INTEL® PENTIUM® III & INTEL® CELERON (R) PROCESSOR/ 810E2 CHIPSET UNIVERSAL SOCKET 370 PLATFORM

UNIPROCESSOR CUSTOMER REFERENCE SCHEMATICS

REVISION 1.0

** Please note these schematics are subject to change.

Title: Intel® 810e2 Chipset Universal Socket 370 CRB Cover Sheet		REV. 1.0
intel IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date 9/02/01	
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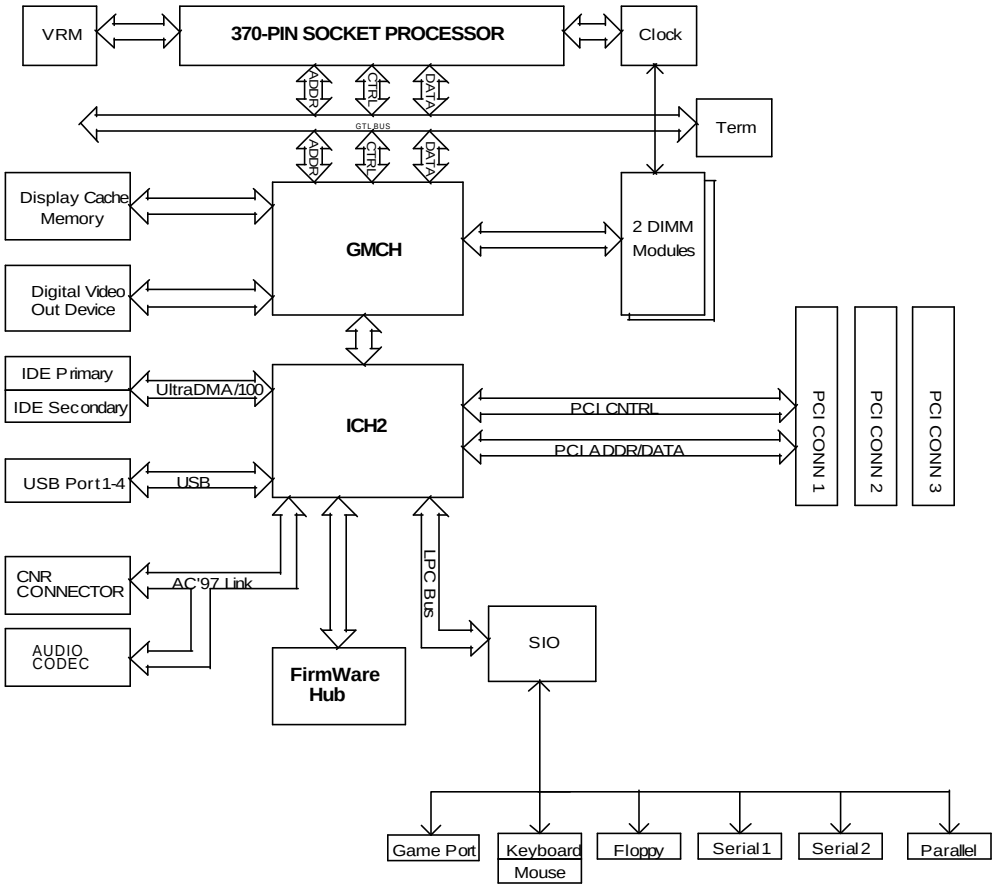
Block Diagram



Title: Intel® 810e2 Chipset Universal Socket370CRB Block Diagram		REV. 1.0
intel IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date 9/02/01	
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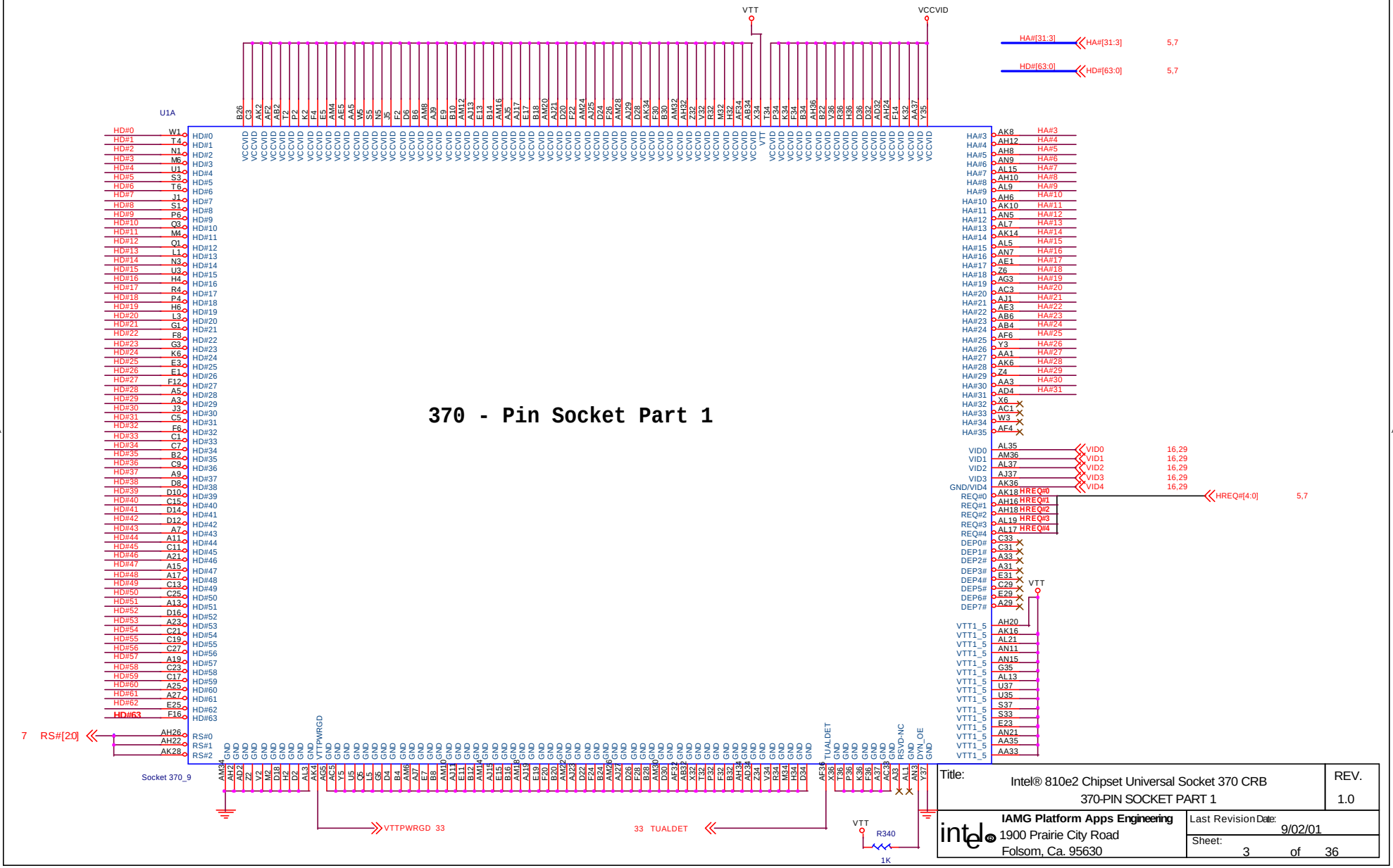
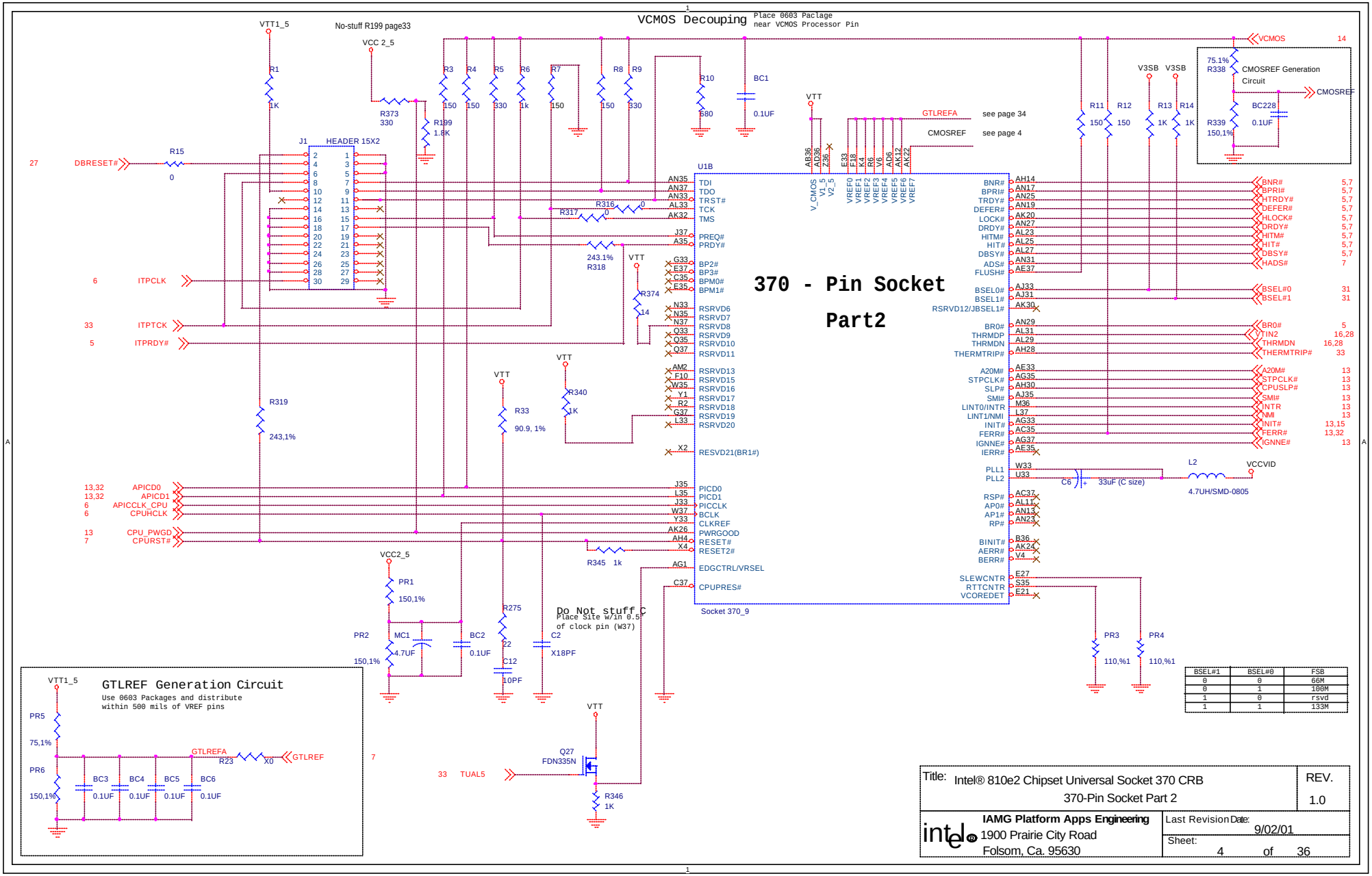


Title:	Intel® 810e2 Chipset Universal Socket 370 CRB 370-PIN SOCKET PART 1
REV.	1.0
IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01 Sheet: 3 of 36


VCMOS Decouping
Place 0603 Paclage
near VCMOS Processor Pin
No-stuff R199 page33
VTT1_5
VCC 2_5
R1 1K
R3 150
R4 150
R5 330
R6 1k
R7 150
R8 150
R9 330
R10 680
BC1 0.1UF
R373 330
R199 1.8K
VTT
GTLREFA see page 34
CMOSREF see page 4
V3SB
R11 150
R12 150
R13 1K
R14 1K
VCMOS 14
75.1% R338
CMOSREF Generation Circuit
CMOSREF
R339 150,1%
BC228 0.1UF
J1 HEADER 15X2
27 DBRESET# R15 0
6 ITPCLK
33 ITPTCK
5 ITPRDY#
U1B
TDI
TDO
TRST#
TCK
TMS
PREQ#
PRDY#
BP2#
BP3#
BPM0#
BPM1#
RSRVD6
RSRVD7
RSRVD8
RSRVD9
RSRVD10
RSRVD11
RSRVD13
RSRVD15
RSRVD16
RSRVD17
RSRVD18
RSRVD19
RSRVD20
RESVD21(BR1#)
PICD0
PICD1
PICCLK
BCLK
CLKREF
PWRGOOD
RESET#
RESET2#
EDGCTRL/VRSEL
CPUPRES#
R316 0
R317 0
R318 243.1%
R374 14
R319 243,1%
R33 90.9, 1%
R340 1K
R345 1k
X4
X2
13,32 APICD0
13,32 APICD1
6 APICCLK_CPU
6 CPUHCLK
13 CPU_PWGD
7 CPURST#
VCC2_5
PR1 150,1%
PR2 150,1%
MC1 4.7UF
BC2 0.1UF
R275 22
C12 10PF
C2 X18PF
Do Not stuff C
Place Site w/in 0.5"
of clock pin (W37)
Q27 FDN335N
33 TUAL5
R346 1K
BNR#
BPRI#
TRDY#
DEFER#
LOCK#
DRDY#
HITM#
HIT#
DBSY#
ADS#
FLUSH#
BSEL0#
BSEL1#
RSRVD12/JBSEL1#
BR0#
THRMDP
THRMDN
THERMTRIP#
A20M#
STPCLK#
SLP#
SMI#
LINT0/INTR
LINT1/NMI
INIT#
FERR#
IGNNE#
IERR#
PLL1
PLL2
C6 33uF (C size)
L2 4.7UH/SMD-0805
VCCVID
RSP#
AP0#
AP1#
RP#
BINIT#
AERR#
BERR#
SLEWCNTR
RTTCNTR
VCOREDET
PR3 110,%1
PR4 110,%1
BNR# 5,7
BPRI# 5,7
HTRDY# 5,7
DEFER# 5,7
HLOCK# 5,7
DRDY# 5,7
HITM# 5,7
HIT# 5,7
DBSY# 5,7
HADS# 7
BSEL#0 31
BSEL#1 31
BR0# 5
VTIN2 16,28
THRMDN 16,28
THERMTRIP# 33
A20M# 13
STPCLK# 13
CPUSLP# 13
SMI# 13
INTR 13
NMI 13
INIT# 13,15
FERR# 13,32
IGNNE# 13
Socket 370_9
370 - Pin Socket
Part2
GTLREF Generation Circuit
Use 0603 Packages and distribute
within 500 mils of VREF pins
VTT1_5
PR5 75,1%
PR6 150,1%
GTLREFA
R23 X0
GTLREF
BC3 0.1UF
BC4 0.1UF
BC5 0.1UF
BC6 0.1UF
BSEL#1 BSEL#0 FSB
0 0 66M
0 1 100M
1 0 rsvd
1 1 133M
Title: Intel® 810e2 Chipset Universal Socket 370 CRB
370-Pin Socket Part 2
REV. 1.0
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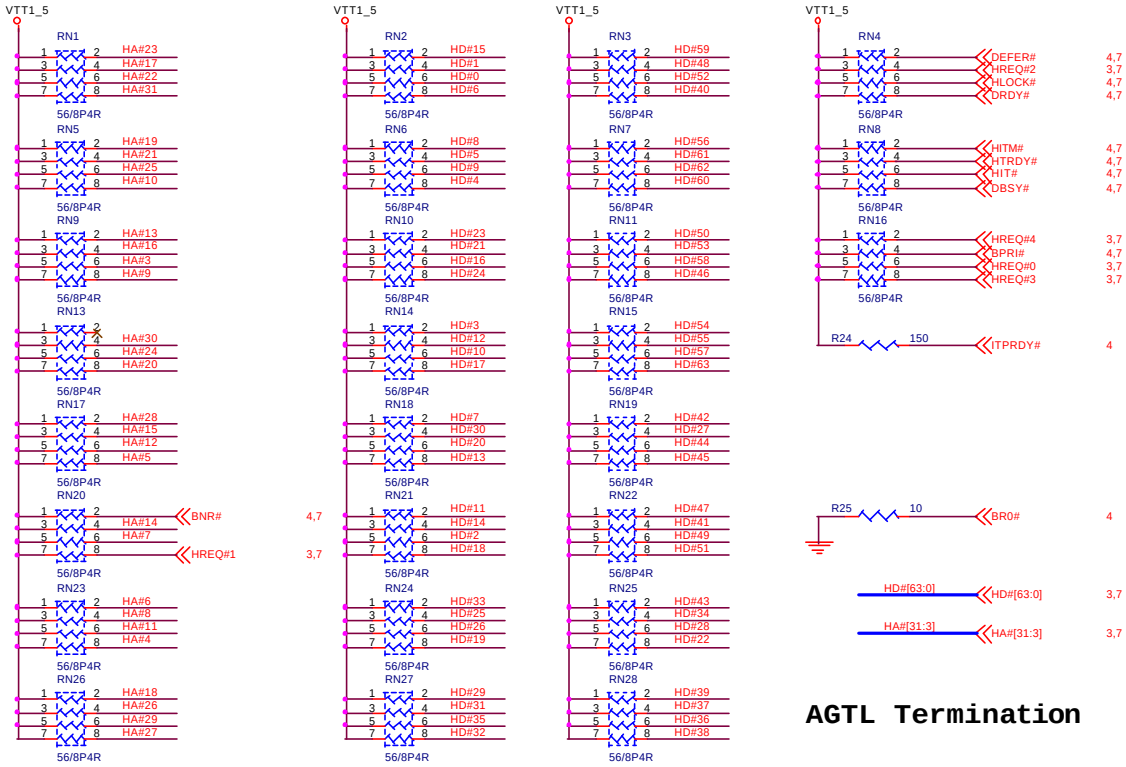

Title: Intel® 810e2 Chipset Universal Socket 370 CRB AGTL TERMINATION		REV. 1.0
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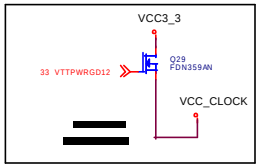
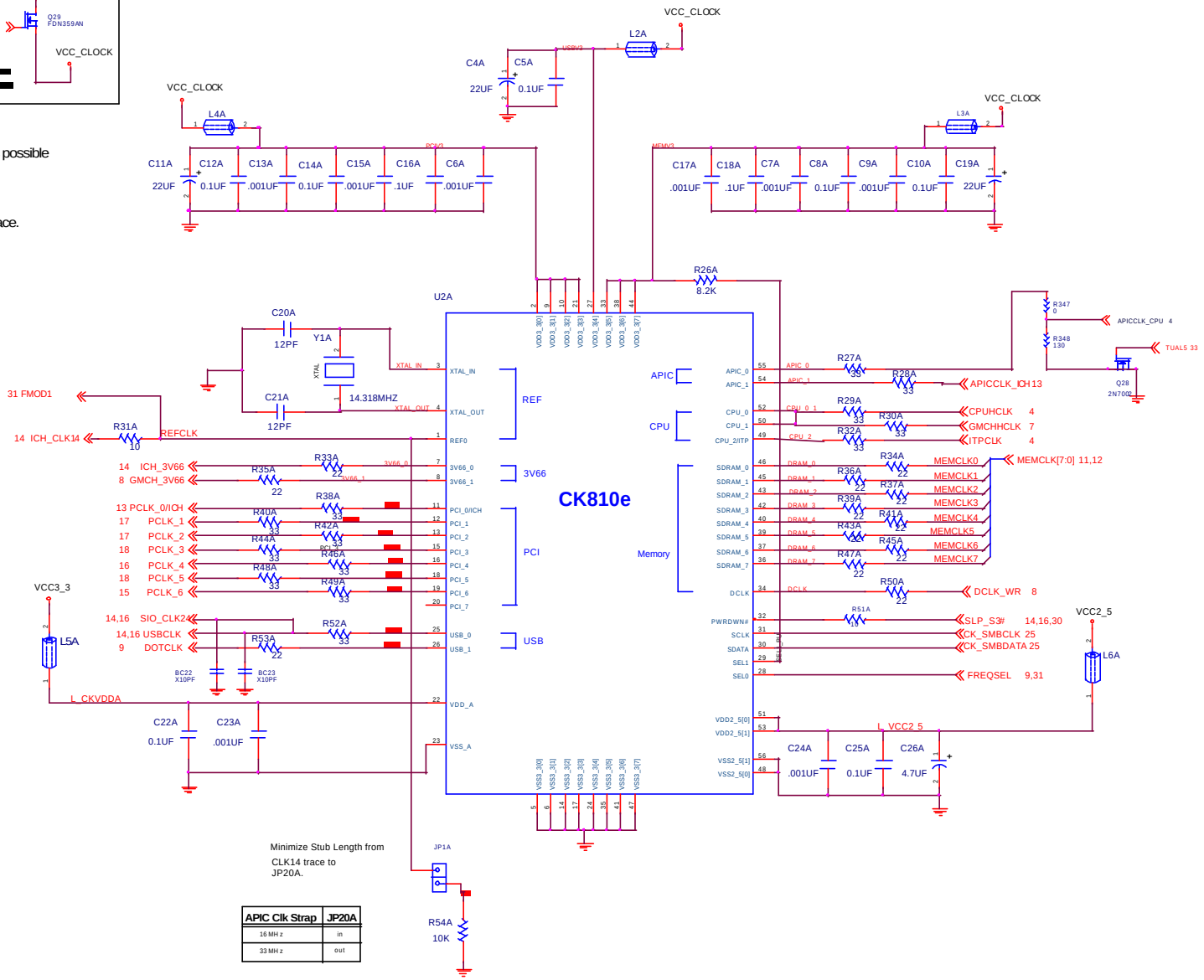
Clock Synthesizer



Notes:

- Place all decoupling caps as close to VCC/GND pins as possible
- PCI_0/ICH pin has to go to the ICH.
  (This clock cannot be turned off through SMBus)
- CPU_ITP pin must go to the ITP. It is the only
  CPU CLK that can be shut off through the SMBUS interface.



APIC Clk Strap	JP20A
16 MHz	in
33 MHz	out

Title:	Intel® 810e2 Chipset Universal Socket370 CRB Clock Synthesizer	REV. 1.0
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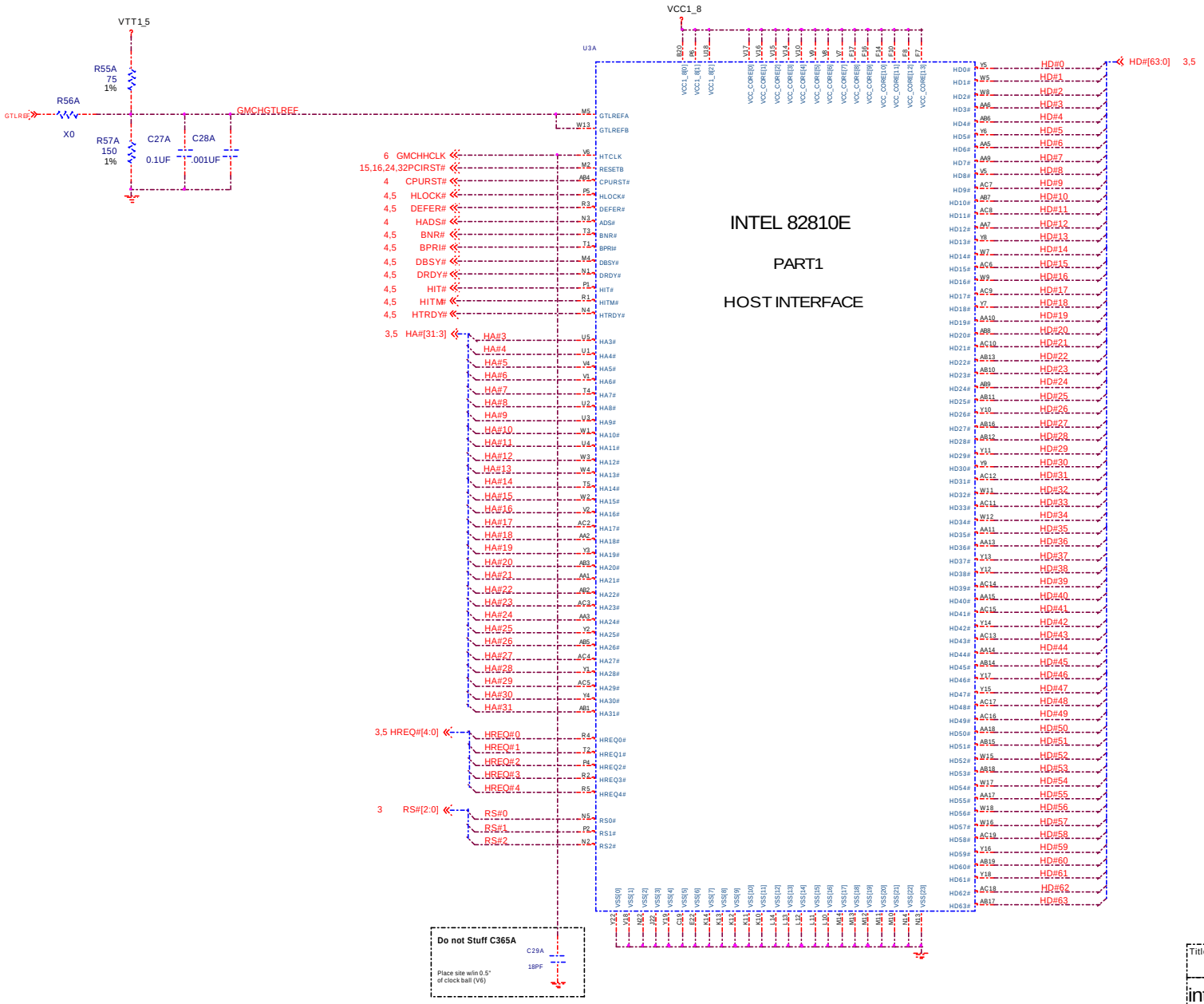
82810E, PART 1: HOST INTERFACE



Title: Intel® 810e2 Chipset Universal Socket370CRB 82810E, Part 1: Host Interface		REV. 1.0
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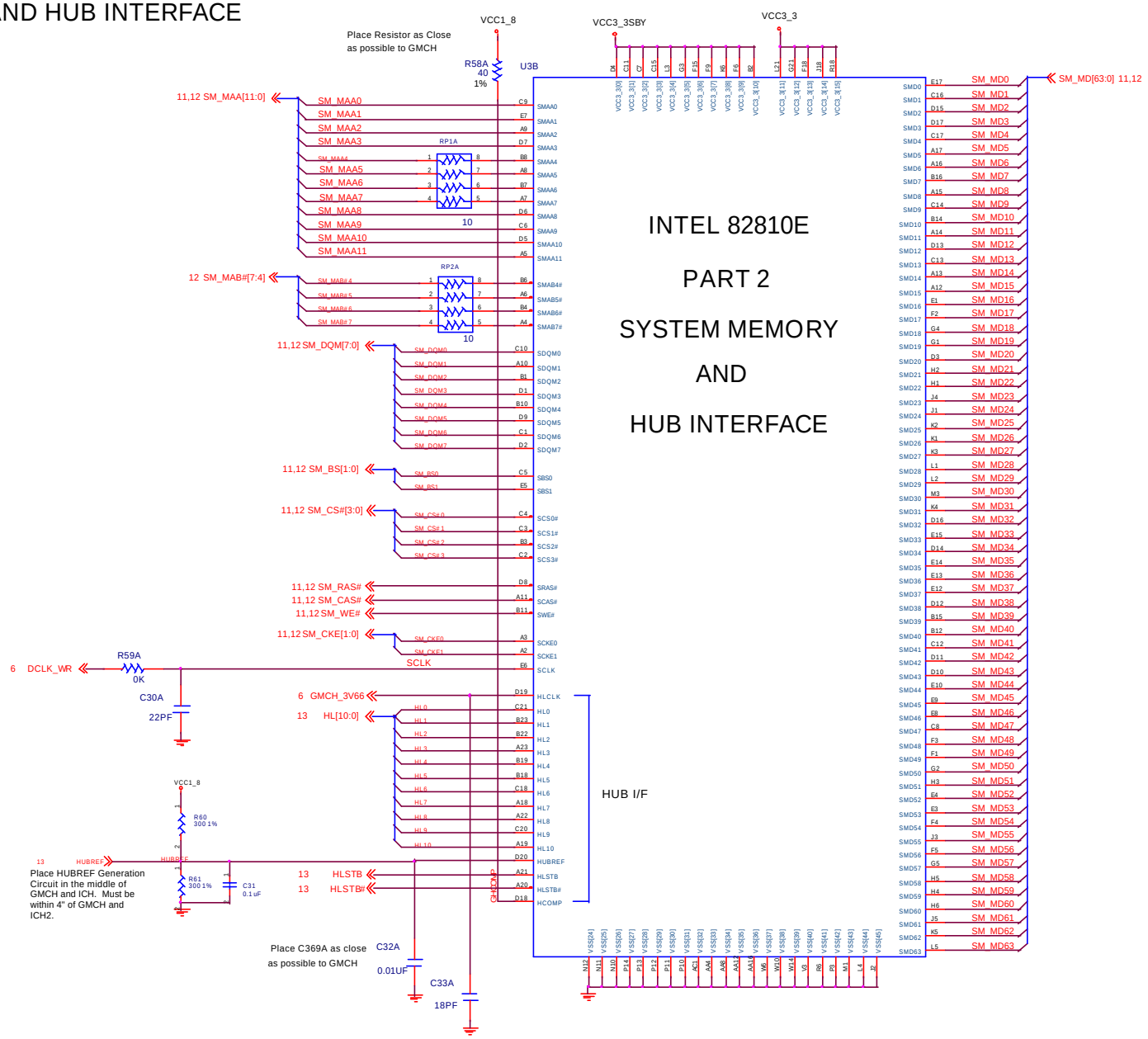
82810E, PART 2: SYSTEM MEMORY AND HUB INTERFACE



Title:	Intel® 810e2 Chipset Universal Socket370CRB 82810E, Part 2: System Memory and Hub	REV. 1.0
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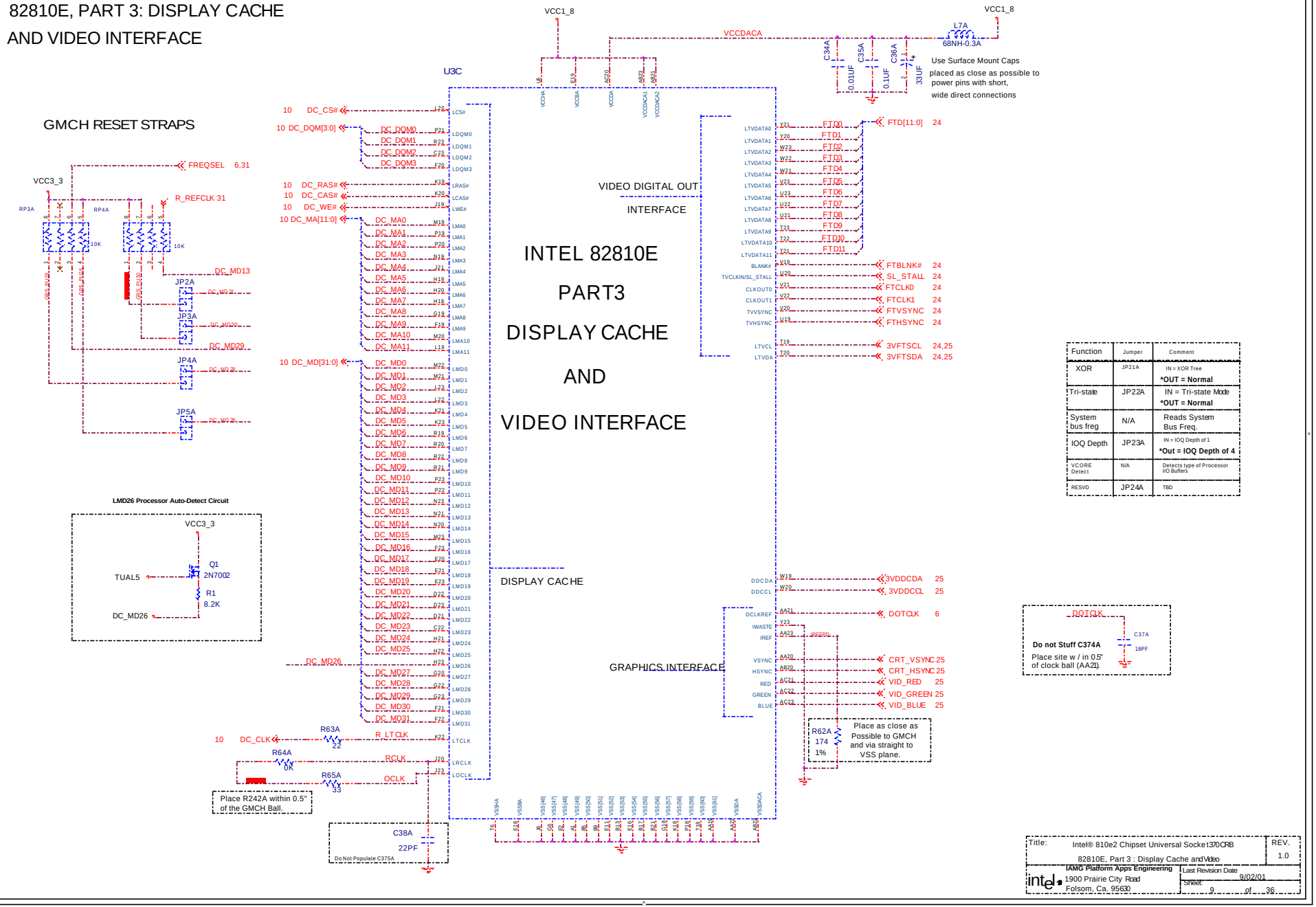
82810E, PART 3: DISPLAY CACHE AND VIDEO INTERFACE



Function	Jumper	Comment
XOR	JP21A	IN = XOR Tree *OUT = Normal
Tri-state	JP22A	IN = Tri-state Mode *OUT = Normal
System bus freq	N/A	Reads System Bus Freq.
IOQ Depth	JP23A	IN = IOQ Depth of 1 *Out = IOQ Depth of 4
VCORE Detect	N/A	Detects type of Processor I/O Buffers
RESVD	JP24A	TBD

Title:	Intel® 810e2 Chipset Universal Socket 370 CRB 82810E, Part 3 : Display Cache and Video	REV. 1.0
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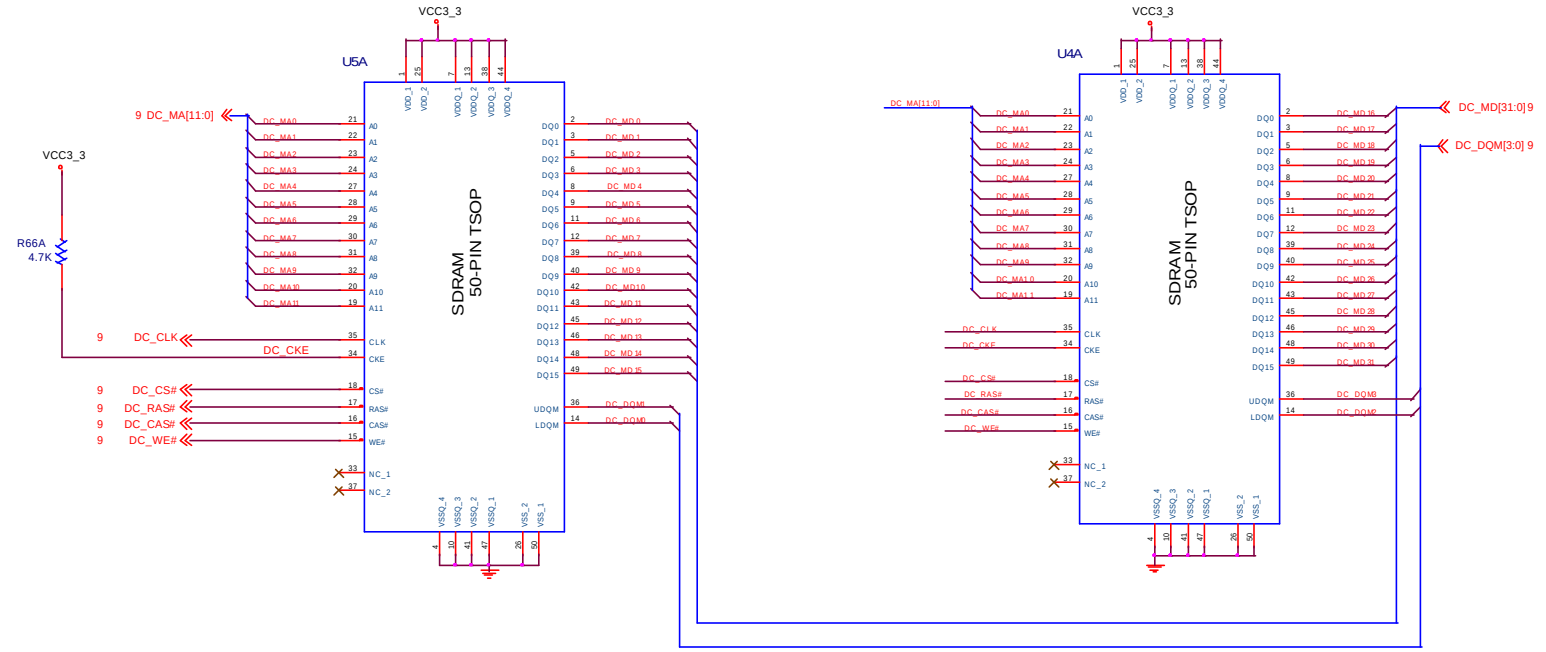
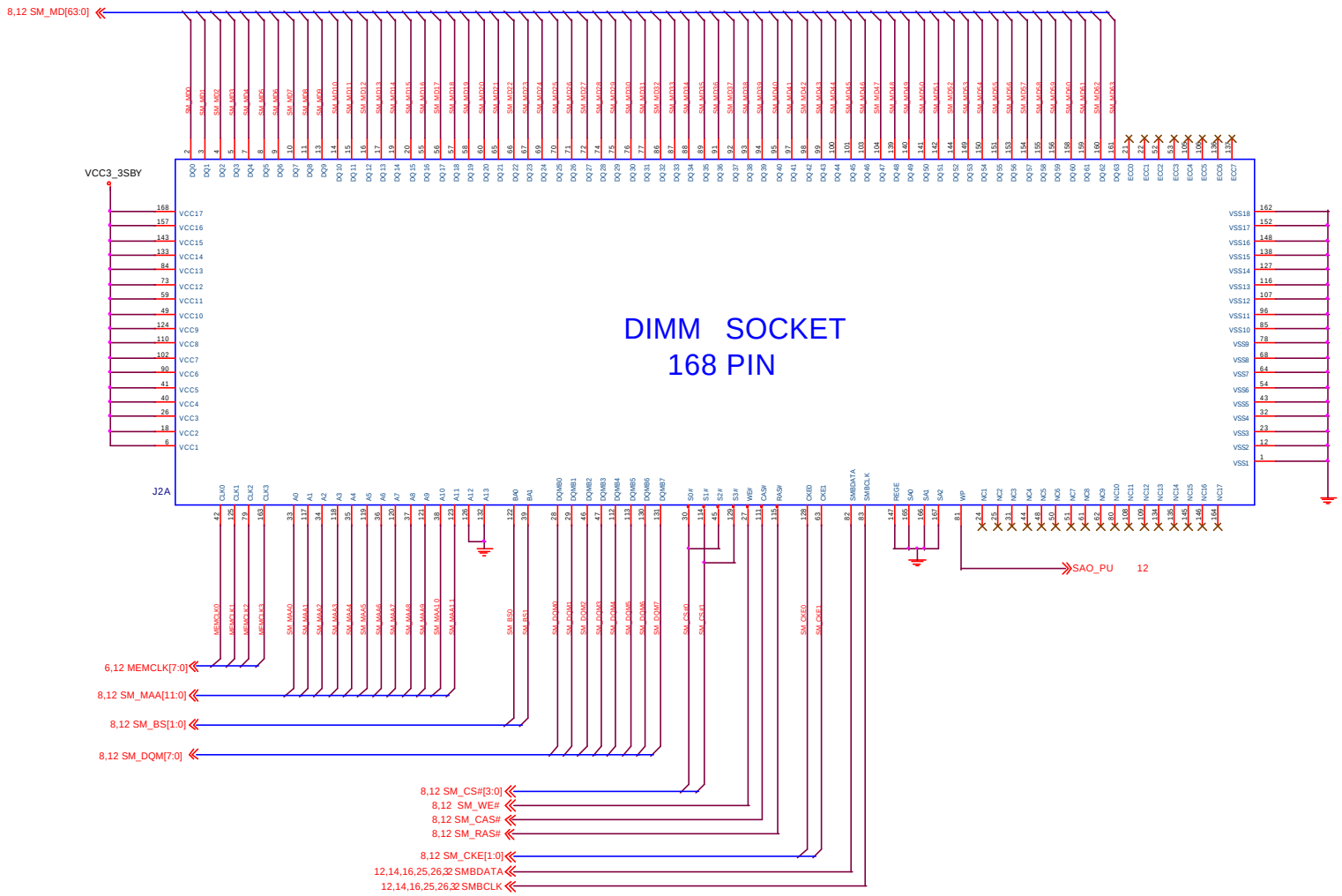
4MB Display Cache



Title:	Intel® 810e2 Chipset Universal Socket370CRB Display Cache	REV. 1.0
intel	IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date 9/02/01 Sheet: 10 of 36

SYSTEM MEMORY



Title:	Intel® 810e2 Chipset Universal Socket370 CRB System Memory : DIMM0	REV. 1.0
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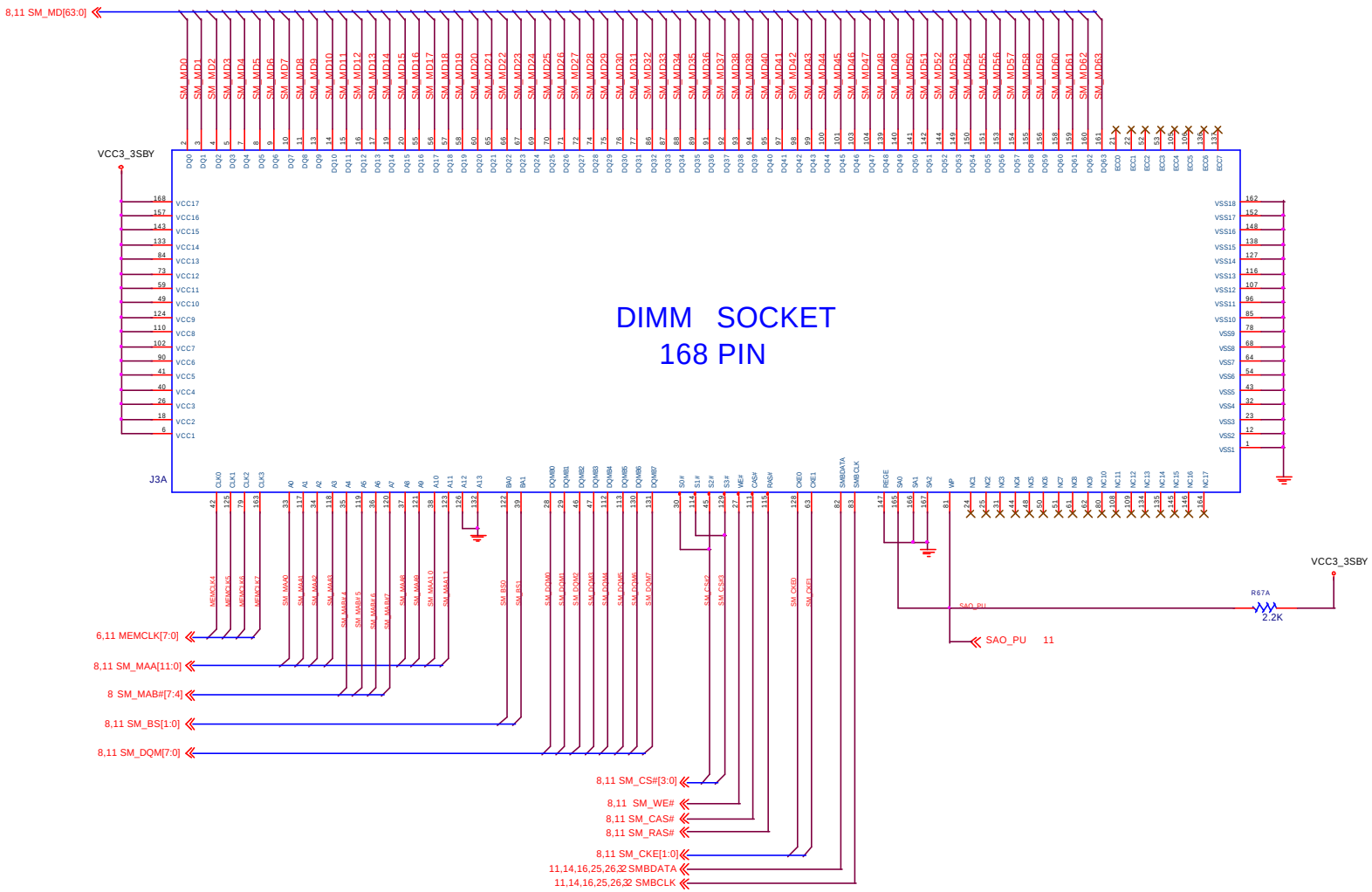
SYSTEM MEMORY



Title:	Intel® 810e2 Chipset Universal Socket370CRB System Memory : DIMM1	REV. 1.0
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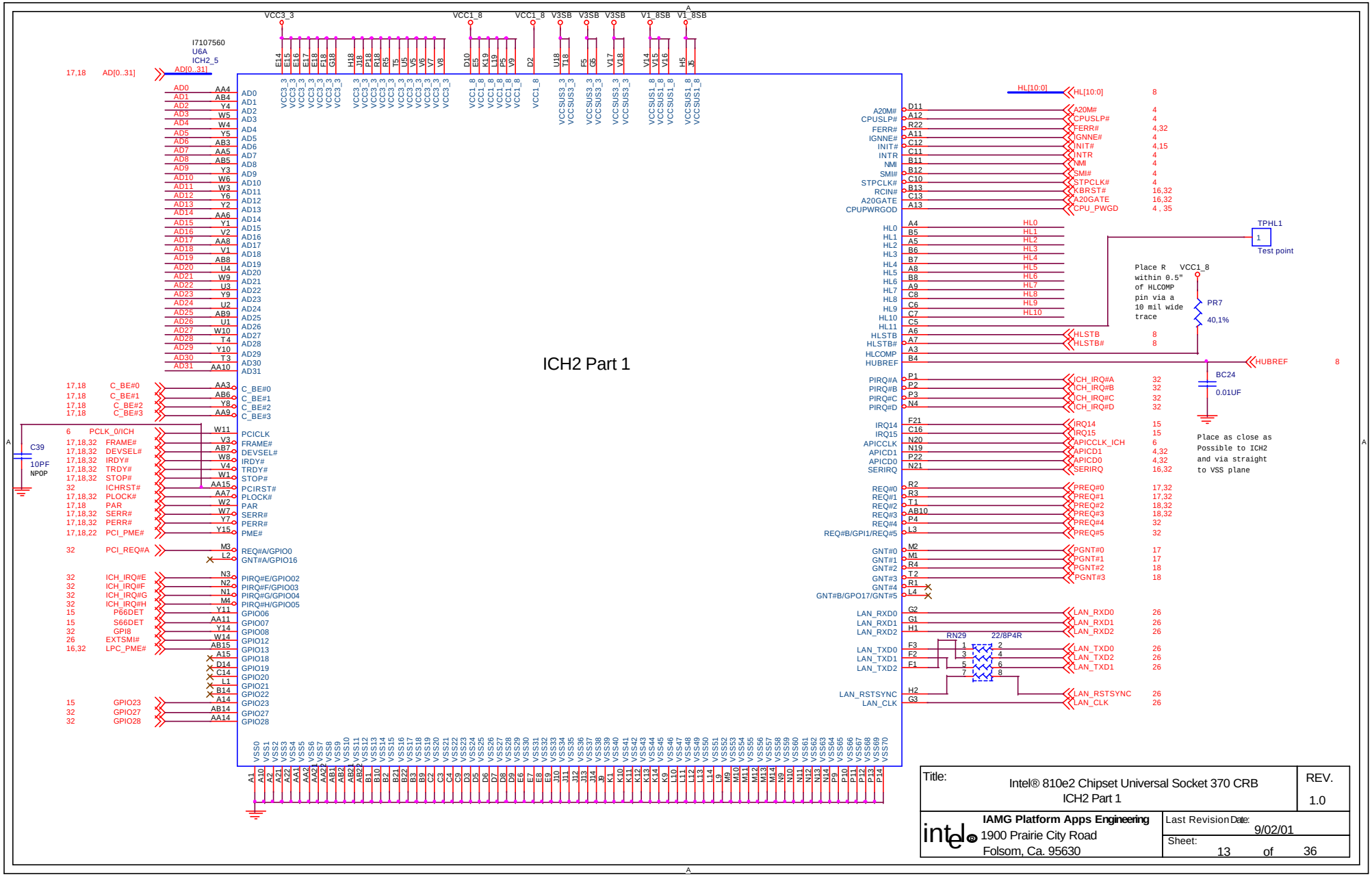
ICH2 Part 1
I7107560
U6A
ICH2_5
AD[0..31]
C39
10PF
NPOP
PCLK_0/ICH
C_BE#0
C_BE#1
C_BE#2
C_BE#3
FRAME#
DEVSEL#
IRDY#
TRDY#
STOP#
ICHRST#
PLOCK#
PAR
SERR#
PERR#
PCI_PME#
PCI_REQ#A
ICH_IRQ#E
ICH_IRQ#F
ICH_IRQ#G
ICH_IRQ#H
P66DET
S66DET
GPI8
EXTSMI#
LPC_PME#
GPIO23
GPIO27
GPIO28
PCICLK
REQ#A/GPIO0
GNT#A/GPIO16
PIRQ#E/GPIO02
PIRQ#F/GPIO03
PIRQ#G/GPIO04
PIRQ#H/GPIO05
GPIO06
GPIO07
GPIO08
GPIO12
GPIO13
GPIO18
GPIO19
GPIO20
GPIO21
GPIO22
A20M#
CPUSLP#
FERR#
IGNNE#
INIT#
INTR
NMI
SMI#
STPCLK#
RCIN#
A20GATE
CPUPWRGOD
HL[10:0]
HLSTB
HLSTB#
HLCOMP
HUBREF
PIRQ#A
PIRQ#B
PIRQ#C
PIRQ#D
IRQ14
IRQ15
APICCLK
APICD1
APICD0
SERIRQ
REQ#0
REQ#1
REQ#2
REQ#3
REQ#4
REQ#B/GPI1/REQ#5
GNT#0
GNT#1
GNT#2
GNT#3
GNT#4
GNT#B/GPO17/GNT#5
LAN_RXD0
LAN_RXD1
LAN_RXD2
LAN_TXD0
LAN_TXD1
LAN_TXD2
LAN_RSTSYNC
LAN_CLK
RN29
22/8P4R
TPHL1
Test point
Place R within 0.5" of HLCOMP pin via a 10 mil wide trace
PR7
40,1%
BC24
0.01UF
Place as close as Possible to ICH2 and via straight to VSS plane
VCC3_3
VCC1_8
V3SB
V1_8SB
VCCSUS3_3
VCCSUS1_8
Title:
Intel® 810e2 Chipset Universal Socket 370 CRB
ICH2 Part 1
REV.
1.0
IAMG Platform Apps Engineering
1900 Prairie City Road
Folsom, Ca. 95630
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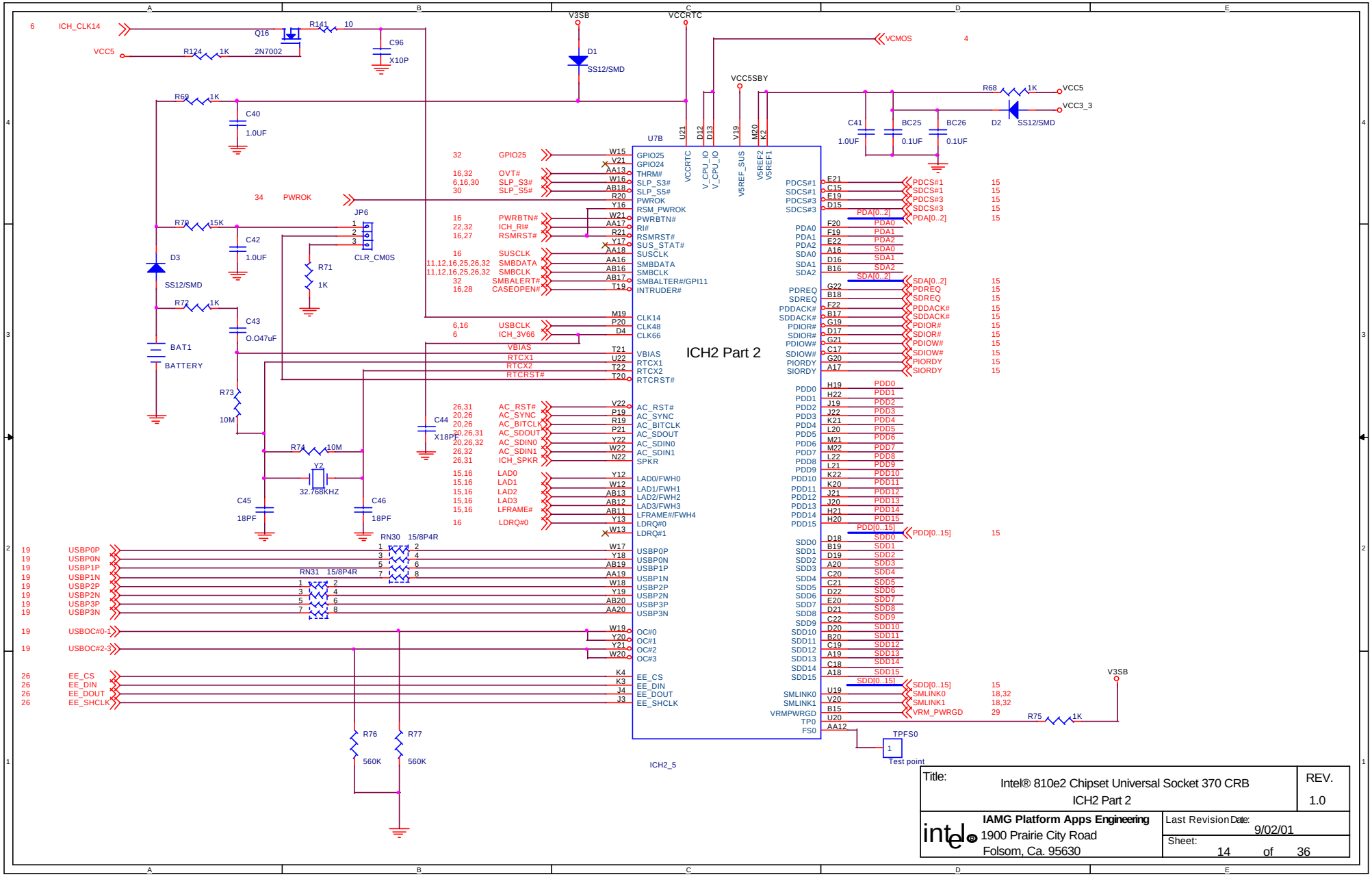
ICH2 Part 2
U7B
ICH2_5
V3SB
VCCRTC
VCMOS
VCC5SBY
VCC5
VCC3_3
SS12/SMD
BATTERY
CLR_CM0S
TPFS0
Test point
Title:
Intel® 810e2 Chipset Universal Socket 370 CRB
ICH2 Part 2
REV.
1.0
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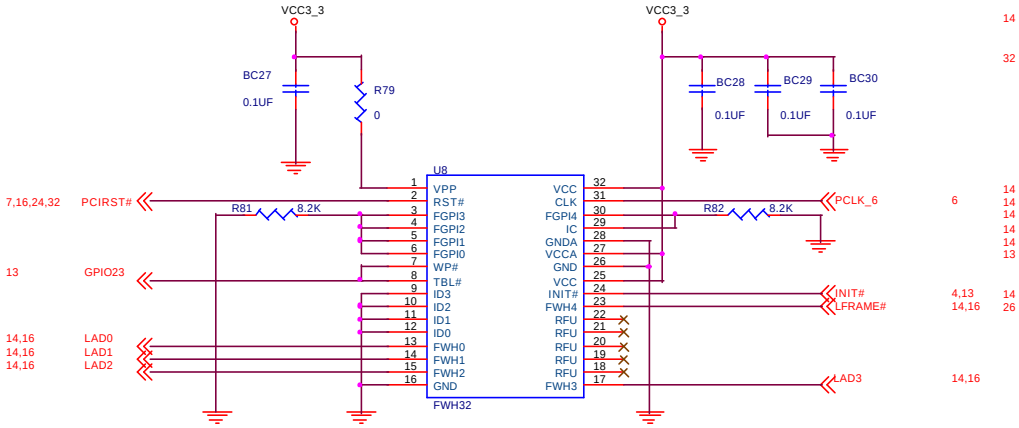
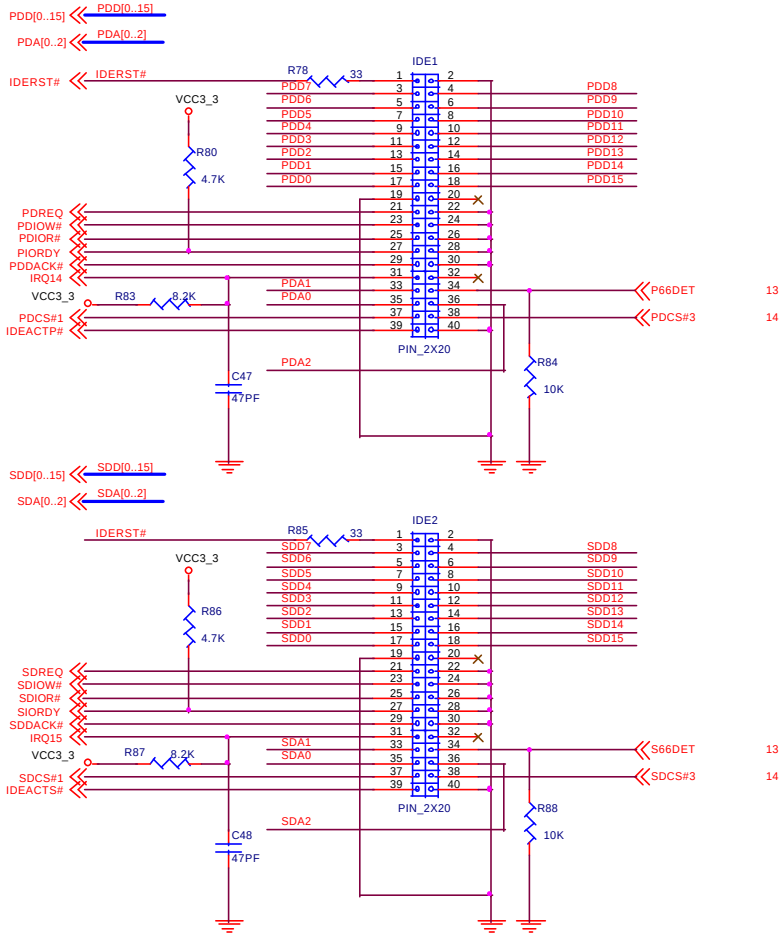
FWH



IDE



Title:	Intel® 810e2 Chipset Universal Socket 370 CRB FWH & ULTRA-ATA100 IDE connectors	REV. 1.0
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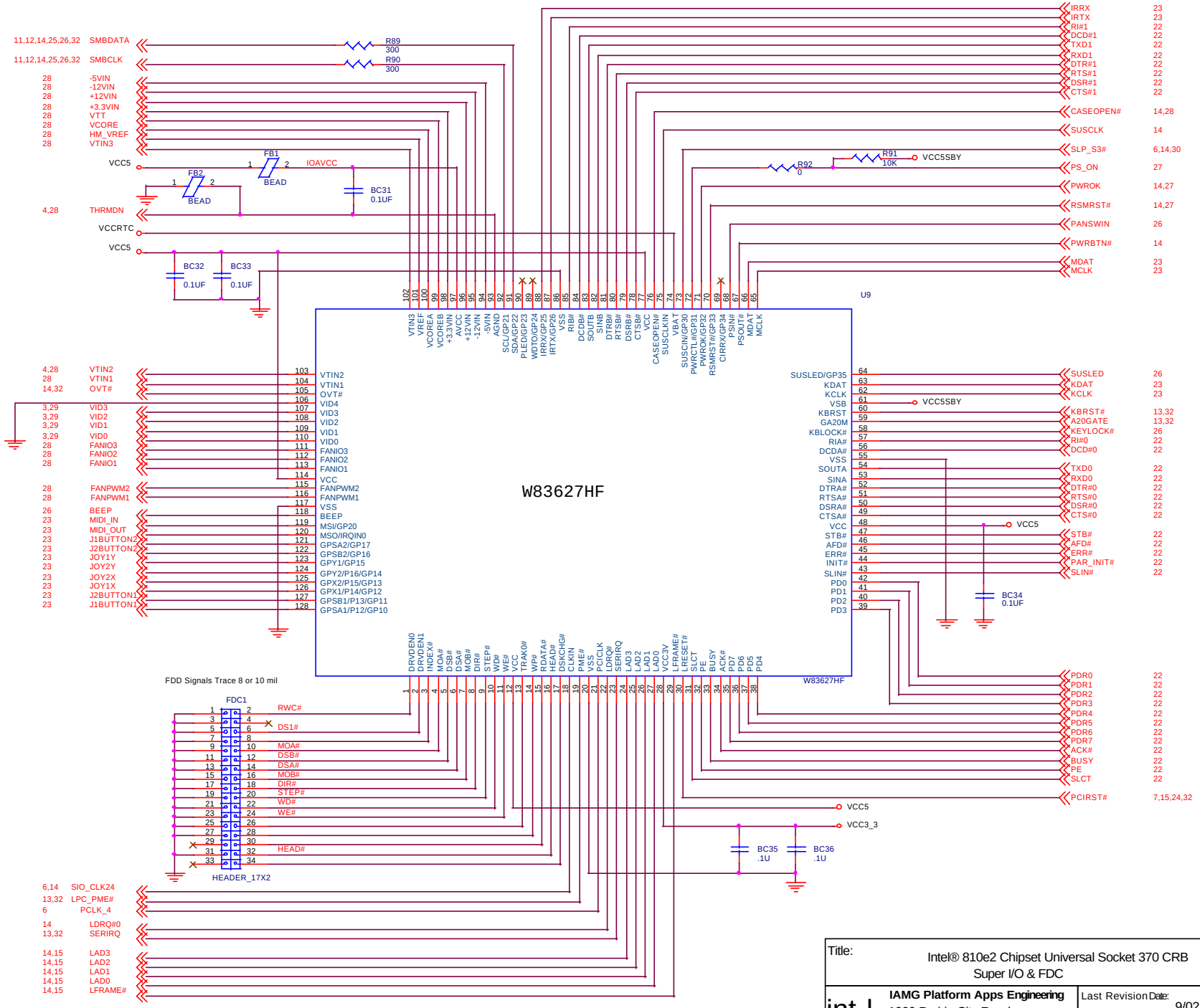
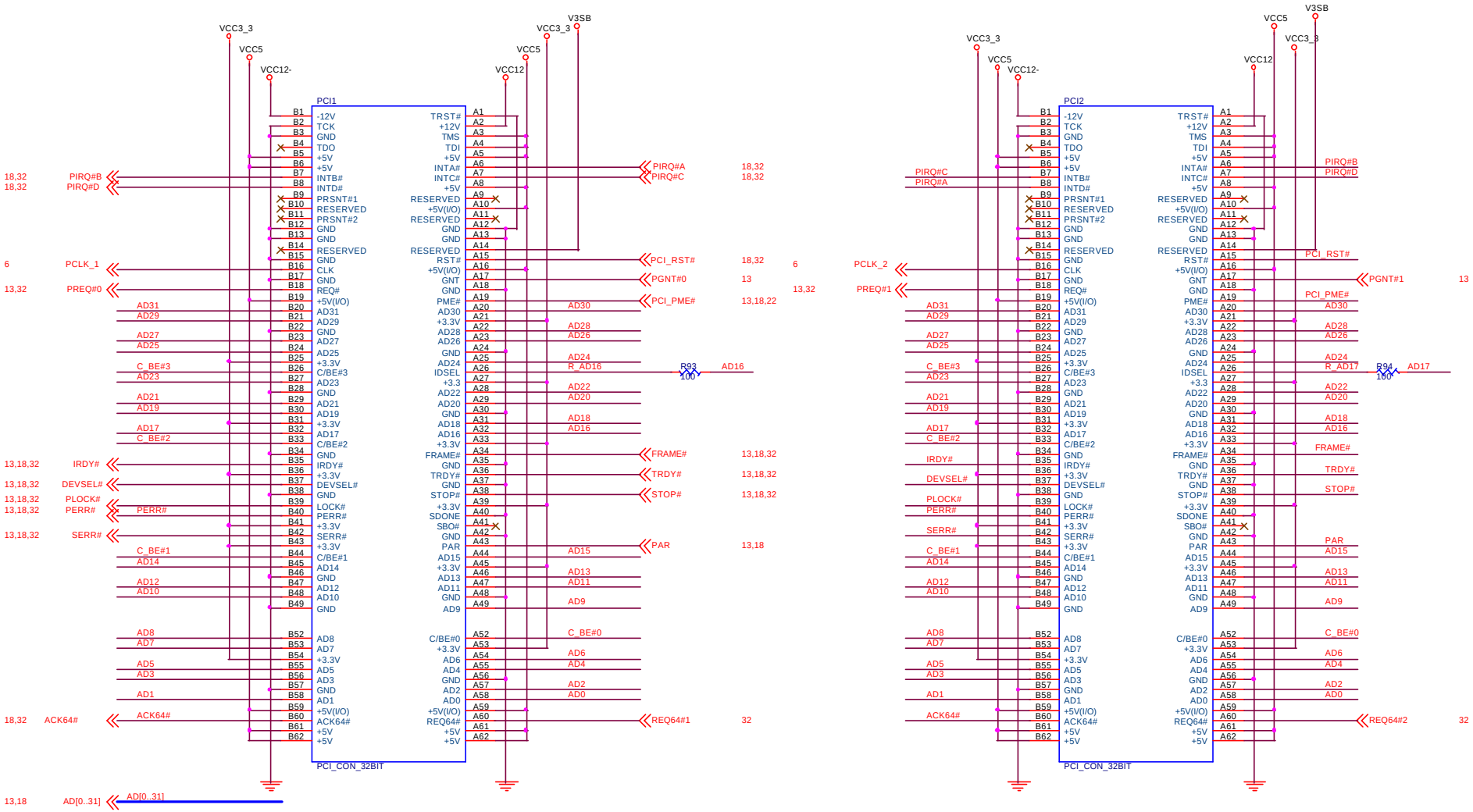


Title:	Intel® 810e2 Chipset Universal Socket 370 CRB Super I/O & FDC	REV. 1.0
intel **IAMG Platform Apps Engineering** 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01 Sheet: 16 of 36	


PCI1
PCI_CON_32BIT
PCI2
PCI_CON_32BIT
VCC3_3
VCC5
VCC12-
VCC12
V3SB
PIRQ#B
PIRQ#D
PIRQ#A
PIRQ#C
PCLK_1
PCLK_2
PREQ#0
PREQ#1
PCI_RST#
PGNT#0
PGNT#1
PCI_PME#
AD31
AD29
AD27
AD25
C_BE#3
AD23
AD21
AD19
AD17
C_BE#2
IRDY#
DEVSEL#
PLOCK#
PERR#
SERR#
C_BE#1
AD14
AD12
AD10
AD8
AD7
AD5
AD3
AD1
ACK64#
REQ64#1
REQ64#2
FRAME#
TRDY#
STOP#
PAR
C_BE#0
AD6
AD4
AD2
AD0
AD9
AD15
AD13
AD11
R_AD16
R_AD17
R93
R94
100
150
AD16
AD17
AD[0..31]
C_BE#[0..3]
Title:
Intel® 810e2 Chipset Universal Socket 370 CRB
PCI 1 & 2
REV.
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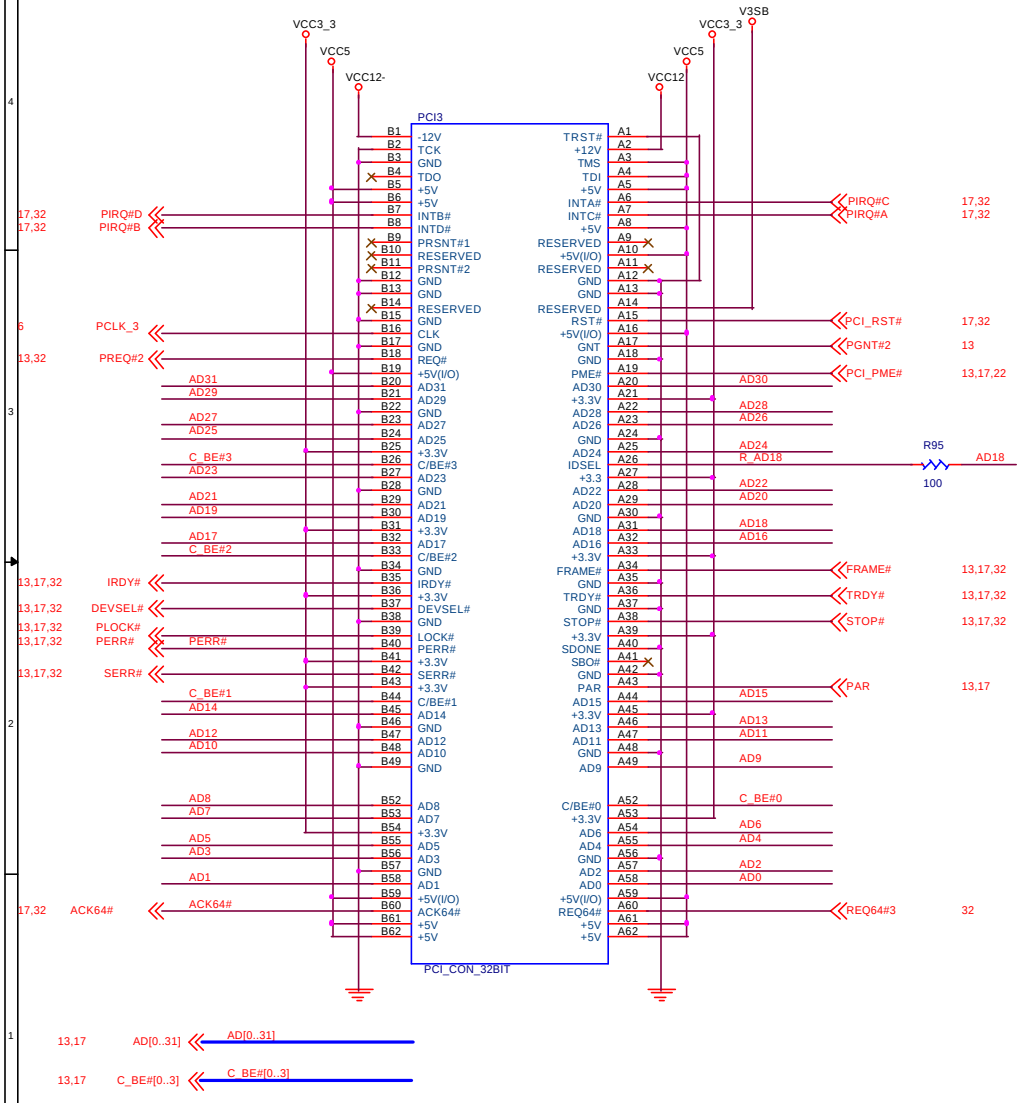

Title: Intel® 810e2 Chipset Universal Socket 370 CRB PCI 3		REV. 1.0
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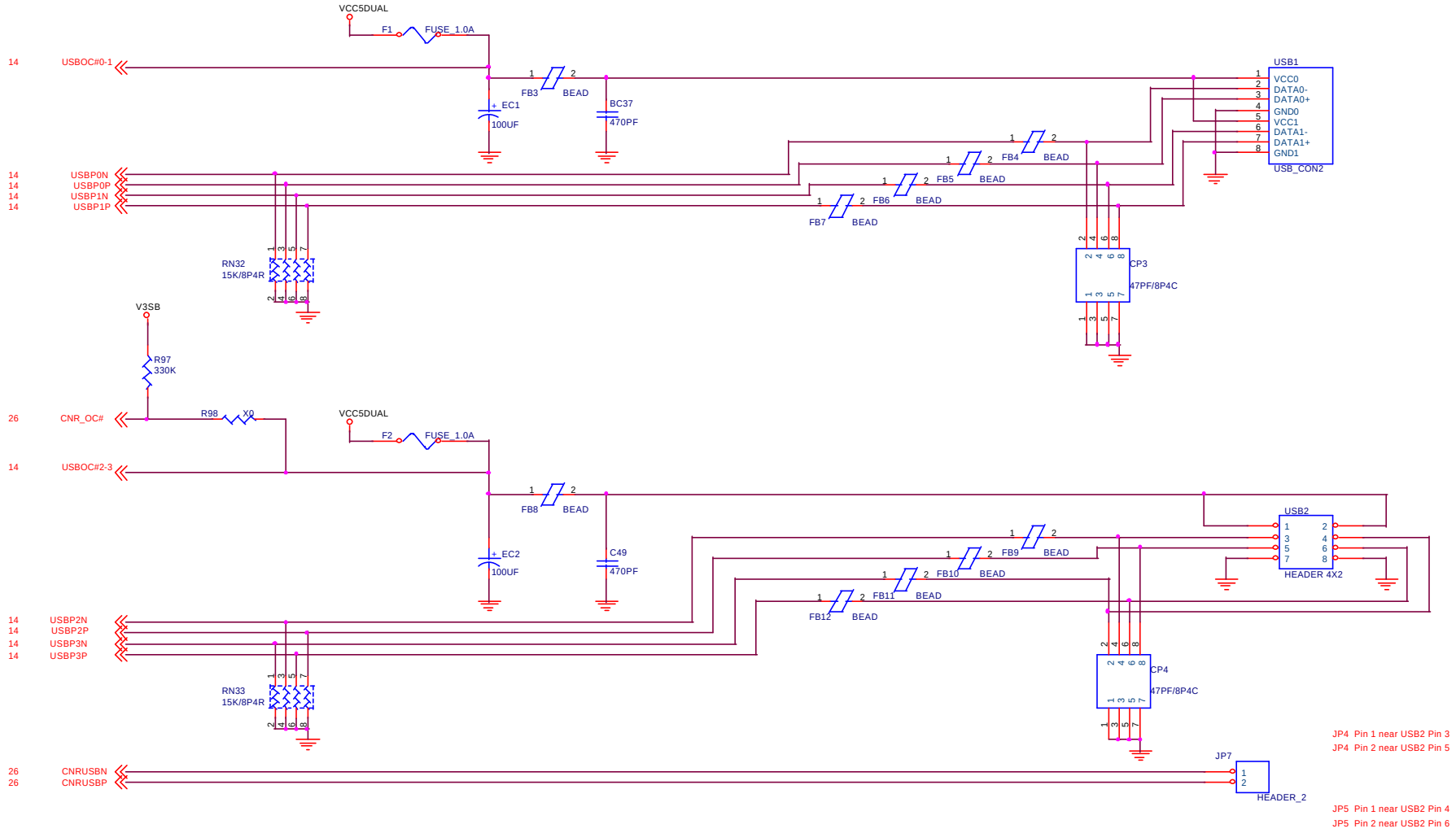

Title: Intel® 810e2 Chipset Universal Socket 370 CRB USB 0-3		REV. 1.0
intel® IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01	
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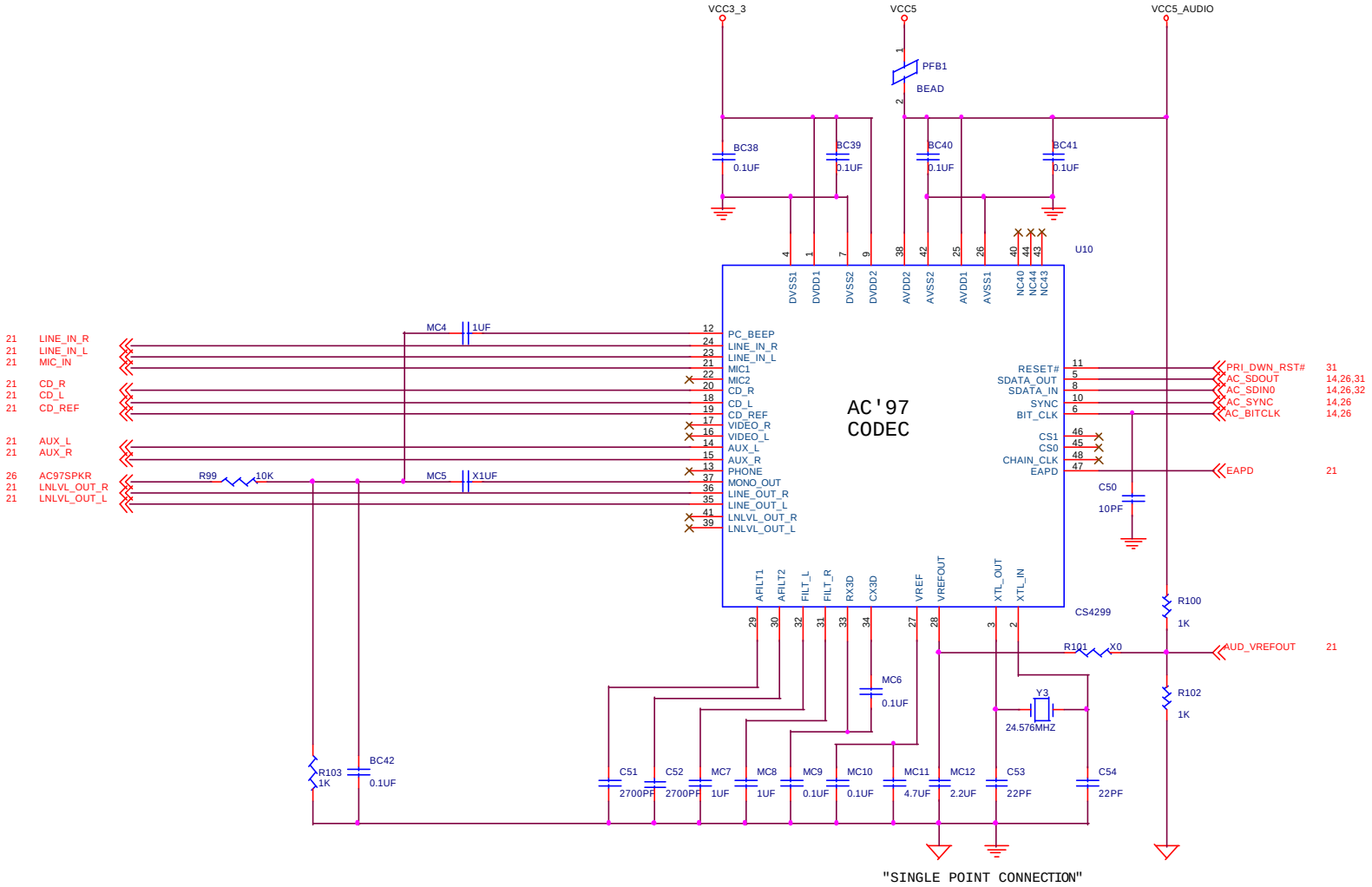
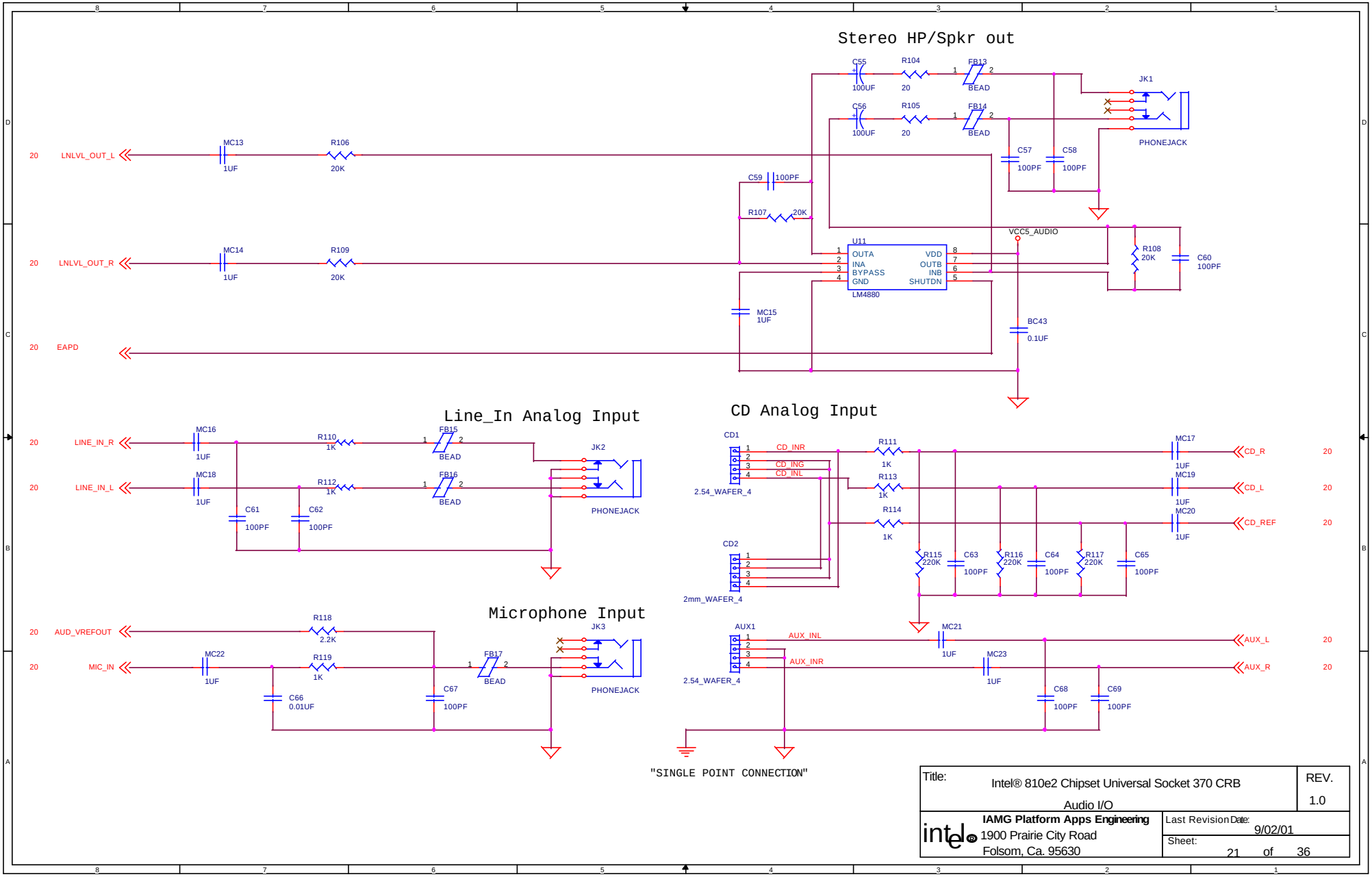
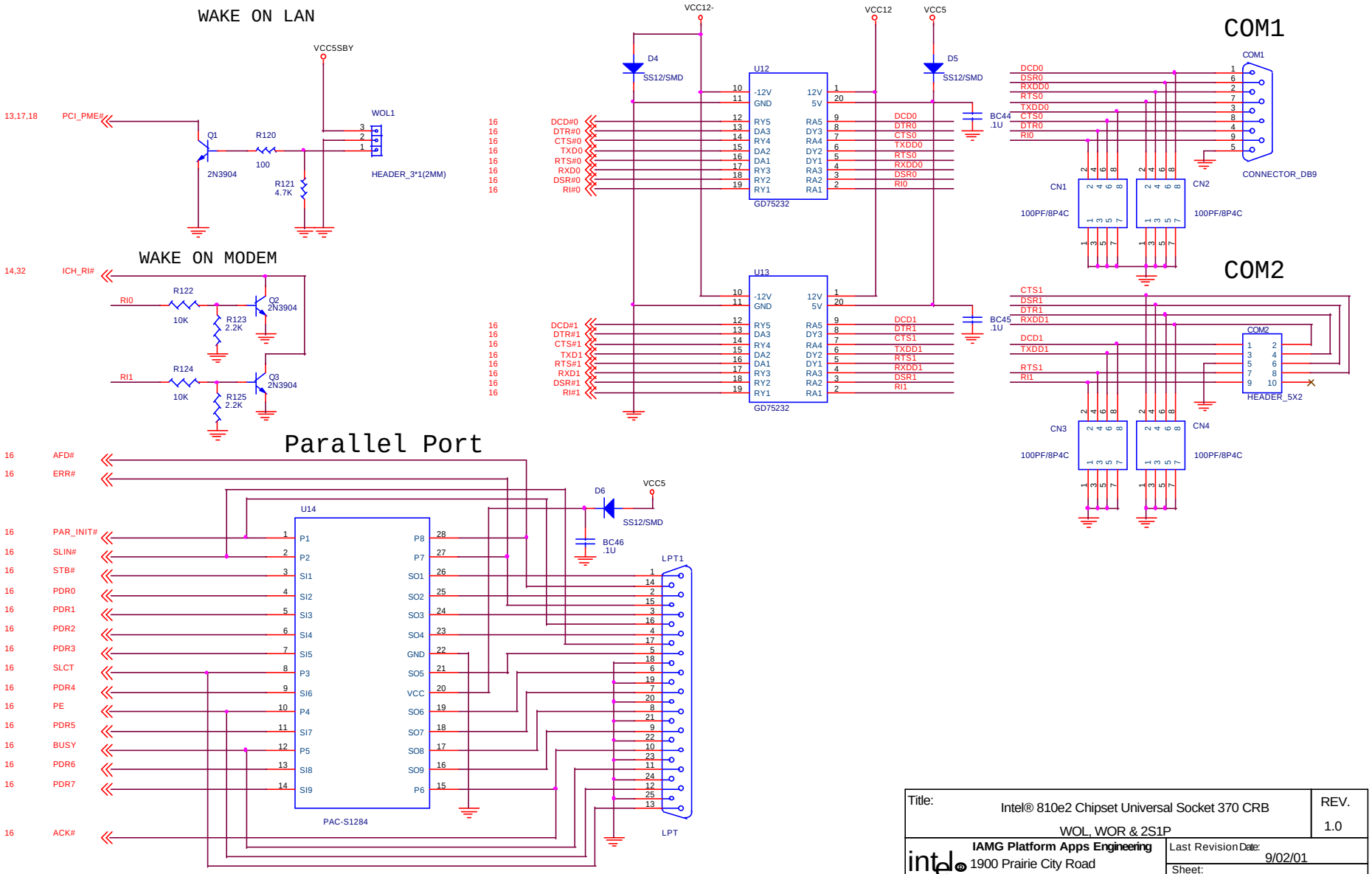


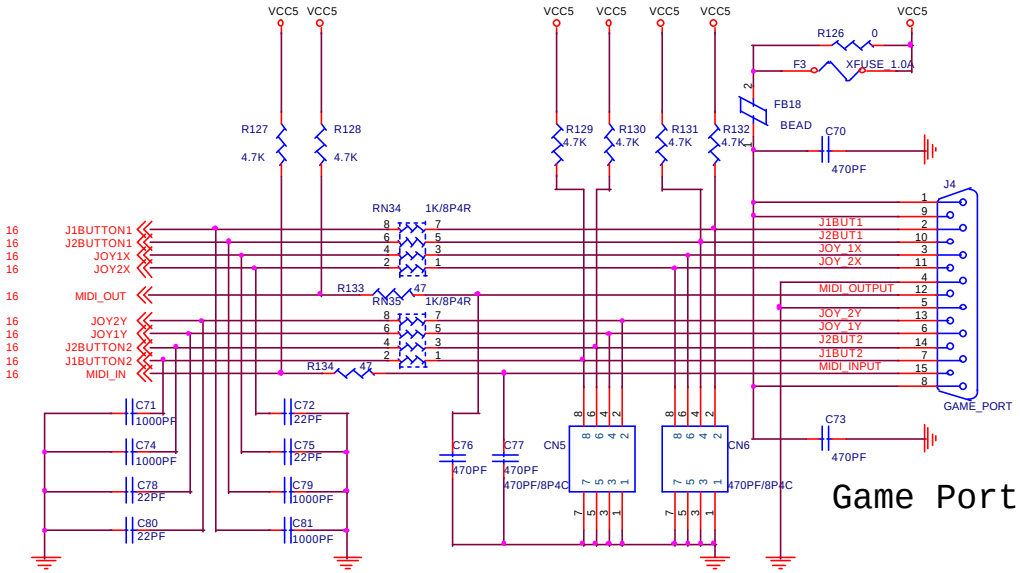
Title:	Intel® 810e2 Chipset Universal Socket 370 CRB AC97 CODEC	REV. 1.0
intel IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01 Sheet: 20 of 36	



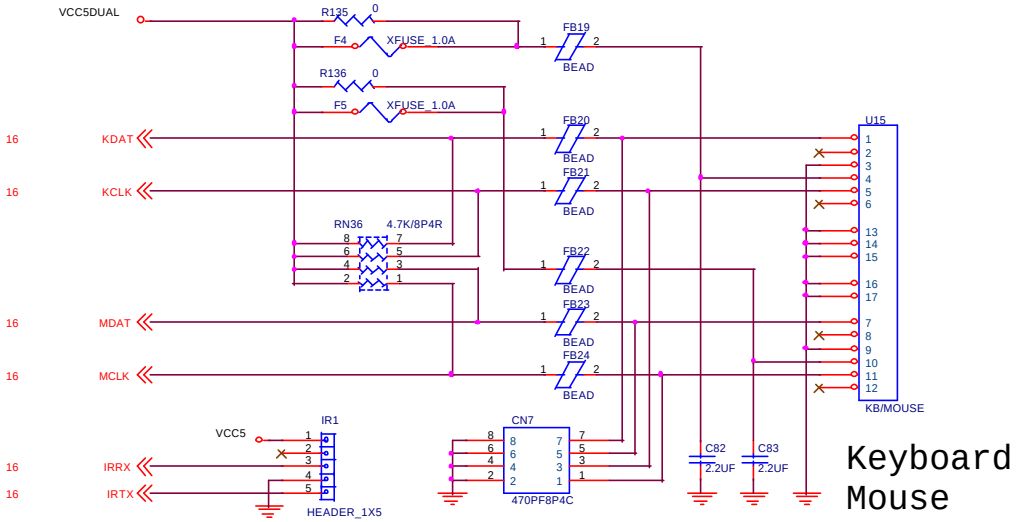
Title:	Intel® 810e2 Chipset Universal Socket 370 CRB Audio I/O	REV. 1.0
intel	**IAMG Platform Apps Engineering** 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01 Sheet: 21 of 36



Title:	Intel® 810e2 Chipset Universal Socket 370 CRB WOL, WOR & 2S1P	REV. 1.0
intel IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01 Sheet: 22 of 36	



Game Port



Keyboard
Mouse

IR

Title: Intel® 810e2 Chipset Universal Socket 370 CRB Kybrd / Mse / F. Disk / Gme Connectors		REV. 1.0
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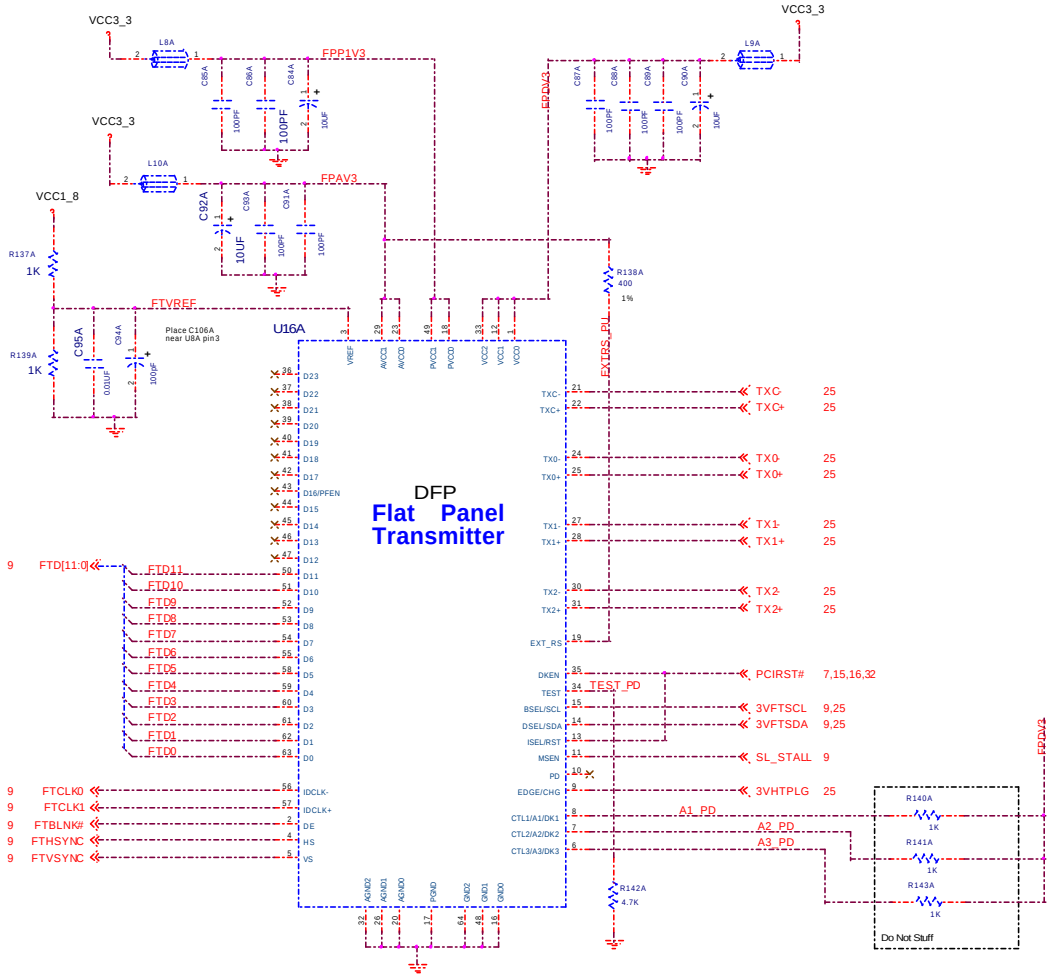
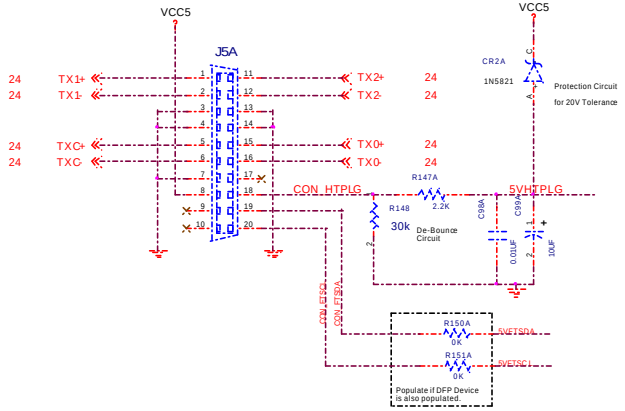
Digital Video Out



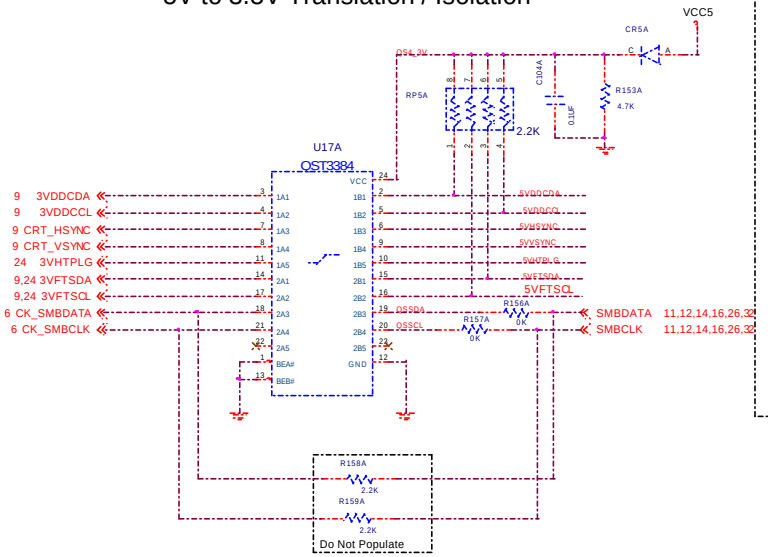
Title:	Intel® 810e2 Chipset Universal Socket370 CRB Digital Video Out	REV. 1.0
intel	IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date 9/02/01 Sheet 24 of 36

Video Connectors

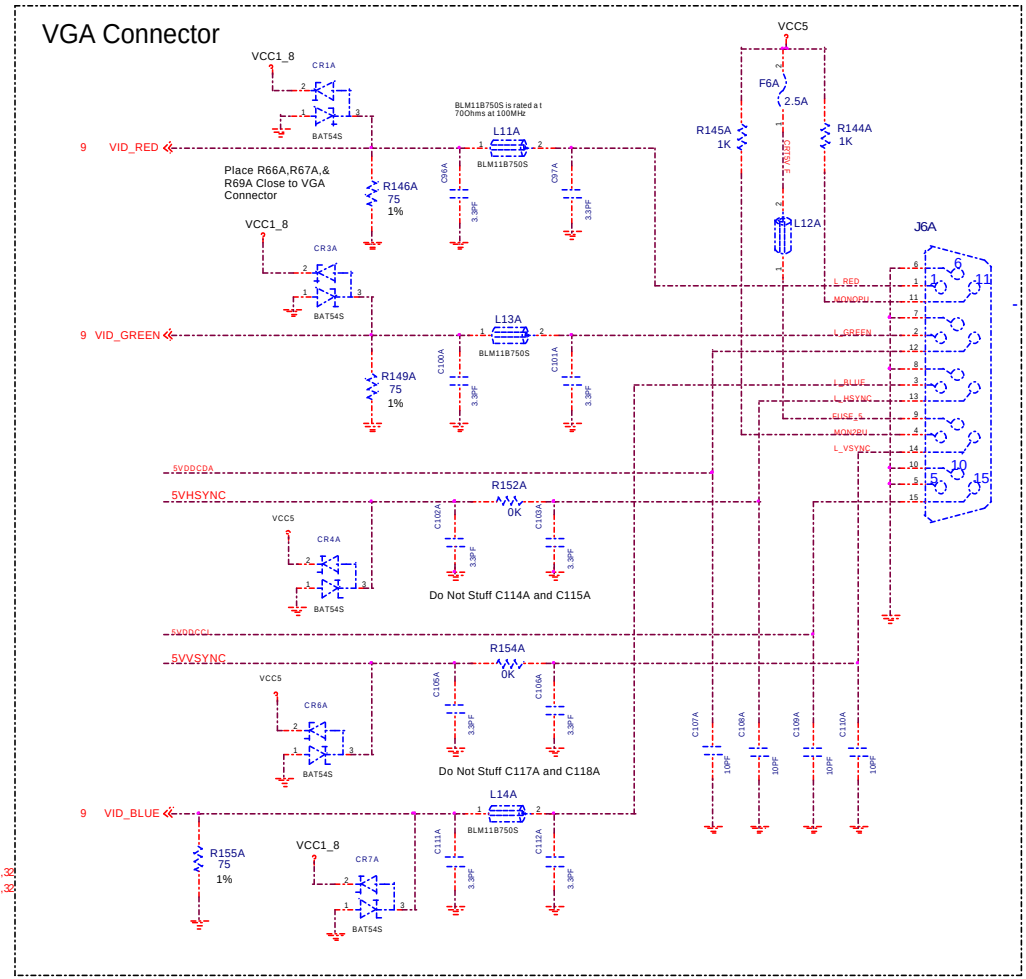
20 Pin Flat Panel Connector



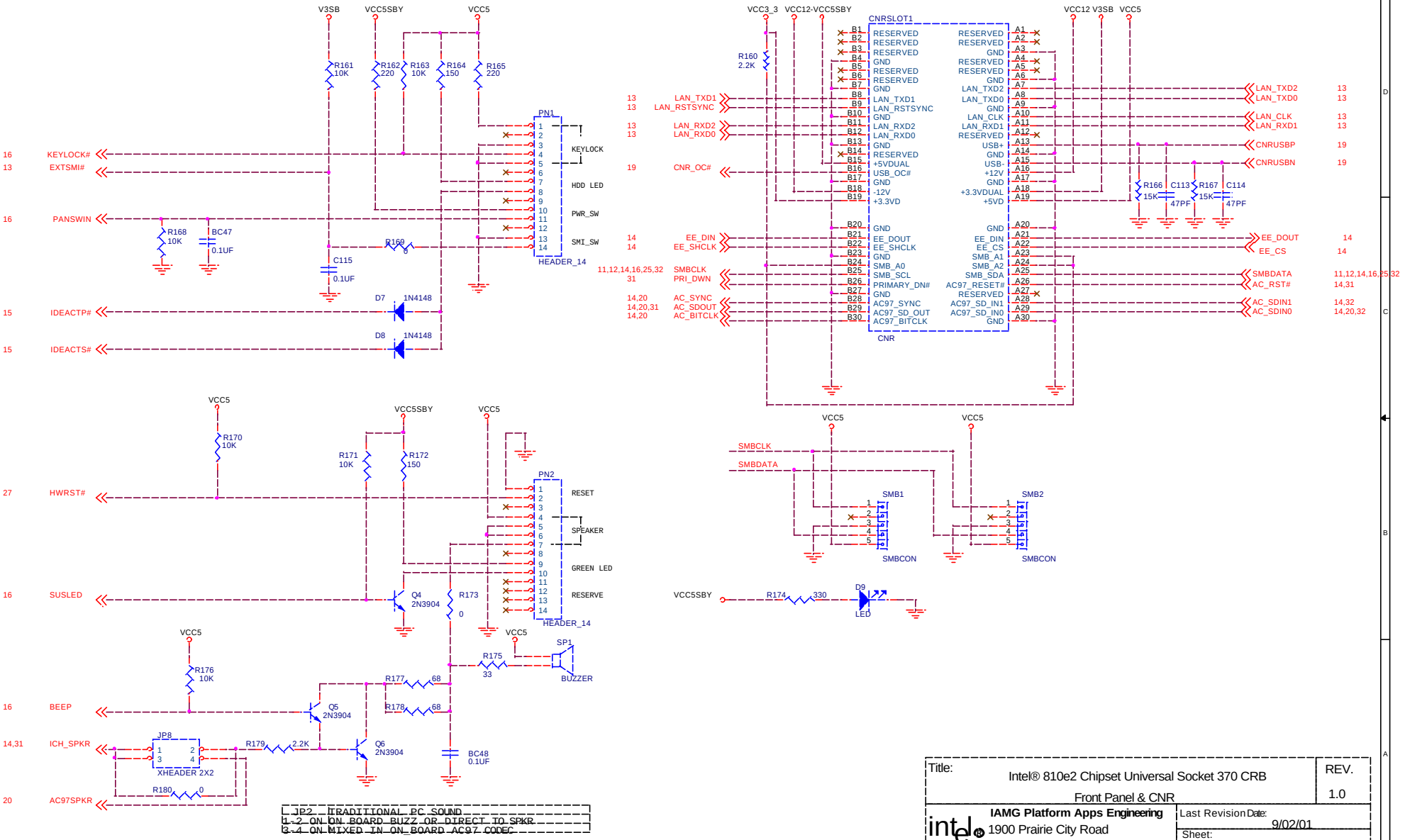
5V to 3.3V Translation / Isolation



VGA Connector



Title:	Intel® 810e2 Chipset Universal Socket370CRB Video Connectors	REV. 1.0
intel	IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date 9/02/01 Sheet 25 of 36


V3SB
VCC5SBY
VCC5
R161 10K
R162 220
R163 10K
R164 150
R165 220
PN1
KEYLOCK
HDD LED
PWR_SW
SMI_SW
HEADER_14
16 KEYLOCK#
13 EXTSMI#
16 PANSWIN
R168 10K
BC47 0.1UF
R169 0
C115 0.1UF
15 IDEACTP#
15 IDEACTS#
D7 1N4148
D8 1N4148
VCC3_3
VCC12
CNRSLOT1
R160 2.2K
13 LAN_TXD1
13 LAN_RSTSYNC
13 LAN_RXD2
13 LAN_RXD0
19 CNR_OC#
14 EE_DIN
14 EE_SHCLK
11,12,14,16,25,32 SMBCLK
31 PRI_DWN
14,20 AC_SYNC
14,20,31 AC_SDOUT
14,20 AC_BITCLK
CNR
LAN_TXD2 13
LAN_TXD0 13
LAN_CLK 13
LAN_RXD1 13
CNRUSBP 19
CNRUSBN 19
R166 15K
C113 47PF
R167 15K
C114 47PF
EE_DOUT 14
EE_CS 14
SMBDATA 11,12,14,16,25,32
AC_RST# 14,31
AC_SDIN1 14,32
AC_SDIN0 14,20,32
SMBCLK
SMBDATA
SMB1
SMB2
SMBCON
R170 10K
R171 10K
R172 150
PN2
RESET
SPEAKER
GREEN LED
RESERVE
27 HWRST#
16 SUSLED
Q4 2N3904
R173 0
R174 330
D9 LED
R175 33
SP1 BUZZER
R176 10K
R177 68
R178 68
16 BEEP
Q5 2N3904
14,31 ICH_SPKR
JP8
XHEADER 2X2
R179 2.2K
Q6 2N3904
BC48 0.1UF
R180 0
20 AC97SPKR
JP2 TRADITIONAL PC SOUND
1-2 ON ON BOARD BUZZ OR DIRECT TO SPKR
3-4 ON MIXED IN ON BOARD AC97 CODEC
Title:
Intel® 810e2 Chipset Universal Socket 370 CRB
Front Panel & CNR
REV.
1.0
IAMG Platform Apps Engineering
1900 Prairie City Road
Folsom, Ca. 95630
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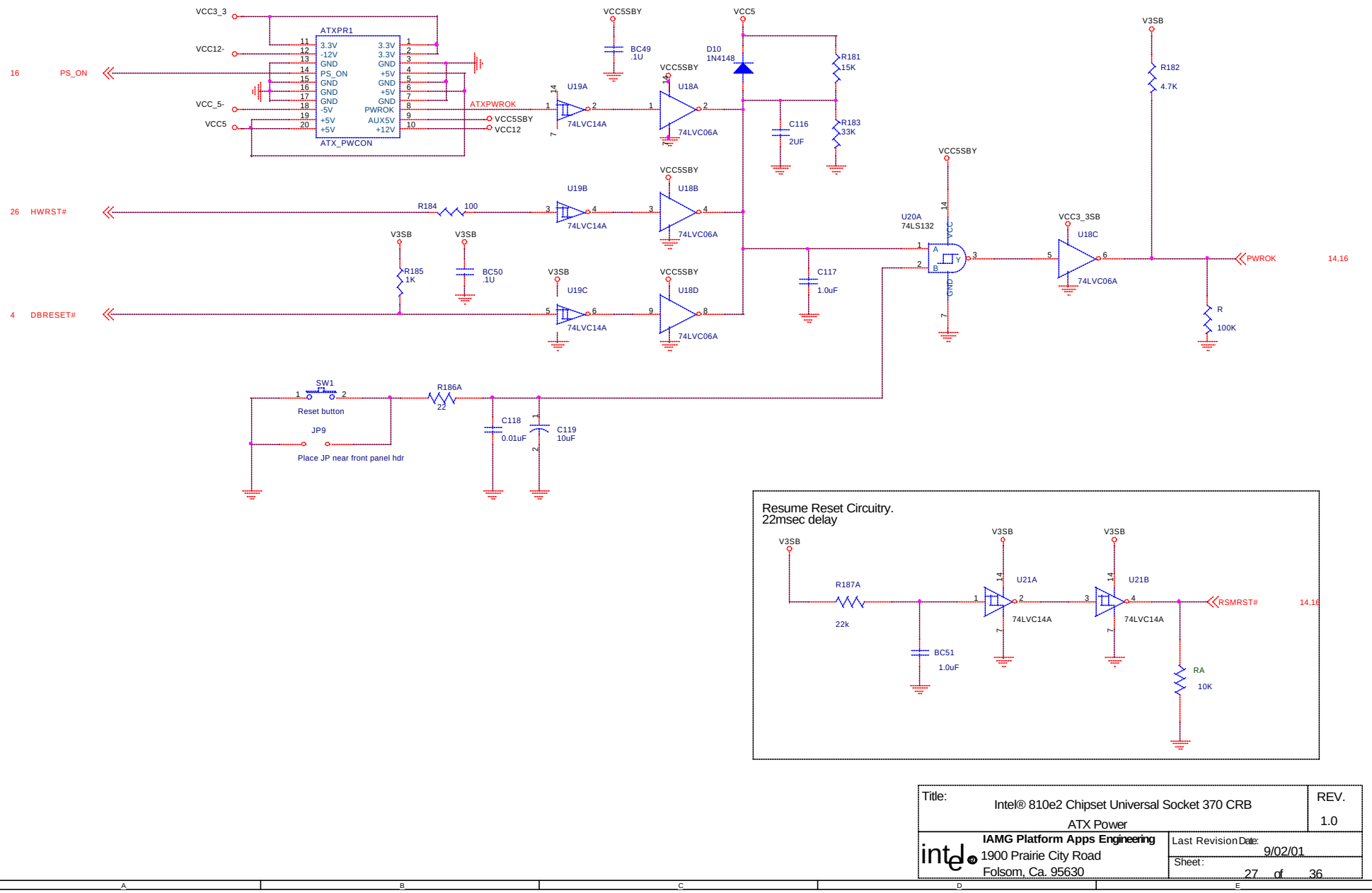
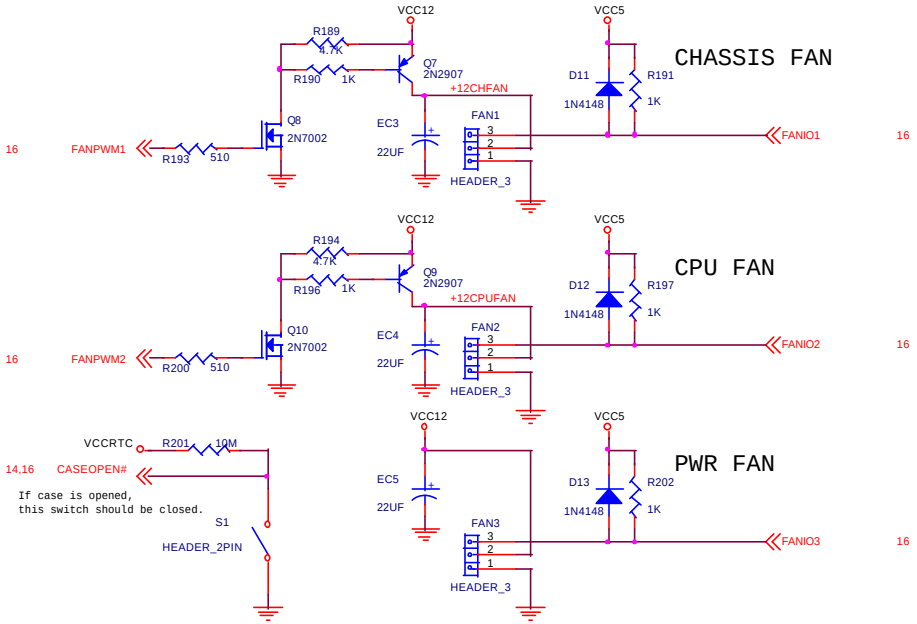
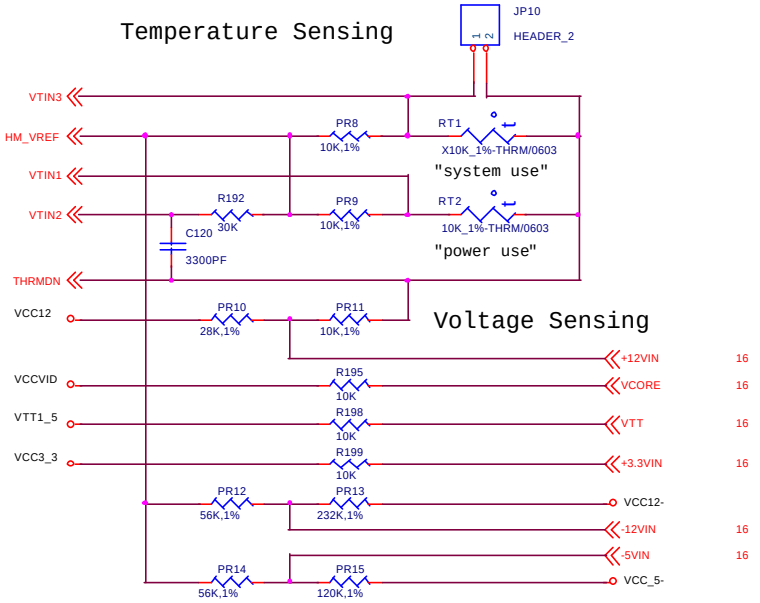
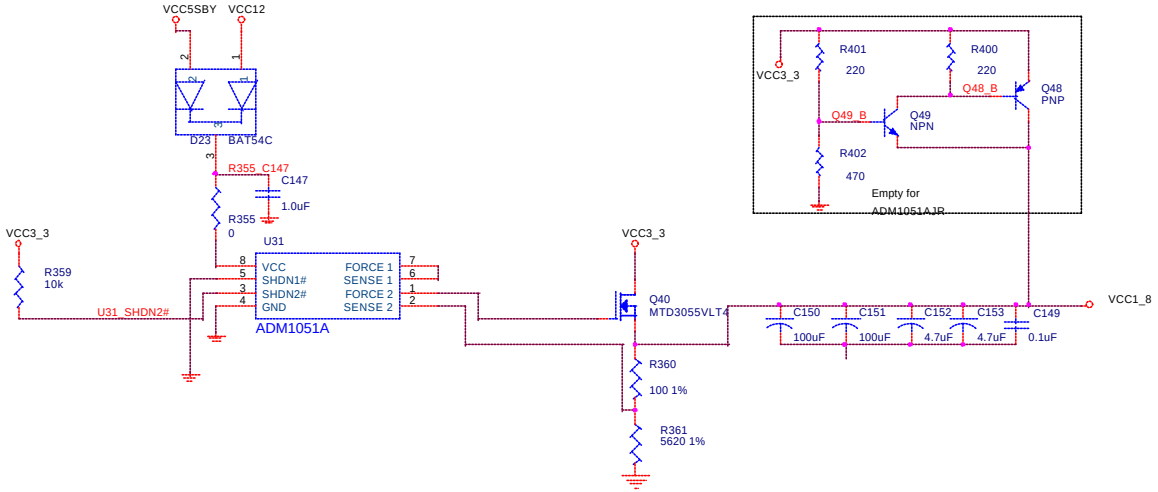


Title:	Intel® 810e2 Chipset Universal Socket 370 CRB ATX Power	REV. 1.0
intel **IAMG Platform Apps Engineering** 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01 Sheet: 27 of 36	

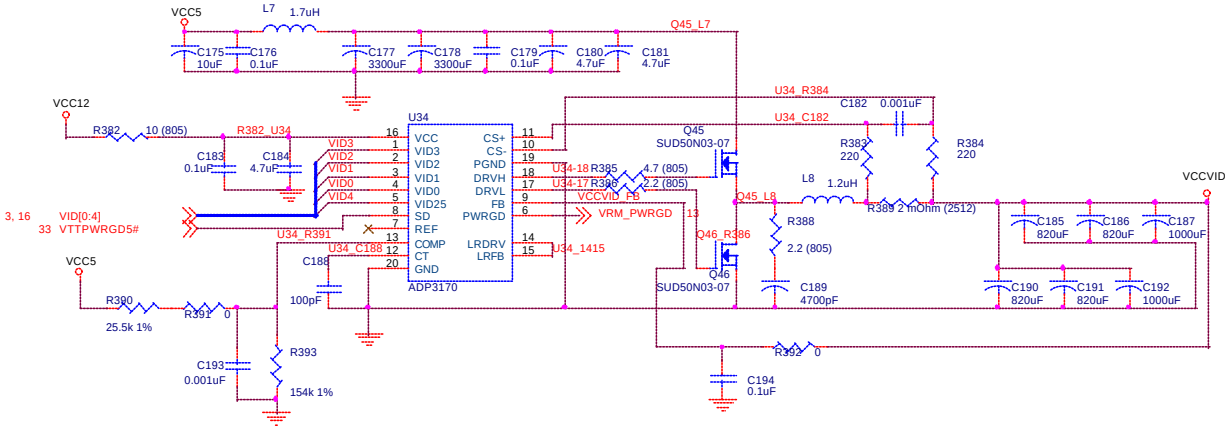


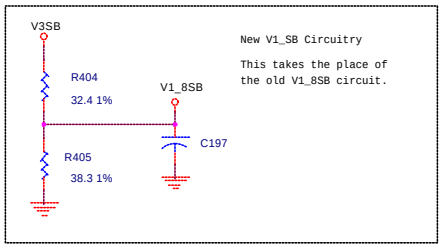


Title:	Intel® 810e2 Chipset Universal Socket 370 CRB H/W Monitor	REV. 1.0
intel	**IAMG Platform Apps Engineering** 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01 Sheet: 28 of 36

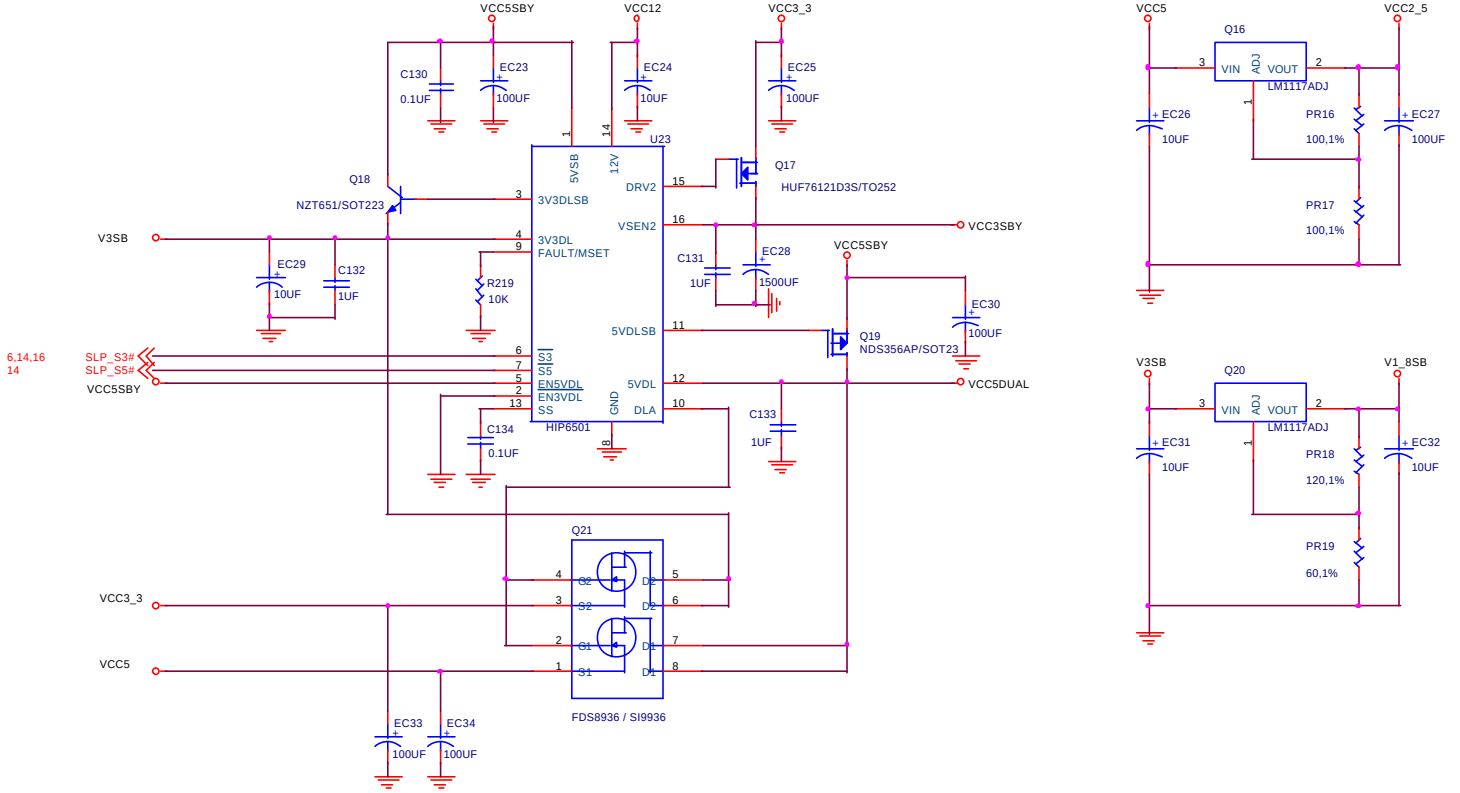


PLEASE SEE PAGE 33 for VTT GENERATOR





Title:	Intel® 810e2 Chipset Universal Socket 370 CRB Voltage Regulators Part 1	REV. 1.0
intel **IAMG Platform Apps Engineering** 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01 Sheet: 29 of 36	



Title: Intel® 810e2 Chipset Universal Socket 370 CRB Voltage Regulators Part 2		REV. 1.0
IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01	
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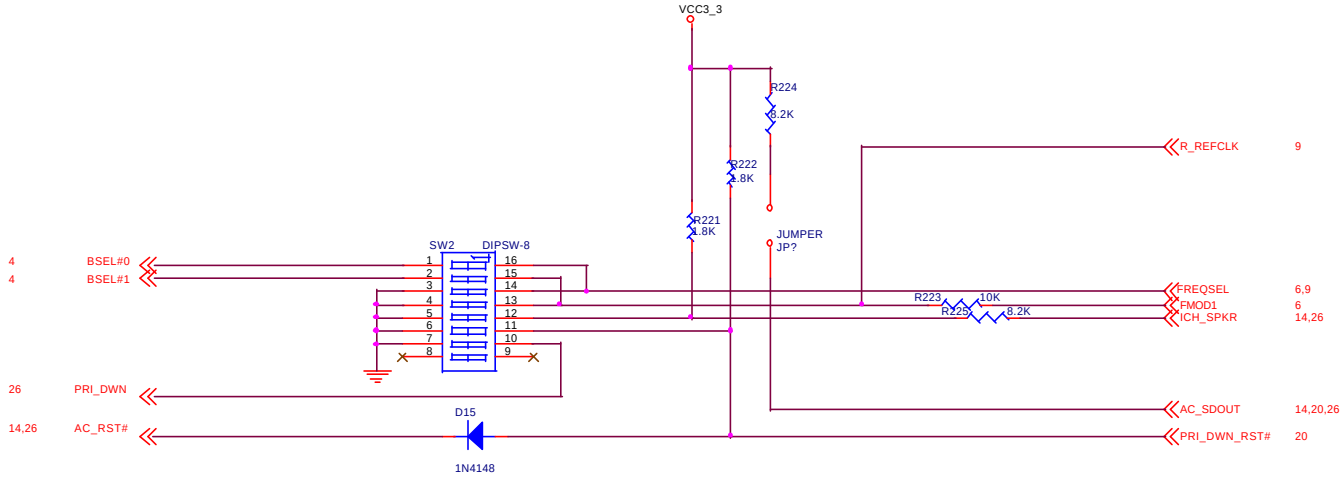


SW1:7-8	ON BOARD AC97 CODEC
ON 7	PRIMARY CODEC
ON 8	DISABLE

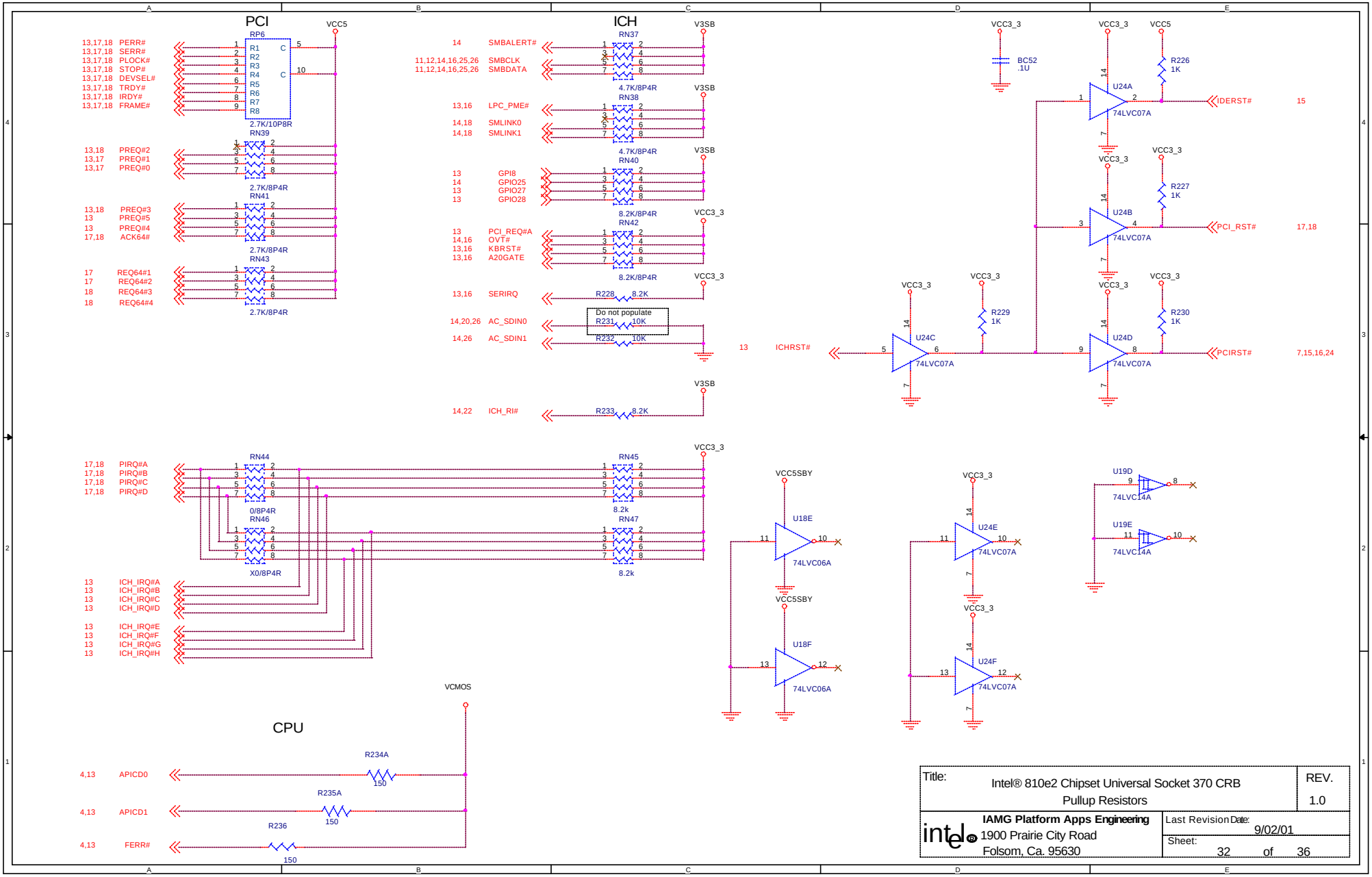
SW1:1-2	ESB / SYSTEM MEMORY
ON1-2	CPU DEFAULT
OFF 1-2	BY SW2:3-4

SW1:3-4	ESB / SYSTEM MEMORY
ON ON	66M/PC100
OFF ON	100M/PC100
OFF OFF	133M/PC100 OR PC133

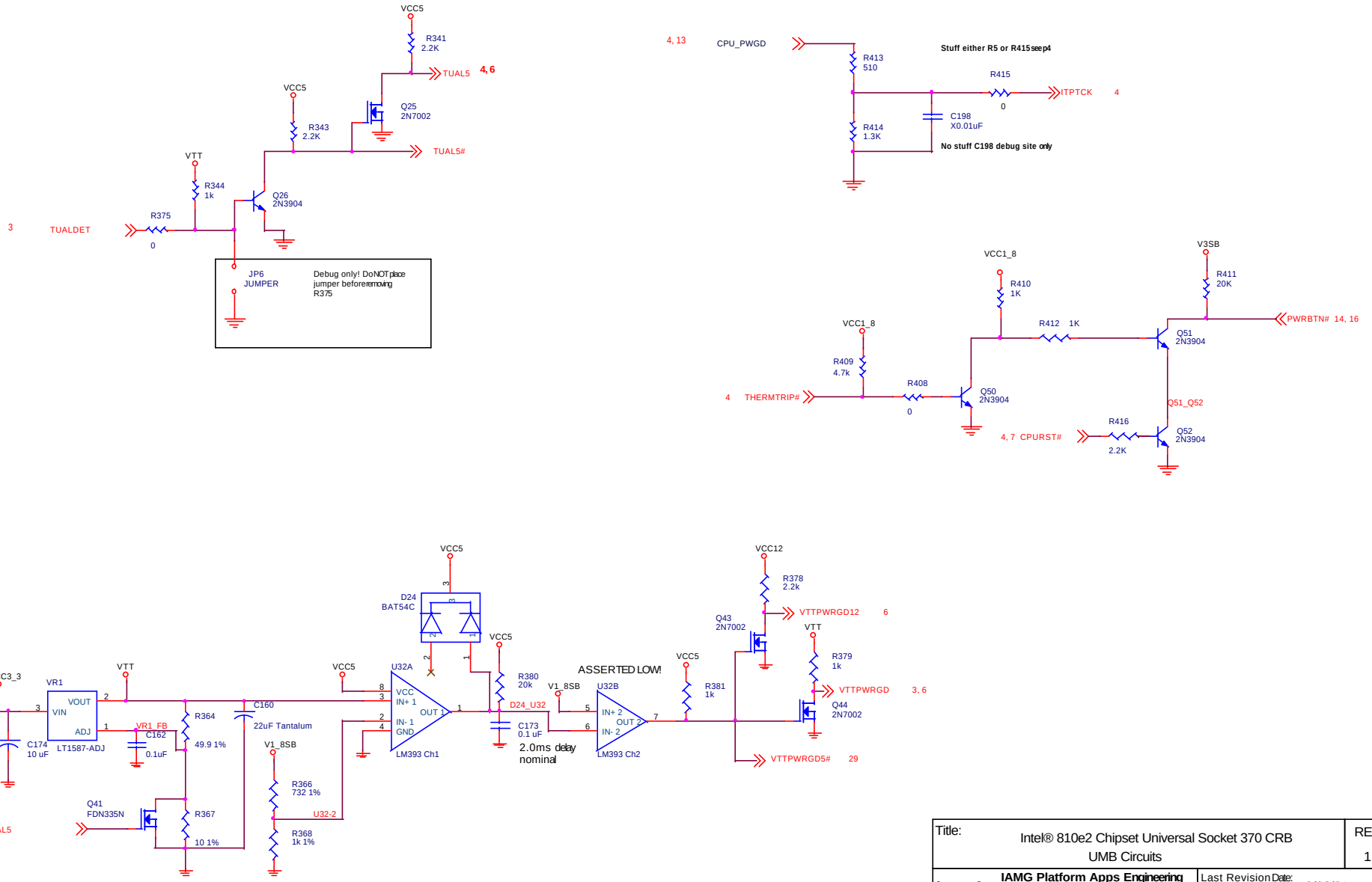
SW1:5	AC_SDOUT
ON	USE CPU FREQ STRAP IN ICH REGISTER
OFF	FORCE CPU FREQ STRAP TO SAFE MODE(1111)

SW1:6	STRAP(SPKR)
ON	NO REBOOT ON 2ND WATCHDOG TIMEOUT
OFF	REBOOT ON 2ND WATCHDOG TIMEOUT

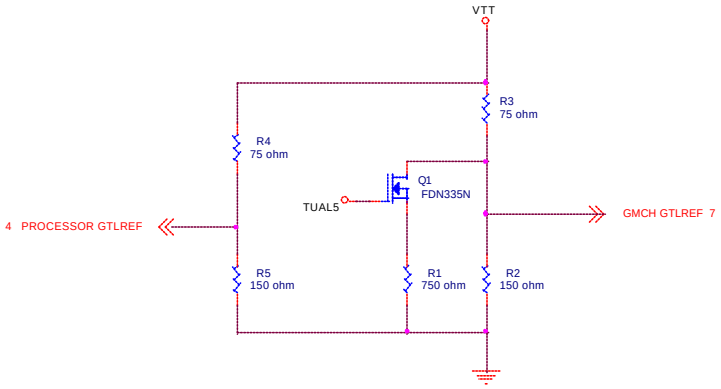
Title:	Intel® 810e2 Chipset Universal Socket 370 CRB System Configuration	REV. 1.0
intel	**IAMG Platform Apps Engineering** 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01 Sheet: 31 of 36

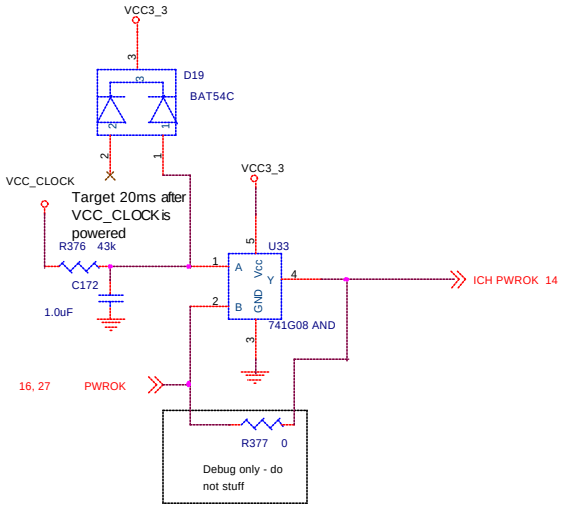


Title:	Intel® 810e2 Chipset Universal Socket 370 CRB Pullup Resistors
REV.	1.0
IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01 Sheet: 32 of 36



Title:	Intel® 810e2 Chipset Universal Socket 370 CRB UMB Circuits	REV. 1.0
intel **IAMG Platform Apps Engineering** 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01 Sheet: 33 of 36	





Title: Intel® 810e2 Chipset Universal Socket 370 CRB UMB Circuits		REV. 1.0
IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01	
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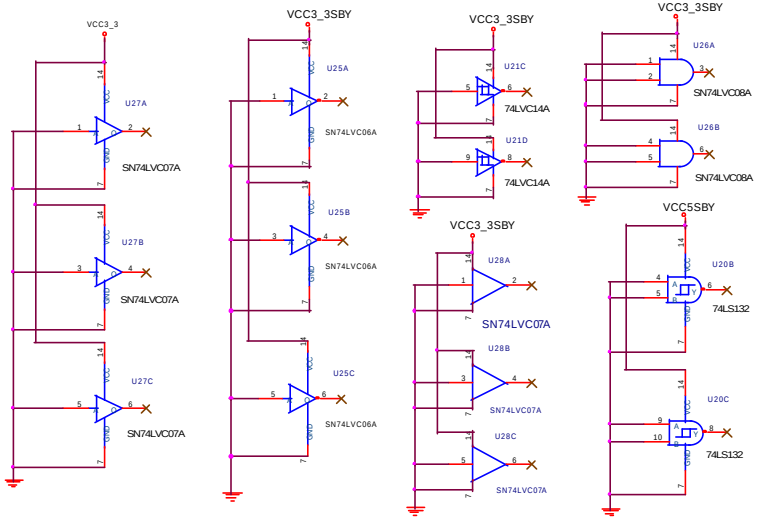
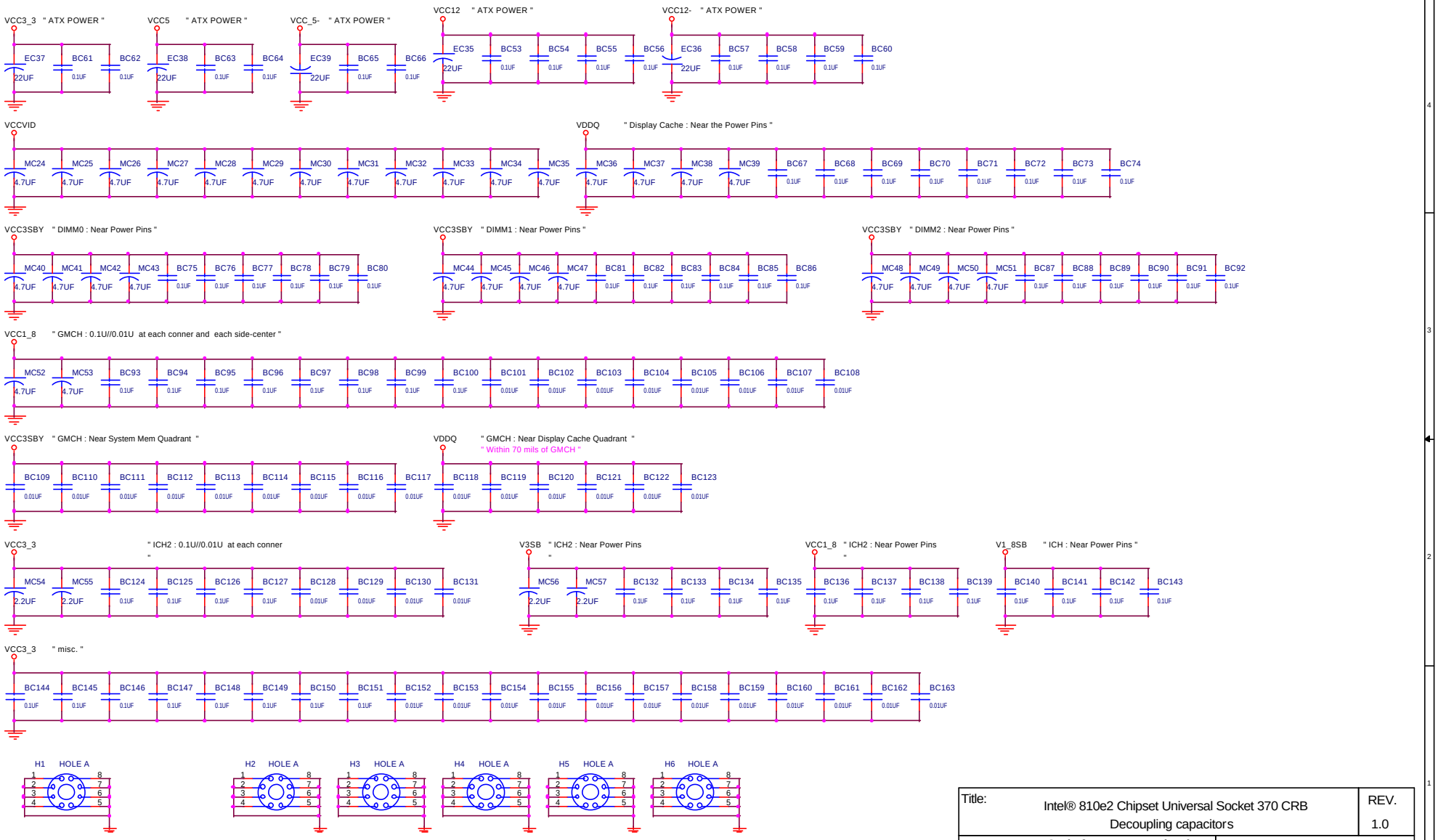
UNUSED GATES



Title:	Intel® 810e2 Chipset Universal Socket370 CRB Unused Gates	REV. 1.0
intel	IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date 9/02/01 Sheet: 35 of 36



Title: Intel® 810e2 Chipset Universal Socket 370 CRB Decoupling capacitors		REV. 1.0
intel® IAMG Platform Apps Engineering 1900 Prairie City Road Folsom, Ca. 95630	Last Revision Date: 9/02/01	
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