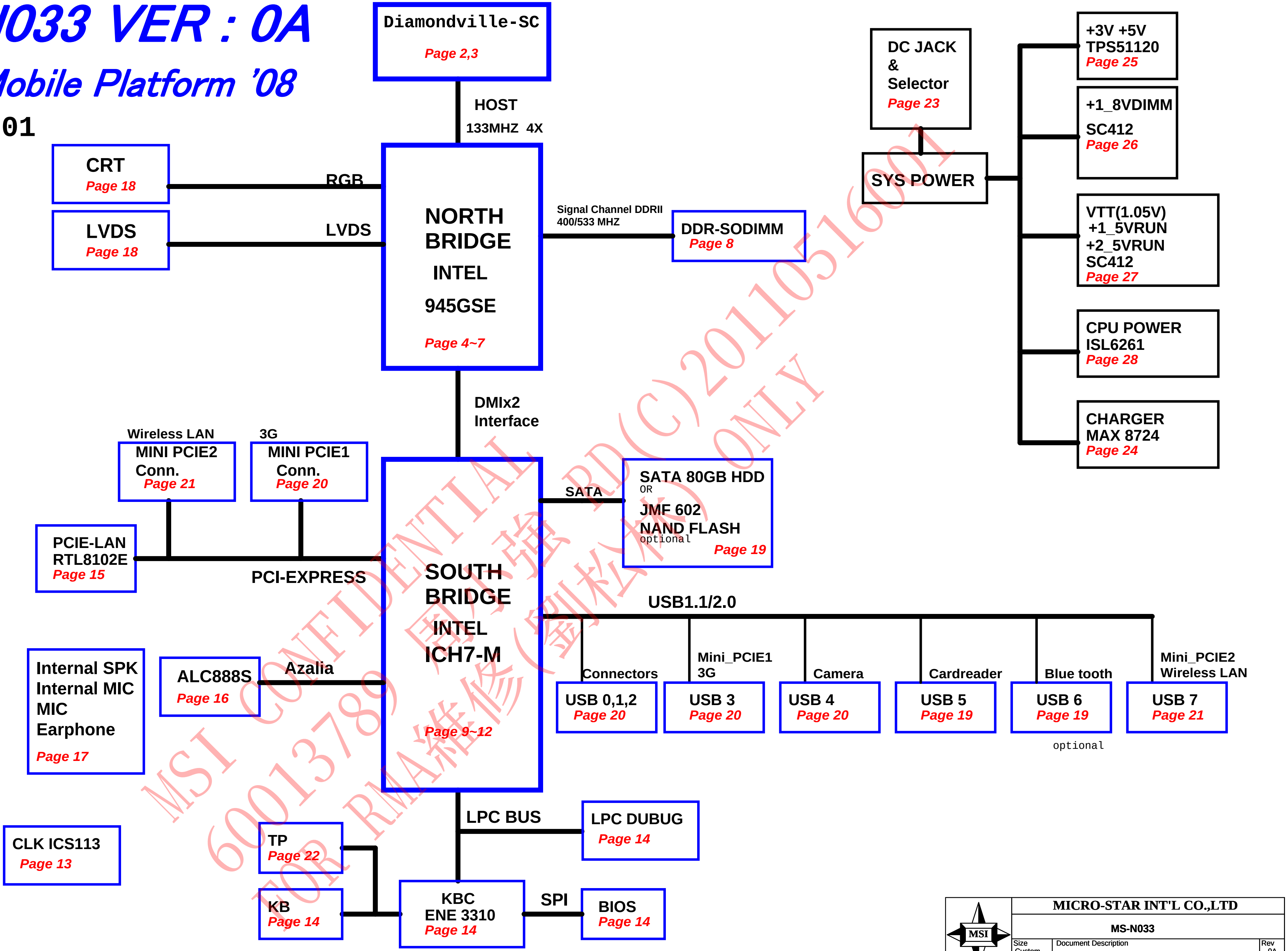
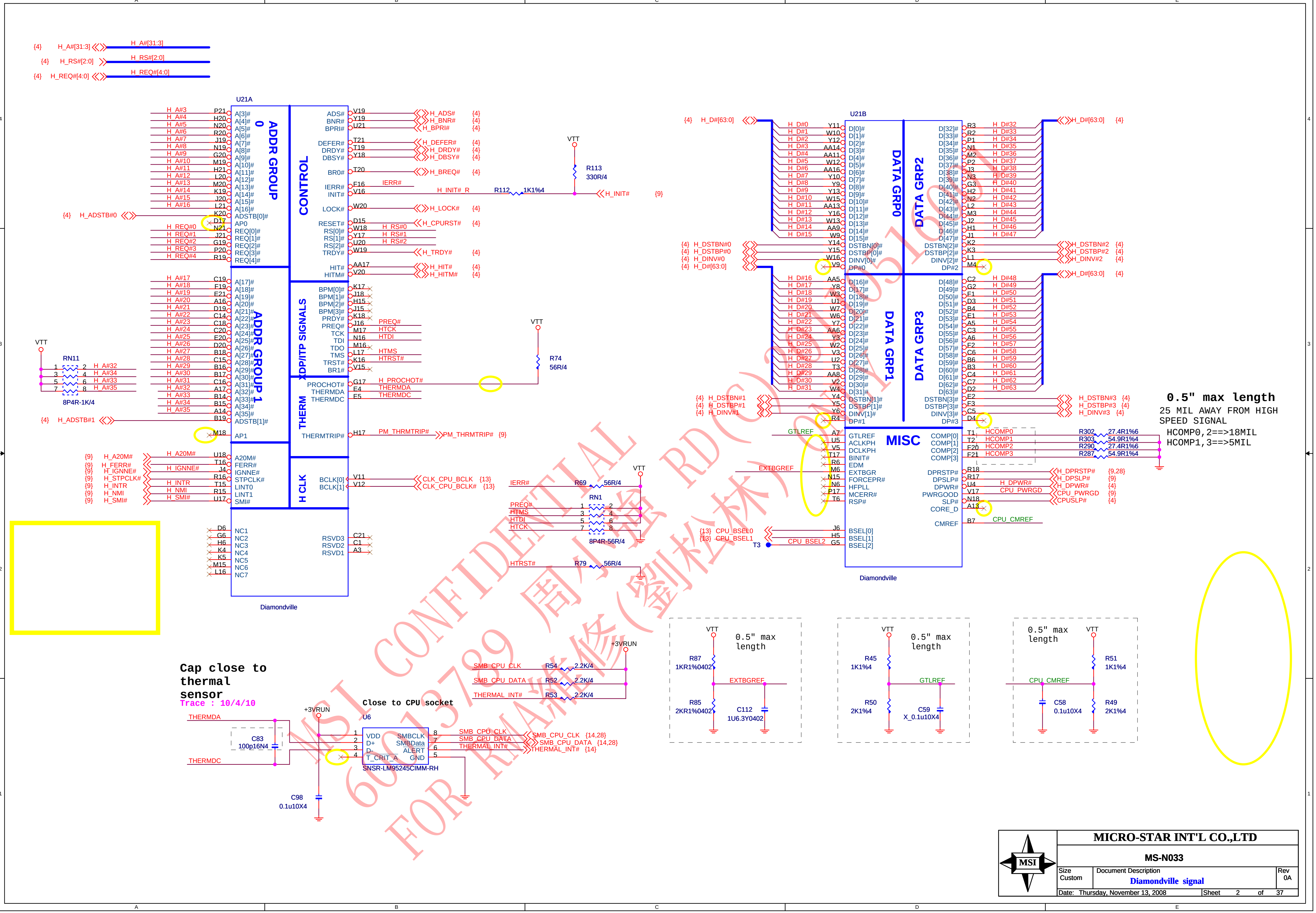
MS-N033 VER : 0A

Basic Mobile Platform '08

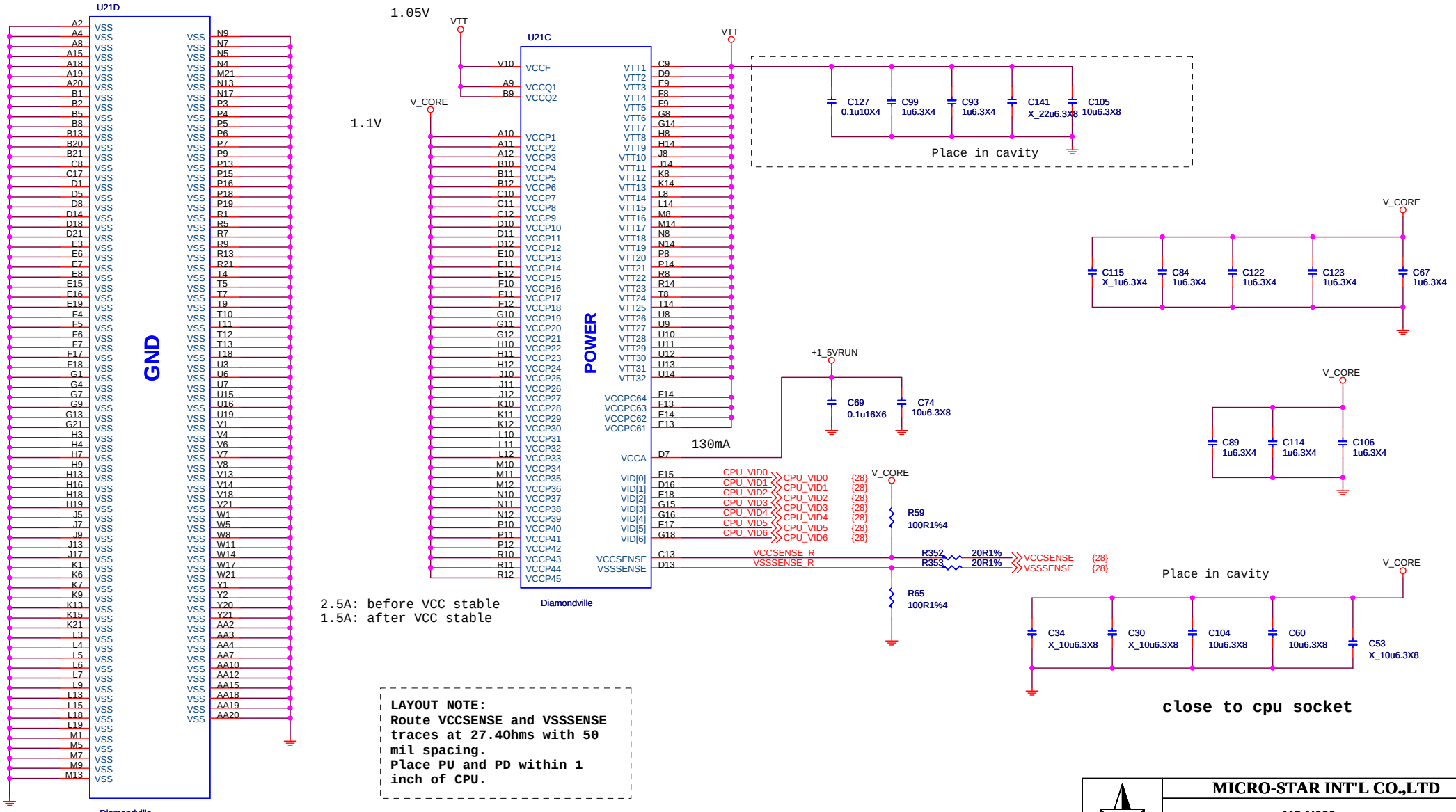
2008/10/01



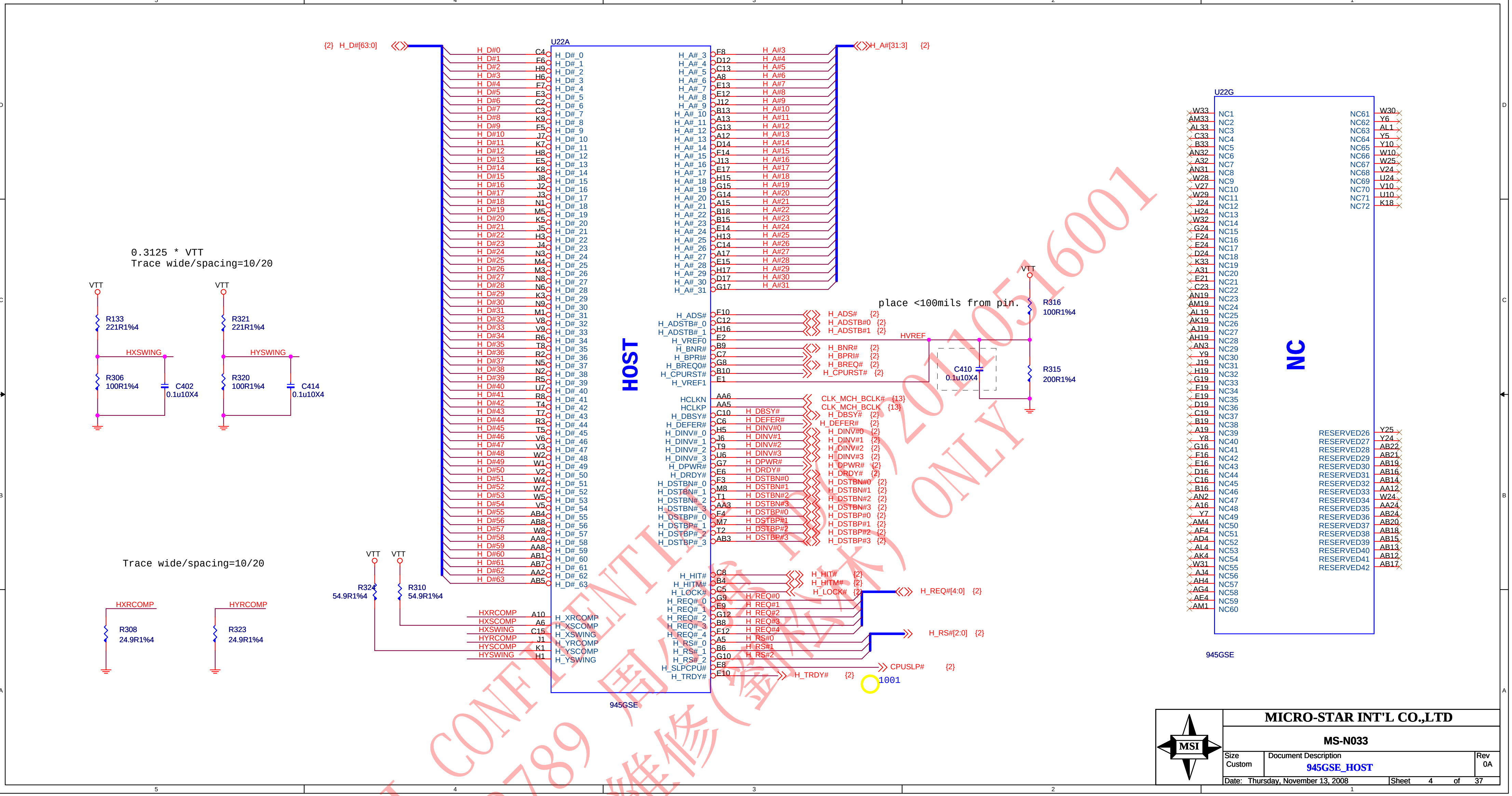
MICRO-STAR INT'L CO.,LTD		
MS-N033		
Size: Custom	Document Description: BLOCK DIAGRAM	Rev: 0A
Date: Thursday, November 13, 2008	Sheet 1 of 37	

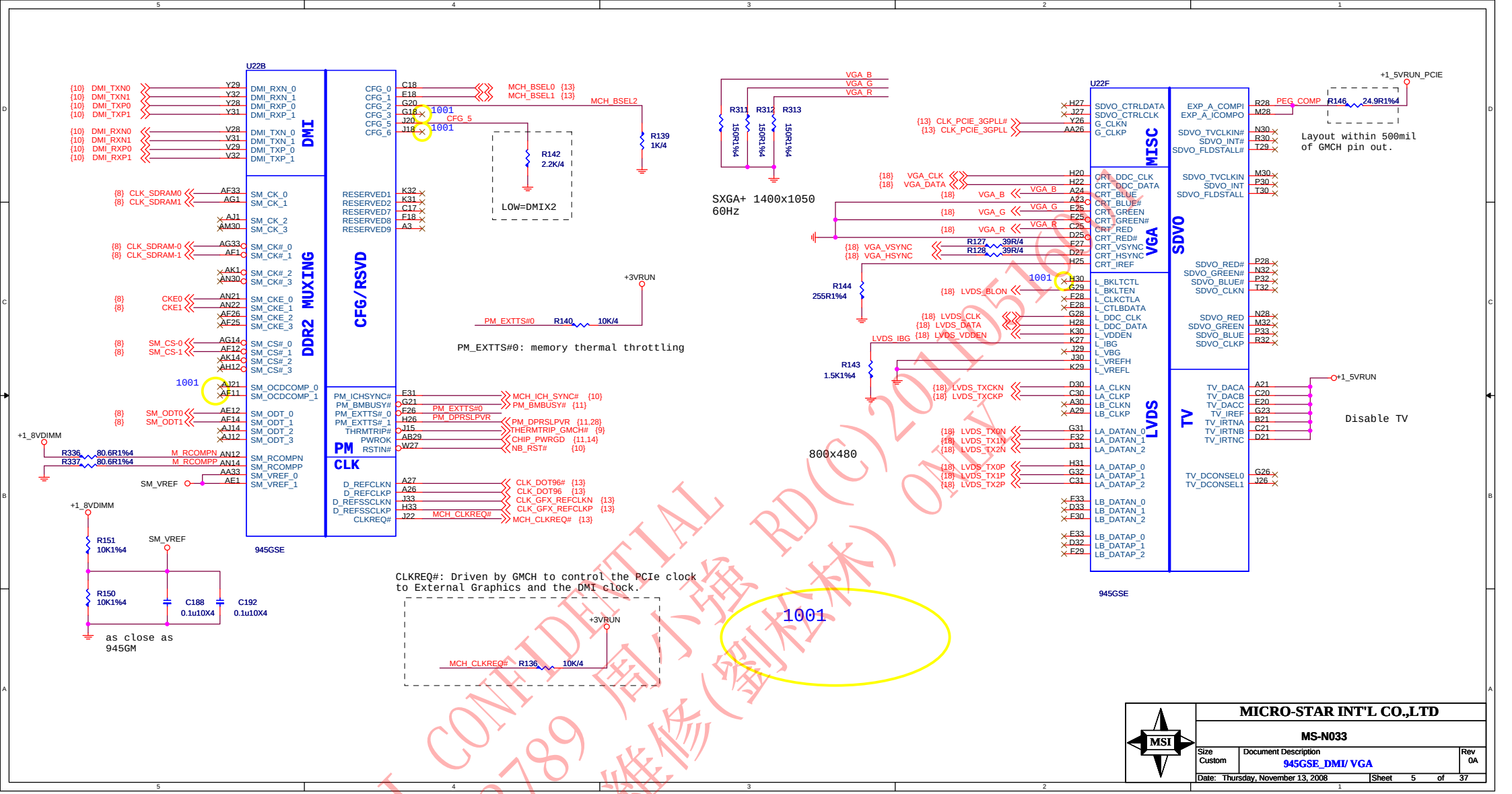


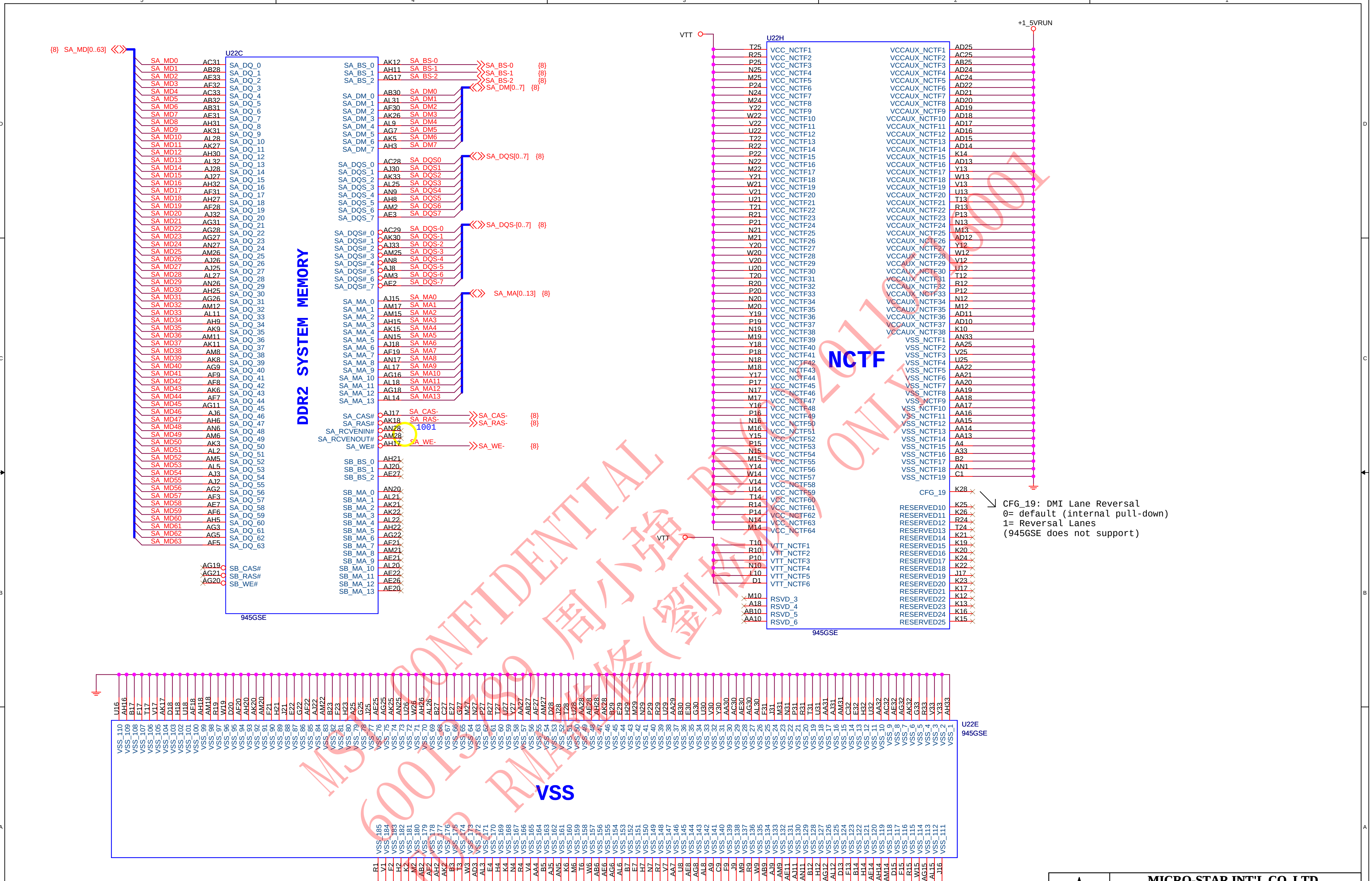
U21A
ADDR GROUP 0
CONTROL
ADDR GROUP 1
XDP/ITP SIGNALS
THERM
H CLK
Diamondville
U21B
DATA GRP0
DATA GRP1
DATA GRP2
DATA GRP3
MISC
Diamondville
0.5" max length
25 MIL AWAY FROM HIGH SPEED SIGNAL
HCOMP0,2==>18MIL
HCOMP1,3==>5MIL
RN11
8P4R-1K/4
R113 330R/4
R112 1K1%4
R74 56R/4
R69 56R/4
RN1 8P4R-56R/4
R79 56R/4
Cap close to thermal sensor
Trace : 10/4/10
Close to CPU socket
U6
SNSR-LM95245CIMM-RH
C83 100p16N4
C98 0.1u10X4
R54 2.2K/4
R52 2.2K/4
R53 2.2K/4
R87 1KR1%0402
R85 2KR1%0402
C112 1U6.3Y0402
R45 1K1%4
R50 2K1%4
C59 X_0.1u10X4
R51 1K1%4
R49 2K1%4
C58 0.1u10X4
MICRO-STAR INT'L CO.,LTD
MS-N033
Size Custom
Document Description
Diamondville signal
Rev 0A
Date: Thursday, November 13, 2008
Sheet 2 of 37



MICRO-STAR INT'L CO.,LTD	
MS-N033	
Size: Custom	Document Description: Diamondville Pown/GND
Rev: 0A	
Date: Thursday, November 13, 2008	Sheet 3 of 37



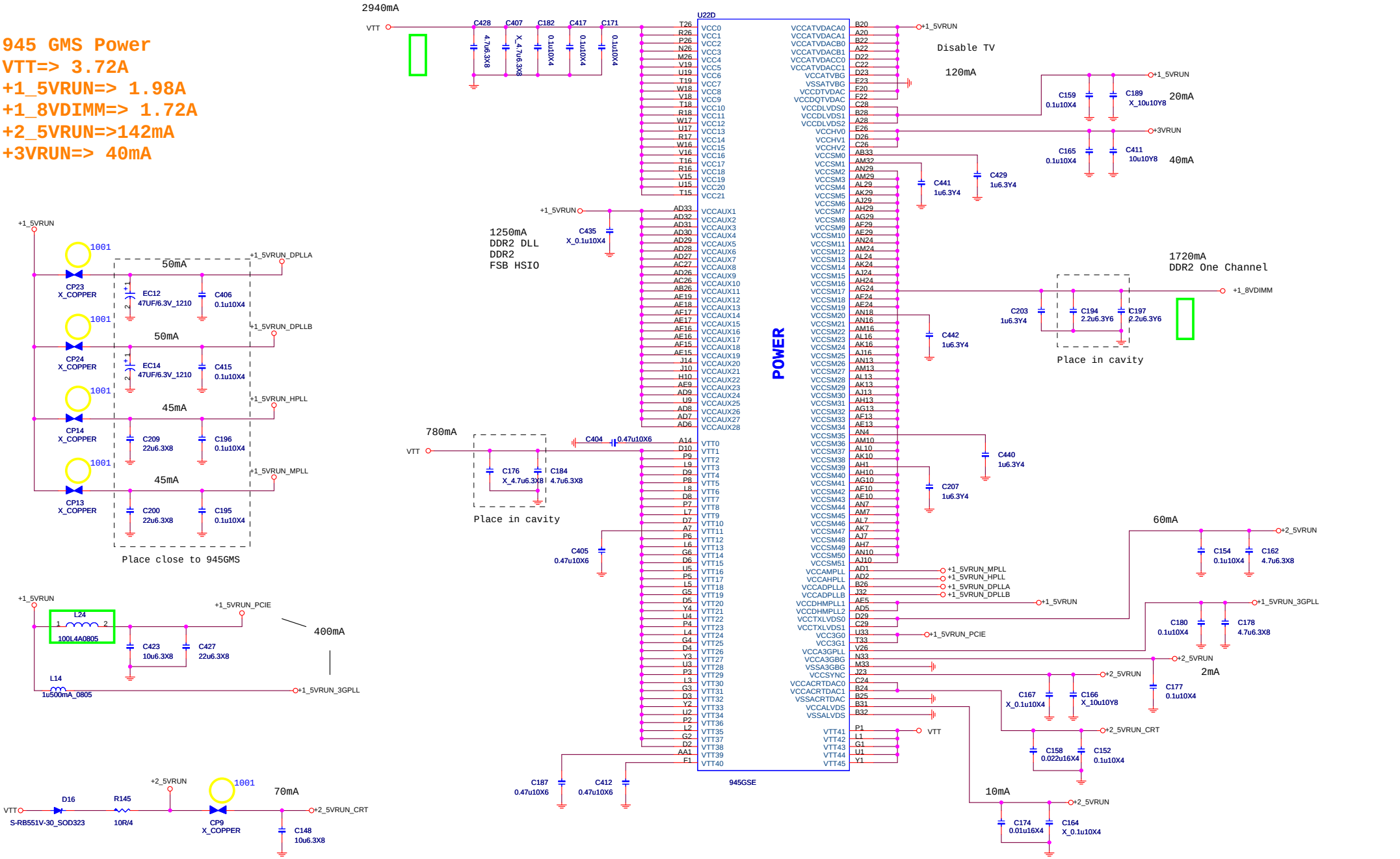




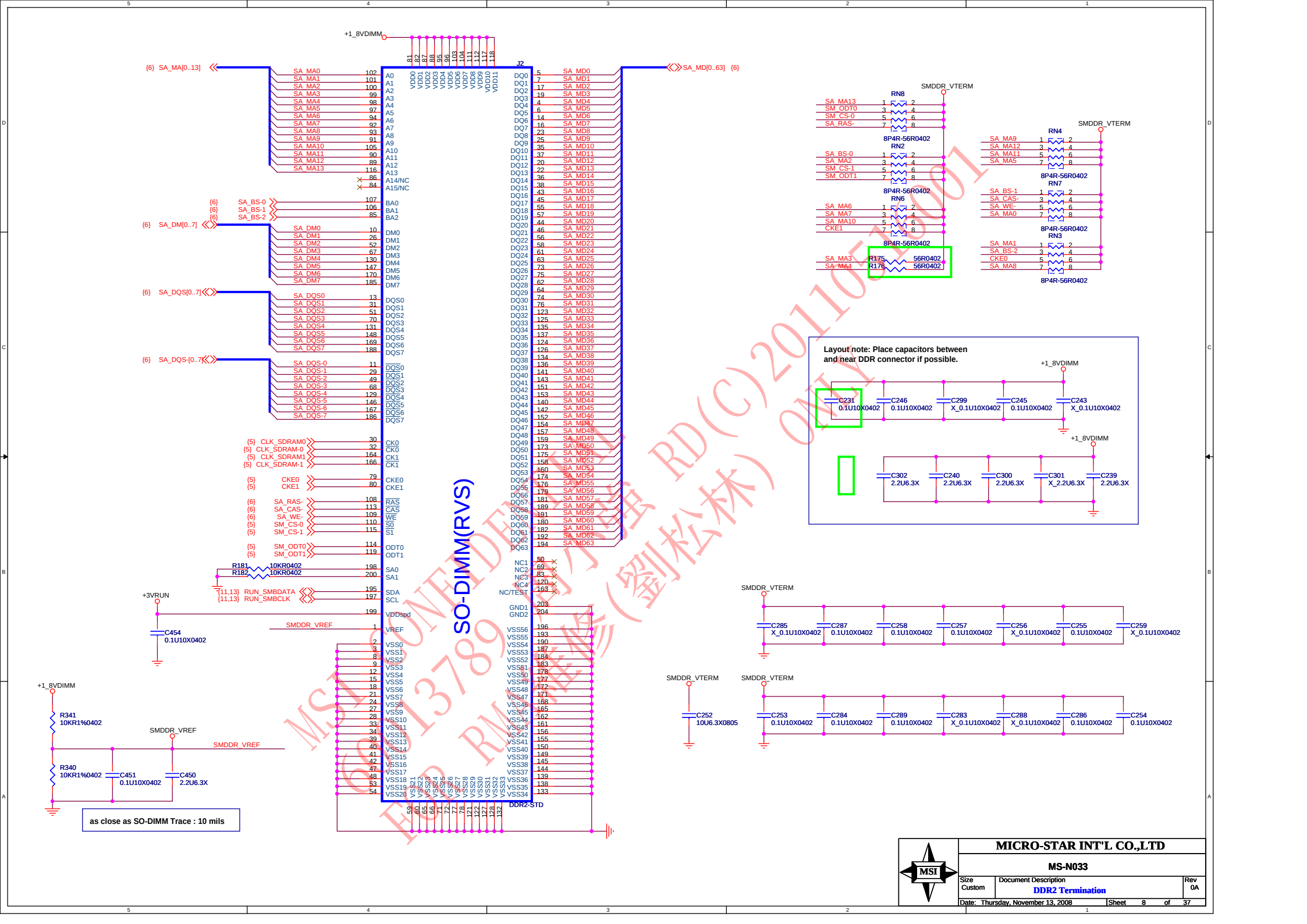
MICRO-STAR INT'L CO.,LTD		
MS-N033		
Size: Custom	Document Description: 945GSE_DDR	Rev: 0A
Date: Thursday, November 13, 2008	Sheet 6 of 37	

945 GMS Power

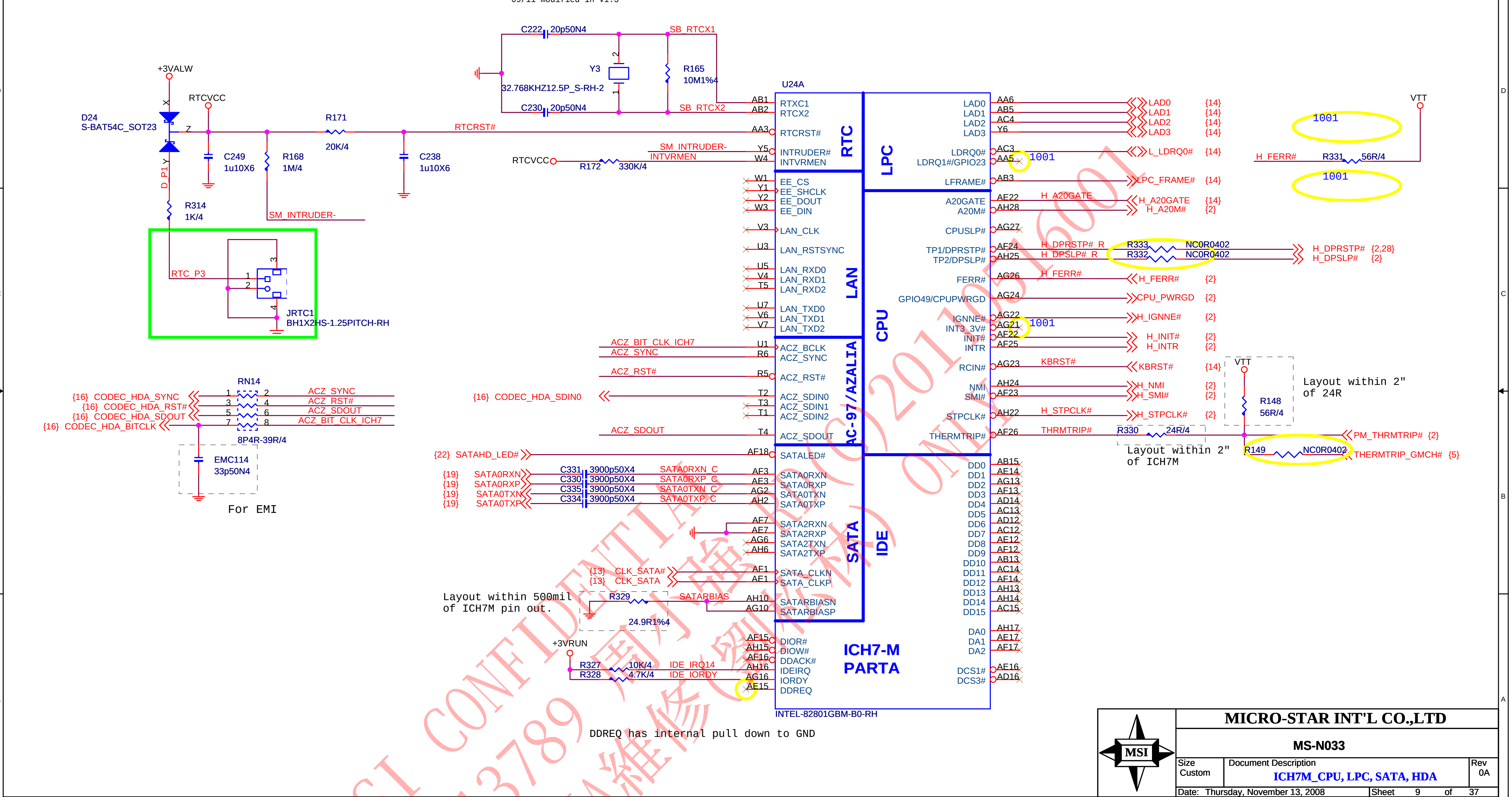
VTT=> 3.72A
+1_5VRUN=> 1.98A
+1_8VDIMM=> 1.72A
+2_5VRUN=>142mA
+3VRUN=> 40mA



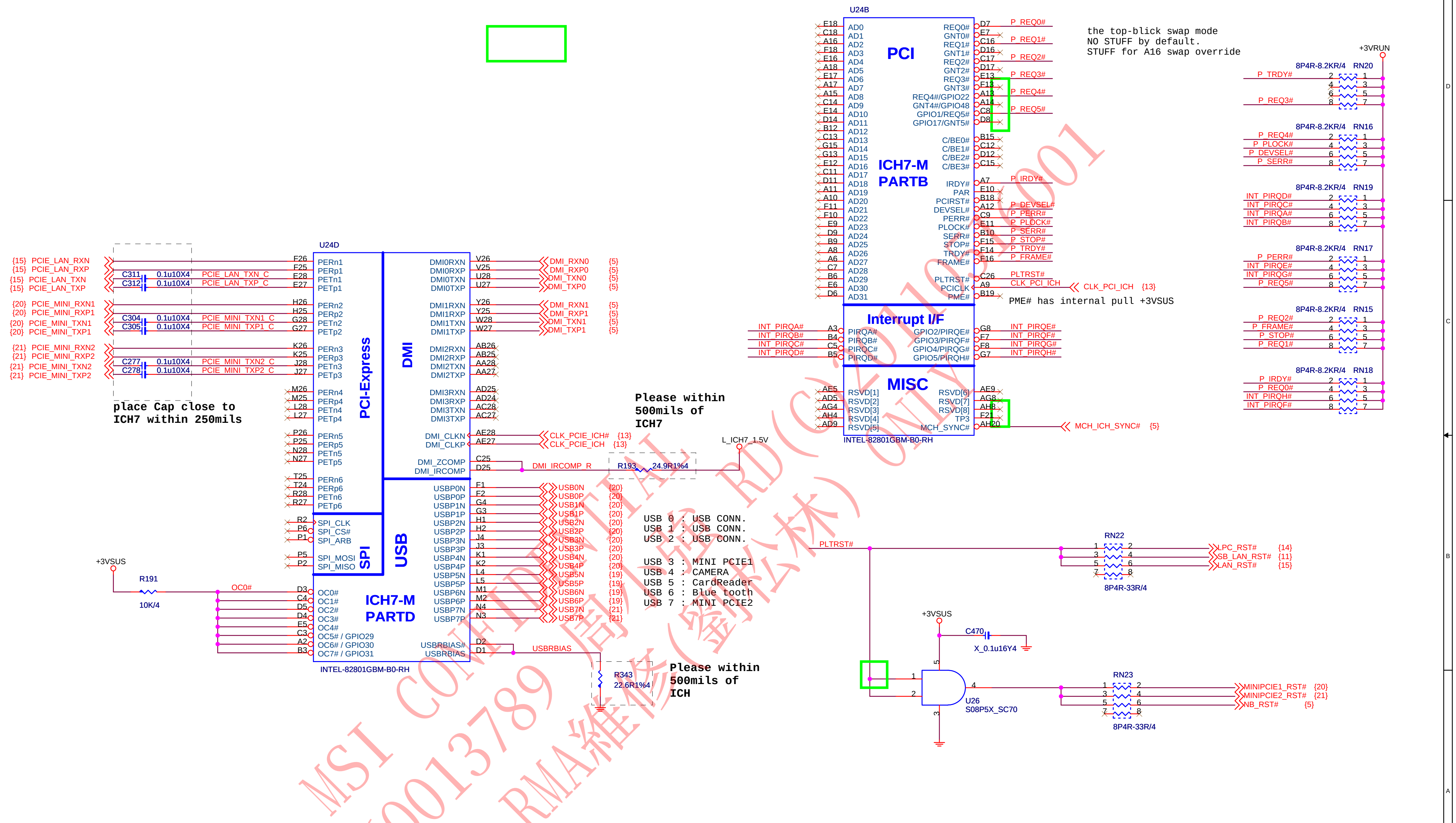
Company	MICRO-STAR INT'L CO.,LTD
Model	MS-N033
Size	Custom
Document Description	945GSE_POWER
Rev	0A
Date	Thursday, November 13, 2008
Sheet	7 of 37


+1_8VDIMM
SO-DIMM(RVS)
J2
DDR2-STD
{6} SA_MA[0..13]
SA_MA0
SA_MA1
SA_MA2
SA_MA3
SA_MA4
SA_MA5
SA_MA6
SA_MA7
SA_MA8
SA_MA9
SA_MA10
SA_MA11
SA_MA12
SA_MA13
{6} SA_BS-0
{6} SA_BS-1
{6} SA_BS-2
{6} SA_DM[0..7]
SA_DM0
SA_DM1
SA_DM2
SA_DM3
SA_DM4
SA_DM5
SA_DM6
SA_DM7
{6} SA_DQS[0..7]
SA_DQS0
SA_DQS1
SA_DQS2
SA_DQS3
SA_DQS4
SA_DQS5
SA_DQS6
SA_DQS7
{6} SA_DQS-[0..7]
SA_DQS-0
SA_DQS-1
SA_DQS-2
SA_DQS-3
SA_DQS-4
SA_DQS-5
SA_DQS-6
SA_DQS-7
{5} CLK_SDRAM0
{5} CLK_SDRAM-0
{5} CLK_SDRAM1
{5} CLK_SDRAM-1
{5} CKE0
{5} CKE1
{6} SA_RAS-
{6} SA_CAS-
{6} SA_WE-
{5} SM_CS-0
{5} SM_CS-1
{5} SM_ODT0
{5} SM_ODT1
R181 10KR0402
R182 10KR0402
{11,13} RUN_SMBDATA
{11,13} RUN_SMBCLK
+3VRUN
C454 0.1U10X0402
SMDDR_VREF
SA_MD[0..63] {6}
SMDDR_VTERM
RN8
SA_MA13
SM_ODT0
SM_CS-0
SA_RAS-
8P4R-56R0402
RN2
SA_BS-0
SA_MA2
SM_CS-1
SM_ODT1
8P4R-56R0402
RN6
SA_MA6
SA_MA7
SA_MA10
CKE1
8P4R-56R0402
SA_MA3
SA_MA4
R175 56R0402
R176 56R0402
RN4
SA_MA9
SA_MA12
SA_MA11
SA_MA5
8P4R-56R0402
RN7
SA_BS-1
SA_CAS-
SA_WE-
SA_MA0
8P4R-56R0402
RN3
SA_MA1
SA_BS-2
CKE0
SA_MA8
8P4R-56R0402
Layout note: Place capacitors between and near DDR connector if possible.
C231 0.1U10X0402
C246 0.1U10X0402
C299 X_0.1U10X0402
C245 0.1U10X0402
C243 X_0.1U10X0402
C302 2.2U6.3X
C240 2.2U6.3X
C300 2.2U6.3X
C301 X_2.2U6.3X
C239 2.2U6.3X
C285 X_0.1U10X0402
C287 0.1U10X0402
C258 0.1U10X0402
C257 0.1U10X0402
C256 X_0.1U10X0402
C255 0.1U10X0402
C259 X_0.1U10X0402
C252 10U6.3X0805
C253 0.1U10X0402
C284 0.1U10X0402
C289 0.1U10X0402
C283 X_0.1U10X0402
C288 X_0.1U10X0402
C286 0.1U10X0402
C254 0.1U10X0402
R341 10KR1%0402
R340 10KR1%0402
C451 0.1U10X0402
C450 2.2U6.3X
as close as SO-DIMM Trace : 10 mils
MICRO-STAR INT'L CO.,LTD
MS-N033
Size Custom
Document Description
DDR2 Termination
Rev 0A
Date: Thursday, November 13, 2008
Sheet 8 of 37

09/11 modified in V1.3



MICRO-STAR INT'L CO.,LTD		
MS-N033		
Size: Custom	Document Description: ICH7M_CPU, LPC, SATA, HDA	Rev: 0A
Date: Thursday, November 13, 2008	Sheet 9 of 37	

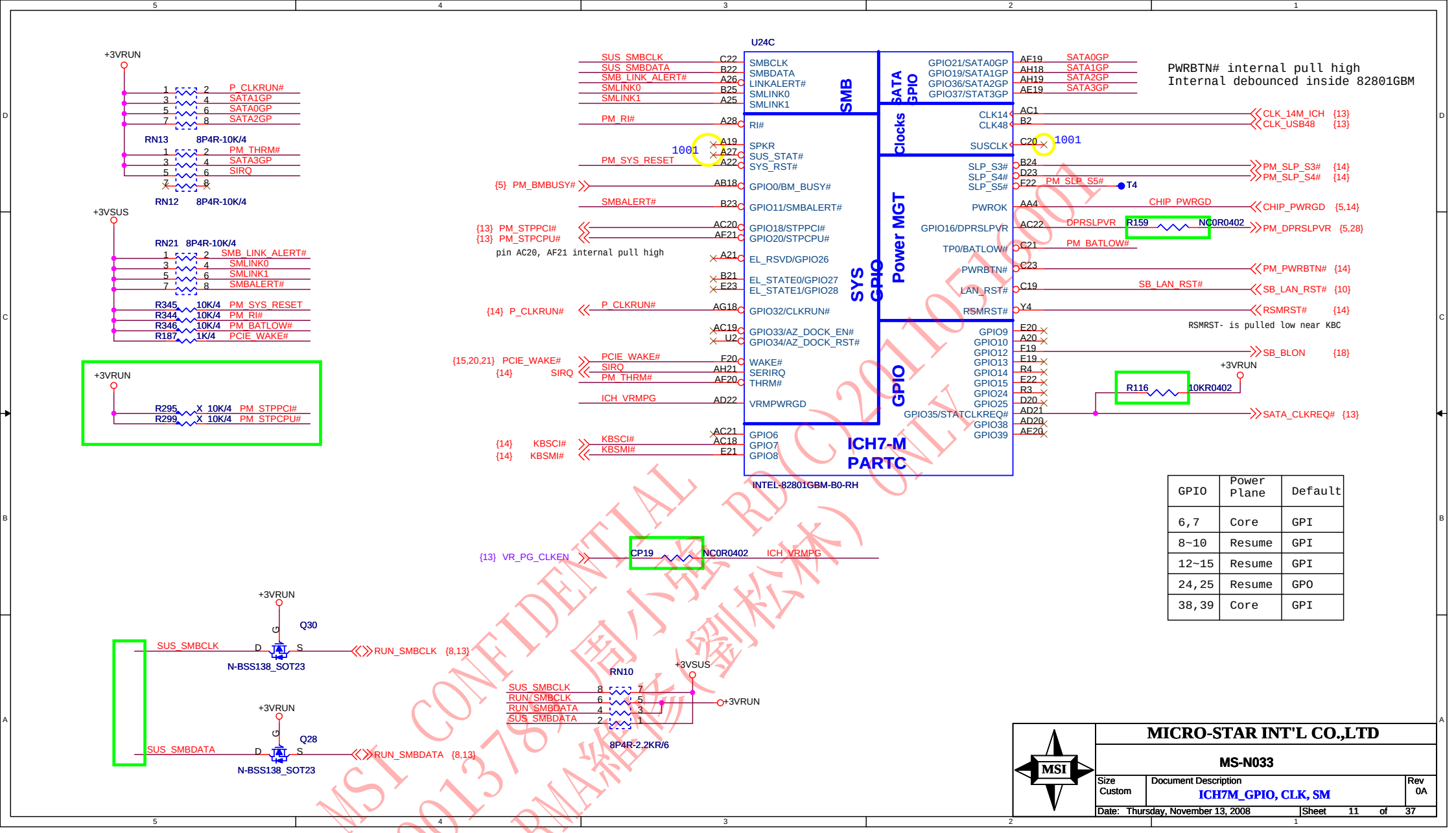


MICRO-STAR INT'L CO.,LTD

MS-N033

Size	Document Description	Rev
Custom	ICH7M_PCI, USB, DMI, PCIE	0A

Date: Thursday, November 13, 2008 | Sheet 10 of 37



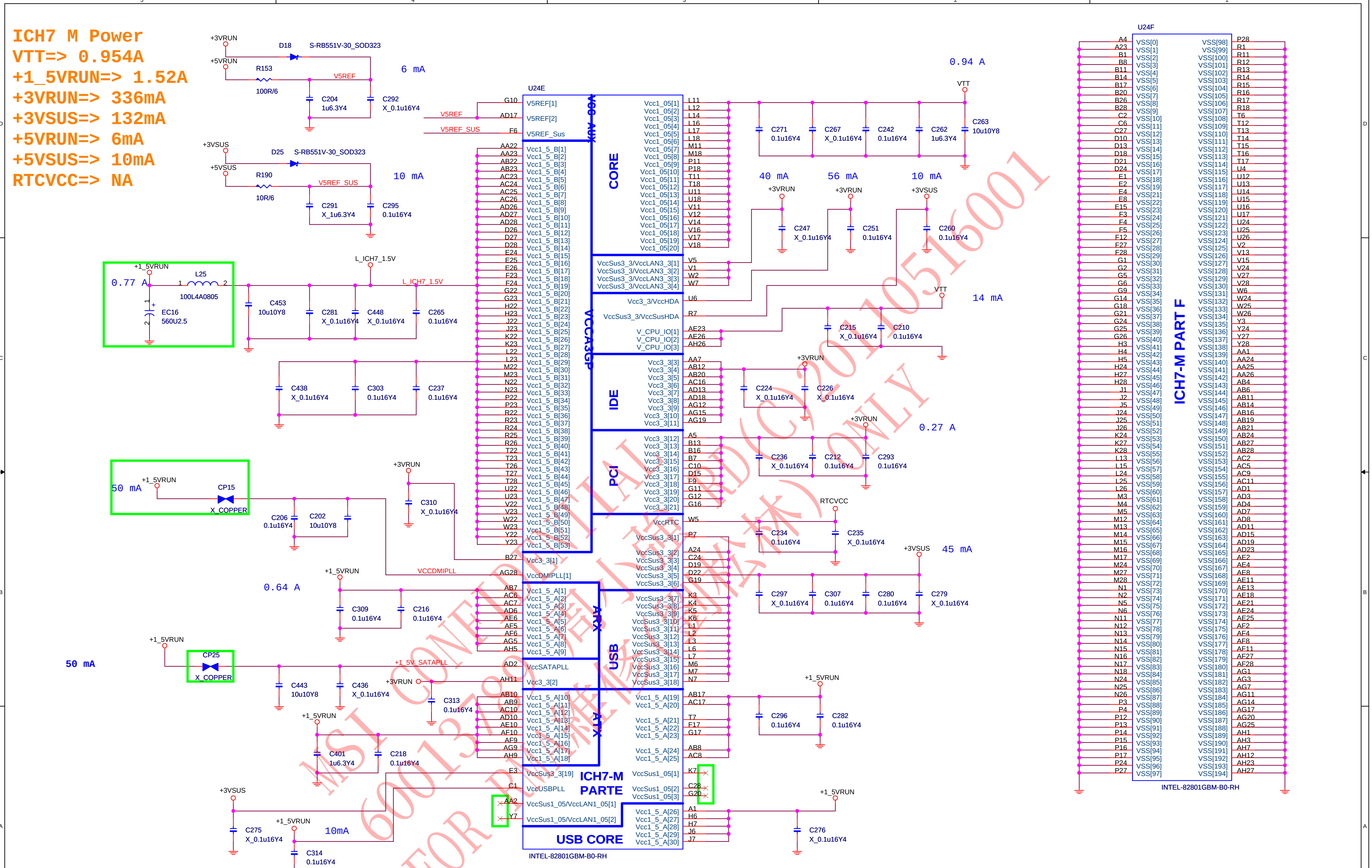
GPIO	Power Plane	Default
6,7	Core	GPI
8~10	Resume	GPI
12~15	Resume	GPI
24,25	Resume	GPO
38,39	Core	GPI

MICRO-STAR INT'L CO.,LTD

MS-N033

Size: Custom | Document Description: ICH7M_GPIO, CLK, SM | Rev: 0A

Date: Thursday, November 13, 2008 | Sheet 11 of 37



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

MICRO-STAR INT'L CO.,LTD

MS-N033

Size	Document Description	Rev
Custom	ICH7M_POWER	0A

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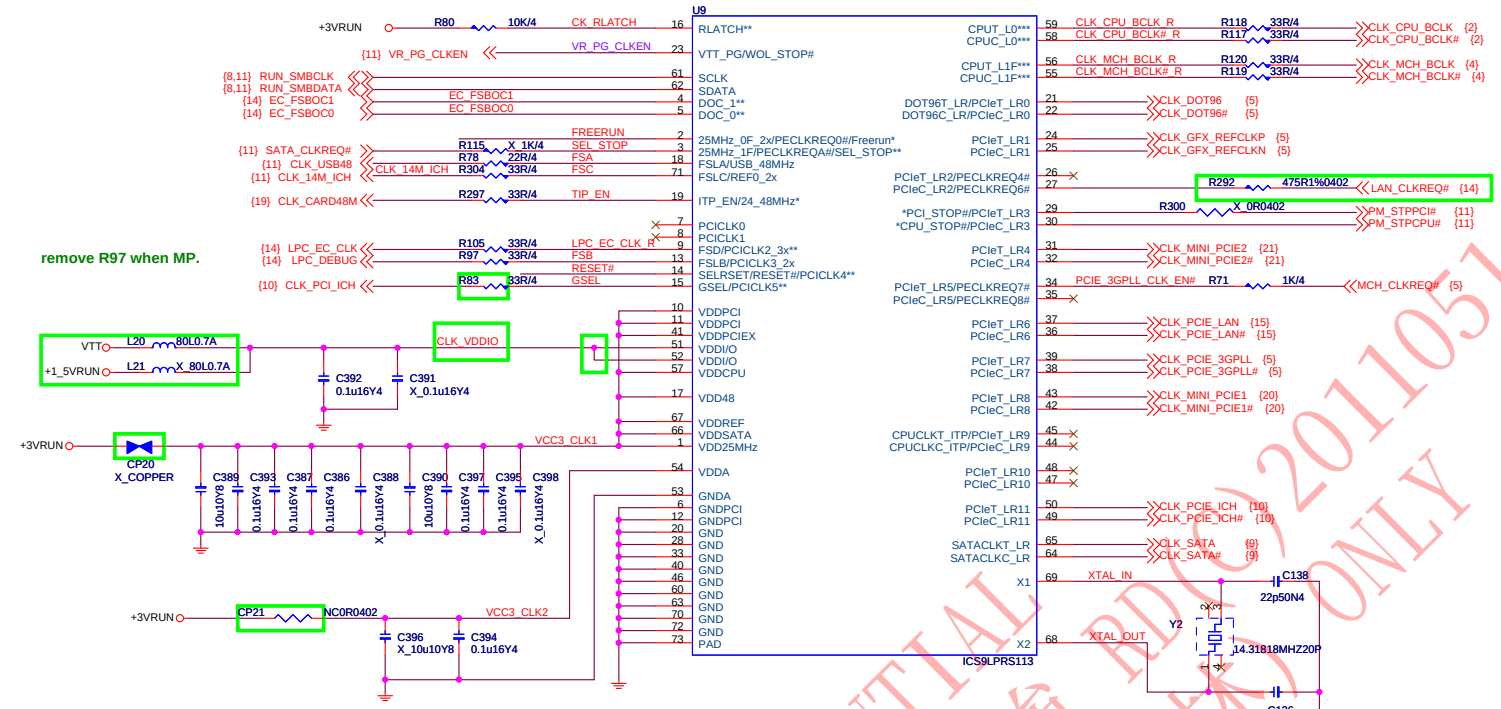
CLK Gen ICS9LPRS113



CLOCK GEN STRAPING

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

GSEL R81 4.7K/4 +3VRUN

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

RESET# R84 4.7K/4 +3VRUN

LPRS113
TIP_EN=0 => PCIEX9,
TIP_EN=1 => CPU_ITP

LPRS110
TIP_EN=0 => 48MHz,
TIP_EN=1 => 24MHz

TIP_EN R298 X_4.7K/4

FREERUN R110 X_4.7K/4 +3VRUN

Selects pin 29/30
1 = PCI_STOP#/CPU_STOP#
0 =PCIEX CLK output

SEL_STOP R108 4.7K/4 +3VRUN

EMI

CLK_PCI_ICH EMC20 10p25N4
LPC_DEBUG EMC21 10p25N4
LPC_EC_CLK EMC22 10p25N4
CLK_USB48 EMC19 22p50N4
CLK_14M_ICH EMC95 10p25N4
CLK_CARD48M EMC94 10p25N4

08/21 modified in V1.0

For EC code NOT ready

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

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Size: Custom | Document Description: CLK GEN_113 | Rev: 0A

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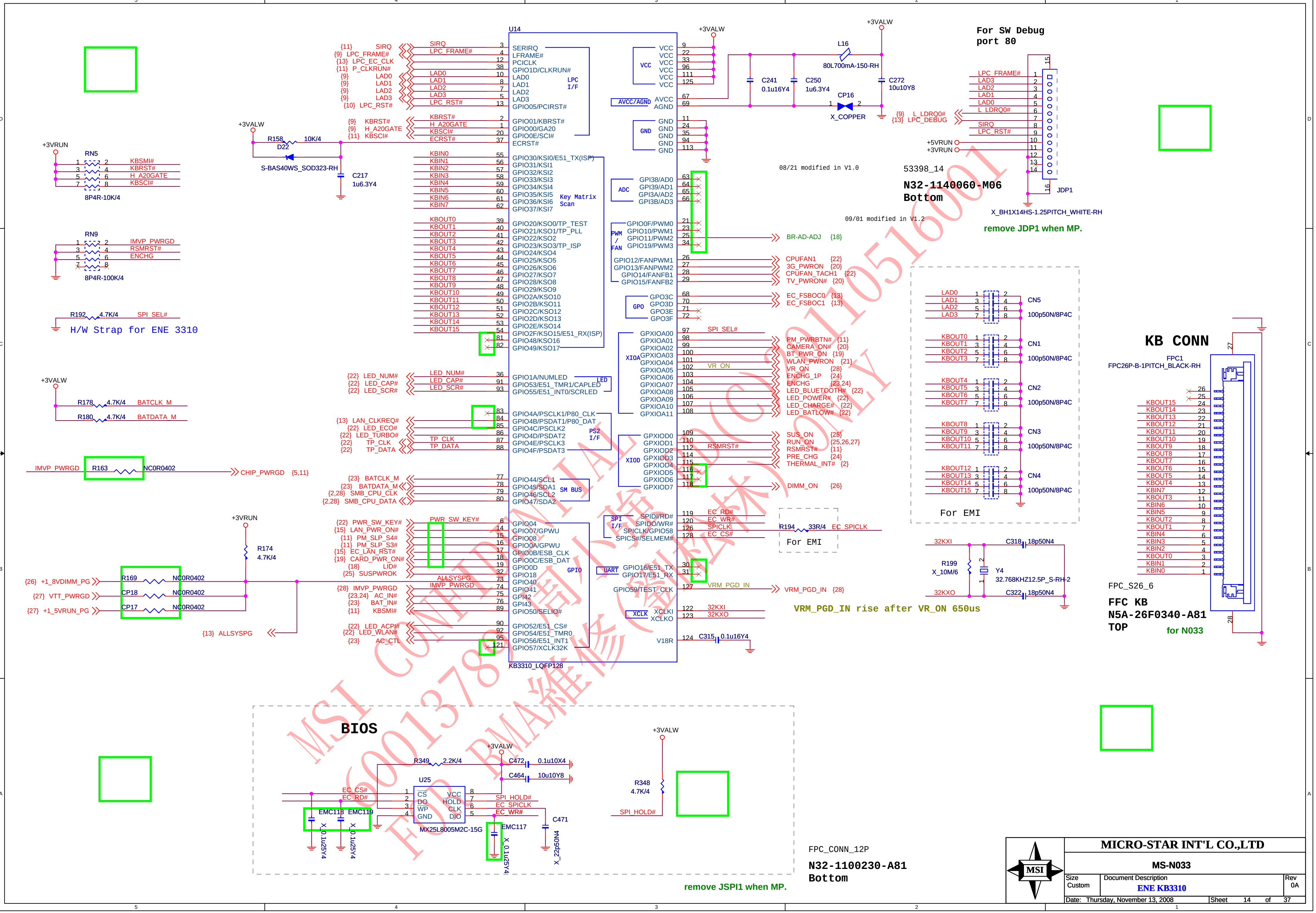

U14
KB3310_LQFP128
SERIRQ
LFRAME#
PCICLK
GPIO1D/CLKRUN#
LAD0
LAD1
LAD2
LAD3
GPIO05/PCIRST#
LPC I/F
GPIO01/KBRST#
GPIO00/GA20
GPIO0E/SCI#
ECRST#
GPIO30/KSI0/E51_TX(ISP)
GPIO31/KSI1
GPIO32/KSI2
GPIO33/KSI3
GPIO34/KSI4
GPIO35/KSI5
GPIO36/KSI6
GPIO37/KSI7
Key Matrix Scan
GPIO20/KSO0/TP_TEST
GPIO21/KSO1/TP_PLL
GPIO22/KSO2
GPIO23/KSO3/TP_ISP
GPIO24/KSO4
GPIO25/KSO5
GPIO26/KSO6
GPIO27/KSO7
GPIO28/KSO8
GPIO29/KSO9
GPIO2A/KSO10
GPIO2B/KSO11
GPIO2C/KSO12
GPIO2D/KSO13
GPIO2E/KSO14
GPIO2F/KSO15/E51_RX(ISP)
GPIO48/KSO16
GPIO49/KSO17
GPIO1A/NUMLED
GPIO53/E51_TMR1/CAPLED
GPIO55/E51_INT0/SCRLED
LED
GPIO4A/PSCLK1/P80_CLK
GPIO4B/PSDAT1/P80_DAT
GPIO4C/PSCLK2
GPIO4D/PSDAT2
GPIO4E/PSCLK3
GPIO4F/PSDAT3
PS2 I/F
GPIO44/SCL1
GPIO45/SDA1
GPIO46/SCL2
GPIO47/SDA2
SM BUS
GPIO04
GPIO07/GPWU
GPIO08
GPIO0A/GPWU
GPIO0B/ESB_CLK
GPIO0C/ESB_DAT
GPIO0D
GPIO18
GPIO40
GPIO41
GPI42
GPI43
GPIO50/SELIO#
GPIO
GPIO52/E51_CS#
GPIO54/E51_TMR0
GPIO56/E51_INT1
GPIO57/XCLK32K
VCC
AVCC
AGND
AVCC/AGND
GND
GPI38/AD0
GPI39/AD1
GPI3A/AD2
GPI3B/AD3
ADC
GPIO0F/PWM0
GPIO10/PWM1
GPIO11/PWM2
GPIO19/PWM3
PWM / FAN
GPIO12/FANPWM1
GPIO13/FANPWM2
GPIO14/FANFB1
GPIO15/FANFB2
GPO3C
GPO3D
GPO3E
GPO3F
GPO
GPXIOA00 … GPXIOA11
XIOA
GPXIOD0 … GPXIOD7
XIOD
SPIDI/RD#
SPIDO/WR#
SPICLK/GPIO58
SPICS#/SELMEM#
SPI I/F
GPIO16/E51_TX
GPIO17/E51_RX
UART
GPIO59/TEST_CLK
XCLKI
XCLKO
XCLK
V18R
+3VALW
+3VRUN
+5VRUN
{11} SIRQ
{9} LPC_FRAME#
{13} LPC_EC_CLK
{11} P_CLKRUN#
{9} LAD0
{9} LAD1
{9} LAD2
{9} LAD3
{10} LPC_RST#
{9} KBRST#
{9} H_A20GATE
{11} KBSCI#
ECRST#
KBIN0 … KBIN7
KBOUT0 … KBOUT15
{22} LED_NUM#
{22} LED_CAP#
{22} LED_SCR#
{13} LAN_CLKREQ#
{22} LED_ECO#
{22} LED_TURBO#
{22} TP_CLK
{22} TP_DATA
{23} BATCLK_M
{23} BATDATA_M
{2,28} SMB_CPU_CLK
{2,28} SMB_CPU_DATA
{22} PWR_SW_KEY#
{15} LAN_PWR_ON#
{11} PM_SLP_S4#
{11} PM_SLP_S3#
{15} EC_LAN_RST#
{19} CARD_PWR_ON#
{18} LID#
{25} SUSPWROK
ALLSYSPG
IMVP_PWRGD
{28} IMVP_PWRGD
{23,24} AC_IN#
{23} BAT_IN#
{11} KBSMI#
{22} LED_ACPI#
{22} LED_WLAN#
{23} AC_CTL
BR-AD-ADJ {18}
CPUFAN1 {22}
3G_PWRON {20}
CPUFAN_TACH1 {22}
TV_PWRON# {20}
EC_FSBOC0 {13}
EC_FSBOC1 {13}
SPI_SEL#
PM_PWRBTN# {11}
CAMERA_ON# {20}
BT_PWR_ON {19}
WLAN_PWRON {21}
VR_ON {28}
ENCHG_1P {24}
ENCHG {23,24}
LED_BLUETOOTH# {22}
LED_POWER# {22}
LED_CHARGE# {22}
LED_BATLOW# {22}
SUS_ON {25}
RUN_ON {25,26,27}
RSMRST# {11}
PRE_CHG {24}
THERMAL_INT# {2}
DIMM_ON {26}
EC_RD#
EC_WR#
SPICLK
EC_CS#
R194 33R/4 EC_SPICLK
For EMI
VRM_PGD_IN {28}
VRM_PGD_IN rise after VR_ON 650us
32KXI
32KXO
C315 0.1u16Y4
L16 80L700mA-150-RH
C241 0.1u16Y4
C250 1u6.3Y4
C272 10u10Y8
CP16 X_COPPER
For SW Debug port 80
L_LDRQ0#
{13} LPC_DEBUG
JDP1
X_BH1X14HS-1.25PITCH_WHITE-RH
remove JDP1 when MP.
08/21 modified in V1.0
09/01 modified in V1.2
53398_14
N32-1140060-M06
Bottom
RN5 8P4R-10K/4
KBSMI#
KBRST#
H_A20GATE
KBSCI#
RN9 8P4R-100K/4
IMVP_PWRGD
RSMRST#
ENCHG
R158 10K/4
D22 S-BAS40WS_SOD323-RH
C217 1u6.3Y4
R192 4.7K/4 SPI_SEL#
H/W Strap for ENE 3310
R178 4.7K/4 BATCLK_M
R180 4.7K/4 BATDATA_M
IMVP_PWRGD R163 NC0R0402 CHIP_PWRGD {5,11}
R174 4.7K/4
{26} +1_8VDIMM_PG R169 NC0R0402
{27} VTT_PWRGD CP18 NC0R0402
{27} +1_5VRUN_PG CP17 NC0R0402
{13} ALLSYSPG
CN5 100p50N/8P4C
CN1 100p50N/8P4C
CN2 100p50N/8P4C
CN3 100p50N/8P4C
CN4 100p50N/8P4C
For EMI
C318 18p50N4
R199 X_10M/6
Y4 32.768KHZ12.5P_S-RH-2
C322 18p50N4
KB CONN
FPC1 FPC26P-B-1PITCH_BLACK-RH
FPC_S26_6
FFC KB
N5A-26F0340-A81
TOP
for N033
BIOS
U25 MX25L8005M2C-15G
CS DO WP GND VCC HOLD CLK DIO
R349 2.2K/4
C472 0.1u10X4
C464 10u10Y8
SPI_HOLD#
EC_SPICLK
EC_WR#
EC_CS#
EC_RD#
EMC118 EMC119 X_0.1u25Y4
EMC117 X_0.1u25Y4
C471 X_22p50N4
R348 4.7K/4
FPC_CONN_12P
N32-1100230-A81
Bottom
remove JSPI1 when MP.
MICRO-STAR INT'L CO.,LTD
MS-N033
Size Custom
Document Description ENE KB3310
Rev 0A
Date: Thursday, November 13, 2008
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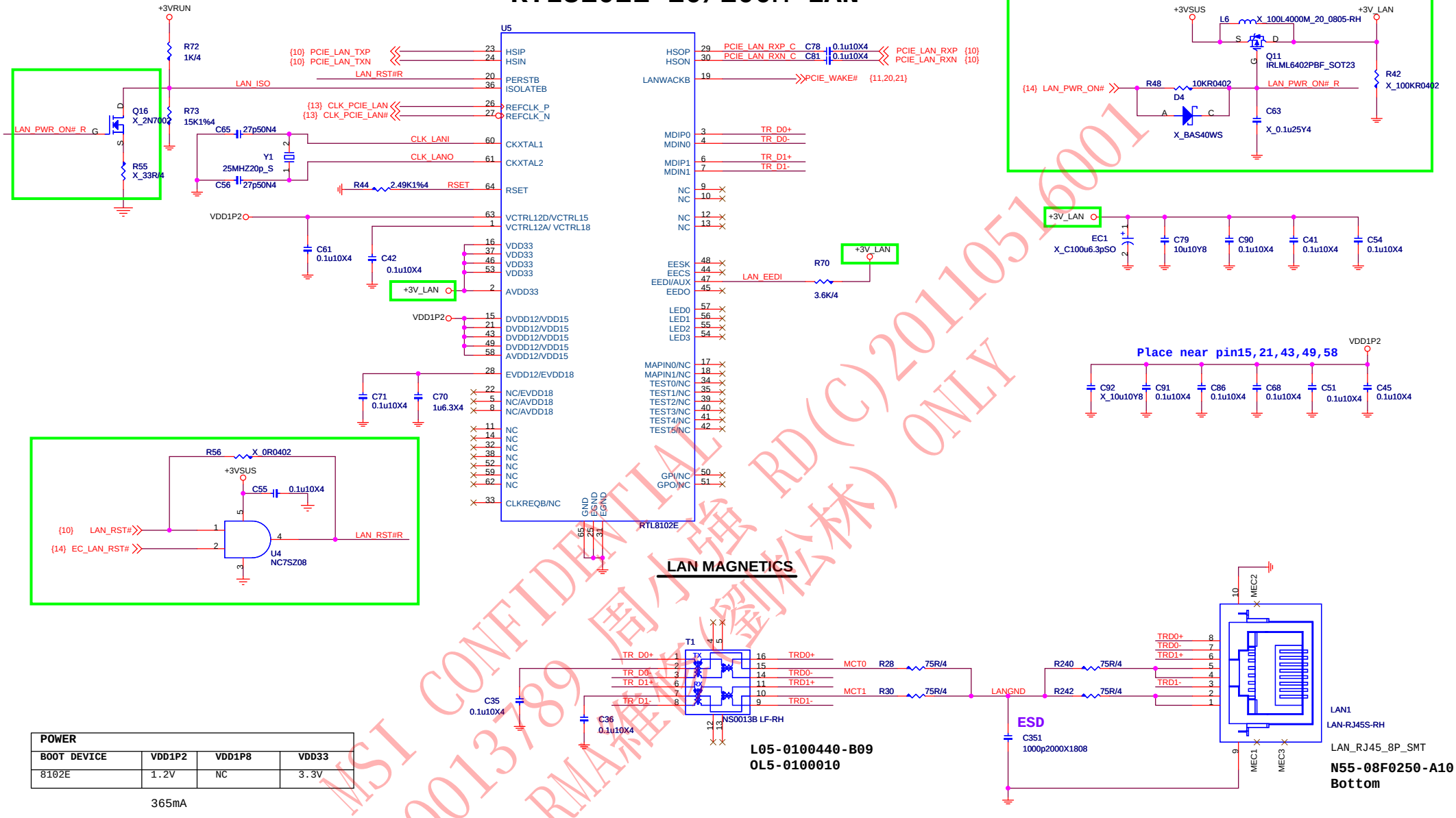
RTL8102E 10/100M LAN



POWER			
BOOT DEVICE	VDD1P2	VDD1P8	VDD33
8102E	1.2V	NC	3.3V

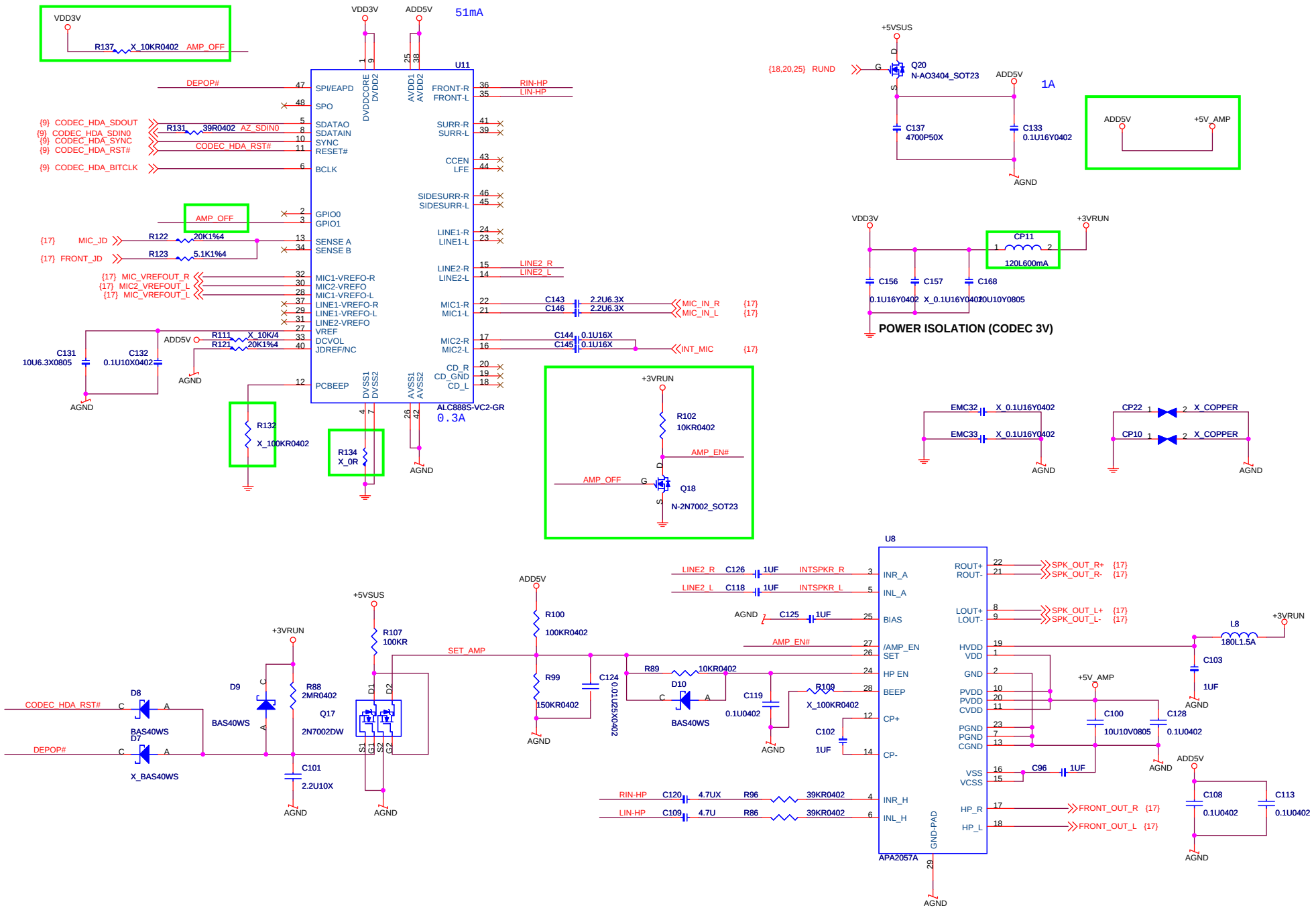
365mA

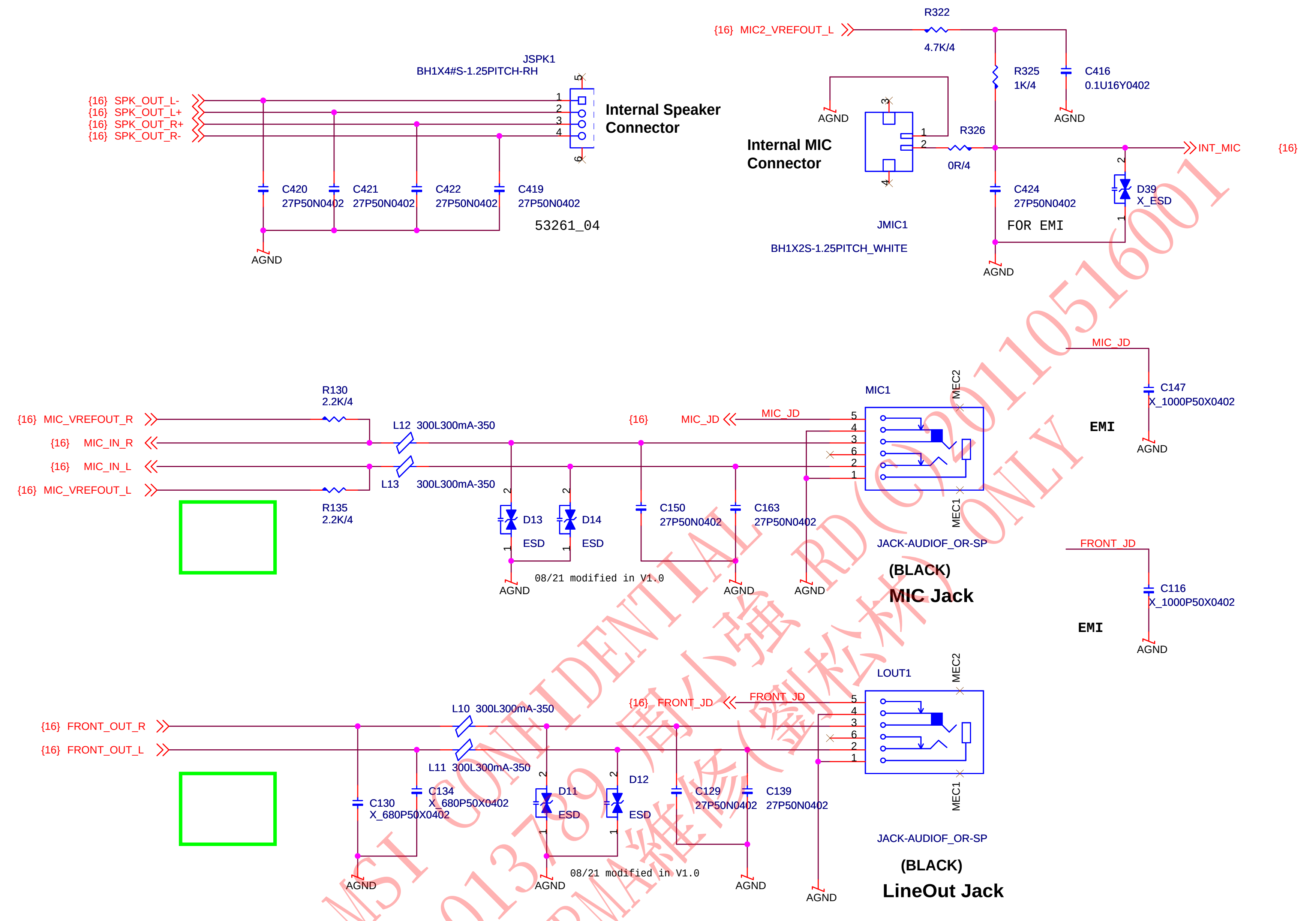
MICRO-STAR INT'L CO.,LTD

MS-N033

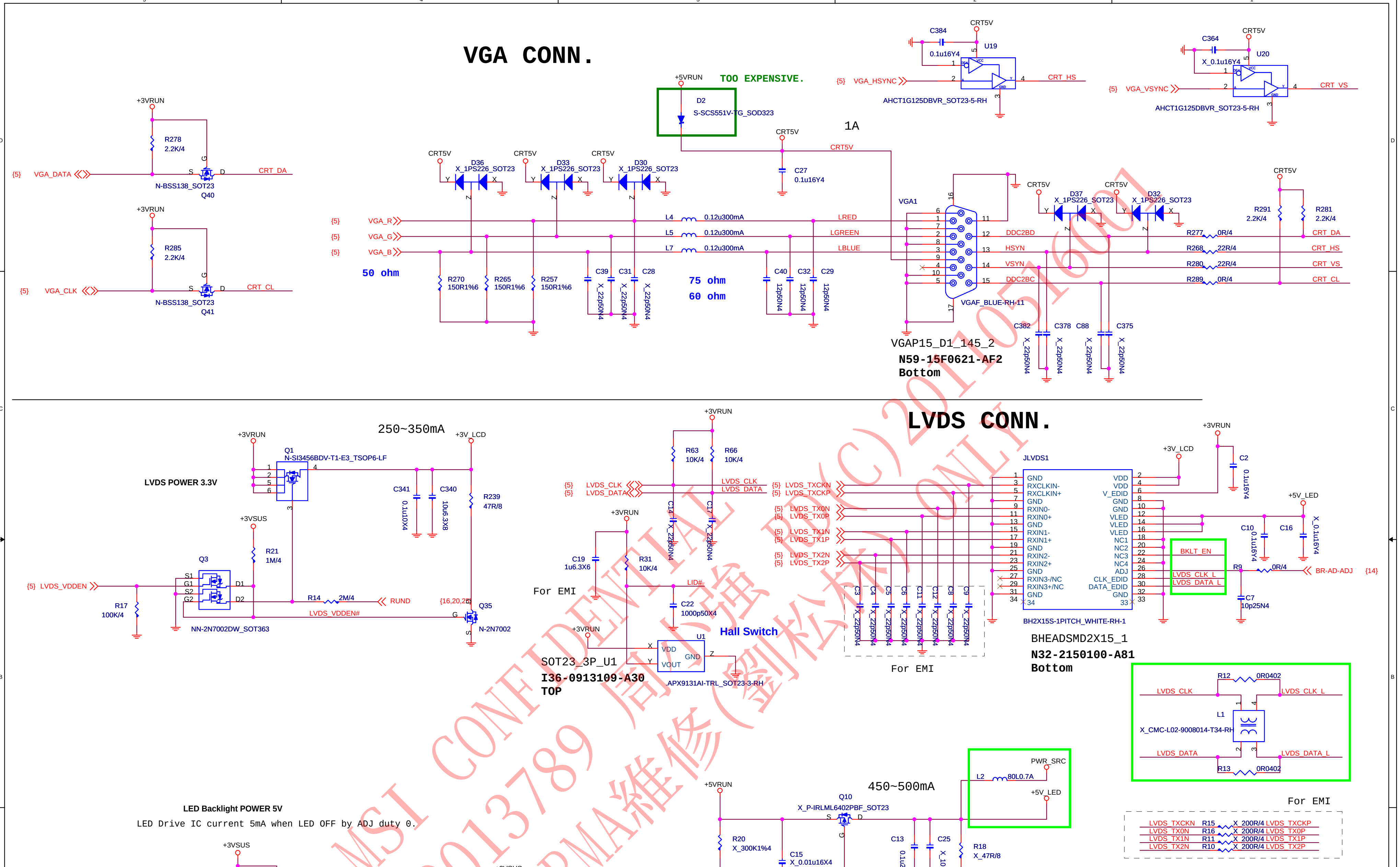
Size	Document Description	Rev
Custom	LAN_RTL8102E	0A

Date: Thursday, November 13, 2008 Sheet 15 of 37


VDD3V
R137 X_10KR0402 AMP_OFF
VDD3V
ADD5V
51mA
U11
DEPOP#
SPI/EAPD
SPO
{9} CODEC_HDA_SDOUT
{9} CODEC_HDA_SDIN0
{9} CODEC_HDA_SYNC
{9} CODEC_HDA_RST#
R131 39R0402 AZ_SDIN0
CODEC_HDA_RST#
SDATAO
SDATAIN
SYNC
RESET#
{9} CODEC_HDA_BITCLK
BCLK
AMP_OFF
GPIO0
GPIO1
{17} MIC_JD
R122 20K1%4
{17} FRONT_JD
R123 5.1K1%4
SENSE A
SENSE B
{17} MIC_VREFOUT_R
{17} MIC2_VREFOUT_L
{17} MIC_VREFOUT_L
MIC1-VREFO-R
MIC2-VREFO
MIC1-VREFO-L
LINE1-VREFO-R
LINE1-VREFO-L
LINE2-VREFO
VREF
DCVOL
JDREF/NC
PCBEEP
DVDDCORE
DVDD2
AVDD1
AVDD2
DVSS1
DVSS2
AVSS1
AVSS2
FRONT-R
FRONT-L
RIN-HP
LIN-HP
SURR-R
SURR-L
CCEN
LFE
SIDESURR-R
SIDESURR-L
LINE1-R
LINE1-L
LINE2-R
LINE2-L
LINE2_R
LINE2_L
MIC1-R
MIC1-L
C143 2.2U6.3X
C146 2.2U6.3X
MIC_IN_R {17}
MIC_IN_L {17}
MIC2-R
MIC2-L
C144 0.1U16X
C145 0.1U16X
INT_MIC {17}
CD_R
CD_GND
CD_L
ALC888S-VC2-GR
0.3A
C131 10U6.3X0805
C132 0.1U10X0402
ADD5V
R111 X_10K/4
R121 20K1%4
AGND
R132 X_100KR0402
R134 X_0R
+5VSUS
{18,20,25} RUND
Q20
N-AO3404_SOT23
ADD5V
1A
C137 4700P50X
C133 0.1U16Y0402
AGND
ADD5V
+5V_AMP
VDD3V
+3VRUN
CP11
120L600mA
C156 0.1U16Y0402
C157 X_0.1U16Y0402
C168 20U10Y0805
POWER ISOLATION (CODEC 3V)
EMC32 X_0.1U16Y0402
EMC33 X_0.1U16Y0402
CP22 X_COPPER
CP10 X_COPPER
+3VRUN
R102 10KR0402
AMP_EN#
AMP_OFF
Q18
N-2N7002_SOT23
U8
LINE2_R C126 1UF INTSPKR_R
LINE2_L C118 1UF INTSPKR_L
C125 1UF
AMP_EN#
INR_A
INL_A
BIAS
/AMP_EN
SET
HP EN
BEEP
CP+
CP-
INR_H
INL_H
GND-PAD
APA2057A
ROUT+
ROUT-
LOUT+
LOUT-
HVDD
VDD
GND
PVDD
PVDD
CVDD
PGND
PGND
CGND
VSS
VCSS
HP_R
HP_L
SPK_OUT_R+ {17}
SPK_OUT_R- {17}
SPK_OUT_L+ {17}
SPK_OUT_L- {17}
FRONT_OUT_R {17}
FRONT_OUT_L {17}
L8 180L1.5A
+3VRUN
C103 1UF
+5V_AMP
C100 10U10V0805
C128 0.1U0402
C96 1UF
C108 0.1U0402
C113 0.1U0402
ADD5V
AGND
+5VSUS
R107 100KR
SET_AMP
ADD5V
R100 100KR0402
R99 150KR0402
C124 0.01U25X0402
R89 10KR0402
D10
BAS40WS
C119 0.1U0402
R109 X_100KR0402
C102 1UF
RIN-HP C120 4.7UX R96 39KR0402
LIN-HP C109 4.7U R86 39KR0402
+3VRUN
D9
BAS40WS
R88 2MR0402
Q17
2N7002DW
D1
D2
S1
G1
S2
G2
D8
BAS40WS
CODEC_HDA_RST#
D7
X_BAS40WS
DEPOP#
C101 2.2U10X
AGND
MICRO-STAR INT'L CO.,LTD
MS-N033
Size Custom
Document Description
ALC888
Rev 0A
Date: Thursday, November 13, 2008
Sheet 16 of 37



MICRO-STAR INT'L CO.,LTD		
MS-N033		
Size: Custom	Document Description: **Audio JACKS**	Rev: 0A
Date: Thursday, November 13, 2008	Sheet 17 of 37	



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

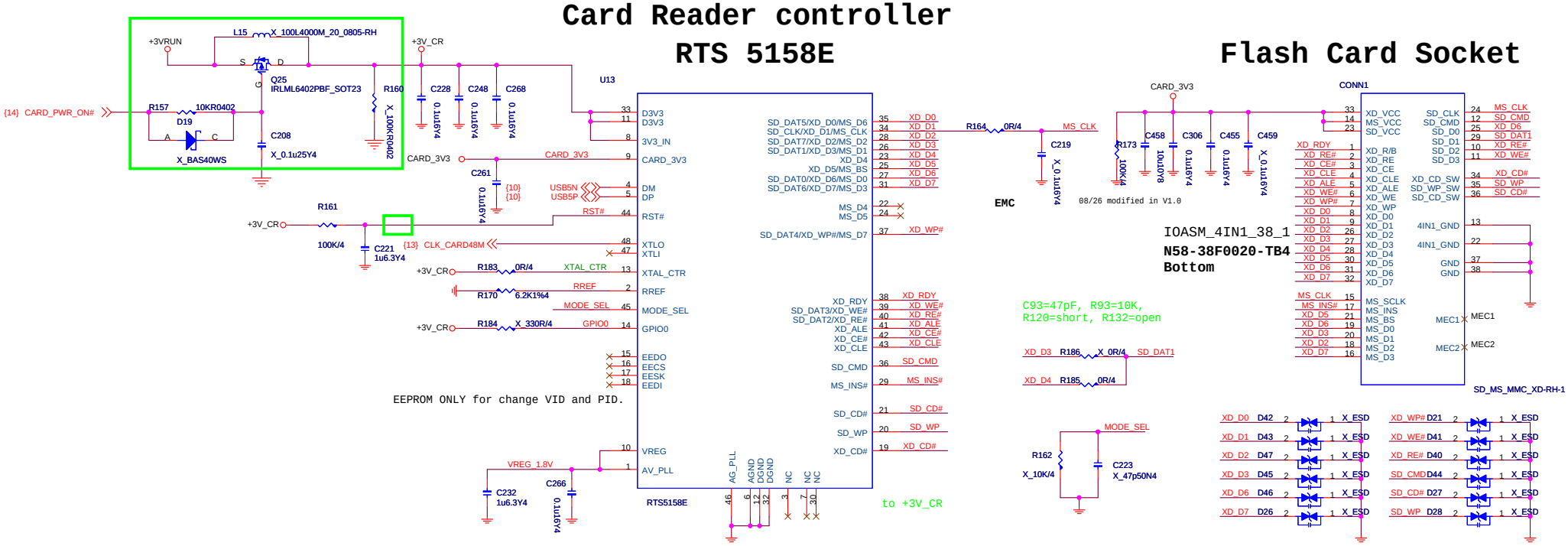
MICRO-STAR INT'L CO.,LTD

MS-N033

Size: Custom
Document Description: CRT, LVDS CONN
Rev: 0A

Date: Thursday, November 13, 2008 Sheet 18 of 37

Card Reader controller
RTS 5158E

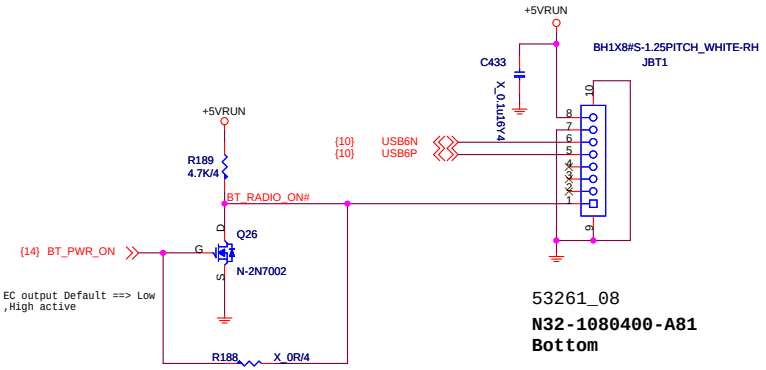


Flash Card Socket

SATA HDD

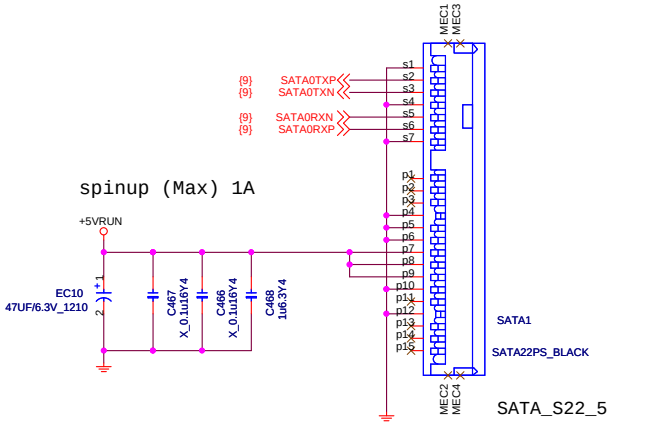
SATA,2.5 inch,80GB,5400RPM
WD S71-2408505-W36
Fujitsu S71-2408511-F06
Toshiba S71-2408517-T14

BLUETOOTH



53261_08
N32-1080400-A81
Bottom

SATA HDD CONN



SATA_S22_5
N5N-22F0180-AF2
Bottom

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

MICRO-STAR INT'L CO.,LTD
MS-N033
Size: Custom
Document Description: CardReader RTS5158E/ BT/ SATA HDD
Rev: 0A
Date: Thursday, November 13, 2008
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Mini PCIE Slot 1

3G

+3VRUN_TV, 1.5A

+1_5VRUN, 0.5A

JGPS1

X_BH1X2S-1.25PITCH_WHITE

{14} TV_PWRON#

Q44 X_IRLML6402PBF_SOT23

D23 X_BAS40WS

R167 10KR0402

R319 X_10KR0402

L22 100L4000M_20_0805-RH

C214 X_0.1u25Y4

H=7.0mm

PESLOT1

SLOT-MINIPCI52P-0.8PITCH-RH-1

KEY

R318 X_10K/4

{11,15,21} PCIE_WAKE#

{13} CLK_MINI_PCIE1#

{13} CLK_MINI_PCIE1

USIM_PWR USIM_DATA USIM_CLK USIM_RESET

3G_PWRON {14}

MINIPCIE1_RST# {10}

{10} PCIE_MINI_RXN1

{10} PCIE_MINI_RXP1

{10} PCIE_MINI_TXN1

{10} PCIE_MINI_TXP1

USB3_N USB3_P

EC4 X_C100u6.3pSQ

EC3 47UF/6.3V_1210

C172 10u10Y8

C151 0.1u16Y4

C213 X_10u10Y8

C153 0.1u16Y4

C173 2.2u6.3Y6

R67 0R

EMC18 X_0.1u25Y4

C85 4.7u6.3X8

R296 0R/4

C386 X_0.01u25X4

J1 SIM_CARD_CON

D38 X_ESD

D6 X_ESD

R293 X_10K/4

USIM

SIMCARD_S6

N5U-06F0010-TB4

Bottom

{10} USB3N

{10} USB3P

R104 0R0402

R103 0R0402

L9 X_CMC-L02-9008014-T34-RH

USB CONN

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

+5VSUS

F1 F-SMD1812P260TF-RH

USB5V_B

EC6 47UF/6.3V_1210

C432 X_0.1u16Y4

C205 470p16X4

USB1

{10} USB0N

{10} USB0P

L23 CMC-L02-9008014-T34-RH

USB0N_L USB0P_L

C426 X_10p25N4

C418 X_10p25N4

CONN-USBX1

USB_A1_4_2

N53-04M0580-AF2

Bottom

F2 F-SMD1812P150TF

USB5V_A

EC18 47UF/6.3V_1210

C457 X_0.1u16Y4

C456 470p16X4

USB3

{10} USB1N

{10} USB1P

L27 CMC-L02-9008014-T34-RH

USB1N_L USB1P_L

C460 X_10p25N4

C461 X_10p25N4

CONN-USBX1

USB_A1_4_2

N53-04M0580-AF2

Bottom

C199 X_0.1u16Y4

C198 X_470p16X4

USB2

{10} USB2N

{10} USB2P

L26 X_CMC-L02-9008014-T34-RH

USB2N_L USB2P_L

C446 X_10p25N4

C447 X_10p25N4

X_CONN-USBX1

USB_A1_4_2

D0G-25B0600-R02

DIS EMI/ESD PROTECTOR,RAYCHEM/PESD0402-060,6V,0.25pF,

,SMD-1.0x0.5x0.38mm,ESD PROTECTOR,RoHS(EU EXEMPTION)

N53-04M0580-AF2

Bottom

CAMERA

+5VSUS

R244 100K/4

+3VSUS

{16,18,25} RUND

R34 2M/4

Q9 N-AO3404_SOT23

L3 100L4A0805

+3V_CAMERA

C349 10u10Y8

C345 X_0.1u16Y4

Q37 NN-2N7002DW_SOT363

{14} CAMERA_ON#

C350 X_10p25N4

{10} USB4N

{10} USB4P

L19 X_CMC-L02-9008014-T34-RH

C347 X_22p50N4

C346 X_22p50N4

JCAM1 BH1X5HS-1.25PITCH-RH

53261_05

N32-1050400-A81

Bottom

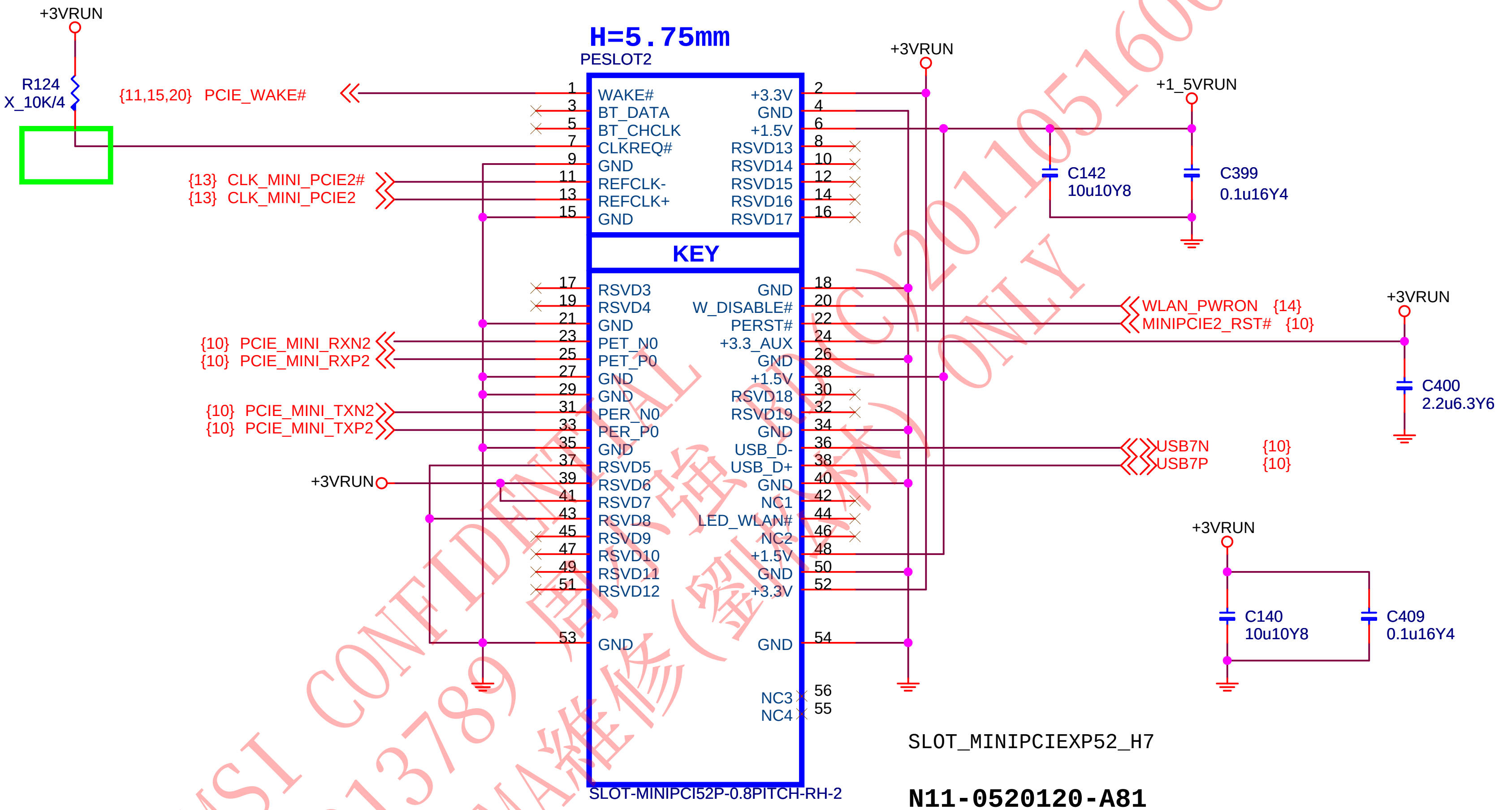
MSI	MICRO-STAR INT'L CO.,LTD
	MS-N033
Size: Custom	Document Description: Mini PCIE1, CAMERA, USB CONN
	Rev: 0A
Date: Thursday, November 13, 2008	Sheet 20 of 37

Mini PCIE Slot 2

Wireless LAN

+3VRUN, 1.5A

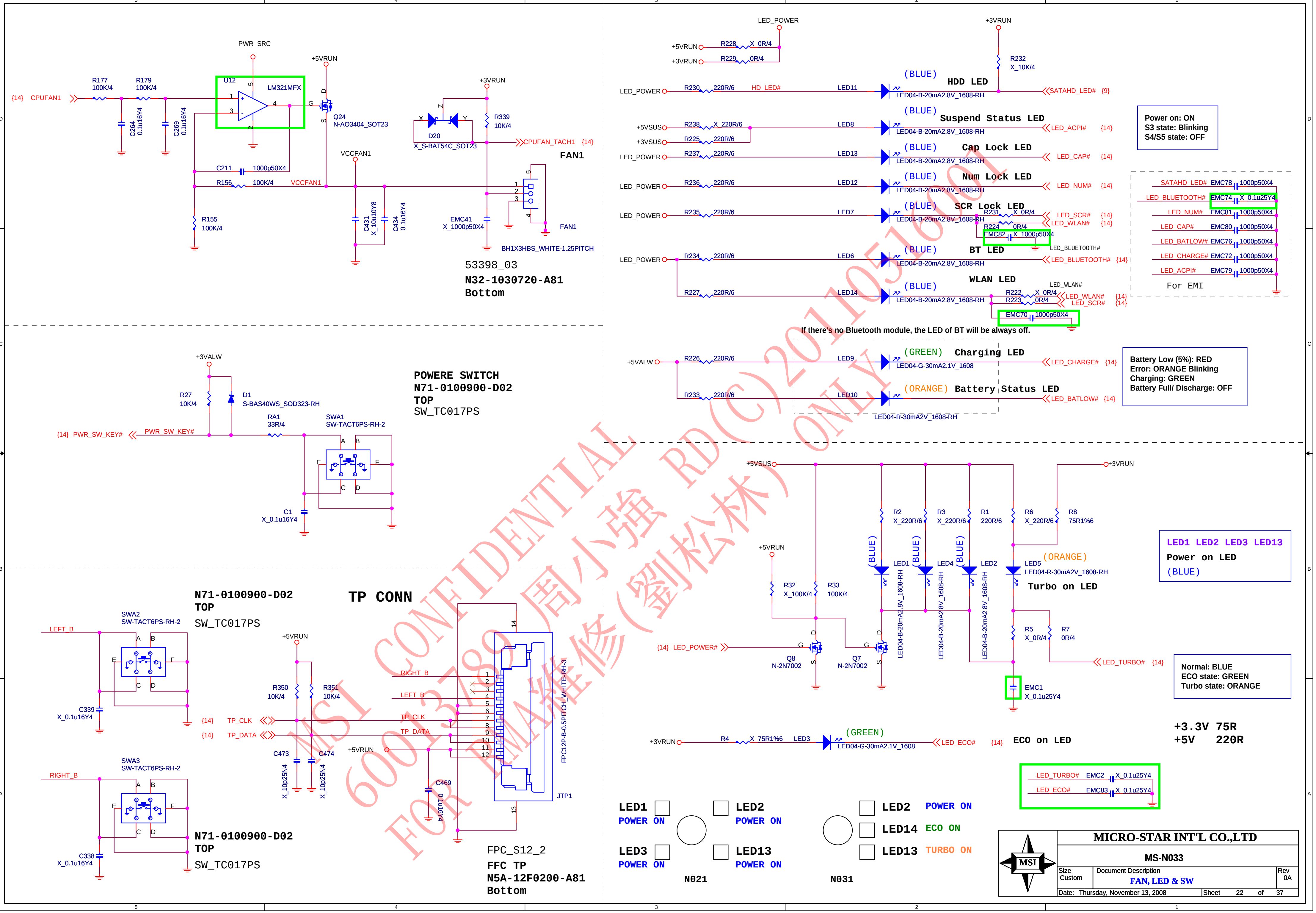
+1_5VRUN, 0.5A



SLOT_MINIPCIEXP52_H7

N11-0520120-A81
Bottom

MICRO-STAR INT'L CO.,LTD		
MS-N033		
Size: Custom	Document Description: Mini PCIE2	Rev: 0A
Date: Thursday, November 13, 2008	Sheet 21 of 37	



PWR_SRC
+5VRUN
+3VRUN
R177 100K/4
R179 100K/4
{14} CPUFAN1
U12 LM321MFX
C264 0.1u16Y4
C269 0.1u16Y4
Q24 N-AO3404_SOT23
D20 X_S-BAT54C_SOT23
R339 10K/4
CPUFAN_TACH1 {14}
FAN1
C211 1000p50X4
R156 100K/4 VCCFAN1
VCCFAN1
R155 100K/4
C431 X_10u10Y8
C434 0.1u16Y4
EMC41 X_1000p50X4
BH1X3HBS_WHITE-1.25PITCH
53398_03
N32-1030720-A81
Bottom
LED_POWER
+5VRUN R228 X_0R/4
+3VRUN R229 0R/4
R232 X_10K/4
(BLUE) HDD LED
LED_POWER R230 220R/6 HD_LED# LED11 LED04-B-20mA2.8V_1608-RH SATAHD_LED# {9}
(BLUE) Suspend Status LED
+5VSUS R238 X_220R/6 LED8 LED_ACPI# {14}
+3VSUS R225 220R/6
(BLUE) Cap Lock LED
LED_POWER R237 220R/6 LED13 LED_CAP# {14}
(BLUE) Num Lock LED
LED_POWER R236 220R/6 LED12 LED_NUM# {14}
(BLUE) SCR Lock LED
LED_POWER R235 220R/6 LED7 R231 X_0R/4 LED_SCR# {14} LED_WLAN# {14}
R224 0R/4 EMC82 X_1000p50X4 LED_BLUETOOTH#
(BLUE) BT LED
LED_POWER R234 220R/6 LED6 LED_BLUETOOTH# {14}
(BLUE) WLAN LED
R227 220R/6 LED14 LED_WLAN# R222 X_0R/4 R223 0R/4 LED_WLAN# {14} LED_SCR# {14}
EMC70 1000p50X4
If there's no Bluetooth module, the LED of BT will be always off.
Power on: ON
S3 state: Blinking
S4/S5 state: OFF
SATAHD_LED# EMC78 1000p50X4
LED_BLUETOOTH# EMC74 X_0.1u25Y4
LED_NUM# EMC81 1000p50X4
LED_CAP# EMC80 1000p50X4
LED_BATLOW# EMC76 1000p50X4
LED_CHARGE# EMC72 1000p50X4
LED_ACPI# EMC79 1000p50X4
For EMI
+5VALW R226 220R/6 (GREEN) Charging LED LED9 LED04-G-30mA2.1V_1608 LED_CHARGE# {14}
R233 220R/6 (ORANGE) Battery Status LED LED10 LED04-R-30mA2V_1608-RH LED_BATLOW# {14}
Battery Low (5%): RED
Error: ORANGE Blinking
Charging: GREEN
Battery Full/ Discharge: OFF
+3VALW
R27 10K/4
D1 S-BAS40WS_SOD323-RH
RA1 33R/4
SWA1 SW-TACT6PS-RH-2
{14} PWR_SW_KEY# PWR_SW_KEY#
C1 X_0.1u16Y4
POWERE SWITCH
N71-0100900-D02
TOP
SW_TC017PS
+5VSUS +3VRUN
R2 X_220R/6 R3 X_220R/6 R1 220R/6 R6 X_220R/6 R8 75R1%6
(BLUE) LED1 (BLUE) LED4 (BLUE) LED2 LED5 (ORANGE) LED04-R-30mA2V_1608-RH
Turbo on LED
+5VRUN R32 X_100K/4 R33 100K/4
{14} LED_POWER# Q8 N-2N7002 Q7 N-2N7002
R5 X_0R/4 R7 0R/4 LED_TURBO# {14}
EMC1 X_0.1u25Y4
LED1 LED2 LED3 LED13
Power on LED
(BLUE)
Normal: BLUE
ECO state: GREEN
Turbo state: ORANGE
+3VRUN R4 X_75R1%6 LED3 (GREEN) LED04-G-30mA2.1V_1608 LED_ECO# {14} ECO on LED
+3.3V 75R
+5V 220R
LED_TURBO# EMC2 X_0.1u25Y4
LED_ECO# EMC83 X_0.1u25Y4
N71-0100900-D02
TOP
SW_TC017PS
TP CONN
SWA2 SW-TACT6PS-RH-2
LEFT_B
C339 X_0.1u16Y4
SWA3 SW-TACT6PS-RH-2
RIGHT_B
C338 X_0.1u16Y4
N71-0100900-D02
TOP
SW_TC017PS
+5VRUN R350 10K/4 R351 10K/4
{14} TP_CLK
{14} TP_DATA
C473 X_10p25N4 C474 X_10p25N4
+5VRUN C469 0.1u16Y4
RIGHT_B LEFT_B TP_CLK TP_DATA
FPC12P-B-0.5PITCH_WHITE-RH-3
JTP1
FPC_S12_2
FFC TP
N5A-12F0200-A81
Bottom
LED1 POWER ON
LED2 POWER ON
LED3 POWER ON
LED13 POWER ON
N021
LED2 POWER ON
LED14 ECO ON
LED13 TURBO ON
N031
MSI
MICRO-STAR INT'L CO.,LTD
MS-N033
Size Custom
Document Description FAN, LED & SW
Rev 0A
Date: Thursday, November 13, 2008
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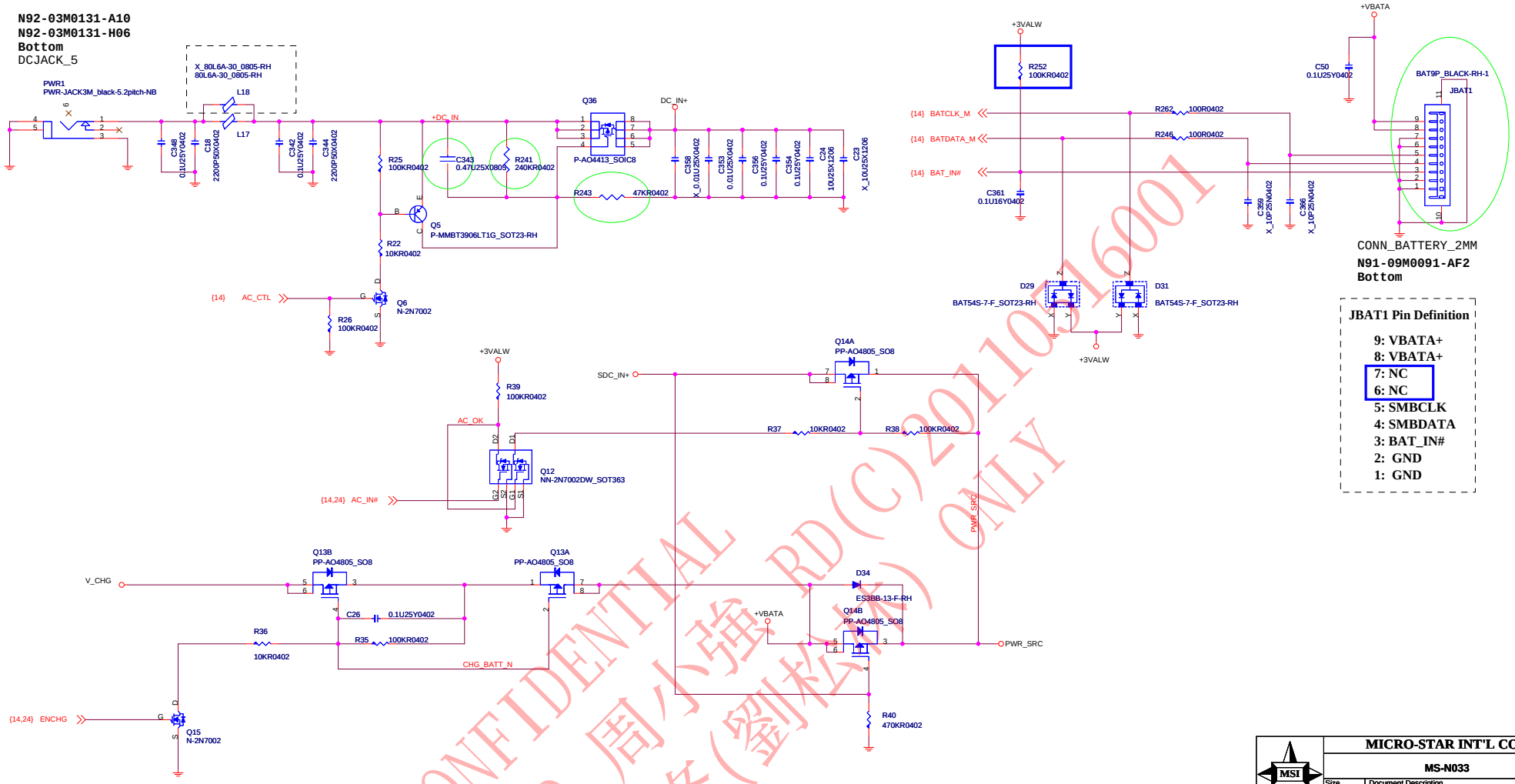
N92-03M0131-A10
N92-03M0131-H06
Bottom
DCJACK_5



MICRO-STAR INT'L CO.,LTD
MS-N033
Size: Custom
Document Description: Battery select
Rev: 0A
Date: Thursday, November 13, 2008
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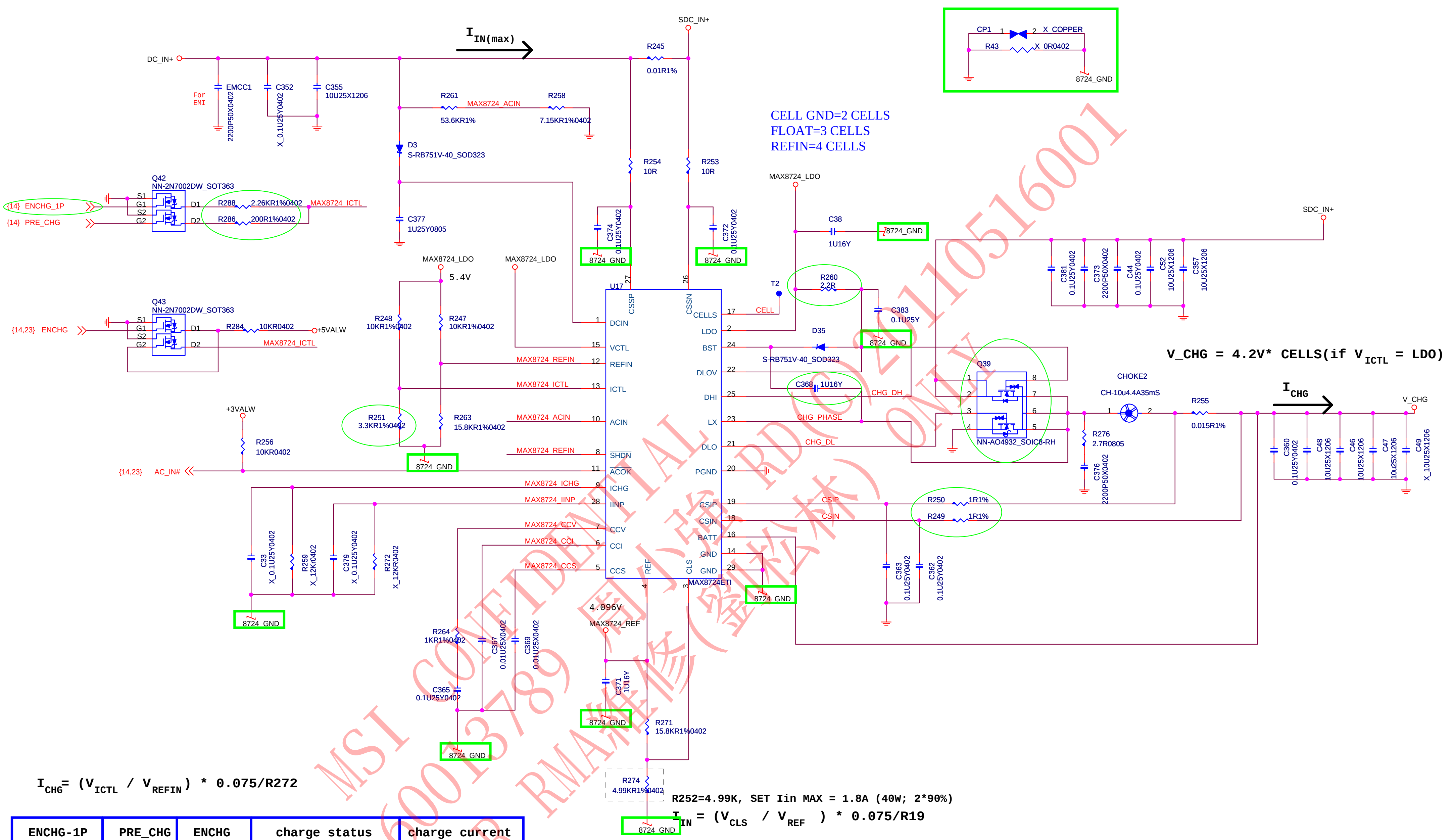
Adapter= 40 W

Adapter input voltage set 20 Voltage 2 Amps



I_{CHG}= (V_{ICTL} / V_{REFIN}) * 0.075/R272

R252=4.99K, SET Iin MAX = 1.8A (40W; 2*90%)

I_{IN} = (V_{CLS} / V_{REF}) * 0.075/R19

ENCHG-1P	PRE_CHG	ENCHG	charge status	charge current
0	1	1	Pre-charge	200 mA
1	0	1	3S1P-Fast charge	1.0 A
0	0	1	3S2P-Fast charge	2.05A
X	X	0	STOP CHARGE	0

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

MICRO-STAR INT'L CO.,LTD

MS-N033

Size	Document Description	Rev
Custom	Battery Charger	0A

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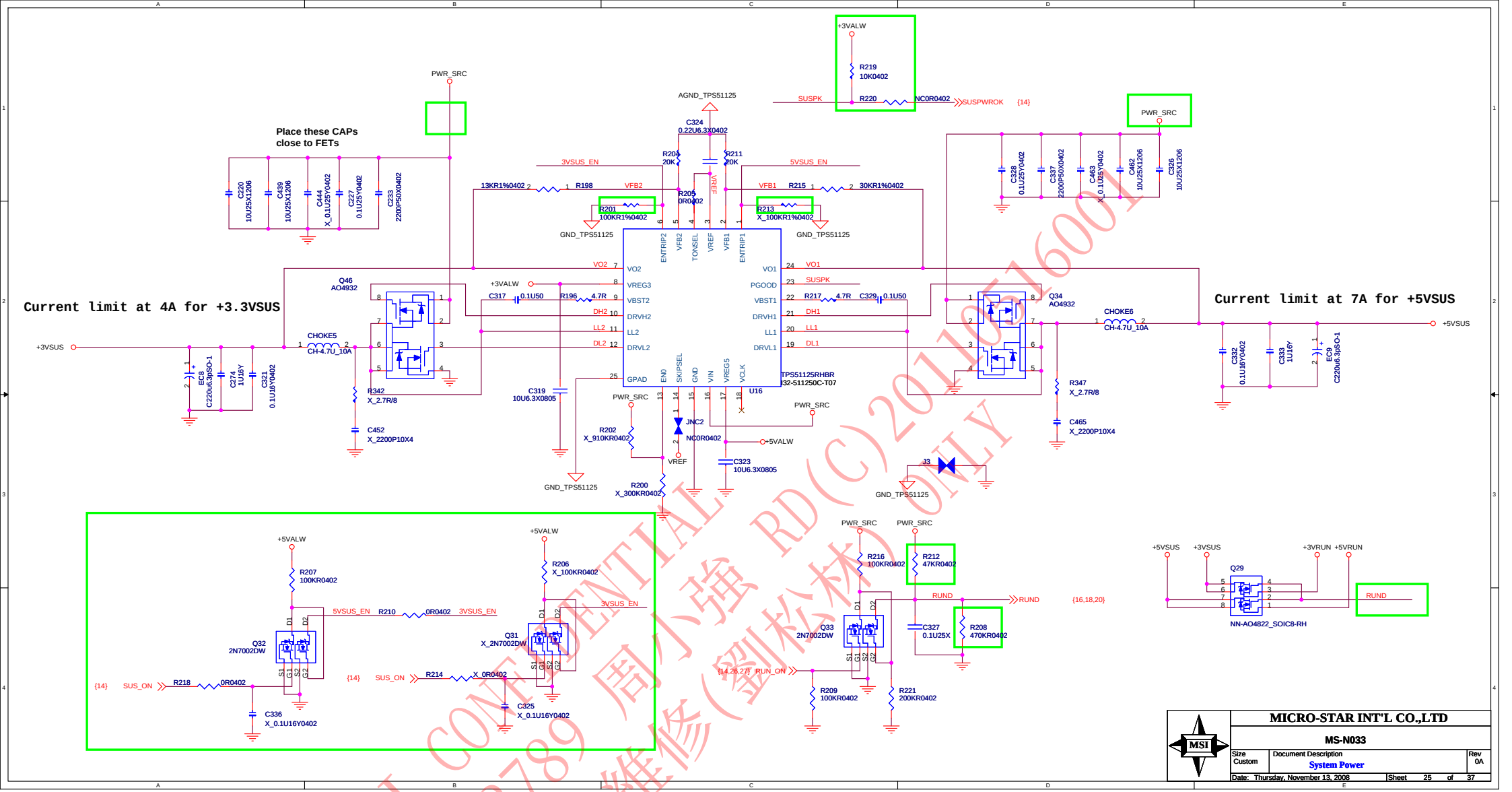
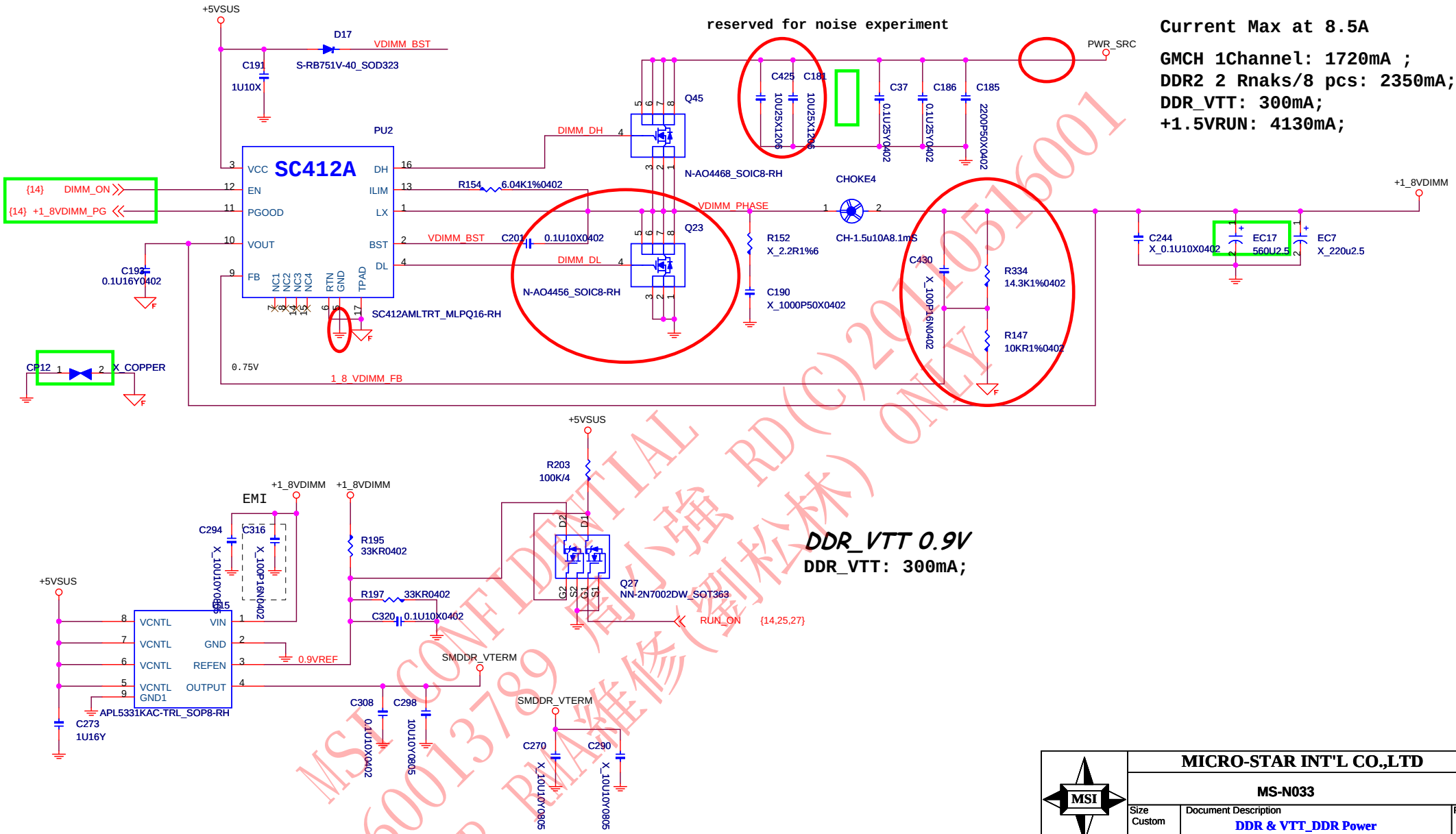
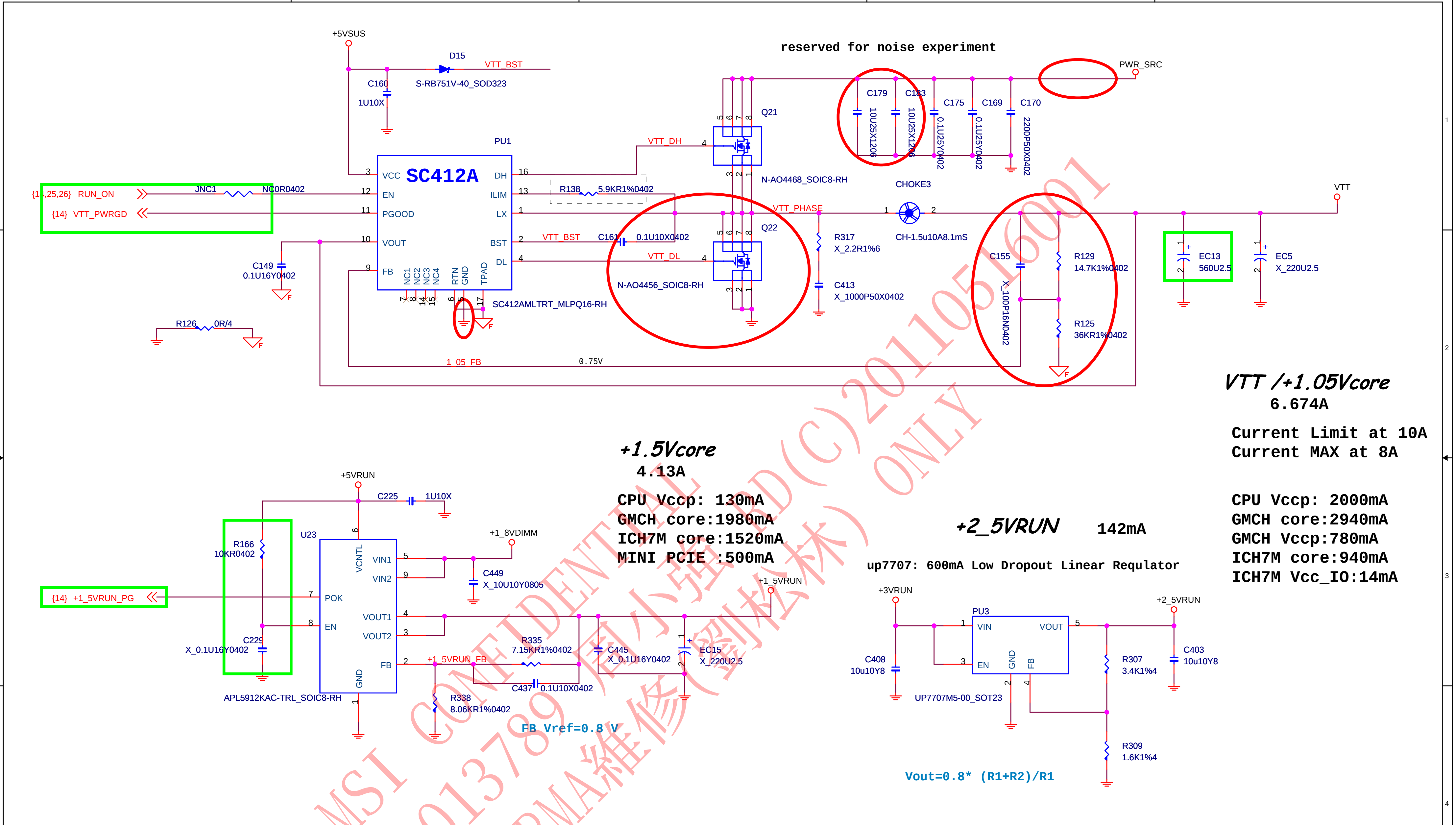




MICRO-STAR INT'L CO.,LTD	
MS-N033	
Size: Custom	Document Description: DDR & VTT_DDR Power
Rev: 0A	
Date: Thursday, November 13, 2008	Sheet 26 of 37



reserved for noise experiment
+5VSUS
D15
VTT_BST
S-RB751V-40_SOD323
C160
1U10X
PU1
SC412A
SC412AMLTRT_MLPQ16-RH
{14,25,26} RUN_ON
{14} VTT_PWRGD
JNC1
NC0R0402
R138 5.9KR1%0402
C149
0.1U16Y0402
R126 0R/4
VTT_DH
VTT_DL
VTT_PHASE
C161 0.1U10X0402
Q21
N-AO4468_SOIC8-RH
Q22
N-AO4456_SOIC8-RH
C179 C183 C175 C169 C170
10U25X1206
0.1U25Y0402
2200P50X0402
PWR_SRC
CHOKE3
CH-1.5u10A8.1mS
R317
X_2.2R1%6
C413
X_1000P50X0402
C155
X_100P16N0402
R129
14.7K1%0402
R125
36KR1%0402
EC13
560U2.5
EC5
X_220U2.5
VTT
1_05_FB
0.75V
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
+1.5Vcore
4.13A
CPU Vccp: 130mA
GMCH core:1980mA
ICH7M core:1520mA
MINI PCIE :500mA
+5VRUN
C225 1U10X
U23
APL5912KAC-TRL_SOIC8-RH
R166
10KR0402
{14} +1_5VRUN_PG
C229
X_0.1U16Y0402
+1_8VDIMM
C449
X_10U10Y0805
+1_5VRUN
R335
7.15KR1%0402
C445
X_0.1U16Y0402
EC15
X_220U2.5
+1_5VRUN_FB
C437 0.1U10X0402
R338
8.06KR1%0402
FB Vref=0.8 V
+2_5VRUN 142mA
up7707: 600mA Low Dropout Linear Requlator
+3VRUN
+2_5VRUN
PU3
UP7707M5-00_SOT23
C408
10u10Y8
R307
3.4K1%4
C403
10u10Y8
R309
1.6K1%4
Vout=0.8* (R1+R2)/R1

MICRO-STAR INT'L CO.,LTD	
MS-N033	
Size: B	Document Description: 1.05V, 1.5V, 2.5V- POWER	Rev: 0A
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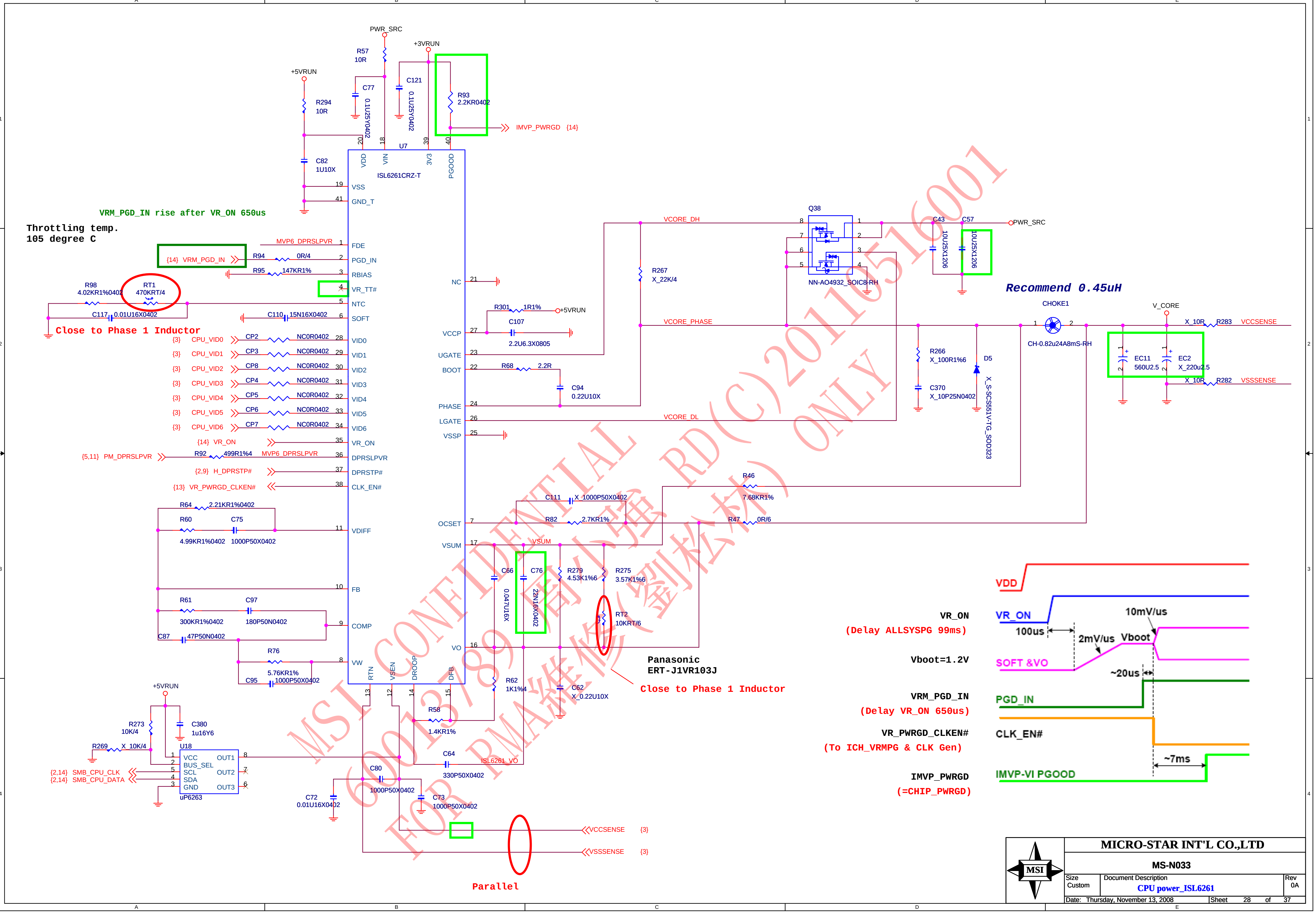

PWR_SRC
R57
10R
+3VRUN
+5VRUN
C121
C77
0.1U25Y0402
R93
2.2KR0402
IMVP_PWRGD {14}
R294
10R
C82
1U10X
U7
ISL6261CRZ-T
VDD
VIN
3V3
PGOOD
VSS
GND_T
VRM_PGD_IN rise after VR_ON 650us
Throttling temp.
105 degree C
MVP6_DPRSLPVR
FDE
{14} VRM_PGD_IN
R94
0R/4
PGD_IN
R95
147KR1%
RBIAS
R98
4.02KR1%0402
RT1
470KRT/4
VR_TT#
NTC
C117
0.01U16X0402
C110
15N16X0402
SOFT
Close to Phase 1 Inductor
{3} CPU_VID0
{3} CPU_VID1
{3} CPU_VID2
{3} CPU_VID3
{3} CPU_VID4
{3} CPU_VID5
{3} CPU_VID6
NC0R0402
VID0
VID1
VID2
VID3
VID4
VID5
VID6
{14} VR_ON
VR_ON
{5,11} PM_DPRSLPVR
R92
499R1%4
MVP6_DPRSLPVR
DPRSLPVR
{2,9} H_DPRSTP#
DPRSTP#
{13} VR_PWRGD_CLKEN#
CLK_EN#
R64
2.21KR1%0402
R60
C75
4.99KR1%0402
1000P50X0402
VDIFF
FB
R61
C97
300KR1%0402
180P50N0402
COMP
C87
47P50N0402
R76
5.76KR1%
VW
C95
1000P50X0402
RTN
VSEN
DROOP
DFB
NC
VCCP
UGATE
BOOT
PHASE
LGATE
VSSP
OCSET
VSUM
VO
R301
1R1%
C107
2.2U6.3X0805
R68
2.2R
C94
0.22U10X
VCORE_DH
VCORE_PHASE
VCORE_DL
R267
X_22K/4
Q38
NN-AO4932_SOIC8-RH
C43
C57
10U25X1206
Recommend 0.45uH
CHOKE1
CH-0.82u24A8mS-RH
V_CORE
X_10R
R283
VCCSENSE
R282
VSSSENSE
R266
X_100R1%6
D5
X_S-SCS551V-TG_SOD323
C370
X_10P25N0402
EC11
560U2.5
EC2
X_220u2.5
C111
X_1000P50X0402
R82
2.7KR1%
R46
7.68KR1%
R47
0R/6
VSUM
C66
0.047U16X
C76
22N16X0402
R279
4.53K1%6
R275
3.57K1%6
RT2
10KRT/6
Panasonic
ERT-J1VR103J
Close to Phase 1 Inductor
R62
1K1%4
C62
X_0.22U10X
R58
1.4KR1%
C64
330P50X0402
ISL6261_VO
C80
1000P50X0402
C73
1000P50X0402
C72
0.01U16X0402
+5VRUN
R273
10K/4
C380
1u16Y6
R269
X_10K/4
U18
uP6263
VCC
BUS_SEL
SCL
SDA
GND
OUT1
OUT2
OUT3
{2,14} SMB_CPU_CLK
{2,14} SMB_CPU_DATA
VCCSENSE {3}
VSSSENSE {3}
Parallel
VR_ON
(Delay ALLSYSPG 99ms)
Vboot=1.2V
VRM_PGD_IN
(Delay VR_ON 650us)
VR_PWRGD_CLKEN#
(To ICH_VRMPG & CLK Gen)
IMVP_PWRGD
(=CHIP_PWRGD)
VDD
VR_ON
100us
2mV/us
Vboot
10mV/us
SOFT &VO
~20us
PGD_IN
CLK_EN#
~7ms
IMVP-VI PGOOD
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Parallel

MH1 HOLES_8X8_D3MM_VIA8
MH4 HOLES_8X8_D3MM_VIA8
MH6 HOLES_8X8_D3MM_VIA8
MH3 HOLES_8X8_D3MM_VIA8
HOLES_8X8_D3MM MH5 X_8x8
HOLES_8X8_D3MM MH13 X_8x8
HOLES_OB43X116D24X73 MH9 X_HOLES_OB43X116D24X73
HOLES_8X8_D3MM MH11 X_8x8
MH12 HOLES_8X8_D3MM_VIA3
MH15 HOLES_8X8_D3MM_VIA3
MH7 holes_r256d91_1
08/21 modify footprint in V1.0
HOLES_8X8_D3MM MH14 X_8x8
HOLES_OB43X116D24X73 MH10 X_HOLES_OB43X116D24X73
HOLES_8X8_D3MM MH16 X_8x8
HOLES_8X8_D3MM MH17 X_8x8
HOLES_8X8_D3MM MH8 X_8x8
H_NR118D118 MH2 X_H_NR118D118

FM11 X_F_PAD_M120
FM3 X_F_PAD_M120
FM10 X_F_PAD_M100
FM14 X_F_PAD_M100
FM2 X_F_PAD_M120
FM6 X_F_PAD_M120
FM17 X_F_PAD_M120
FM7 X_F_PAD_M120
FM1 X_F_PAD_M120
FM5 X_F_PAD_M100
FM12 X_F_PAD_M120
FM8 X_F_PAD_M120
FM4 X_F_PAD_M120
FM15 X_F_PAD_M120
FM16 X_F_PAD_M120
FM9 X_F_PAD_M120
FM18 X_F_PAD_M120
FM13 X_F_PAD_M120

FMA1 X_PANEL_PAD
FMA4 X_PANEL_PAD

P5 X_CLIP
P17 X_CLIP
P18 X_CLIP
P12 X_CLIP
P8 CLIP
P3 CLIP
P14 X_CLIP
P16 X_CLIP
P15 X_CLIP
P20 CLIP
P1 X_CLIP
P9 X_CLIP
P4 X_CLIP
P10 X_CLIP
P11 X_CLIP
P7 X_CLIP
P6 X_CLIP
P2 X_CLIP
P13 X_CLIP
P21 CLIP
P19 X_CLIP

STAND OFF FOR MINI PCIE

3G
E2B-1034020-RH H1
HOLES_R177D91
E2B-1034020-L63
Bottom

Wireless LAN
E2B-1034020-RH H2
HOLES_R177D91
E2B-1634020-L63
Bottom

FOIL1 X_FOIL
FOIL2 X_FOIL
SPONGE1 X_AUDIO SPONGE
Mylar1 X_DDR MYLAR

Simulation

SIP2 L1_4.5mil_55_Ohm X_PIN1*2
SIP1 L3_4mil_55_Ohm X_PIN1*2
SIP18 L4_4mil_55_Ohm X_PIN1*2
SIP15 L6_4.5mil_55_Ohm X_PIN1*2
SIP12 L1_8/4.5/8_70_Ohm+ X_PIN1*2
SIP14 L1_8/4.5/8_70_Ohm- X_PIN1*2
SIP11 L1_5/6/5_90_Ohm+ X_PIN1*2
SIP13 L1_5/6/5_90_Ohm- X_PIN1*2
SIP6 L1_4/7/4_100_Ohm+ X_PIN1*2
SIP4 L1_4/7/4_100_Ohm- X_PIN1*2
SIP8 L3_8/7/8_70_Ohm+ X_PIN1*2
SIP10 L3_8/7/8_70_Ohm- X_PIN1*2
SIP3 L3_4/6/4_90_Ohm+ X_PIN1*2
SIP5 L3_4/6/4_90_Ohm- X_PIN1*2
SIP7 L3_4/7/4_100_Ohm+ X_PIN1*2
SIP9 L3_4/7/4_100_Ohm- X_PIN1*2
SIP17 L4_4/6/4_90_Ohm+ X_PIN1*2
SIP16 L4_4/6/4_90_Ohm- X_PIN1*2
SIP20 L4_4/7/4_100_Ohm+ X_PIN1*2
SIP19 L4_4/7/4_100_Ohm- X_PIN1*2
SIP22 L6_4/7/4_100_Ohm+ X_PIN1*2
SIP21 L6_4/7/4_100_Ohm- X_PIN1*2

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JBAT2

BAT-CR2032

PCB1

PCB-N0331

P30-N03310A-H73/D05

E1

BIOS LABEL

BIOS_LABEL
G51-LA01678-A09

8/26 add in 1.0 BOM.

VTT

EMC36 X_0.1u16Y4
EMC28 X_0.1u16Y4
EMC35 X_0.1u25Y4
EMC40 X_0.1u25Y4
EMC23 X_0.1u16Y4

+1_5VRUN

EMC69 X_0.1u25Y4
EMC38 X_0.1u16Y4
EMC103 X_0.1u25Y4
EMC39 X_0.1u16Y4
EMC34 X_0.1u16Y4
EMC106 X_0.1u25Y4

+3VALW

EMC48 X_0.1u25Y4
EMC116 X_0.1u16Y4
EMC66 X_0.1u16Y4
EMC45 X_0.1u25Y4

+VBATA

EMC87 X_0.1u25Y4
EMC12 X_0.1u25Y4
EMC90 X_0.1u25Y4
EMC89 X_0.1u25Y4
EMC88 X_0.1u25Y4
EMC13 X_0.1u25Y4
EMC14 X_0.1u25Y4
EMC91 X_0.1u25Y4

PWR_SRC

EMC92 X_0.1u25Y4
EMC93 X_0.1u25Y4
EMC5 X_0.1u25Y4
EMC108 X_0.1u25Y4
EMC120 X_0.1u25Y4
EMC11 X_0.1u25Y4
EMC16 X_0.1u25Y4
EMC8 X_0.1u25Y4
EMC15 X_0.1u25Y4
EMC10 X_0.1u25Y4

+3VRUN

EMC61 X_0.1u16Y4
EMC26 X_0.1u25Y4
EMC30 X_0.1u25Y4
EMC97 X_0.1u25Y4
EMC123 X_0.1u25Y4
EMC98 X_0.1u25Y4
EMC25 X_0.1u25Y4
EMC64 X_0.1u25Y4
EMC3 X_0.1u25Y4
EMC54 X_0.1u25Y4
EMC75 X_0.1u16Y4
EMC124 X_0.1u25Y4

+5VRUN

EMC37 X_0.1u16Y4
EMC62 X_0.1u16Y4
EMC71 X_0.1u25Y4
EMC67 X_0.1u25Y4
EMC6 X_0.1u16Y4

+3VRUN

EMC73 X_0.1u16Y4

+5VRUN

+3VALW

EMC43 X_0.1u25Y4

+3VRUN

+1_5VRUN

EMC96 X_0.1u25Y4
EMC24 X_0.1u25Y4
EMC99 X_0.1u25Y4

+5VSUS

EMC86 X_0.1u16Y4
EMC56 X_0.1u25Y4
EMC46 X_0.1u25Y4
EMC122 X_0.1u25Y4
EMC115 X_0.1u25Y4
EMC65 X_0.1u25Y4
EMC77 X_1000p50X4
EMC44 X_0.1u25Y4

VTT

EMC29 X_0.1u25Y4
EMC107 X_0.1u25Y4
EMC109 X_0.1u25Y4
EMC31 0.1u25Y4

+3VSUS

EMC84 X_0.1u25Y4
EMC121 X_0.1u16Y4
EMC85 X_0.1u25Y4
EMC4 X_0.1u25Y4
EMC7 X_0.1u16Y4
EMC9 X_0.1u25Y4

+3VRUN

EMC60 X_0.1u16Y4
EMC17 X_0.1u25Y4
EMC68 X_0.1u25Y4
EMC53 X_0.1u25Y4

+1_8VDIMM

EMC52 X_0.1u25Y4
EMC57 0.1u25Y4
EMC58 0.1u25Y4
EMC55 X_0.1u25Y4
EMC50 X_0.1u25Y4
EMC47 X_0.1u25Y4
EMC42 X_0.1u25Y4
EMC51 X_0.1u25Y4
EMC49 X_0.1u25Y4
EMC113 X_0.1u25Y4
EMC111 X_0.1u25Y4
EMC112 X_0.1u25Y4

+3VRUN_TV

EMC27 X_0.1u25Y4
EMC100 X_0.1u25Y4
EMC101 X_0.1u25Y4
EMC104 X_0.1u25Y4

+1_5VRUN

EMC105 X_0.1u25Y4
EMC102 X_0.1u25Y4
EMC110 X_0.1u25Y4

+5VSUS

EMC59 X_0.1u16Y4
EMC63 X_0.1u16Y4

MSI	MICRO-STAR INT'L CO.,LTD	
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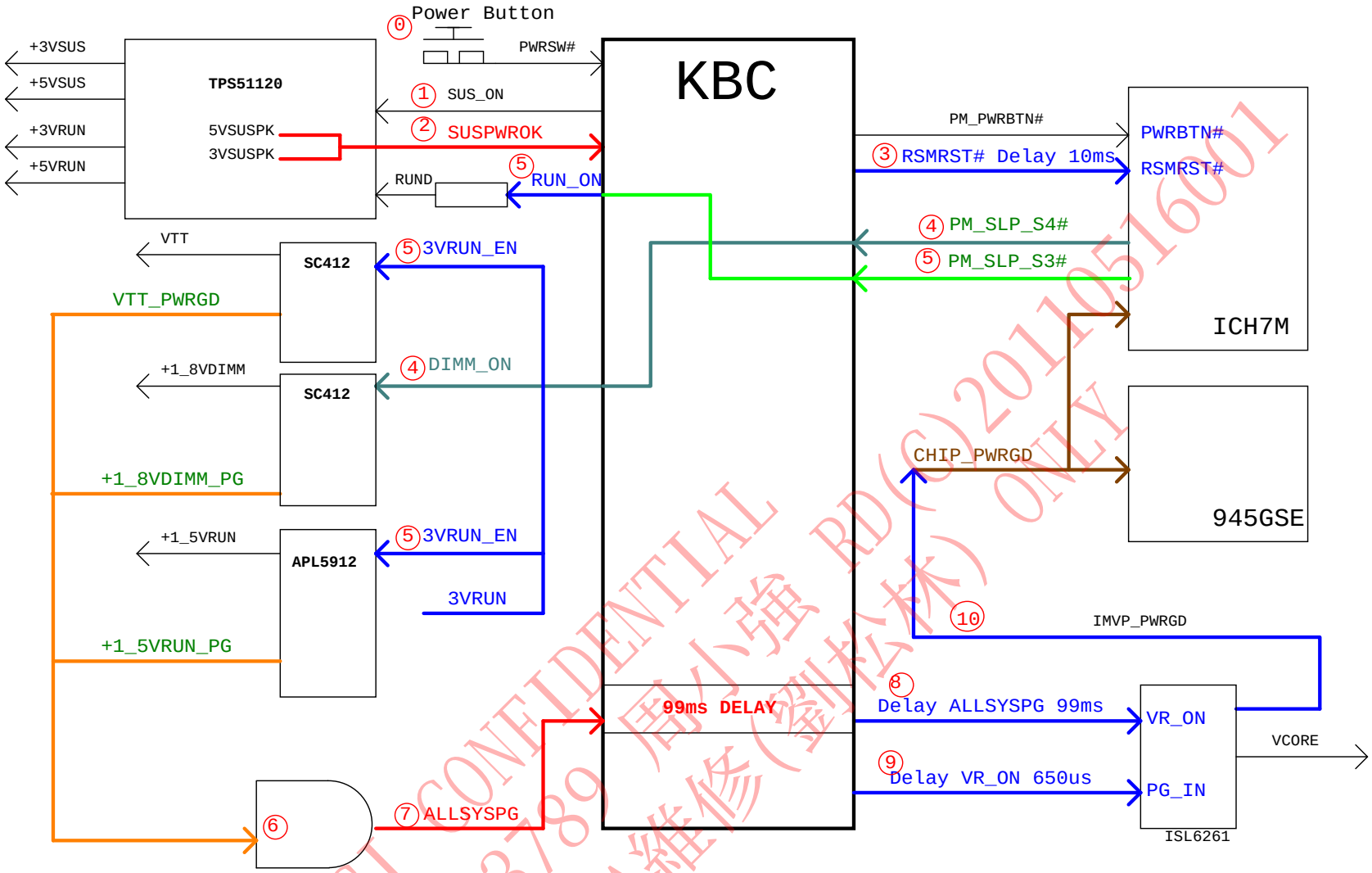

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PWR_SRC

19V; 3.42A
65W

Battery

12.6V;
2200mA (2600mA)

3VALW

KBC3310 3VALW

3.3V,20mA,66mW

CPU_Vcore

1.1V,3A,3.3W

CPU/GMS/ICH7M Vccp

1.05V,8A,8.4W

GMS 1.5RUN 6A
MINI PCI-E 0.5A

1.5V,6.5A,9.75W

GMS_DDR 1.8VDIMM 1.72A
DDR down x8 pcs 1.92A

1.8V,7.56A,13.6W

5VSUS

ICH7M 5VSUS
5V,10mA,50mW
ICH7M 5VRUN
5V,6mA,30mW

ALC888 5VSUS

5V,51mA,255mW

USB 0,1,2

5V,1.5A,7.5W

SATA 80G

5V,1A,5W

BlueTooth

5V,??A,??W

CRT

5V,1A,5W

3VSUS

3.255A

ICH7M 3VSUS

3.3V,132mA,435.6mW

ICH7M 3VRUN

3.3V,336mA,1.11W

ICH7M 2.5RUN

2.5V,142mA,355mW

MINI PCIE1,3VRUN/SUS
3VSUS,250mA,825mW
3VRUN,1.25A,4.125W

MINI PCIE2,3VRUN/SUS
3VSUS,250mA,825mW
3VRUN,1.25A,4.125W

PCI-E LAN 8102E

1.2V,365mA,438mW

CLK Gen 113 3VRUN

3.3V,200mA,600mW

Cardreader 3VRUN

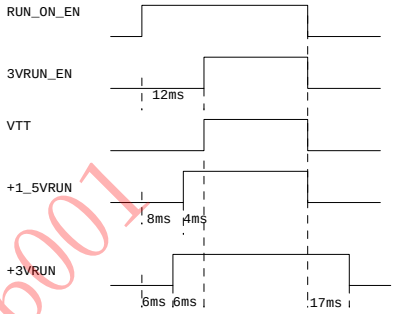
3.3V,170mA,561mW

ALC888S 3VRUN

3.3V,50mA,165mW

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



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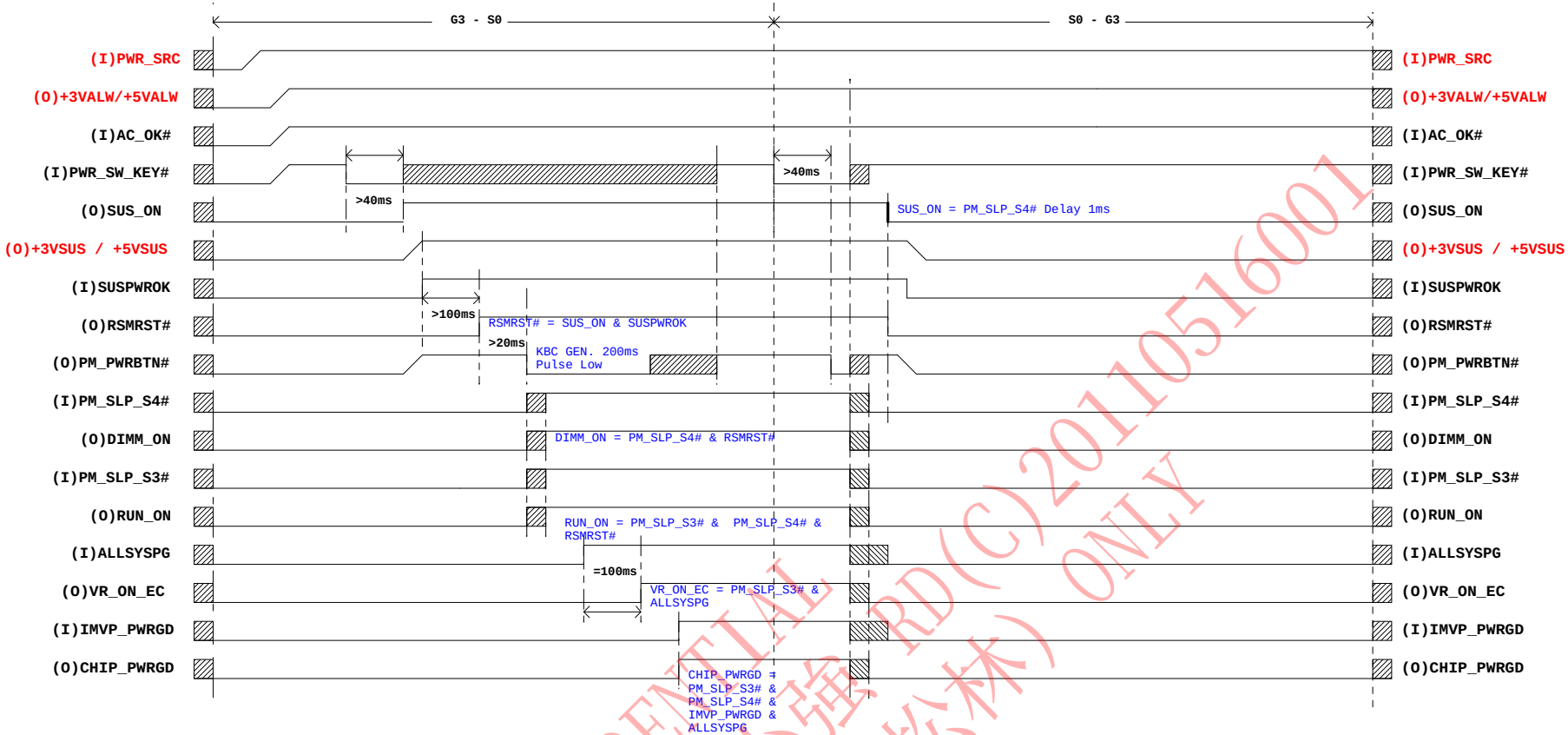
RED:POWER
BLACK:KBC

Battery Mode G3 - S0 - G3



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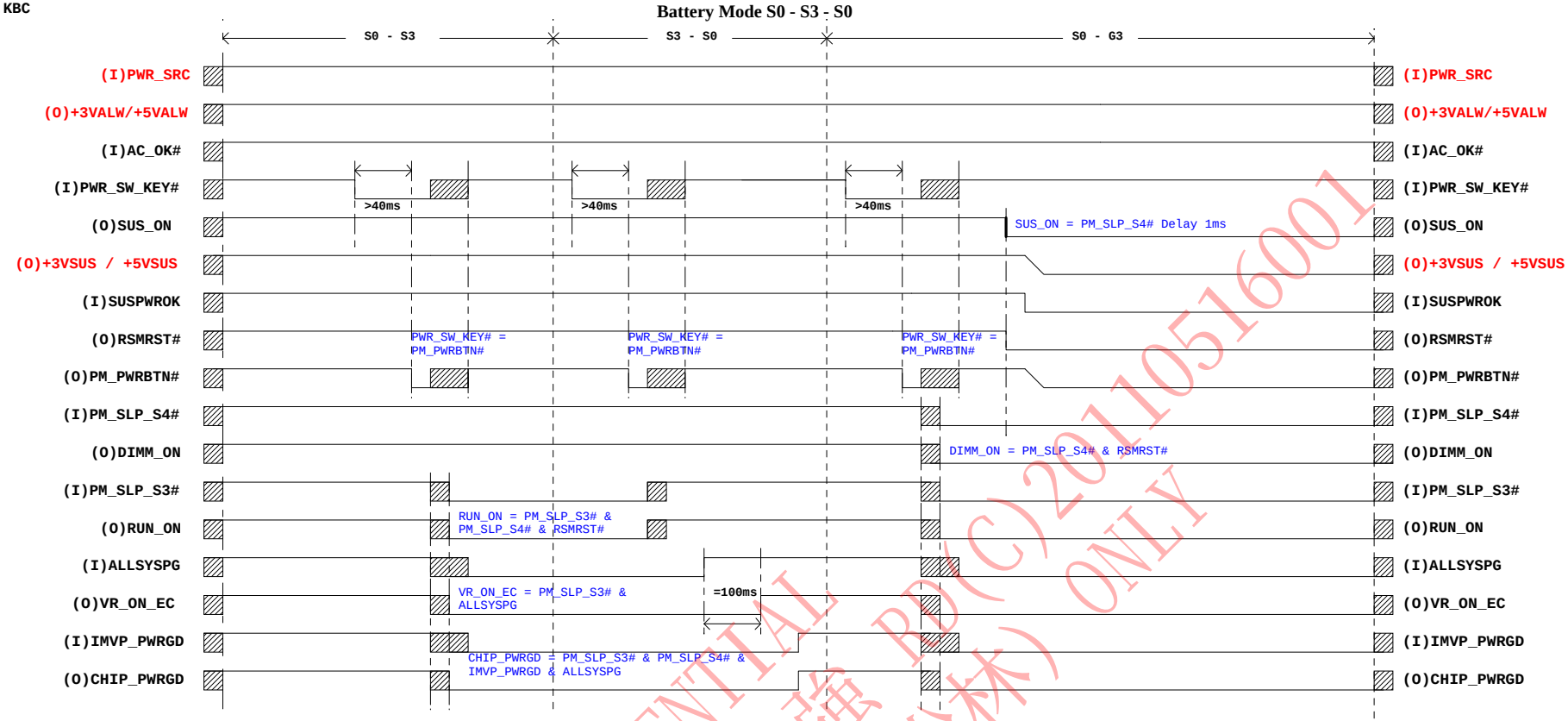
RED:POWER
BLACK:KBC

Battery Mode S0 - S3 - S0



MSI	MICRO-STAR INT'L CO.,LTD	
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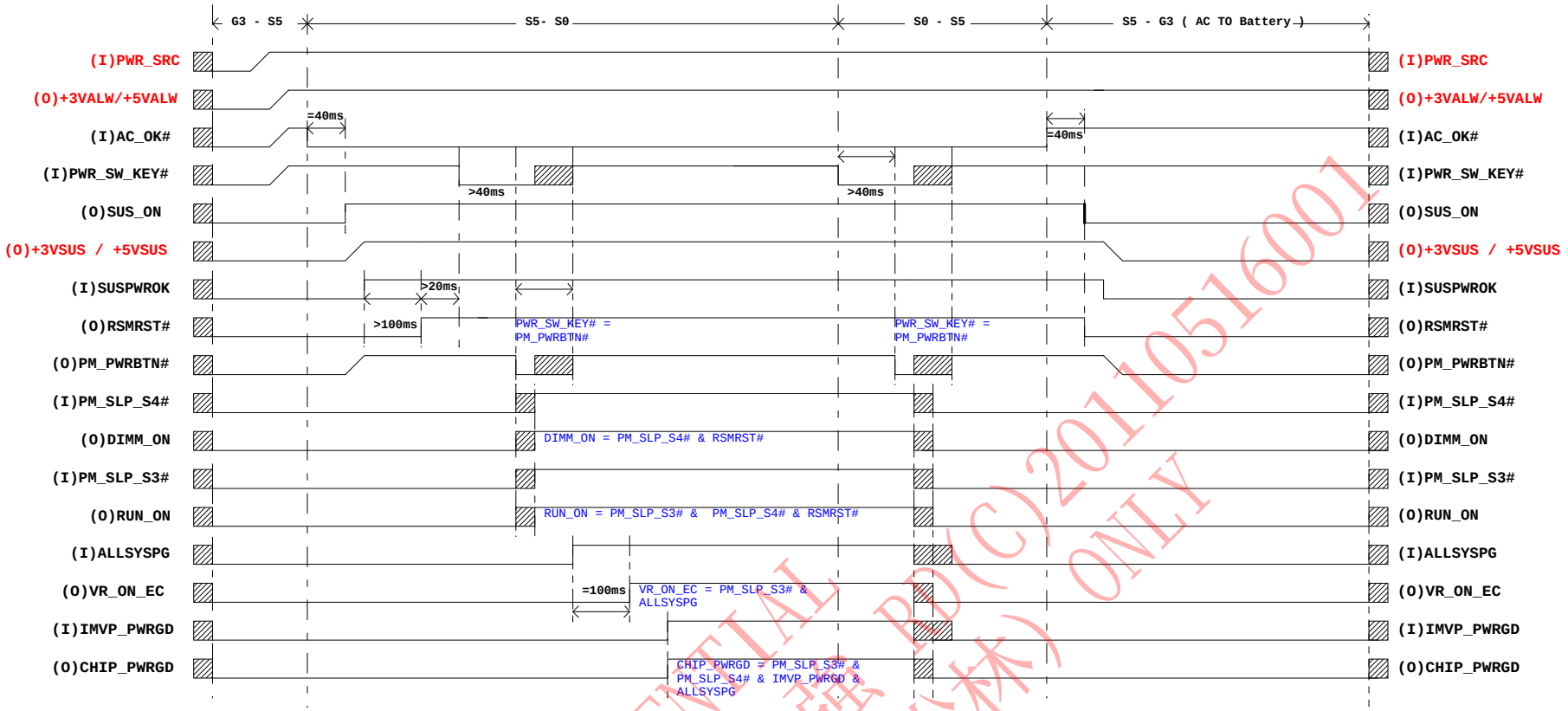
RED:POWER
BLACK:KBC

AC Mode G3 - S5 - S0 - S5 - G3



MSI	MICRO-STAR INT'L CO.,LTD	
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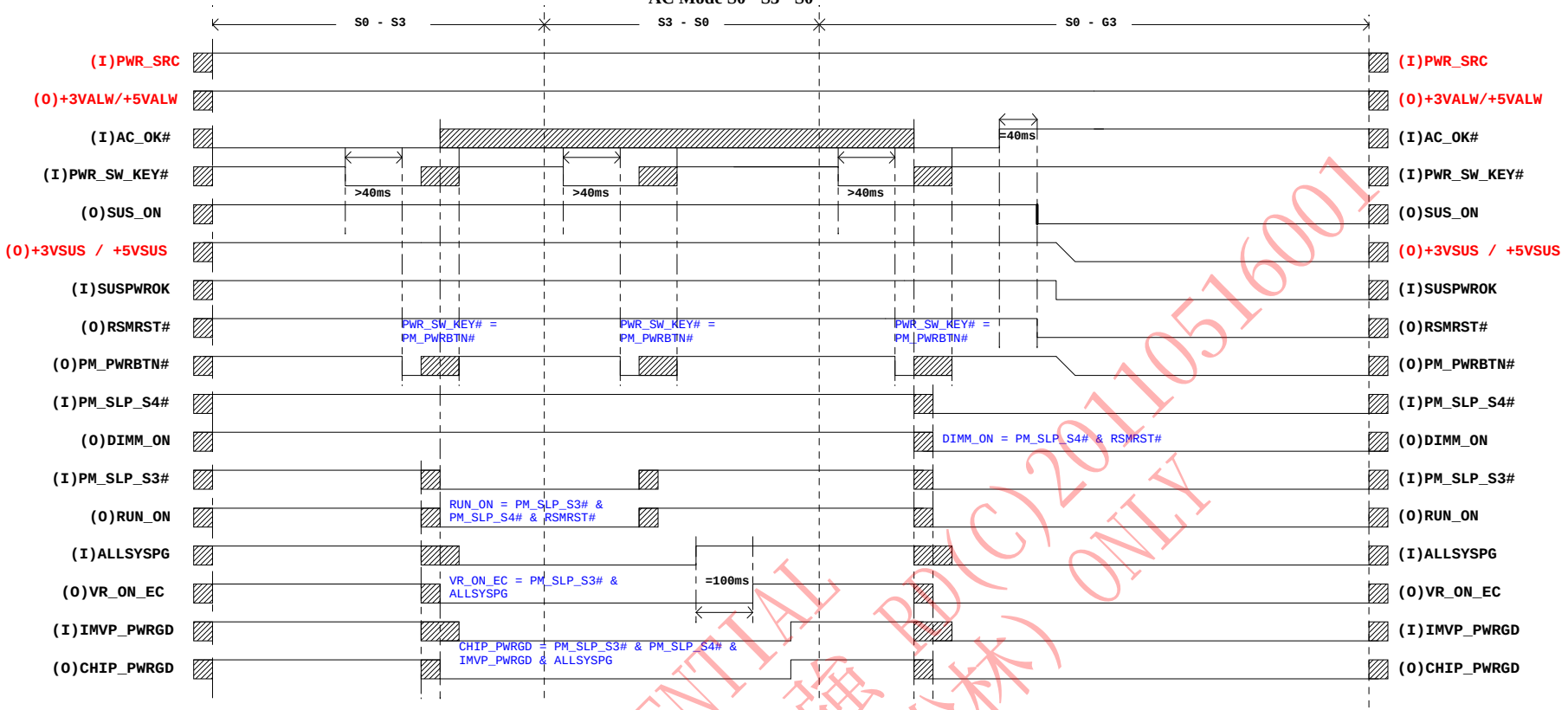
RED:POWER
BLACK:KBC

AC Mode S0 - S3 - S0



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