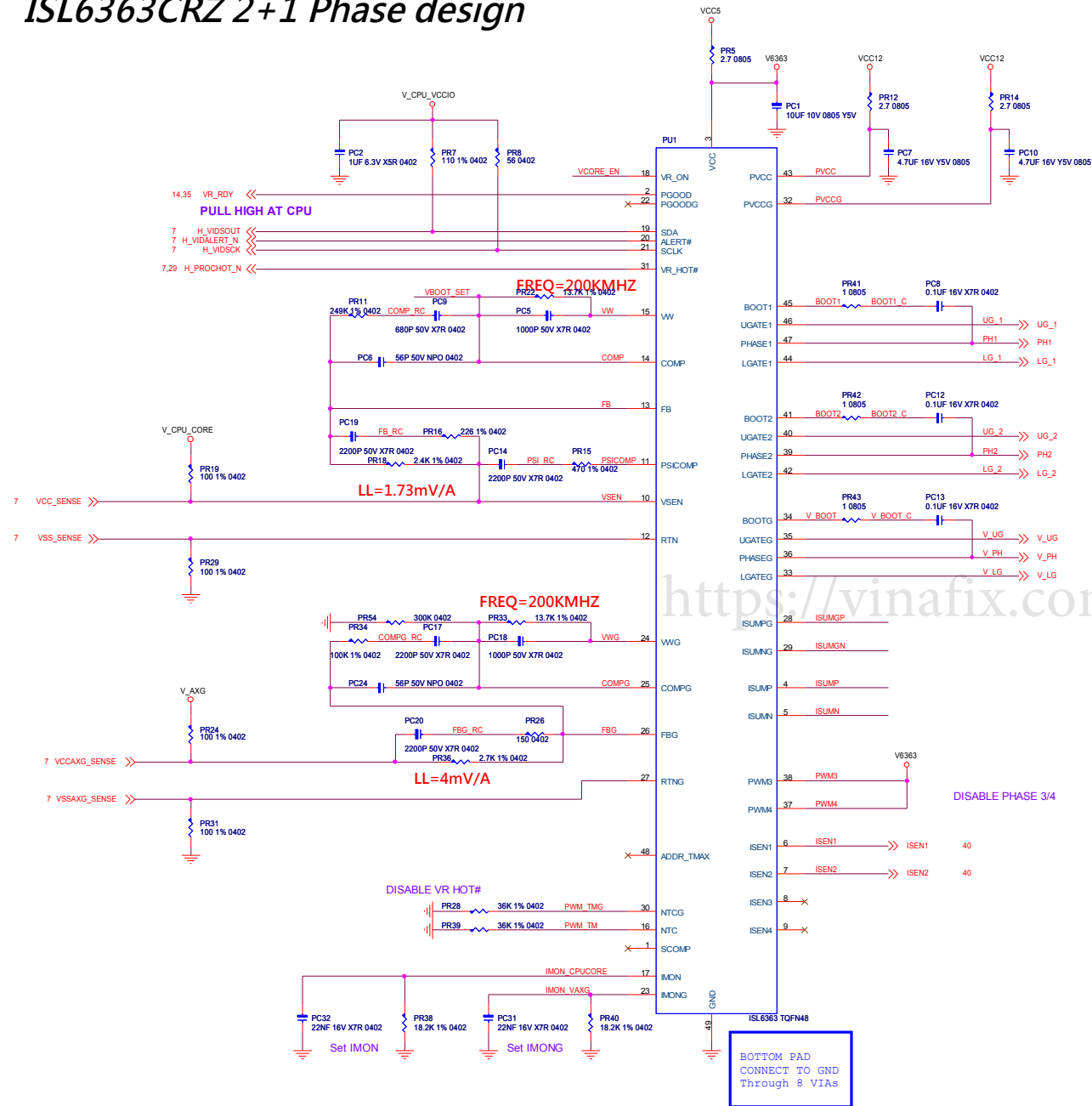


Title		
VSM DC-DC Conver		
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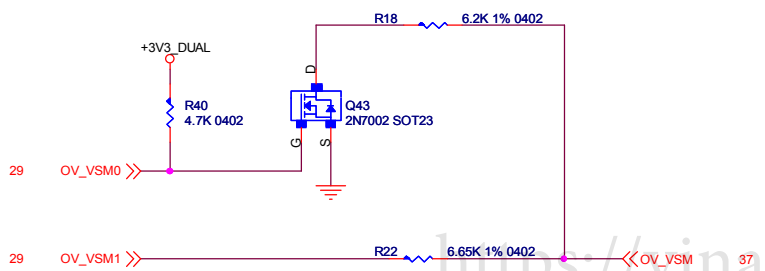


<https://vinafix.com>

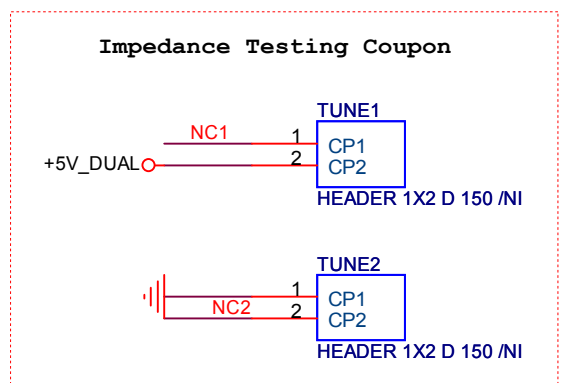
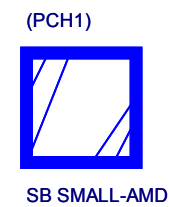
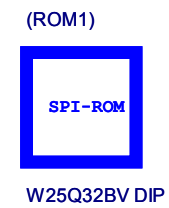
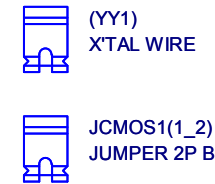
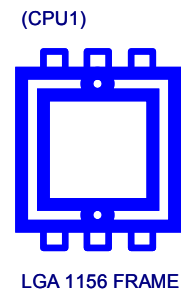
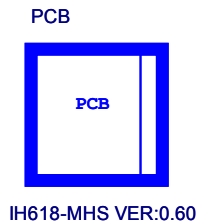
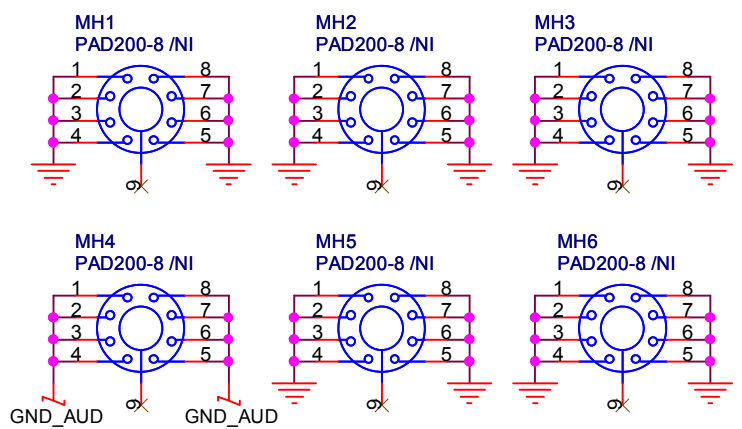
ISL6363CRZ 2+1 Phase design



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V_SM	OV_VSM0	OV_VSM1
1.5V(DEFAULT)	1	1
1.35V	0	1
1.65V	1	0



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15-X16-106030R1...IH618-MHS VER:0.60/OSP/BLACK/ (174.00 x 236.00*1.5)mm/4L /P&Q
86-IH618MHS-R01P-060
96-IH618MHS-R01P-060
58-RH61MGP60-02A 品名貼紙 "H61MGP VER:6.0" SIZE:44X5.5mm 銀底耐高溫 無鉛..萬里
58-H61MHP-01 品名貼紙 "H61MHP VER:6.0" 44x5.5mm/銀底黑字耐高溫.



映泰股份有限公司
BIOSSTAR GROUP

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