MS-7593 ATX Version: 1.0

CPU: Nehalem-EP 1S, BloomField Processors In LGA1366 Package.

System Chipset:

Intel Tylersburg I/O Hub 36S (North Bridge)
Intel ICH10R (South Bridge)

On Board Device:

CLOCK Gen -- ICS 9LPRS133 Ver. B
LPC Super I/O -- Fintek F71882FG
LAN --Realtek 8111C
HD Audio Codec -- RTL ALC-889
1394 Controller -- VIA6315
PCIE to 1PATA/2SATA Bridge -- JMB-363

Main Memory:

3-Channel A / B / C DDR-III * 6

Expansion Slots:

PCI EXPRESS X16 SLOT *2
PCI EXPRESS X4 SLOT *1
PCI SLOT * 1

PWM: VR11.1 Intersil ISL6336 (6 Phases)

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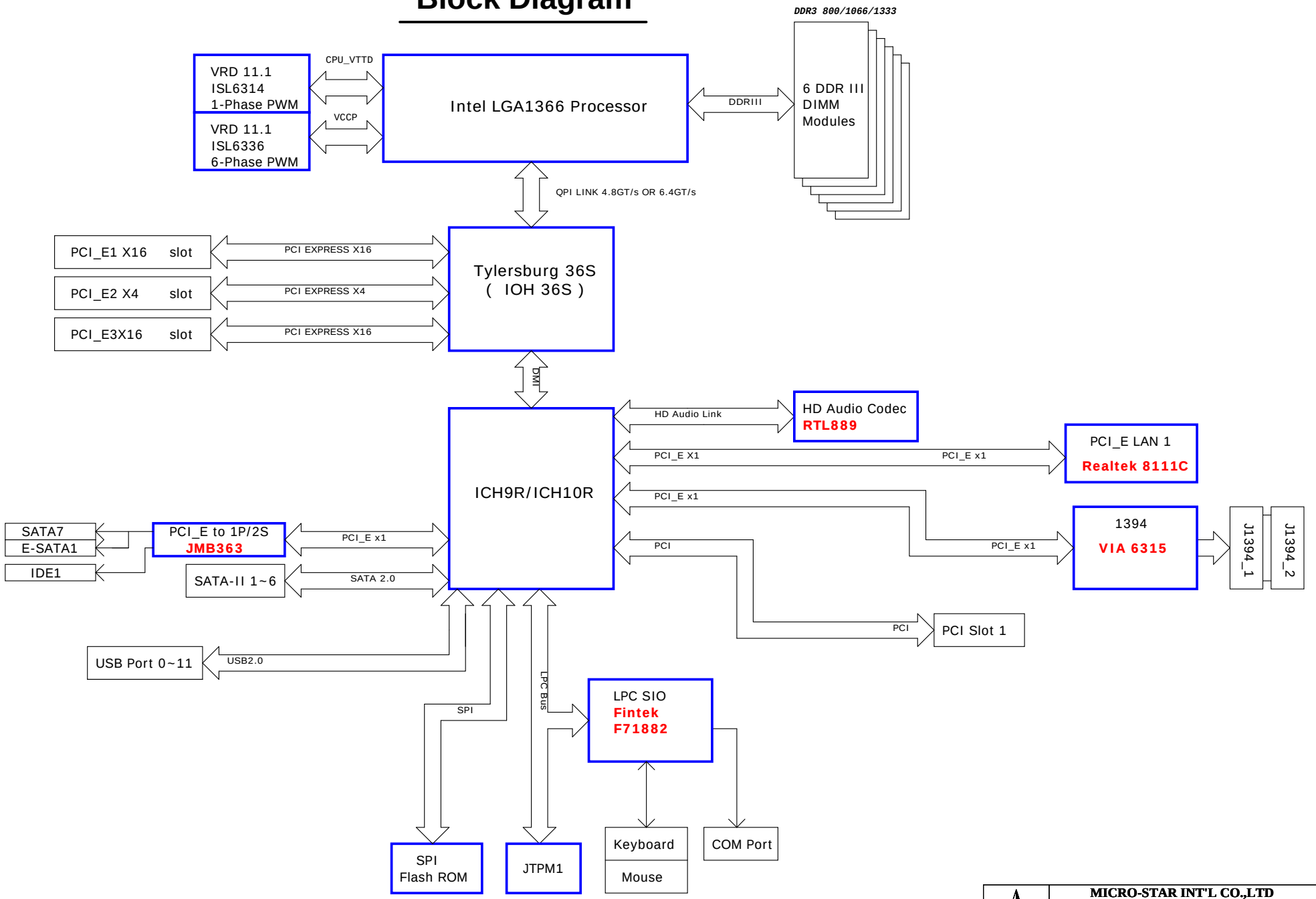
MS-7593
Size: Custom | Document Description: COVER SHEET | Rev: 1.0
Date: Monday, March 02, 2009 | Sheet 1 of 52

Block Diagram



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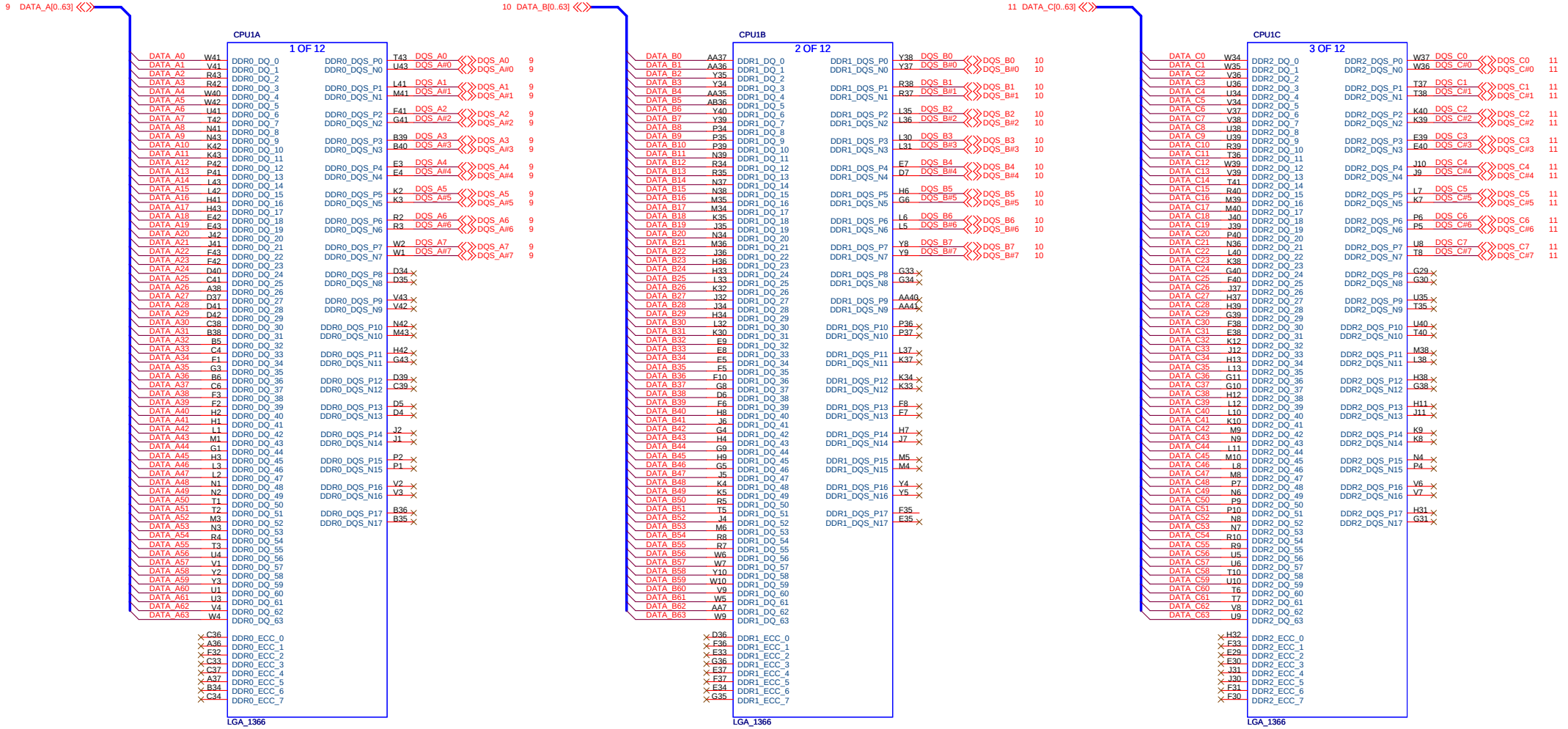
Size: Custom	Document Description: BLOCK DIAGRAM	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 2 of 52	



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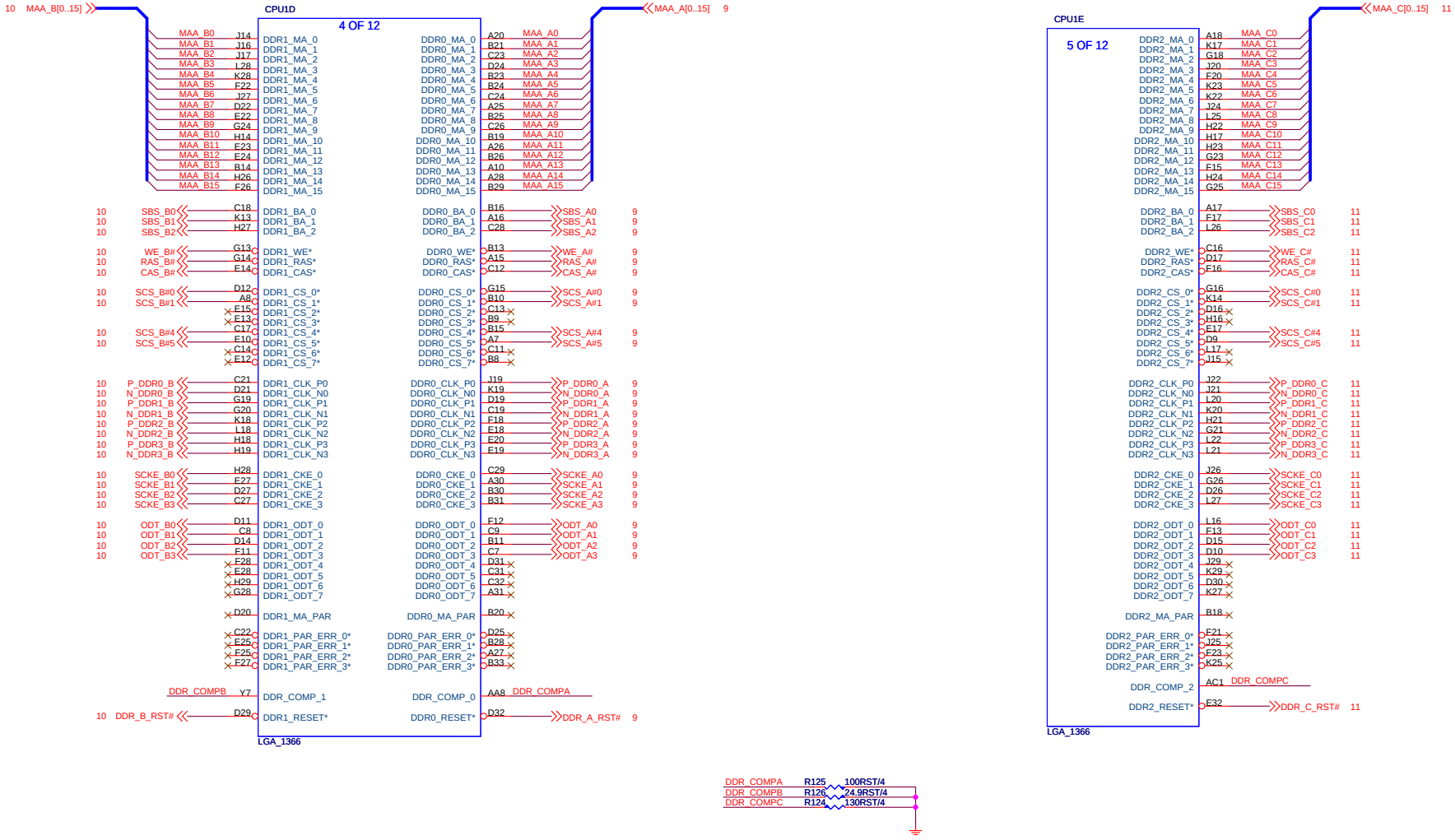
MS-7593

Size	Document Description	Rev
Custom	LGA1366-MEM DQ/DQS	1.0

Date: Monday, March 02, 2009 | Sheet 3 of 52



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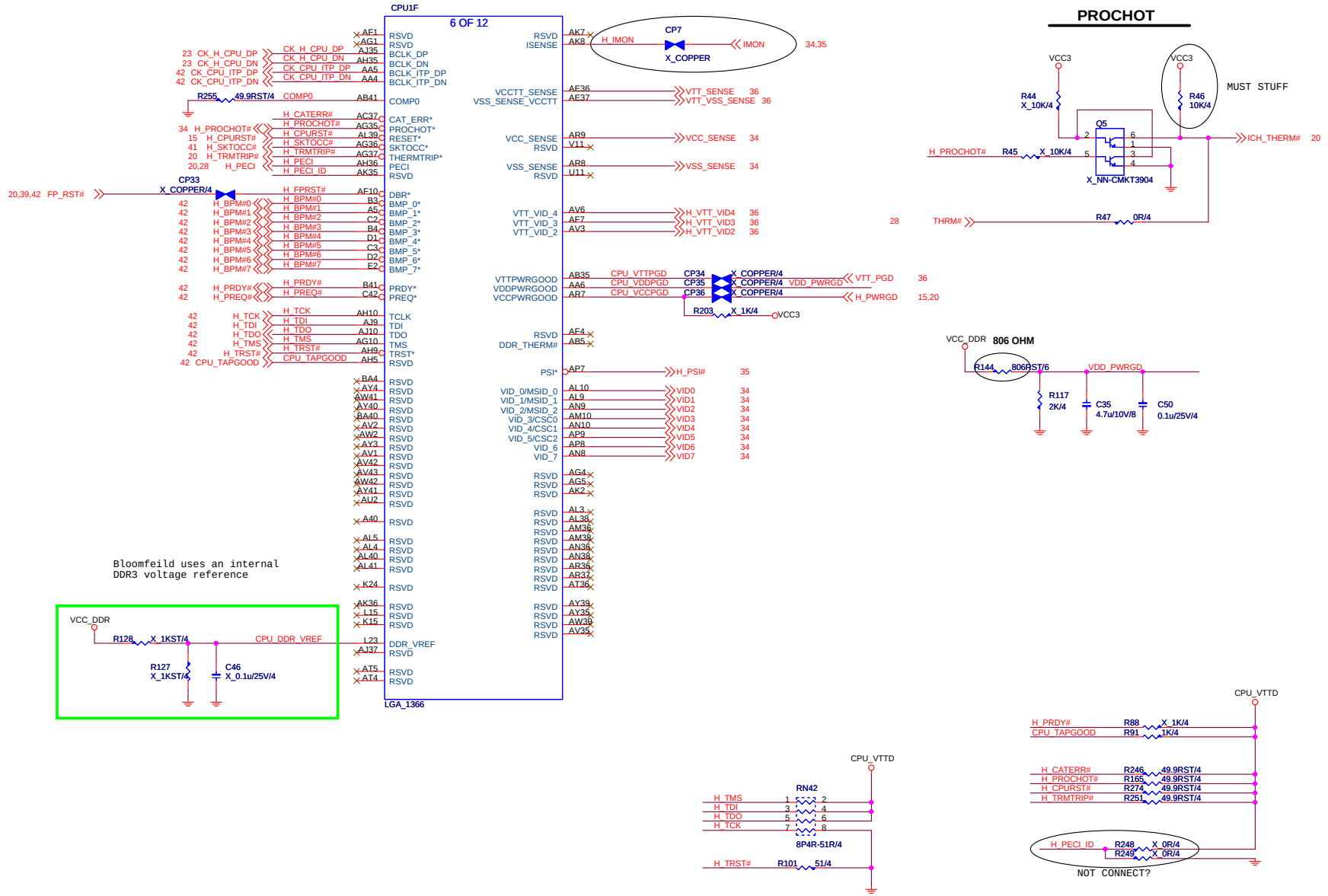
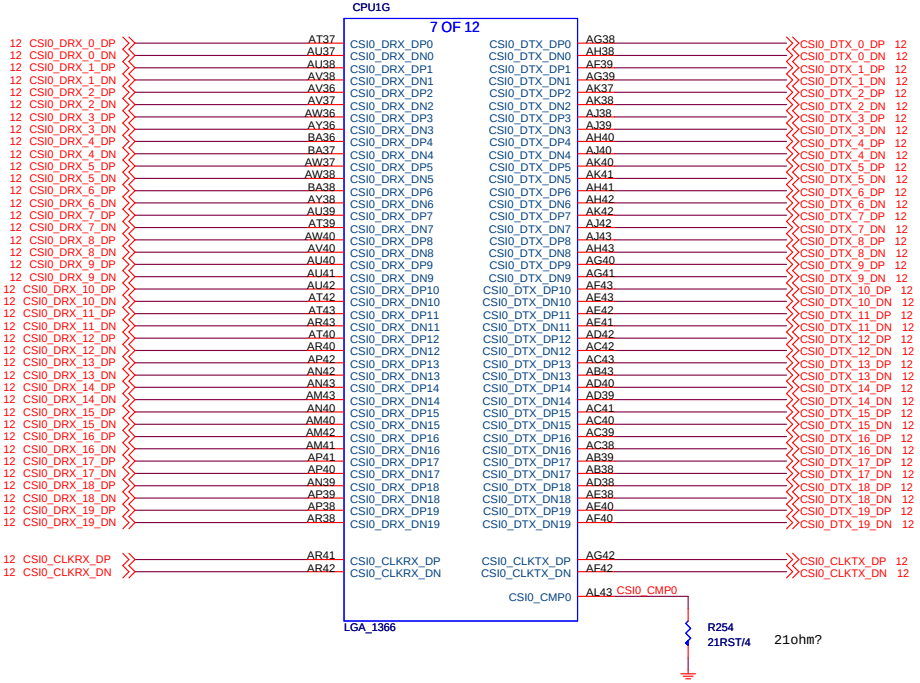
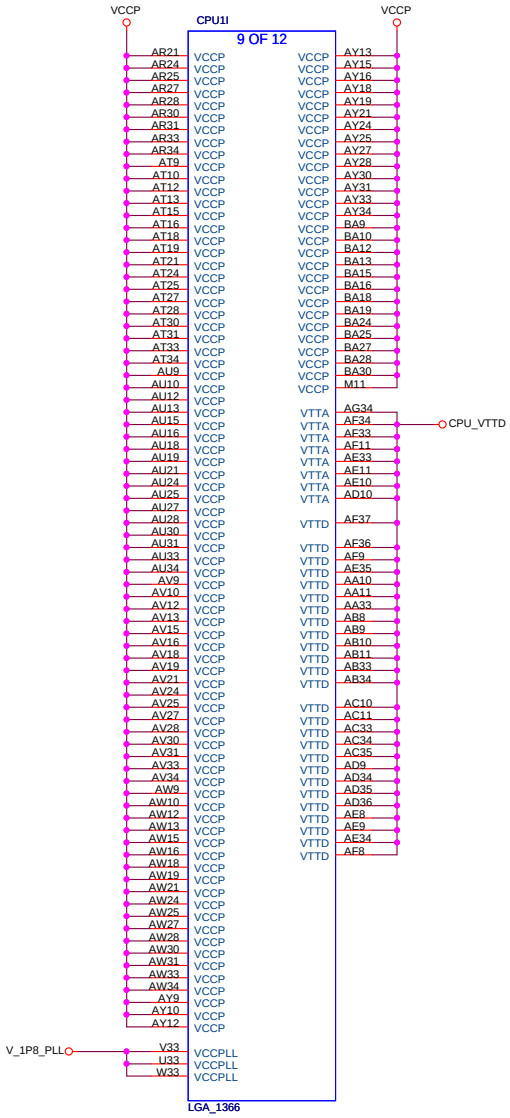
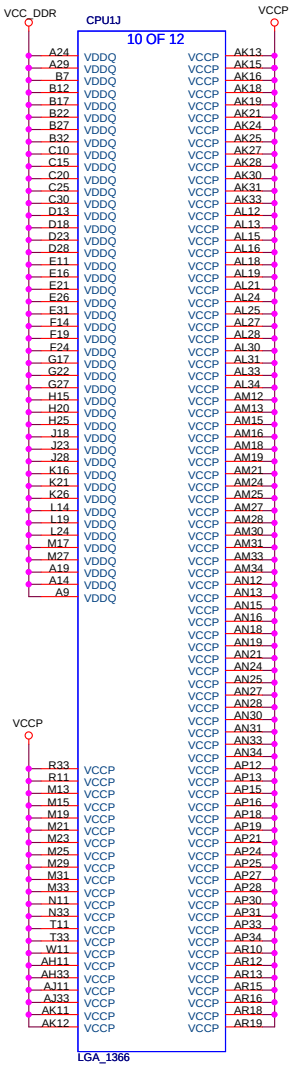
Size: Custom	Document Description: LGA1366-MEM COM/ADD/CTRL	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 4 of 52	

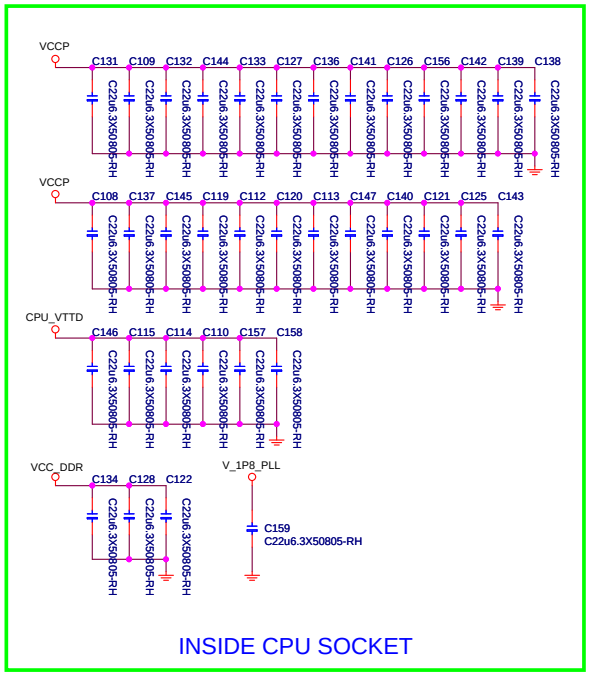

CPU1F
6 OF 12
LGA_1366
PROCHOT
MUST STUFF
Bloomfeild uses an internal
DDR3 voltage reference
NOT CONNECT?
MICRO-STAR INT'L CO.,LTD
MS-7593
LGA1366-SIGNAL
Size
Custom
Document Description
Rev
1.0
Date: Monday, March 02, 2009
Sheet 5 of 52



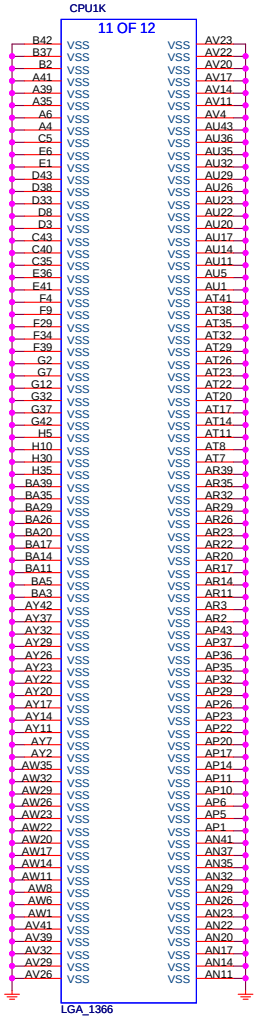
MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: LGA1366-CSI	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 6 of 52	

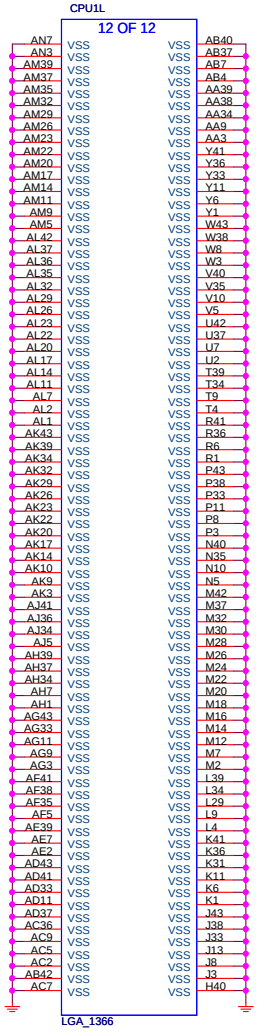


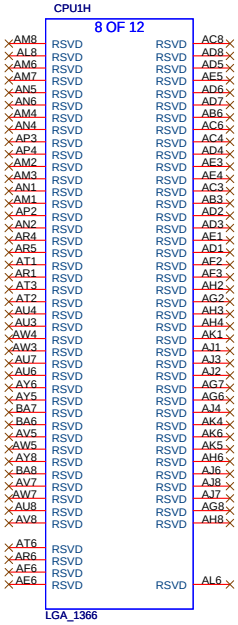




MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: LGA1366-POWER	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 7 of 52	







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MS-7593		
Size: Custom	Document Description: LGA1366-GND	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 8 of 52	

DIMM1 / CHANNEL A0

DIMM2 / CHANNEL A1

Place DIMM Socket Power Plane

Close to the DIMM VTT_DDR Pin

UPI VOLTAGE CONSOLE

DDR3

DDR3

DDRIII-240P_BLACK-RH-8

ADDRESS = 0:0:0 [SA2:SA1:SA0]

DDRIII-240P_BLUE-RH-1

ADDRESS = 0:0:1 [SA2:SA1:SA0]

0.75 Vcc

0x62:RH=1.3K,RL=3.9K

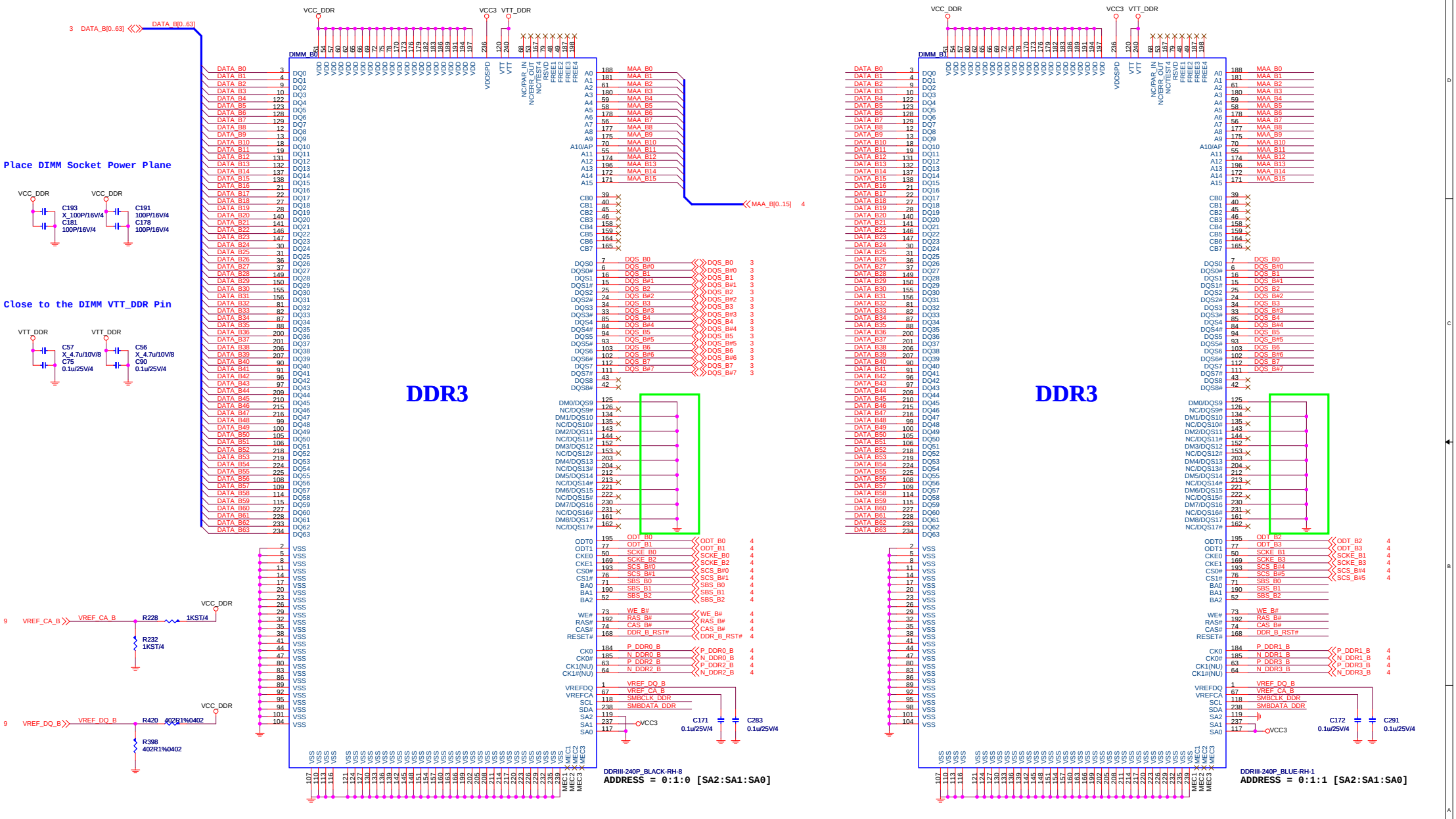
0.25 Vcc

0x6A:RH=open,RL=10K

MICRO-STAR INT'L CO.,LTD	
MS-7593	
Size: Custom	Document Description: DDR III DIMM 1 / DIMM 2 — Rev: 1.0
Date: Monday, March 02, 2009	Sheet 9 of 52

DIMM3 / CHANNEL B0

DIMM4 / CHANNEL B1

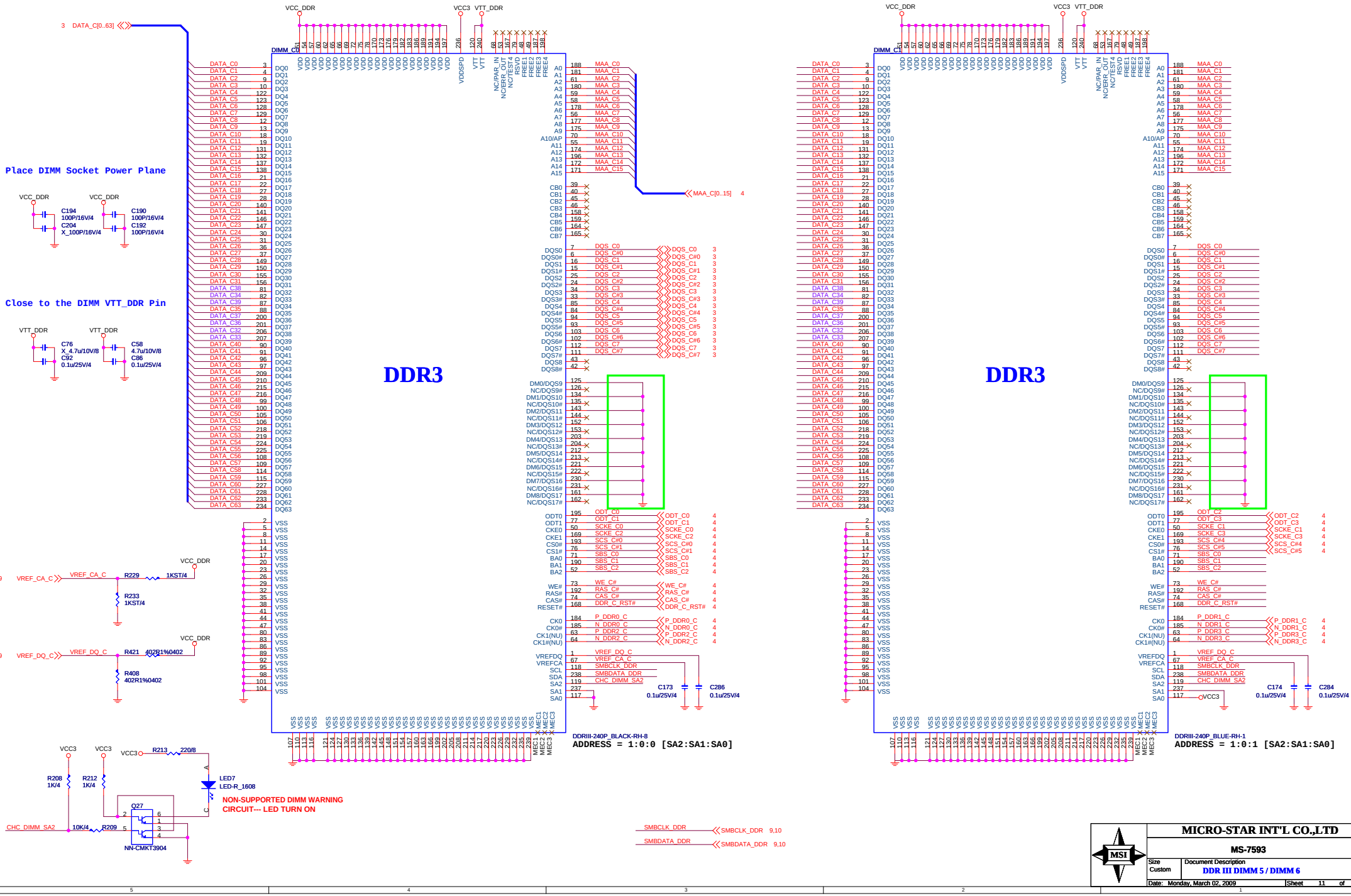


Vref-DQ : Reference voltage for DQ0-DQ63, CB0-CB7 and PAR_IN. When in single ended mode used for DQS0-DQS7.
Vref-CA : Reference voltage for A0-A15, BA0-BA2, RAS#, CAS#, WE#, S0#, S01#, CKE0, CKE1, ODT0 and ODT1.
RESET#(Output) : A synchronously forces all registered output LOW when RESET# is LOW. This signal can be used during power up to ensure that CKE is LOW and DQs are High-Z.

MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: DDR III DIMM 3 / DIMM 4	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 10 of 52	

DIMM5 / CHANNEL C0

DIMM6 / CHANNEL C1



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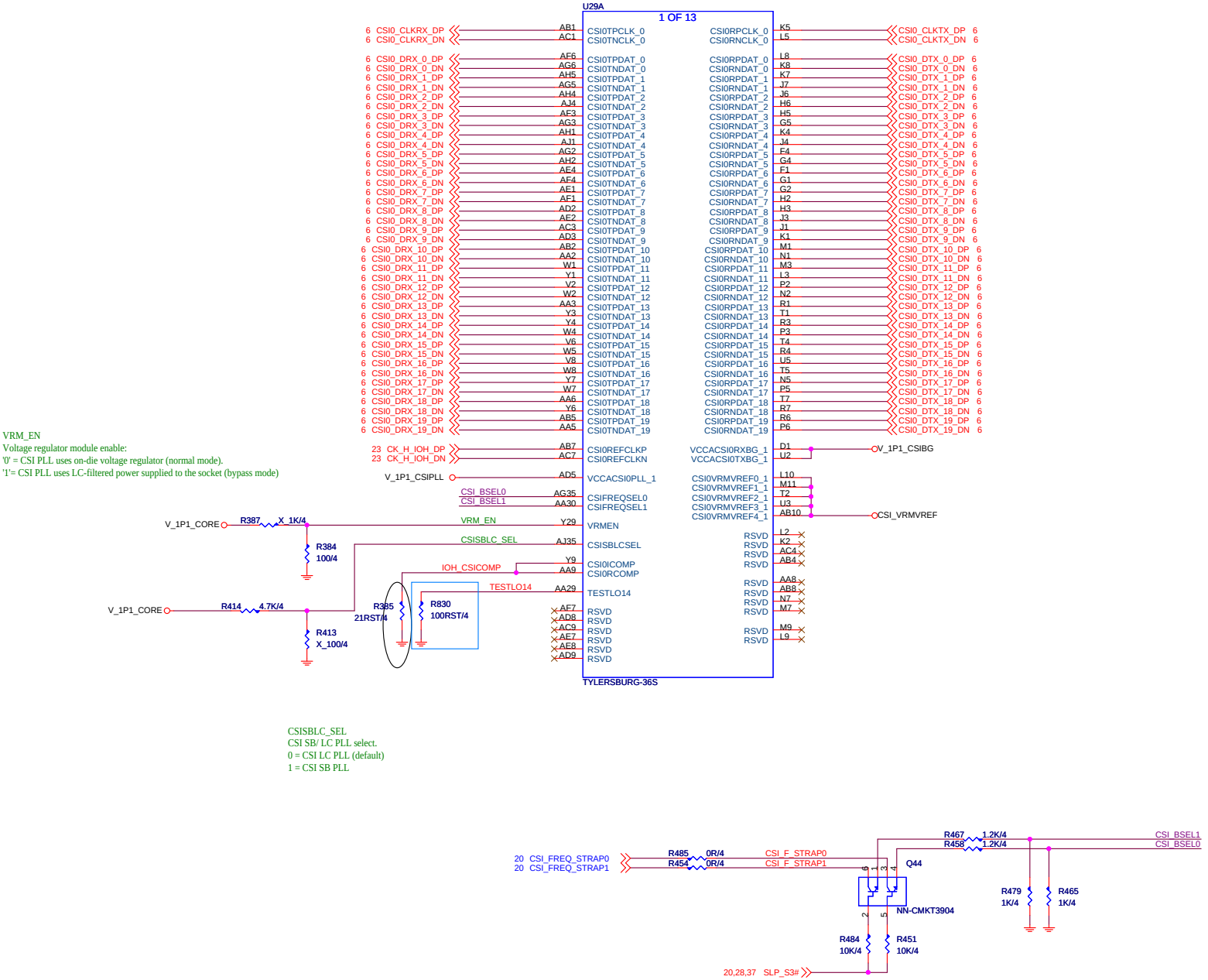
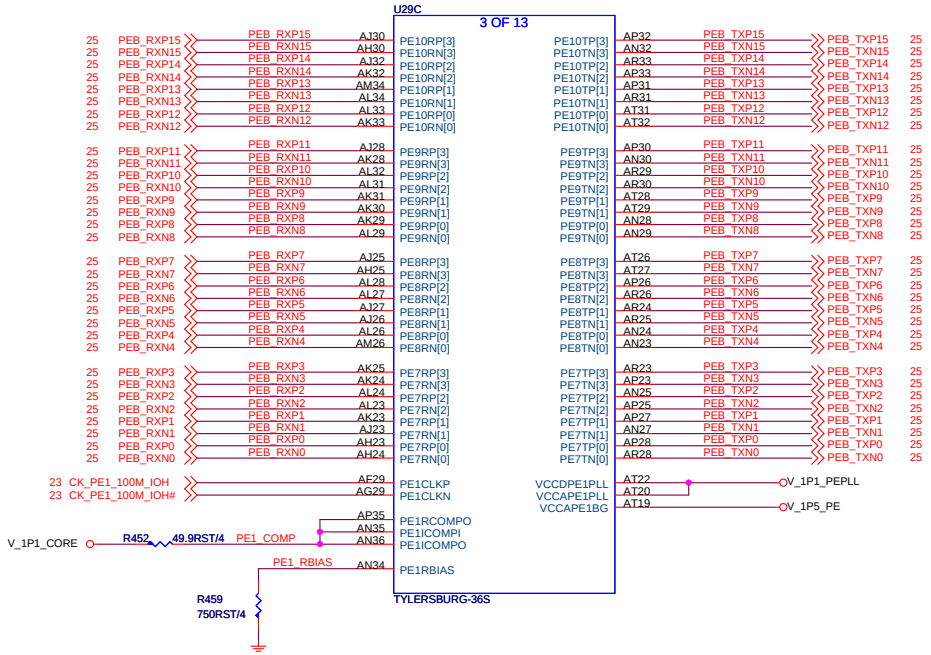
MS-7593	
Size: Custom	Document Description: DDR III DIMM 5 / DIMM 6 — Rev: 1.0
Date: Monday, March 02, 2009	Sheet 11 of 52

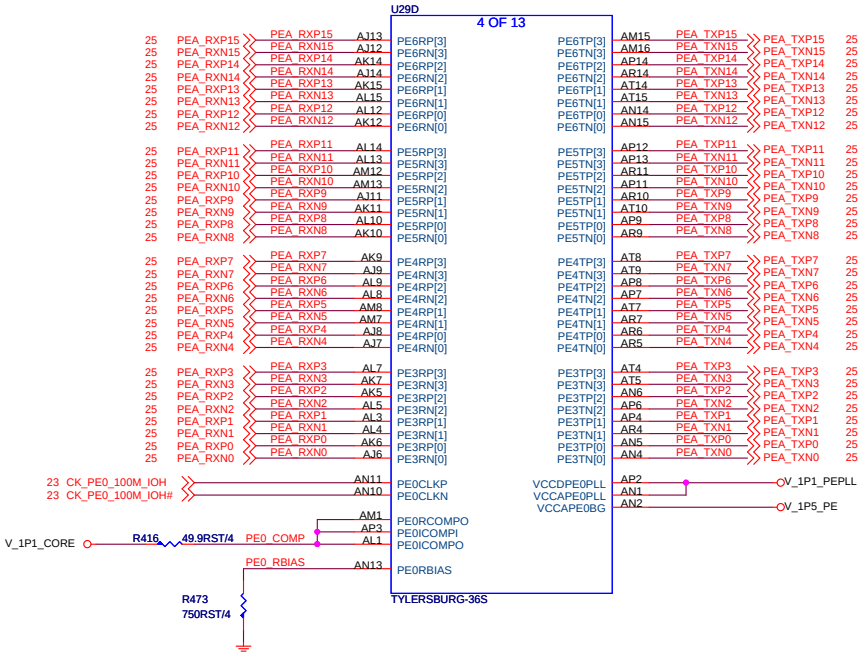


VRM_EN
Voltage regulator module enable:
'0' = CSI PLL uses on-die voltage regulator (normal mode).
'1'= CSI PLL uses LC-filtered power supplied to the socket (bypass mode)

CSISBLC_SEL
CSI SB/ LC PLL select.
0 = CSI LC PLL (default)
1 = CSI SB PLL

MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: IOH 36S-CSI	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 12 of 52	





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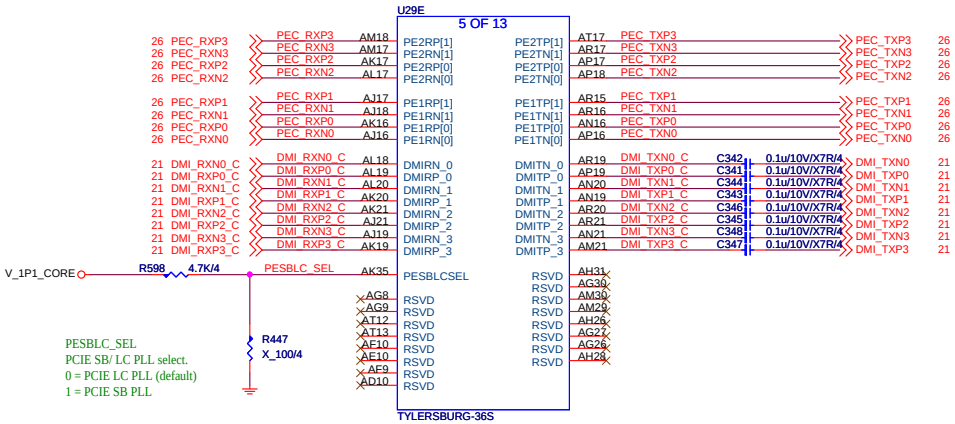
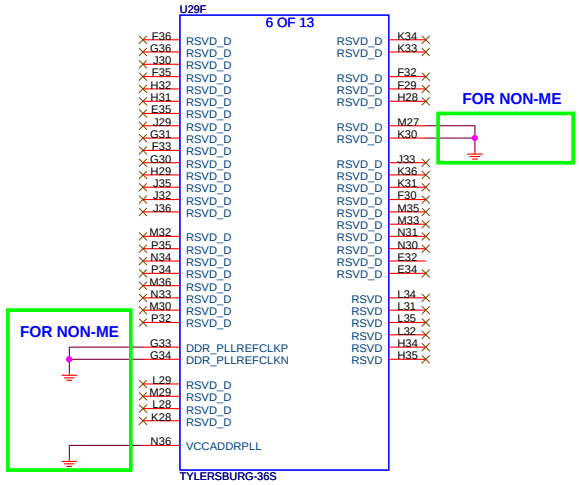
MS-7593		
Size: Custom	Document Description: IOH 36S-PCIE	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 13 of 52	





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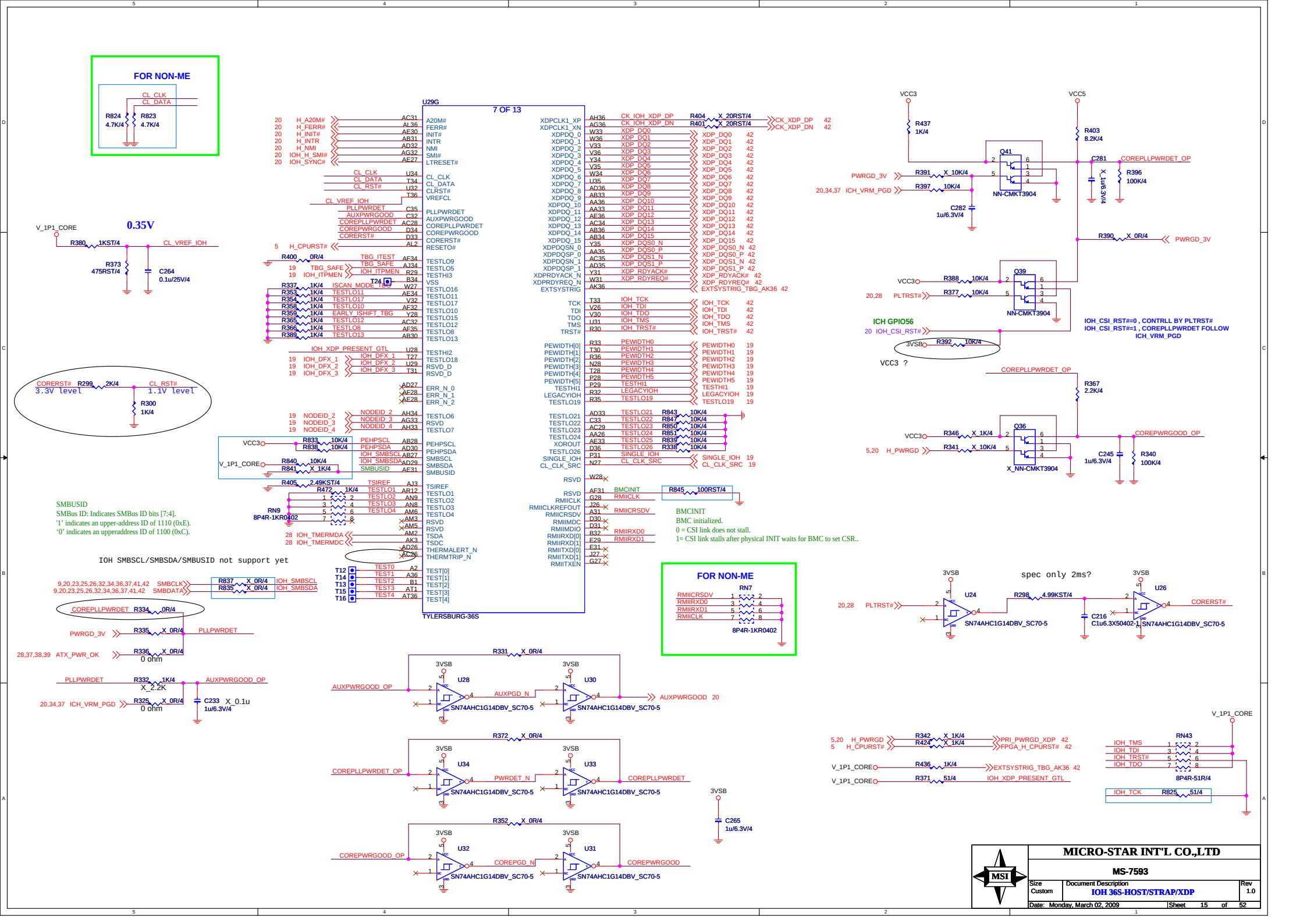
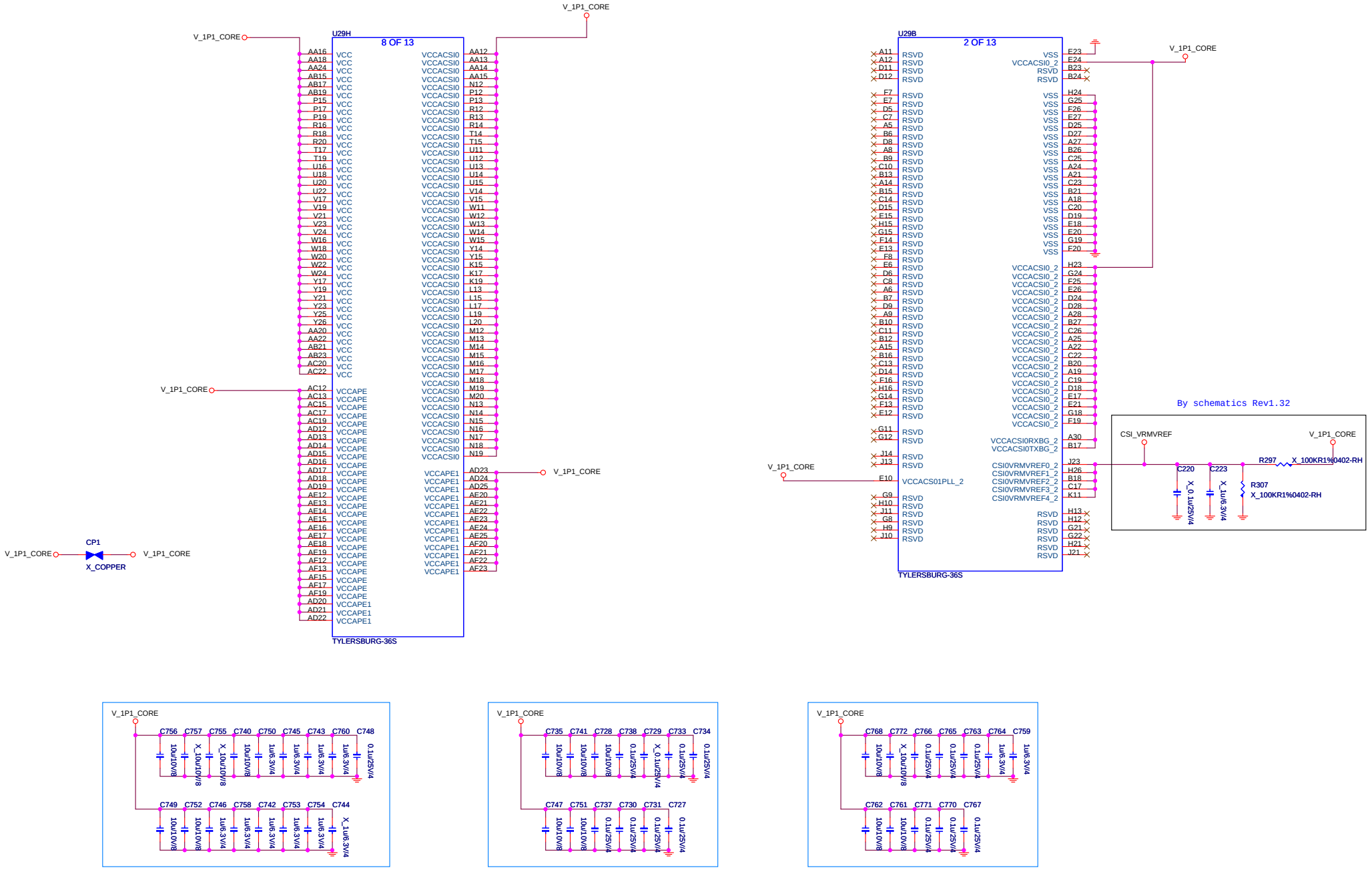
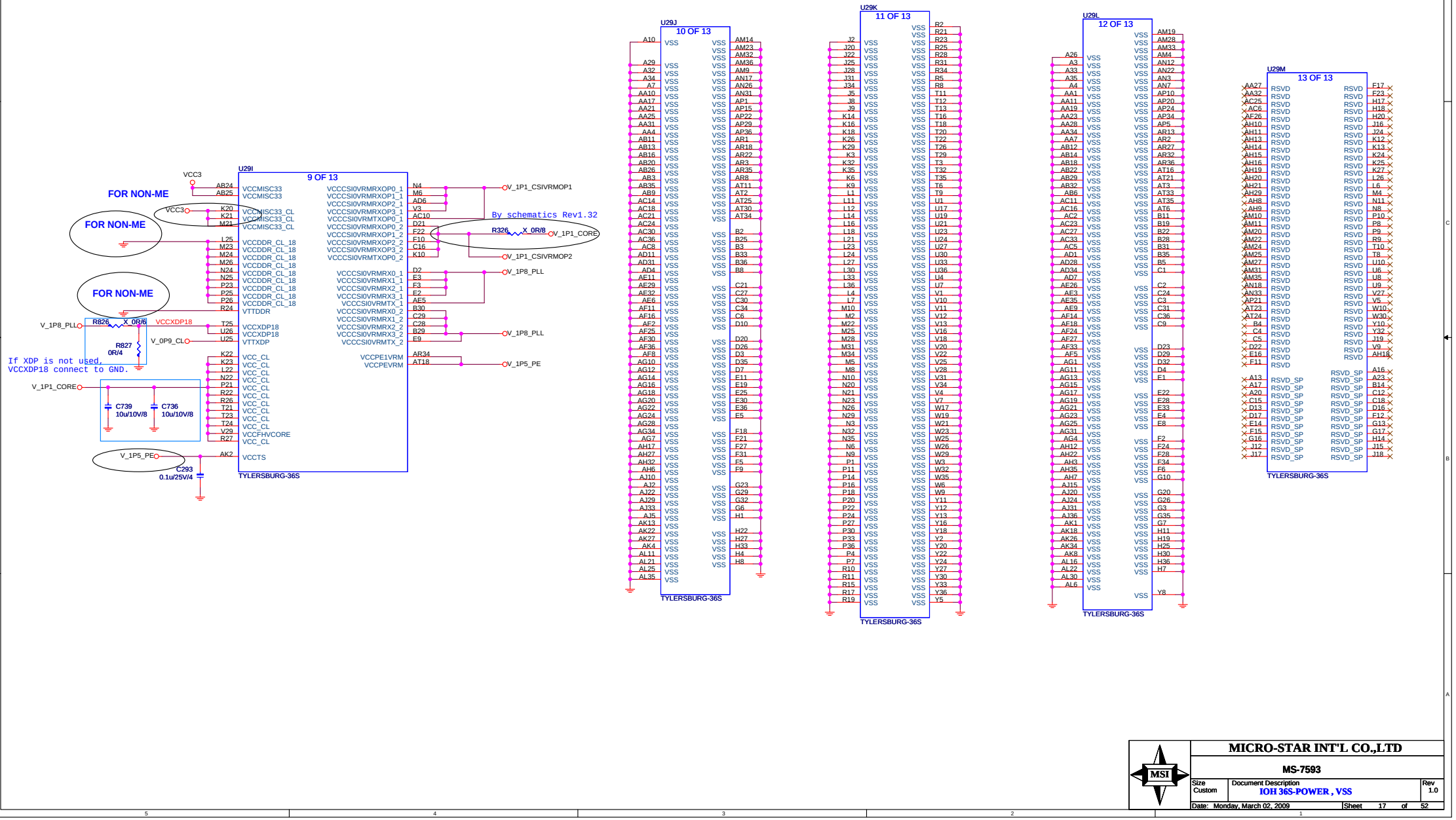
MS-7593		
Size: Custom	Document Description: IOH 36S-PCIE/ME	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 14 of 52	


FOR NON-ME
CL_CLK
CL_DATA
R824 4.7K/4
R823 4.7K/4
V_1P1_CORE
0.35V
R380 1KST/4
CL_VREF_IOH
R373 475RST/4
C264 0.1u/25V/4
CORERST# R299 2K/4
CL_RST#
3.3V level
1.1V level
R300 1K/4
U29G
7 OF 13
TYLERSBURG-36S
H_A20M#
H_FERR#
H_INIT#
H_INTR
H_NMI
IOH_H_SMI#
IOH_SYNC#
CL_CLK
CL_DATA
CL_RST#
CL_VREF_IOH
PLLPWRDET
AUXPWRGOOD
COREPLLPWRDET
COREPWRGOOD
CORERST#
H_CPURST#
TBG_ITEST
TBG_SAFE
IOH_ITPMEN
ISCAN_MODE_TBG
EARLY_ISHIFT_TBG
IOH_XDP_PRESENT_GTL
IOH_DFX_1
IOH_DFX_2
IOH_DFX_3
NODEID_2
NODEID_3
NODEID_4
PEHPSCL
PEHPSDA
IOH_SMBSCL
IOH_SMBSDA
SMBUSID
TSIREF
TESTLO1
TESTLO2
TESTLO3
TESTLO4
IOH_TMERMDA
IOH_TMERMDC
THERMALERT_N
THERMTRIP_N
TEST0
TEST1
TEST2
TEST3
TEST4
XDPCLK1_XP
XDPCLK1_XN
XDPDQ_0 .. XDPDQ_15
XDPDQSN_0
XDPDQSP_0
XDPDQSN_1
XDPDQSP_1
XDPRDYACK_N
XDPRDYREQ_N
EXTSYSTRIG
CK_IOH_XDP_DP
CK_IOH_XDP_DN
XDP_DQ0 .. XDP_DQ15
XDP_DQS0_N
XDP_DQS0_P
XDP_DQS1_N
XDP_DQS1_P
XDP_RDYACK#
XDP_RDYREQ#
EXTSYSTRIG_TBG_AK36
TCK
TDI
TDO
TMS
TRST#
IOH_TCK
IOH_TDI
IOH_TDO
IOH_TMS
IOH_TRST#
PEWIDTH[0] .. PEWIDTH[5]
PEWIDTH0 .. PEWIDTH5
TESTHI1
LEGACYIOH
TESTLO19
TESTLO21 .. TESTLO26
SINGLE_IOH
CL_CLK_SRC
RSVD
RMIICLK
RMIICLKREFOUT
RMIICRSDV
RMIIMDC
RMIIMDIO
RMIIRXD[0]
RMIIRXD[1]
RMIITXD[0]
RMIITXD[1]
RMIITXEN
BMCINIT
RMIIRXD0
RMIIRXD1
R404 X_20RST/4
R401 X_20RST/4
CK_XDP_DP 42
CK_XDP_DN 42
R843 10K/4
R847 10K/4
R850 10K/4
R851 10K/4
R839 10K/4
R338 10K/4
R845 100RST/4
VCC3
R833 10K/4
R838 10K/4
R840 10K/4
R841 X_1K/4
R405 2.49KST/4
R472 1K/4
RN9 8P4R-1KR0402
SMBUSID
SMBus ID: Indicates SMBus ID bits [7:4].
'1' indicates an upper-address ID of 1110 (0xE).
'0' indicates an upperaddress ID of 1100 (0xC).
IOH SMBSCL/SMBSDA/SMBUSID not support yet
SMBCLK
SMBDATA
R837 X_0R/4
R835 X_0R/4
COREPLLPWRDET R334 0R/4
PWRGD_3V
R335 X_0R/4
PLLPWRDET
ATX_PWR_OK
R336 X_0R/4
0 ohm
PLLPWRDET
R332 1K/4
X_2.2K
AUXPWRGOOD_OP
ICH_VRM_PGD
R325 X_0R/4
0 ohm
C233 X_0.1u
1u/6.3V/4
BMCINIT
BMC initialized.
0 = CSI link does not stall.
1= CSI link stalls after physical INIT waits for BMC to set CSR..
FOR NON-ME
RN7
8P4R-1KR0402
R331 X_0R/4
U28
U30
SN74AHC1G14DBV_SC70-5
AUXPGD_N
AUXPWRGOOD 20
R372 X_0R/4
U34
U33
PWRDET_N
COREPLLPWRDET
R352 X_0R/4
U32
U31
COREPGD_N
COREPWRGOOD
C265 1u/6.3V/4
VCC3
VCC5
R437 1K/4
R403 8.2K/4
Q41
NN-CMKT3904
PWRGD_3V
R391 X_10K/4
R397 10K/4
C282 1u/6.3V/4
C281 X_1u/6.3V/4
COREPLLPWRDET_OP
R396 100K/4
R390 X_0R/4
Q39
R388 10K/4
R377 10K/4
PLTRST#
ICH GPIO56
IOH_CSI_RST#
R392 10K/4
VCC3 ?
IOH_CSI_RST#=0 , CONTRLL BY PLTRST#
IOH_CSI_RST#=1 , COREPLLPWRDET FOLLOW
ICH_VRM_PGD
COREPLLPWRDET_OP
R367 2.2K/4
Q36
X_NN-CMKT3904
R346 X_1K/4
R341 X_10K/4
H_PWRGD
C245 1u/6.3V/4
R340 100K/4
COREPWRGOOD_OP
3VSB
spec only 2ms?
U24
U26
R298 4.99KST/4
C216 C1u6.3X50402-1
CORERST#
PRI_PWRGD_XDP 42
FPGA_H_CPURST# 42
R342 X_1K/4
R424 X_1K/4
R436 1K/4
R371 51/4
EXTSYSTRIG_TBG_AK36 42
IOH_XDP_PRESENT_GTL
RN43
8P4R-51R/4
IOH_TMS
IOH_TDI
IOH_TRST#
IOH_TDO
IOH_TCK
R825 51/4
MICRO-STAR INT'L CO.,LTD
MS-7593
Size Custom
Document Description
IOH 36S-HOST/STRAP/XDP
Rev 1.0
Date: Monday, March 02, 2009
Sheet 15 of 52



MICRO-STAR INT'L CO.,LTD	
MS-7593	
Size: Custom	Document Description: IOH 36S-POWER
Rev: 1.0	
Date: Monday, March 02, 2009	Sheet 16 of 52



MICRO-STAR INT'L CO.,LTD

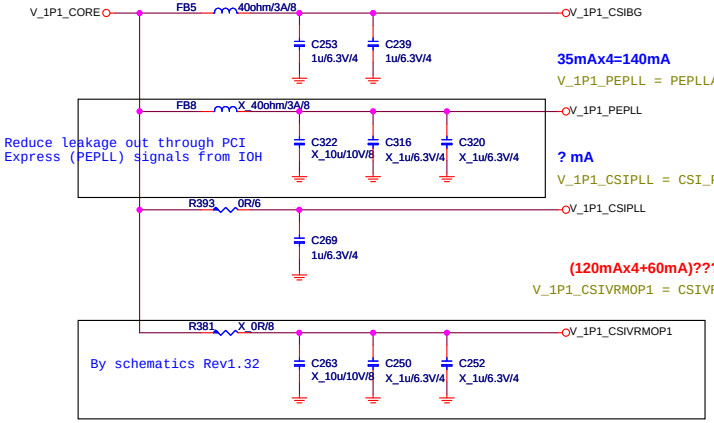
MS-7593

Size	Document Description	Rev
Custom	IOH 36S-POWER , VSS	1.0

Date: Monday, March 02, 2009 Sheet 17 of 52

V_1P1_CORE REPLACE WITH V_1P1_VCCA

0.7A???



10mAx2=20mA

V_1P1_CSIBG = CSIBG_RX+CSIBG_TX

35mAx4=140mA

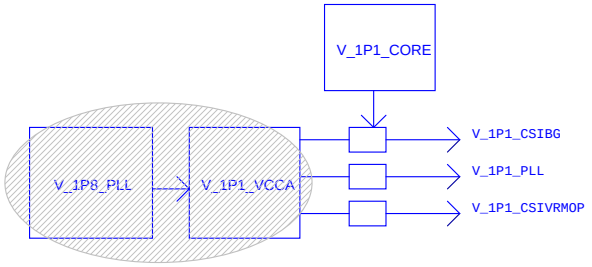
V_1P1_PEPLL = PEPLLA+PEPLLD

? mA

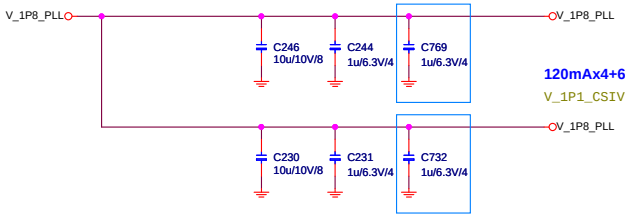
V_1P1_CSIPLL = CSI_PLL

(120mAx4+60mA)???=0.54A ??????

V_1P1_CSIVRMOP1 = CSIVRMOP_RX[1:4]+CSIVRMOP_TX1



1.08A

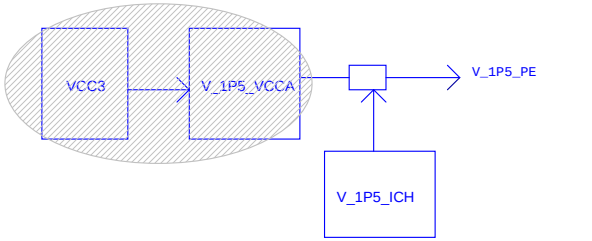


120mAx4+60mA=0.54A

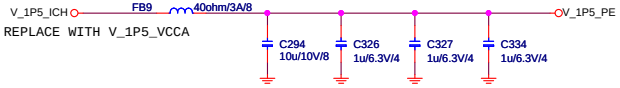
V_1P1_CSIVRM_1 = CSIVRM_RX_1+CSIVRM1_TX_1

120mAx4+60mA=0.54A

V_1P1_CSIVRM_2 = CSIVRM_RX_2+CSIVRM1_TX_2



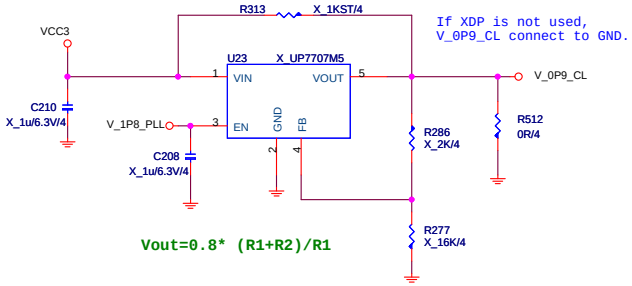
186.3mA+?



V_1P5_ICH REPLACE WITH V_1P5_VCCA

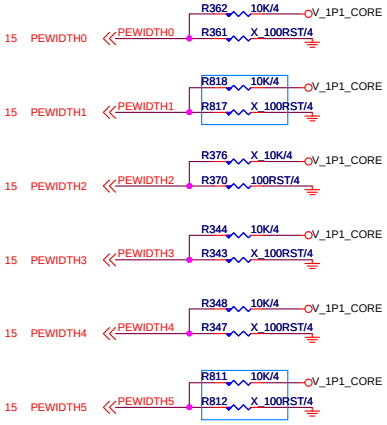
92mAx2+1.15mAx2+?=186.3mA+?

V_1P5_PE = PEVRM+PEBG0+PEBG1+VCCTS

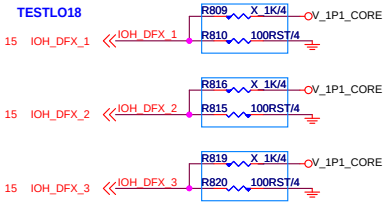


MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: IOH 36S-ANALOG FILTER	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 18 of 52	

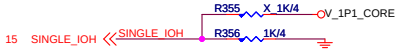
PEWIDTH0~5
PCIE Link Width Select
"110110" X2, X2, X16, X16
"111011" = 2x16
"101111" = 4x8
"011111" = Wait On Bios



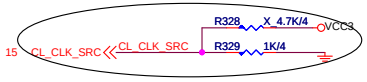
IOH_DFX_[2 , 3]
DDR frequency selection pins:
DDRFREQ[3:2] as DDR frequency selection defined as:
"00" = 133MHz input, 200MHz core
"01" = 100 MHz input, 200MHz core
"10" = RSVD
"11" = RSVD



SINGLE_IOH
Used for dual TBG IOH selection:
"0": IOH is not connected to another IOH on some CSI link (default)
"1": IOH is connected to another IOH on some CSI link

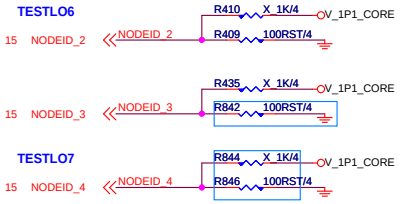


CL_CLK_SRC
Used for ME default clock source:
'1': PLL (default)
'0': Ring Oscillator (back-up)

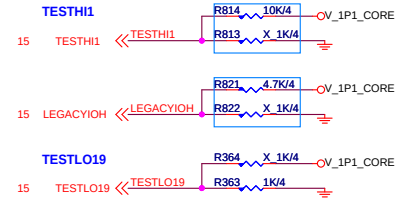


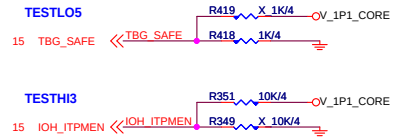
NON-ME FUNCTION ?

NODEID_3_TBG
For dual TBG IOH configuration,
it indicates which CSI port is connected
to the other IOH.
"0": CSI0
"1": CSI1



LEGACYIOH
Used to determine legacy or non-legacy selection:
"1": Legacy IOH
"0": Non-legacy IOH



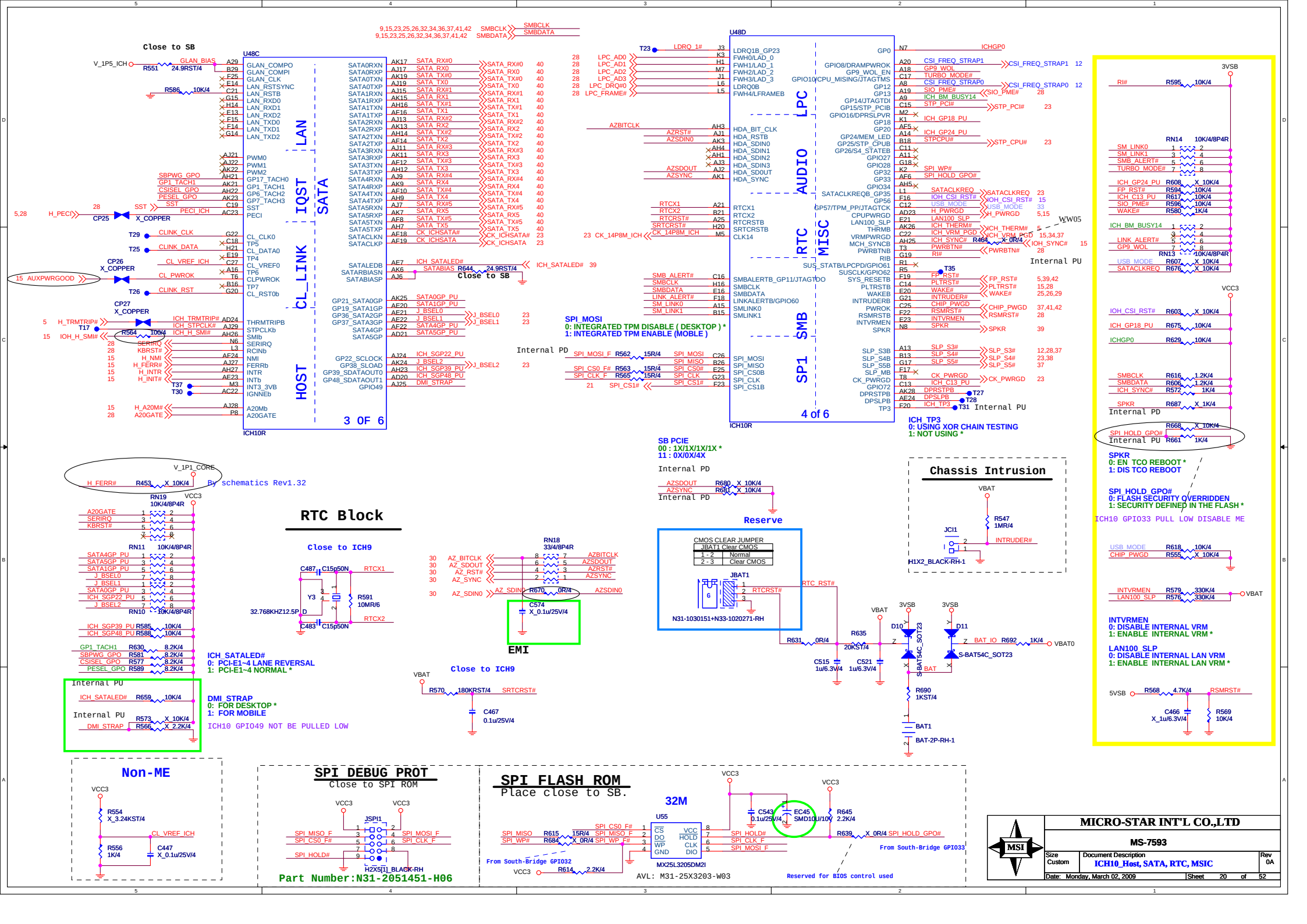


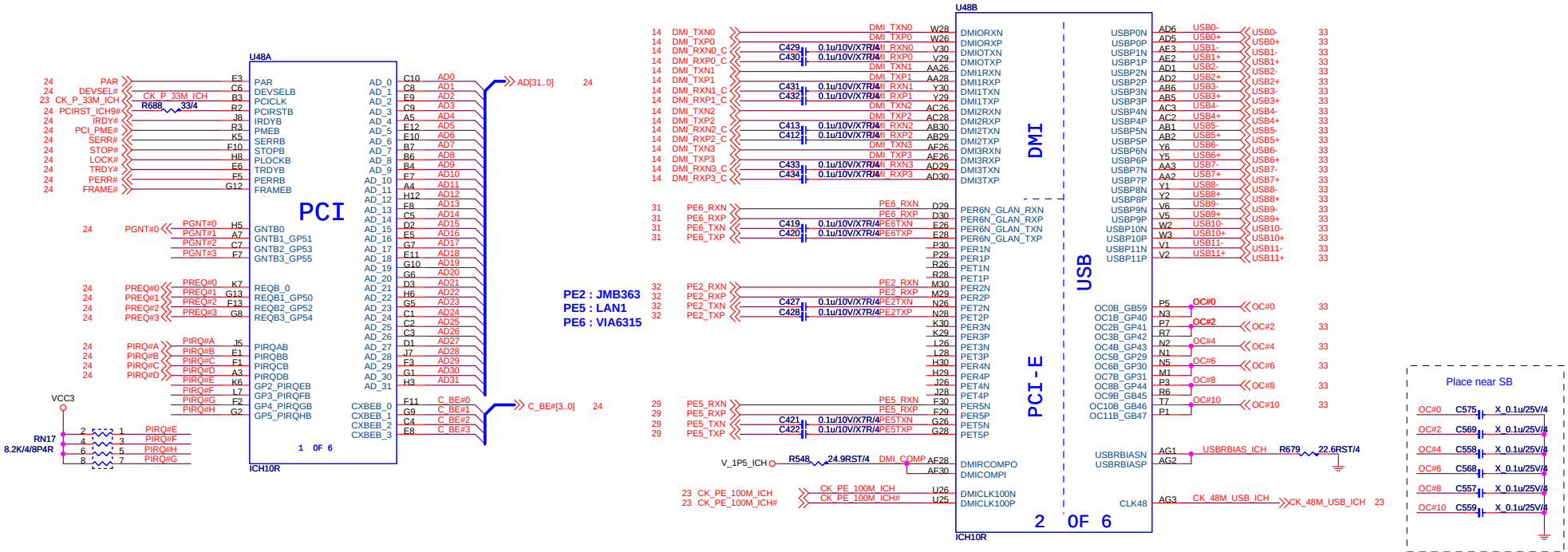
MICRO-STAR INT'L CO.,LTD

MS-7593

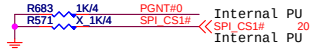
Size	Document Description	Rev
Custom	IOH 36S-STRAP	1.0

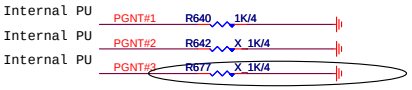
Date: Monday, March 02, 2009 Sheet 19 of 52


Close to SB
U48C
LAN
IQST
SATA
CL_LINK
HOST
3 OF 6
ICH10R
U48D
LPC
AUDIO
RTC
MISC
SMB
SP1
4 of 6
ICH10R
SPI_MOSI
0: INTEGRATED TPM DISABLE (DESKTOP) *
1: INTEGRATED TPM ENABLE (MOBLE)
Internal PD
Internal PU
SB PCIE
00 : 1X/1X/1X/1X *
11 : 0X/0X/4X
Reserve
Chassis Intrusion
ICH_TP3
0: USING XOR CHAIN TESTING
1: NOT USING *
SPKR
0: EN TCO REBOOT *
1: DIS TCO REBOOT
SPI_HOLD_GPO#
0: FLASH SECURITY OVERRIDDEN
1: SECURITY DEFINED IN THE FLASH *
ICH10 GPIO33 PULL LOW DISABLE ME
INTVRMEN
0: DISABLE INTERNAL VRM
1: ENABLE INTERNAL VRM *
LAN100_SLP
0: DISABLE INTERNAL LAN VRM
1: ENABLE INTERNAL LAN VRM *
By schematics Rev1.32
RTC Block
Close to ICH9
EMI
ICH_SATALED#
0: PCI-E1~4 LANE REVERSAL
1: PCI-E1~4 NORMAL *
DMI_STRAP
0: FOR DESKTOP *
1: FOR MOBILE
ICH10 GPIO49 NOT BE PULLED LOW
Non-ME
SPI DEBUG PROT
Close to SPI ROM
Part Number:N31-2051451-H06
SPI FLASH ROM
Place close to SB.
32M
MX25L3205DM2I
AVL: M31-25X3203-W03
From South-Bridge GPIO32
From South-Bridge GPIO33
Reserved for BIOS control used
MICRO-STAR INT'L CO.,LTD
MS-7593
ICH10_Host, SATA, RTC, MSIC
Monday, March 02, 2009
Sheet 20 of 52



SB STRAPPING RESISTOR





BOOT SELECT STRAPS		
BOOT DEVICE	GNT#0	SPI_CS1#
LPC	1	1
SPI	0	1
PCI	1	0

SIGNAL	H	L	DES.
GNT3	DIS	EN	A16 OVERIDE
GNT2	N/A	SET BIT	PCIE PORT CONFIG 2 BIT 0 (5-6)
GNT1	DC	AC	DMI AC/DC MODE 0 : AC 1 : DC

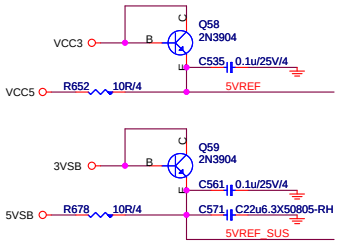
MICRO-STAR INT'L CO.,LTD

MS-7593

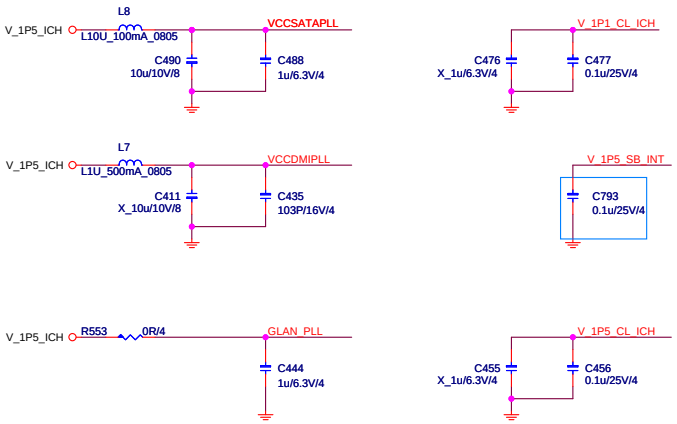
Size	Document Description	Rev
Custom	ICH10_PCI, USB, DMI, PCIE x1	1.0

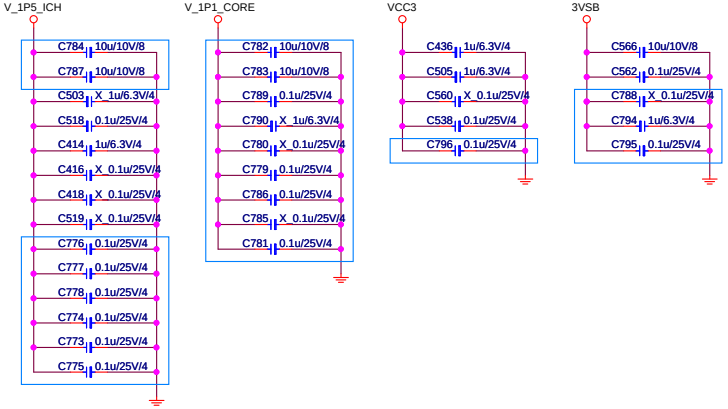
Date: Monday, March 02, 2009 Sheet 21 of 52

5VREF & 5VREF_SUS Sequencing Circuit

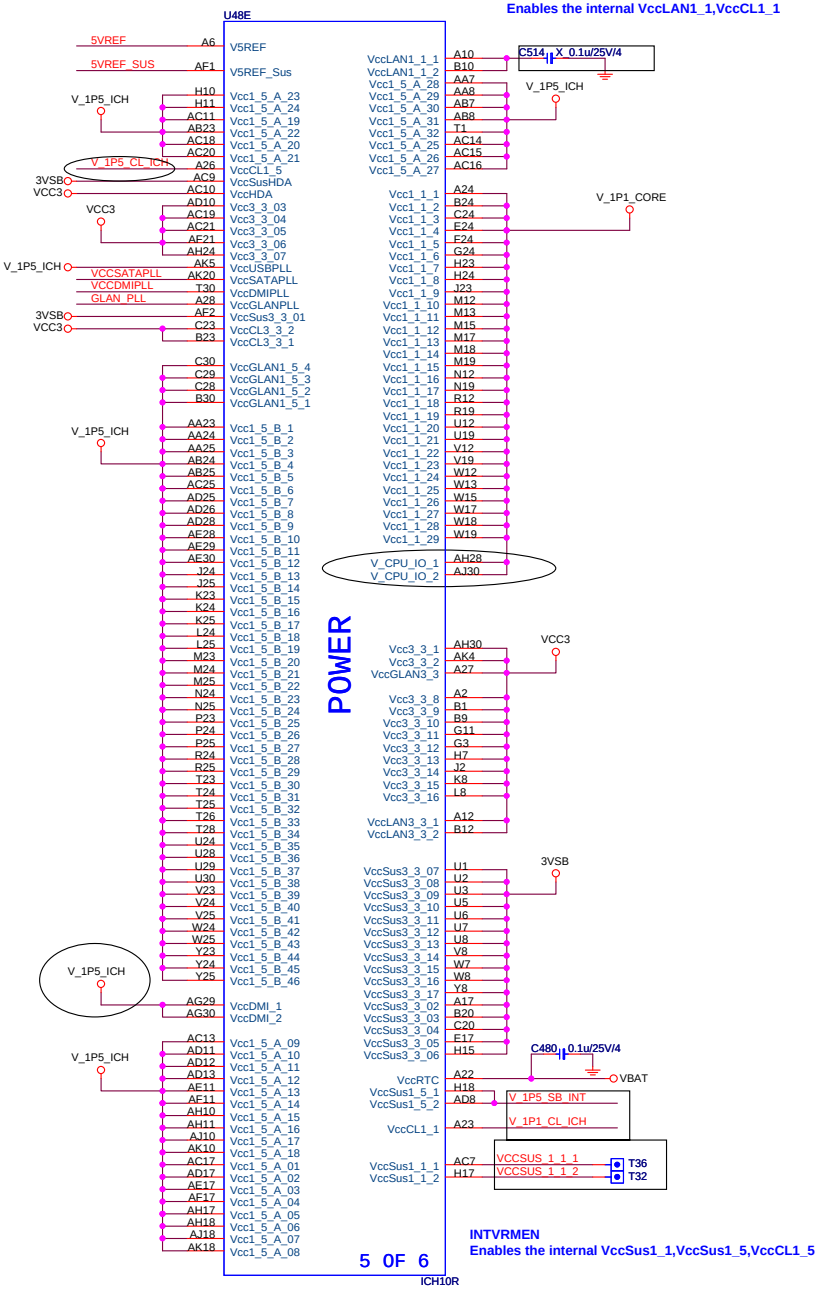


SB POWER

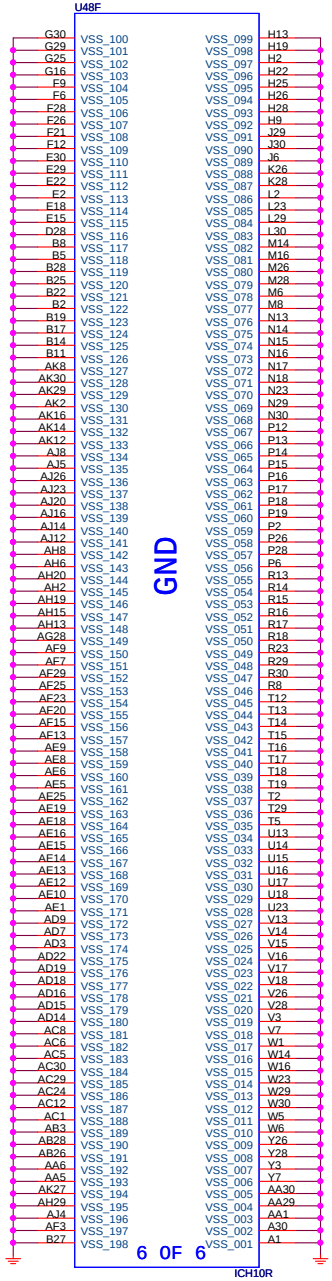




LAN100_SLP
Enables the internal VccLAN1_1,VccCL1_1



INTVRMEN
Enables the internal VccSus1_1,VccSus1_5,VccCL1_5



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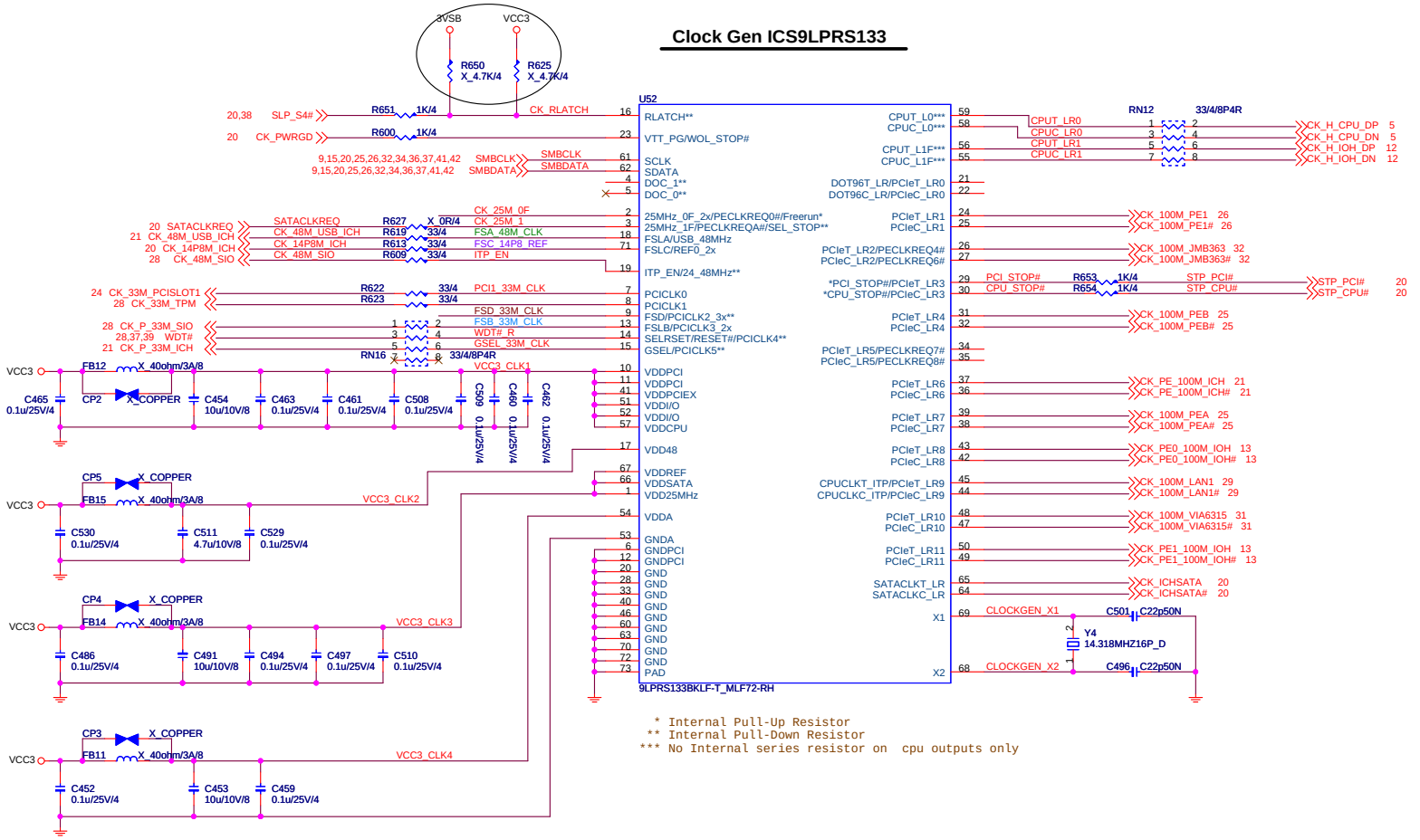
MS-7593		
Size: Custom	Document Description: ICH10_Power, GND	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 22 of 52	

Clock Gen ICS9LPRS133



* Internal Pull-Up Resistor
** Internal Pull-Down Resistor
*** No Internal series resistor on cpu outputs only

CLOCK GEN STRAPING

0 : Pin21/22 100MHz *
1 : Pin21/22 96MHz
GSEL_33M_CLK R649 4.7K/4
Internal pull down

0 : PCICLK4
1 : RESET *
WDT# R R648 4.7K/4 VCC3
Internal pull down

0 : PCIEX9 *
1 : CPU_ITP
ITP_EN R610 4.7K/4
Internal pull down

1 : 25MHz freerun function
CK_25M_0F R646 X 4.7K/4 VCC3
R636 X 4.7K/4
Internal pull up

1 = Selects pin 29/30 to be PCI_STOP#/CPU_STOP#
0 = Selects pin 29/30 to be PCI_E CLK

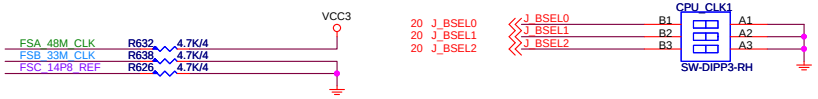
CK_25M_1 R647 4.7K/4 VCC3
Internal pull down

For ICS CPU/DIV SEL
0 : FSLD BIT3 =0 *
1 : FSLD BIT3 =1
FSD_33M_CLK R637 4.7K/4
Internal pull up

CK_14P8M_ICH C524 10P/50V/4
CK_33M_PCISLOT1 C525 X_10P/50V/4
CK_P_33M_SIO C536 10P/50V/4
CK_P_33M_ICH C528 X_10P/50V/4
CK_33M_TPM C527 10P/50V/4
CK_48M_USB_ICH C507 X_10P/50V/4
CK_48M_SIO C502 X_10P/50V/4

Default 0 0 1 133 MHz
JB3 1-2 PIN 1
JB2 2-3 PIN 0
JB1 2-3 PIN 0

BSEL			TABLE
2	1	0	FSB FREQUENCY
0	0	0	266 MHz
0	0	1	133 MHz (default)
0	1	0	200 MHz
0	1	1	166 MHz
1	0	0	333 MHZ
1	0	1	100 MHZ
1	1	0	400 MHZ
1	1	1	200 MHZ



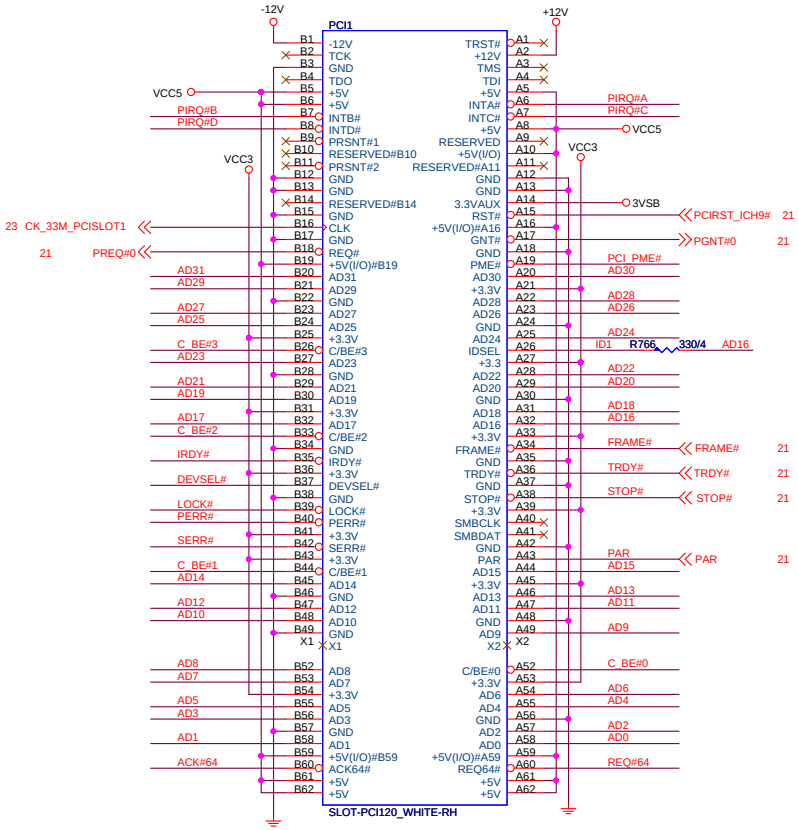
MICRO-STAR INT'L CO.,LTD

MS-7593

Size	Document Description	Rev
Custom	Clock Gen ICS9LPRS133	1.0

Date: Monday, March 02, 2009 Sheet 23 of 52

PCI SLOT 1 (PCI VER: 2.2 COMPLY)

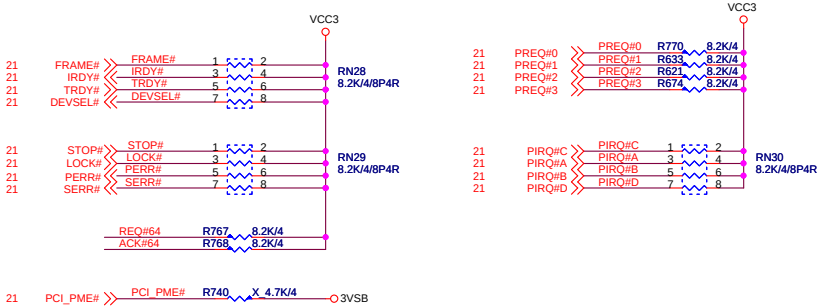


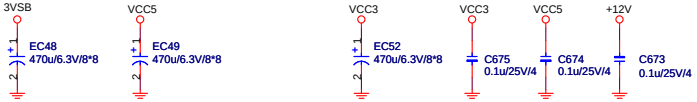
21 AD[31..0] AD[31..0]

21 C_BE#[3..0] C_BE#[3..0]

IDSEL = AD16
MASTER = PREQ#0
PGNT#0

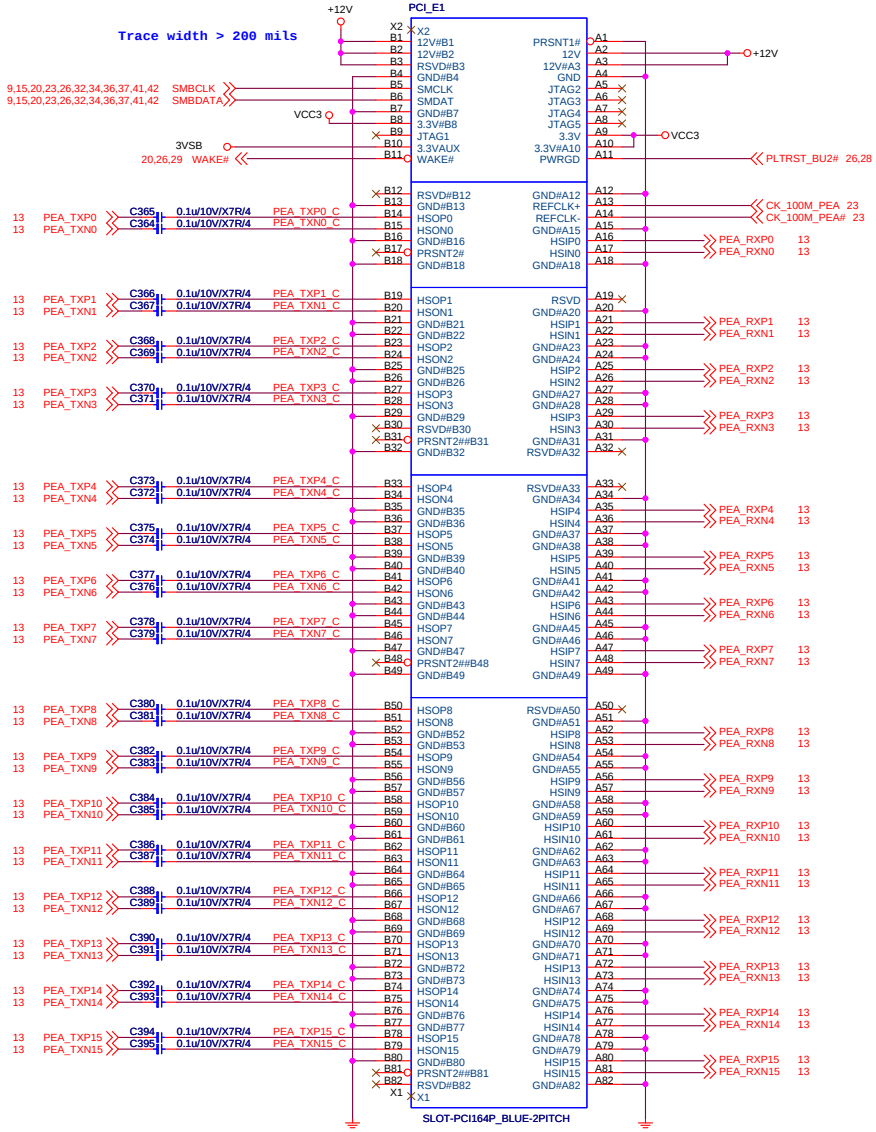
PCI PULL-UP / DOWN RESISTORS

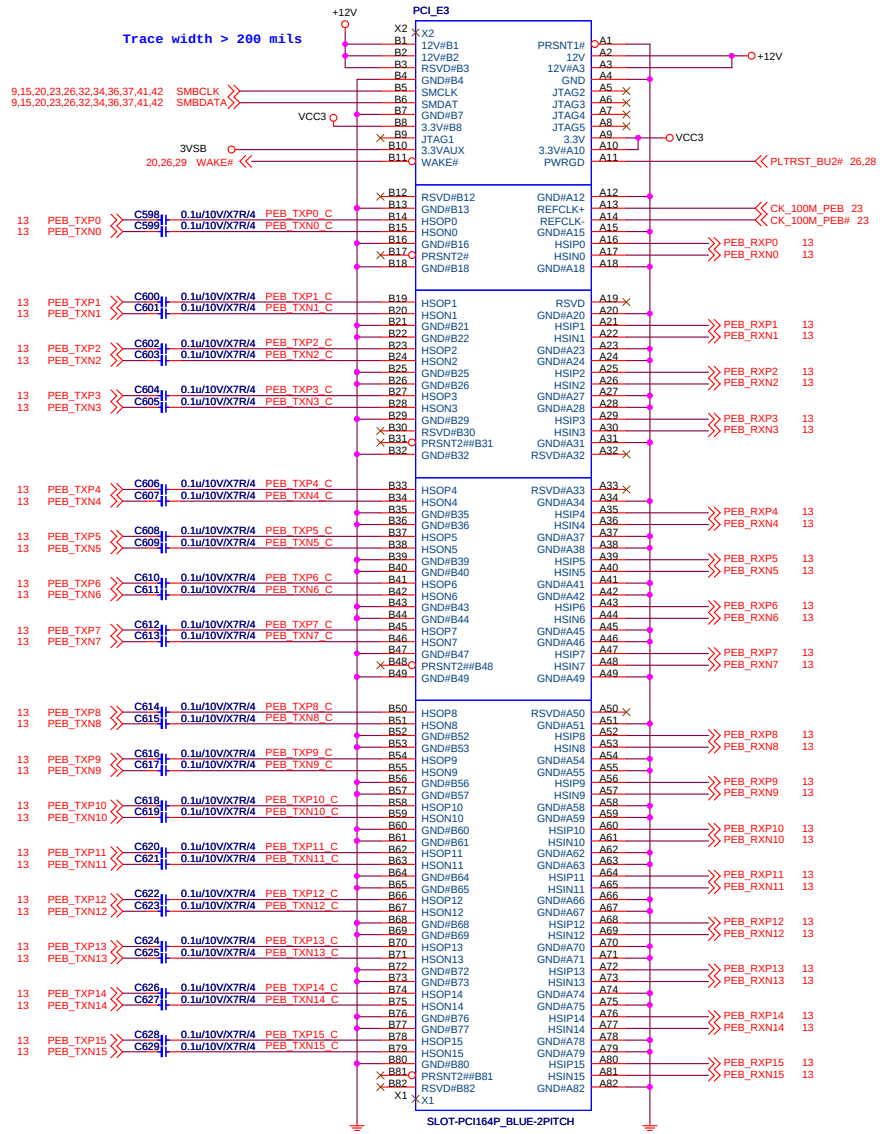


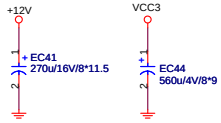


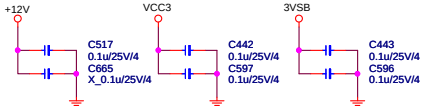
MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: PCI SLOT1 , 2	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 24 of 52	

PCI_Express X16 SLOT1,2









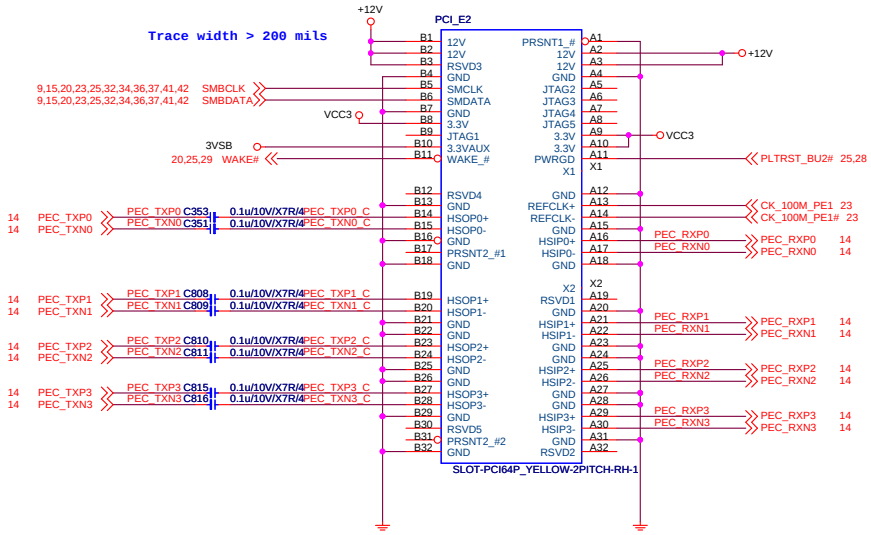
MICRO-STAR INT'L CO.,LTD

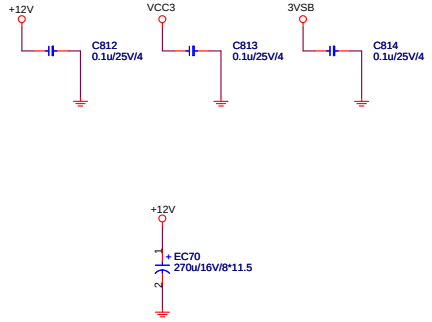
MS-7593

Size	Document Description	Rev
Custom	PCI-E X16 SLOT1 , 2	1.0

Date: Monday, March 02, 2009 Sheet 25 of 52

PCI_Express X4 SLOT3





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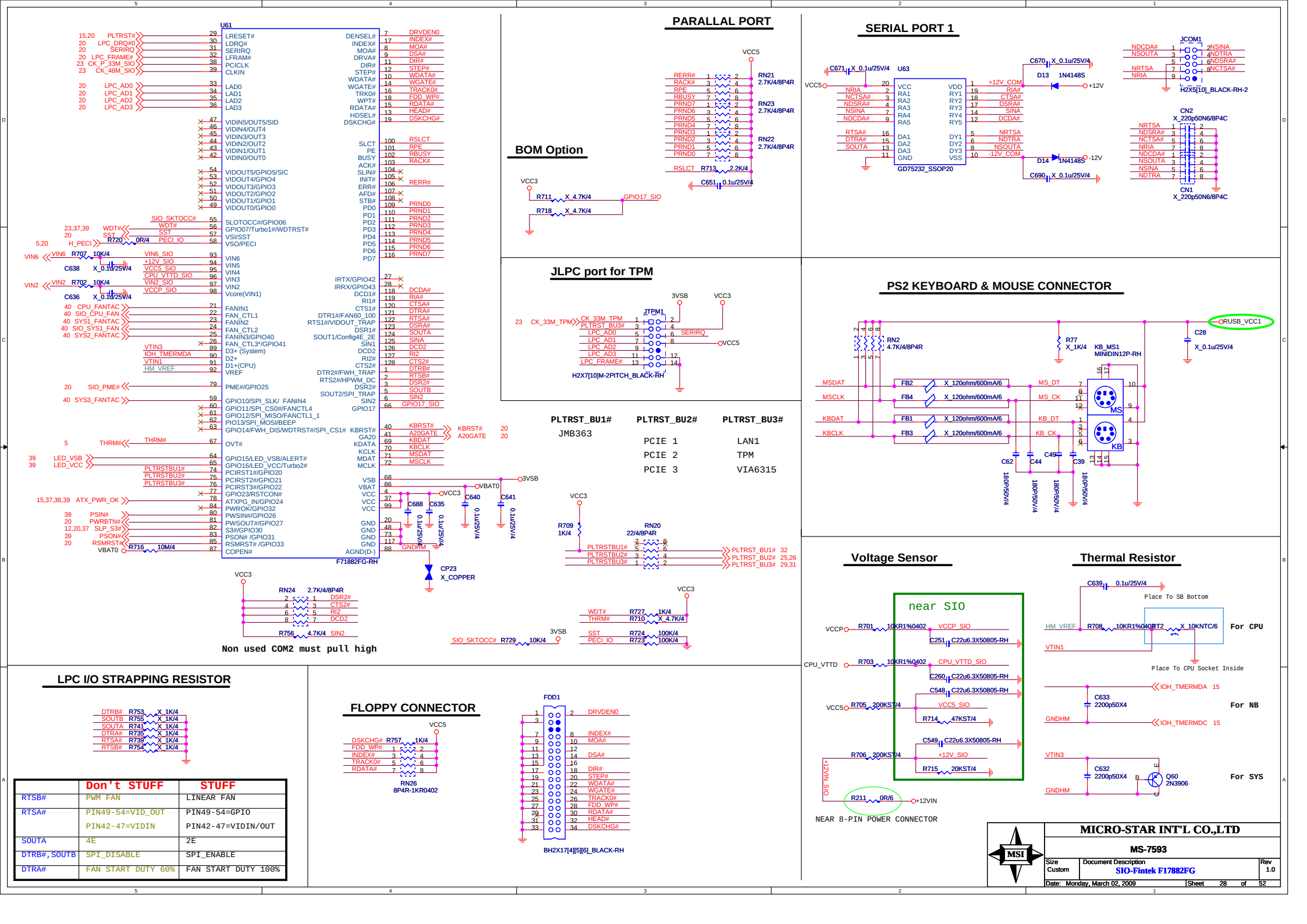
MS-7593		
Size: Custom	Document Description: PCI-E X16 SLOT1 , 2	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 26 of 52	



	Don't STUFF	STUFF
RTSB#	PWM FAN	LINEAR FAN
RTSA#	PIN49-54=VID_OUT PIN42-47=VIDIN	PIN49-54=GPIO PIN42-47=VIDIN/OUT
SOUTA	4E	2E
DTRB#,SOUTB	SPI_DISABLE	SPI_ENABLE
DTRA#	FAN START DUTY 60%	FAN START DUTY 100%

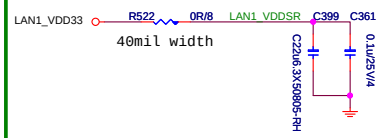
MICRO-STAR INT'L CO.,LTD

MS-7593

Size	Document Description	Rev
Custom	SIO-Fintek F17882FG	1.0

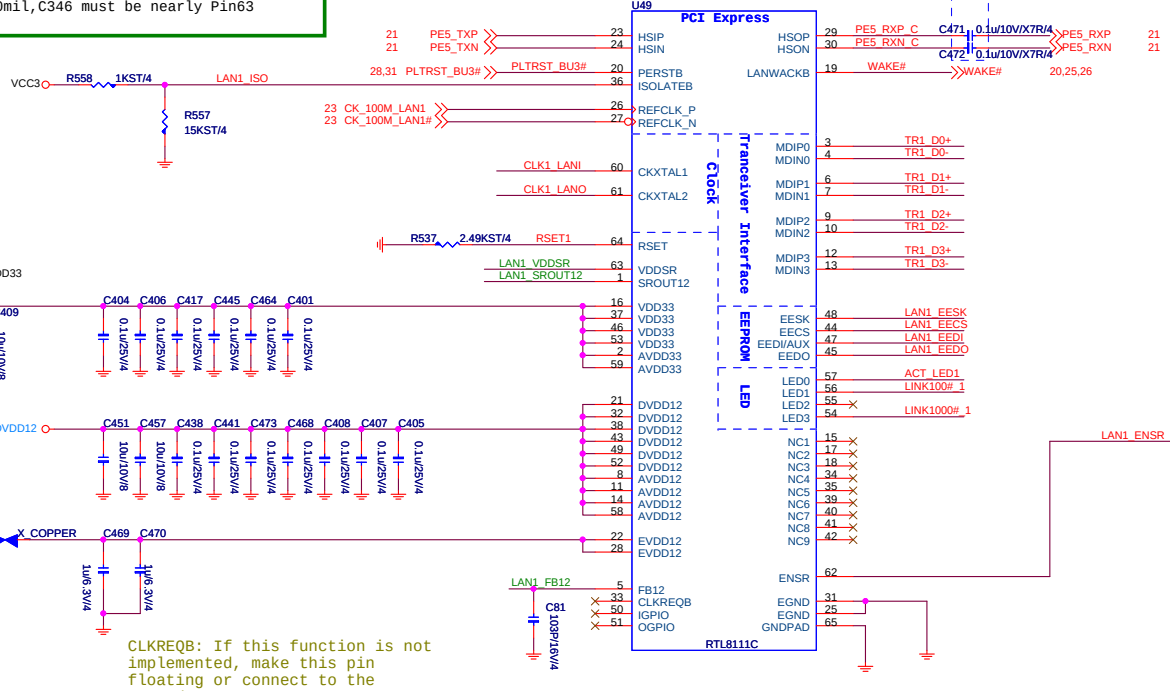
Date: Monday, March 02, 2009 Sheet 28 of 52

For the power pin of the switching regulator,
Disable switching regulator: Remove R27, C20, C21

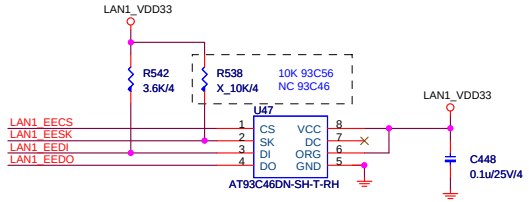


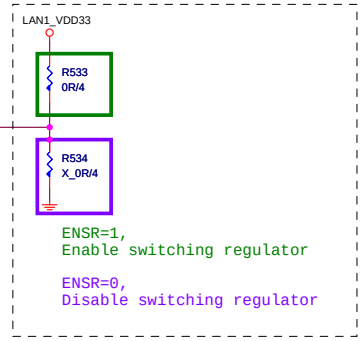
C657 C346 near Pin63 200mil,C346 must be nearly Pin63

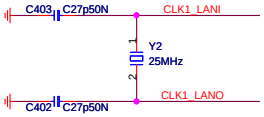
close to lan



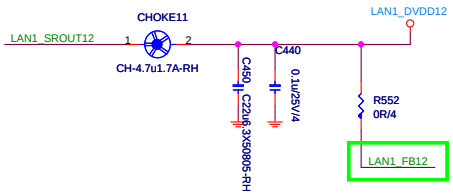
CLKREQB: If this function is not implemented, make this pin floating or connect to the ground.



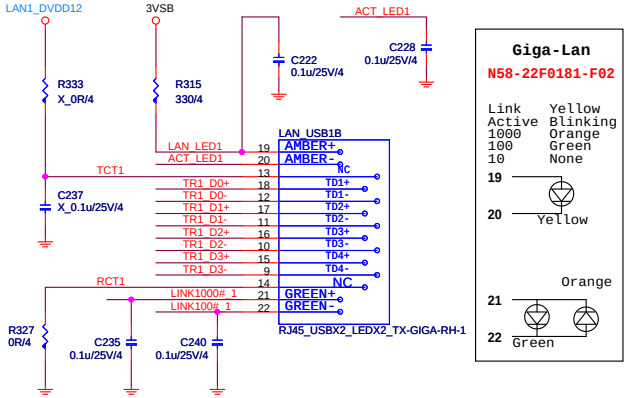




Choke C656 C345 near Pin1 200mil



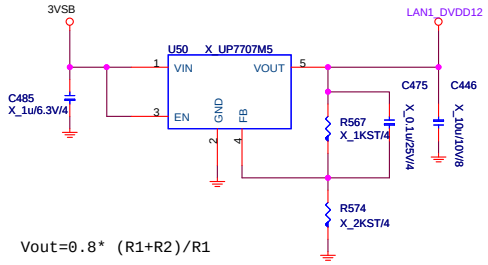
"FB12": A trace front CHOKE to RTL8111C pin5



Giga-Lan
N58-22F0181-F02

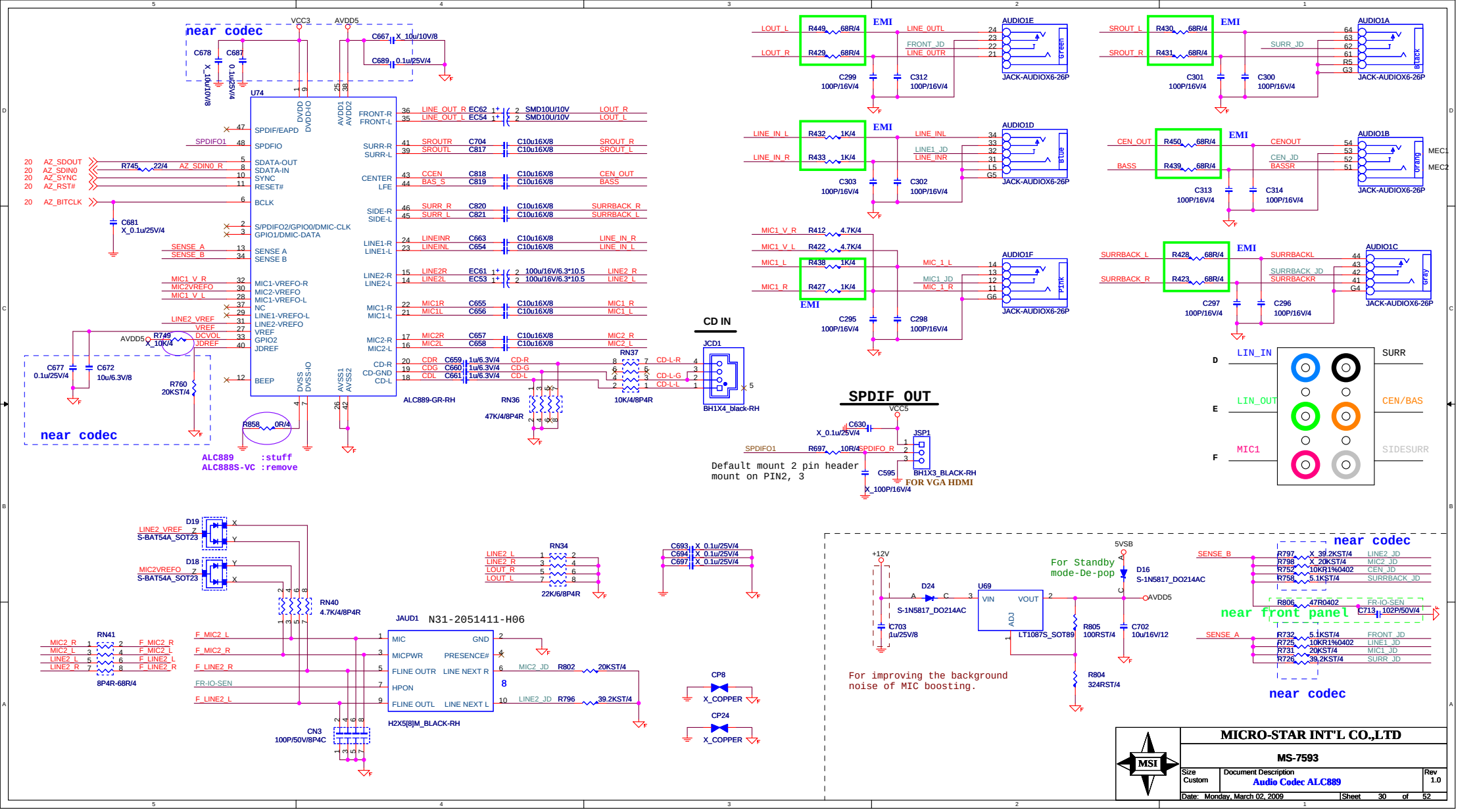
Link	Yellow
Active	Blinking
1000	Orange
100	Green
10	None

8111C switching regulator disabled

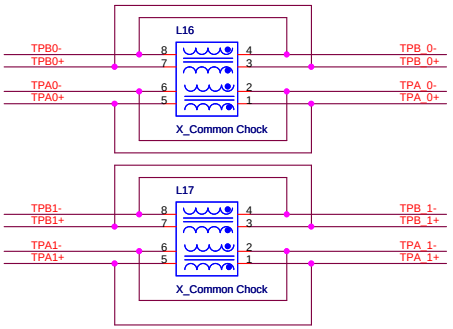


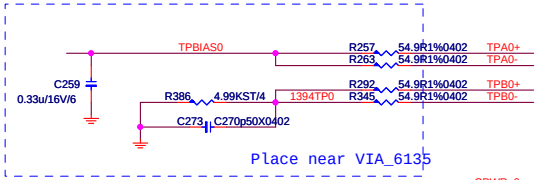
Vout=0.8* (R1+R2)/R1

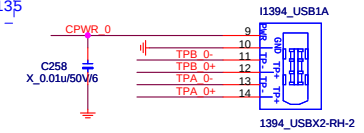
MICRO-STAR INT'L CO.,LTD			
MS-7593			
Size: Custom	Document Description: LAN - RTL8111C		Rev: 1.0
Date: Monday, March 02, 2009		Sheet 29 of 52	

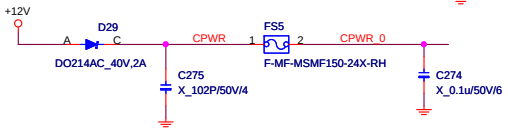

near codec
U74
ALC889-GR-RH
ALC889 :stuff
ALC888S-VC :remove
CD IN
JCD1
BH1X4_black-RH
SPDIF OUT
JSP1
BH1X3_BLACK-RH
FOR VGA HDMI
Default mount 2 pin header
mount on PIN2, 3
JACK-AUDIOX6-26P
LIN_IN
LIN_OUT
MIC1
SURR
CEN/BAS
SIDESURR
JAUD1 N31-2051411-H06
H2X5[8]M_BLACK-RH
For improving the background
noise of MIC boosting.
For Standby
mode-De-pop
near front panel
MICRO-STAR INT'L CO.,LTD
MS-7593
Audio Codec ALC889
Date: Monday, March 02, 2009
Sheet 30 of 52

Rear 1394 port

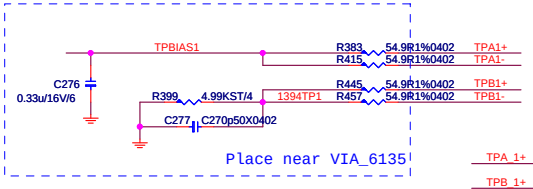


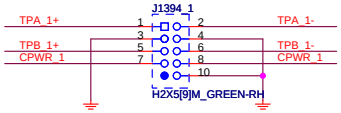


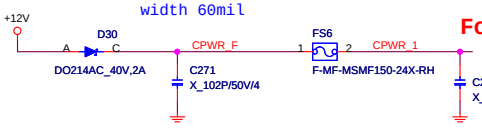




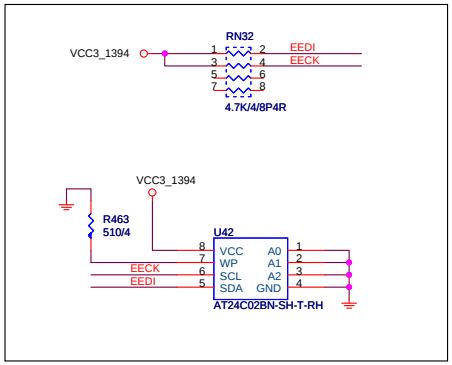
Front 1394 pin header

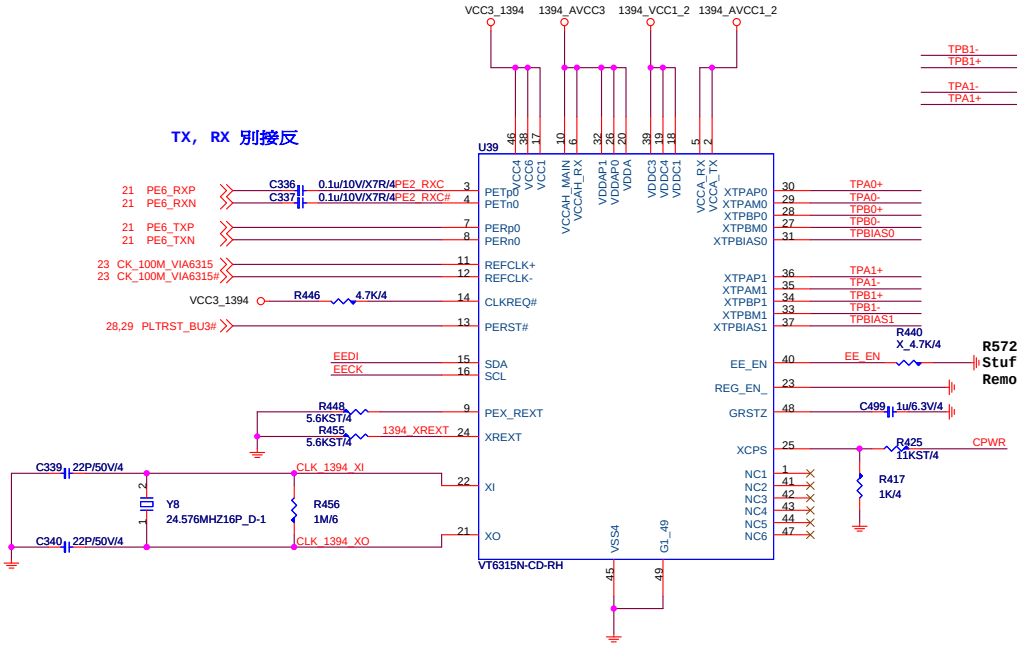


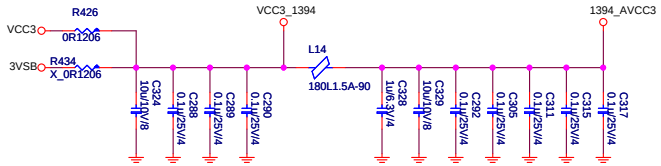




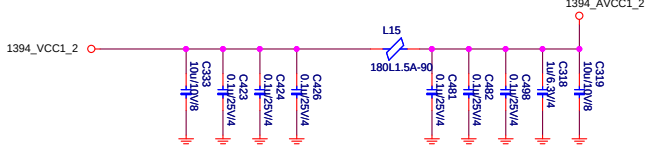
For Intel 1394 pinheader





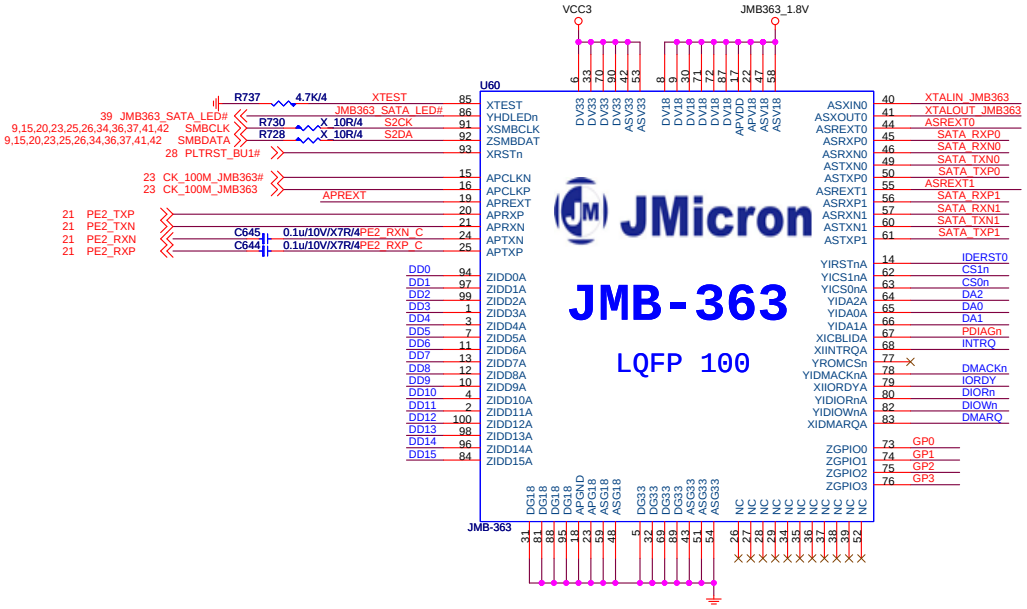


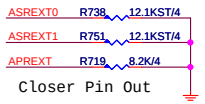
close to chip of all Cap.

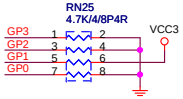


close to chip of all Cap.

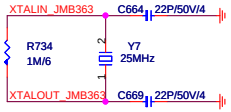
MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: 1394 Controller - VIA6315	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 31 of 52	

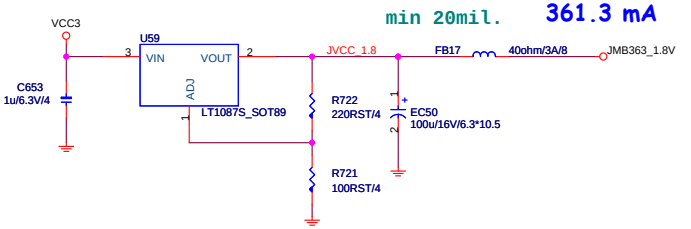


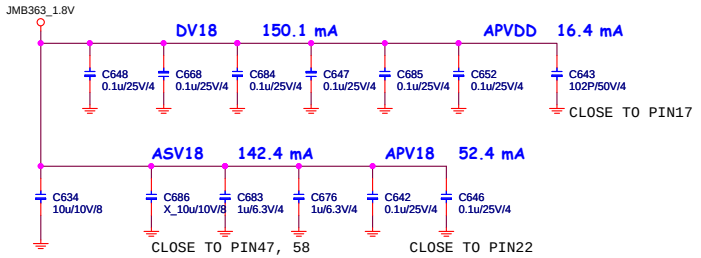


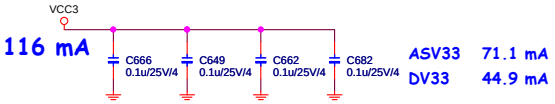


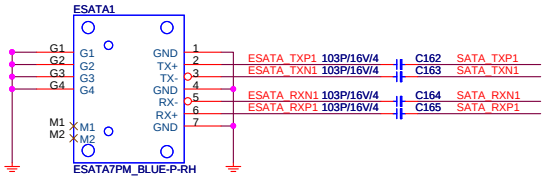
XTAL: 50ppm is recommand.
8mil

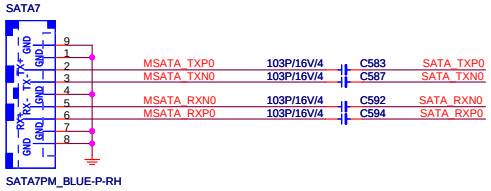




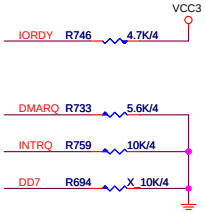


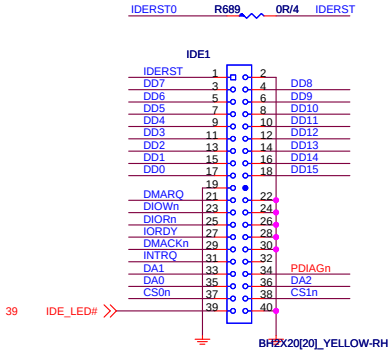






1P

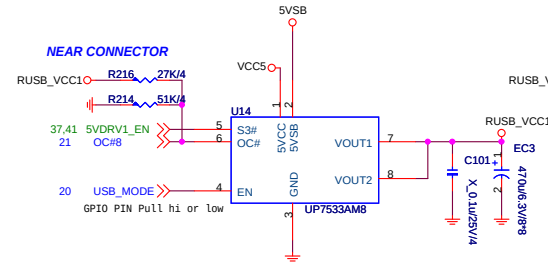




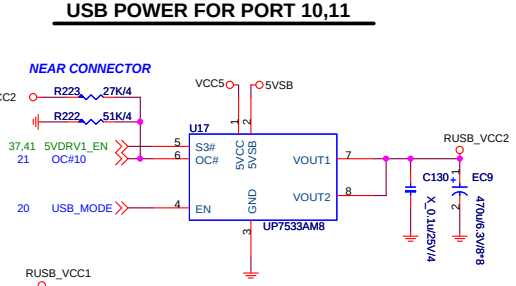
if the length of JMB-363 to IDE connector more than 4inch, that must stuff dampping resistor.

MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: JMB363 - SATA x2/ IDE x1	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 32 of 52	

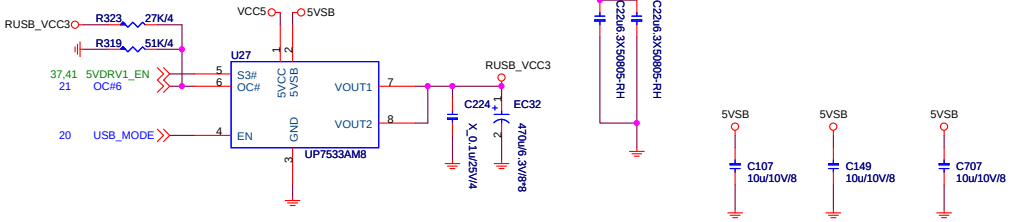
USB POWER FOR PORT 8,9



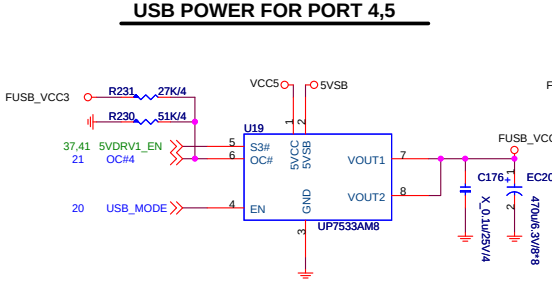
USB POWER FOR PORT 10,11



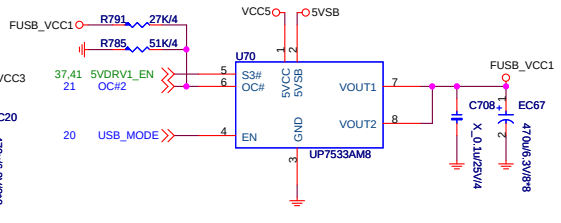
USB POWER FOR PORT 6,7



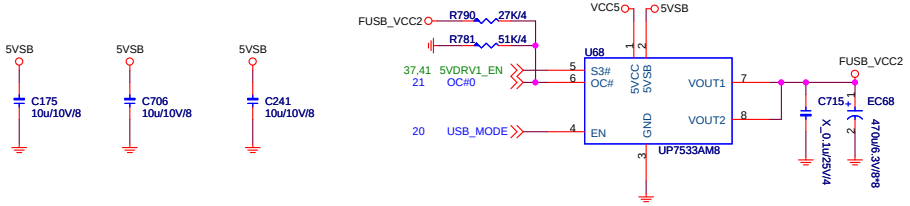
USB POWER FOR PORT 4,5



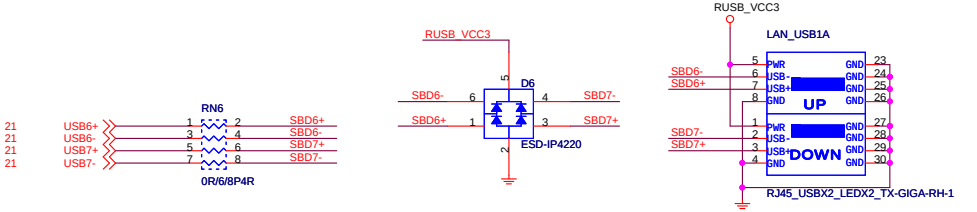
USB POWER FOR PORT 2,3



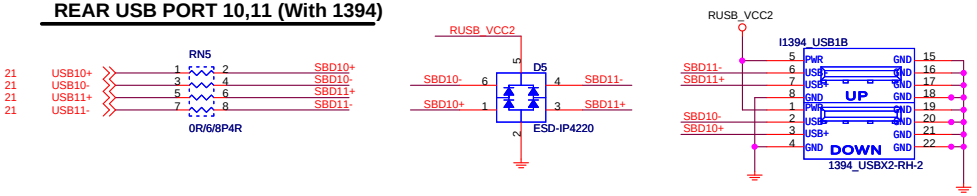
USB POWER FOR PORT 0,1



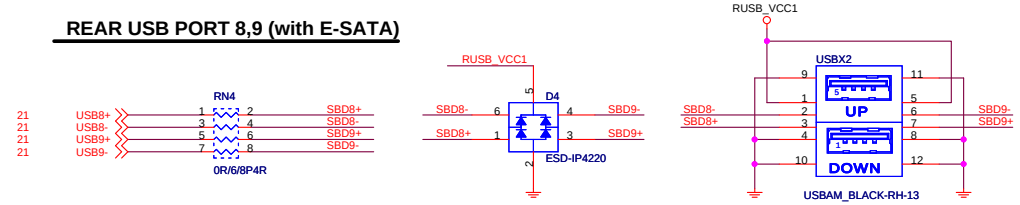
REAR USB PORT 6,7 (With LAN)



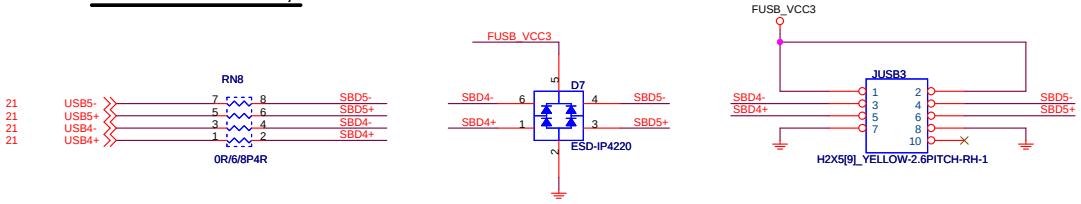
REAR USB PORT 10,11 (With 1394)



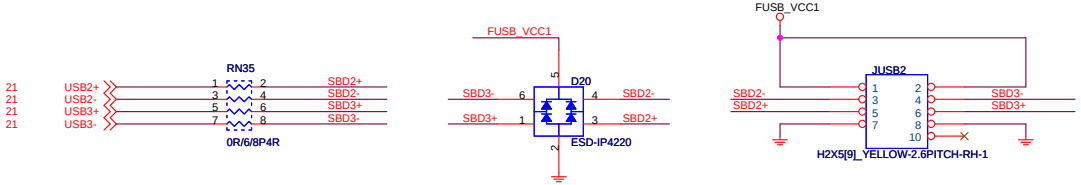
REAR USB PORT 8,9 (with E-SATA)



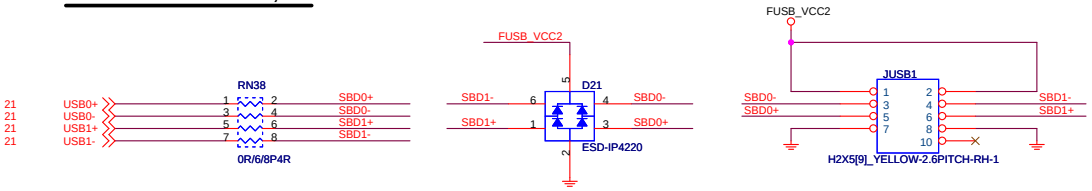
FRONT USB PORT 4,5



FRONT USB PORT 2,3



FRONT USB PORT 0,1



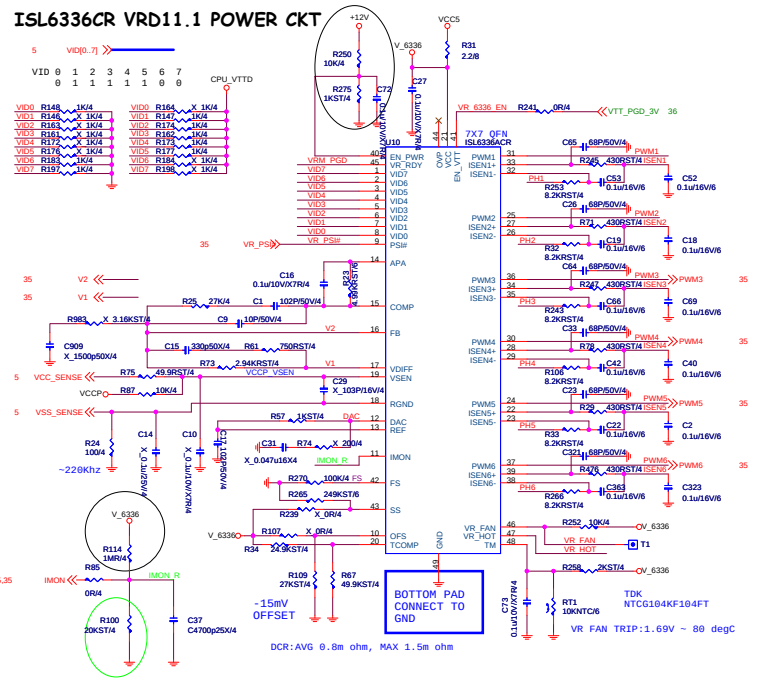
MICRO-STAR INT'L CO.,LTD

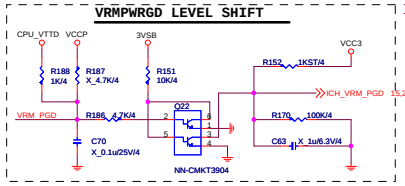
MS-7593

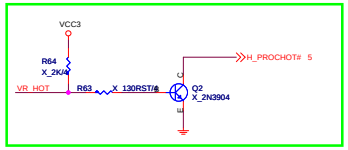
Size	Document Description	Rev
Custom	USB Connector	1.0

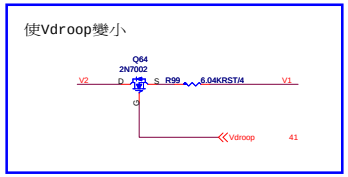
Date: Monday, March 02, 2009 Sheet 33 of 52

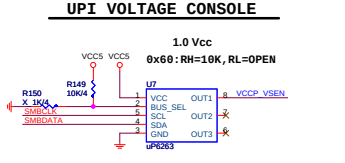
ISL6336CR VRD11.1 POWER CKT

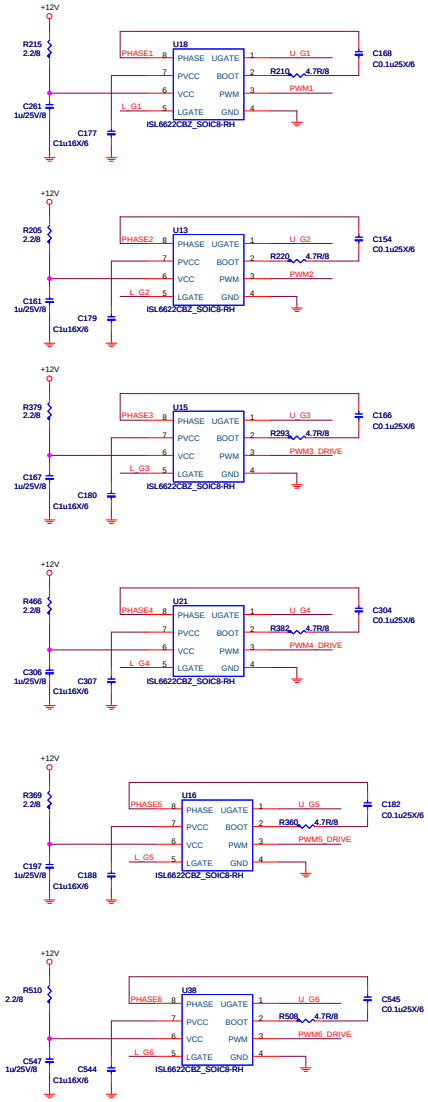


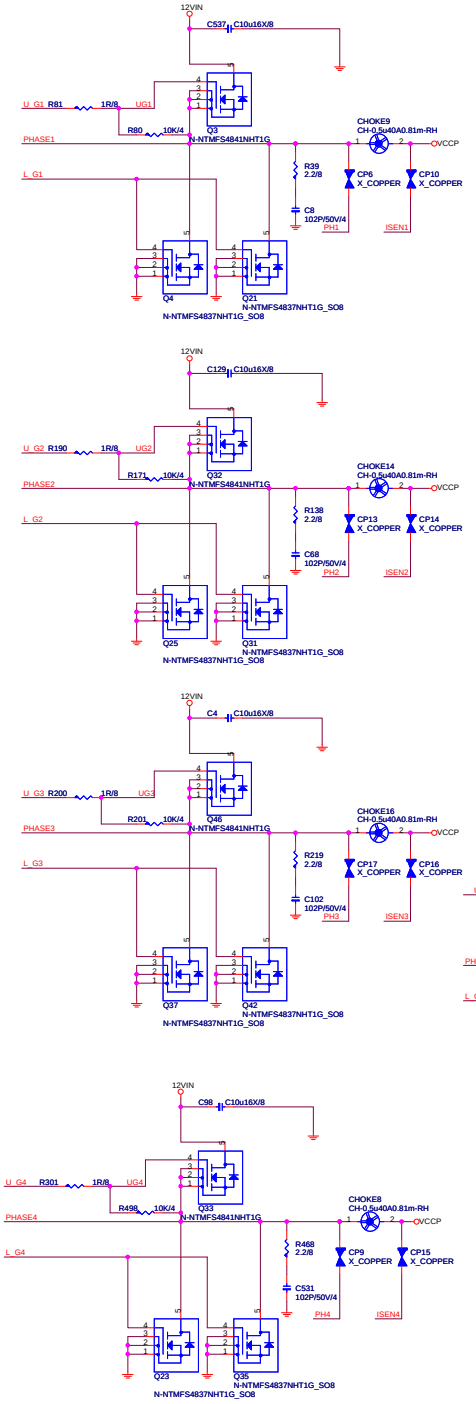


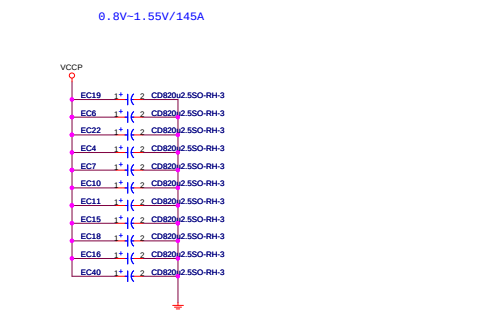


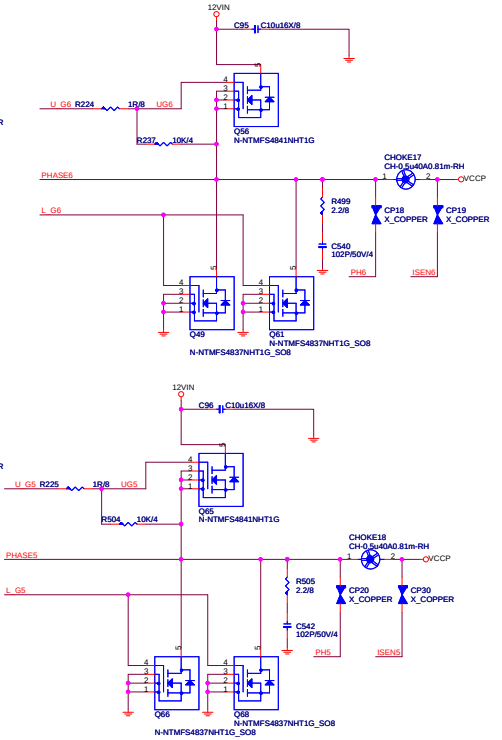












VR HOT TRIP:1.44V ~ 90 degC

MSI	MICRO-STAR INT'L CO.,LTD	
	MS-7593	
Size: Custom	Document Description: VRD11.1 - ISL6336 6-Phase	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 34 of 52	

Phase adjustment by loading

TABLE 1. PHASE DROPPING BEHAVIOR

	PSI#	FS	SS
Non-CI or (n-1)-CI Drops to 1-Phase	0	0	0
Non-CI or (n-2)-CI Drops to 2-Phase	0	0	1
2-Phase CI Drops to 1-Phase	0	1	0
2-Phase CI Drops to 2-Phase	0	1	1
Normal	1	x	x

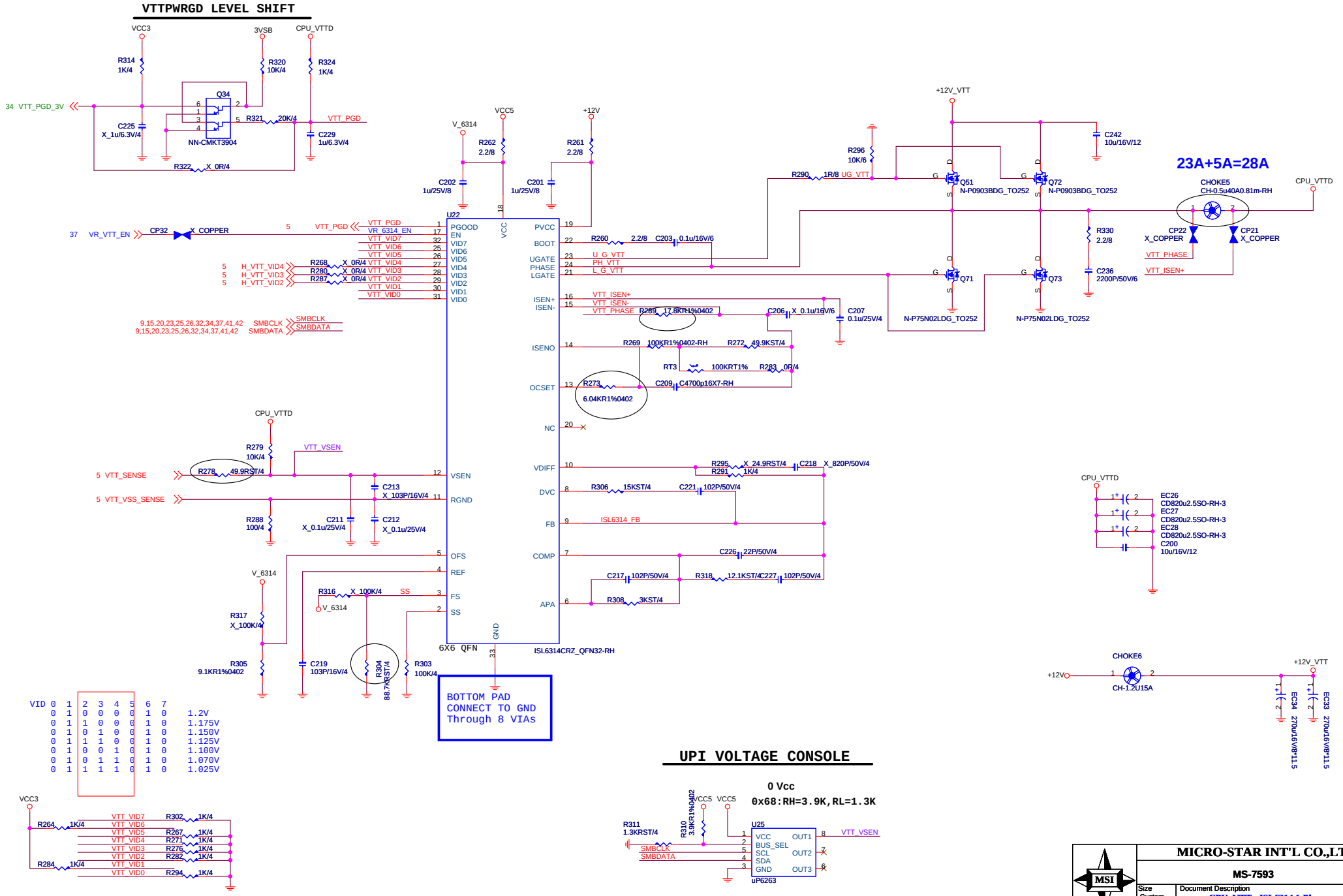
BY POWER TEAM ADJUST IMON

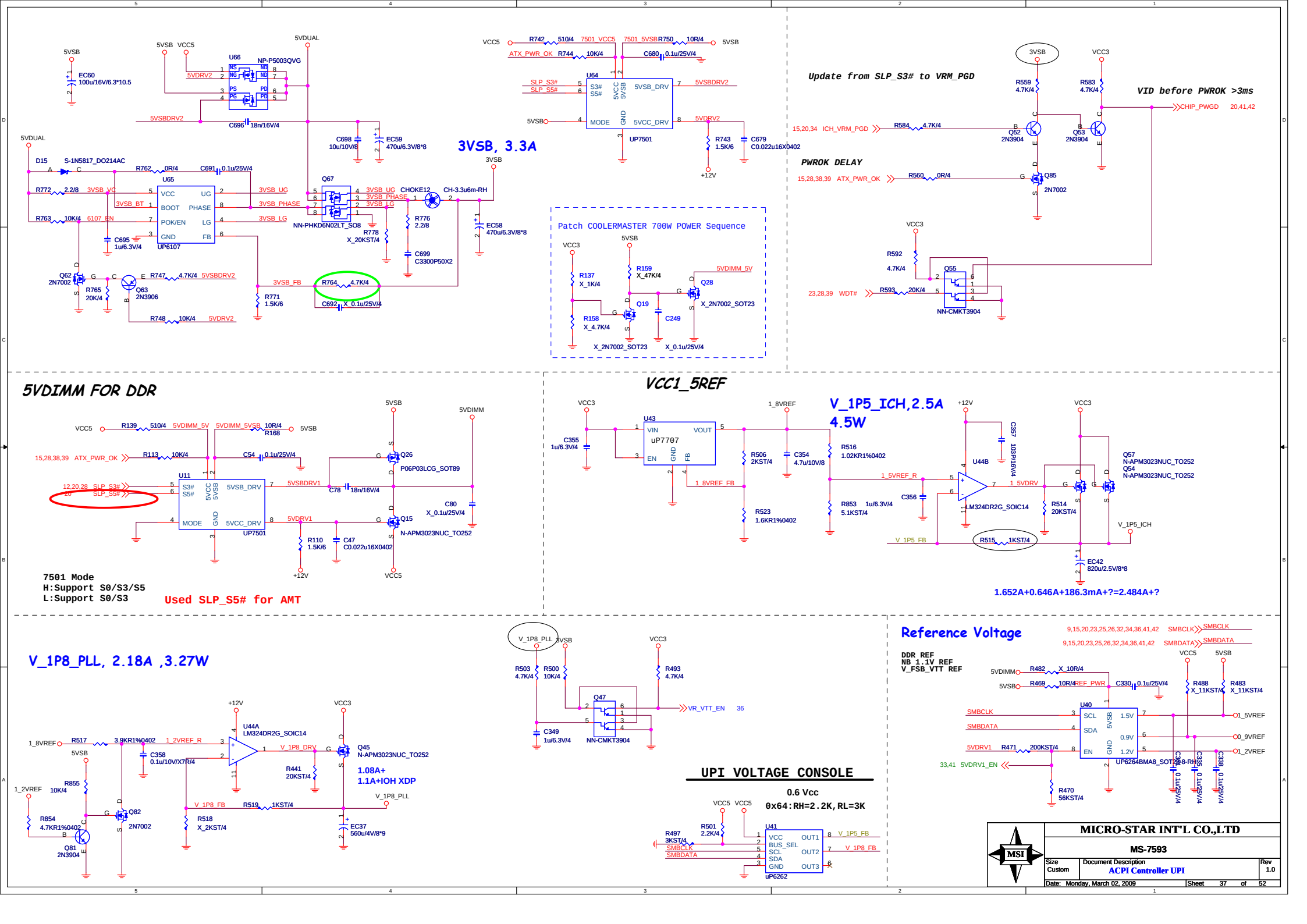
Power Wattage Monitor

CPU +12VIN POWER CONN.

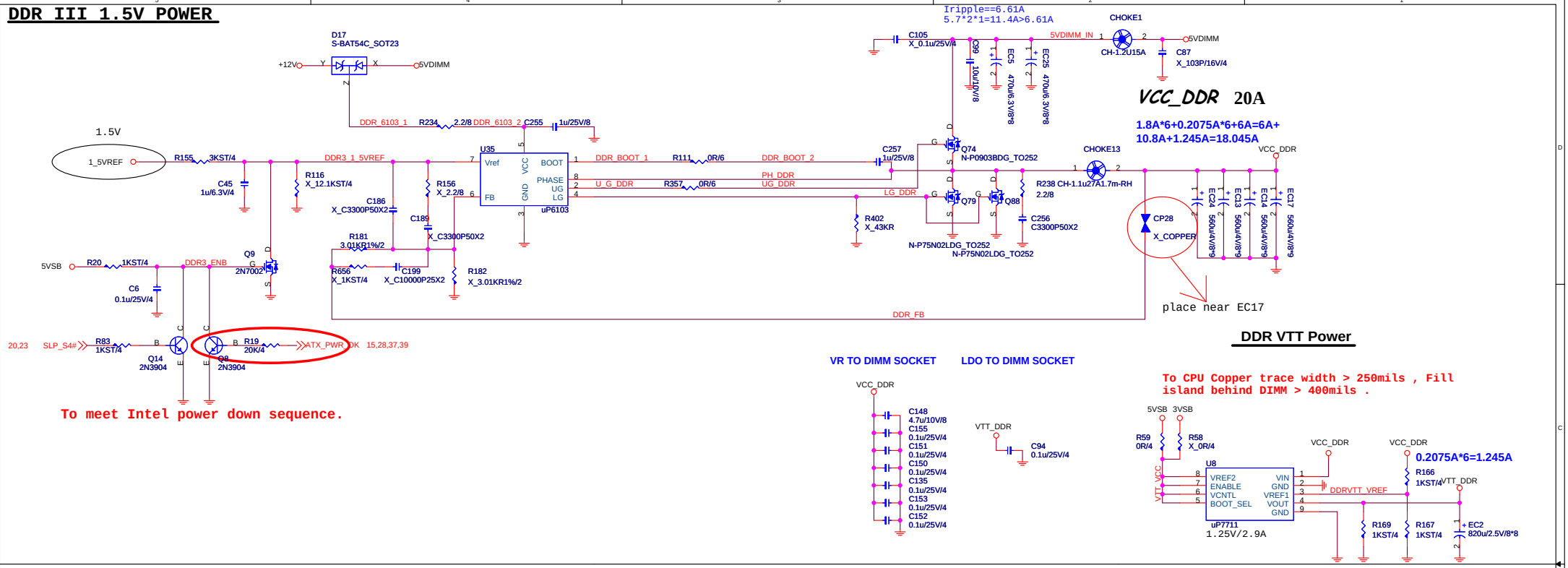
MICRO-STAR INT'L CO.,LTD	
MS-7593	
Size: Custom	Document Description: Phase Dropping & DOT
Rev: 1.0	
Date: Monday, March 02, 2009	Sheet 35 of 52

ISL6314CR POWER CKT FOR VTT 1.1V

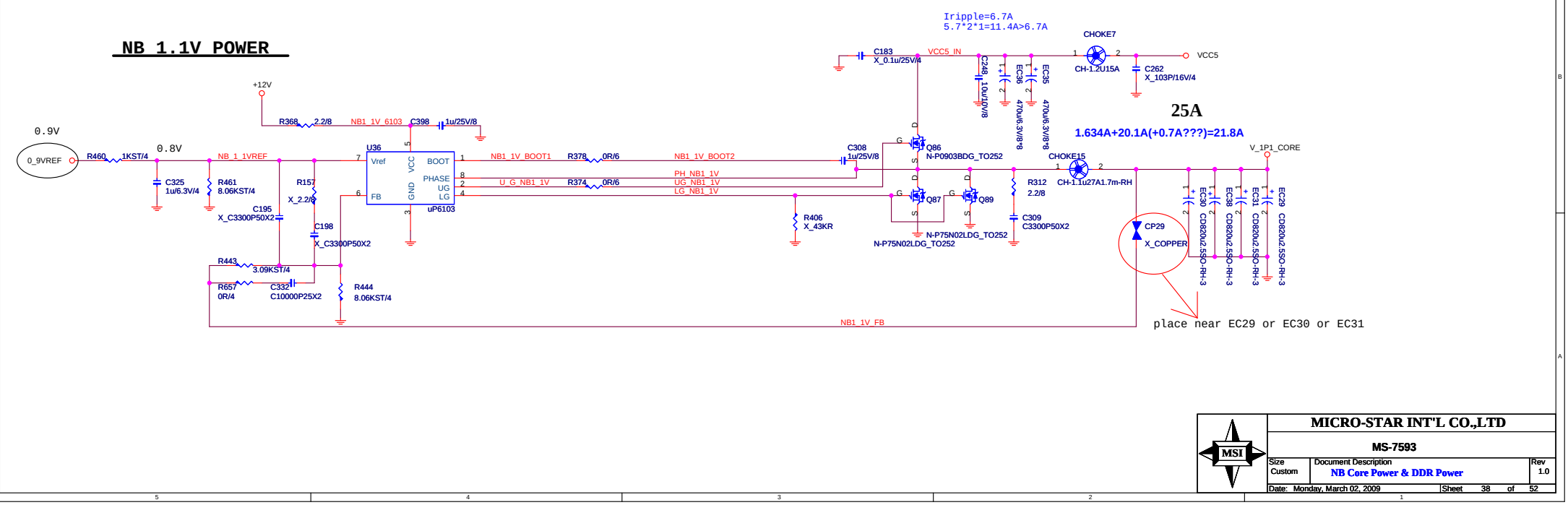



3VSB, 3.3A
Update from SLP_S3# to VRM_PGD
VID before PWROK >3ms
PWROK DELAY
Patch COOLERMASTER 700W POWER Sequence
5VDIMM FOR DDR
7501 Mode
H:Support S0/S3/S5
L:Support S0/S3
Used SLP_S5# for AMT
VCC1_5REF
V_1P5_ICH,2.5A
4.5W
1.652A+0.646A+186.3mA+?=2.484A+?
V_1P8_PLL, 2.18A ,3.27W
1.08A+
1.1A+IOH XDP
UPI VOLTAGE CONSOLE
0.6 Vcc
0x64:RH=2.2K,RL=3K
Reference Voltage
DDR_REF
NB_1.1V_REF
V_FSB_VTT_REF
MICRO-STAR INT'L CO.,LTD
MS-7593
ACPI Controller UPI
Date: Monday, March 02, 2009
Sheet 37 of 52

DDR III 1.5V POWER

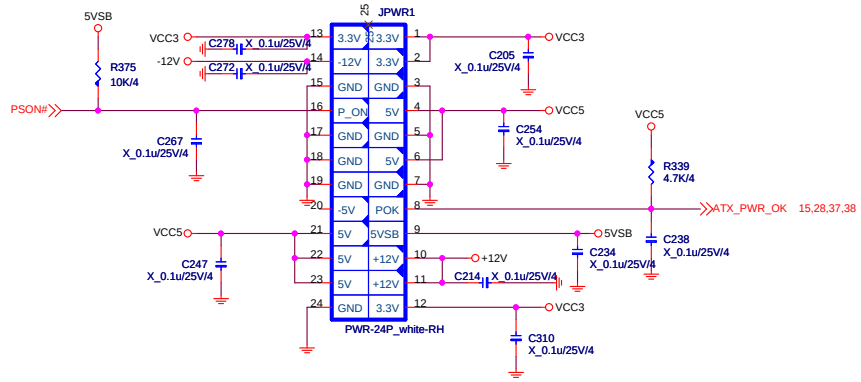


NB 1.1V POWER



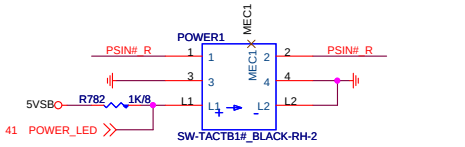
MSI	MICRO-STAR INT'L CO.,LTD	
	MS-7593	
Size: Custom	Document Description: NB Core Power & DDR Power	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 38 of 52	

ATX POWER CONNECTOR



POWER ON BUTTON

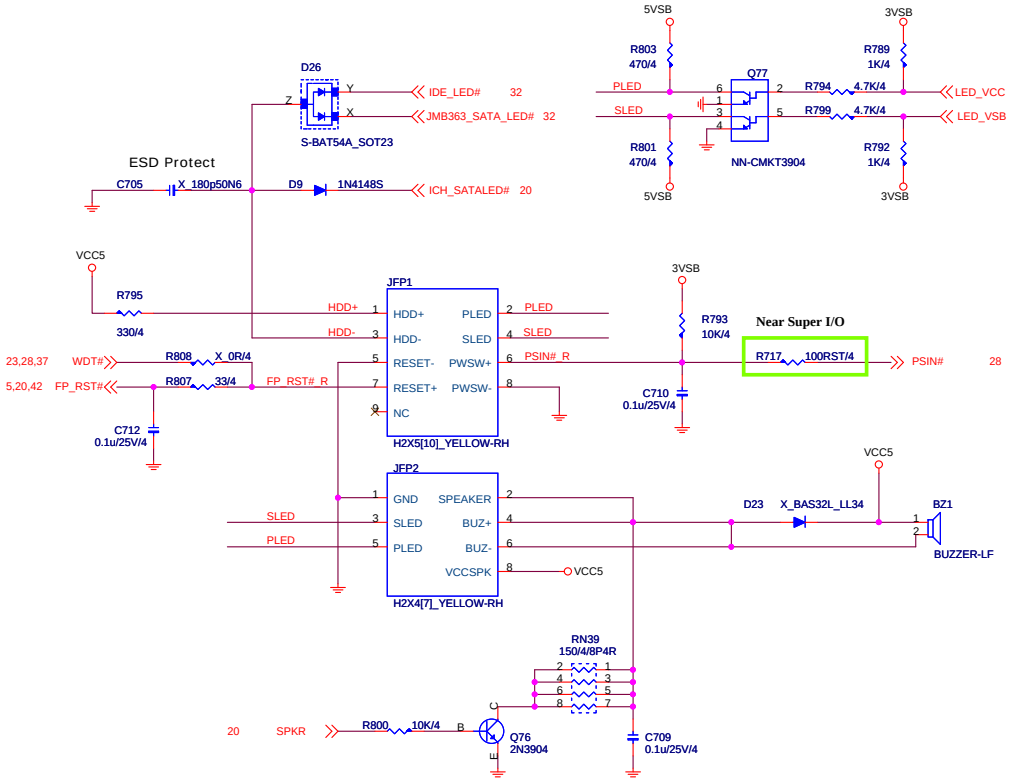
LED shine:S0 ~ S5



FRONT PANNEL

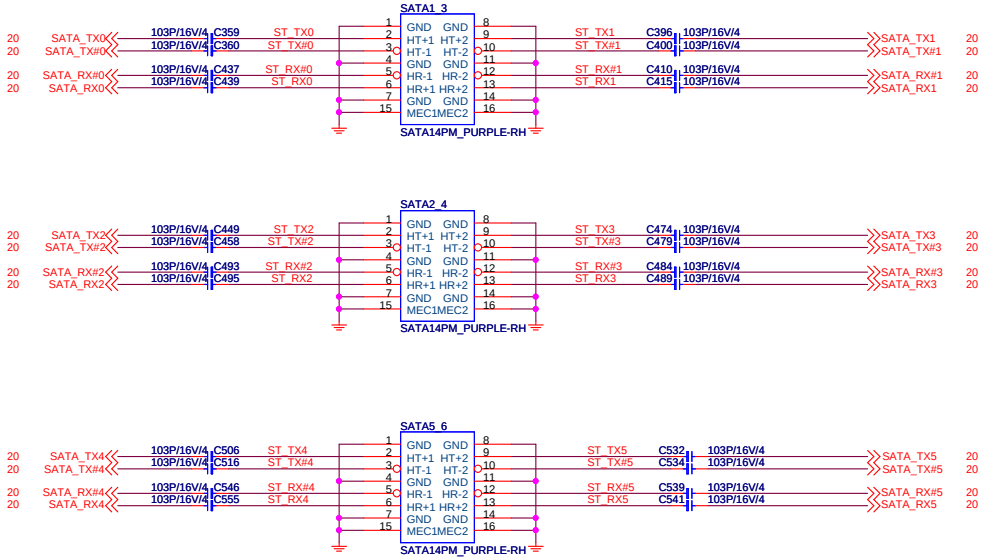
For MSI / Intel Front Panel

LED (By Fintek 71882)

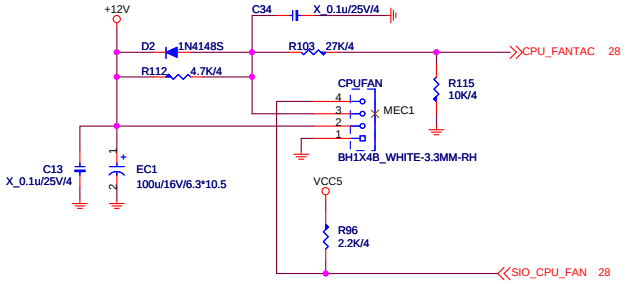


MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: ATX Connector / Front Panel	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 39 of 52	

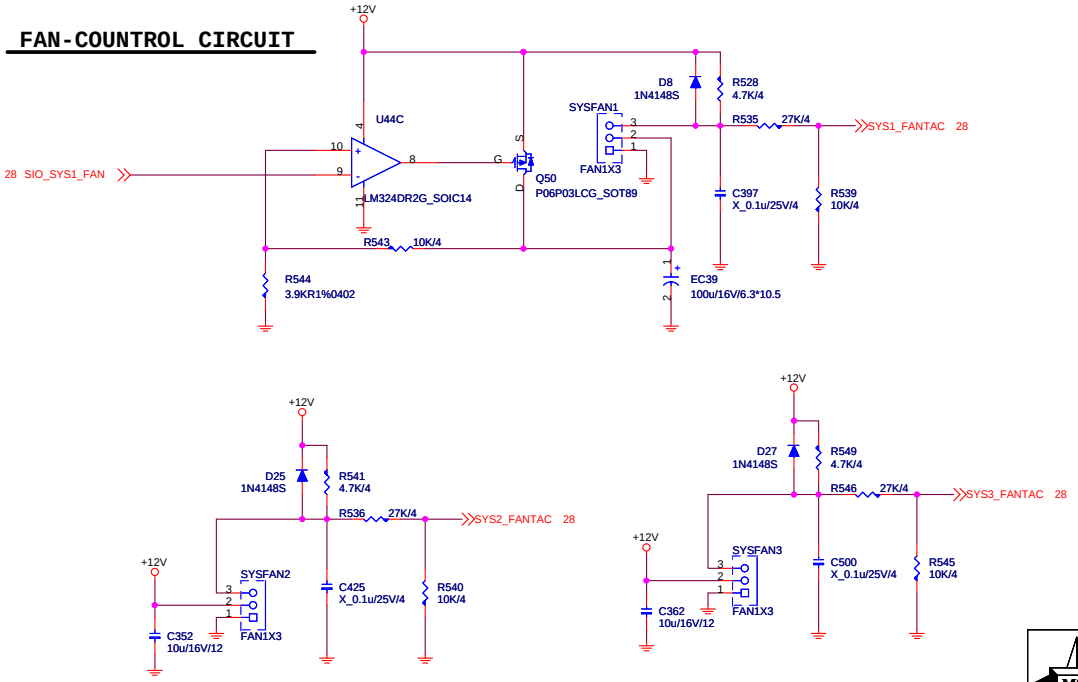
SATA-II Connector



CPU FAN

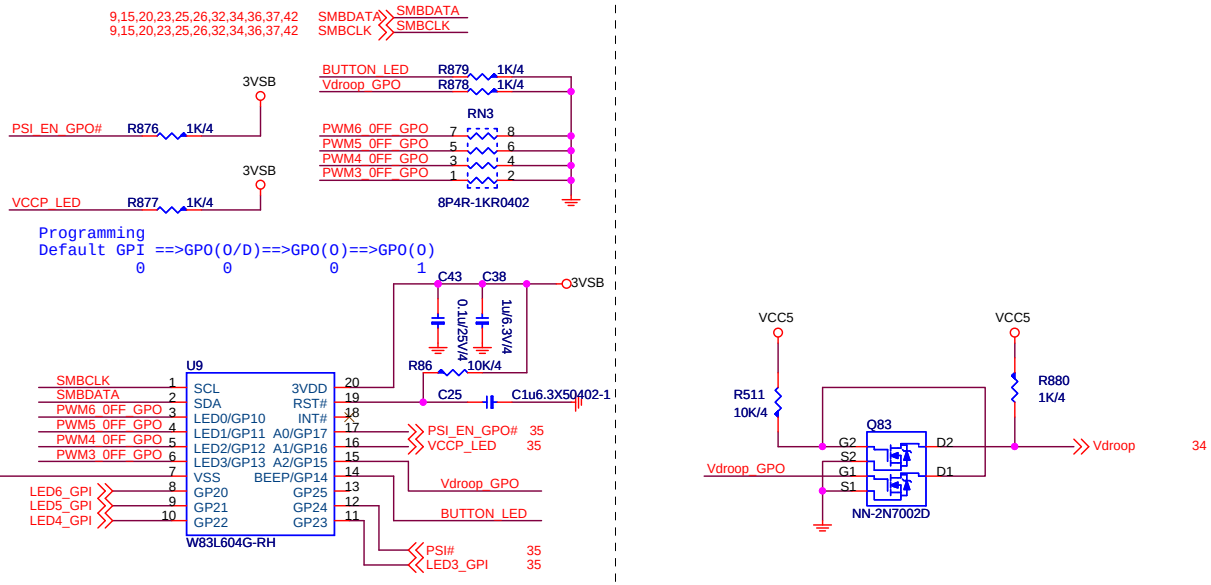


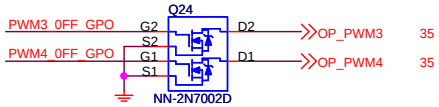
FAN-COUNTROL CIRCUIT

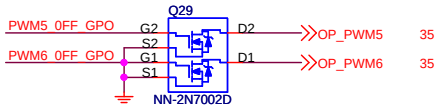


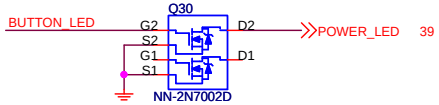
MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: ICH SATA / FAN Control	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 40 of 52	

GPIO Controller

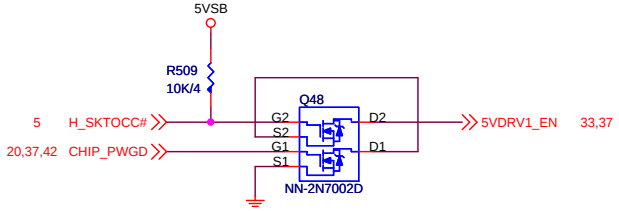




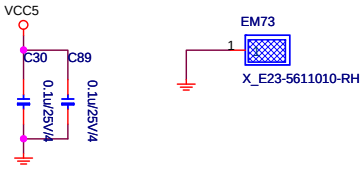




防測試線路

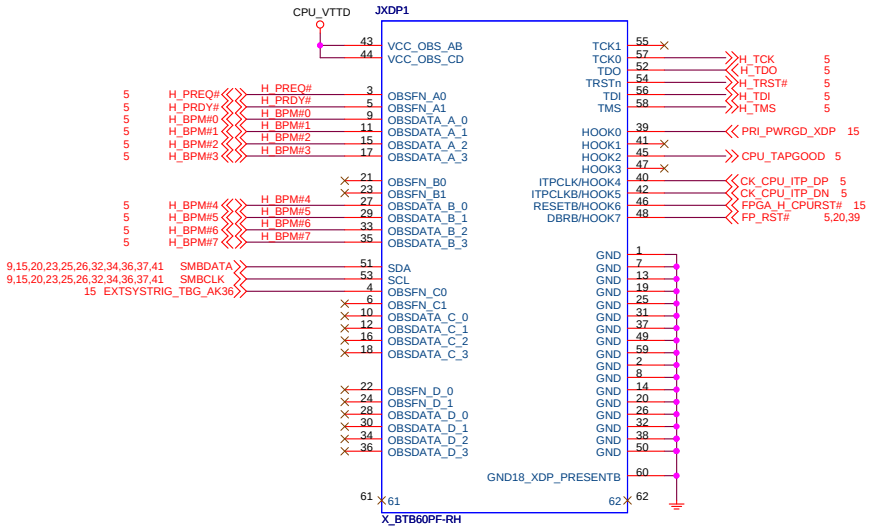


EMI CAP

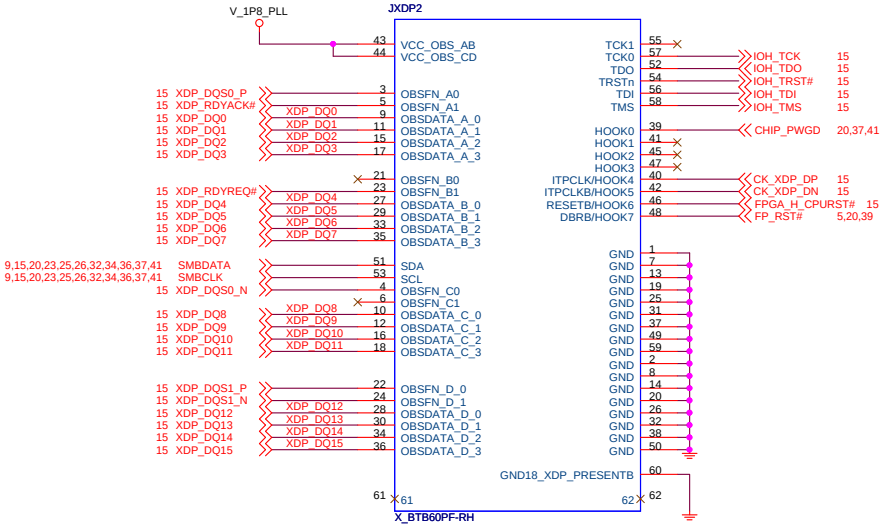


MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: GPIO Controller/EMI	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 41 of 52	

Reserve debug port 5020



Reserve debug port 5020



MICRO-STAR INT'L CO.,LTD			
MS-7593			
Size: Custom	Document Description: XDP PORT		Rev: 1.0
Date: Monday, March 02, 2009	Sheet 42 of 52		

PCB1

7593 1.0

PK0-0759310-E48,競華
PK0-0759310-G37,精成

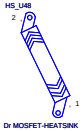
BAT1_X1

BAT-BCR2032P-RH

CPU1_X1

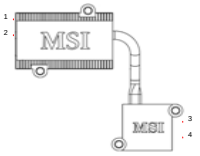
E21-0000560-L06

HS_U48



Dr MOSFET-HEATSINK

HS_U29



HS-0404320-RH

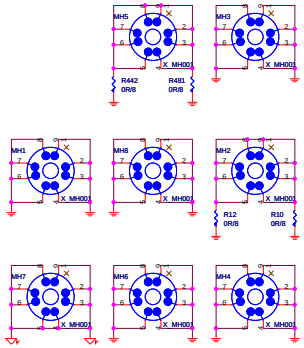
HEATSINK for NB & SB.

HEATSINK for VRM MOSFET.

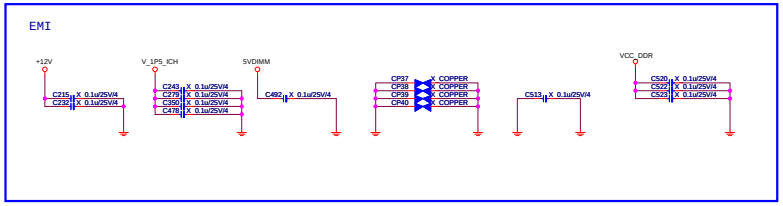
Optical Fiducial Marks-120

Optical Fiducial Marks-100

Mounting Holes



EMI



Simulation

MICRO-STAR INT'L CO.,LTD		
MS-7593		
Size: Custom	Document Description: Manual Parts	Rev: 1.0
Date: Monday, March 02, 2009	Sheet 43 of 52	