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# MS-7427

Version 1.0

CPU	Generation	DUAL CORE	FSB	L2 Cache	HT	EM64T	EIST	VT
Core 2 Dual	Conroe(TBD series)	V	1066/800	2 x 4MB	X	V	V	V
	PD Extreme Edition	V	800	2 x 1MB	V	V	V	V
Pentium D	Presler (9 series)	V	800	2 x 2MB	X	V	V	V
	Smithfield (8 series)	V	800	2 x 1MB	X	V	>=830	X
Pentium 4	P4 Extreme Edition	X	1066	2MB	V	V	V	X
	Cedar Mill (6 series)	X	800	2MB	V	V	V	"2" in last code
	Prescott (5 series)	X	533/800	1MB	V	"1" in last code	X	X
Celeron D	Cedar Mill (TBD series)	X	TBD	512KB	X	V	X	X
	Prescott (3 series)	X	533	256KB	X	X	X	X

## System Chipset:

Intel Bearlake G31- GMCH (North Bridge)

Intel ICH7

## On Board Chipset:

BIOS -- FWH 4Mb

AC97 AUDIO -- ALC888

LPC Super I/O -- W83627DHG

LAN -- Realtek RTL8111B

CLOCK -- ICS9LPR502

## Main Memory:

2 CHANNEL DDR II \* 1 (Max 4GB)

## Expansion Slots:

miniPCIE x1

mini PCI SLOT \* 1

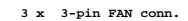
## Intersil PWM:

Controller: VRD11 Intersil 6326 4Phase

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MS-7427			
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19--20V DC in

DC-DC  
Power  
Translator



Right Angle  
Slim SATA  
Conn.



SATA Power Conn.

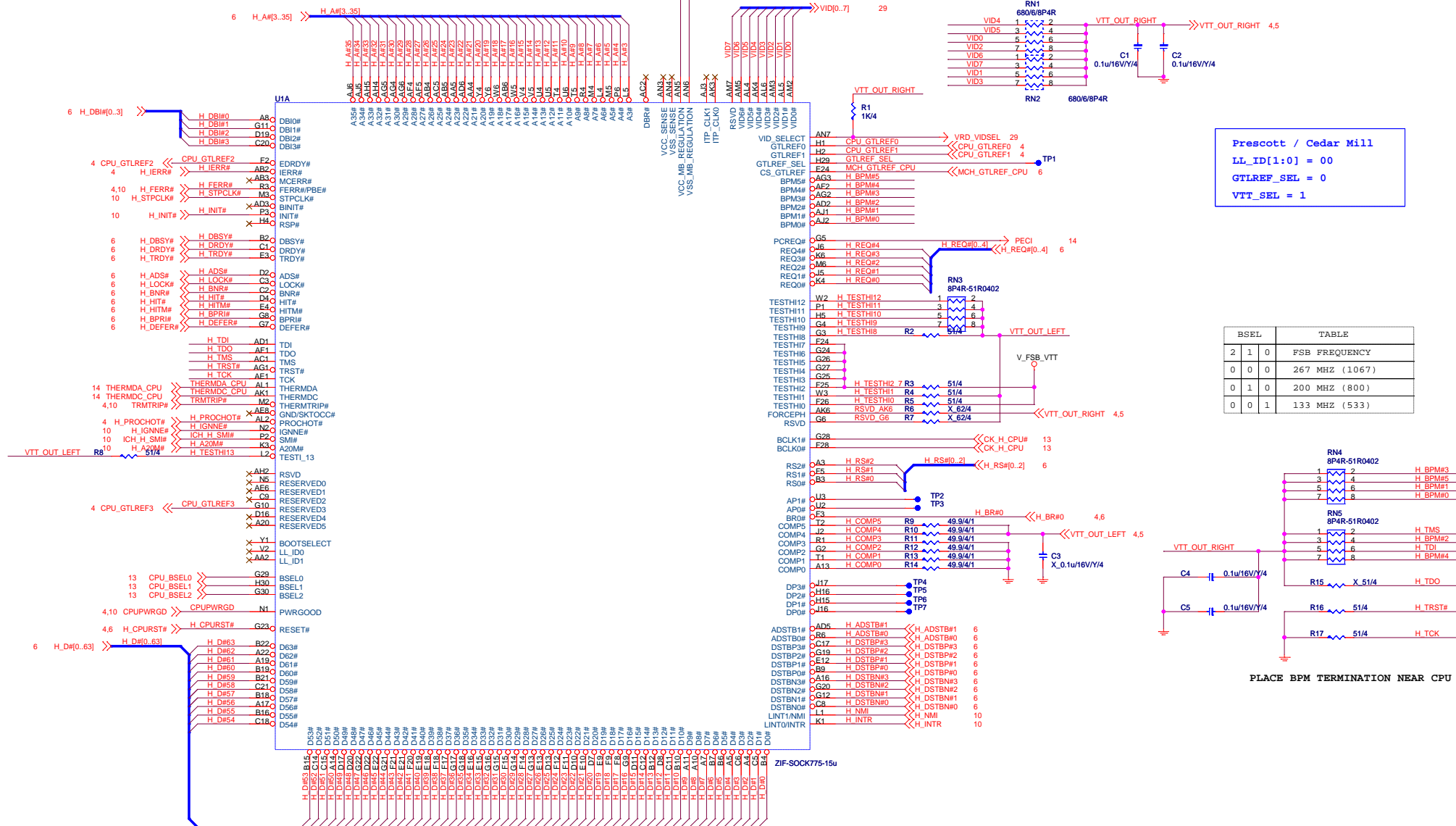


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Size Custom	Document Description <b>BLOCK DIAGRAM</b>	Rev 0B
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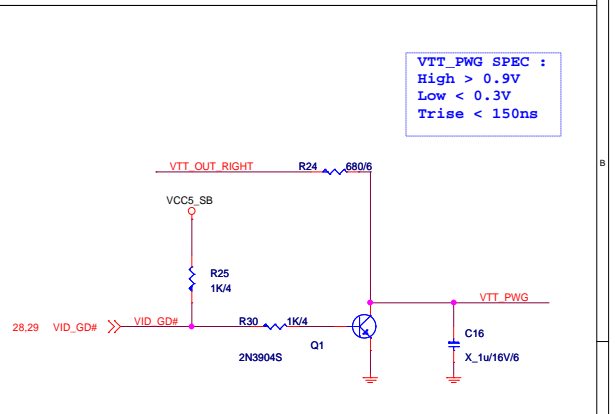
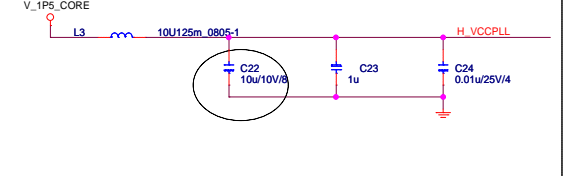
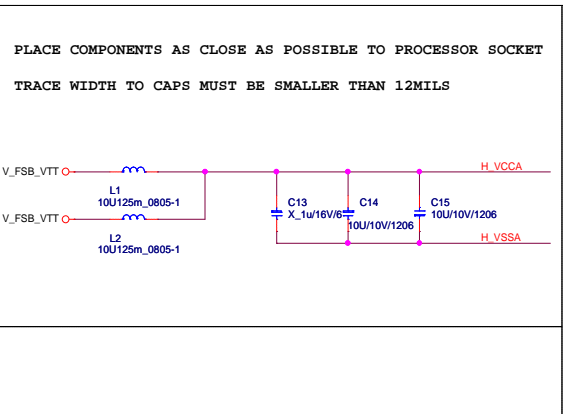
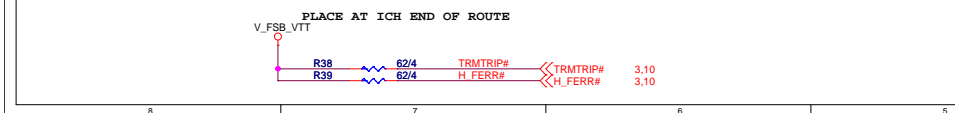
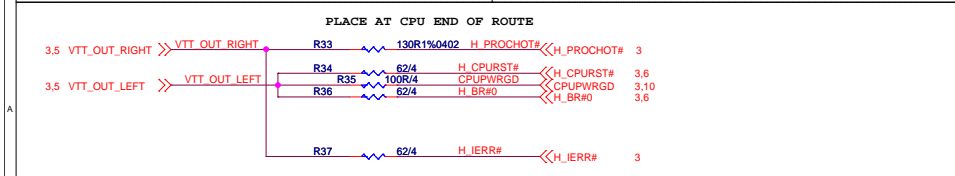
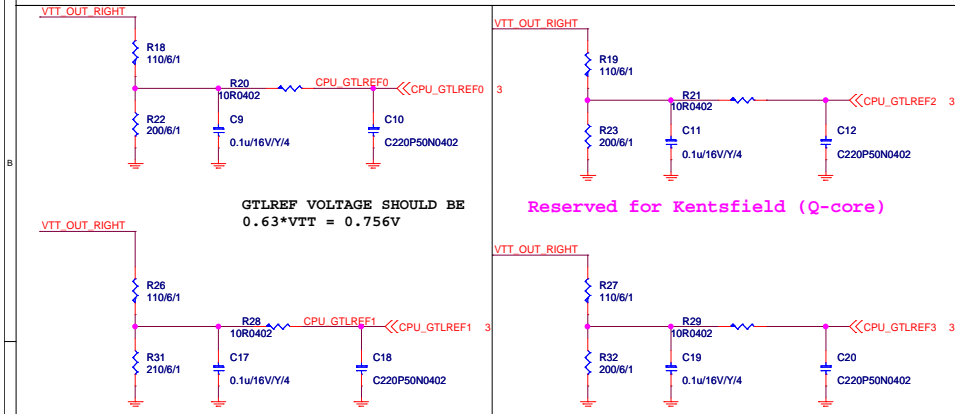
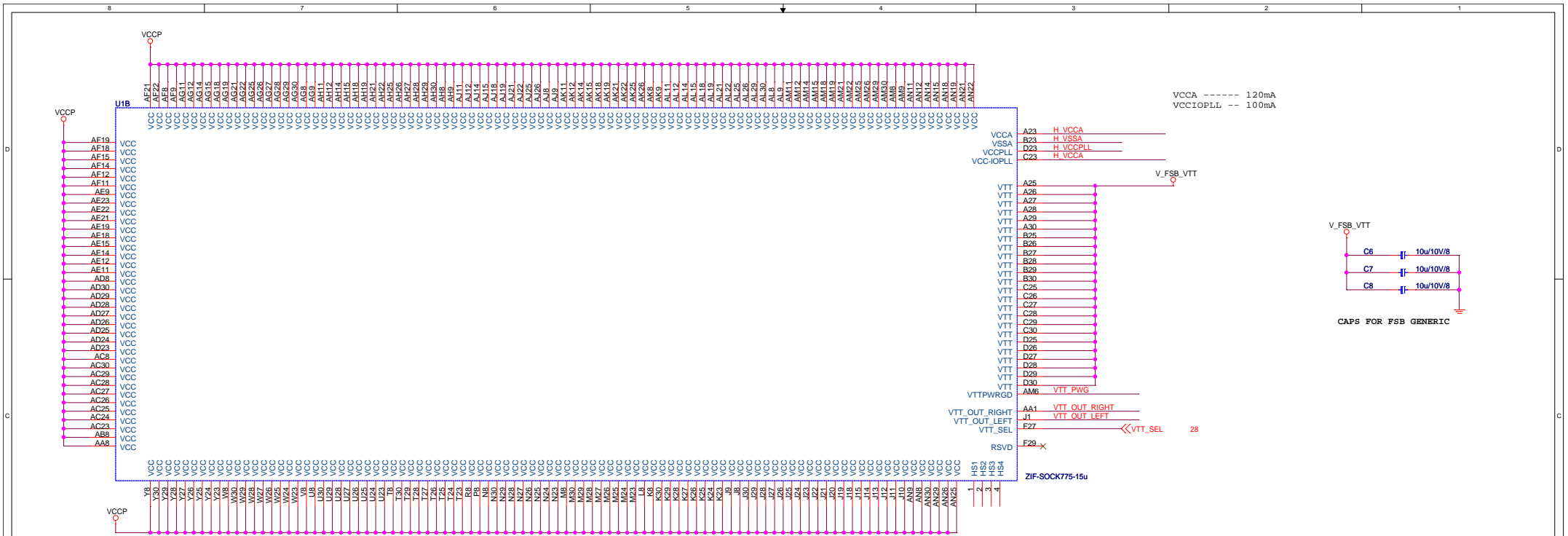
### CPU SIGNAL BLOCK



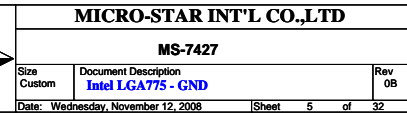
**MICRO-STAR INT'L CO.,LTD**

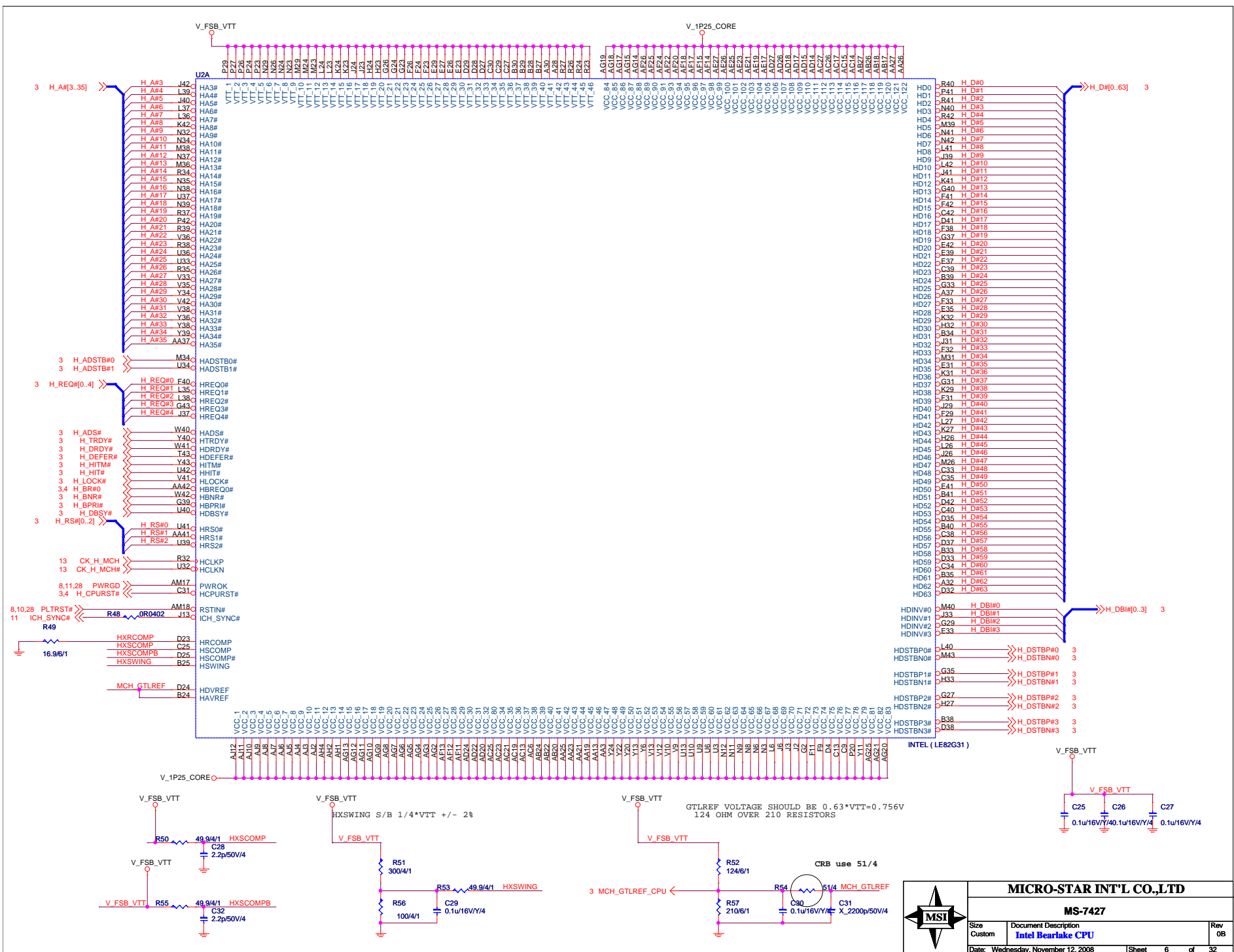
MS-7427

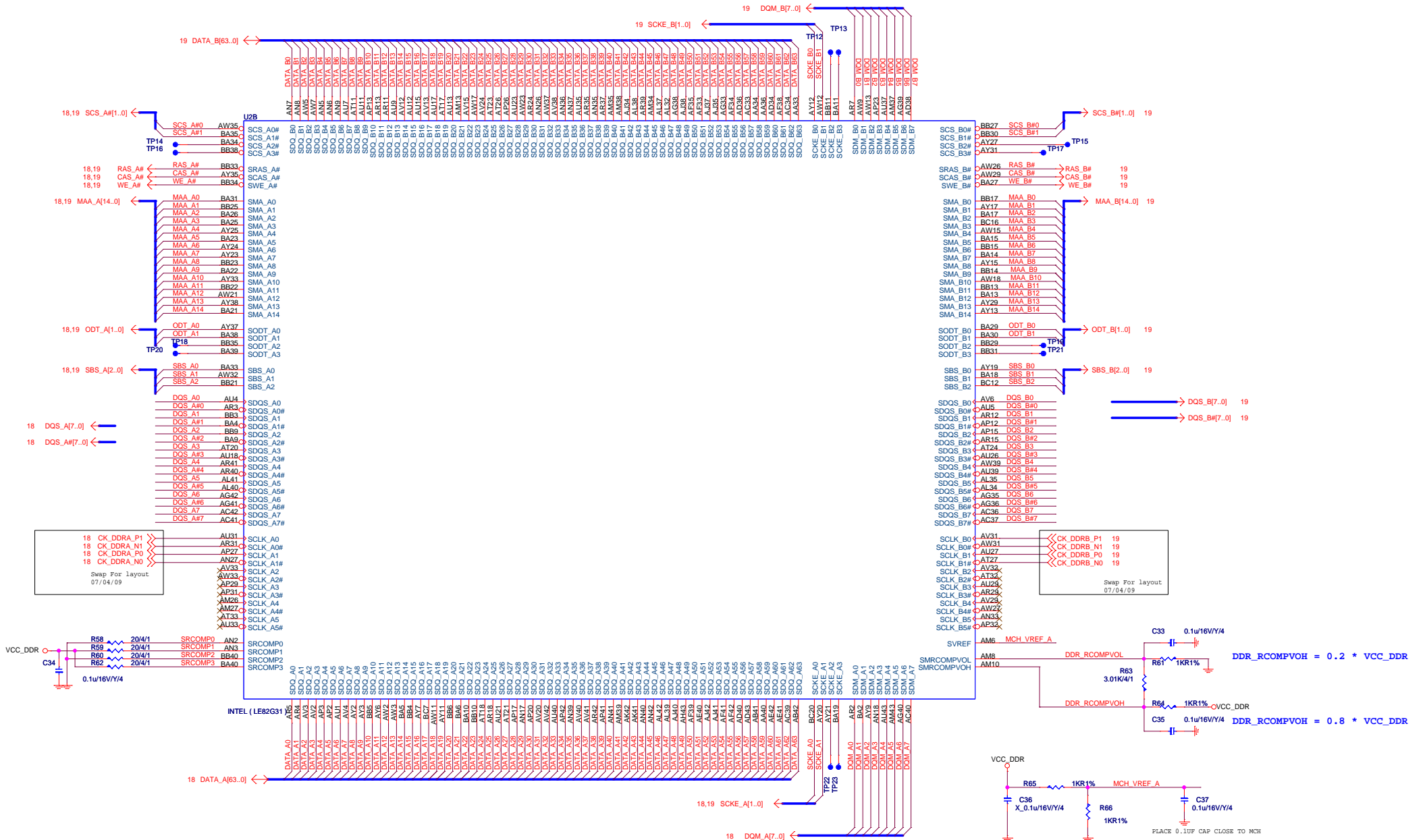
Size Custom	Document Description <b>Intel LGA775 - Signals</b>	Rev 0B
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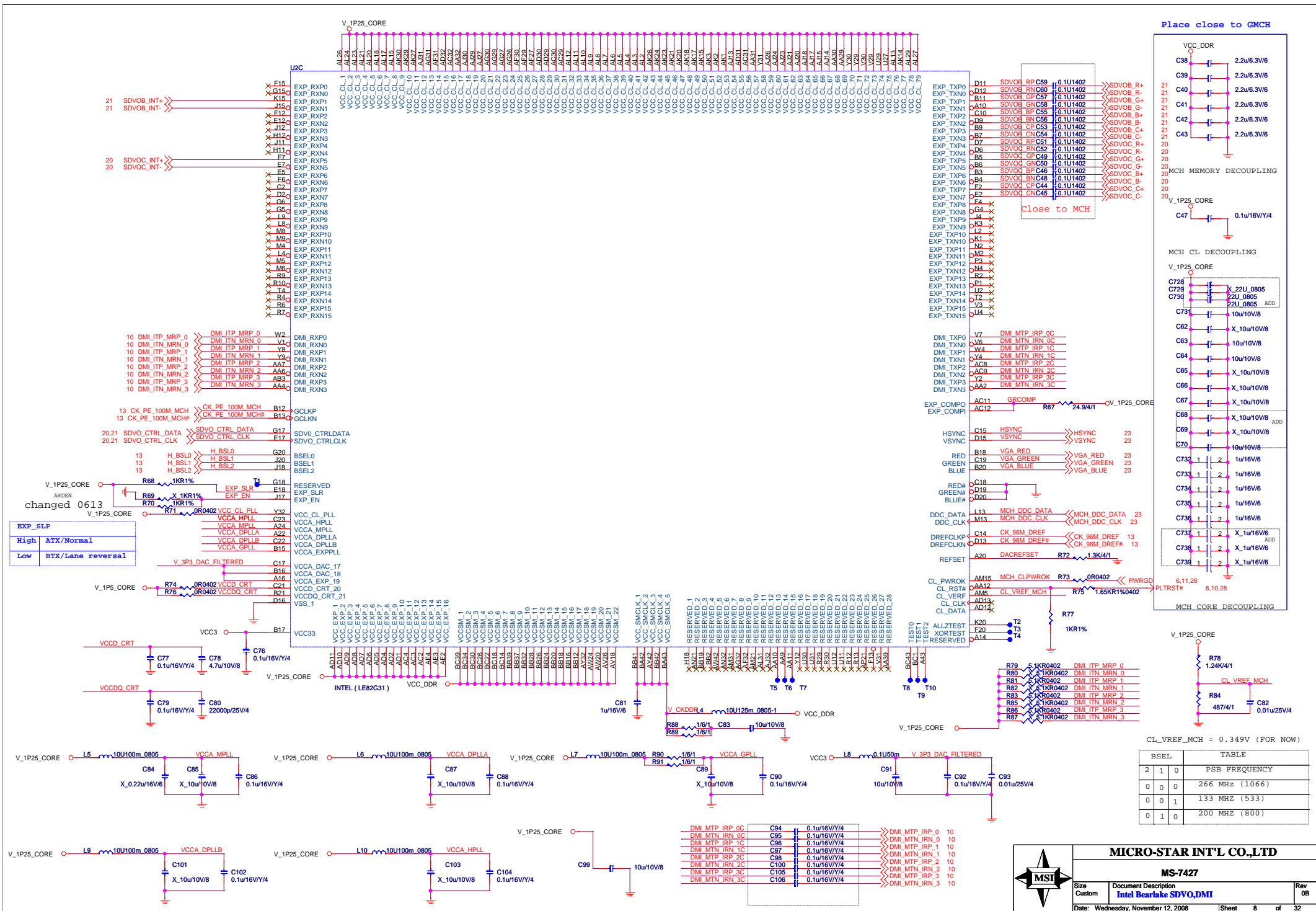


	2005 Performance FMB platform 1	2005 Mainstream/Value FMB platform 2	2005 65W FMB platform 3
MSID1	0	0	0
MSID0	0	NC	NC

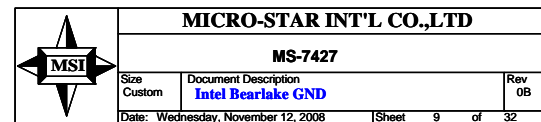


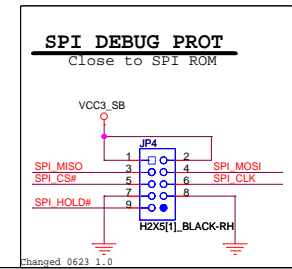
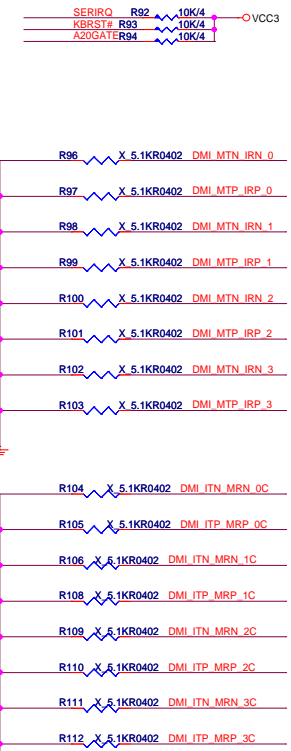
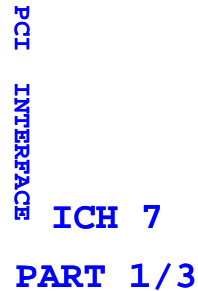




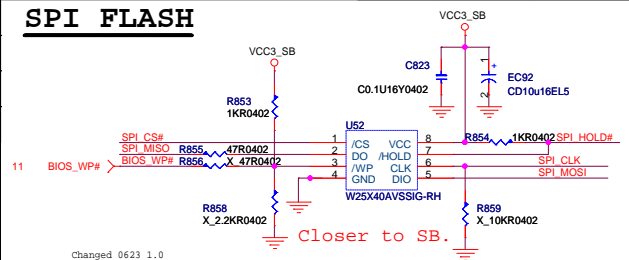


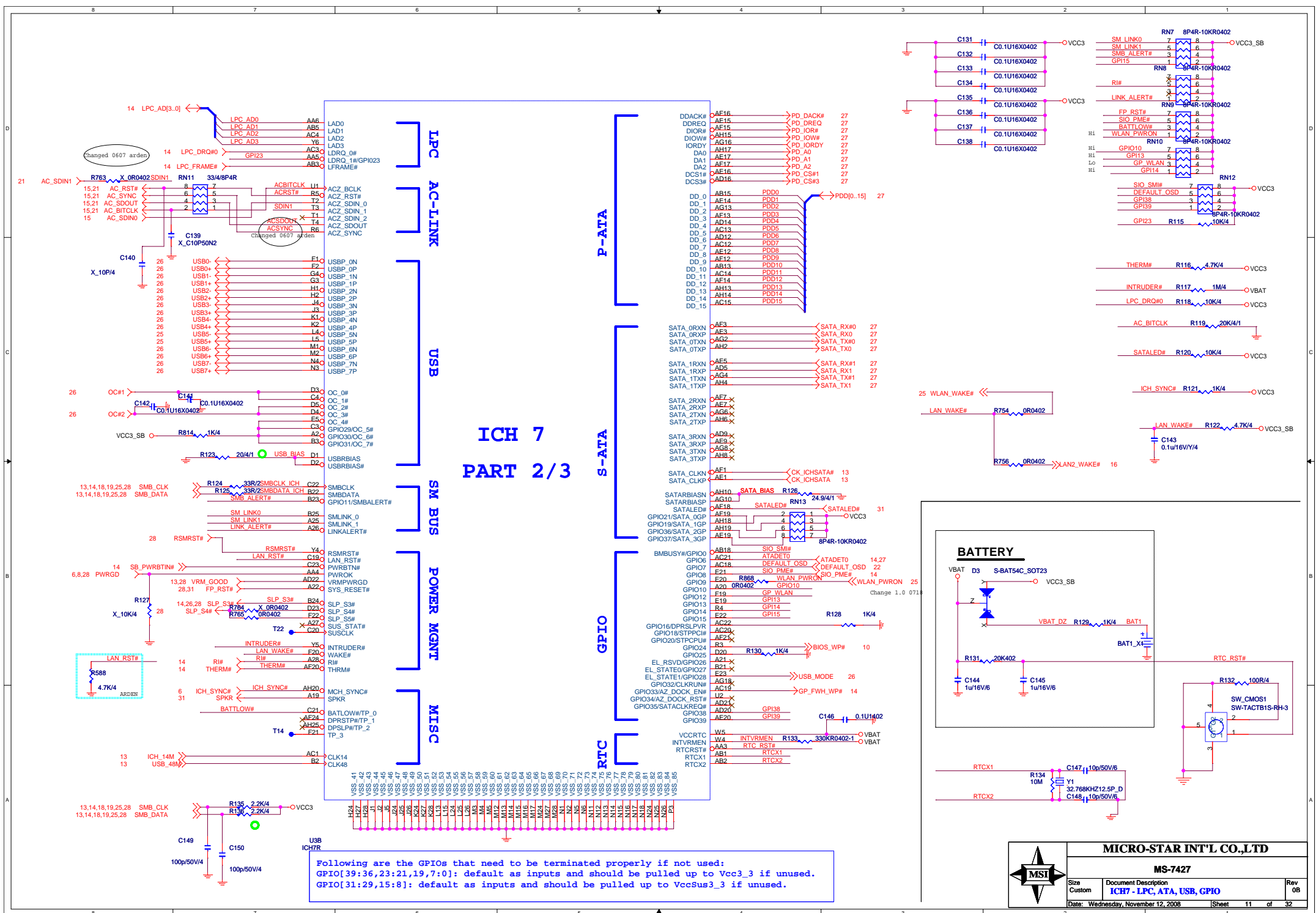






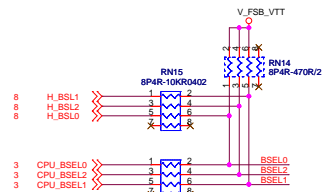
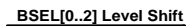
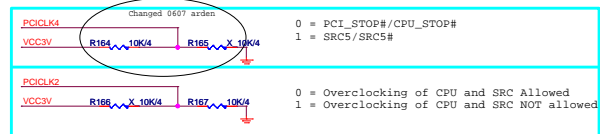
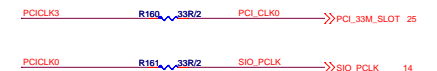
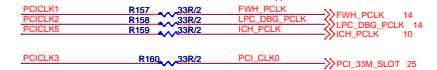
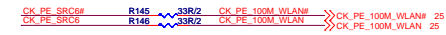
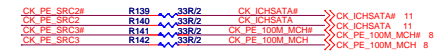
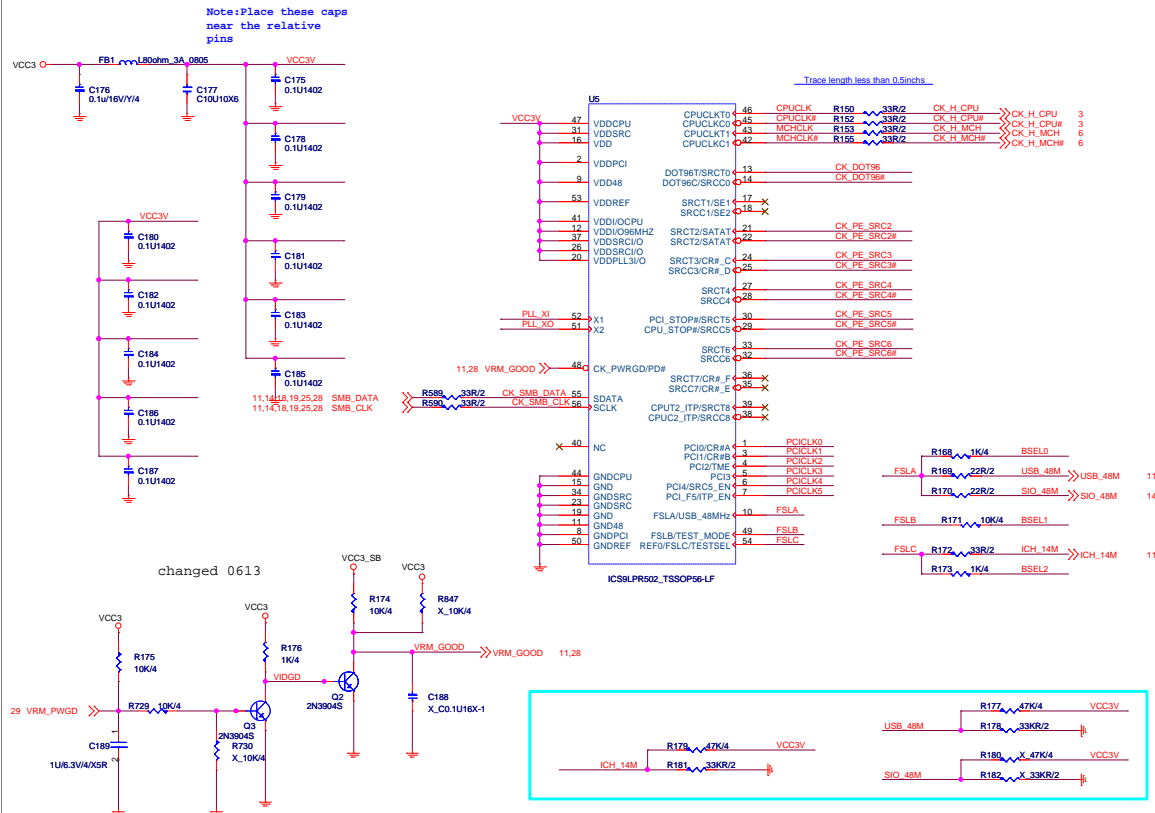
## SPI FLASH



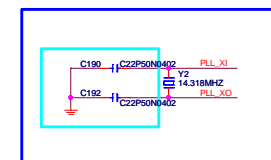
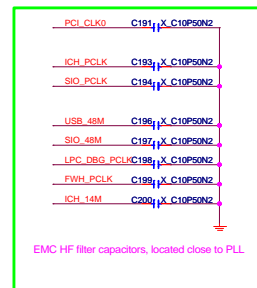




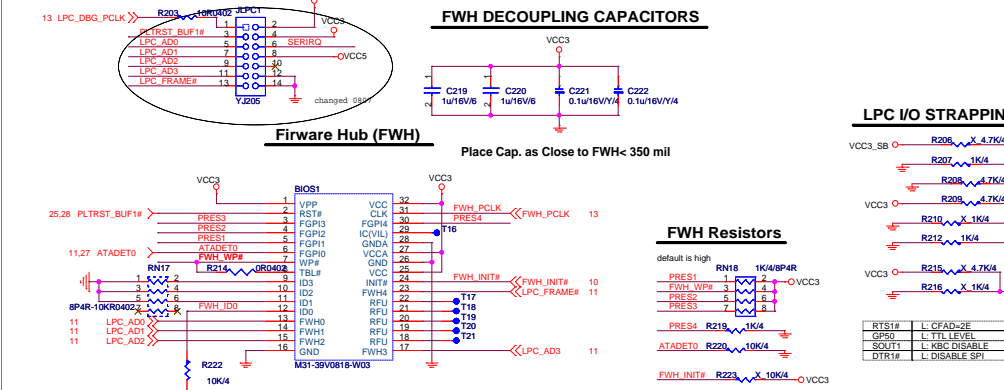
## Clock Generator - ICS9LPR502



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



**LPC SUPER I/O W83627DHG**

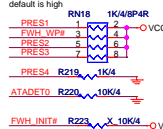


### FWH DECOUPLING CAPACITORS

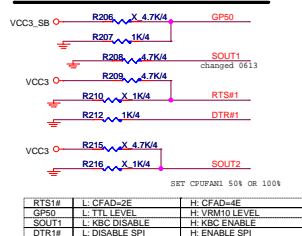
Place Cap. as Close to FWH< 350 mil

### FWH Resistors

default is high

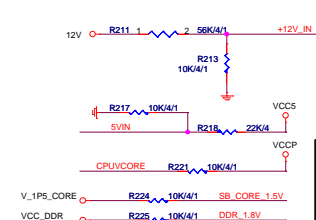


### LPC I/O STRAPPING RESISTOR

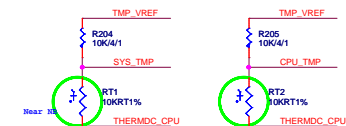


RTS1#	L: CFAD=2E	H: CFAD=4E
GP50	L: TTL LEVEL	H: VRM10 LEVEL
SOUT1	L: KBC DISABLE	H: KBC ENABLE
DTR1#	L: DISABLE SPI	H: ENABLE SPI

### Voltage Detect



## Temperature Senser



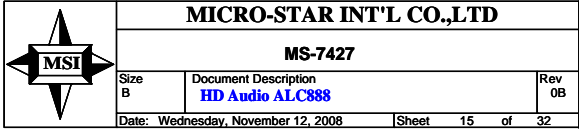
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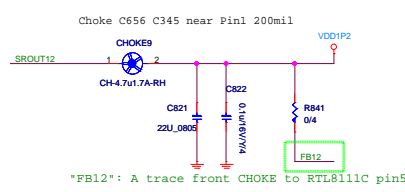
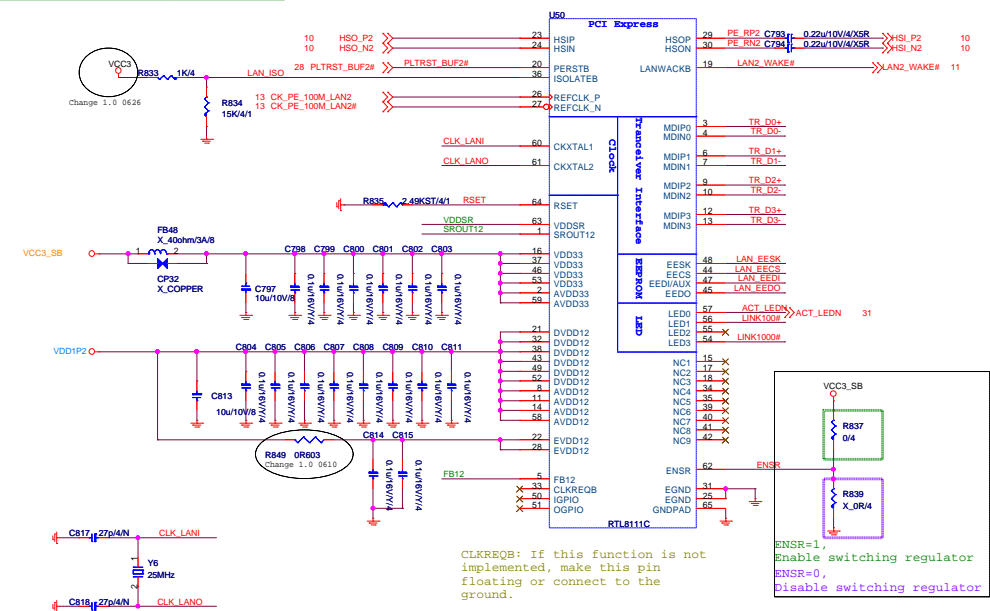
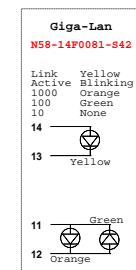
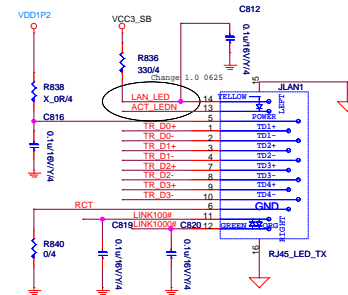
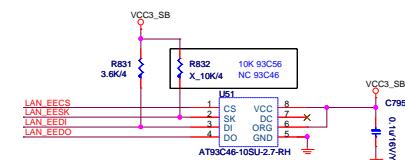
Document Description
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Document Description	Rev
<b>W83627DHG, COM1,2,FWH</b>	01
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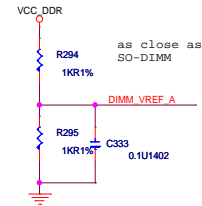


The schematic diagram illustrates the output stage of the CD100U16EL11. It features two output drivers, EC4 and EC5, which are connected to the internal AVDD5 supply through a 20kΩ resistor (R226). The output of EC4 is connected to LINE\_OUT\_R via a 75Ω resistor (R227), and the output of EC5 is connected to LINE\_OUT\_L via a 75Ω resistor (R228). The drivers are also connected to GND through a 20kΩ resistor (R226).





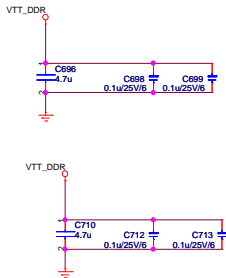
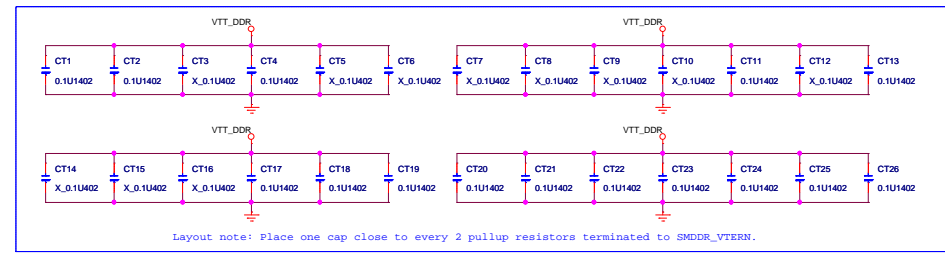
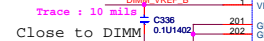
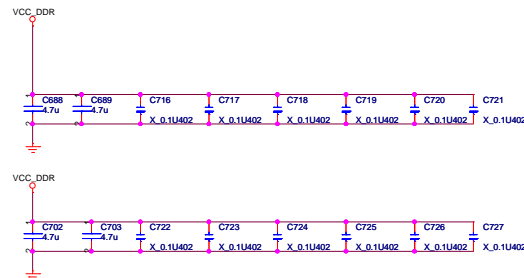




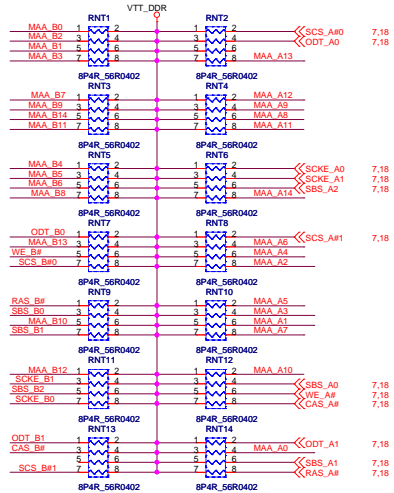
Document Description  
**SO-DIMM 1**

Size Custom	Document Description <b>SO-DIMM 1</b>	Rev 0B
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ADDR=1010010B



MAA\_A[14..0] << MAA\_A[14..0] 7,18






# CH7315B

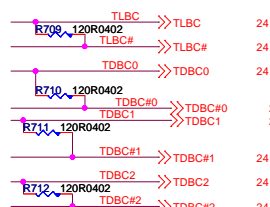
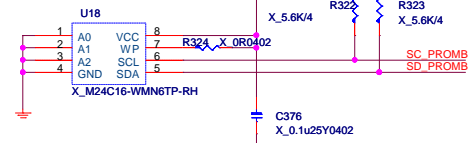
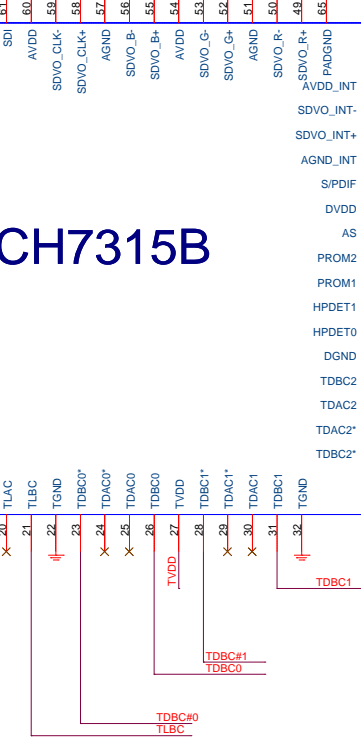
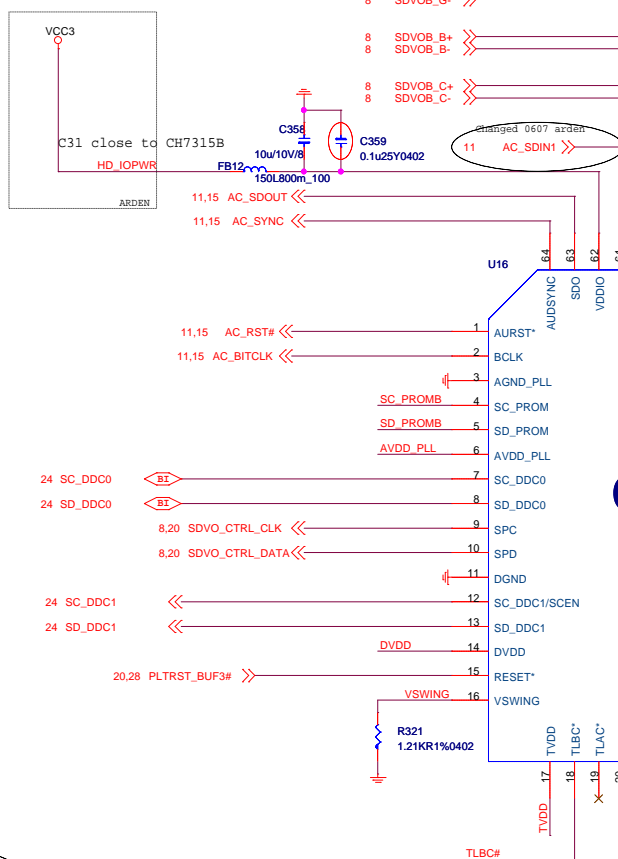
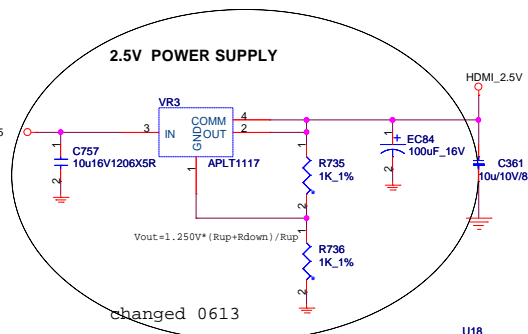
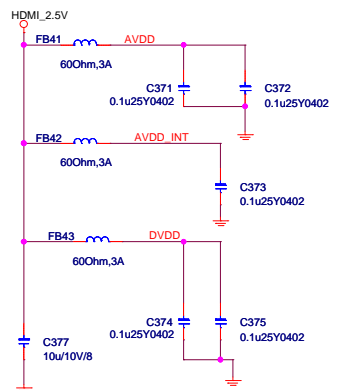
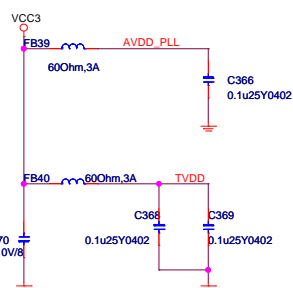
AS(Pin 42):  
1) When AS pin is tied HIGH,  
the chip address is 70h  
2) When AS pin is tied LOW,  
the chip address is 72h

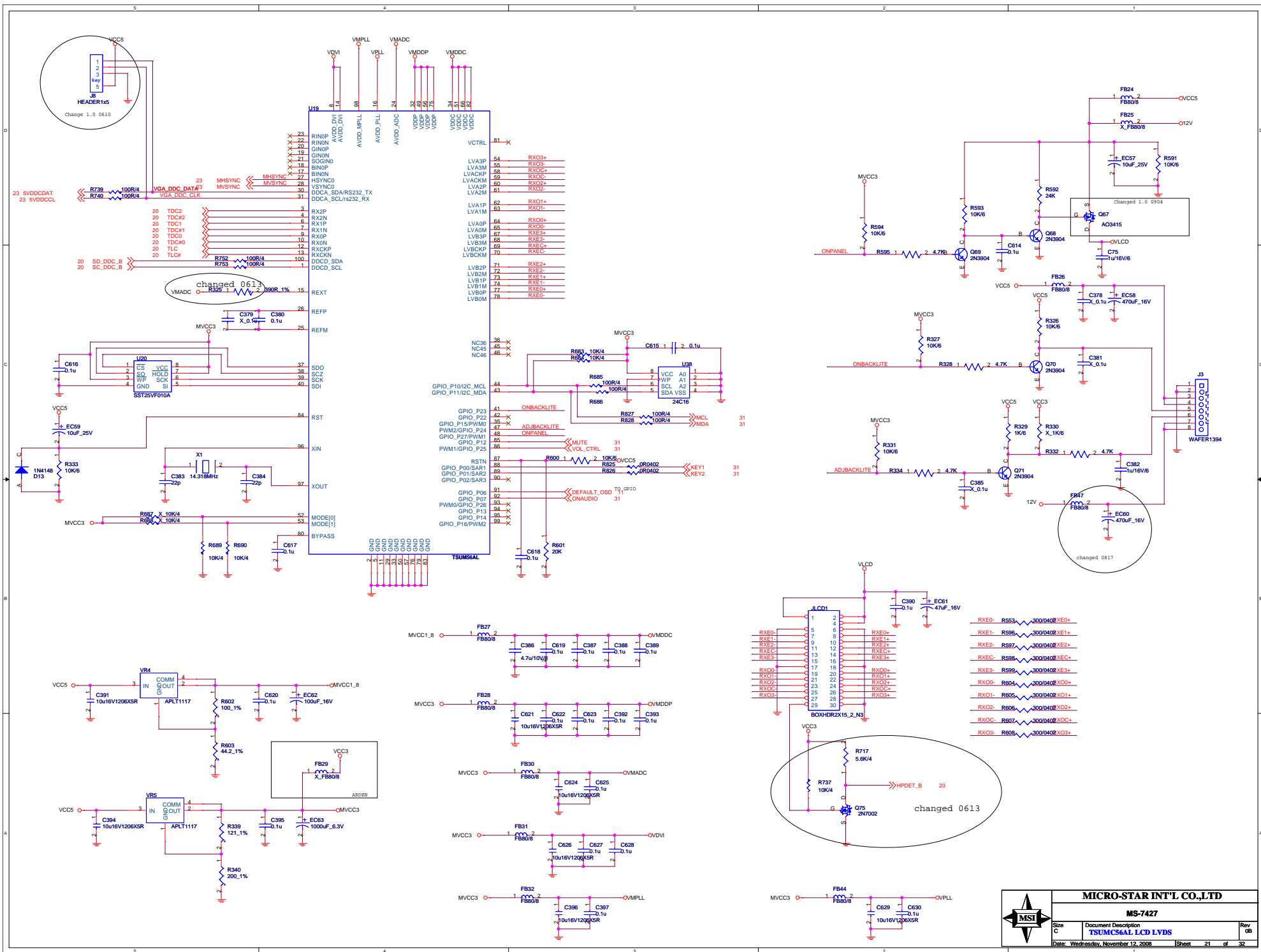
close to  
CH7315

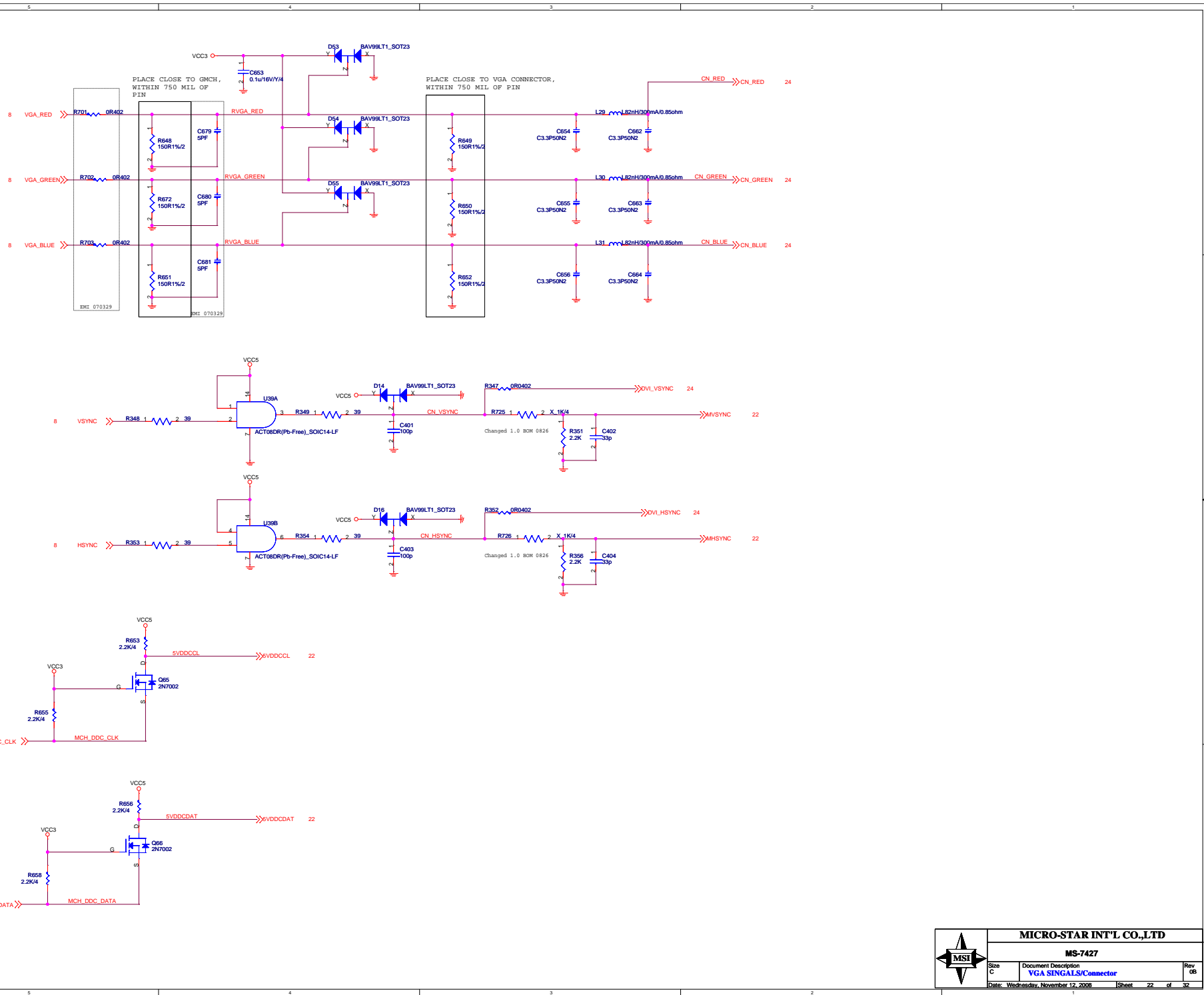
setting address  
Write and 73h for  
Read..

TO DVI  
CONNECTOR

		<b>MICRO-STAR INT'L CO.,LTD</b>	
		<b>MS-7427</b>	
Size Custom	Document Description <b>HDMI &amp; DVI CH7315B</b>	Date: Wednesday, November 12, 2008	Sheet 20 of 32
		Rev 0B	





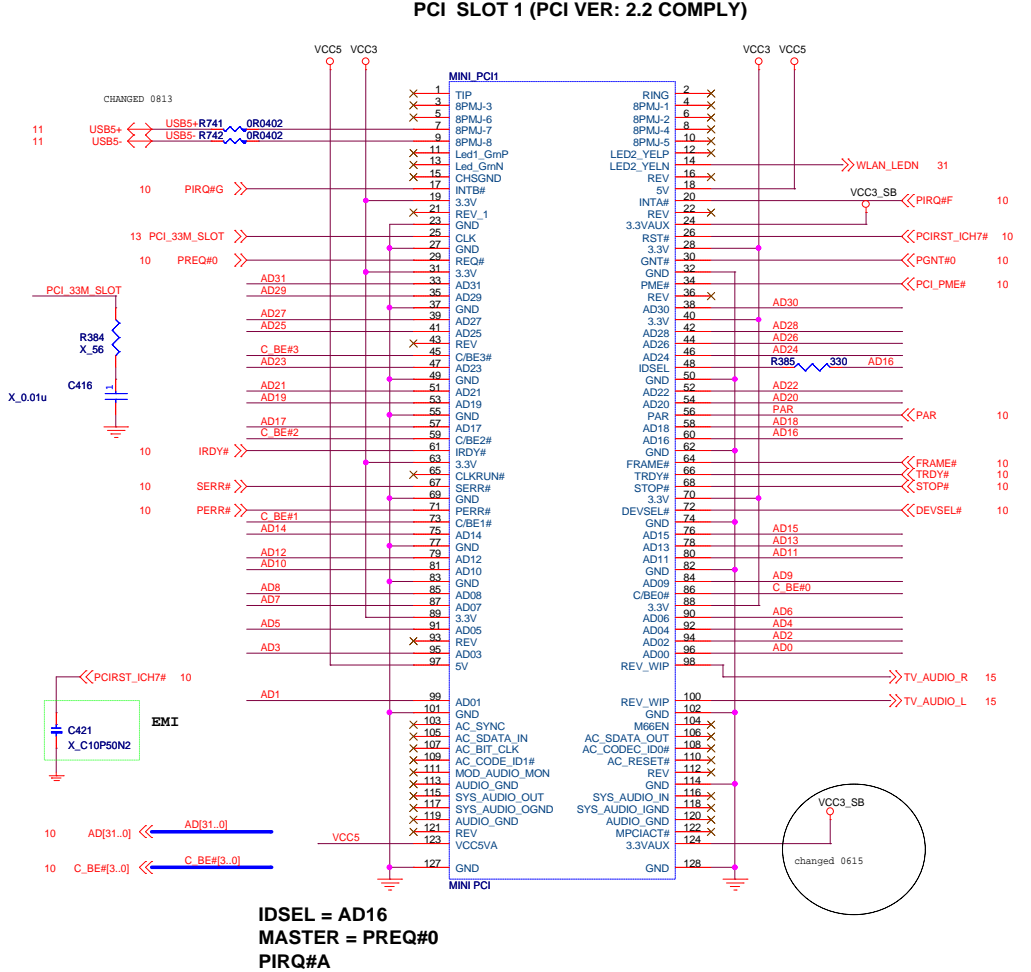
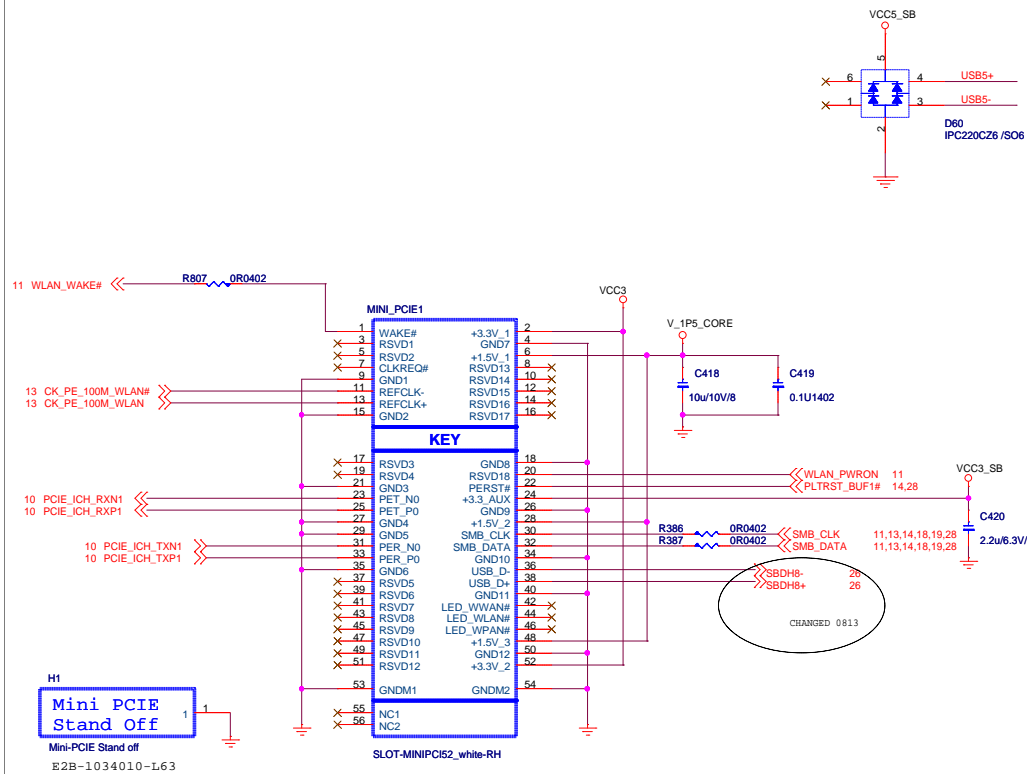


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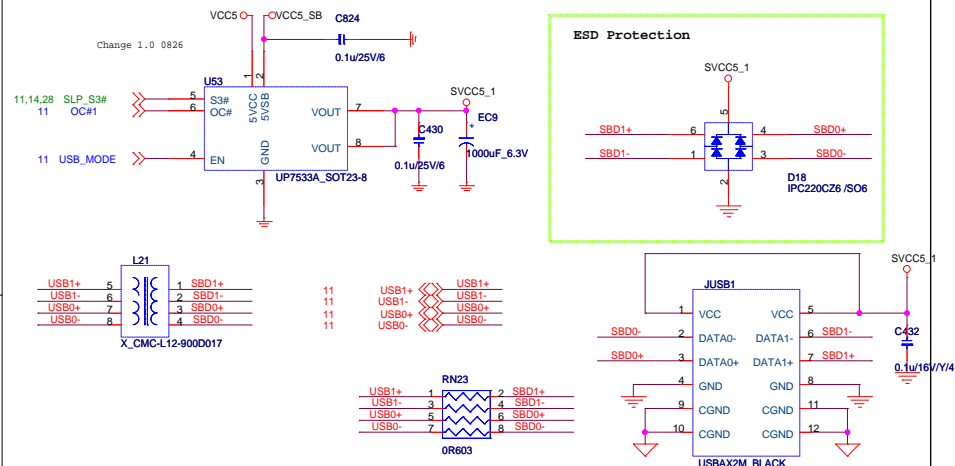
Size	Document Description	Rev
C	VGA SIGNALS/Connector	08
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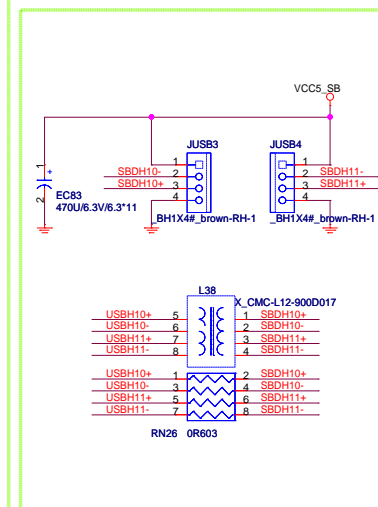
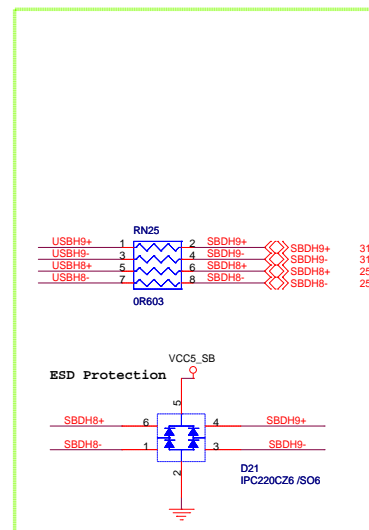
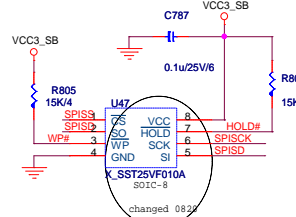
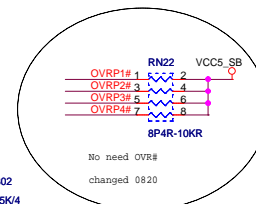
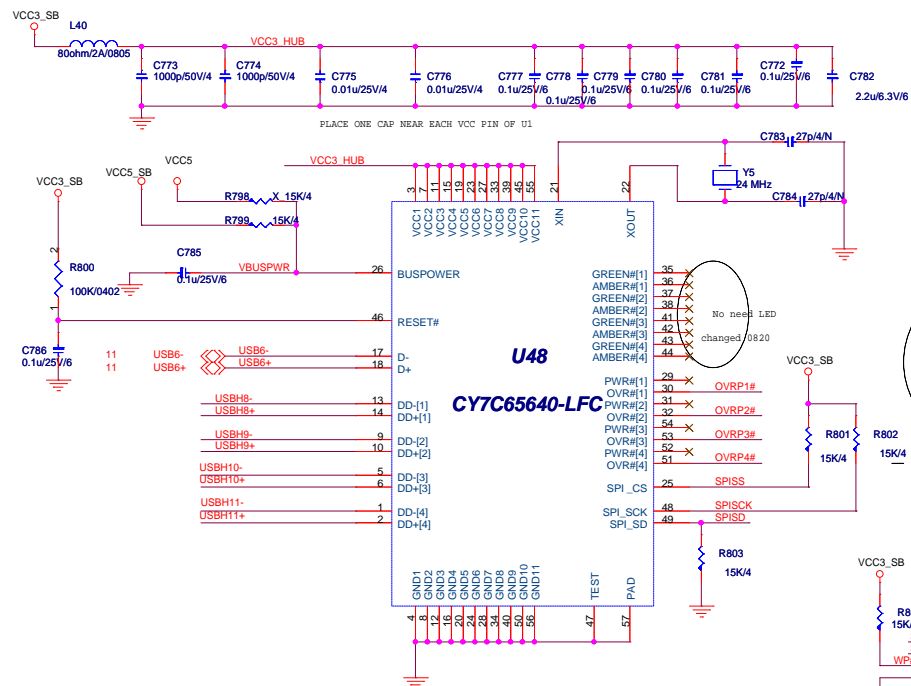
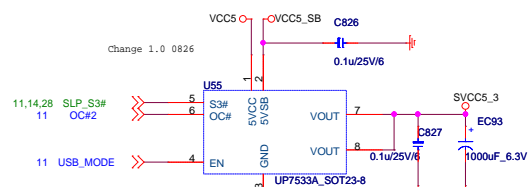
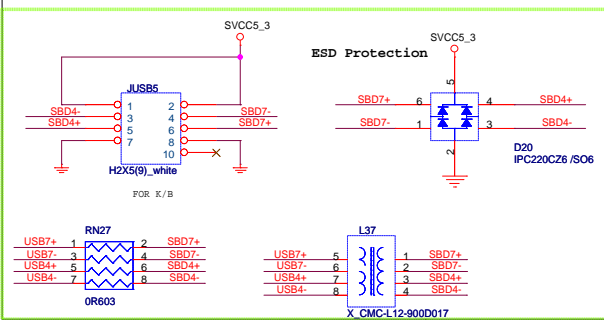
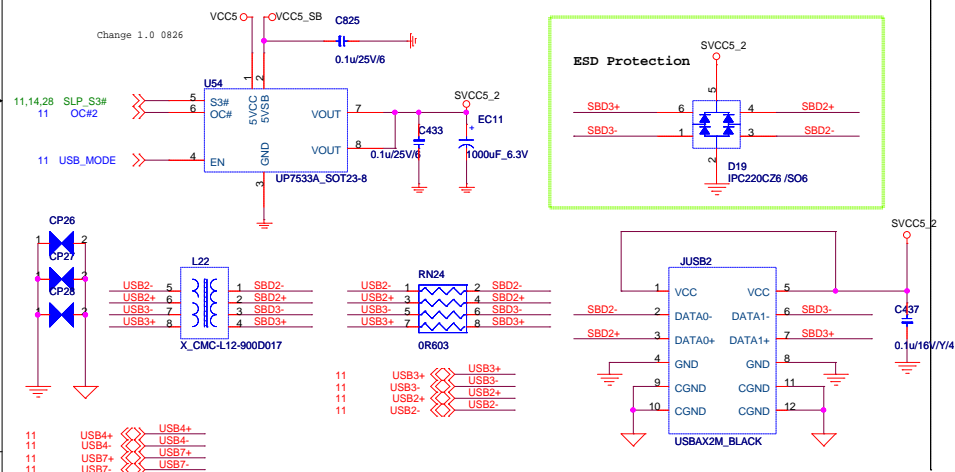




## POWER CIRCUIT FOR USB PORT 0 1



### POWER CIRCUIT FOR USB PORT 2 3

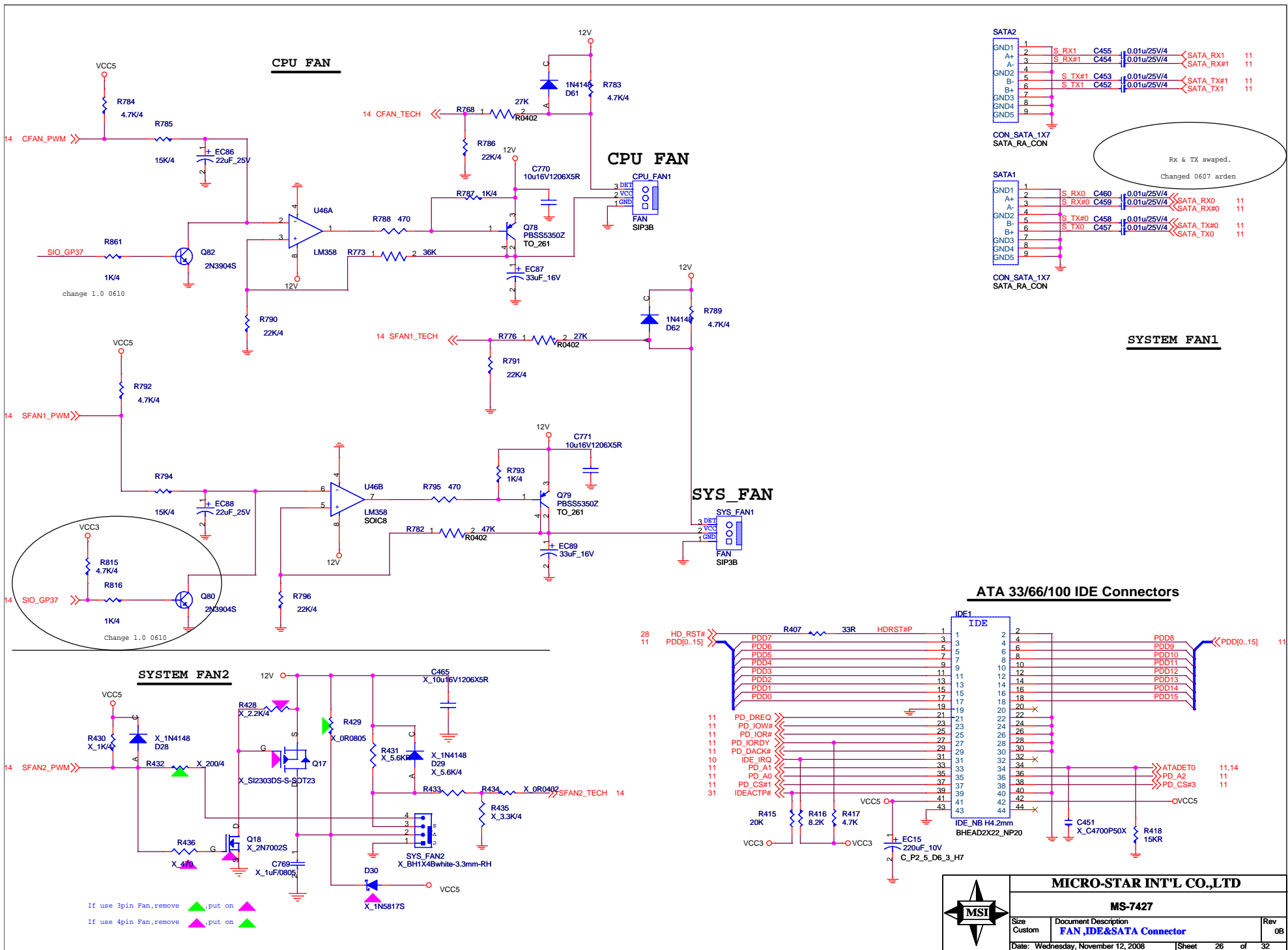


**MICRO-STAR INT'L CO.,LTD**

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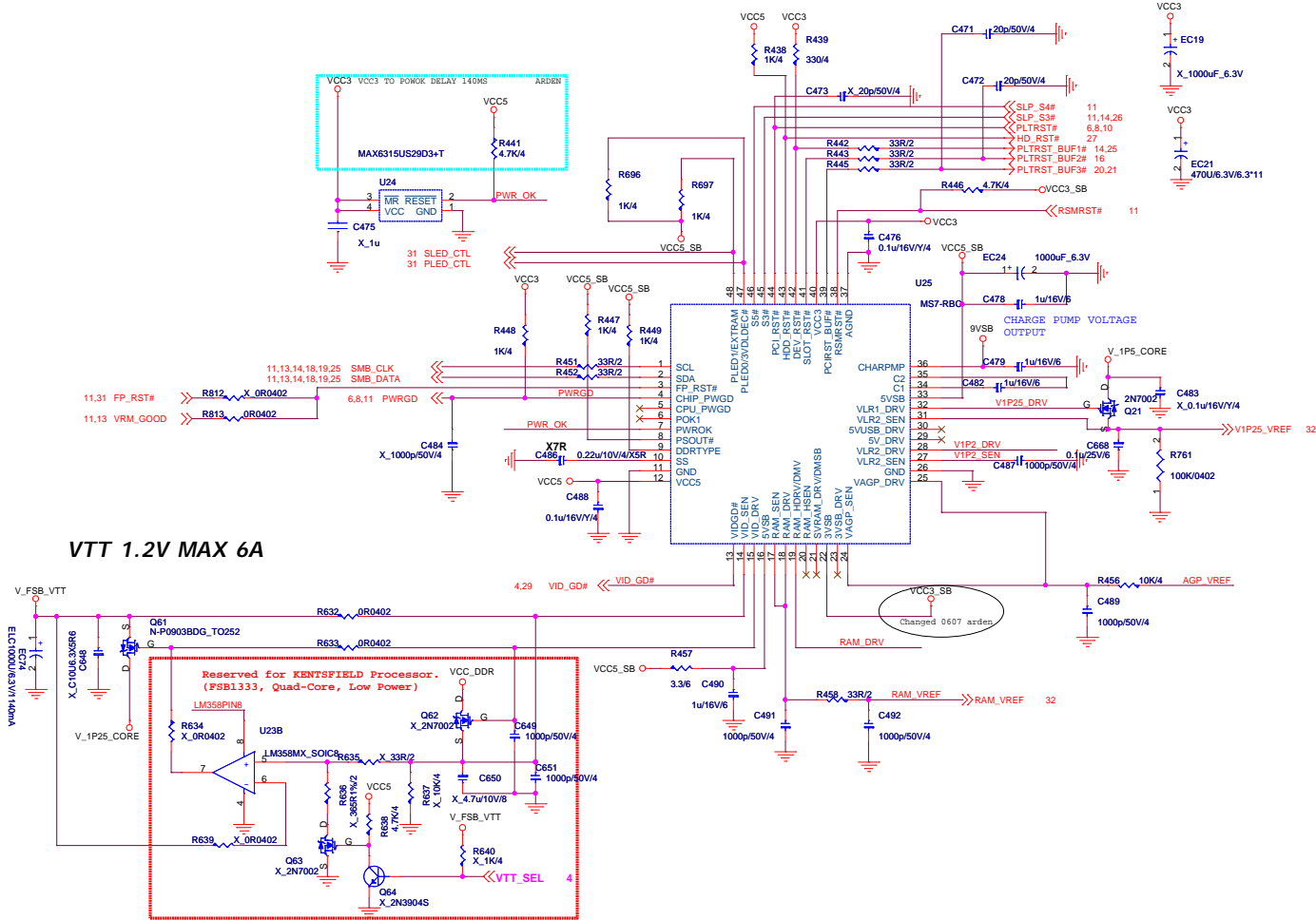
Size	Document Description
Custom	<b>CY7C65640 &amp; USB Connectors</b>

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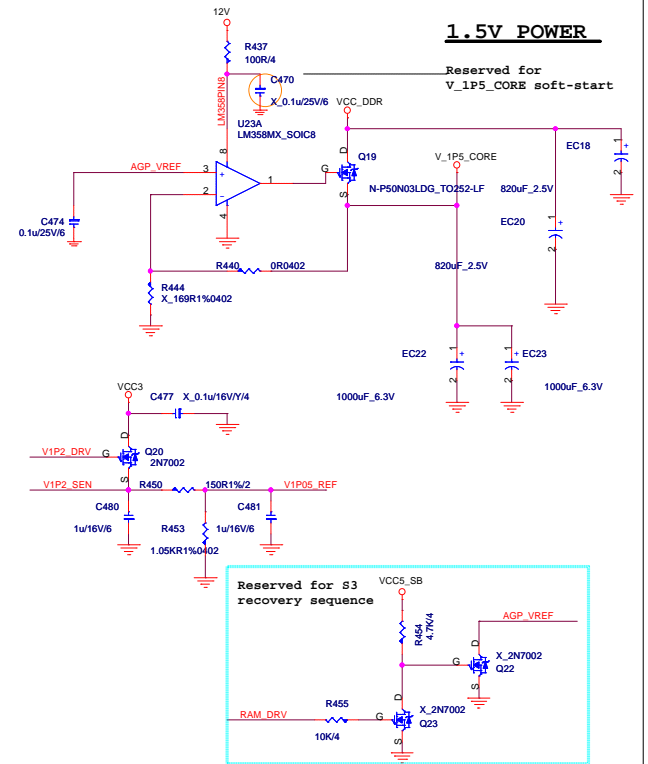


## ACPI Controller MS-7

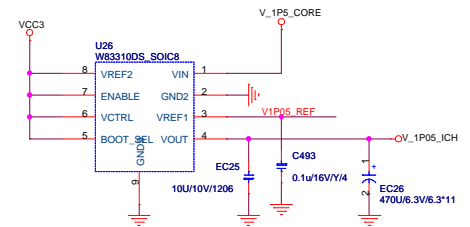
DDR AND DDR II VOLT SELECT		VDIMM LINEAR OR PWM SELECT	
DDRTYPE	VDIMM	VDIMM MODE	EXTRAM
PULL LOW	2.5V	LINEAR REGULATOR	PULL LOW
PULL HIGH	1.8V	PWM REGULATOR	PULL HIGH

VTT SEL

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



V\_1P05 ICH MAX 1.31A



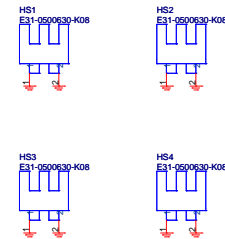
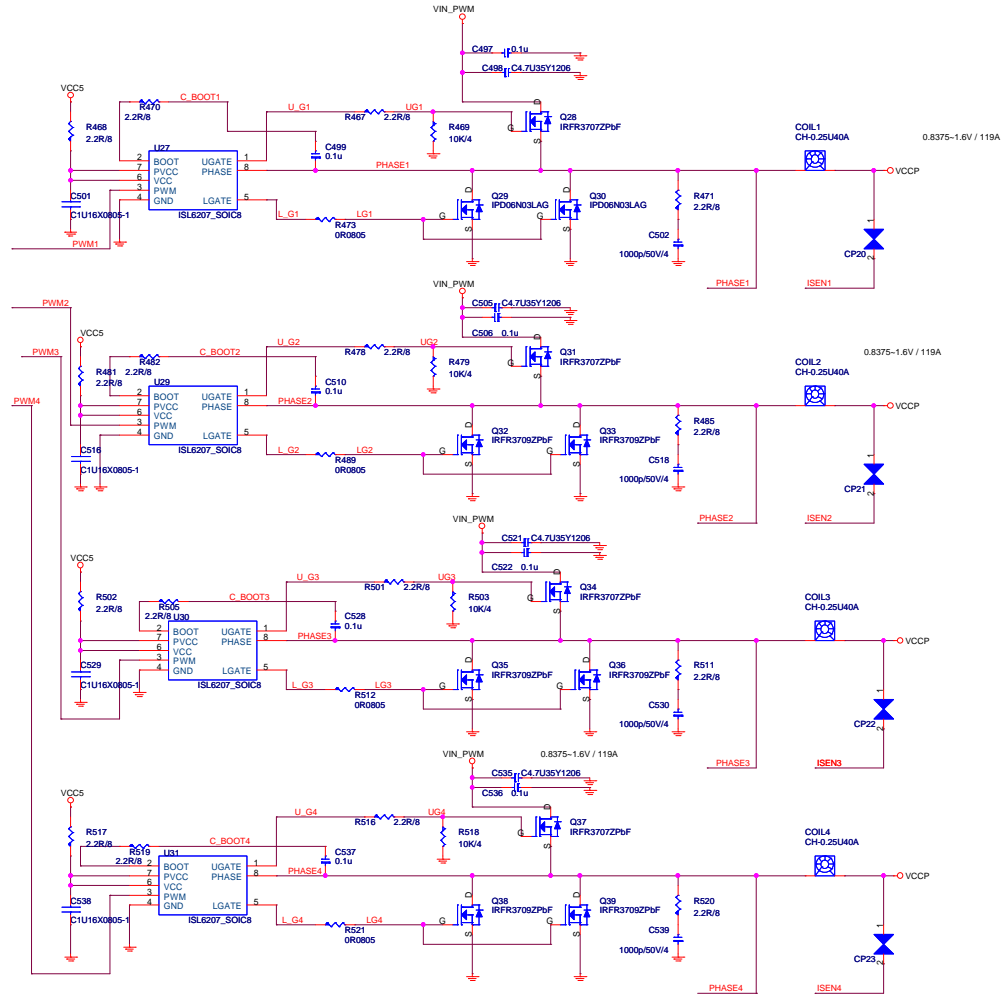
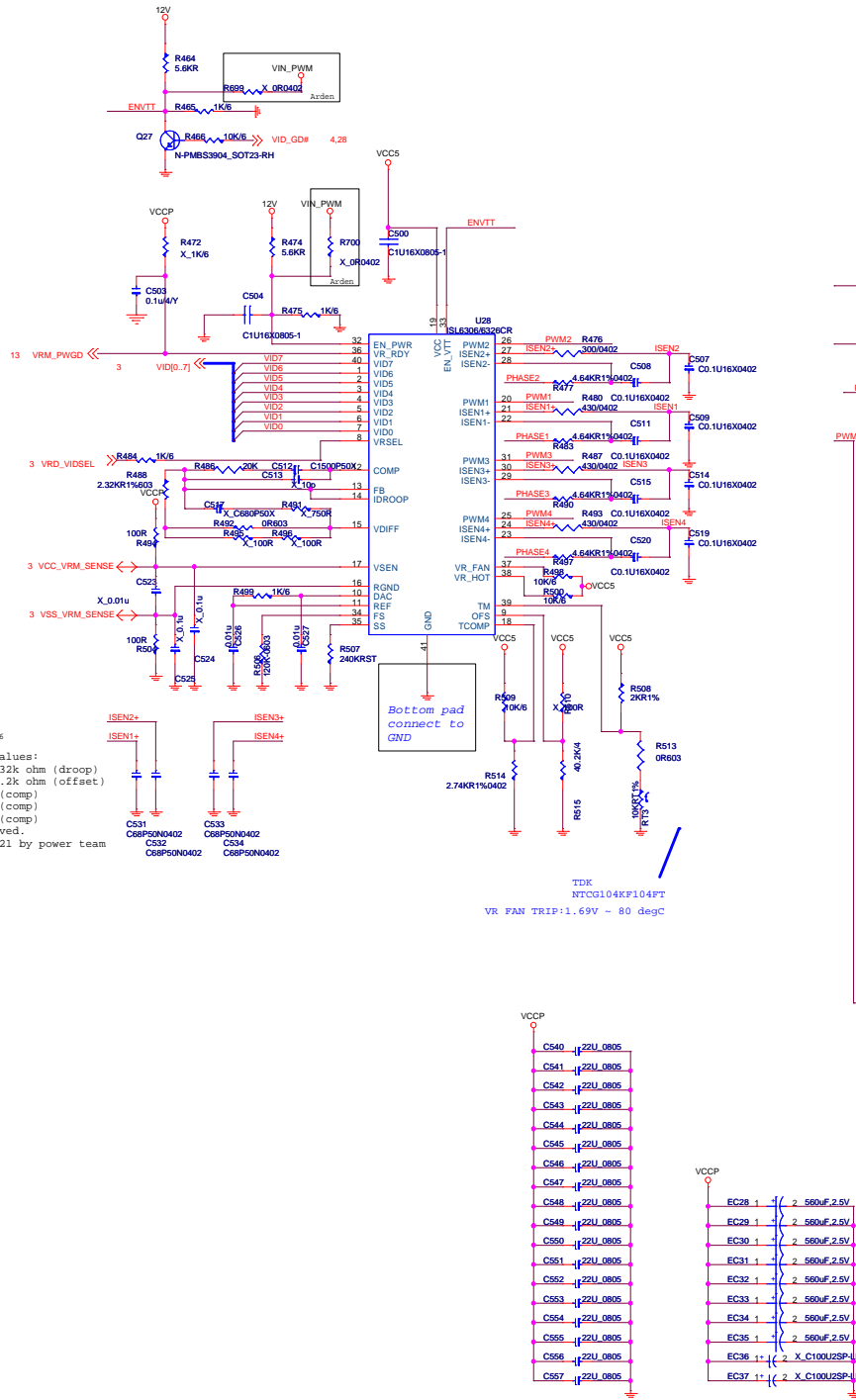
**MICRO-STAR INT'L CO.,LTD**

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Size Custom	Document Description <b>MS7 ACPI Controller</b>
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high side: D03-09M0308-114  
low side: D03-09M0308-114  
changed 070411

high side: D03-3707218-108  
low side: D03-3707218-108  
changed 070703






**GMCH 1.25V POWER**  
(21.3A)

[illegible]

V\_1P25\_CORE



EC49  
1800uF\_6.3V

EC50  
1800uF\_6.3V

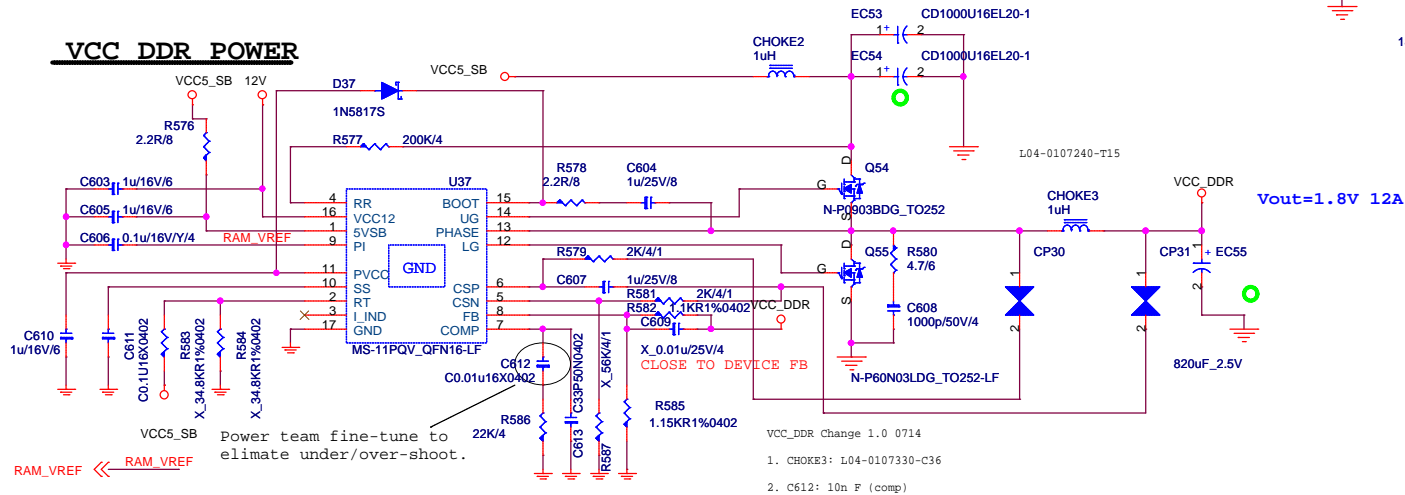
EC51  
1800uF\_6.3V

1800uF\_6.3V

Change 1.0 0/14

1. COIL5: L04-11A7231-L65
2. R567: 1K --> 2k ohm (OCP)
3. R568: 1K --> 825 ohm (offset)
4. R571: 36k ohm (offset)

## VCC DDR POWER



2. C612: 10n F (comp)

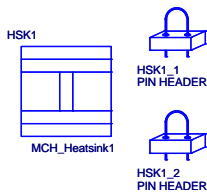
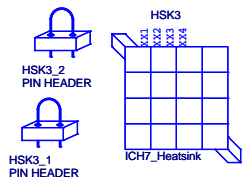
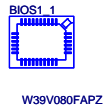


MS-7427

Document Description  
**DDR&GMCH Po**

Sheet 31 of 32

MANUAL PART



Inn1



X\_PIN1\*2  
Single-ended 50ohm W=6.5



X\_PIN1\*2  
differential 95ohm W=5.5 S=8



X\_PIN1\*2  
differential 95ohm W=5.5 S=8

Top OR  
bottom



X\_PIN1\*2  
Single-ended 50ohm W=7



X\_PIN1\*2  
differential 95ohm W=5.5 S=7

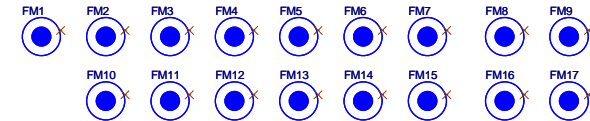


X\_PIN1\*2  
differential 95ohm W=5.5 S=7

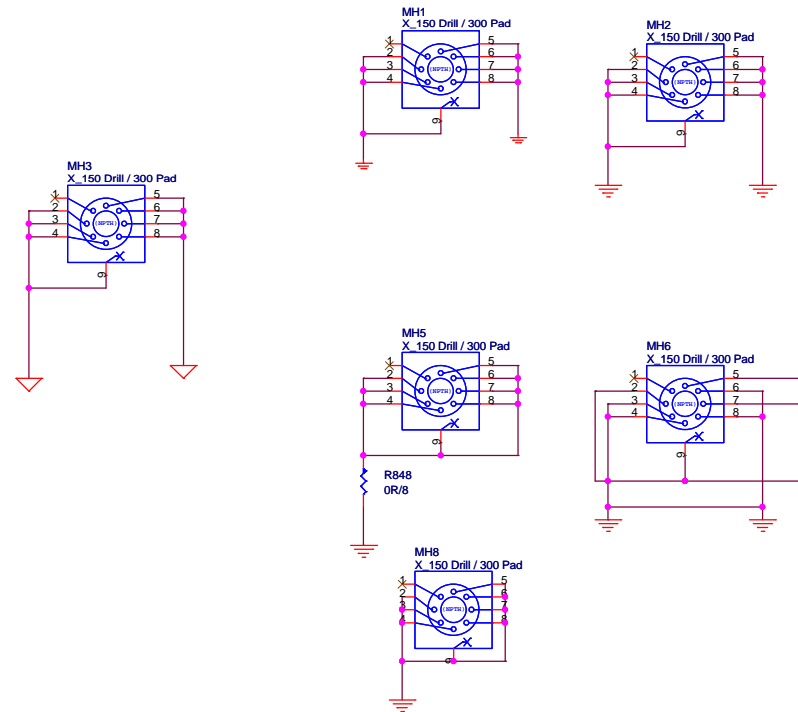


X\_PIN1\*2  
Single-ended 30ohm W=9

Optical Fiducial Marks



Mounting Holes





MS-7427 Change list

1	U52 change Part number to M31-25X4013-W03 from M31-25X4003-W03	2008/10/28
2	H1 change footprint to HOLES236D96	2008/10/28
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