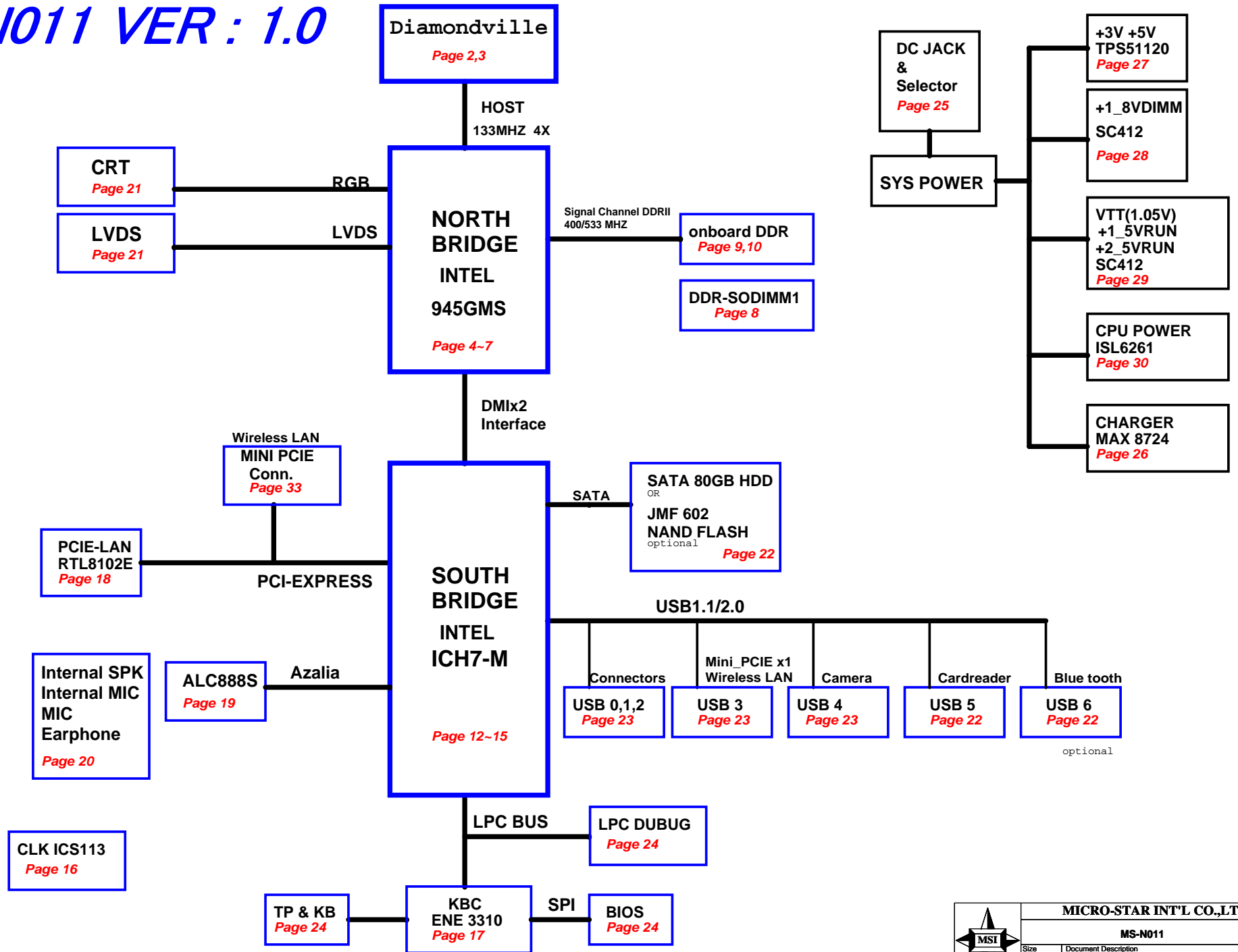
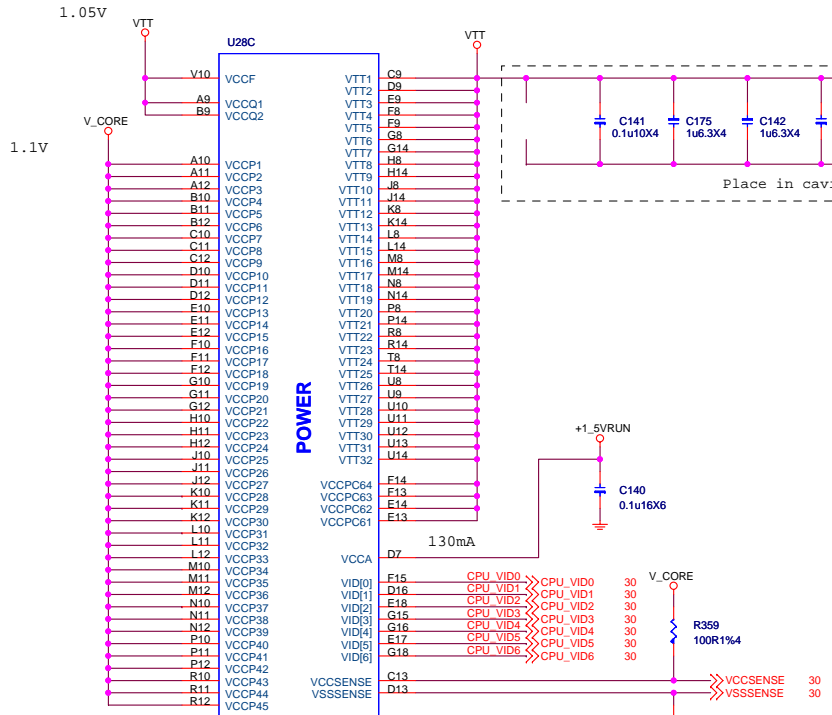
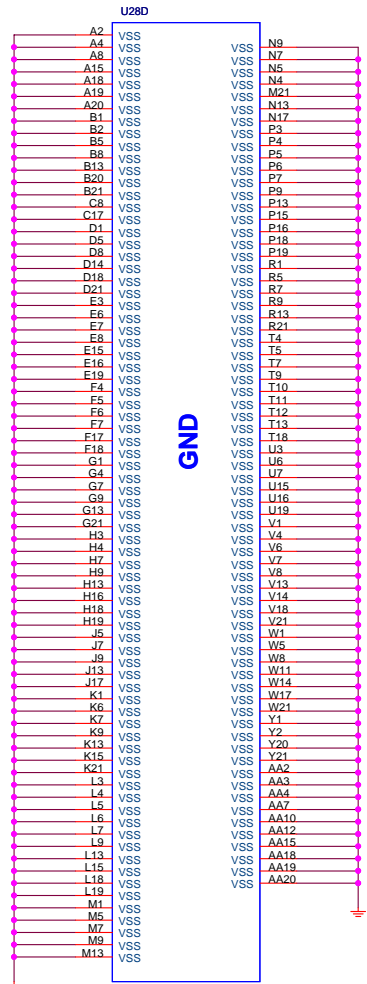


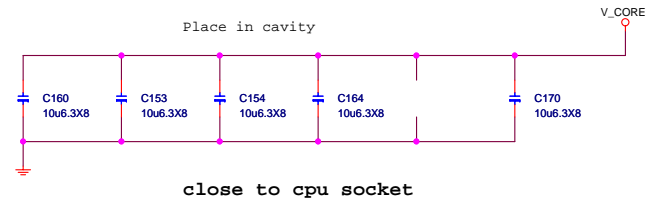
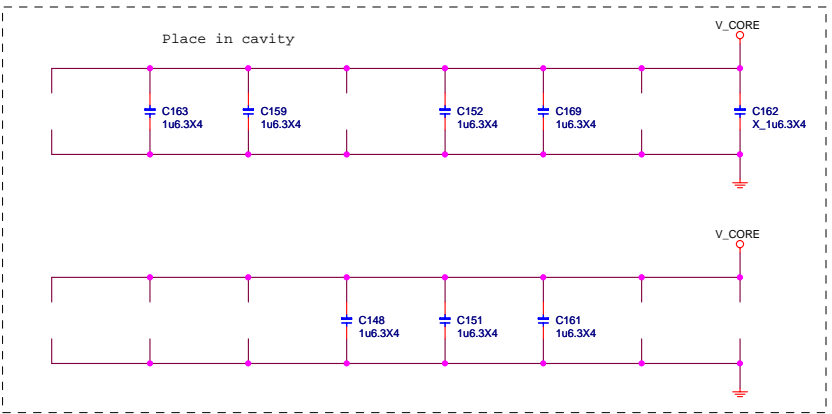
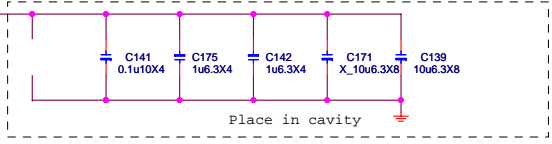
MS-N011 VER: 1.0





2.5A: before VCC stable
1.5A: after VCC stable

Diamondville



LAYOUT NOTE:
Route VCCSENSE and VSSSENSE traces at 27.4ohms with 50 mil spacing.
Place PU and PD within 1 inch of CPU.

MICRO-STAR INT'L CO.,LTD		
MS-N011		
Size Custom	Document Description Diamondville Powm/GND	Rev 1.0
Date: Friday, April 11, 2008	Sheet 3	of 39

2 H_D# [63:0]

H_A# [31:3] 2

U26G

U26A

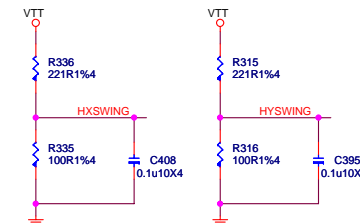
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H_D#2	H8C	H_D#_2
H_D#3	H6C	H_D#_3
H_D#4	E7C	H_D#_4
H_D#5	E3C	H_D#_5
H_D#6	C2C	H_D#_6
H_D#7	C3C	H_D#_7
H_D#8	K9C	H_D#_8
H_D#9	J7C	H_D#_9
H_D#10	J7C	H_D#_10
H_D#11	K7C	H_D#_11
H_D#12	H8C	H_D#_12
H_D#13	E5C	H_D#_13
H_D#14	K9C	H_D#_14
H_D#15	J8C	H_D#_15
H_D#16	J2C	H_D#_16
H_D#17	J3C	H_D#_17
H_D#18	N1C	H_D#_18
H_D#19	M5C	H_D#_19
H_D#20	K5C	H_D#_20
H_D#21	J5C	H_D#_21
H_D#22	H3C	H_D#_22
H_D#23	J4C	H_D#_23
H_D#24	N3C	H_D#_24
H_D#25	M4C	H_D#_25
H_D#26	M3C	H_D#_26
H_D#27	N6C	H_D#_27
H_D#28	N6C	H_D#_28
H_D#29	K3C	H_D#_29
H_D#30	N9C	H_D#_30
H_D#31	M1C	H_D#_31
H_D#32	V8C	H_D#_32
H_D#33	V9C	H_D#_33
H_D#34	R6C	H_D#_34
H_D#35	T8C	H_D#_35
H_D#36	R2C	H_D#_36
H_D#37	N5C	H_D#_37
H_D#38	N2C	H_D#_38
H_D#39	R5C	H_D#_39
H_D#40	U7C	H_D#_40
H_D#41	R8C	H_D#_41
H_D#42	T4C	H_D#_42
H_D#43	T7C	H_D#_43
H_D#44	R3C	H_D#_44
H_D#45	T5C	H_D#_45
H_D#46	V6C	H_D#_46
H_D#47	V3C	H_D#_47
H_D#48	W2C	H_D#_48
H_D#49	W1C	H_D#_49
H_D#50	V2C	H_D#_50
H_D#51	W4C	H_D#_51
H_D#52	W7C	H_D#_52
H_D#53	V5C	H_D#_53
H_D#54	V5C	H_D#_54
H_D#55	AB4C	H_D#_55
H_D#56	AB8C	H_D#_56
H_D#57	W8C	H_D#_57
H_D#58	AA9C	H_D#_58
H_D#59	AB1C	H_D#_59
H_D#60	AB7C	H_D#_60
H_D#61	AA2C	H_D#_61
H_D#62	AB5C	H_D#_62
H_D#63	AB5C	H_D#_63

H_A#_3	F8	H_A#3
H_A#_4	D12	H_A#4
H_A#_5	C13	H_A#5
H_A#_6	A8	H_A#6
H_A#_7	E13	H_A#7
H_A#_8	F12	H_A#8
H_A#_9	F12	H_A#9
H_A#_10	B13	H_A#10
H_A#_11	A13	H_A#11
H_A#_12	G13	H_A#12
H_A#_13	A12	H_A#13
H_A#_14	D14	H_A#14
H_A#_15	F14	H_A#15
H_A#_16	F14	H_A#16
H_A#_17	H15	H_A#17
H_A#_18	G15	H_A#18
H_A#_19	G15	H_A#19
H_A#_20	G14	H_A#20
H_A#_21	A15	H_A#21
H_A#_22	B15	H_A#22
H_A#_23	E14	H_A#23
H_A#_24	H13	H_A#24
H_A#_25	C14	H_A#25
H_A#_26	A17	H_A#26
H_A#_27	E15	H_A#27
H_A#_28	H17	H_A#28
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H_A#_31	G17	H_A#31

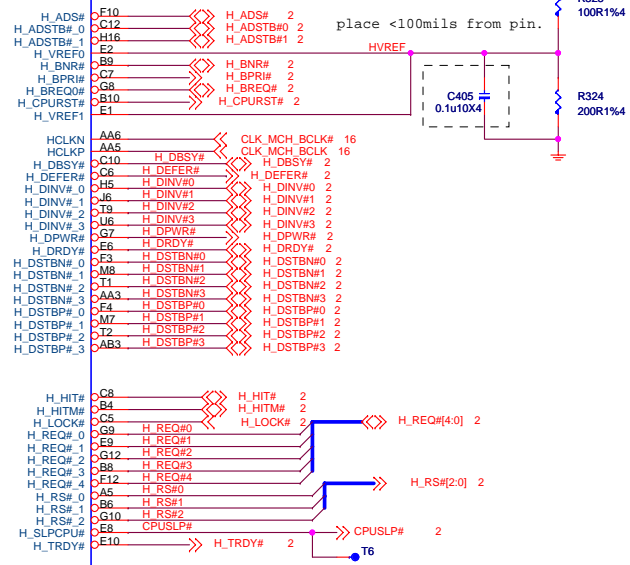
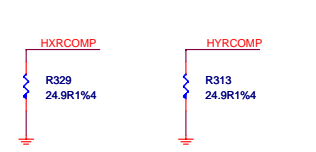
HOST

NC

0.3125 * VTT
Trace wide/spacing=10/20



Trace wide/spacing=10/20



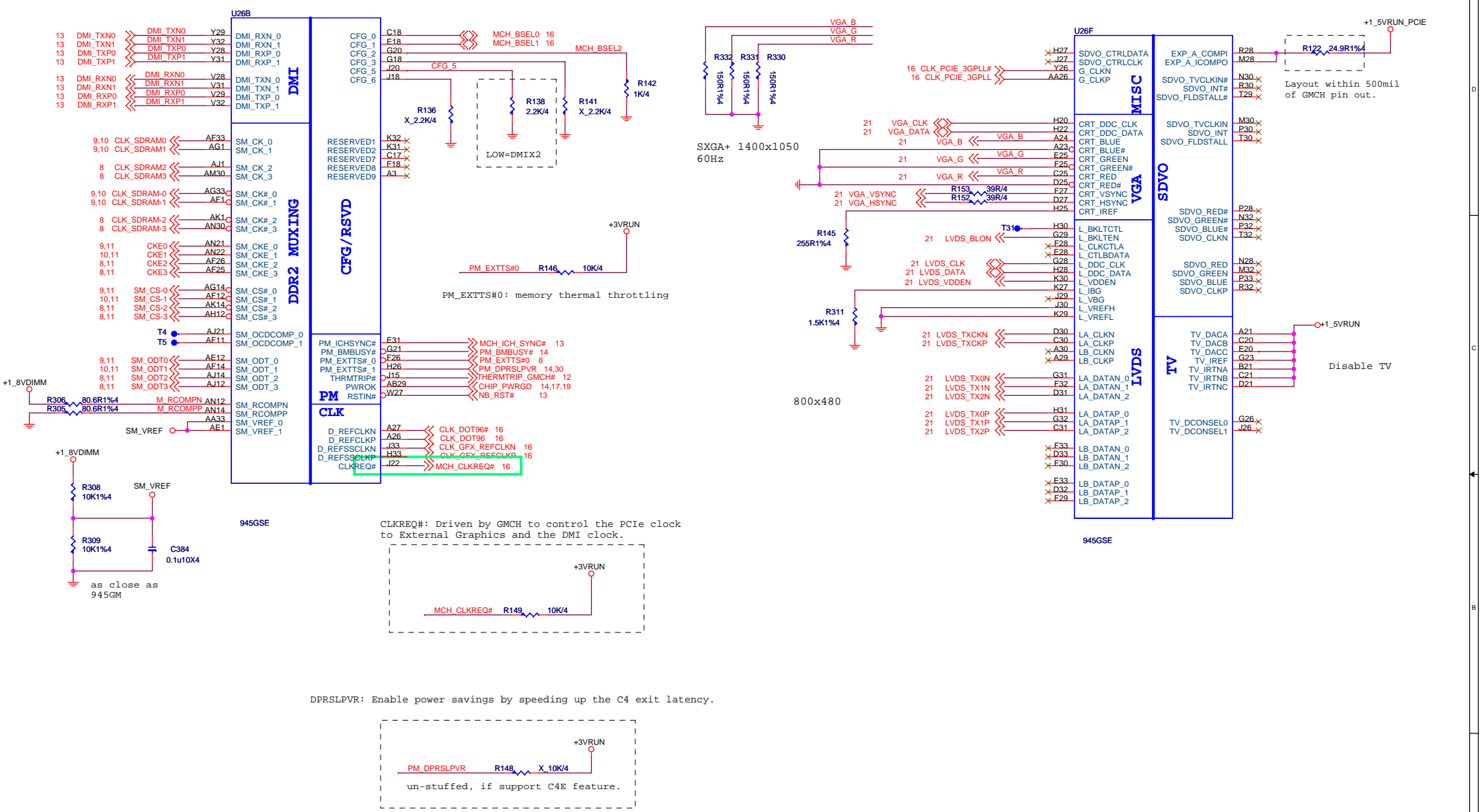
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AM33	NC2	NC62	Y6
AL33	NC3	NC63	Y10
C33	NC4	NC64	Y5
B33	NC5	NC65	Y10
AN32	NC6	NC66	W25
A32	NC7	NC67	W25
AN31	NC8	NC68	Y24
W28	NC10	NC69	U24
V27	NC10	NC70	U10
W29	NC11	NC71	K18
J24	NC12	NC72	
H24	NC13		
W32	NC14		
G24	NC15		
F24	NC16		
D24	NC17		
K33	NC19		
A31	NC20		
E21	NC21		
C23	NC22		
AN19	NC23		
AM19	NC24		
AL19	NC25		
AK19	NC26		
AH19	NC27		
AM3	NC28		
Y9	NC30		
J19	NC31		
H19	NC32		
G19	NC33		
F19	NC34		
E19	NC35		
D19	NC36		
C19	NC37		
B19	NC38		
A19	NC39		
Y8	NC40		
G16	NC41	RESERVED26	Y25
F16	NC42	RESERVED27	Y24
E16	NC43	RESERVED28	AB22
D16	NC44	RESERVED29	AB21
C16	NC45	RESERVED30	AB16
B16	NC46	RESERVED31	AB14
A16	NC47	RESERVED32	AA12
AM2	NC48	RESERVED33	W24
A16	NC49	RESERVED34	AA24
Y7	NC49	RESERVED35	AA24
AM4	NC50	RESERVED36	AB20
AF4	NC51	RESERVED37	AB18
AD4	NC52	RESERVED38	AB18
AK4	NC54	RESERVED39	AB13
W31	NC55	RESERVED40	AB12
A4	NC56	RESERVED41	AB17
AH4	NC57		
AG4	NC58		
AE4	NC59		
AM1	NC60		

945GSE

945GSE



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Custom	945GMS_HOST	1.0
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945 GMS Power

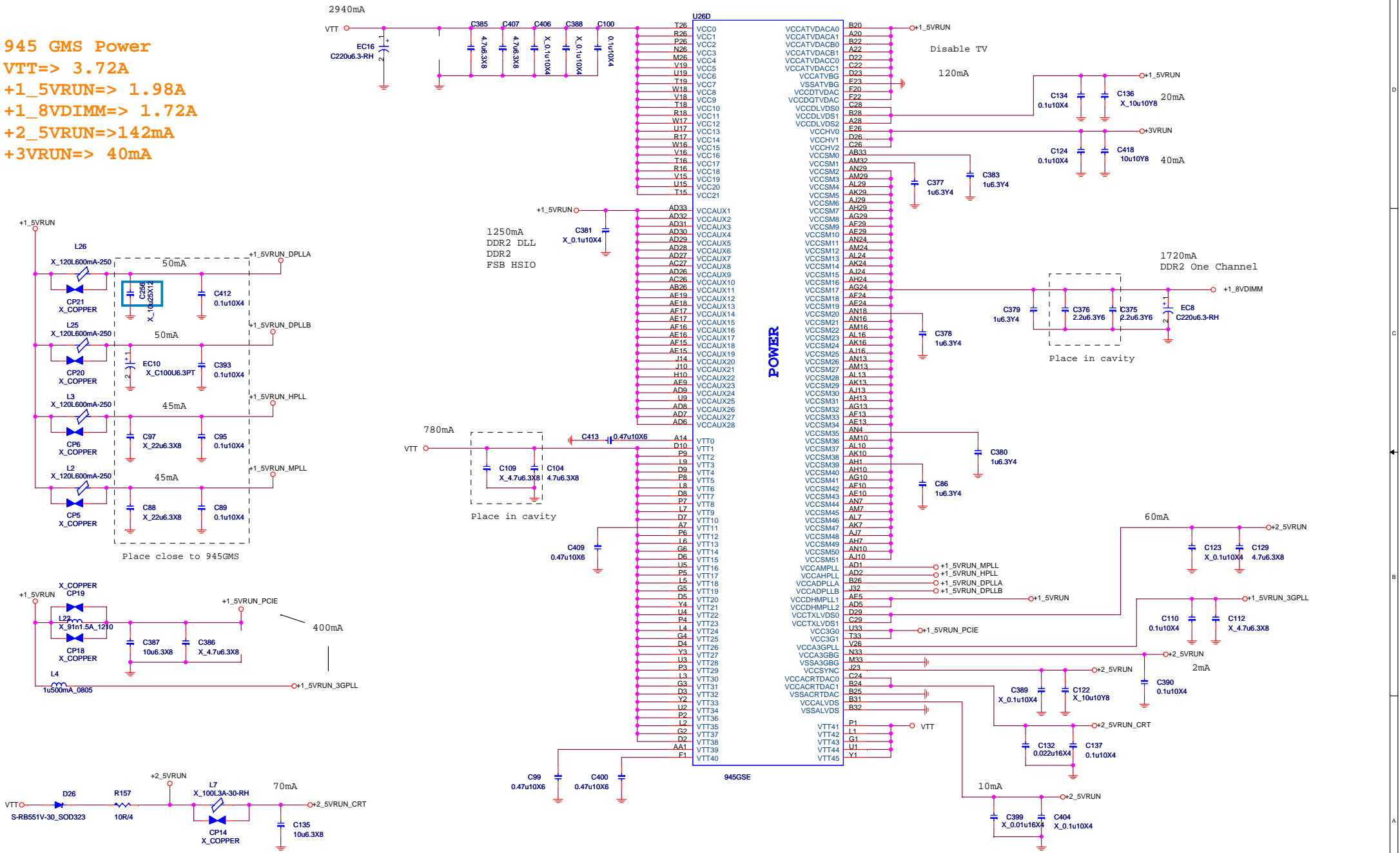
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+1_5VRUN=> 1.98A

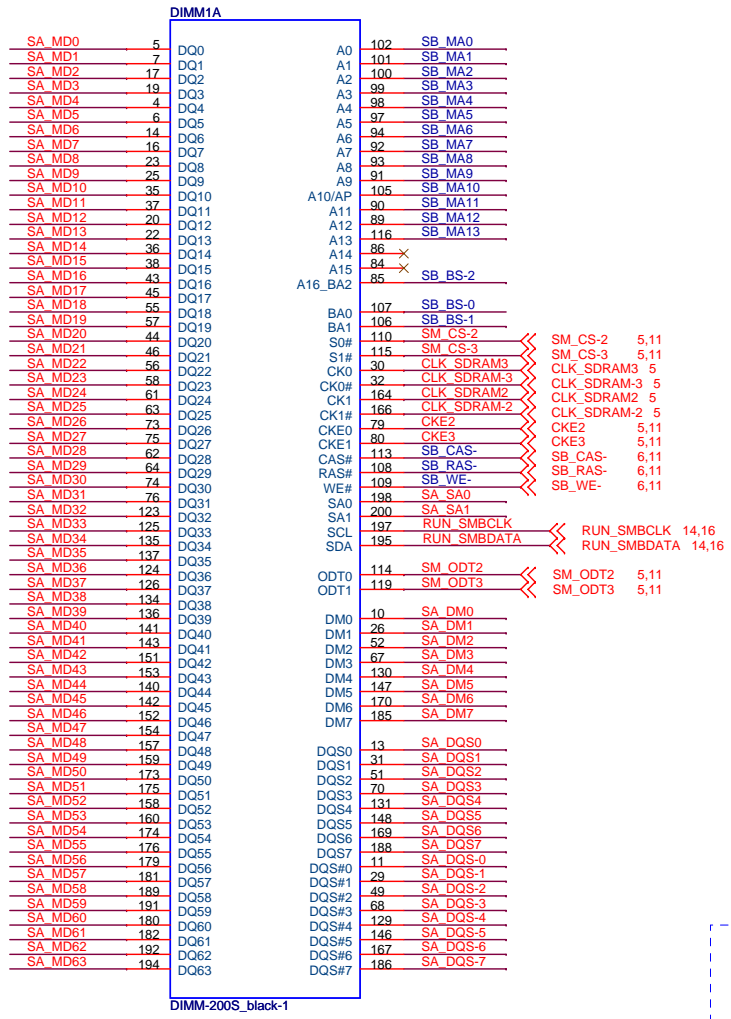
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+2_5VRUN=>142mA

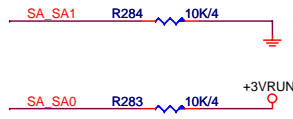
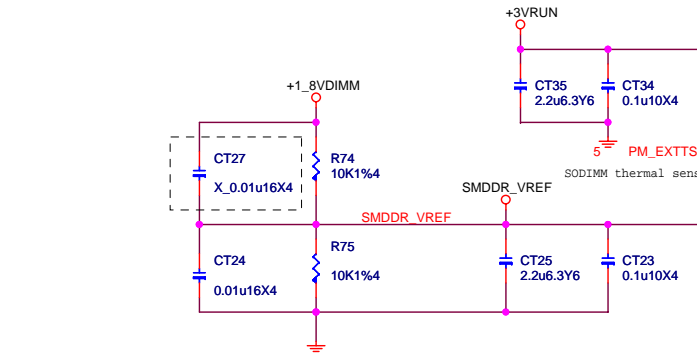
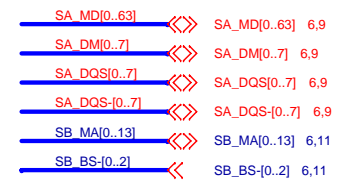
+3VRUN=> 40mA



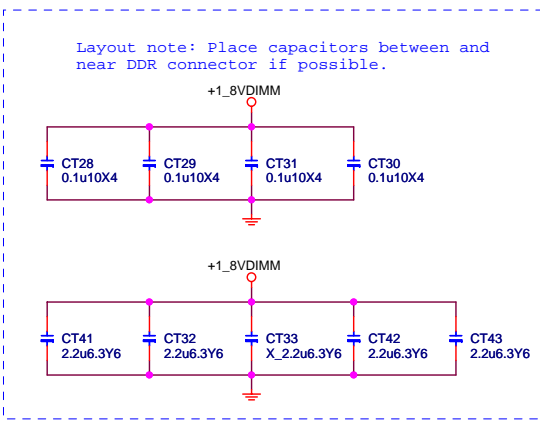
MICRO-STAR INT'L CO.,LTD		
MSI		
MS-N011		
Size	Document Description	Rev
Custom	945GMS_POWER	1.0
Date: Friday, April 11, 2008	Sheet 7 of 39	



N13-2000220-A10
Bottom



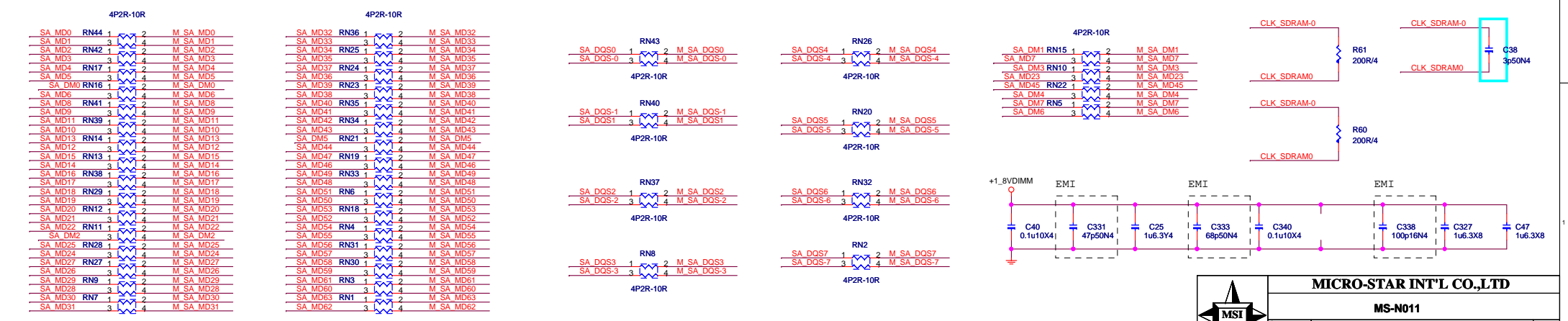
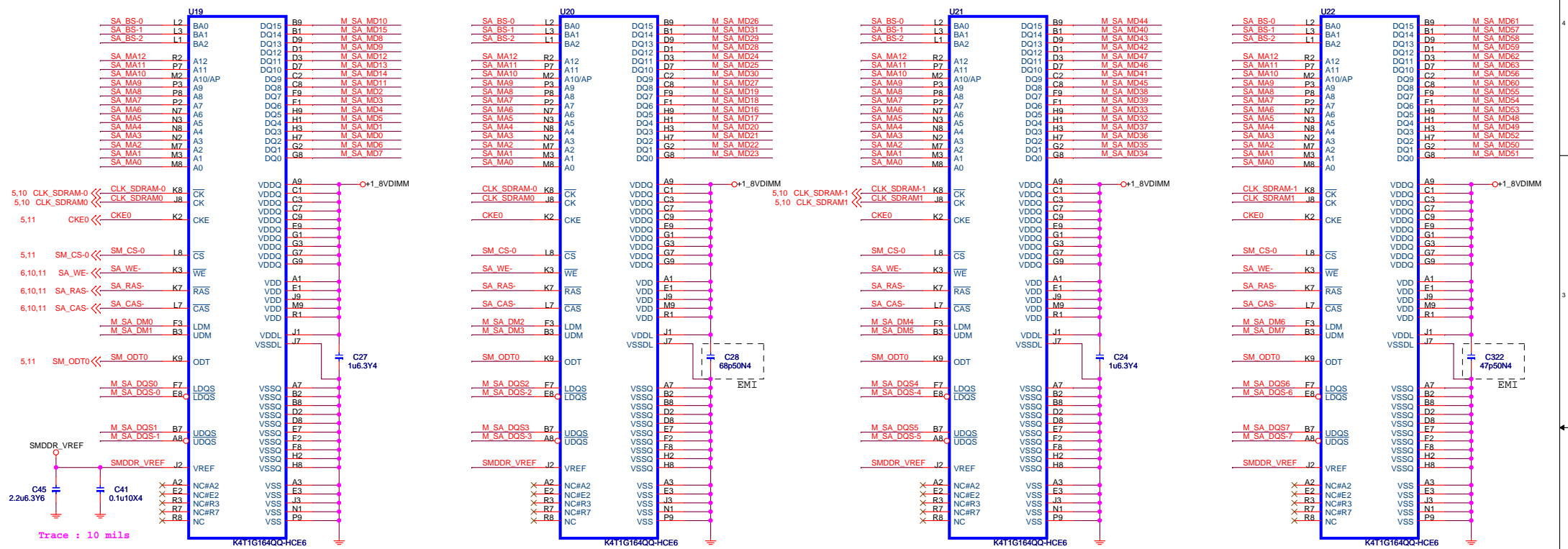
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			MICRO-STAR INT'L CO.,LTD	
			MS-N011	
Size B	Document Description		Rev 1.0	
	ONBOARD DDR2 memory			
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M12-K4T1G05-S02
M12-5PS1G25-H23

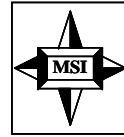
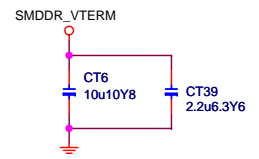
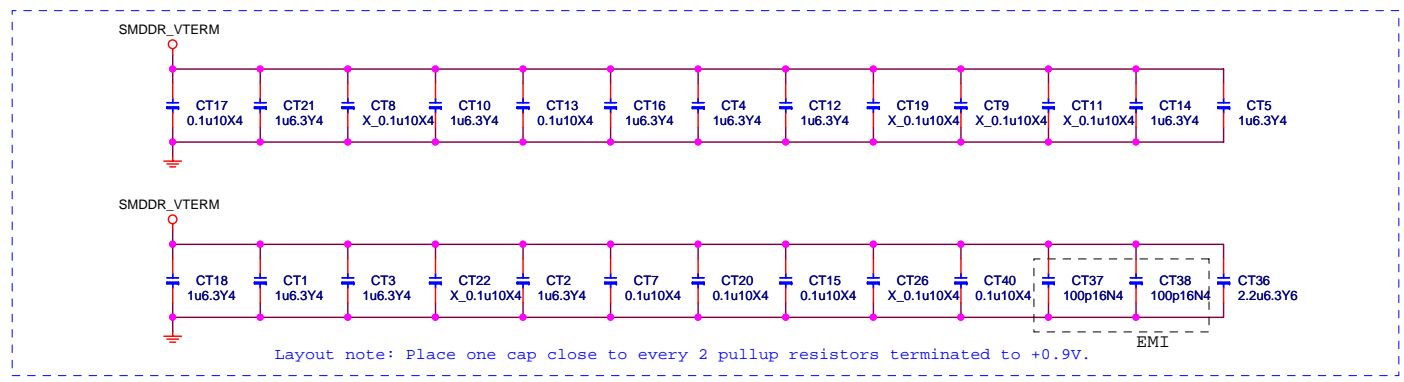
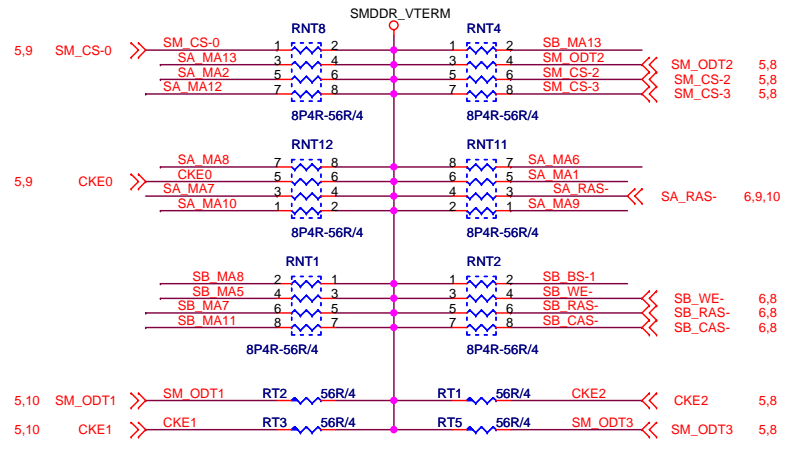
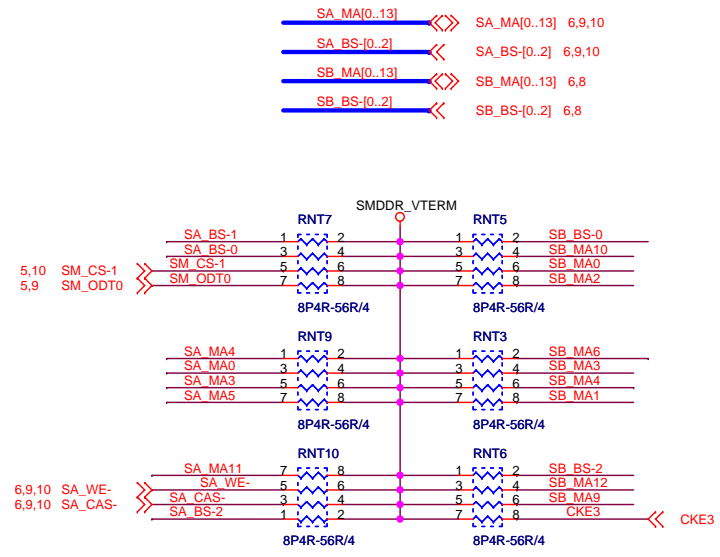


MICRO-STAR INT'L CO.,LTD

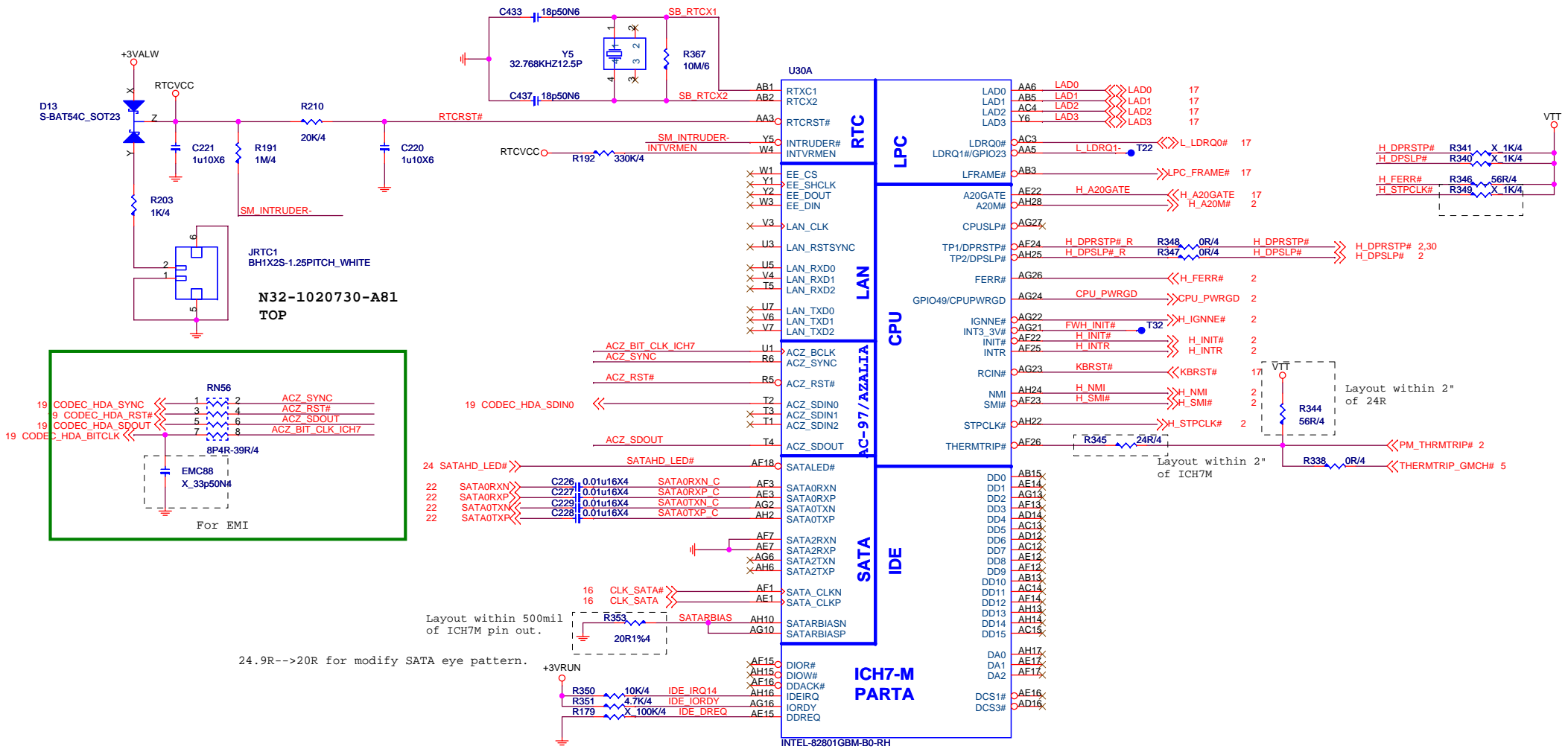
MS-N011

Size: Custom Document Description: **DDR2 64*16 BGA A**

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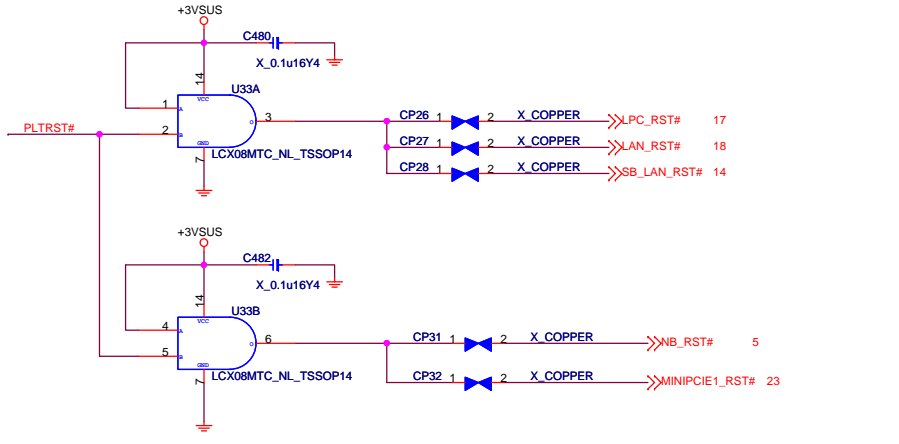
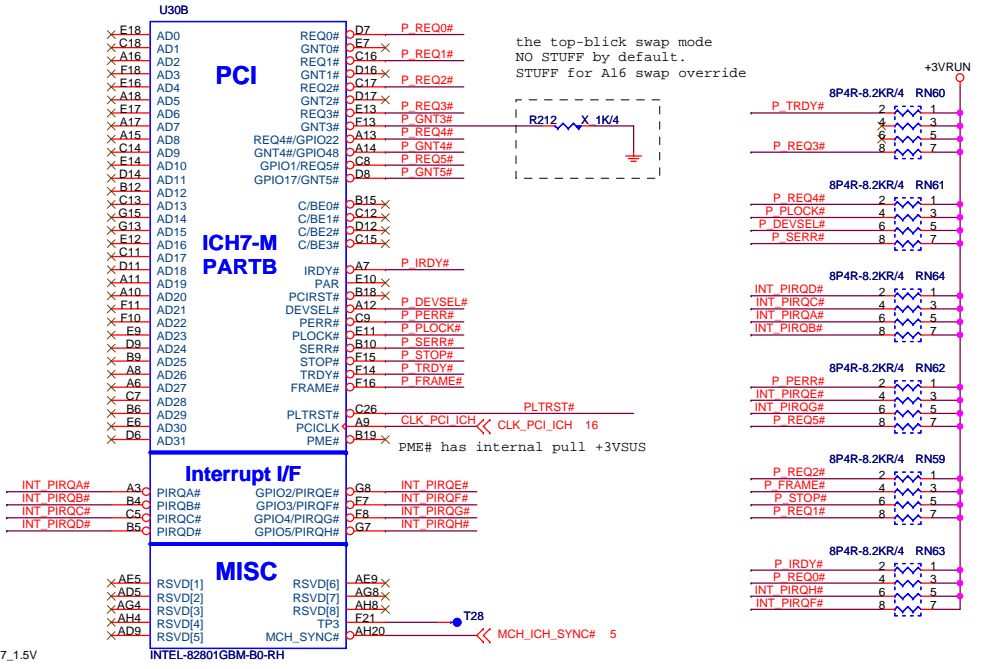
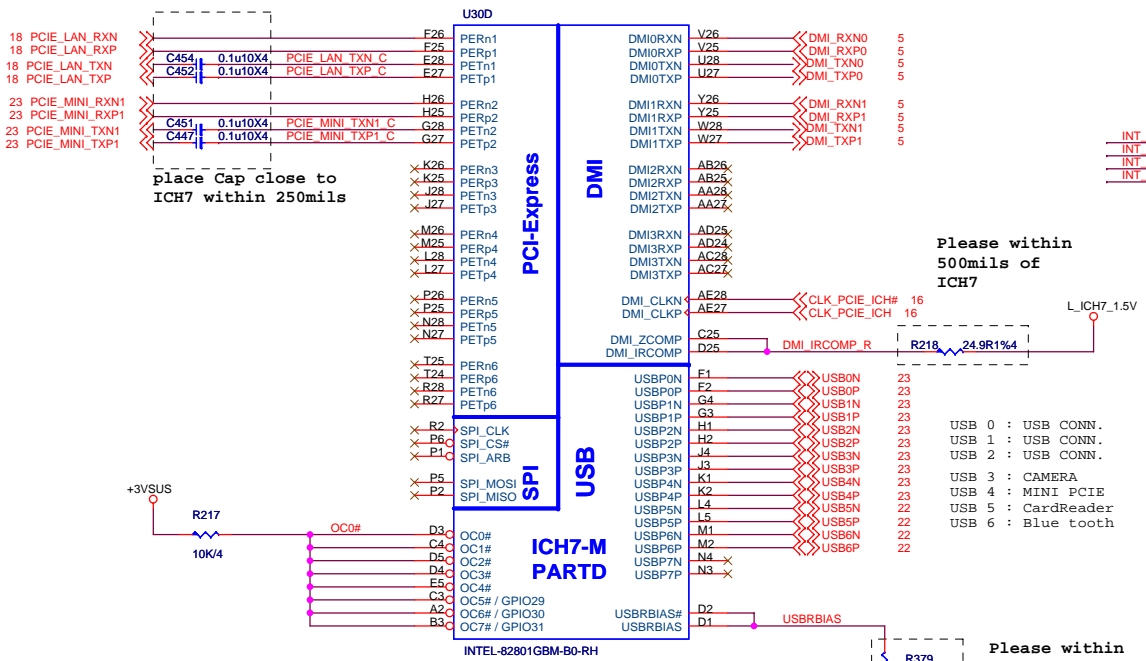



MICRO-STAR INT'L CO.,LTD		
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Size B	Document Description DDR2 Termination	Rev 1.0
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Size Custom	Document Description ICH7M_CPU, LPC, SATA, HDA	Rev 1.0
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BOOT BIOS SELECT STRAPS			
BOOT DEVICE	STRAPS	GNT5#	GNT4#
FWH(LPC default)	11	UNSTUFF	UNSTUFF
PCI	10	UNSTUFF	STUFF
SPI	01	STUFF	UNSTUFF



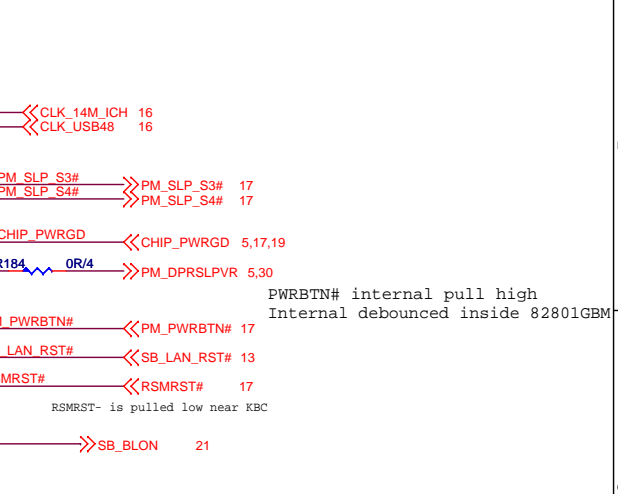
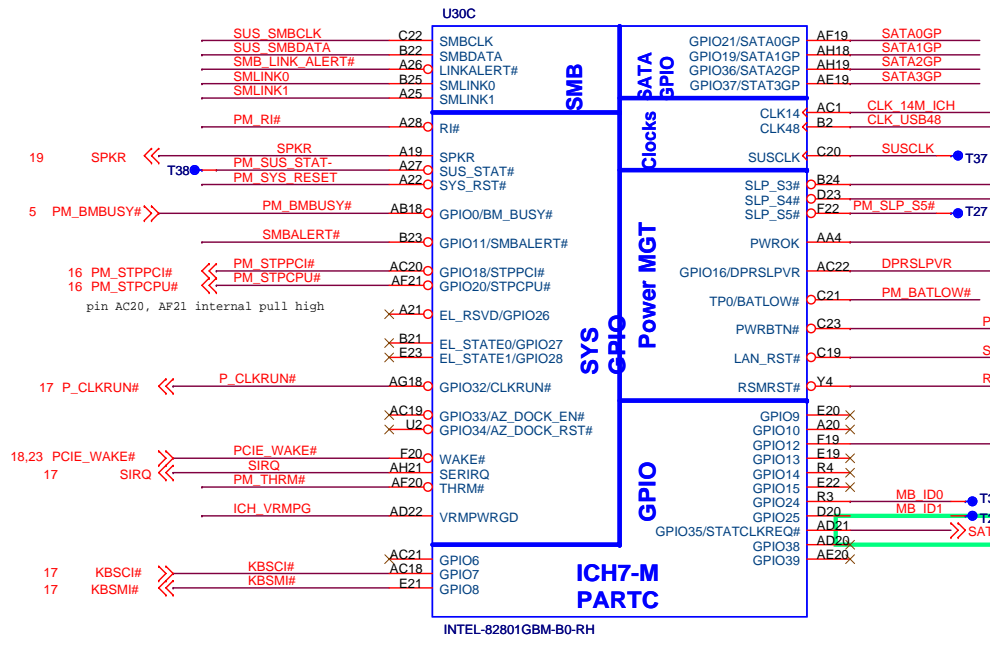
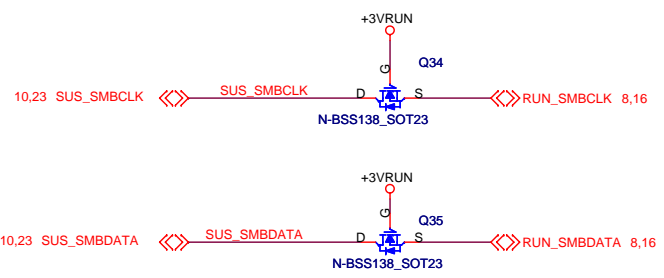
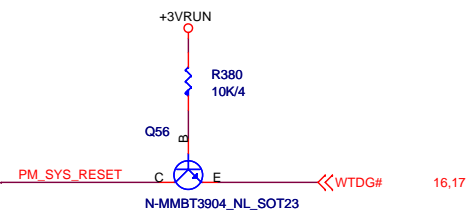
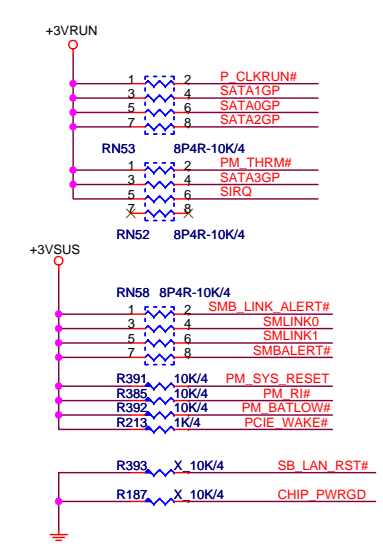


MICRO-STAR INT'L CO.,LTD

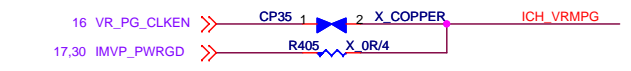
MS-N011

Size Custom Document Description
ICH7M_PCI, USB, DMI, PCIE

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GPIO	Power Plane	Default
6, 7	Core	GPI
8~10	Resume	GPI
12~15	Resume	GPI
24, 25	Resume	GPO
38, 39	Core	GPI

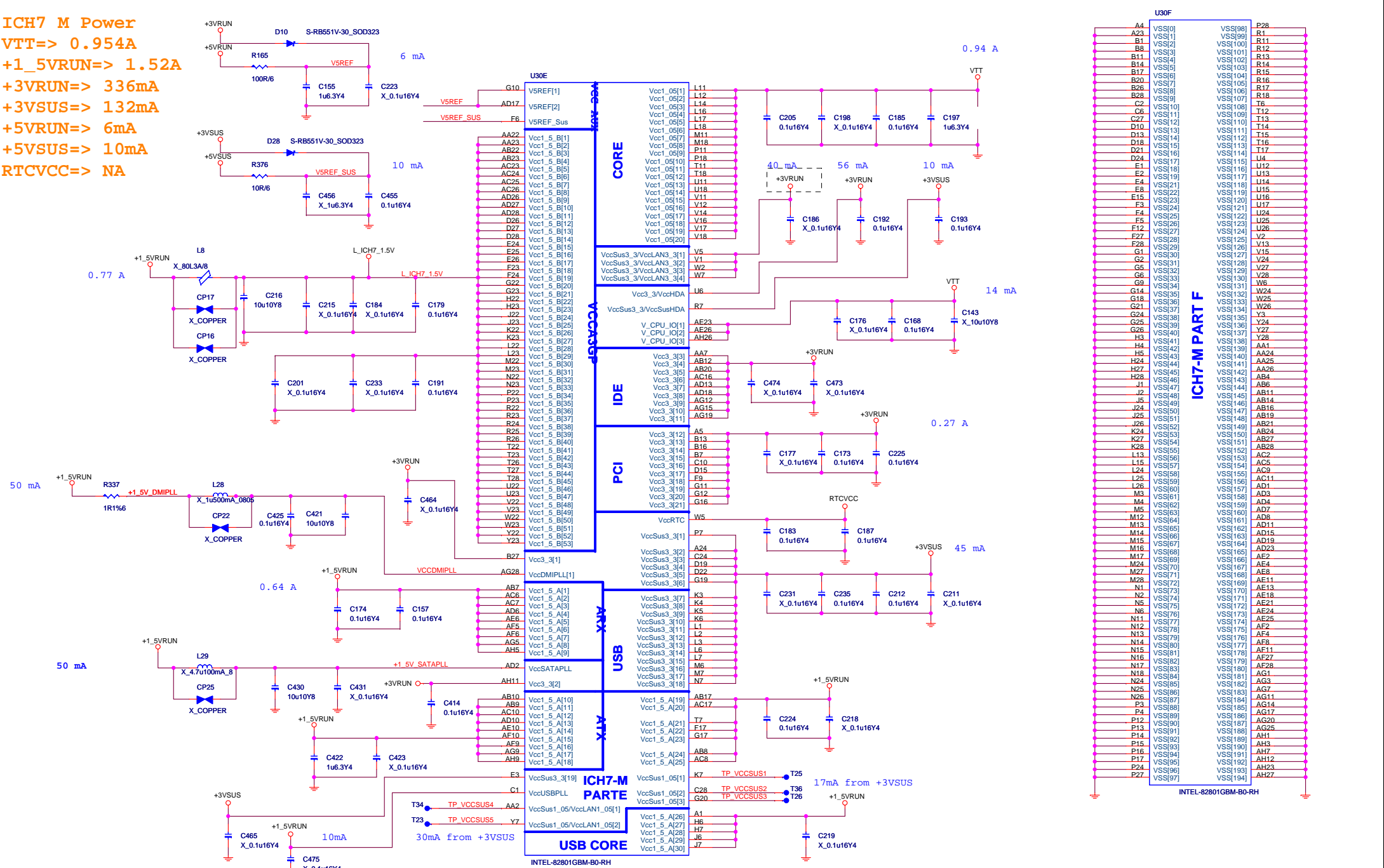


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Size Custom	Document Description ICH7M_GPIO, CLK, SM	Rev 1.0
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ICH7 M Power
VTT=> 0.954A
+1_5VRUN=> 1.52A
+3VRUN=> 336mA
+3VSUS=> 132mA
+5VRUN=> 6mA
+5VSUS=> 10mA
RTCVCC=> NA



U30F

A4	VSS[0]	VSS[98]	P28
A23	VSS[1]	VSS[99]	R11
B8	VSS[2]	VSS[100]	R12
B11	VSS[3]	VSS[101]	R13
B14	VSS[4]	VSS[102]	R14
B17	VSS[5]	VSS[103]	R15
B20	VSS[6]	VSS[104]	R16
B26	VSS[7]	VSS[105]	R17
B28	VSS[8]	VSS[106]	R18
C2	VSS[9]	VSS[107]	TR
C27	VSS[10]	VSS[108]	T12
C72	VSS[11]	VSS[109]	T13
C121	VSS[12]	VSS[110]	T14
D10	VSS[13]	VSS[111]	T15
D13	VSS[14]	VSS[112]	T16
D18	VSS[15]	VSS[113]	T17
D21	VSS[16]	VSS[114]	U4
D24	VSS[17]	VSS[115]	U12
E1	VSS[18]	VSS[116]	U13
E2	VSS[19]	VSS[117]	U14
E4	VSS[20]	VSS[118]	U15
E8	VSS[21]	VSS[119]	U16
F15	VSS[22]	VSS[120]	U17
F3	VSS[23]	VSS[121]	U18
F4	VSS[24]	VSS[122]	U25
F5	VSS[25]	VSS[123]	U26
F12	VSS[26]	VSS[124]	V2
F27	VSS[27]	VSS[125]	V2
F28	VSS[28]	VSS[126]	V13
G1	VSS[29]	VSS[127]	V15
G2	VSS[30]	VSS[128]	V24
G5	VSS[31]	VSS[129]	V27
G6	VSS[32]	VSS[130]	V28
G9	VSS[33]	VSS[131]	W6
G14	VSS[34]	VSS[132]	W24
G18	VSS[35]	VSS[133]	W25
G21	VSS[36]	VSS[134]	W26
G24	VSS[37]	VSS[135]	Y2
G25	VSS[38]	VSS[136]	Y2
G26	VSS[39]	VSS[137]	Y27
H3	VSS[40]	VSS[138]	Y28
H4	VSS[41]	VSS[139]	AA1
H5	VSS[42]	VSS[140]	AA2
H27	VSS[43]	VSS[141]	AA24
H28	VSS[44]	VSS[142]	AA26
H31	VSS[45]	VSS[143]	AB4
H32	VSS[46]	VSS[144]	AB6
H33	VSS[47]	VSS[145]	AB11
H34	VSS[48]	VSS[146]	AB14
H35	VSS[49]	VSS[147]	AB16
J24	VSS[50]	VSS[148]	AB19
J25	VSS[51]	VSS[149]	AB21
J26	VSS[52]	VSS[150]	AB24
K24	VSS[53]	VSS[151]	AB27
K27	VSS[54]	VSS[152]	AB28
K28	VSS[55]	VSS[153]	AC2
L13	VSS[56]	VSS[154]	AC5
L15	VSS[57]	VSS[155]	AC9
L24	VSS[58]	VSS[156]	AG11
L25	VSS[59]	VSS[157]	AD1
L26	VSS[60]	VSS[158]	AD3
M3	VSS[61]	VSS[159]	AD4
M4	VSS[62]	VSS[160]	AD7
M5	VSS[63]	VSS[161]	AD8
M12	VSS[64]	VSS[162]	AD11
M13	VSS[65]	VSS[163]	AD15
M14	VSS[66]	VSS[164]	AD19
M15	VSS[67]	VSS[165]	AD23
M16	VSS[68]	VSS[166]	AE4
M17	VSS[69]	VSS[167]	AE8
M27	VSS[70]	VSS[168]	AE11
M28	VSS[71]	VSS[169]	AE13
N1	VSS[72]	VSS[170]	AE18
N5	VSS[73]	VSS[171]	AE21
N6	VSS[74]	VSS[172]	AE24
N11	VSS[75]	VSS[173]	AE25
N12	VSS[76]	VSS[174]	AE4
N13	VSS[77]	VSS[175]	AF8
N14	VSS[78]	VSS[176]	AF11
N15	VSS[79]	VSS[177]	AF27
N16	VSS[80]	VSS[178]	AG1
N17	VSS[81]	VSS[179]	AG2
N18	VSS[82]	VSS[180]	AG7
N19	VSS[83]	VSS[181]	AG14
N24	VSS[84]	VSS[182]	AG17
N25	VSS[85]	VSS[183]	AG20
N26	VSS[86]	VSS[184]	AG25
P3	VSS[87]	VSS[185]	AH1
P4	VSS[88]	VSS[186]	AH3
P12	VSS[89]	VSS[187]	AH7
P13	VSS[90]	VSS[188]	AH12
P14	VSS[91]	VSS[189]	AH23
P15	VSS[92]	VSS[190]	AH27
P16	VSS[93]	VSS[191]	
P17	VSS[94]	VSS[192]	
P24	VSS[95]	VSS[193]	
P27	VSS[96]	VSS[194]	
P27	VSS[97]	VSS[194]	

INTEL-82801GBM-B0-RH

ICH7-M PART F

PIN AA2,Y7,K7,C28,G20 : VccSus 1.05V for RTCVCC

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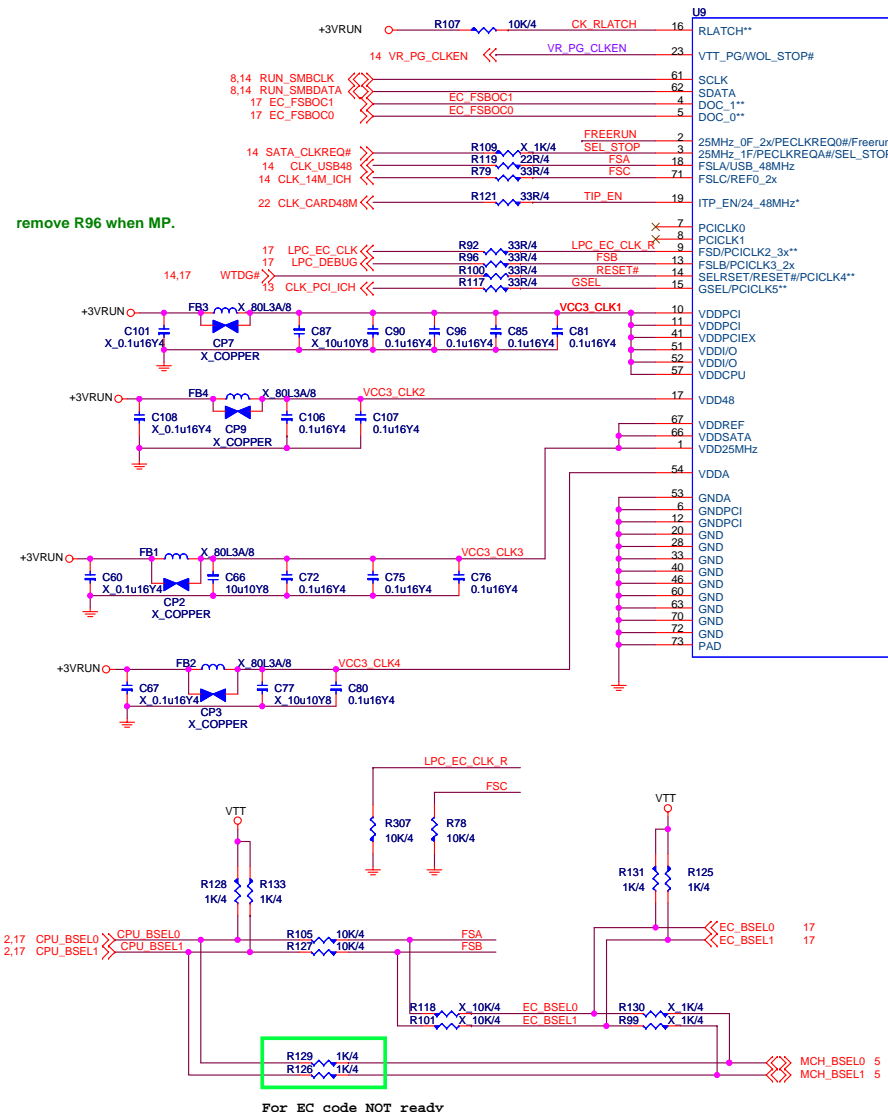
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Size	Document Description	Rev
Custom	ICH7M_POWER	1.0

Date: Friday, April 11, 2008 Sheet 15 of 39

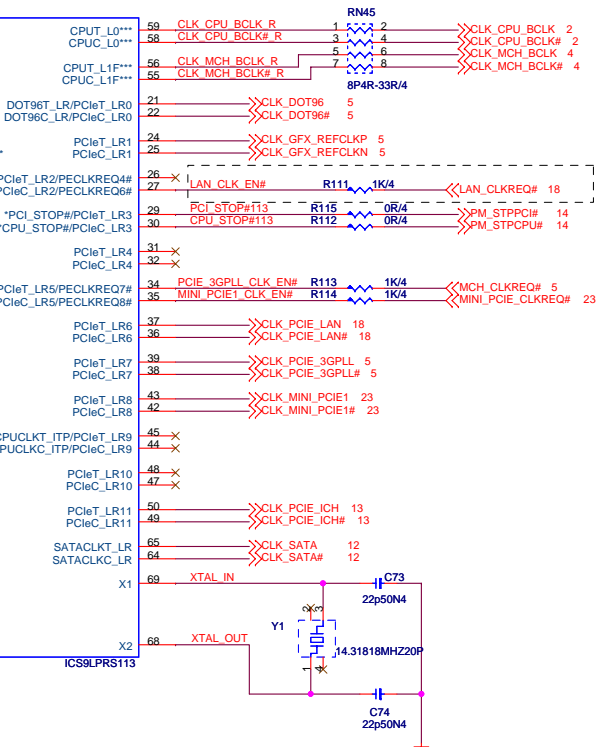
CLK Gen ICS9LPRS113

CLOCK GEN STRAPING



remove R96 when MP.

For EC code NOT ready



1 => Pin21/22 96MHz
0 => Pin21/22 100MHz

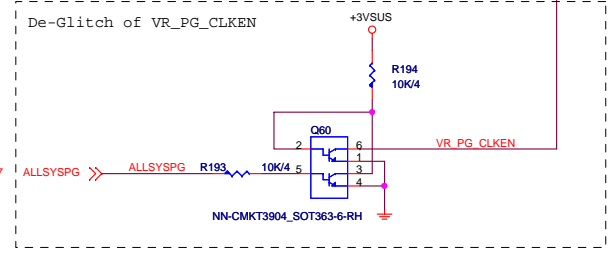
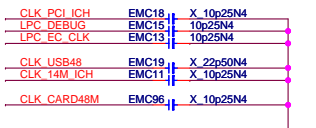
LPCICLK4
H'RESET#
to be WDT rest=> HI

113
TIP_EN=0 => PCIE9,
TIP_EN=1 => CPU_ITP

110
TIP_EN=0 => 48MHz,
TIP_EN=1 => 24MHz

Selects pin 29/830
1 = PCI_STOP#/CPU_STOP#
0 = PCIEIX CLK output

EMI



CPU Table

BSEL[2]	BSEL[1]	BSEL[0]	BCLK
L	L	L	100MHZ
L	L	H	133MHZ
L	H	L	RESERVED
L	H	H	166MHZ

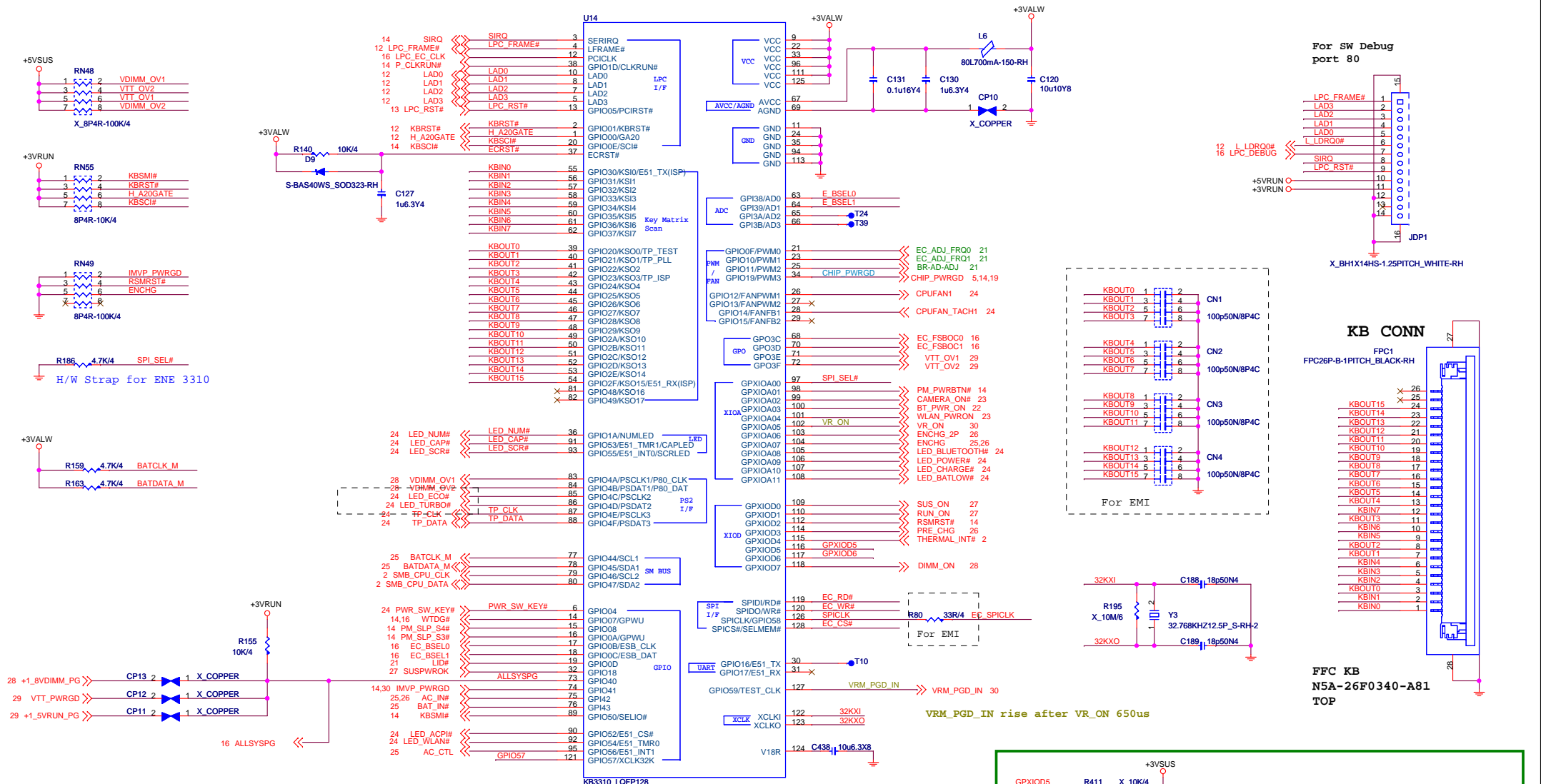
CLK Gen 113

BSEL[2]	BSEL[1]	BSEL[0]	BCLK
H	L	H	100MHZ
L	L	H	133MHZ
L	H	L	200MHz
L	H	H	166MHZ

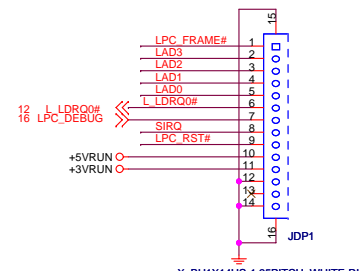
MICRO-STAR INT'L CO.,LTD

MS-N011

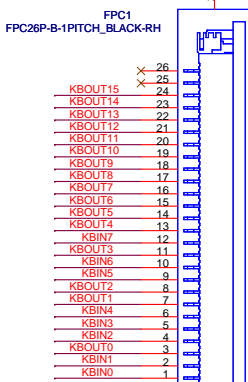
Size	Document Description	Rev
Custom	CLK GEN_113	1.0
Date:	Friday, April 11, 2008	Sheet 16 of 39



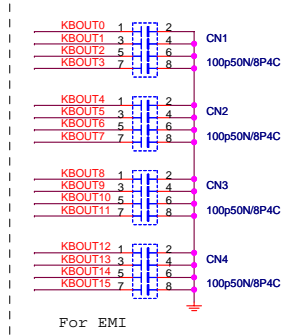
For SW Debug port 80



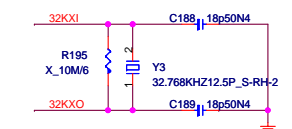
KB CONN



FFC KB N5A-26F0340-A81 TOP



For EMI



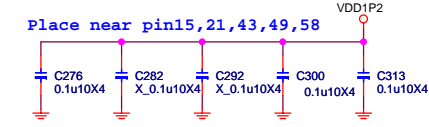
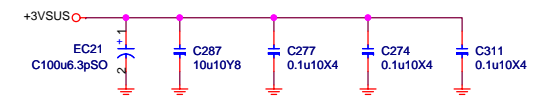
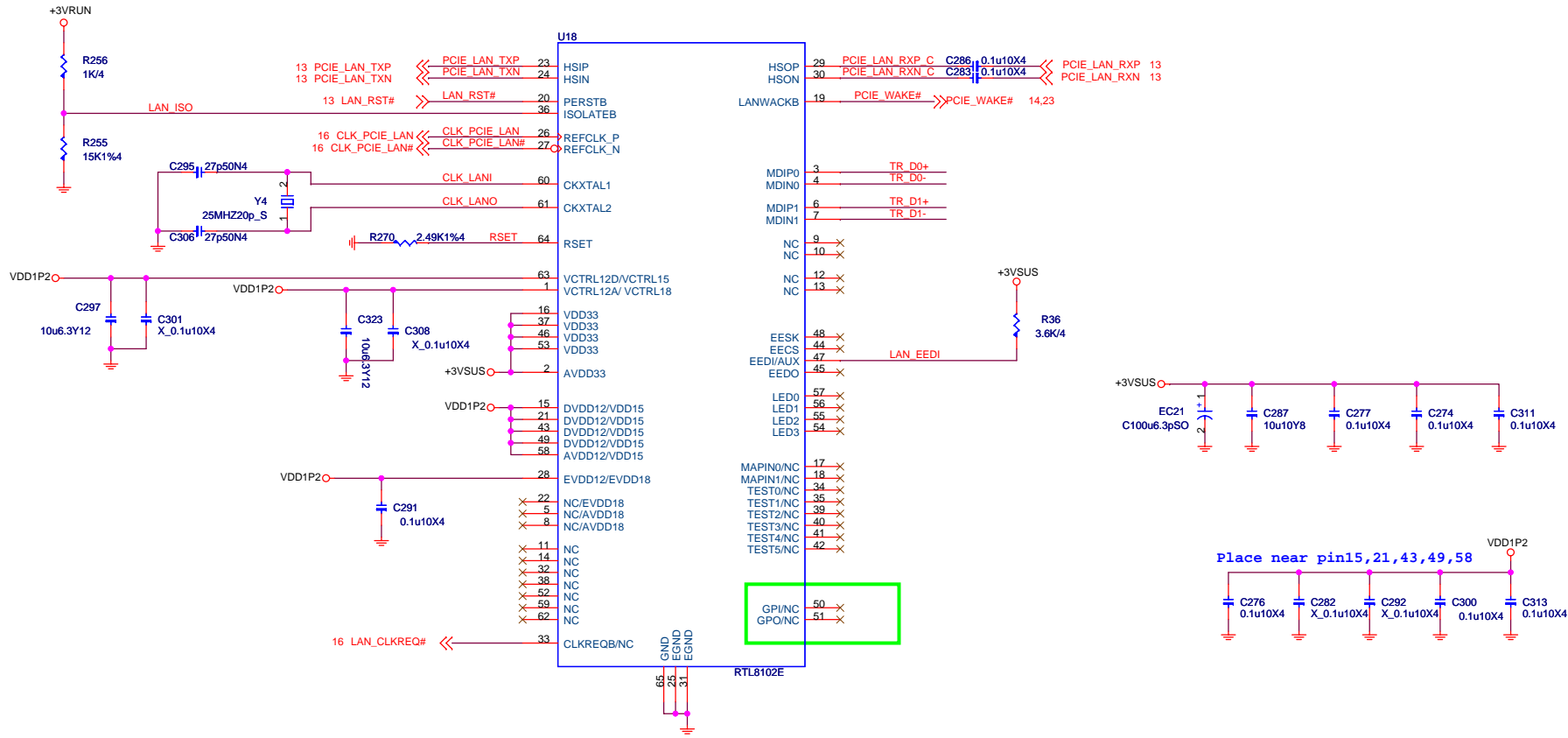
VRM_PGD_IN rise after VR_ON 650us

for on-board DDR SPD ROM select

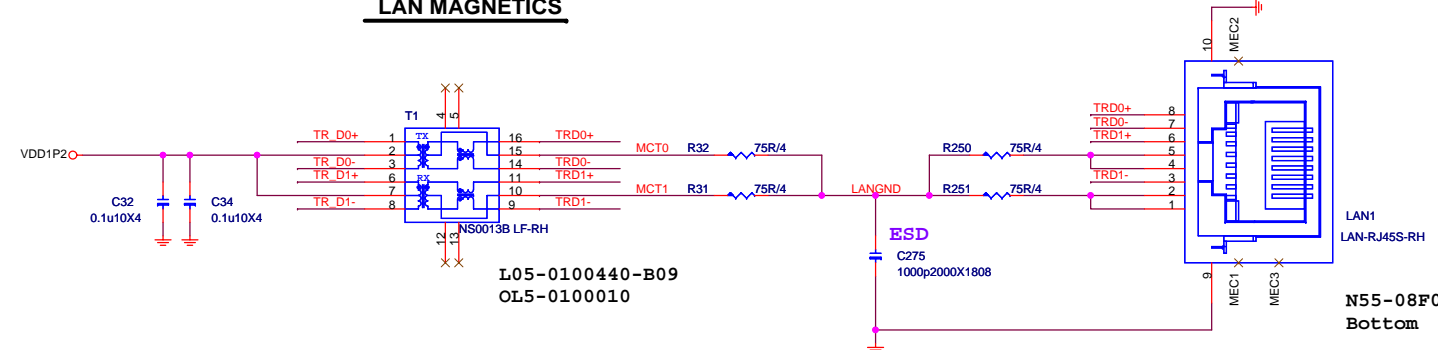
GPIO5	GPIO6	GPIO57	DDR	cfg-
0	0	0	Samsung 1G Hynix 1G	FS/FH
0	1	0	Mira 512M	FM
X	X	X	RESERVED	n/a
X	X	X	RESERVED	n/a



RTL8102E 10/100M LAN



LAN MAGNETICS

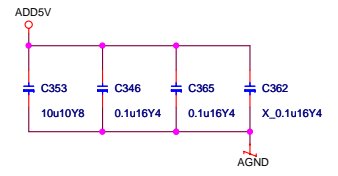
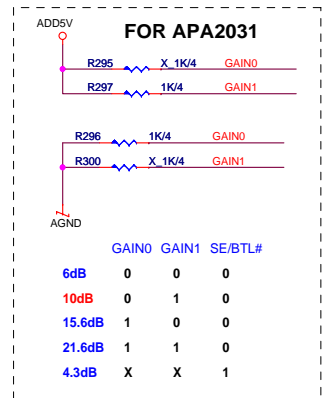
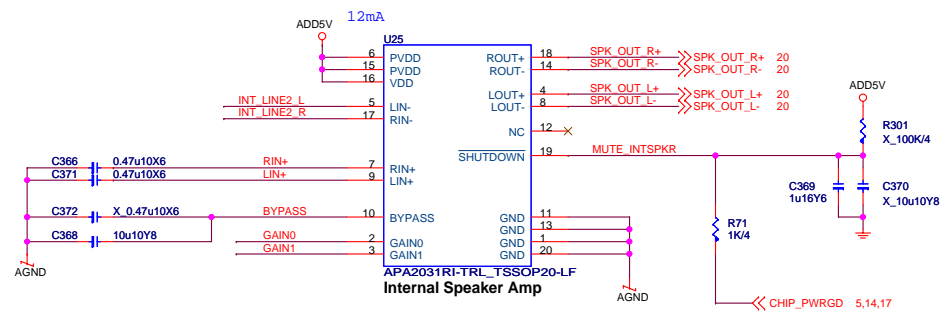
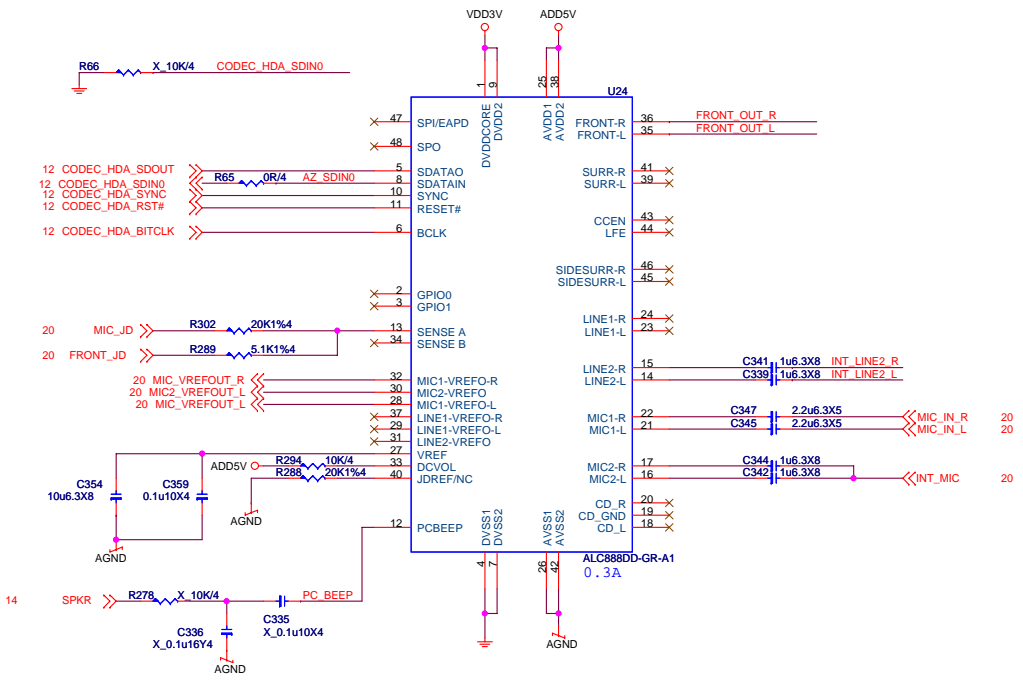


POWER			
BOOT DEVICE	VDD1P2	VDD1P8	VDD33
8101E (378.3mW)	1.5V	1.8V	3.3V
8102E	1.2V	NC	3.3V
365mA			

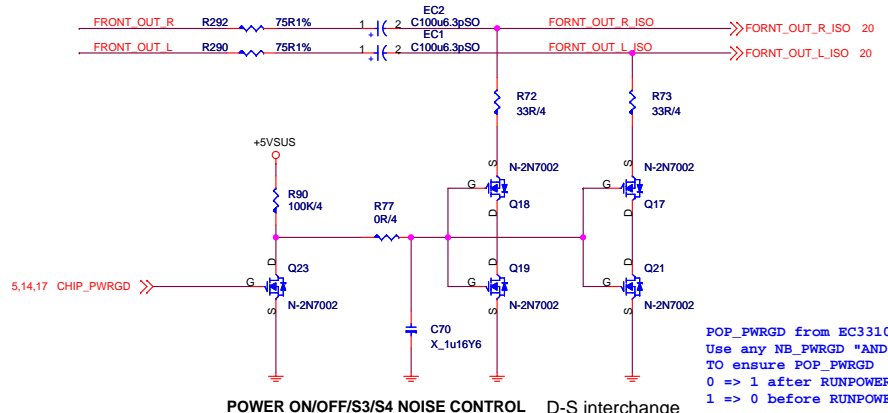
MICRO-STAR INT'L CO.,LTD

MS-N011

Size A3	Document Description	Rev 1.0
LAN_RTL8102E/8101E		
Date: Friday, April 11, 2008	Sheet 18 of 39	

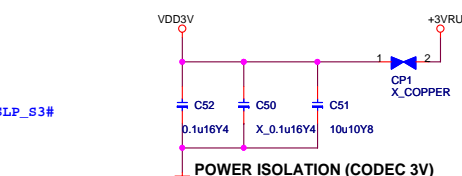
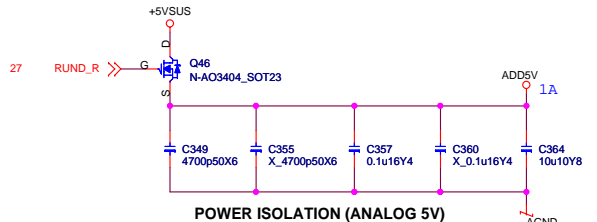


ANTIPOP CIRCUIT

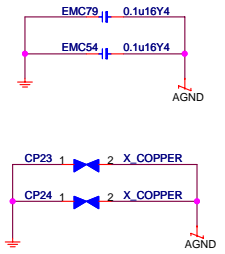


POP_PWRGD from EC3310
 Use any NB_PWRGD "AND" with SLP_S3#
 TO ensure POP_PWRGD
 0 => 1 after RUNPOWER ready
 1 => 0 before RUNPOWER drop

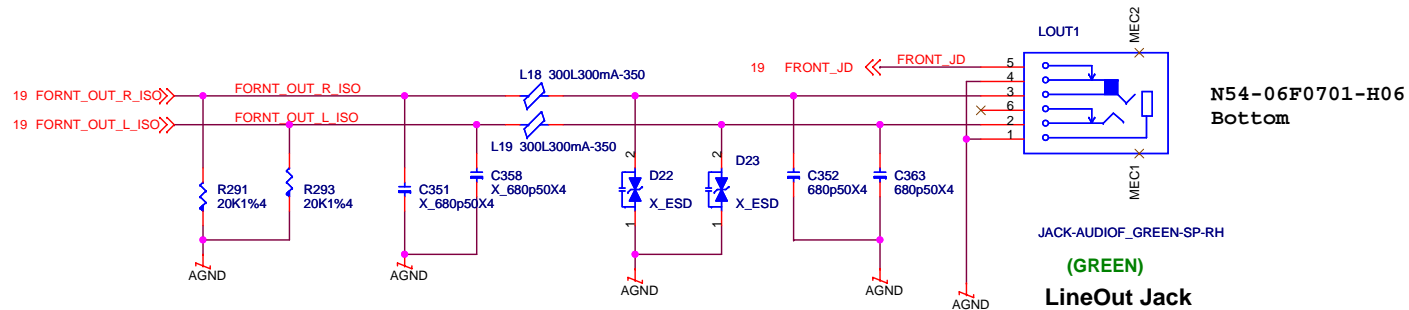
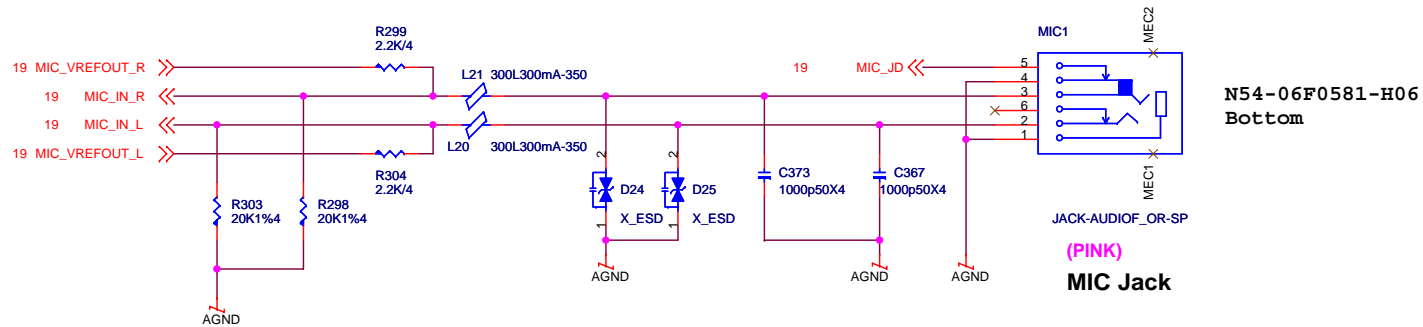
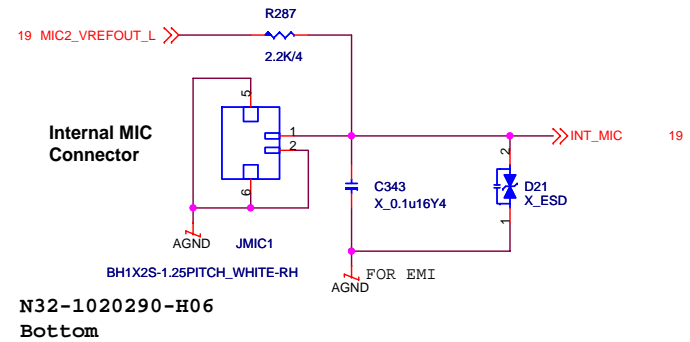
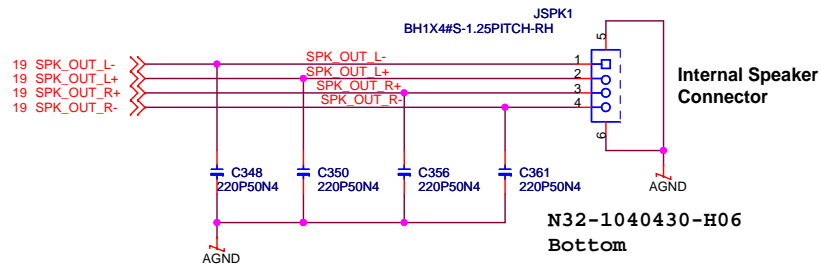
POWER ON/OFF/S3/S4 NOISE CONTROL D-S interchange




For EMI solution

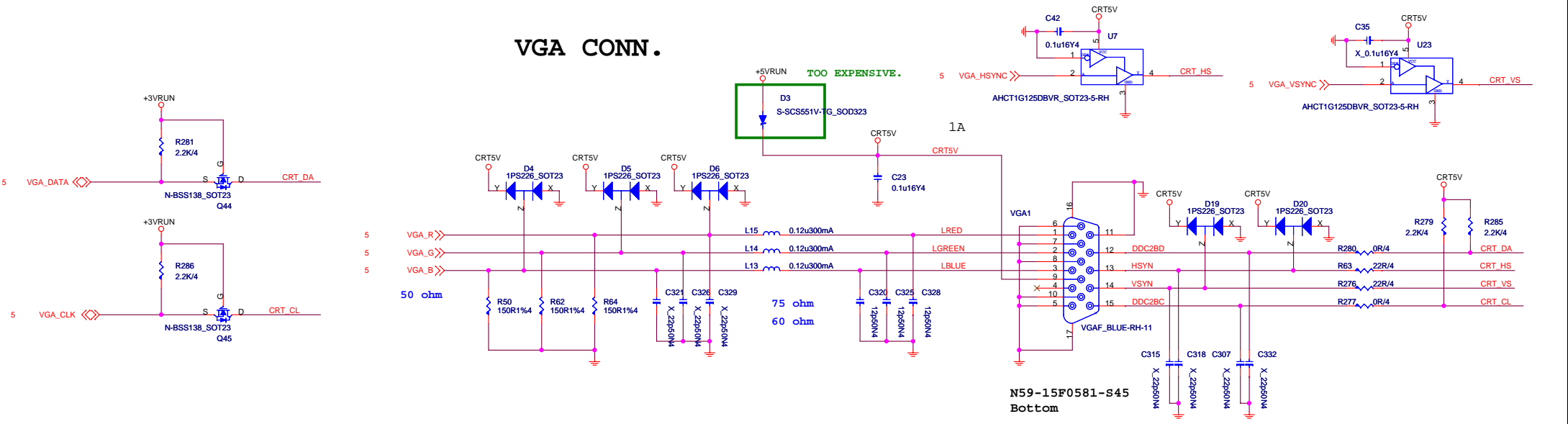


MICRO-STAR INT'L CO.,LTD		
MS-N011		
Size	Document Description	Rev
Custom	ALC888S	1.0
Date: Friday, April 11, 2008	Sheet 19 of 39	

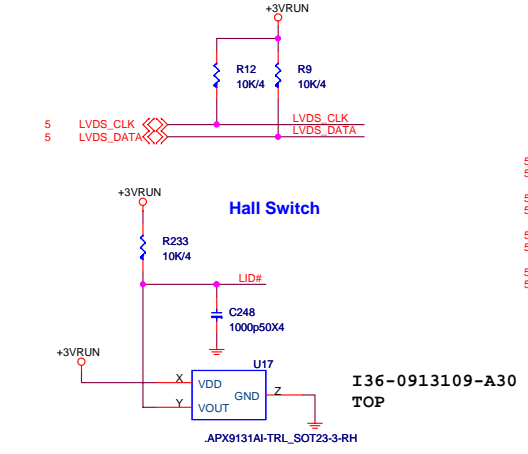
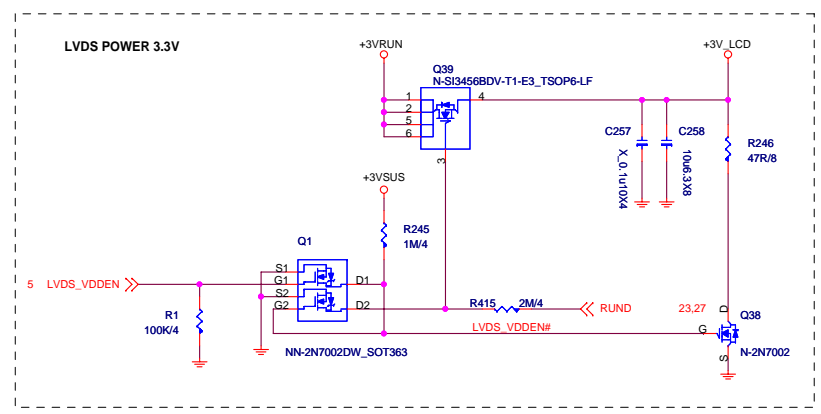


	MICRO-STAR INT'L CO.,LTD		
	MS-N011		
	Size Custom	Document Description Audio JACKS	Rev 1.0
Date: Friday, April 11, 2008		Sheet 20 of 39	

VGA CONN.

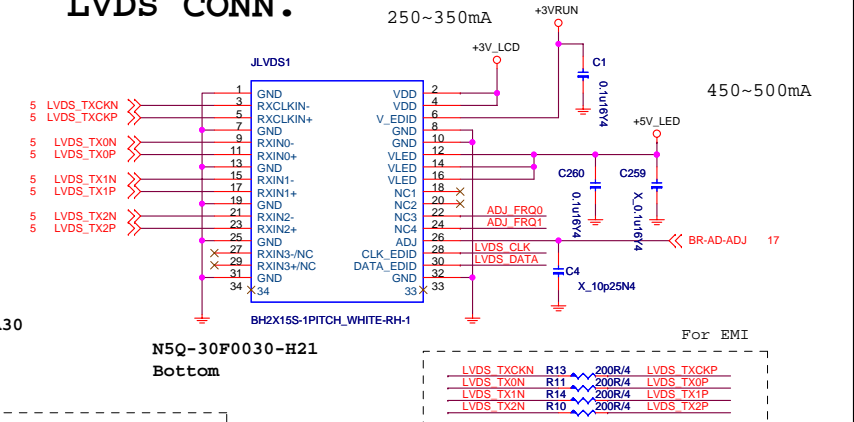


N59-15F0581-S45
Bottom

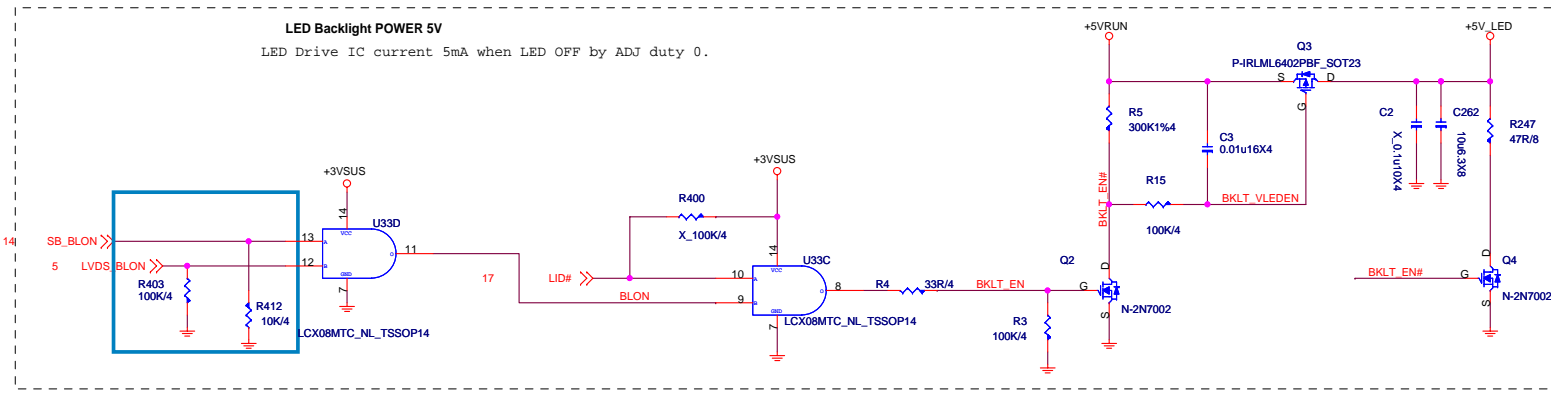


I36-0913109-A30
TOP

LVDS CONN.



N5Q-30F0030-H21
Bottom



LED Drive IC current 5mA when LED OFF by ADJ duty 0.

For EMI

LVDS_TXCKN	R13	200R/4	LVDS_TXCKP
LVDS_TX0N	R11	200R/4	LVDS_TX0P
LVDS_TX1N	R14	200R/4	LVDS_TX1P
LVDS_TX2N	R10	200R/4	LVDS_TX2P

EC_ADJ_FRQ0	EC_ADJ_FRQ1	Vendor	Adj Freq
0	0	CPT/HannStar	20KHZ
0	1	INNOLUX	300Hz
1	0	Reserve	Reserve
1	1	Reserve	Reserve

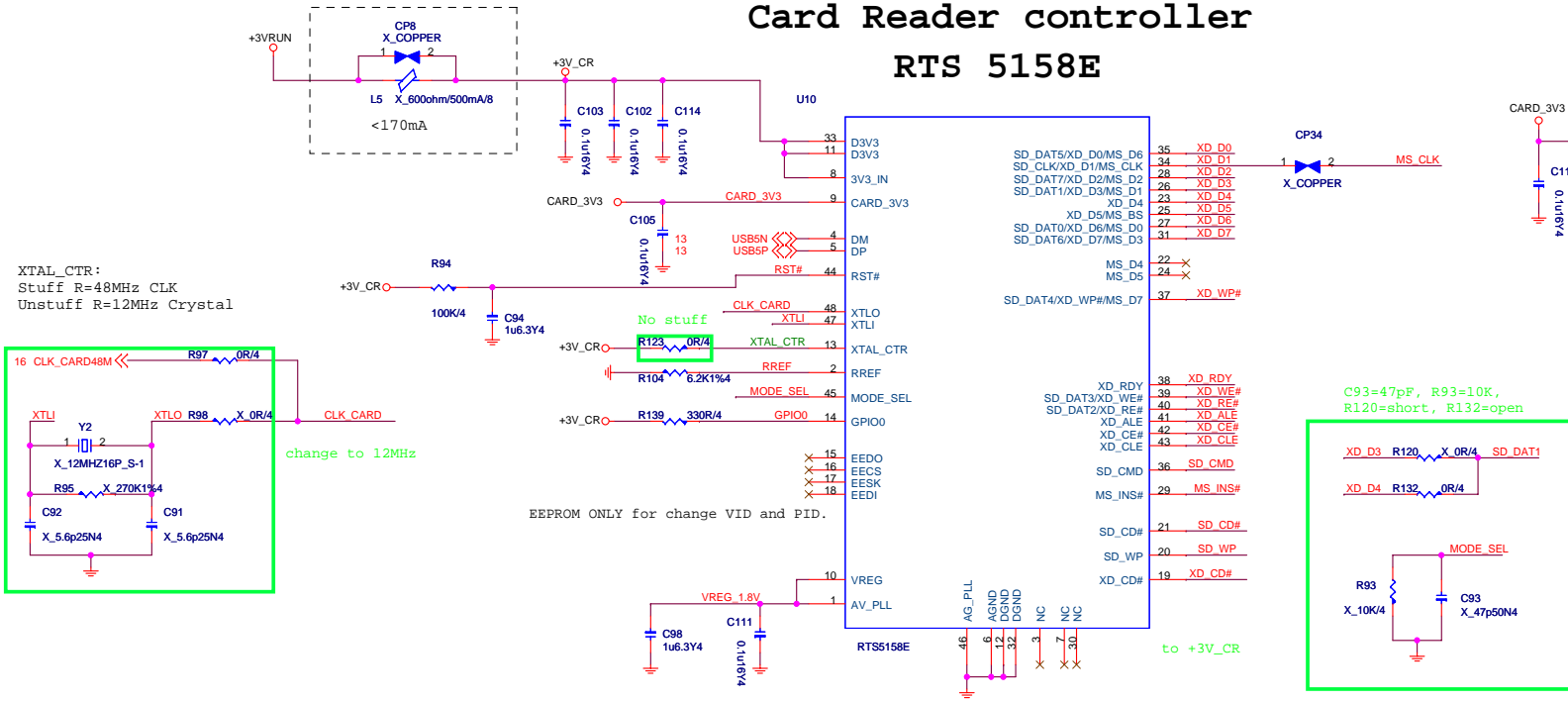
MSI

MICRO-STAR INT'L CO.,LTD

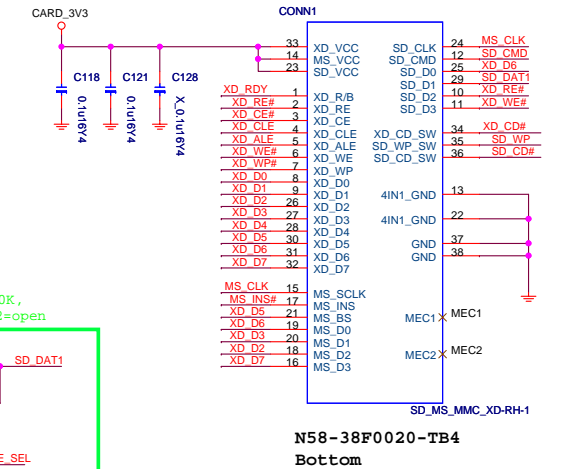
MS-N011

Size Custom	Document Description CRT, LVDS CONN	Rev 1.0
Date: Friday, April 11, 2008	Sheet 21 of 39	

Card Reader controller RTS 5158E



Flash Card Socket

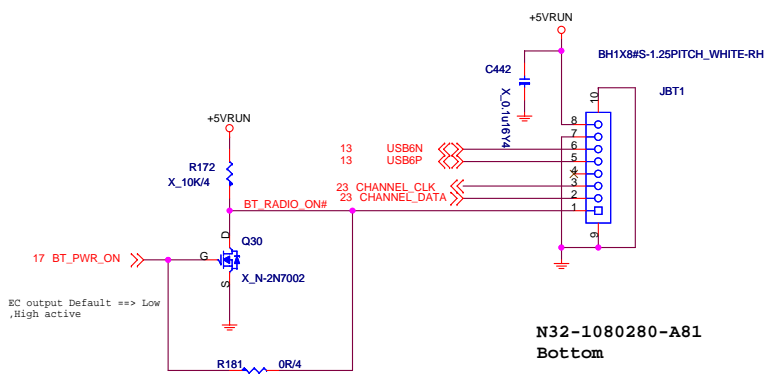


Media I/F (Chip)	SD Card	Memory Stick	xD Card
XD_RDY	X	X	XD_R/B
XD_RE#/SD_DAT2	SD_D2	X	XD_RE
XD_CE#	X	X	XD_CE
XD_CLE	X	X	XD_CLE
XD_ALE	X	X	XD_ALE
XD_WE#/SD_DAT3	SD_D3	X	XD_WE
XD_WP#/SD_DAT4/MS_D7	X	X	XD_WP
XD_D0/SD_DAT0/MS_D6	X	X	XD_D0
XD_D1/SD_CLK/MS_CLK	SD_CLK	MS_CLK	XD_D1
XD_D2/SD_DAT7/MS_D2	X	MS_D2	XD_D2
XD_D3/SD_DAT1/MS_D1	SD_D1	MS_D1	XD_D3
XD_D4	X	X	XD_D4
XD_D5/MS_BS	X	MS_BS	XD_D5
XD_D6/SD_DAT0/MS_D0	SD_D0	MS_D0	XD_D6
XD_D7/SD_DAT6/MS_D3	X	MS_D3	XD_D7
XD_CD#	X	X	XD_CD_SW
SD_CMD	SD_CMD	X	X
SD_CD#	SD_CD_SW	X	X
SD_WP	SD_WP_SW	X	X
MS_INS#	X	MS_INS	X
MS_D4	X	X	X
MS_D5	X	X	X

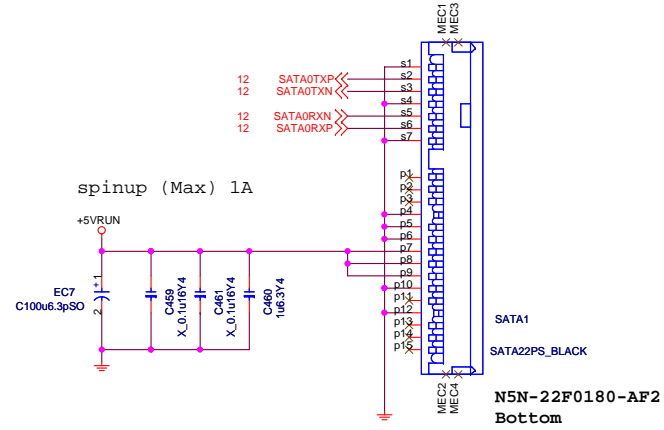
SATA HDD

SATA, 2.5 inch, 80GB, 5400RPM
 WD S71-2408505-W36
 Fujitsu S71-2408511-F06
 Toshiba S71-2408517-T14

BLUETOOTH



SATA HDD CONN



MICRO-STAR INT'L CO.,LTD

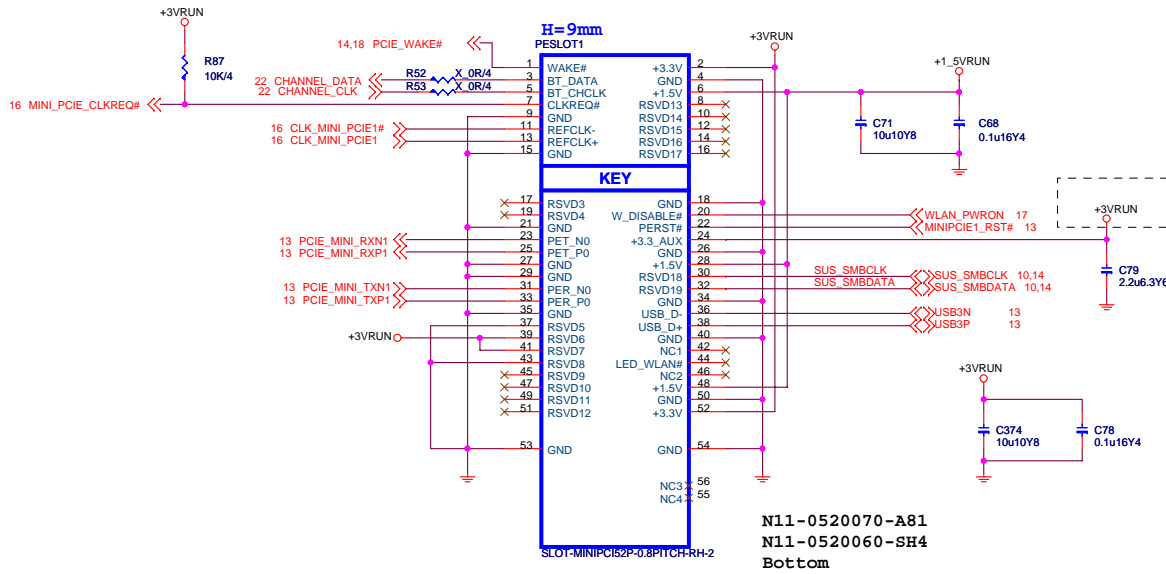
MS-N011

Size Custom	Document Description	Rev 1.0
CardReader RTS5158E/ BT/ SATA HDD		
Date: Friday, April 11, 2008	Sheet 22	of 39

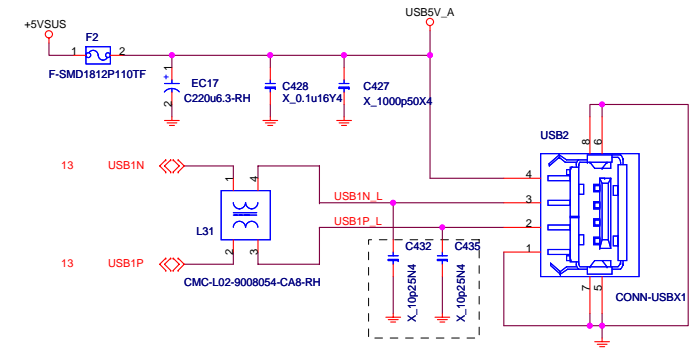
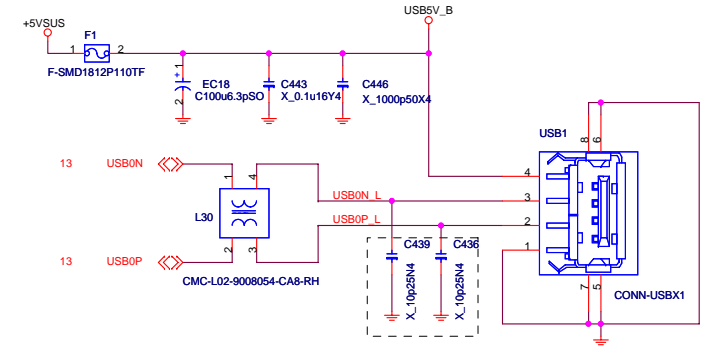
Mini PCIE Slot

Wireless LAN

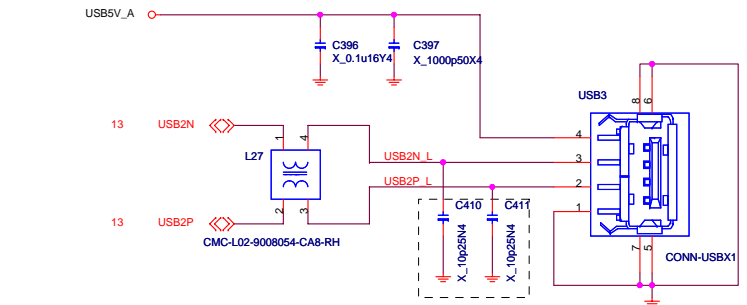
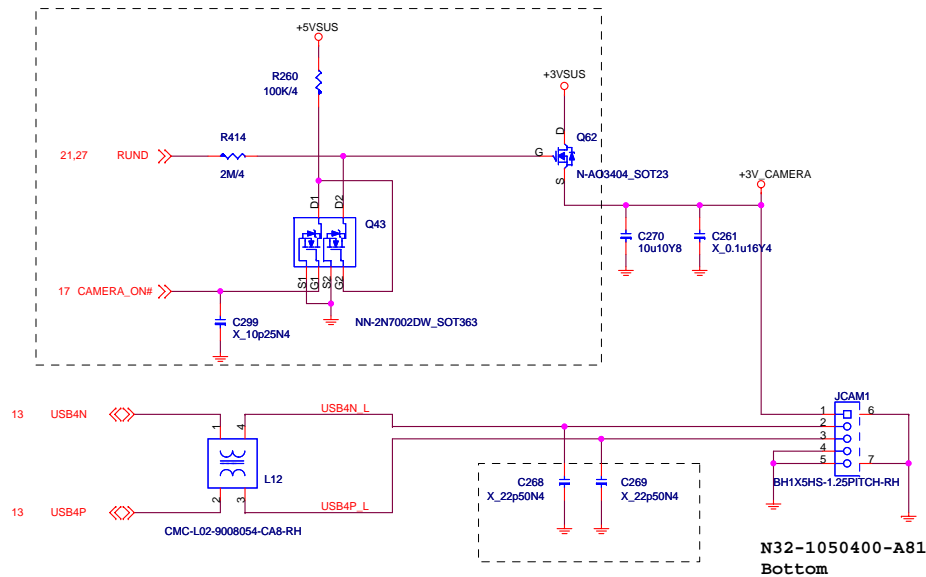
+3VRUN, 1.5A
+1_5VRUN, 0.5A



USB CONN

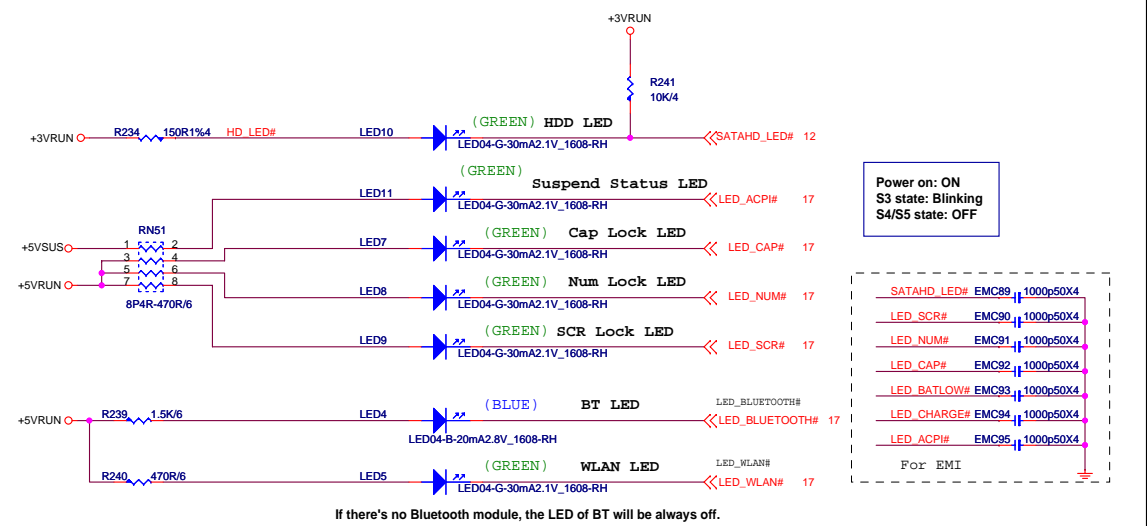
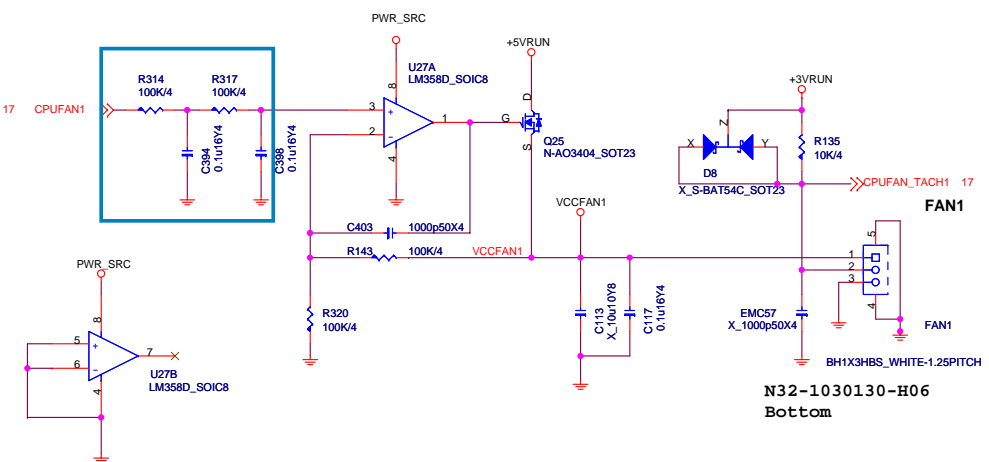


CAMERA



DOG-25B0600-R02
DIS EMI/ESD PROTECTOR, RAYCHEM/PESD0402-060, 6V, 0.25pF,
, SMD-1.0x0.5x0.38mm, ESD PROTECTOR, RoHS (EU EXEMPTION)

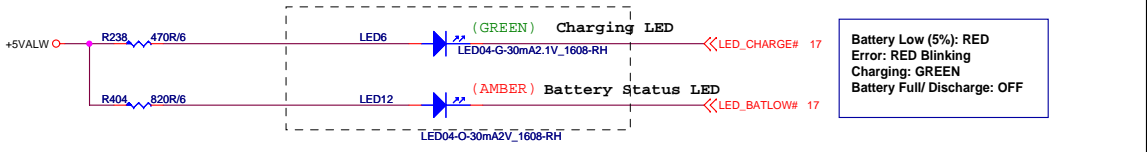
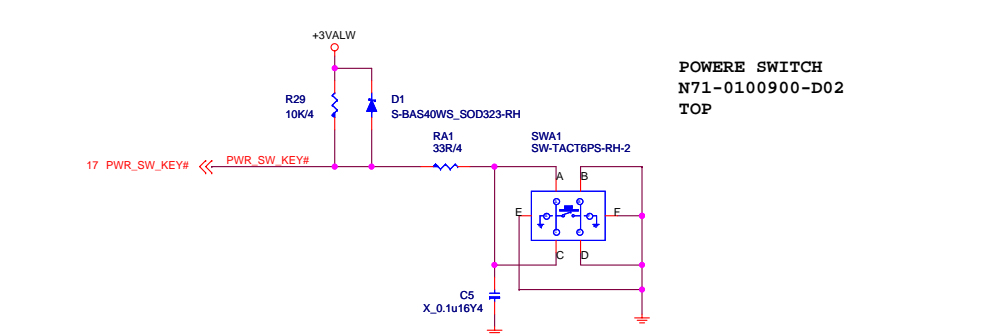
MICRO-STAR INT'L CO.,LTD			
MS-N011			
Size	Document Description	Rev	
Custom	Mini PCIE, CAMERA, USB CONN	1.0	
Date:	Friday, April 11, 2008	Sheet	23 of 39



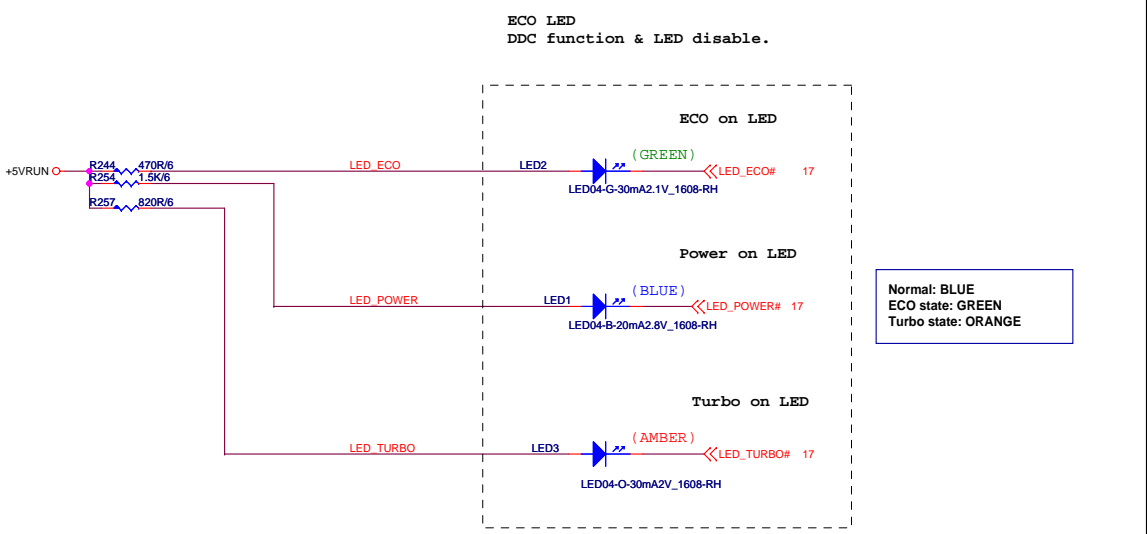
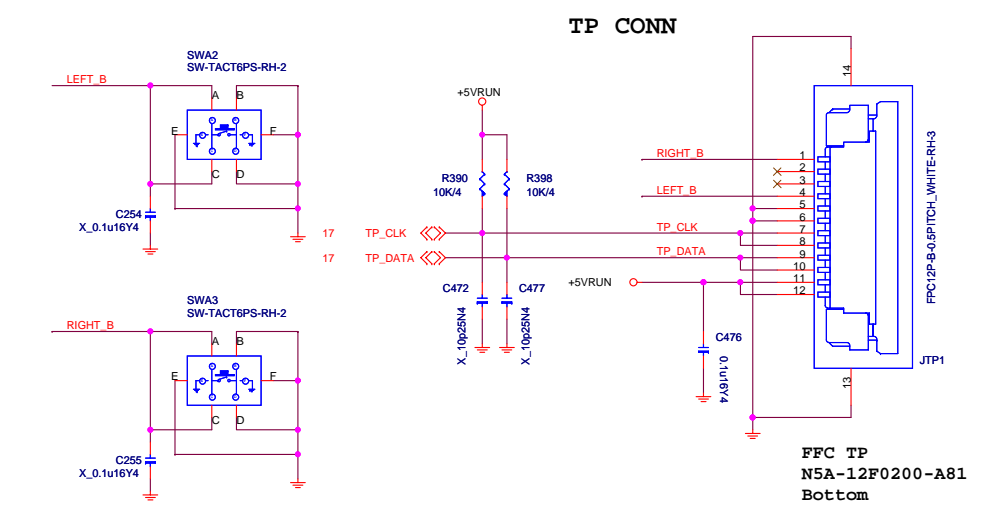
Power on: ON
S3 state: Blinking
S4/S5 state: OFF

- SATAHD_LED# EMC89 1000p50X4
 - LED_SCR# EMC90 1000p50X4
 - LED_NUM# EMC91 1000p50X4
 - LED_CAP# EMC92 1000p50X4
 - LED_BATLOW# EMC93 1000p50X4
 - LED_CHARGE# EMC94 1000p50X4
 - LED ACPI# EMC95 1000p50X4
- For EMI

If there's no Bluetooth module, the LED of BT will be always off.



Battery Low (5%): RED
Error: RED Blinking
Charging: GREEN
Battery Full/ Discharge: OFF

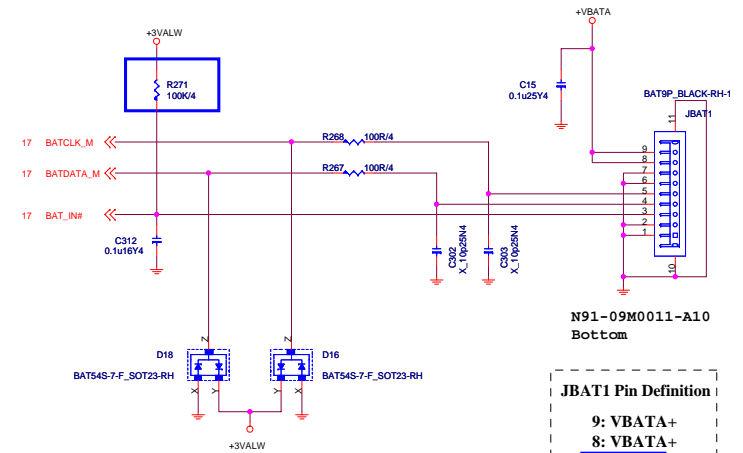
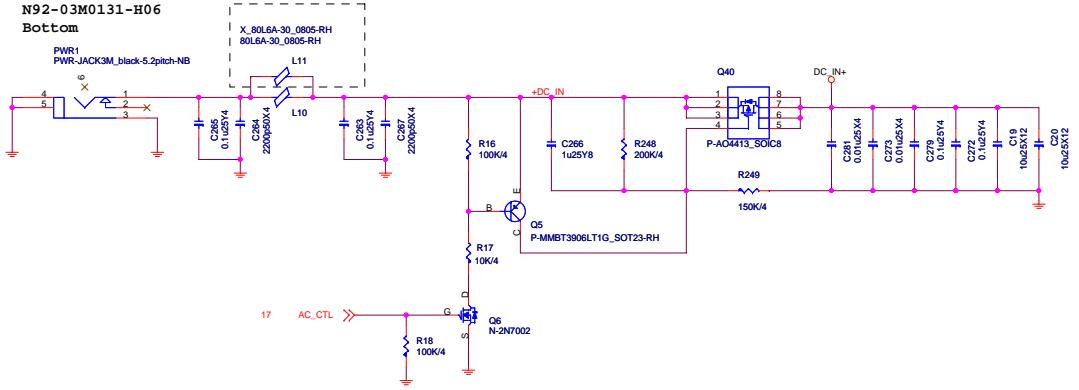


Normal: BLUE
ECO state: GREEN
Turbo state: ORANGE

DOC-0400700-L05 (OLD)--->470R
DOC-0409200-L05 (NEW)--->330R

		MICRO-STAR INT'L CO.,LTD	
		MS-N011	
Size Custom	Document Description FAN, LED & SW	Rev 1.0	
Date: Friday, April 11, 2008		Sheet	24 of 39

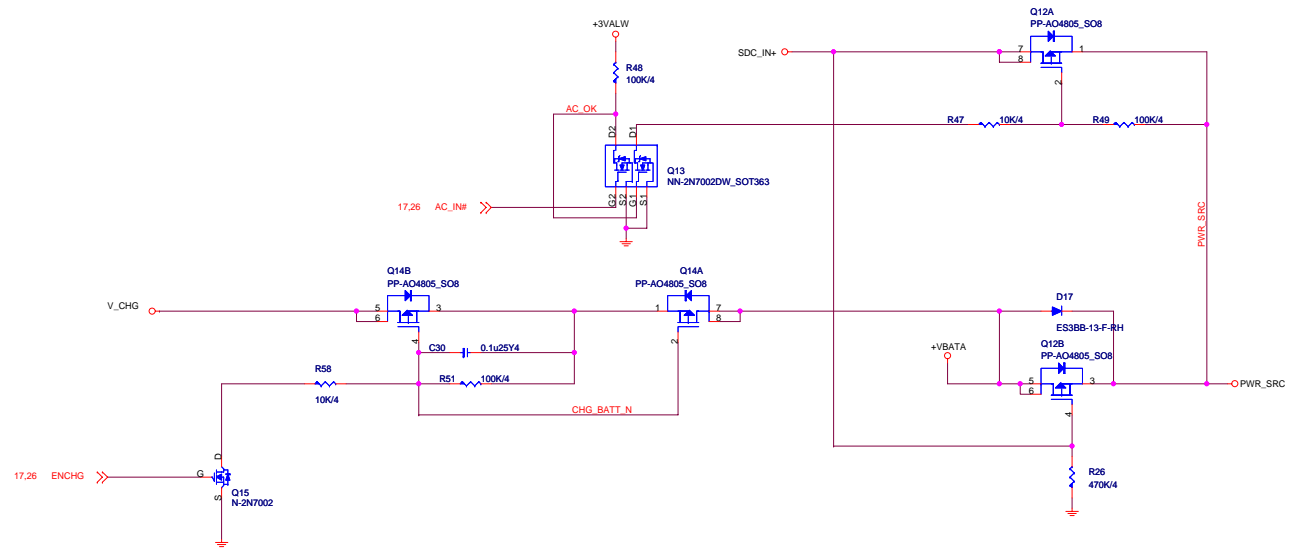
N92-03M0131-A10
N92-03M0131-H06
Bottom



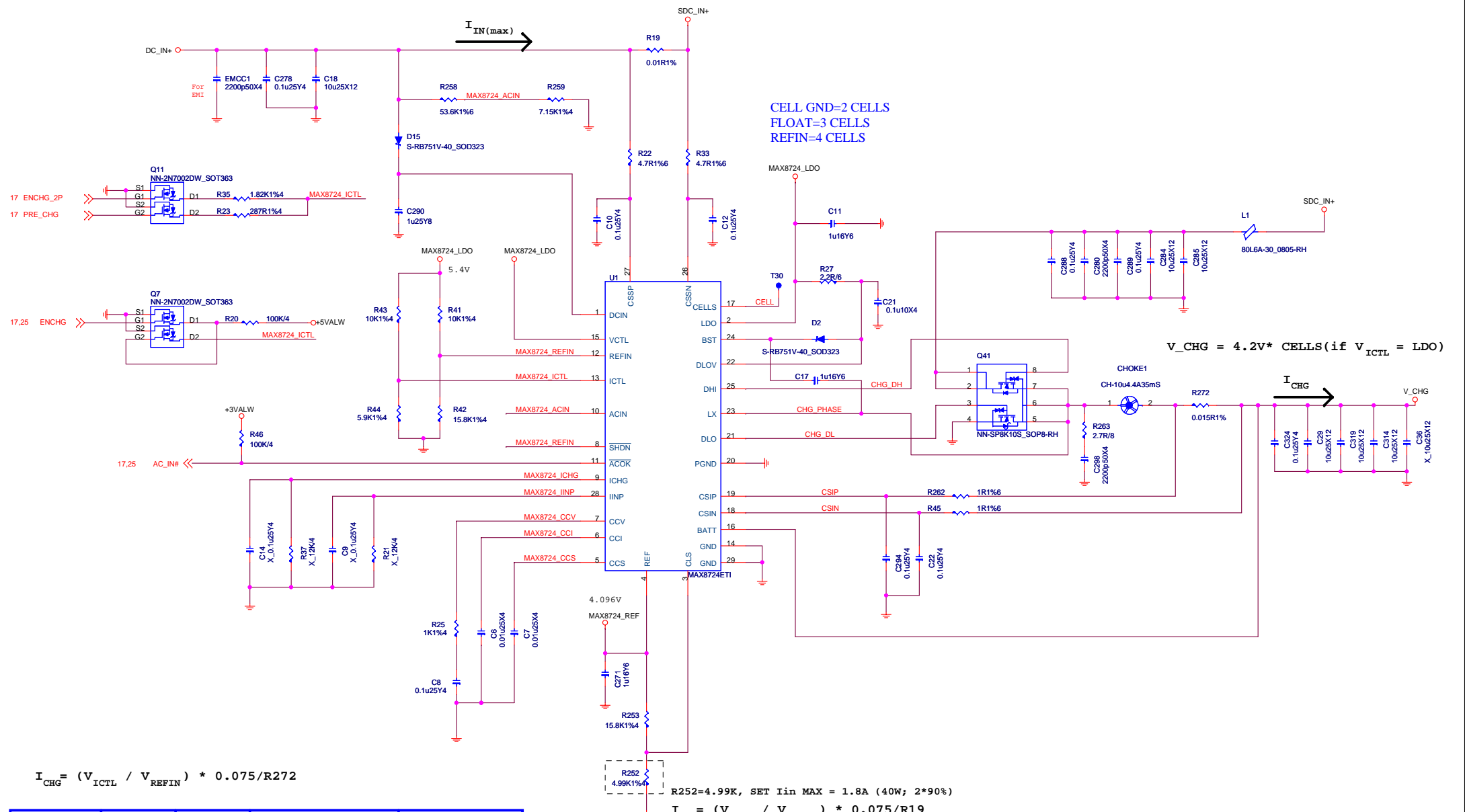
N91-09M0011-A10
Bottom

JBAT1 Pin Definition

- 9: VBATA+
- 8: VBATA+
- 7: NC
- 6: NC
- 5: SMBCLK
- 4: SMBDATA
- 3: BAT_IN#
- 2: GND
- 1: GND




Adapter= 40 W
 Adapter input voltage set 20 Voltage 2 Amps



3S battery max charge current 1540mA, 0.7C=>1000mA

ENCHG-2P	PRE_CHG	ENCHG	charge status	charge current
0	1	1	Pre-charge	220 mA
1	0	1	3S-Fast charge	1.0 A
0	0	1	3S2P-Fast charge	3A
X	X	0	STOP CHARGE	0



MICRO-STAR INT'L CO.,LTD

MS-N011

Size Custom Document Description **Battery Charger** Rev 1.0

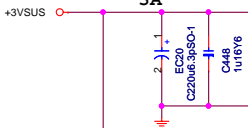
Date: Friday, April 11, 2008 Sheet 26 of 39

0.747A
 ICH7M : 132mA ;
 PCIE LAN: 365mA ;
 MINI PCIE +3VRUN: 250mA ;

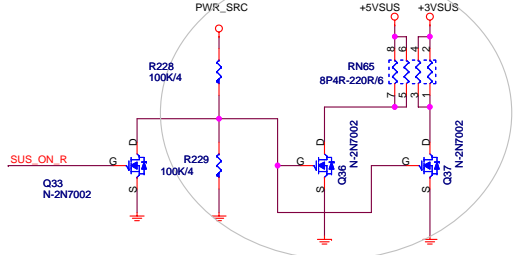
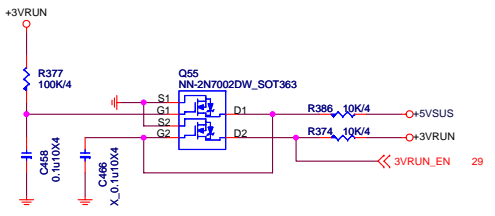
2.188A
 945GMS +3VRUN : 40mA ;
 ICH7M +3VRUN : 336mA ;
 ICH7M +2_5VRUN : 142mA ;
 MINI PCIE +3VRUN: 1250mA ;
 CLOCK Gen: 200mA ;
 CardReader: 170mA ;
 Audio 888S: 50mA ;
 CAMERA: ??mA ;

Current limit at 4A for +3.3V

+3VSUS

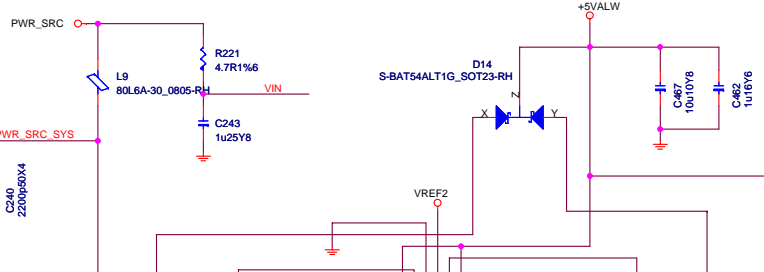


+3VRUN

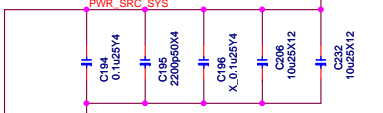
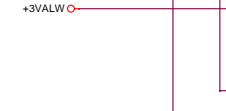


NEXT VERSION CHANGE TO TI/TPS51125 FOR COST DOWN

+5VALW

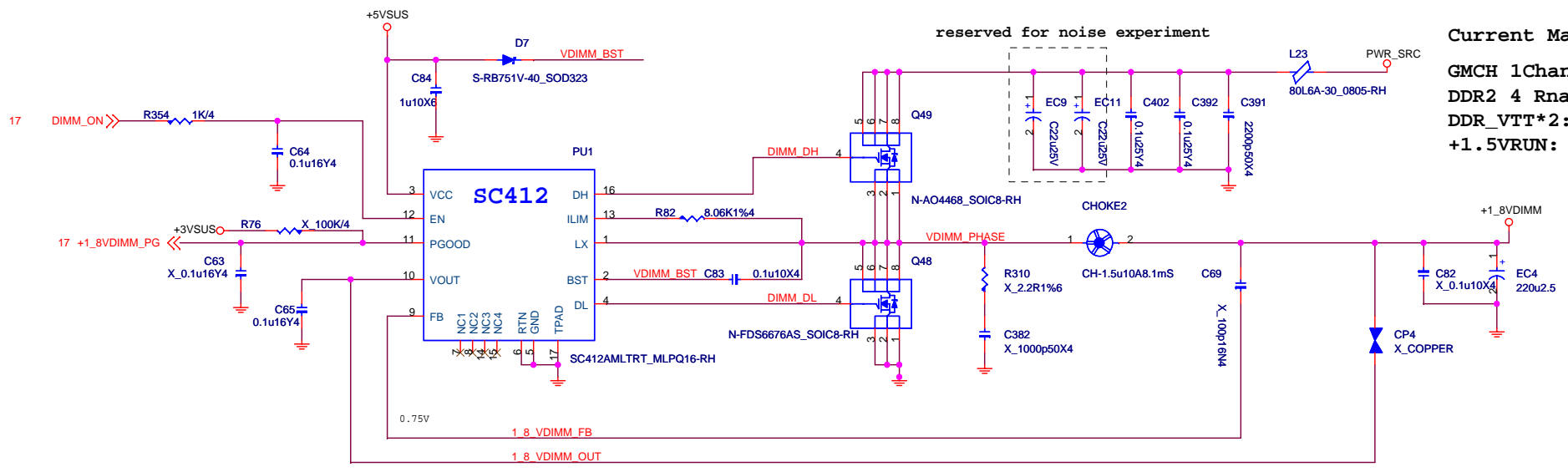


+3VALW

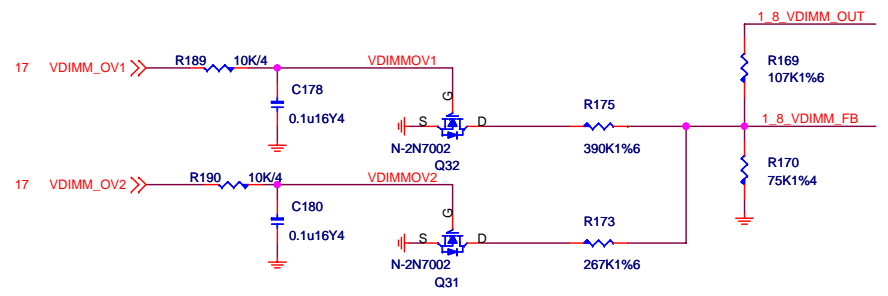


+1_8VDIMM

Current Max at 10.3A
 GMCH 1Channel: 1720mA ;
 DDR2 4 Rnaks/16 pcs: 3840mA;
 DDR_VTT*2: 600mA;
 +1.5VRUN: 4130mA;



VDIMM OC



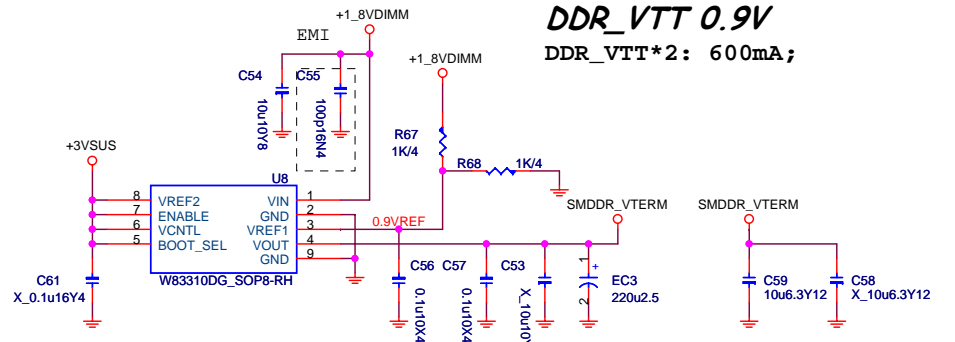
VDIMM OverVoltage TABLE

OV1	OV2	VDIMM OverVoltage
0	0	1.85V(default)
1	0	2V
0	1	2.15V

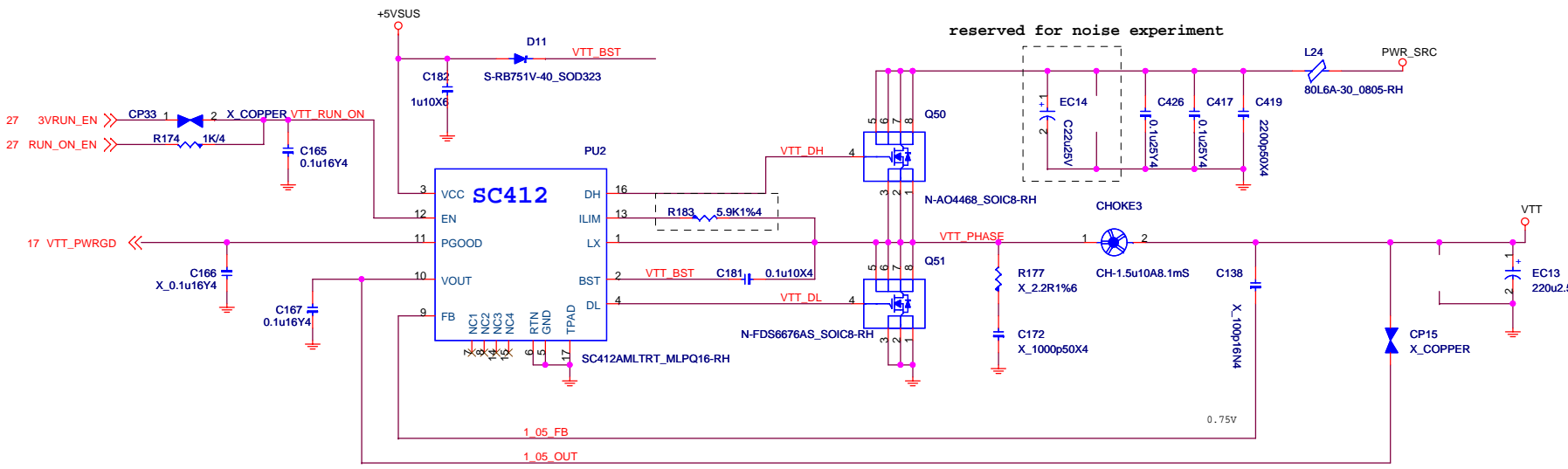
Note: 1=> HIGH 0=> LOW

DDR_VTT 0.9V

DDR_VTT*2: 600mA;



MICRO-STAR INT'L CO.,LTD		
MS-N011		
Size B	Document Description DDR & VTT_DDR Power	Rev 1.0
Date: Friday, April 11, 2008		Sheet 28 of 39

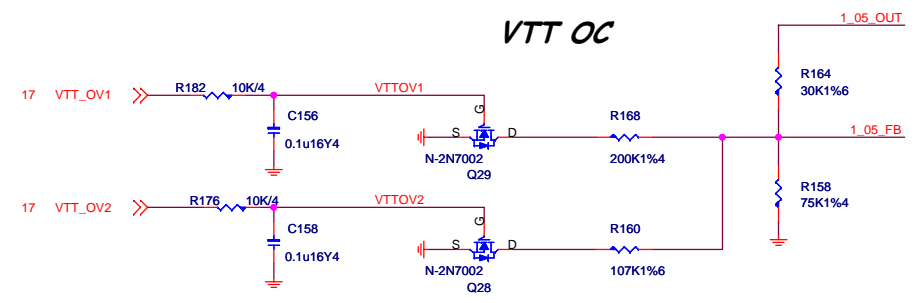


VTT /+1.05Vcore
6.674A

Current Limit at 10A
Current MAX at 8A

CPU Vccp: 2000mA
GMCH core:2940mA
GMCH Vccp:780mA
ICH7M core:940mA
ICH7M Vcc_IO:14mA

VTT OC



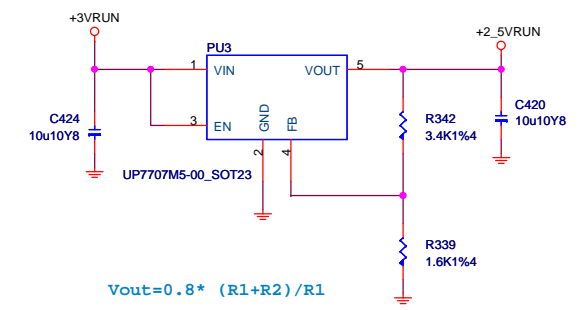
VTT OverVoltage TABLE

OV1	OV2	VTT OverVoltage
0	0	1.05V(default)
1	0	1.15V
0	1	NA

Note: 1=> HIGH 0=> LOW

+2.5VRUN 142mA

up7707: 600mA Low Dropout Linear Regulator

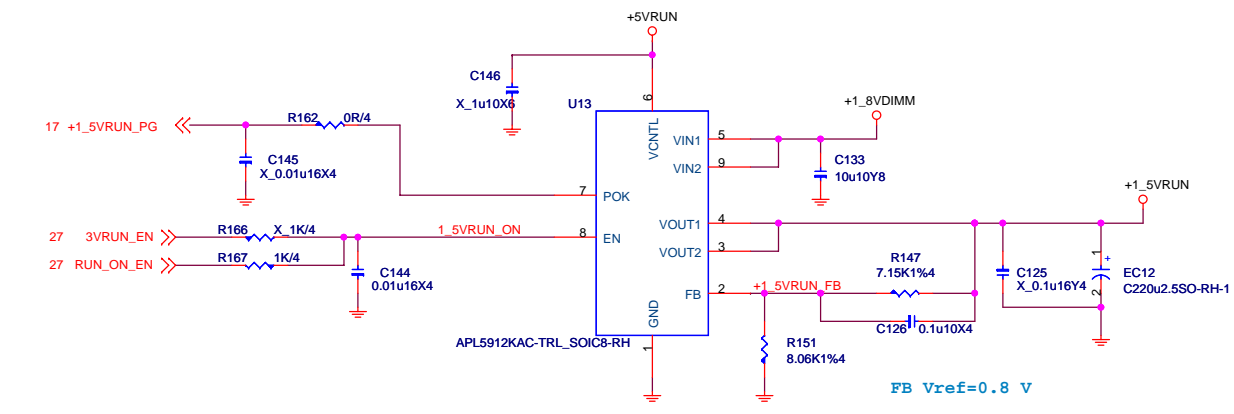


$V_{out} = 0.8 * (R1 + R2) / R1$

+1.5Vcore

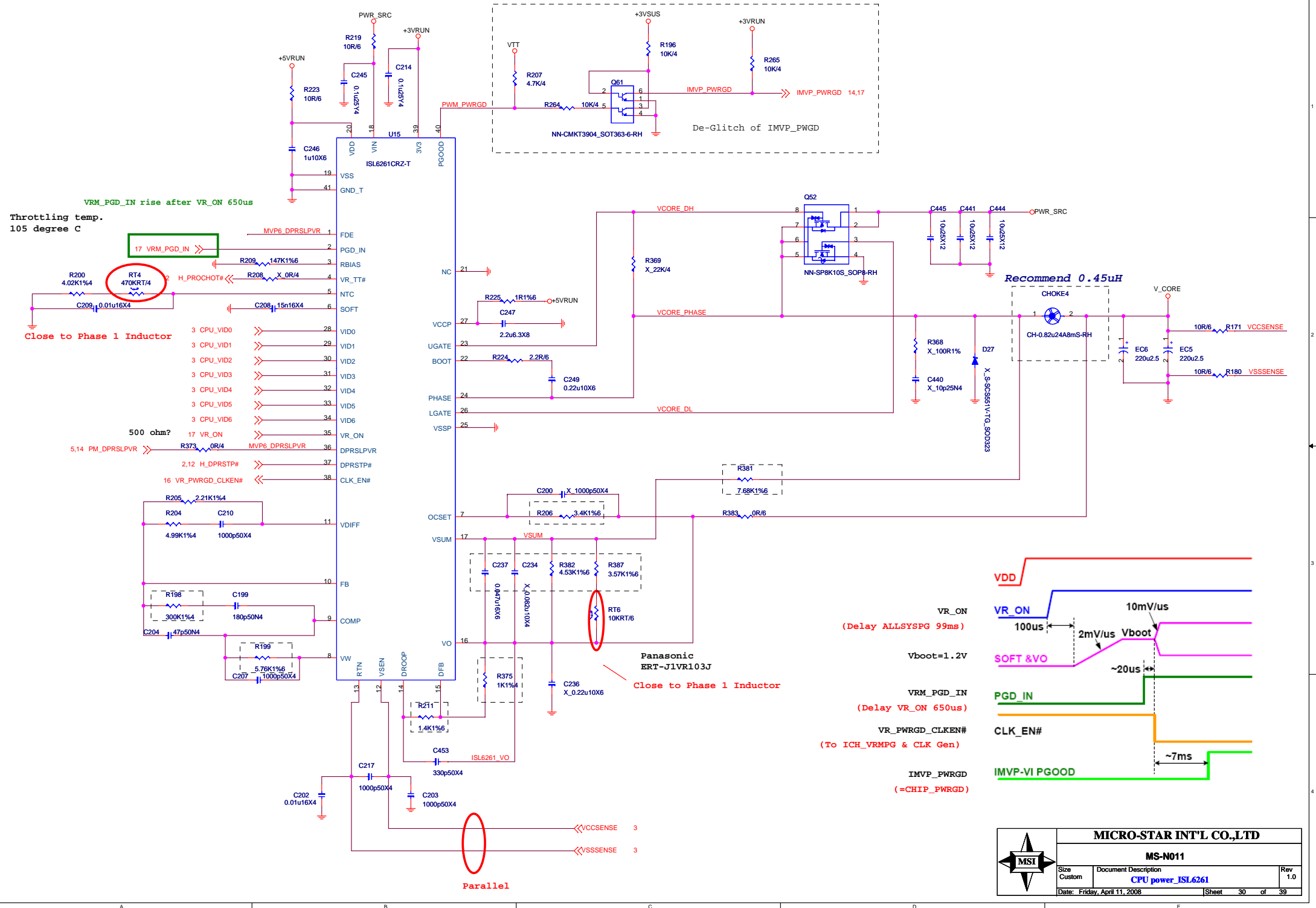
4.13A

CPU Vccp: 130mA
GMCH core:1980mA
ICH7M core:1520mA
MINI PCIE :500mA



FB Vref=0.8 V

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VRM_PGD_IN rise after VR_ON 650us
Throttling temp.
105 degree C

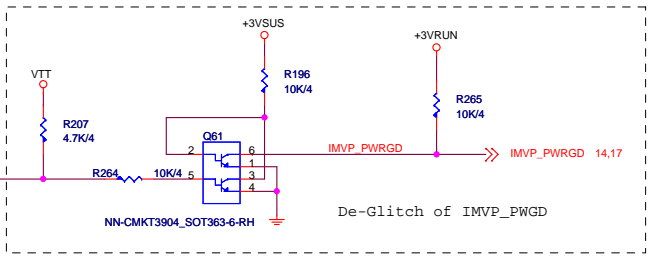
Close to Phase 1 Inductor

500 ohm?

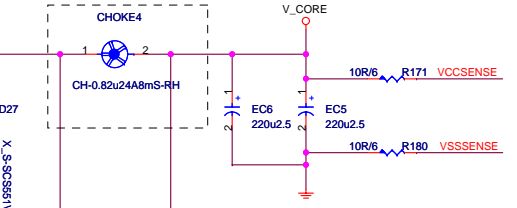
Close to Phase 1 Inductor

Parallel

Parallel



Recommend 0.45uH



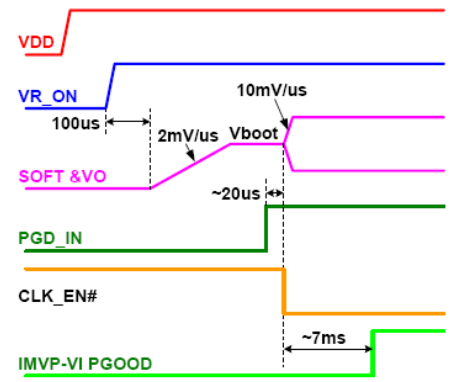
VR_ON
(Delay ALLSYSPPG 99ms)

Vboot=1.2V

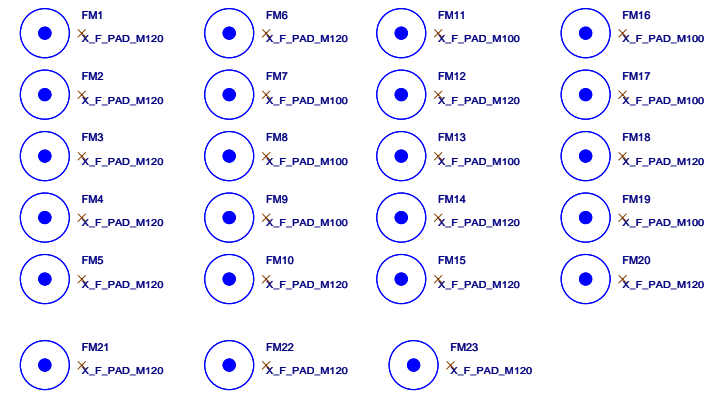
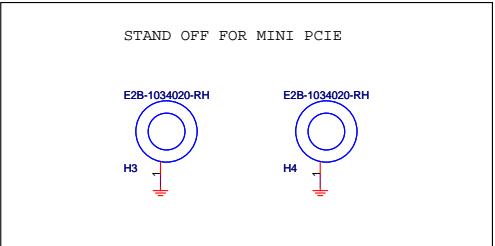
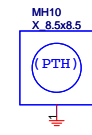
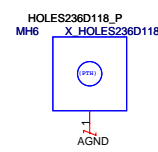
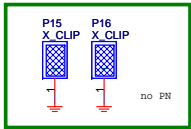
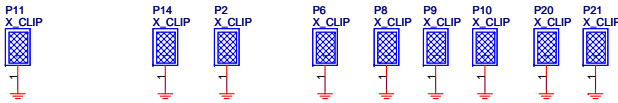
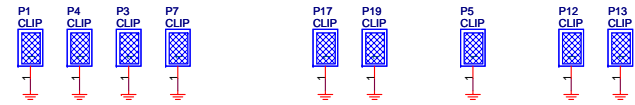
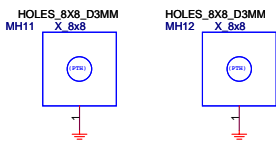
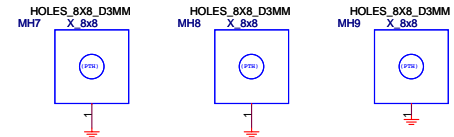
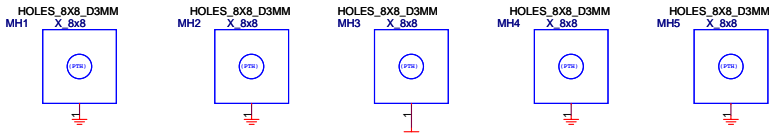
VRM_PGD_IN
(Delay VR_ON 650us)

VR_PWRGD_CLKEN#
(To ICH_VRMPPG & CLK Gen)

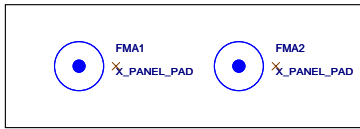
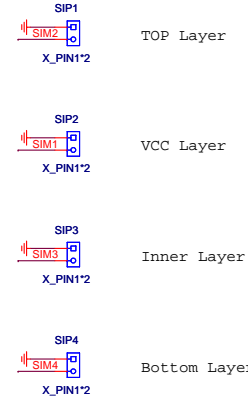
IMVP_PWRGD
(=CHIP_PWRGD)



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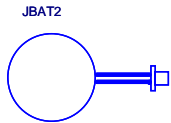


Simulation

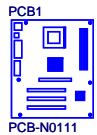


OPT	Configure	BOM	Function
A	cfg-FS	607-N0111-01S	MS-N0111 OPT:A Diamondville CPU, 945GMS+ICH7M, 1G SAMSUNG DDR2), ALC888S,ENE3310,Relteak 5158E+RTL8102E
B	cfg-FH	607-N0111-02S	MS-N0111 OPT:B Diamondville CPU, 945GMS+ICH7M, 1G HYNIX DDR2), ALC888S,ENE3310,Relteak 5158E+RTL8102E
C	cfg-FM	607-N0111-03S	MS-N0111 OPT:C Diamondville CPU, 945GMS+ICH7M, 512M MIRA DDR2), ALC888S,ENE3310,Relteak 5158E+RTL8102E

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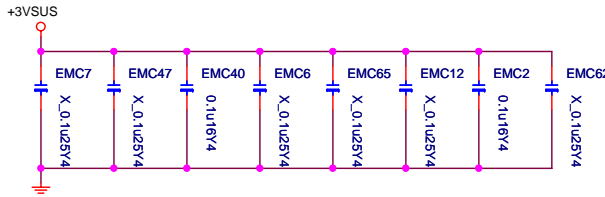
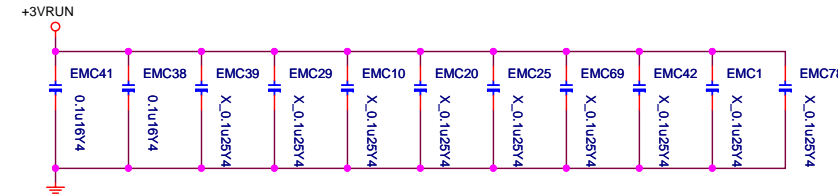
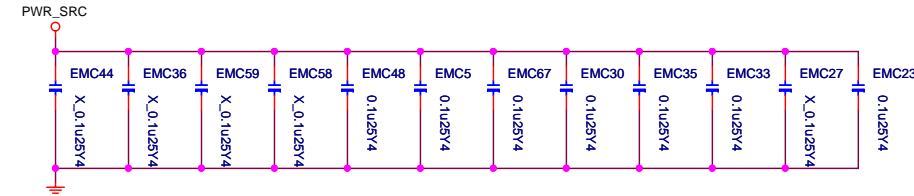
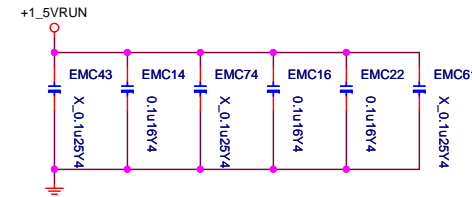
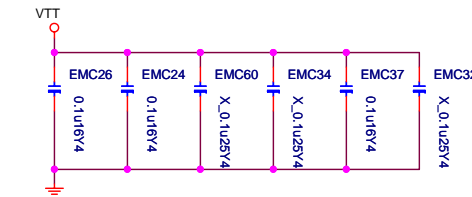
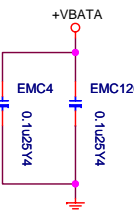
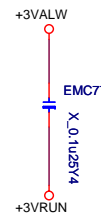
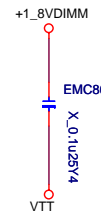
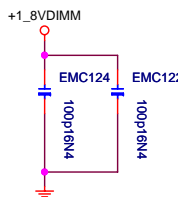
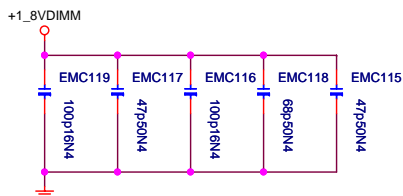
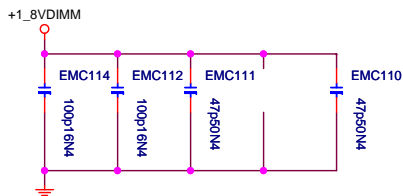
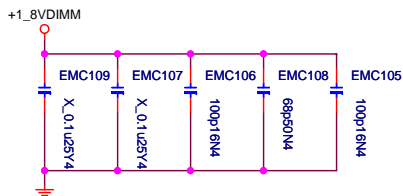
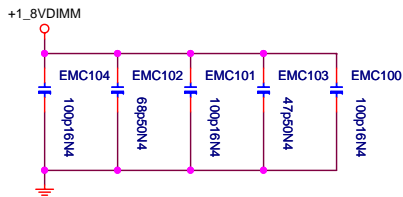
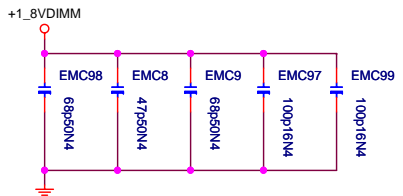
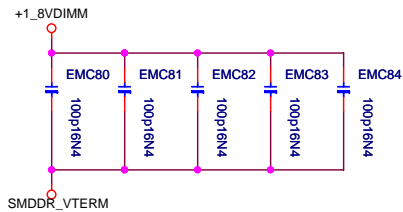
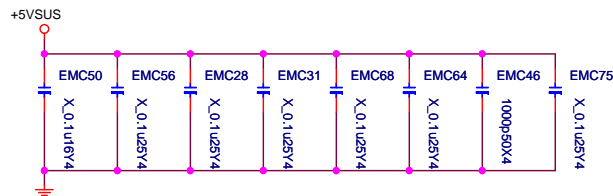
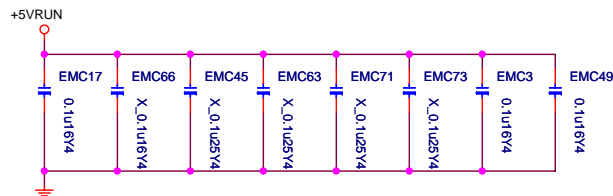
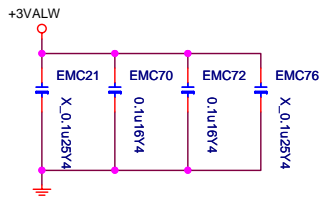
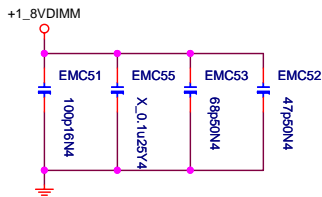


BAT-CR2032



PCB-N0111

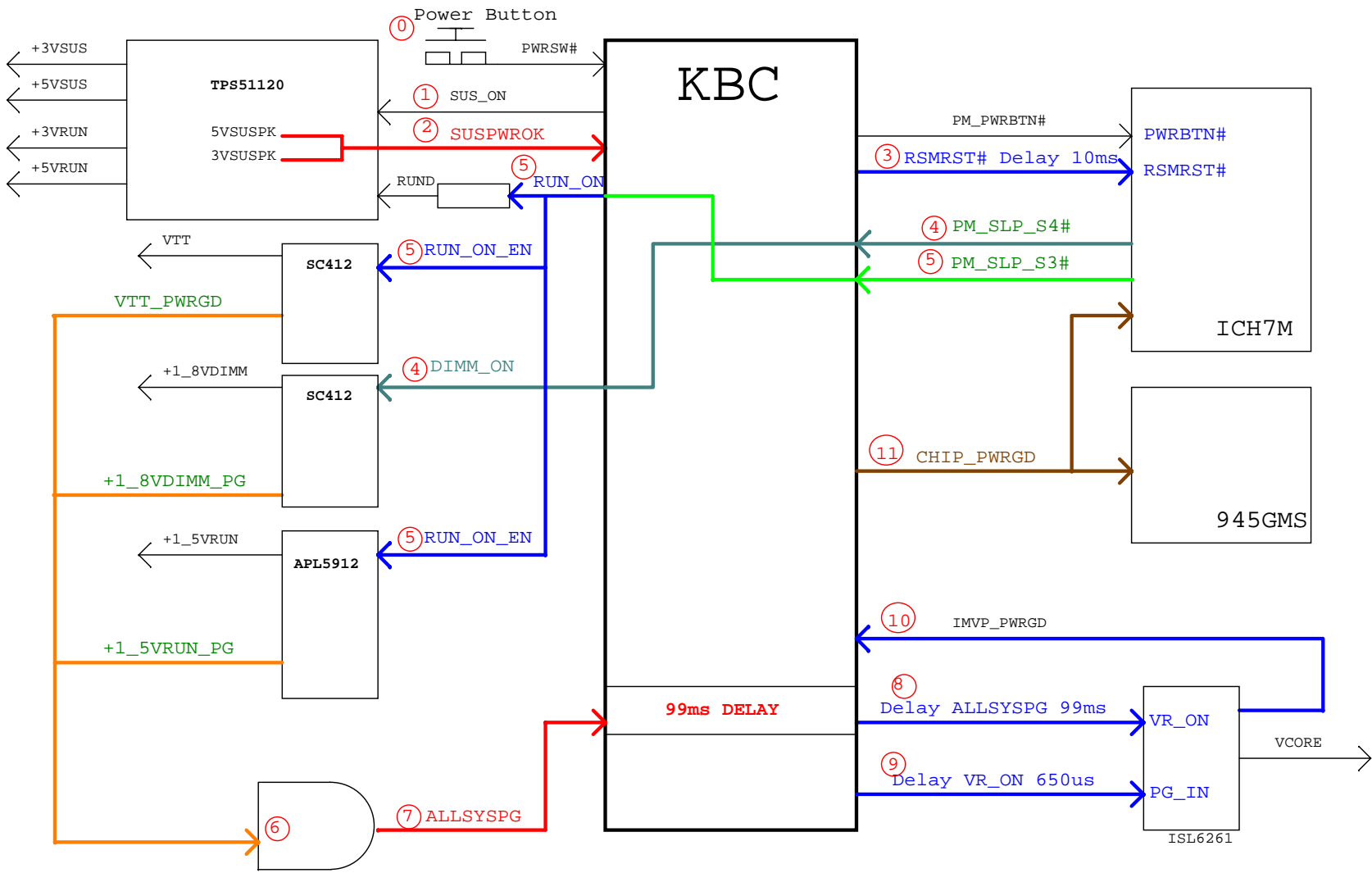
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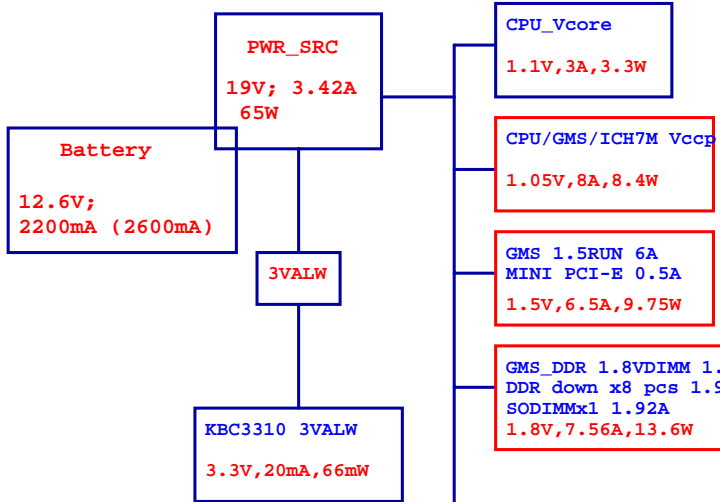


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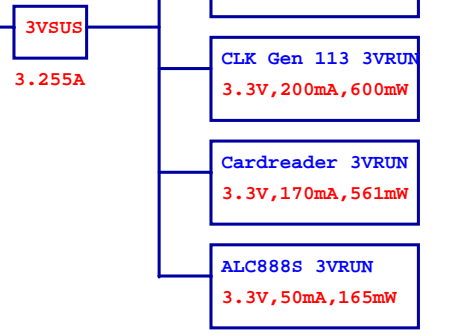
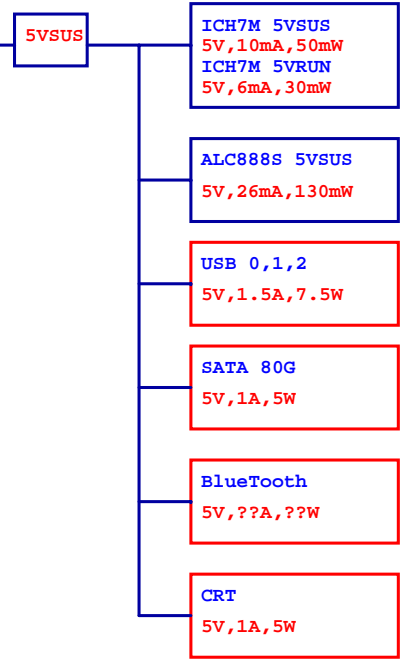
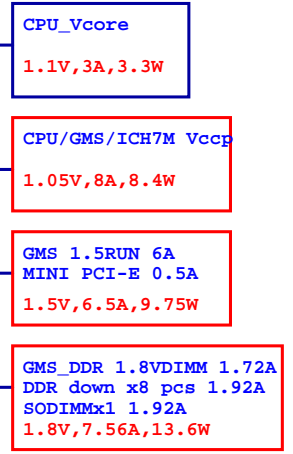
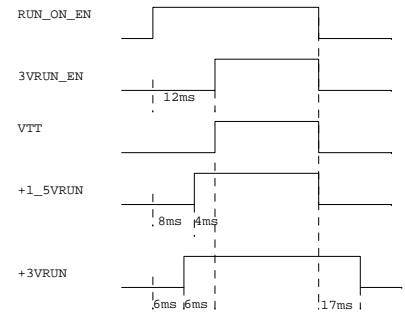
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Manual Parts		
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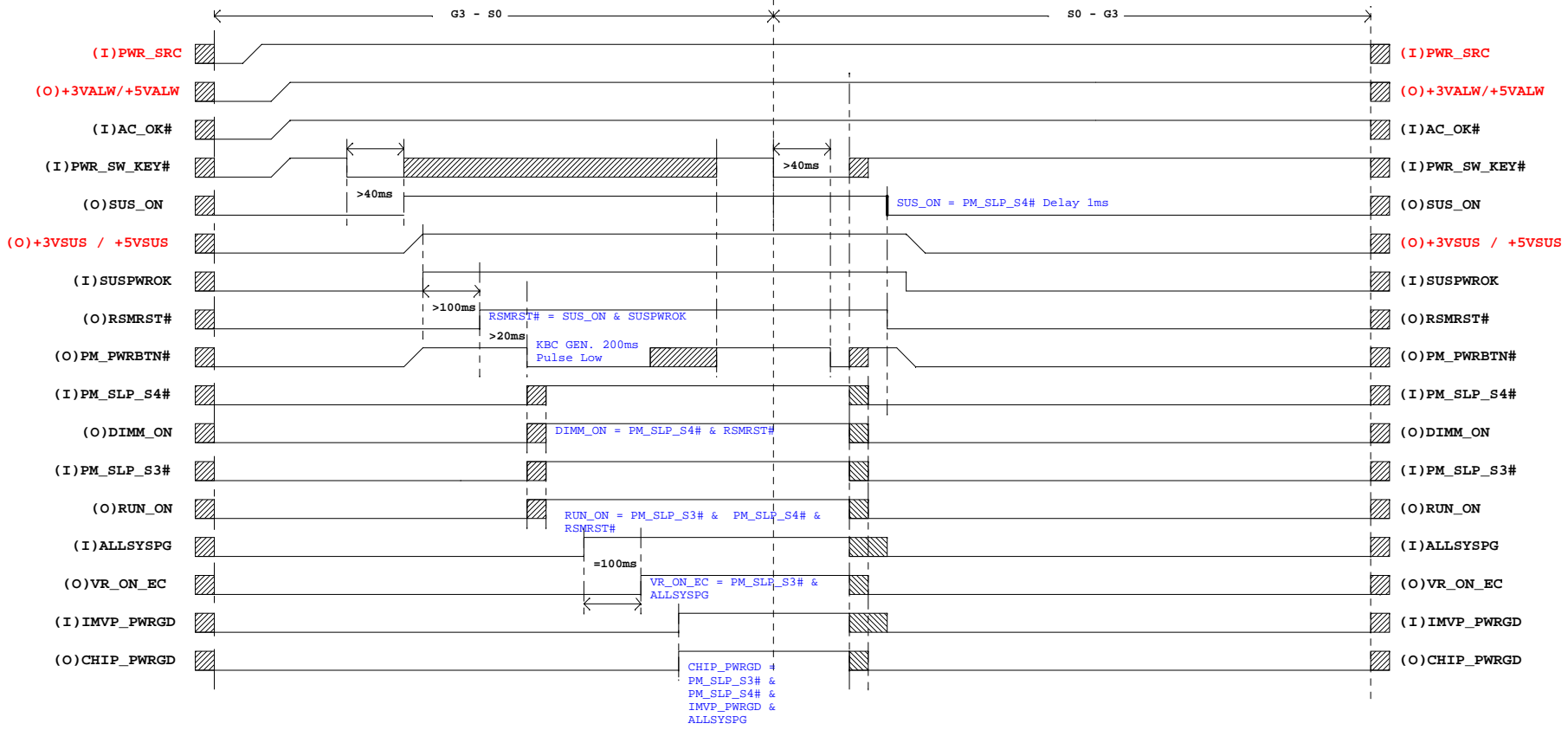
Component power Targets


Component	TDP Targets	Windows XP Avg power	
Diamondville SC	2.5W	0.6W	
82945GSE	4W	1.2W	3.5-5.5W
82801GBM	1.5W	0.7W	1.0-1.9W



RED: POWER
BLACK: KBC

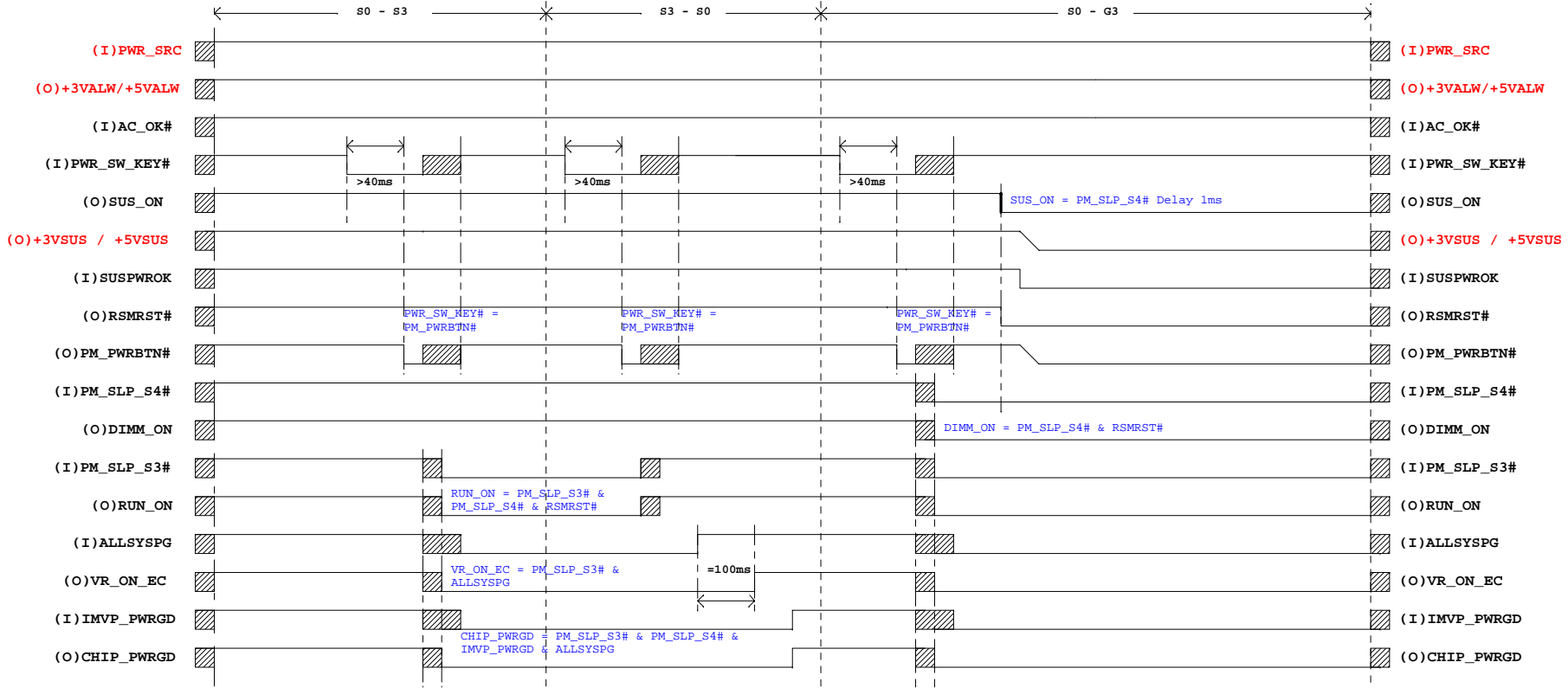
Battery Mode G3 - S0 - G3




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RED: POWER
BLACK: KBC

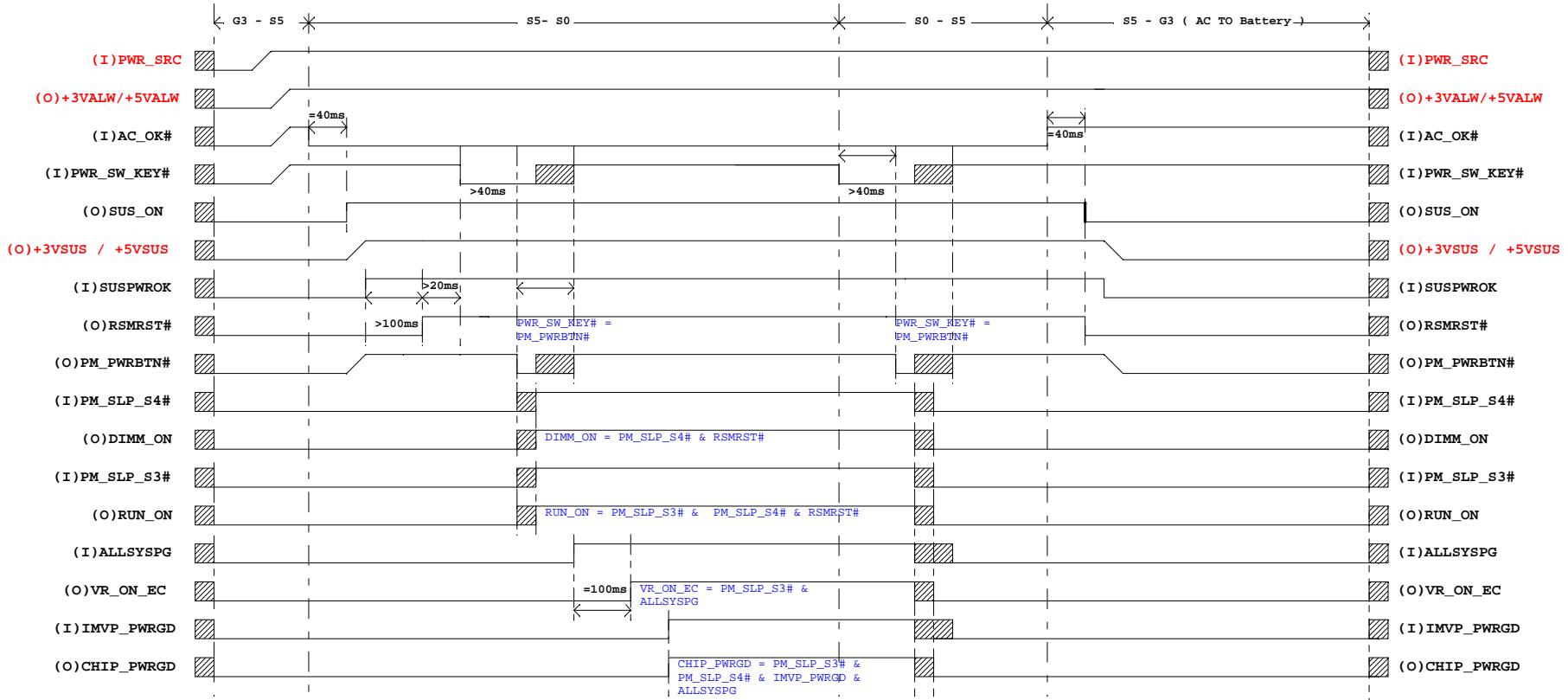
Battery Mode S0 - S3 - S0




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RED: POWER
BLACK: KBC

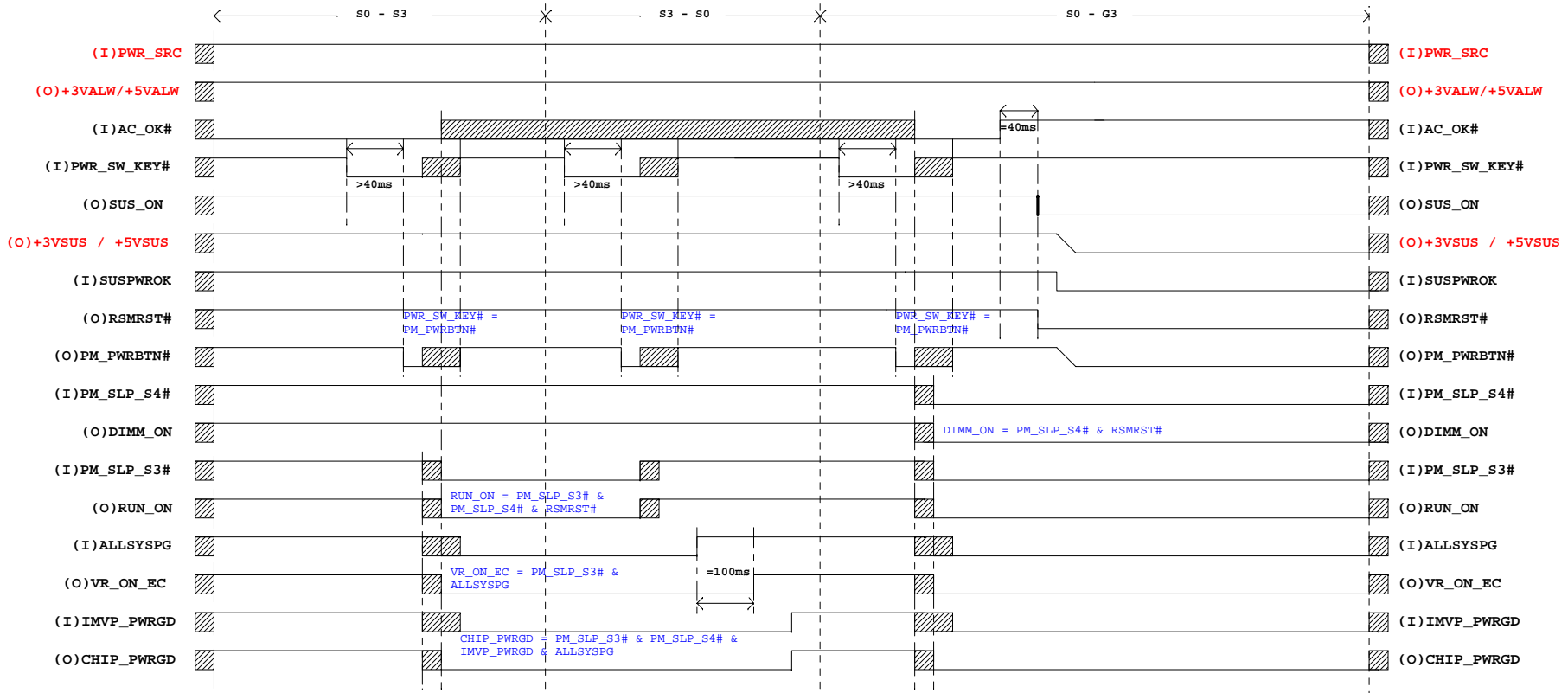
AC Mode G3 - S5 - S0 - S5 - G3



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RED: POWER
BLACK: KBC

AC Mode S0 - S3 - S0



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1. PAGE7: EC15 close to ICH7M cause RMA difficult to rework, change EC15 to C256 (1206) size.
2. PAGE21: Remove R413 & change R412 pull down to GND for LCD backlight blinking while power on.
3. Swap BT & WLAN LED.
4. PAGE25: JBAT1 pin6,7 connector to GND.
5. PAGE23: Remove CP35, CP34.
6. PAGE24: RN47 separate to R244, R254, R257. For tune LED brightness.
7. PAGE23: USB add CMC for EMI request.
8. PAGE23: Add EMC96 for EMI request.
9. PAGE26: Modify R252 value to match new 40W /20V Adapter.
9. PAGE27,29: Modify R215=9.31KR, R216=10KR, R183=5.9KR by power team.

				MICRO-STAR INT'L CO.,LTD			
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		History		1.0			
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