MS-1681 Ver : 0A

Calpella Platform

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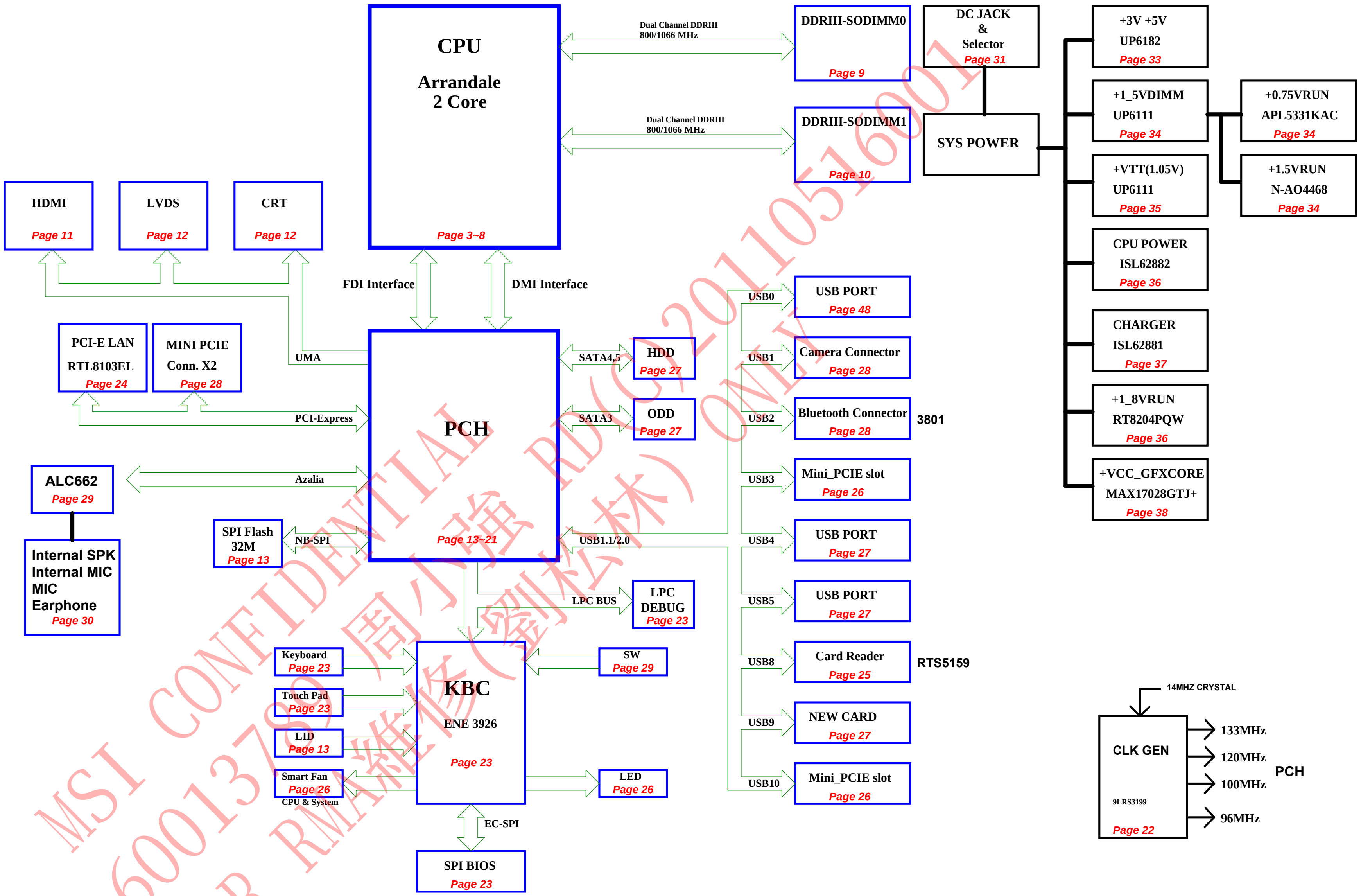

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133MHz
120MHz
100MHz
96MHz
PCH

MICRO-STAR INT'L CO.,LTD.

Title: BLOCK DIAGRAM

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SCHEMATIC ANNOTATIONS AND BOARD INFORMATION

Voltage Rails

POWER PLANE	VOLTAGE	ACTIVE IN	DESCRIPTION
PWR_SRC	19V	S0,(S3-S5)	
+5VALW	5V	S0,(S3-S5)	
+5VRUN	5V	S0	
+5VSUS	5V	S0	
+3VALW	3.3V	S0,(S3-S5)	
+3VSUS	3.3V	S0,(S3-S5)	LAN
+3VRUN	3.3V	S0	
+1_5VDIMM	1.5V	S0,S3	DDRIII core
+1_5VRUN	1.5V	S0	
VTT	1.05V	S0	PCH
+0_75VRUN	0.75V	S0	DDRIII command & control pull up.
+VCC_CORE	1.05V-1.1V	S0	CPU core rail
+VCC_GFXCORE	1.1V	S0	Graphics core rail (Dual Core only)

Net Naming Conventions

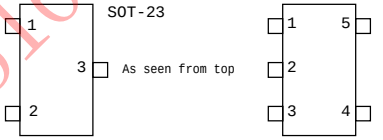
Suffix

\# = Active Low Signal

Prefix

H = Host
M = DDR Memory
TP = Test Point (does not connect anywhere else)

PCB Footprints



AC Mode

Power States	SLP_S3#	SLP_S4#	SLP_S5#	SLP_LAN#	+V*ALWAYS	+V*SUS	+V*RUN	CLK
S0 (Full on)	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON
S3 (Suspend to RAM)	LOW	HIGH	HIGH	HIGH	ON	ON	OFF	OFF
S4 (Suspend to Disk)	LOW	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S5 (Soft Off)	LOW	LOW	LOW	HIGH	ON	ON	OFF	OFF

Battery Mode

Power States	SLP_S3#	SLP_S4#	SLP_S5#	SLP_LAN#	+V*ALWAYS	+V*SUS	+V*RUN	CLK
S0 (Full on)	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON
S3 (Suspend to RAM)	LOW	HIGH	HIGH	HIGH	ON	ON	OFF	OFF
S4 (Suspend to Disk)	LOW	LOW	HIGH	HIGH	ON	OFF	OFF	OFF
S5 (Soft Off)	LOW	LOW	LOW	HIGH	ON	OFF	OFF	OFF

MICRO-STAR INT'L CO.,LTD.

Title: PLATFORM

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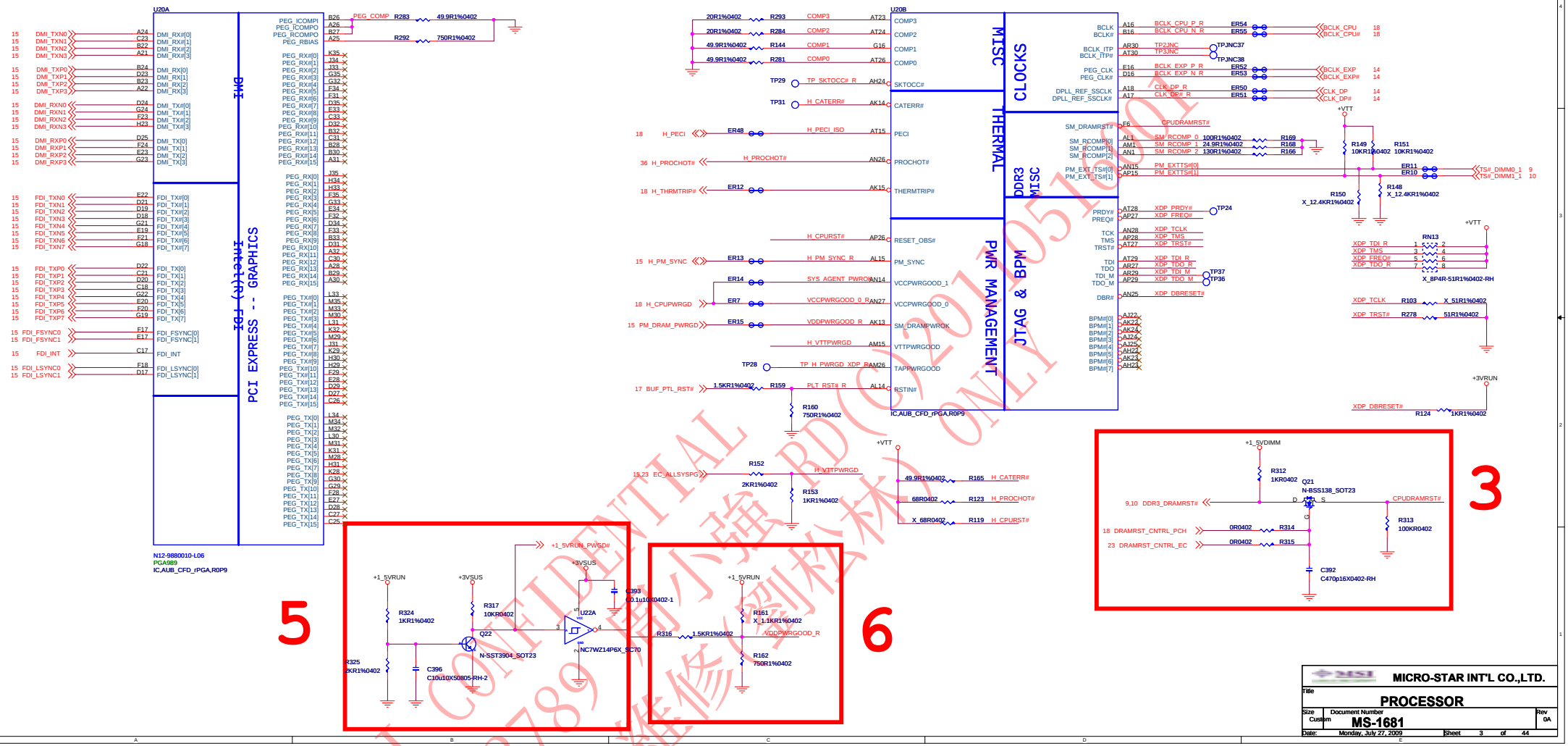
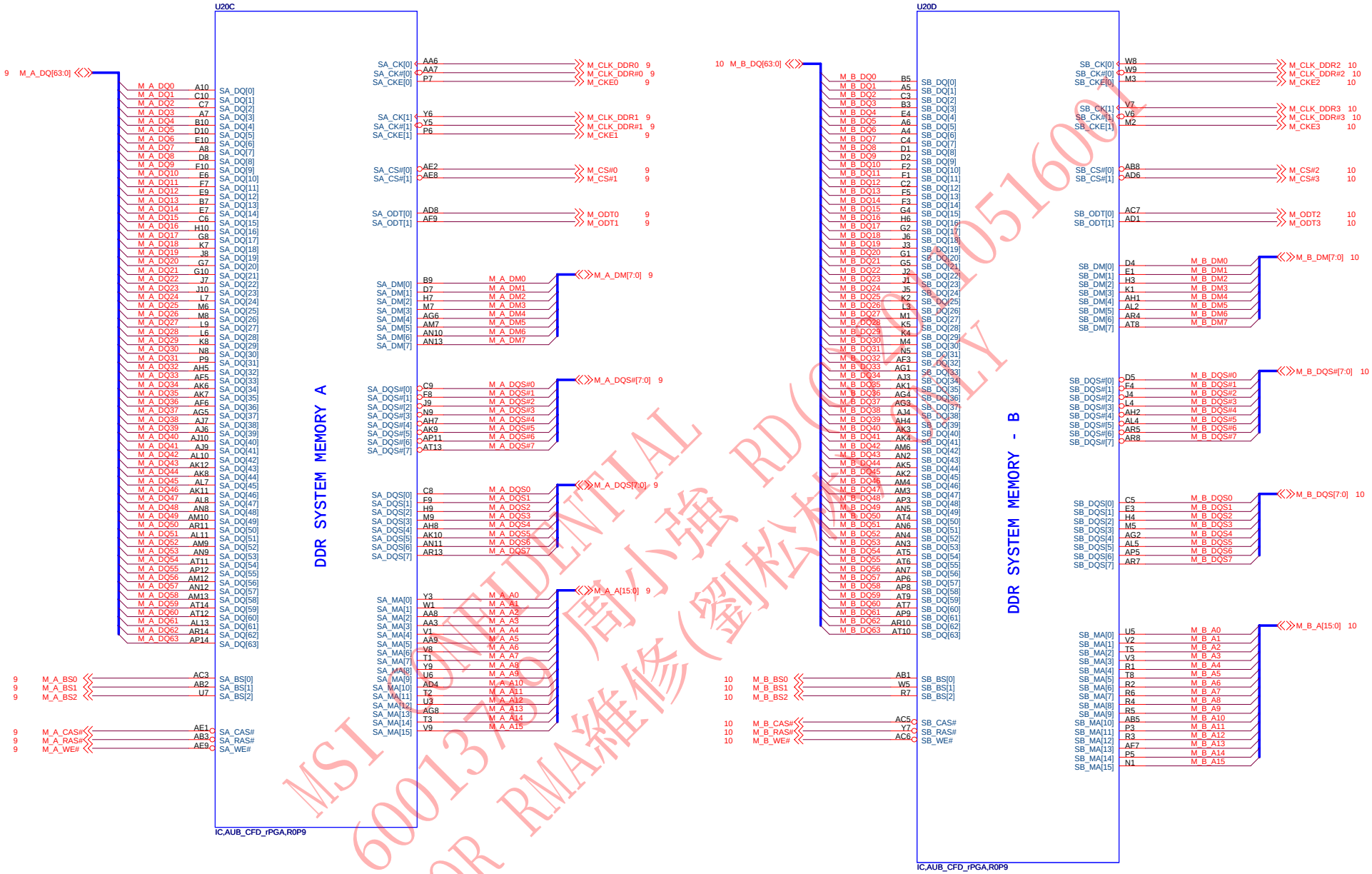
ARRANDALE PROCESSOR (CLK,MISC,JTAG)



ARRANDALE PROCESSOR (DDR3)



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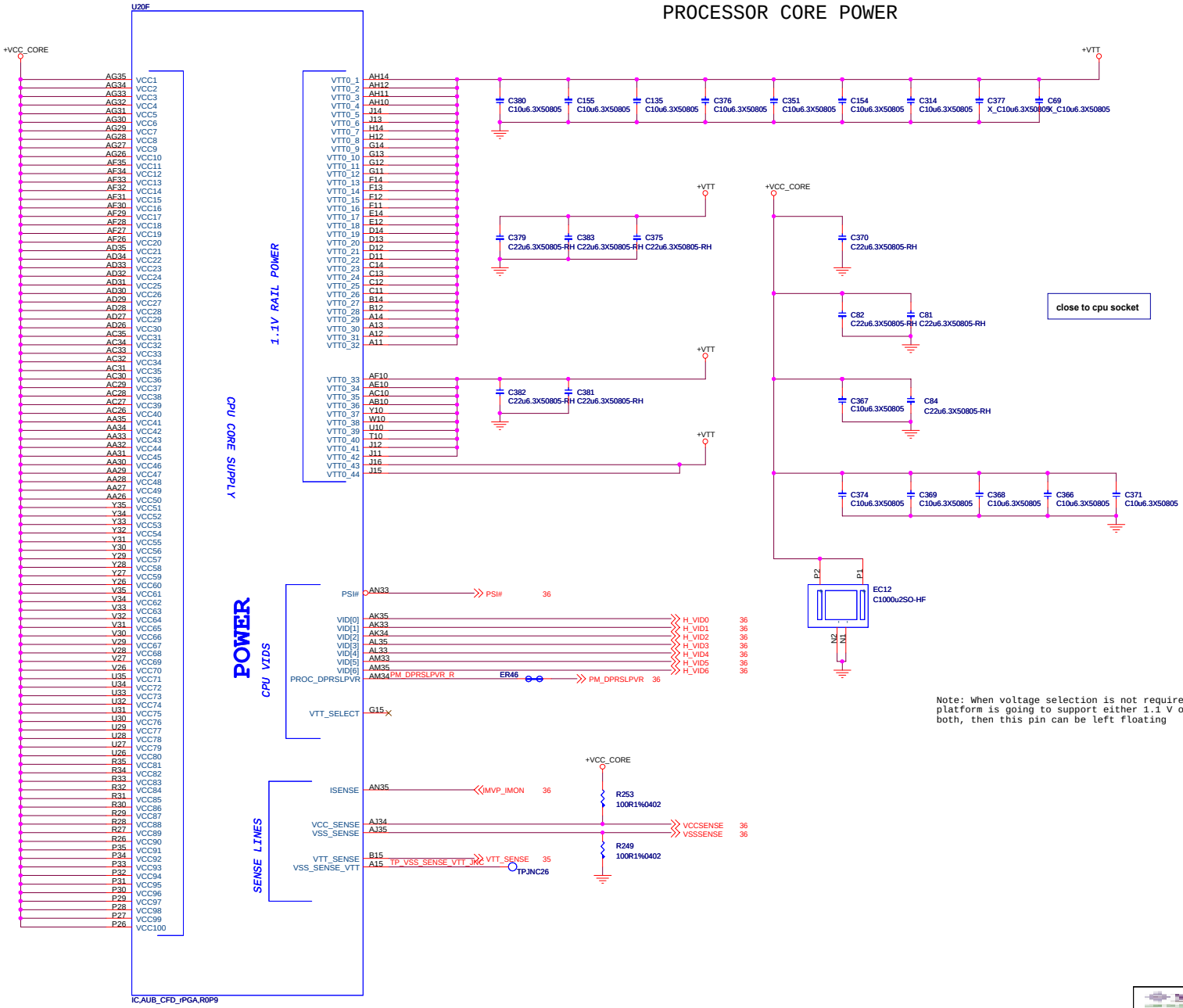
ARRANDALE PROCESSOR (POWER)

PROCESSOR CORE POWER



Note: When voltage selection is not required and the platform is going to support either 1.1 V or 1.05 V and not both, then this pin can be left floating

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Title: PROCESSOR POWER

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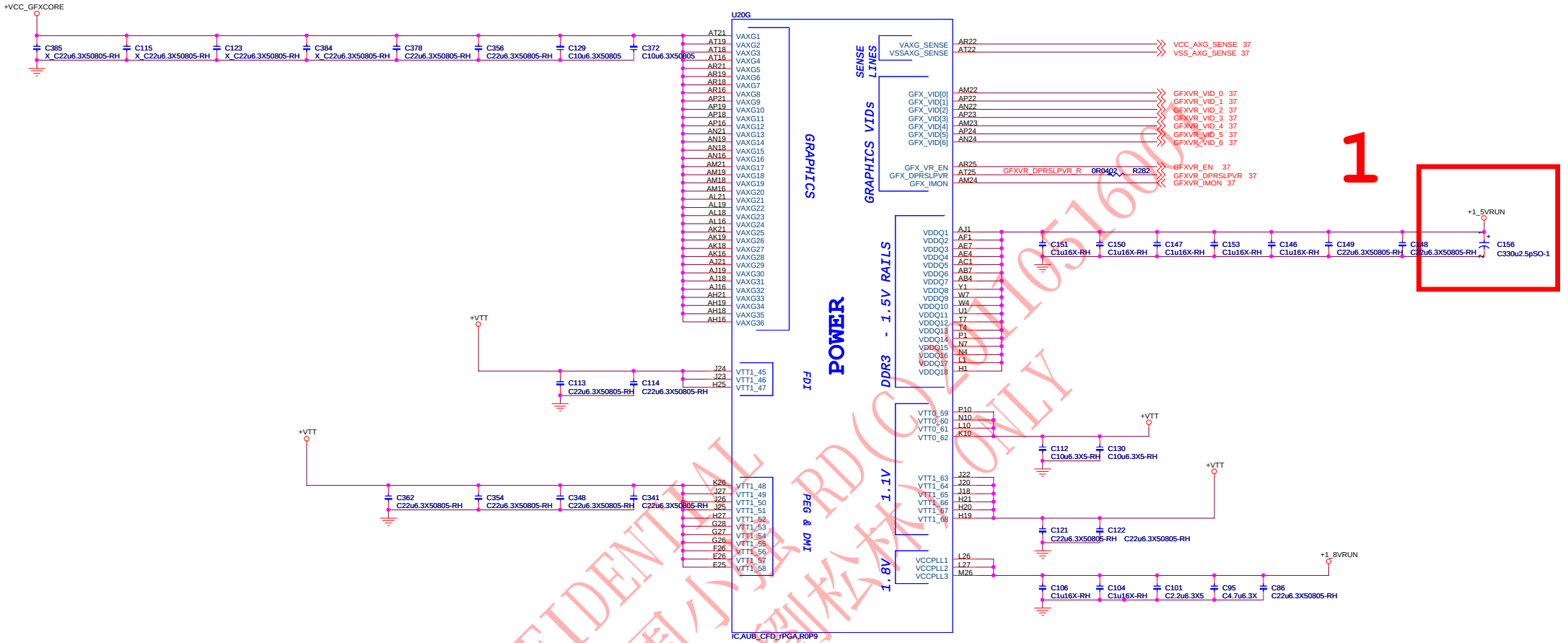
ARRANDALE PROCESSOR (GRAPHICS POWER)



MICRO-STAR INT'L CO.,LTD.			
Title: GRAPHICS POWER			
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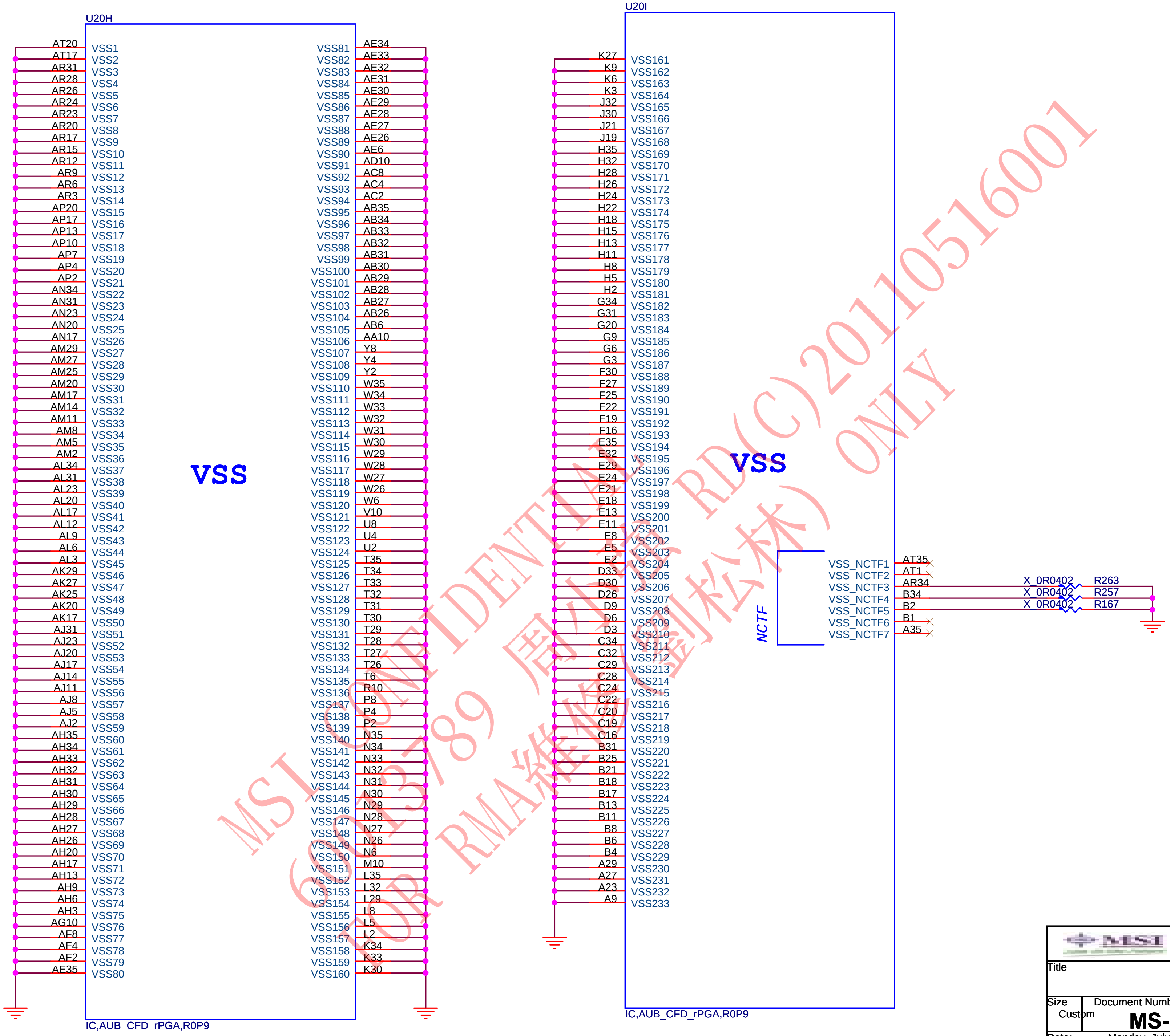
ARRANDALE PROCESSOR (GND)


U20H
VSS
AT20 VSS1
AT17 VSS2
AR31 VSS3
AR28 VSS4
AR26 VSS5
AR24 VSS6
AR23 VSS7
AR20 VSS8
AR17 VSS9
AR15 VSS10
AR12 VSS11
AR9 VSS12
AR6 VSS13
AR3 VSS14
AP20 VSS15
AP17 VSS16
AP13 VSS17
AP10 VSS18
AP7 VSS19
AP4 VSS20
AP2 VSS21
AN34 VSS22
AN31 VSS23
AN23 VSS24
AN20 VSS25
AN17 VSS26
AM29 VSS27
AM27 VSS28
AM25 VSS29
AM20 VSS30
AM17 VSS31
AM14 VSS32
AM11 VSS33
AM8 VSS34
AM5 VSS35
AM2 VSS36
AL34 VSS37
AL31 VSS38
AL23 VSS39
AL20 VSS40
AL17 VSS41
AL12 VSS42
AL9 VSS43
AL6 VSS44
AL3 VSS45
AK29 VSS46
AK27 VSS47
AK25 VSS48
AK20 VSS49
AK17 VSS50
AJ31 VSS51
AJ23 VSS52
AJ20 VSS53
AJ17 VSS54
AJ14 VSS55
AJ11 VSS56
AJ8 VSS57
AJ5 VSS58
AJ2 VSS59
AH35 VSS60
AH34 VSS61
AH33 VSS62
AH32 VSS63
AH31 VSS64
AH30 VSS65
AH29 VSS66
AH28 VSS67
AH27 VSS68
AH26 VSS69
AH20 VSS70
AH17 VSS71
AH13 VSS72
AH9 VSS73
AH6 VSS74
AH3 VSS75
AG10 VSS76
AF8 VSS77
AF4 VSS78
AF2 VSS79
AE35 VSS80
VSS81 AE34
VSS82 AE33
VSS83 AE32
VSS84 AE31
VSS85 AE30
VSS86 AE29
VSS87 AE28
VSS88 AE27
VSS89 AE26
VSS90 AE6
VSS91 AD10
VSS92 AC8
VSS93 AC4
VSS94 AC2
VSS95 AB35
VSS96 AB34
VSS97 AB33
VSS98 AB32
VSS99 AB31
VSS100 AB30
VSS101 AB29
VSS102 AB28
VSS103 AB27
VSS104 AB26
VSS105 AB6
VSS106 AA10
VSS107 Y8
VSS108 Y4
VSS109 Y2
VSS110 W35
VSS111 W34
VSS112 W33
VSS113 W32
VSS114 W31
VSS115 W30
VSS116 W29
VSS117 W28
VSS118 W27
VSS119 W26
VSS120 W6
VSS121 V10
VSS122 U8
VSS123 U4
VSS124 U2
VSS125 T35
VSS126 T34
VSS127 T33
VSS128 T32
VSS129 T31
VSS130 T30
VSS131 T29
VSS132 T28
VSS133 T27
VSS134 T26
VSS135 T6
VSS136 R10
VSS137 P8
VSS138 P4
VSS139 P2
VSS140 N35
VSS141 N34
VSS142 N33
VSS143 N32
VSS144 N31
VSS145 N30
VSS146 N29
VSS147 N28
VSS148 N27
VSS149 N26
VSS150 N6
VSS151 M10
VSS152 L35
VSS153 L32
VSS154 L29
VSS155 L8
VSS156 L5
VSS157 L2
VSS158 K34
VSS159 K33
VSS160 K30
IC,AUB_CFD_rPGA,R0P9
U20I
VSS
K27 VSS161
K9 VSS162
K6 VSS163
K3 VSS164
J32 VSS165
J30 VSS166
J21 VSS167
J19 VSS168
H35 VSS169
H32 VSS170
H28 VSS171
H26 VSS172
H24 VSS173
H22 VSS174
H18 VSS175
H15 VSS176
H13 VSS177
H11 VSS178
H8 VSS179
H5 VSS180
H2 VSS181
G34 VSS182
G31 VSS183
G20 VSS184
G9 VSS185
G6 VSS186
G3 VSS187
F30 VSS188
F27 VSS189
F25 VSS190
F22 VSS191
F19 VSS192
F16 VSS193
E35 VSS194
E32 VSS195
E29 VSS196
E24 VSS197
E21 VSS198
E18 VSS199
E13 VSS200
E11 VSS201
E8 VSS202
E5 VSS203
E2 VSS204
D33 VSS205
D30 VSS206
D26 VSS207
D9 VSS208
D6 VSS209
D3 VSS210
C34 VSS211
C32 VSS212
C29 VSS213
C28 VSS214
C24 VSS215
C22 VSS216
C20 VSS217
C19 VSS218
C16 VSS219
B31 VSS220
B25 VSS221
B21 VSS222
B18 VSS223
B17 VSS224
B13 VSS225
B11 VSS226
B8 VSS227
B6 VSS228
B4 VSS229
A29 VSS230
A27 VSS231
A23 VSS232
A9 VSS233
NCTF
VSS_NCTF1 AT35
VSS_NCTF2 AT1
VSS_NCTF3 AR34
VSS_NCTF4 B34
VSS_NCTF5 B2
VSS_NCTF6 B1
VSS_NCTF7 A35
X_0R0402 R263
X_0R0402 R257
X_0R0402 R167
IC,AUB_CFD_rPGA,R0P9

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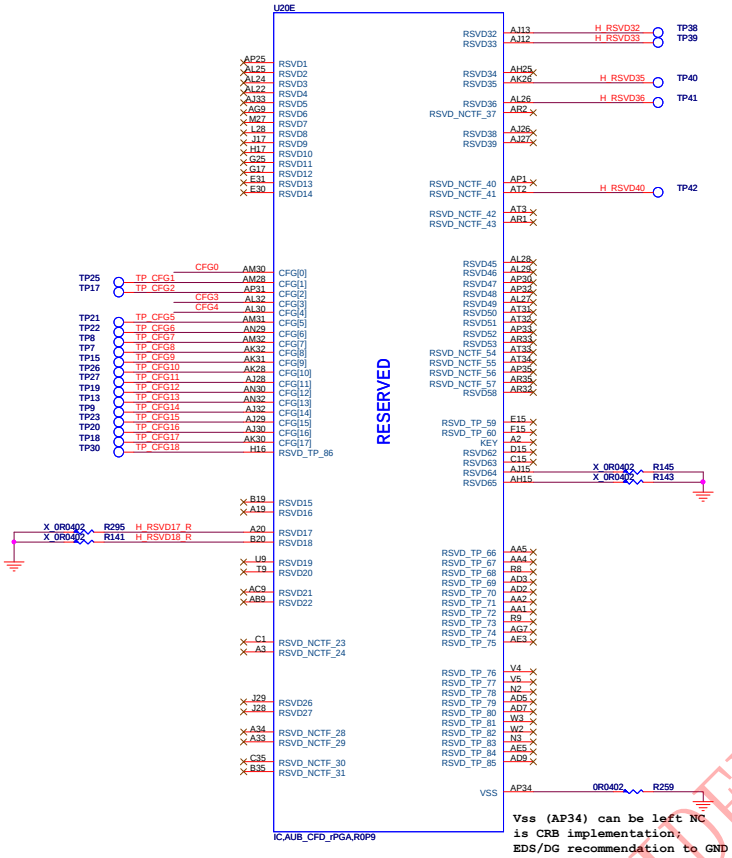
ARRANDALE PROCESSOR (RESERVED)



Vss (AP34) can be left NC
is CRB implementation;
EDS/DG recommendation to GND

PCI-Express Configuration Select	
CFG0	1:Single PEG 0:Bifurcation enabled

CFG0
NO_STUFF
R97
X_3.01KR1%0402

CFG3 - PCI-Express Static Lane Reversal	
CFG3	1 :Normal Operation 0 :Lane Numbers Reversed 15 -> 0, 14 -> 1, ...

CFG3
NO_STUFF
R98
X_3.01KR1%0402

CFG[3] – PCI Express* Static Lane Numbering Reversal. Lane Reversal will be applied across all 16 Lanes.
- 1: No lane reversal
- 0: Reversal

CFG4 - Display Port Presence	
CFG4	1:Disabled; No Physical Display Port attached to Embedded Display Port 0:Enabled; An external Display Port device is connected to the Embedded Display Port

CFG4
NO_STUFF
R99
X_3.01KR1%0402

Layout Note:
Location of all CFG strap resistors needs to be close to trace to minimize stub

MICRO-STAR INT'L CO.,LTD.

Title: PROCESSOR RESERVED

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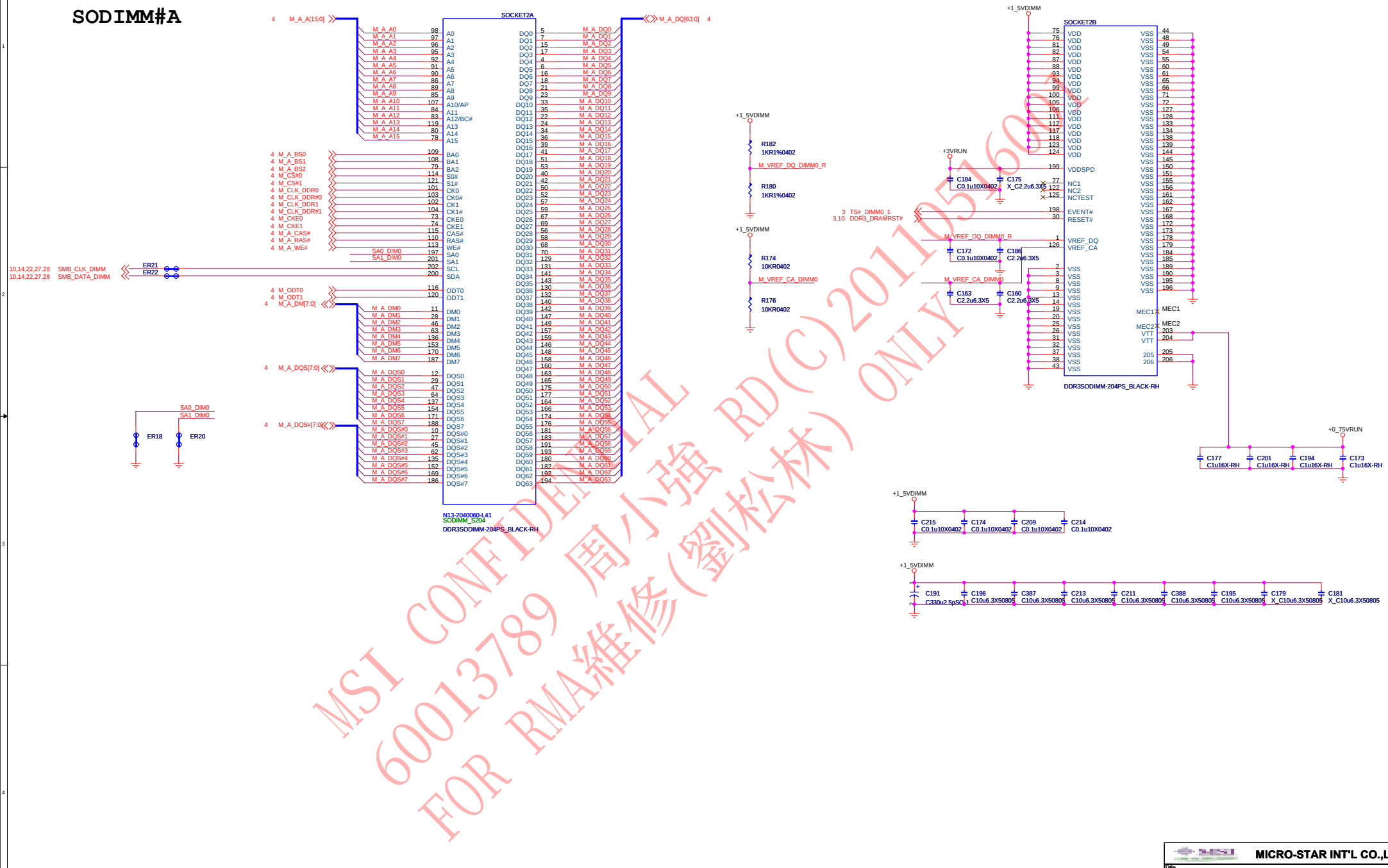
SODIMM#A



MICRO-STAR INT'L CO.,LTD.

Title: DDR3 SODIMM0

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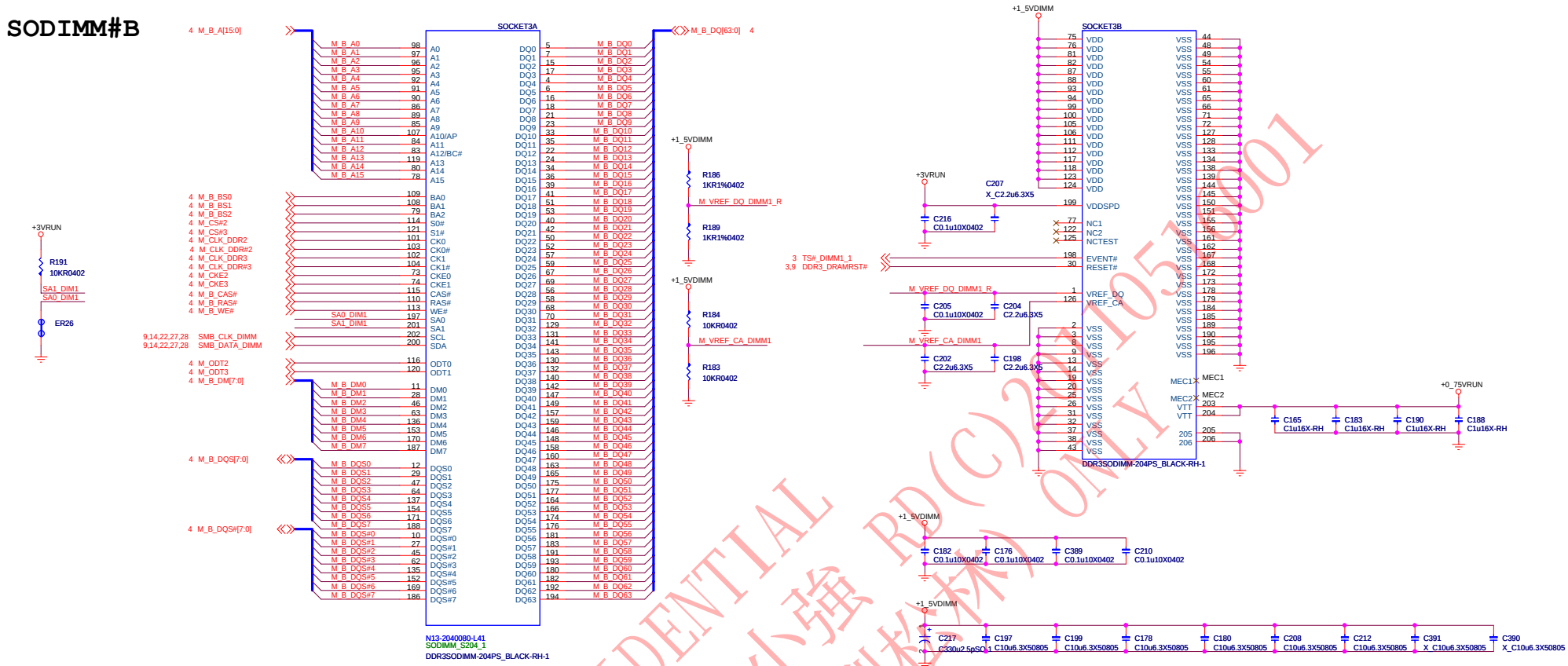
SODIMM#B



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Title: DDR3 SODIMM1			
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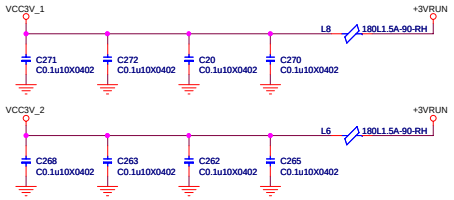
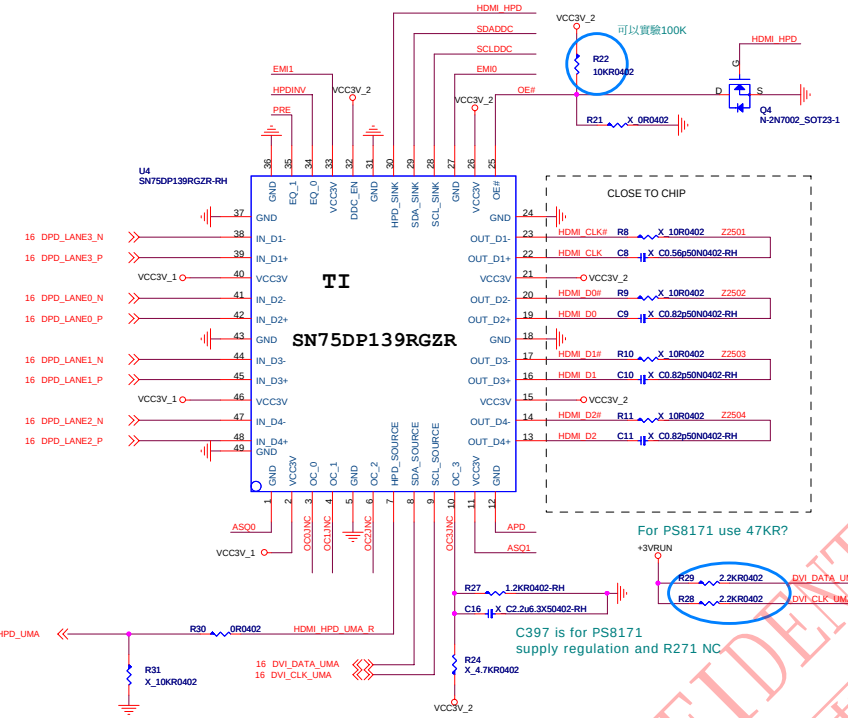
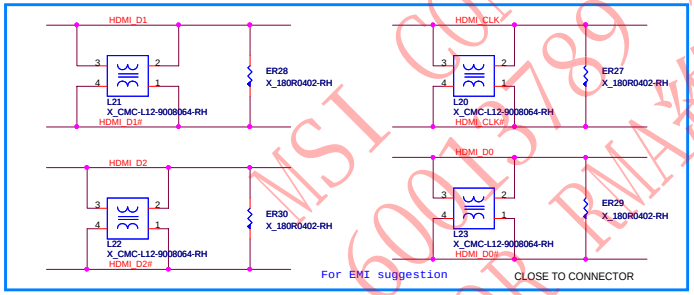
HDMI Switch

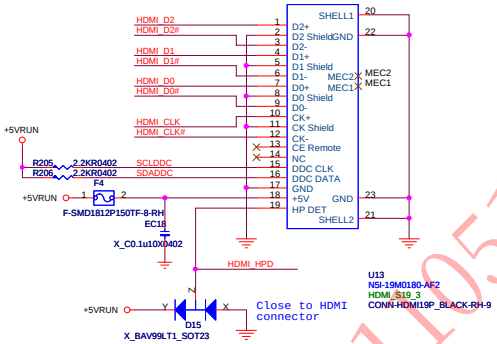


	HP_DET	OE#
UNPLUG	0	1 (HIGH Z)
PLUG	1	0 (ACTIVE)



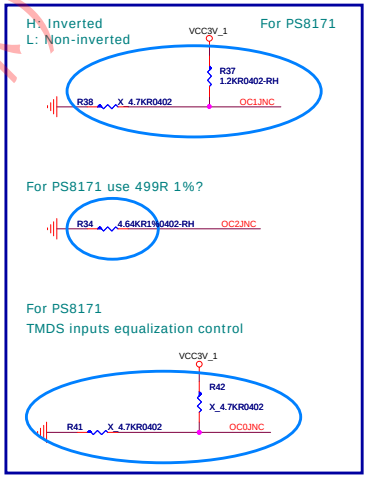


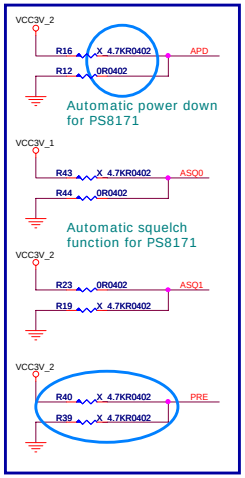
HDMI connector

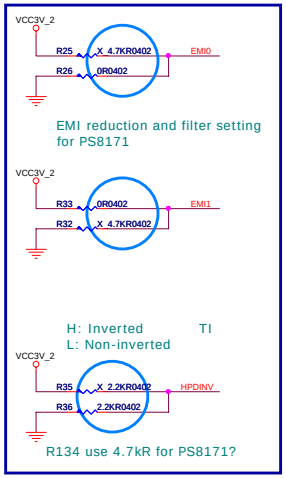


SN75DP139	PS8171	Pin no.
Floating	TMDS inputs equalization control (internal pull-down~500KΩ) PEQ = LOW: Mid level EQ (Default) PEQ = HIGH: High level EQ PEQ = MID: Low level EQ	Pin 3
High	(Internal pull down~500kΩ) PIO = LOW: HPD = HPD_SINK @ 3.3V CMOS output PIO = High: HPD= HPD_SINK# (inverted HPD) @ 0.9V	Pin 4
GND VCC	[ASQ1,ASQ0] = HL: No automatic squelch (Internal pull down~500kΩ) LL: Automatic squelch enable, Level = 120mVpp, default timer LH: Automatic squelch enable, Level = 100mVpp, default timer HH: Automatic squelch enable, Level = 80mVpp, default timer ML: Automatic squelch enable, Level = 120mVpp, extended timer MH: Automatic squelch enable, Level = 100mVpp, extended timer LM: Automatic squelch enable, Level = 80mVpp, extended timer HM: Reserved MM: Reserved	Pin 1 Pin 11
4.65K to GND	499R to GND	Pin 6
GND	Automatic power down management (Internal pull up~500kΩ) APD = LOW: Automatic power down disable APD = HIGH: Automatic power down enable APD = MID: Reserved	Pin 12
1.2K to GND	2.2uF to GND	Pin 10
GND VCC	EMI reduction and filter setting. (EMI1 internal pull up~500KΩ; EMI0 internal pull down~500KΩ) [EMI1,EMI0] = HL: No EMI reduction EMI0 = HIGH: Reduced rise/fall time MID: Reduced rise/fall time, 2nd EMI1 = LOW: EMI filter setting 1 MID: Reserved	Pin 27 Pin 33
Note2	DDC Active Buffer enable and setting (internal pull-down~500KΩ) DDCBUF = LOW: No DDC active buffer, passive DDC level shifting DDCBUF = HIGH: Active DDC buffer enable, setting 1 DDCBUF = MID: Active DDC buffer enable, setting 2	Pin 34
Floating	TMDS output driver pre-emphasis level setting (internal pull down~500KΩ) PRE = LOW No pre-emphasis PRE = HIGH: Low level pre-emphasis is added PRE = MID: High level pre-emphasis is added	Pin 35

Note2: High is HPD logic inverted, Low is HPD logic non-inverted







LAB2

Y01-RHDMI03-000

MICRO-STAR INT'L CO.,LTD.

Title: HDMI connector

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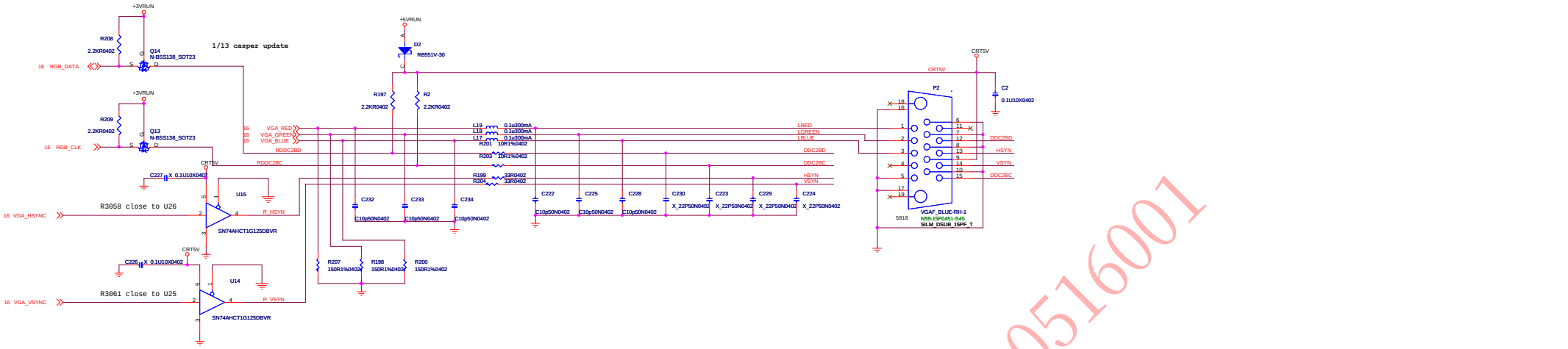
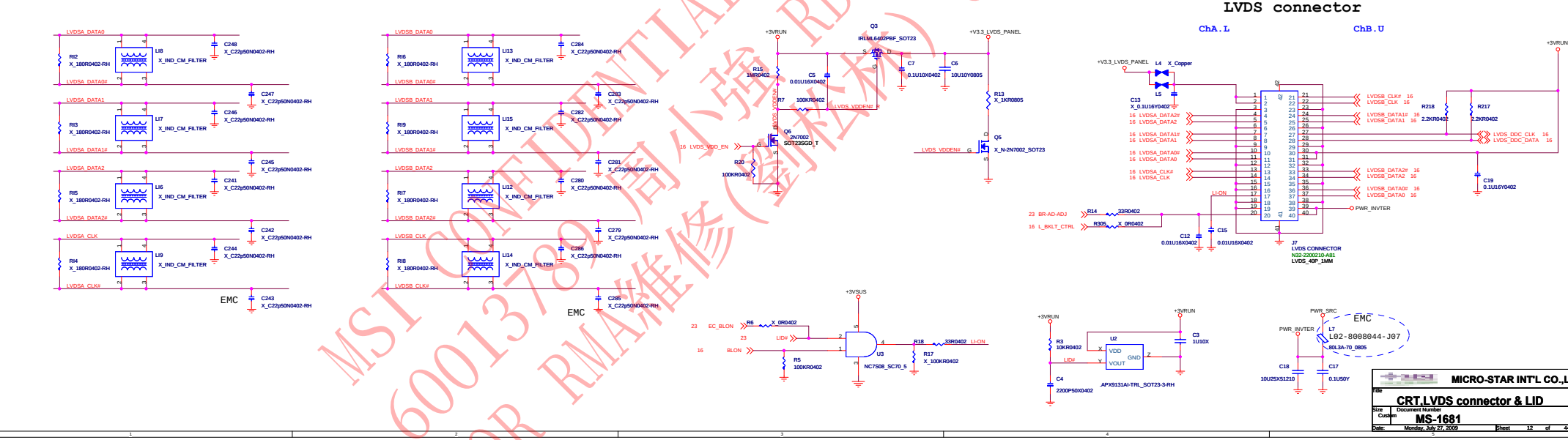
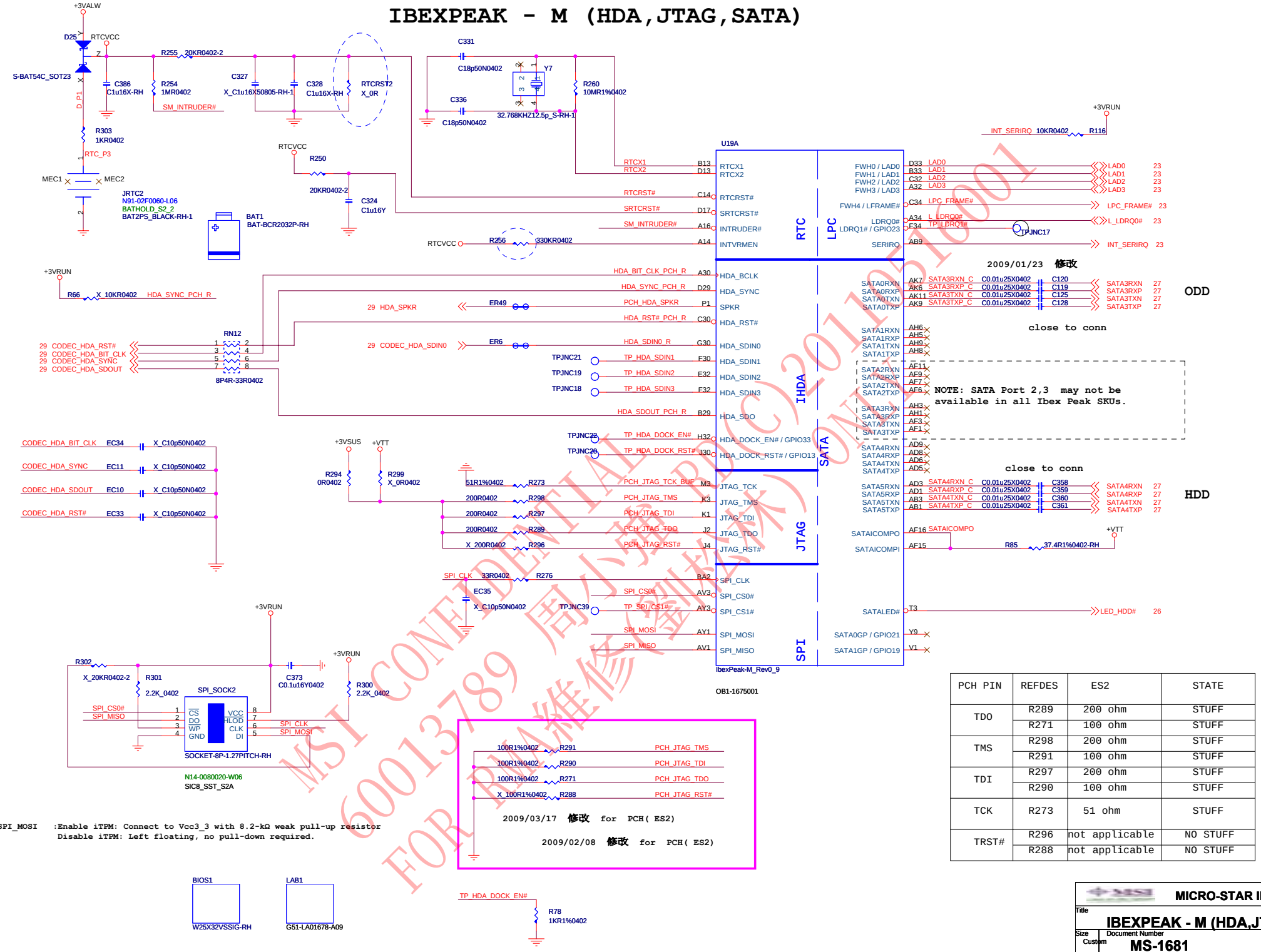




IBEXPEAK - M (HDA,JTAG,SATA)



PCH PIN	REFDES	ES2	STATE
TDO	R289	200 ohm	STUFF
	R271	100 ohm	STUFF
TMS	R298	200 ohm	STUFF
	R291	100 ohm	STUFF
TDI	R297	200 ohm	STUFF
	R290	100 ohm	STUFF
TCK	R273	51 ohm	STUFF
TRST#	R296	not applicable	NO STUFF
	R288	not applicable	NO STUFF

MICRO-STAR INT'L CO.,LTD.

Title: IBEXPEAK - M (HDA,JTAG,SATA)

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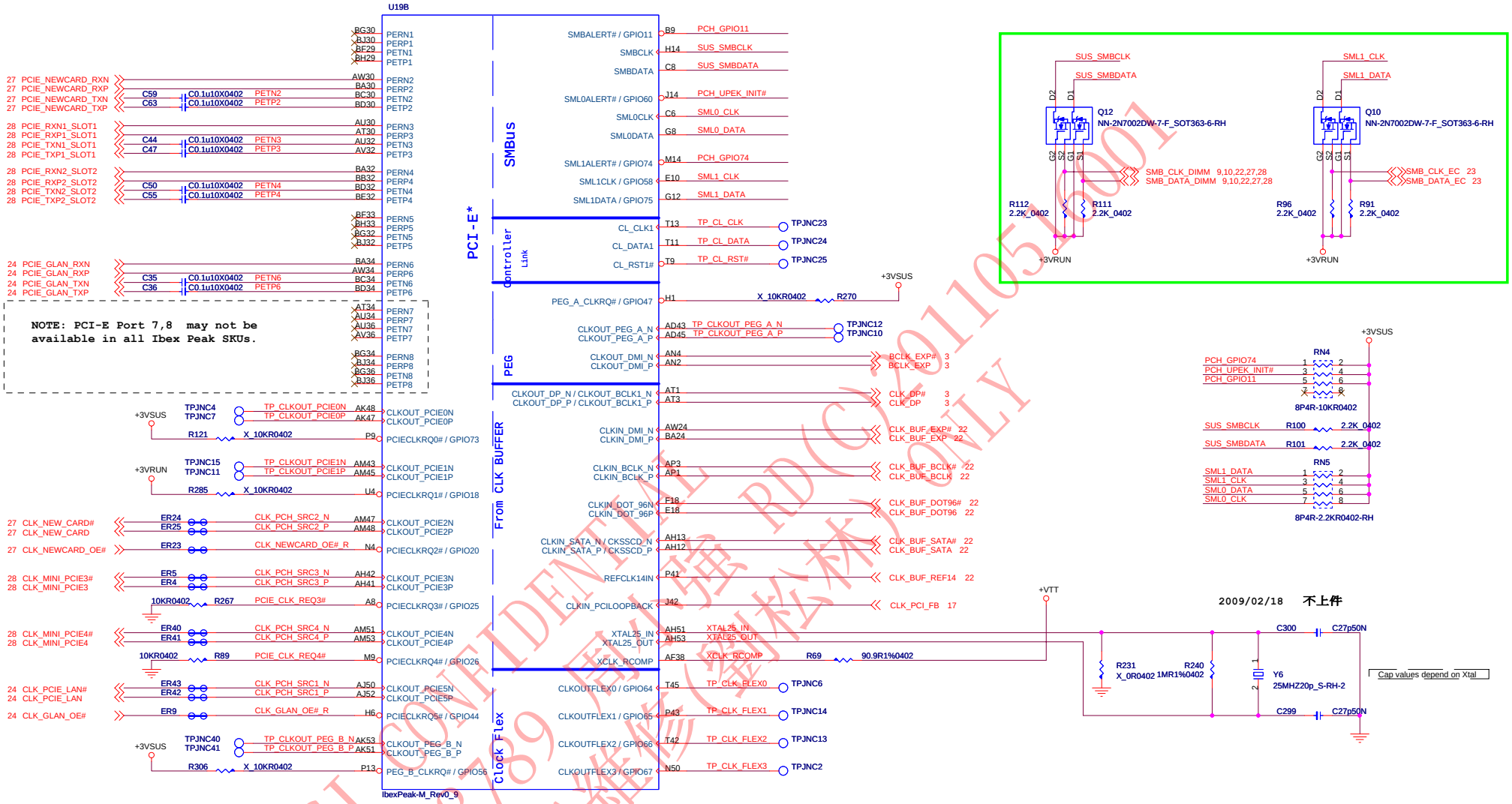
IBEXPEAK - M (PCI-E,SMBUS,CLK)



PCIECLKRQ1# / GPIO18 PCIECLKRQ1# / GPIO20	RUN Well
PCIECLKRQ0# and PCIECLKRQ3# ~ PCIECLKRQ7# PEG_A_CLKRQ# PEG_B_CLKRQ#	SUS Well

MICRO-STAR INT'L CO.,LTD.

Title: IBEXPEAK - M (PCI-E,SMBUS,CLK)

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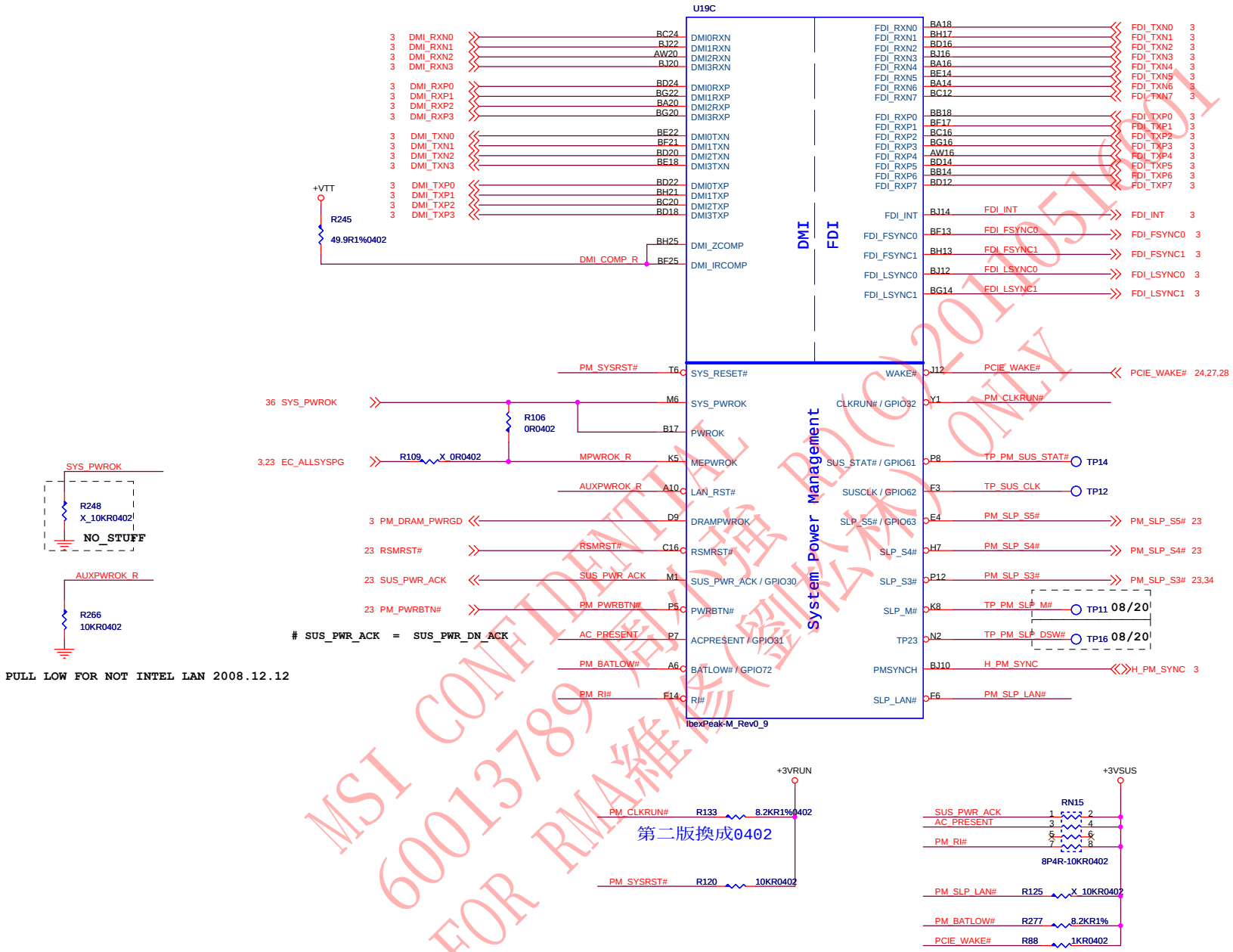
IBEXPEAK - M (DMI,FDI,GPIO)



MICRO-STAR INT'L CO.,LTD.		
Title: IBEXPEAK - M (DMI,FDI,GPIO)		
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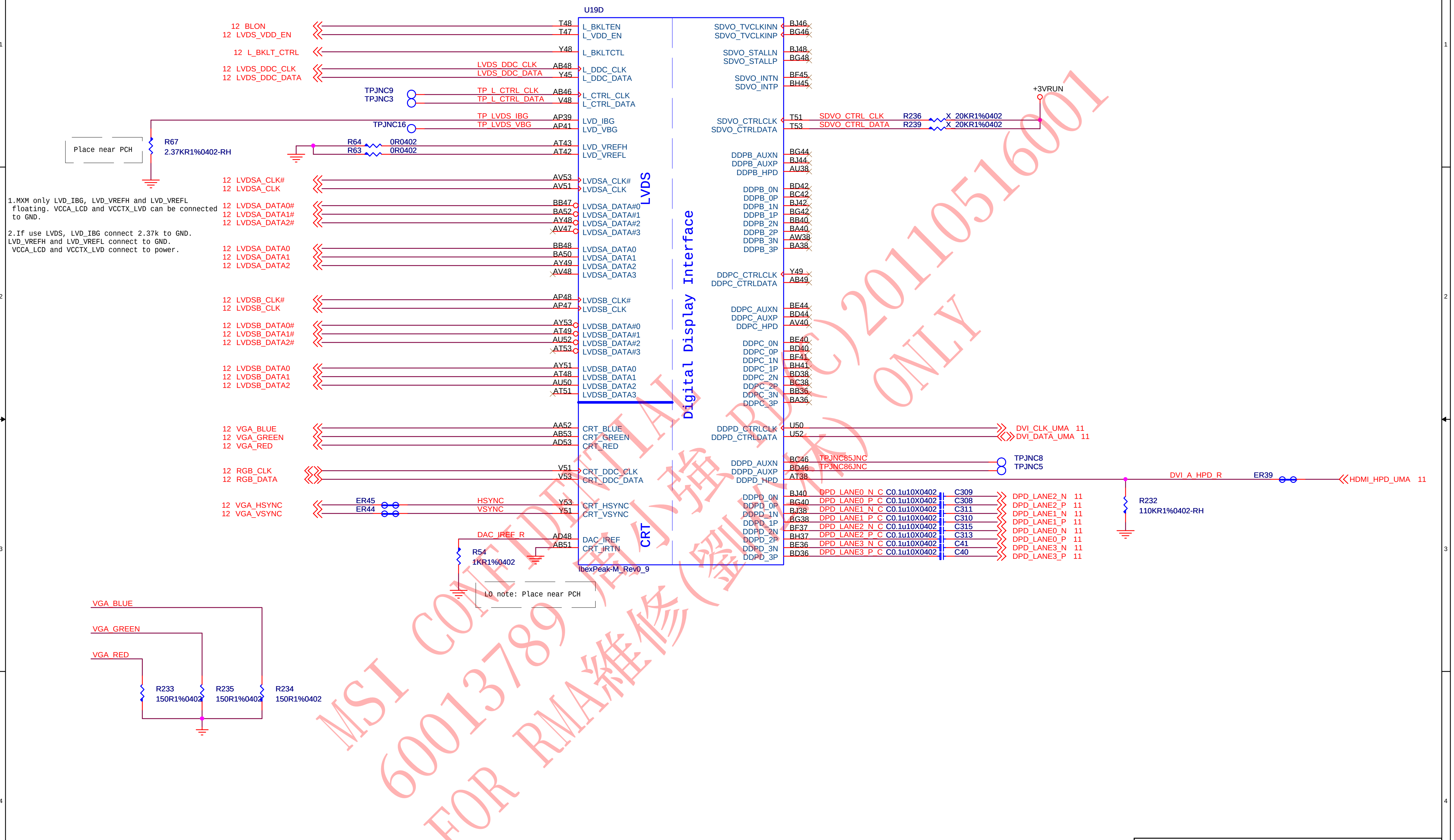
IBEXPEAK - M (LVDS,DDI)



U19D
12 BLON
12 LVDS_VDD_EN
12 L_BKLT_CTRL
12 LVDS_DDC_CLK
12 LVDS_DDC_DATA
TPJNC9
TPJNC3
TPJNC16
Place near PCH
R67
2.37KR1%0402-RH
R64 0R0402
R63 0R0402
1.MXM only LVD_IBG, LVD_VREFH and LVD_VREFL floating. VCCA_LCD and VCCTX_LVD can be connected to GND.
2.If use LVDS, LVD_IBG connect 2.37k to GND. LVD_VREFH and LVD_VREFL connect to GND. VCCA_LCD and VCCTX_LVD connect to power.
12 LVDSA_CLK#
12 LVDSA_CLK
12 LVDSA_DATA0#
12 LVDSA_DATA1#
12 LVDSA_DATA2#
12 LVDSA_DATA0
12 LVDSA_DATA1
12 LVDSA_DATA2
12 LVDSB_CLK#
12 LVDSB_CLK
12 LVDSB_DATA0#
12 LVDSB_DATA1#
12 LVDSB_DATA2#
12 LVDSB_DATA0
12 LVDSB_DATA1
12 LVDSB_DATA2
12 VGA_BLUE
12 VGA_GREEN
12 VGA_RED
12 RGB_CLK
12 RGB_DATA
12 VGA_HSYNC
12 VGA_VSYNC
ER45
ER44
HSYNC
VSYNC
DAC_IREF_R
R54
1KR1%0402
LO note: Place near PCH
L_BKLTEN
L_VDD_EN
L_BKLTCTL
L_DDC_CLK
L_DDC_DATA
L_CTRL_CLK
L_CTRL_DATA
LVD_IBG
LVD_VBG
LVD_VREFH
LVD_VREFL
LVDSA_CLK#
LVDSA_CLK
LVDSA_DATA#0
LVDSA_DATA#1
LVDSA_DATA#2
LVDSA_DATA#3
LVDSA_DATA0
LVDSA_DATA1
LVDSA_DATA2
LVDSA_DATA3
LVDSB_CLK#
LVDSB_CLK
LVDSB_DATA#0
LVDSB_DATA#1
LVDSB_DATA#2
LVDSB_DATA#3
LVDSB_DATA0
LVDSB_DATA1
LVDSB_DATA2
LVDSB_DATA3
CRT_BLUE
CRT_GREEN
CRT_RED
CRT_DDC_CLK
CRT_DDC_DATA
CRT_HSYNC
CRT_VSYNC
DAC_IREF
CRT_IRTN
LVDS
CRT
Digital Display Interface
IbexPeak-M_Rev0_9
SDVO_TVCLKINN
SDVO_TVCLKINP
SDVO_STALLN
SDVO_STALLP
SDVO_INTN
SDVO_INTP
SDVO_CTRLCLK
SDVO_CTRLDATA
DDPB_AUXN
DDPB_AUXP
DDPB_HPD
DDPB_0N
DDPB_0P
DDPB_1N
DDPB_1P
DDPB_2N
DDPB_2P
DDPB_3N
DDPB_3P
DDPC_CTRLCLK
DDPC_CTRLDATA
DDPC_AUXN
DDPC_AUXP
DDPC_HPD
DDPC_0N
DDPC_0P
DDPC_1N
DDPC_1P
DDPC_2N
DDPC_2P
DDPC_3N
DDPC_3P
DDPD_CTRLCLK
DDPD_CTRLDATA
DDPD_AUXN
DDPD_AUXP
DDPD_HPD
DDPD_0N
DDPD_0P
DDPD_1N
DDPD_1P
DDPD_2N
DDPD_2P
DDPD_3N
DDPD_3P
+3VRUN
SDVO_CTRL_CLK R236 20KR1%0402
SDVO_CTRL_DATA R239 20KR1%0402
DVI_CLK_UMA 11
DVI_DATA_UMA 11
TPJNC85JNC TPJNC8
TPJNC86JNC TPJNC5
DVI_A_HPD_R
ER39
HDMI_HPD_UMA 11
R232
110KR1%0402-RH
DPD_LANE0_N_C C0.1u10X0402 C309 DPD_LANE2_N 11
DPD_LANE0_P_C C0.1u10X0402 C308 DPD_LANE2_P 11
DPD_LANE1_N_C C0.1u10X0402 C311 DPD_LANE1_N 11
DPD_LANE1_P_C C0.1u10X0402 C310 DPD_LANE1_P 11
DPD_LANE2_N_C C0.1u10X0402 C315 DPD_LANE0_N 11
DPD_LANE2_P_C C0.1u10X0402 C313 DPD_LANE0_P 11
DPD_LANE3_N_C C0.1u10X0402 C41 DPD_LANE3_N 11
DPD_LANE3_P_C C0.1u10X0402 C40 DPD_LANE3_P 11
VGA_BLUE
VGA_GREEN
VGA_RED
R233 150R1%0402
R235 150R1%0402
R234 150R1%0402

MICRO-STAR INT'L CO.,LTD.

Title: IBEXPEAK - M (LVDS,DDI)

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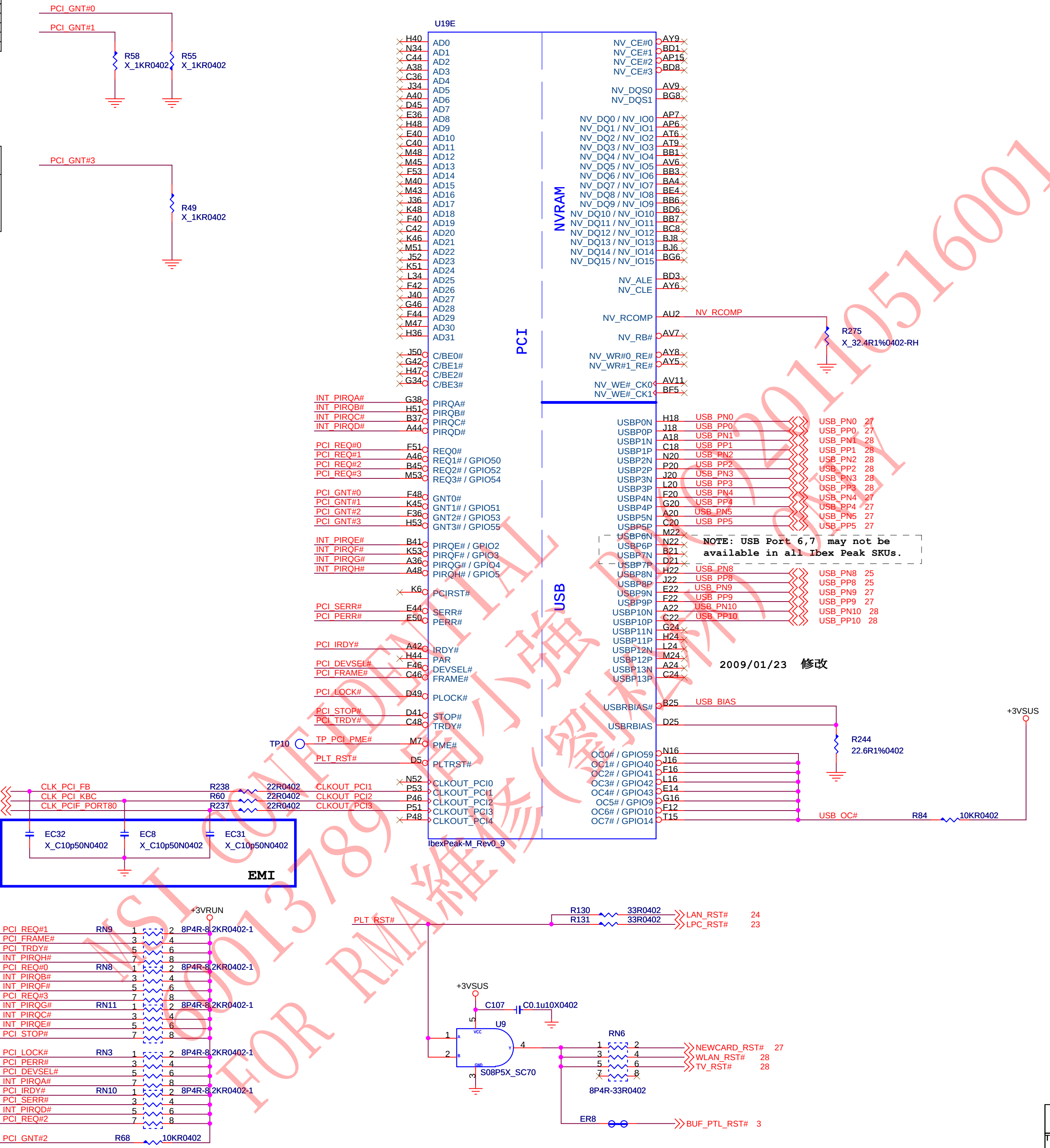
IBEXPEAK - M (PCI,USB,NVRAM)

Boot BIOS Strap		
PCI_GNT#0	PCI_GNT#1	Boot BIOS Location
0	0	LPC
0	1	Reserved
1	0	PCI
1	1	SPI

A16 swap override Strap/Top-Block Swap Override jumper	
PCI_GNT#3	Low = A16 swap override/Top-Block Swap Override enabled High = Default



PCI_GNT#0
PCI_GNT#1
R58 X_1KR0402
R55 X_1KR0402
PCI_GNT#3
R49 X_1KR0402
U19E
PCI
NVRAM
USB
IbexPeak-M_Rev0_9
NV_RCOMP
R275 X_32.4R1%0402-RH
NOTE: USB Port 6,7 may not be available in all Ibex Peak SKUs.
2009/01/23 修改
USB_BIAS
R244 22.6R1%0402
+3VSUS
USB_OC#
R84 10KR0402
14 CLK_PCI_FB
23 CLK_PCI_KBC
23 CLK_PCIF_PORT80
R238 22R0402
R60 22R0402
R237 22R0402
CLKOUT_PCI1
CLKOUT_PCI2
CLKOUT_PCI3
EC32 X_C10p50N0402
EC8 X_C10p50N0402
EC31 X_C10p50N0402
EMI
TP10
TP_PCI_PME#
PLT_RST#
+3VRUN
RN9 8P4R-8.2KR0402-1
RN8 8P4R-8.2KR0402-1
RN11 8P4R-8.2KR0402-1
RN3 8P4R-8.2KR0402-1
RN10 8P4R-8.2KR0402-1
PCI_GNT#2
R68 10KR0402
R130 33R0402
R131 33R0402
LAN_RST# 24
LPC_RST# 23
+3VSUS
C107 C0.1u10X0402
U9 S08P5X_SC70
RN6 8P4R-33R0402
NEWCARD_RST# 27
WLAN_RST# 28
TV_RST# 28
ER8
BUF_PTL_RST# 3

MICRO-STAR INT'L CO.,LTD.		
Title: IBEXPEAK - M (PCI,USB,NVRAM)		
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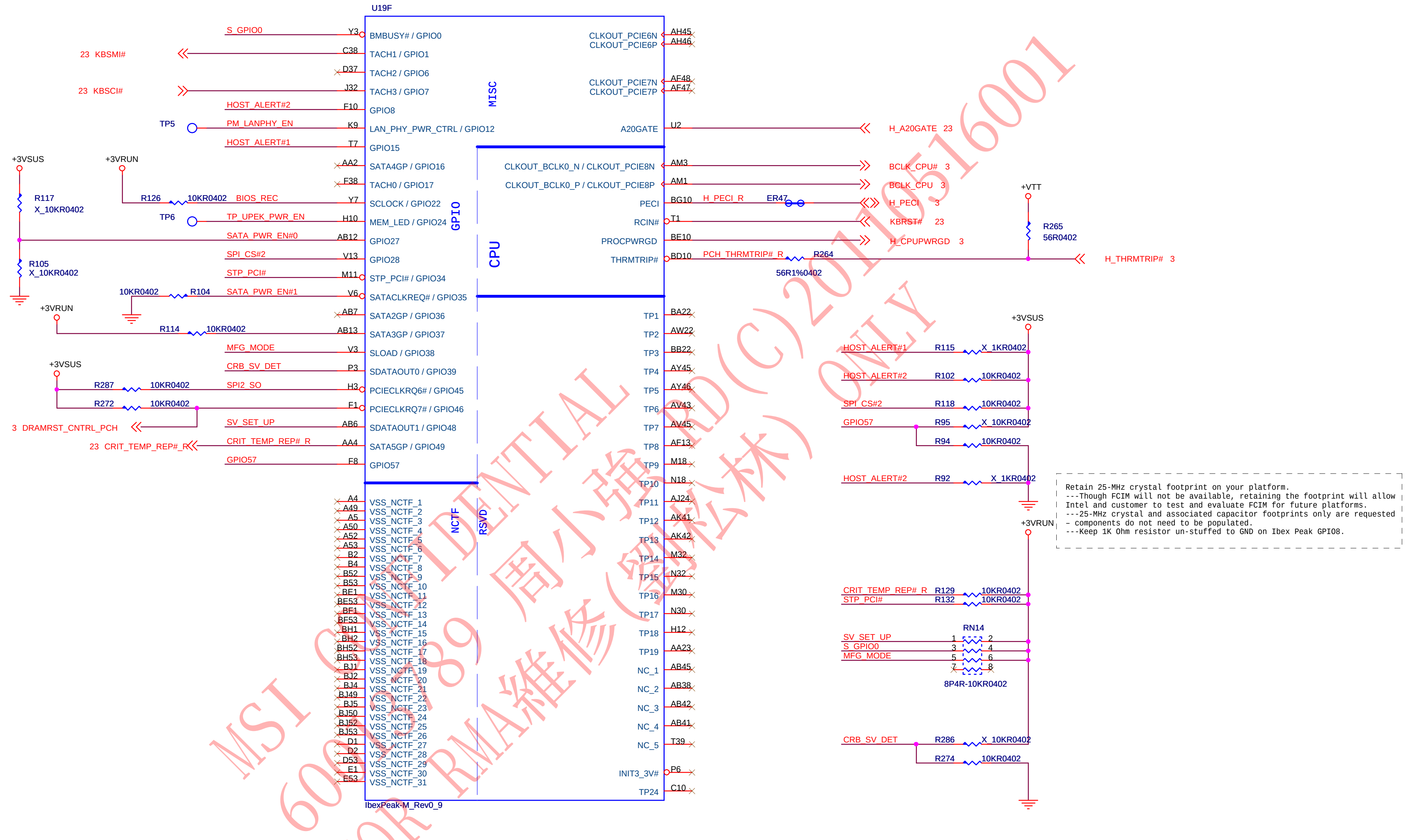
IBEXPEAK - M (GPIO,VSS_NCTF,RSVD)



U19F
MISC
GPIO
CPU
NCTF
RSVD
IbexPeak-M_Rev0_9
S_GPIO0 Y3 BMBUSY# / GPIO0
23 KBSMI# C38 TACH1 / GPIO1
D37 TACH2 / GPIO6
23 KBSCI# J32 TACH3 / GPIO7
HOST_ALERT#2 F10 GPIO8
TP5 PM_LANPHY_EN K9 LAN_PHY_PWR_CTRL / GPIO12
HOST_ALERT#1 T7 GPIO15
AA2 SATA4GP / GPIO16
F38 TACH0 / GPIO17
+3VSUS +3VRUN
R117 X_10KR0402
R126 10KR0402 BIOS_REC Y7 SCLOCK / GPIO22
TP6 TP_UPEK_PWR_EN H10 MEM_LED / GPIO24
SATA_PWR_EN#0 AB12 GPIO27
SPI_CS#2 V13 GPIO28
R105 X_10KR0402
STP_PCI# M11 STP_PCI# / GPIO34
10KR0402 R104 SATA_PWR_EN#1 V6 SATACLKREQ# / GPIO35
+3VRUN AB7 SATA2GP / GPIO36
R114 10KR0402 AB13 SATA3GP / GPIO37
MFG_MODE V3 SLOAD / GPIO38
+3VSUS CRB_SV_DET P3 SDATAOUT0 / GPIO39
R287 10KR0402 SPI2_SO H3 PCIECLKRQ6# / GPIO45
R272 10KR0402 F1 PCIECLKRQ7# / GPIO46
3 DRAMRST_CNTRL_PCH SV_SET_UP AB6 SDATAOUT1 / GPIO48
23 CRIT_TEMP_REP#_R CRIT_TEMP_REP#_R AA4 SATA5GP / GPIO49
GPIO57 F8 GPIO57
A4 VSS_NCTF_1
A49 VSS_NCTF_2
A5 VSS_NCTF_3
A50 VSS_NCTF_4
A52 VSS_NCTF_5
A53 VSS_NCTF_6
B2 VSS_NCTF_7
B4 VSS_NCTF_8
B52 VSS_NCTF_9
B53 VSS_NCTF_10
BE1 VSS_NCTF_11
BE53 VSS_NCTF_12
BF1 VSS_NCTF_13
BF53 VSS_NCTF_14
BH1 VSS_NCTF_15
BH2 VSS_NCTF_16
BH52 VSS_NCTF_17
BH53 VSS_NCTF_18
BJ1 VSS_NCTF_19
BJ2 VSS_NCTF_20
BJ4 VSS_NCTF_21
BJ49 VSS_NCTF_22
BJ5 VSS_NCTF_23
BJ50 VSS_NCTF_24
BJ52 VSS_NCTF_25
BJ53 VSS_NCTF_26
D1 VSS_NCTF_27
D2 VSS_NCTF_28
D53 VSS_NCTF_29
E1 VSS_NCTF_30
E53 VSS_NCTF_31
CLKOUT_PCIE6N AH45
CLKOUT_PCIE6P AH46
CLKOUT_PCIE7N AF48
CLKOUT_PCIE7P AF47
A20GATE U2 H_A20GATE 23
CLKOUT_BCLK0_N / CLKOUT_PCIE8N AM3 BCLK_CPU# 3
CLKOUT_BCLK0_P / CLKOUT_PCIE8P AM1 BCLK_CPU 3
PECI BG10 H_PECI_R ER47 H_PECI 3
RCIN# T1 KBRST# 23
PROCPWRGD BE10 H_CPUPWRGD 3
THRMTRIP# BD10 PCH_THRMTRIP#_R R264 56R1%0402 H_THRMTRIP# 3
+VTT R265 56R0402
TP1 BA22
TP2 AW22
TP3 BB22
TP4 AY45
TP5 AY46
TP6 AV43
TP7 AV45
TP8 AF13
TP9 M18
TP10 N18
TP11 AJ24
TP12 AK41
TP13 AK42
TP14 M32
TP15 N32
TP16 M30
TP17 N30
TP18 H12
TP19 AA23
NC_1 AB45
NC_2 AB38
NC_3 AB42
NC_4 AB41
NC_5 T39
INIT3_3V# P6
TP24 C10
+3VSUS
HOST_ALERT#1 R115 X_1KR0402
HOST_ALERT#2 R102 10KR0402
SPI_CS#2 R118 10KR0402
GPIO57 R95 X_10KR0402
R94 10KR0402
HOST_ALERT#2 R92 X_1KR0402
+3VRUN
CRIT_TEMP_REP#_R R129 10KR0402
STP_PCI# R132 10KR0402
RN14
SV_SET_UP 1 2
S_GPIO0 3 4
MFG_MODE 5 6
7 8
8P4R-10KR0402
CRB_SV_DET R286 X_10KR0402
R274 10KR0402

Retain 25-MHz crystal footprint on your platform.
---Though FCIM will not be available, retaining the footprint will allow Intel and customer to test and evaluate FCIM for future platforms.
---25-MHz crystal and associated capacitor footprints only are requested - components do not need to be populated.
---Keep 1K Ohm resistor un-stuffed to GND on Ibex Peak GPIO8.

MICRO-STAR INT'L CO.,LTD.

Title: IBEXPEAK-M(GPIO,VSS_NCTF,RSVD)		
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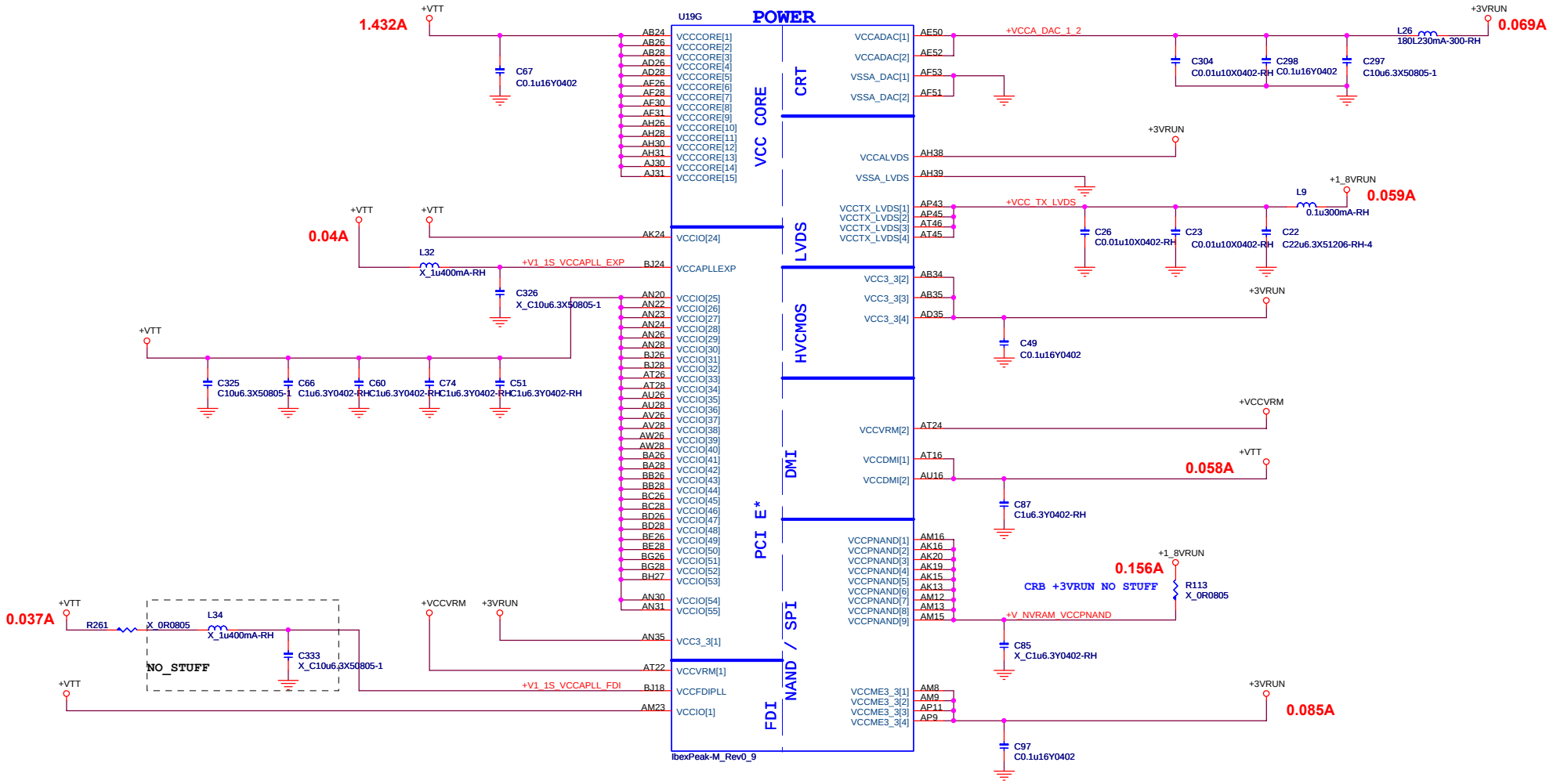
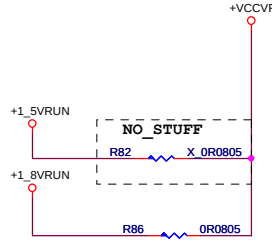
IBEXPEAK - M (POWER)



The VCCVRM rail (1.8 V/1.5 V) powers an internal voltage regulator module (VRM) that regulates clean 1.05-V voltage supply for analog rails (VCCACLK, VccapllEXP, VCCFDIPLL, and VCCSATAPLL). This solution will allow us to remove the LC filter requirements for those rails, thereby reducing platform BOM cost. VCCVRM is enabled by default via internal pull up to GPIO27, therefore GPIO27 should be left as No Connect. The following diagram shows implementation details on how to enable and disable VccVRM.



MICRO-STAR INT'L CO.,LTD.

Title	IBEXPEAK - M (POWER)	
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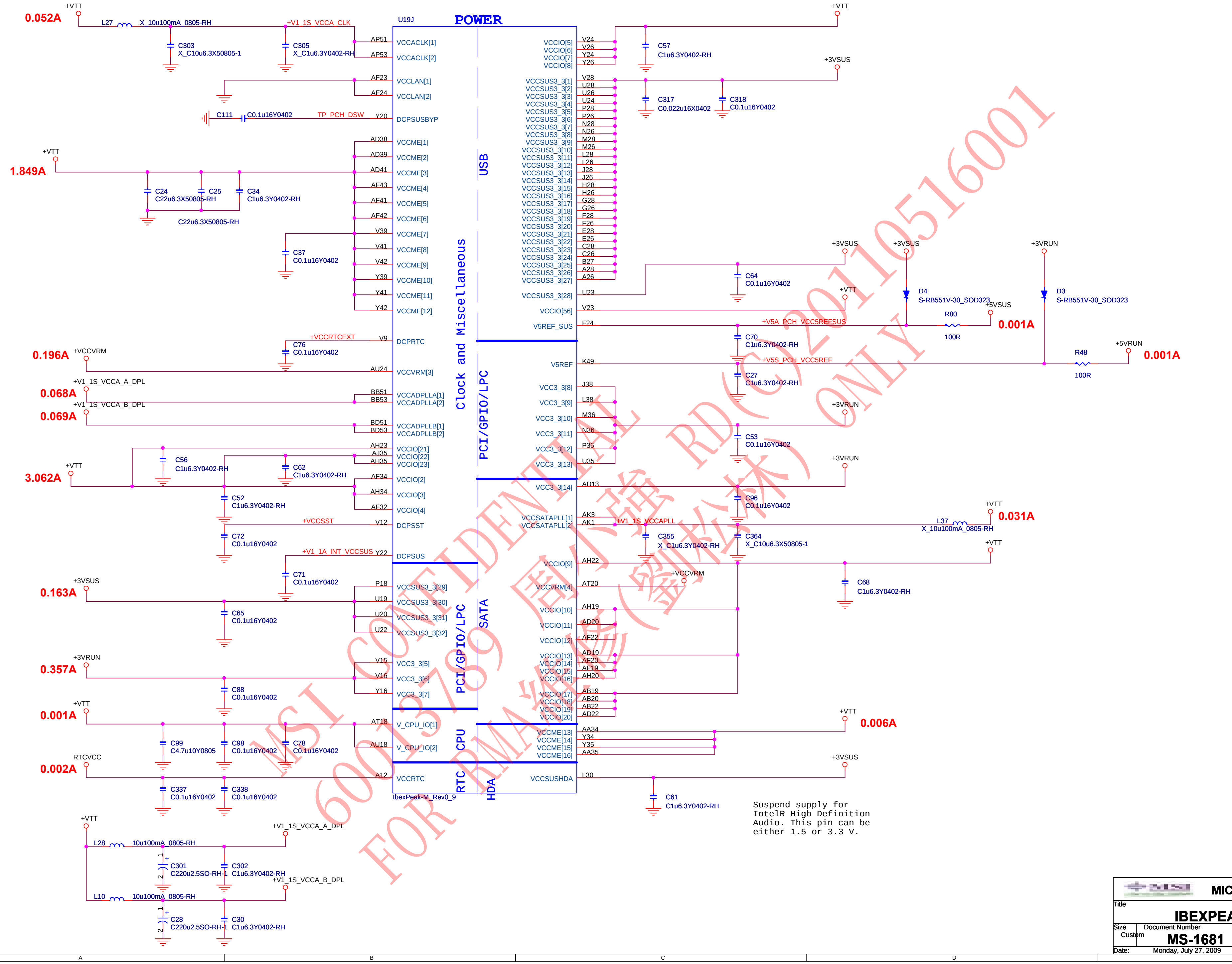
VccLAN may be grounded if Intel LAN is disabled.

IBEXPEAK - M (POWER)



POWER
U19J
IbexPeak-M_Rev0_9
Clock and Miscellaneous
USB
PCI/GPIO/LPC
SATA
CPU
RTC
HDA
+VTT
0.052A
L27
X_10u100mA_0805-RH
+V1_1S_VCCA_CLK
C303
X_C10u6.3X50805-1
C305
X_C1u6.3Y0402-RH
AP51 VCCACLK[1]
AP53 VCCACLK[2]
AF23 VCCLAN[1]
AF24 VCCLAN[2]
C111
C0.1u16Y0402
TP_PCH_DSW
Y20 DCPSUSBYP
1.849A
C24
C22u6.3X50805-RH
C25
C22u6.3X50805-RH
C34
C1u6.3Y0402-RH
C37
C0.1u16Y0402
AD38 VCCME[1]
AD39 VCCME[2]
AD41 VCCME[3]
AF43 VCCME[4]
AF41 VCCME[5]
AF42 VCCME[6]
V39 VCCME[7]
V41 VCCME[8]
V42 VCCME[9]
Y39 VCCME[10]
Y41 VCCME[11]
Y42 VCCME[12]
+VCCRTCEXT
C76
C0.1u16Y0402
V9 DCPRTC
0.196A
+VCCVRM
AU24 VCCVRM[3]
0.068A
+V1_1S_VCCA_A_DPL
0.069A
+V1_1S_VCCA_B_DPL
BB51 VCCADPLLA[1]
BB53 VCCADPLLA[2]
BD51 VCCADPLLB[1]
BD53 VCCADPLLB[2]
3.062A
C56
C1u6.3Y0402-RH
C62
C1u6.3Y0402-RH
C52
C1u6.3Y0402-RH
AH23 VCCIO[21]
AJ35 VCCIO[22]
AH35 VCCIO[23]
AF34 VCCIO[2]
AH34 VCCIO[3]
AF32 VCCIO[4]
+VCCSST
V12 DCPSST
C72
C0.1u16Y0402
+V1_1A_INT_VCCSUS
Y22 DCPSUS
C71
C0.1u16Y0402
+3VSUS
0.163A
C65
C0.1u16Y0402
P18 VCCSUS3_3[29]
U19 VCCSUS3_3[30]
U20 VCCSUS3_3[31]
U22 VCCSUS3_3[32]
+3VRUN
0.357A
C88
C0.1u16Y0402
V15 VCC3_3[5]
V16 VCC3_3[6]
Y16 VCC3_3[7]
0.001A
C99
C4.7u10Y0805
C98
C0.1u16Y0402
C78
C0.1u16Y0402
AT18 V_CPU_IO[1]
AU18 V_CPU_IO[2]
RTCVCC
0.002A
C337
C0.1u16Y0402
C338
C0.1u16Y0402
A12 VCCRTC
L28
10u100mA_0805-RH
C301
C220u2.5SO-RH-1
C302
C1u6.3Y0402-RH
+V1_1S_VCCA_A_DPL
L10
10u100mA_0805-RH
C28
C220u2.5SO-RH-1
C30
C1u6.3Y0402-RH
+V1_1S_VCCA_B_DPL
VCCIO[5] V24
VCCIO[6] V26
VCCIO[7] Y24
VCCIO[8] Y26
C57
C1u6.3Y0402-RH
VCCSUS3_3[1] V28
VCCSUS3_3[2] U28
VCCSUS3_3[3] U26
VCCSUS3_3[4] U24
VCCSUS3_3[5] P28
VCCSUS3_3[6] P26
VCCSUS3_3[7] N28
VCCSUS3_3[8] N26
VCCSUS3_3[9] M28
VCCSUS3_3[10] M26
VCCSUS3_3[11] L28
VCCSUS3_3[12] L26
VCCSUS3_3[13] J28
VCCSUS3_3[14] J26
VCCSUS3_3[15] H28
VCCSUS3_3[16] H26
VCCSUS3_3[17] G28
VCCSUS3_3[18] G26
VCCSUS3_3[19] F28
VCCSUS3_3[20] F26
VCCSUS3_3[21] E28
VCCSUS3_3[22] E26
VCCSUS3_3[23] C28
VCCSUS3_3[24] C26
VCCSUS3_3[25] B27
VCCSUS3_3[26] A28
VCCSUS3_3[27] A26
C317
C0.022u16X0402
C318
C0.1u16Y0402
VCCSUS3_3[28] U23
C64
C0.1u16Y0402
VCCIO[56] V23
V5REF_SUS F24
+V5A_PCH_VCC5REFSUS
D4
S-RB551V-30_SOD323
D3
S-RB551V-30_SOD323
+3VRUN
+5VSUS
R80
100R
0.001A
C70
C1u6.3Y0402-RH
V5REF K49
+V5S_PCH_VCC5REF
+5VRUN
R48
100R
0.001A
C27
C1u6.3Y0402-RH
VCC3_3[8] J38
VCC3_3[9] L38
VCC3_3[10] M36
VCC3_3[11] N36
VCC3_3[12] P36
VCC3_3[13] U35
C53
C0.1u16Y0402
VCC3_3[14] AD13
C96
C0.1u16Y0402
VCCSATAPLL[1] AK3
VCCSATAPLL[2] AK1
+V1_1S_VCCAPLL
C355
X_C1u6.3Y0402-RH
C364
X_C10u6.3X50805-1
L37
X_10u100mA_0805-RH
0.031A
VCCIO[9] AH22
VCCVRM[4] AT20
C68
C1u6.3Y0402-RH
VCCIO[10] AH19
VCCIO[11] AD20
VCCIO[12] AF22
VCCIO[13] AD19
VCCIO[14] AF20
VCCIO[15] AF19
VCCIO[16] AH20
VCCIO[17] AB19
VCCIO[18] AB20
VCCIO[19] AB22
VCCIO[20] AD22
VCCME[13] AA34
VCCME[14] Y34
VCCME[15] Y35
VCCME[16] AA35
0.006A
VCCSUSHDA L30
C61
C1u6.3Y0402-RH

Suspend supply for IntelR High Definition Audio. This pin can be either 1.5 or 3.3 V.

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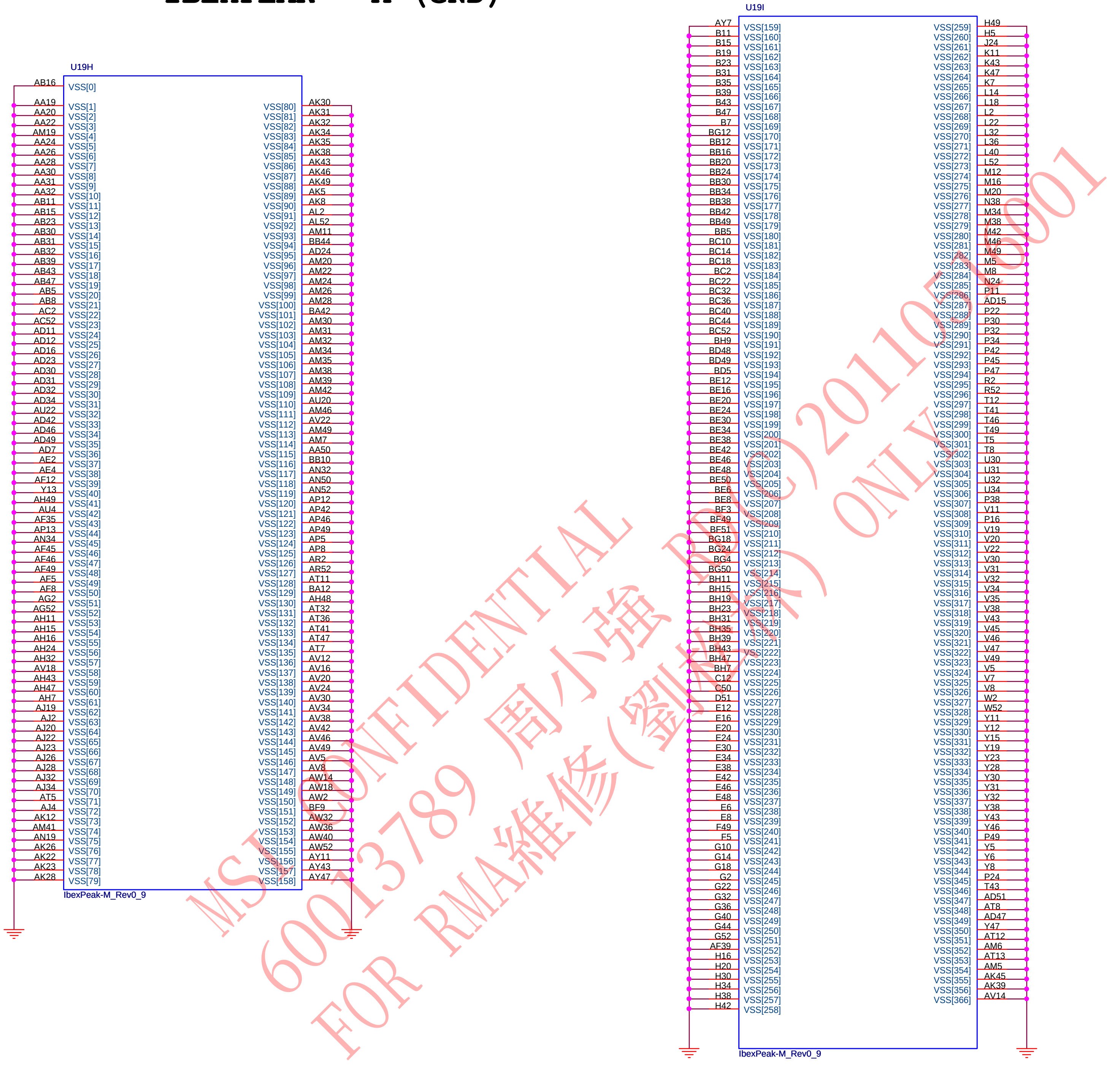
IBEXPEAK - M (GND)


U19H
AB16 VSS[0]
AA19 VSS[1]
AA20 VSS[2]
AA22 VSS[3]
AM19 VSS[4]
AA24 VSS[5]
AA26 VSS[6]
AA28 VSS[7]
AA30 VSS[8]
AA31 VSS[9]
AA32 VSS[10]
AB11 VSS[11]
AB15 VSS[12]
AB23 VSS[13]
AB30 VSS[14]
AB31 VSS[15]
AB32 VSS[16]
AB39 VSS[17]
AB43 VSS[18]
AB47 VSS[19]
AB5 VSS[20]
AB8 VSS[21]
AC2 VSS[22]
AC52 VSS[23]
AD11 VSS[24]
AD12 VSS[25]
AD16 VSS[26]
AD23 VSS[27]
AD30 VSS[28]
AD31 VSS[29]
AD32 VSS[30]
AD34 VSS[31]
AU22 VSS[32]
AD42 VSS[33]
AD46 VSS[34]
AD49 VSS[35]
AD7 VSS[36]
AE2 VSS[37]
AE4 VSS[38]
AF12 VSS[39]
Y13 VSS[40]
AH49 VSS[41]
AU4 VSS[42]
AF35 VSS[43]
AP13 VSS[44]
AN34 VSS[45]
AF45 VSS[46]
AF46 VSS[47]
AF49 VSS[48]
AF5 VSS[49]
AF8 VSS[50]
AG2 VSS[51]
AG52 VSS[52]
AH11 VSS[53]
AH15 VSS[54]
AH16 VSS[55]
AH24 VSS[56]
AH32 VSS[57]
AV18 VSS[58]
AH43 VSS[59]
AH47 VSS[60]
AH7 VSS[61]
AJ19 VSS[62]
AJ2 VSS[63]
AJ20 VSS[64]
AJ22 VSS[65]
AJ23 VSS[66]
AJ26 VSS[67]
AJ28 VSS[68]
AJ32 VSS[69]
AJ34 VSS[70]
AT5 VSS[71]
AJ4 VSS[72]
AK12 VSS[73]
AM41 VSS[74]
AN19 VSS[75]
AK26 VSS[76]
AK22 VSS[77]
AK23 VSS[78]
AK28 VSS[79]
VSS[80] AK30
VSS[81] AK31
VSS[82] AK32
VSS[83] AK34
VSS[84] AK35
VSS[85] AK38
VSS[86] AK43
VSS[87] AK46
VSS[88] AK49
VSS[89] AK5
VSS[90] AK8
VSS[91] AL2
VSS[92] AL52
VSS[93] AM11
VSS[94] BB44
VSS[95] AD24
VSS[96] AM20
VSS[97] AM22
VSS[98] AM24
VSS[99] AM26
VSS[100] AM28
VSS[101] BA42
VSS[102] AM30
VSS[103] AM31
VSS[104] AM32
VSS[105] AM34
VSS[106] AM35
VSS[107] AM38
VSS[108] AM39
VSS[109] AM42
VSS[110] AU20
VSS[111] AM46
VSS[112] AV22
VSS[113] AM49
VSS[114] AM7
VSS[115] AA50
VSS[116] BB10
VSS[117] AN32
VSS[118] AN50
VSS[119] AN52
VSS[120] AP12
VSS[121] AP42
VSS[122] AP46
VSS[123] AP49
VSS[124] AP5
VSS[125] AP8
VSS[126] AR2
VSS[127] AR52
VSS[128] AT11
VSS[129] BA12
VSS[130] AH48
VSS[131] AT32
VSS[132] AT36
VSS[133] AT41
VSS[134] AT47
VSS[135] AT7
VSS[136] AV12
VSS[137] AV16
VSS[138] AV20
VSS[139] AV24
VSS[140] AV30
VSS[141] AV34
VSS[142] AV38
VSS[143] AV42
VSS[144] AV46
VSS[145] AV49
VSS[146] AV5
VSS[147] AV8
VSS[148] AW14
VSS[149] AW18
VSS[150] AW2
VSS[151] BF9
VSS[152] AW32
VSS[153] AW36
VSS[154] AW40
VSS[155] AW52
VSS[156] AY11
VSS[157] AY43
VSS[158] AY47
IbexPeak-M_Rev0_9
U19I
AY7 VSS[159]
B11 VSS[160]
B15 VSS[161]
B19 VSS[162]
B23 VSS[163]
B31 VSS[164]
B35 VSS[165]
B39 VSS[166]
B43 VSS[167]
B47 VSS[168]
B7 VSS[169]
BG12 VSS[170]
BB12 VSS[171]
BB16 VSS[172]
BB20 VSS[173]
BB24 VSS[174]
BB30 VSS[175]
BB34 VSS[176]
BB38 VSS[177]
BB42 VSS[178]
BB49 VSS[179]
BB5 VSS[180]
BC10 VSS[181]
BC14 VSS[182]
BC18 VSS[183]
BC2 VSS[184]
BC22 VSS[185]
BC32 VSS[186]
BC36 VSS[187]
BC40 VSS[188]
BC44 VSS[189]
BC52 VSS[190]
BH9 VSS[191]
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BE12 VSS[195]
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BE8 VSS[207]
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G14 VSS[243]
G18 VSS[244]
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H20 VSS[254]
H30 VSS[255]
H34 VSS[256]
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H42 VSS[258]
VSS[259] H49
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VSS[273] L52
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VSS[276] M20
VSS[277] N38
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VSS[285] N24
VSS[286] P11
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VSS[294] P47
VSS[295] R2
VSS[296] R52
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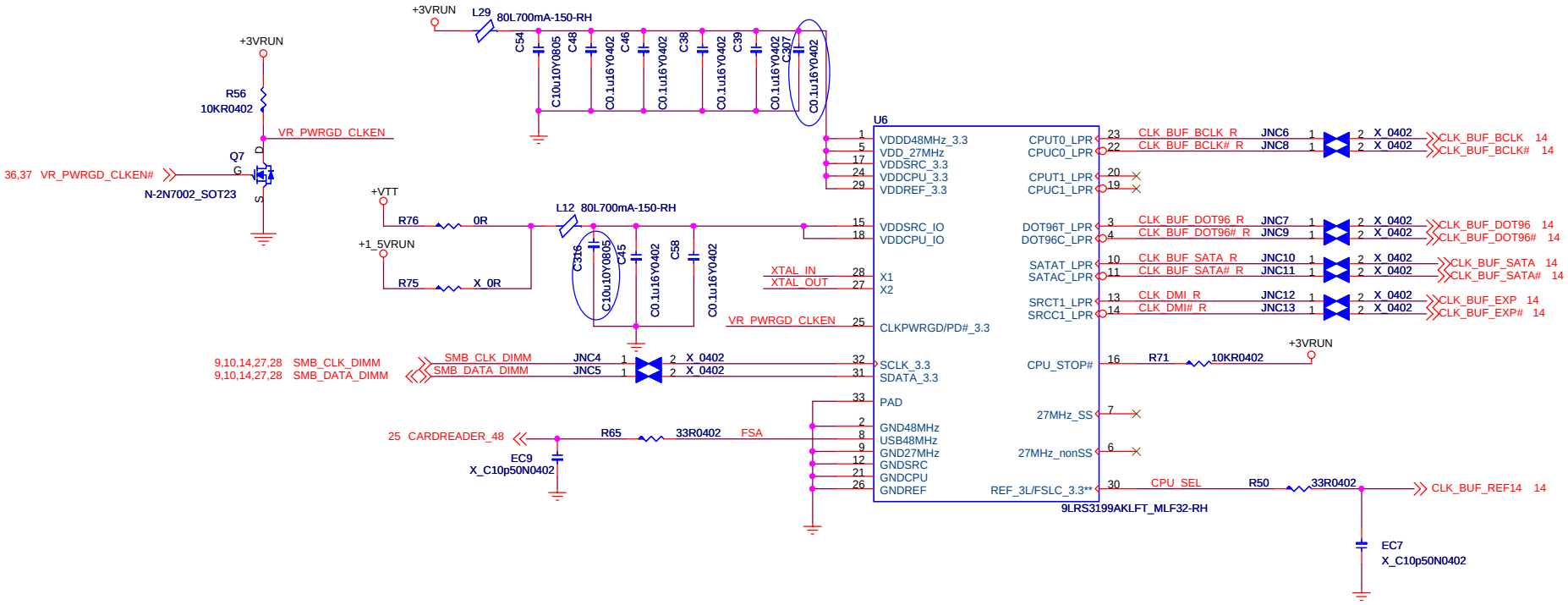
VSS[340] Y46
VSS[341] P49
VSS[342] Y5
VSS[343] Y6
VSS[344] Y8
VSS[345] P24
VSS[346] T43
VSS[347] AD51
VSS[348] AT8
VSS[349] AD47
VSS[350] Y47
VSS[351] AT12
VSS[352] AM6
VSS[353] AT13
VSS[354] AM5
VSS[355] AK45
VSS[356] AK39
VSS[366] AV14
IbexPeak-M_Rev0_9

MICRO-STAR INT'L CO.,LTD.

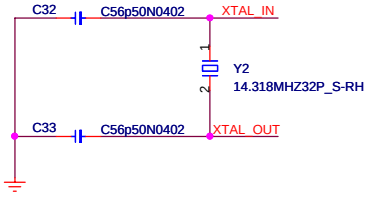
Title	IBEXPEAK - M (GND)	
Size: Custom	Document Number: MS-1681	Rev: 0A
Date: Monday, July 27, 2009	Sheet 21 of 44	



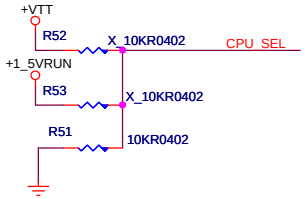
Capacity select

If LC=20pf C708/C709=33pf

If LC=32pf C708/C709=56pf



For CPU frequency select (133MHz)



CPU_SEL	CPU0	CPU1
0(Default)	133MHz	133MHz
1(1.05~1.5V)	100MHz	100MHz

Co-Lay Note:

For IDT IC9lRS3199

R598,R599,R600=10Kohm

For Silego SLG8SP587

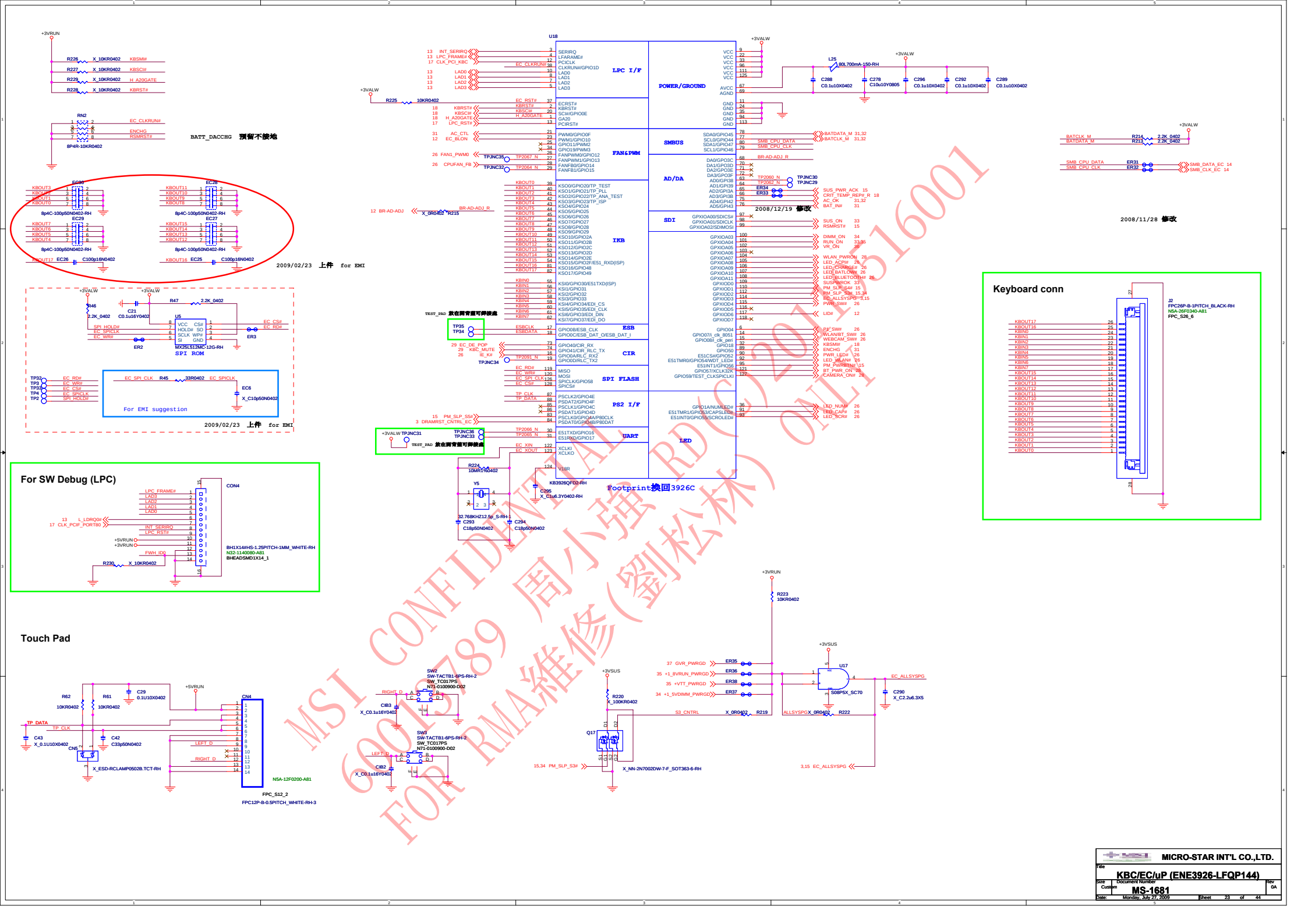
R598,R599,R600=4.7Kohm

MICRO-STAR INT'L CO.,LTD.

Title: Clock Generator (ICS9IRS3199)

Size: Custom | Document Number: MS-1681 | Rev: 0A

Date: Monday, July 27, 2009 | Sheet 22 of 44



MICRO-STAR INT'L CO.,LTD.	
Title	KBC/EC/uP (ENE3926-LFQP144)
Size: Custom	Document Number: MS-1681
Rev	0A
Date: Monday, July 27, 2009	Sheet 23 of 44

1. Pin 46 : RSET res. should be close to LAN chip. Don't have power trace or high frequency trace beside it.

2. The trace of each Pair(MDIX+/-) should be equal in length and better have ground under.

3. Both EGND and GND can be connect together or use 0 Ohm res. to connect them.

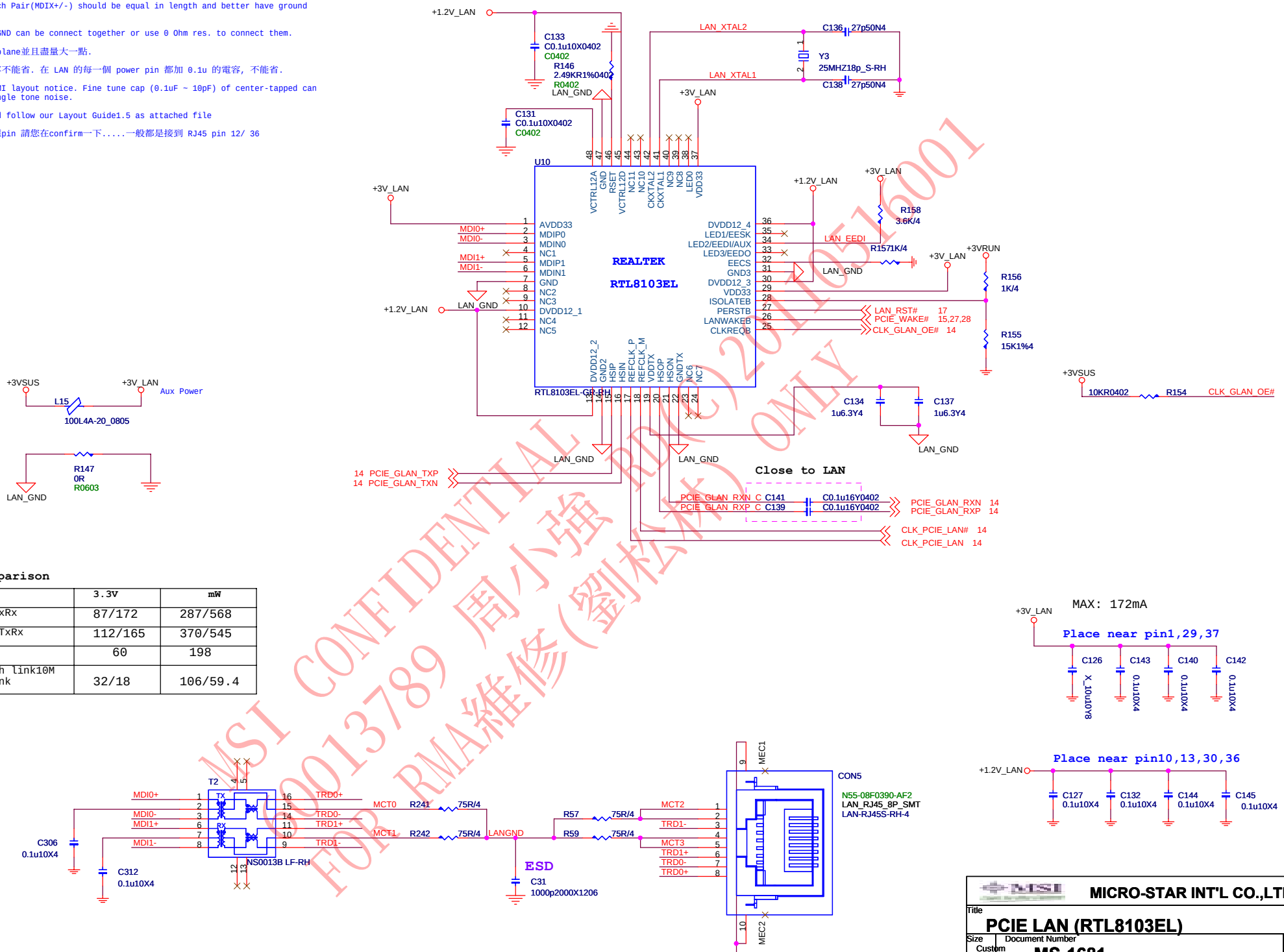
4. 1.2V請留 power plane並且盡量大一點.

5. 1.2V Bypass 電容不能省. 在 LAN 的每一個 power pin 都加 0.1u 的電容, 不能省.

6.請參考RTL8111C EMI layout notice. Fine tune cap (0.1uF ~ 10pF) of center-tapped can improve EMI for single tone noise.

7. Please refer and follow our Layout Guide1.5 as attached file

8. RJ45 的部份,對應pin 請您在confirm一下.....一般都是接到 RJ45 pin 12/ 36



POWER Comparison

	3.3V	mW
10 M Idle/TxRx	87/172	287/568
100 M Idle/TxRx	112/165	370/545
ALDPS	60	198
D3 cold with link10M /without link	32/18	106/59.4

MICRO-STAR INT'L CO.,LTD.

Title: PCIE LAN (RTL8103EL)

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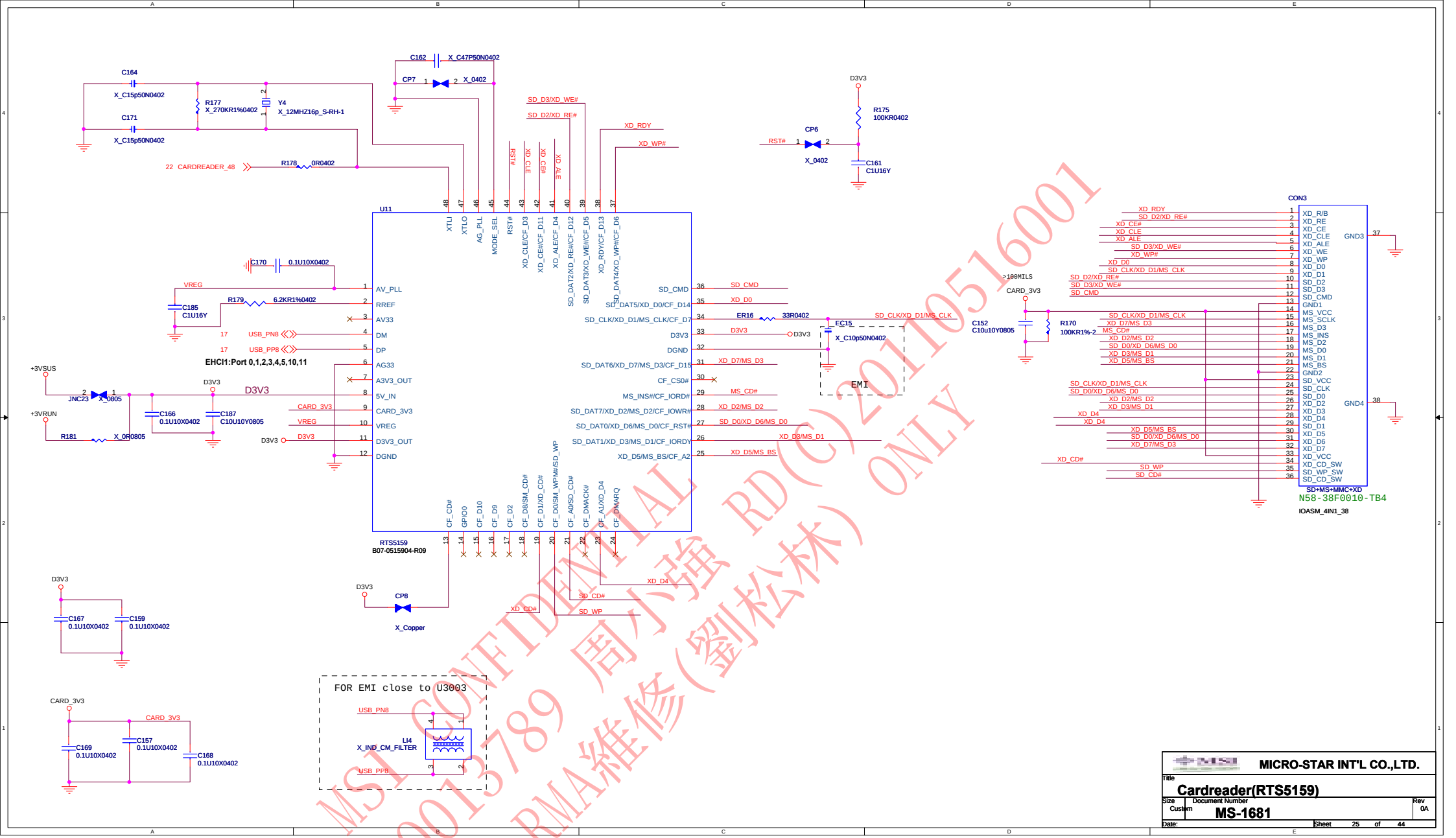

MICRO-STAR INT'L CO.,LTD.

Title: Cardreader(RTS5159)

Size: Custom | Document Number: MS-1681 | Rev: 0A

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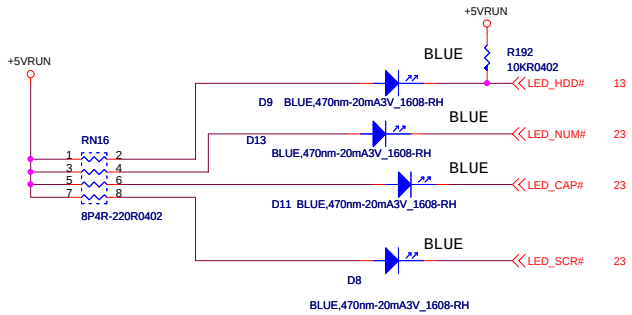
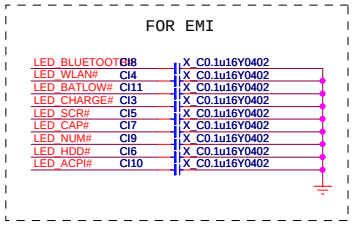
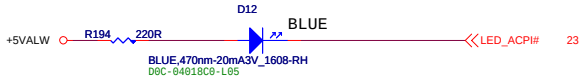
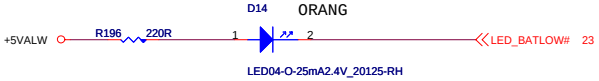
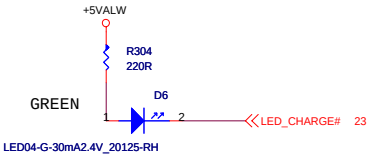


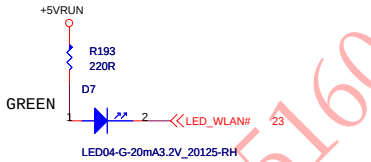


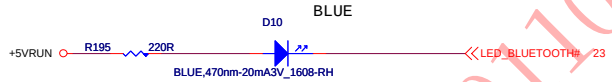
1/12 casper update

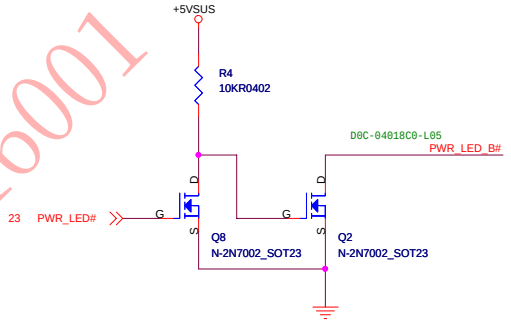




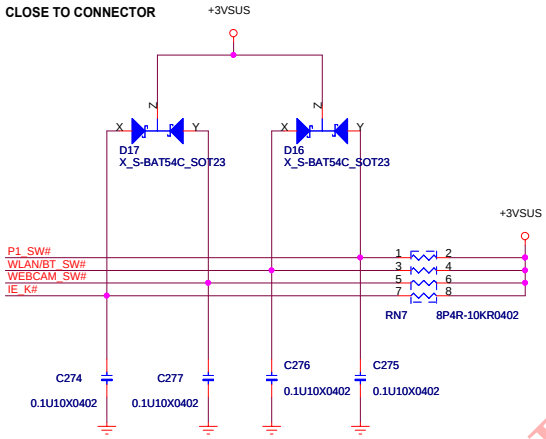


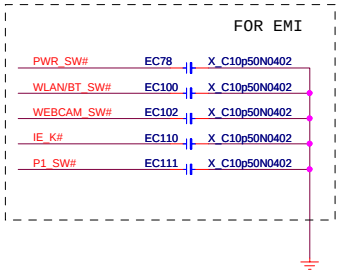


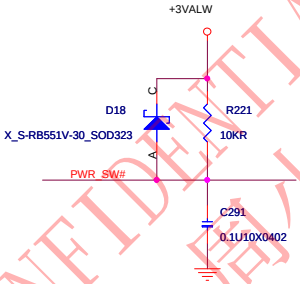


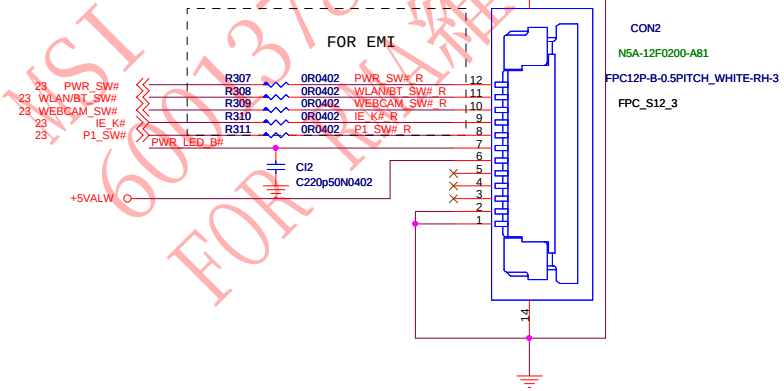


CLOSE TO CONNECTOR

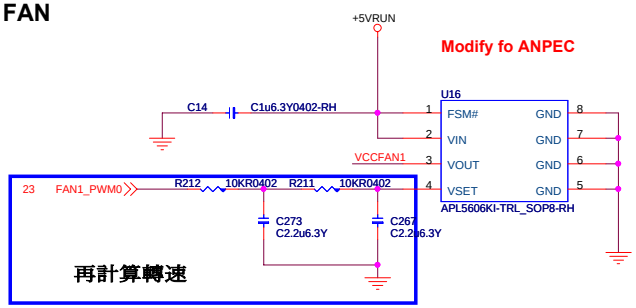


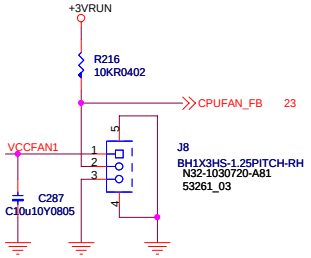






CPU FAN





MICRO-STAR INT'L CO.,LTD.

Title: FAN,LED,Lauch board conn

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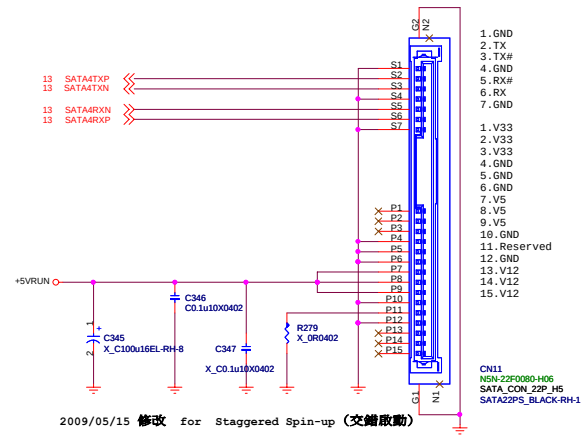
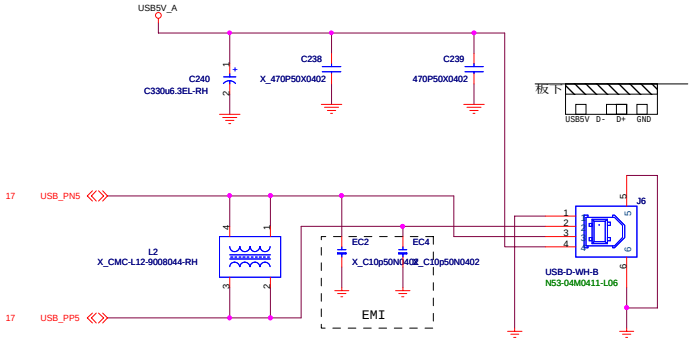
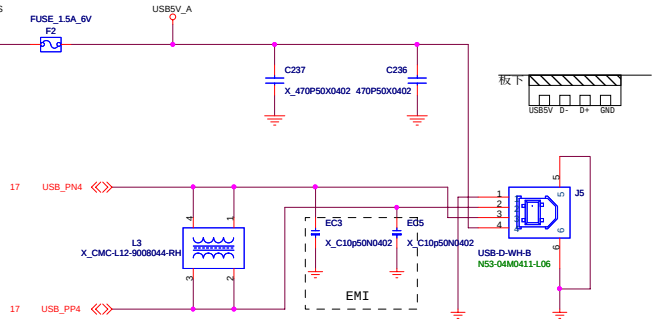
SATA HDD

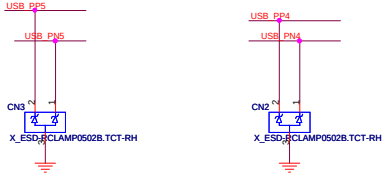


2009/05/15 修改 for Staggered Spin-up（交錯啟動）

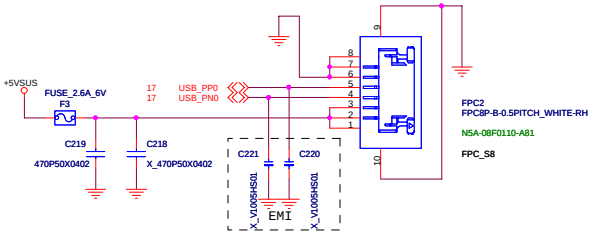
USB Port



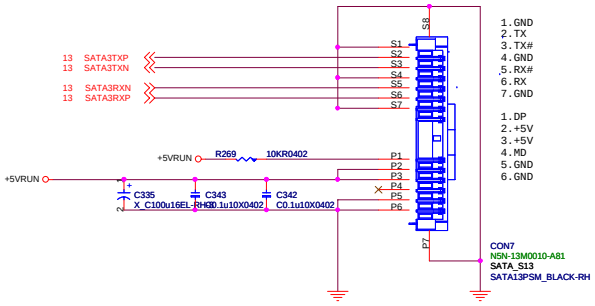




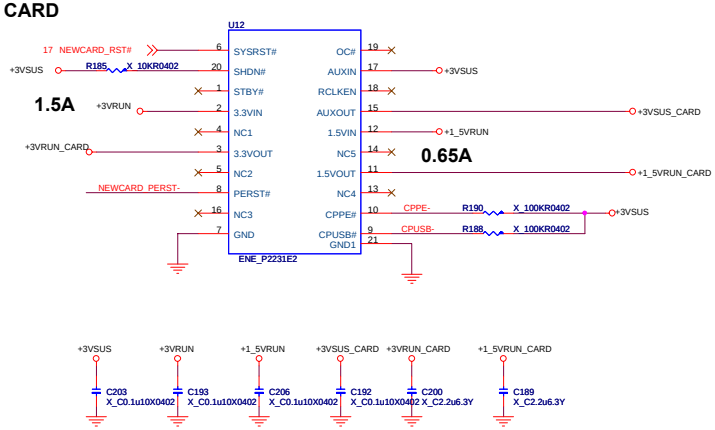
USB Port (to daughter board)

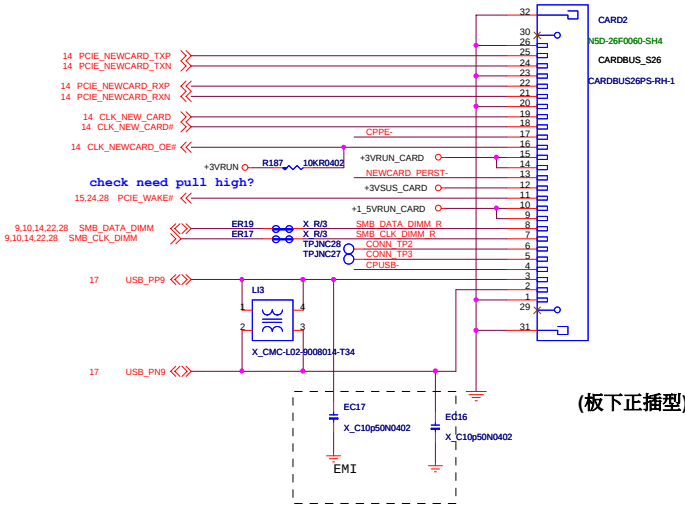


SATA ODD



NEW CARD





(板下正插型)

MICRO-STAR INT'L CO.,LTD.

Title: HDD,CDROM,USB ,NEW CARD

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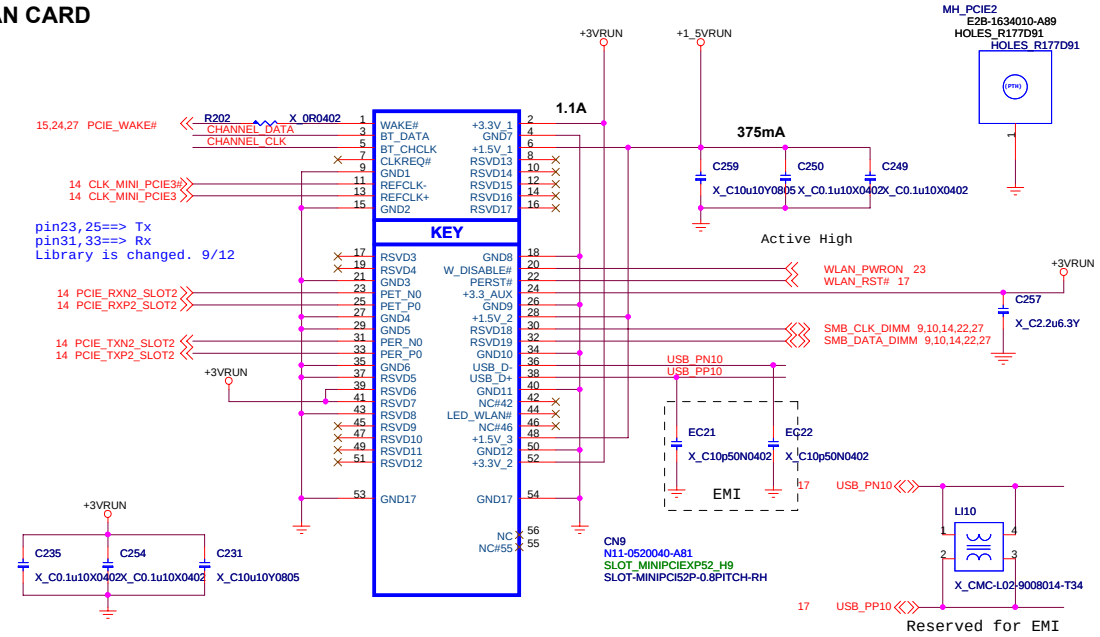
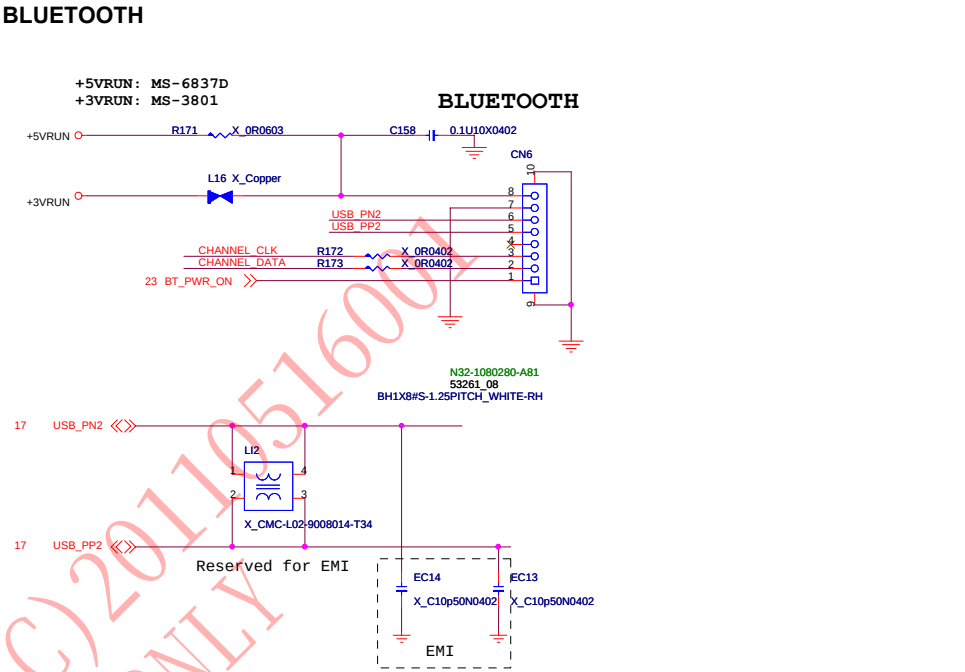
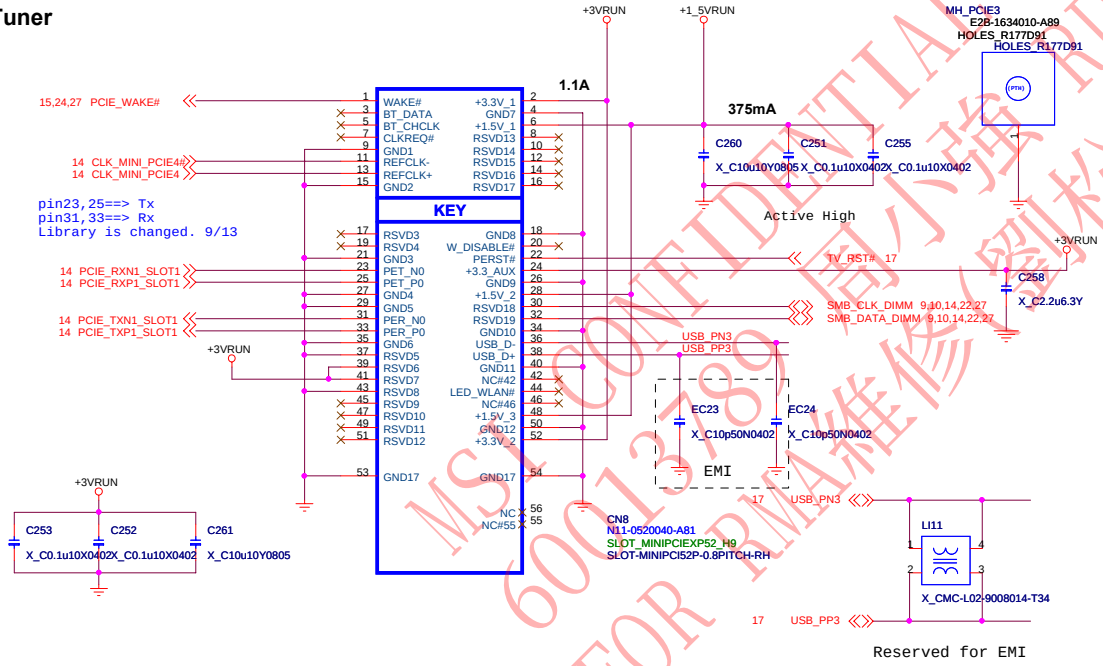
WLAN CARD



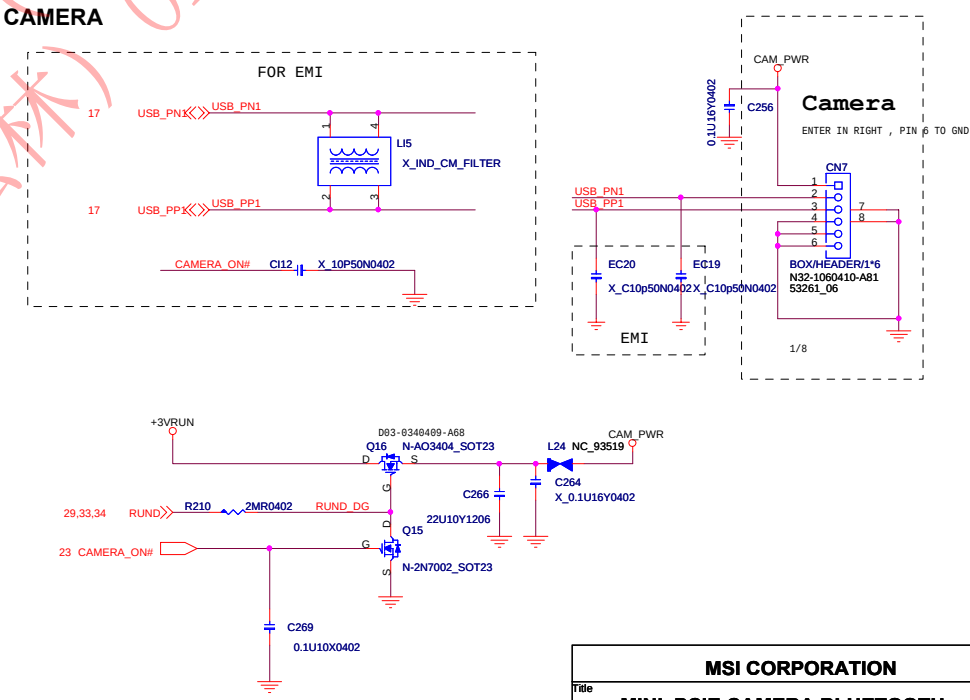
BLUETOOTH



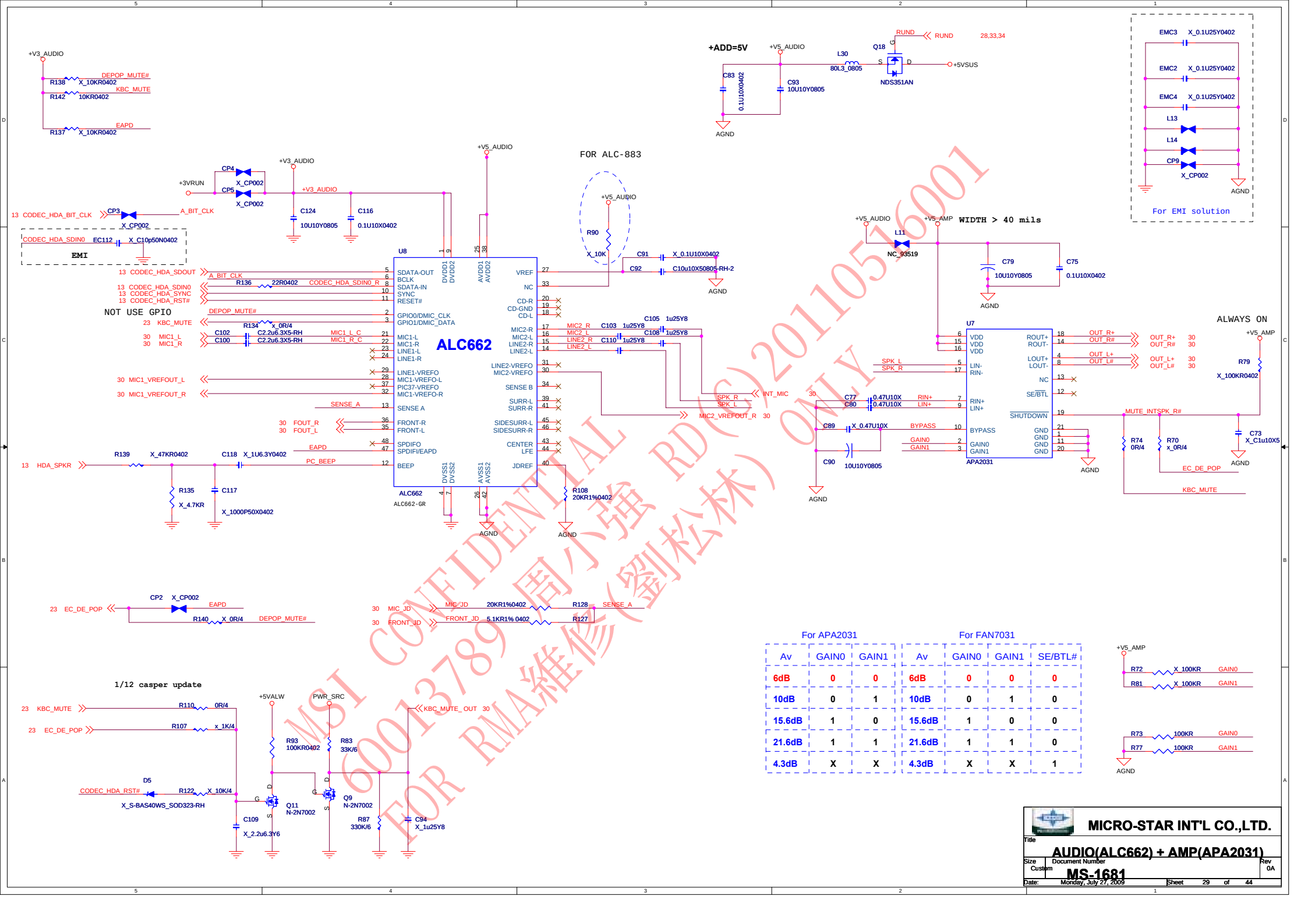
TV Tuner



CAMERA



MSI CORPORATION		
Title: MINI_PCIE,CAMERA,BLUETOOTH		
Size: Custom	Document Number: MS-1681	Rev: 0A
Date: Monday, July 27, 2009	Sheet 28 of 44	



1/20 EAPD DELAY 650ms

HP IN IS LOW

D03-0340409-A68

29 FOUT_R — C349 C100U6.3PT — FOUT_R_C — Q20 AO3404 — FOUT_R_Q — SOT23SGD_T — R262 75R0402 — FOUT_R_R — L33 300L300mA-350-RH

29 FOUT_L — C329 C100u16EL-RH-8 — FOUT_L_C — Q19 AO3404 — FOUT_L_Q — SOT23SGD_T — R251 75R0402 — FOUT_L_R — L31 300L300mA-350-RH

R252 2.2KR0402 — R258 2.2KR0402 — AGND

C321 X_C680p50X0402-RH — C334 X_C680p50X0402-RH — AGND AGND

EMC

29 KBC_MUTE_OUT — R243 33KR R0603 — D19 X_BAS40WS — C319 1U25Y0805 — AGND

29 FRONT_JD — C339 X_1000P50X0402 — EMC — AGND

FRONT_OUT_R — FRONT_OUT_L

D21 X_ESD-VPORT0402100MV05-RH — D20 X_ESD-VPORT0402100MV05-RH

C323 680P50X0402 — C330 680P50X0402 — AGND AGND

09/21

LOUT2 — MEC2 — MEC1 — EARPHONE

JACK-AUDIOF_OR-SP

N54-06F0481-H06

AUDIO_JACK_6P_OB

Internal Mic

29 MIC2_VREFOUT_R — R247 4.7KR — C320 0.1U10X0402 — AGND

R246 1KR1%0402 — C322 1000P50X0402 — AGND

1/16

CON6 — INT_MIC — INT_MIC 29

AMP_440372_WTB-2P

N32-1020790-A81

FOR EMI close to CON4

CI13 — INT_MIC — X_ESD-VPORT0402100MV05-RH — AGND

29 MIC1_VREFOUT_R — MIC1_VREFOUT_R

29 MIC1_VREFOUT_L — MIC1_VREFOUT_L

X_ESD-VPORT0402100MV05-RH

R268 2.2KR0402 — R280 2.2KR0402

29 MIC_JD — D24 — C365 X_1000P50X0402 — AGND

MIC_JD — CN10

29 MIC1_R — MIC1_R — L36 300L300mA-350-RH — MIC1_R_L

29 MIC1_L — MIC1_L — L35 300L300mA-350-RH — MIC1_L_L

C353 X_C680p50X0402-RH — C357 X_C680p50X0402-RH — AGND AGND

C363 680P50X0402 — C352 680P50X0402 — AGND

For EMI

D22 — D23 — X_ESD-VPORT0402100MV05-RH — X_ESD-VPORT0402100MV05-RH — AGND

IOC-JACK-D08-S56

AUDIO_JACK_6P_OB

N54-06F0481-H06

MIC(PINK)

29 OUT_L# — OUT_L#

29 OUT_L+ — OUT_L+

29 OUT_R+ — OUT_R+

29 OUT_R# — OUT_R#

D1x4-BK

N32-10400V0-A81

53261_04

J10

SPEAKER

C332 X_680P50X0402 — C340 X_680P50X0402 — C344 X_680P50X0402 — C350 X_680P50X0402 — AGND

MICRO-STAR INT'L CO.,LTD.

Title: SPK / HP / MIC — E28/M0

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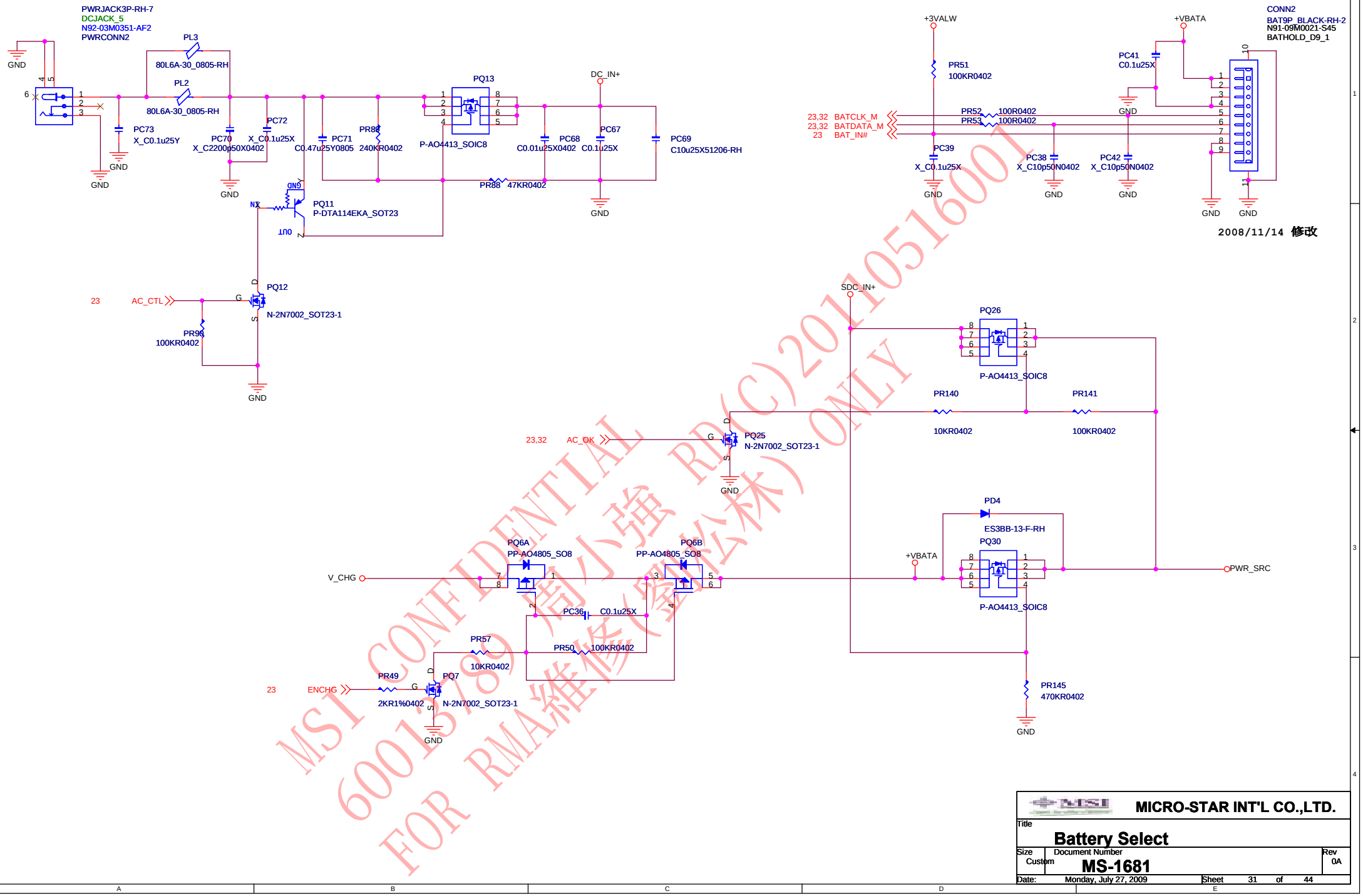

MICRO-STAR INT'L CO.,LTD.

Title: **Battery Select**

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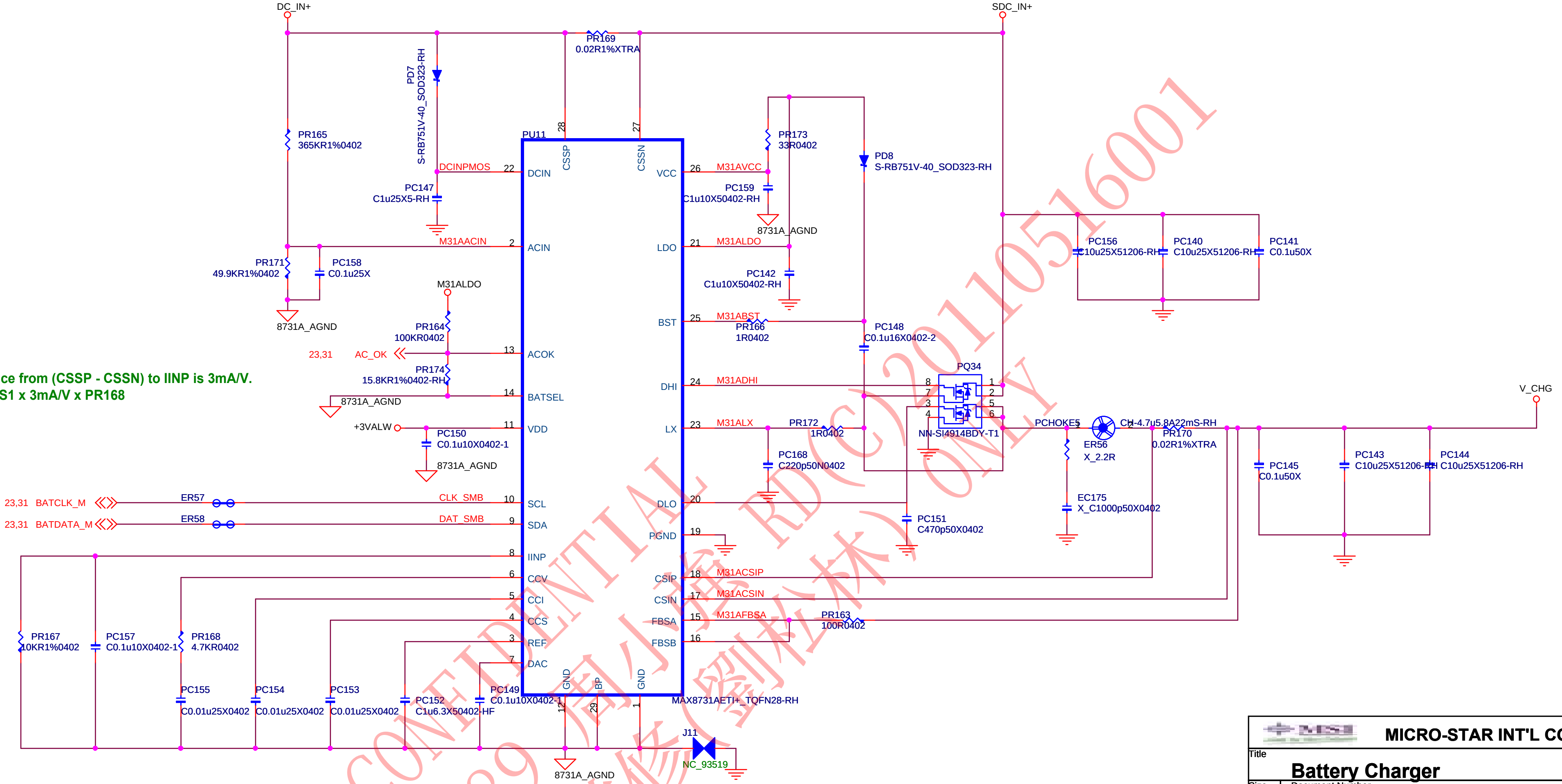
Adapter= 65W
Adapter input voltage set 19 Voltage



DC_IN+
SDC_IN+
PR169
0.02R1%XTRA
PD7
S-RB751V-40_SOD323-RH
PR165
365KR1%0402
PU11
CSSP
CSSN
DCINPMOS
DCIN
VCC
M31AVCC
PR173
33R0402
PD8
S-RB751V-40_SOD323-RH
PC147
C1u25X5-RH
PC159
C1u10X50402-RH
8731A_AGND
M31AACIN
ACIN
LDO
M31ALDO
PC156
C10u25X51206-RH
PC140
C10u25X51206-RH
PC141
C0.1u50X
PR171
49.9KR1%0402
PC158
C0.1u25X
PC142
C1u10X50402-RH
M31ALDO
BST
M31ABST
PR166
1R0402
PC148
C0.1u16X0402-2
PR164
100KR0402
AC_OK
ACOK
DHI
M31ADHI
PQ34
PR174
15.8KR1%0402-RH
BATSEL
+3VALW
VDD
LX
M31ALX
PR172
1R0402
NN-SI4914BDY-T1
PCHOKE5
CH-4.7u5.8A22mS-RH
PR170
0.02R1%XTRA
V_CHG
PC150
C0.1u10X0402-1
PC168
C220p50N0402
ER56
X_2.2R
PC145
C0.1u50X
PC143
C10u25X51206-RH
PC144
C10u25X51206-RH
EC175
X_C1000p50X0402
23,31 BATCLK_M
ER57
CLK_SMB
SCL
DLO
23,31 BATDATA_M
ER58
DAT_SMB
SDA
PGND
PC151
C470p50X0402
IINP
CCV
CSIP
M31ACSIP
CCI
CSIN
M31ACSIN
CCS
FBSA
M31AFBSA
PR163
100R0402
REF
FBSB
DAC
PR167
10KR1%0402
PC157
C0.1u10X0402-1
PR168
4.7KR0402
PC155
C0.01u25X0402
PC154
C0.01u25X0402
PC153
C0.01u25X0402
PC152
C1u6.3X50402-HF
PC149
C0.1u10X0402-1
GND
BP
MAX8731AETI+_TQFN28-RH
J11
NC_93519

IINP :
1. The transconductance from (CSSP - CSSN) to IINP is 3mA/V.
2. V_IINP = IINPUT x RS1 x 3mA/V x PR168

MICRO-STAR INT'L CO.,LTD.	
Title	Battery Charger
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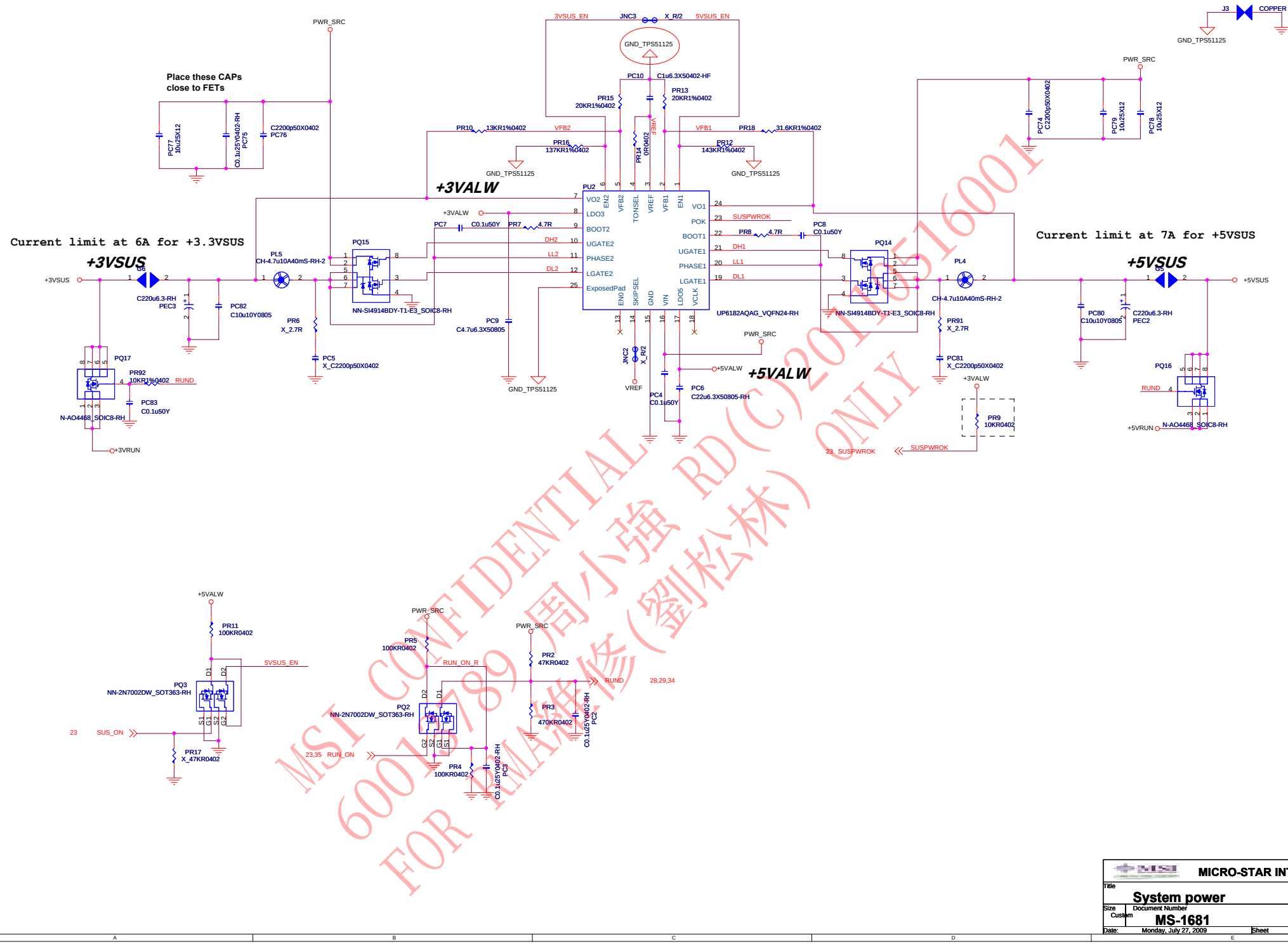
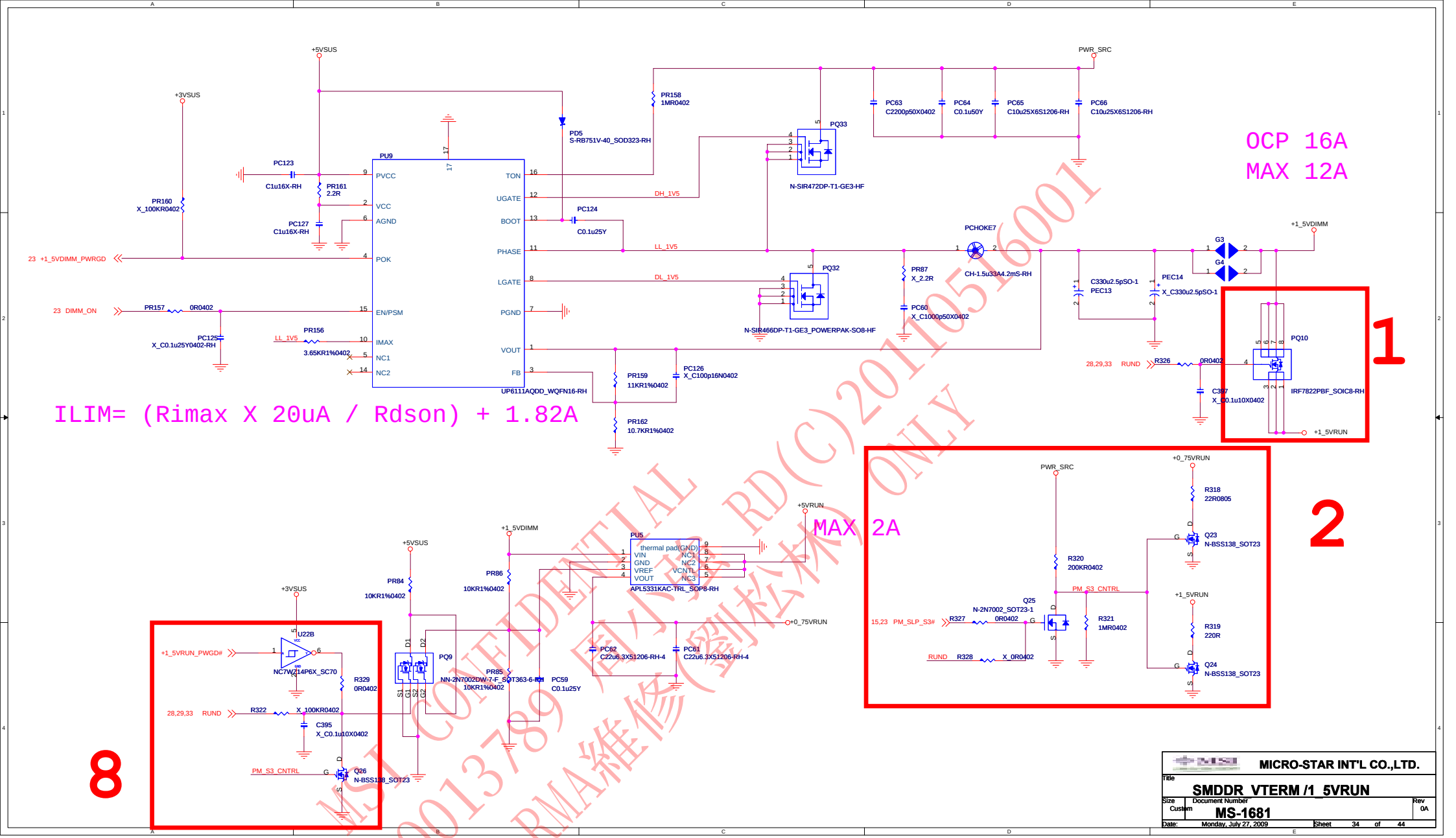
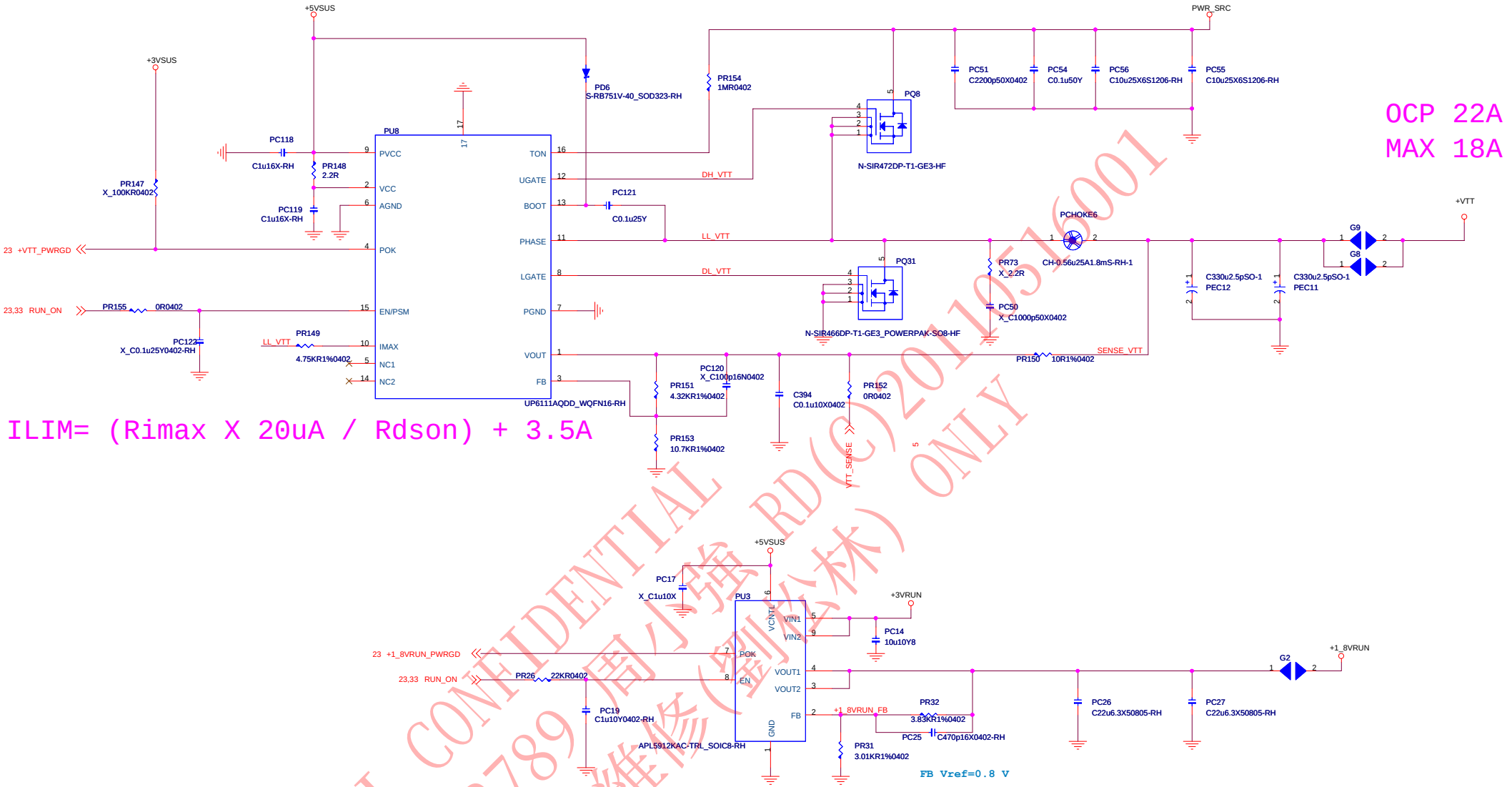


MICRO-STAR INT'L CO.,LTD.		
Title: System power		
Size: Custom	Document Number: MS-1681	Rev: 0A
Date: Monday, July 27, 2009	Sheet 33 of 44	





MICRO-STAR INT'L CO.,LTD.

Title: VTT Power,+1.8VRUN

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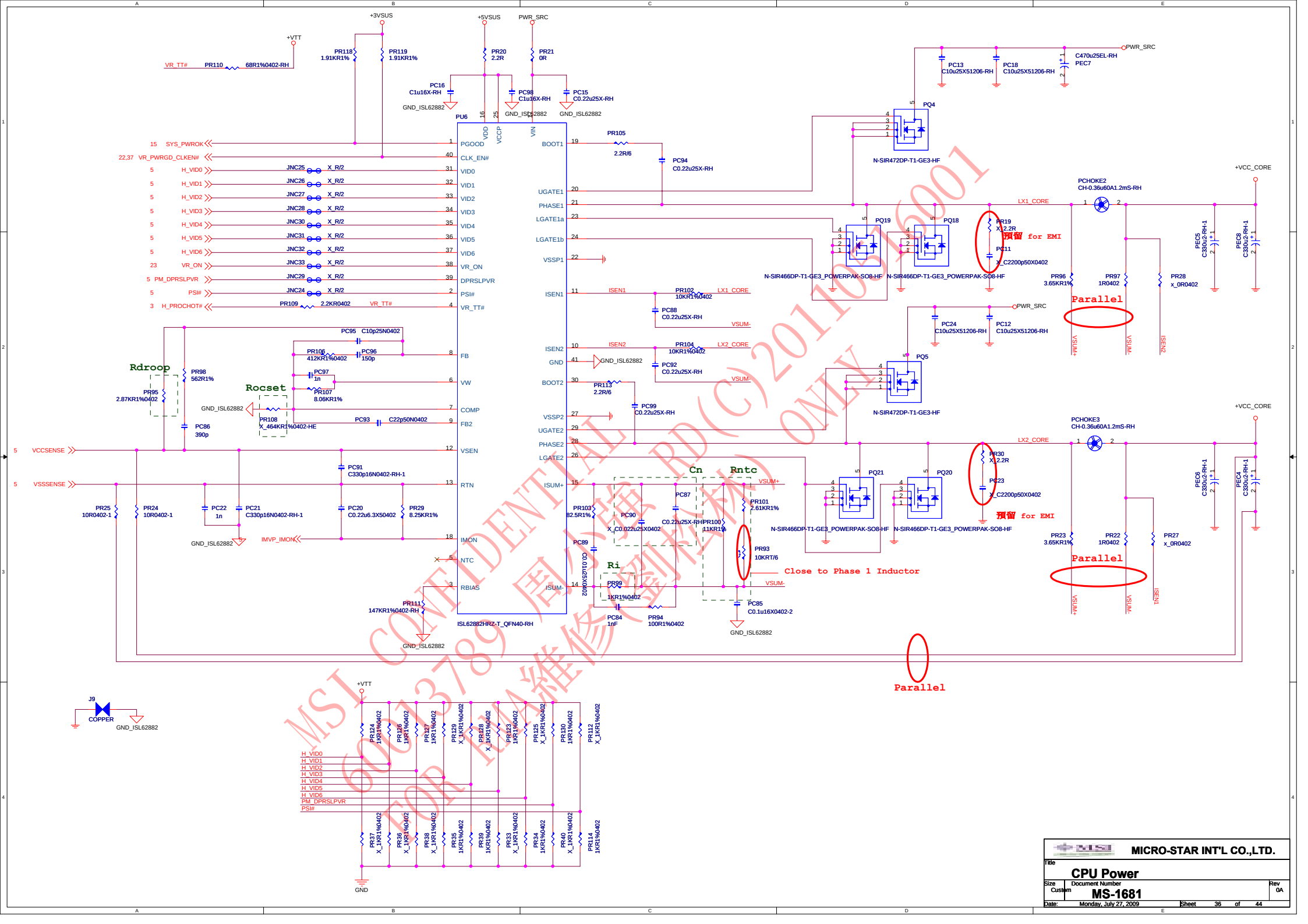
+3VSUS
+5VSUS
PWR_SRC
+VTT
PU6
ISL62882HRZ-T_QFN40-RH
Rdroop
Rocset
Cn
Rntc
Ri
Close to Phase 1 Inductor
Parallel
預留 for EMI
+VCC_CORE
PCHOKE2
CH-0.36u60A1.2mS-RH
PCHOKE3
CH-0.36u60A1.2mS-RH
N-SIR472DP-T1-GE3-HF
N-SIR466DP-T1-GE3_POWERPAK-SO8-HF
LX1_CORE
LX2_CORE
VSUM+
VSUM-
ISEN1
ISEN2
IMVP_IMON
GND_ISL62882
COPPER
MICRO-STAR INT'L CO.,LTD.
CPU Power
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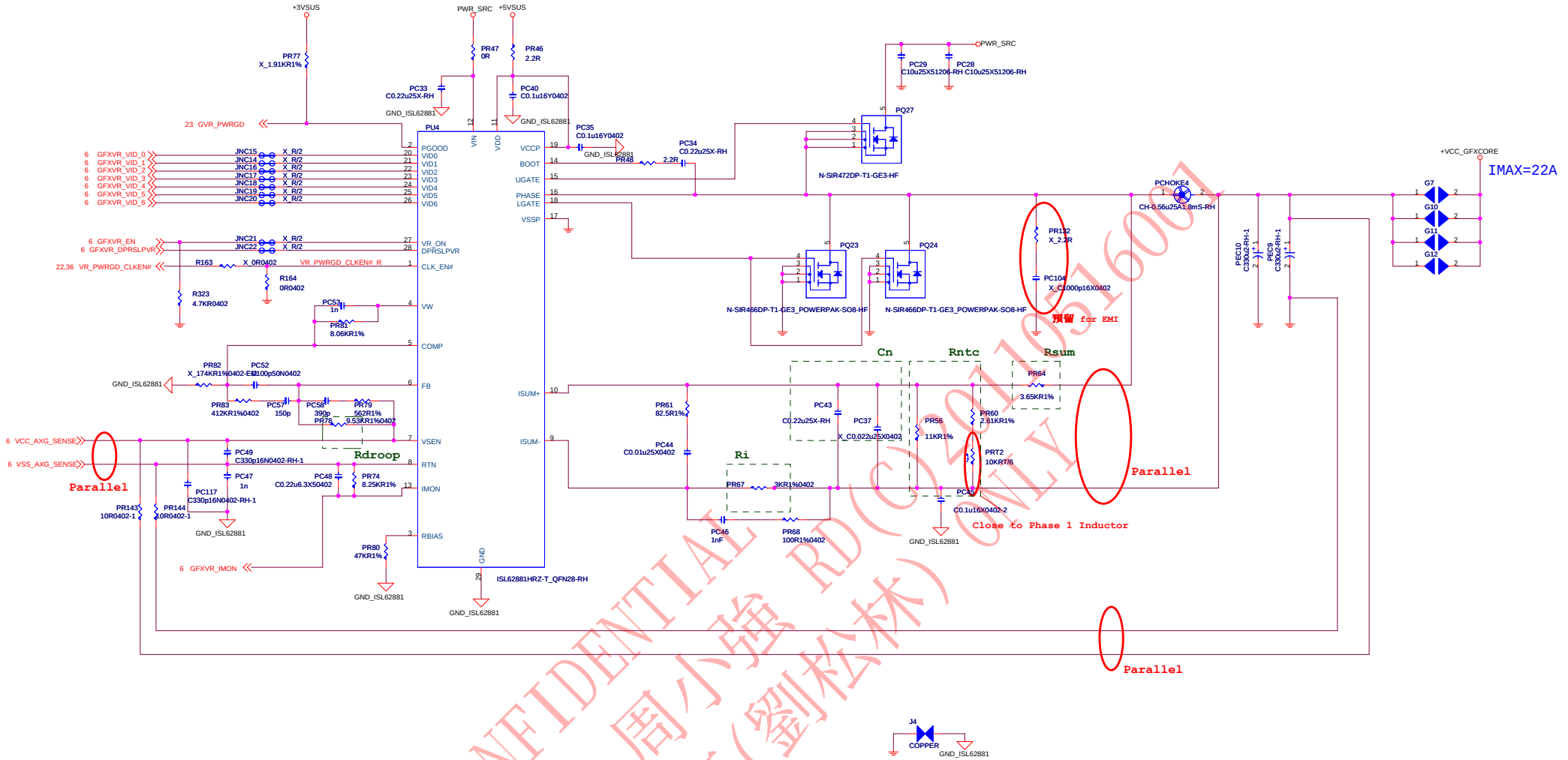

MICRO-STAR INT'L CO.,LTD.		
Title: Graphic Core		
Size: Custom	Document Number: MS-1681	Rev: 0A
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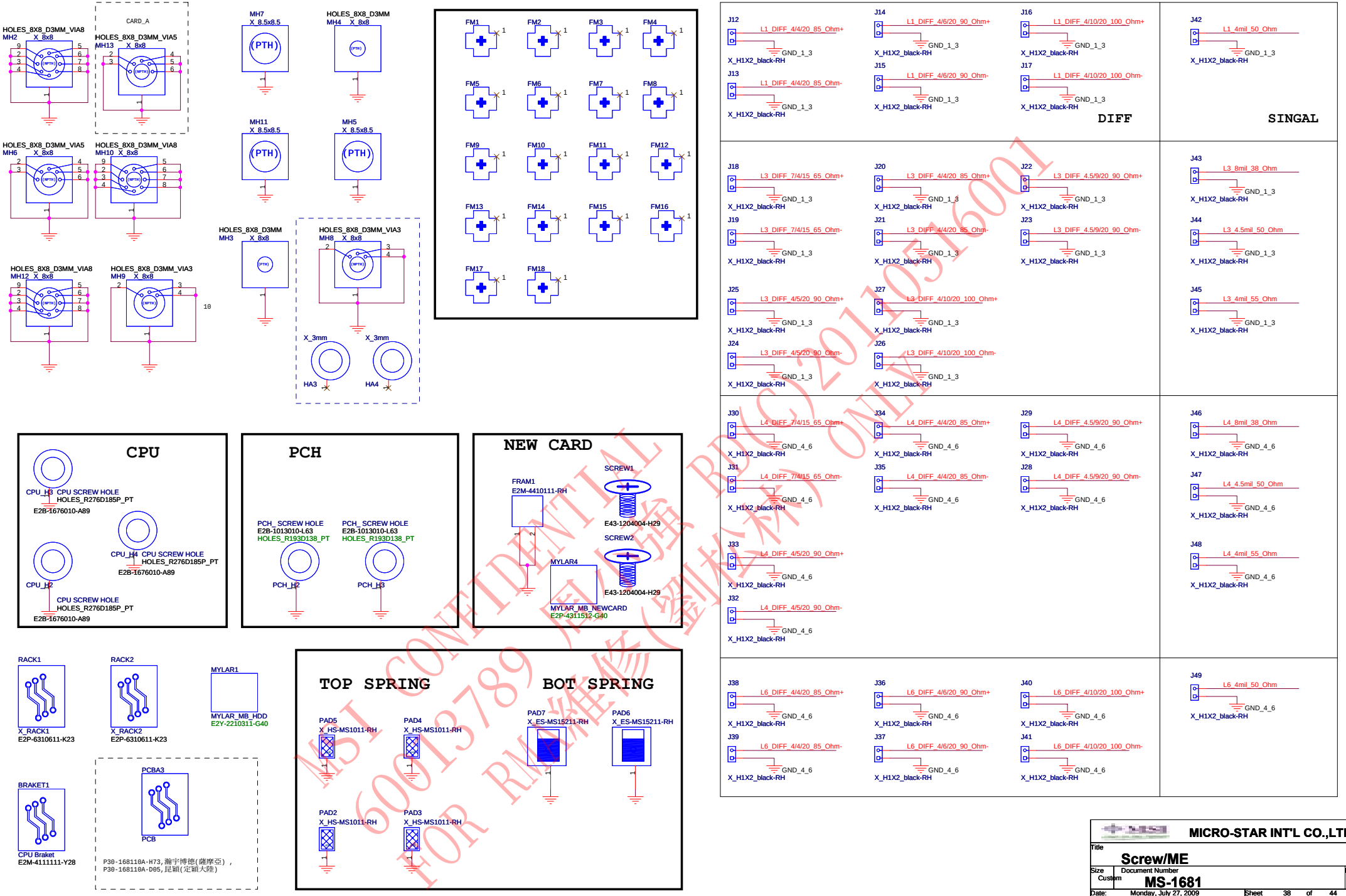
CARD_A
HOLES_8X8_D3MM_VIA8 MH2 X 8x8
HOLES_8X8_D3MM_VIA5 MH13 X 8x8
MH7 X 8.5x8.5
HOLES_8X8_D3MM MH4 X 8x8
FM1 FM2 FM3 FM4 FM5 FM6 FM7 FM8 FM9 FM10 FM11 FM12 FM13 FM14 FM15 FM16 FM17 FM18
HOLES_8X8_D3MM_VIA5 MH6 X 8x8
HOLES_8X8_D3MM_VIA8 MH10 X 8x8
MH11 X 8.5x8.5
MH5 X 8.5x8.5
HOLES_8X8_D3MM_VIA8 MH12 X 8x8
HOLES_8X8_D3MM_VIA3 MH9 X 8x8
HOLES_8X8_D3MM MH3 X 8x8
HOLES_8X8_D3MM_VIA3 MH8 X 8x8
X_3mm HA3
X_3mm HA4
CPU
CPU_H3 CPU SCREW HOLE HOLES_R276D185P_PT E2B-1676010-A89
CPU_H4 CPU SCREW HOLE HOLES_R276D185P_PT E2B-1676010-A89
CPU_H2 CPU SCREW HOLE HOLES_R276D185P_PT E2B-1676010-A89
PCH
PCH_SCREW HOLE E2B-1013010-L63 HOLES_R193D138_PT PCH_H2
PCH_SCREW HOLE E2B-1013010-L63 HOLES_R193D138_PT PCH_H3
NEW CARD
FRAM1 E2M-4410111-RH
SCREW1 E43-1204004-H29
SCREW2 E43-1204004-H29
MYLAR4 MYLAR_MB_NEWCARD E2P-4311512-G40
RACK1 X_RACK1 E2P-6310611-K23
RACK2 X_RACK2 E2P-6310611-K23
MYLAR1 MYLAR_MB_HDD E2Y-2210311-G40
BRAKET1 CPU Braket E2M-4111111-Y28
PCBA3 PCB
P30-168110A-H73,瀚宇博德(薩摩亞),
P30-168110A-D05,昆穎(定穎大陸)
TOP SPRING
BOT SPRING
PAD5 X_HS-MS1011-RH
PAD4 X_HS-MS1011-RH
PAD7 X_ES-MS15211-RH
PAD6 X_ES-MS15211-RH
PAD2 X_HS-MS1011-RH
PAD3 X_HS-MS1011-RH
J12 L1_DIFF_4/4/20_85_Ohm+ GND_1_3 X_H1X2_black-RH
J13 L1_DIFF_4/4/20_85_Ohm- GND_1_3 X_H1X2_black-RH
J14 L1_DIFF_4/6/20_90_Ohm+ GND_1_3 X_H1X2_black-RH
J15 L1_DIFF_4/6/20_90_Ohm- GND_1_3 X_H1X2_black-RH
J16 L1_DIFF_4/10/20_100_Ohm+ GND_1_3 X_H1X2_black-RH
J17 L1_DIFF_4/10/20_100_Ohm- GND_1_3 X_H1X2_black-RH
DIFF
J42 L1_4mil_50_Ohm GND_1_3 X_H1X2_black-RH
SINGAL
J18 L3_DIFF_7/4/15_65_Ohm+ GND_1_3 X_H1X2_black-RH
J19 L3_DIFF_7/4/15_65_Ohm- GND_1_3 X_H1X2_black-RH
J20 L3_DIFF_4/4/20_85_Ohm+ GND_1_3 X_H1X2_black-RH
J21 L3_DIFF_4/4/20_85_Ohm- GND_1_3 X_H1X2_black-RH
J22 L3_DIFF_4.5/9/20_90_Ohm+ GND_1_3 X_H1X2_black-RH
J23 L3_DIFF_4.5/9/20_90_Ohm- GND_1_3 X_H1X2_black-RH
J25 L3_DIFF_4/5/20_90_Ohm+ GND_1_3 X_H1X2_black-RH
J24 L3_DIFF_4/5/20_90_Ohm- GND_1_3 X_H1X2_black-RH
J27 L3_DIFF_4/10/20_100_Ohm+ GND_1_3 X_H1X2_black-RH
J26 L3_DIFF_4/10/20_100_Ohm- GND_1_3 X_H1X2_black-RH
J43 L3_8mil_38_Ohm GND_1_3 X_H1X2_black-RH
J44 L3_4.5mil_50_Ohm GND_1_3 X_H1X2_black-RH
J45 L3_4mil_55_Ohm GND_1_3 X_H1X2_black-RH
J30 L4_DIFF_7/4/15_65_Ohm+ GND_4_6 X_H1X2_black-RH
J31 L4_DIFF_7/4/15_65_Ohm- GND_4_6 X_H1X2_black-RH
J34 L4_DIFF_4/4/20_85_Ohm+ GND_4_6 X_H1X2_black-RH
J35 L4_DIFF_4/4/20_85_Ohm- GND_4_6 X_H1X2_black-RH
J29 L4_DIFF_4.5/9/20_90_Ohm+ GND_4_6 X_H1X2_black-RH
J28 L4_DIFF_4.5/9/20_90_Ohm- GND_4_6 X_H1X2_black-RH
J33 L4_DIFF_4/5/20_90_Ohm+ GND_4_6 X_H1X2_black-RH
J32 L4_DIFF_4/5/20_90_Ohm- GND_4_6 X_H1X2_black-RH
J46 L4_8mil_38_Ohm GND_4_6 X_H1X2_black-RH
J47 L4_4.5mil_50_Ohm GND_4_6 X_H1X2_black-RH
J48 L4_4mil_55_Ohm GND_4_6 X_H1X2_black-RH
J38 L6_DIFF_4/4/20_85_Ohm+ GND_4_6 X_H1X2_black-RH
J39 L6_DIFF_4/4/20_85_Ohm- GND_4_6 X_H1X2_black-RH
J36 L6_DIFF_4/6/20_90_Ohm+ GND_4_6 X_H1X2_black-RH
J37 L6_DIFF_4/6/20_90_Ohm- GND_4_6 X_H1X2_black-RH
J40 L6_DIFF_4/10/20_100_Ohm+ GND_4_6 X_H1X2_black-RH
J41 L6_DIFF_4/10/20_100_Ohm- GND_4_6 X_H1X2_black-RH
J49 L6_4mil_50_Ohm GND_4_6 X_H1X2_black-RH
MSI CONFIDENTIAL 60013789 FOR RMA維修(劉冰冰) ONLY BY(C)20110516001
MICRO-STAR INT'L CO.,LTD.
Title Screw/ME
Size Custom
Document Number MS-1681
Rev 0A
Date: Monday, July 27, 2009
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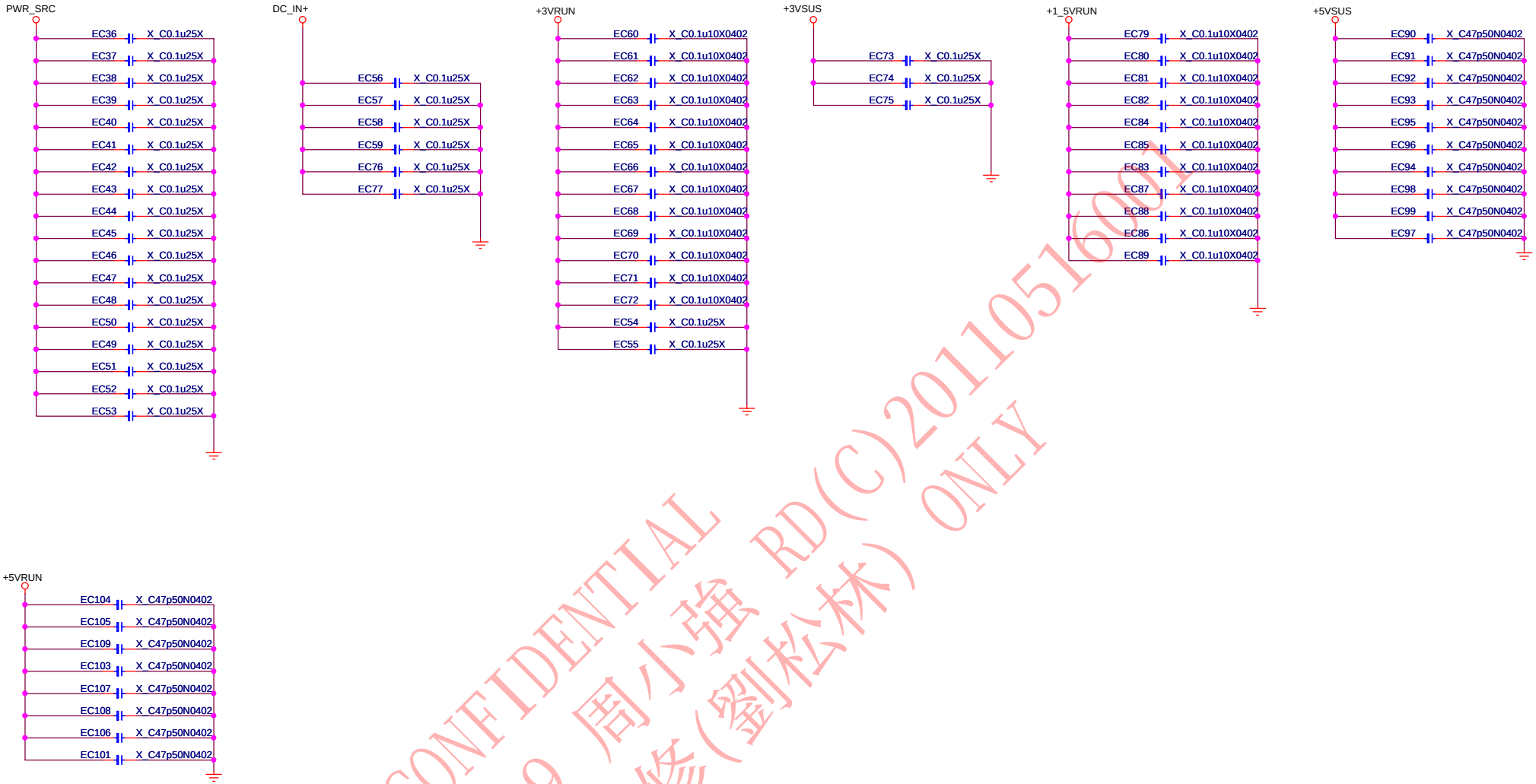

MICRO-STAR INT'L CO.,LTD.

Title: EMI

Size: B | Document Number: MS-1681 | Rev: 0A

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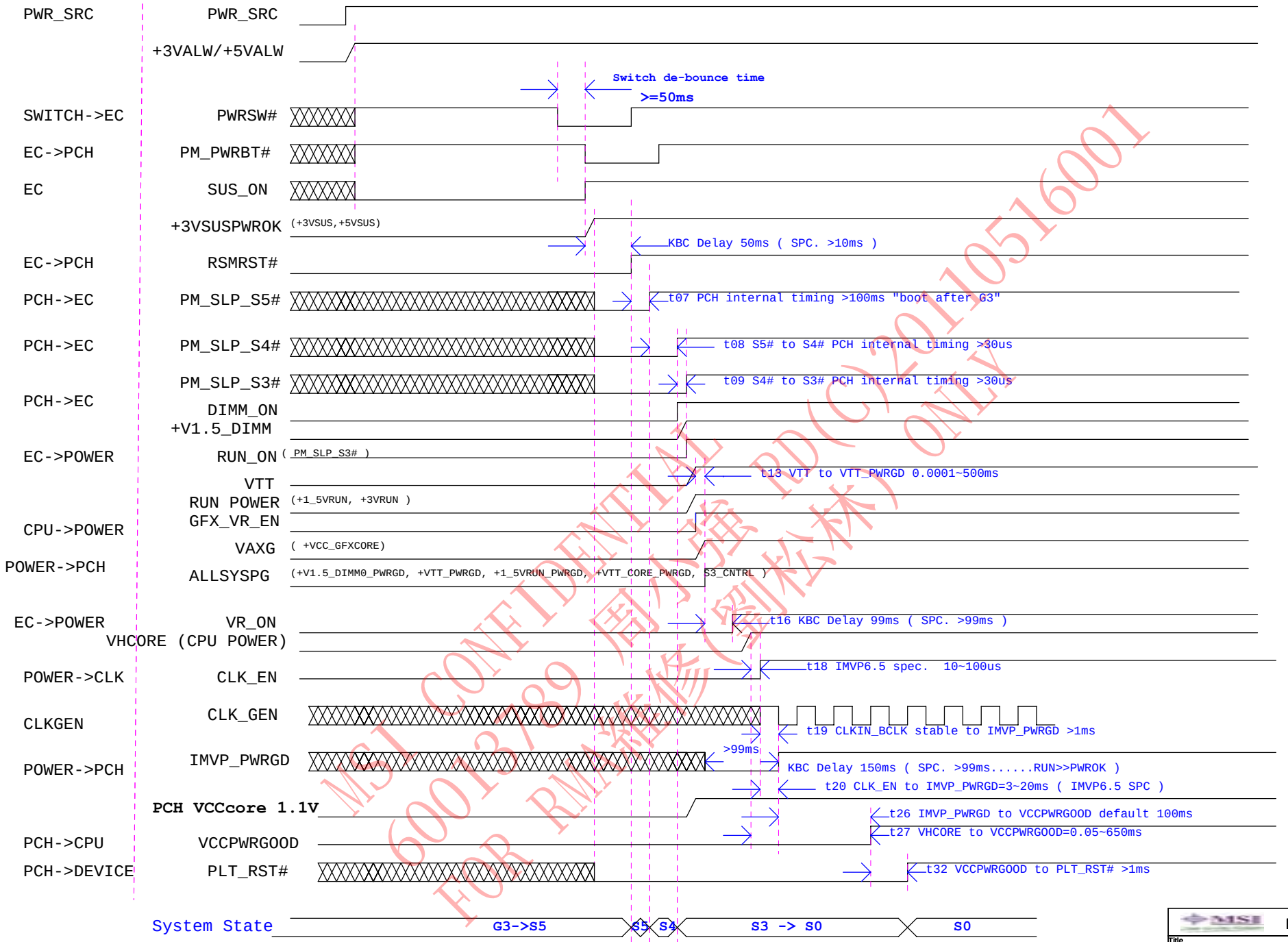
Calpella System Power on Sequence DC mode



MICRO-STAR INT'L CO.,LTD.

Title: Power on Sequency

Size: A3 | Document Number: MS-1681 | Rev: 0A

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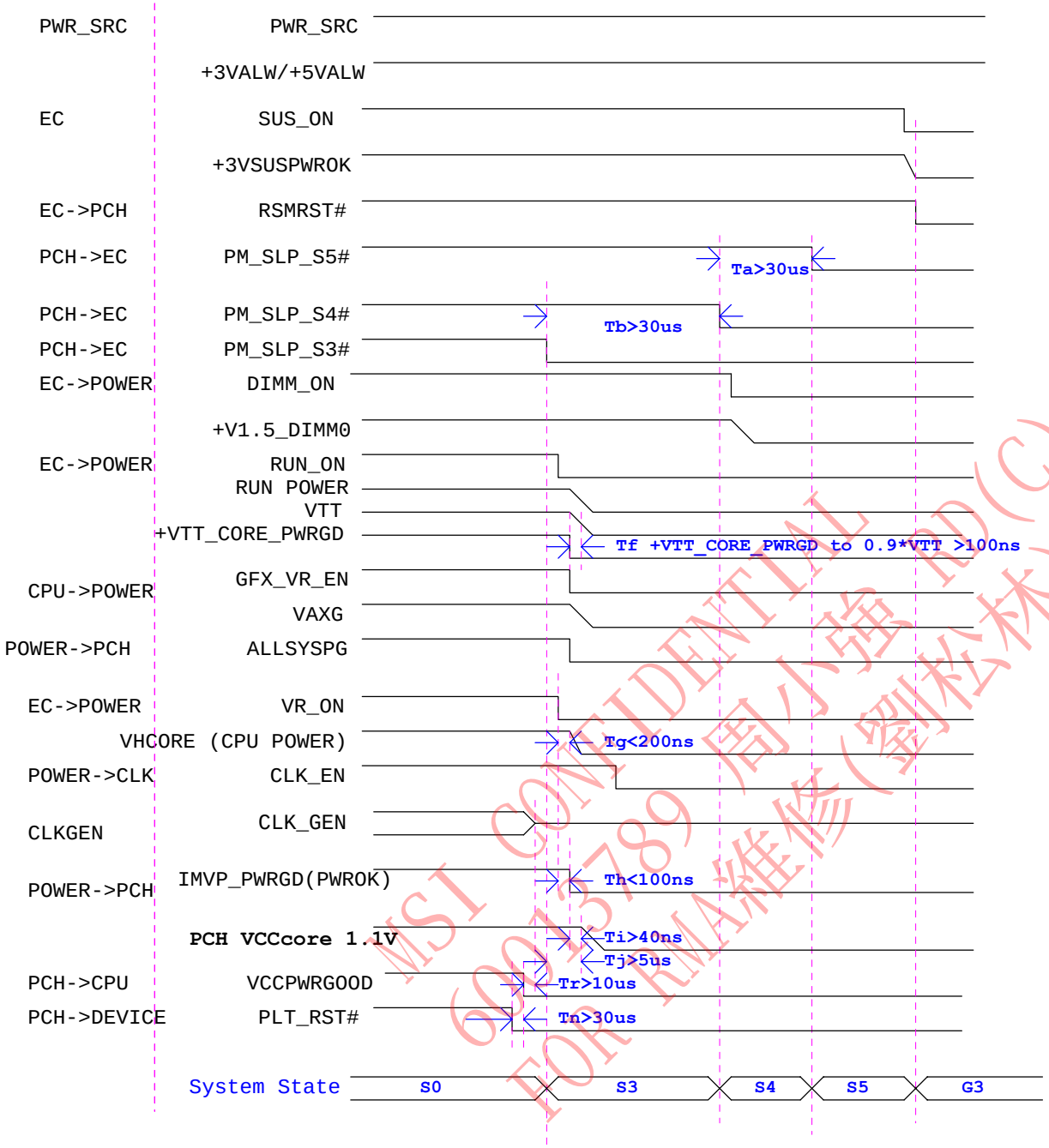
Power down Sequence DC mode S0 to G3



MICRO-STAR INT'L CO.,LTD.

Title: Power on Sequency

Size: A3 | Document Number: MS-1681 | Rev: 0A

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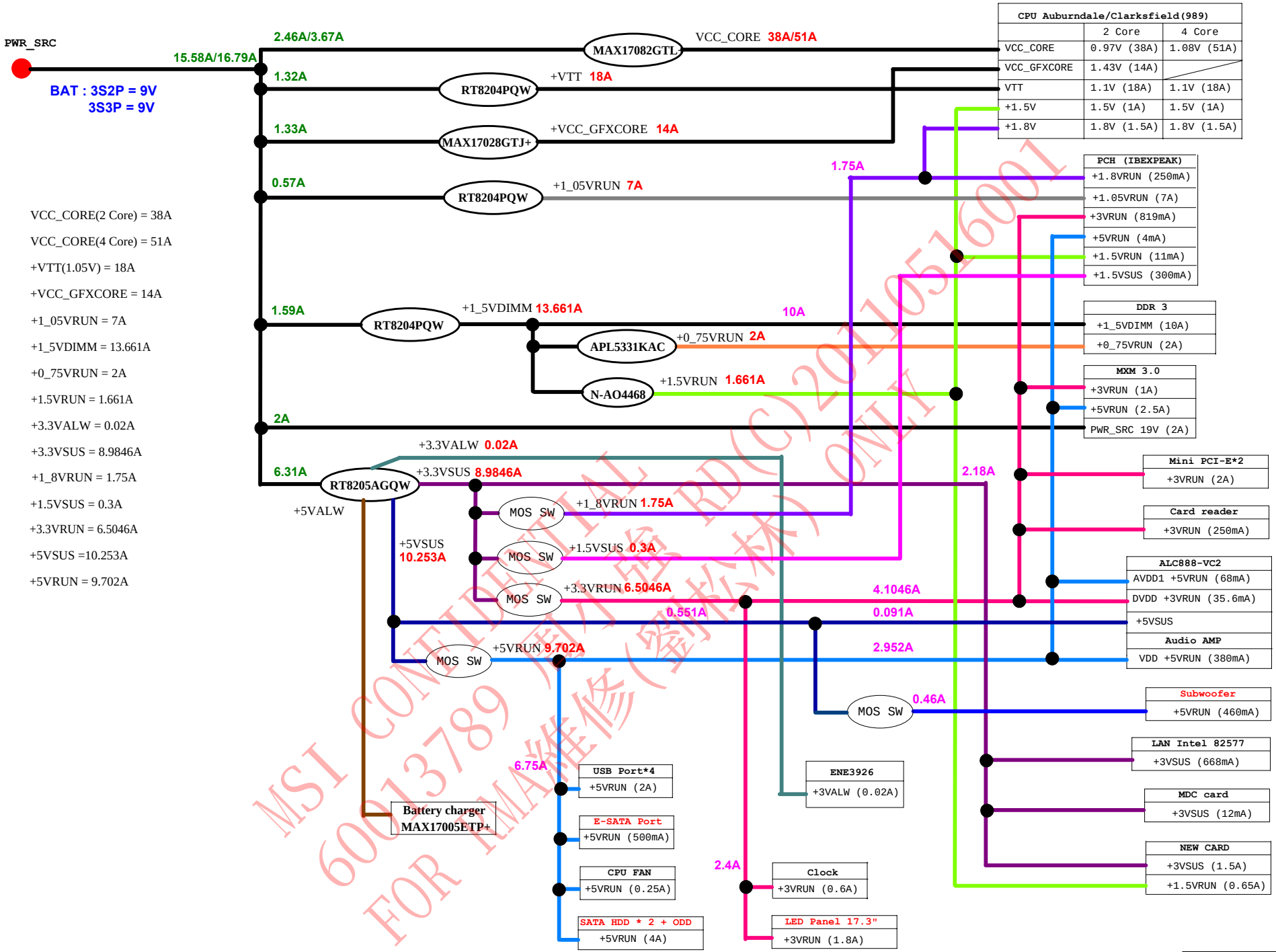

VCC_CORE(2 Core) = 38A

VCC_CORE(4 Core) = 51A

+VTT(1.05V) = 18A

+VCC_GFXCORE = 14A

+1_05VRUN = 7A

+1_5VDIMM = 13.661A

+0_75VRUN = 2A

+1.5VRUN = 1.661A

+3.3VALW = 0.02A

+3.3VSUS = 8.9846A

+1_8VRUN = 1.75A

+1.5VSUS = 0.3A

+3.3VRUN = 6.5046A

+5VSUS =10.253A

+5VRUN = 9.702A

2008/11/13 修改

MICRO-STAR INT'L CO.,LTD.

Title: Power MAP

Size: Custom | Document Number: MS-1681 | Rev: 0A

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