IH55A-AHS REV 6.2

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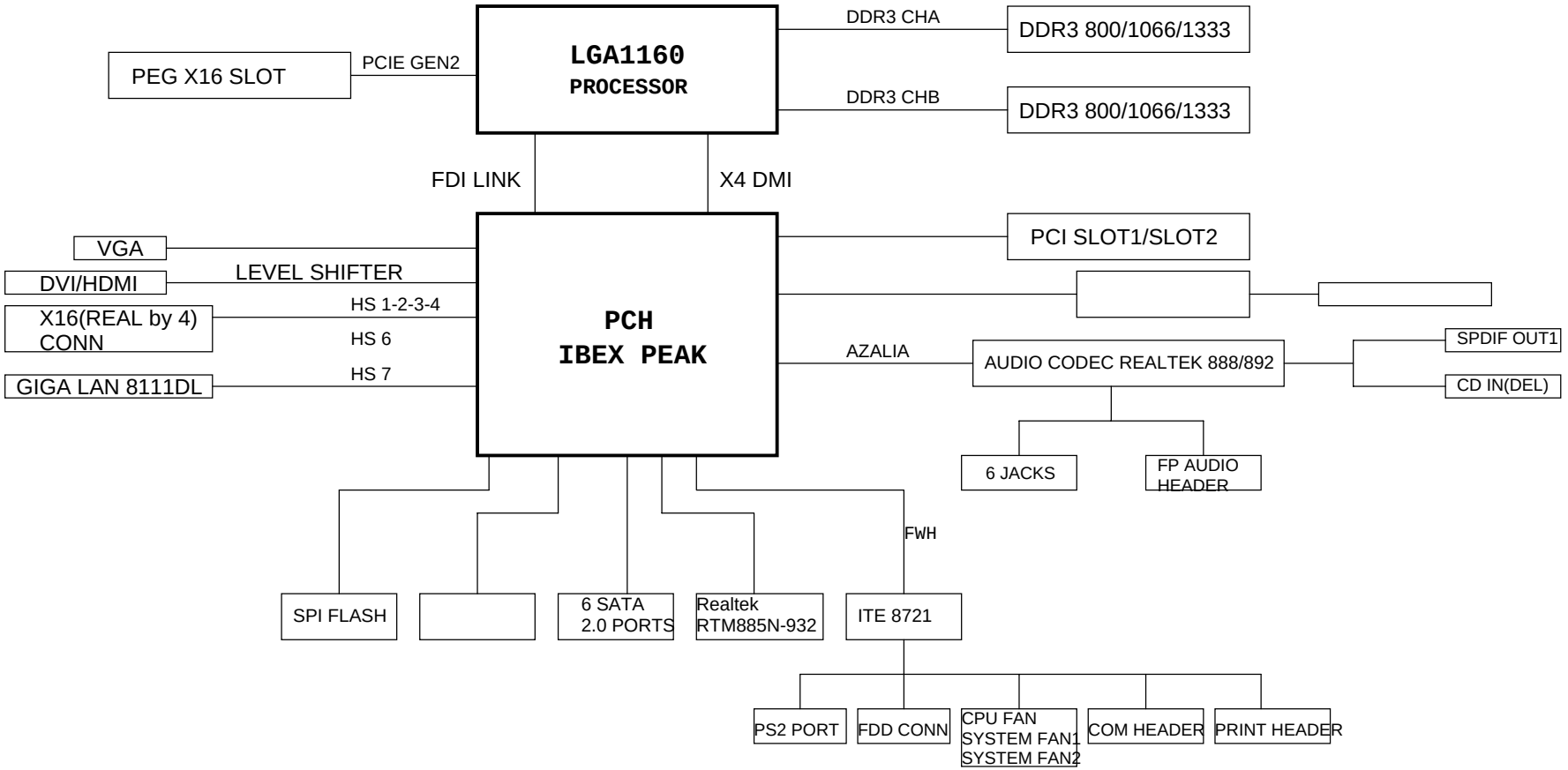
Title: COVER		
Size: Custom	Document Number: IH55A-AHS	Rev: 6.2
Date: Monday, June 28, 2010	Sheet 1 of 39	



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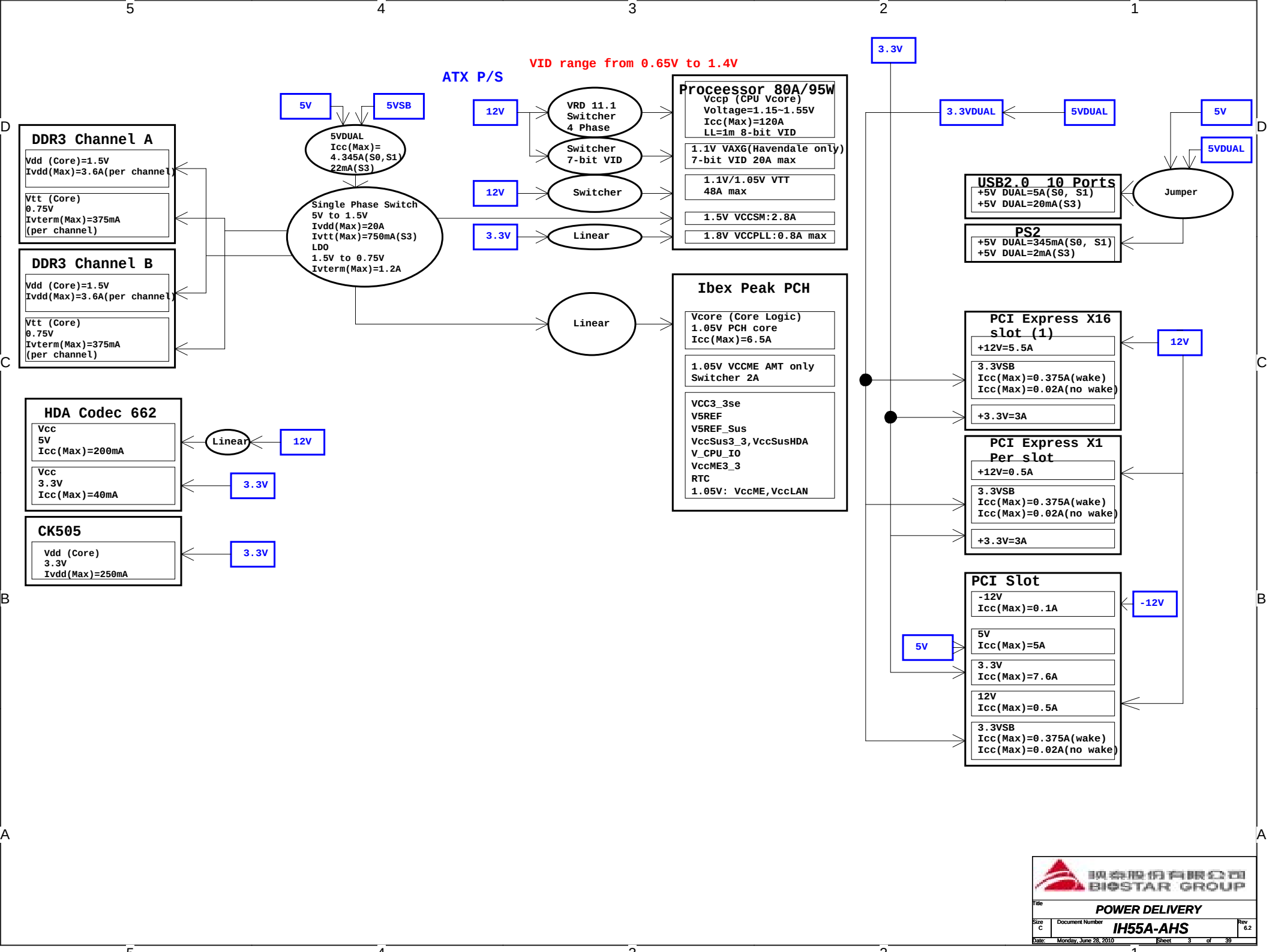
Title: BLOCK DIAGRAM		
Size: Custom	Document Number: IH55A-AHS	Rev: 6.2
Date: Monday, June 28, 2010	Sheet 2 of 39	



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Title: POWER DELIVERY

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Change From IH55E-MHT ver:6.1

1.uATX拉長為ATX
2.縮板寬for 24.9CM to 22.5 cm
3.增加一PCI-E X16 slot
4.增加MEMORY SLOT防盜鎖片
5.DEL IDE controllor-JMB363
6.DVI/HDMI共用一個level shift,用T型lay法
7.CLOCKGEN換成32 PIN RTM885-932
8.Del DEBUG LED

ver:0.6 to 6.0

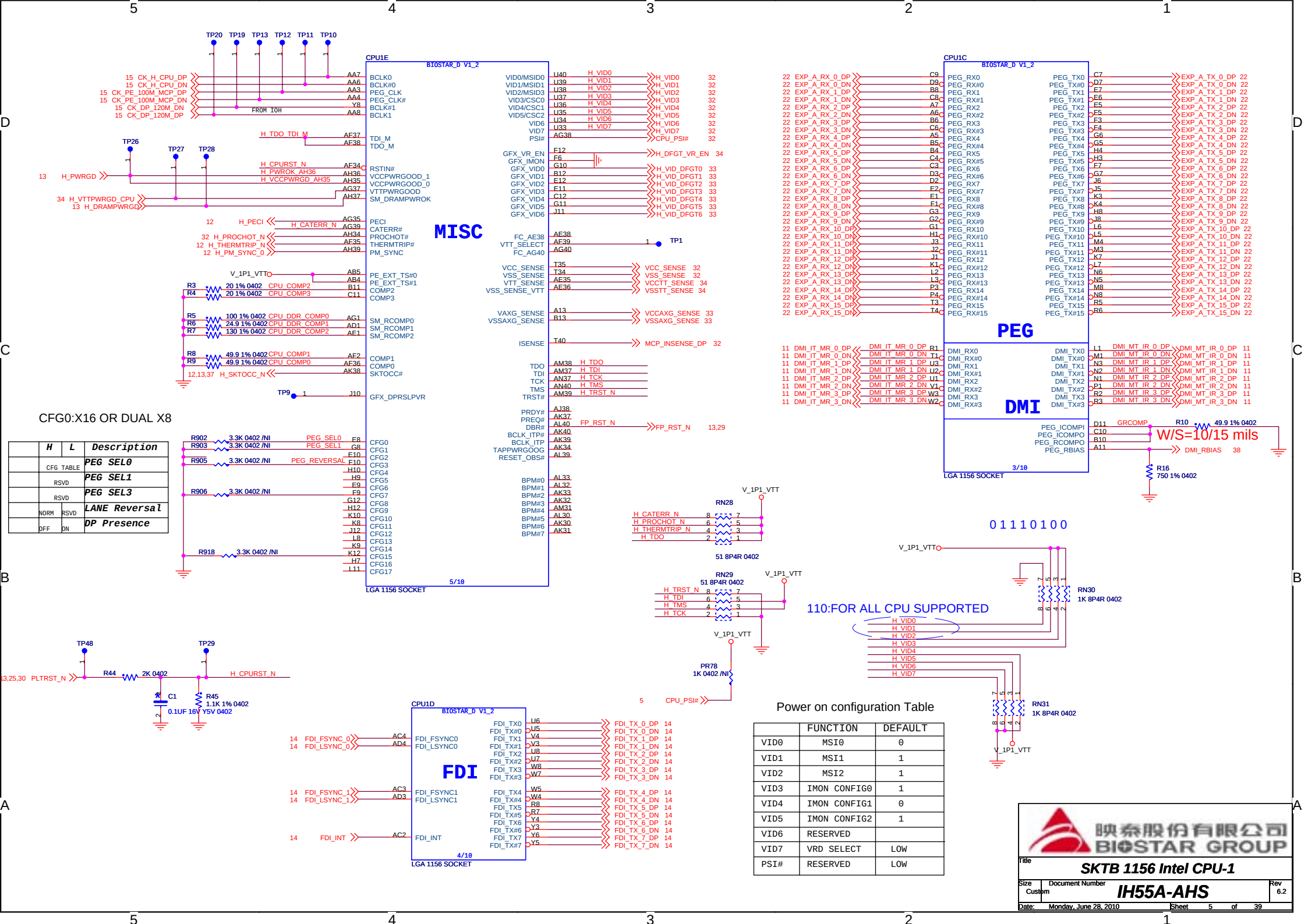
1.修改防盜鎖片LAYOUT
2.SB改散熱片與IH55A-MHS共用SB散熱片

ver:6.0 to 6.1

1.Add VTTPWRGD decoupling CAP.(For sometime CPU-CORE POWER=0V when boot in OS.)
2.Add SIO H/W monitor VIN decoupling CAP.(solution do not have 12V,5V H/W monitor isssue)
3.Correct colay CAP with OSC-CON and EC
4.Move output voltage CAP.CT42 from 1P05_ME to +3V3_DUAL
5.CT10 and CT45 colay with POWER_JUSB1
6.Reserved SPI ROM with SMT type
7.Add audio Front and Real Lineout CAP
8.Resvered PCH CLKREQ#0,2 and PEGCLK_B_RQ# pull down registor
9.Remove text with "EuP Ready"
10.Swap PCH A/B Chanel PEG CLOCK
11.Change GBE CLOCK from LANE 2 TO LANE 1
12.Change Broad ID for H/W mornitor 12V/5V ADJ

ver:6.1 to 6.2

解決工廠反映105P colay 0603與0402拋料不良過多問題,不再colay 0603,直接layout改0402


CPU1E
BIOSTAR D V1 2
MISC
5/10
LGA 1156 SOCKET
CPU1C
PEG
3/10
DMI
CPU1D
FDI
4/10
TP20 TP19 TP13 TP12 TP11 TP10
TP26 TP27 TP28
TP48 TP29
TP1
TP9
CFG0:X16 OR DUAL X8
H L Description
CFG TABLE PEG SEL0
RSVD PEG SEL1
RSVD PEG SEL3
NORM RSVD LANE Reversal
OFF ON DP Presence
01110100
110:FOR ALL CPU SUPPORTED
W/S=10/15 mils
Power on configuration Table
FUNCTION DEFAULT
VID0 MSI0 0
VID1 MSI1 1
VID2 MSI2 1
VID3 IMON CONFIG0 1
VID4 IMON CONFIG1 0
VID5 IMON CONFIG2 1
VID6 RESERVED
VID7 VRD SELECT LOW
PSI# RESERVED LOW
SKTB 1156 Intel CPU-1
IH55A-AHS
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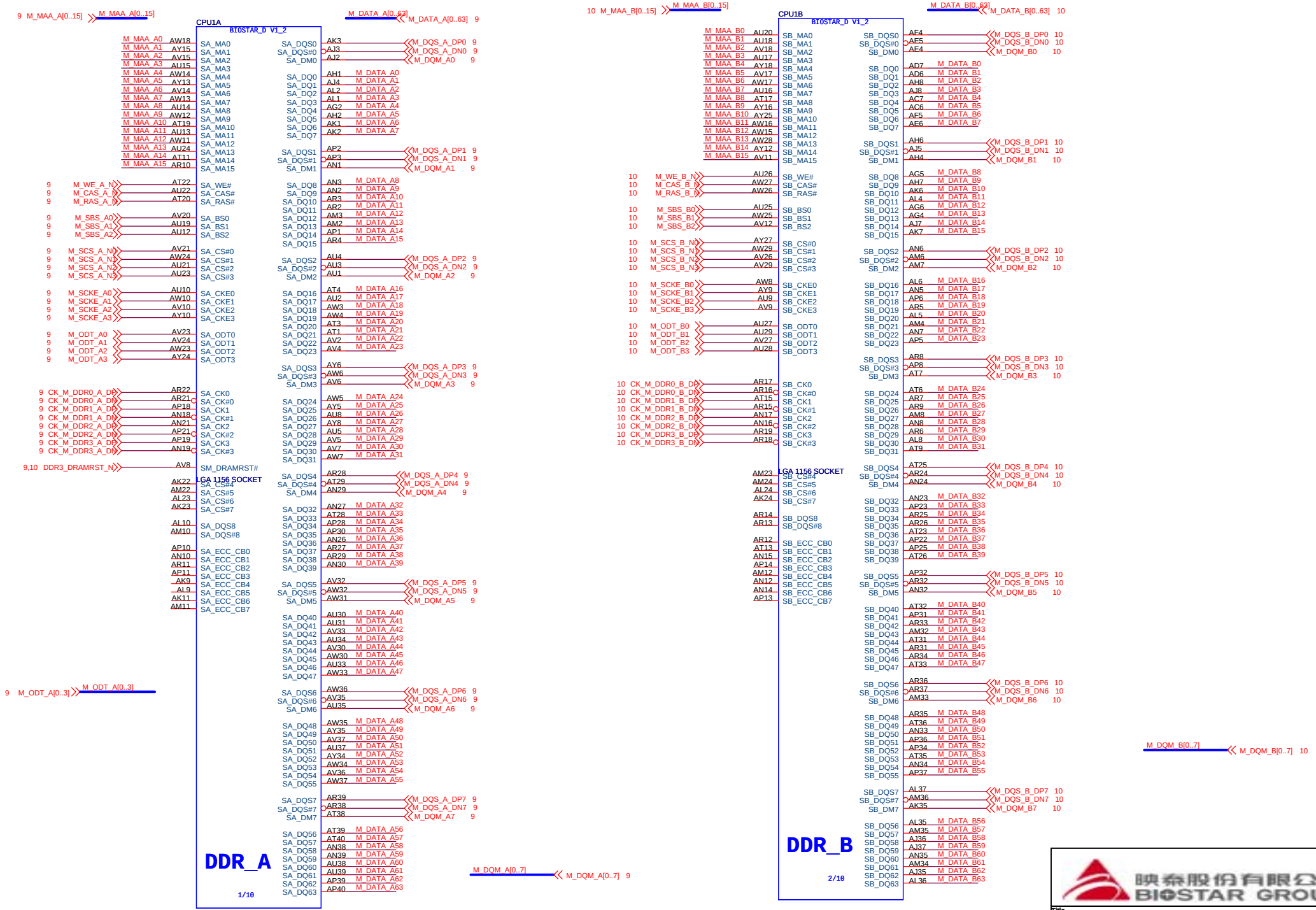

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Title	SKTB 1156 Intel CPU-2	
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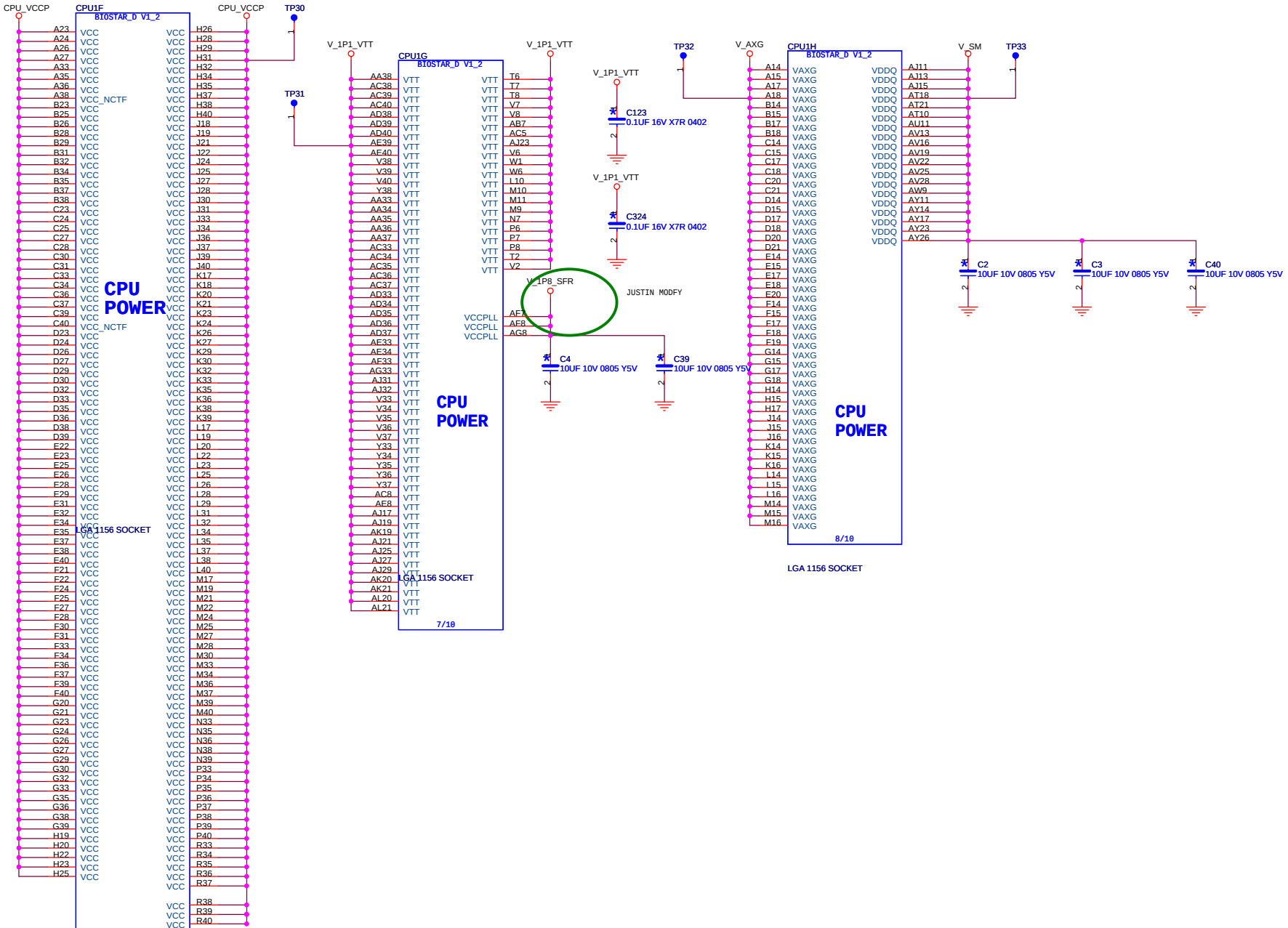

Title	SKTB 1156 Intel CPU-3	
Size: Custom	Document Number: IH55A-AHS	Rev: 6.2
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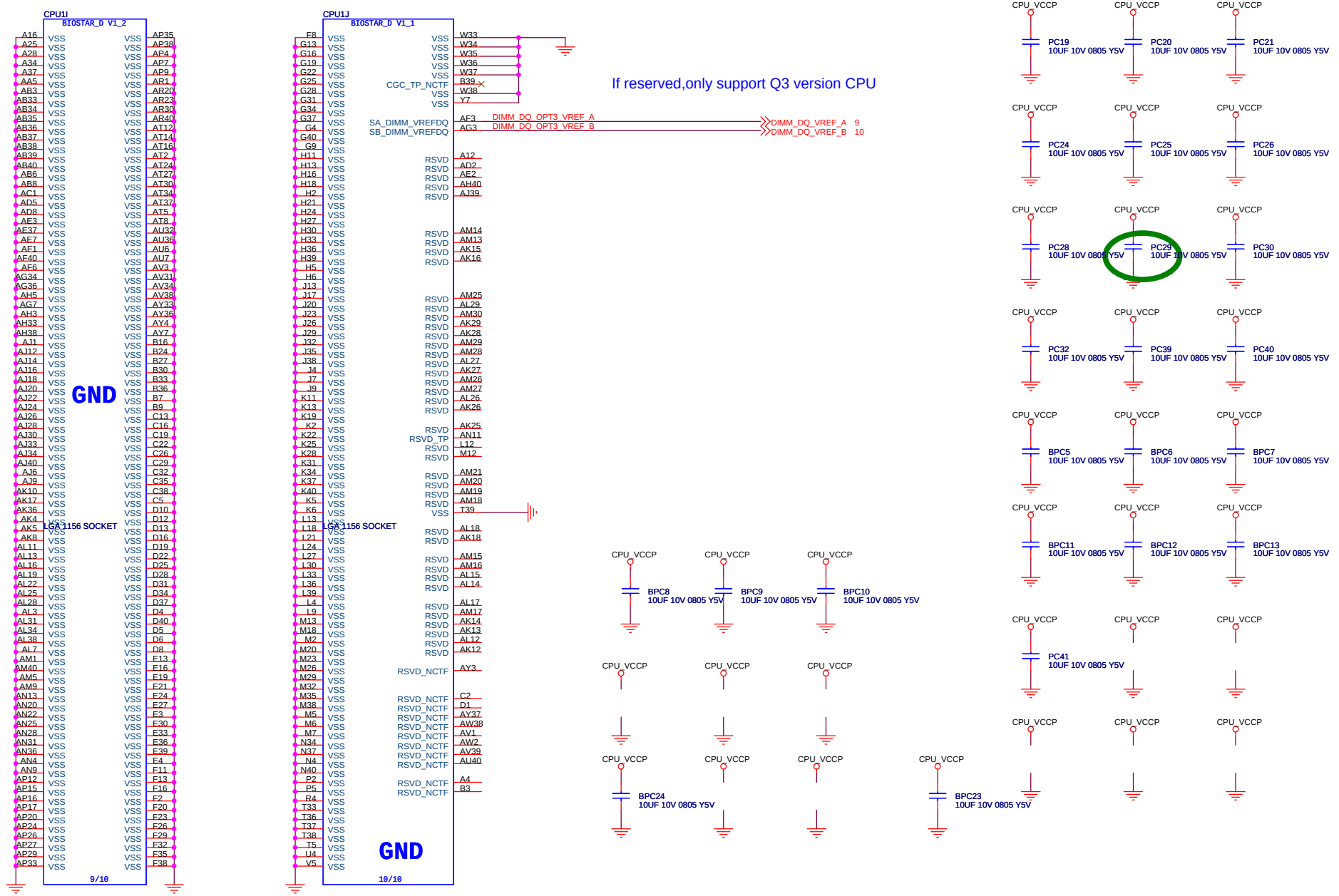

Title	SKTB 1156 Intel CPU-4		
Size: Custom	Document Number: IH55A-AHS		Rev: 6.2
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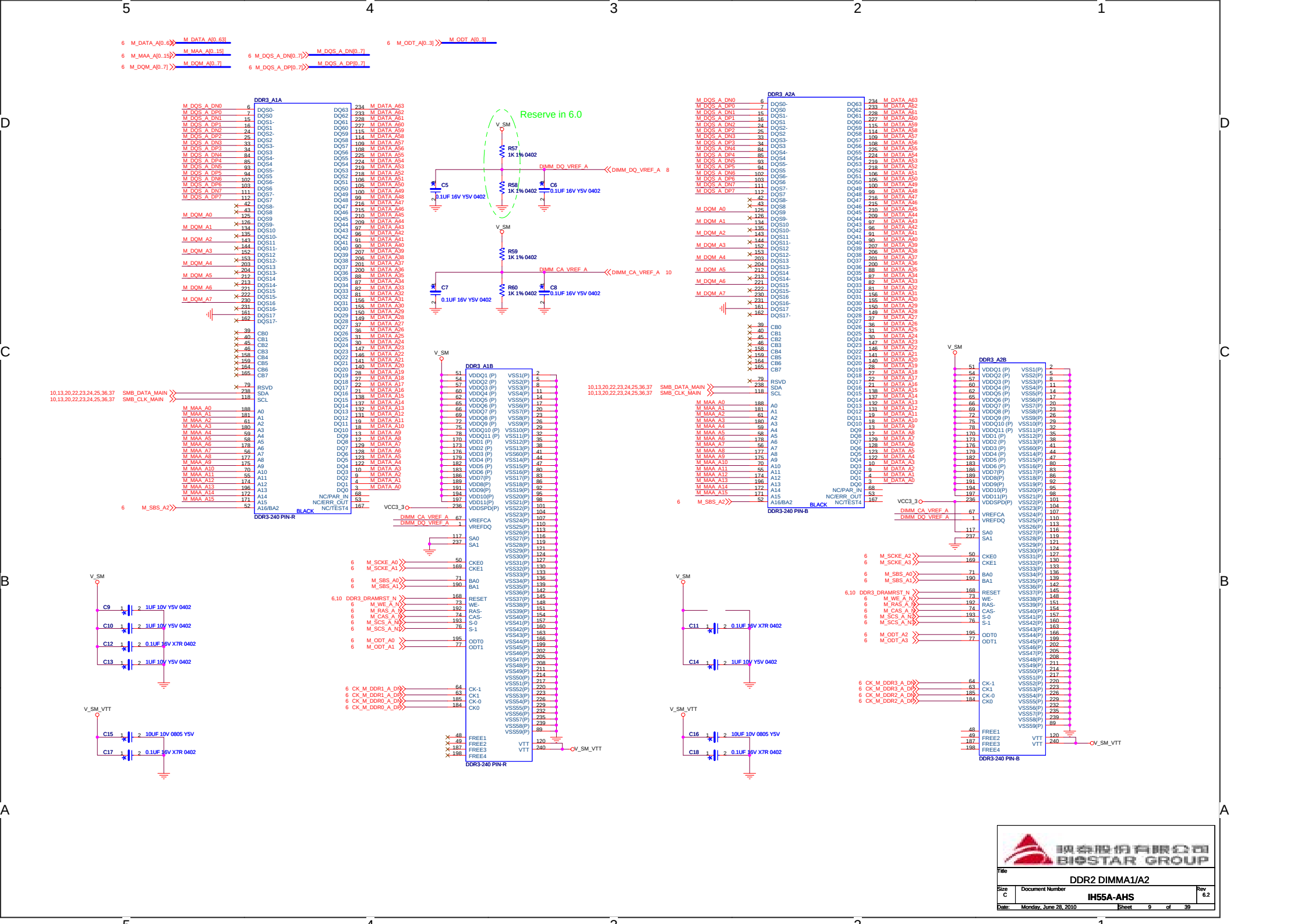

Title	DDR2 DIMMA1/A2
Size	C
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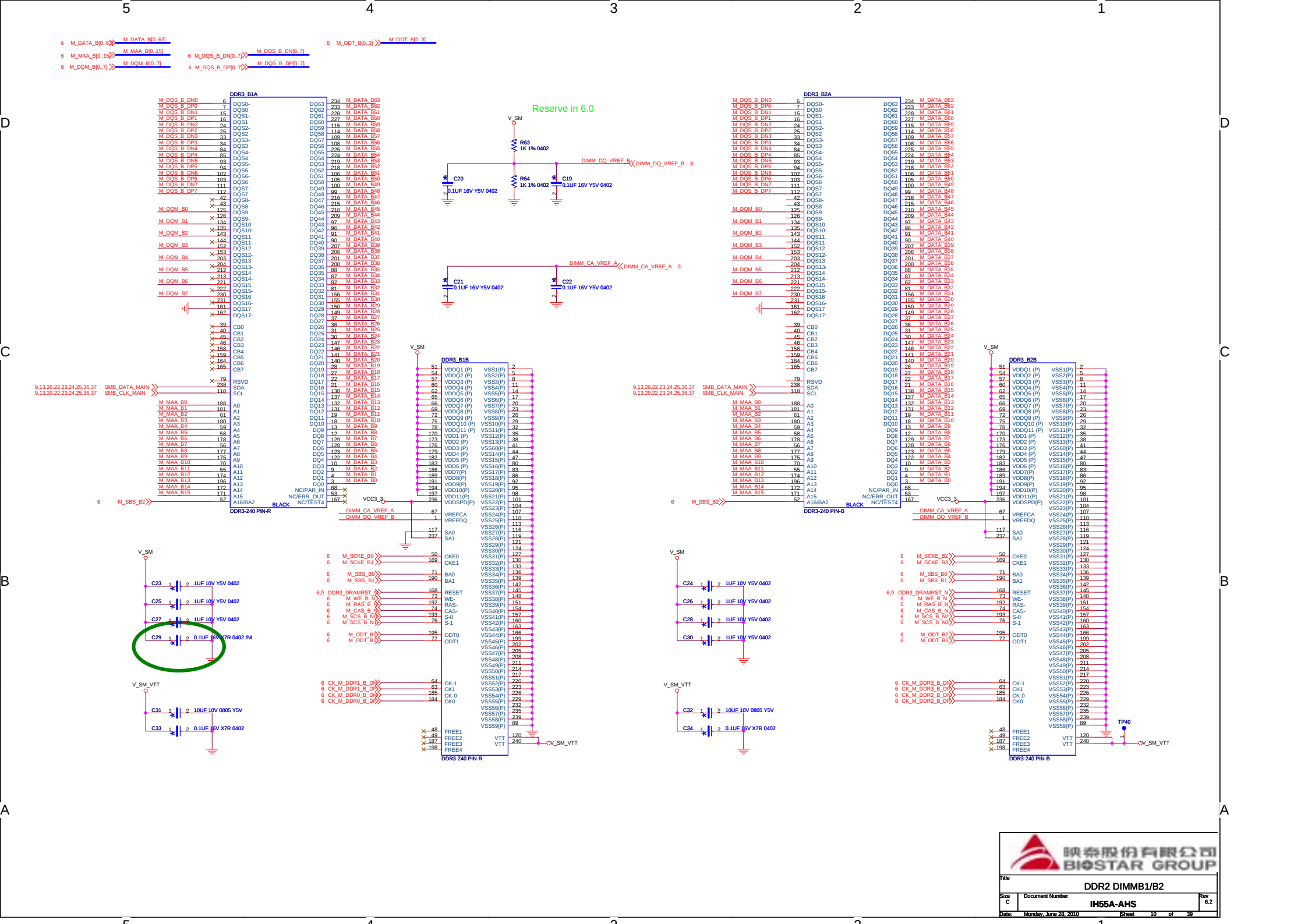

Title	DDR2 DIMMB1/B2
Size	C
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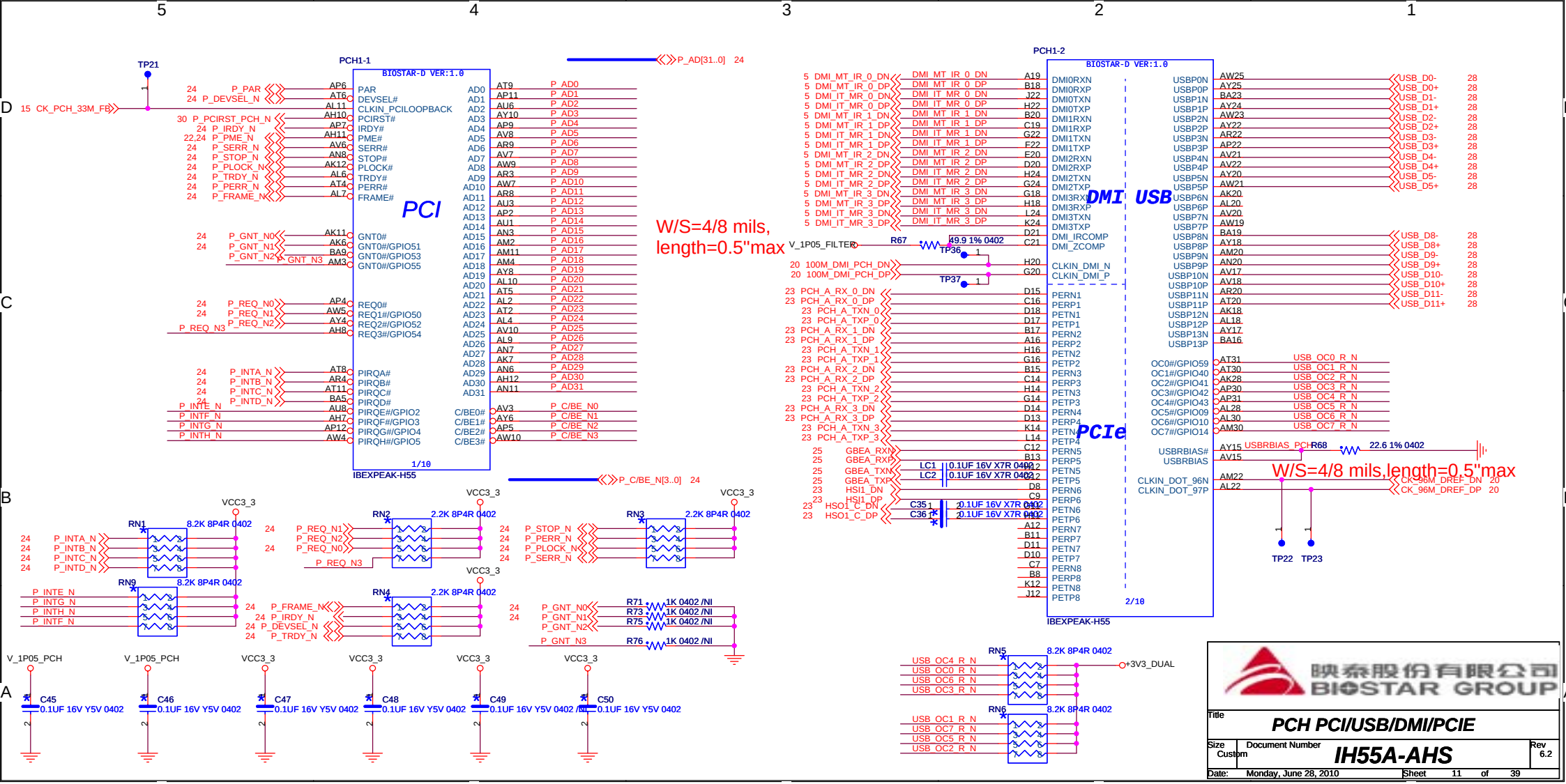
PCH1-1
BIOSTAR-D VER:1.0
PCI
W/S=4/8 mils, length=0.5"max
IBEXPEAK-H55
PCH1-2
DMI
USB
PCIe
W/S=4/8 mils,length=0.5"max
PCH PCI/USB/DMI/PCIE
IH55A-AHS
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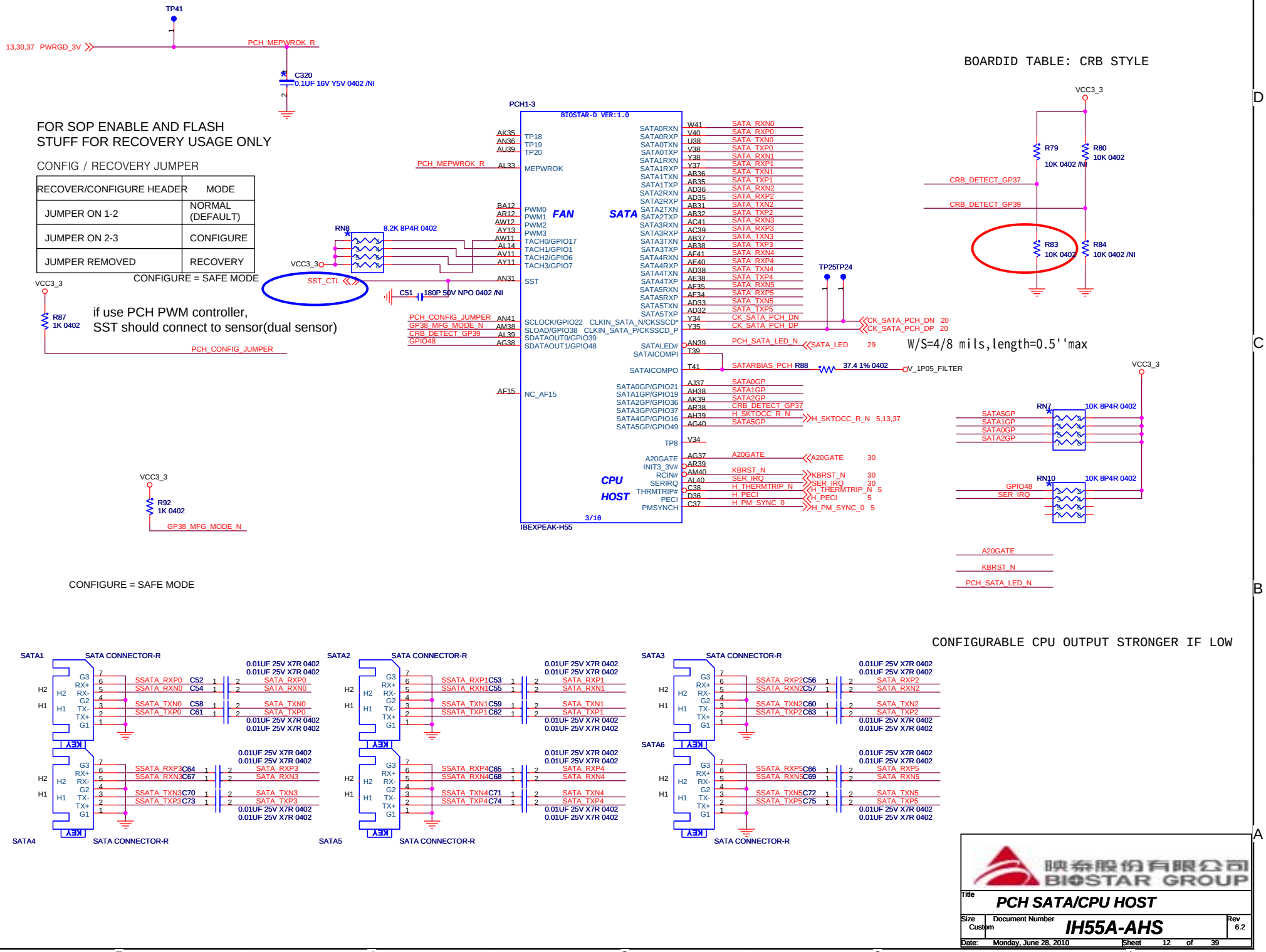

Title	PCH SATA/CPU HOST		
Size: Custom	Document Number: IH55A-AHS		Rev: 6.2
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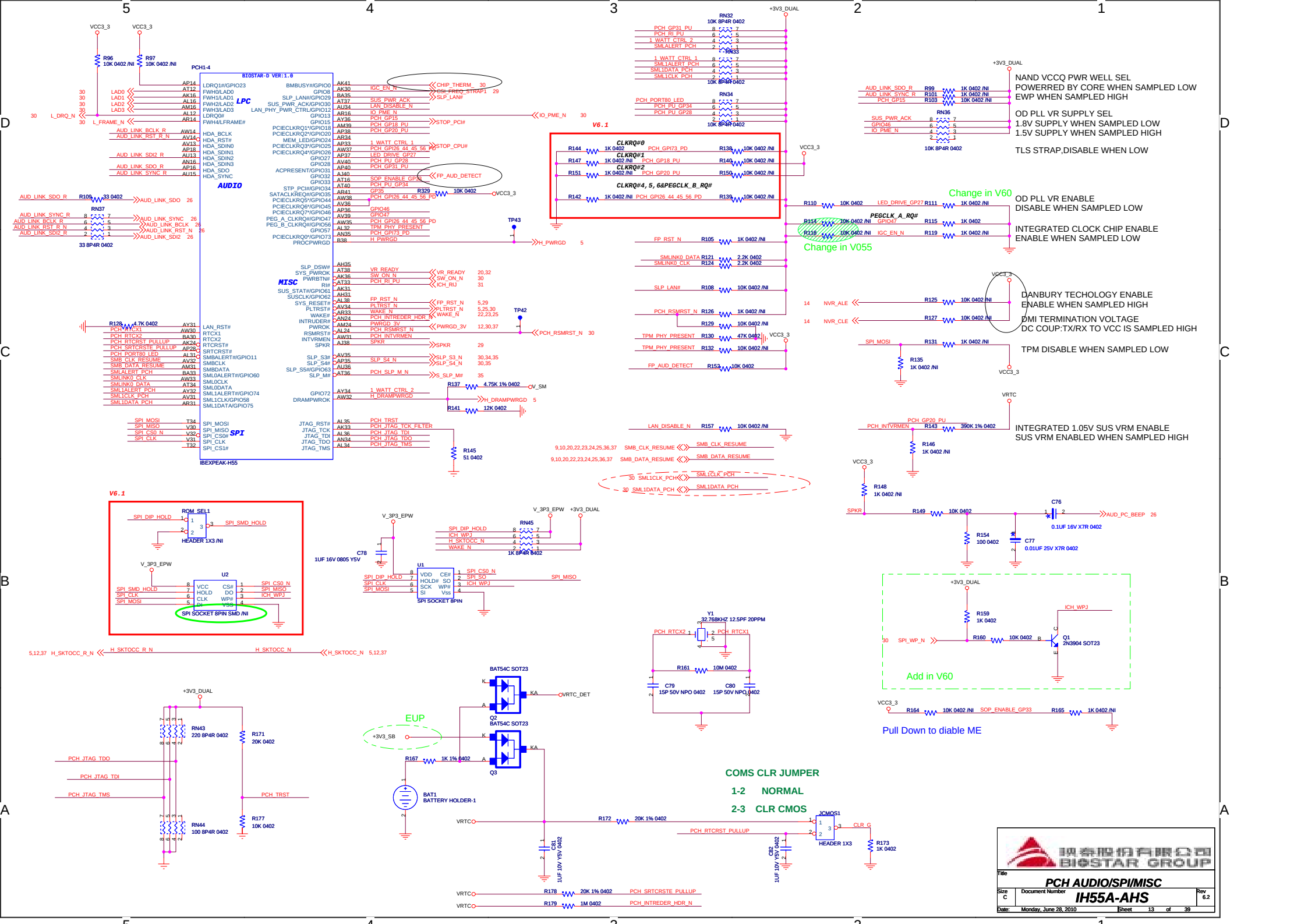
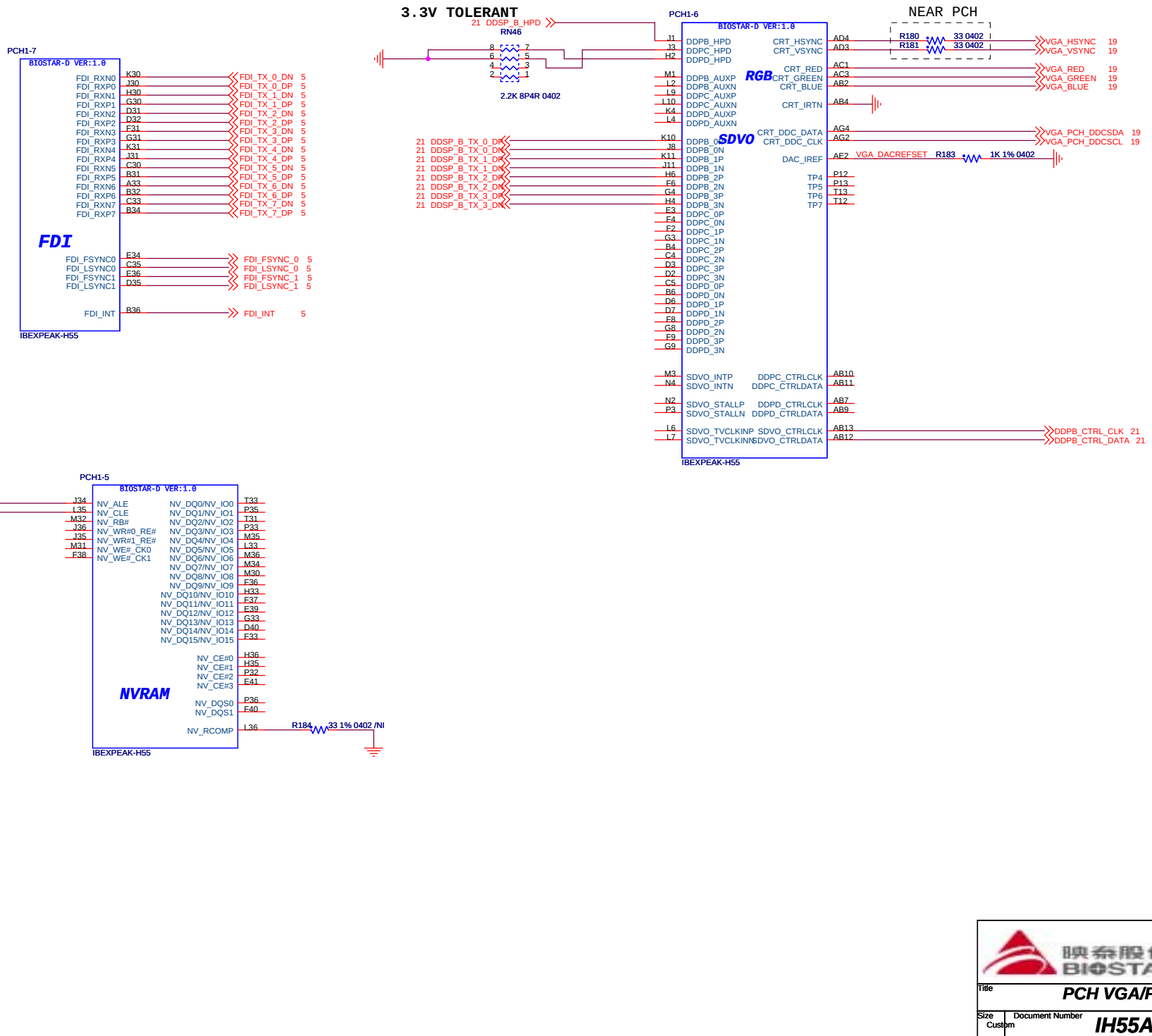

PCH1-4
BIOSTAR-D VER:1.0
LPC
AUDIO
MISC
SPI
iBEXPEAK-H55
V6.1
NAND VCCQ PWR WELL SEL
POWERRED BY CORE WHEN SAMPLED LOW
EWP WHEN SAMPLED HIGH
OD PLL VR SUPPLY SEL
1.8V SUPPLY WHEN SAMPLED LOW
1.5V SUPPLY WHEN SAMPLED HIGH
TLS STRAP,DISABLE WHEN LOW
Change in V60
OD PLL VR ENABLE
DISABLE WHEN SAMPLED LOW
INTEGRATED CLOCK CHIP ENABLE
ENABLE WHEN SAMPLED LOW
Change in V055
DANBURY TECHOLOGY ENABLE
ENABLE WHEN SAMPLED HIGH
DMI TERMINATION VOLTAGE
DC COUP:TX/RX TO VCC IS SAMPLED HIGH
TPM DISABLE WHEN SAMPLED LOW
INTEGRATED 1.05V SUS VRM ENABLE
SUS VRM ENABLED WHEN SAMPLED HIGH
SPI SOCKET 8PIN SMD /NI
SPI SOCKET 8PIN
EUP
COMS CLR JUMPER
1-2 NORMAL
2-3 CLR CMOS
Add in V60
Pull Down to diable ME
BIOSTAR GROUP
PCH AUDIO/SPI/MISC
IH55A-AHS
Monday, June 28, 2010



Title	PCH VGA/FDI/DSP/NVRAM
Size	Custom
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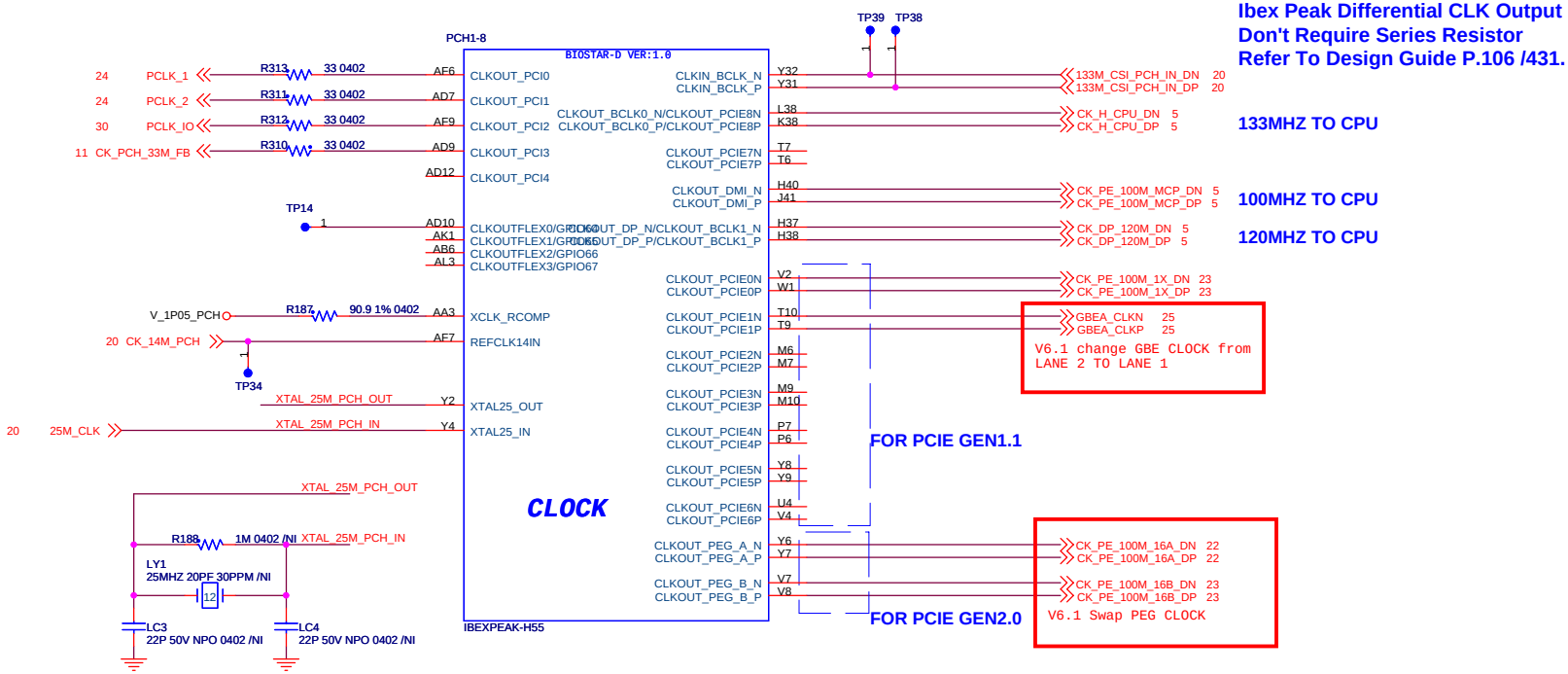

Ibex Peak Differential CLK Output
Don't Require Series Resistor
Refer To Design Guide P.106 /431.

133MHZ TO CPU

100MHZ TO CPU

120MHZ TO CPU

Ce=2*CL-(Cs+Ci)

Ci: PIN CAPACITANCE IS 3-6 pF
Cs: trace capacitance is 3 to 10

Title	PCH CLOCKS		
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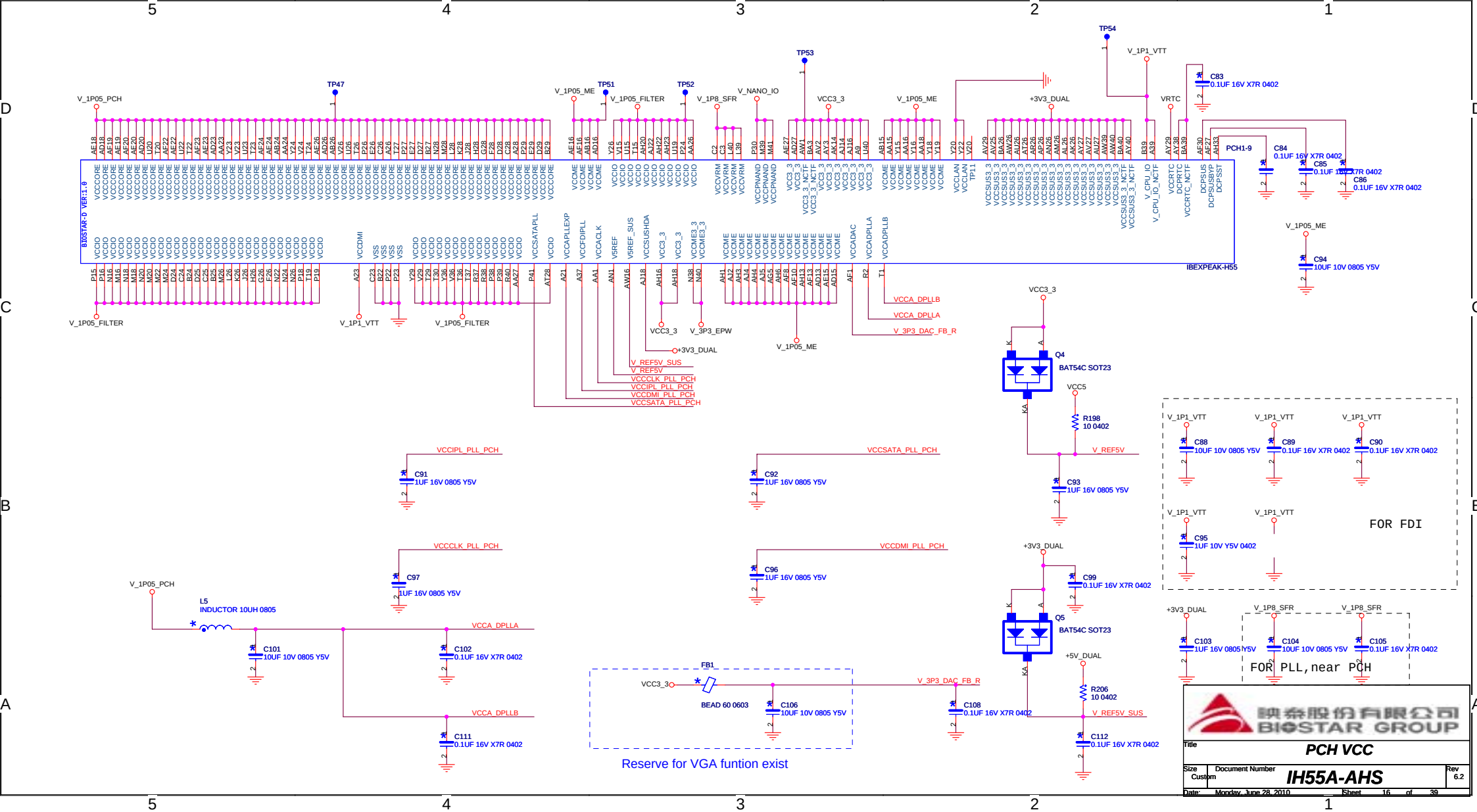
TP47
TP51
TP52
TP53
TP54
V_1P05_PCH
V_1P05_ME
V_1P05_FILTER
V_1P8_SFR
V_NANO_IO
VCC3_3
V_1P1_VTT
+3V3_DUAL
VRTC
PCH1-9
IBEXPEAK-H55
C83 0.1UF 16V X7R 0402
C84 0.1UF 16V X7R 0402
C85 0.1UF 16V X7R 0402
C86 0.1UF 16V X7R 0402
C94 10UF 10V 0805 Y5V
VCCA_DPLLB
VCCA_DPLLA
V_3P3_DAC_FB_R
V_3P3_EPW
V_REF5V_SUS
V_REF5V
VCCCLK_PLL_PCH
VCCIPL_PLL_PCH
VCCDMI_PLL_PCH
VCCSATA_PLL_PCH
Q4 BAT54C SOT23
Q5 BAT54C SOT23
VCC5
R198 10 0402
R206 10 0402
C88 10UF 10V 0805 Y5V
C89 0.1UF 16V X7R 0402
C90 0.1UF 16V X7R 0402
C95 1UF 10V Y5V 0402
FOR FDI
C91 1UF 16V 0805 Y5V
C92 1UF 16V 0805 Y5V
C93 1UF 16V 0805 Y5V
C96 1UF 16V 0805 Y5V
C97 1UF 16V 0805 Y5V
C99 0.1UF 16V X7R 0402
L5 INDUCTOR 10UH 0805
C101 10UF 10V 0805 Y5V
C102 0.1UF 16V X7R 0402
C111 0.1UF 16V X7R 0402
FB1 BEAD 60 0603
C106 10UF 10V 0805 Y5V
C108 0.1UF 16V X7R 0402
C112 0.1UF 16V X7R 0402
+5V_DUAL
C103 1UF 16V 0805 Y5V
C104 10UF 10V 0805 Y5V
C105 0.1UF 16V X7R 0402
FOR PLL,near PCH
Reserve for VGA funtion exist
BIOSTAR GROUP
PCH VCC
IH55A-AHS
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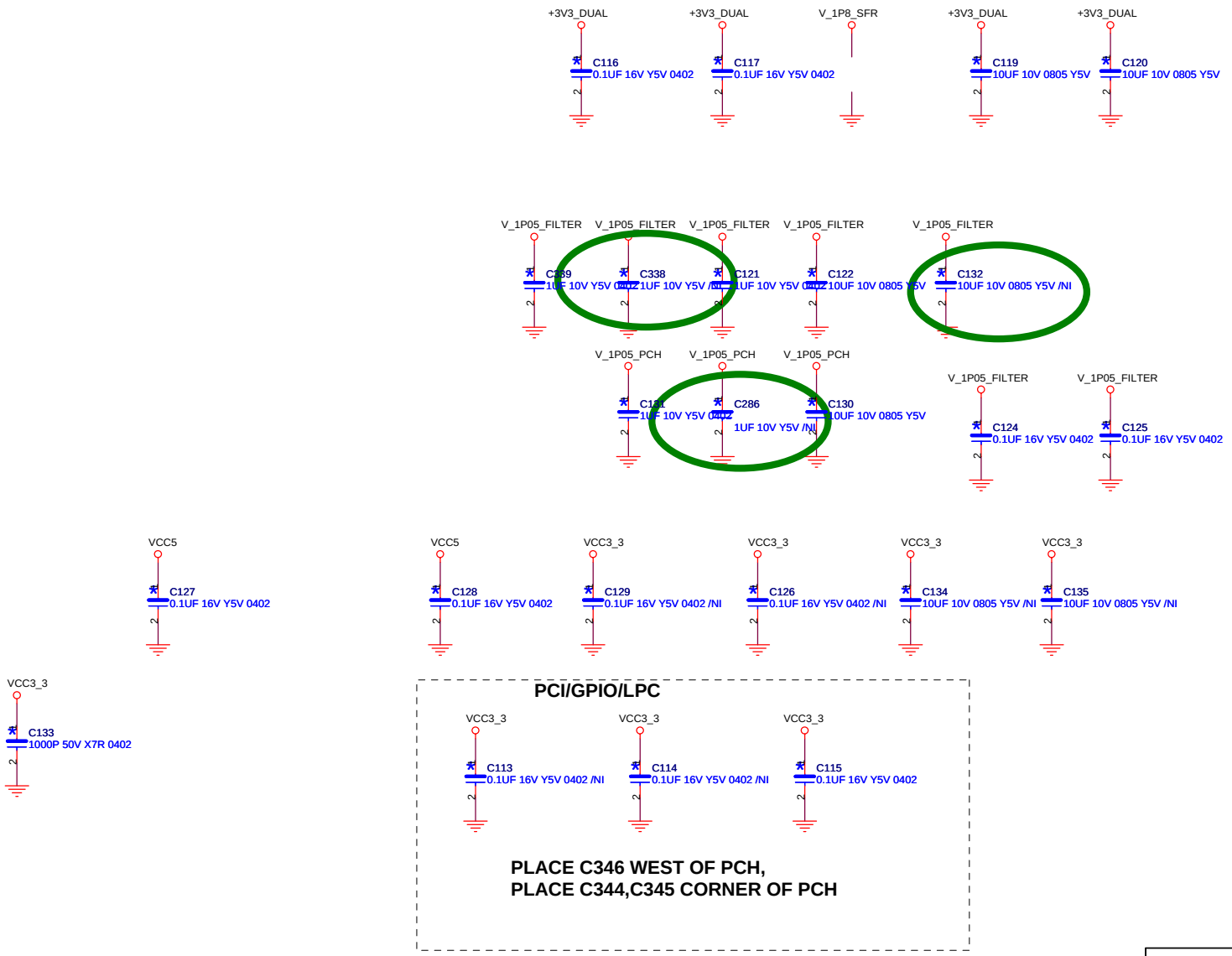

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Title	PCH DECOUPLING CAPS	
Size: Custom	Document Number: IH55A-AHS	Rev: 6.2
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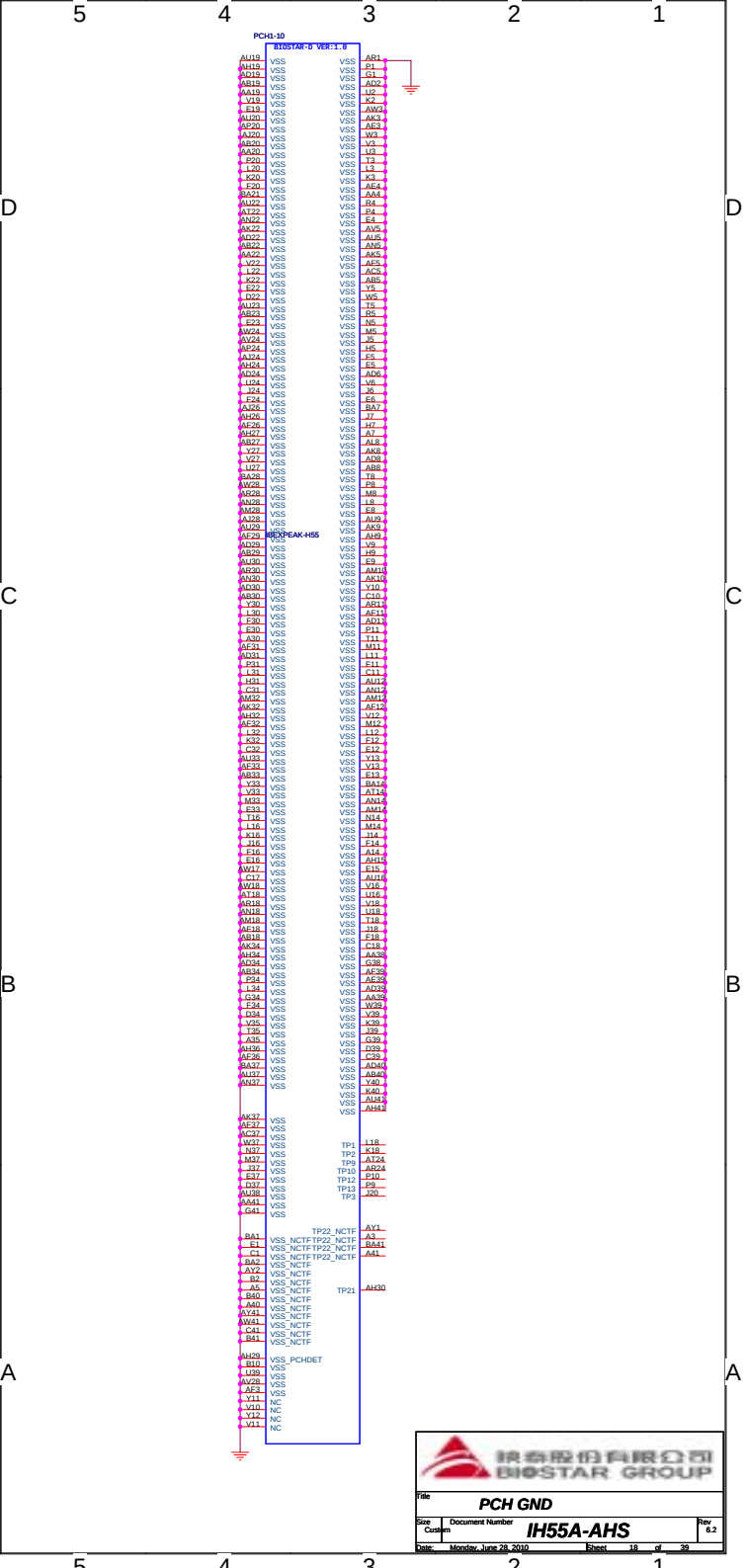

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Title: **PCH GND**

Size	Document Number	Rev
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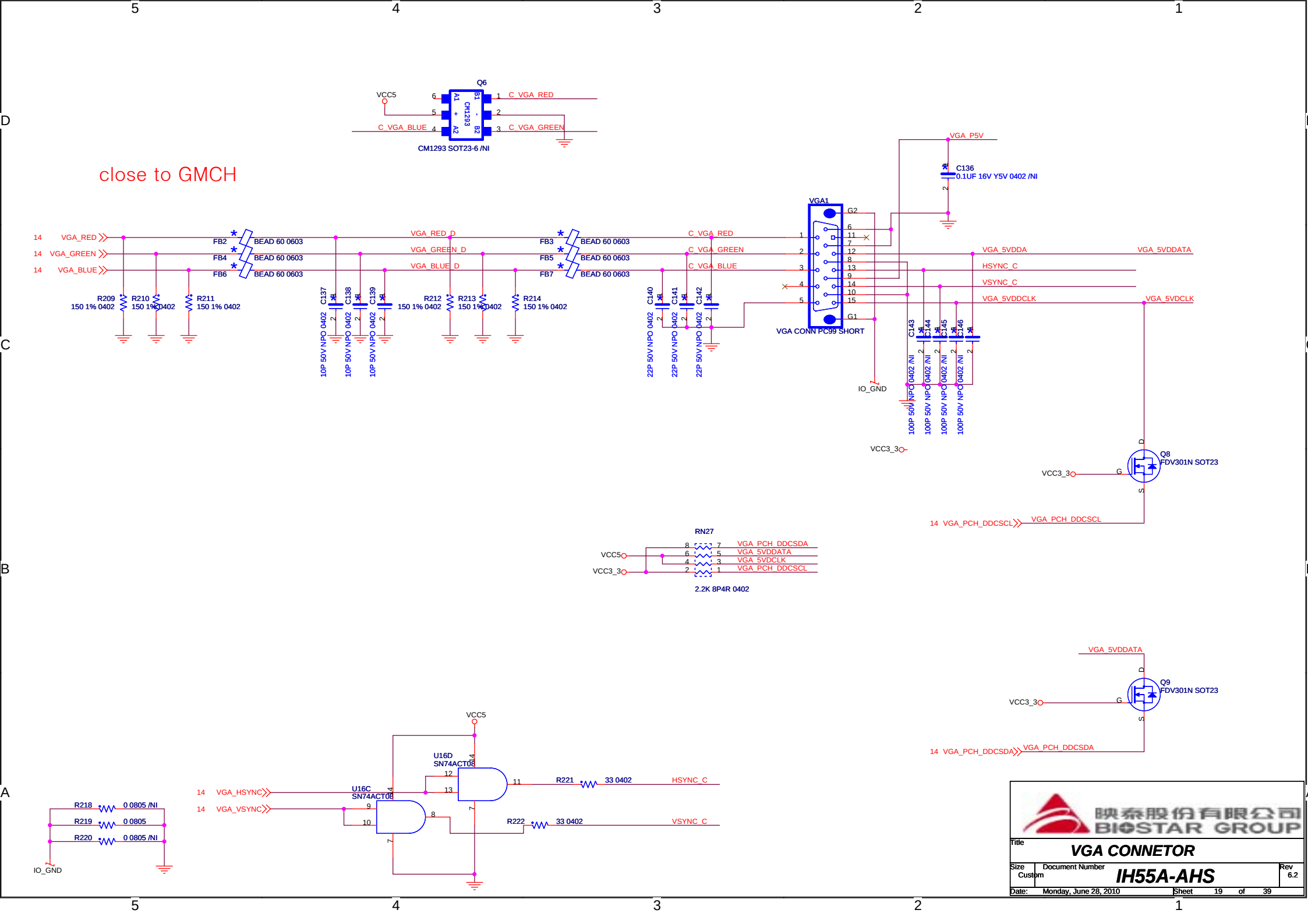
close to GMCH
Q6
CM1293 SOT23-6 /NI
VCC5
C_VGA_RED
C_VGA_BLUE
C_VGA_GREEN
VGA_RED
VGA_GREEN
VGA_BLUE
FB2 BEAD 60 0603
FB4 BEAD 60 0603
FB6 BEAD 60 0603
FB3 BEAD 60 0603
FB5 BEAD 60 0603
FB7 BEAD 60 0603
R209 150 1% 0402
R210 150 1% 0402
R211 150 1% 0402
R212 150 1% 0402
R213 150 1% 0402
R214 150 1% 0402
C137 10P 50V NPO 0402
C138 10P 50V NPO 0402
C139 10P 50V NPO 0402
C140 22P 50V NPO 0402
C141 22P 50V NPO 0402
C142 22P 50V NPO 0402
VGA1
VGA CONN PC99 SHORT
VGA_P5V
C136 0.1UF 16V Y5V 0402 /NI
VGA_5VDDA
VGA_5VDDATA
HSYNC_C
VSYNC_C
VGA_5VDDCLK
VGA_5VDCLK
IO_GND
C143 100P 50V NPO 0402 /NI
C144 100P 50V NPO 0402 /NI
C145 100P 50V NPO 0402 /NI
C146 100P 50V NPO 0402 /NI
VCC3_3
Q8 FDV301N SOT23
VGA_PCH_DDCSCL
RN27
VGA_PCH_DDCSDA
VGA_5VDDATA
VGA_5VDCLK
VGA_PCH_DDCSCL
2.2K 8P4R 0402
Q9 FDV301N SOT23
VGA_PCH_DDCSDA
U16D SN74ACT08
U16C SN74ACT08
VGA_HSYNC
VGA_VSYNC
R221 33 0402
R222 33 0402
R218 0 0805 /NI
R219 0 0805
R220 0 0805 /NI
BIOSTAR GROUP
Title
VGA CONNETOR
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Breakout 500 mils max

W/S/S1:4/10/18

CLKPWR

CLKVCC3

C147 10UF 10V 0805 Y5V

C148 C149 C150 C151 C152 C153 C154 C155 0.1UF 16V X7R 0402

U6

VDD ×8

GND ×4

CPUCLKT0 / CPUCLKC0 — PCH_IN_P R225 33 0402 — PCH_IN_N R227 33 0402 — 133M_CSI_PCH_IN_DP 15 — 133M_CSI_PCH_IN_DN 15

PCIeT1 / PCIeC1 — 100M_DMI_PCH_DP 11 — 100M_DMI_PCH_DN 11

Refer To DG P.394 For Details

DOT96T/PCIeT0 / DOT96C/PCIeC0 — CK_96M_DREF_DP 11 — CK_96M_DREF_DN 11

SATACLKT / SATACLKC — CK_SATA_PCH_DP 12 — CK_SATA_PCH_DN 12

**FSA/USB48M — FSA R297 33 0402 — IO_48MHZ 30

*GSEL/REF — GSEL R253 33 0402 — CK_14M_PCH 15

25MHZ — CRYSTAL_SEL R254 33 0402 — 25M_CLK 15

24.576MHZ

9,10,13,22,23,24,25,36,37 SMB_CLK_MAIN — SMBCLK_R — SMBCLK

9,10,13,22,23,24,25,36,37 SMB_DATA_MAIN — SMBDATA_R — SMBDAT

13,32 VR_READY — VTT_PWRGD/WOL_STOP# — Vtt_PwrGD/PD#/WOL_STOP#

CLKVCC3 — R240 10K 0402 — RLATCH — **RLATCH

RESET_IN#/RESET#

**TURBO-0

**TURBO-1

CLKVCC3 — R242 10K 0402 /NI — RESET_IN#

29 WATCH_DOG — R244 22 0402

CLKVCC3 — R245 4.7K 0402 — R246 4.7K 0402

R251 4.7K 0402 /NI — R252 4.7K 0402 /NI

RTM885N-932 QFN32

Y2 14.318MHZ 16PF 20PPM — X1 — X2

C160 22P 50V NPO 0402

C159 22P 50V NPO 0402

VCC3_3 — C162 0.1UF 16V X7R 0402

VCC3_3 — C163 0.1UF 16V X7R 0402

GSEL = 1 (96M) , = 0 (100M)

FSA = 1 (133MHZ) Default

= 0 (266MHZ)

CLKVCC3 — R286 10K 0402 — GSEL — R296 10K 0402 /NI

CLKVCC3 — R308 47K 0402 — FSA — R309 33K 0402 /NI

BSEL BIASING RES

+3V3_DUAL — Q63 SI2301BDS SOT23

35 ME_G — G — S — D

CLKPWR — FB11 — VCC3_3

BEAD 60 0805 1A /NI

CLKVCC3 — R250 4.7K 0402 /NI — CRYSTAL_SEL — R252 4.7K 0402 /NI

FOR VersionB

25M/14.318M SELECT

Title	CLOCK GEN	
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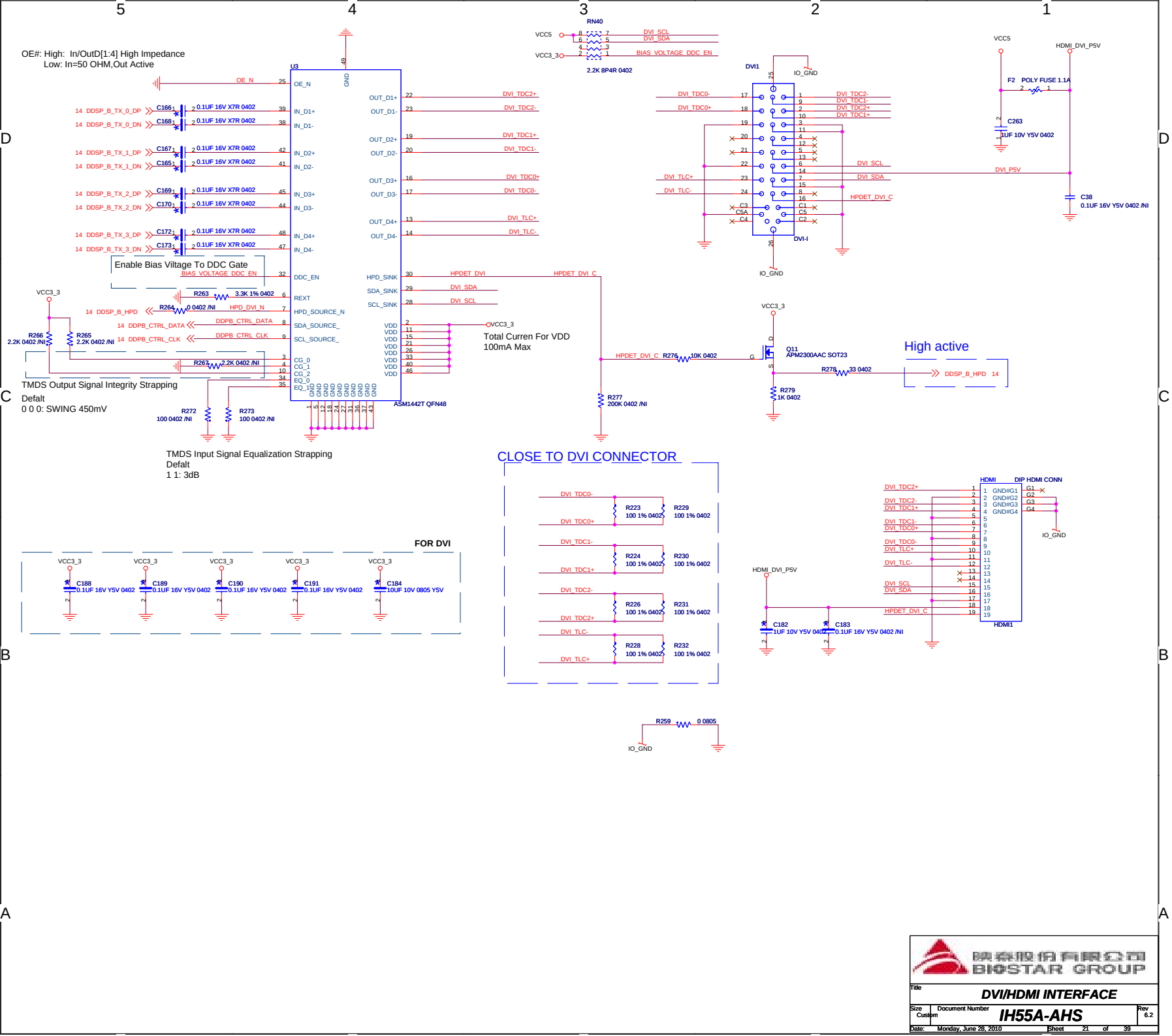

Title	DVI/HDMI INTERFACE
Size	Custom
Document Number	IH55A-AHS
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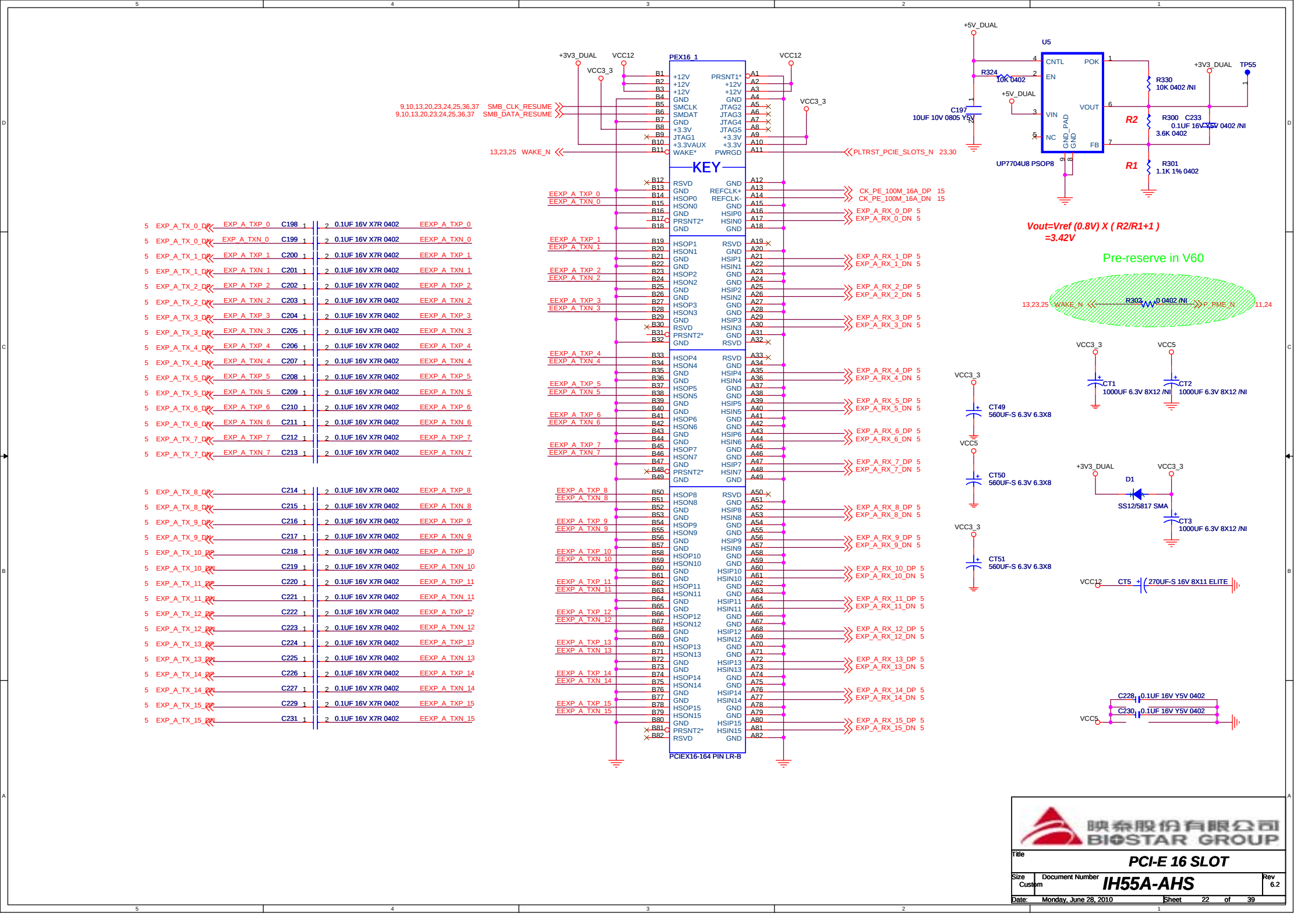
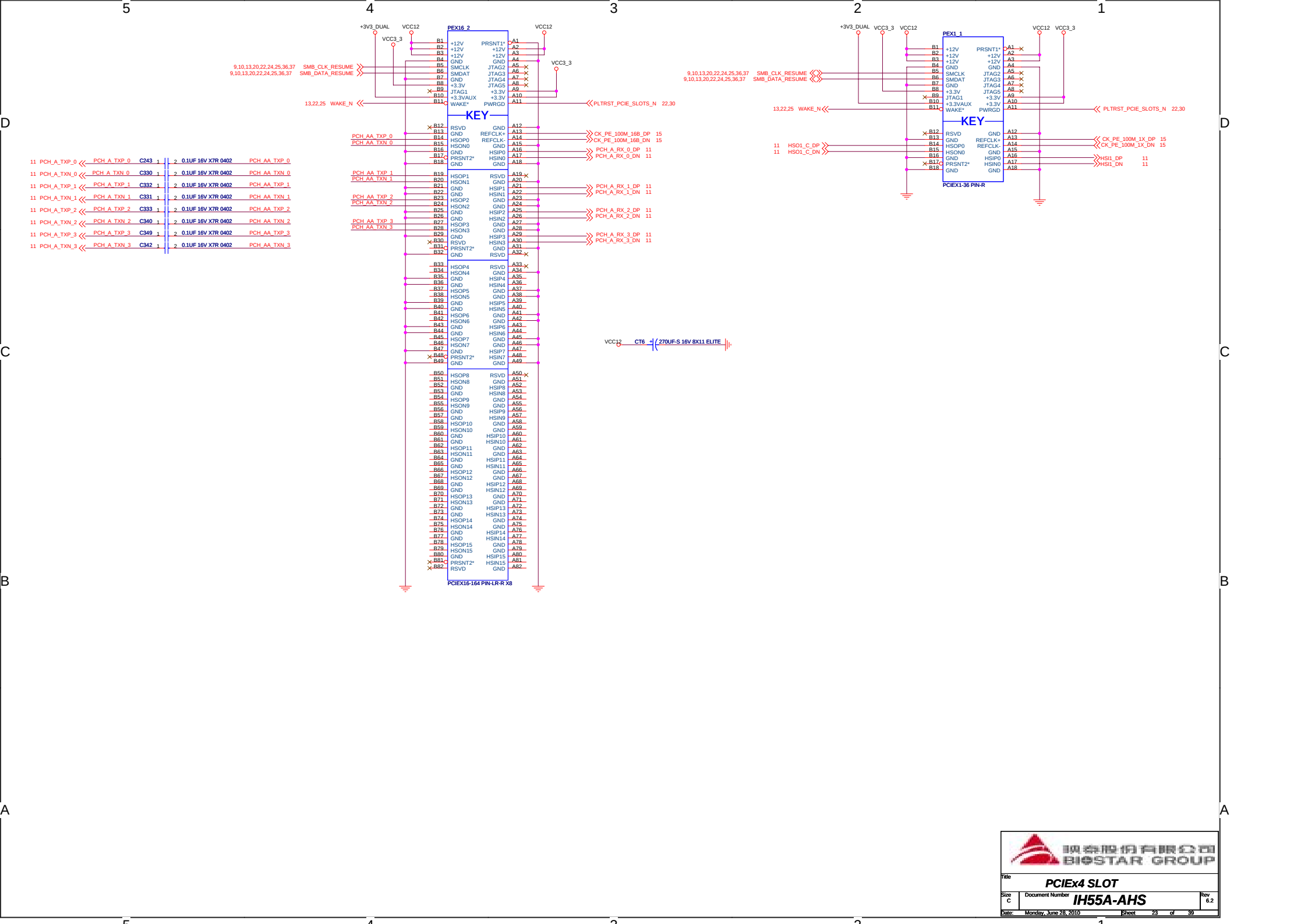

PEX16_1
KEY
PCIEX16-164 PIN LR-B
U5
UP7704U8 PSOP8
Vout=Vref (0.8V) X (R2/R1+1)
=3.42V
Pre-reserve in V60
PCI-E 16 SLOT
IH55A-AHS
Monday, June 28, 2010



Title	PCIEx4 SLOT
Size	C
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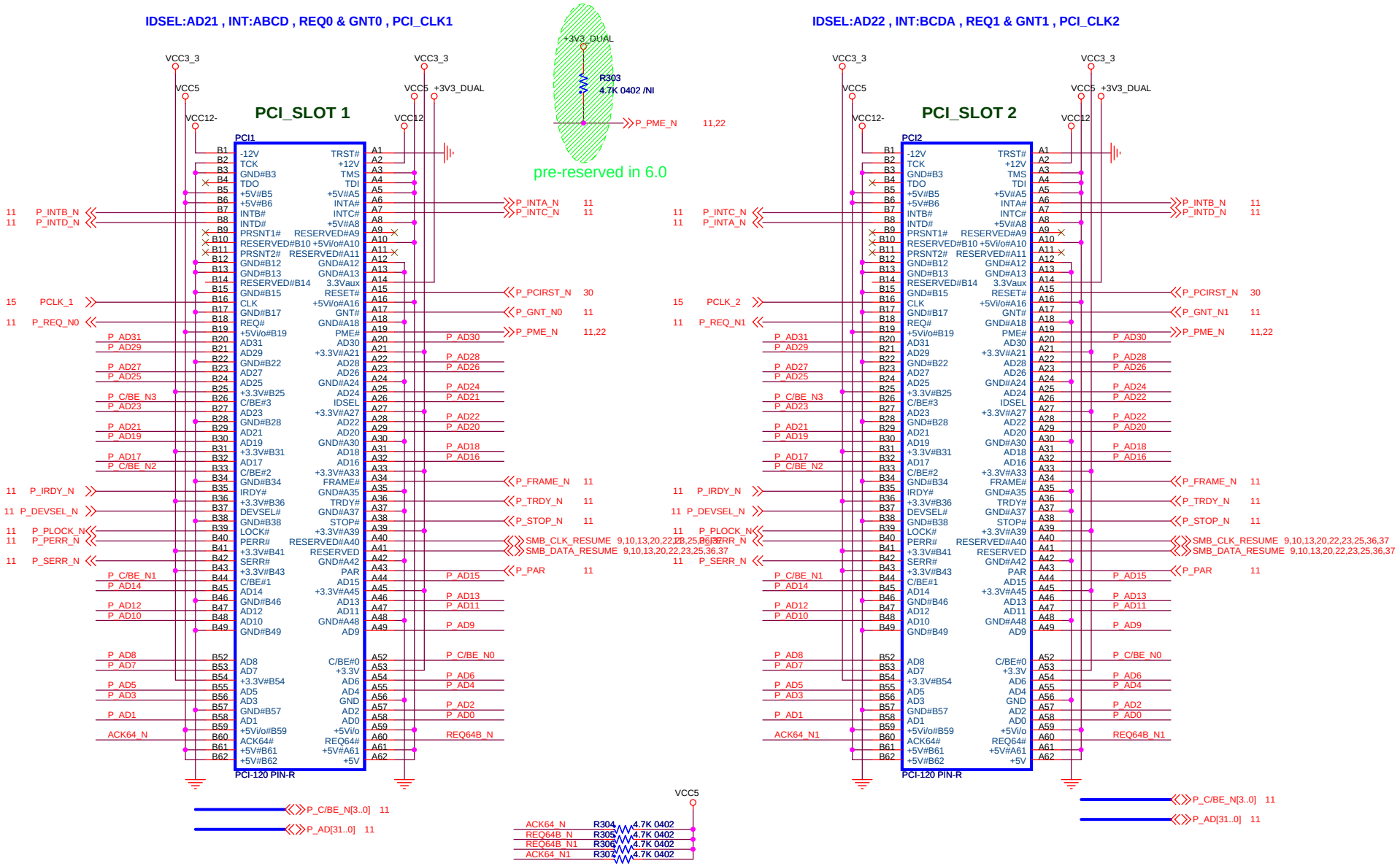
IDSEL:AD21 , INT:ABCD , REQ0 & GNT0 , PCI_CLK1

IDSEL:AD22 , INT:BCDA , REQ1 & GNT1 , PCI_CLK2



Title	PCI SLOT		
Size: Custom	Document Number: IH55A-AHS		Rev: 6.2
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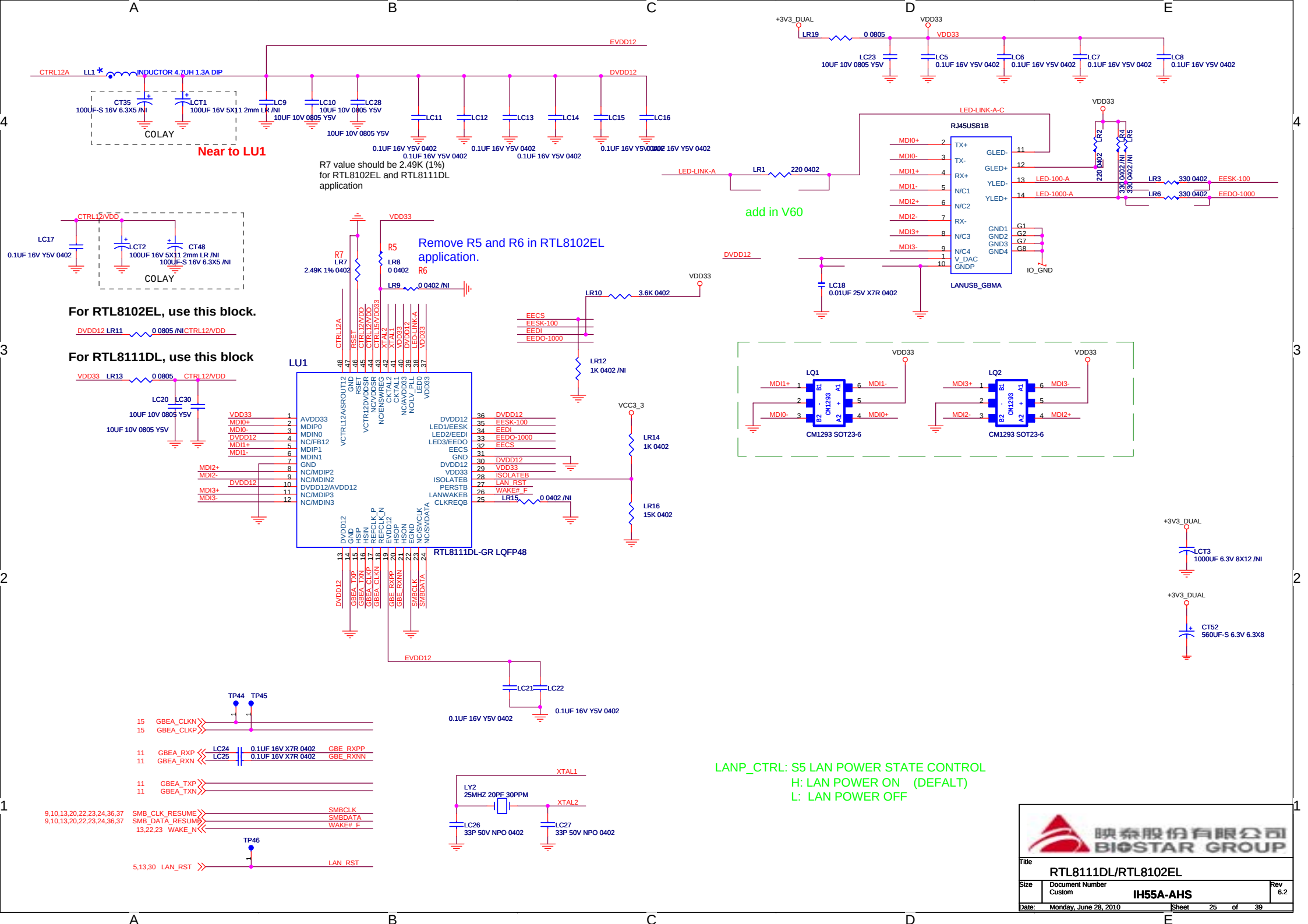
CTRL12A
LL1
INDUCTOR 4.7UH 1.3A DIP
EVDD12
DVDD12
CT35
100UF-S 16V 6.3X5 /NI
LCT1
100UF 16V 5X11 2mm LR /NI
COLAY
LC9
10UF 10V 0805 Y5V
LC10
10UF 10V 0805 Y5V
LC28
10UF 10V 0805 Y5V
LC11
0.1UF 16V Y5V 0402
LC12
0.1UF 16V Y5V 0402
LC13
0.1UF 16V Y5V 0402
LC14
0.1UF 16V Y5V 0402
LC15
0.1UF 16V Y5V 0402
LC16
0.1UF 16V Y5V 0402
Near to LU1
R7 value should be 2.49K (1%)
for RTL8102EL and RTL8111DL
application
+3V3_DUAL
LR19
0 0805
VDD33
LC23
10UF 10V 0805 Y5V
LC5
0.1UF 16V Y5V 0402
LC6
0.1UF 16V Y5V 0402
LC7
0.1UF 16V Y5V 0402
LC8
0.1UF 16V Y5V 0402
LED-LINK-A-C
RJ45USB1B
LED-LINK-A
LR1
220 0402
MDI0+
MDI0-
MDI1+
MDI1-
MDI2+
MDI2-
MDI3+
MDI3-
TX+
TX-
RX+
N/C1
N/C2
RX-
N/C3
N/C4
V_DAC
GNDP
GLED-
GLED+
YLED-
YLED+
GND1
GND2
GND3
GND4
LR2
220 0402
LR4
330 0402 /NI
LR5
330 0402 /NI
LED-100-A
LED-1000-A
LR3
330 0402
LR6
330 0402
EESK-100
EEDO-1000
IO_GND
LANUSB_GBMA
add in V60
LC18
0.01UF 25V X7R 0402
LC17
0.1UF 16V Y5V 0402
CTRL12/VDD
LCT2
100UF 16V 5X11 2mm LR /NI
CT48
100UF-S 16V 6.3X5 /NI
COLAY
For RTL8102EL, use this block.
DVDD12
LR11
0 0805 /NI
CTRL12/VDD
For RTL8111DL, use this block
R7
LR7
2.49K 1% 0402
R5
LR8
0 0402
Remove R5 and R6 in RTL8102EL
application.
R6
LR9
0 0402 /NI
LR10
3.6K 0402
LU1
RTL8111DL-GR LQFP48
EECS
EESK-100
EEDI
EEDO-1000
LR12
1K 0402 /NI
VCC3_3
LR14
1K 0402
LR16
15K 0402
LR15
0 0402 /NI
LQ1
LQ2
CM1293 SOT23-6
LCT3
1000UF 6.3V 8X12 /NI
CT52
560UF-S 6.3V 6.3X8
LC21
LC22
0.1UF 16V Y5V 0402
TP44
TP45
GBEA_CLKN
GBEA_CLKP
GBEA_RXP
GBEA_RXN
LC24
LC25
0.1UF 16V X7R 0402
GBE_RXPP
GBE_RXNN
GBEA_TXP
GBEA_TXN
SMB_CLK_RESUME
SMB_DATA_RESUME
WAKE_N
SMBCLK
SMBDATA
WAKE#_F
TP46
LAN_RST
LY2
25MHZ 20PF 30PPM
XTAL1
XTAL2
LC26
33P 50V NPO 0402
LC27
33P 50V NPO 0402
LANP_CTRL: S5 LAN POWER STATE CONTROL
H: LAN POWER ON (DEFALT)
L: LAN POWER OFF
映泰股份有限公司
BIOSTAR GROUP
Title
RTL8111DL/RTL8102EL
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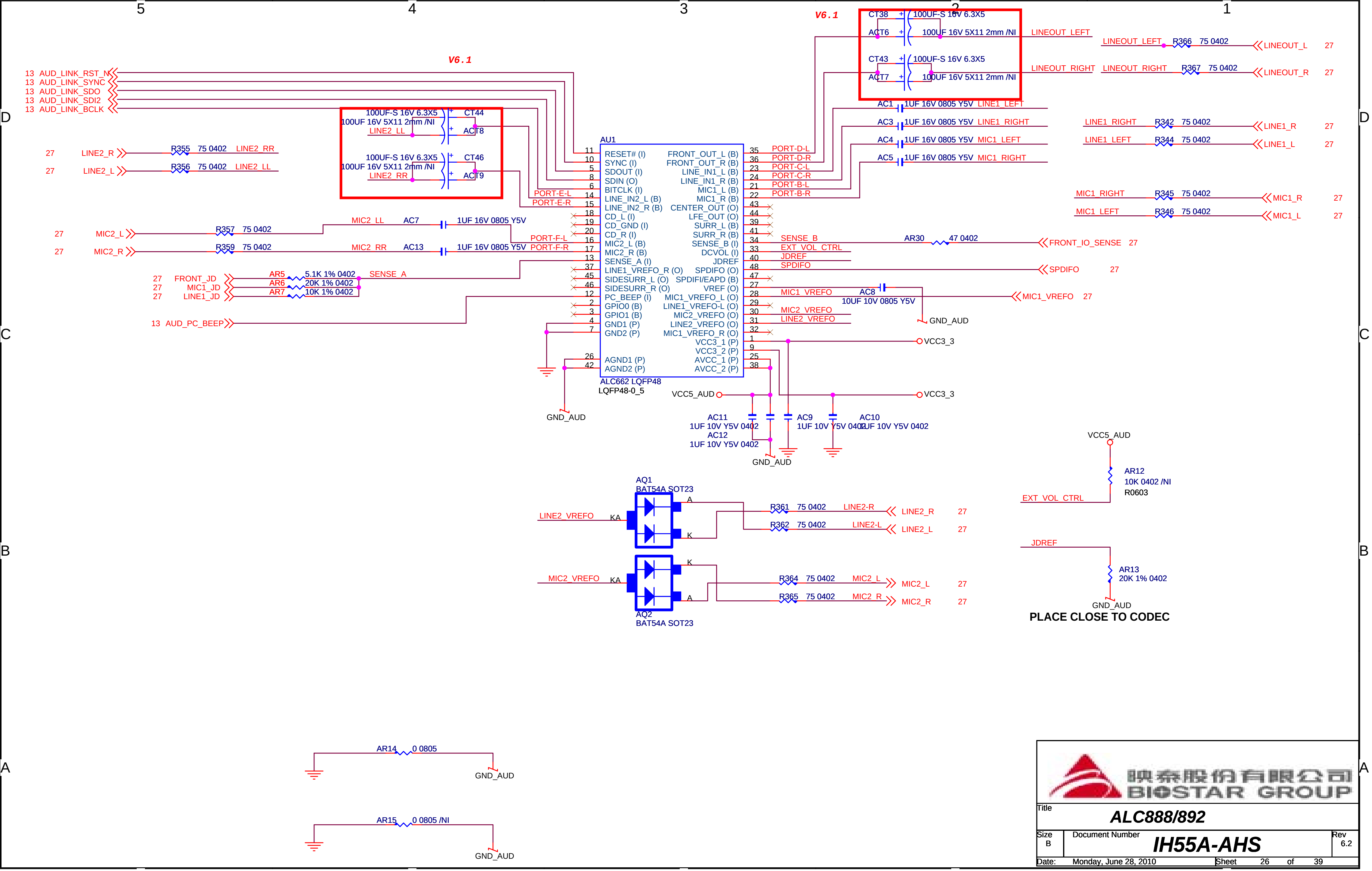
V6.1
13 AUD_LINK_RST_N
13 AUD_LINK_SYNC
13 AUD_LINK_SDO
13 AUD_LINK_SDI2
13 AUD_LINK_BCLK
CT44 100UF-S 16V 6.3X5
ACT8 100UF 16V 5X11 2mm /NI
CT46 100UF-S 16V 6.3X5
ACT9 100UF 16V 5X11 2mm /NI
27 LINE2_R R355 75 0402 LINE2_RR
27 LINE2_L R356 75 0402 LINE2_LL
27 MIC2_L R357 75 0402 MIC2_LL AC7 1UF 16V 0805 Y5V
27 MIC2_R R359 75 0402 MIC2_RR AC13 1UF 16V 0805 Y5V
27 FRONT_JD AR5 5.1K 1% 0402 SENSE_A
27 MIC1_JD AR6 20K 1% 0402
27 LINE1_JD AR7 10K 1% 0402
13 AUD_PC_BEEP
PORT-E-L
PORT-E-R
PORT-F-L
PORT-F-R
AU1
RESET# (I)
SYNC (I)
SDOUT (I)
SDIN (O)
BITCLK (I)
LINE_IN2_L (B)
LINE_IN2_R (B)
CD_L (I)
CD_GND (I)
CD_R (I)
MIC2_L (B)
MIC2_R (B)
SENSE_A (I)
LINE1_VREFO_R (O)
SIDESURR_L (O)
SIDESURR_R (O)
PC_BEEP (I)
GPIO0 (B)
GPIO1 (B)
GND1 (P)
GND2 (P)
AGND1 (P)
AGND2 (P)
FRONT_OUT_L (B)
FRONT_OUT_R (B)
LINE_IN1_L (B)
LINE_IN1_R (B)
MIC1_L (B)
MIC1_R (B)
CENTER_OUT (O)
LFE_OUT (O)
SURR_L (B)
SURR_R (B)
SENSE_B (I)
DCVOL (I)
JDREF
SPDIFO (O)
SPDIF/EAPD (B)
VREF (O)
MIC1_VREFO_L (O)
LINE1_VREFO-L (O)
MIC2_VREFO (O)
LINE2_VREFO (O)
MIC1_VREFO_R (O)
VCC3_1 (P)
VCC3_2 (P)
AVCC_1 (P)
AVCC_2 (P)
ALC662 LQFP48
LQFP48-0_5
GND_AUD
PORT-D-L
PORT-D-R
PORT-C-L
PORT-C-R
PORT-B-L
PORT-B-R
SENSE_B
EXT_VOL_CTRL
JDREF
SPDIFO
MIC1_VREFO
MIC2_VREFO
LINE2_VREFO
CT38 100UF-S 16V 6.3X5
ACT6 100UF 16V 5X11 2mm /NI
CT43 100UF-S 16V 6.3X5
ACT7 100UF 16V 5X11 2mm /NI
LINEOUT_LEFT
LINEOUT_RIGHT
LINEOUT_LEFT R366 75 0402 LINEOUT_L 27
LINEOUT_RIGHT R367 75 0402 LINEOUT_R 27
AC1 1UF 16V 0805 Y5V LINE1_LEFT
AC3 1UF 16V 0805 Y5V LINE1_RIGHT
AC4 1UF 16V 0805 Y5V MIC1_LEFT
AC5 1UF 16V 0805 Y5V MIC1_RIGHT
LINE1_RIGHT R342 75 0402 LINE1_R 27
LINE1_LEFT R344 75 0402 LINE1_L 27
MIC1_RIGHT R345 75 0402 MIC1_R 27
MIC1_LEFT R346 75 0402 MIC1_L 27
AR30 47 0402 FRONT_IO_SENSE 27
SPDIFO 27
AC8 10UF 10V 0805 Y5V
MIC1_VREFO 27
GND_AUD
VCC3_3
VCC5_AUD
VCC3_3
AC11 1UF 10V Y5V 0402
AC12 1UF 10V Y5V 0402
AC9 1UF 10V Y5V 0402
AC10 1UF 10V Y5V 0402
GND_AUD
VCC5_AUD
AR12 10K 0402 /NI R0603
EXT_VOL_CTRL
JDREF
AR13 20K 1% 0402
GND_AUD
PLACE CLOSE TO CODEC
AQ1 BAT54A SOT23
LINE2_VREFO KA A K
R361 75 0402 LINE2-R LINE2_R 27
R362 75 0402 LINE2-L LINE2_L 27
MIC2_VREFO KA K A
R364 75 0402 MIC2_L MIC2_L 27
R365 75 0402 MIC2_R MIC2_R 27
AQ2 BAT54A SOT23
AR14 0 0805
GND_AUD
AR15 0 0805 /NI
GND_AUD
映泰股份有限公司
BIOSTAR GROUP
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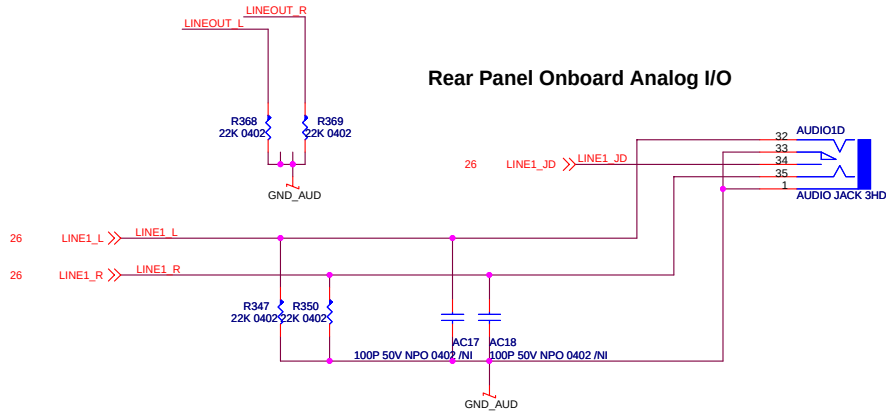

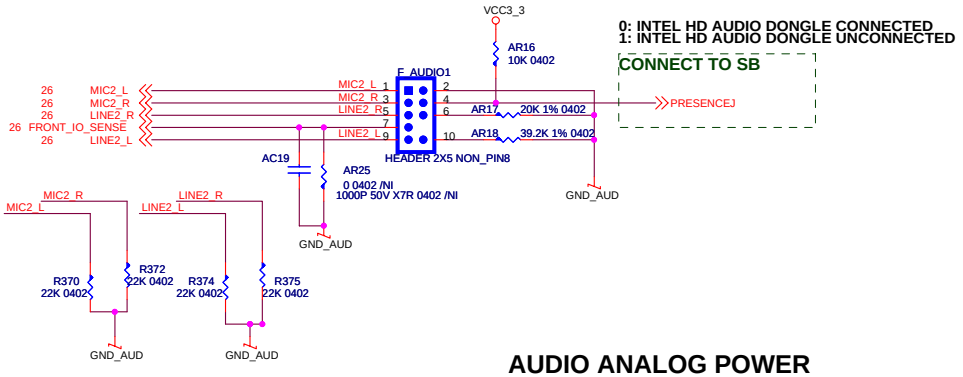

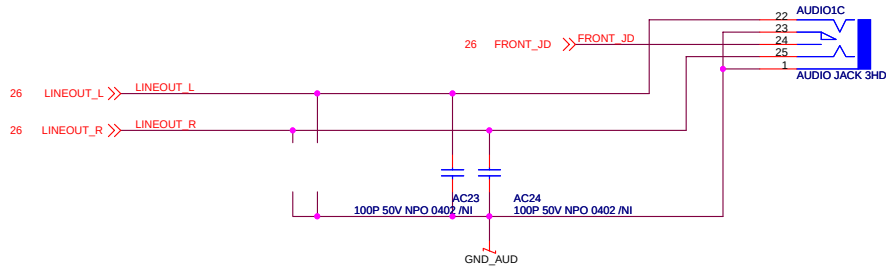

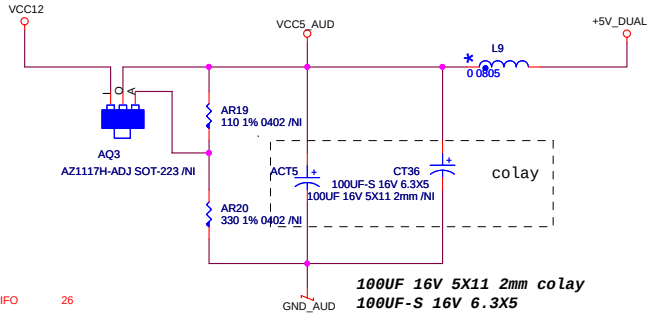

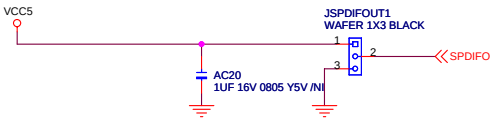

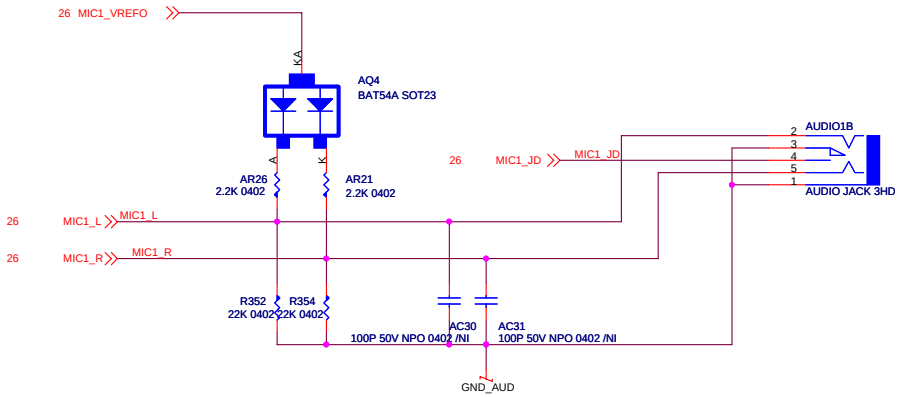

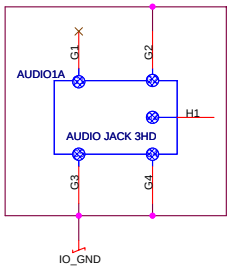

BIOSTAR GROUP

Title	AUDIO CONNECTOR	
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FOR EMI

R325
0 0805

Q74
USB_D11-
USB_D10-
USB_D11+
USB_D10+
POWER_JUSB2
CM1293 SOT23-6 /NI

BACK PANEL USB
PLACE NEAR CONN

POWER_JUSB2
RJ45USB1A
VCC0
DATA0-
DATA0+
GND0
VCC1
DATA1-
DATA1+
GND1
GND2
GND3
GND4
GND5
LANUSB_GBMA
IO_GND
C244
0.1UF 16V Y5V 0402
USB_D10-
USB_D10+
USB_D11-
USB_D11+

Q73
USB_D9-
USB_D9+
USB_D8-
USB_D8+
POWER_JUSB2
CM1293 SOT23-6 /NI

DEFAULT : 1-2 CLOSE
+5V_DUAL
JUSBV1
HEADER 1X3
VCC5

1_2 SYSTEM VOLTAGE
2_3 DUAL VOLTAGE

POWER_JUSB2
US8KB1A
USB_KB
USB_D9-
USB_D9+
USB_D8-
USB_D8+

F5
POLY FUSE 2.0A
CT47
560UF-S 6.3V 6.3X8
CT9
1000UF 6.3V 8X12 /NI
POWER_JUSB2

REAR USB PORT

POWER_JUSB1

C246
0.1UF 16V Y5V 0402 /NI
CT10
1000UF 6.3V 8X12 /NI
CT45
560UF-S 6.3V 6.3X8

F_USB1
USB_D3-
USB_D3+
USB_D2-
USB_D2+
HEADER 2X5 N9 R-USB

FRONT USB PORT

Q16
USB_D3-
USB_D2-
USB_D3+
USB_D2+
POWER_JUSB1
CM1293 SOT23-6

FRONT PANEL USB

C247
0.1UF 16V Y5V 0402 /NI

F_USB2
USB_D1-
USB_D1+
USB_D0-
USB_D0+
HEADER 2X5 N9 R-USB

Q17
USB_D1-
USB_D0-
USB_D1+
USB_D0+
POWER_JUSB1
CM1293 SOT23-6

FRONT PANEL USB

DEFAULT : 2-3 CLOSE
+5V_DUAL
JUSBV2
HEADER 1X3
VCC5

F6
POLY FUSE 2.0A
POWER_JUSB1

POWER_JUSB1

C248
0.1UF 16V Y5V 0402 /NI

F_USB3
USB_D4-
USB_D4+
USB_D5-
USB_D5+
HEADER 2X5 N9 R-USB

Q18
USB_D4-
USB_D5-
USB_D4+
USB_D5+
POWER_JUSB1
CM1293 SOT23-6

FRONT PANEL USB

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Title: USB CONN

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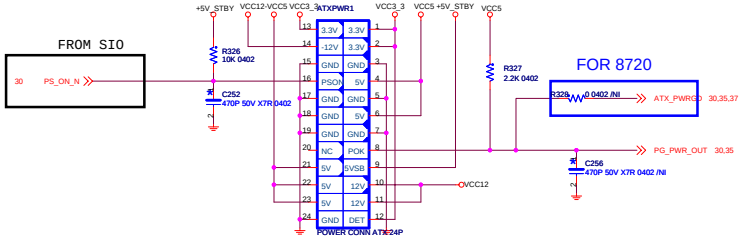
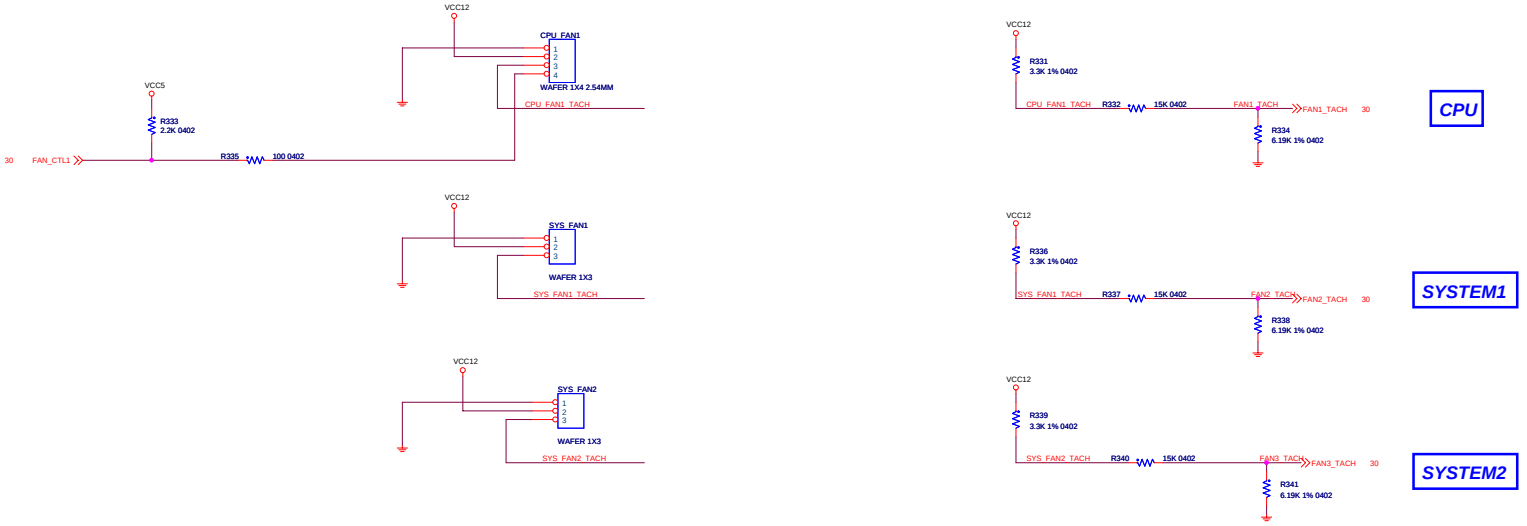
24 PIN POWER CONNECTOR

POWER CONNECTOR

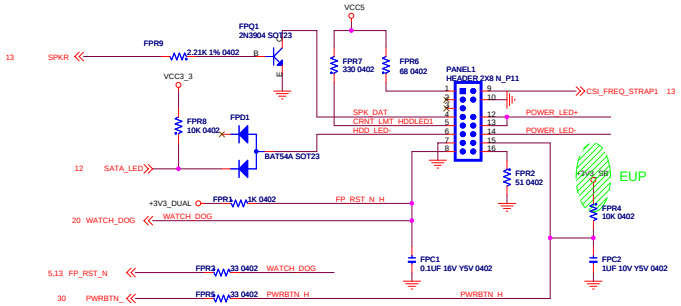


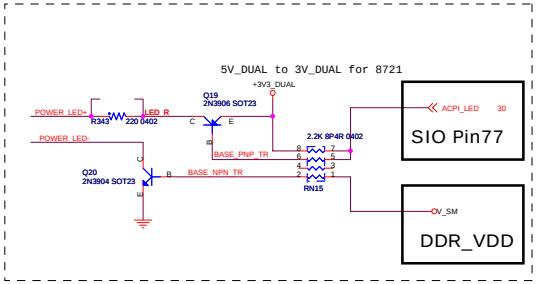
EMI POWER CONN DECOUPING

CPU FAN/SYSTEM FAN1/SYSTEM FAN2



FRONT PANEL HEADER





LED_D2	LED_D1	MESSAGE
OFF	OFF	ABNORMAL
OFF	ON	MEMORY ERROR
ON	OFF	VGA ERROR
ON	ON	NORMAL

FOR T-SERIAL

BIOSTAR GROUP

Title: FAN&POWER CONN&FP

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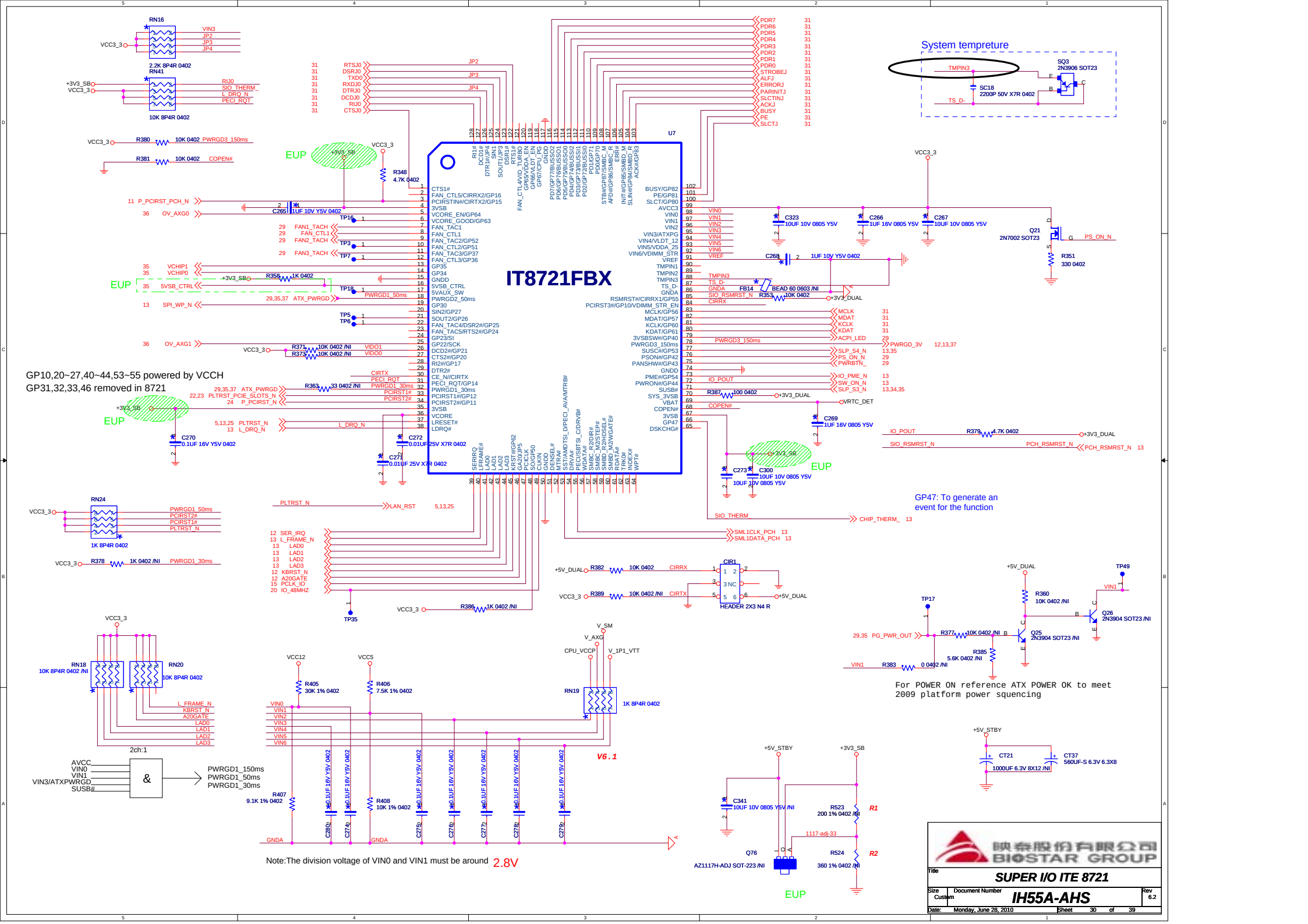
IT8721FBX
System tempreture
GP10,20~27,40~44,53~55 powered by VCCH
GP31,32,33,46 removed in 8721
GP47: To generate an event for the function
For POWER ON reference ATX POWER OK to meet 2009 platform power squencing
Note:The division voltage of VIN0 and VIN1 must be around 2.8V
V6.1
SUPER I/O ITE 8721
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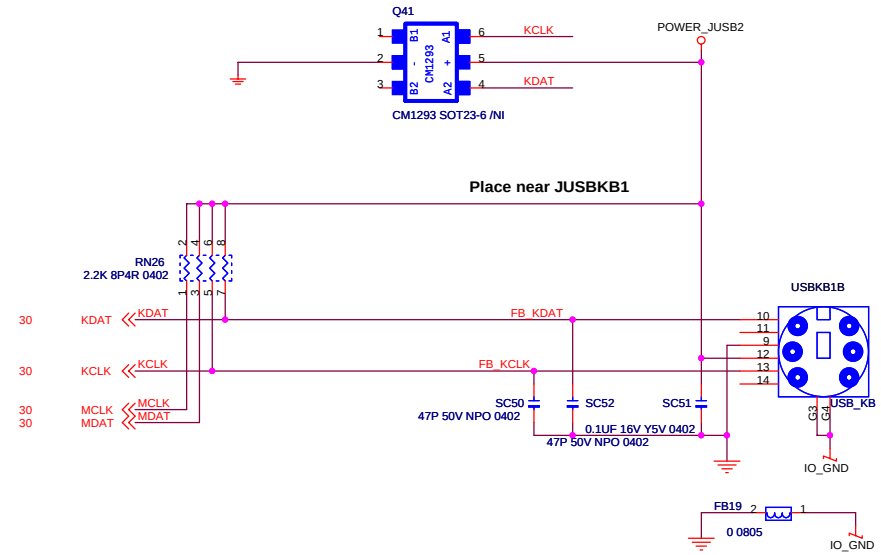
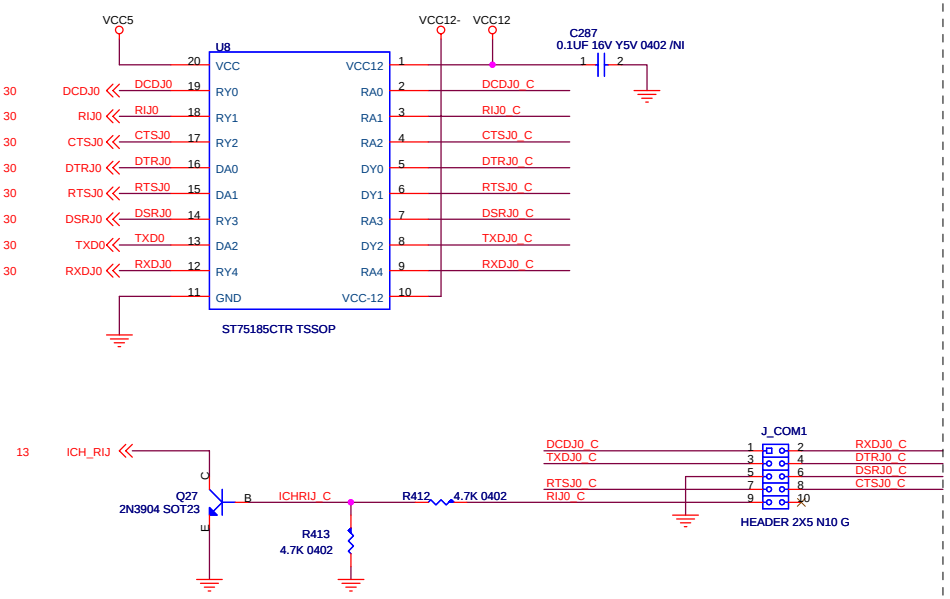


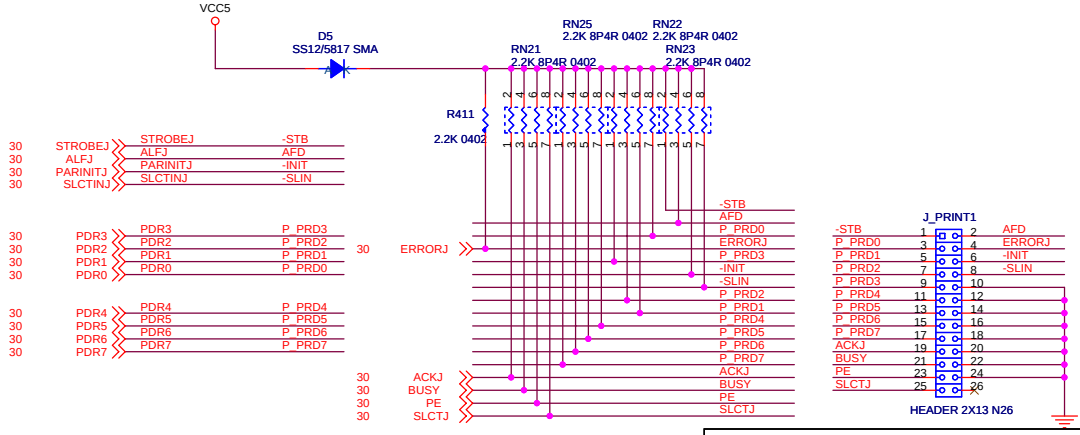
PS2 PORT

FLOPPY CONNECTOR

COM HEADER



PRINT HEADER



BIOSTAR GROUP

Title	FDD / PS2 CONN	
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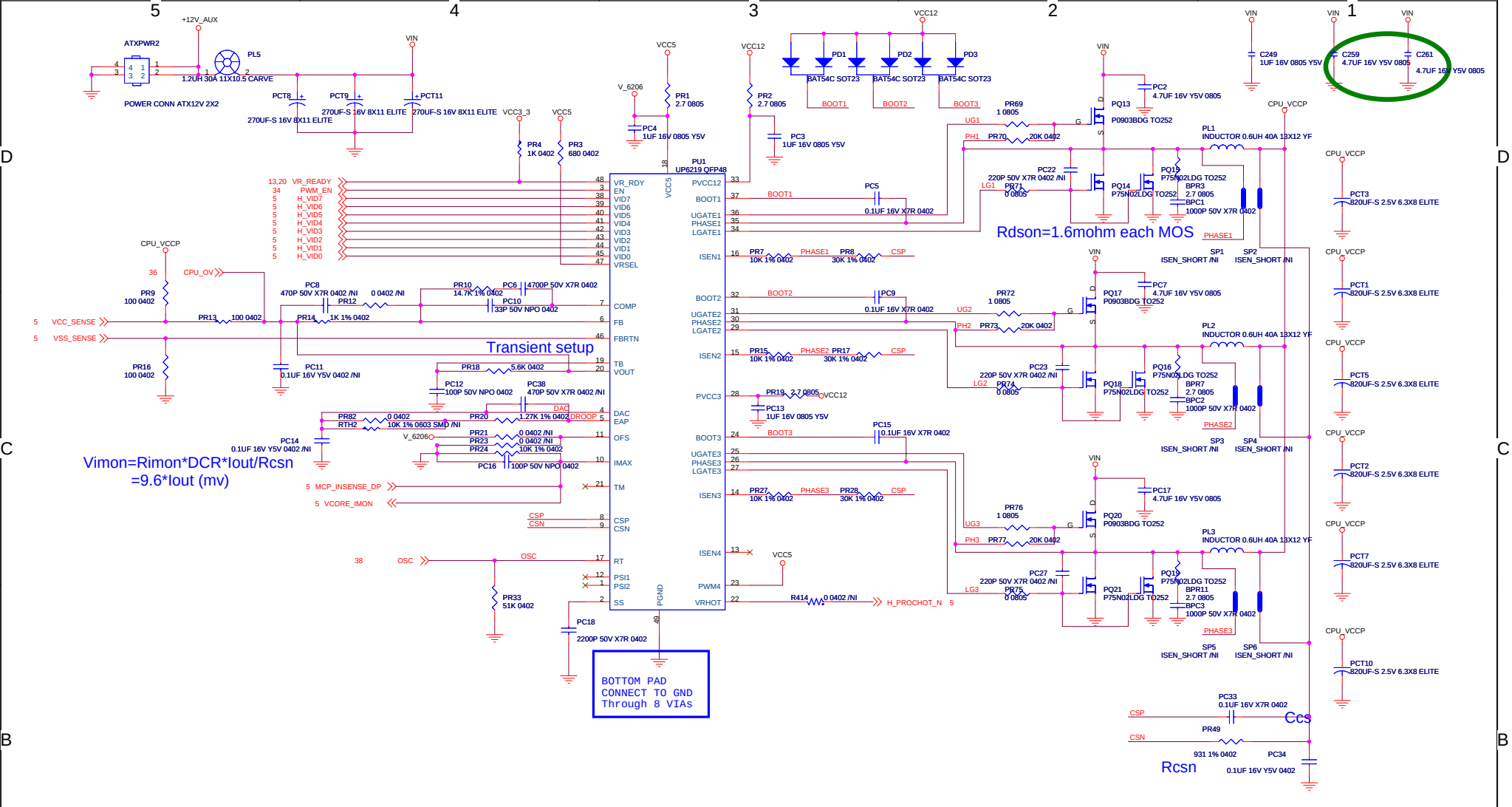

	GPIO1	GPIO2	
Full Phase	0	0	
CPU contorl	0	1	
Auto Phase	1	1	Default

BIOSTAR GROUP

Title	CPU_CORE DC-DC CONVER	
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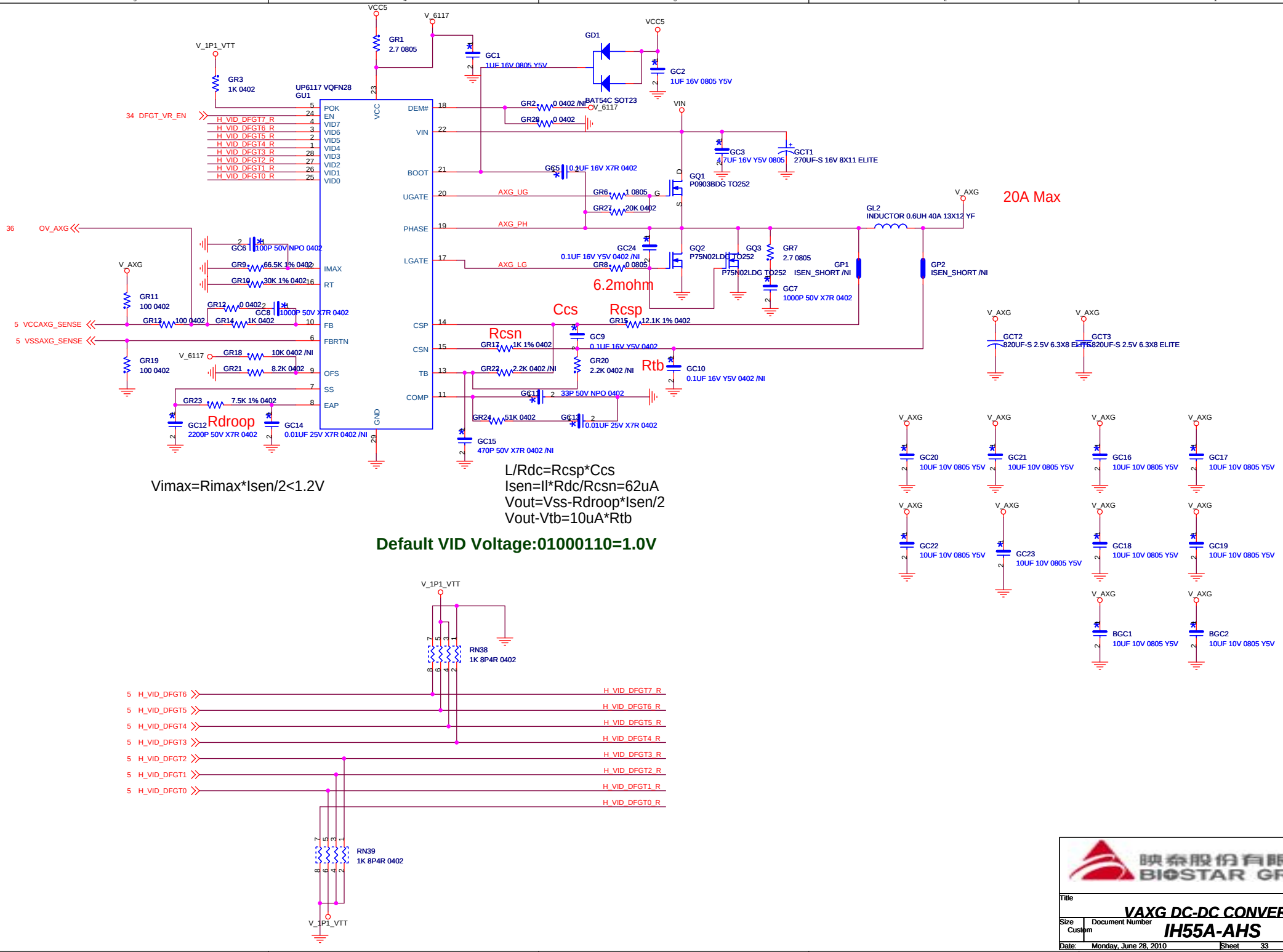

Vimax=Rimax*Isen/2<1.2V

L/Rdc=Rcsp*Ccs
Isen=Il*Rdc/Rcsn=62uA
Vout=Vss-Rdroop*Isen/2
Vout-Vtb=10uA*Rtb

Default VID Voltage:01000110=1.0V

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Title	VAXG DC-DC CONVER	
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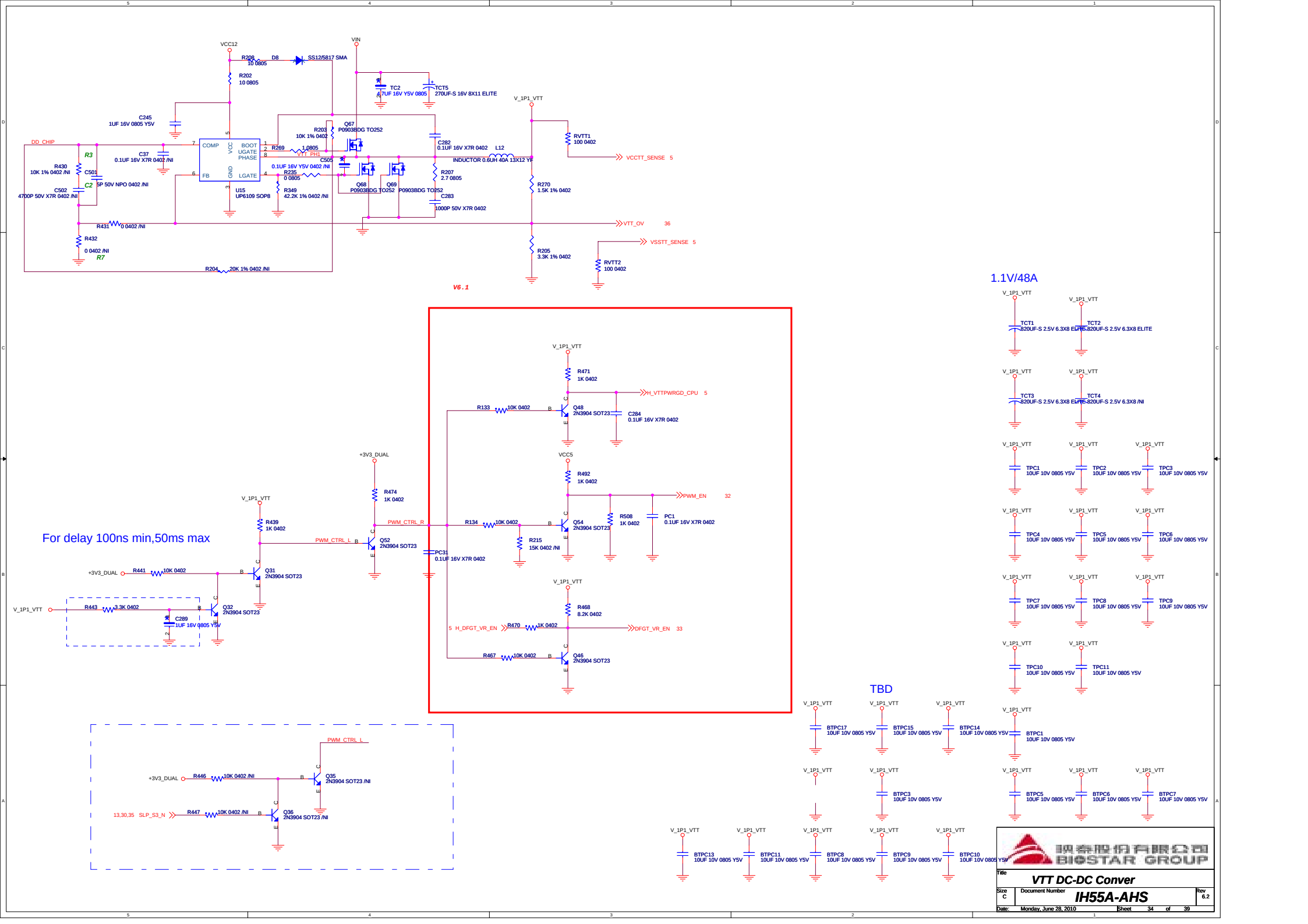
VCC12
VIN
R208 10 0805
D8
SS12/5817 SMA
R202 10 0805
TC2 47UF 16V Y5V 0805
TCT5 270UF-S 16V 8X11 ELITE
V_1P1_VTT
C245 1UF 16V 0805 Y5V
Q67 P0903BDG TO252
R203 10K 1% 0402
C282 0.1UF 16V X7R 0402
L12
INDUCTOR 0.6UH 40A 13X12 YE
RVTT1 100 0402
VCCTT_SENSE 5
DD_CHIP
R3
R430 10K 1% 0402 /NI
C501
C2
5P 50V NPO 0402 /NI
C502 4700P 50V X7R 0402 /NI
C37 0.1UF 16V X7R 0402 /NI
COMP
VCC
BOOT
UGATE
PHASE
LGATE
FB
GND
U15 UP6109 SOP8
R269 1 0805
VTT_PH1
C505 0.1UF 16V Y5V 0402 /NI
R235 0 0805
R349 42.2K 1% 0402 /NI
Q68 P0903BDG TO252
Q69 P0903BDG TO252
R207 2.7 0805
C283 1000P 50V X7R 0402
R270 1.5K 1% 0402
R205 3.3K 1% 0402
RVTT2 100 0402
VSSTT_SENSE 5
VTT_OV 36
R431 0 0402 /NI
R432 0 0402 /NI
R7
R204 20K 1% 0402 /NI
V6.1
1.1V/48A
TCT1 820UF-S 2.5V 6.3X8 ELITE
TCT2 820UF-S 2.5V 6.3X8 ELITE
TCT3 820UF-S 2.5V 6.3X8 ELITE
TCT4 820UF-S 2.5V 6.3X8 /NI
TPC1 10UF 10V 0805 Y5V
TPC2 10UF 10V 0805 Y5V
TPC3 10UF 10V 0805 Y5V
TPC4 10UF 10V 0805 Y5V
TPC5 10UF 10V 0805 Y5V
TPC6 10UF 10V 0805 Y5V
TPC7 10UF 10V 0805 Y5V
TPC8 10UF 10V 0805 Y5V
TPC9 10UF 10V 0805 Y5V
TPC10 10UF 10V 0805 Y5V
TPC11 10UF 10V 0805 Y5V
R471 1K 0402
H_VTTPWRGD_CPU 5
R133 10K 0402
Q48 2N3904 SOT23
C284 0.1UF 16V X7R 0402
+3V3_DUAL
VCC5
R474 1K 0402
R492 1K 0402
PWM_EN 32
R508 1K 0402
PC1 0.1UF 16V X7R 0402
PWM_CTRL_R
R134 10K 0402
Q54 2N3904 SOT23
R215 15K 0402 /NI
PWM_CTRL_L
Q52 2N3904 SOT23
PC31 0.1UF 16V X7R 0402
For delay 100ns min,50ms max
R439 1K 0402
R441 10K 0402
Q31 2N3904 SOT23
R443 3.3K 0402
Q32 2N3904 SOT23
C289 1UF 16V 0805 Y5V
R468 8.2K 0402
5 H_DFGT_VR_EN
R470 1K 0402
DFGT_VR_EN 33
R467 10K 0402
Q46 2N3904 SOT23
TBD
BTPC17 10UF 10V 0805 Y5V
BTPC15 10UF 10V 0805 Y5V
BTPC14 10UF 10V 0805 Y5V
BTPC1 10UF 10V 0805 Y5V
BTPC3 10UF 10V 0805 Y5V
BTPC5 10UF 10V 0805 Y5V
BTPC6 10UF 10V 0805 Y5V
BTPC7 10UF 10V 0805 Y5V
BTPC13 10UF 10V 0805 Y5V
BTPC11 10UF 10V 0805 Y5V
BTPC8 10UF 10V 0805 Y5V
BTPC9 10UF 10V 0805 Y5V
BTPC10 10UF 10V 0805 Y5V
PWM_CTRL_L
+3V3_DUAL
R446 10K 0402 /NI
Q35 2N3904 SOT23 /NI
13,30,35 SLP_S3_N
R447 10K 0402 /NI
Q36 2N3904 SOT23 /NI
BIOSTAR GROUP
Title
VTT DC-DC Conver
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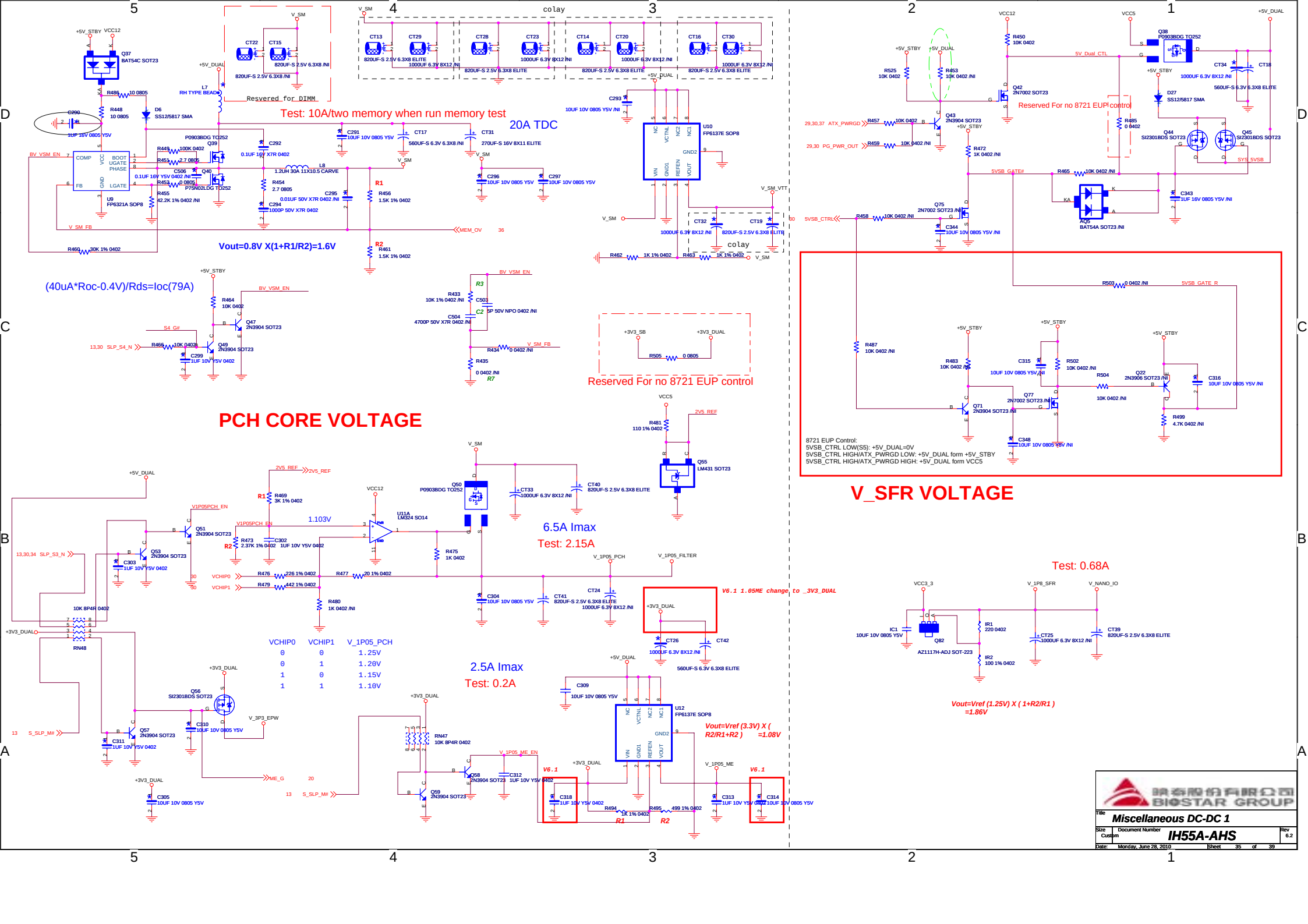
Test: 10A/two memory when run memory test
20A TDC
Resevred for DIMM
Vout=0.8V X(1+R1/R2)=1.6V
(40uA*Roc-0.4V)/Rds=Ioc(79A)
Reserved For no 8721 EUP control
PCH CORE VOLTAGE
6.5A Imax
Test: 2.15A
2.5A Imax
Test: 0.2A
VCHIP0 VCHIP1 V_1P05_PCH
0 0 1.25V
0 1 1.20V
1 0 1.15V
1 1 1.10V
V6.1 1.05ME change to _3V3_DUAL
Vout=Vref (3.3V) X (R2/R1+R2) =1.08V
8721 EUP Control:
5VSB_CTRL LOW(S5): +5V_DUAL=0V
5VSB_CTRL HIGH/ATX_PWRGD LOW: +5V_DUAL form +5V_STBY
5VSB_CTRL HIGH/ATX_PWRGD HIGH: +5V_DUAL form VCC5
V_SFR VOLTAGE
Test: 0.68A
Vout=Vref (1.25V) X (1+R2/R1) =1.86V
Miscellaneous DC-DC 1
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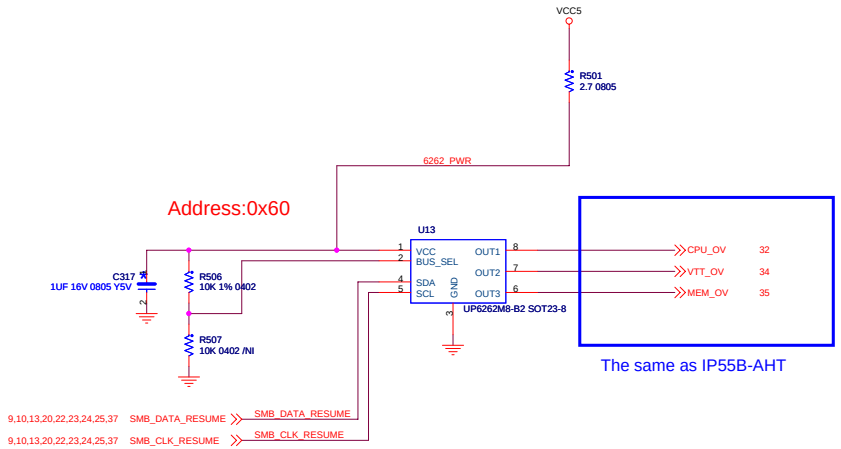

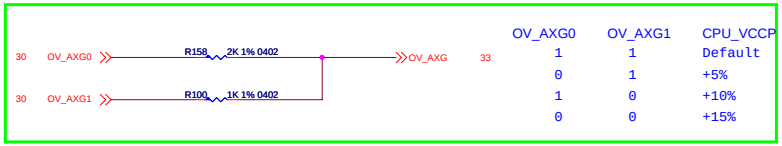

OV_AXG0	OV_AXG1	CPU_VCCP
1	1	Default
0	1	+5%
1	0	+10%
0	0	+15%

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Title: Over Voltage IC

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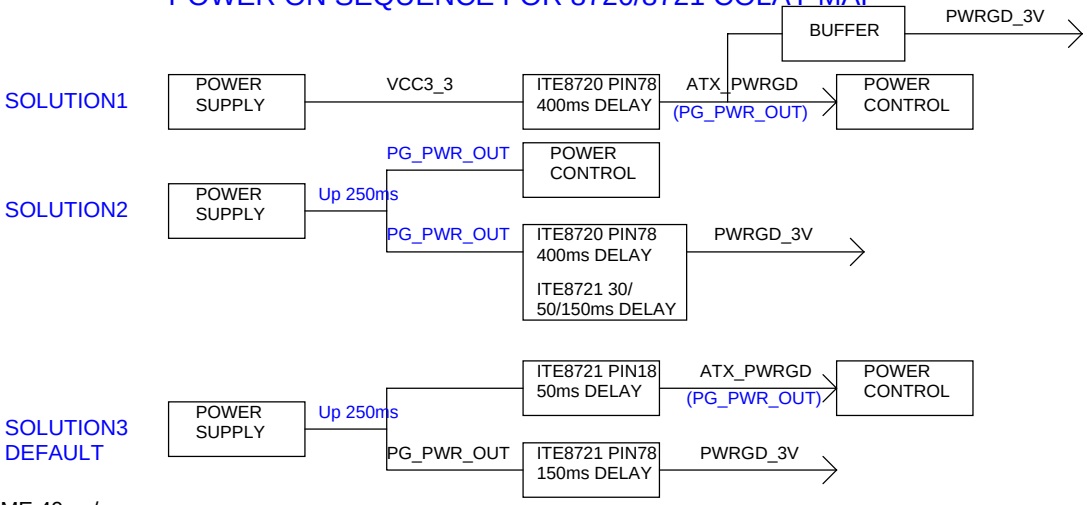
+3V3_DUAL
R510 1K 0402 SMB_CLK_RESUME 9,10,13,20,22,23,24,25,36
R511 1K 0402 SMB_DATA_RESUME 9,10,13,20,22,23,24,25,36

SMB_CLK_RESUME 9,10,13,20,22,23,24,25,36
SMB_CLK_MAIN 9,10,13,20,22,23,24,25,36
SMB_DATA_RESUME 9,10,13,20,22,23,24,25,36
SMB_DATA_MAIN 9,10,13,20,22,23,24,25,36

PWRGD_3V 12,13,30
5,12,13 H_SKTOCC_N
R514 10K 0402
Q66 2N3904 SOT23 (B, C, E)

POWER ON SEQUENCE FOR 8720/8721 COLAY MAP



FALL TIME:40mv/us

PWRGD_3V 12,13,30
C325 100P 50V NPO 0402

29,30,35 ATX_PWRGD
R520 0 0402 /NI
PWRGD_3V 12,13,30

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Title	RESET BUFFER AND SEQUENCE		
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PWM Frequency Control--V6.0 DISABLE

6206:Fsw=1000/Rosc(Kohm)
=200kHz
6219:Fsw=300*(24K/Rosc)$^{0.92}$
=200kHz

PWM_CTL1	PWM_CTL2	FREQUENCY	
0	0	220K	
0	1	180K	
1	0	240K	
1	1	200K	default

Fixed INTEL 1156 SOCKET coolbug ISSUE

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Title: PWM Control

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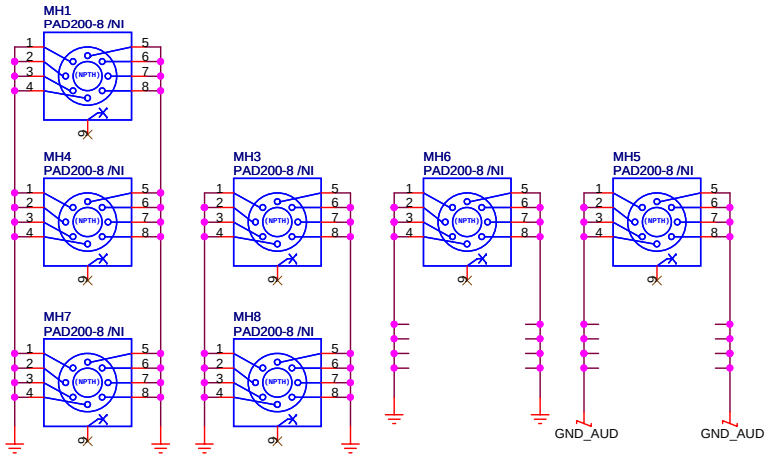

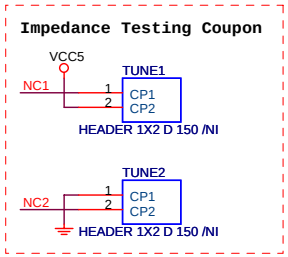

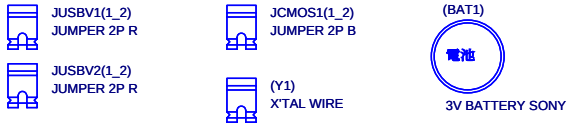

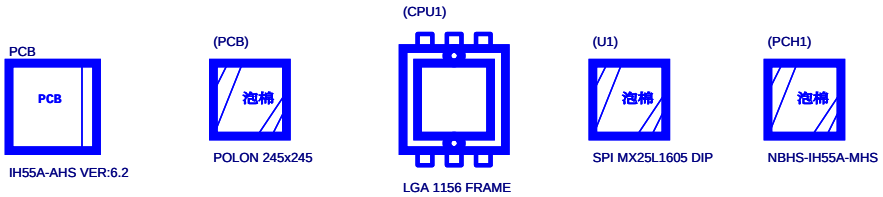

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