MS-7175

Version 0A

Intel (R) Grantsdale (GMCH) + ICH6 Chipset
Intel Tejas & Prescott LGA775 Processor

CPU:

Intel Tejas/Prescott - 3.6G

System Chipset:

Intel Grantsdale - GMCH (North Bridge)
Intel ICH6 (South Bridge)

On Board Chipset:

BIOS -- FWH FLASH 4Mb
Azalia Codec -- ALC880
LPC Super I/O -- WINBOND83627THF
LAN-INTEL 10/100 PHY 82562EZ
INTEL GIGA (PCI) 82541GI
CLOCK -- ICS954119
1394 -- VIA VT-6307
H/W Monitor W83792AD

Main Memory:

2 CHANNEL DDR 2 * 4 (Max 4GB)

Expansion Slots:

PCI Express X16 SLOT * 1
PCI 1.2.3 SLOT * 3

Intersil PWM:

Controller: HIP6565ACV
Driver: HIP6602B + HIP6601B

MSI MICRO-STAR INT'L CO., LTD.

Title: COVER SHEET

Size: Document Number: MS-7175 Rev: 0A

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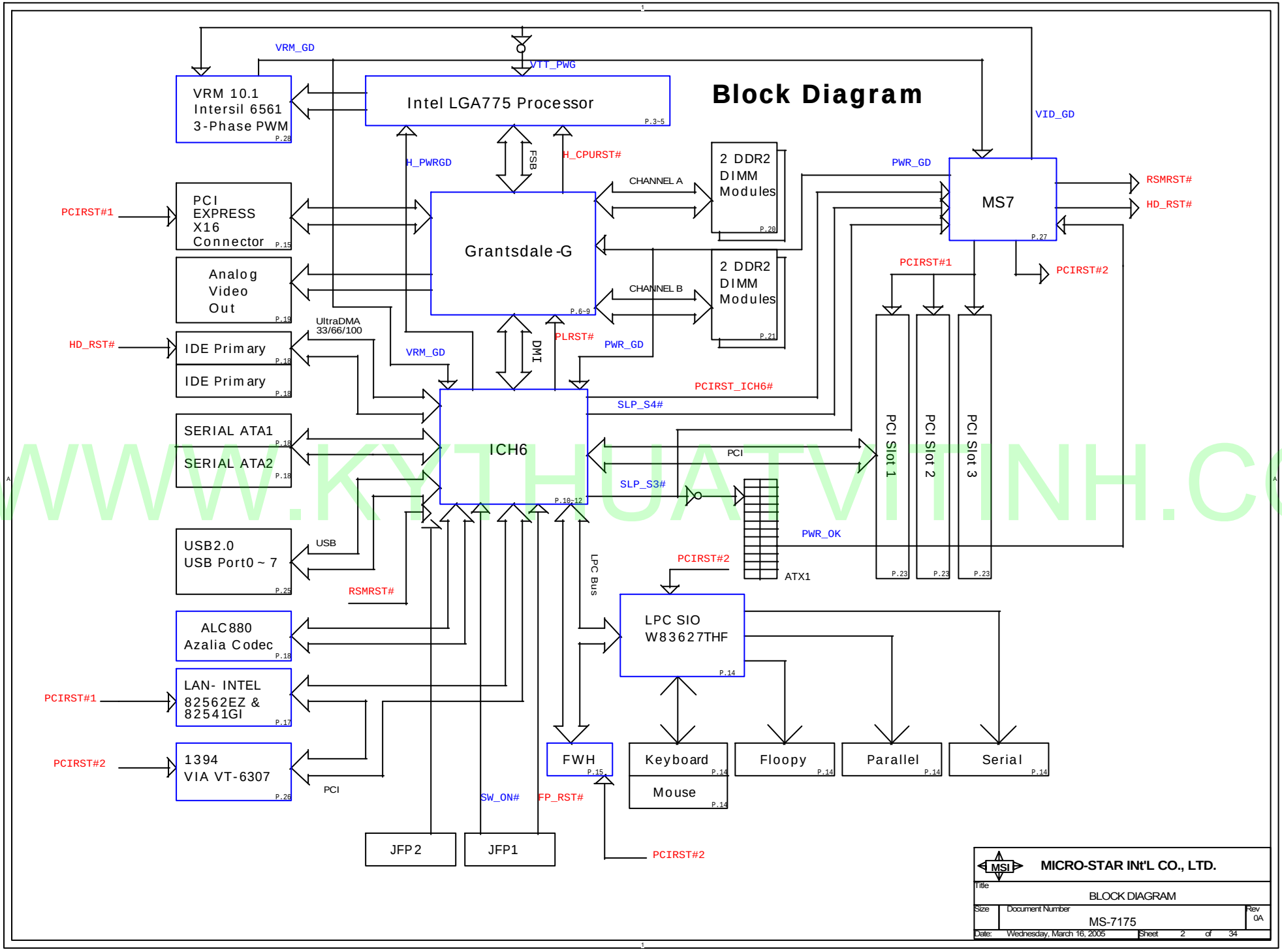
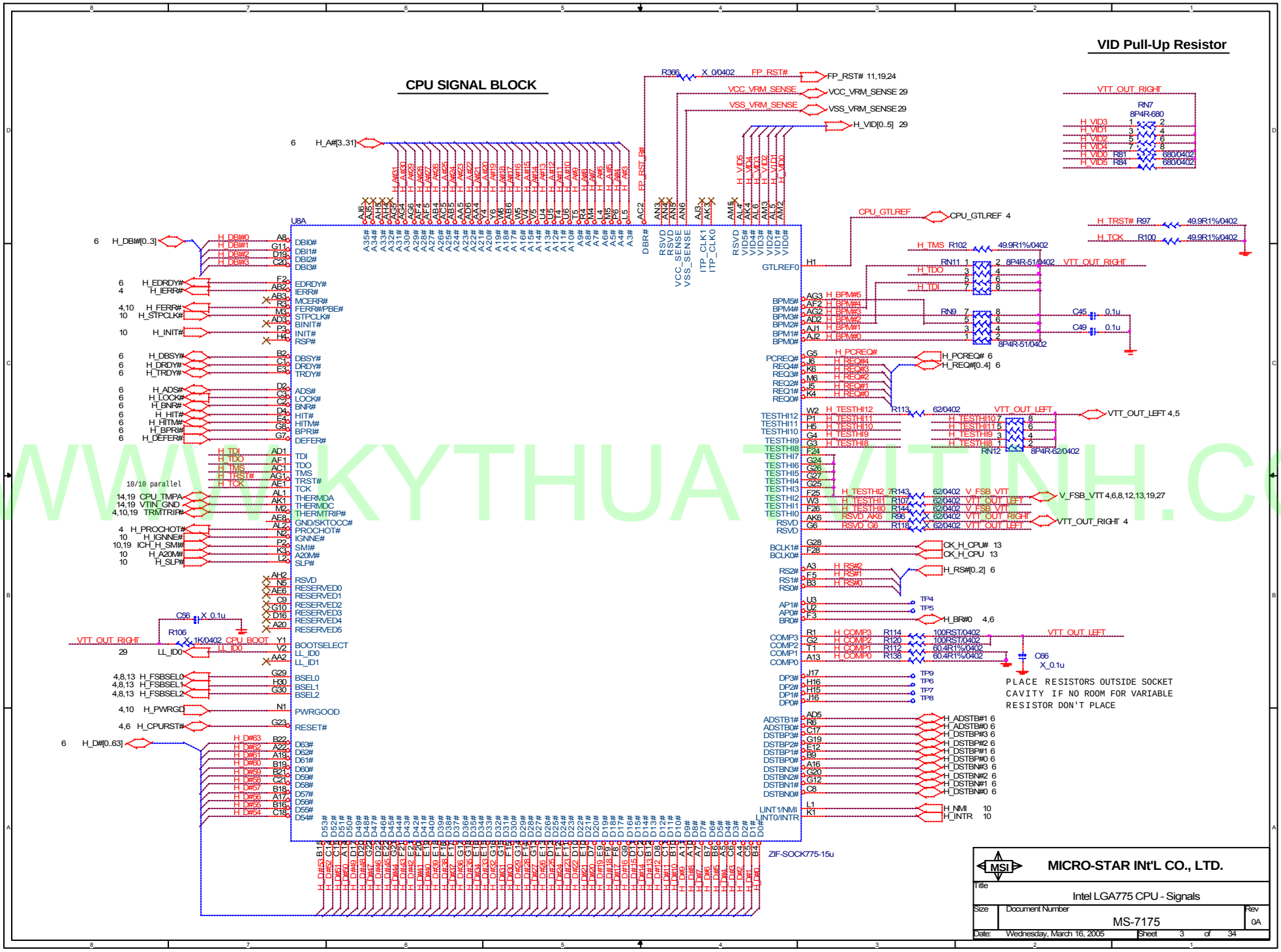
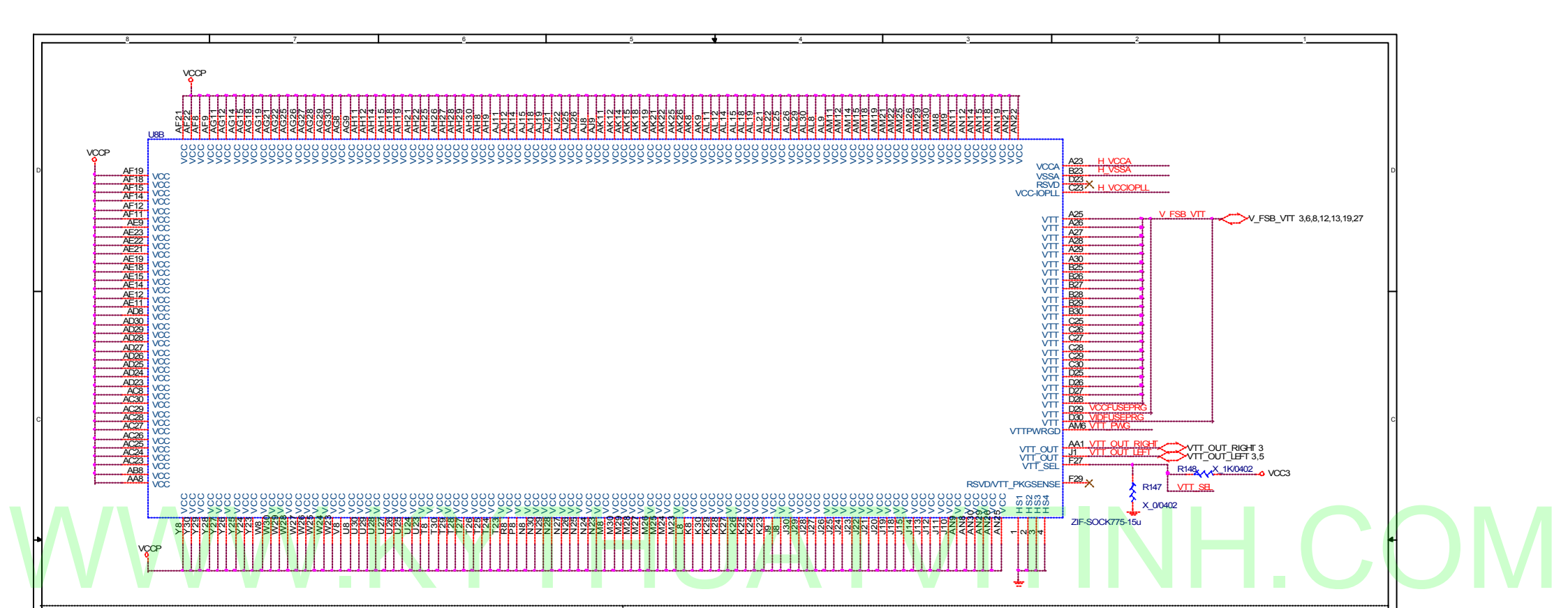
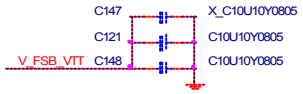
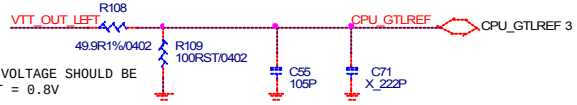






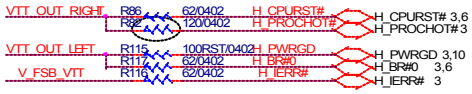


100 OHMS OVER 210 OHMS RESISTORS

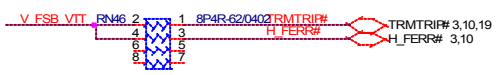


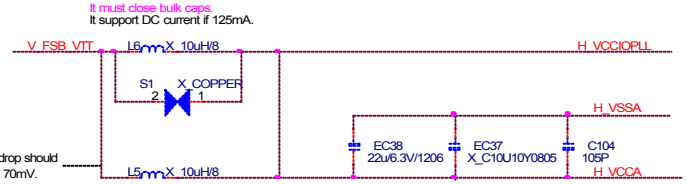
GTLREF VOLTAGE SHOULD BE
0.67*VTT = 0.8V

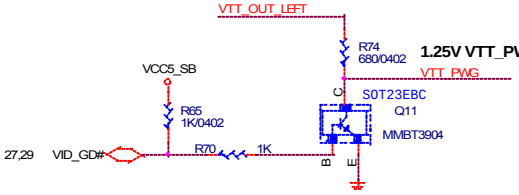
PLACE AT CPU END OF ROUTE



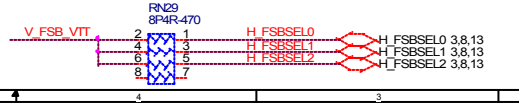
PLACE AT ICH END OF ROUTE







FSBSEL RESISTOR CAN BE REMOVED IF ONLY TEAJS
AND CEDAR MILL ARE SUPPORTED



MSI MICRO-STAR INt'L CO., LTD.

Title	Intel LGA775 CPU - Power	
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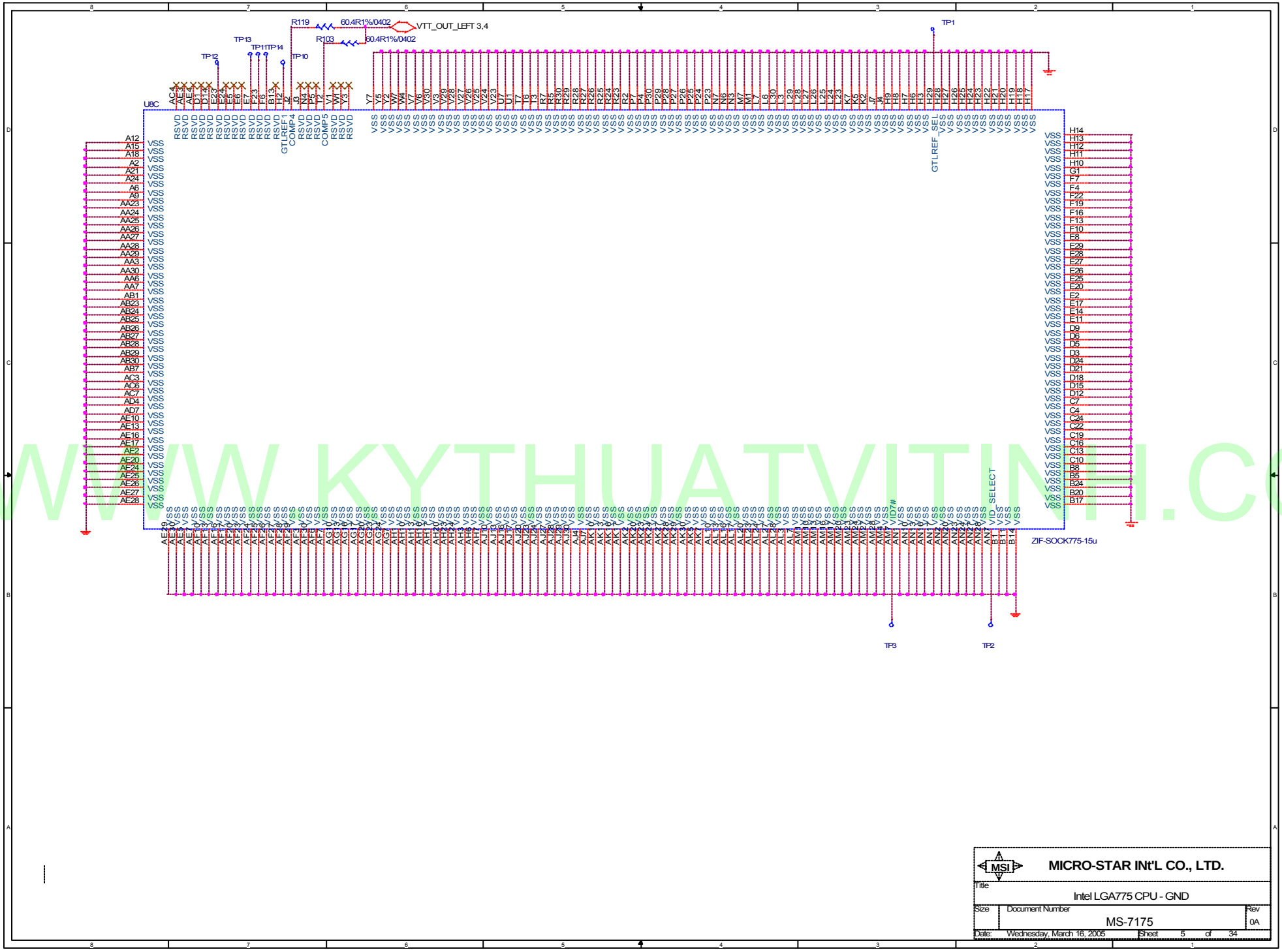

MSI	MICRO-STAR INt'L CO., LTD.		
Title	Intel LGA775 CPU - GND		
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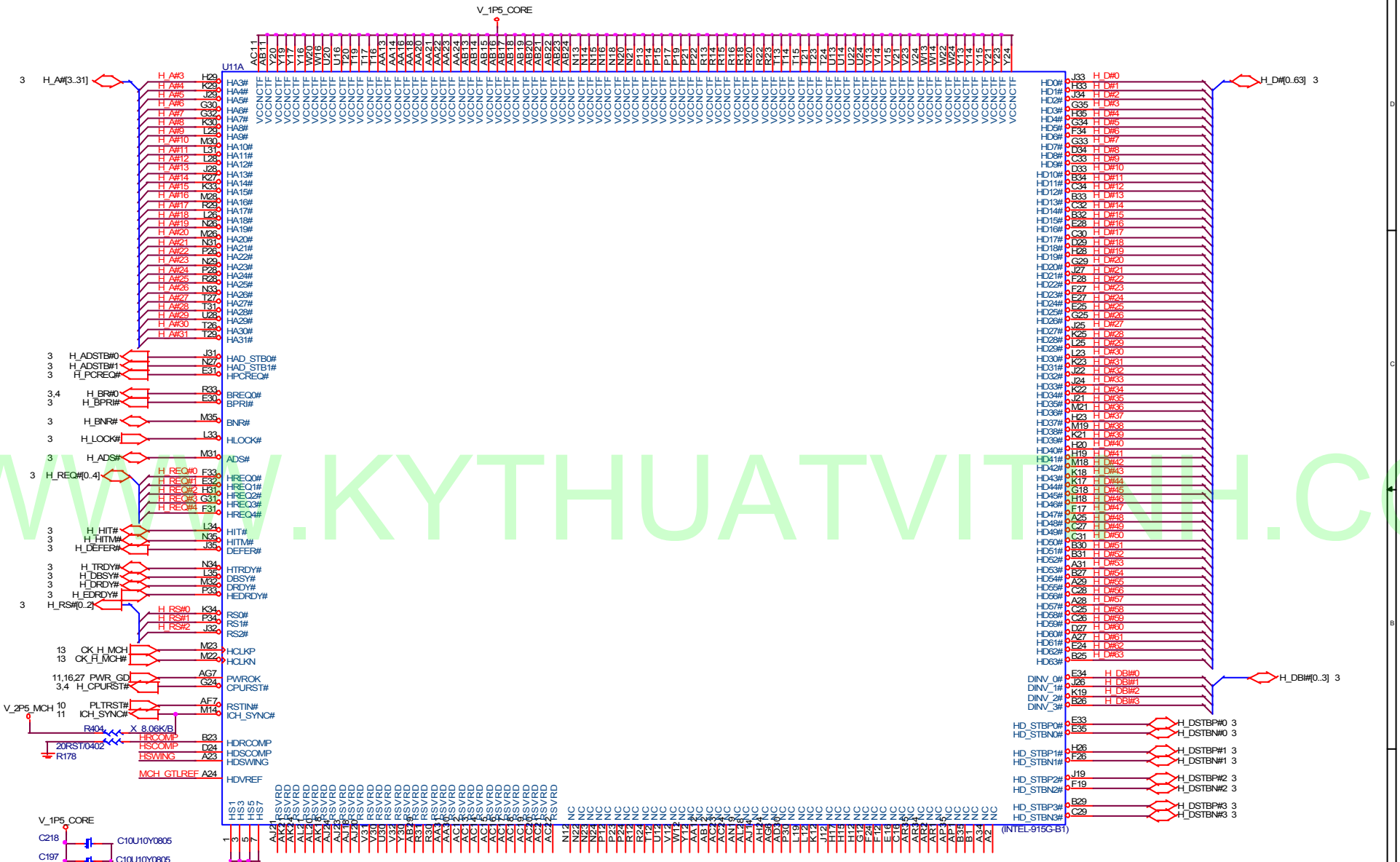

MSI MICRO-STAR INt'L CO., LTD.

Title: Intel Grantsdale - CPU Signals

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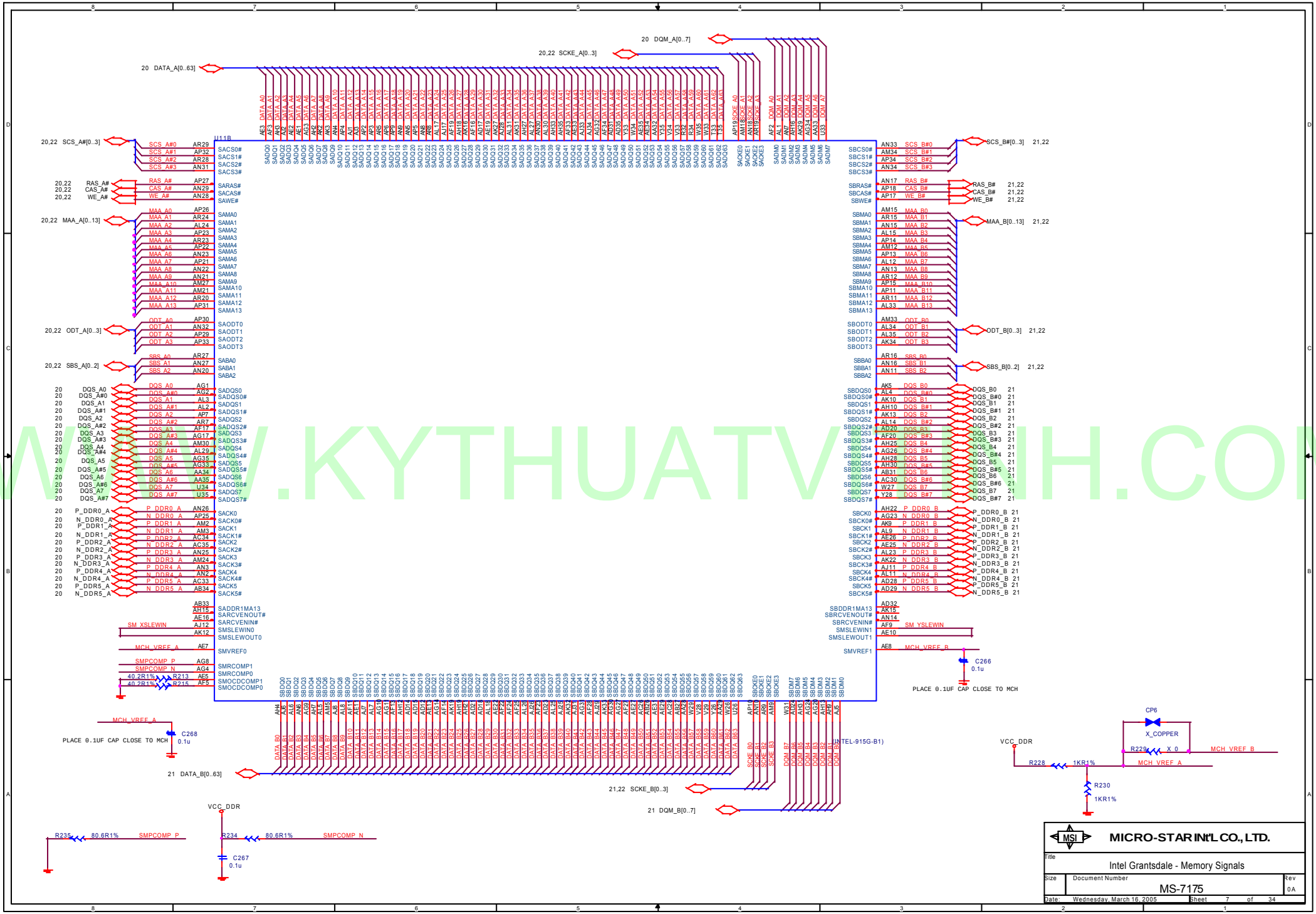

MICRO-STAR INt'L CO., LTD.

Title: Intel Grantsdale - Memory Signals

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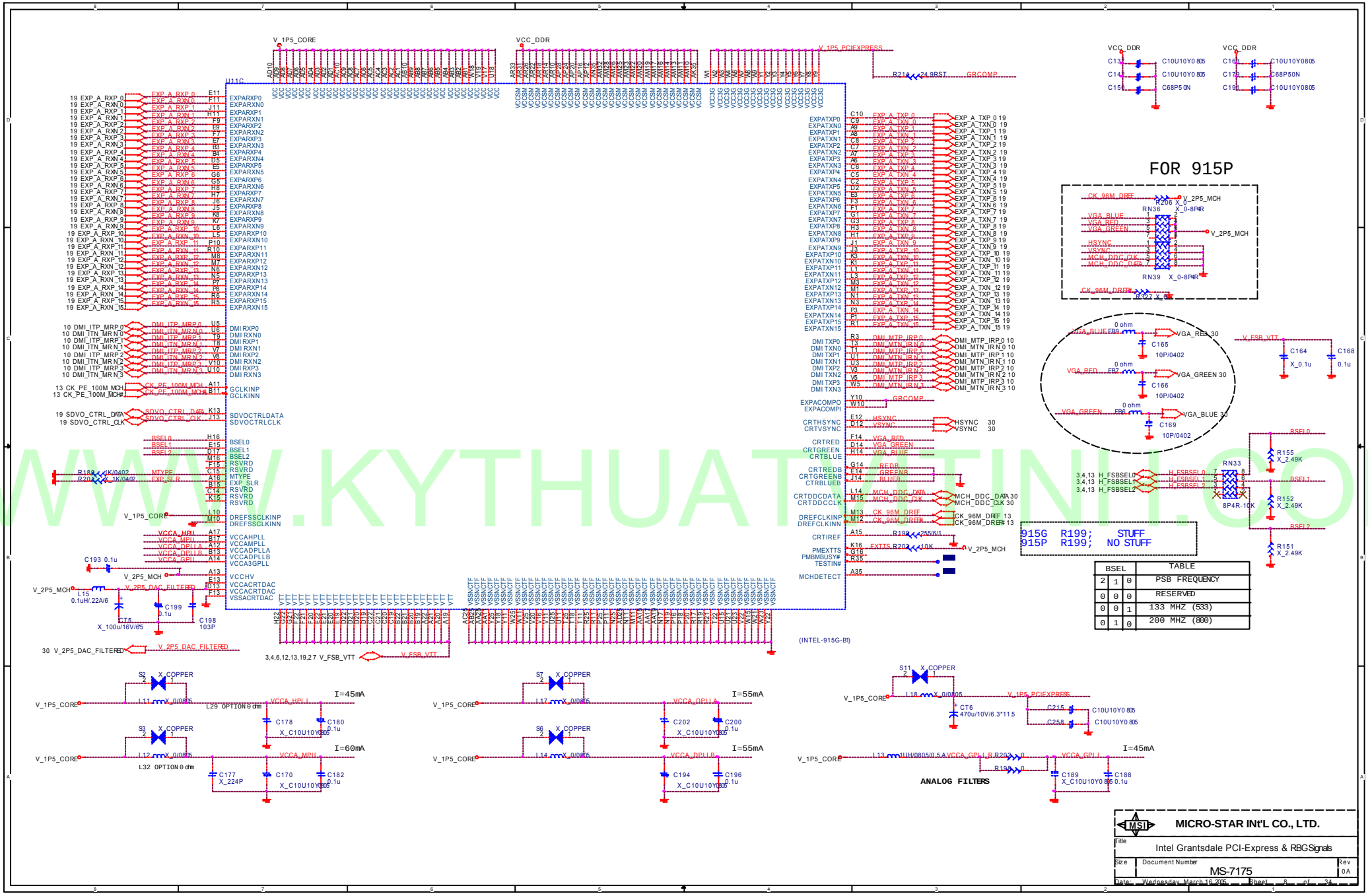

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Title: Intel Grantsdale - GND

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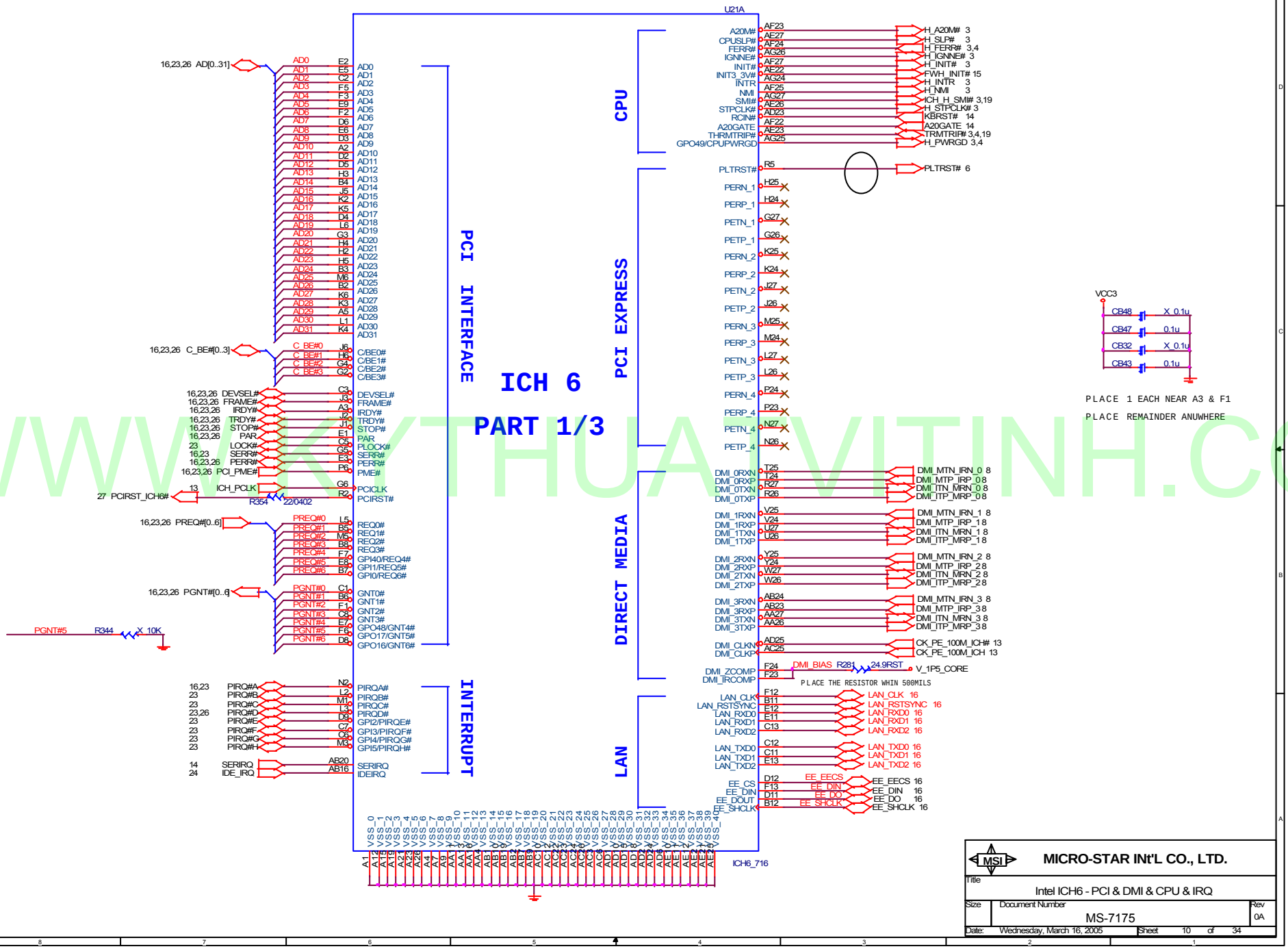
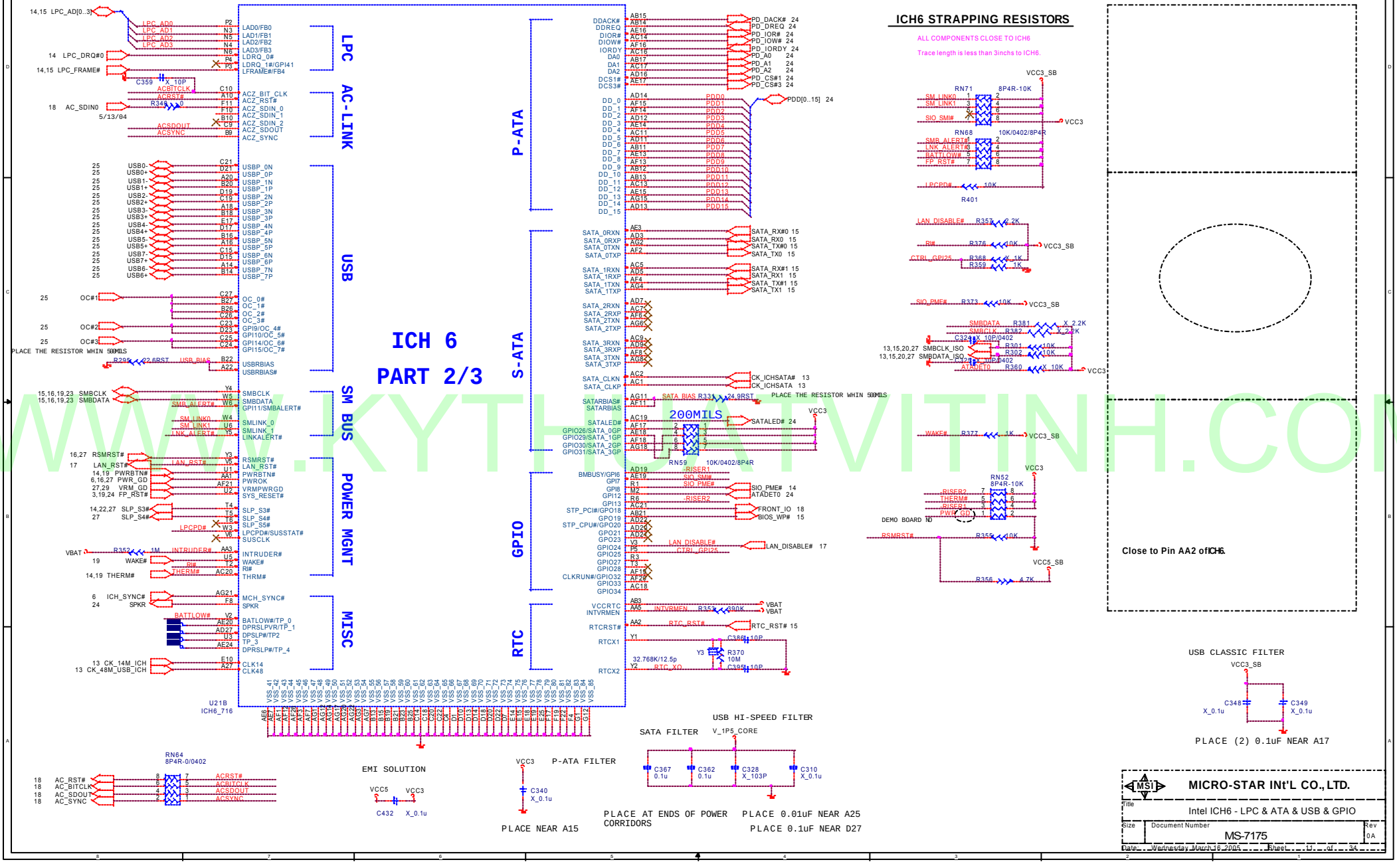
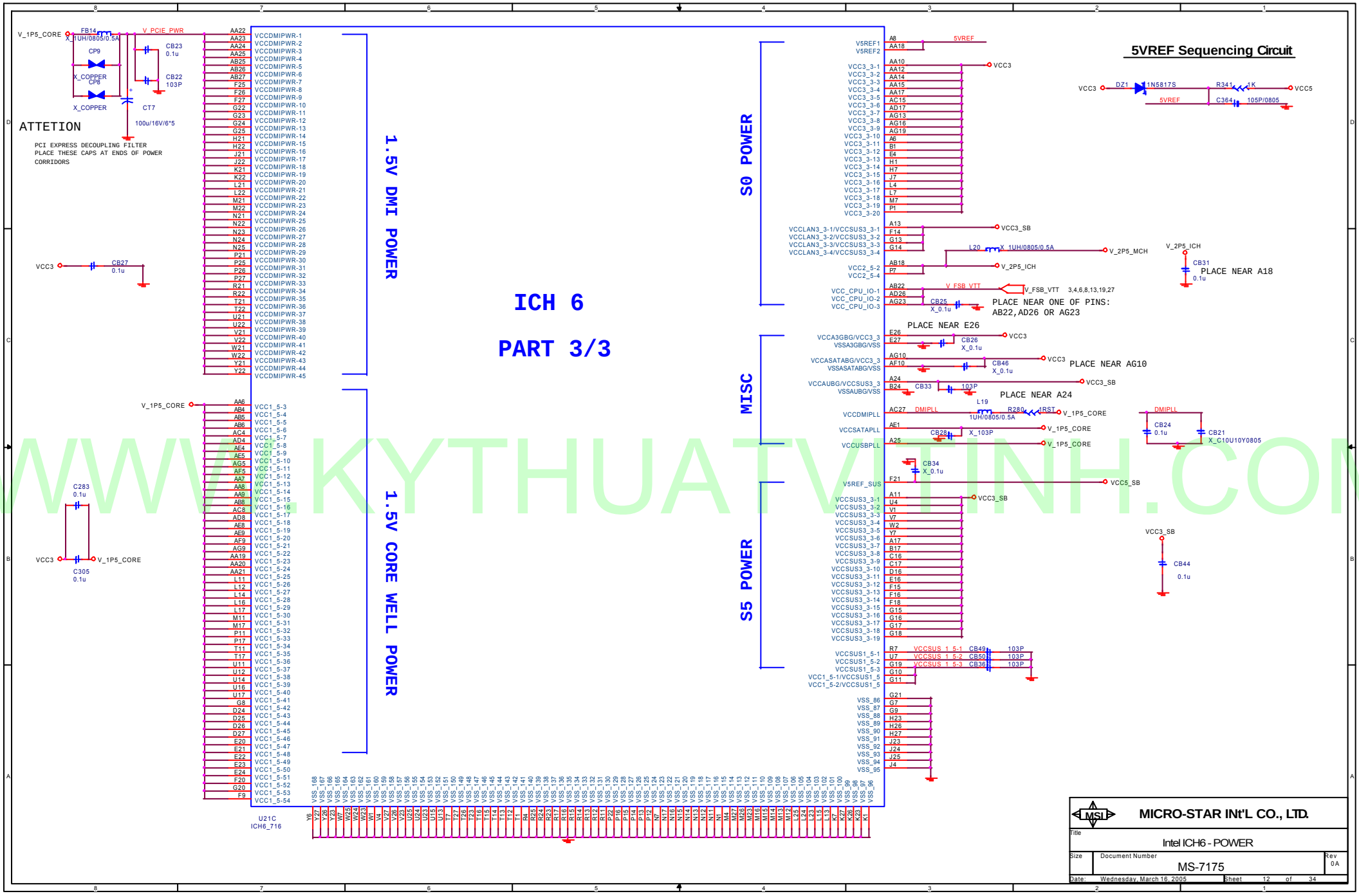
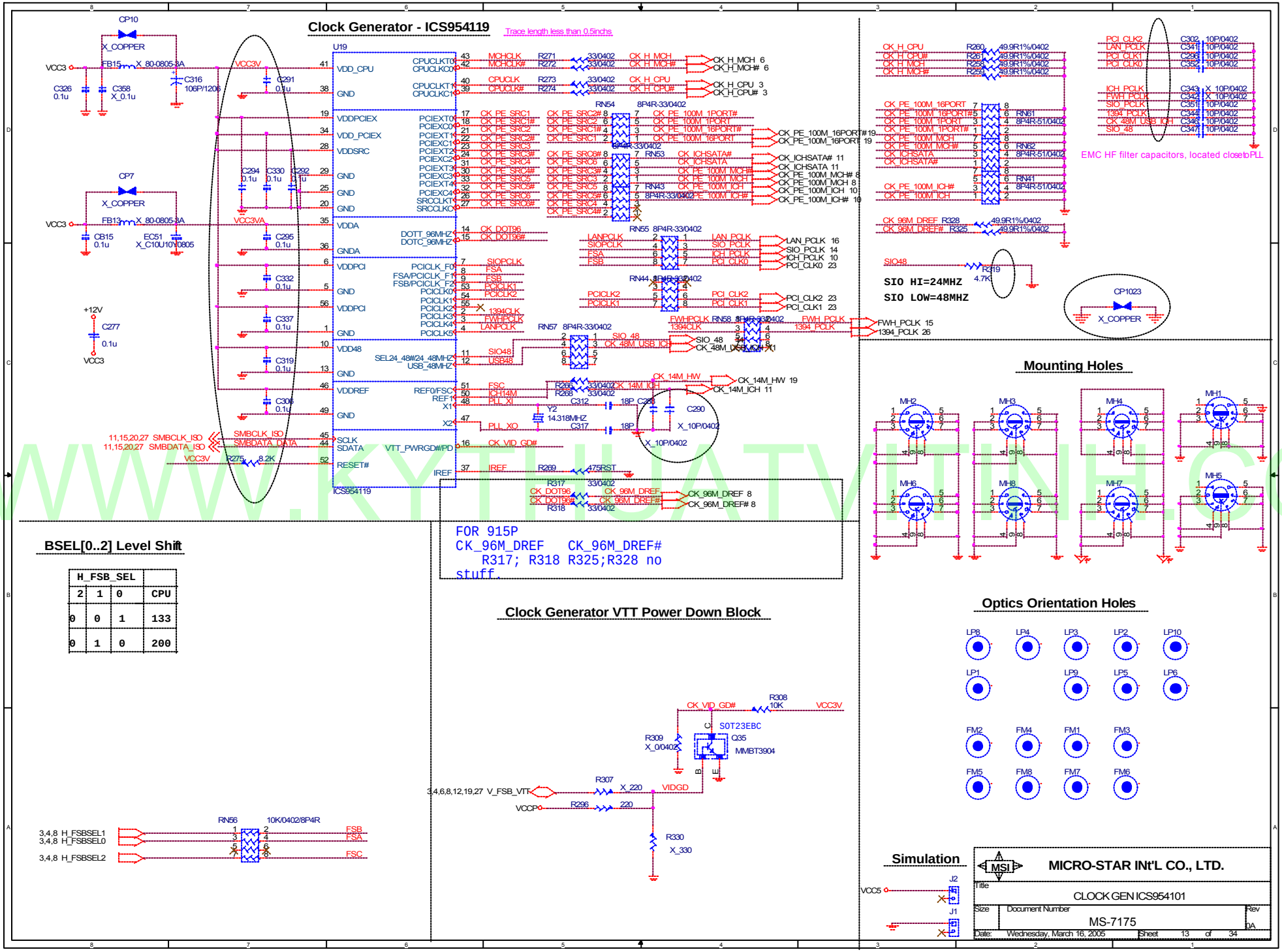
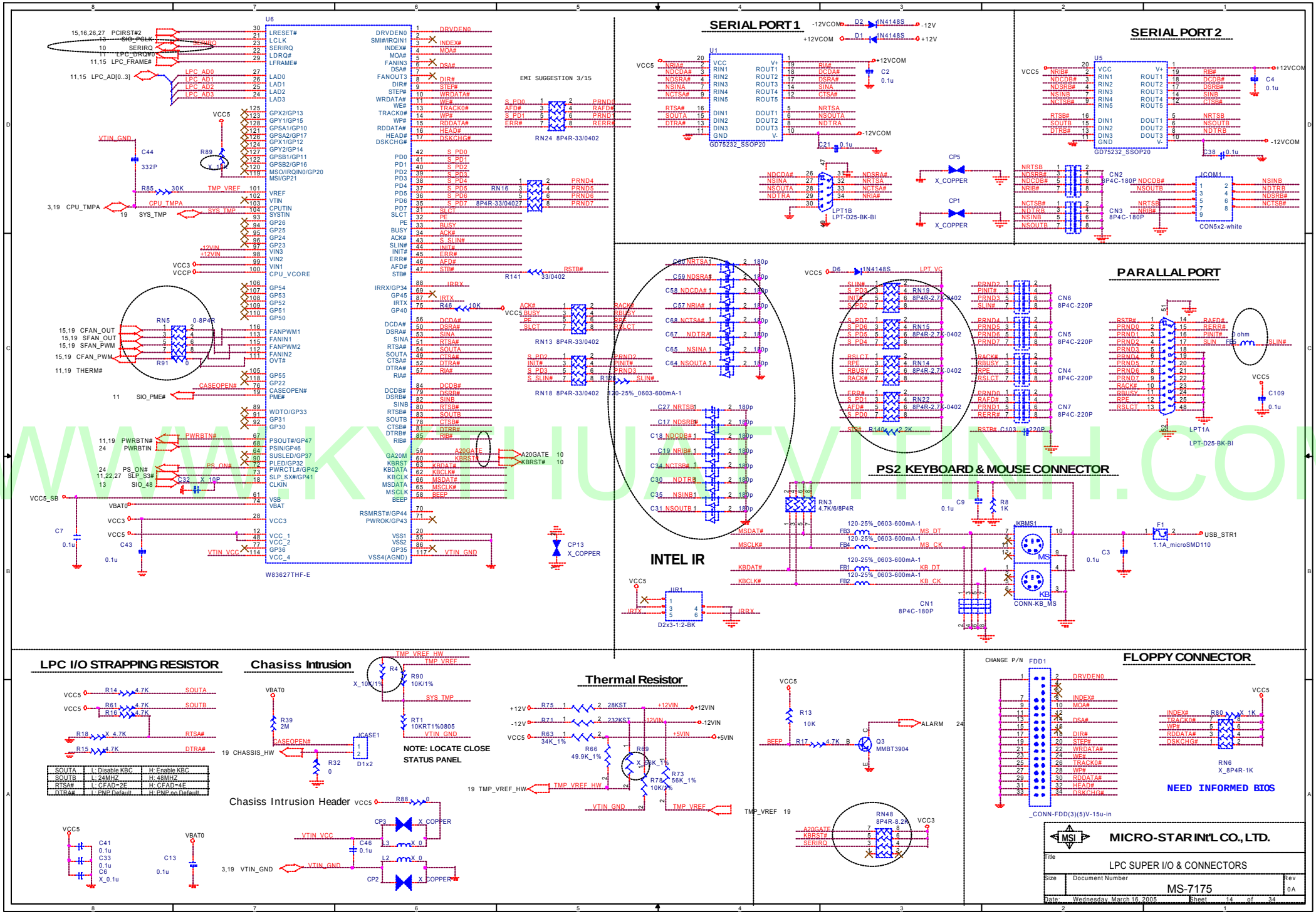




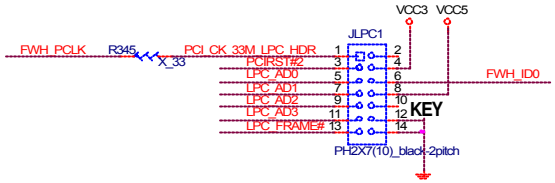




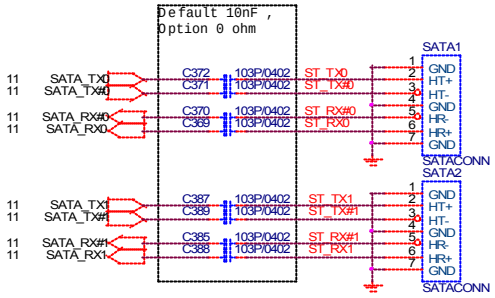


LPC Debug Port

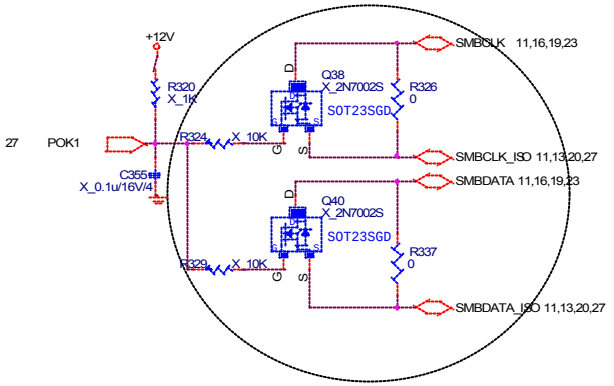
If you place the jumper very closed to FWH bios socket, please use the same clock with FWH. But if you can not place it so close, please use another clock to support it.



SERIAL ATA CONNECTOR BLOCK

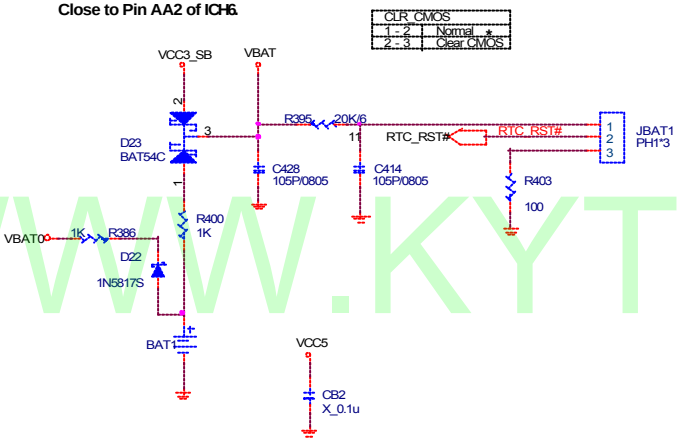


SMBUS ISOLATE

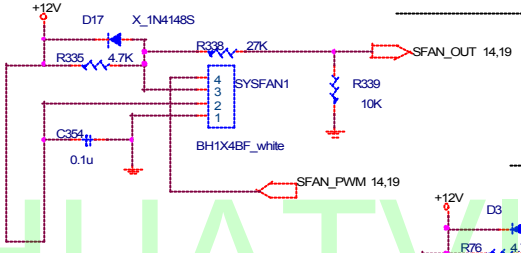


RTC BLOCK

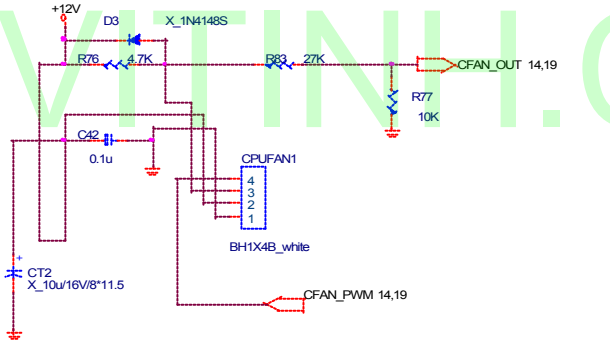
Close to Pin AA2 of ICH6.



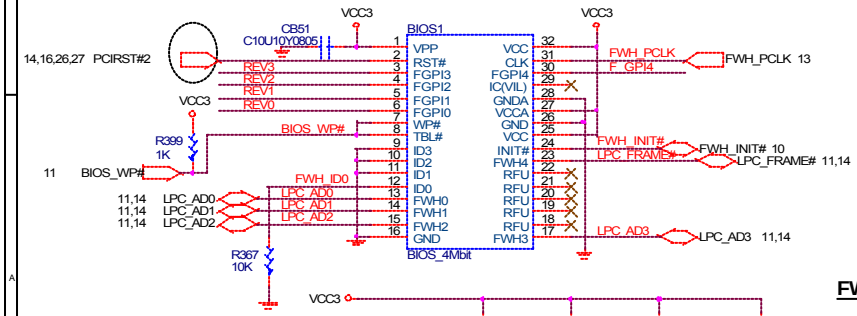
SYSTEM FAN



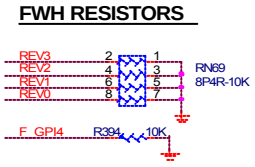
CPU FAN

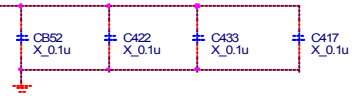


FIRMWARE HUB (FWH)



FWH RESISTORS





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Title: FAN, FWH AND SATA

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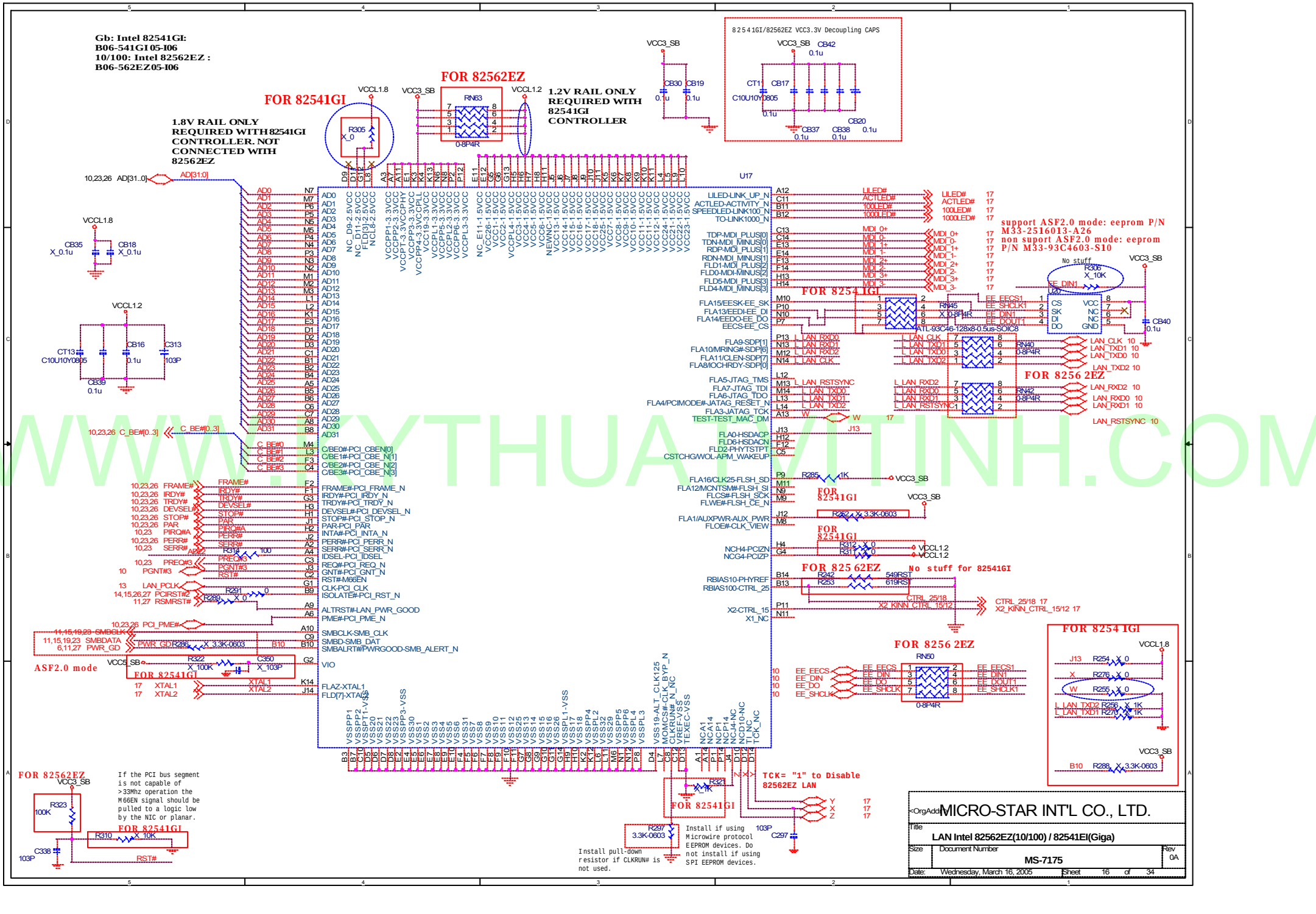

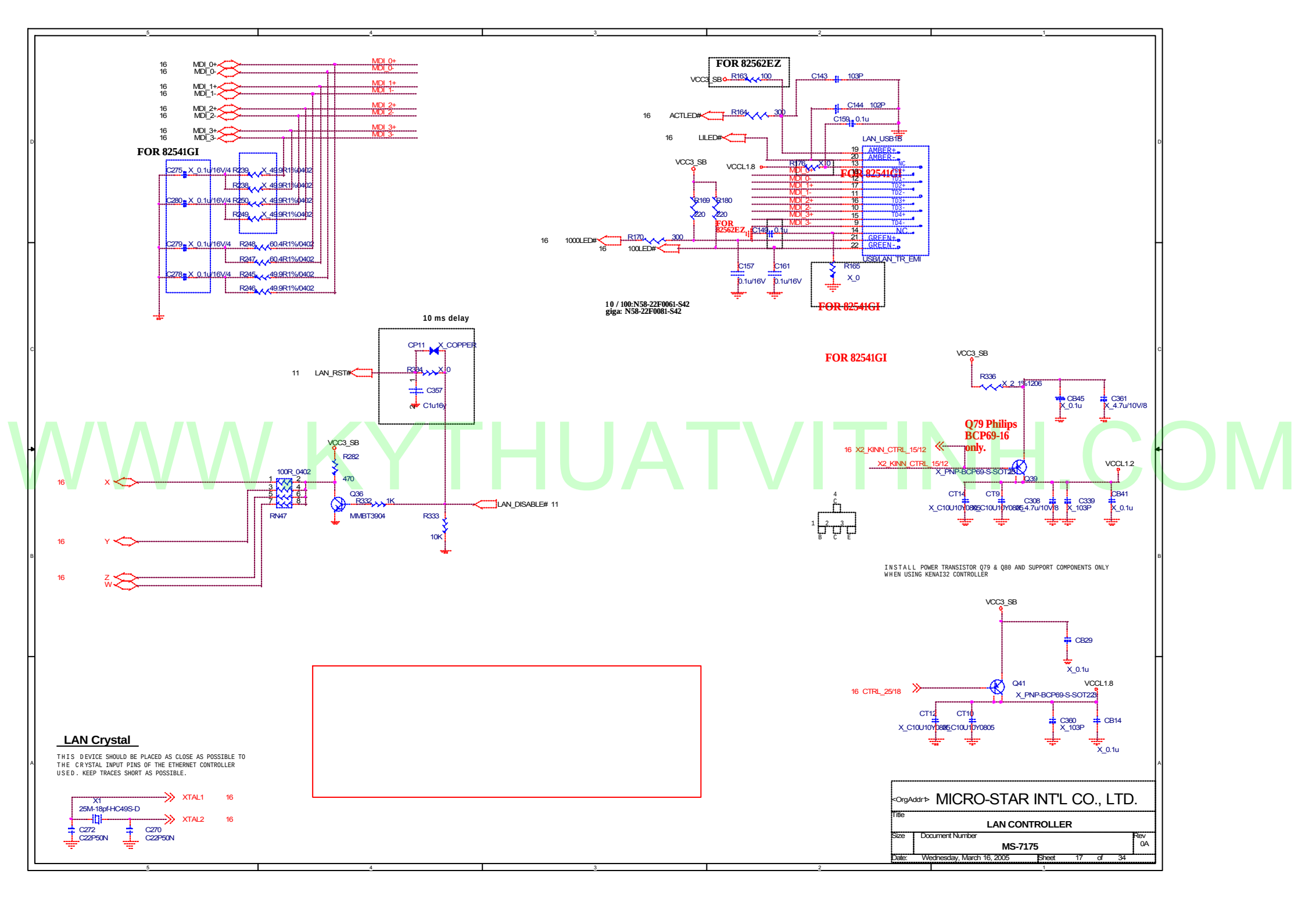

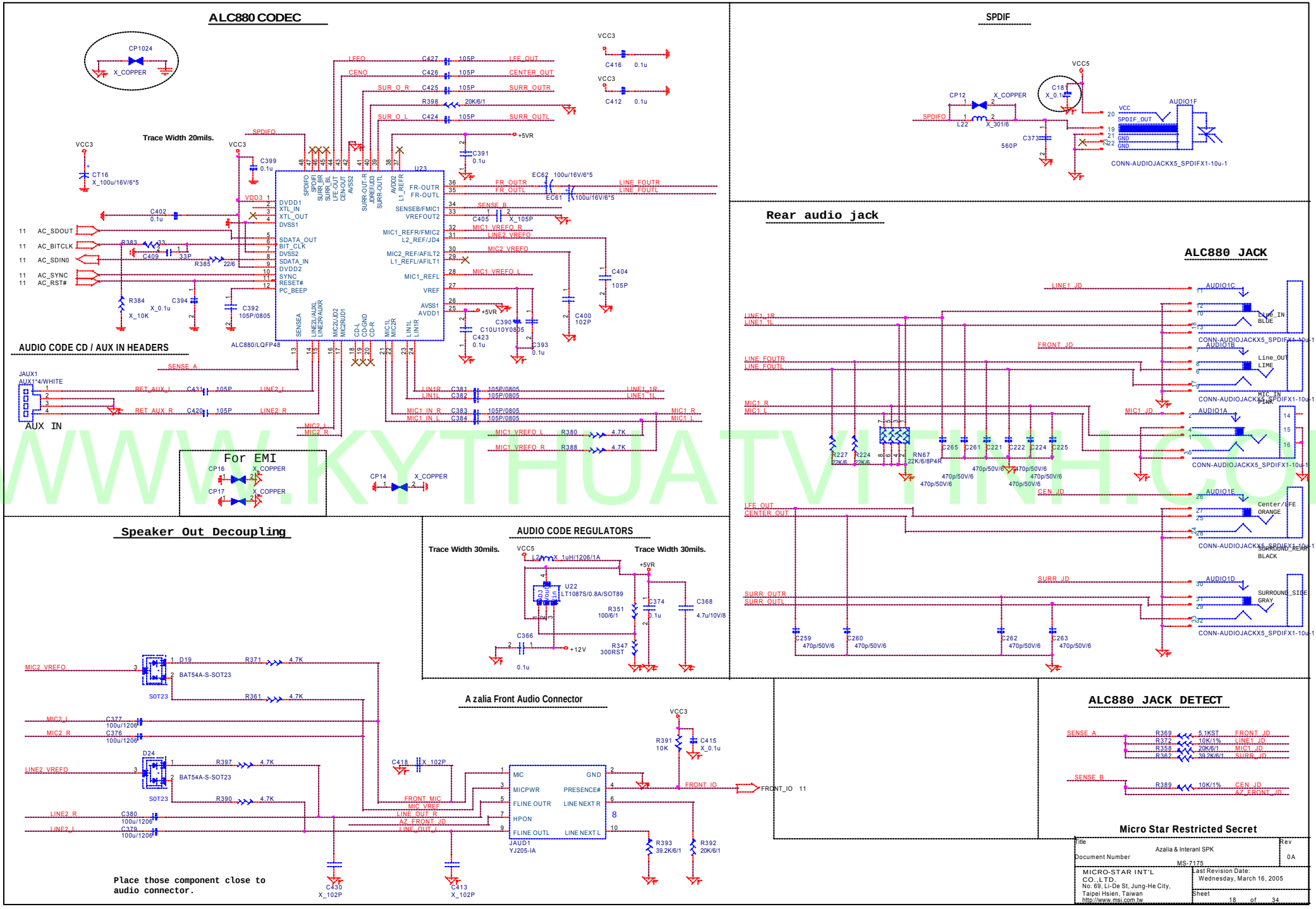

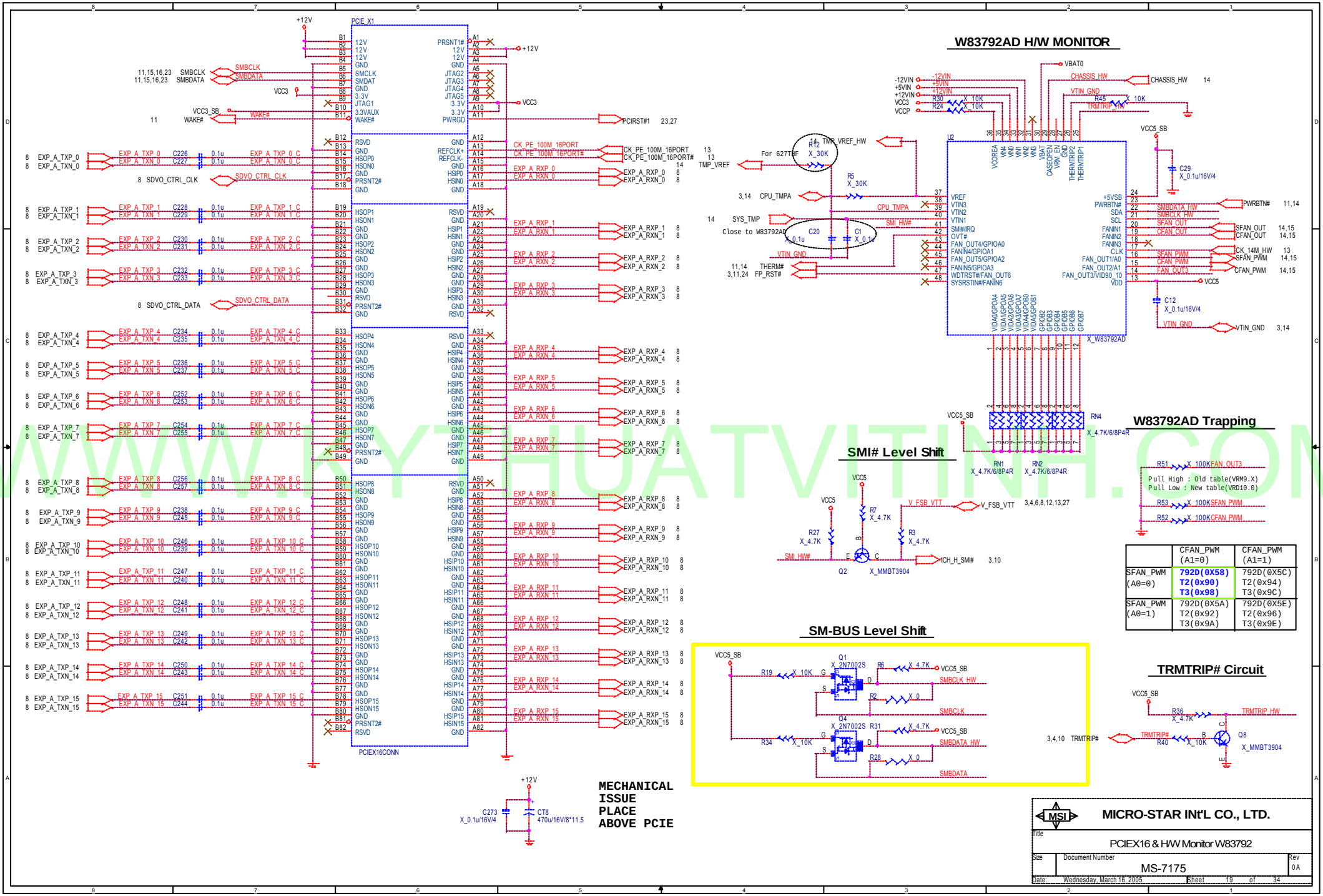

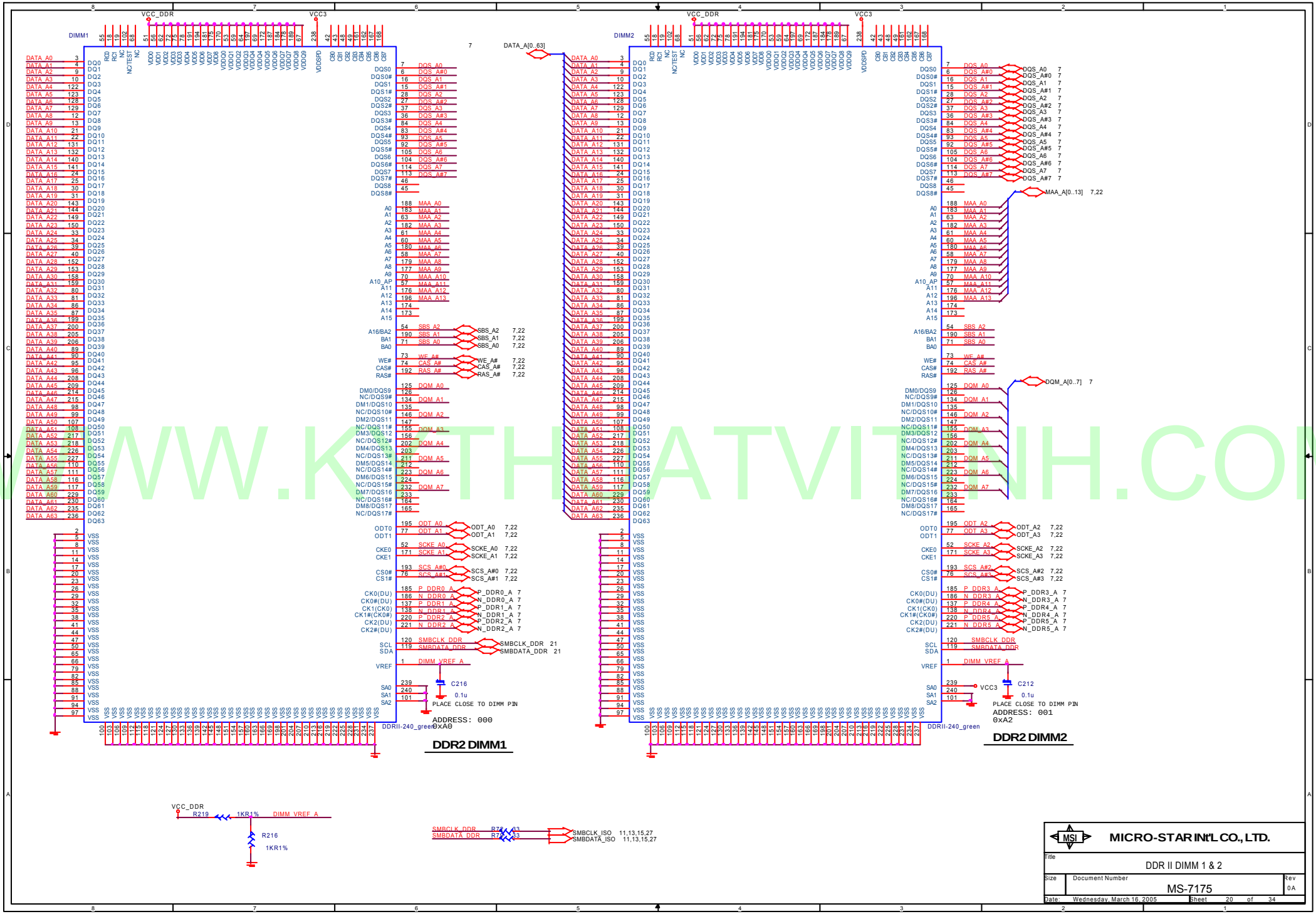

MICRO-STAR INt'L CO., LTD.

Title: DDR II DIMM 1 & 2

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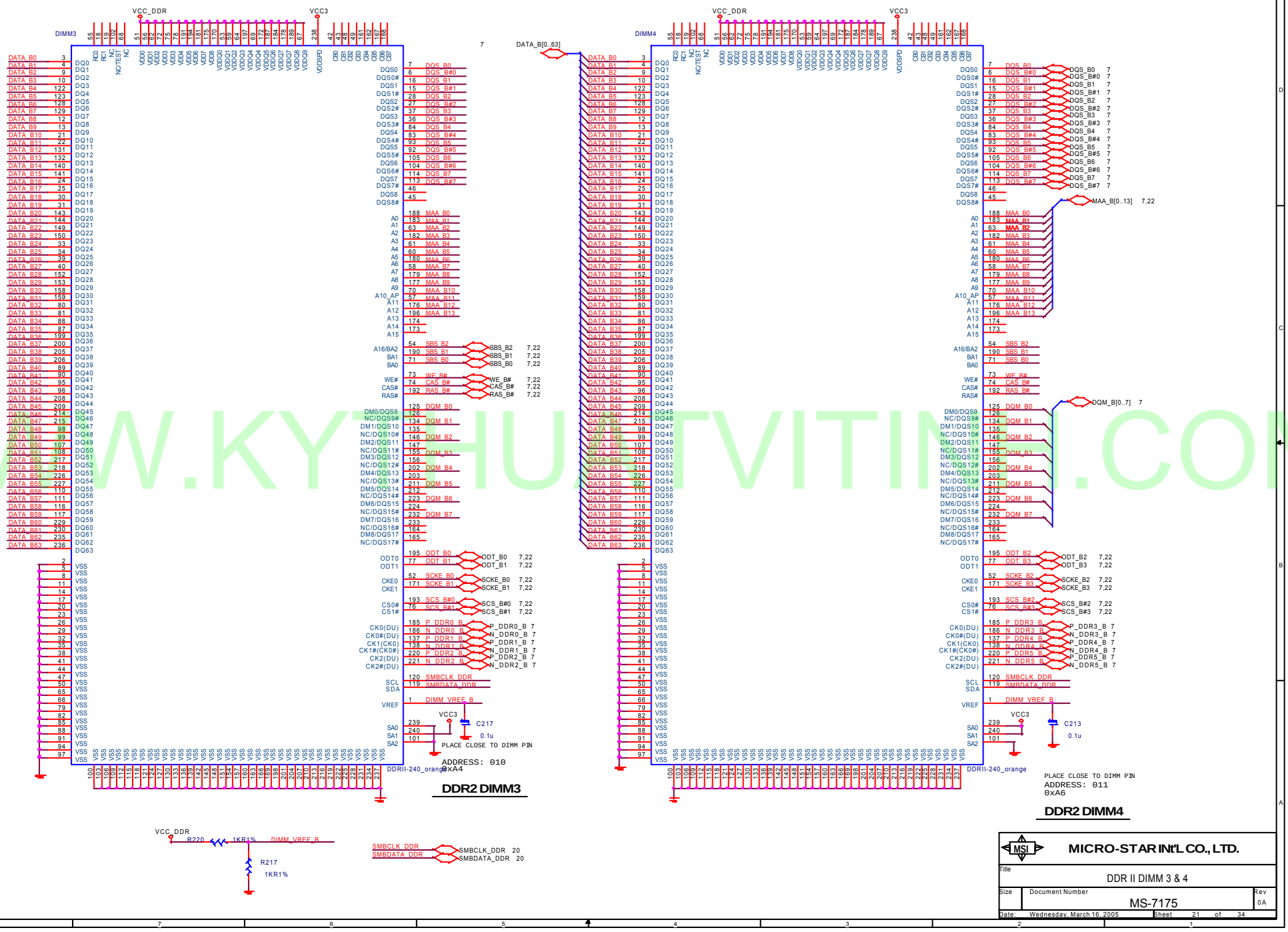

MICRO-STAR INt'L CO., LTD.

Title: DDR II DIMM 3 & 4

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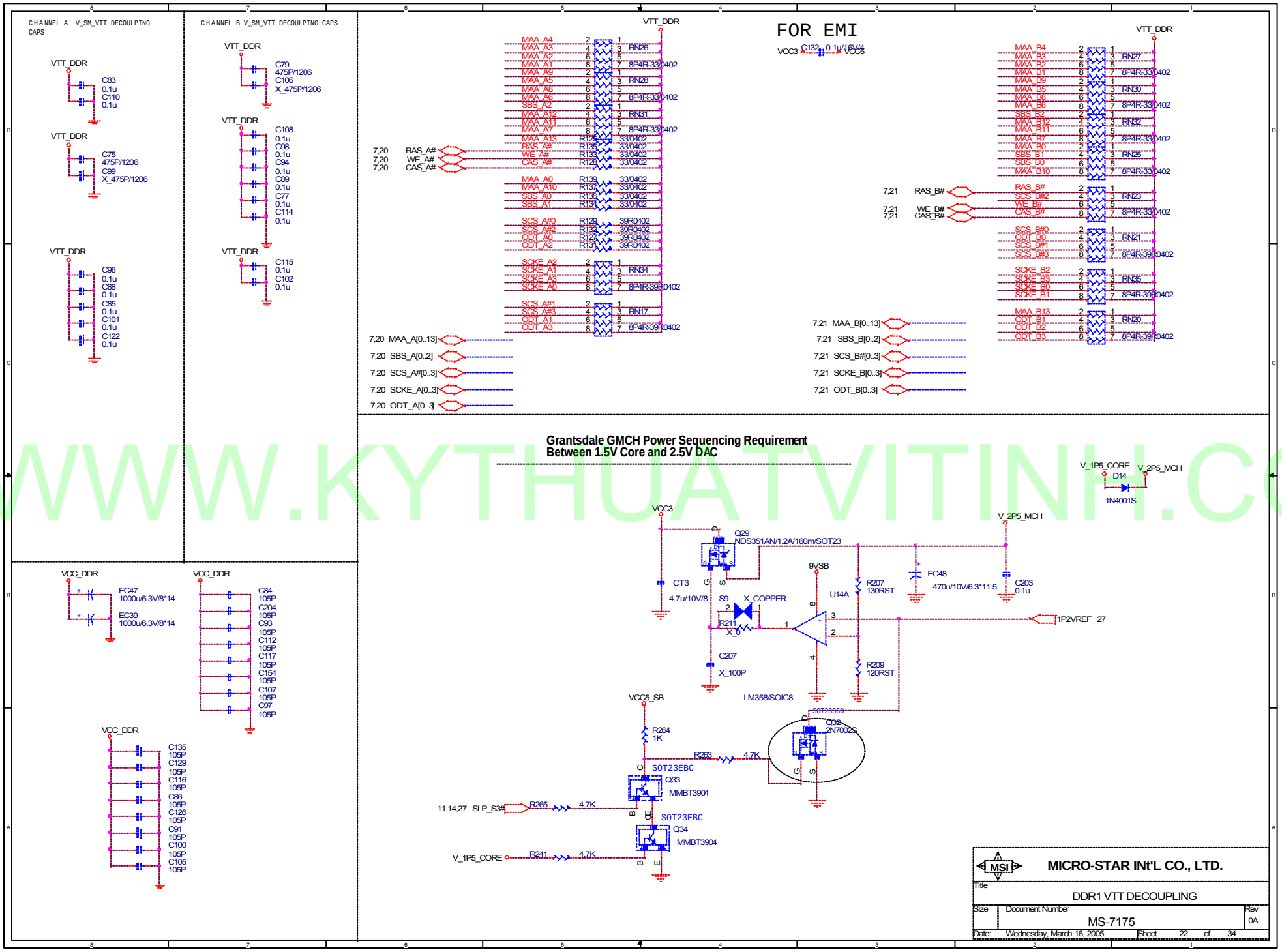
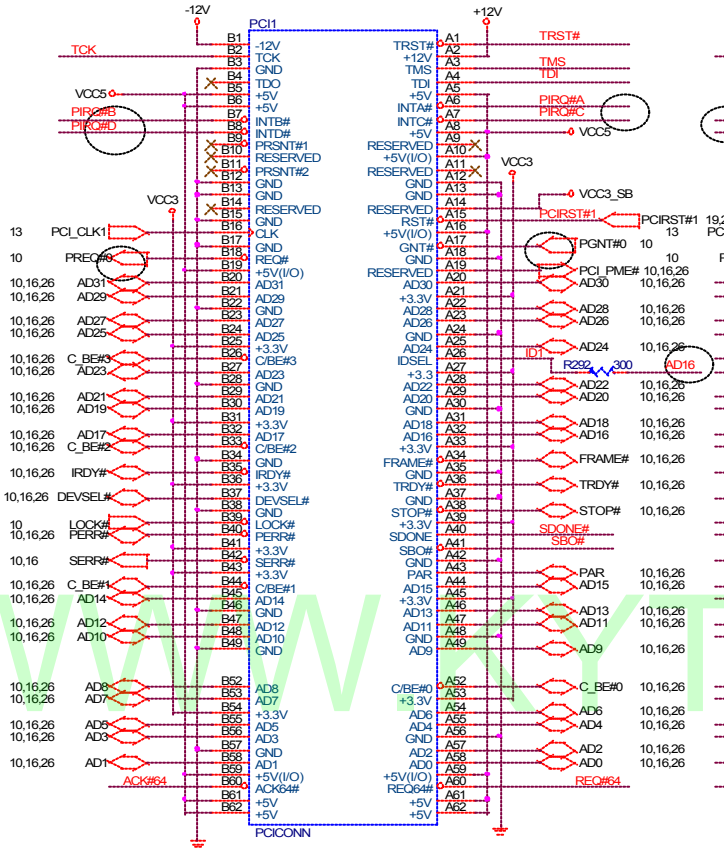
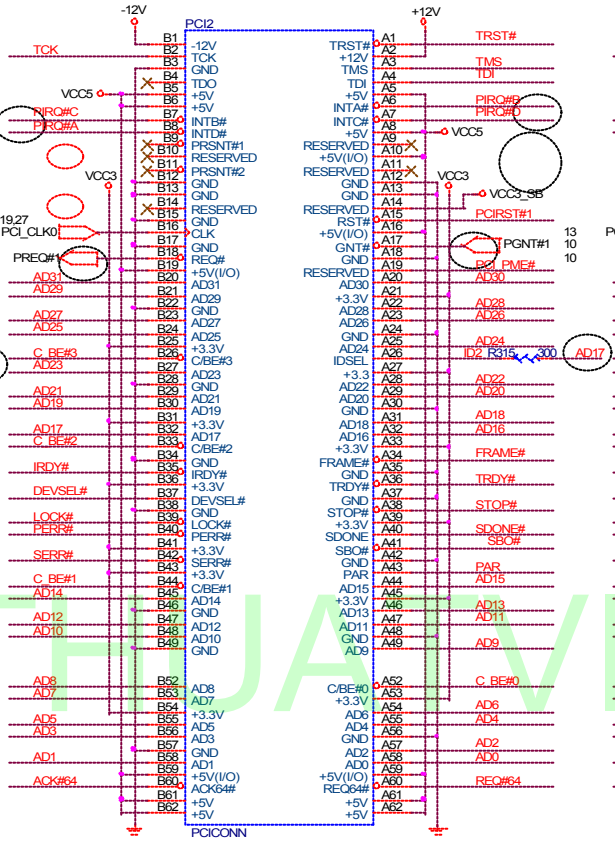


PCI SLOT 1 (PCI VER: 2.2 COMPLY)



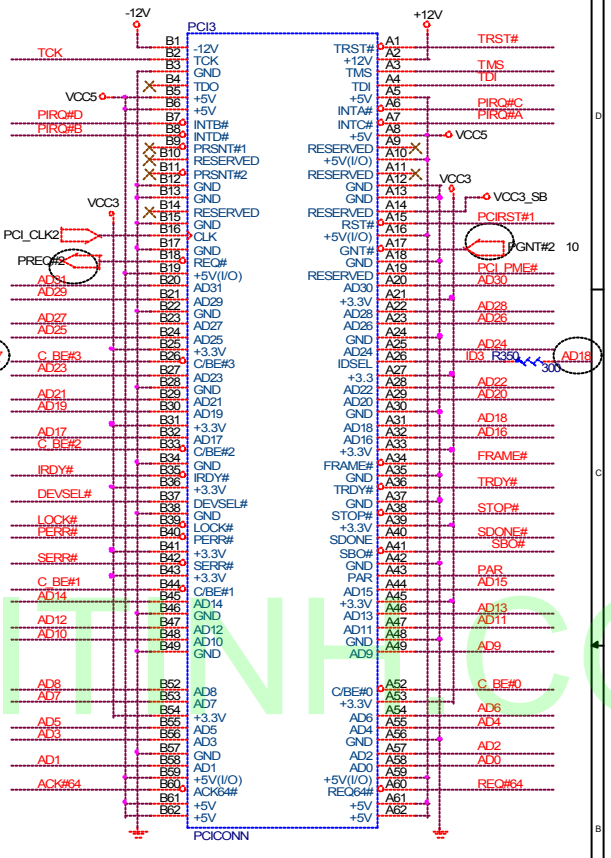
IDSEL = AD16
MASTER = PREQ#0
PIRQ#A

PCI SLOT 2 (PCI VER: 2.2 COMPLY)



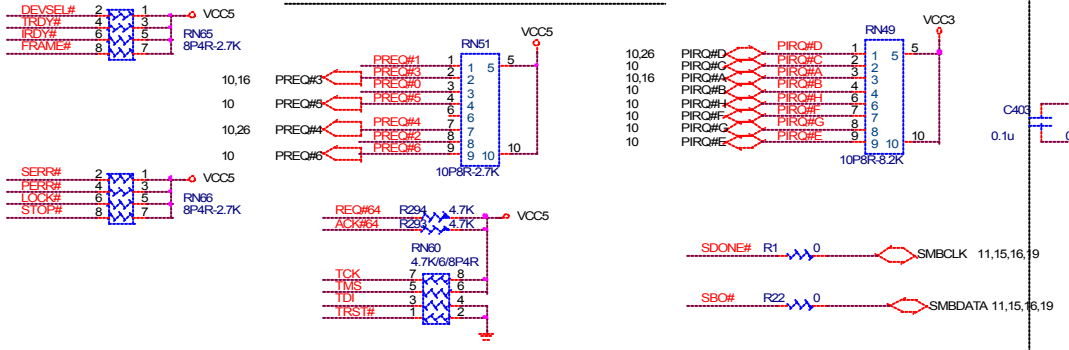
IDSEL = AD17
MASTER = PREQ#1
PIRQ#B

PCI SLOT 3 (PCI VER: 2.2 COMPLY)

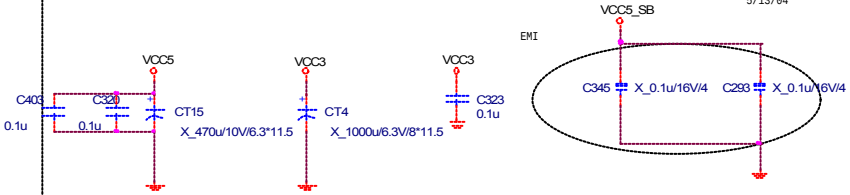


IDSEL = AD18
MASTER = PREQ#2
PIRQ#C

PCI PULL-UP / DOWN RESISTORS



PCI SLOT DECOUPLING CAPACITORS



5/13/04

MSI MICRO-STAR INt'L CO., LTD.

Title: PCI 1& 2 & 3 Slots

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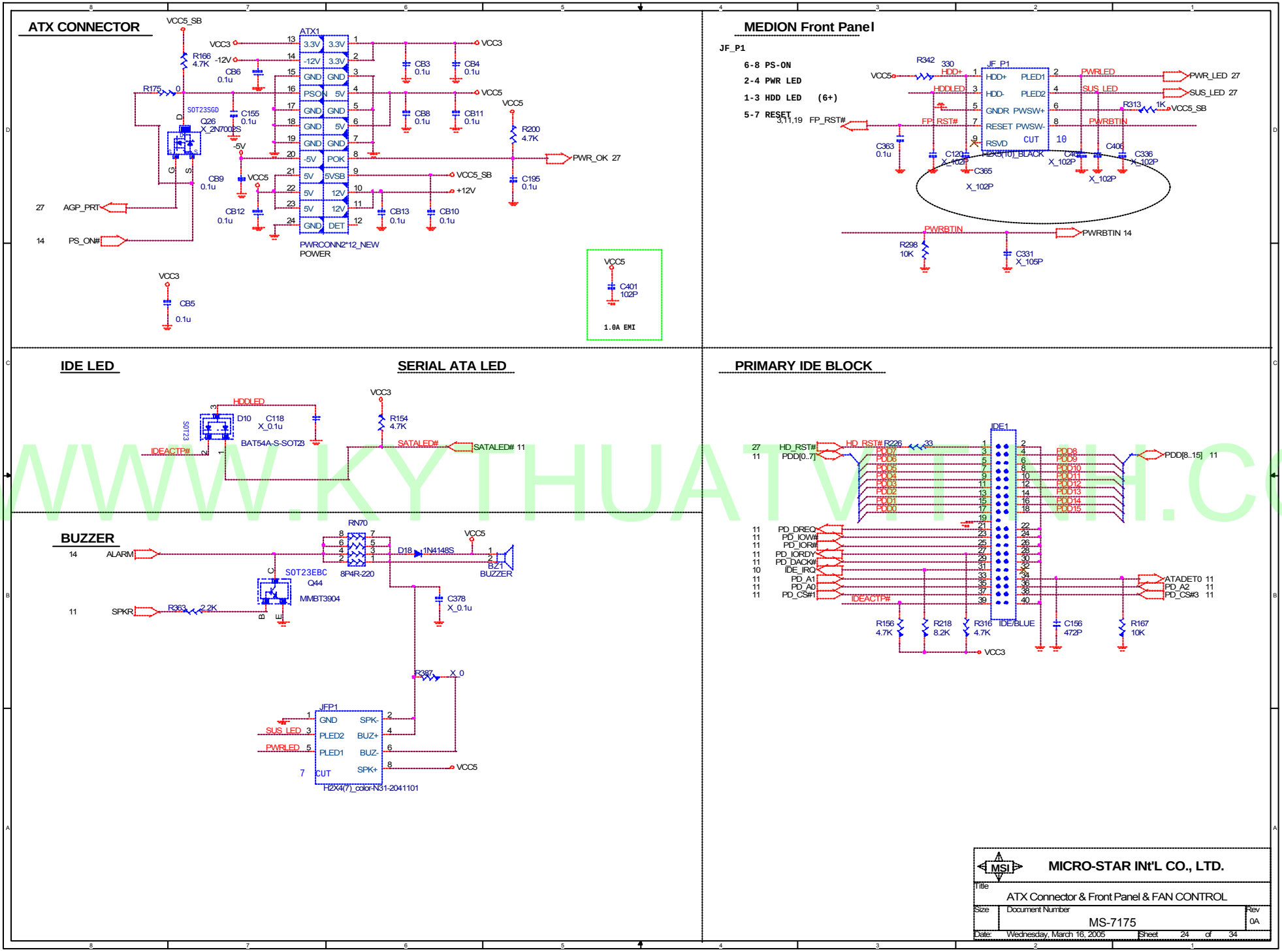

MSI MICRO-STAR INt'L CO., LTD.

Title: ATX Connector & Front Panel & FAN CONTROL

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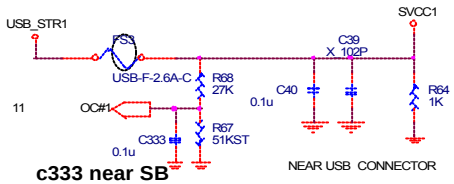
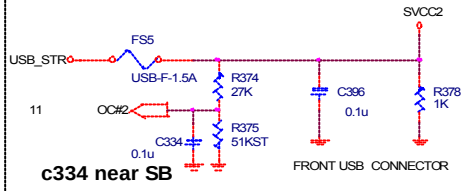
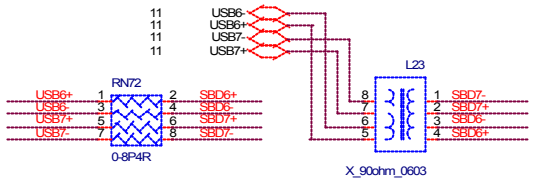
POWER CIRCUIT FOR USB PORT 0,1,2,3



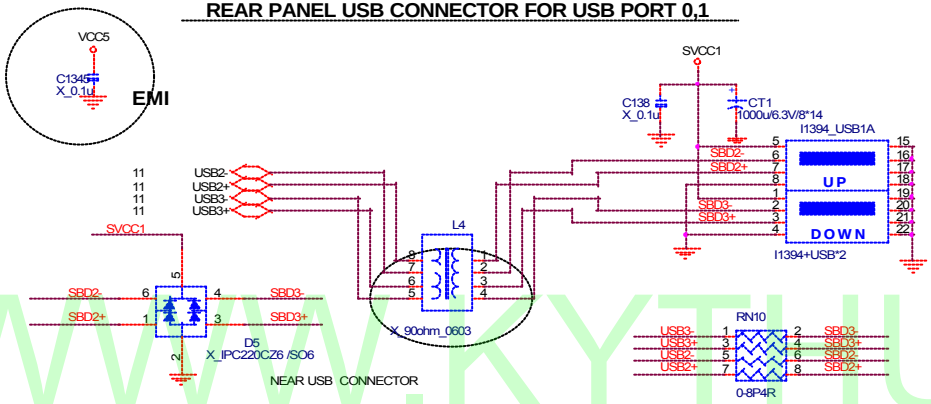
POWER CIRCUIT FOR USB PORT 4,5



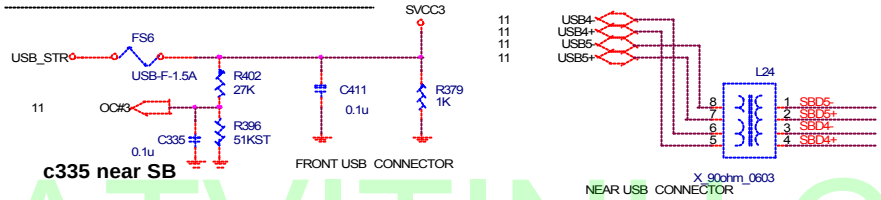
FRONT PANEL USB CONNECTOR FOR USB PORT 4,5,6,7



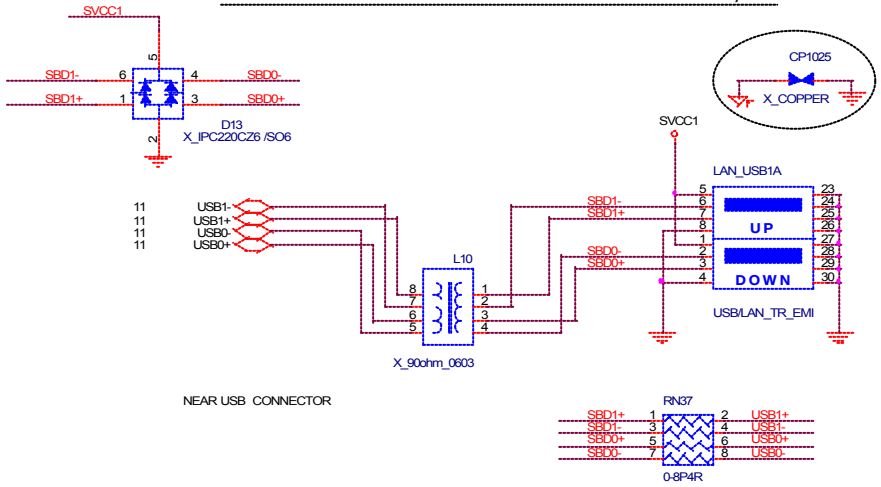
REAR PANEL USB CONNECTOR FOR USB PORT 0,1

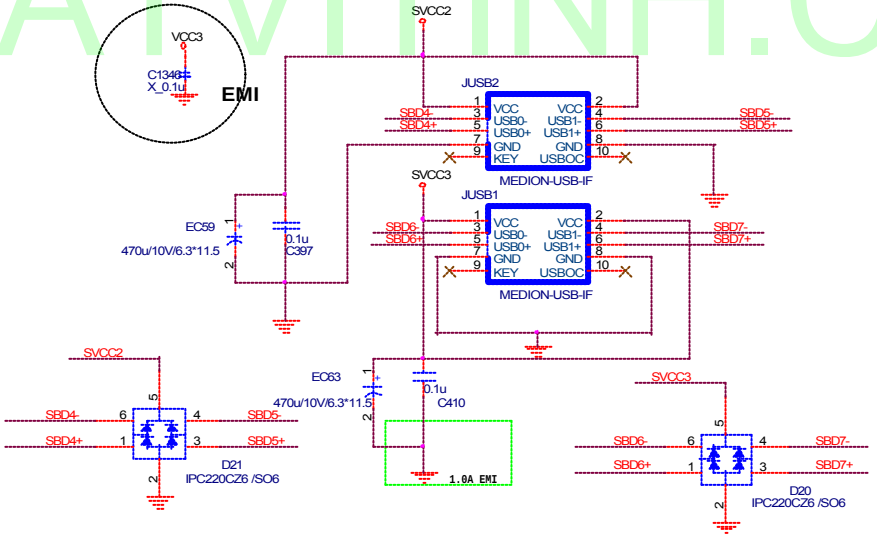


POWER CIRCUIT FOR USB PORT 6,7



REAR PANEL USB CONNECTOR FOR USB PORT 2,3





MSI MICRO-STAR INt'L CO., LTD.

Title: H/W Monitor & FAN & USB Connectors

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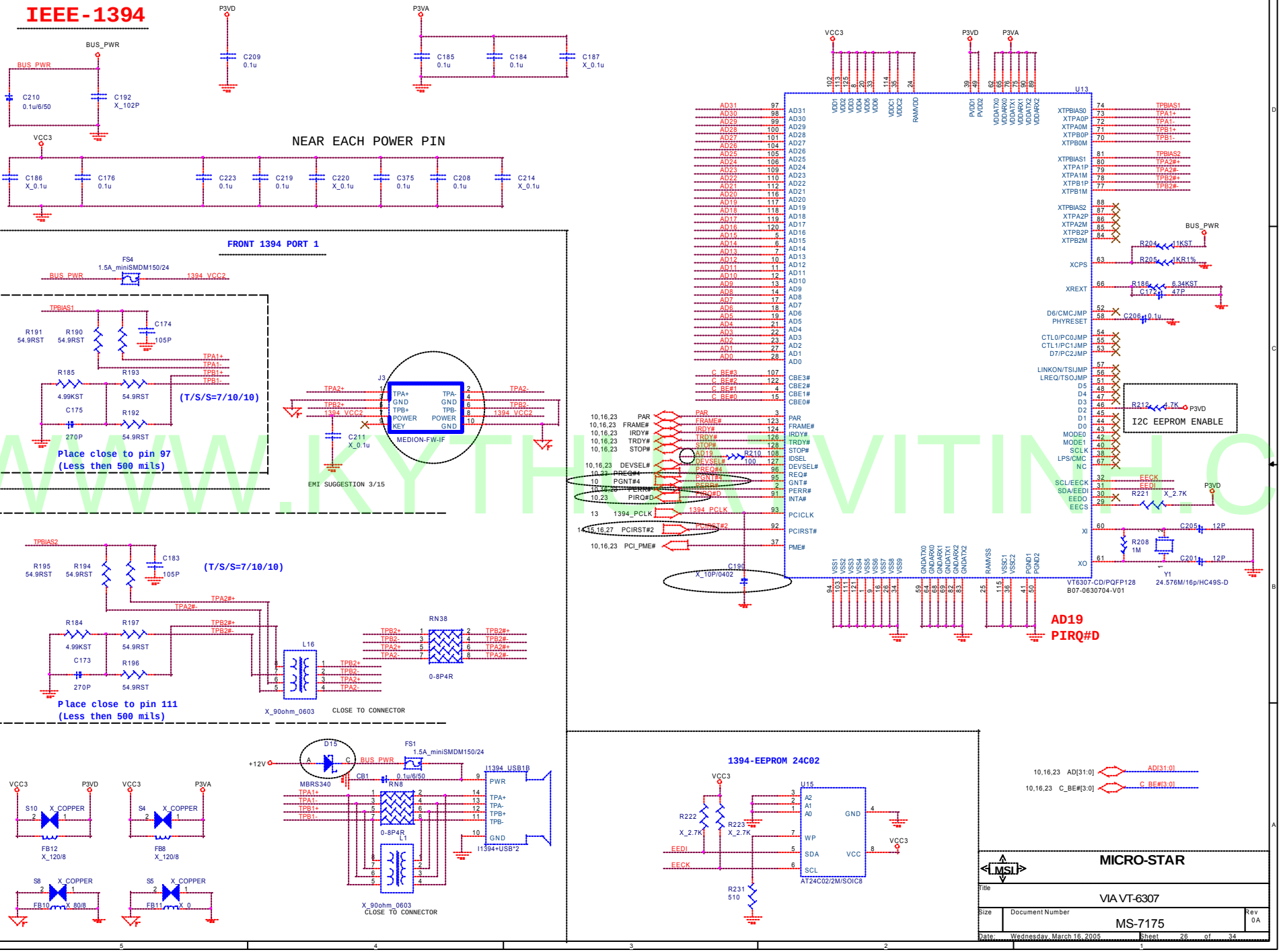

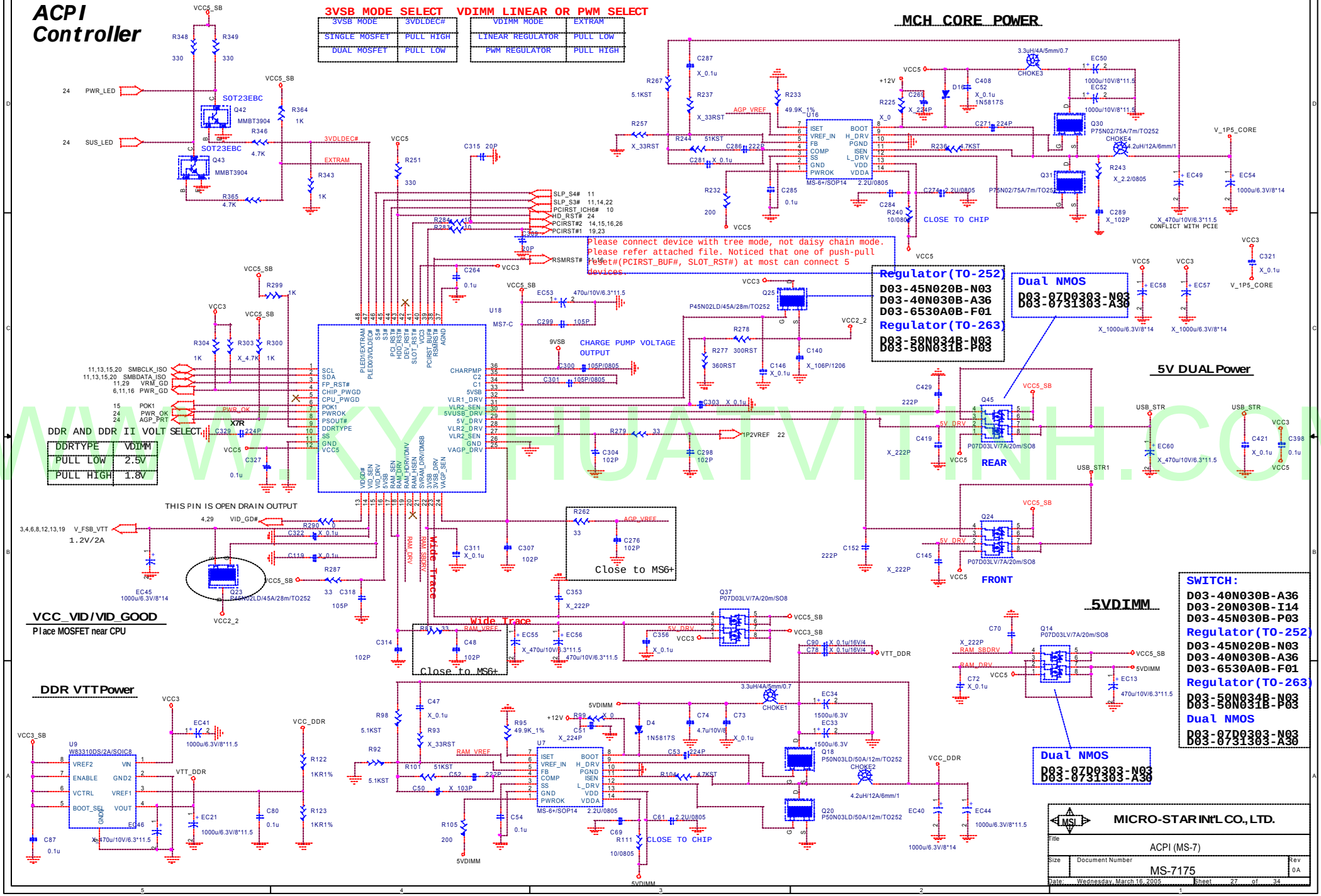

ICH6

GPIO Pin	Type	Function
GPIO 0	I	REQ6# (multifunction pin)
GPIO 1	I	REQ5# (multifunction pin)
GPIO 2	I	PCI_IRQ#E (multifunction pin)
GPIO 3	I	PCI_IRQ#F (multifunction pin)
GPIO 4	I	PCI_IRQ#G (multifunction pin)
GPIO 5	I	PCI_IRQ#H (multifunction pin)
GPIO 6	I	-RISER1 (multifunction pin)
GPIO 7	I	SIO_SMI# (multifunction pin)
GPIO 8	I	SIO_PME# (multifunction pin)
GPIO 9	I	Unused (multifunction pin)
GPIO 10	I	Unused (multifunction pin)
GPIO 11	I	Unused (multifunction pin)
GPIO 12	I	ATADET0
GPIO 13	I	-RISER2
GPIO 14	I	Unused (multifunction pin)
GPIO 15	I	Unused (multifunction pin)
GPIO 16	O	GNT6# (multifunction pin)
GPIO 17	O	GNT5# (multifunction pin)
GPIO 18	O	Unused (multifunction pin)
GPIO 19	O	Unused (multifunction pin)
GPIO 20	O	Unused (multifunction pin)
GPIO 21	O	Unused (multifunction pin)
GPIO 22	OD	Unused (multifunction pin)
GPIO 23	O	Unused (multifunction pin)
GPIO 24	I/O	MB_ID0
GPIO 25	I/O	CTRL_GPI25
GPIO 27	I/O	MB_ID1
GPIO 28	I/O	Password Clear(Active low)
GPIO 32	I/O	(multifunction pin)
GPIO 33	I/O	MB_ID2
GPIO 34	I/O	MB_ID3
GPIO 40	I	PREQ#4 (multifuntion pin)
GPIO 41	I	LDRQ1 (multifunction pin)
GPIO 48	O	PGNT#4 (multifuntion pin)
GPIO 49	OD	CPU_GD (multifunction pin)

PCI Config.

DEVICE	MCP1 INT Pin	REQ#/GNT#	IDSEL	CLOCK
PCI Slot 1	PIRQA PIRQB PIRQC PIRQD	PCI_REQ#0 PCI_GNT#0	AD16	PCI_CLK1
PCI Slot 2	PIRQB PIRQC PIRQD PIRQA	PCI_REQ#1 PCI_GNT#1	AD17	PCI_CLK0
PCI Slot 3	PIRQC PIRQD PIRQA PIRQB	PCI_REQ#2 PCI_GNT#2	AD18	PCI_CLK2
LAN	PIRQC	PCI_REQ#6 PCI_GNT#6	AD22	LAN_PCLK
1394	PIRQD	PCI_REQ#4 PCI_GNT#4	AD20	1394_PCLK
PCI 2 MASTER	PIRQE	PCI_REQ#3 PCI_GNT#3	AD19	PCI_CLK3
IDE RAID	PIRQG	PCI_REQ#5 PCI_GNT#5	AD21	RAID_PCLK

DDR DIMM Config.

DEVICE	ADDRESS	CLOCK
DIMM 1	AOH	MCLK_A0/MCLK_A#0 MCLK_A1/MCLK_A#1 MCLK_A2/MCLK_A#2
DIMM 2	A2H	MCLK_A3/MCLK_A#3 MCLK_A4/MCLK_A#4 MCLK_A5/MCLK_A#5
DIMM 3	A4H	MCLK_B0/MCLK_B#0 MCLK_B1/MCLK_B#1 MCLK_B2/MCLK_B#2
DIMM 4	A6H	MCLK_B3/MCLK_B#3 MCLK_B4/MCLK_B#4 MCLK_B5/MCLK_B#5

JUMPER SETTING

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

SIO

PIN NAME	USAGE	Input/Output	NOTES
GPIO34	BIOS_WP#	OUTPUT	BIOS Write Protect
GPIO35	2X12_DET	INPUT	2x12 Power Conn Detect

PCI RESET DEVICE

Signals	Target
PCIRST#1	PCI 1-3
PCIRST#2	Super I/O,1394,LAN,FWH
PCIRST_ICH6#	PCI-E
HDDRST#	Primary IDE

MSI MICRO-STAR INt'L CO., LTD.

Title: General Purpose Spec & JUMPER SETTING

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IPF06N03LA	Rds(on)=8.7mO(@4.5V,30A),Vgs(on)=1.2~2V,Id=50A,Ciss=3110pf,Qg=10nC,Vds=25V,Vgs=±20V
C100U2SP	ESR<13mO,Ripple cur.<2.7A,LC<12uA,105C
.CD3300U6.3EL25	ESR<12mO,Ripplecur.<2800mA,105C,longlife3000hrs,KZGSeries
560u_2.5V	ESR=6mO,Ripplecur.=4400mA,Lc.<500uA,105C/2000hrs
1800UF/6.3V	ESR<12mO, Ripplecur<2350mA,105C, longlife change from 2000hrs to 3000hrs ,KZJ series
0.6uH/40A	0.6u/20%, Isat=40A,Rdc=1.2m ohm,PEW wire
CH-1.2U18A	1.2u/20%,Dip-2/vertical7.5mm,1.2?/5.5turns,18A

Voltage Regular Module

PLACE ONE INSIDE OF DOCKET,THREE IN SOLDER SIDE

MOSFET Gate signal : 20 mils
Phase signal : 20 mils
Boot signal : 16 mils

DO NOT PLACE IN KEEP OUT ZONE 5/13/04

1800U DO NOT PUT IN KEEP OUT ZONE

0.8375~1.6V / 119A

CHANGE HIGH SIDE MOS P/N

EMI SUGGESTION 3/15

Intersil 6565ACV

HIP6602B

MOSDVR-INTS-HIP6601B-SOIC8

CHECK THIS! CONNECTTO BULK CAPACITOR

PLACE INSIDE OF SOCKET

need 10 pcs of 22u

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Title: VRM 10.1 - Intersil 6561 4 Phase

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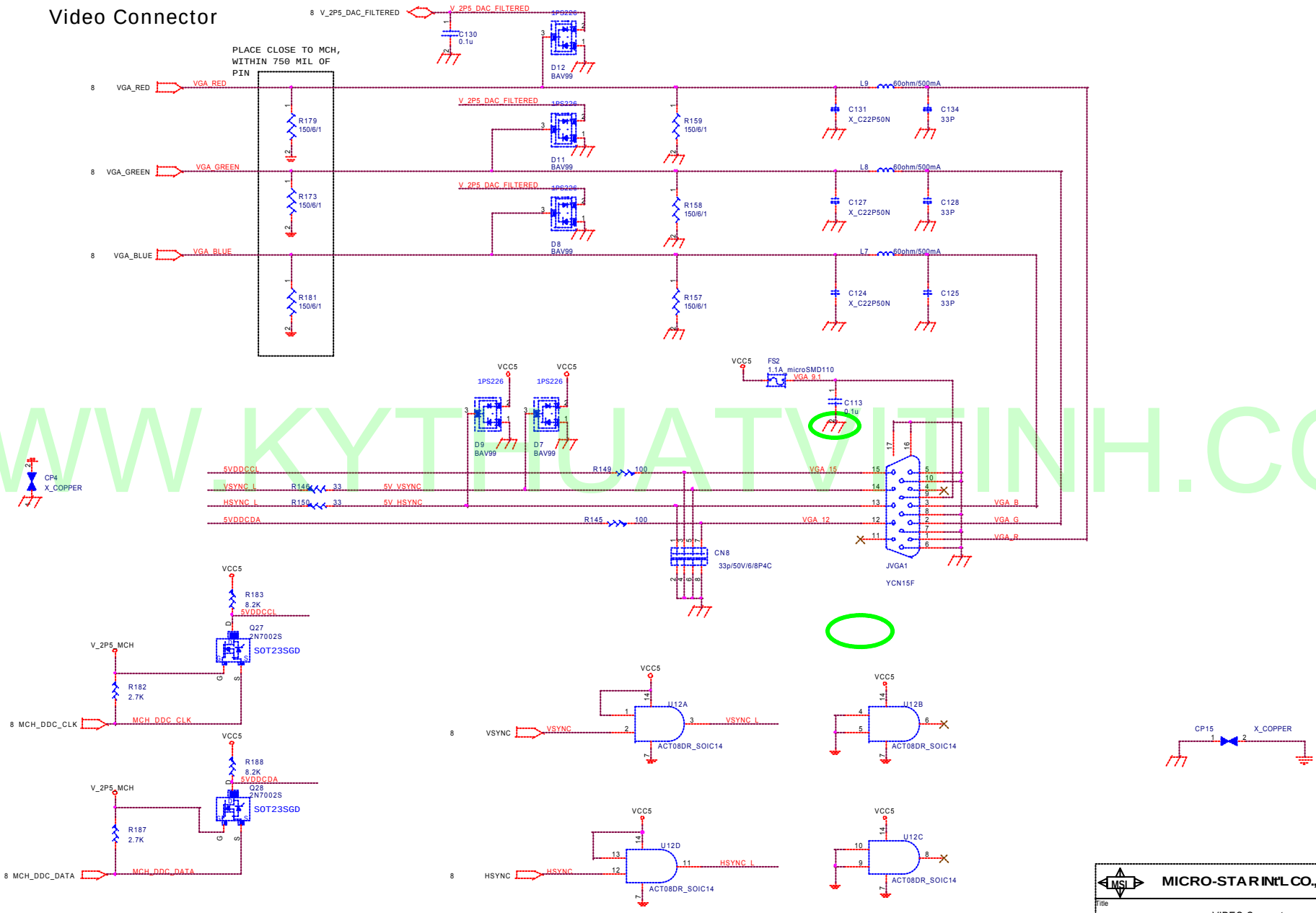
Video Connector



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Title	VIDEO Connectors	
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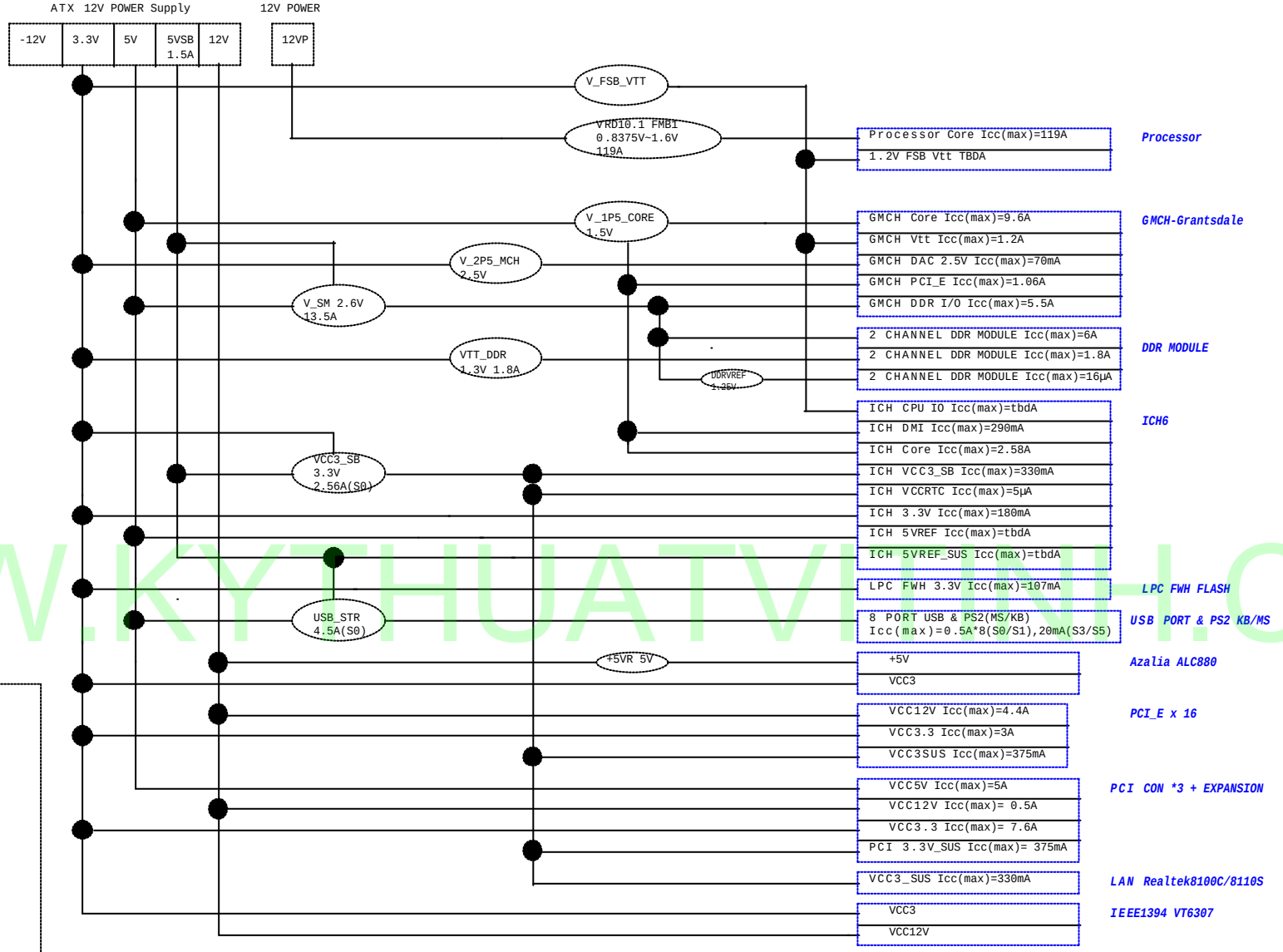
POWER DELIVERY MAP



HEAT SINK

U2_X1 Grantsdale_HS

U2_X2 HK1*3(-2)

U2_X3 HK1*3(-2)

U3_X1 ICH6_HS

U3_X3 HK1*3(-2)

U3_X2 HK1*3(-2)

MANUAL PART

BIOS1_X1 BIOS_PLCC32

PCB1 7133-11

BAT1_X1 BATTERY HOLDER, 2PIN

JBAT1(1-2) JMP/GREEN/A

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Title: POWER DELIVERY MAP & MANUAL PART

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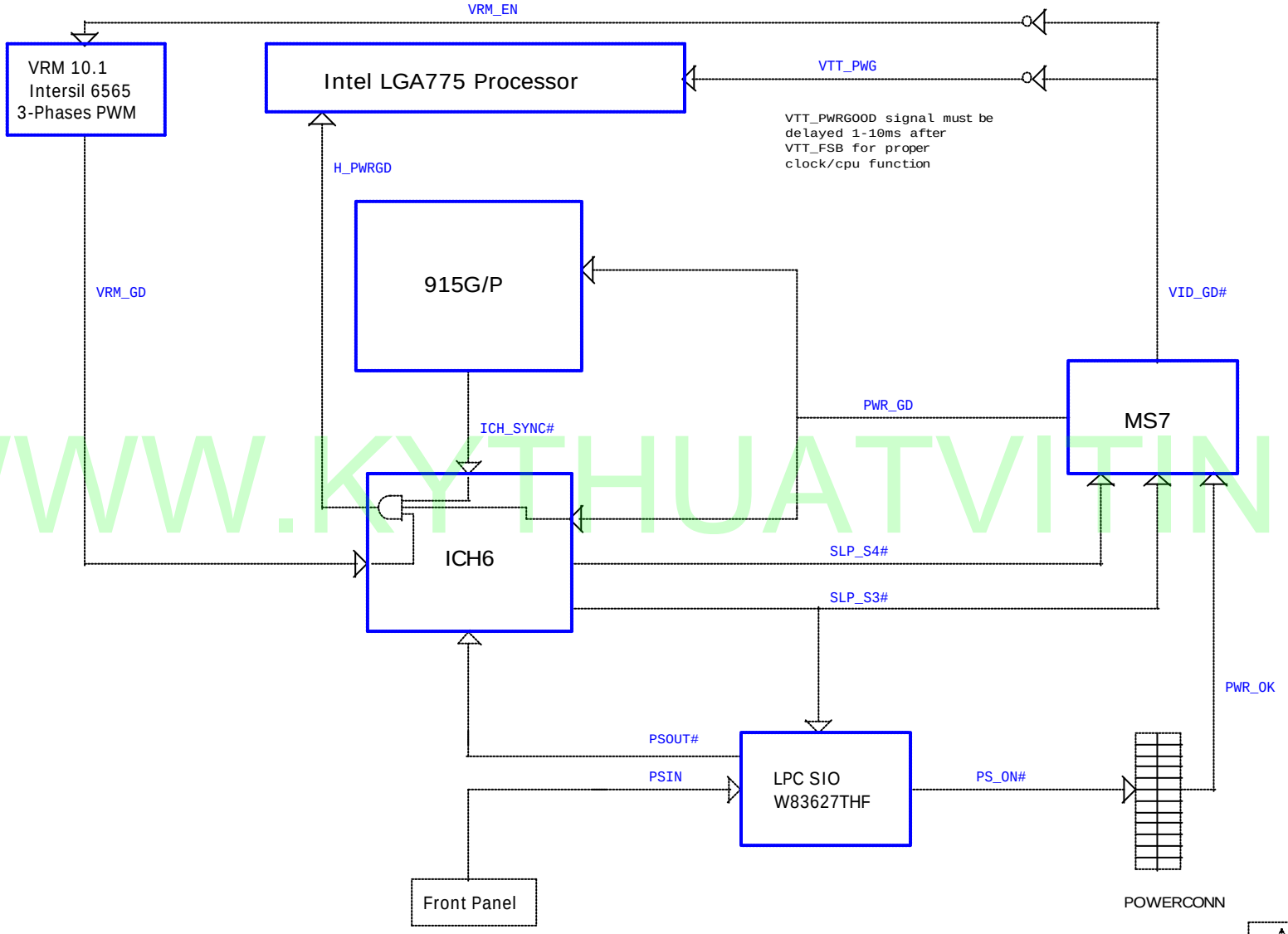
PWROK MAP



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Title	PWROK MAP	
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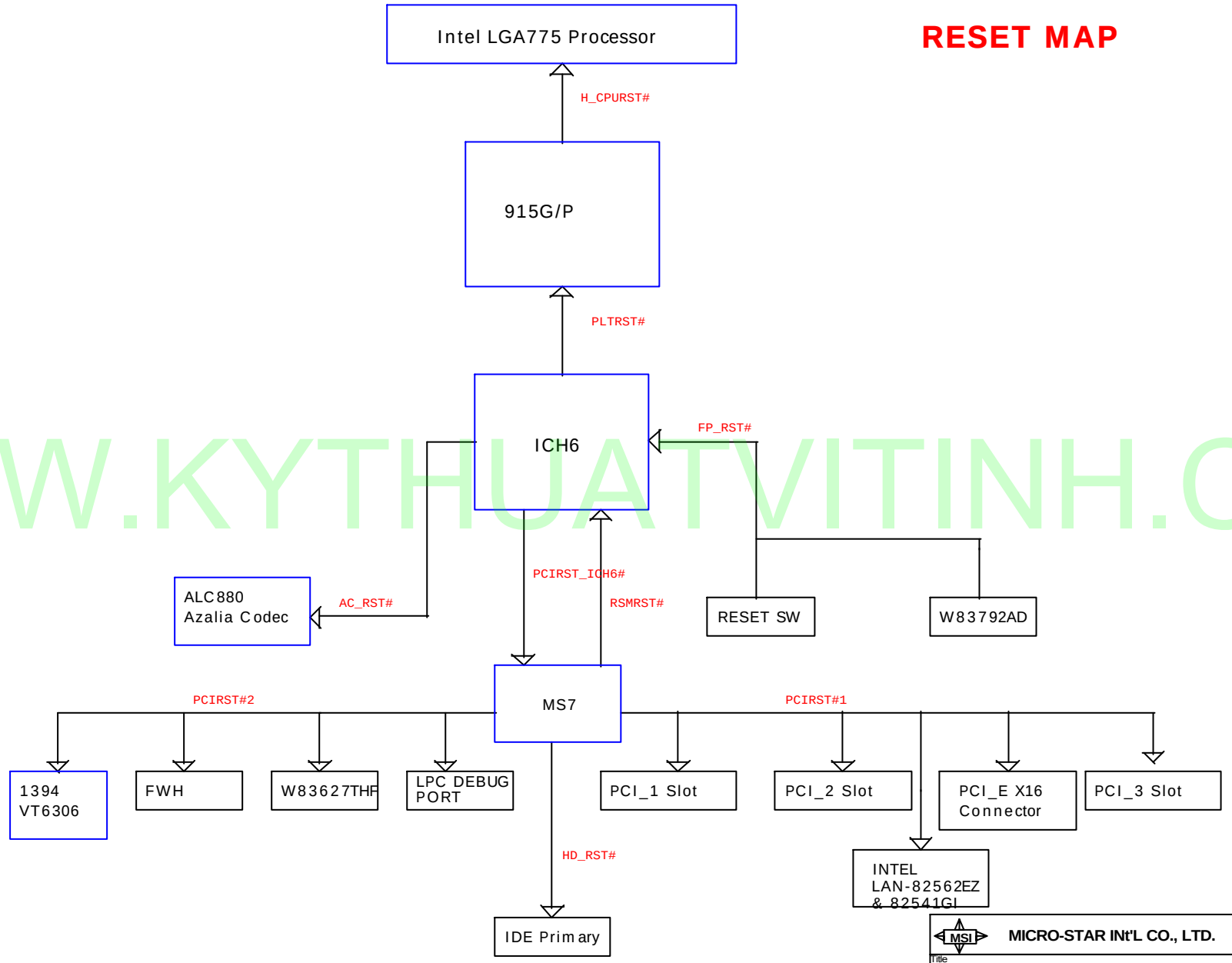
RESET MAP



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Title: Reset Map

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