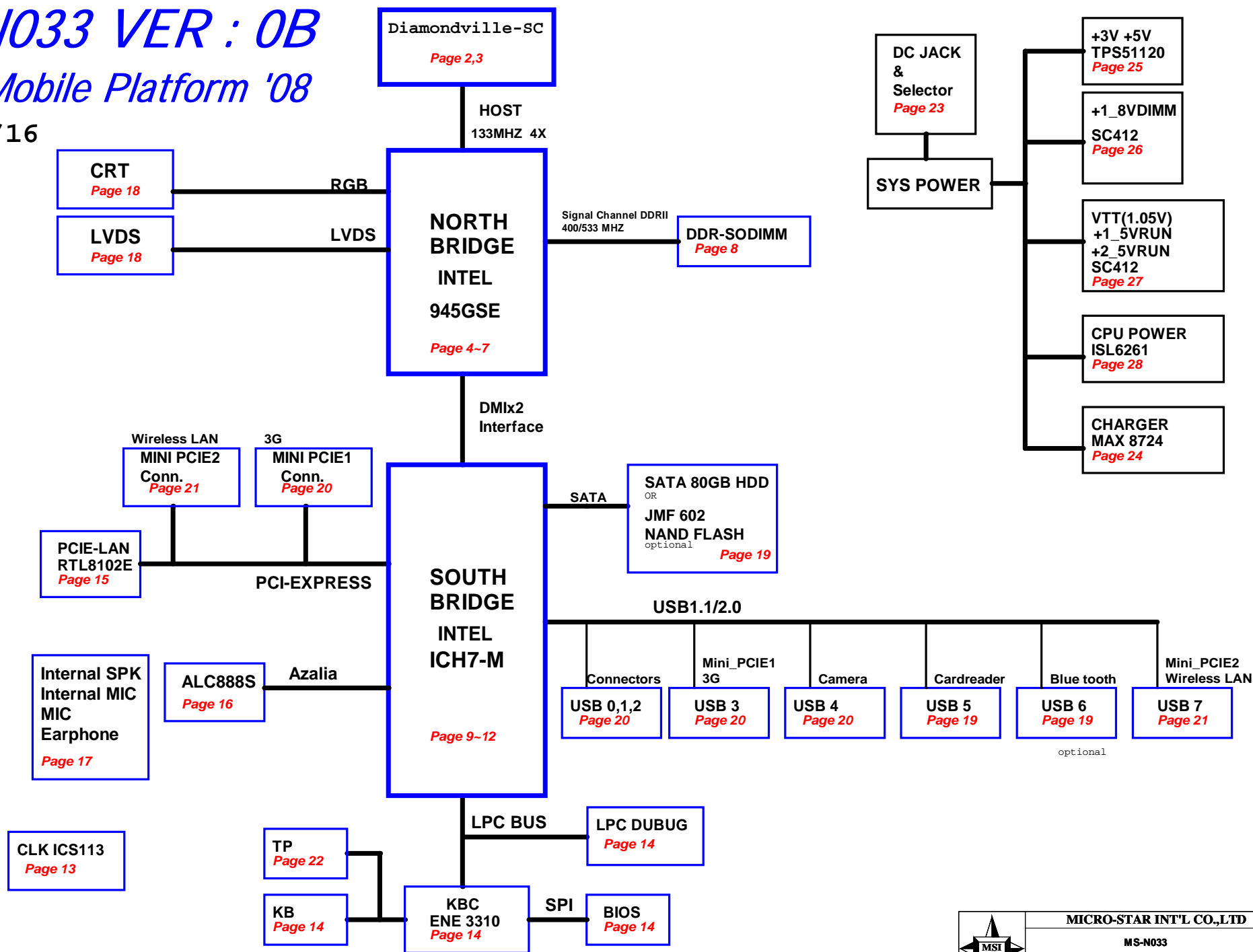
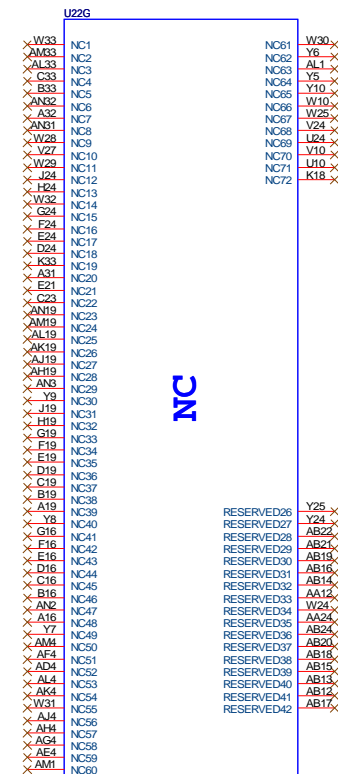
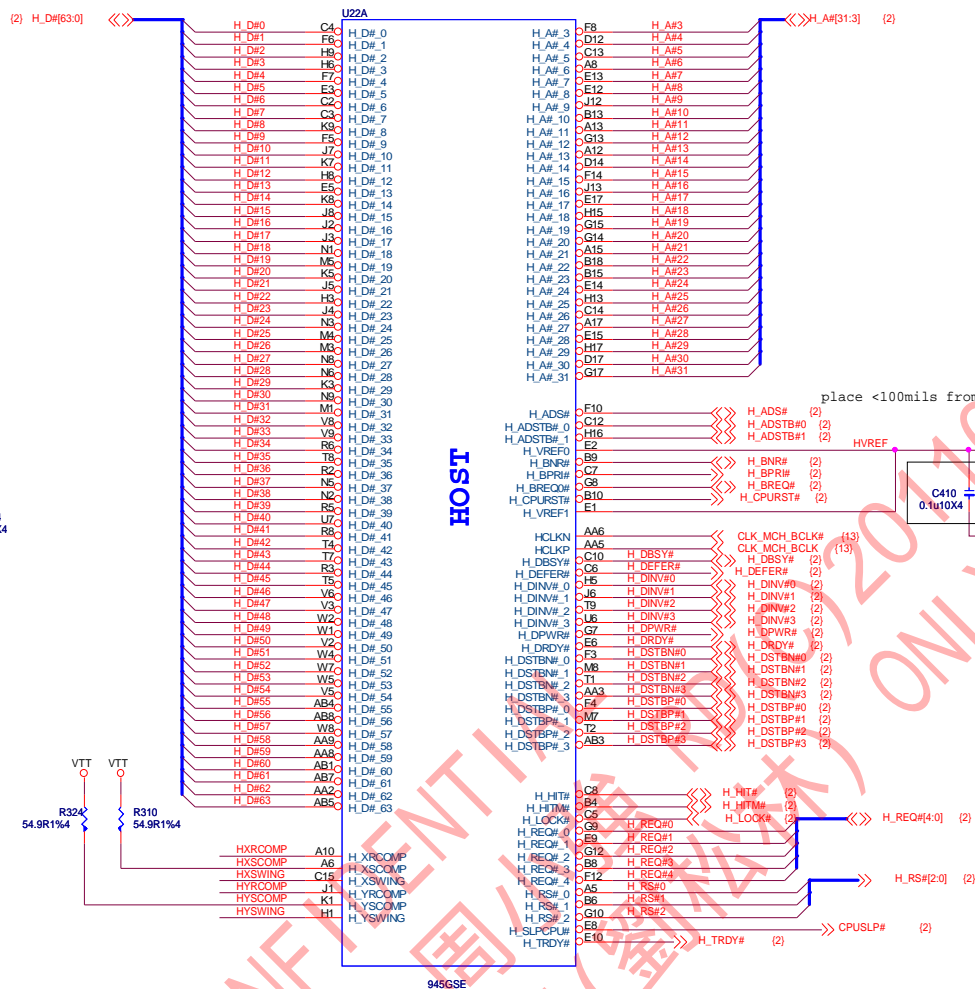
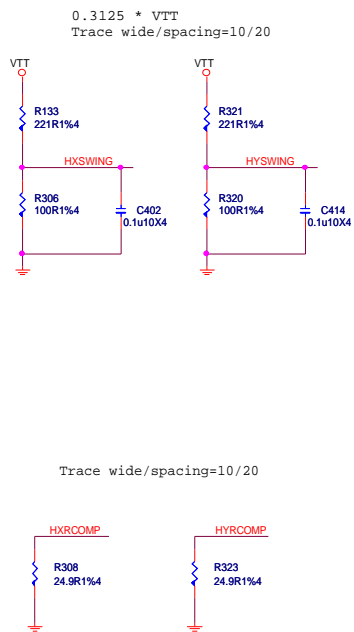


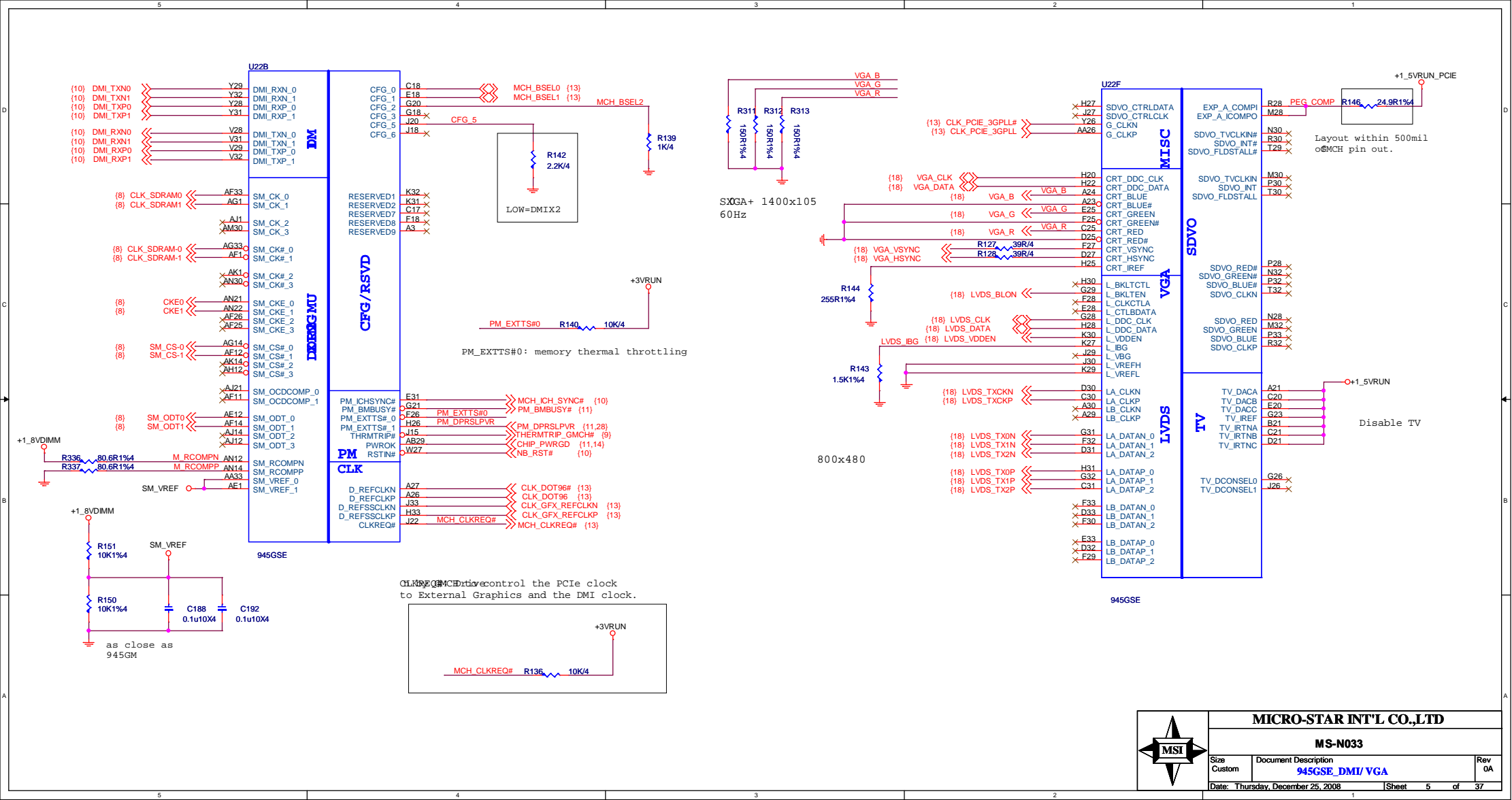
MS-N033 VER : 0B


Basic Mobile Platform '08

2008/12/16









MICRO-STAR INT'L CO.,LTD		
MS-N033		
Size Custom	Document Description 945GSE DMI/ VGA	Rev 0A
Date: Thursday, December 25, 2008	Sheet 5 of 37	

(8) SA_MD[0..63] <<>

U22C		
SA MD0	AC31	SA DQ_0
SA MD1	AB28	SA DQ_1
SA MD2	AE33	SA DQ_2
SA MD3	AF32	SA DQ_3
SA MD4	AC33	SA DQ_4
SA MD5	AB32	SA DQ_5
SA MD6	AB31	SA DQ_6
SA MD7	AE31	SA DQ_7
SA MD8	AH31	SA DQ_8
SA MD9	AK31	SA DQ_9
SA MD10	AL28	SA DQ_10
SA MD11	AK27	SA DQ_11
SA MD12	AH30	SA DQ_12
SA MD13	AL32	SA DQ_13
SA MD14	AL28	SA DQ_14
SA MD15	AL27	SA DQ_15
SA MD16	AH31	SA DQ_16
SA MD17	AF31	SA DQ_17
SA MD18	AH27	SA DQ_18
SA MD19	AF28	SA DQ_19
SA MD20	AJ32	SA DQ_20
SA MD21	AG31	SA DQ_21
SA MD22	AG28	SA DQ_22
SA MD23	AG27	SA DQ_23
SA MD24	AN27	SA DQ_24
SA MD25	AM26	SA DQ_25
SA MD26	AJ26	SA DQ_26
SA MD27	AJ25	SA DQ_27
SA MD28	AL27	SA DQ_28
SA MD29	AN26	SA DQ_29
SA MD30	AH25	SA DQ_30
SA MD31	AG26	SA DQ_31
SA MD32	AM12	SA DQ_32
SA MD33	AL11	SA DQ_33
SA MD34	AK9	SA DQ_34
SA MD35	AK9	SA DQ_35
SA MD36	AM11	SA DQ_36
SA MD37	AK11	SA DQ_37
SA MD38	AM8	SA DQ_38
SA MD39	AK3	SA DQ_39
SA MD40	AG9	SA DQ_40
SA MD41	AF9	SA DQ_41
SA MD42	AF8	SA DQ_42
SA MD43	AK6	SA DQ_43
SA MD44	AF7	SA DQ_44
SA MD45	AG11	SA DQ_45
SA MD46	AJ6	SA DQ_46
SA MD47	AH6	SA DQ_47
SA MD48	AN6	SA DQ_48
SA MD49	AM6	SA DQ_49
SA MD50	AK3	SA DQ_50
SA MD51	AL2	SA DQ_51
SA MD52	AM5	SA DQ_52
SA MD53	AL5	SA DQ_53
SA MD54	AJ3	SA DQ_54
SA MD55	AJ2	SA DQ_55
SA MD56	AC2	SA DQ_56
SA MD57	AF3	SA DQ_57
SA MD58	AE7	SA DQ_58
SA MD59	AF6	SA DQ_59
SA MD60	AF5	SA DQ_60
SA MD61	AG3	SA DQ_61
SA MD62	AG6	SA DQ_62
SA MD63	AF5	SA DQ_63

DDR2 SYSTEM MEMORY

SA_CAS#

SA_RAS#

SA_WE#

SA_CAS#

SA_RAS#

SA_WE#

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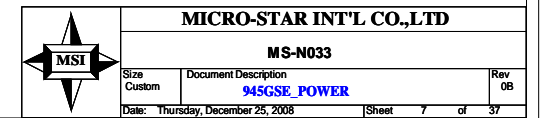
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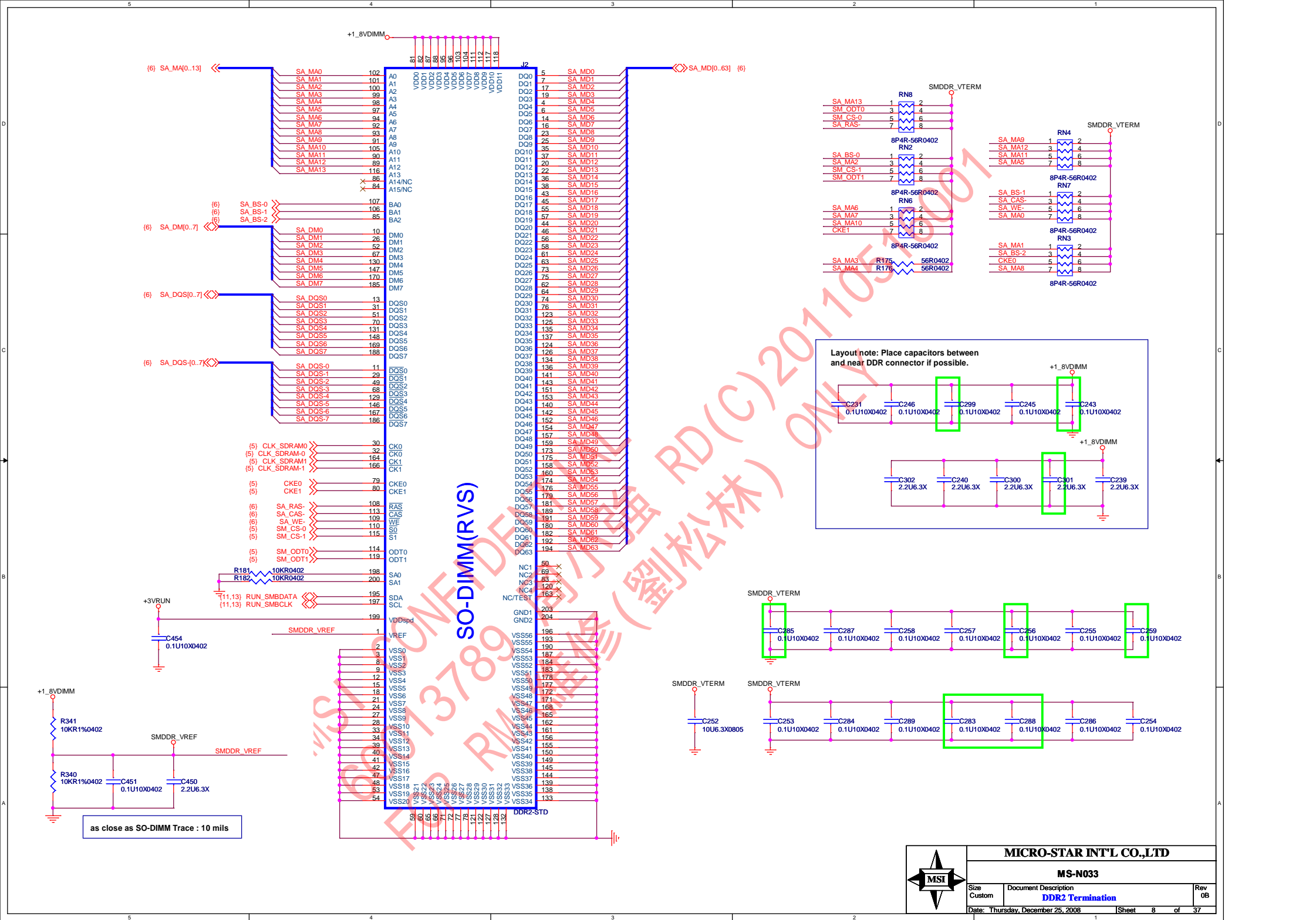
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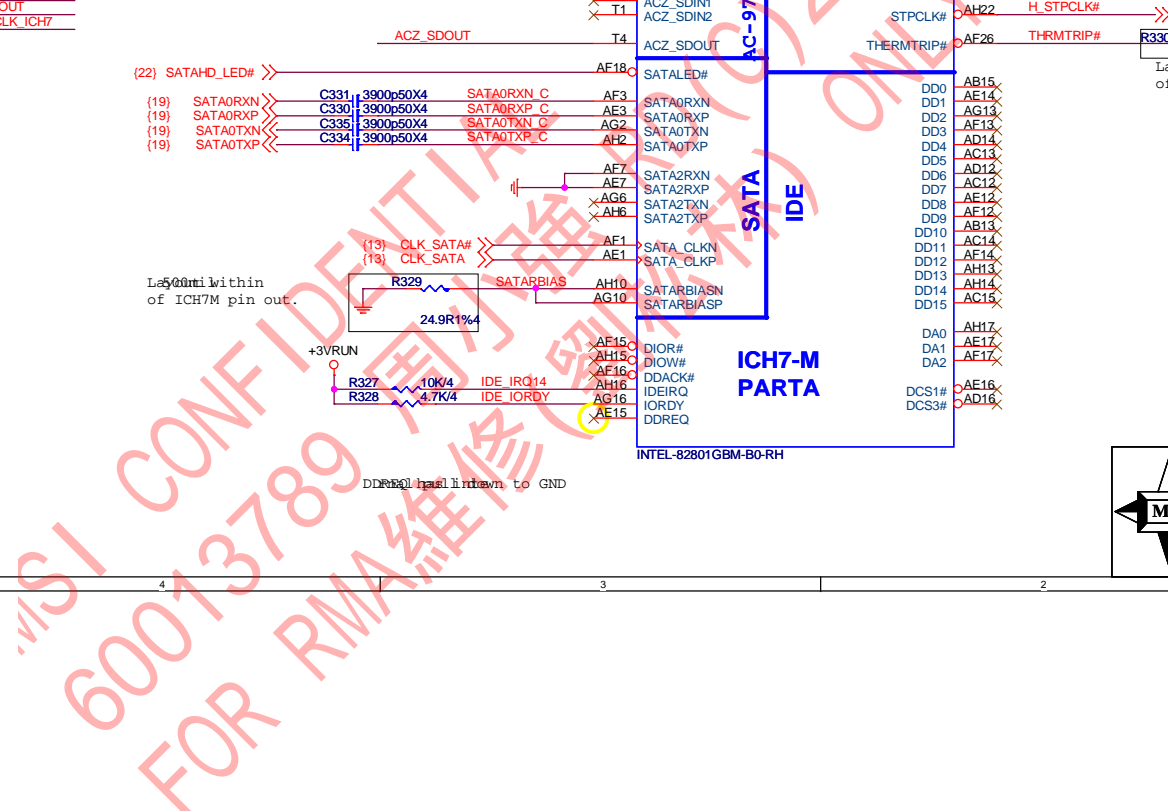
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SA_RAS#

UNVER 40mA

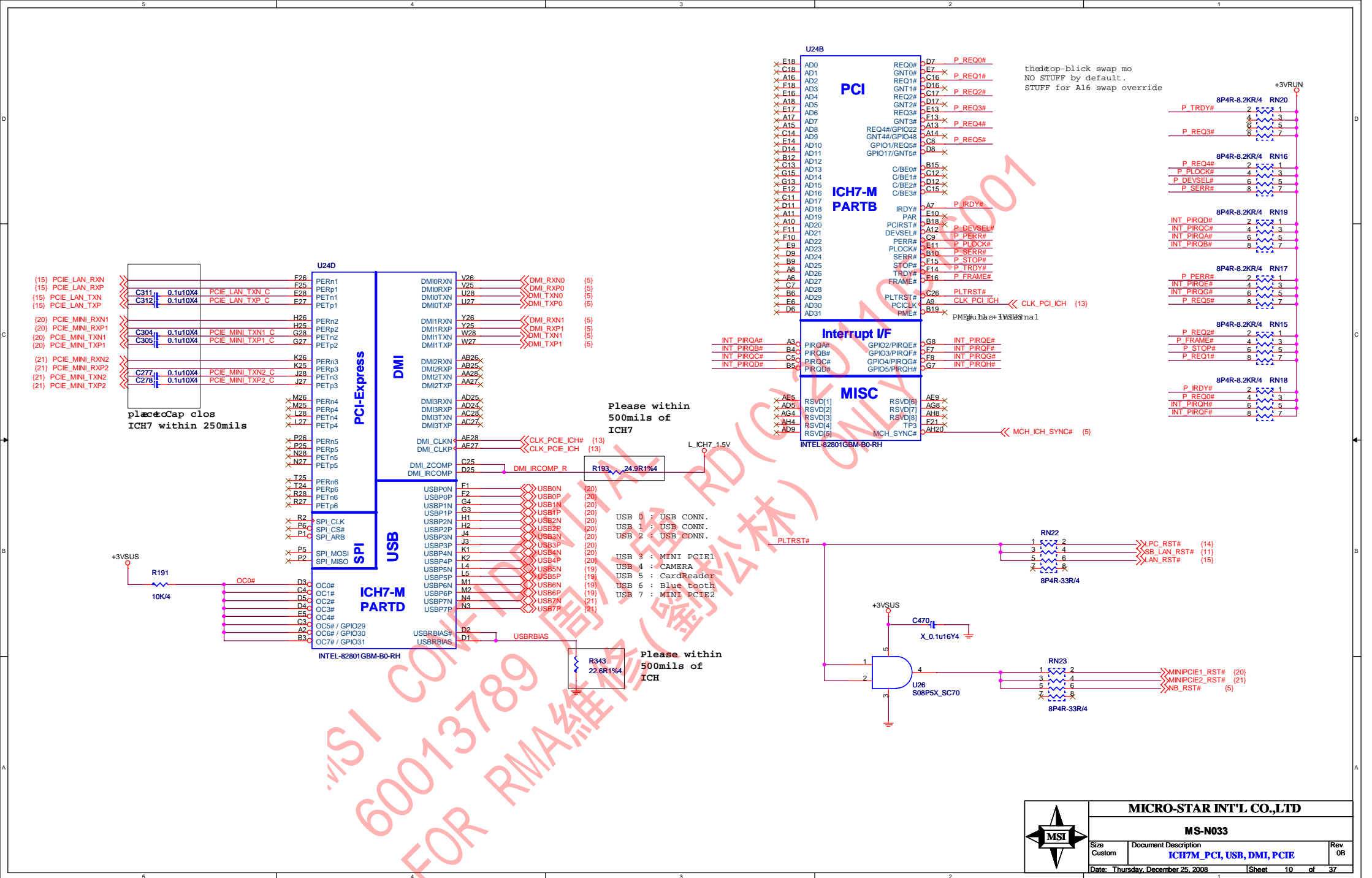






MS-N033

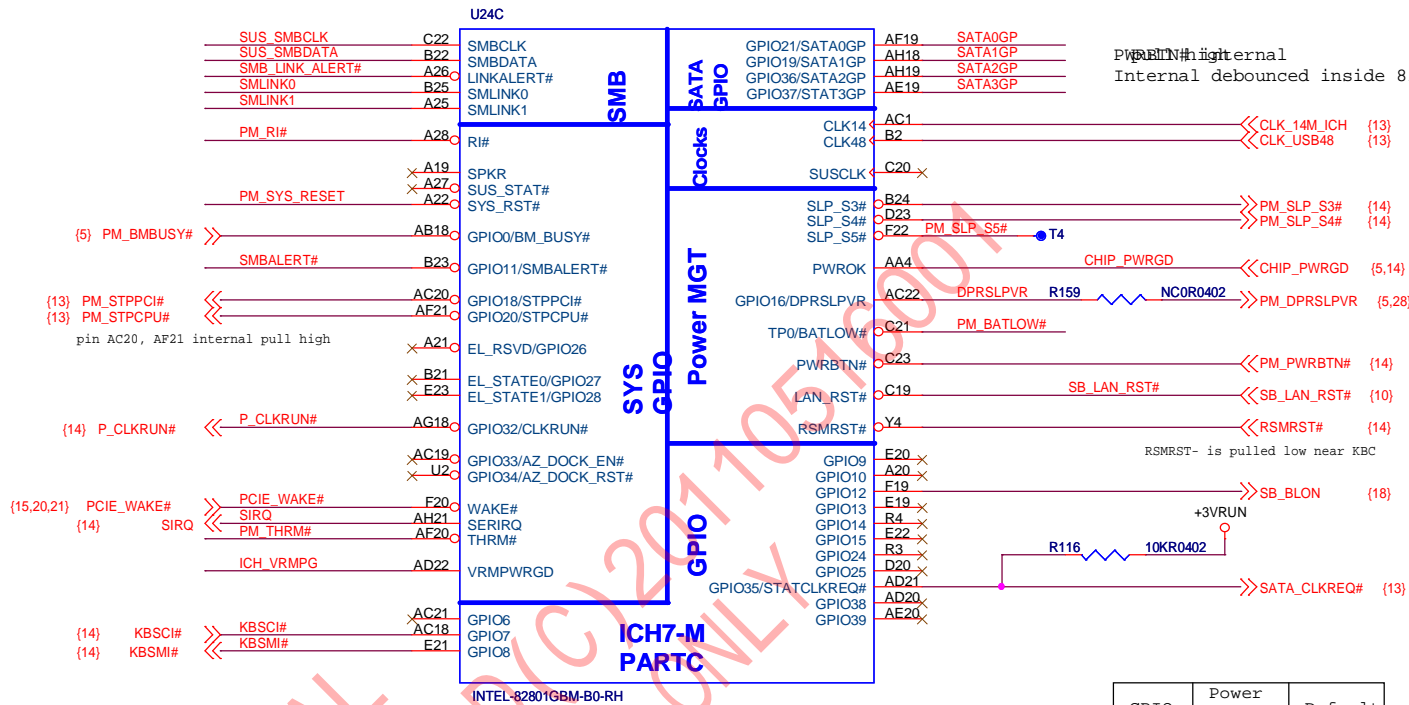
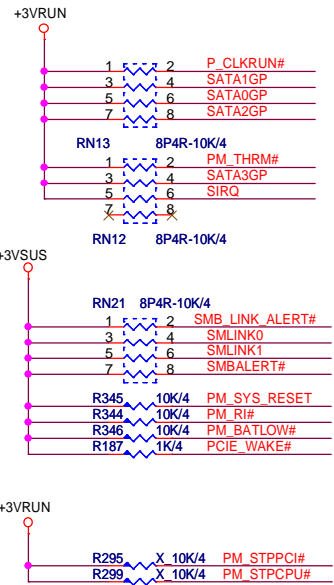
Size Custom	Document Description ICH7M_CPU, LPC, SATA, HDA	Rev 0B
Date: Thursday, December 25, 2008	Sheet 9 of 37	



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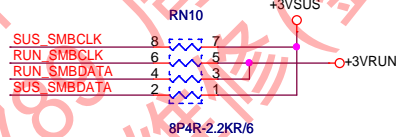
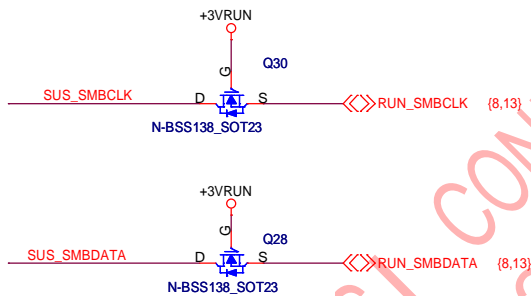
MS-N033

Size Custom	Document Description ICH7M_PCL, USB, DMI, PCIE	Rev 0B
Date: Thursday, December 25, 2008		Sheet 10 of 37



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

(13) VR_PG_CLKEN CP19 NC0R0402 ICH_VRMPPG



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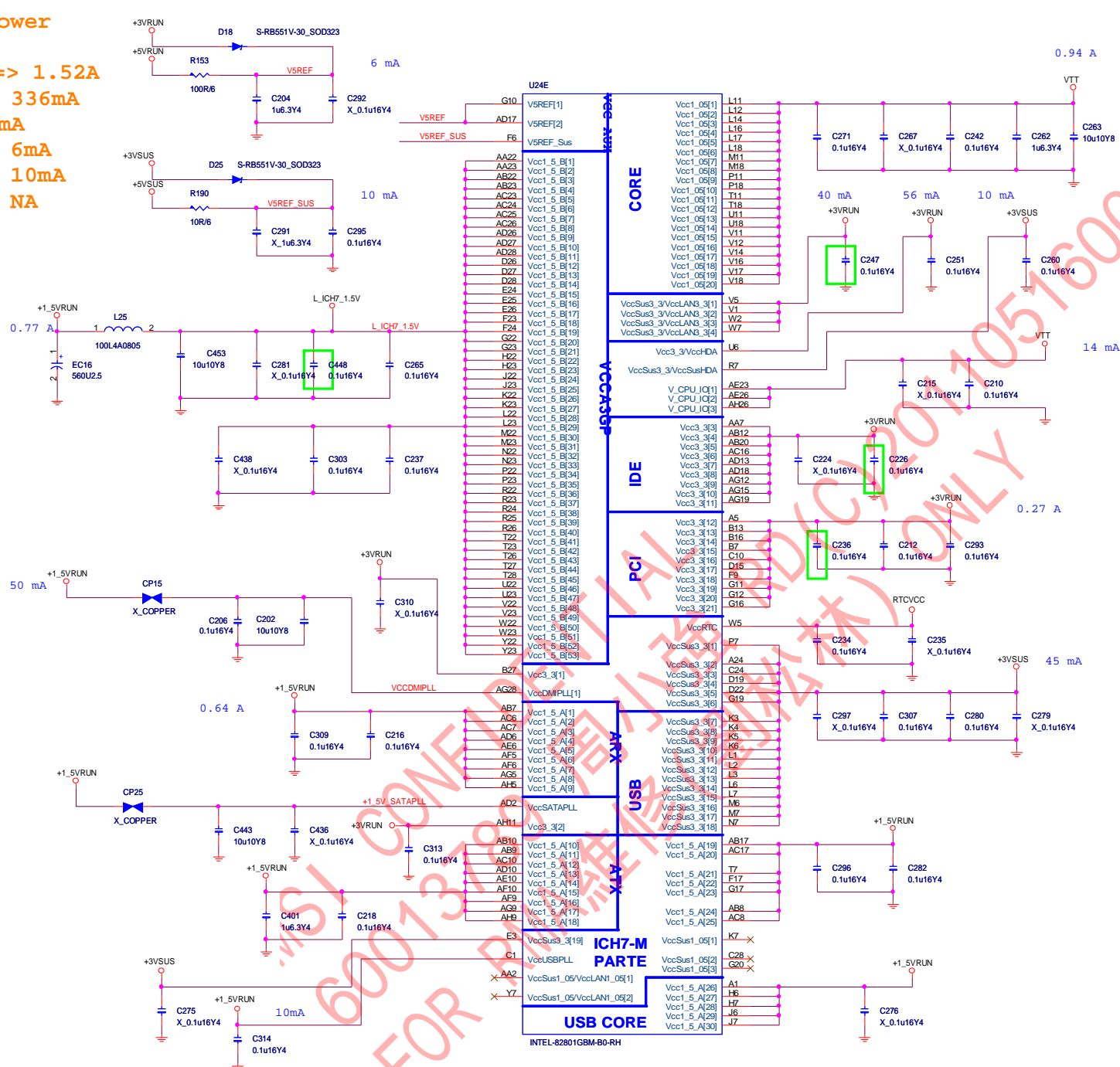
MS-N033

Size	Document Description	Rev
Custom	ICH7M_GPIO, CLK, SM	0B
Date: Thursday, December 25, 2008	Sheet 11 of 37	

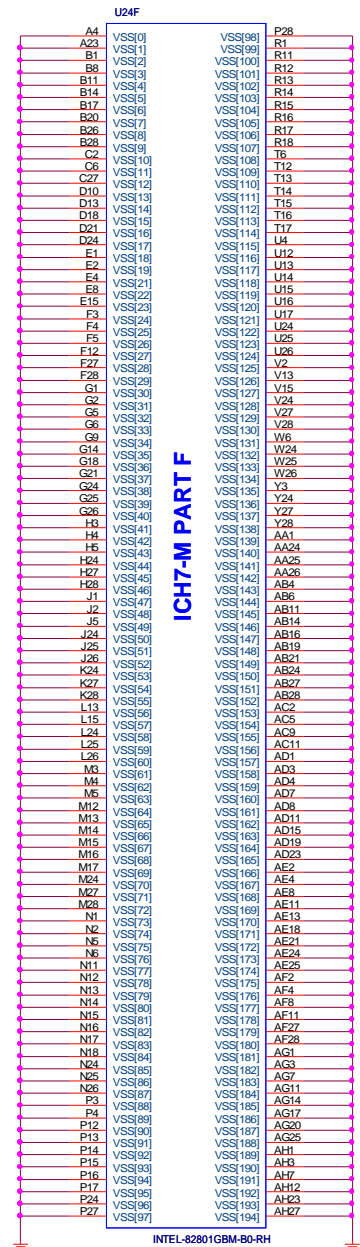
```

ICH7 M Power
VTT=954A
+1_5VRUN=> 1.52A
+3VRUN=> 336mA
VSWR 132mA
+5VRUN=> 6mA
+5VSUS=> 10mA
RTCVCC=> NA

```



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

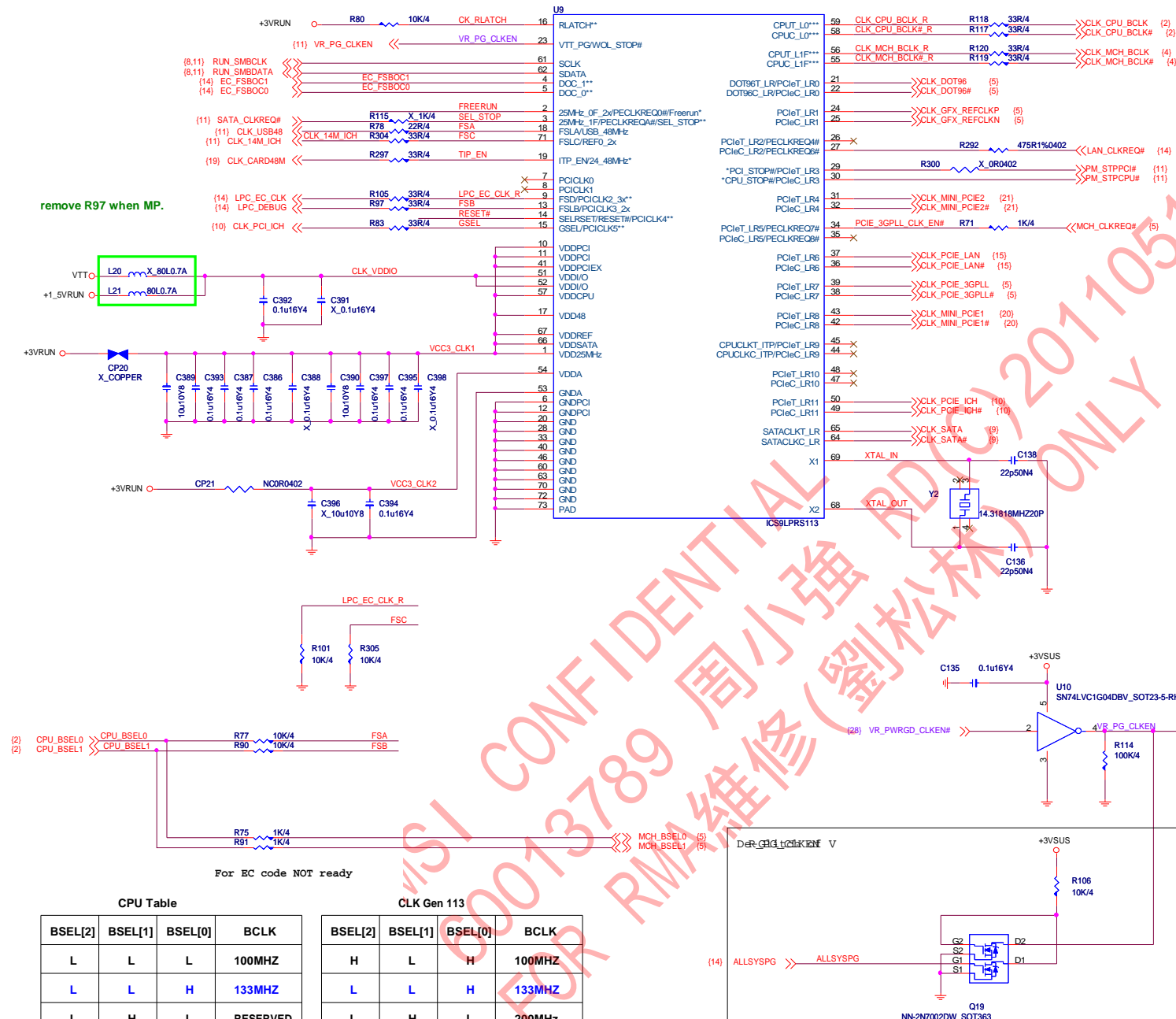


MICRO-STAR INT'L CO.,LTD

MS-N033

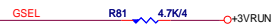
Size Custom	Document Description ICH7M_POWER	Rev 0B
Date: Thursday, December 25, 2008	Sheet 12 of 37	

CLK1Gen ICS9LPRS



CLOCK GEN STRAPING

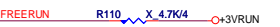
1 => Pin21/22 96MHz
0 => Pin21/22 100MHz



```
L:PCICLK4
H:RESET*
to be WDT rest=> HI
```



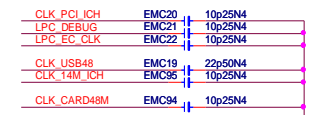
LPRS113	LPRS110
TIP_EN=0 => PCIEX9,	TIP_EN=0 => 48MHz,
TIP_EN=1 => CPU_ITP	TIP_EN=1 => 24MHz



```
Selects pin 29/3
1 = PCI_STOP#/CPU_STOP#
0 =PCIEX CLK output
```



EMI



08/21 modified in V1.0

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

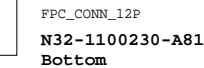
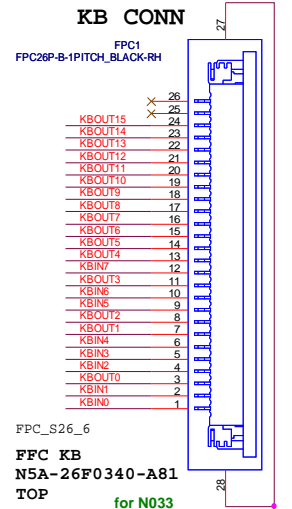
BSEL[2]	BSEL[1]	BSEL[0]	BCLK
H	L	H	100MHZ
L	L	H	133MHZ
L	H	L	200MHz
L	H	H	166MHZ



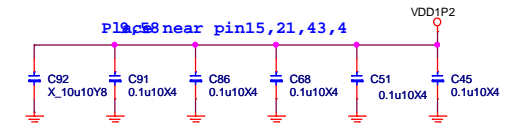
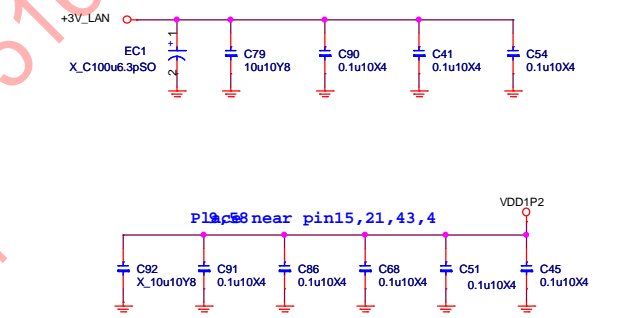
MICRO-STAR INT'L CO.,LTD

MS-N033

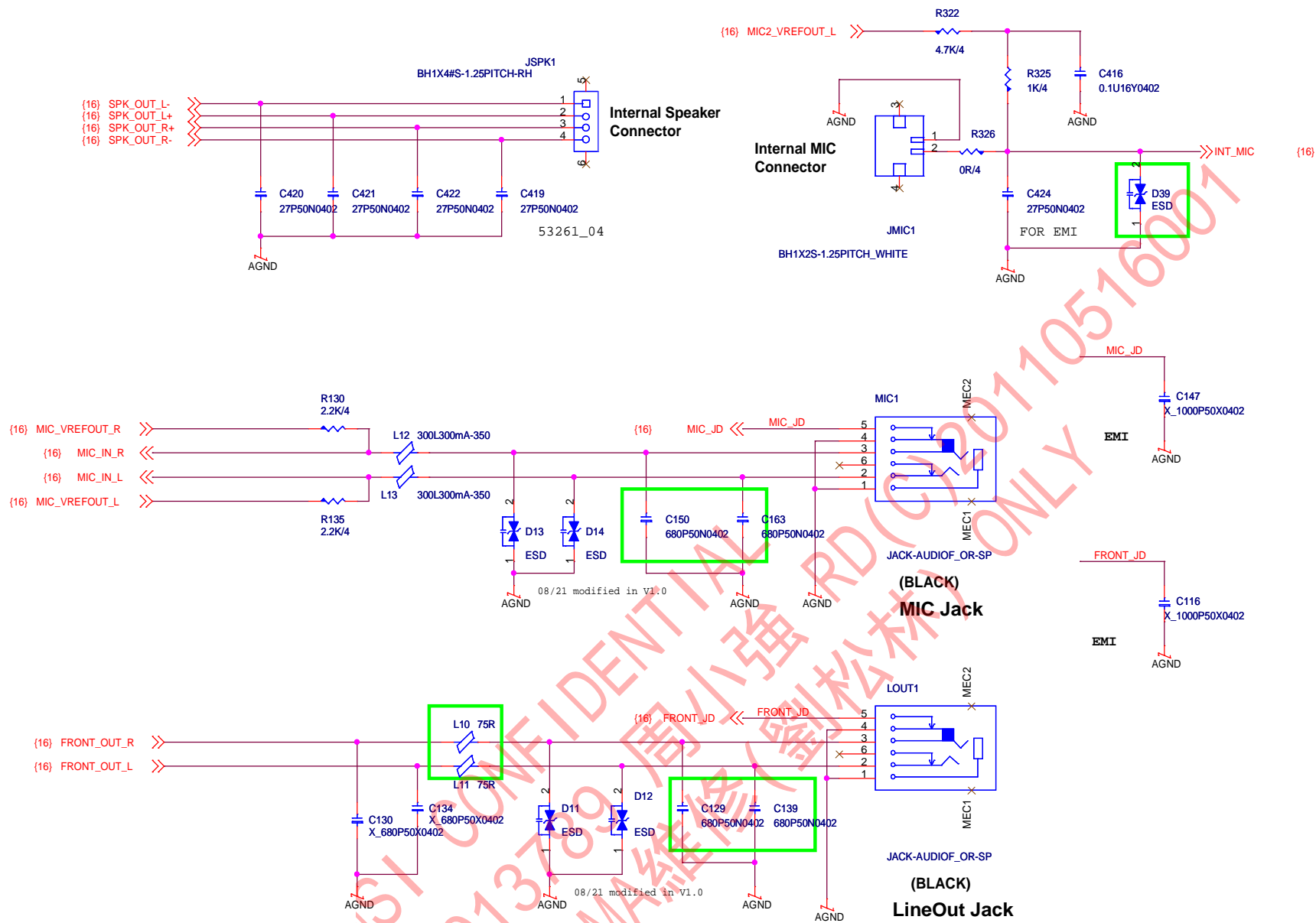
Size Custom	Document Description CLK GEN_113	Rev 0B
Date: Thursday, December 25, 2008		Sheet 13 of 37



MICRO-STAR INT'L CO.,LTD			
MS-N033			
Size Custom	Document Description ENE KB3310		Rev 08
Date: Thursday, December 25, 2008		Sheet 14	of 37

[illegible]

MICRO-STAR INT'L CO.,LTD			
MS-N033			
Size Custom	Document Description LAN_RTL8102E		Rev 0B
Date: Thursday, December 25, 2008		Sheet 15	of 37

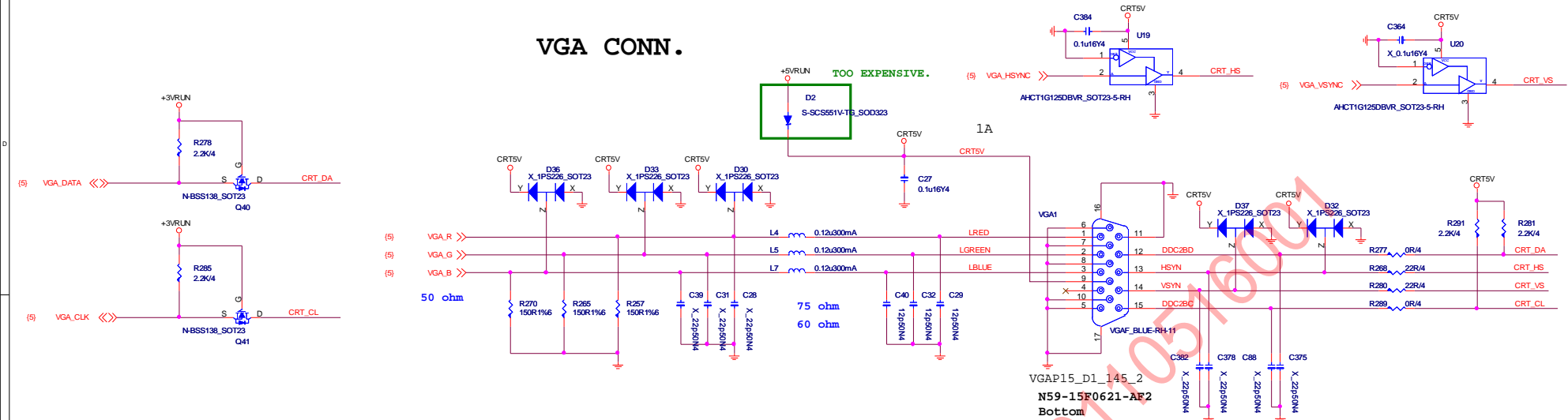


MICRO-STAR INT'L CO.,LTD

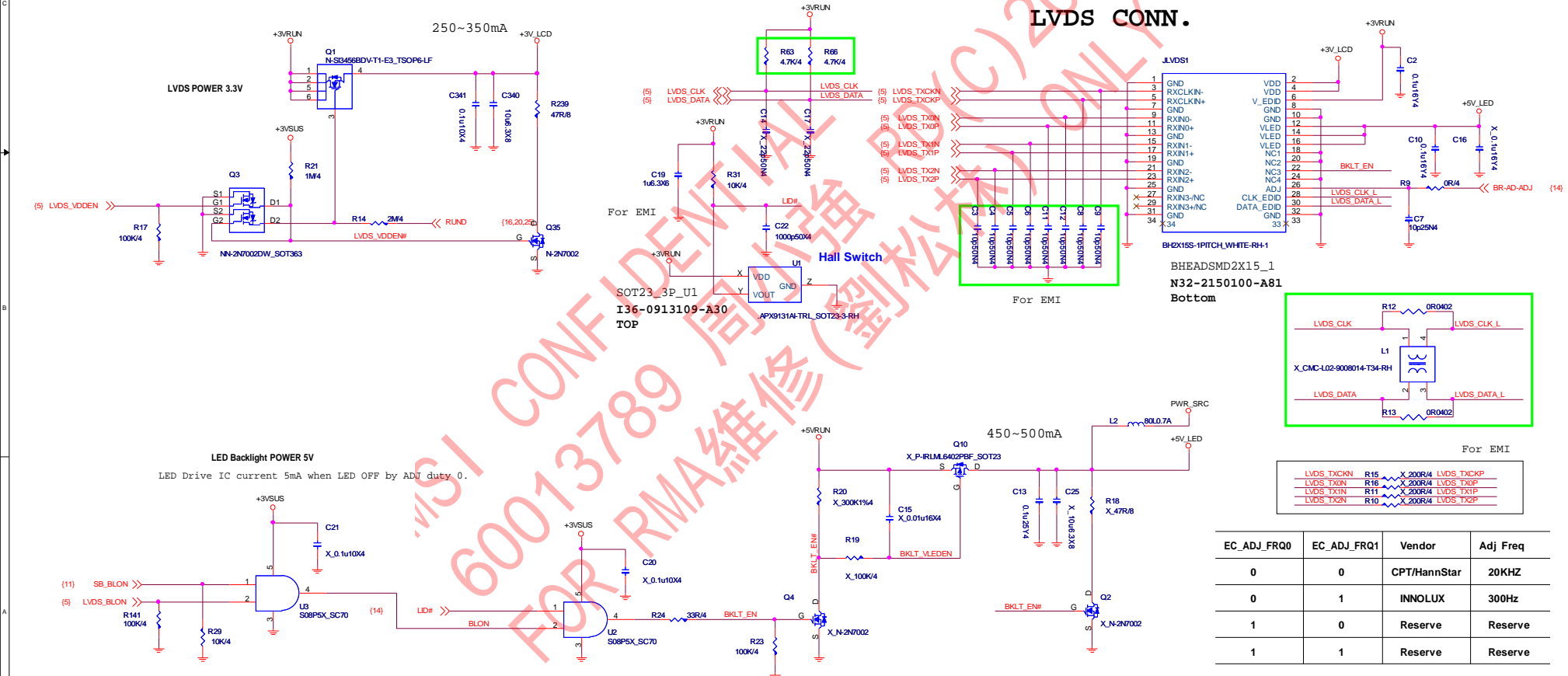
MS-N033

Size	Document Description	Rev
Custom	Audio JACKS	0B
Date:	Thursday, December 25, 2008	Sheet 17 of 37

VGA CONN.



LVDS CONN.



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



MICRO-STAR INT'L CO.,LTD

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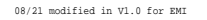
Size	Document Description
Custom	CRT-LVDS CONN

Rev	
08	

Date: Thursday, December 25, 2008

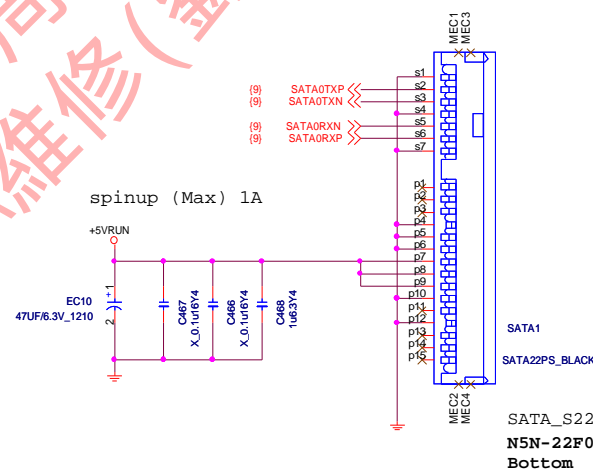
Sheet 18 of 37

Flash Card Socket



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

SATA HDD CONN



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_SD_D1		MS_D1	XD_D3
XD_D4	X	X	XD_D4
XD_D5/MS_BS	X	MS_DS	
XD_D6/SD_DAT0/MS_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



MS-N033

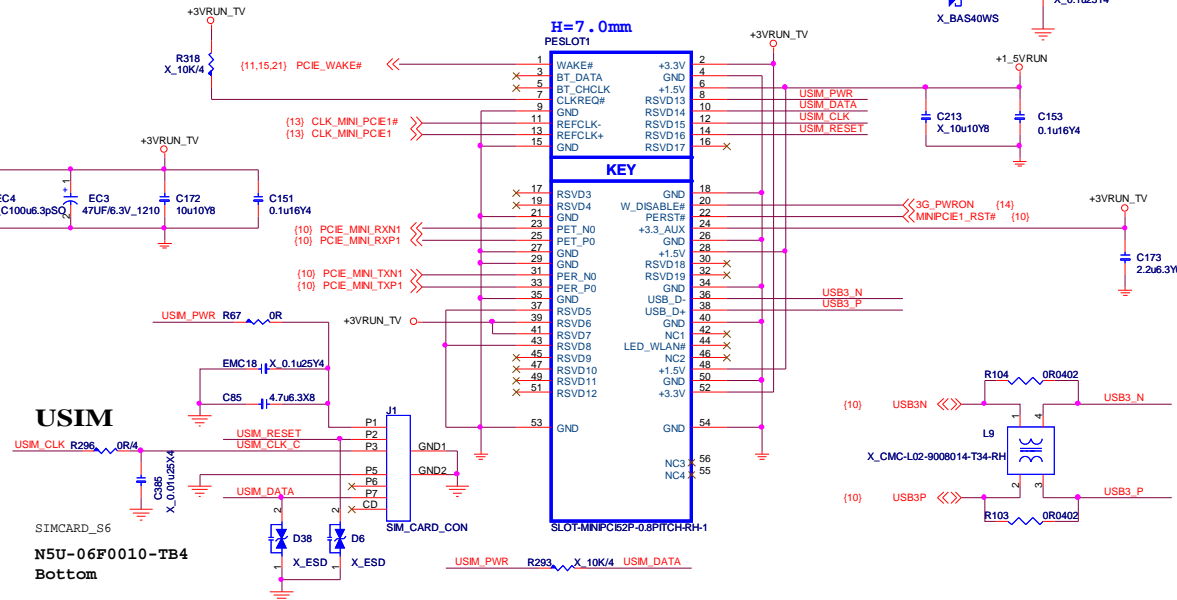
Size Custom	Document Description CardReader RTS5158E/ BT/ SATA HDD	Rev 01
Date: Thursday, December 25, 2008		Sheet 19 of 37

Mini PCIE Slot 1

3G

+3VRUN_TV, 1.5A

+1_5VRUN, 0.5A



CAMERA

(10) USB4N <<>

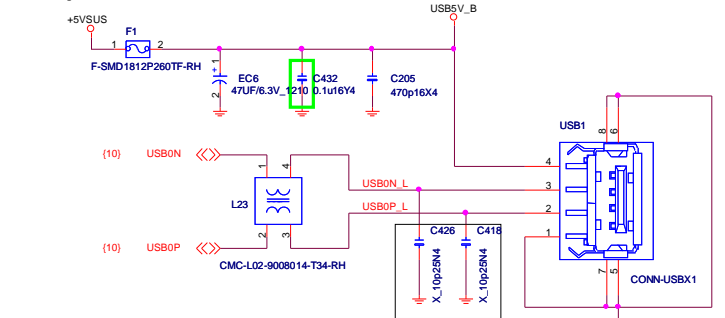
(10) USB4P <<>

53261_05

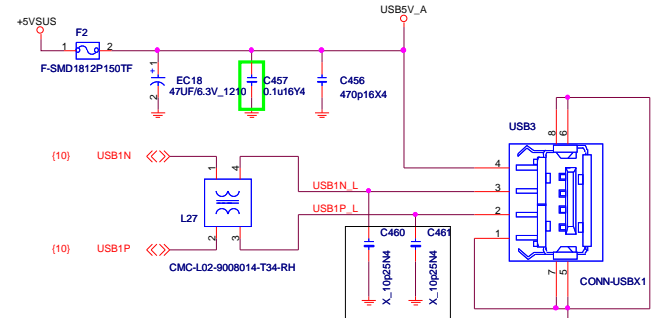
N32-1050400-A81
Bottom

USB CONN

9/1 change 1.5A fuse to 2.6A for external USB ODD use.



USB_A1_4_2
N53-04M0580-AF2
Bottom



USB_A1_4_2
N53-04M0580-AF2
Bottom

D0G-25B0600-R02
DIS EMI/ESD PROTECTOR, RAYCHEM/PESD0402-060, 6V, 0.25pF,
, SMD-1.0x0.5x0.38mm, ESD PROTECTOR, RoHS (EU EXEMPTION)

USB_A1_4_2
N53-04M0580-AF2
Bottom

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MS-N033			
Size	Custom	Document Description	Mini PCIE1, CAMERA, USB CONN
Date:	Thursday, December 25, 2008	Sheet	20 of 37

Wireless LAN



N11-0520120-A81

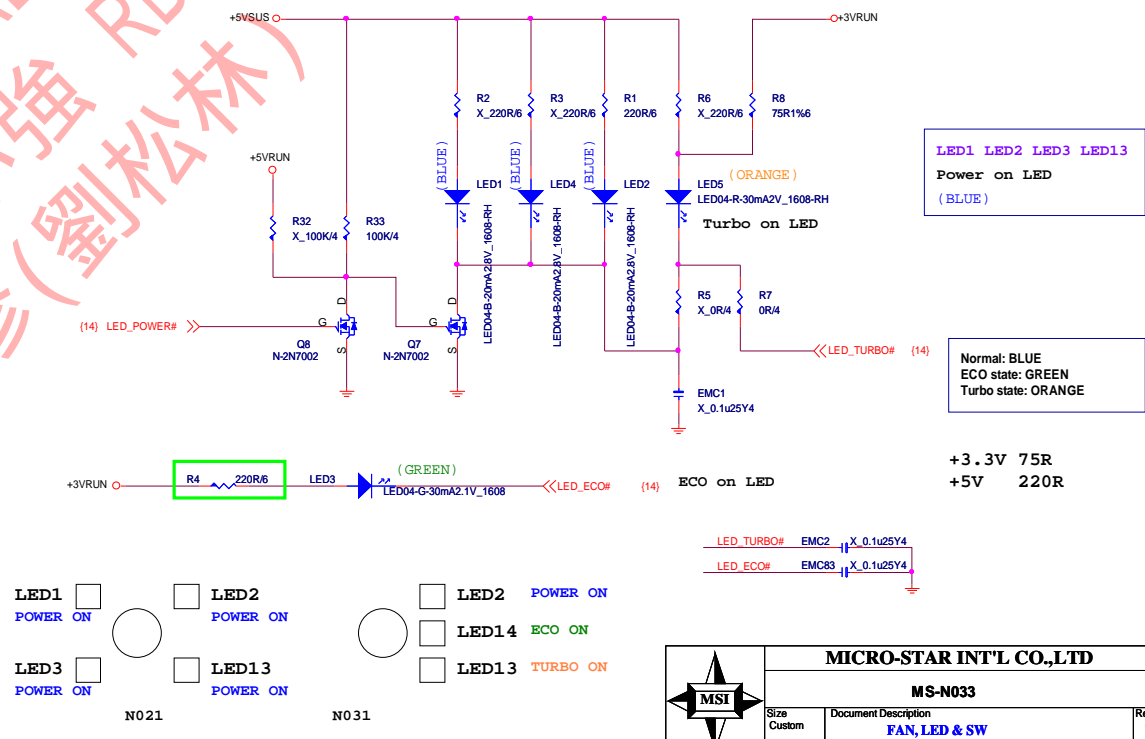
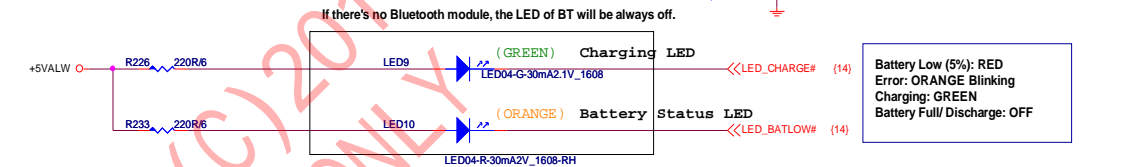
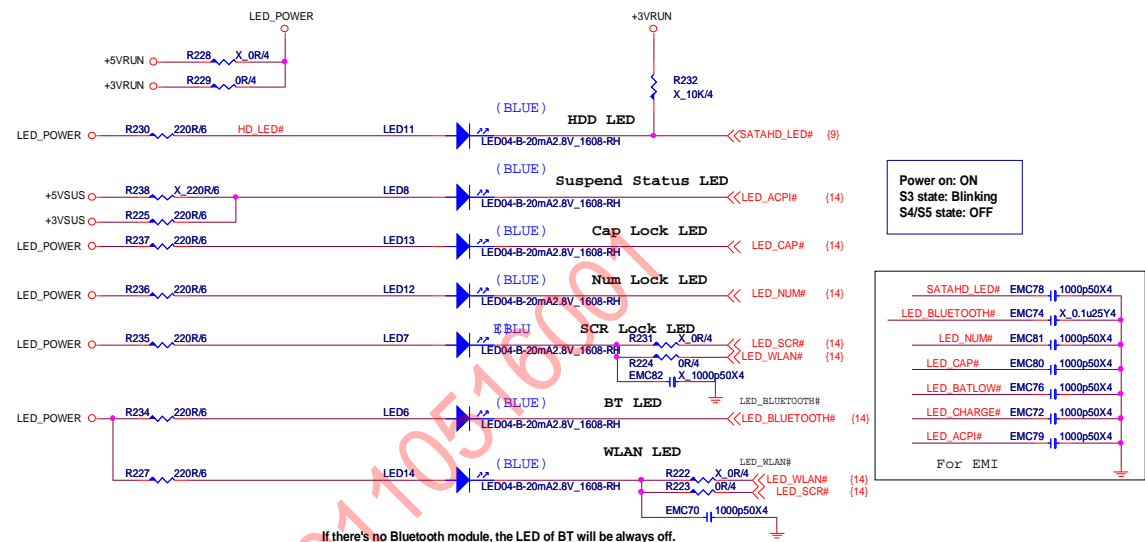
Bottom

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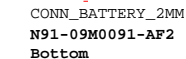
MS-N033

Size Custom	Document Description Mini PCIE2 / Touch Panal USB CONN	Rev 0B
Date: Thursday, December 25, 2008		Sheet 21 of 37



MICRO-STAR INT'L CO.,LTD			
MS-N033			
Size Custom	Document Description FAN, LED & SW		Rev 08
Date: Thursday, December 25, 2008		Sheet 22	of 37

PWR1
PWR-JACK3M_black-5.2pitch-NB



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



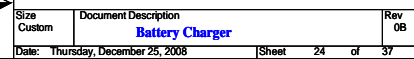
MS-N033

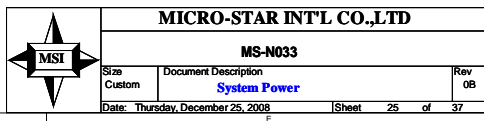
Size Custom	Document Description Battery select	Rev 01
Date: Thursday, December 25, 2008		Sheet 23 of 37

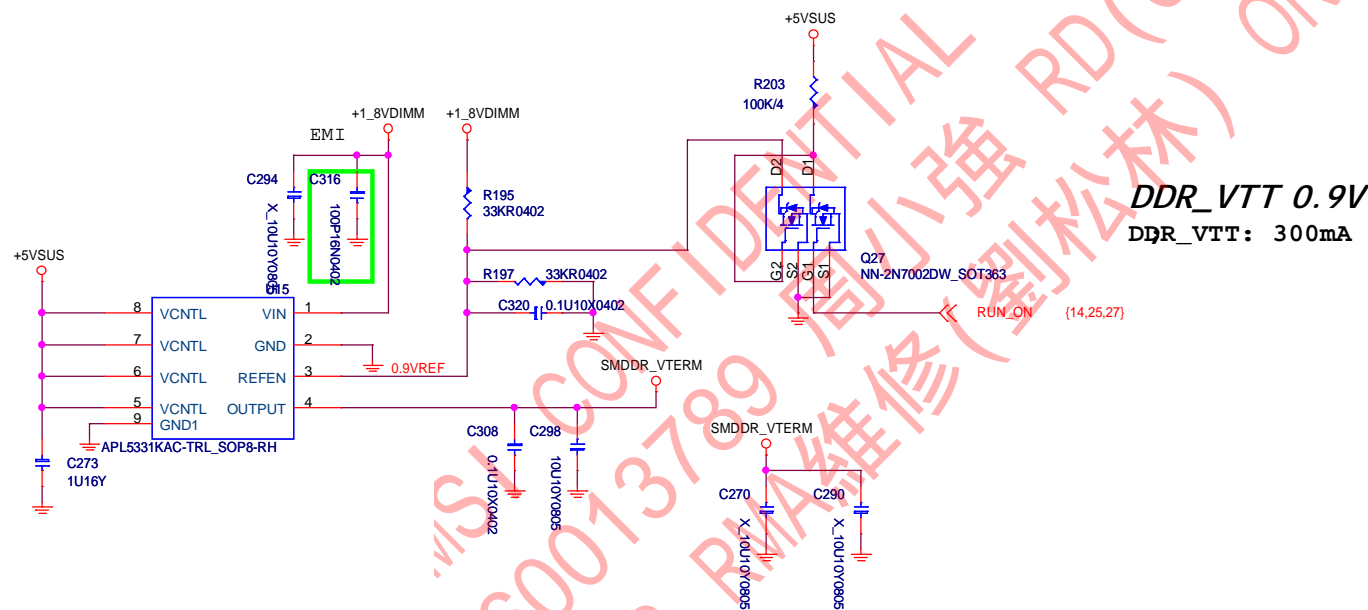
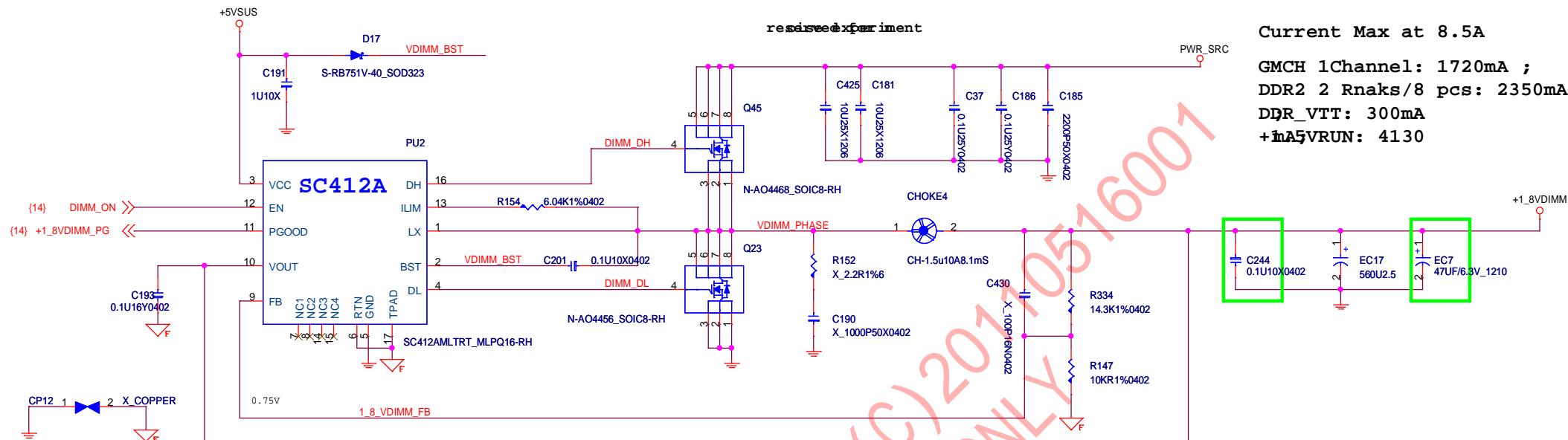
2 Amps



3S battery max charge current 1540mA, $0.7C \Rightarrow 1000mA$





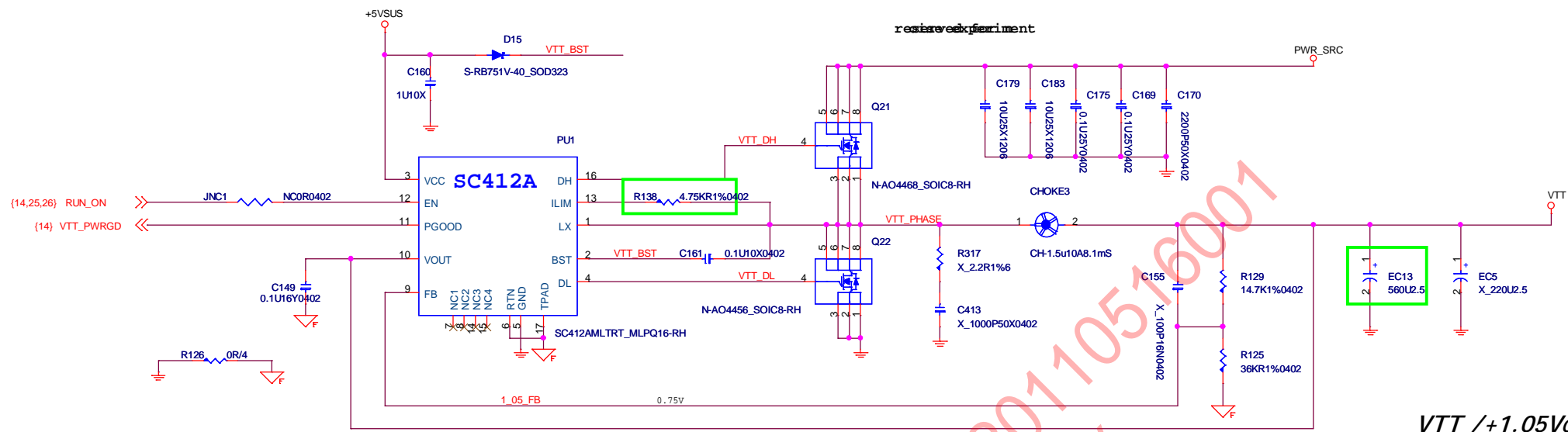


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Size	Document Description	Rev
Custom	DDR & VTT_DDR Power	0B

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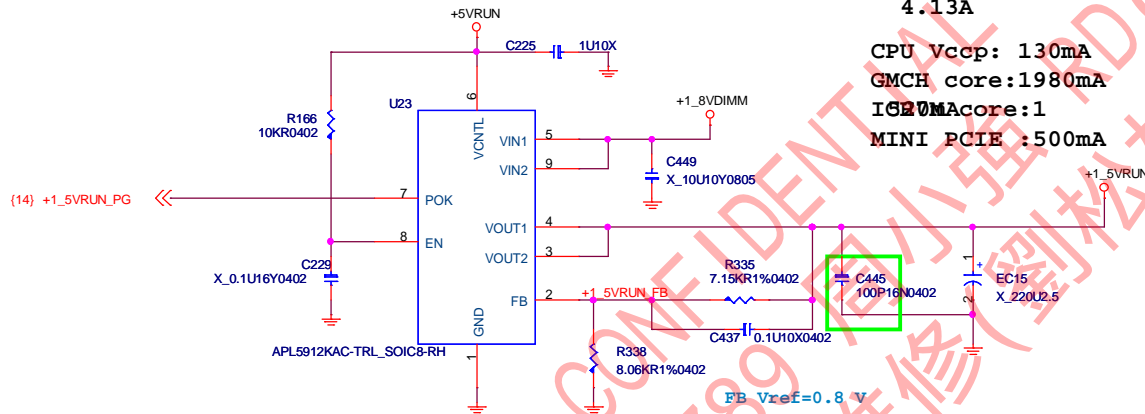


VTT $\pm 1.05V_{core}$
6.674A

Current Limit at 1
Current MAX at 8A

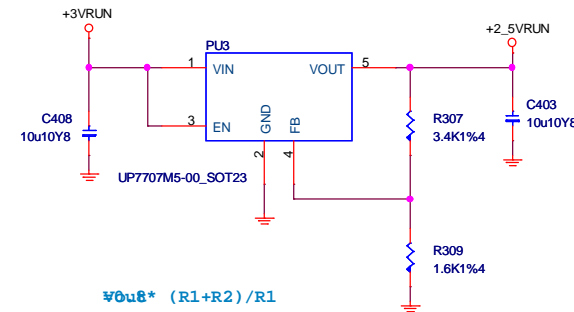
+1.5V_{core}
4.13A

CPU V_{ccp}: 130mA
GMCH core: 1980mA
ICH7M core: 1
MINI PCIE : 500mA



+2.5VRUN 142mA

up7707: 600mA Low Dropout Linear Regulator



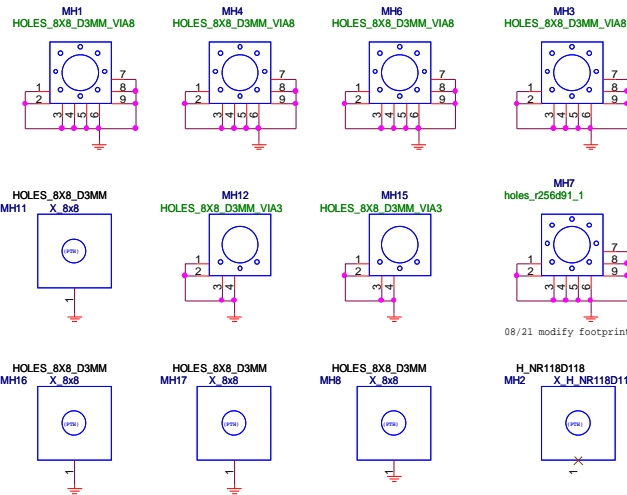
CPU V_{ccp}: 20
GMCH core: 2940mA
GMCH V_{ccp}: 780mA
ICH7M core: 940mA
ICH7M V_{cc}_IO: 14mA



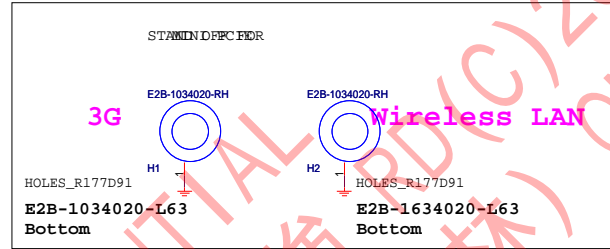
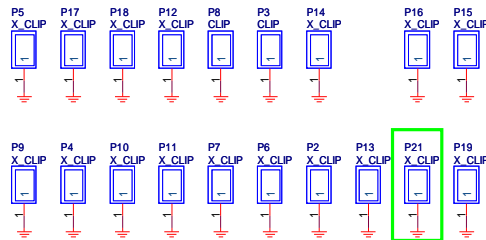
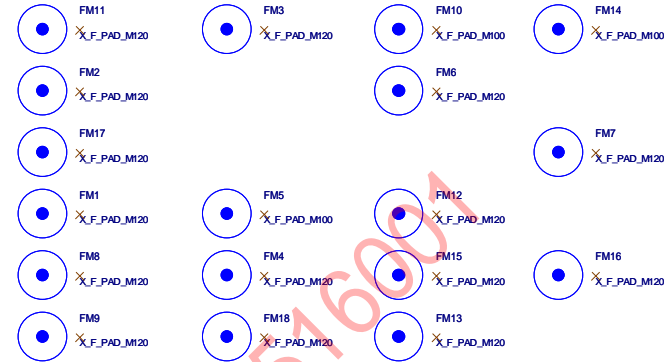
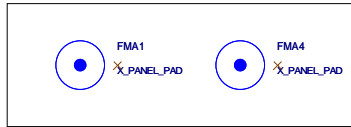
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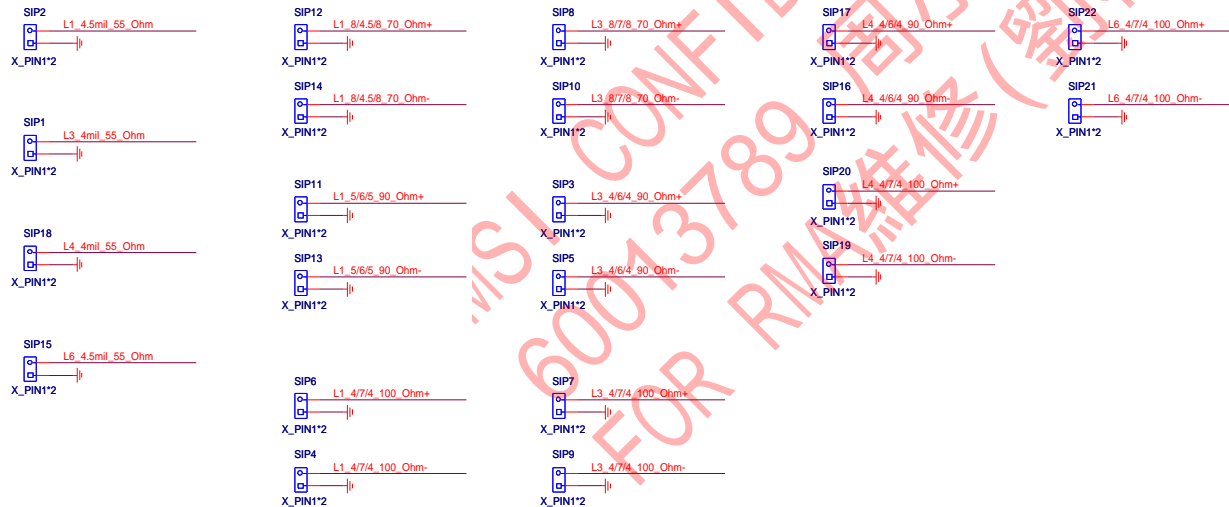
Size	Document Description	Rev
B	1.05V, 1.5V, 2.5V- POWER	0B
Date:	Thursday, December 25, 2008	Sheet 27 of 37

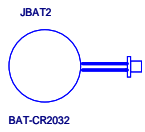


08/21 modify footprint in V1.0

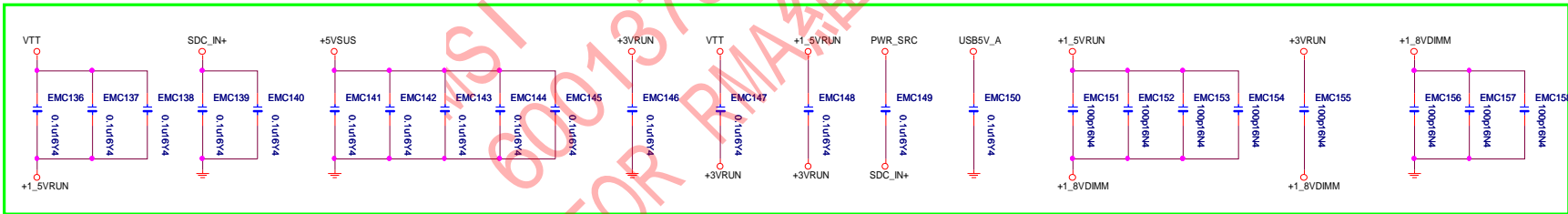
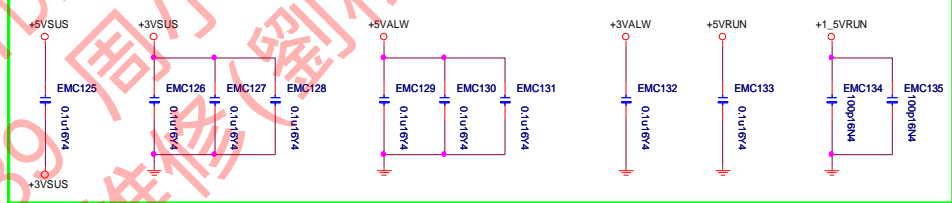
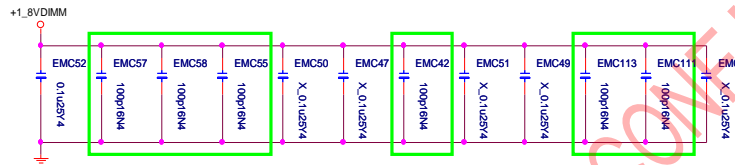
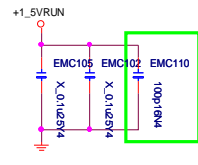
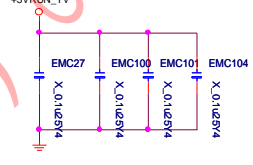
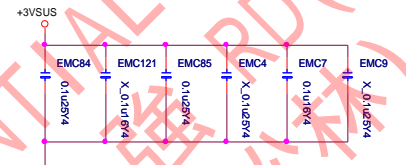
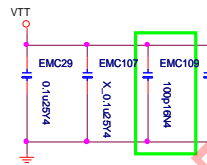
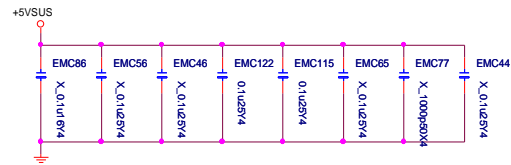
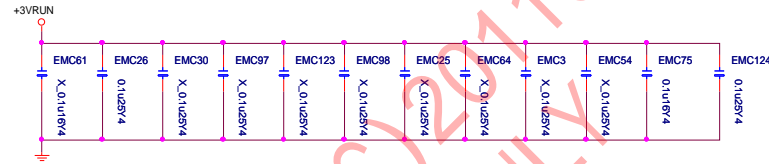
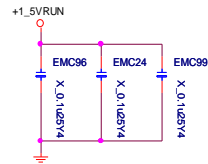
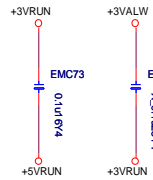
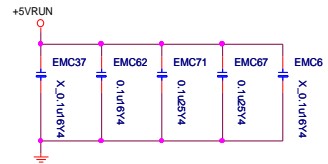
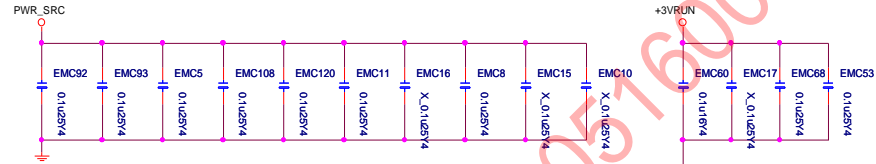
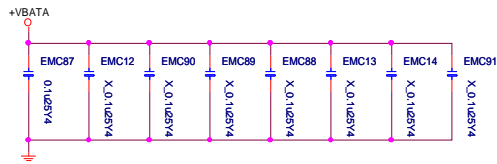
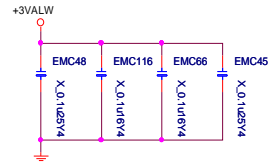


Simulation





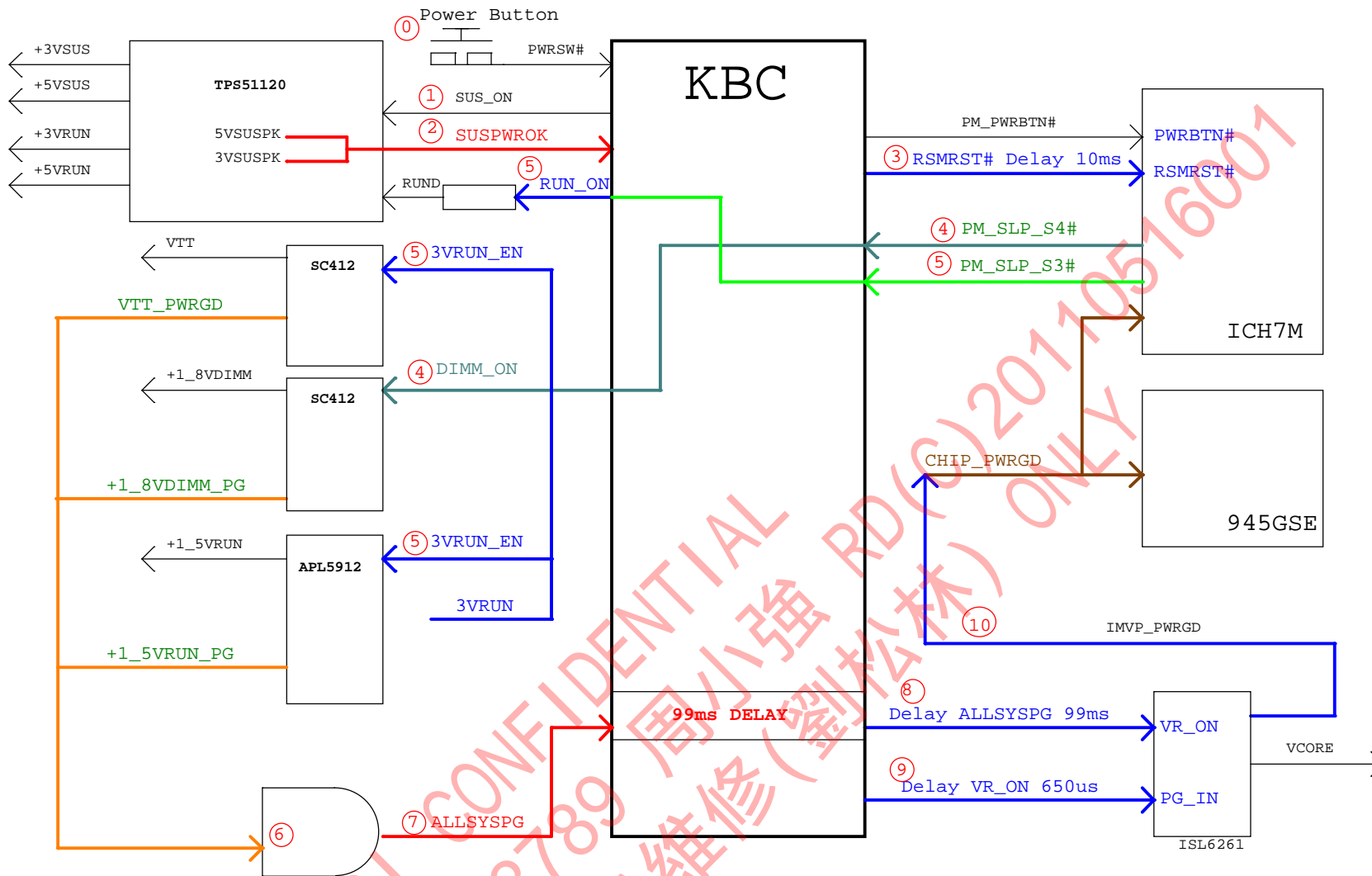
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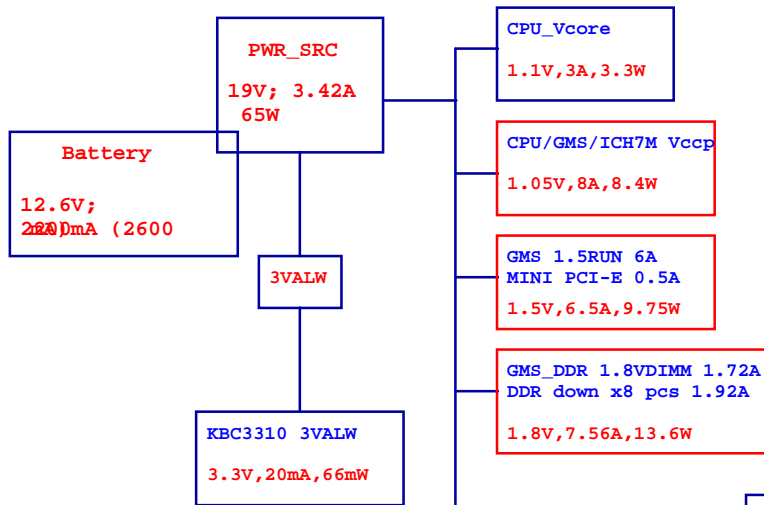
Size Custom Document Description Manual Parts Rev 0B Date: Thursday, December 25, 2008 Sheet 30 of 37



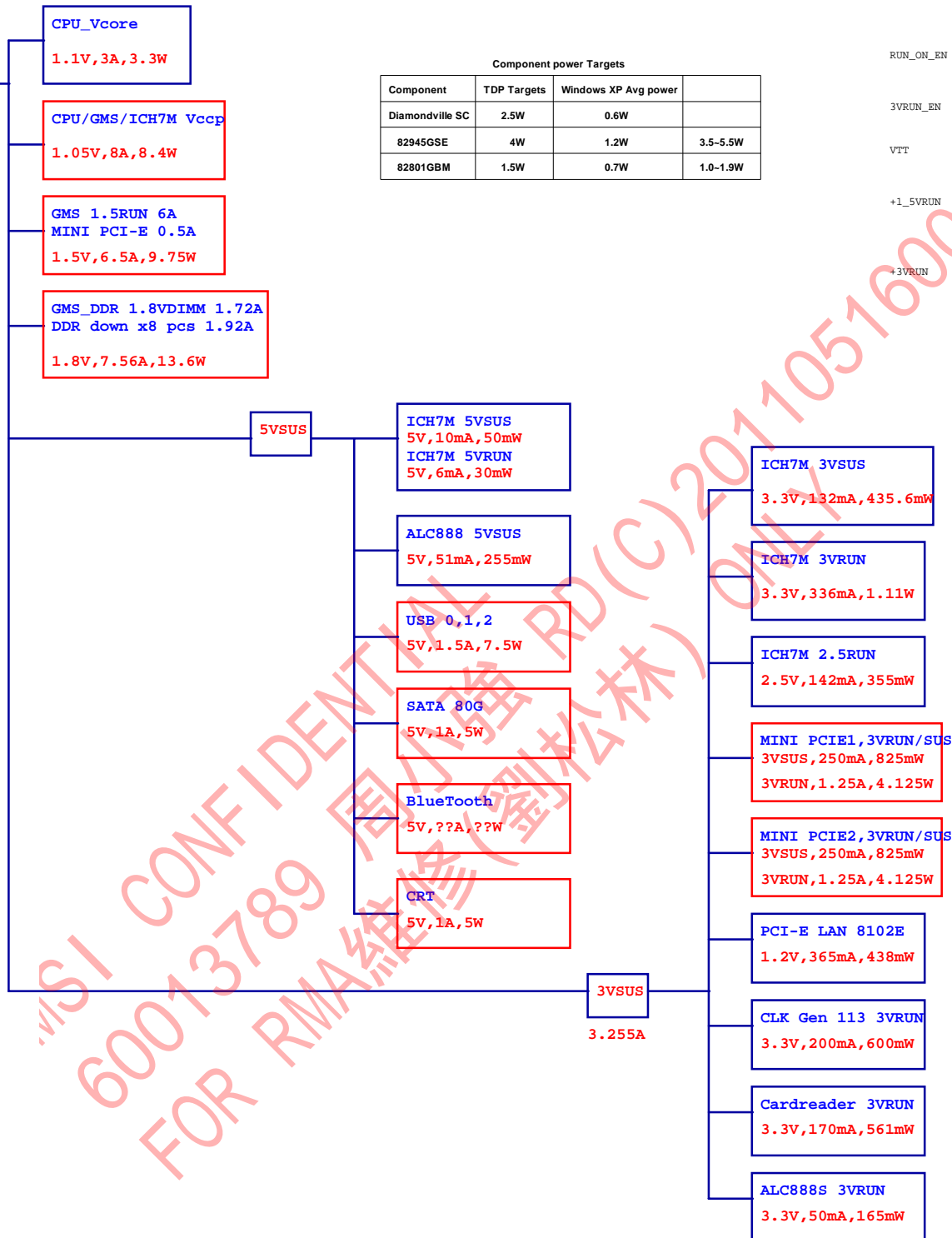
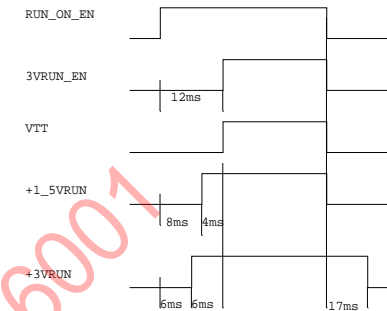
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Size B	Document Description	Rev 0B
	KBC_CTR_PWR_BD	
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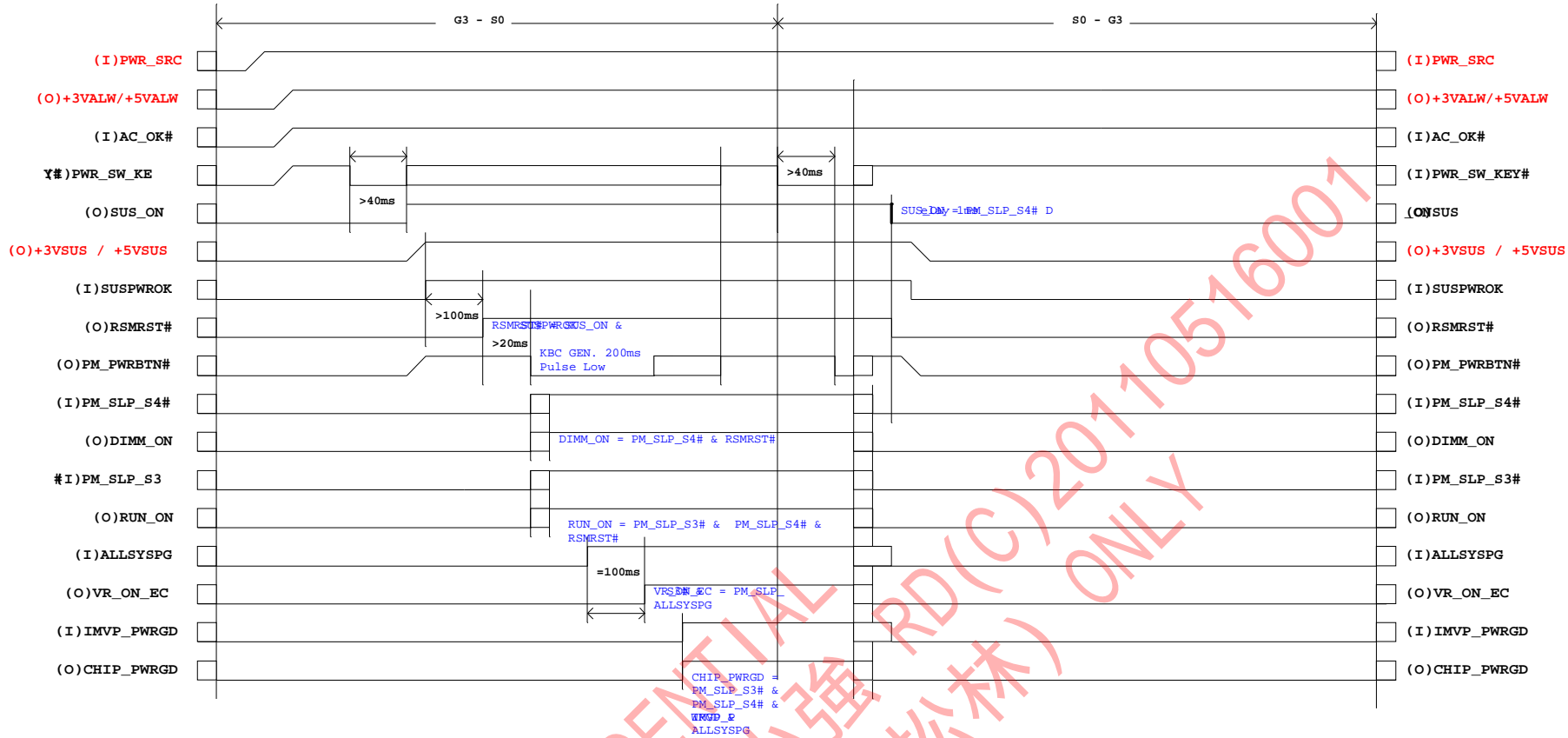



Component power Targets			
Component	TDP Targets	Windows XP Avg power	
Diamondville SC	2.5W	0.6W	
82945GSE	4W	1.2W	3.5-5.5W
82801GBM	1.5W	0.7W	1.0-1.9W



RED: POWER
BLACK: KBC

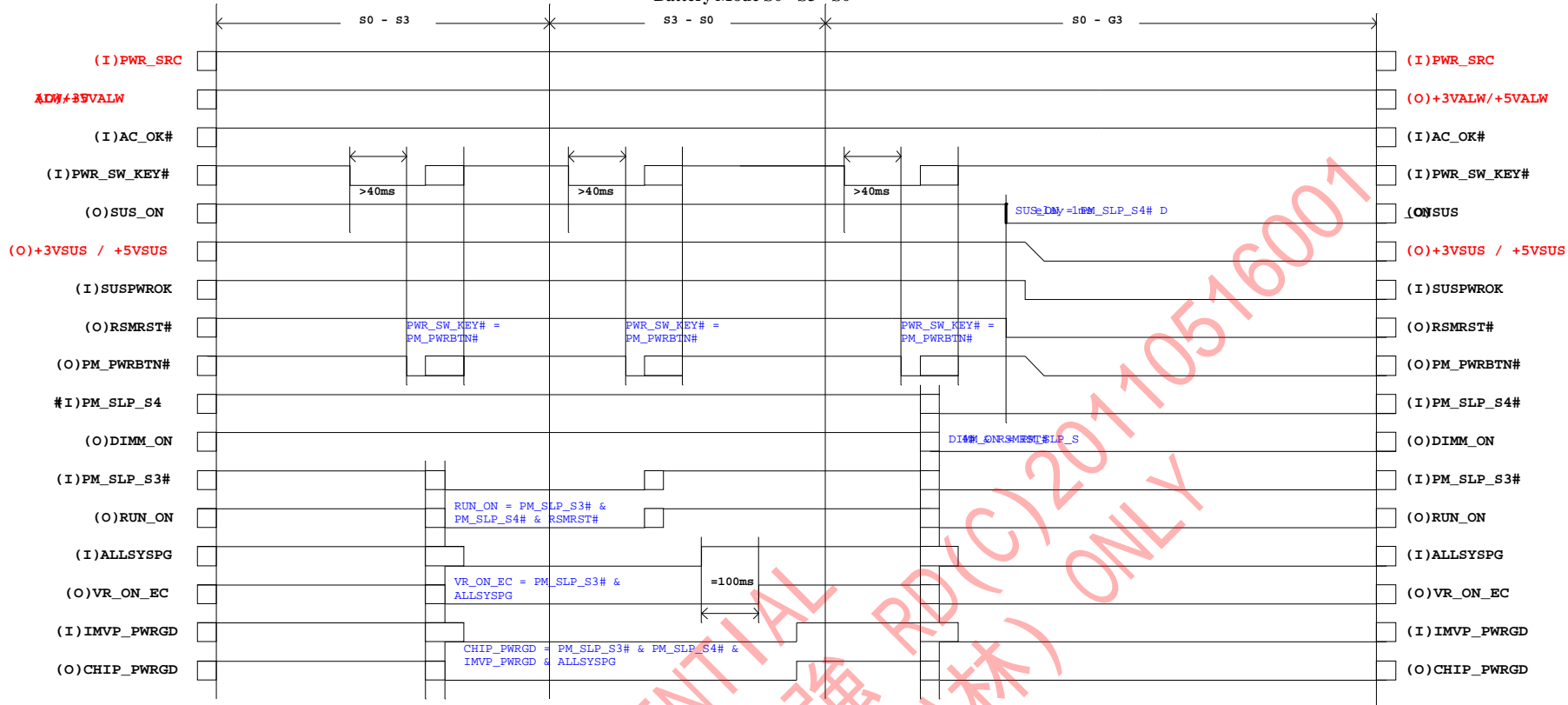
Battery Mode G3 - S0 - G3



			
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MS-N033			
Size	Document Description	Rev	
Custom	Timing1	0A	
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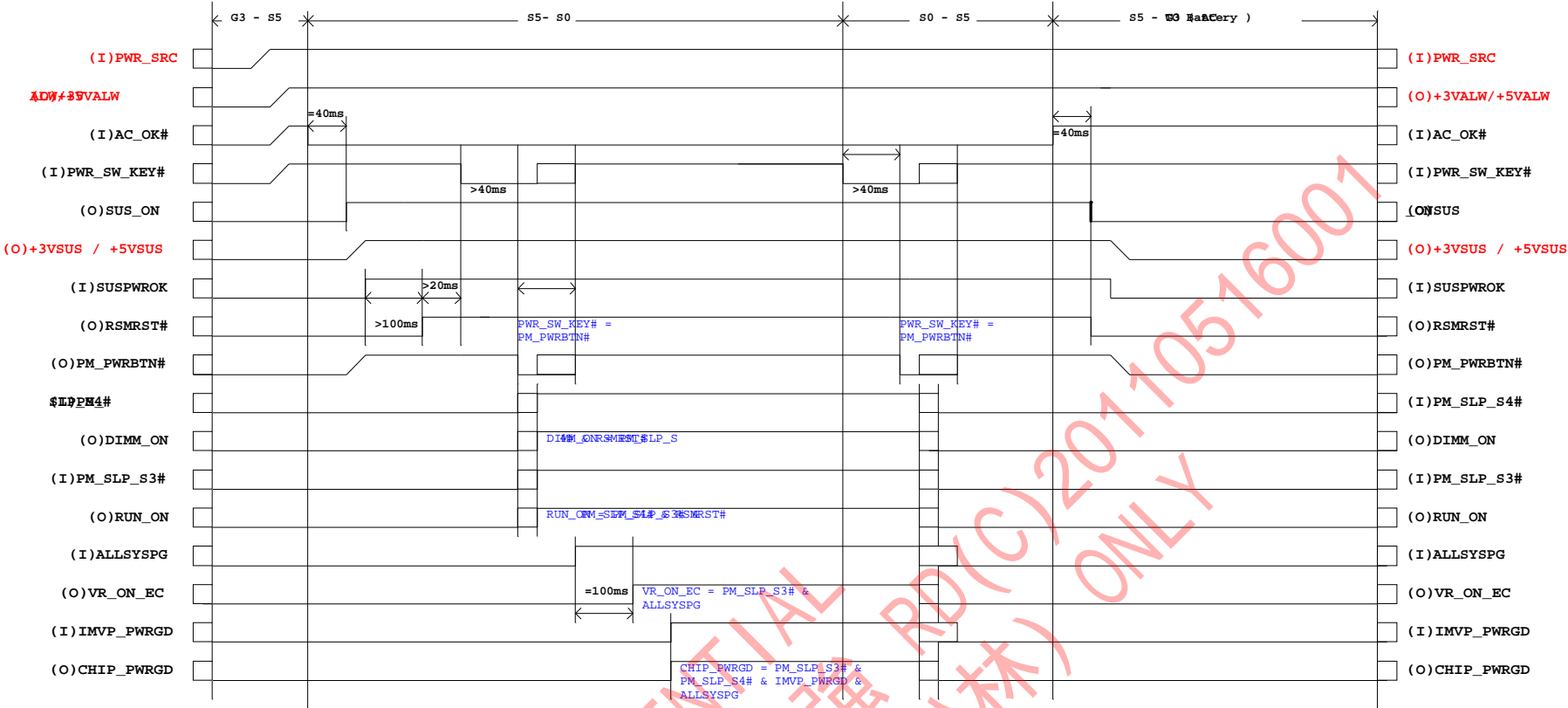
RED: POWER
BLACK: KBC

Battery Mode S0 - S3 - S0



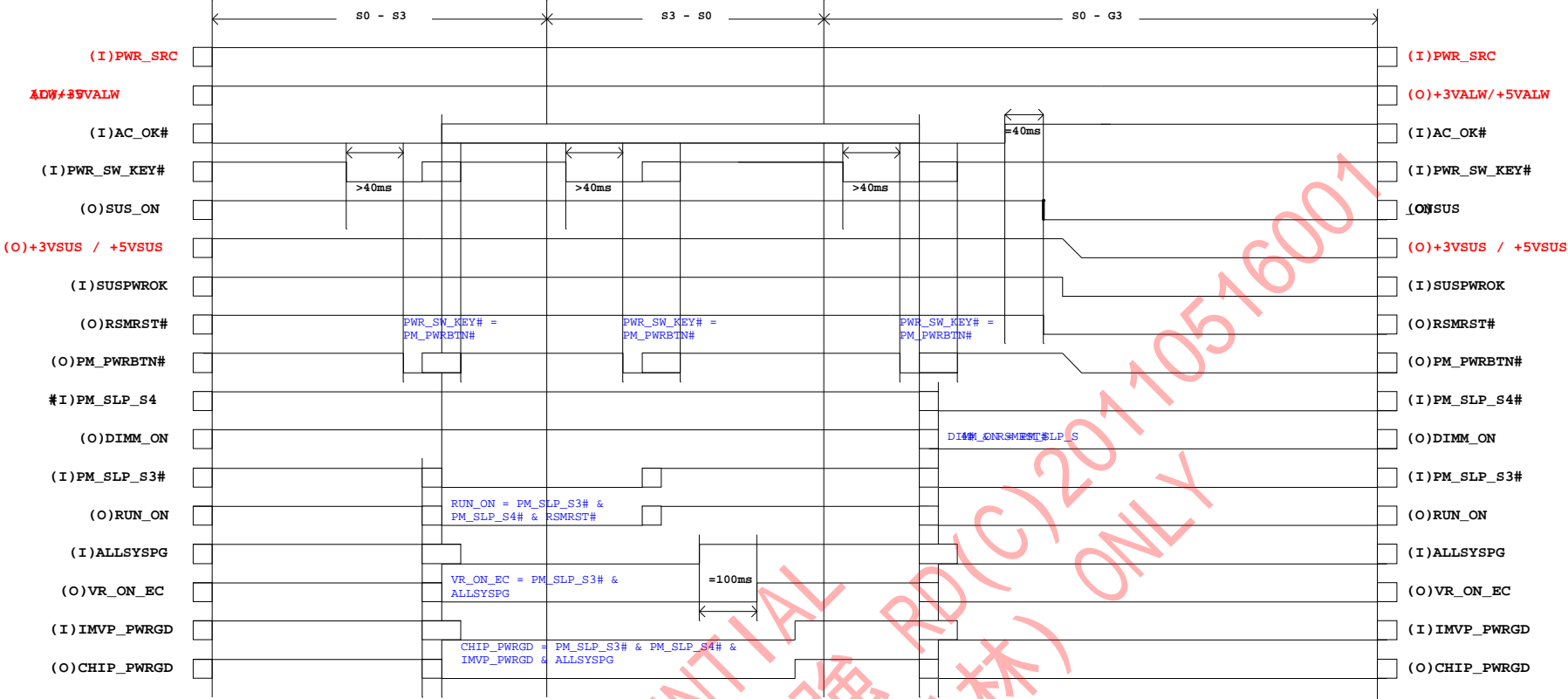
RED:POWER
BLACK:KBC

AC Mode G3 - S5 - S0 - S5 - G3



RED:POWER
BLACK:KBC

AC Mode S0 - S3 - S0



GPS LNA

CLOSE

