MS-7403 min-iTX Version: 0A

CPU: Intel Pentium 4 Cedar Mill / Prescott , Pentium D Smithfield / Presler and Conroe family processors in LGA775 Package.

System Chipset:

Intel BroadwaterG Q965/G965 (North Bridge)
Intel ICH8DO/ICH8DH (South Bridge)

On Board Device:

BIOS -- SPI Flash 16M
Azalia Codec -- ALC888
LPC Super I/O -- W83627DHG
LAN -- 82566DM (NINEVEH/EKRON)
CLOCK Gen -- ICS 9LPR502 (56pin)
PCI-E to PATA -- JMB368
HDMI -- CH7315B

Main Memory:

DDR-II *1 (Max 2GB)

Intersil PWM:

Controller: Intersil ISL6306/9626 (4 Phases)
Driver: Intersil ISL6612

Option	Function	Orcad Configure	BOM
STD	Broadwater/ICH8/W83627DHG/ALC888/82566DM/PCIE to IDE	cfg-STD	

MSI

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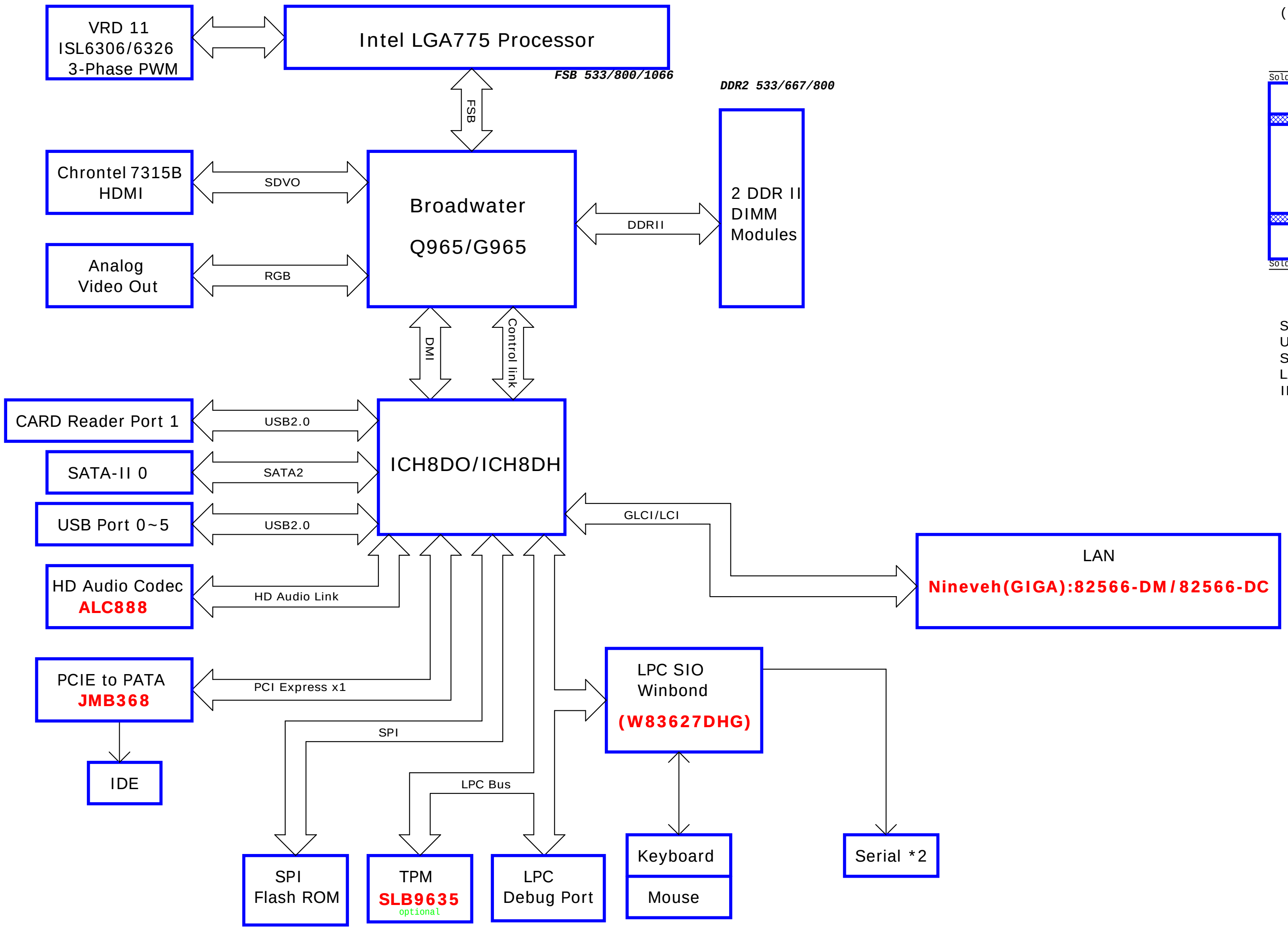
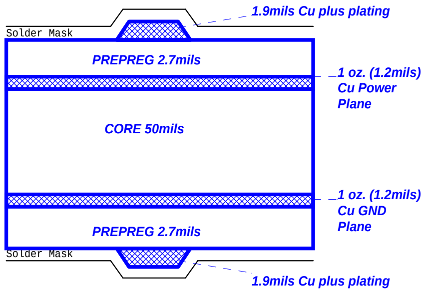
MS-7403		
Size: Custom	Document Description: COVER SHEET	Rev: 0A
Date: Tuesday, March 27, 2007	Sheet 1 of 36	

Block Diagram



Board Stack-up

(1080 Prepreg Considerations)



Single End 50ohm Top/Bottom : 4mils
USB2.0 - 90ohm : 15/4.5/7.5/4.5/15
SATA - 95ohm : 15/4/8/4/15
LAN - 100ohm : 15/4/8/4/15
IDE : 15/4/8/4/15

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Custom	BLOCK DIAGRAM	0A

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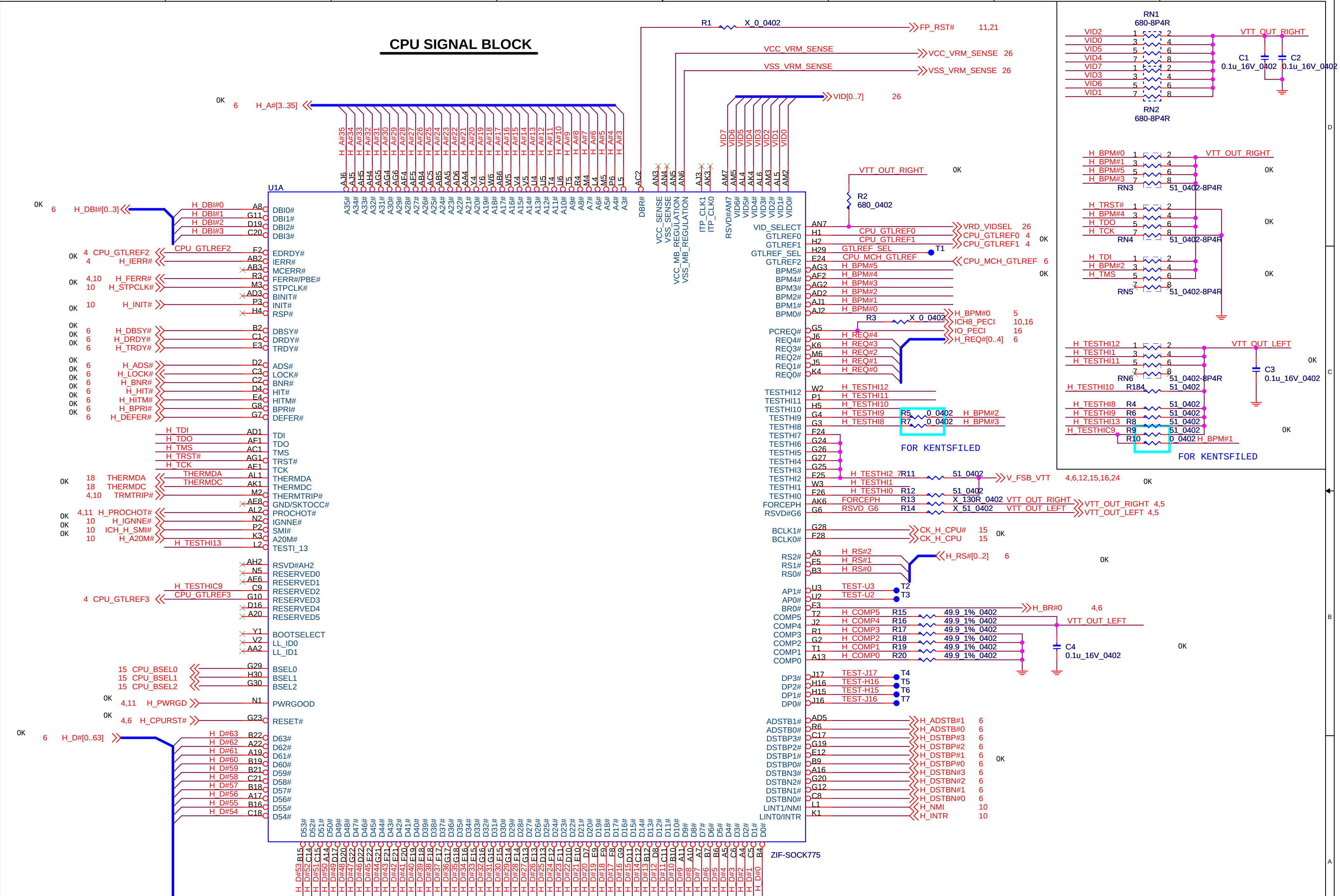
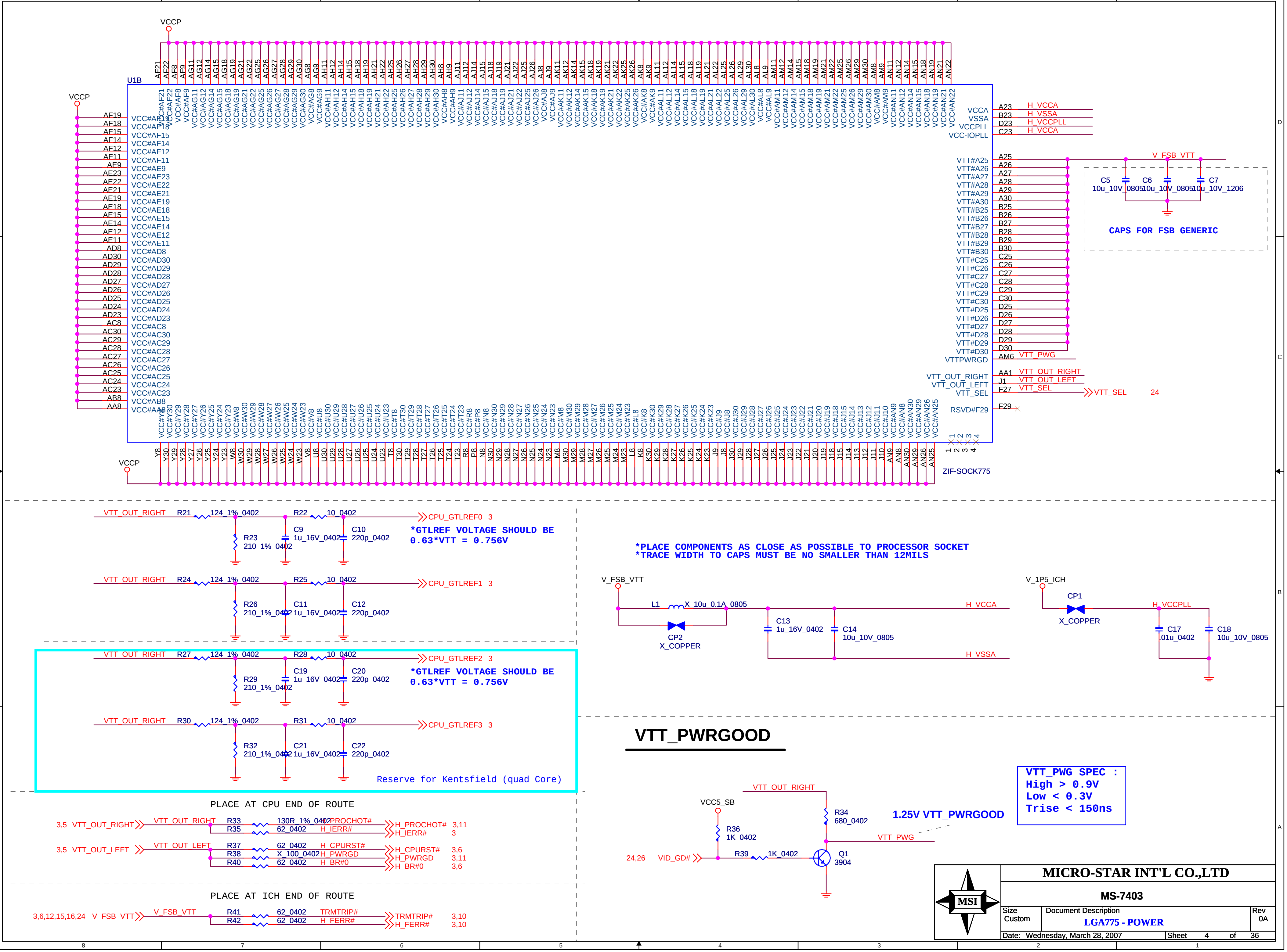
CPU SIGNAL BLOCK



MICRO-STAR INT'L CO.,LTD		
MS-7403		
Size: Custom	Document Description: LGA775 - SIGNALS	Rev: 0A
Date: Tuesday, March 27, 2007	Sheet 3 of 36	



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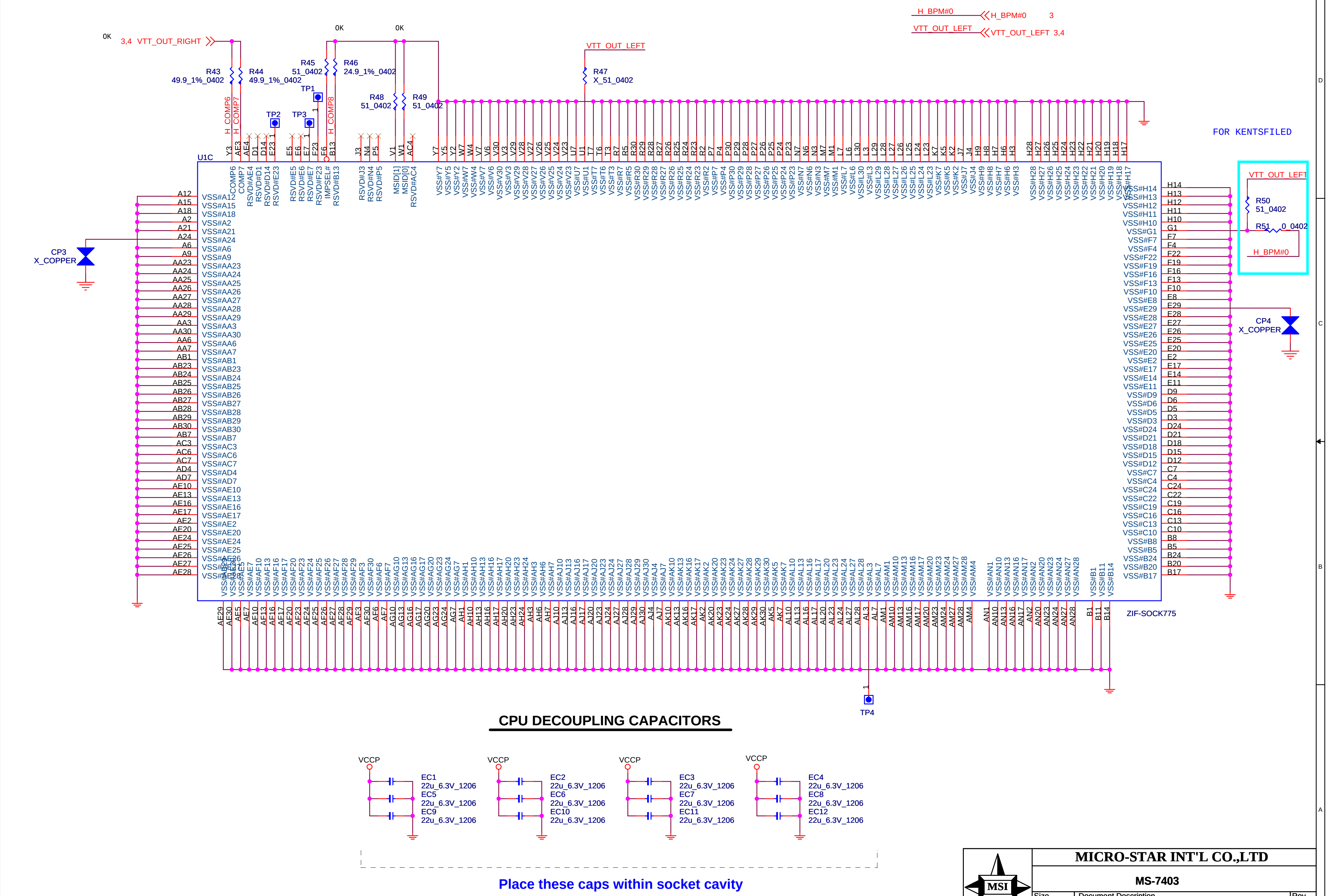
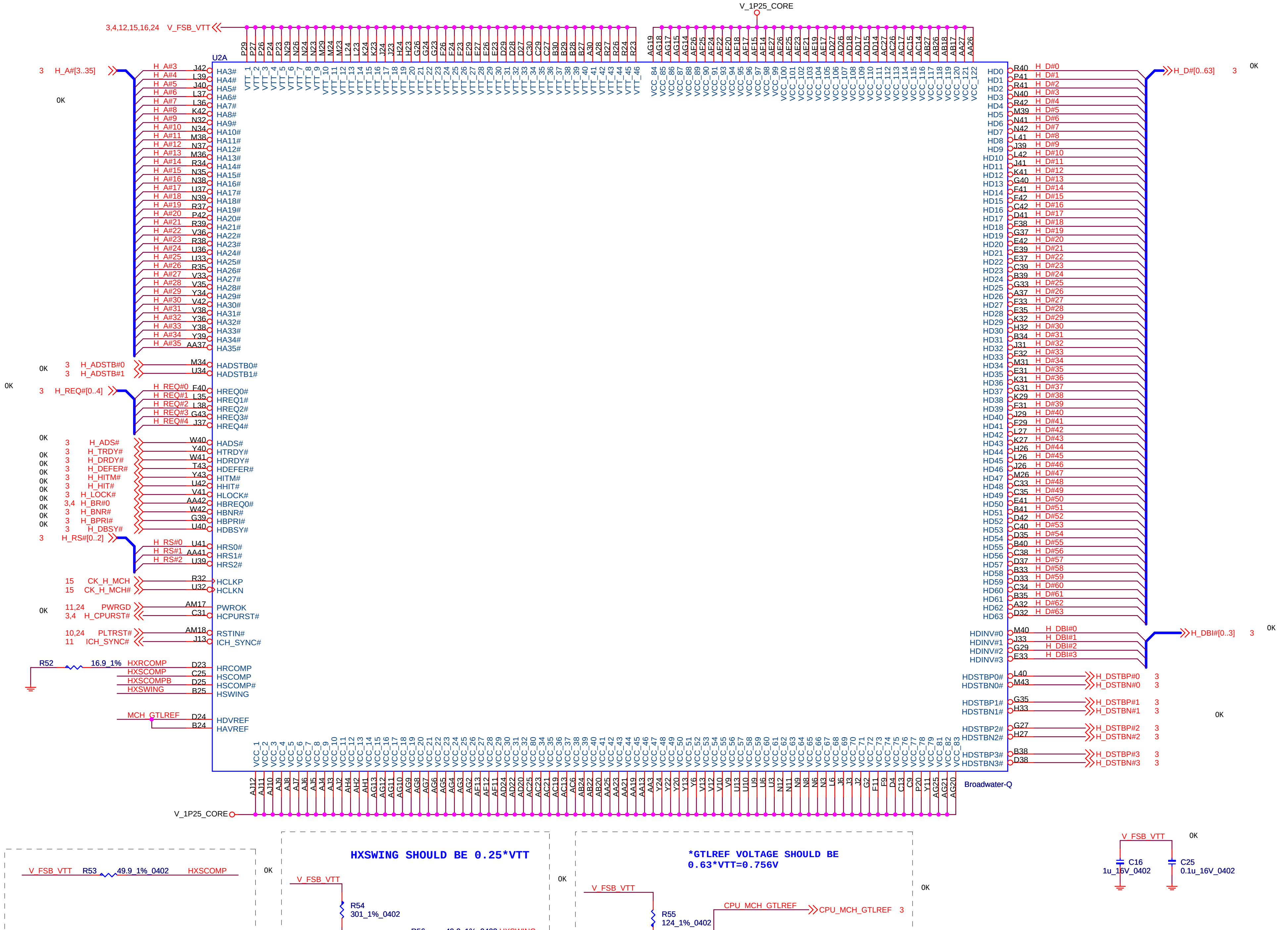
Size	Document Description	Rev
Custom	LGA775 - POWER	0A

Date: Wednesday, March 28, 2007 Sheet 4 of 36



MICRO-STAR INT'L CO.,LTD		
MS-7403		
Size: Custom	Document Description: LGA775 - GND	Rev: 0A
Date: Tuesday, March 27, 2007	Sheet 5 of 36	

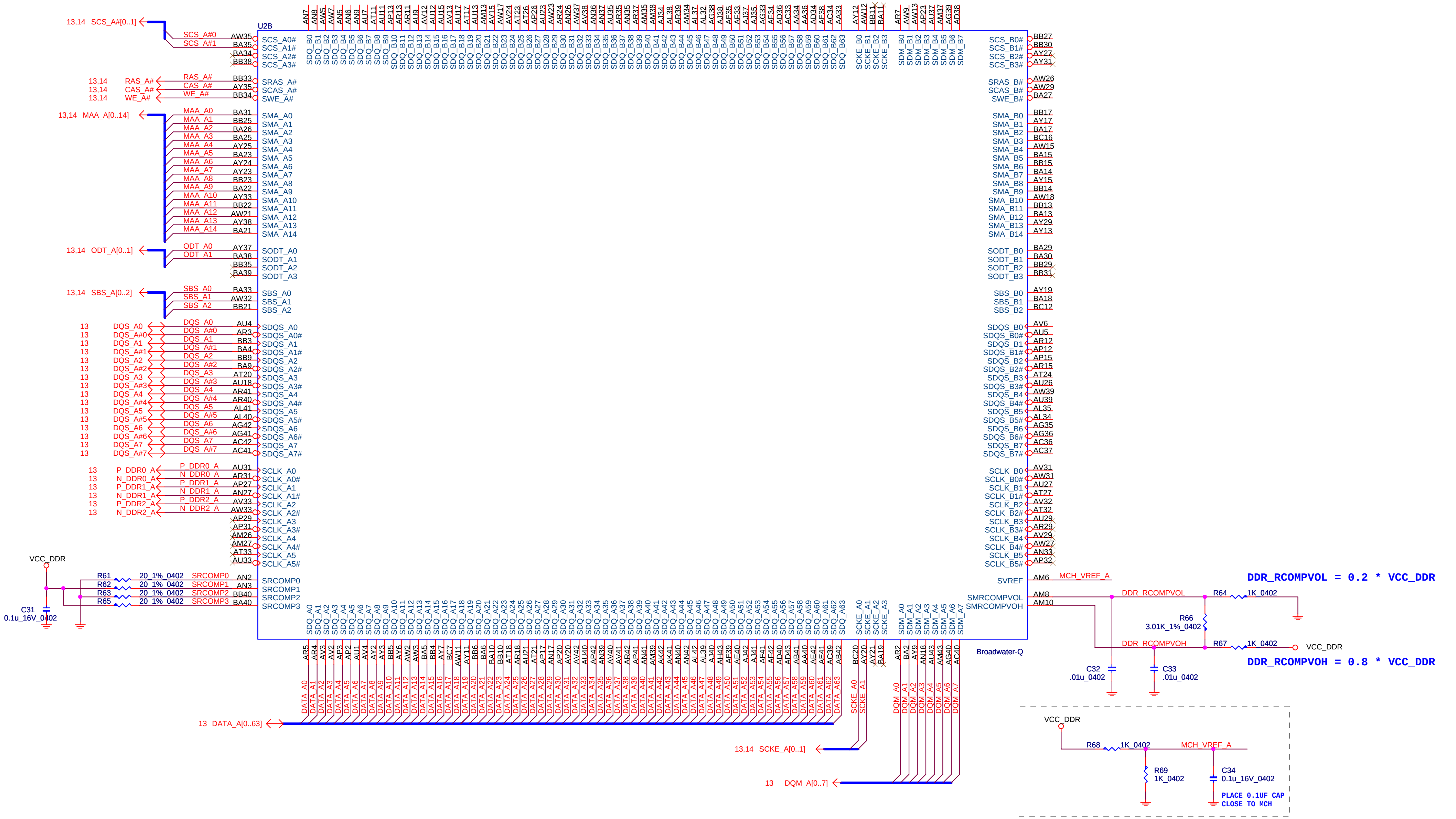


MICRO-STAR INT'L CO.,LTD

MS-7403

Size	Document Description	Rev
Custom	Broadwater - CPU	0A

Date: Tuesday, March 27, 2007 Sheet 6 of 36

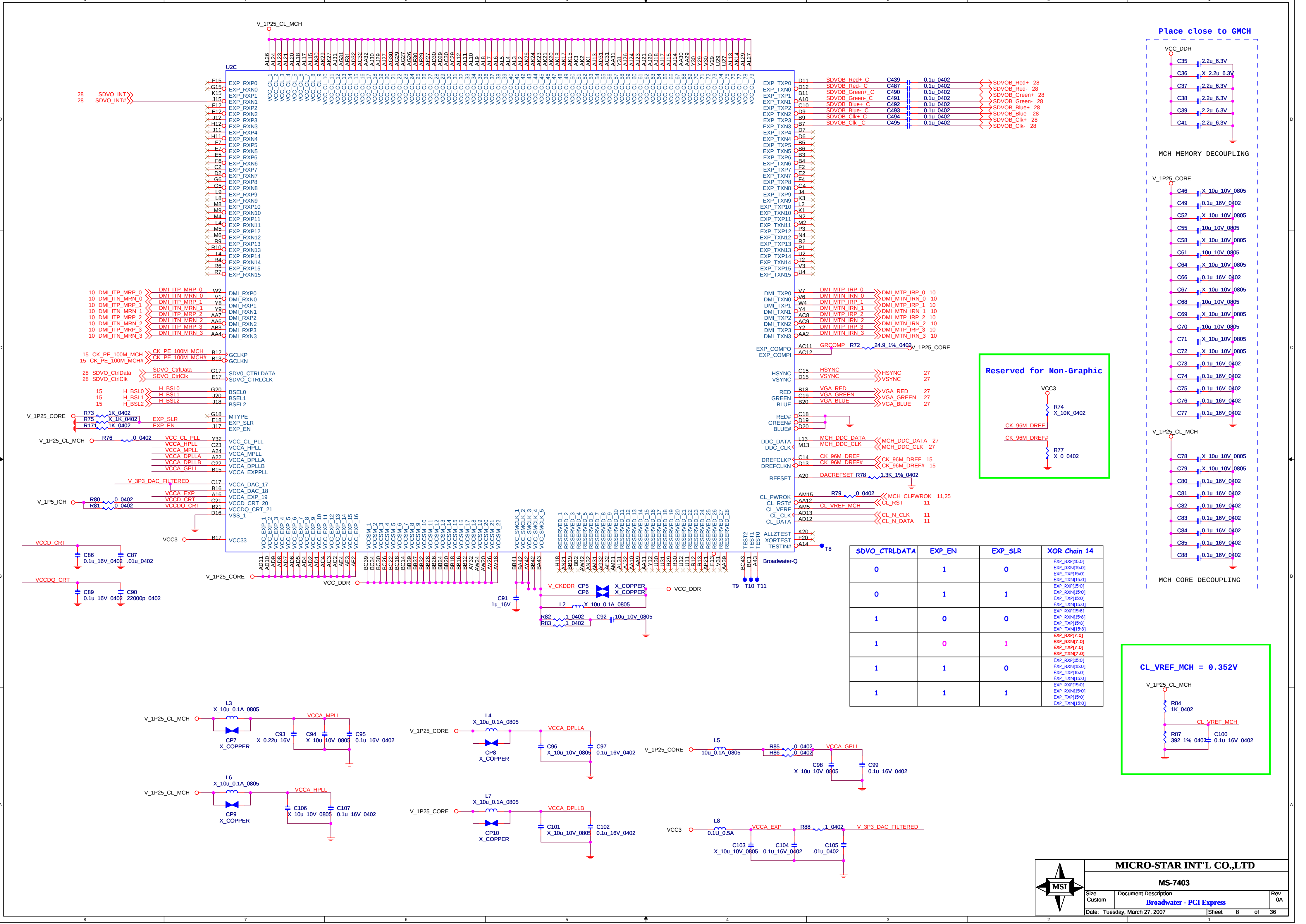


MICRO-STAR INT'L CO.,LTD

MS-7403

Size	Document Description	Rev
Custom	Broadwater - Memory	0A

Date: Tuesday, March 27, 2007 Sheet 7 of 36



SDVO_CTRLDATA	EXP_EN	EXP_SLR	XOR Chain 14
0	1	0	EXP_RXP[15:0] EXP_RXN[15:0] EXP_TXP[15:0] EXP_TXN[15:0]
0	1	1	EXP_RXP[15:0] EXP_RXN[15:0] EXP_TXP[15:0] EXP_TXN[15:0]
1	0	0	EXP_RXP[15:8] EXP_RXN[15:8] EXP_TXP[15:8] EXP_TXN[15:8]
1	0	1	EXP_RXP[7:0] EXP_RXN[7:0] EXP_TXP[7:0] EXP_TXN[7:0]
1	1	0	EXP_RXP[15:0] EXP_RXN[15:0] EXP_TXP[15:0] EXP_TXN[15:0]
1	1	1	EXP_RXP[15:0] EXP_RXN[15:0] EXP_TXP[15:0] EXP_TXN[15:0]

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Size	Document Description	Rev
Custom	Broadwater - PCI Express	0A

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Size	Document Description	Rev
Custom	**Broadwater - GND**	0A

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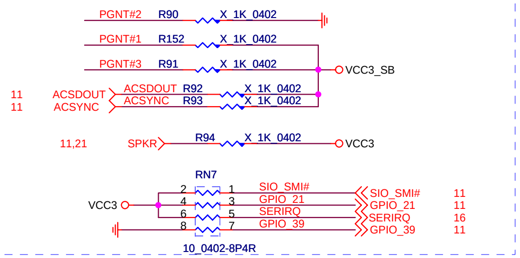
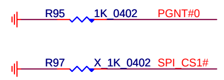
ICH8 H/W STRAPS

SIGNAL	H	L	DES.
SPKR	DIS	EN	REBOOT
GNT3	DIS	EN	A16 OVERIDE
INTVRMEN/ LAN100_SLP	EN	DIS	INT VRM (VccSus1_05,1_5,VccCL1_5) (VccLAN1_05,VccCL1_05)
SATALED	NORM	REVERSE	PCIE 0-3 ORDER
HDA_SDOUT	DFX/ PCIE	N/A	XOR MODE/PCIE PORT CONFIG BIT 1
HDA_SYNC	SET BIT	N/A	PCIE PORT CONFIG BIT 0 (1-4)
GNT2	N/A	SET BIT	PCIE PORT CONFIG 2 BIT 0 (5-6)

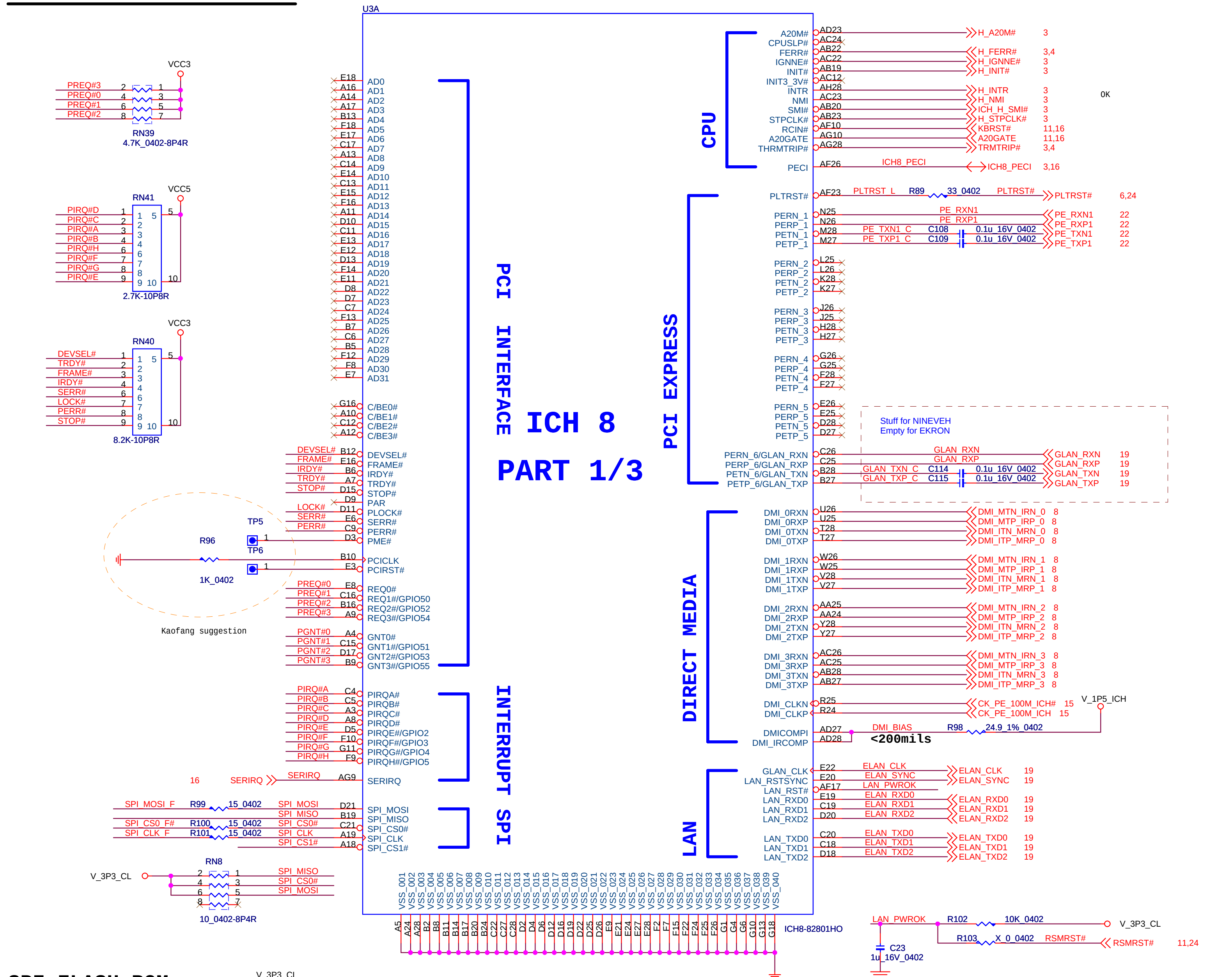


BOOT SELECT STRAPS

BOOT DEVICE	GNT0	SPI_CS1#	
FWH	1	1	
SPI	0	X	
PCI	1	0	

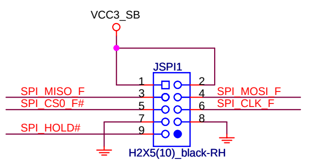


PCI PULL-UP / DOWN RESISTORS



SPI DEBUG PROT

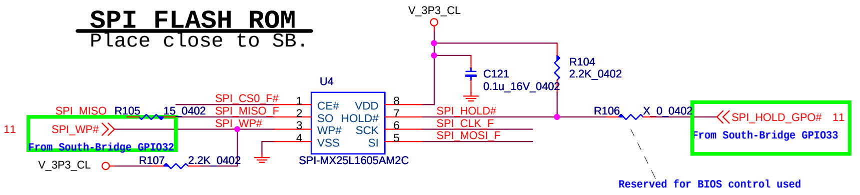
Place close to SPI ROM



Part Number : N31-2051451-H06

SPI FLASH ROM

Place close to SB.



MICRO-STAR INT'L CO.,LTD		
MS-7403		
Size: Custom	Document Description: ICH8 - PCI, DMI, CPU, SPI	Rev: 0A
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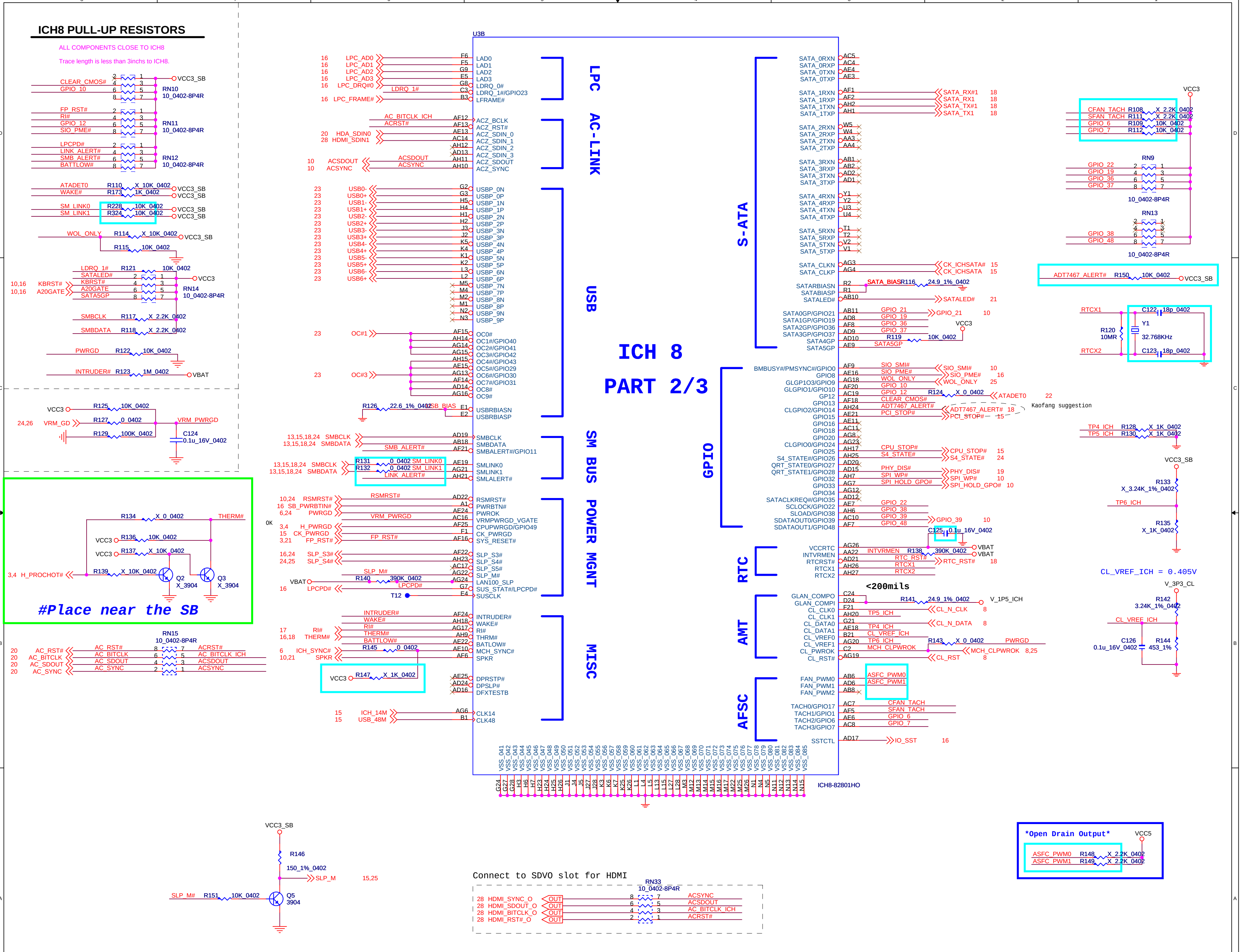

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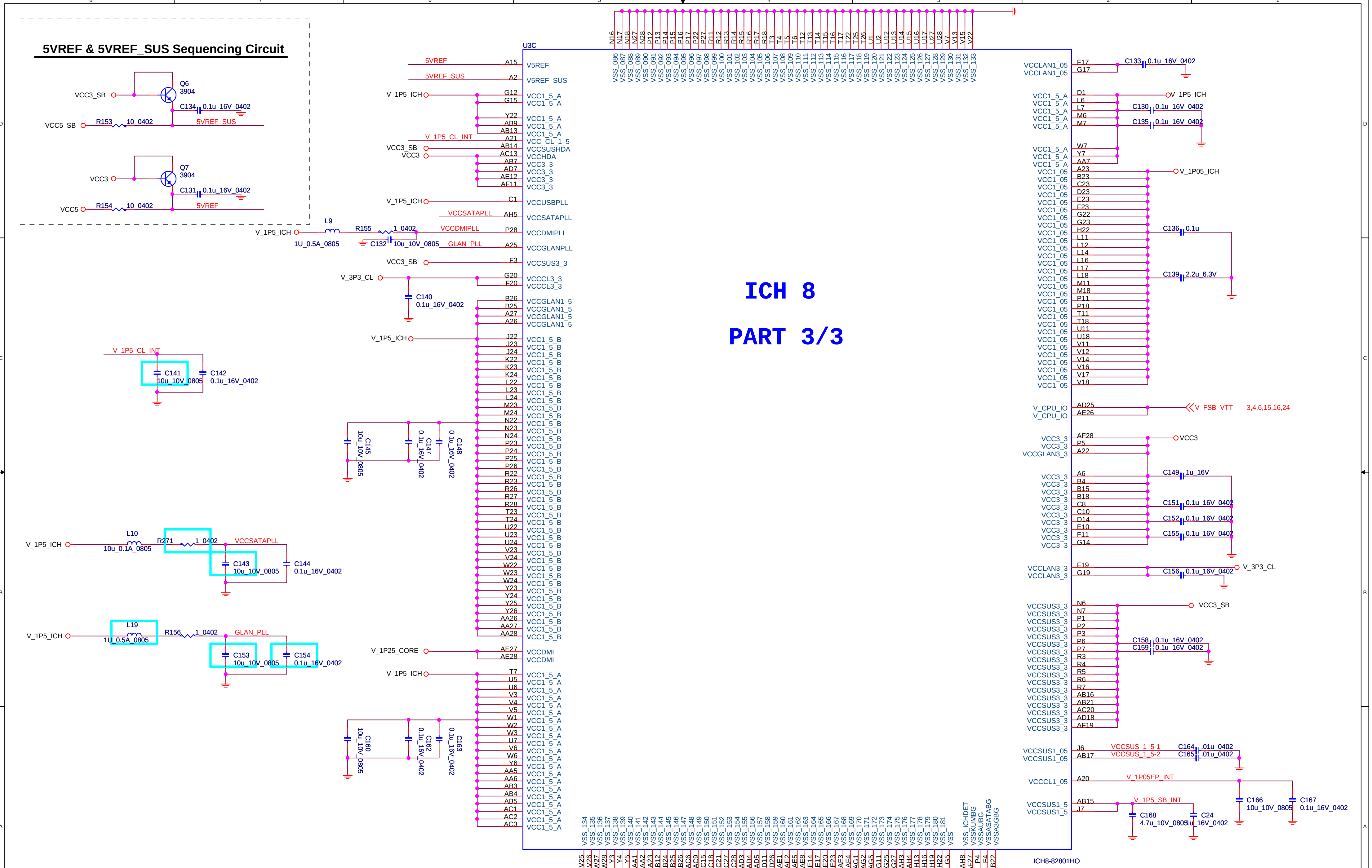
Size	Document Description	Rev
Custom	ICH8 - LPC, SATA, USB, GPIO	0A

Date: Tuesday, March 27, 2007 | Sheet 11 of 36



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Size	Document Description	Rev
Custom	ICH8 - POWER	0A

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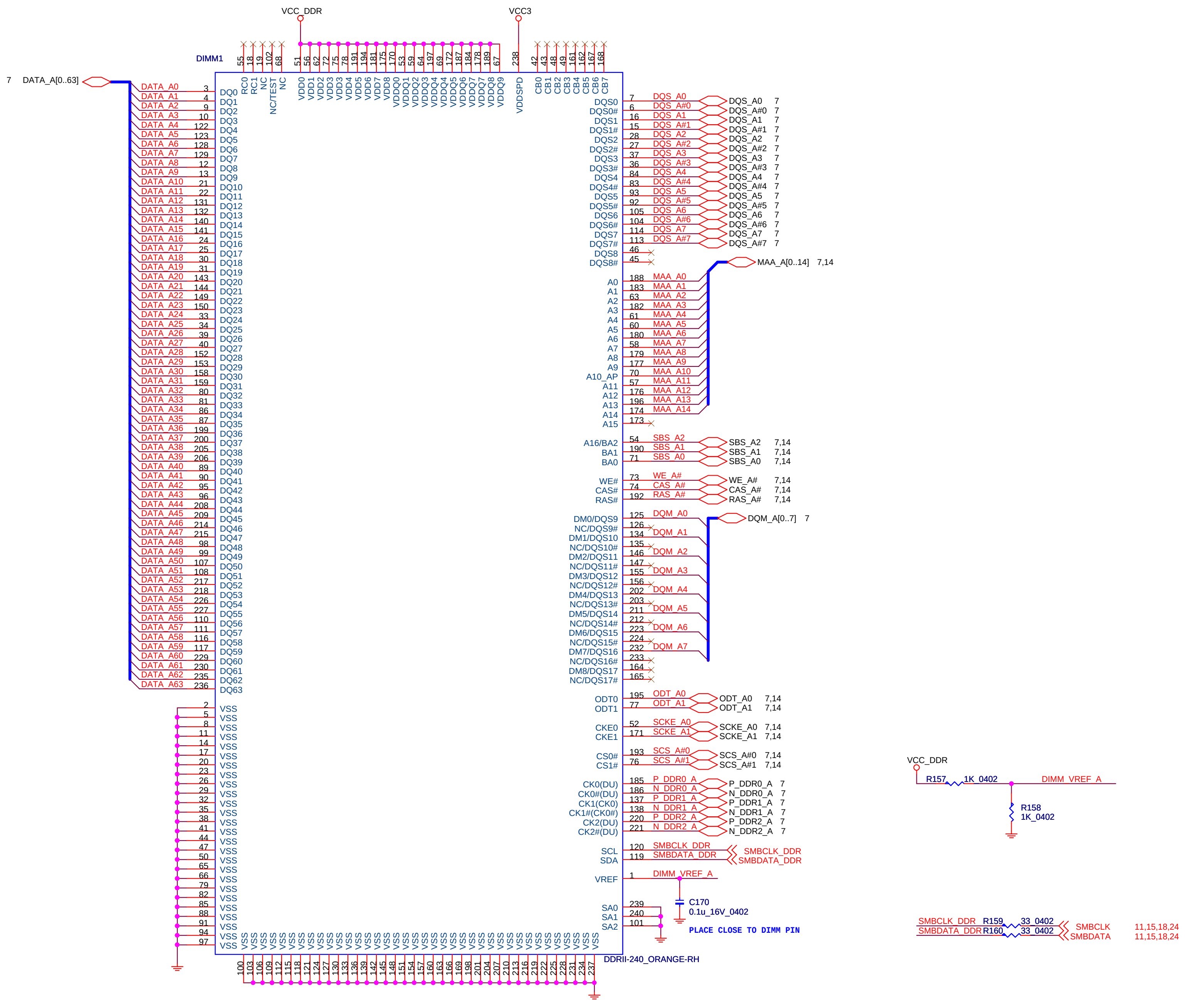

DDRII DIMM1

ADDRESS: 000
0xA0

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Size	Document Description	Rev
Custom	DDR II DIMM 1	0A

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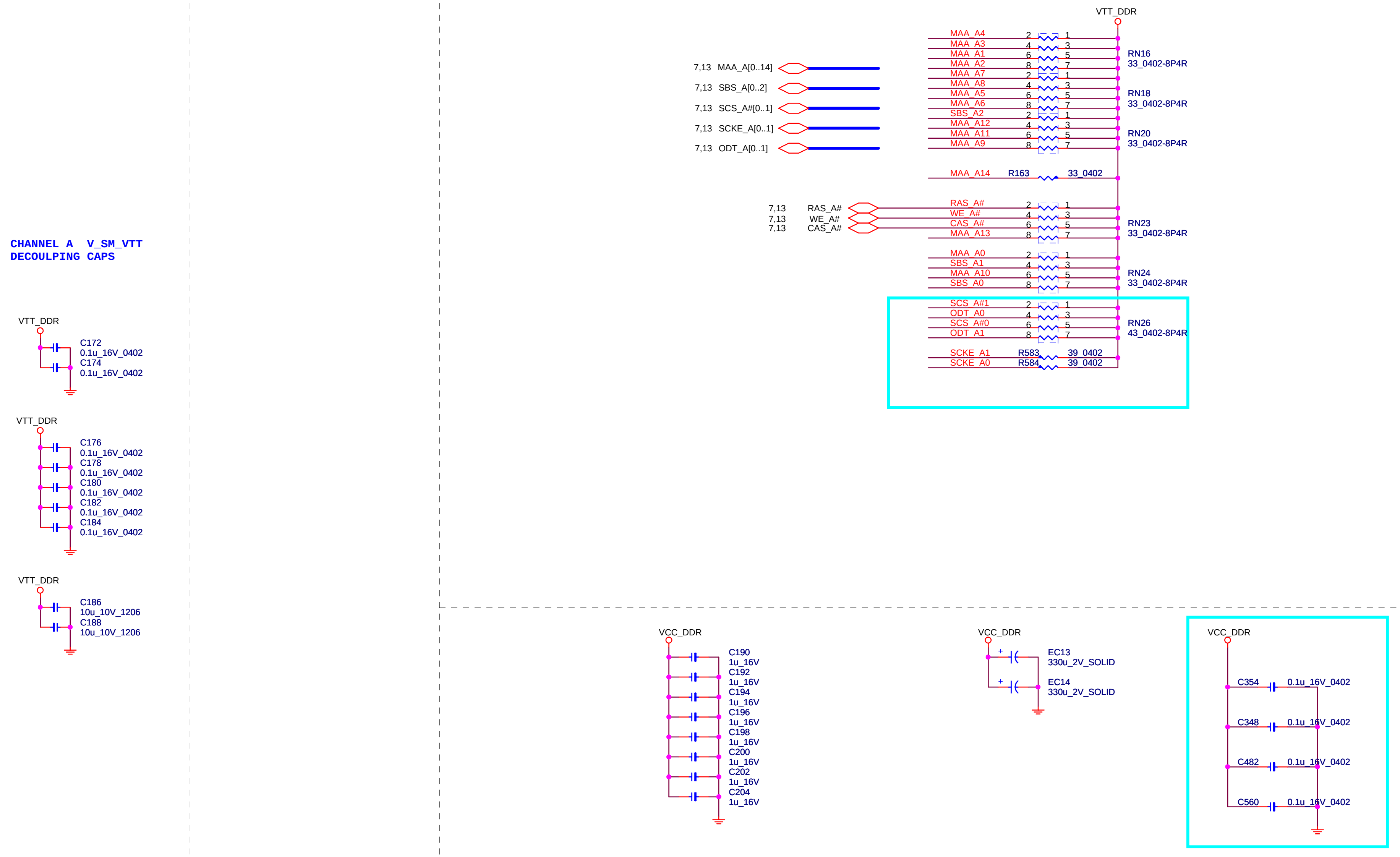

MICRO-STAR INT'L CO.,LTD		
MS-7403		
Size: Custom	Document Description: **DDR II Termination & Power**	Rev: 0A
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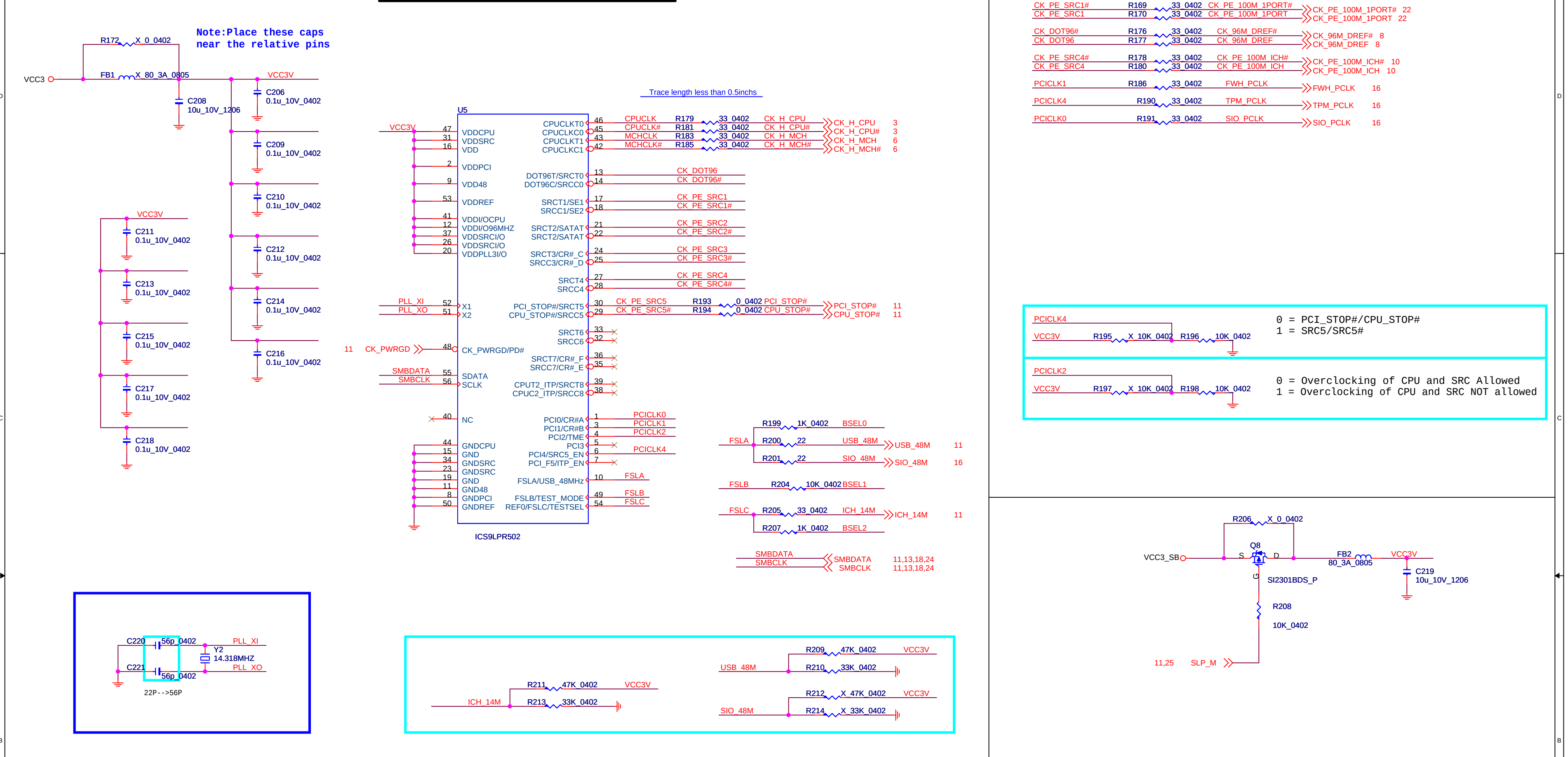
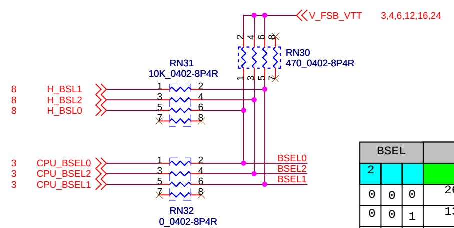
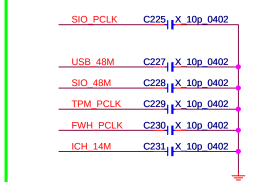
Clock Generator - ICS9LPR502



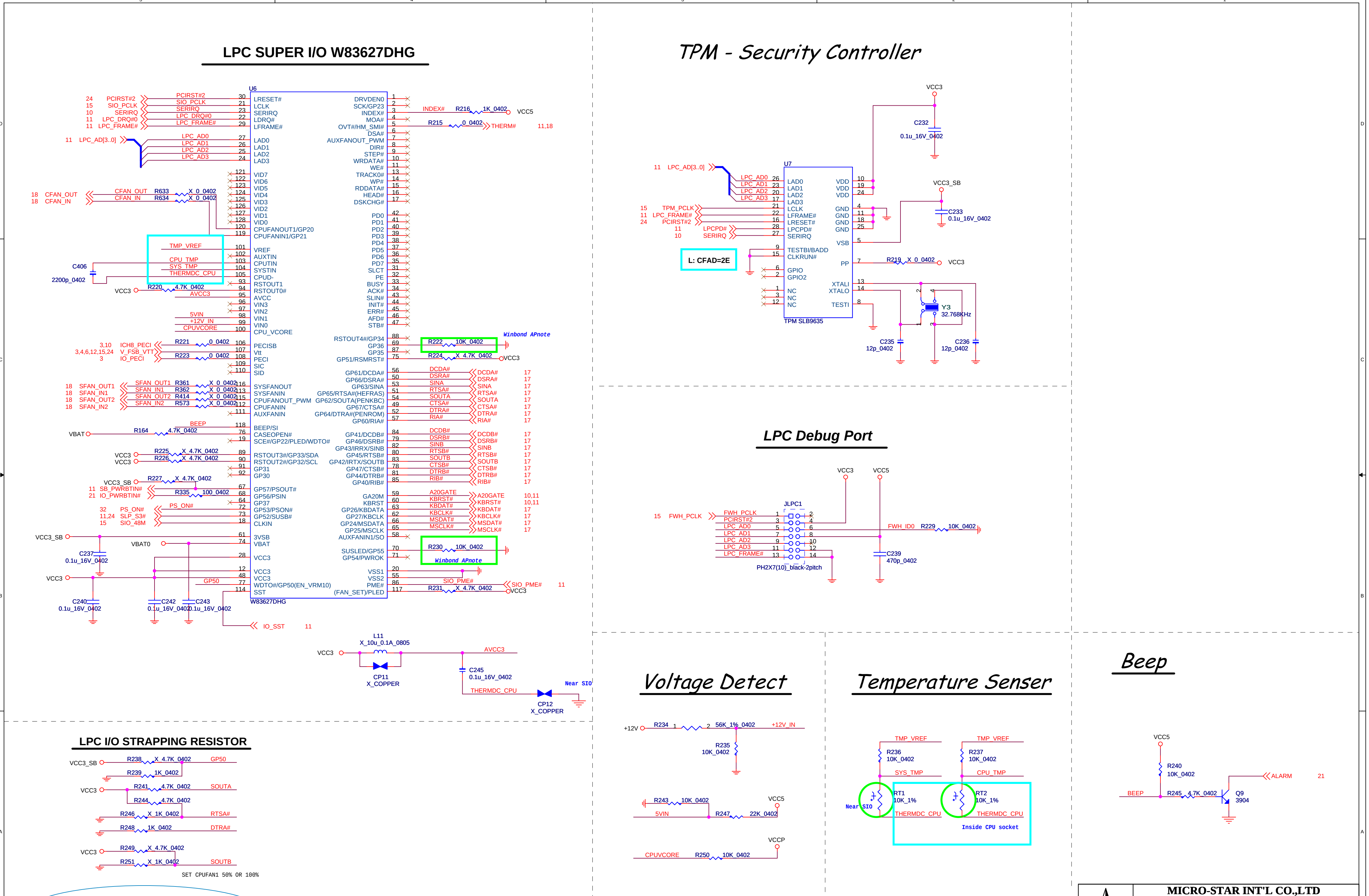
BSEL[0..2] Level Shift



BSEL			TABLE
2			
0	0	0	266 MHz (1066)
0	0	1	133 MHz (533)
0	1	0	200 MHz (800)



EMC HF filter capacitors, located close to PLL



RTSA#	L: CFAD=2E	H: CFAD=4E
GP50	L: TTL LEVEL	H: VRM10 LEVEL
SOUTA	L: KBC DISABLE	H: KBC ENABLE
DTRA#	L: DISABLE SPI	H: ENABLE SPI

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Size	Document Description	Rev
Custom	W83627DHG / LPC / TPM	0A

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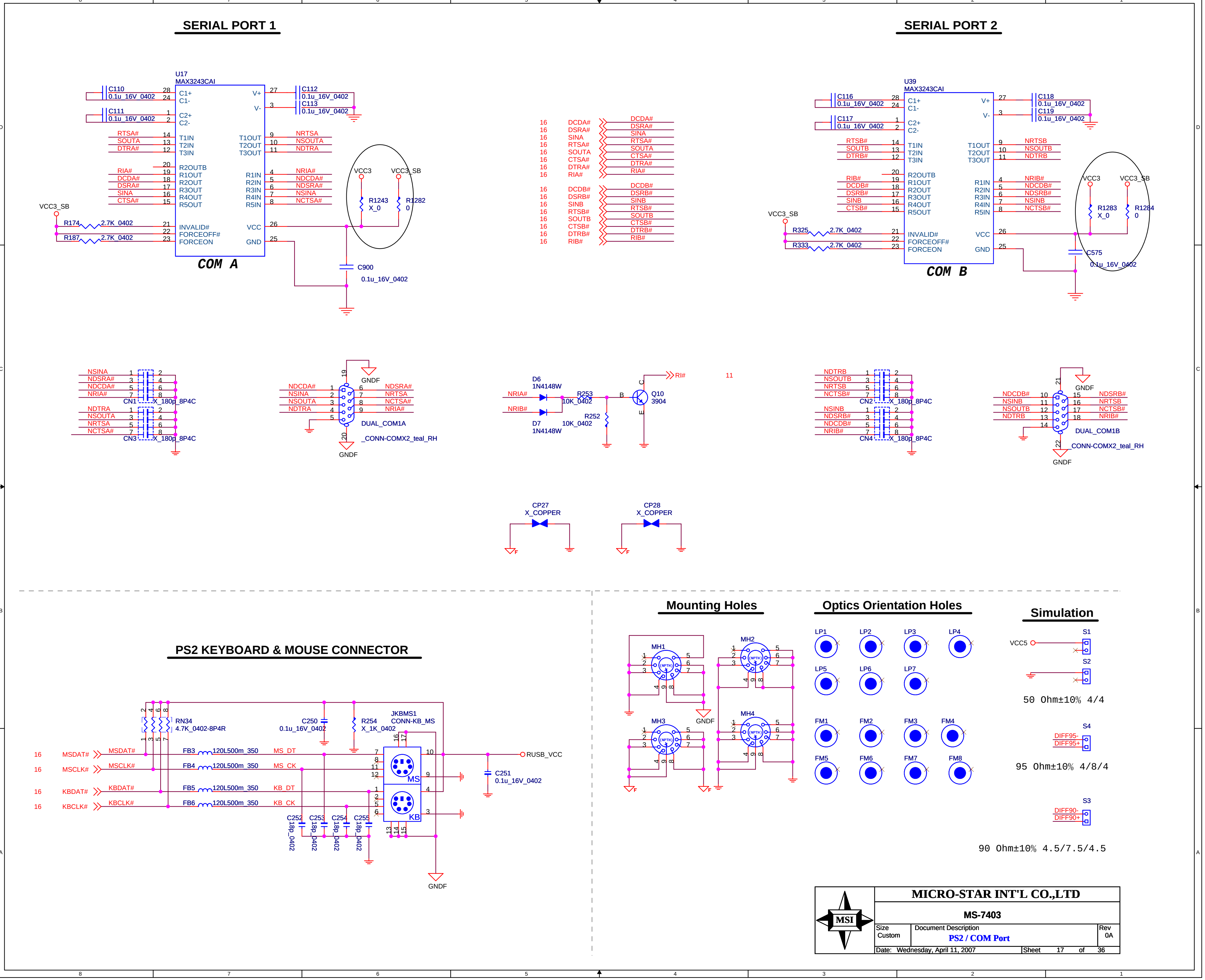
SERIAL PORT 1
U17
MAX3243CAI
COM A
SERIAL PORT 2
U39
MAX3243CAI
COM B
PS2 KEYBOARD & MOUSE CONNECTOR
JKBMS1
CONN-KB_MS
RN34
4.7K_0402-8P4R
Mounting Holes
Optics Orientation Holes
Simulation
50 Ohm±10% 4/4
95 Ohm±10% 4/8/4
90 Ohm±10% 4.5/7.5/4.5
MICRO-STAR INT'L CO.,LTD
MSI
MS-7403
Size
Custom
Document Description
PS2 / COM Port
Rev
0A
Date: Wednesday, April 11, 2007
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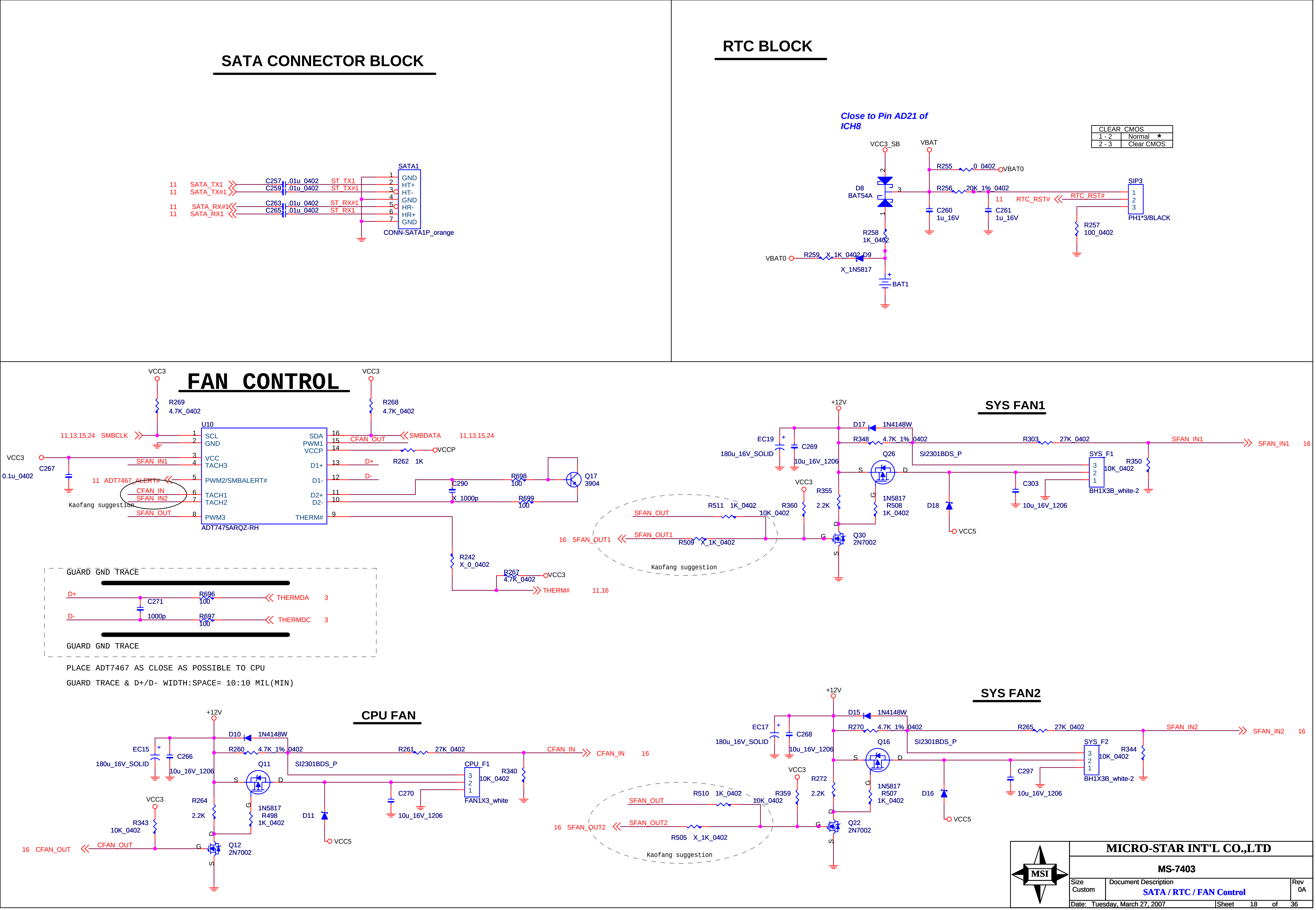
SATA CONNECTOR BLOCK
SATA1
CONN-SATA1P_orange
GND
HT+
HT-
GND
HR-
HR+
GND
11 SATA_TX1
11 SATA_TX#1
11 SATA_RX#1
11 SATA_RX1
C257 .01u_0402 ST_TX1
C259 .01u_0402 ST_TX#1
C263 .01u_0402 ST_RX#1
C265 .01u_0402 ST_RX1
RTC BLOCK
Close to Pin AD21 of ICH8
CLEAR CMOS
1 - 2 Normal *
2 - 3 Clear CMOS
VCC3_SB
VBAT
R255 0_0402 VBAT0
D8 BAT54A
R256 20K_1%_0402
11 RTC_RST#
SIP3
PH1*3/BLACK
C260 1u_16V
C261 1u_16V
R257 100_0402
R258 1K_0402
VBAT0
R259 X_1K_0402 D9
X_1N5817
BAT1
FAN CONTROL
VCC3
R269 4.7K_0402
R268 4.7K_0402
U10
ADT7475ARQZ-RH
SCL
GND
VCC
TACH3
PWM2/SMBALERT#
TACH1
TACH2
PWM3
SDA
PWM1
VCCP
D1+
D1-
D2+
D2-
THERM#
11,13,15,24 SMBCLK
SMBDATA 11,13,15,24
CFAN_OUT
VCCP
R262 1K
D+
D-
C267 0.1u_0402
SFAN_IN1
11 ADT7467_ALERT#
CFAN_IN
SFAN_IN2
Kaofang suggestion
SFAN_OUT
C290 X_1000p
R698 100
R699 100
Q17 3904
R242 X_0_0402
R267 4.7K_0402
THERM# 11,16
GUARD GND TRACE
D+ C271 1000p R696 100 THERMDA 3
D- R697 100 THERMDC 3
GUARD GND TRACE
PLACE ADT7467 AS CLOSE AS POSSIBLE TO CPU
GUARD TRACE & D+/D- WIDTH:SPACE= 10:10 MIL(MIN)
SYS FAN1
+12V
D17 1N4148W
EC19 180u_16V_SOLID
C269 10u_16V_1206
R348 4.7K_1%_0402
R303 27K_0402
SFAN_IN1 16
Q26 SI2301BDS_P
SYS_F1
BH1X3B_white-2
R350 10K_0402
C303 10u_16V_1206
R355 2.2K
1N5817
R508 1K_0402
D18
VCC5
SFAN_OUT
R511 1K_0402
R360 10K_0402
16 SFAN_OUT1
R509 X_1K_0402
Q30 2N7002
Kaofang suggestion
CPU FAN
+12V
D10 1N4148W
EC15 180u_16V_SOLID
C266 10u_16V_1206
R260 4.7K_1%_0402
R261 27K_0402
CFAN_IN 16
Q11 SI2301BDS_P
CPU_F1
FAN1X3_white
R340 10K_0402
C270 10u_16V_1206
R264 2.2K
1N5817
R498 1K_0402
D11
VCC5
R343 10K_0402
16 CFAN_OUT
Q12 2N7002
SYS FAN2
+12V
D15 1N4148W
EC17 180u_16V_SOLID
C268 10u_16V_1206
R270 4.7K_1%_0402
R265 27K_0402
SFAN_IN2 16
Q16 SI2301BDS_P
SYS_F2
BH1X3B_white-2
R344 10K_0402
C297 10u_16V_1206
R272 2.2K
1N5817
R507 1K_0402
D16
VCC5
SFAN_OUT
R510 1K_0402
R359 10K_0402
16 SFAN_OUT2
R505 X_1K_0402
Q22 2N7002
Kaofang suggestion
MSI
MICRO-STAR INT'L CO.,LTD
MS-7403
Size Custom
Document Description
SATA / RTC / FAN Control
Rev 0A
Date: Tuesday, March 27, 2007
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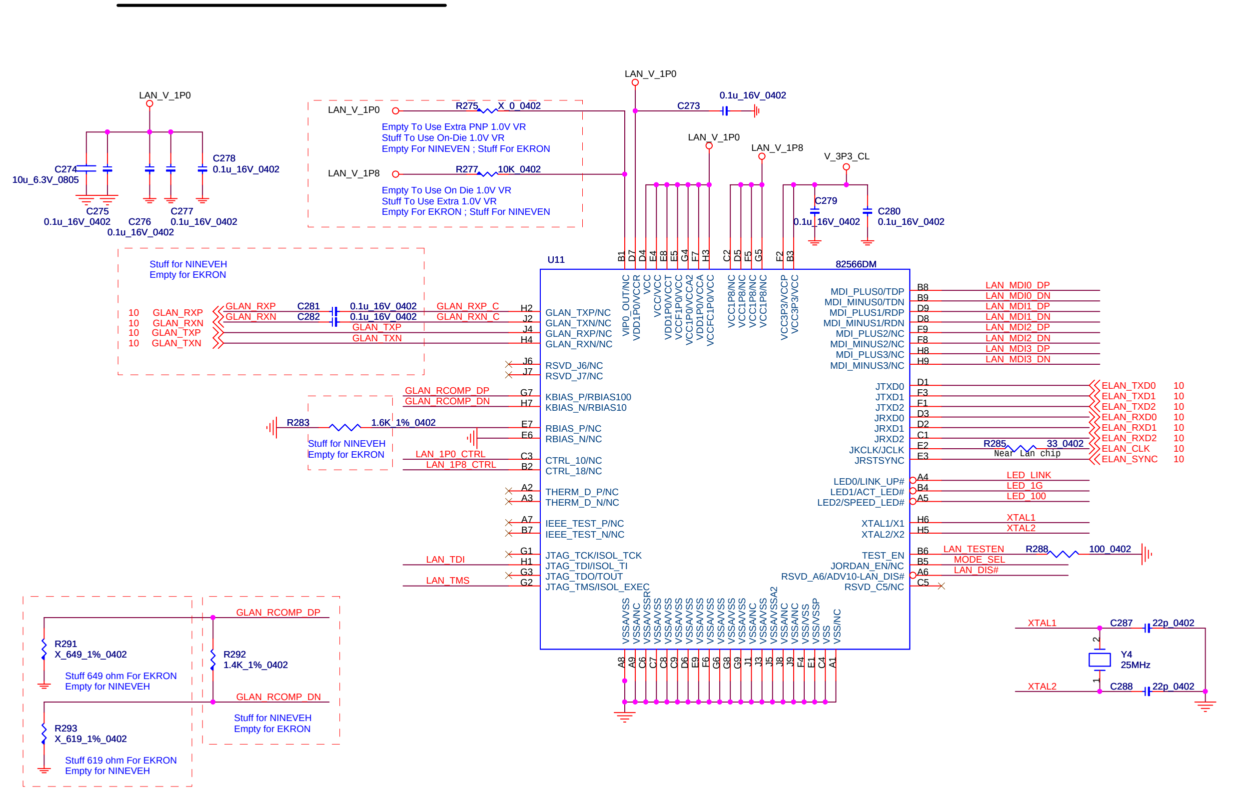
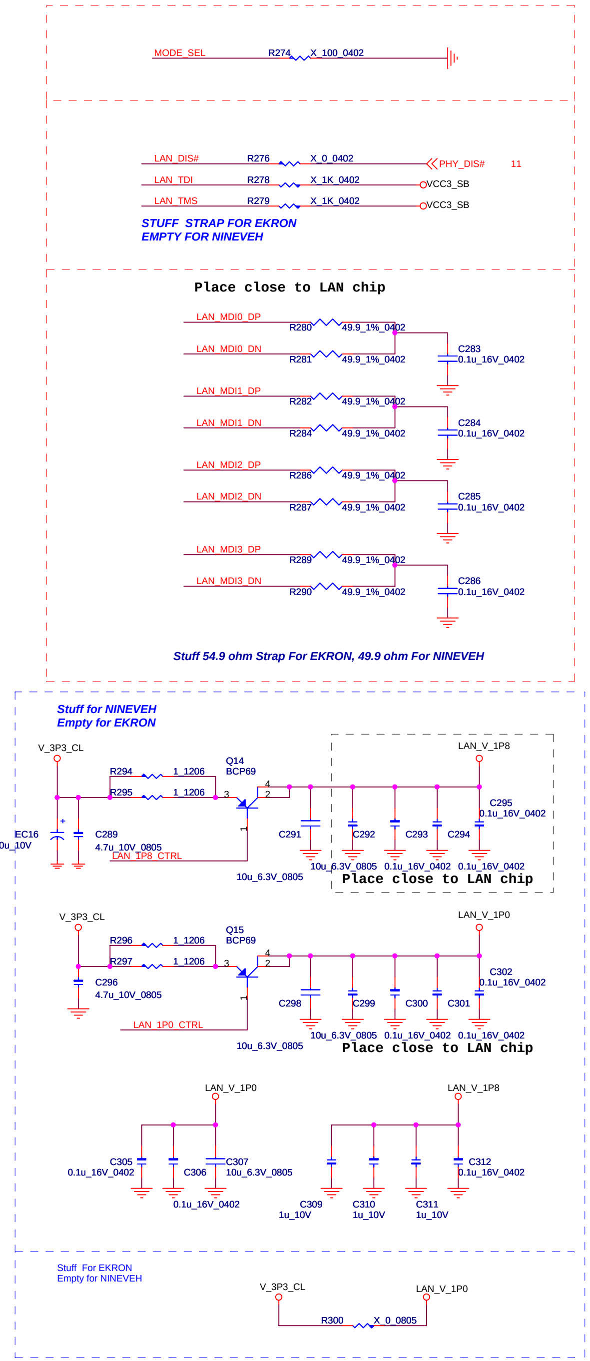
LAN - NINEVEH/EKRON





Intel 82556DM
For business desktop PCs.Support Intel AMT2 or ASF 2.0 alerting,Circuit Breaker,WoL,PXE,Multiport teaming,RSS,Intel Stable Image Platform Program drivers.
Intel 82556DC
For consumer desktop PC.Support Digital Home capabilities,WoL,PXE.
Intel 82562V
Basic 10/100 Ethernet connection.

B06-8256605-IY6
FOR NECP CONSIGN,CHIP LAN,INTEL/82566DM,,BGA-81pin,NINEVEH GIGA LAN CHIP(PHY),RoHS COMPLIANCE

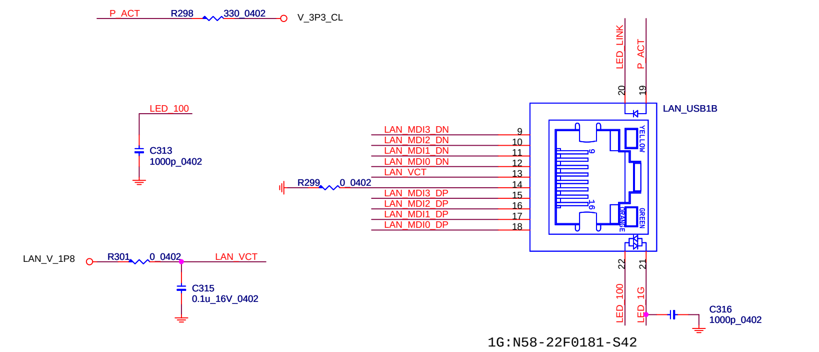
B06-8256615-I06
,CHIP LAN,INTEL/82566DC,,BGA-81pin,NINEVEH GIGA LAN CHIP(PHY),RoHS COMPLIANCE

B06-8256205-I06
,CHIP LAN,INTEL/82562V,,BGA-81pin,NINEVEH GIGA LAN CHIP(PHY),RoHS COMPLIANCE

Speed LED Type
1000Mbps : Orange
100Mbps : Green
10Mbps : LED off

YELLOW : For Active/Link

LAN CONNECTOR



ACT_LED	Link_LED
S0: LOW	S0: LOW
S1/S3/S4/S5: HIGH	S5: HIGH
	S1/S3/S4: WOL EN-->LOW WOL DIS-->HIGH

Giga-Lan	10/100-Lan
N58-22F0181-S42	N58-22F0061-S42 N58-22F0061-F02
Link Yellow Active Blinking 1000 Orange 100 Green 10 None	Link Yellow Active Blinking 100 Green 10 None
19, 20 Yellow	19, 20 Yellow
21, 22 Orange, Green	21, 22 Green

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Size	Document Description	Rev
Custom	**LAN - Intel 82566DM**	0A

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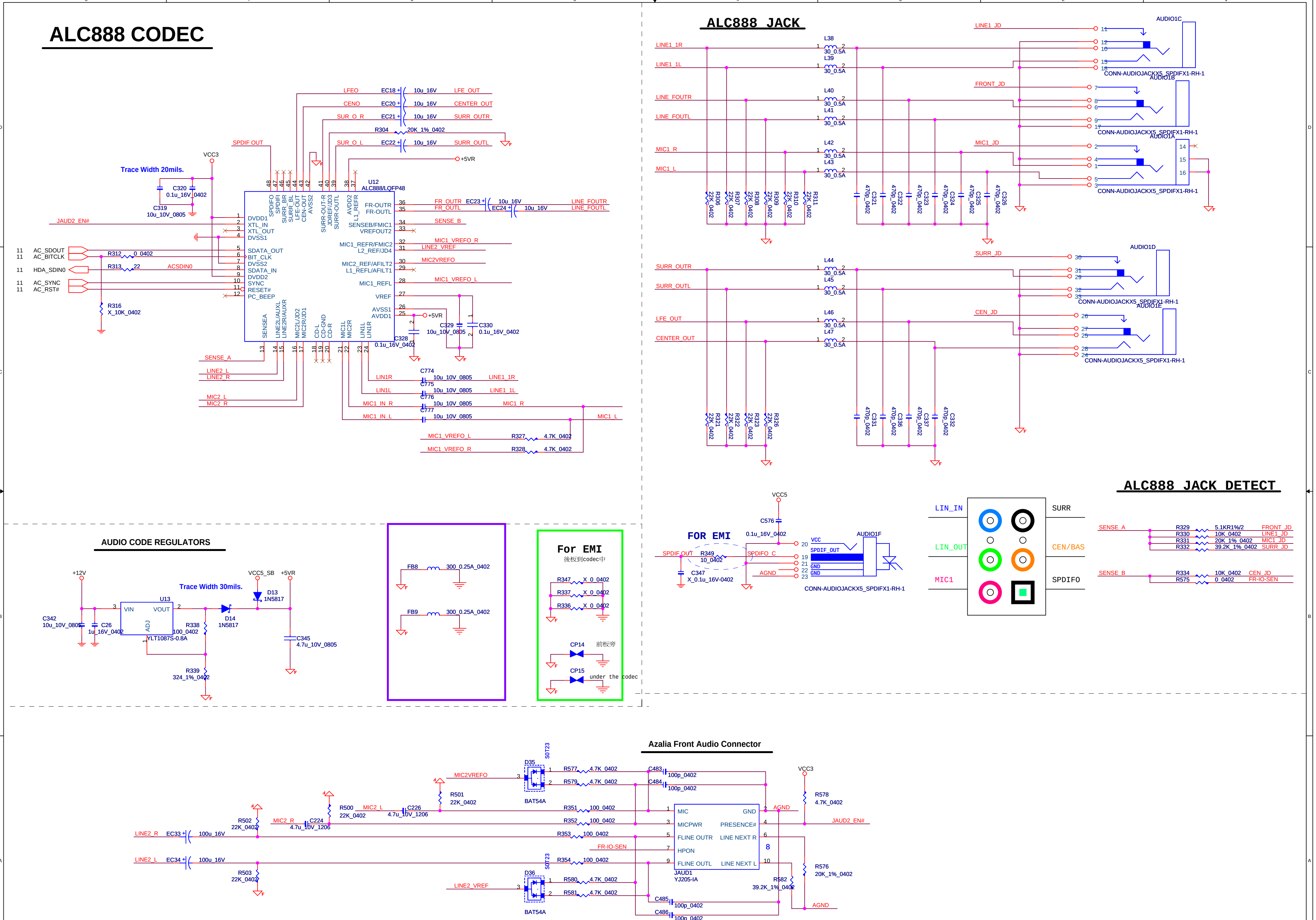
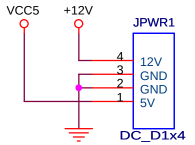
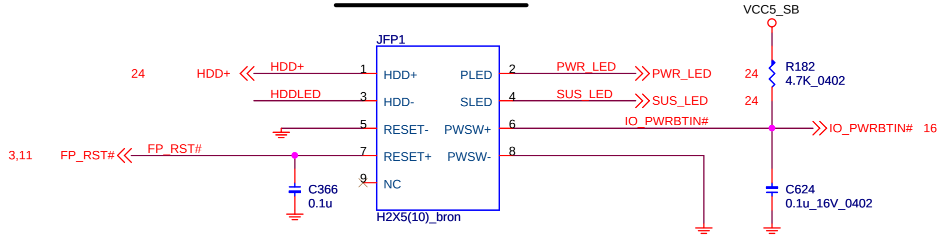


MICRO-STAR INT'L CO.,LTD	
MS-7403	
Size: C	Document Description: Azalia Audio - ALC888 FOR VISTA
Rev: 0A	
Date: Tuesday, March 27, 2007	Sheet 20 of 36

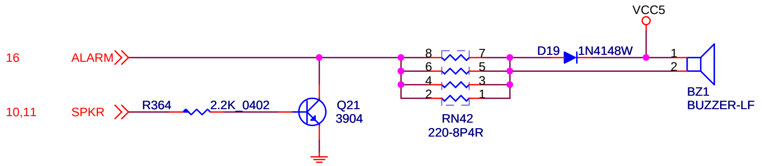
DC Voltage OUT

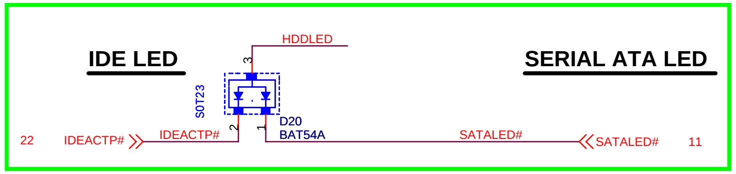


Intel Front Panel

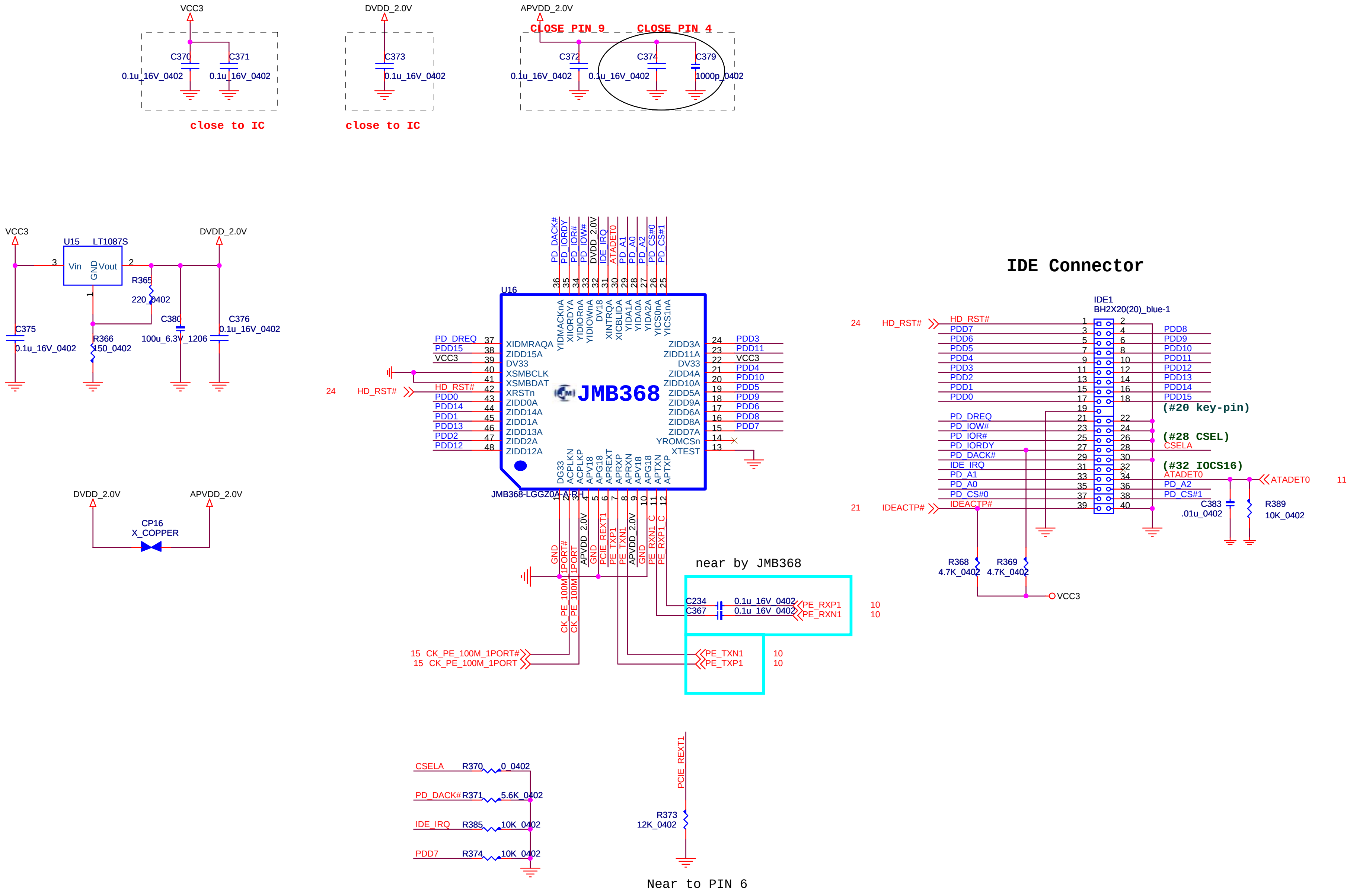


BUZZER

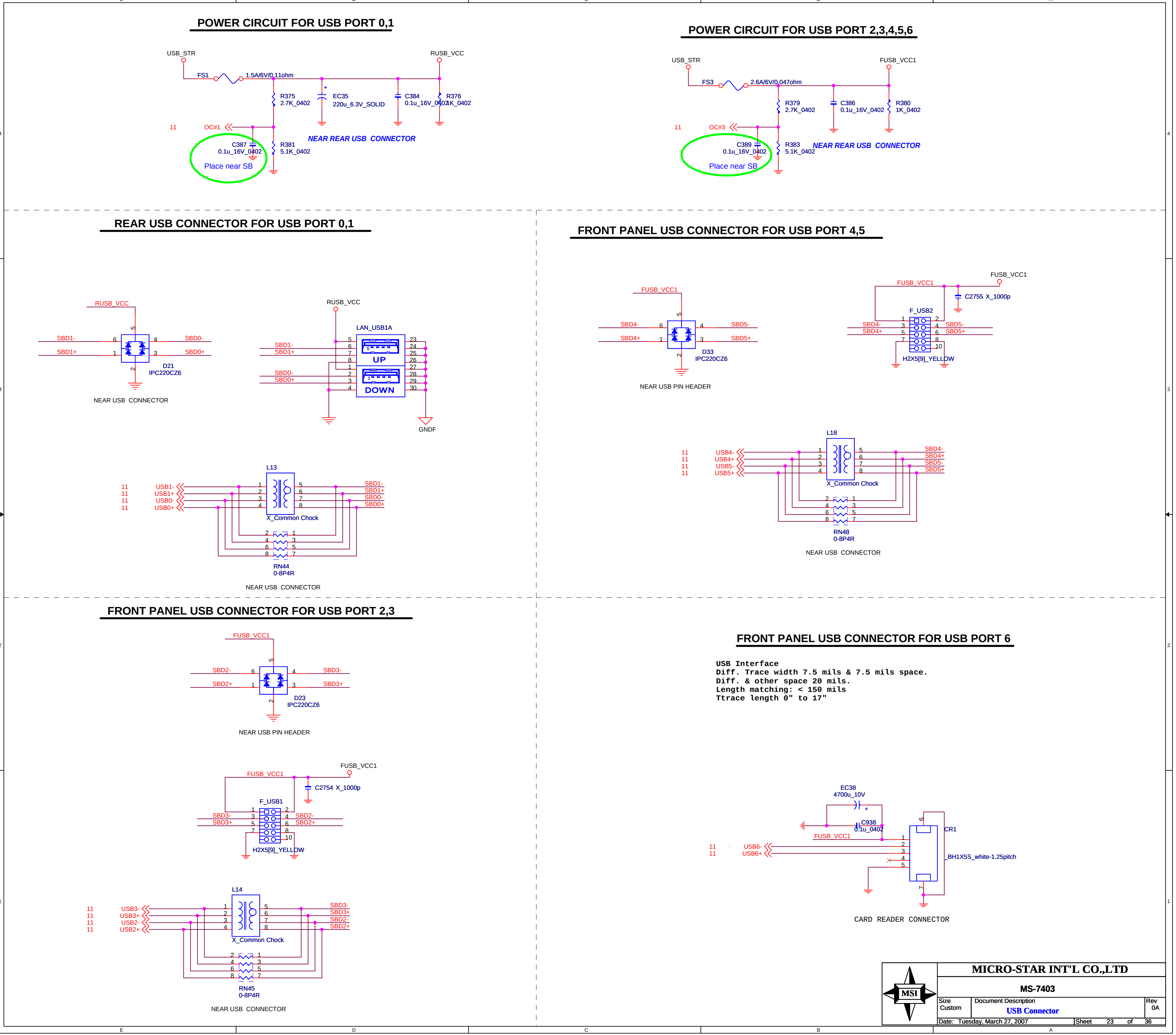




MICRO-STAR INT'L CO.,LTD		
MS-7403		
Size: Custom	Document Description: ATX & F_Panel	Rev: 0A
Date: Tuesday, March 27, 2007	Sheet 21 of 36	



MSI	MICRO-STAR INT'L CO.,LTD		
	MS-7403		
Size: Custom	Document Description: JMB368 - PCIE TO PATA		Rev: 0A
	Date: Tuesday, March 27, 2007	Sheet 22 of 36	


POWER CIRCUIT FOR USB PORT 0,1
USB_STR
RUSB_VCC
FS1
1.5A/6V/0.11ohm
R375
2.7K_0402
EC35
220u_6.3V_SOLID
C384
0.1u_16V_0402
R376
1K_0402
11
OC#1
C387
0.1u_16V_0402
R381
5.1K_0402
Place near SB
NEAR REAR USB CONNECTOR
POWER CIRCUIT FOR USB PORT 2,3,4,5,6
USB_STR
FUSB_VCC1
FS3
2.6A/6V/0.047ohm
R379
2.7K_0402
C386
0.1u_16V_0402
R380
1K_0402
11
OC#3
C389
0.1u_16V_0402
R383
5.1K_0402
Place near SB
NEAR REAR USB CONNECTOR
REAR USB CONNECTOR FOR USB PORT 0,1
RUSB_VCC
SBD1-
SBD1+
SBD0-
SBD0+
D21
IPC220CZ6
NEAR USB CONNECTOR
RUSB_VCC
LAN_USB1A
UP
DOWN
GNDF
L13
X_Common Chock
USB1-
USB1+
USB0-
USB0+
RN44
0-8P4R
NEAR USB CONNECTOR
FRONT PANEL USB CONNECTOR FOR USB PORT 4,5
FUSB_VCC1
SBD4-
SBD4+
SBD5-
SBD5+
D33
IPC220CZ6
NEAR USB PIN HEADER
FUSB_VCC1
C2755 X_1000p
F_USB2
H2X5[9]_YELLOW
L18
USB4-
USB4+
USB5-
USB5+
X_Common Chock
RN48
0-8P4R
NEAR USB CONNECTOR
FRONT PANEL USB CONNECTOR FOR USB PORT 2,3
FUSB_VCC1
SBD2-
SBD2+
SBD3-
SBD3+
D23
IPC220CZ6
NEAR USB PIN HEADER
FUSB_VCC1
C2754 X_1000p
F_USB1
H2X5[9]_YELLOW
L14
USB3-
USB3+
USB2-
USB2+
X_Common Chock
RN45
0-8P4R
NEAR USB CONNECTOR
FRONT PANEL USB CONNECTOR FOR USB PORT 6
USB Interface
Diff. Trace width 7.5 mils & 7.5 mils space.
Diff. & other space 20 mils.
Length matching: < 150 mils
Ttrace length 0" to 17"
EC38
4700u_10V
C938
0.1u_0402
FUSB_VCC1
USB6-
USB6+
CR1
BH1X5S_white-1.25pitch
CARD READER CONNECTOR
MICRO-STAR INT'L CO.,LTD
MS-7403
Size Custom
Document Description
USB Connector
Rev 0A
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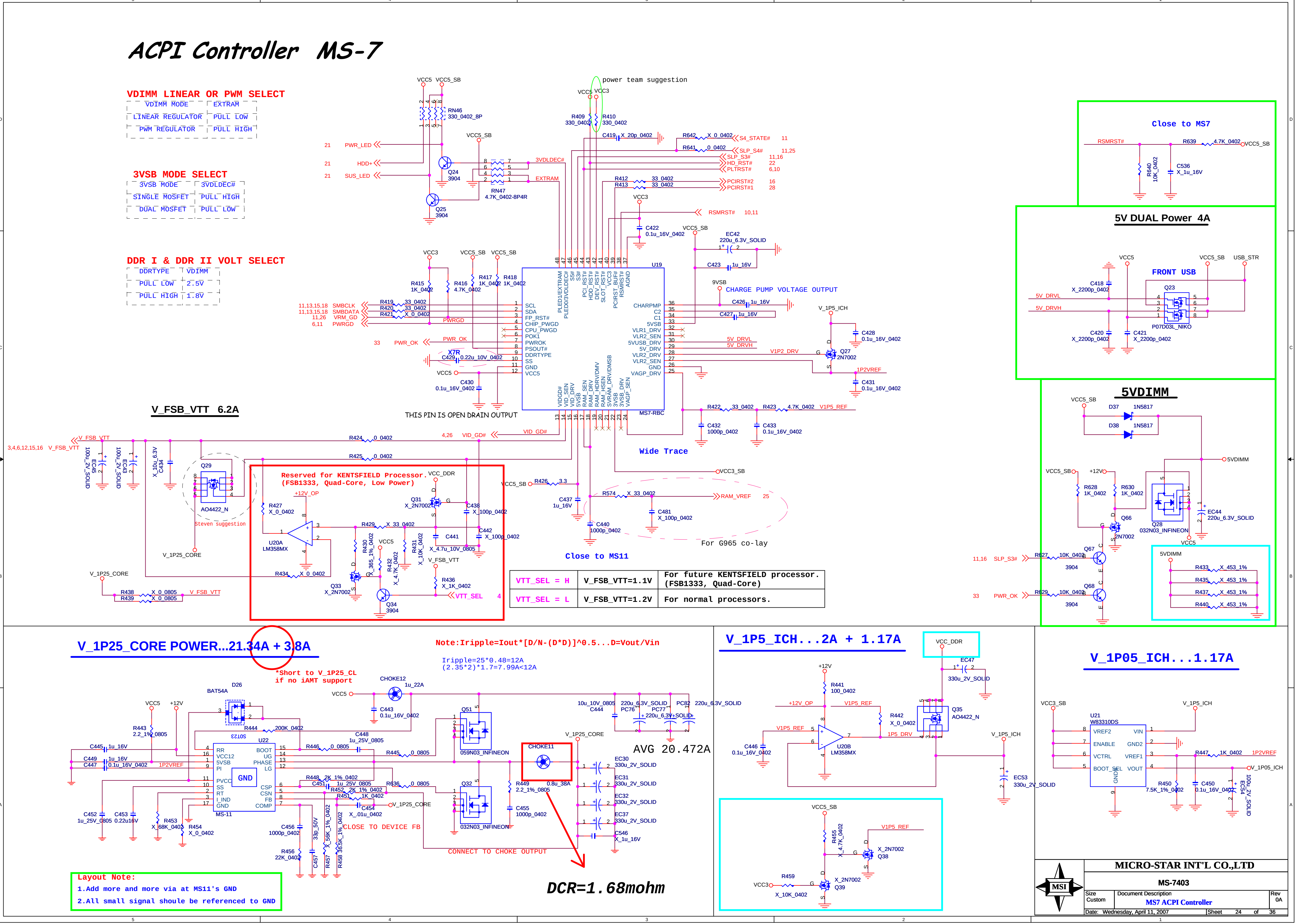

VDIMM MODE	EXTRAM
LINEAR REGULATOR	PULL LOW
PWM REGULATOR	PULL HIGH

3VSB MODE	3VDLDEC#
SINGLE MOSFET	PULL HIGH
DUAL MOSFET	PULL LOW

DDRTYPE	VDIMM
PULL LOW	2.5V
PULL HIGH	1.8V

VTT_SEL = H	V_FSB_VTT=1.1V	For future KENTSFIELD processor. (FSB1333, Quad-Core)
VTT_SEL = L	V_FSB_VTT=1.2V	For normal processors.

MICRO-STAR INT'L CO.,LTD

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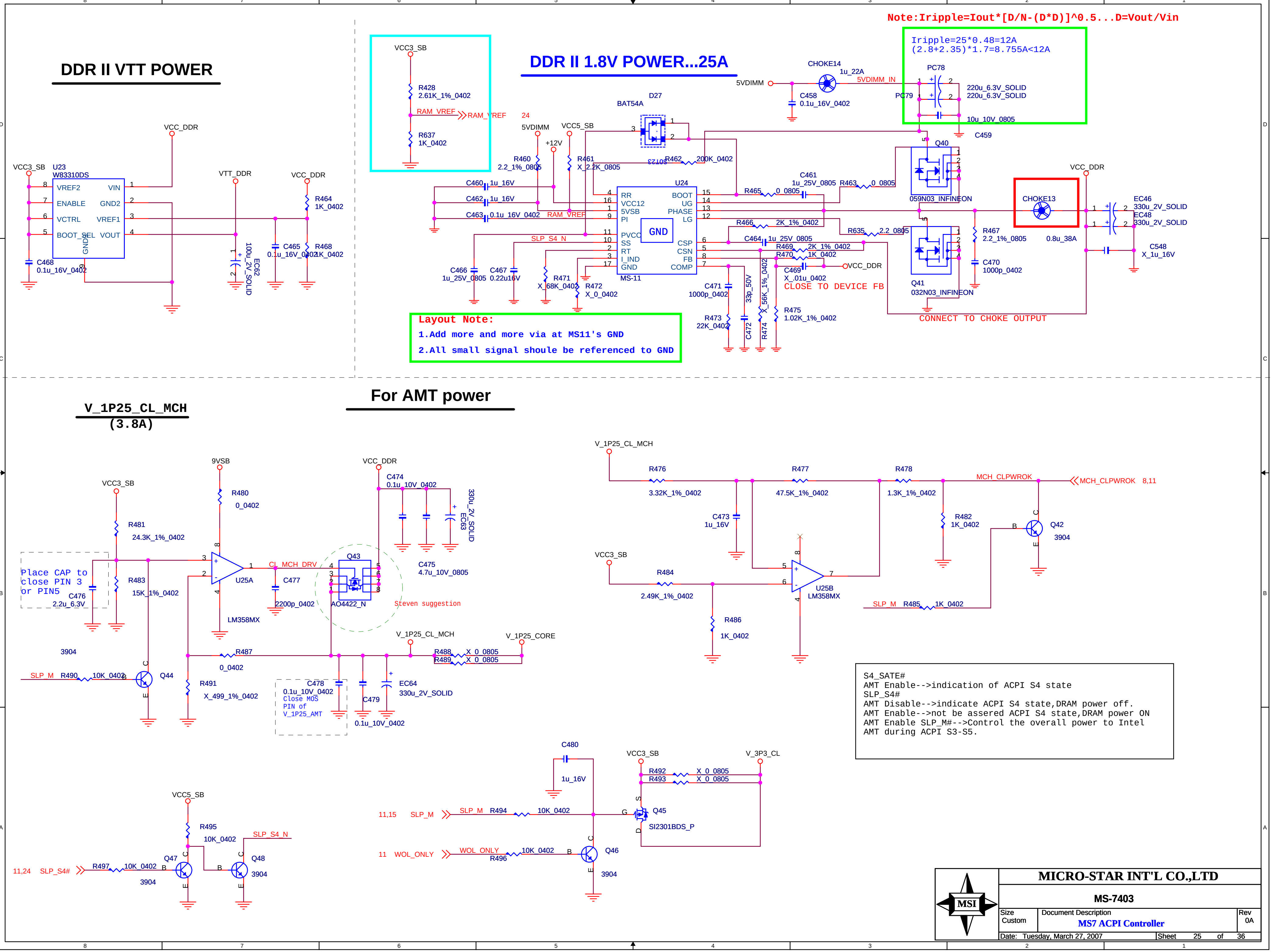
Note:Iripple=Iout*[D/N-(D*D)]^0.5...D=Vout/Vin
DDR II VTT POWER
DDR II 1.8V POWER...25A
Iripple=25*0.48=12A
(2.8+2.35)*1.7=8.755A<12A
VCC3_SB
R428
2.61K_1%_0402
RAM_VREF
RAM_VREF 24
R637
1K_0402
5VDIMM
CHOKE14
1u_22A
5VDIMM_IN
C458
0.1u_16V_0402
PC78
PC79
220u_6.3V_SOLID
220u_6.3V_SOLID
10u_10V_0805
C459
D27
BAT54A
VCC5_SB
+12V
R460
2.2_1%_0805
R461
X_2.2K_0805
R462
200K_0402
U23
W83310DS
VREF2
ENABLE
VCTRL
BOOT_SEL
VIN
GND2
VREF1
VOUT
GND
VCC_DDR
VTT_DDR
R464
1K_0402
R468
1K_0402
C465
0.1u_16V_0402
C468
0.1u_16V_0402
EC62
100u_2V_SOLID
C460 1u_16V
C462 1u_16V
C463 0.1u_16V_0402
U24
RR
VCC12
5VSB
PI
PVCC
SS
RT
I_IND
GND
BOOT
UG
PHASE
LG
CSP
CSN
FB
COMP
MS-11
SLP_S4_N
C466
1u_25V_0805
C467
0.22u16V
R471
X_68K_0402
R472
X_0_0402
C461
1u_25V_0805
R465 0_0805
R463 0_0805
Q40
059N03_INFINEON
R466 2K_1%_0402
R635 2.2_0805
C464 1u_25V_0805
R469 2K_1%_0402
R470 1K_0402
VCC_DDR
C469
X_.01u_0402
CLOSE TO DEVICE FB
Q41
032N03_INFINEON
C471
1000p_0402
R473
22K_0402
C472
33p_50V
R474
X_56K_1%_0402
R475
1.02K_1%_0402
CONNECT TO CHOKE OUTPUT
CHOKE13
0.8u_38A
R467
2.2_1%_0805
C470
1000p_0402
EC46
330u_2V_SOLID
EC48
330u_2V_SOLID
C548
X_1u_16V
Layout Note:
1.Add more and more via at MS11's GND
2.All small signal shoule be referenced to GND
For AMT power
V_1P25_CL_MCH
(3.8A)
9VSB
R480
0_0402
VCC3_SB
R481
24.3K_1%_0402
R483
15K_1%_0402
Place CAP to close PIN 3 or PIN5
C476
2.2u_6.3V
U25A
LM358MX
CL_MCH_DRV
C477
2200p_0402
Q43
AO4422_N
Steven suggestion
C474
0.1u_10V_0402
330u_2V_SOLID
EC63
C475
4.7u_10V_0805
3904
SLP_M R490 10K_0402
Q44
R487
0_0402
R491
X_499_1%_0402
C478
0.1u_10V_0402
Close MOS
PIN of
V_1P25_AMT
C479
0.1u_10V_0402
EC64
330u_2V_SOLID
V_1P25_CL_MCH
V_1P25_CORE
R488 X_0_0805
R489 X_0_0805
R476
3.32K_1%_0402
R477
47.5K_1%_0402
R478
1.3K_1%_0402
MCH_CLPWROK
MCH_CLPWROK 8,11
C473
1u_16V
R482
1K_0402
Q42
3904
R484
2.49K_1%_0402
R486
1K_0402
U25B
LM358MX
SLP_M R485 1K_0402
S4_SATE#
AMT Enable-->indication of ACPI S4 state
SLP_S4#
AMT Disable-->indicate ACPI S4 state,DRAM power off.
AMT Enable-->not be assered ACPI S4 state,DRAM power ON
AMT Enable SLP_M#-->Control the overall power to Intel
AMT during ACPI S3-S5.
C480
1u_16V
VCC3_SB
V_3P3_CL
R492 X_0_0805
R493 X_0_0805
11,15 SLP_M
SLP_M R494 10K_0402
Q45
SI2301BDS_P
11 WOL_ONLY
WOL_ONLY R496 10K_0402
Q46
3904
VCC5_SB
R495
10K_0402
SLP_S4_N
11,24 SLP_S4#
R497 10K_0402
Q47
3904
Q48
3904
MICRO-STAR INT'L CO.,LTD
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MS7 ACPI Controller
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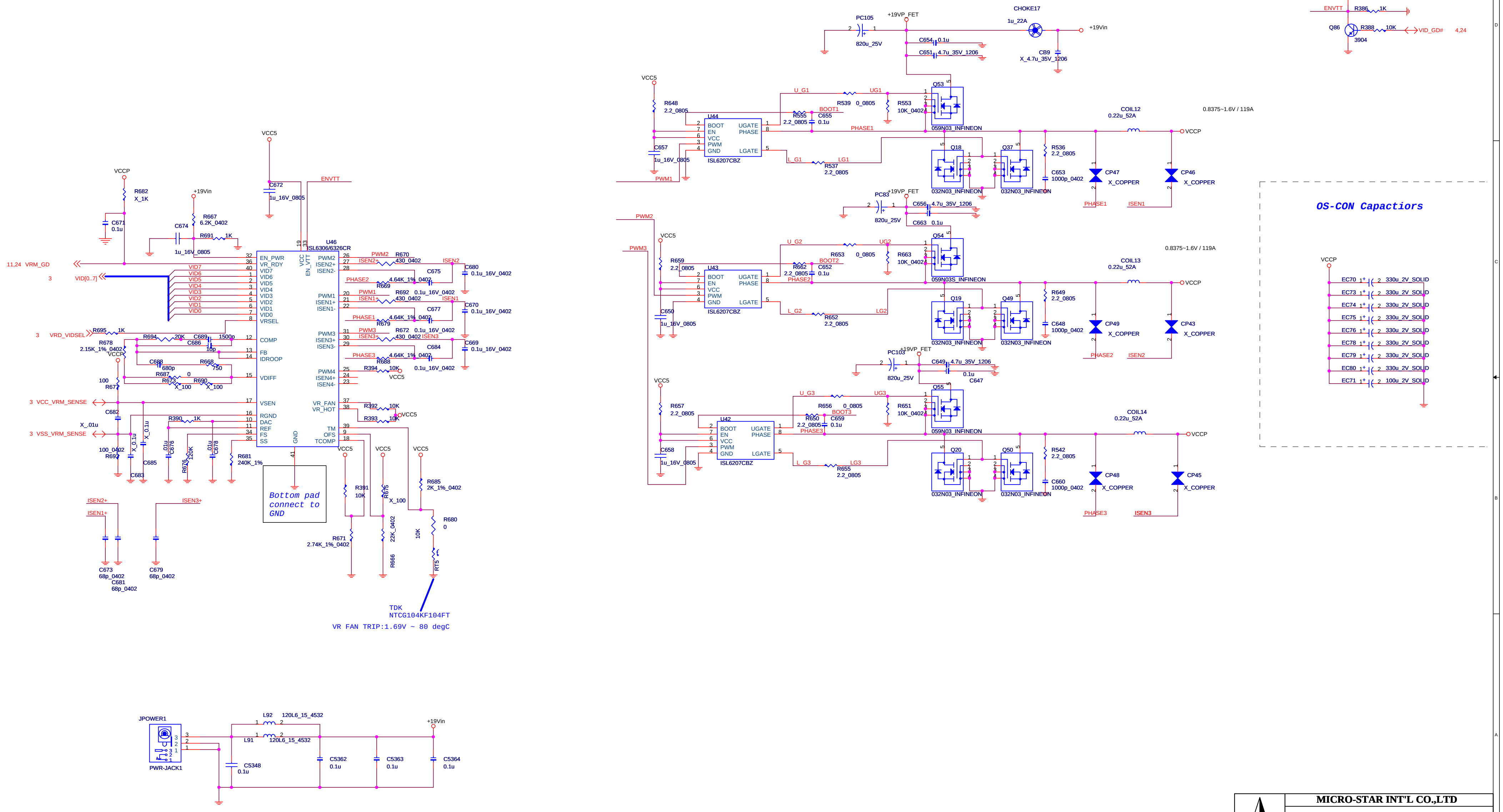
Voltage Regular Module



MICRO-STAR INT'L CO.,LTD		
MS-7403		
Size: Custom	Document Description: VRD11 - ISL6312 4Phase	Rev: 0A
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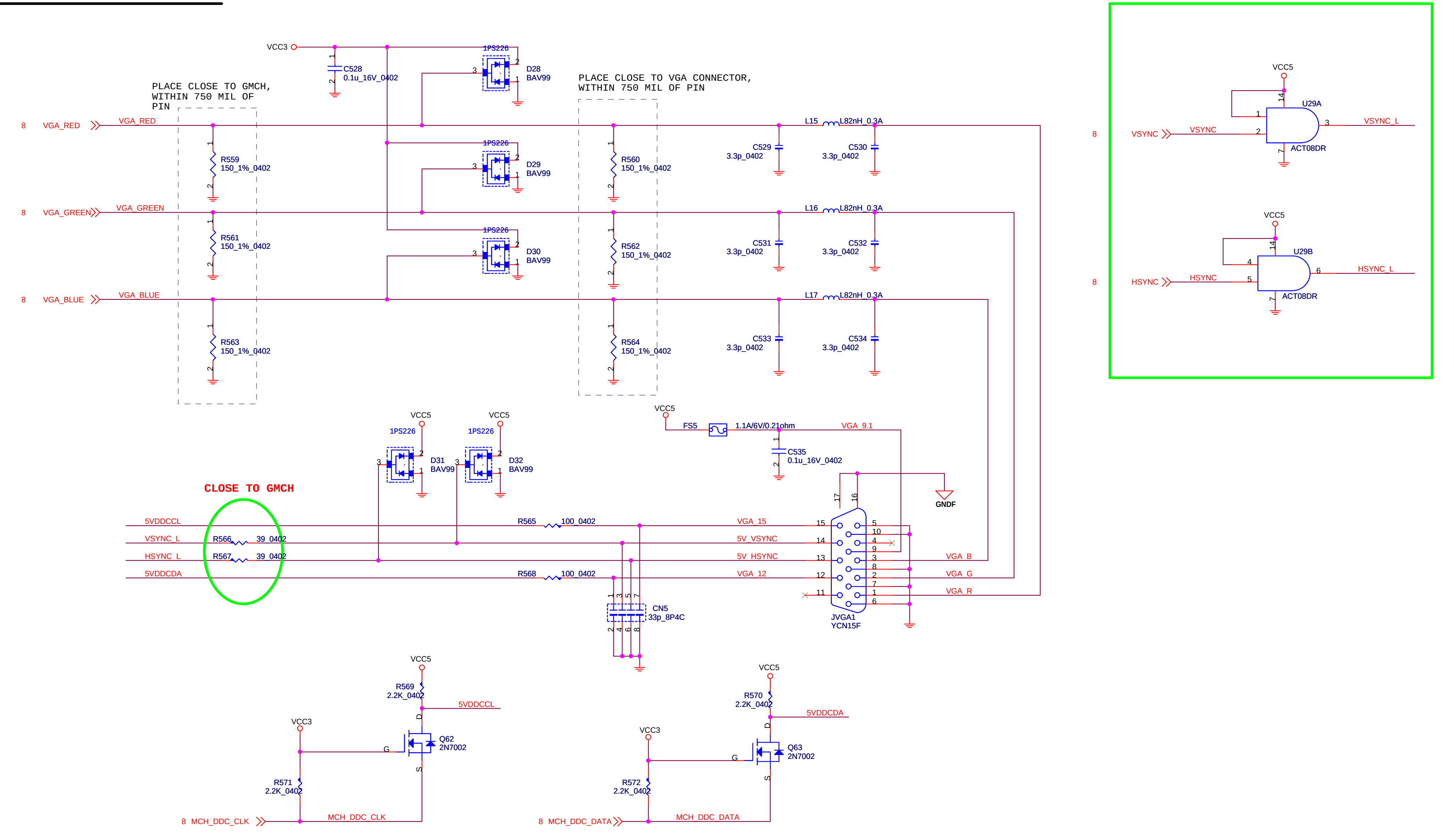
Video Connector



MICRO-STAR INT'L CO.,LTD

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Custom	VGA Connector	0A

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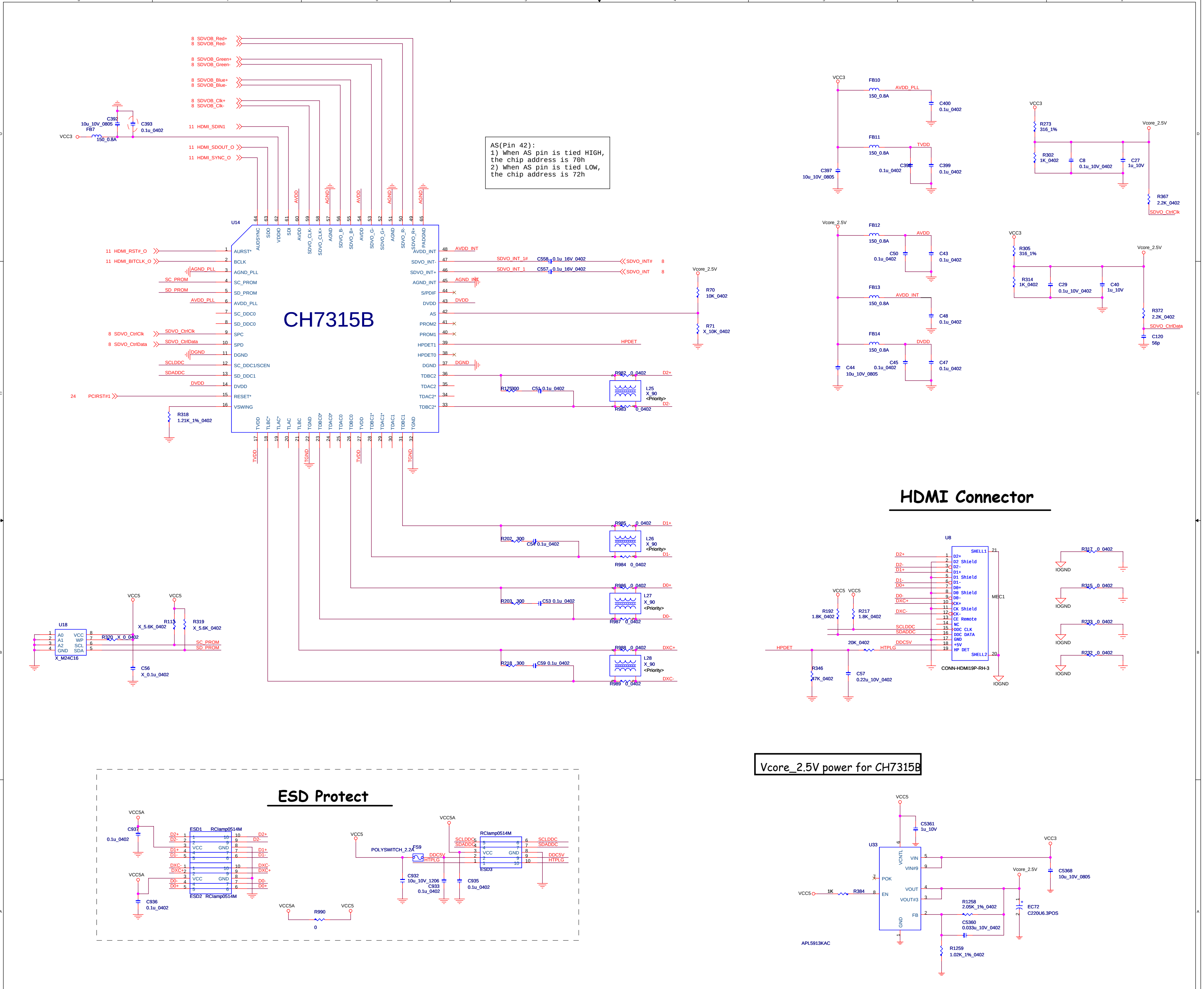

MICRO-STAR INT'L CO.,LTD	
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ICH8

GPIO	Alt Func	Pin	I/O/NC	Power	PU	SMI	Tol	Default	Signal Name
GPIO[0]	unmuxed		I/O	Core	Y	Y	3.3V	GPI	SIO_SMI#
GPIO[1]	TACH1		I/O	Core	Y	Y	3.3V	GPI	SFAN_TACH
GPIO[5:2]	PIRQ[H:E]#		I/OD	Core	Y	Y	5V	GPI	PIRQ#[H:E]
GPIO[7:6]	TACH[3:2]		I/O	Core	Y	Y	3.3V	GPI	GPIO_[7:6]
GPIO[8]	unmuxed		I/O	Resume	Y	Y	3.3V	GPI	SIO_PME#
GPIO[9]	WOL_EN		I/O	Resume	Y	Y	3.3V	Native	GPIO_9
GPIO[10]	CLGPIO1		I/O	Resume	Y	Y	3.3V	GPI	GPIO_10
GPIO[11]	SMBALERT#		I/O	Resume	Y	Y	3.3V	Native	SMB_ALERT#
GPIO[12]	unmuxed		I/O	Resume	Y	Y	3.3V	GPI	ATADET0
GPIO[13]	unmuxed		I/O	Resume	Y	Y	3.3V	GPI	CLEAR_CMOS#
GPIO[14]	CLGPIO2		I/O	Resume	Y	Y	3.3V	GPI	ADT7467_ALERT#
GPIO[15]	unmuxed		I/O	Resume			3.3V	GPO	
GPIO[16]	unmuxed		I/O	Core			3.3V	GPO	
GPIO[17]	TACH0		I/O	Core	Y		3.3V	GPI	CFAN_TACH
GPIO[18]	unmuxed		I/O	Core			3.3V	GPO	
GPIO[19]	SATA1GP		I/O	Core	Y		3.3V	GPI	GPIO_19
GPIO[20]	unmuxed		I/O	Core			3.3V	GPO	
GPIO[21]	SATA0GP		I/O	Core	Y		3.3V	GPI	GPIO_21
GPIO[22]	SCLOCK		I/O	Core	Y		3.3V	GPI	GPIO_22
GPIO[23]	LDRQ1#		I/O	Core	Y		3.3V	Native	LDRQ_1#
GPIO[24]	CLGPIO0		I/O	Resume			3.3V	GPO	
GPIO[25]	unmuxed		I/O	Resume			3.3V	Native	CPU_STOP#
GPIO[26]	S4_STATE#		I/O	Resume			3.3V	GPO	S4_STATE#
GPIO[27]	EL_STATE0		I/O	Resume			3.3V	GPO	
GPIO[28]	EL_STATE1		I/O	Resume			3.3V	GPO	
GPIO[29]	OC5#		I/O	Resume	Y		3.3V	Native	OC#2
GPIO[30]	OC6#		I/O	Resume	Y		3.3V	Native	OC#3
GPIO[31]	OC7#		I/O	Resume	Y		3.3V	Native	OC#3
GPIO[32]	unmuxed		I/O	Core			3.3V	GPO	SPI_WP#
GPIO[33]	unmuxed		I/O	Core			3.3V	GPO	SPI_HOLD_GPO#
GPIO[34]	unmuxed		I/O	Core			3.3V	GPO	
GPIO[35]	SATACLKREQ#		I/O	Core			3.3V	GPO	
GPIO[36]	SATA2GP		I/O	Core	Y		3.3V	GPI	GPIO_36
GPIO[37]	SATA3GP		I/O	Core	Y		3.3V	GPI	GPIO_37
GPIO[38]	SLOAD		I/O	Core	Y		3.3V	GPI	GPIO_38
GPIO[39]	SDATAOUT0		I/O	Core	Y		3.3V	GPI	GPIO_39
GPIO[43:40]	OC[4:1]#		I/O	Resume	Y		3.3V	Native	OC#1;OC#2
GPIO[47:44]	NA		NA	NA			NA	NA	Not implemented
GPIO[48]	SDATAOUT1		I/O	Core	Y		3.3V	GPI	GPIO_48
GPIO[49]	CPUPWRGD		I/O	V_CPU_IO			CPU	Native	H_PWRGD
GPIO[50]	REQ1#		I/O	Core	Y		5.5V	Native	PREQ#1
GPIO[51]	GNT1#		I/O	Core			3.3V	Native	PGNT#1
GPIO[52]	REQ2#		I/O	Core	Y		5.5V	Native	PREQ#2
GPIO[53]	GNT2#		I/O	Core			3.3V	Native	PGNT#2
GPIO[54]	REQ3#		I/O	Core	Y		5.5V	Native	PREQ#3
GPIO[55]	GNT3#		I/O	Core			3.3V	Native	PGNT#3

PCI Config.

DEVICE	MCP1 INT Pin	REQ# / GNT#	IDSEL	CLOCK
PCI Slot 1	PIRQ#B PIRQ#C PIRQ#D PIRQ#A	PREQ#0 PGNT#0	AD20	PCI_CLK0
1394	PIRQ#D	PREQ#3 PGNT#3	AD22	1394_PCLK

PCI RESET DEVICE

Signals	Target
PCIRST#1	PCI-E X16 + PCI Slot
PCIRST#2	SIO,TPM,LPC DEBUG PORT
PCIRST#3	PCI-E X16 + PCI Slot
PCIRST_ICH8#	1394
HD_RST#	Primary IDE

DDRII DIMM Config.

DEVICE	ADDRESS	CLOCK
DIMM 1	A0H	MCLK_A0/MCLK_A#0 MCLK_A1/MCLK_A#1 MCLK_A2/MCLK_A#2
DIMM 2	A2H	MCLK_B0/MCLK_B#0 MCLK_B1/MCLK_B#1 MCLK_B2/MCLK_B#2

JUMPER SETTING

JBAT1	(1-2)NORMAL	(2-3)CLEAR

0A change to 0B

11/07

1.modify rsmrst# circuit.
2.remove R108,R111,R148,R149,R150,R70.
3.modify R109,R112 form 2.2K to 10K.
4.modify ADT7467_ALERT# through 10K to VCC3_SB.
5.add R636 0ohm for MS11 LG.
6.exchange audio front panel line2_R and line2_L.
7.modify U26A to U25B.

11/09 8.modify RAM_VREF circuit.
9.modify dimm slot name.

11/13 10.remove R232,R233,D3.

11/15 11.modify WINBOND circuit.
12.ADD EC46,EC52,EC53,EC58,R71,R641,R642.

11/16 13.remove R363,RN33.
14.change R209,R211,R212 pull up power from VCC3 to VCC3V.

11/20 (1)Vco
R508 – 1.54K ohm (Droop)
R509 – 15.4K ohm
R535 – 31.6K ohm (Offset)
EC72, 73, 74, 75, 76, 78, 79, 80, 81, 83 – 820uF/2.5V (OS-CON)
PN: Fuji 820u 2.5V (C71-8210251-F06) Main
R507, 519, 531, 538 – 4.32K ohm
C487, 501, 517, 522 – 1000PF
COIL1, 2, 3, 4 – 025uF P/N: L04-25B7021-Y01
(2)1.8V
R475 – 1.02K ohm
R635 – 2.2R ohm 0805
EC59, 60 , (add a PCS) - 1800uF/6.3V Total:3PCS 1800uF
C470 – 1000pF
(2)1.25V
R458 – 36.5K ohm
Add a LG - 0R ohm (0805)
EC50, 52, 55 – 1800uF/6.3V
C455 – 1000pF

11/24 TX ,RX 訊號線必須對調.
JMicron TX+,TX - trace 必須各加上一顆0.1uf(C234,C367) 電容

11/30 ADD R5,R7,R9,R10,R50,R51 for kentsfield.
jack1 and jack2 layout swap.

12/1 ADD R75 and REMOVE R73 for support DVI.

MICRO-STAR INT'L CO.,LTD			
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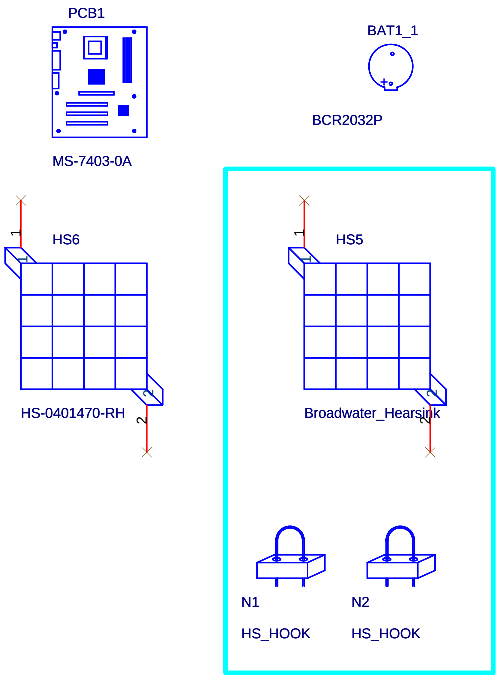

MSI

MICRO-STAR INT'L CO.,LTD

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Size	Document Description	Rev
Custom	**Manual Parts**	0A

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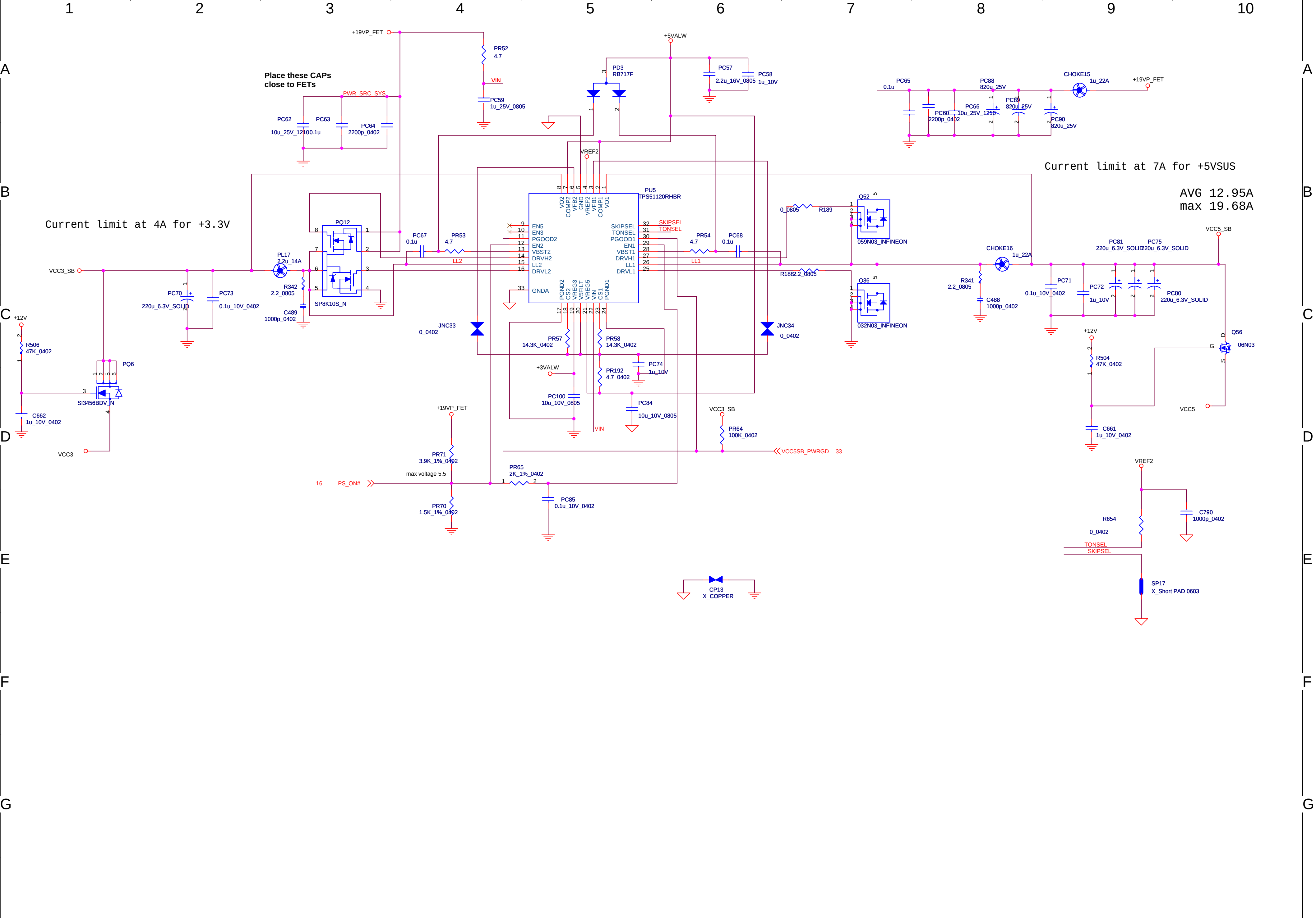

MICRO-STAR INT'L CO.,LTD

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Size	Document Description	Rev
C	DC-in power	0A

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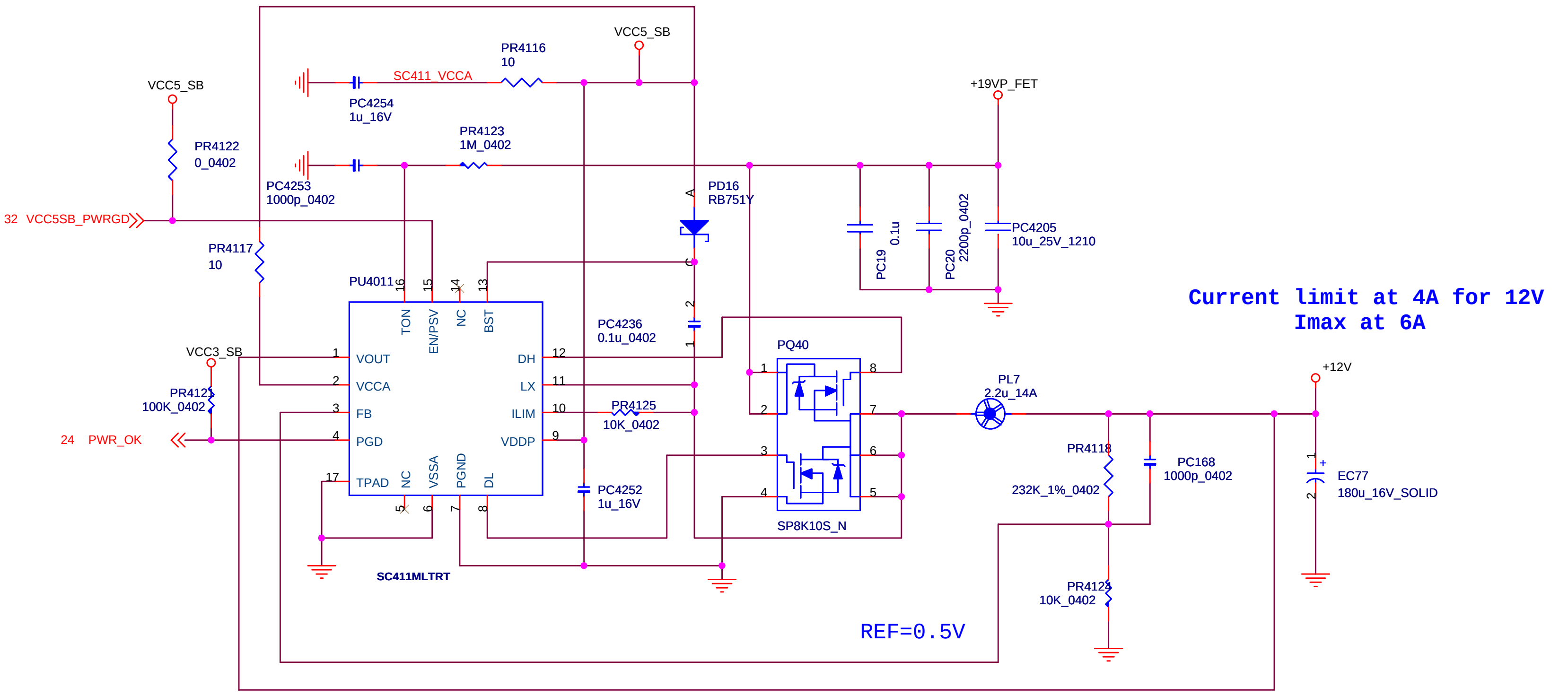

MSI	MICRO-STAR INT'L CO.,LTD		
	MS-7403		
	Size B	Document Description DC-in To 12V	Rev 0A
	Date: Tuesday, March 27, 2007	Sheet 33 of 36	