MS-1681 Ver : 11

Calpella Platform

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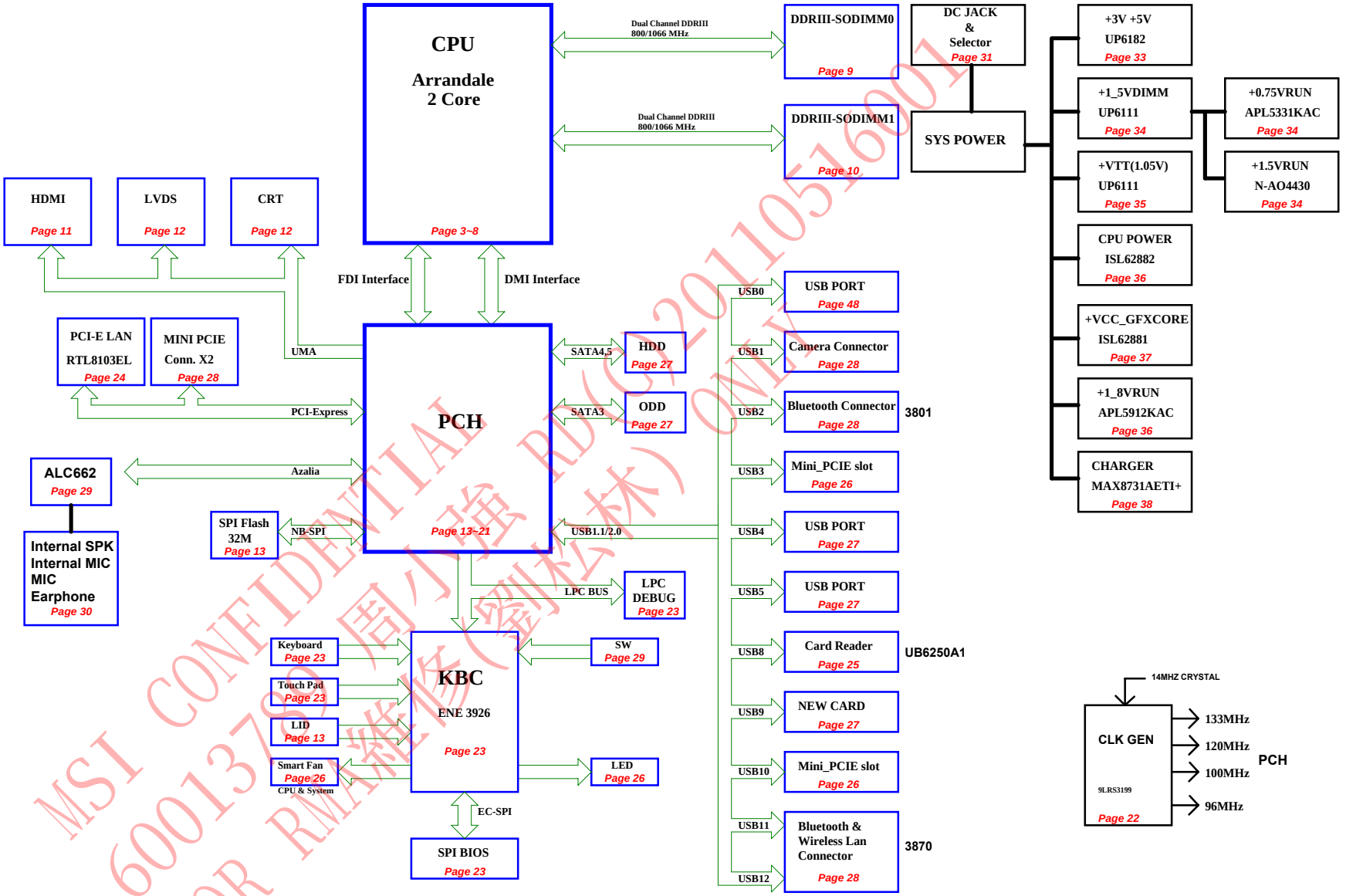

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BLOCK DIAGRAM

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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

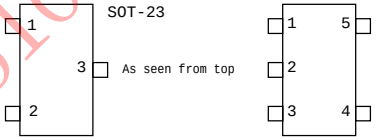
Suffix

\# = 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

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Title: PLATFORM

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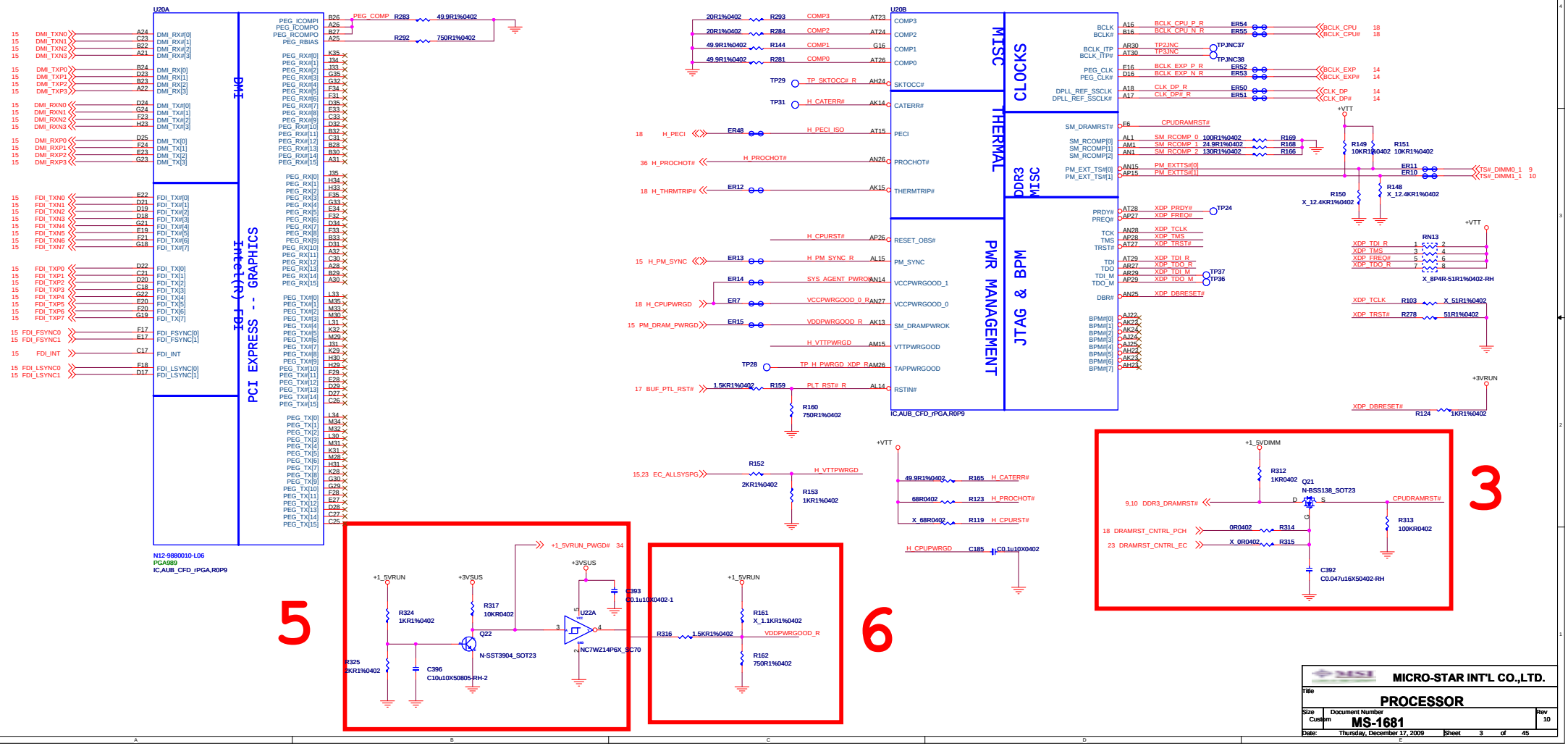
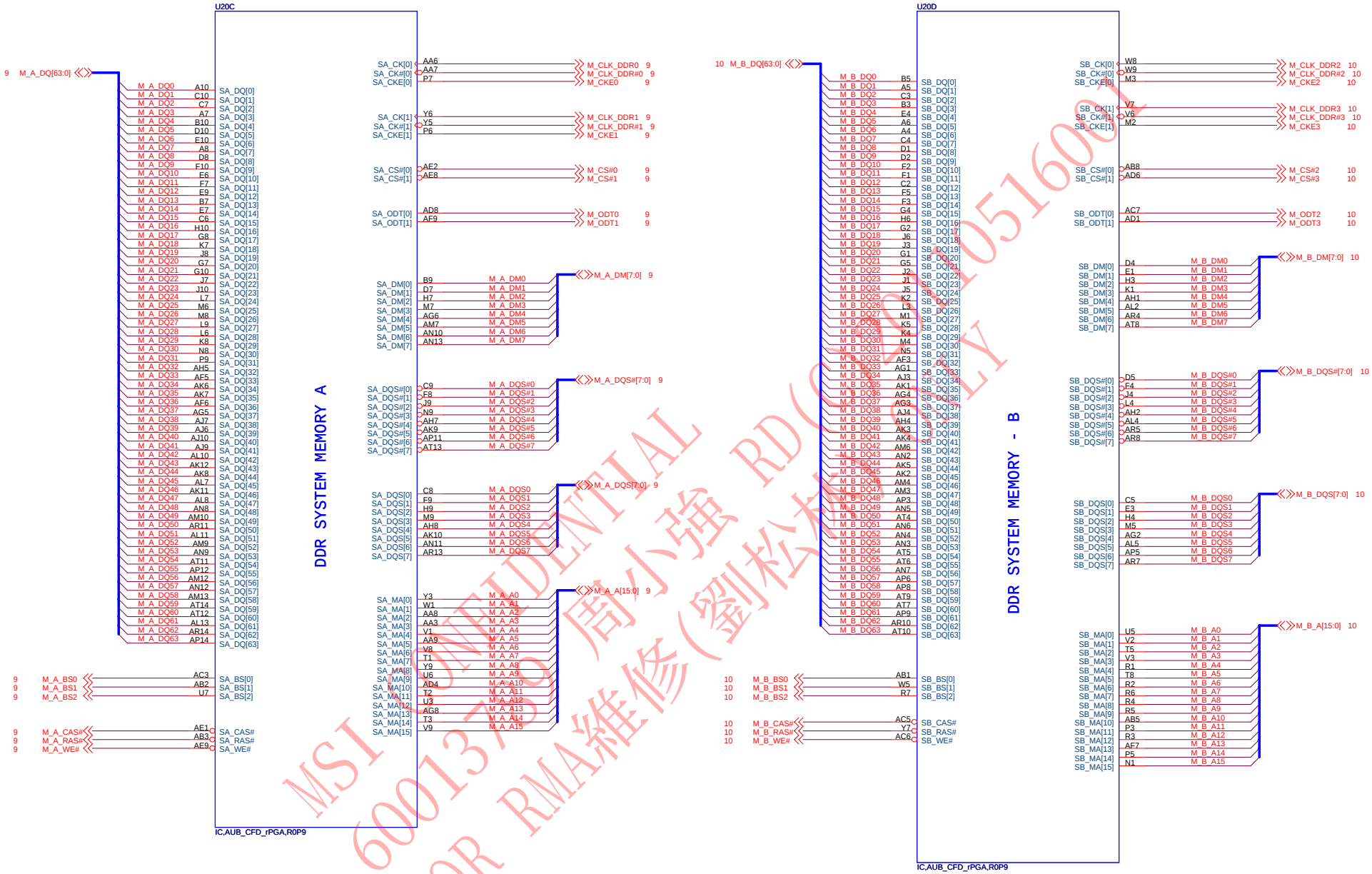
ARRANDALE PROCESSOR (CLK,MISC,JTAG)



ARRANDALE PROCESSOR (DDR3)



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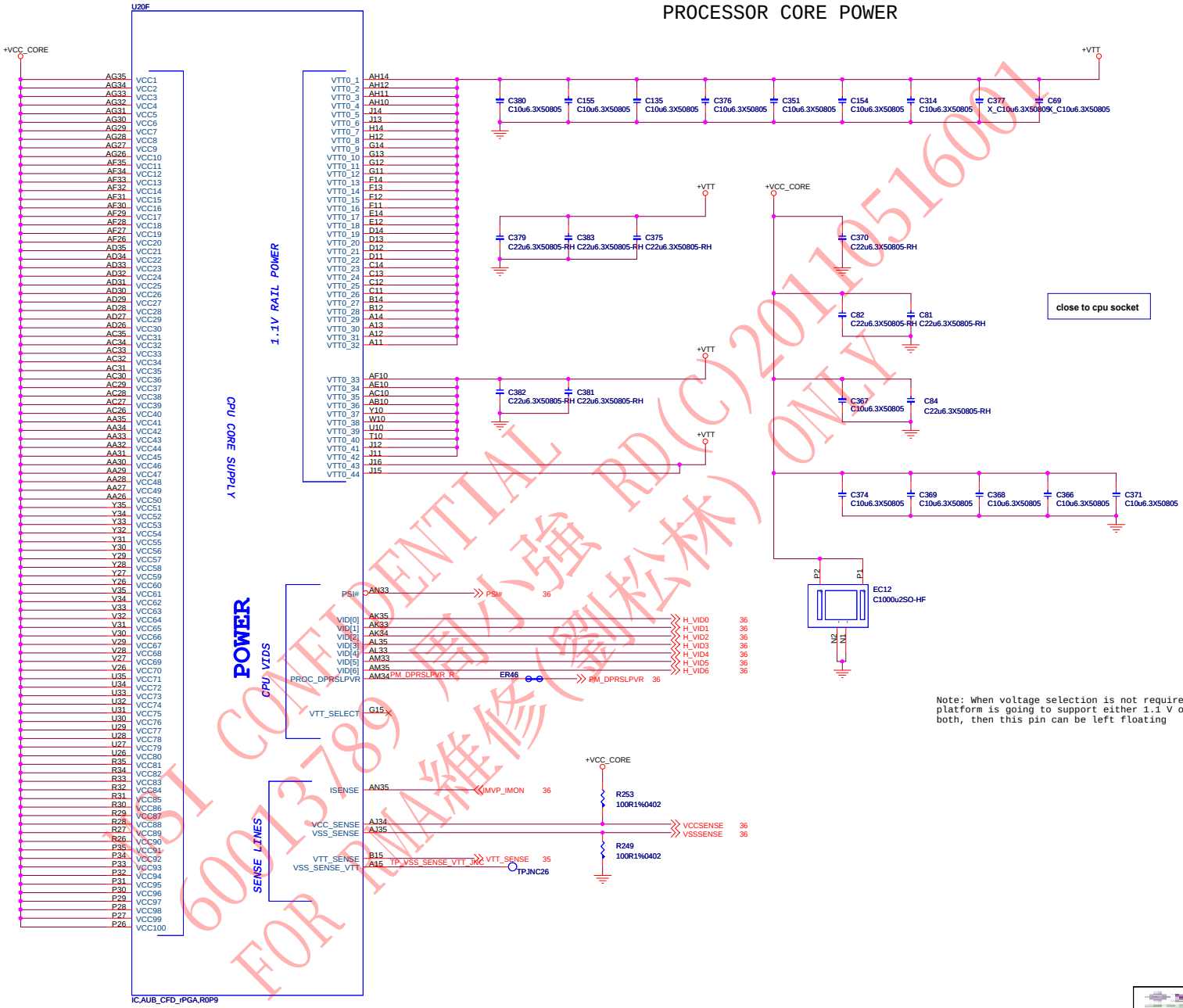
ARRANDALE PROCESSOR (POWER)

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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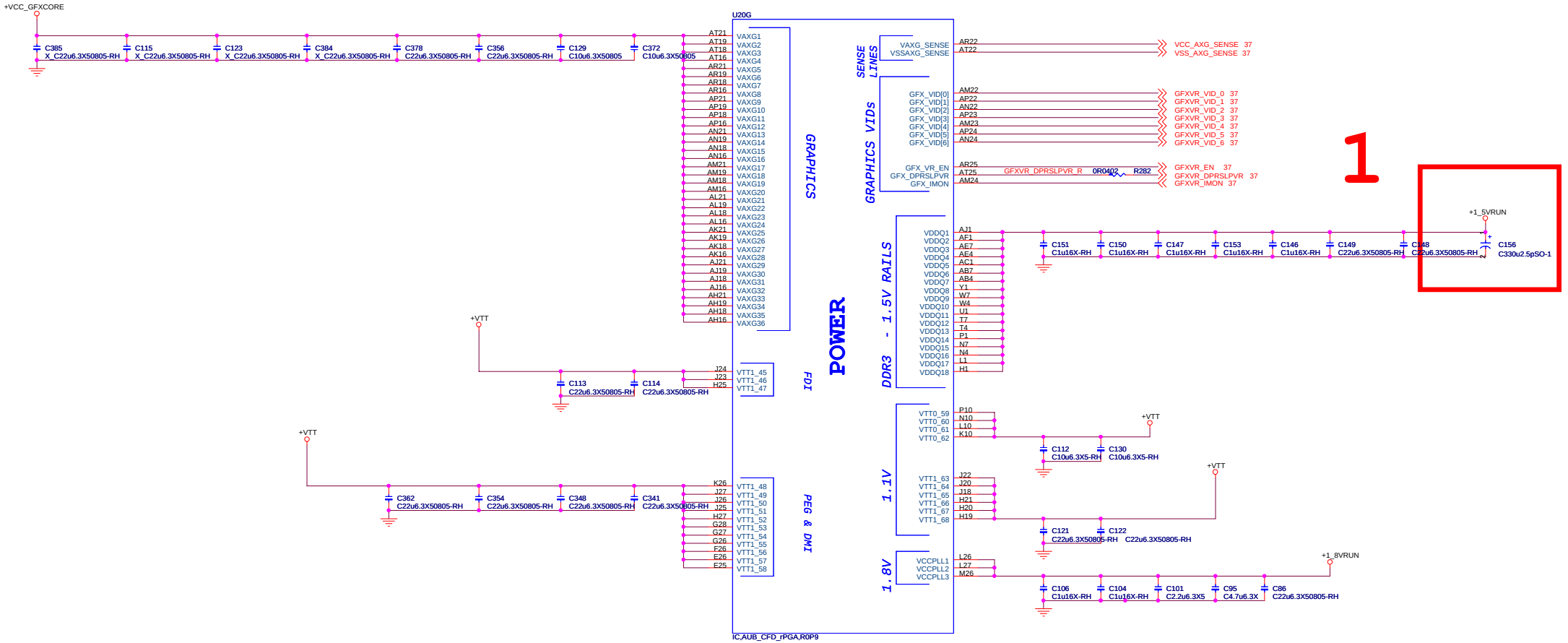
ARRANDALE PROCESSOR (GRAPHICS POWER)



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Title: GRAPHICS POWER		
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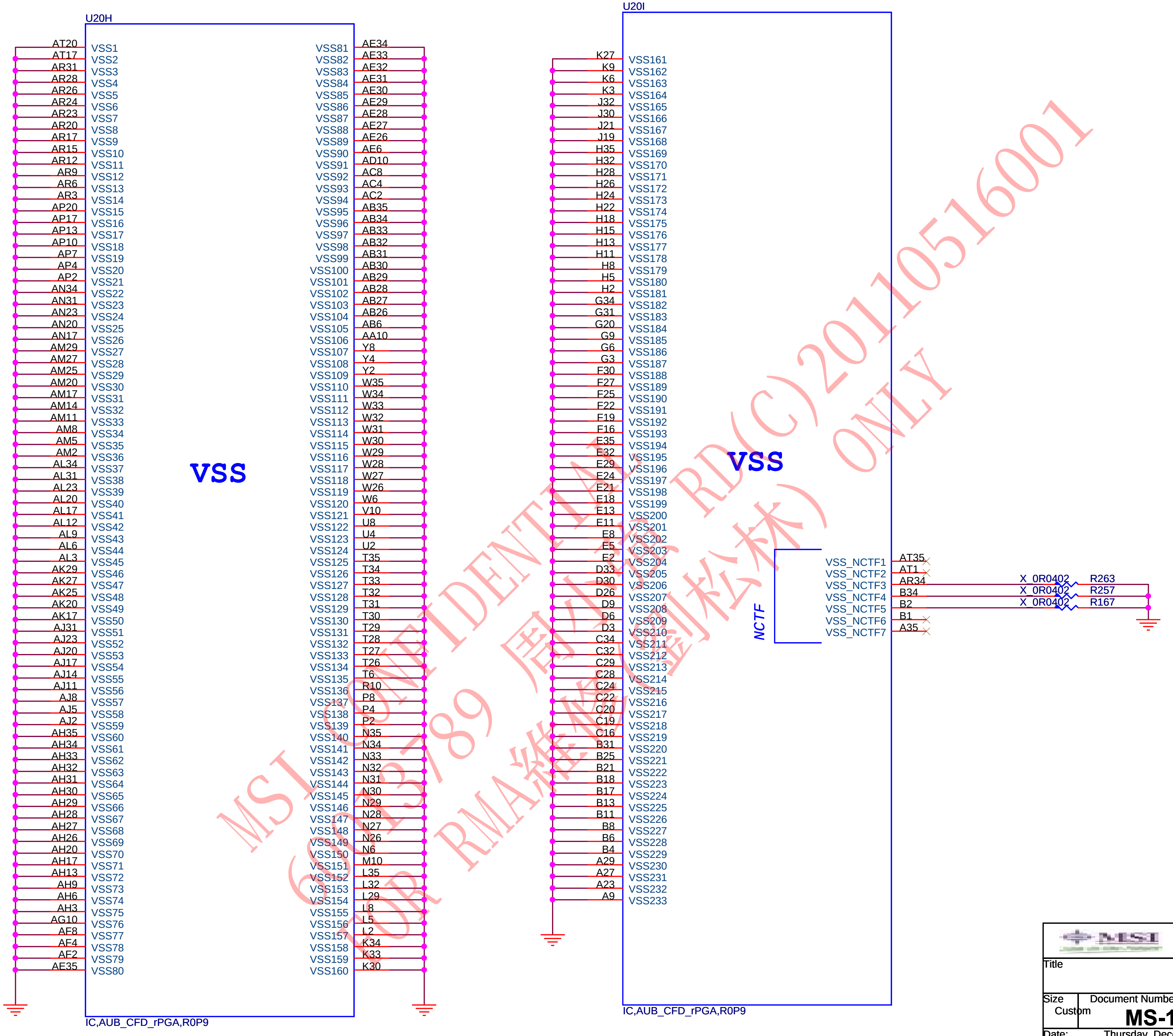
ARRANDALE PROCESSOR (GND)



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
C26 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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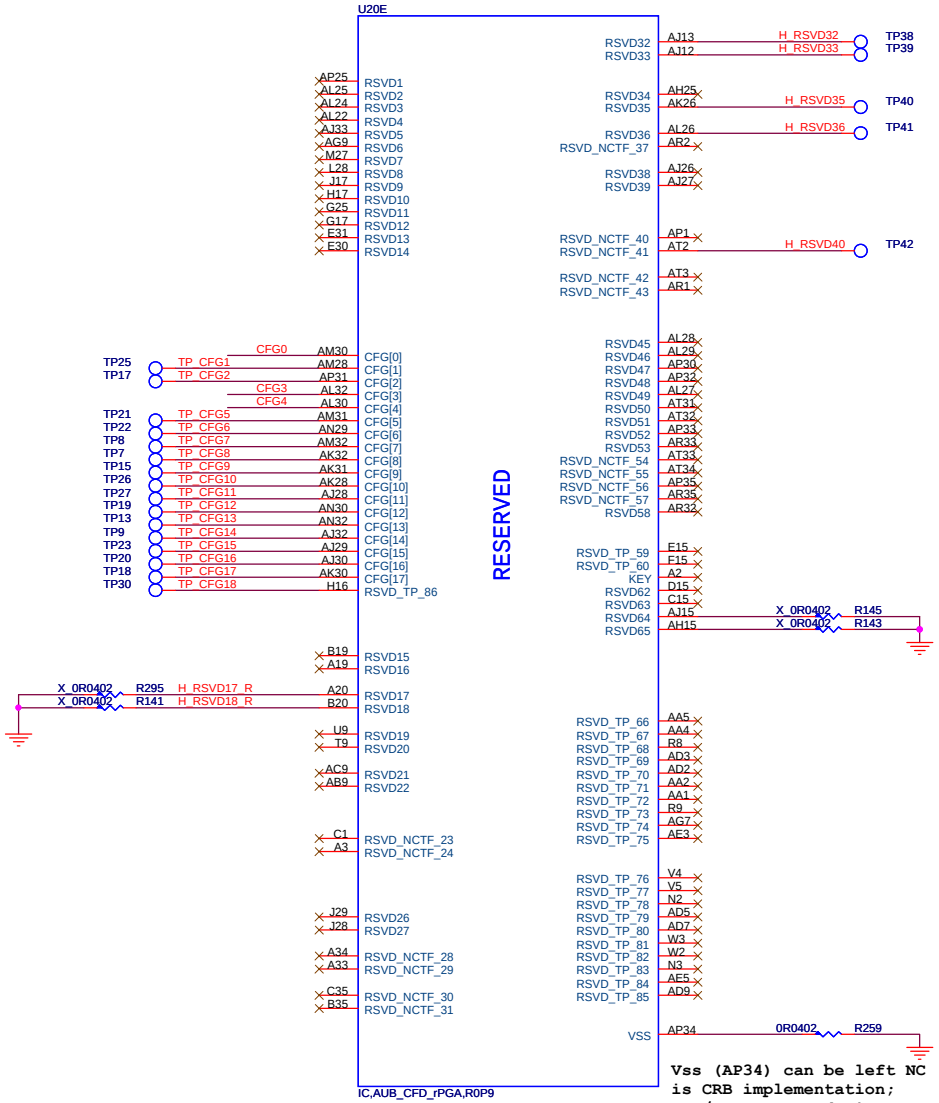
ARRANDALE PROCESSOR (RESERVED)

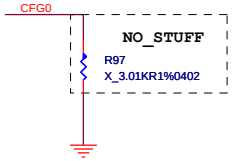


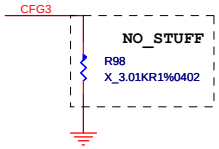
Vss (AP34) can be left NC is CRB implementation; EDS/DG recommendation to GND

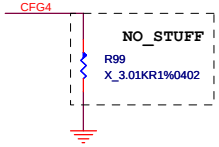
PCI-Express Configuration Select	
CFG0	1:Single PEG 0:Bifurcation enabled

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

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







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

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

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Title: PROCESSOR RESERVED

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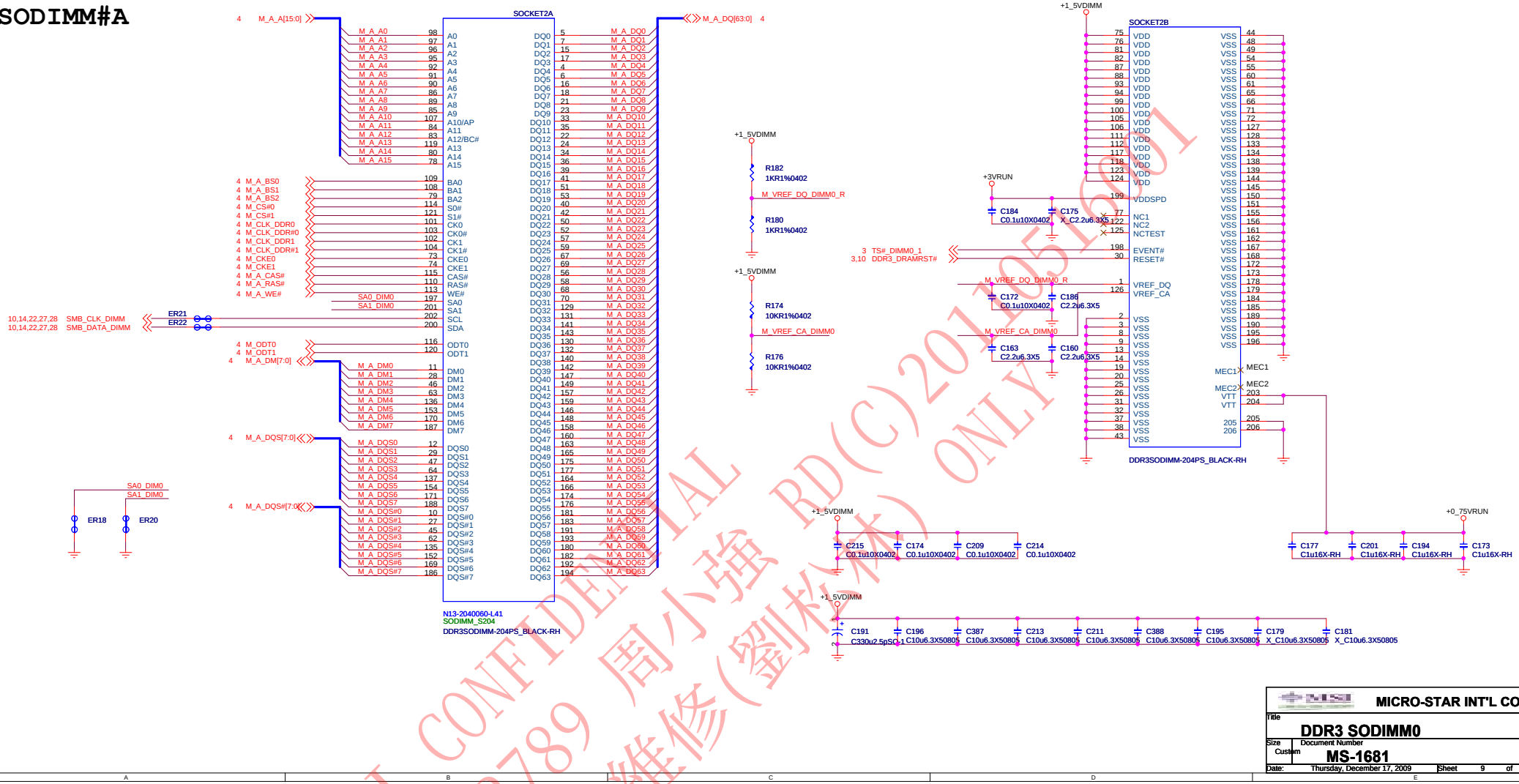
SODIMM#A



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Title: DDR3 SODIMM0

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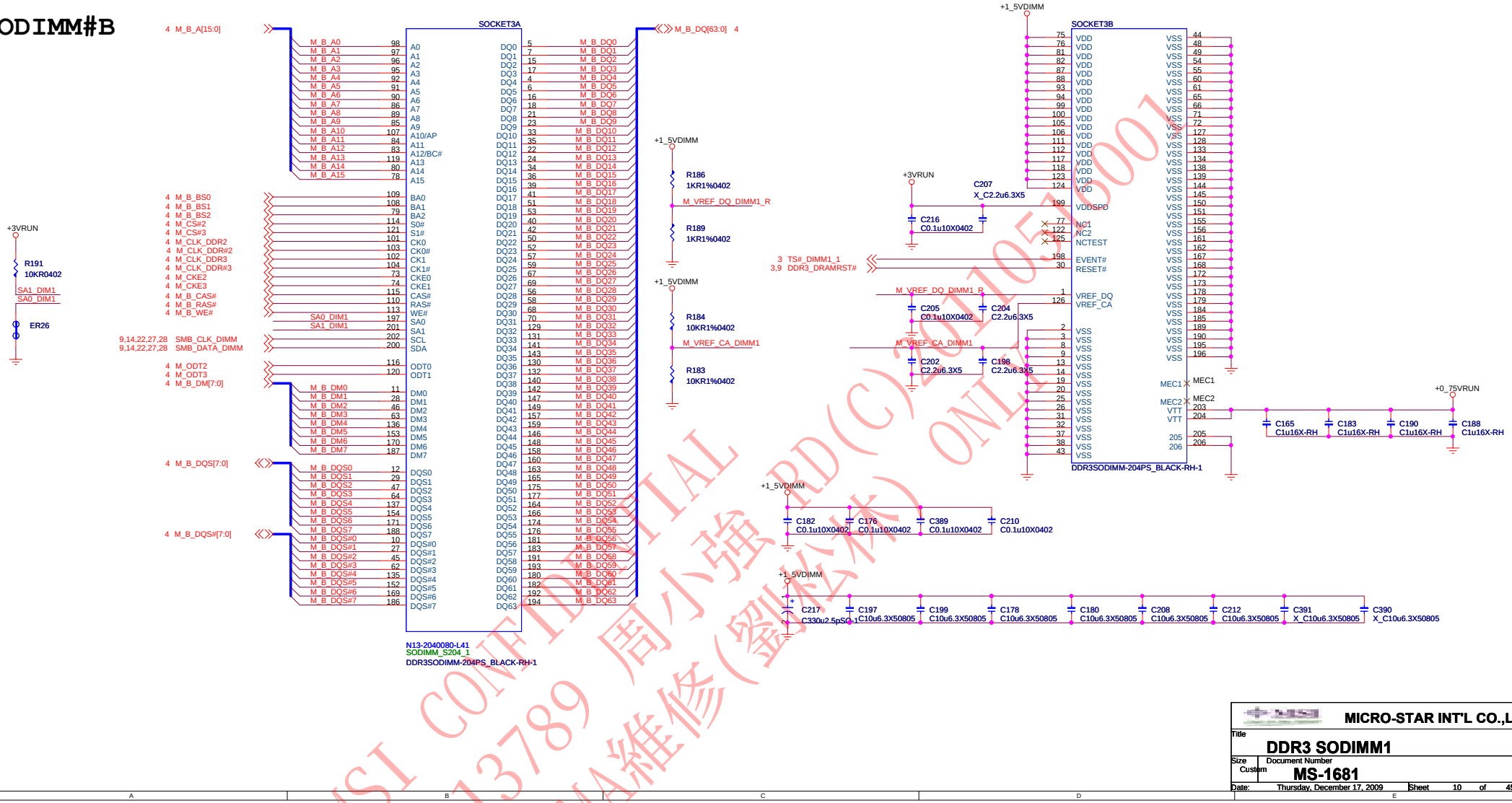
SODIMM#B



MICRO-STAR INT'L CO.,LTD.		
Title: DDR3 SODIMM1		
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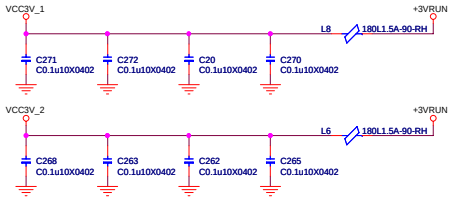
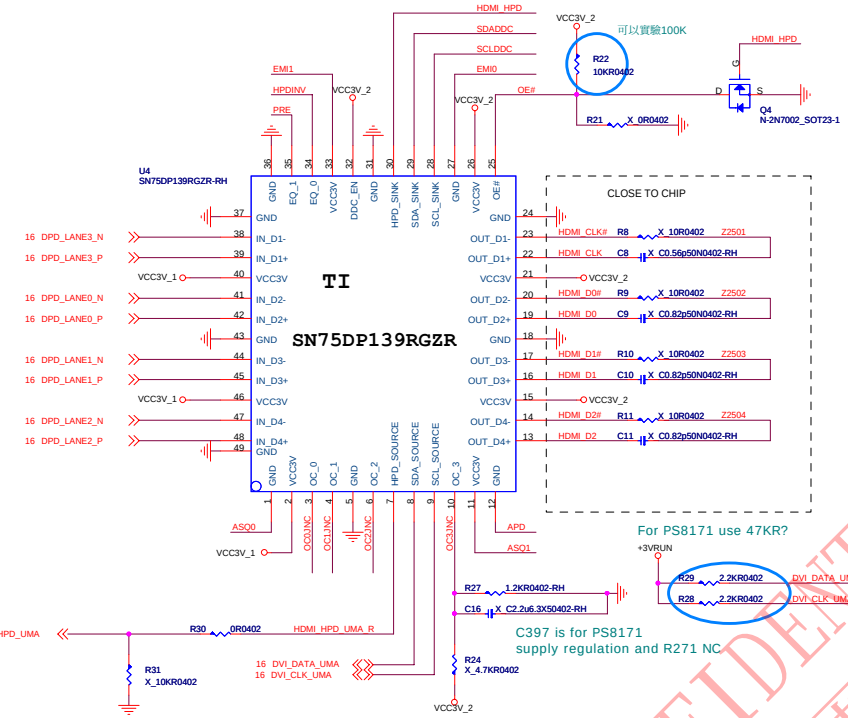
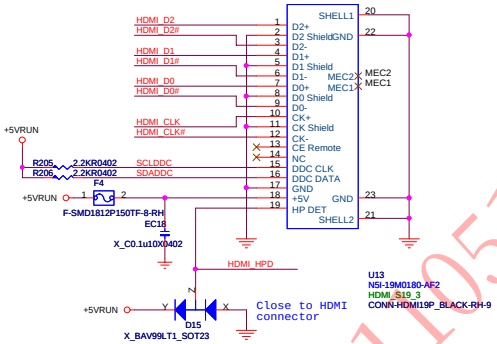
HDMI Switch



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

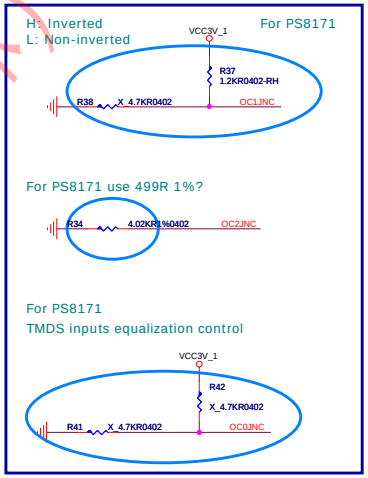


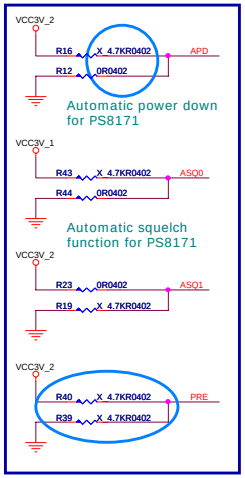
HDMI connector

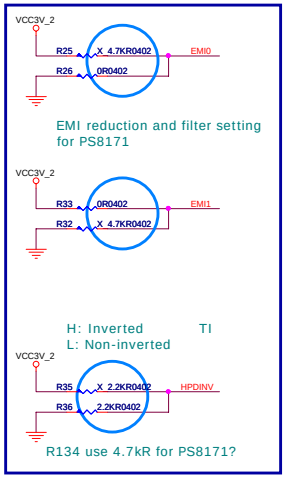


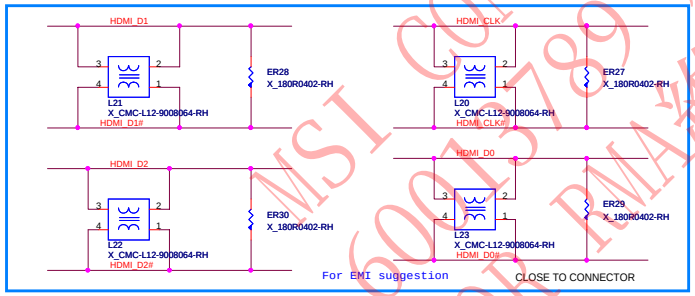
SN75DP139	PS8171	Pin no.
Floating	TMDS inputs equalization control (internal pull-down~500KΩ) PEQ = LOW: Mid level EQ (Default) PEQ = HIGH: High level EQ PEQ = MID: Low level EQ	Pin 3
High	(Internal pull down~500kΩ) PIO = LOW: HPD = HPD_SINK @ 3.3V CMOS output PIO = High: HPD= HPD_SINK# (inverted HPD) @ 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

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Title: HDMI connector

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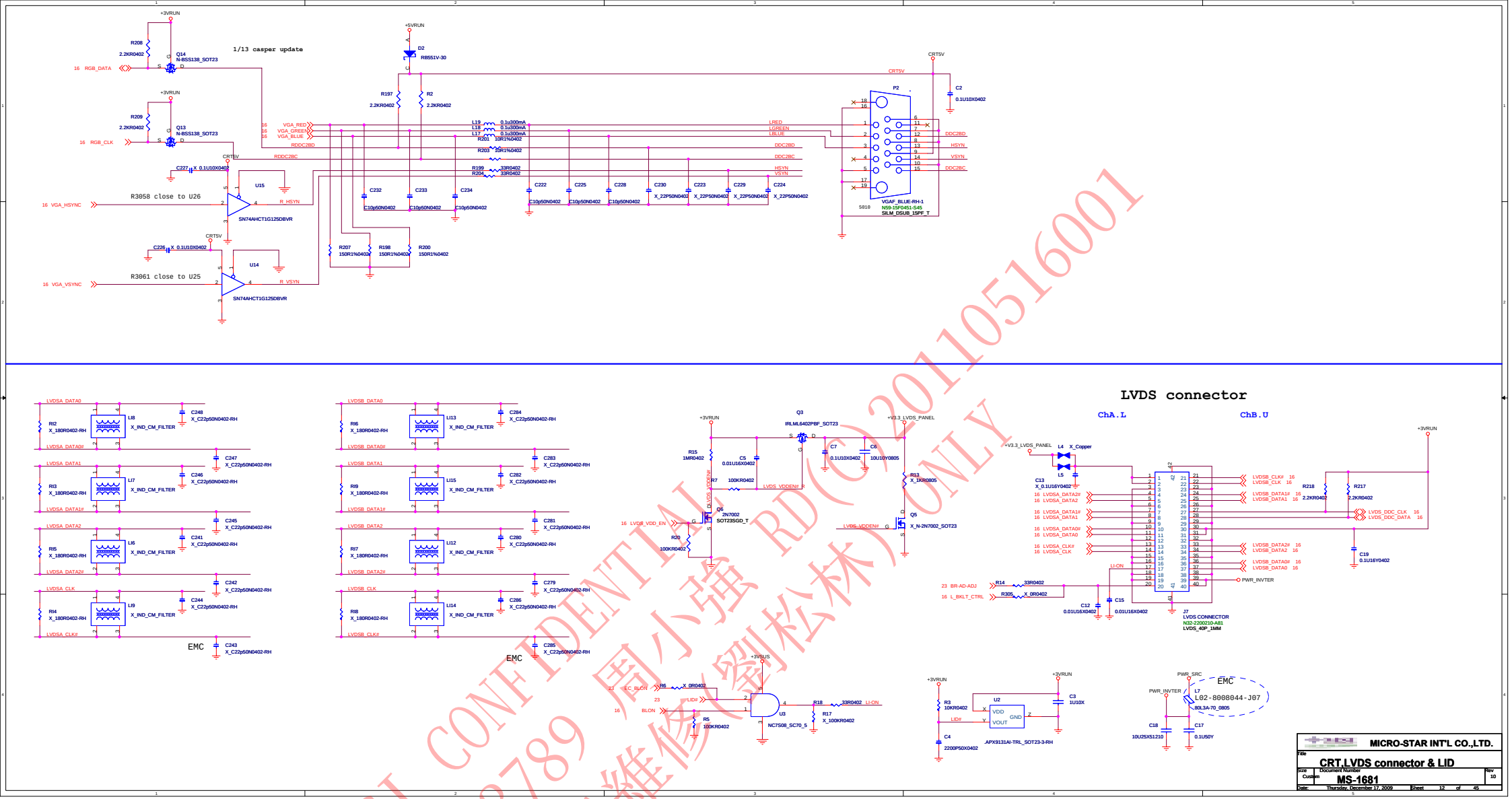
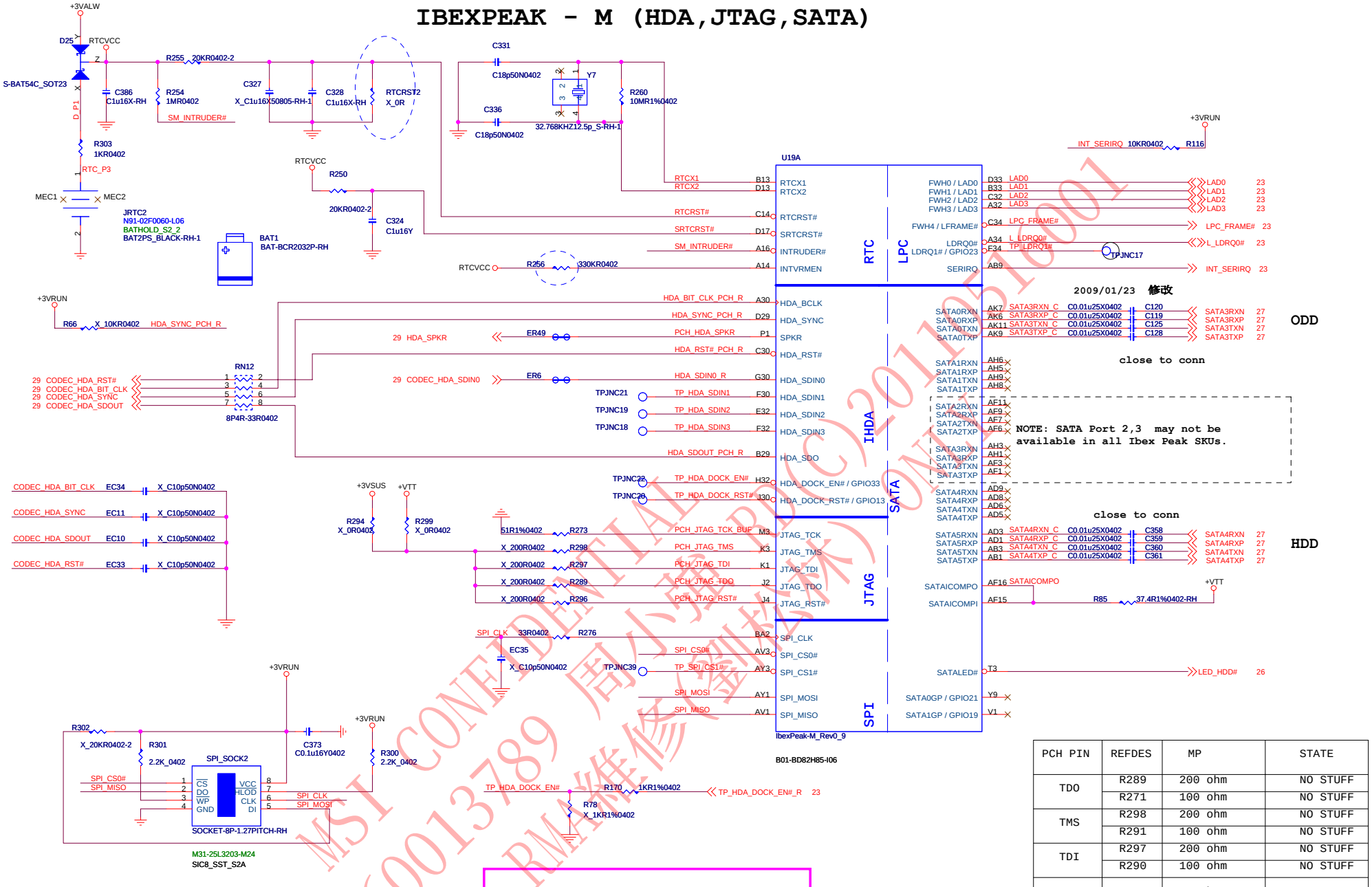


IBEXPEAK - M (HDA,JTAG,SATA)



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

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

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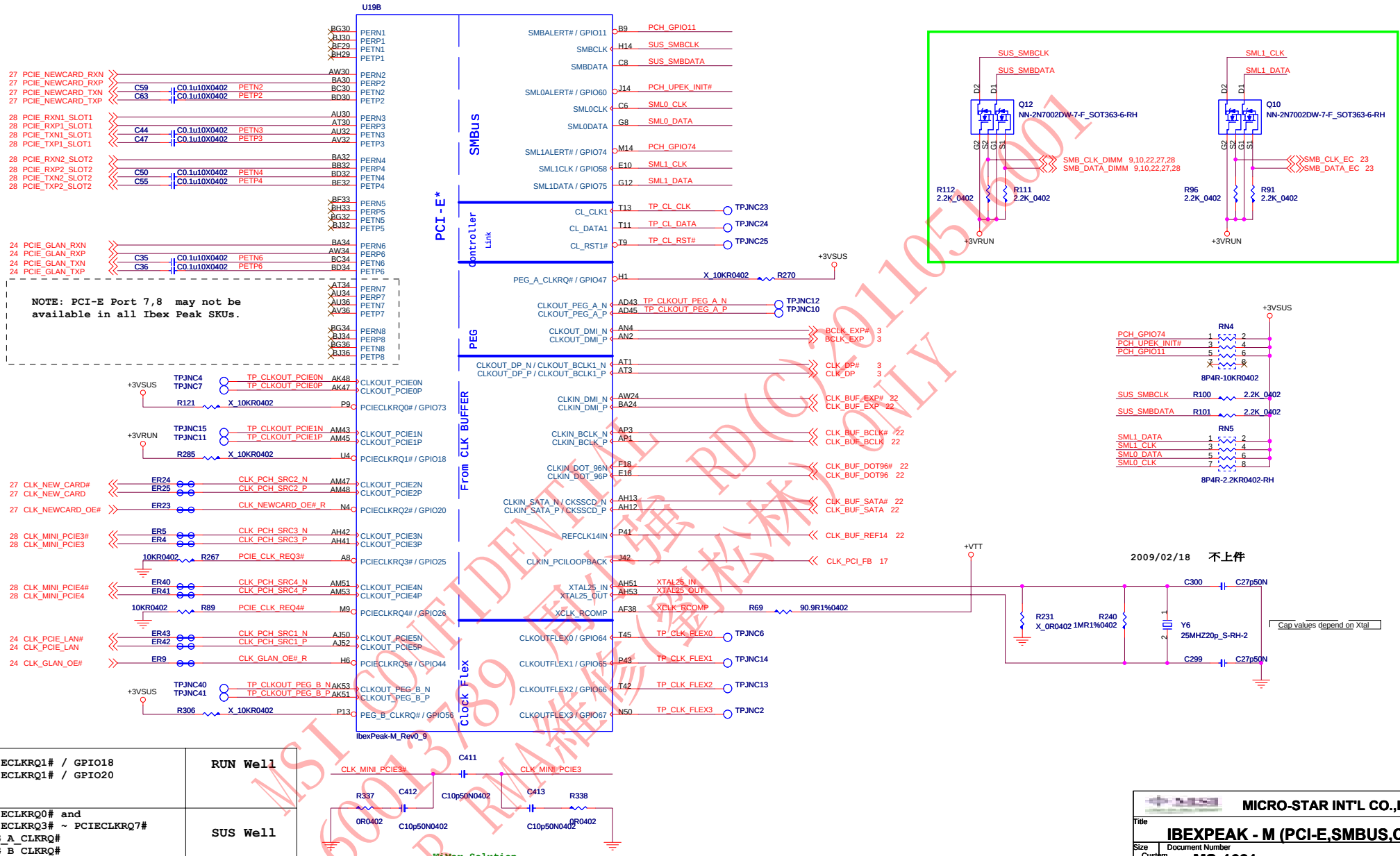
IBEXPEAK - M (PCI-E,SMBUS,CLK)



MICRO-STAR INT'L CO.,LTD.

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

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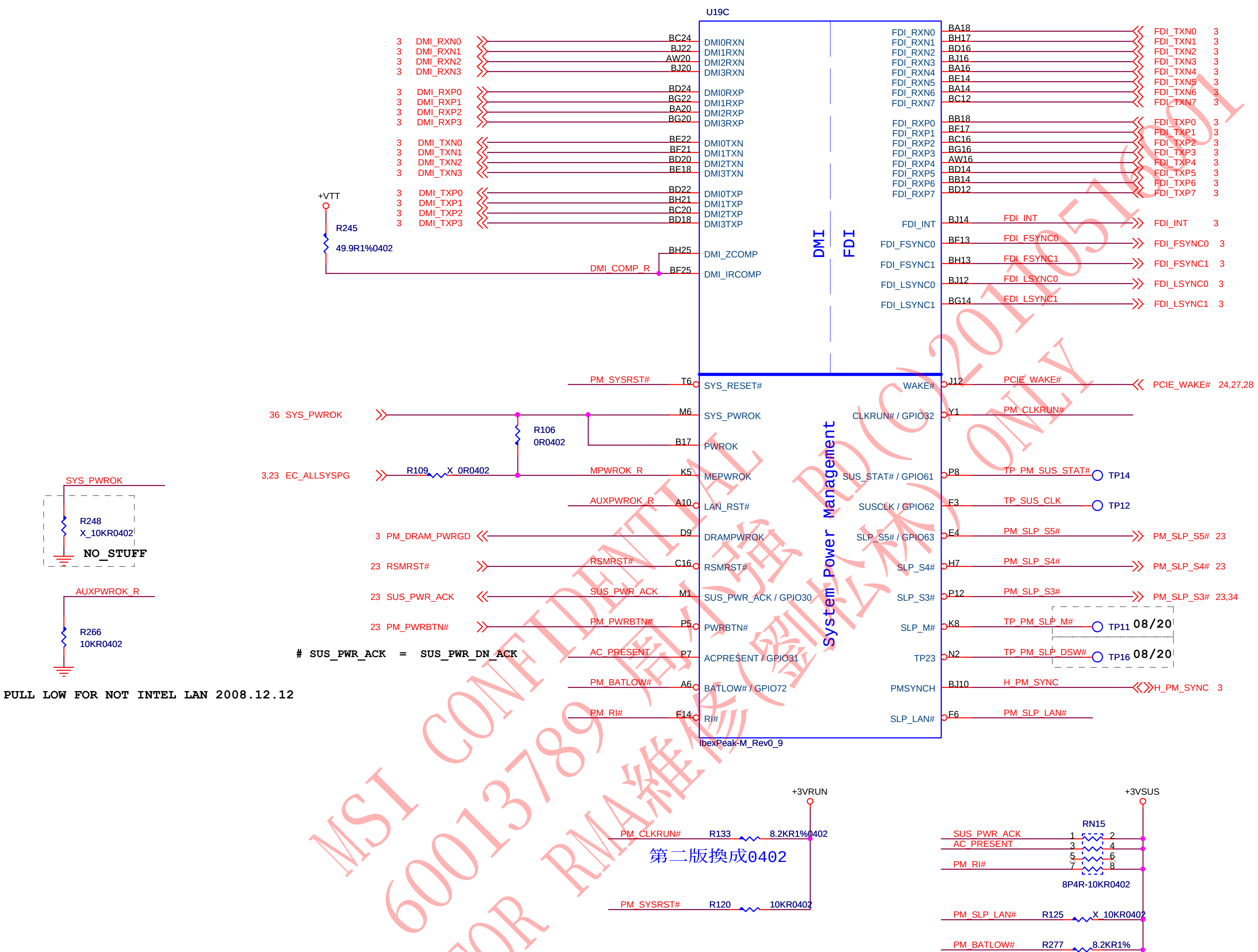
IBEXPEAK - M (DMI,FDI,GPIO)



U19C
DMI0RXN
DMI1RXN
DMI2RXN
DMI3RXN
DMI0RXP
DMI1RXP
DMI2RXP
DMI3RXP
DMI0TXN
DMI1TXN
DMI2TXN
DMI3TXN
DMI0TXP
DMI1TXP
DMI2TXP
DMI3TXP
DMI_ZCOMP
DMI_IRCOMP
DMI
FDI
FDI_RXN0
FDI_RXN1
FDI_RXN2
FDI_RXN3
FDI_RXN4
FDI_RXN5
FDI_RXN6
FDI_RXN7
FDI_RXP0
FDI_RXP1
FDI_RXP2
FDI_RXP3
FDI_RXP4
FDI_RXP5
FDI_RXP6
FDI_RXP7
FDI_INT
FDI_FSYNC0
FDI_FSYNC1
FDI_LSYNC0
FDI_LSYNC1
FDI_TXN0 3
FDI_TXN1 3
FDI_TXN2 3
FDI_TXN3 3
FDI_TXN4 3
FDI_TXN5 3
FDI_TXN6 3
FDI_TXN7 3
FDI_TXP0 3
FDI_TXP1 3
FDI_TXP2 3
FDI_TXP3 3
FDI_TXP4 3
FDI_TXP5 3
FDI_TXP6 3
FDI_TXP7 3
FDI_INT 3
FDI_FSYNC0 3
FDI_FSYNC1 3
FDI_LSYNC0 3
FDI_LSYNC1 3
3 DMI_RXN0
3 DMI_RXN1
3 DMI_RXN2
3 DMI_RXN3
3 DMI_RXP0
3 DMI_RXP1
3 DMI_RXP2
3 DMI_RXP3
3 DMI_TXN0
3 DMI_TXN1
3 DMI_TXN2
3 DMI_TXN3
3 DMI_TXP0
3 DMI_TXP1
3 DMI_TXP2
3 DMI_TXP3
+VTT
R245
49.9R1%0402
DMI_COMP_R
System Power Management
SYS_RESET#
SYS_PWROK
PWROK
MEPWROK
LAN_RST#
DRAMPWROK
RSMRST#
SUS_PWR_ACK / GPIO30
PWRBTN#
ACPRESENT / GPIO31
BATLOW# / GPIO72
RI#
WAKE#
CLKRUN# / GPIO32
SUS_STAT# / GPIO61
SUSCLK / GPIO62
SLP_S5# / GPIO63
SLP_S4#
SLP_S3#
SLP_M#
TP23
PMSYNCH
SLP_LAN#
IbexPeak-M_Rev0_9
PM_SYSRST#
36 SYS_PWROK
R106
0R0402
3,23 EC_ALLSYSPG
R109
X_0R0402
MPWROK_R
AUXPWROK_R
3 PM_DRAM_PWRGD
23 RSMRST#
23 SUS_PWR_ACK
23 PM_PWRBTN#
AC_PRESENT
PM_BATLOW#
PM_RI#
SUS_PWR_ACK = SUS_PWR_DN_ACK
PCIE_WAKE#
PCIE_WAKE# 24,27,28
PM_CLKRUN#
TP_PM_SUS_STAT#
TP14
TP_SUS_CLK
TP12
PM_SLP_S5#
PM_SLP_S5# 23
PM_SLP_S4#
PM_SLP_S4# 23
PM_SLP_S3#
PM_SLP_S3# 23,34
TP_PM_SLP_M#
TP11
08/20
TP_PM_SLP_DSW#
TP16
08/20
H_PM_SYNC
H_PM_SYNC 3
PM_SLP_LAN#
SYS_PWROK
R248
X_10KR0402
NO_STUFF
AUXPWROK_R
R266
10KR0402
PULL LOW FOR NOT INTEL LAN 2008.12.12
+3VRUN
PM_CLKRUN#
R133
8.2KR1%0402
第二版換成0402
PM_SYSRST#
R120
10KR0402
+3VSUS
RN15
SUS_PWR_ACK
AC_PRESENT
PM_RI#
8P4R-10KR0402
PM_SLP_LAN#
R125
X_10KR0402
PM_BATLOW#
R277
8.2KR1%
PCIE_WAKE#
R88
10KR0402

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
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
LVDS_DDC_CLK
LVDS_DDC_DATA
TP_L_CTRL_CLK
TP_L_CTRL_DATA
TP_LVDS_IBG
TP_LVDS_VBG
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
SDVO_CTRL_DATA
R236 X_20KR1%0402
R239 X_20KR1%0402
DVI_CLK_UMA 11
DVI_DATA_UMA 11
TPJNC85JNC
TPJNC86JNC
TPJNC8
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

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.

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Title	IBEXPEAK - M (LVDS,DDI)	
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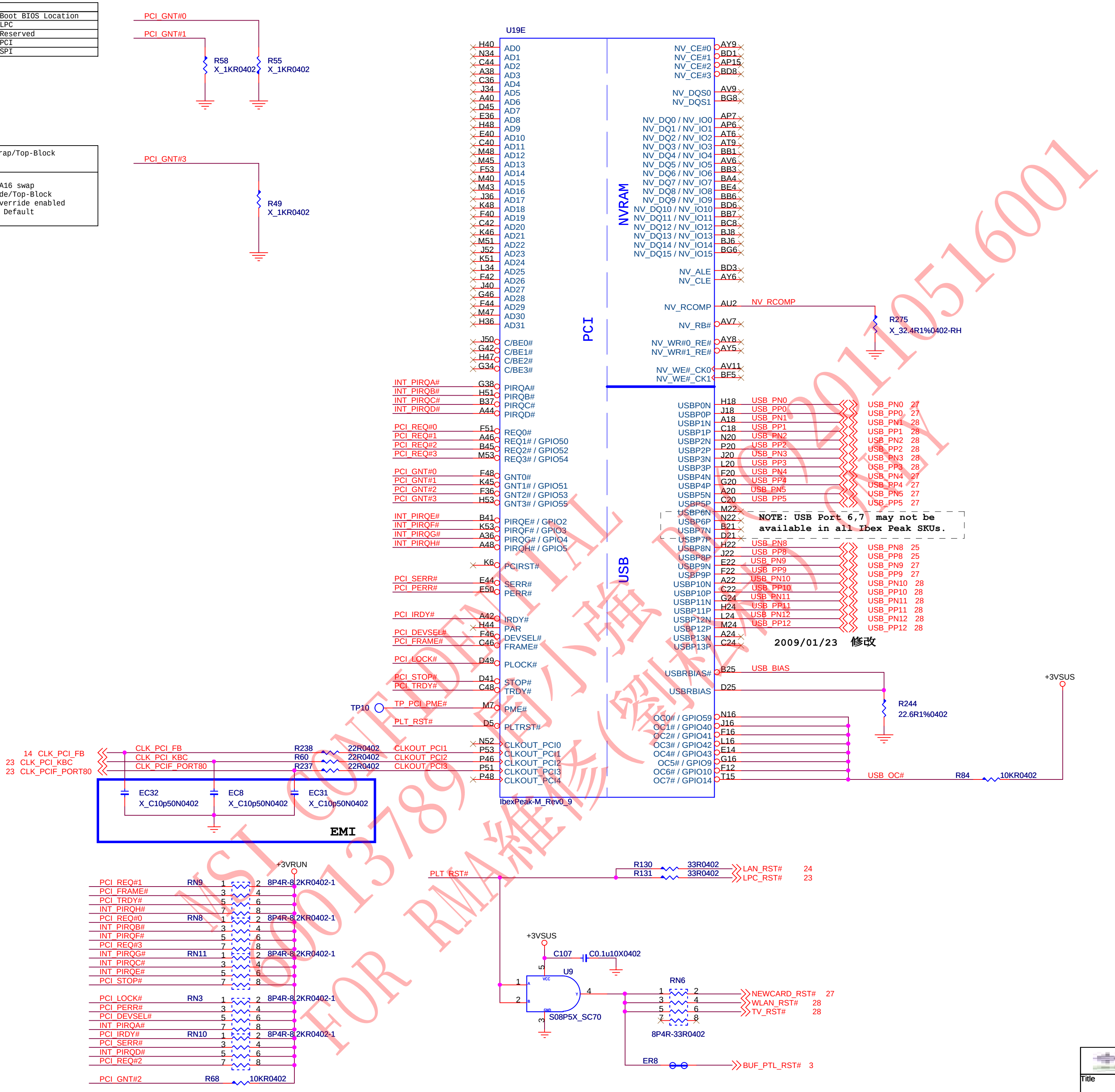
IBEXPEAK - M (PCI,USB,NVRAM)

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
EC32 X_C10p50N0402
EC8 X_C10p50N0402
EC31 X_C10p50N0402
EMI
TP10
+3VRUN
PLT_RST#
R130 33R0402
R131 33R0402
LAN_RST# 24
LPC_RST# 23
C107 C0.1u10X0402
U9 S08P5X_SC70
RN6 8P4R-33R0402
NEWCARD_RST# 27
WLAN_RST# 28
TV_RST# 28
ER8
BUF_PTL_RST# 3
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
R68 10KR0402
PCI_GNT#2

MICRO-STAR INT'L CO.,LTD.

Title: IBEXPEAK - M (PCI,USB,NVRAM)

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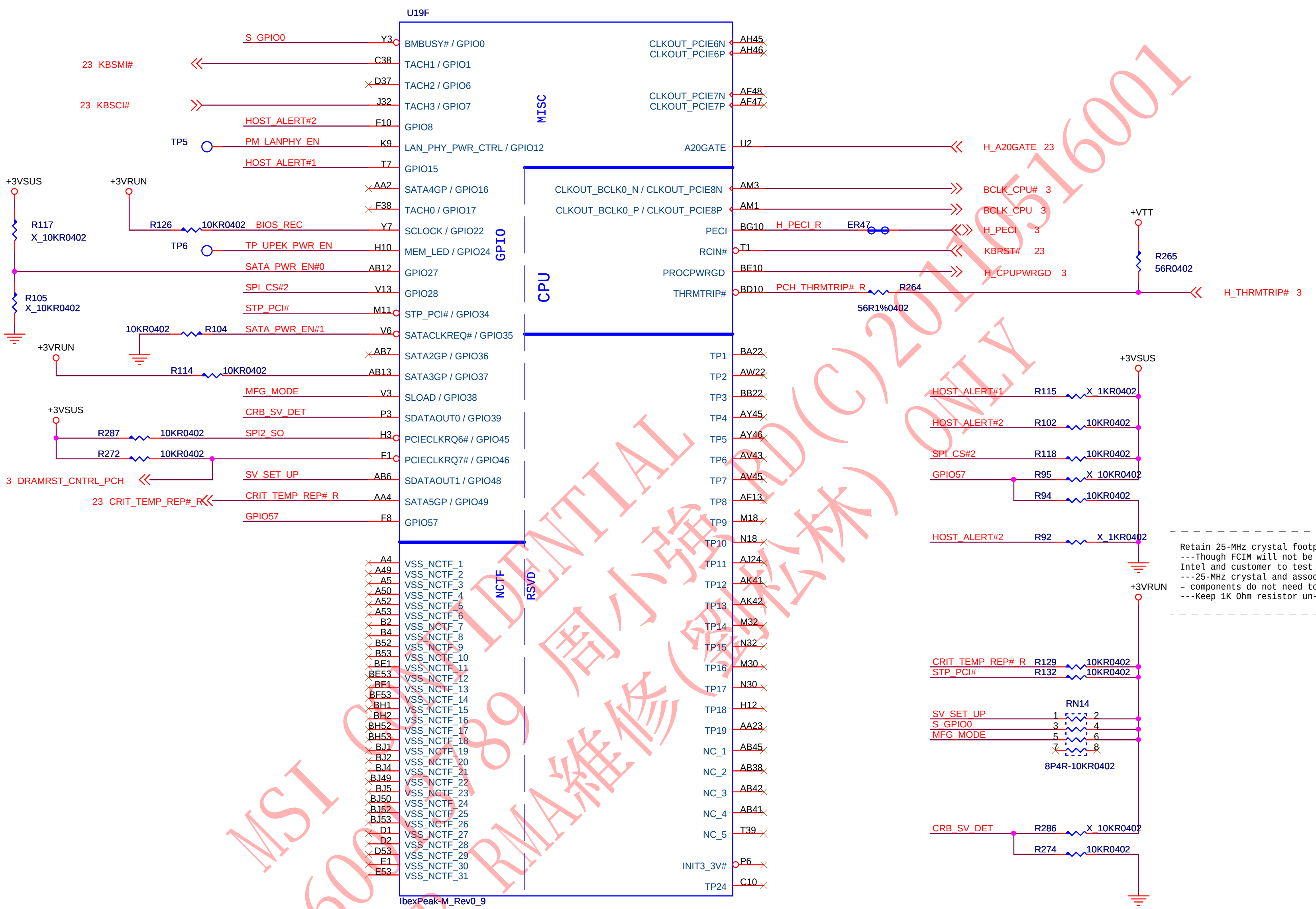
IBEXPEAK - M (GPIO,VSS_NCTF,RSVD)



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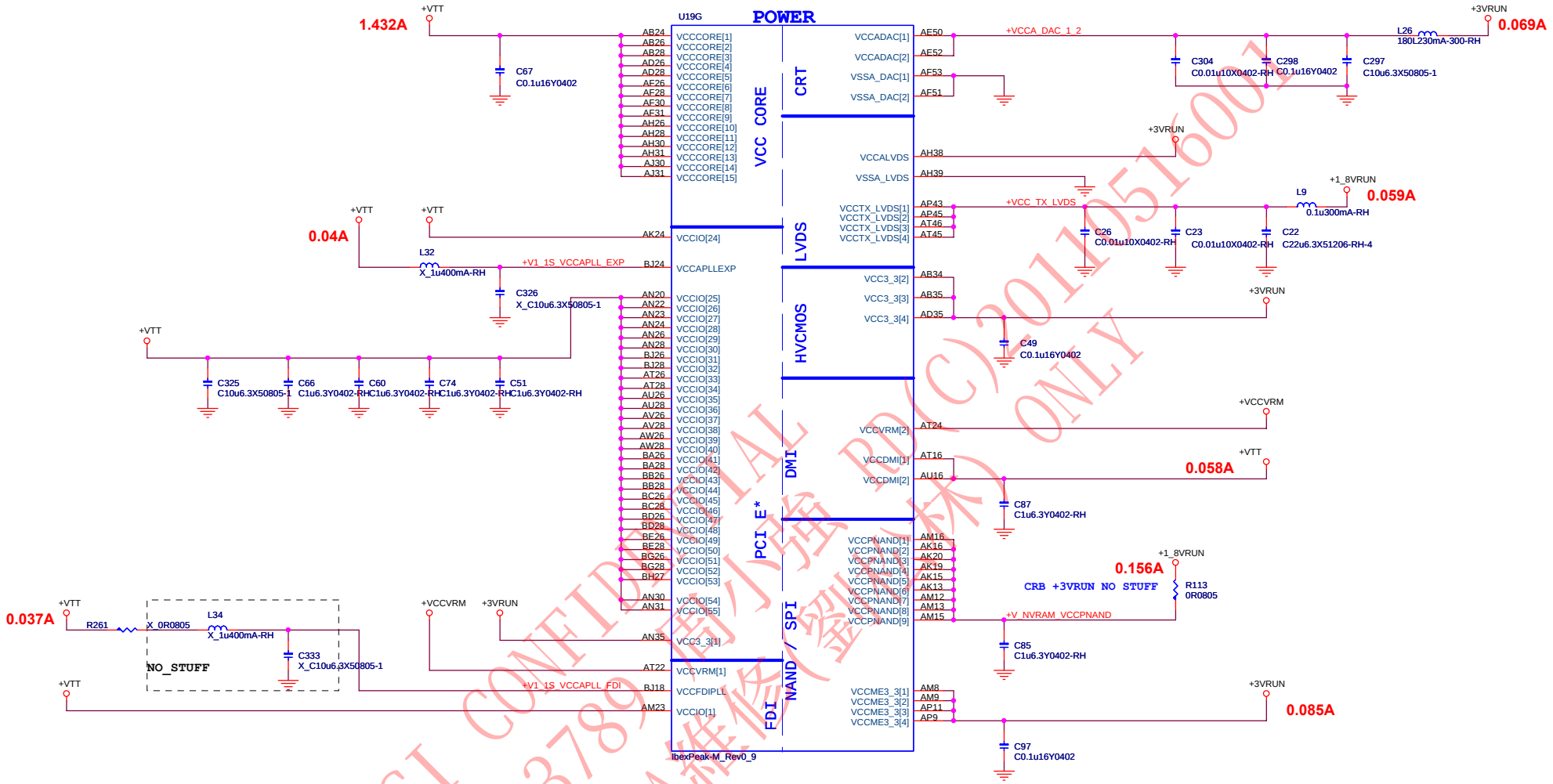
IBEXPEAK - M (POWER)



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.

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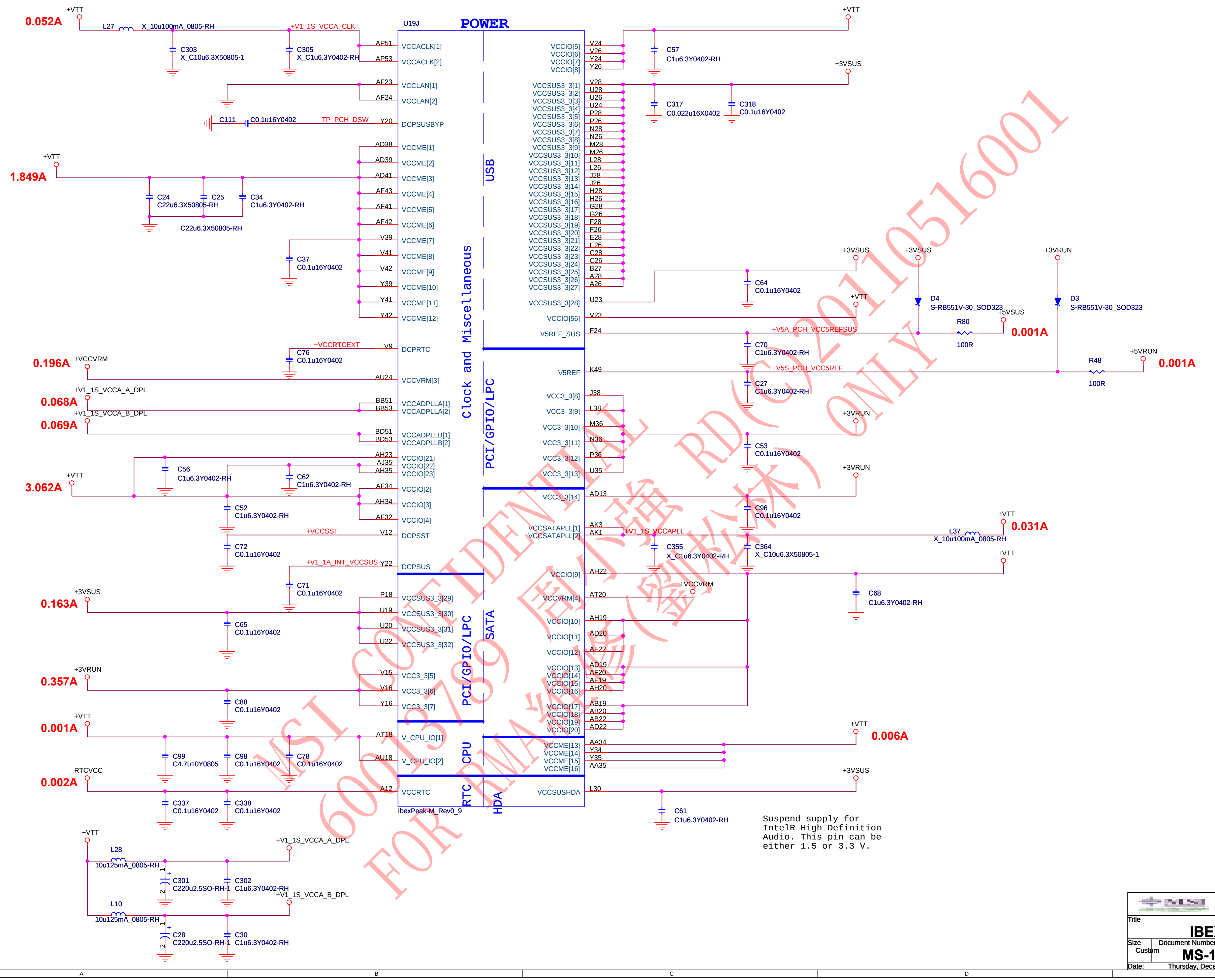
VccLAN may be grounded if Intel LAN is disabled.

IBEXPEAK - M (POWER)



U19J
POWER
IbexPeak-M_Rev0_9
Clock and Miscellaneous
USB
PCI/GPIO/LPC
SATA
CPU
RTC
HDA
0.052A
+VTT
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
BB51 VCCADPLLA[1]
BB53 VCCADPLLA[2]
0.069A
+V1_1S_VCCA_B_DPL
BD51 VCCADPLLB[1]
BD53 VCCADPLLB[2]
3.062A
C56
C1u6.3Y0402-RH
C62
C1u6.3Y0402-RH
AH23 VCCIO[21]
AJ35 VCCIO[22]
AH35 VCCIO[23]
AF34 VCCIO[2]
AH34 VCCIO[3]
AF32 VCCIO[4]
C52
C1u6.3Y0402-RH
+VCCSST
V12 DCPSST
C72
C0.1u16Y0402
+V1_1A_INT_VCCSUS
Y22 DCPSUS
C71
C0.1u16Y0402
0.163A
+3VSUS
P18 VCCSUS3_3[29]
U19 VCCSUS3_3[30]
U20 VCCSUS3_3[31]
U22 VCCSUS3_3[32]
C65
C0.1u16Y0402
0.357A
+3VRUN
V15 VCC3_3[5]
V16 VCC3_3[6]
Y16 VCC3_3[7]
C88
C0.1u16Y0402
0.001A
AT18 V_CPU_IO[1]
AU18 V_CPU_IO[2]
C99
C4.7u10Y0805
C98
C0.1u16Y0402
C78
C0.1u16Y0402
0.002A
RTCVCC
A12 VCCRTC
C337
C0.1u16Y0402
C338
C0.1u16Y0402
L28
10u125mA_0805-RH
+V1_1S_VCCA_A_DPL
C301
C220u2.5SO-RH-1
C302
C1u6.3Y0402-RH
+V1_1S_VCCA_B_DPL
L10
10u125mA_0805-RH
C28
C220u2.5SO-RH-1
C30
C1u6.3Y0402-RH
VCCIO[5] V24
VCCIO[6] V26
VCCIO[7] Y24
VCCIO[8] Y26
C57
C1u6.3Y0402-RH
+3VSUS
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
R48
100R
+5VRUN
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
C68
C1u6.3Y0402-RH
+VCCVRM
VCCVRM[4] AT20
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.

MICRO-STAR INT'L CO.,LTD.

Title	IBEXPEAK - M (POWER)
Size: Custom	Document Number: MS-1681
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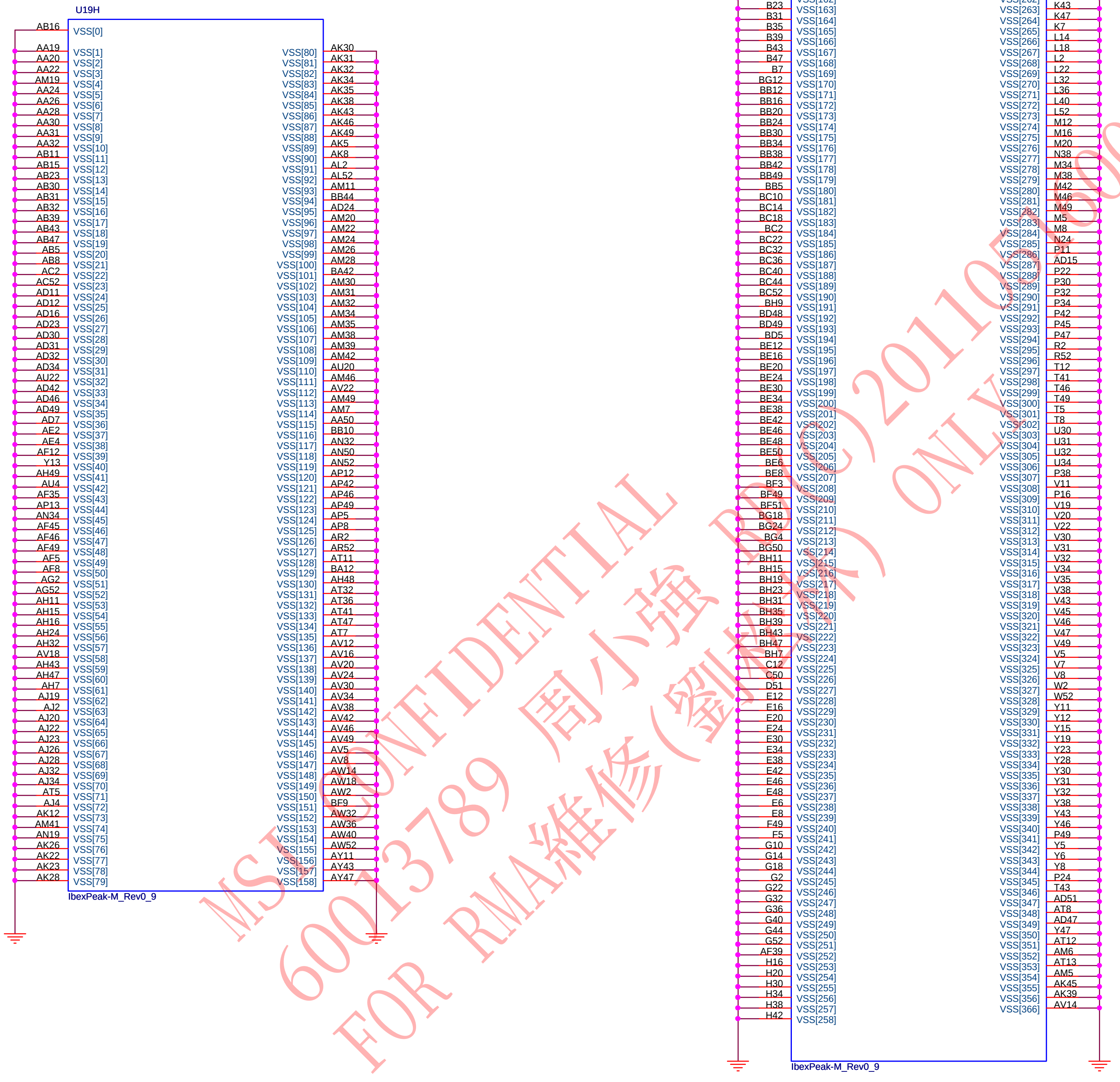
IBEXPEAK - M (GND)



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
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VSS[132] AT36
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VSS[143] AV42
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VSS[145] AV49
VSS[146] AV5
VSS[147] AV8
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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]
BD48 VSS[192]
BD49 VSS[193]
BD5 VSS[194]
BE12 VSS[195]
BE16 VSS[196]
BE20 VSS[197]
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BE34 VSS[200]
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BE42 VSS[202]
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BE6 VSS[206]
BE8 VSS[207]
BF3 VSS[208]
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BG18 VSS[211]
BG24 VSS[212]
BG4 VSS[213]
BG50 VSS[214]
BH11 VSS[215]
BH15 VSS[216]
BH19 VSS[217]
BH23 VSS[218]
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BH43 VSS[222]
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BH7 VSS[224]
C12 VSS[225]
C50 VSS[226]
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E12 VSS[228]
E16 VSS[229]
E20 VSS[230]
E24 VSS[231]
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E42 VSS[235]
E46 VSS[236]
E48 VSS[237]
E6 VSS[238]
E8 VSS[239]
F49 VSS[240]
F5 VSS[241]
G10 VSS[242]
G14 VSS[243]
G18 VSS[244]
G2 VSS[245]
G22 VSS[246]
G32 VSS[247]
G36 VSS[248]
G40 VSS[249]
G44 VSS[250]
G52 VSS[251]
AF39 VSS[252]
H16 VSS[253]
H20 VSS[254]
H30 VSS[255]
H34 VSS[256]
H38 VSS[257]
H42 VSS[258]
VSS[259] H49
VSS[260] H5
VSS[261] J24
VSS[262] K11
VSS[263] K43
VSS[264] K47
VSS[265] K7
VSS[266] L14
VSS[267] L18
VSS[268] L2
VSS[269] L22
VSS[270] L32
VSS[271] L36
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VSS[273] L52
VSS[274] M12
VSS[275] M16
VSS[276] M20
VSS[277] N38
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VSS[294] P47
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VSS[296] R52
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VSS[338] Y38
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VSS[341] P49
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VSS[343] Y6
VSS[344] Y8
VSS[345] P24
VSS[346] T43
VSS[347] AD51
VSS[348] AT8
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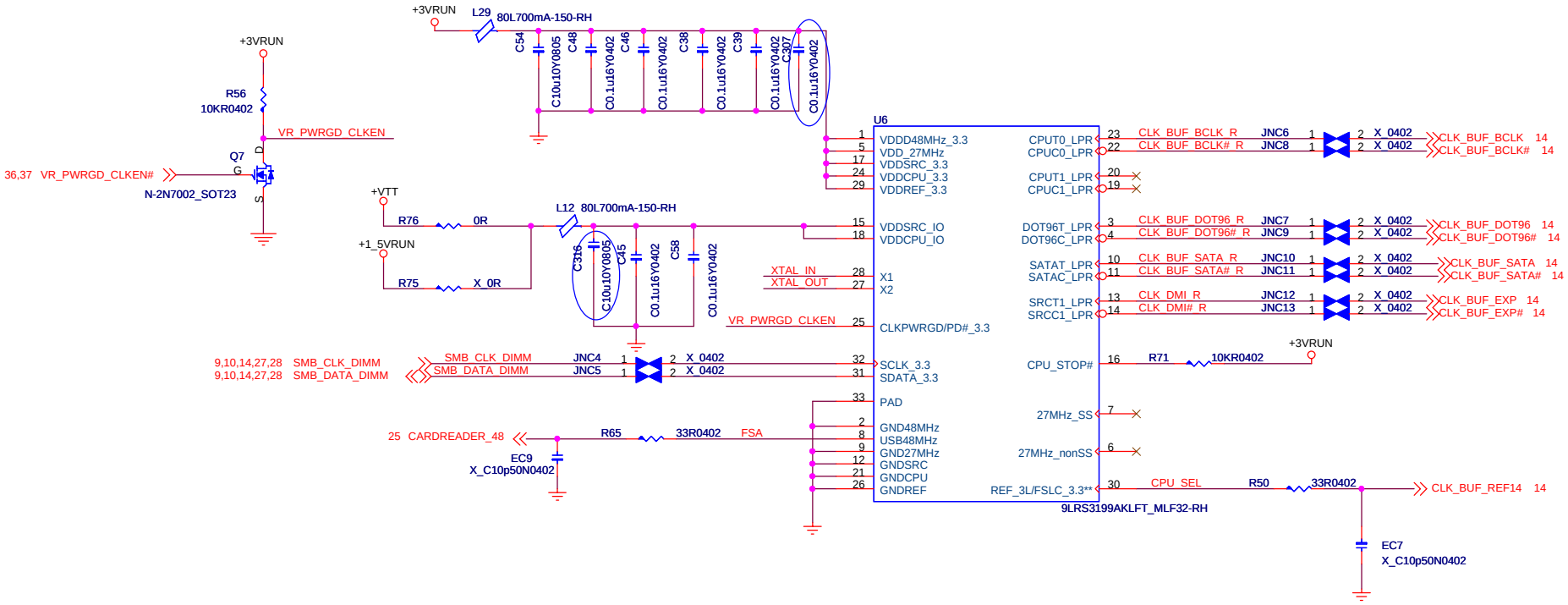
VSS[350] Y47
VSS[351] AT12
VSS[352] AM6
VSS[353] AT13
VSS[354] AM5
VSS[355] AK45
VSS[356] AK39
VSS[366] AV14
IbexPeak-M_Rev0_9

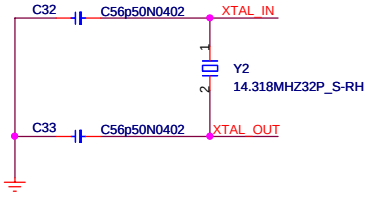
MICRO-STAR INT'L CO.,LTD.		
Title: IBEXPEAK - M (GND)		
Size: Custom	Document Number: MS-1681	Rev: 10
Date: Thursday, December 17, 2009	Sheet 21 of 45	



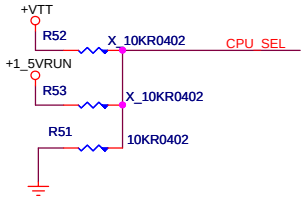
Capacity select

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

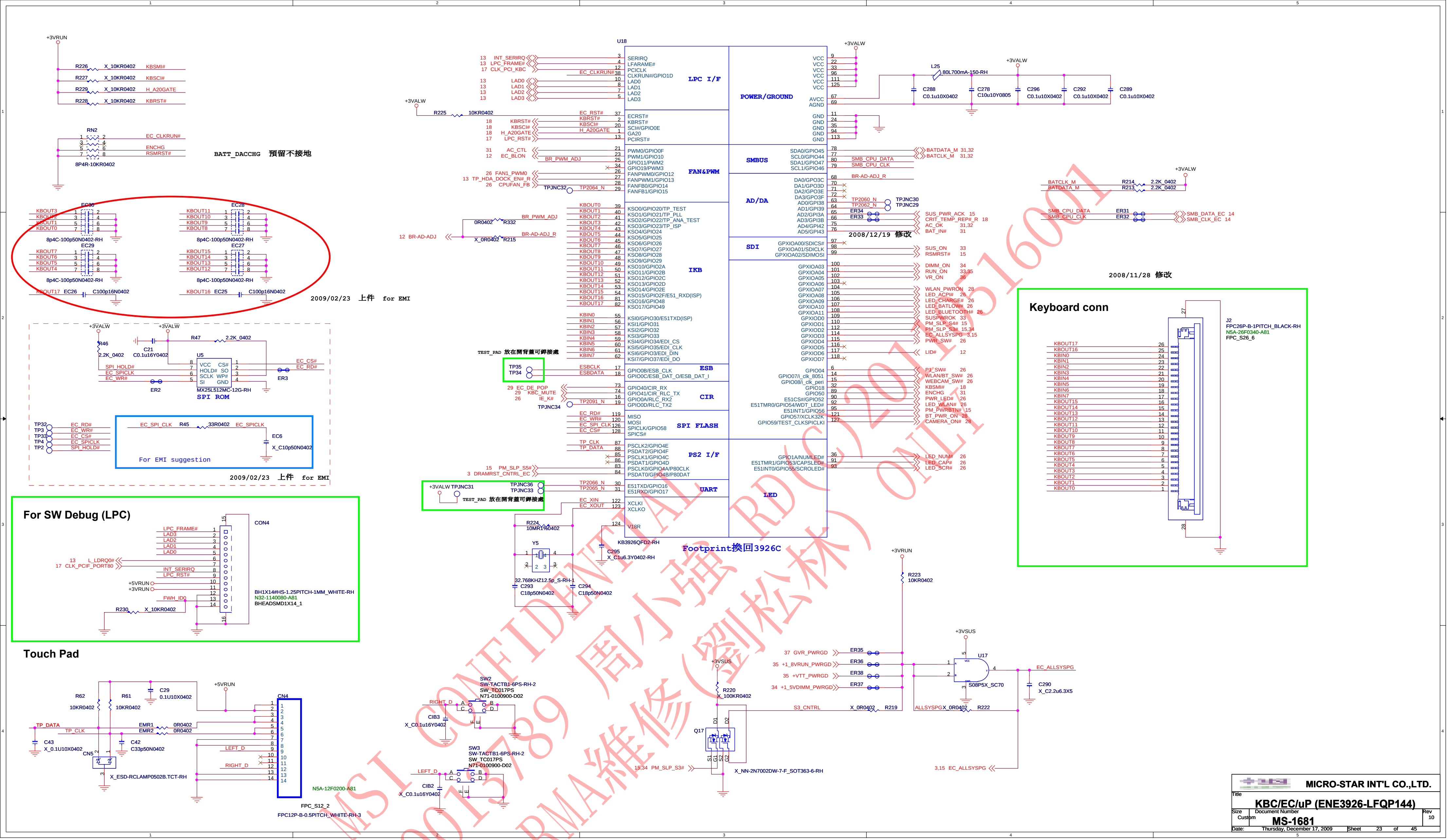
R598,R599,R600=4.7Kohm

MICRO-STAR INT'L CO.,LTD.

Title: Clock Generator (ICS9IRS3199)

Size: Custom | Document Number: MS-1681 | Rev: 10

Date: Thursday, December 17, 2009 | Sheet 22 of 45



MICRO-STAR INT'L CO.,LTD.

Title	KBC/EC/uP (ENE3926-LFQP144)	
Size: Custom	Document Number: MS-1681	Rev: 10
Date: Thursday, December 17, 2009	Sheet 23 of 45	

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.

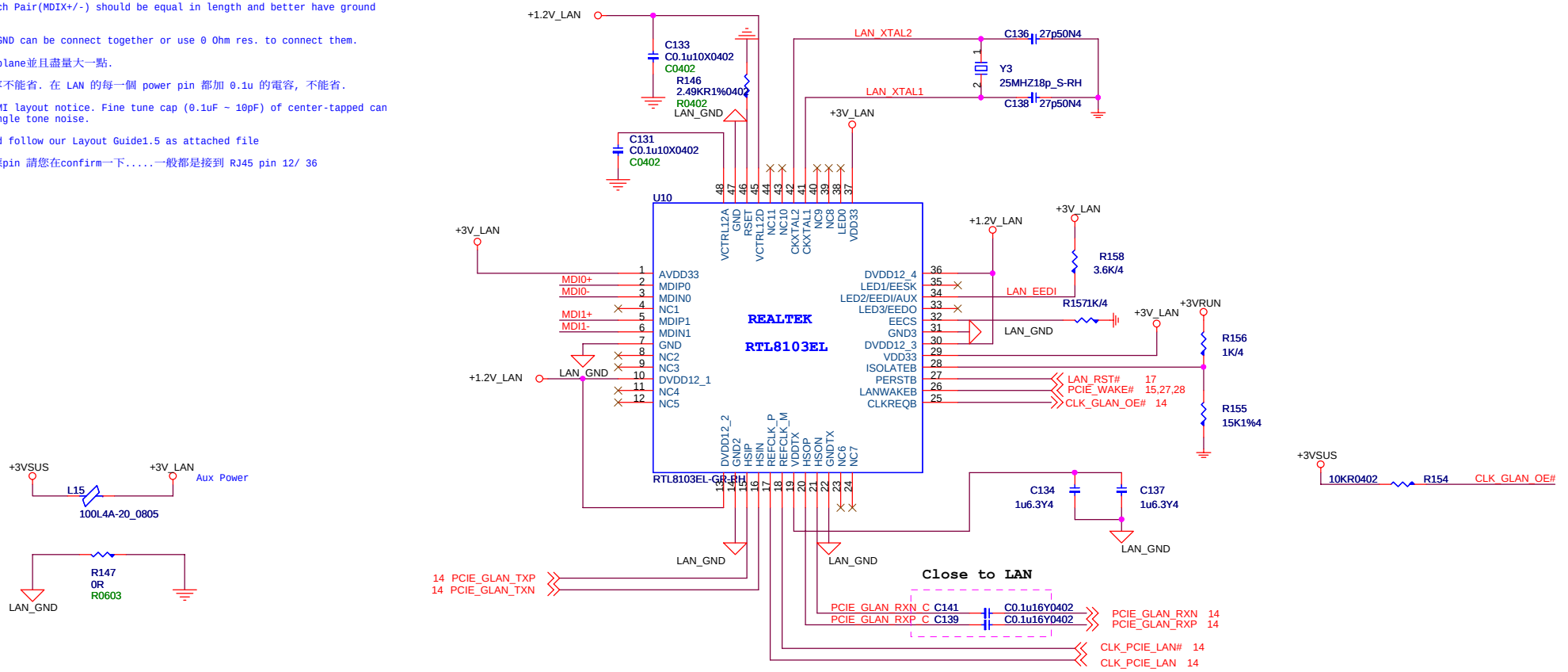
4. 1.2V請留 power plane並且盡量大一點.

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.

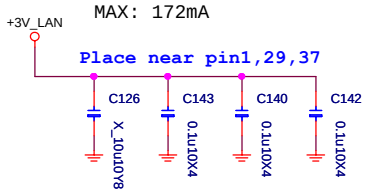
7. Please refer and follow our Layout Guide1.5 as attached file

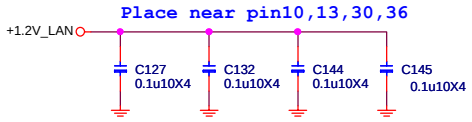
8. RJ45 的部份,對應pin 請您在confirm一下.....一般都是接到 RJ45 pin 12/ 36

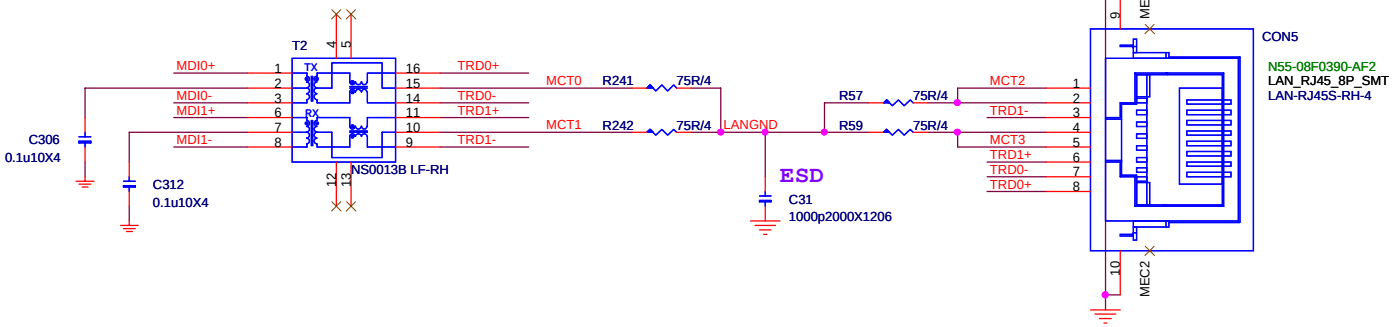


POWER Comparison

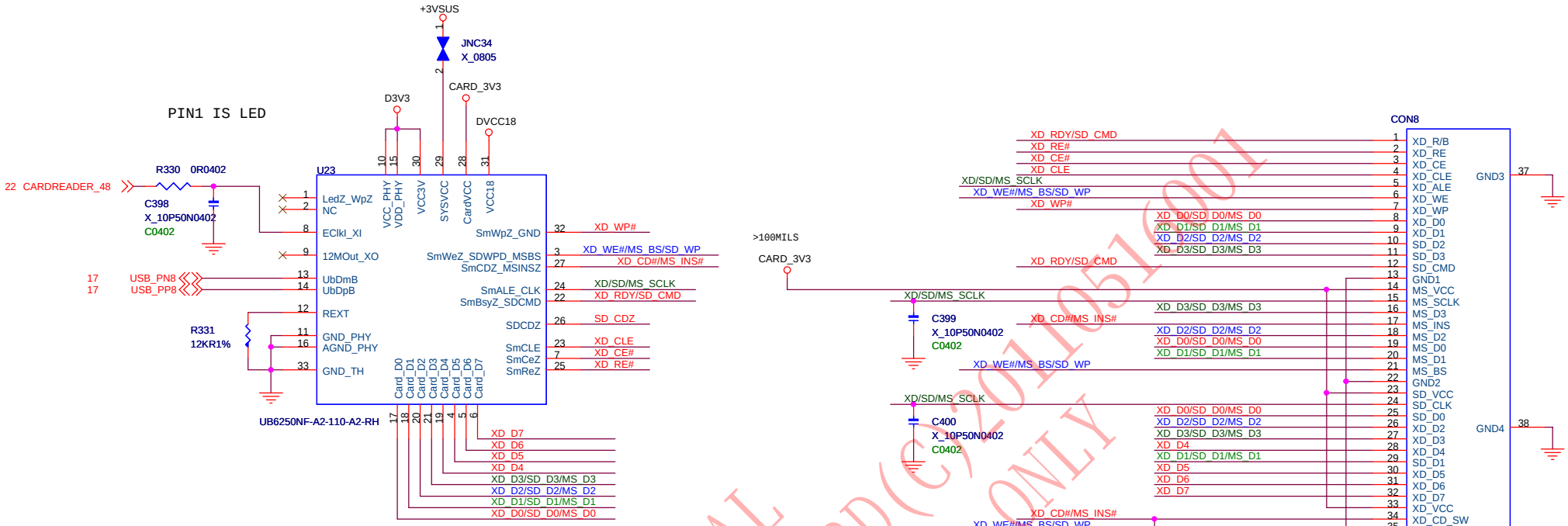
	3.3V	mW
10 M Idle/TxRx	87/172	287/568
100 M Idle/TxRx	112/165	370/545
ALDPS	60	198
D3 cold with link10M /without link	32/18	106/59.4







MICRO-STAR INT'L CO.,LTD.	
Title	PCIE LAN (RTL8103EL)
Size: Custom	Document Number: MS-1681
Rev: 10	
Date:	Sheet 24 of 45

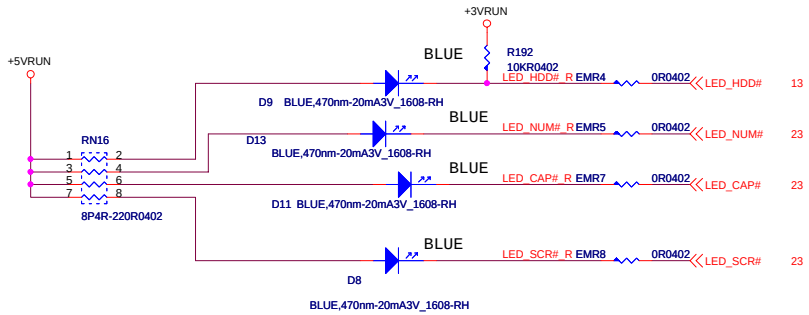


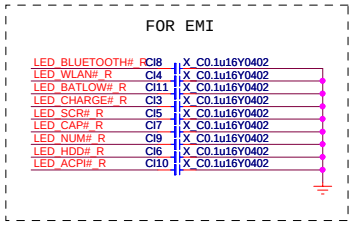
MICRO-STAR INT'L CO.,LTD.

Title: Cardreader(UB6250A1)

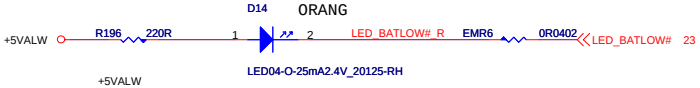
Size: Custom | Document Number: MS-1681 | Rev: 10

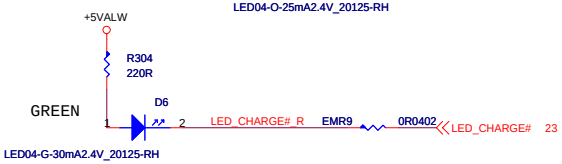
Date: | Sheet 25 of 45

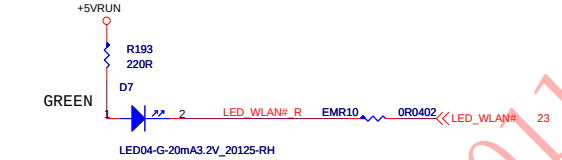


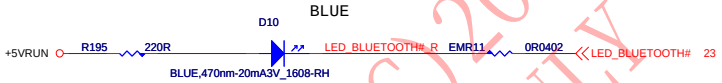


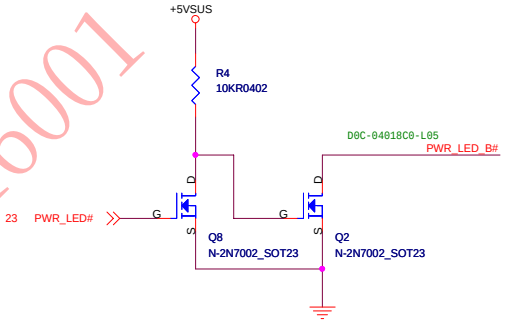
1/12 casper update



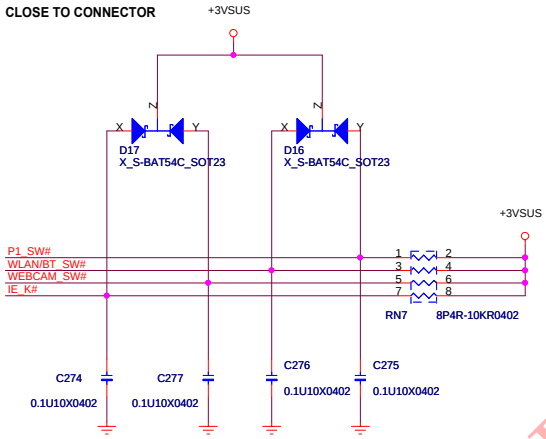


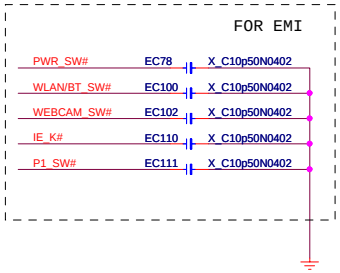


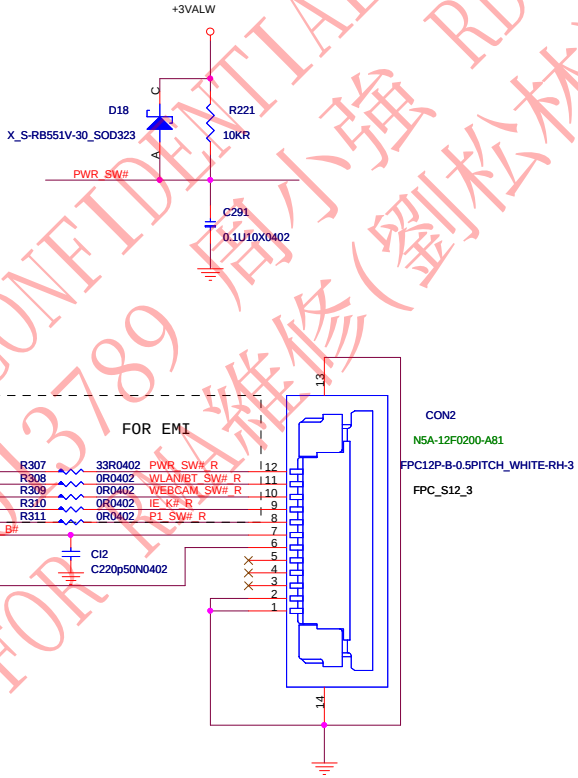




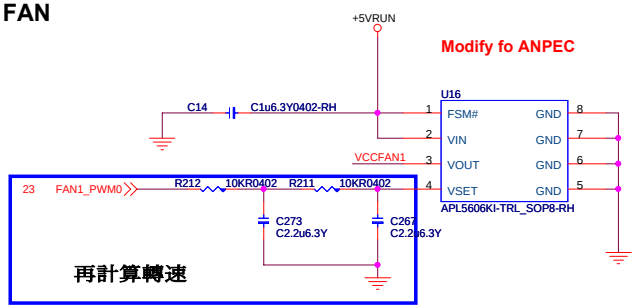
CLOSE TO CONNECTOR

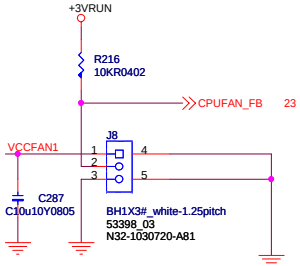






CPU FAN





MICRO-STAR INT'L CO.,LTD.

Title: FAN,LED,Lauch board conn

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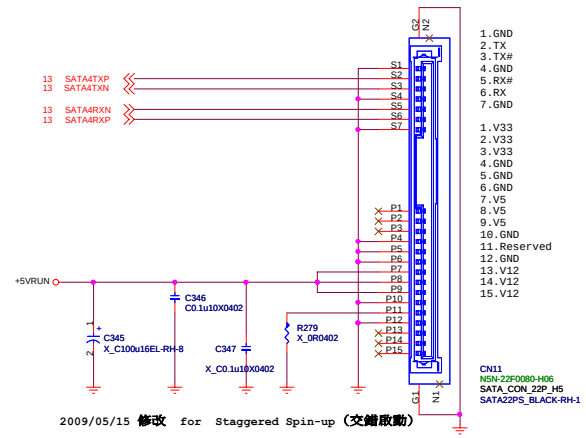
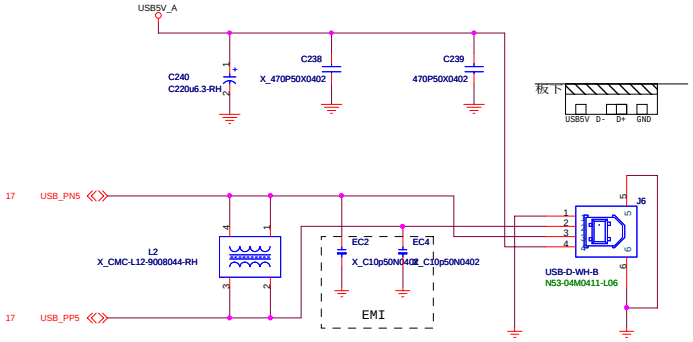
Date: | Sheet 26 of 45

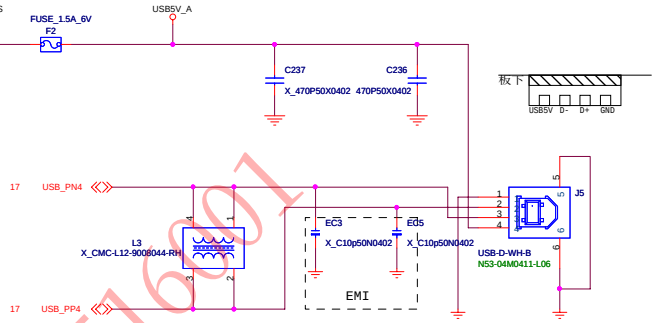
SATA HDD

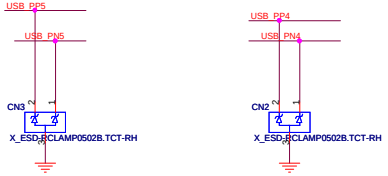


2009/05/15 修改 for Staggered Spin-up（交錯啟動）

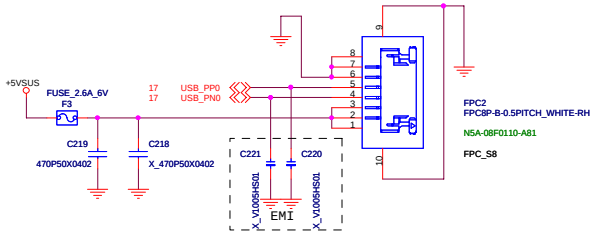
USB Port



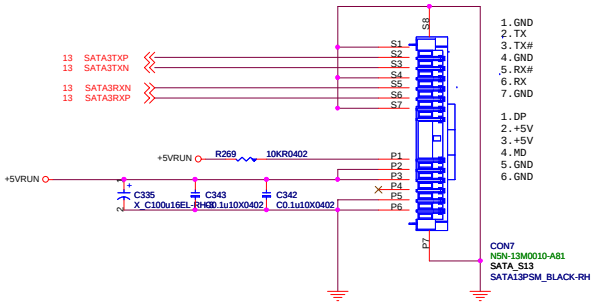




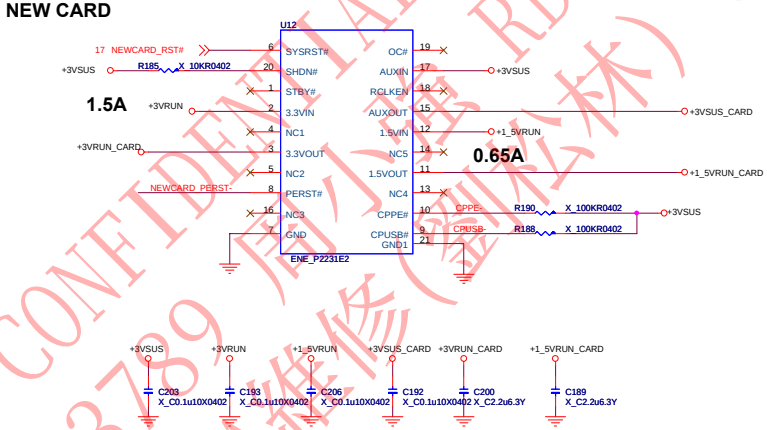
USB Port (to daughter board)

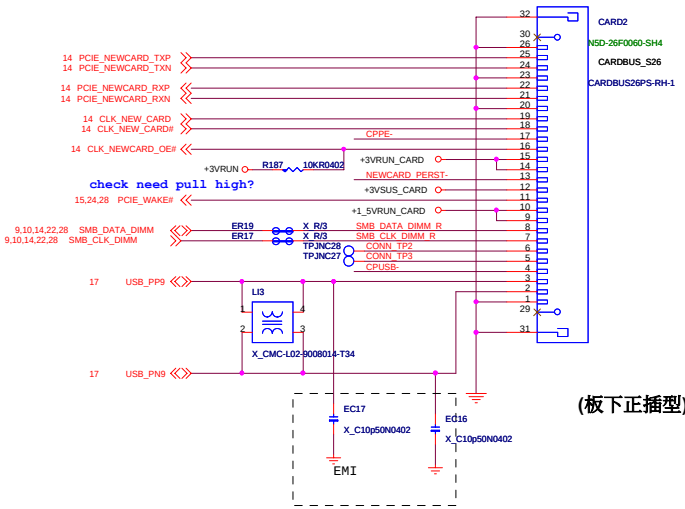


SATA ODD



NEW CARD





(板下正插型)

MICRO-STAR INT'L CO.,LTD.

Title: HDD,CDROM,USB ,NEW CARD

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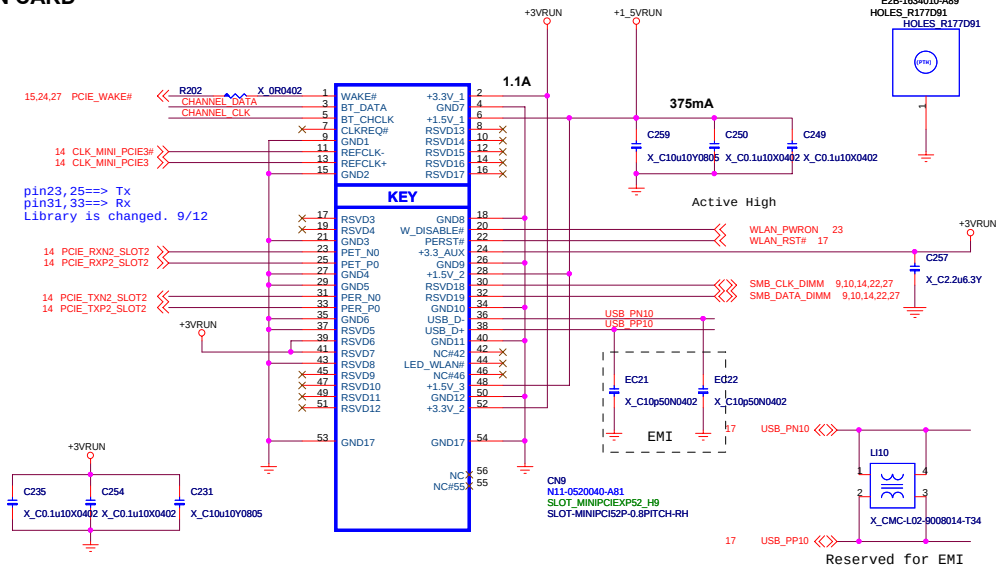
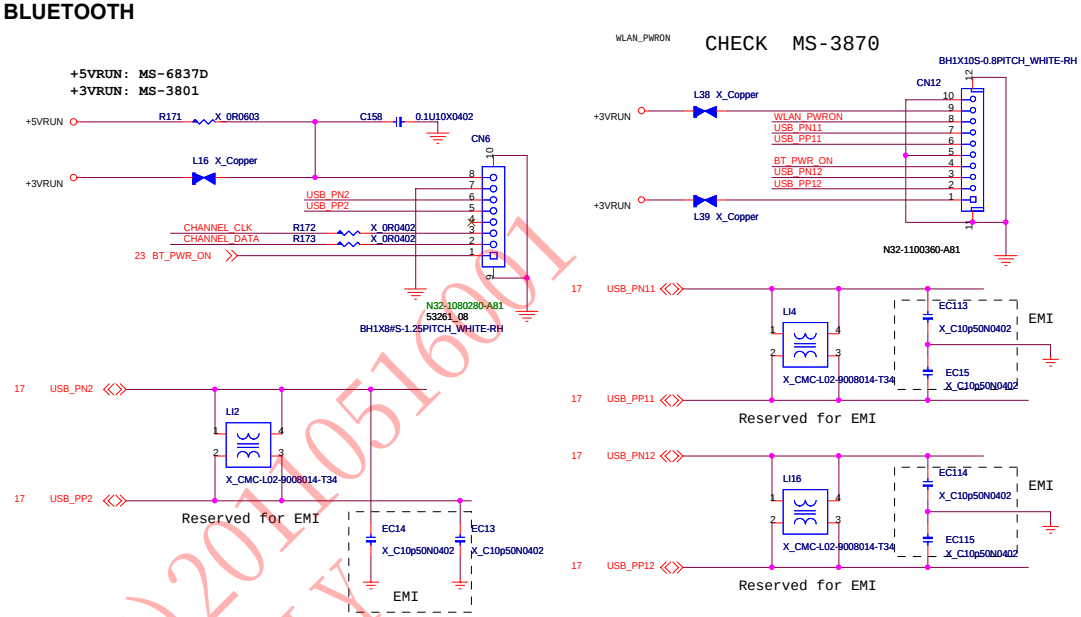
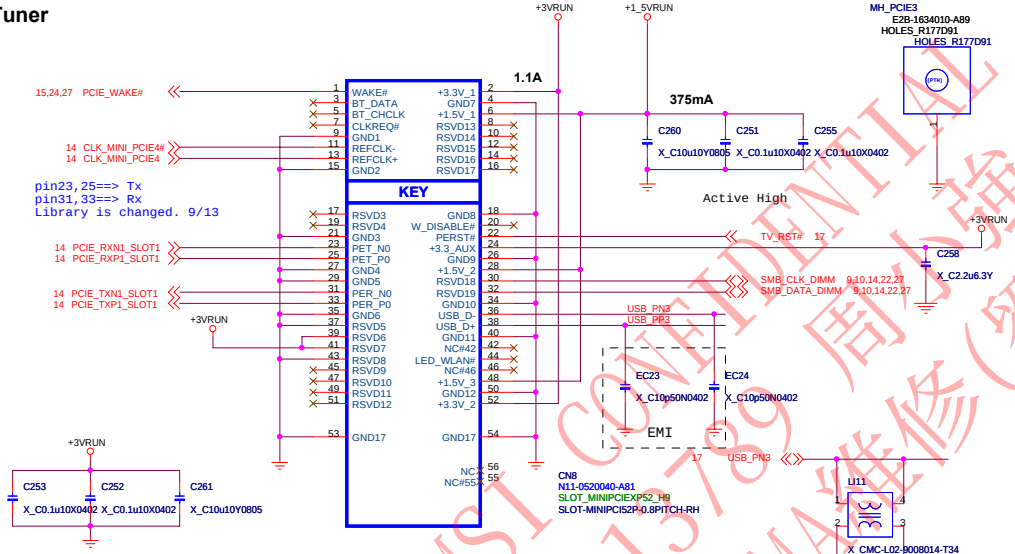
WLAN CARD



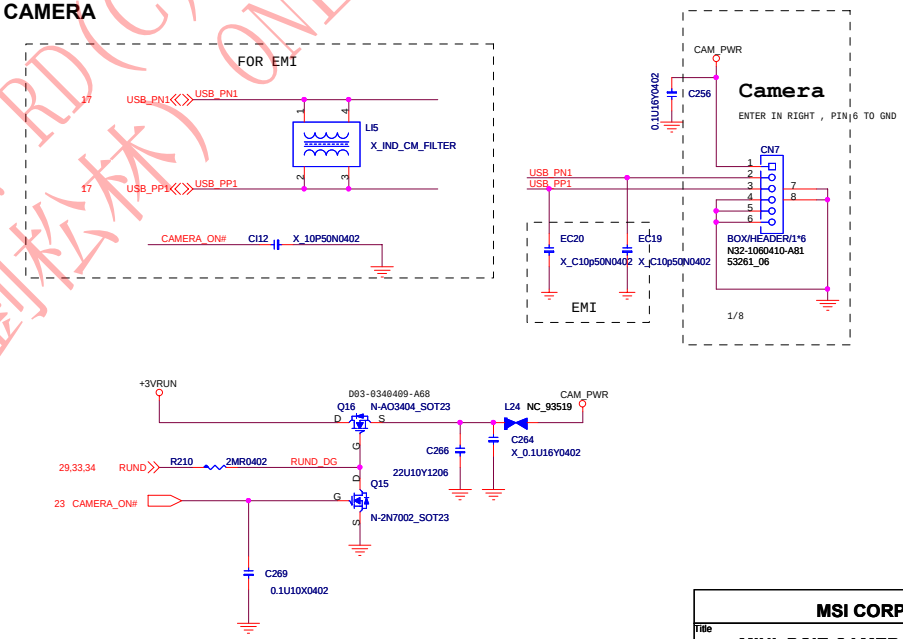
BLUETOOTH



TV Tuner



CAMERA



MSI CORPORATION		
Title: MINI_PCIE,CAMERA,BLUETOOTH		
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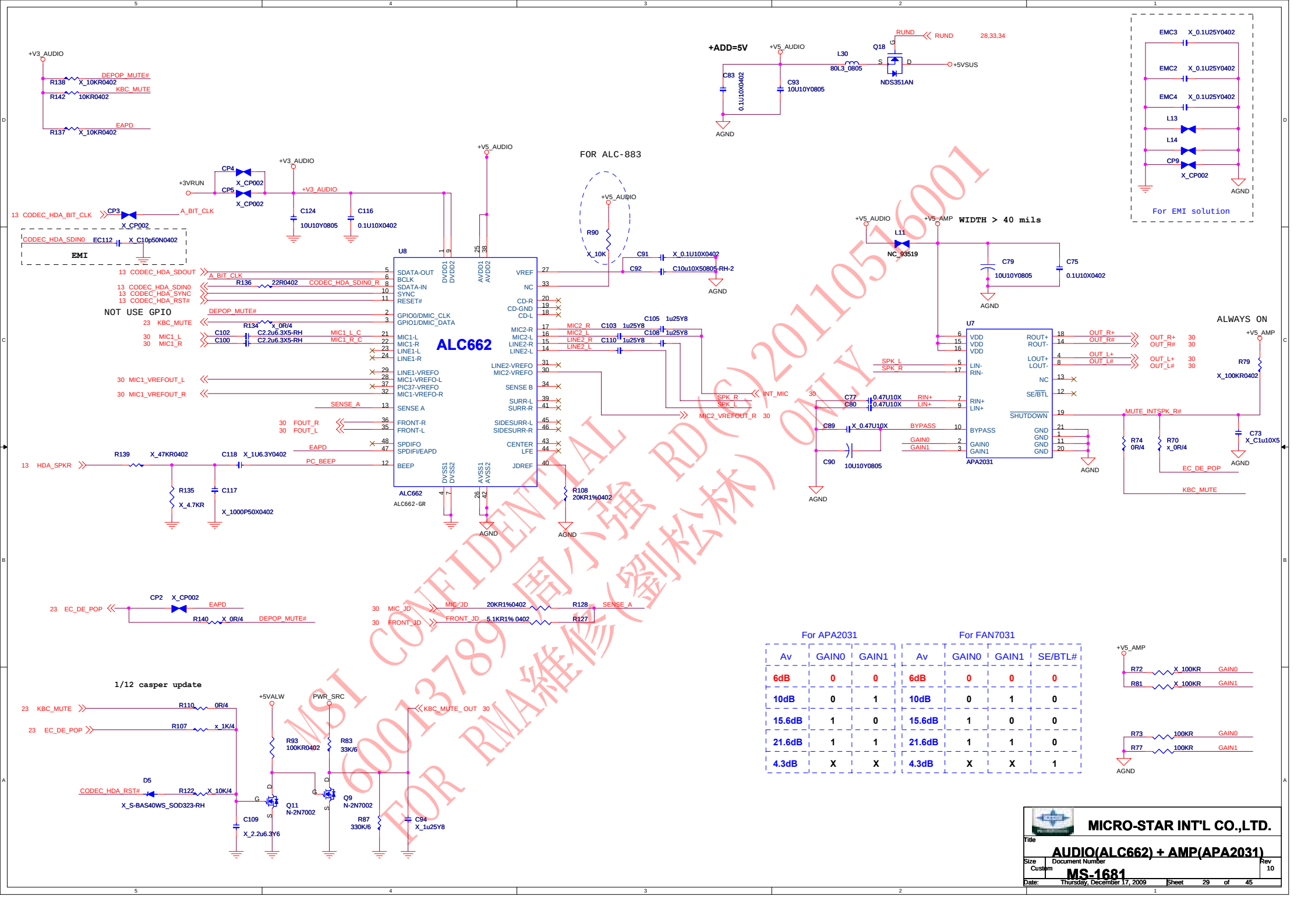

1/20 EAPD DELAY 650ms

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 — AGND
R258 2.2KR0402 — AGND

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

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

29 FRONT_JD — C339 X_1000P50X0402 — AGND
EMC

FRONT_OUT_R
FRONT_OUT_L

C323 680P50X0402 — AGND
C330 680P50X0402 — AGND

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

LOUT2 — MEC2 — MEC1 — EARPHONE
JACK-AUDIOF_OR-SP — AGND

09/21

N54-06F0481-H06
AUDIO_JACK_6P_OB

Internal Mic

29 MIC2_VREFOUT_R — R247 4.7KR — C320 0.1U10X0402 — AGND
R246 1KR1%0402

1/16
CON6 — 31 42 — INT_MIC — INT_MIC 29 — AGND
C322 1000P50X0402 — AGND

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
R268 2.2KR0402
R280 2.2KR0402

29 MIC_JD — D24 X_ESD-VPORT0402100MV05-RH — AGND
C365 X_1000P50X0402 — AGND

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 — AGND
C357 X_C680p50X0402-RH — AGND

MIC_JD — CN10 — MIC(PINK)
IOC-JACK-D08-S56
AUDIO_JACK_6P_OB
N54-06F0481-H06

C363 680P50X0402
C352 680P50X0402
For EMI — AGND

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

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

MICRO-STAR INT'L CO.,LTD.

Title	SPK / HP / MIC	E28/M0
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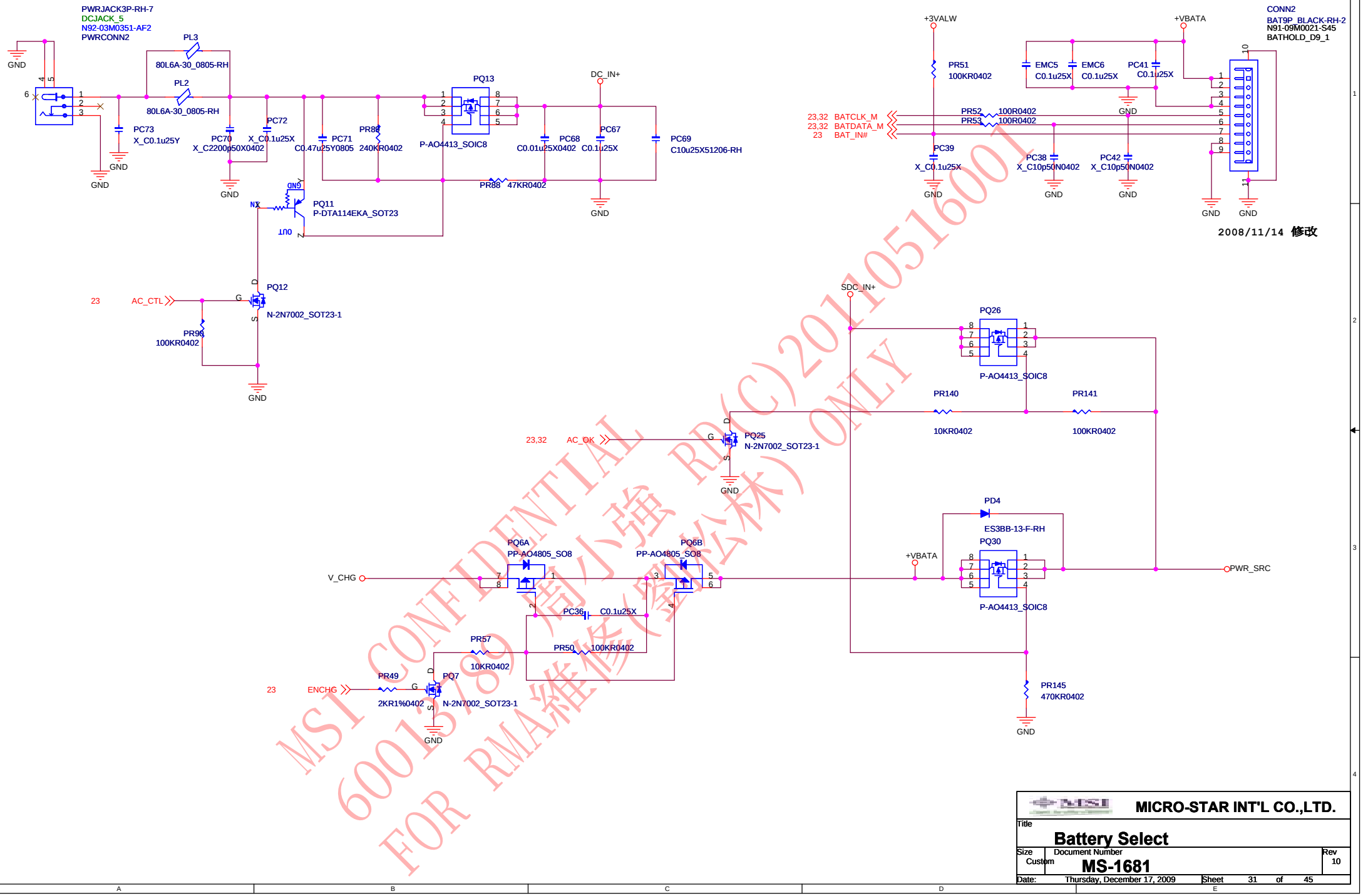

MICRO-STAR INT'L CO.,LTD.

Title: Battery Select

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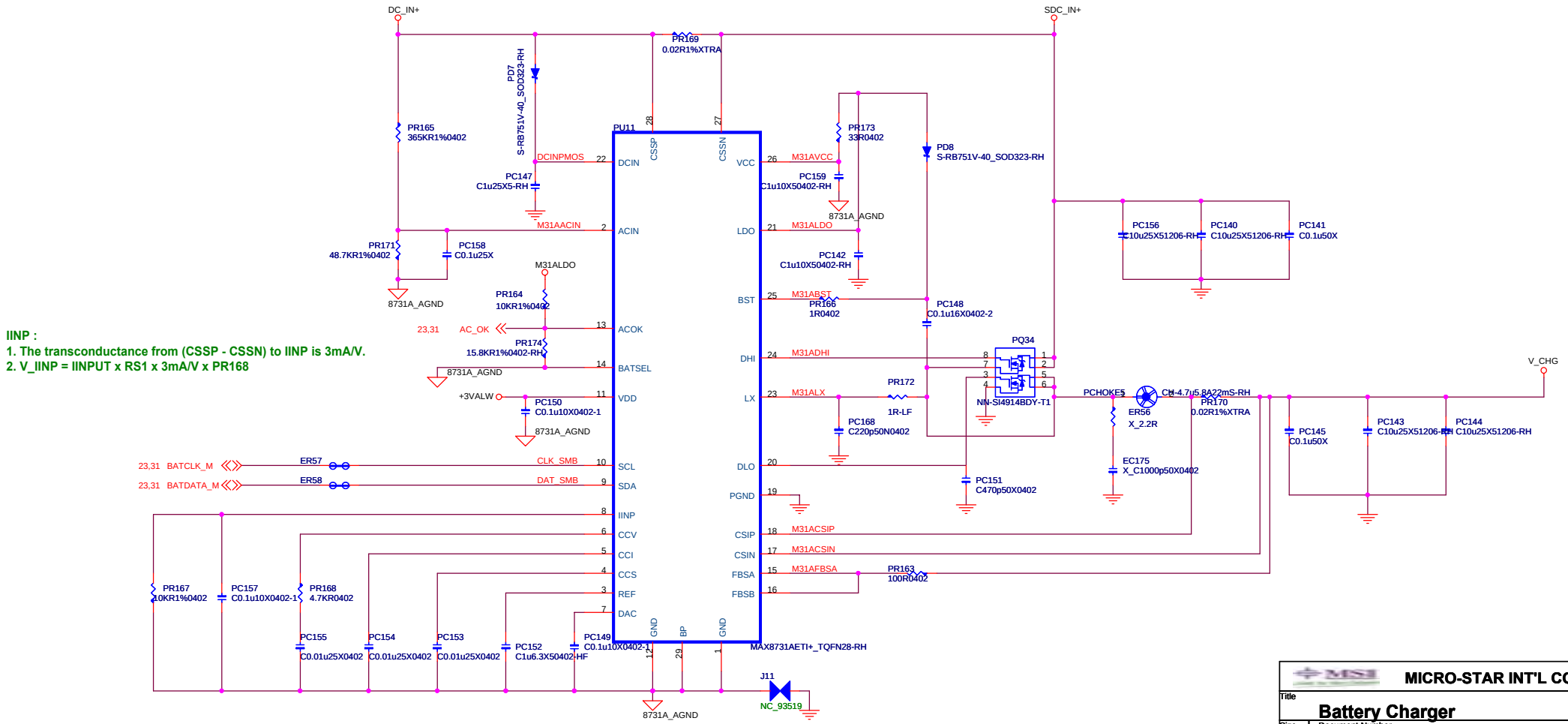
Adapter= 65W
Adapter input voltage set 19 Voltage



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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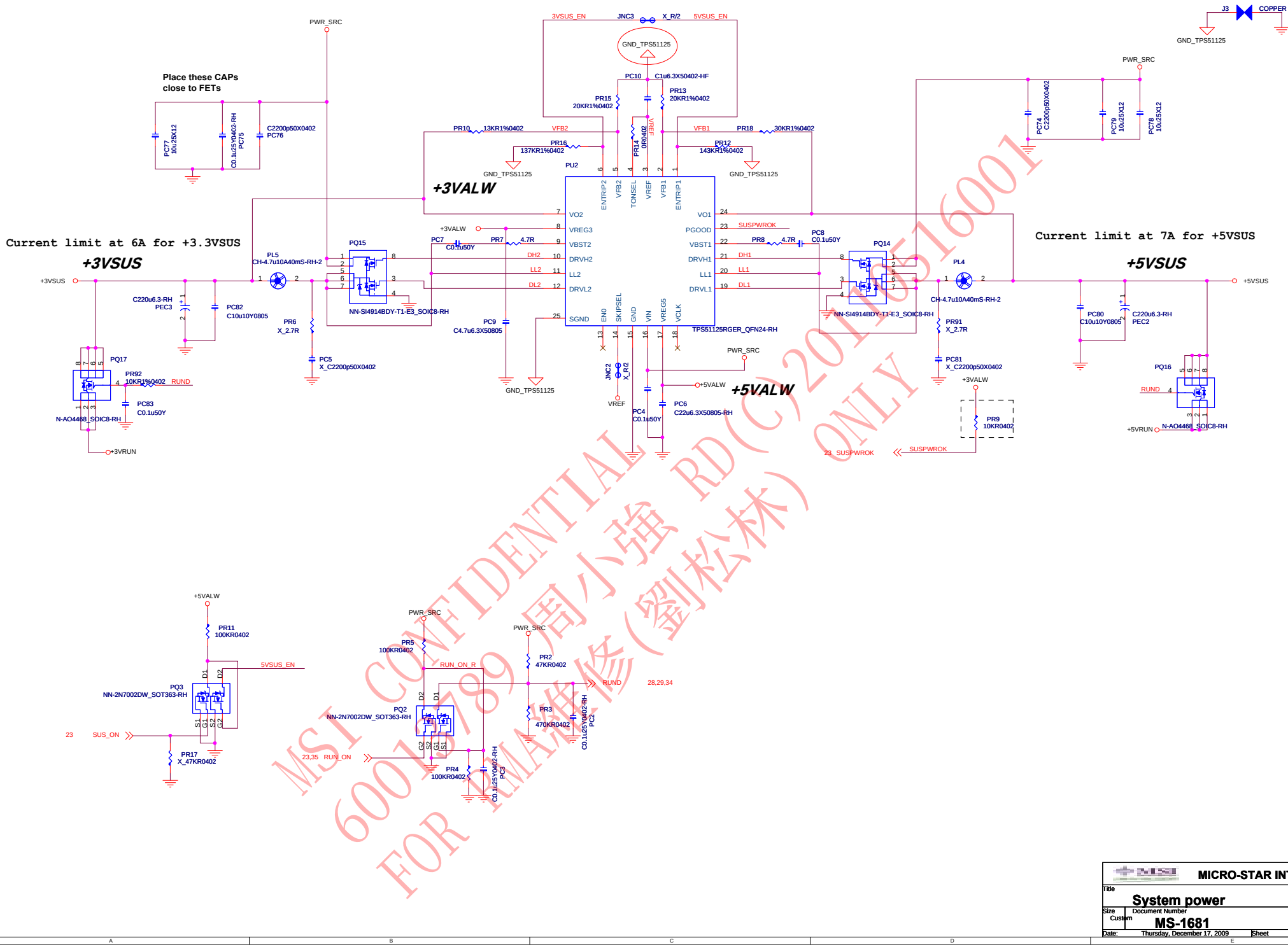

MICRO-STAR INT'L CO.,LTD.

Title: System power

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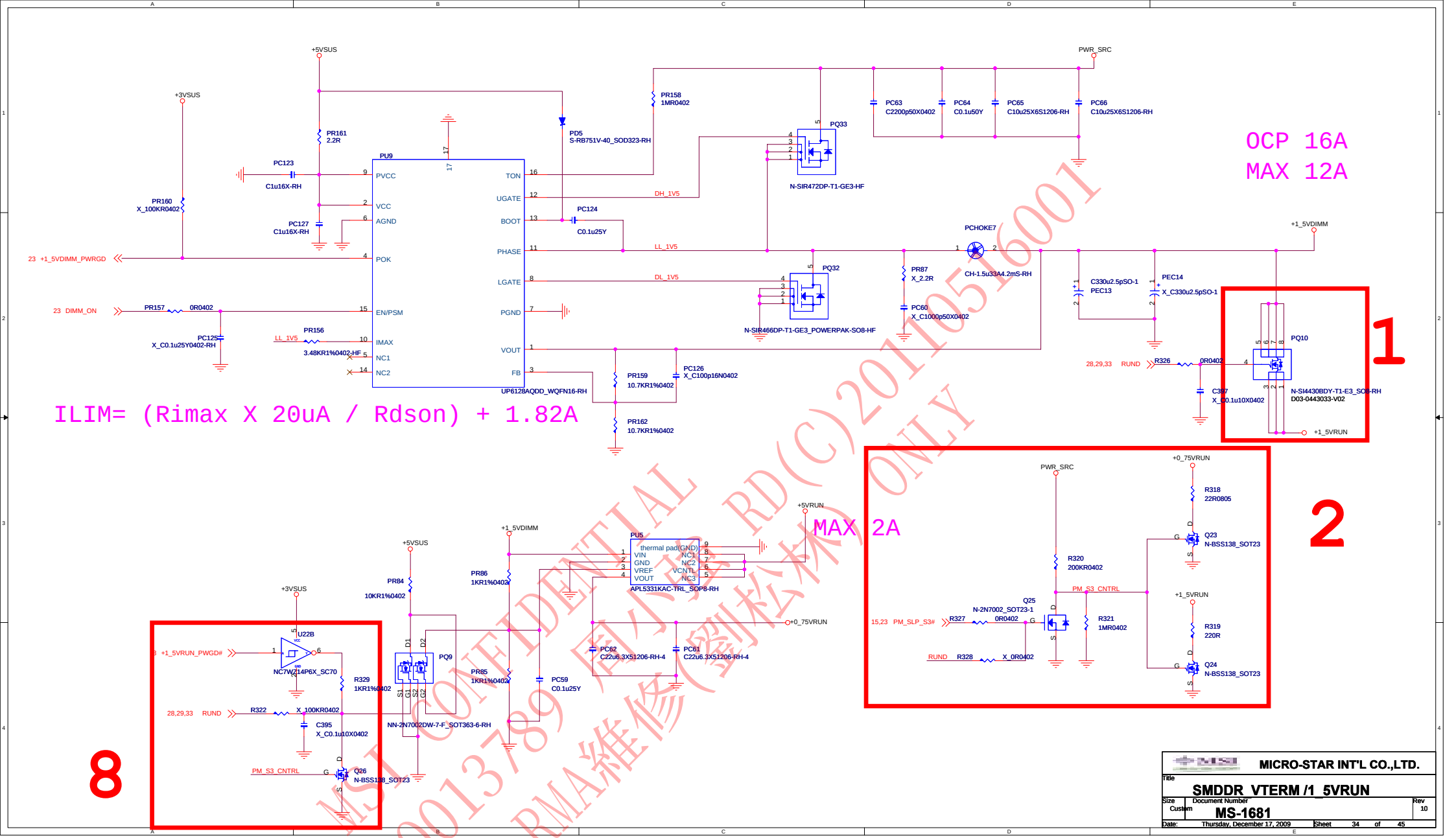

MICRO-STAR INT'L CO.,LTD.

Title: SMDDR_VTERM /1_5VRUN

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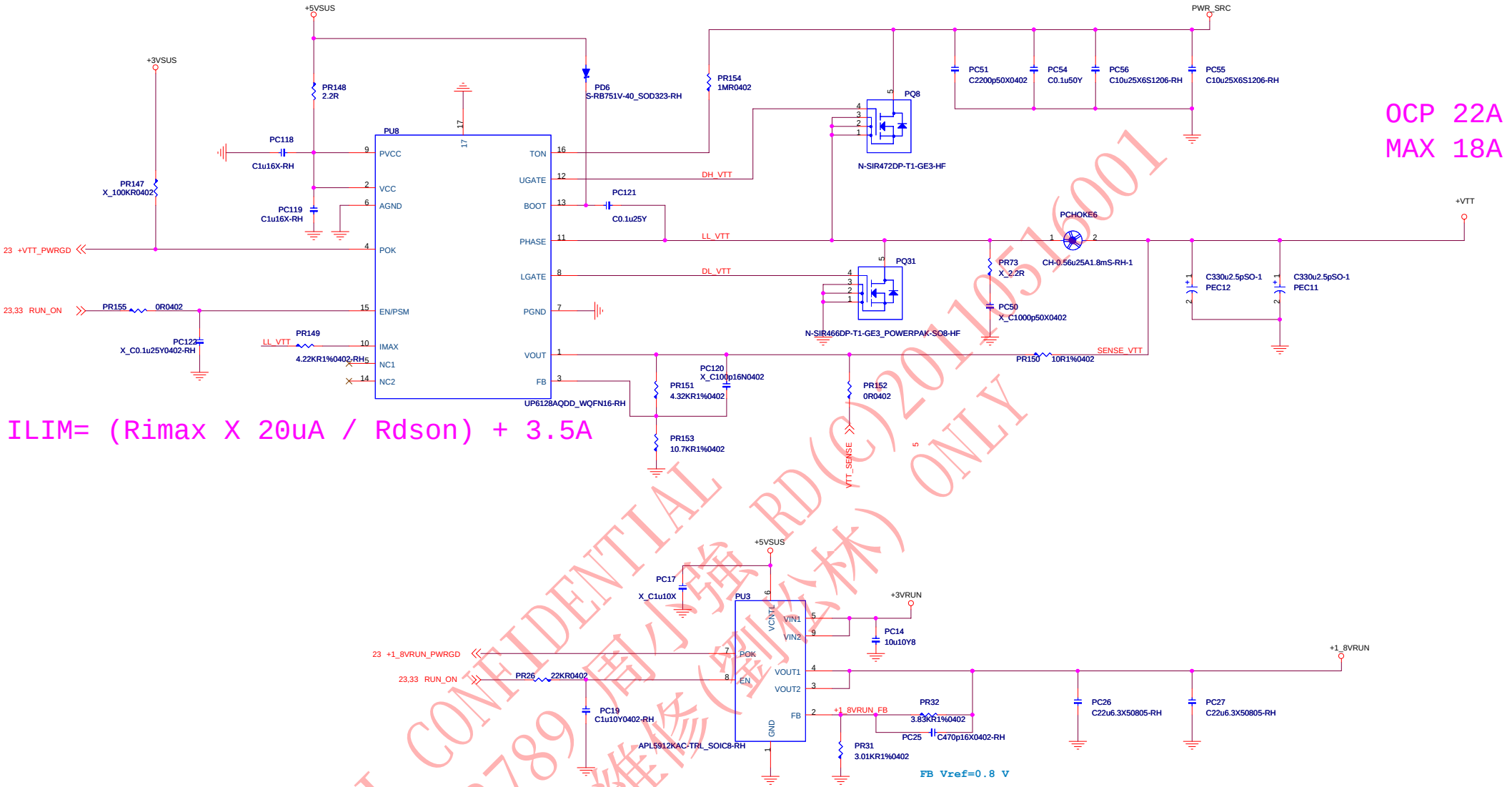

MICRO-STAR INT'L CO.,LTD.

Title: VTT Power,+1.8VRUN

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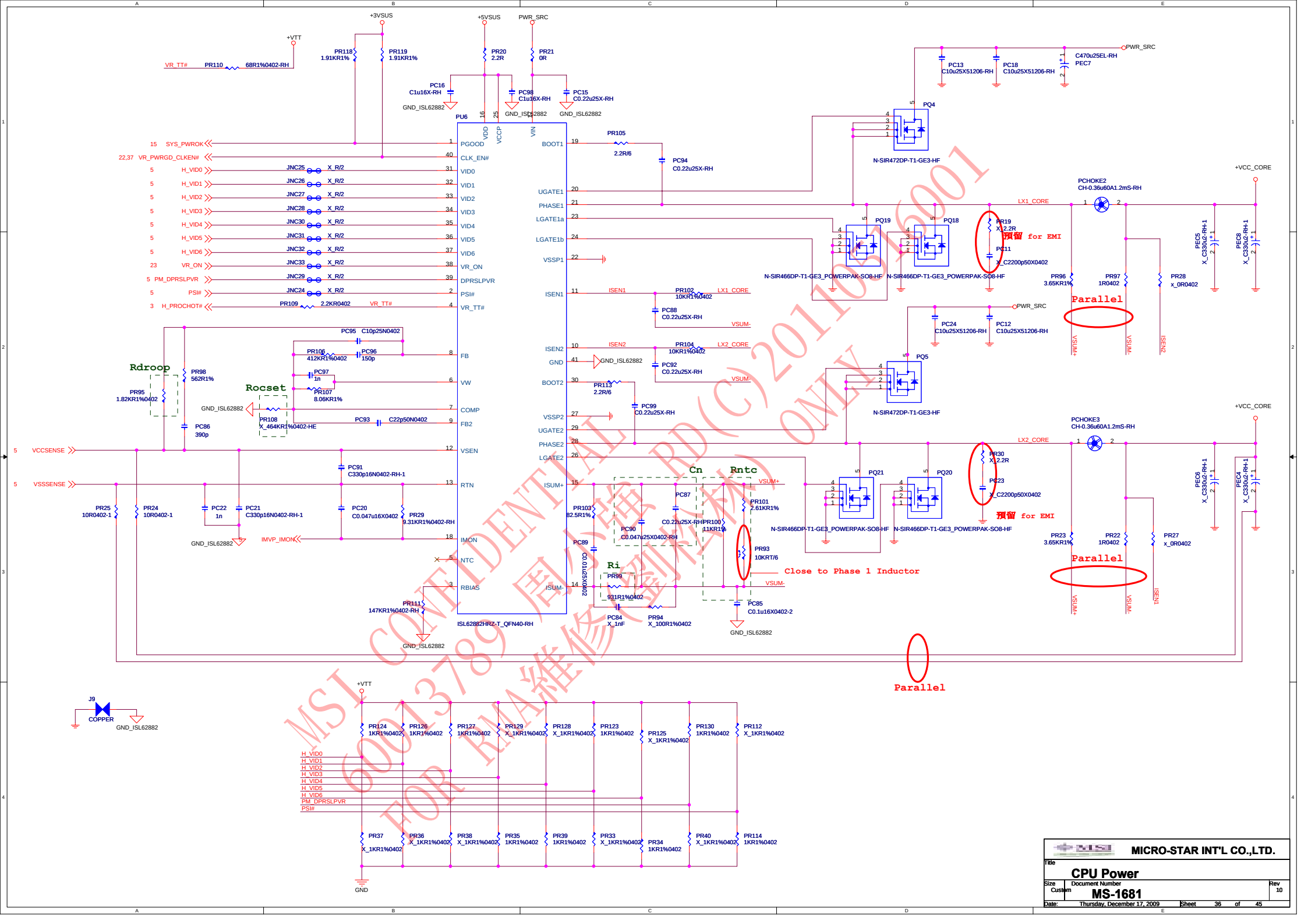
+3VSUS
+5VSUS
PWR_SRC
+VTT
PU6
ISL62882HRZ-T_QFN40-RH
Rdroop
Rocset
Cn
Rntc
Ri
Parallel
Close to Phase 1 Inductor
預留 for EMI
+VCC_CORE
MICRO-STAR INT'L CO.,LTD.
CPU Power
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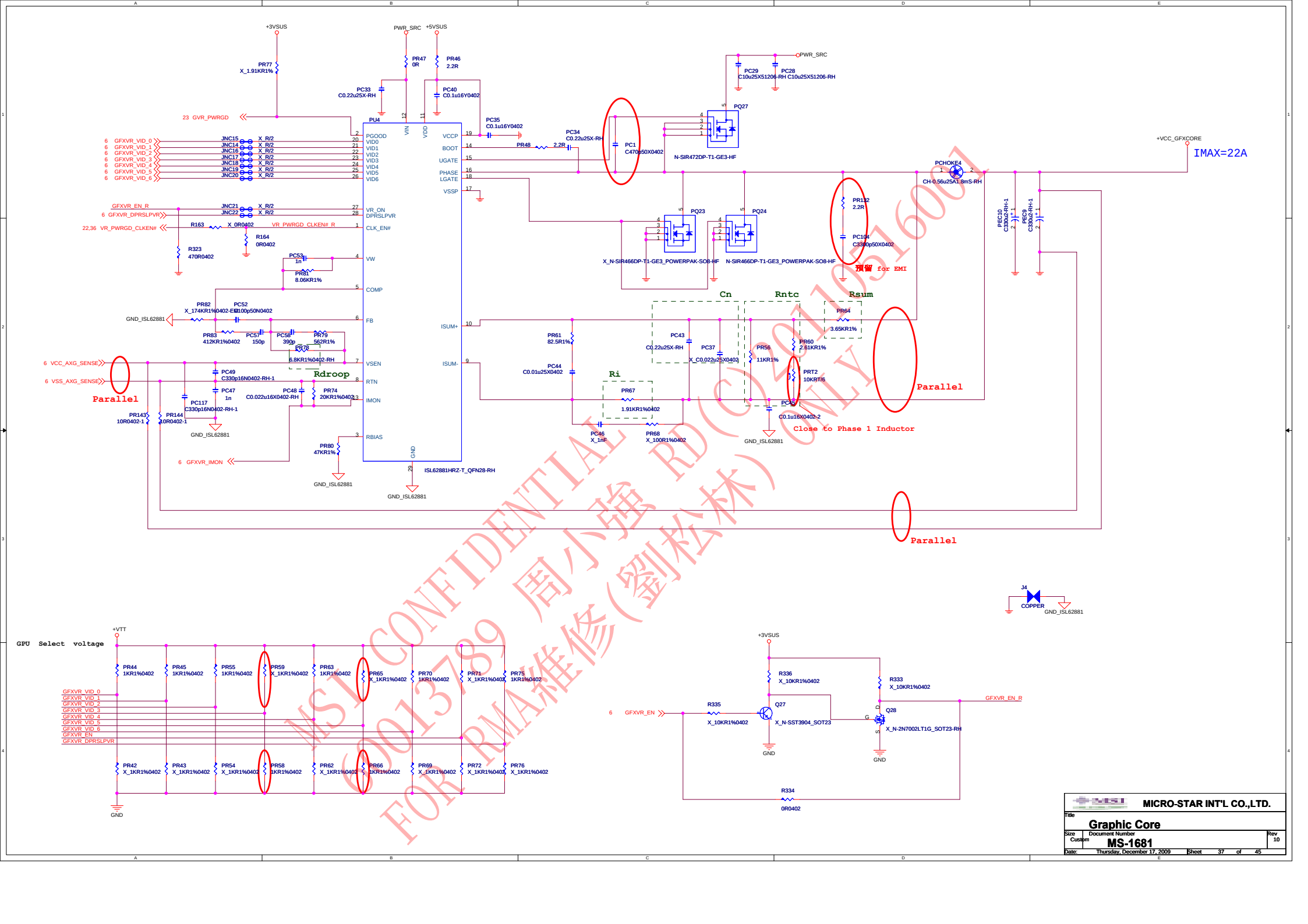

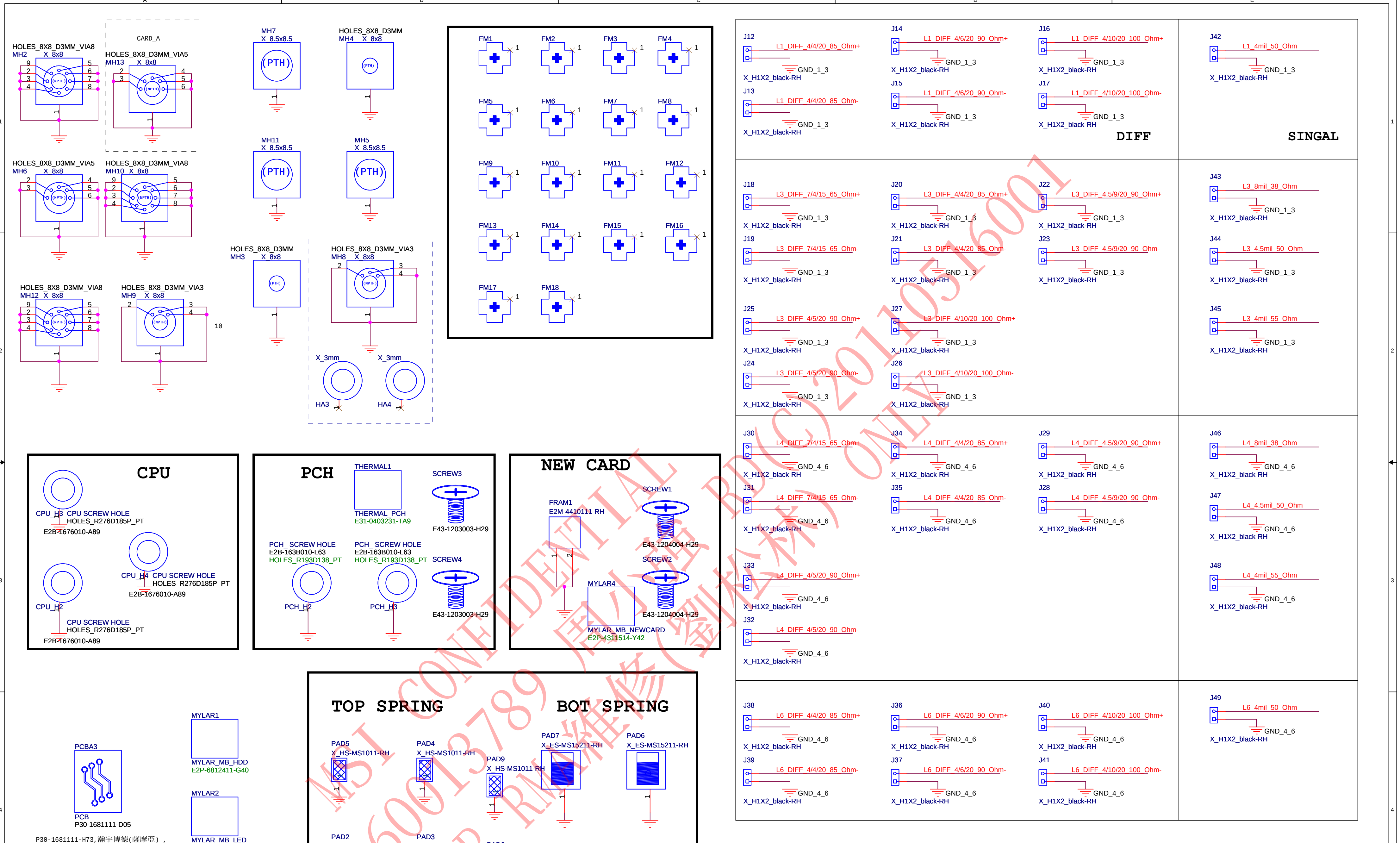

HOLES_8X8_D3MM_VIA8
MH2 X_8x8
CARD_A
HOLES_8X8_D3MM_VIA5
MH13 X_8x8
MH7
X_8.5x8.5
(PTH)
HOLES_8X8_D3MM
MH4 X_8x8
MH11
X_8.5x8.5
MH5
X_8.5x8.5
HOLES_8X8_D3MM_VIA5
MH6 X_8x8
HOLES_8X8_D3MM_VIA8
MH10 X_8x8
HOLES_8X8_D3MM
MH3 X_8x8
HOLES_8X8_D3MM_VIA3
MH8 X_8x8
HOLES_8X8_D3MM_VIA8
MH12 X_8x8
HOLES_8X8_D3MM_VIA3
MH9 X_8x8
X_3mm
HA3
HA4
FM1 FM2 FM3 FM4
FM5 FM6 FM7 FM8
FM9 FM10 FM11 FM12
FM13 FM14 FM15 FM16
FM17 FM18
J12 L1_DIFF_4/4/20_85_Ohm+
J13 L1_DIFF_4/4/20_85_Ohm-
J14 L1_DIFF_4/6/20_90_Ohm+
J15 L1_DIFF_4/6/20_90_Ohm-
J16 L1_DIFF_4/10/20_100_Ohm+
J17 L1_DIFF_4/10/20_100_Ohm-
GND_1_3
X_H1X2_black-RH
DIFF
J42 L1_4mil_50_Ohm
SINGAL
J18 L3_DIFF_7/4/15_65_Ohm+
J19 L3_DIFF_7/4/15_65_Ohm-
J20 L3_DIFF_4/4/20_85_Ohm+
J21 L3_DIFF_4/4/20_85_Ohm-
J22 L3_DIFF_4.5/9/20_90_Ohm+
J23 L3_DIFF_4.5/9/20_90_Ohm-
J43 L3_8mil_38_Ohm
J44 L3_4.5mil_50_Ohm
J25 L3_DIFF_4/5/20_90_Ohm+
J24 L3_DIFF_4/5/20_90_Ohm-
J27 L3_DIFF_4/10/20_100_Ohm+
J26 L3_DIFF_4/10/20_100_Ohm-
J45 L3_4mil_55_Ohm
J30 L4_DIFF_7/4/15_65_Ohm+
J31 L4_DIFF_7/4/15_65_Ohm-
J34 L4_DIFF_4/4/20_85_Ohm+
J35 L4_DIFF_4/4/20_85_Ohm-
J29 L4_DIFF_4.5/9/20_90_Ohm+
J28 L4_DIFF_4.5/9/20_90_Ohm-
J46 L4_8mil_38_Ohm
J47 L4_4.5mil_50_Ohm
J33 L4_DIFF_4/5/20_90_Ohm+
J32 L4_DIFF_4/5/20_90_Ohm-
J48 L4_4mil_55_Ohm
GND_4_6
J38 L6_DIFF_4/4/20_85_Ohm+
J39 L6_DIFF_4/4/20_85_Ohm-
J36 L6_DIFF_4/6/20_90_Ohm+
J37 L6_DIFF_4/6/20_90_Ohm-
J40 L6_DIFF_4/10/20_100_Ohm+
J41 L6_DIFF_4/10/20_100_Ohm-
J49 L6_4mil_50_Ohm
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
THERMAL1
THERMAL_PCH
E31-0403231-TA9
SCREW3
E43-1203003-H29
PCH_ SCREW HOLE
E2B-163B010-L63
HOLES_R193D138_PT
PCH_H2
PCH_H3
SCREW4
E43-1203003-H29
NEW CARD
FRAM1
E2M-4410111-RH
SCREW1
E43-1204004-H29
SCREW2
MYLAR4
MYLAR_MB_NEWCARD
E2P-4311514-Y42
E43-1204004-H29
TOP SPRING
BOT SPRING
PAD5 X_HS-MS1011-RH
PAD4 X_HS-MS1011-RH
PAD9 X_HS-MS1011-RH
PAD7 X_ES-MS15211-RH
PAD6 X_ES-MS15211-RH
PAD2 X_HS-MS1011-RH
PAD3 X_HS-MS1011-RH
PAD8 X_HS-MS1011-RH
PCBA3
PCB
P30-1681111-D05
P30-1681111-H73,瀚宇博德(蘆摩亞)，
P30-1681111-D05,昆穎(定穎大陸)
MYLAR1
MYLAR_MB_HDD
E2P-6812411-G40
MYLAR2
MYLAR_MB_LED
E2M-6812811-G40

MICRO-STAR INT'L CO.,LTD.

Title	Screw/ME	
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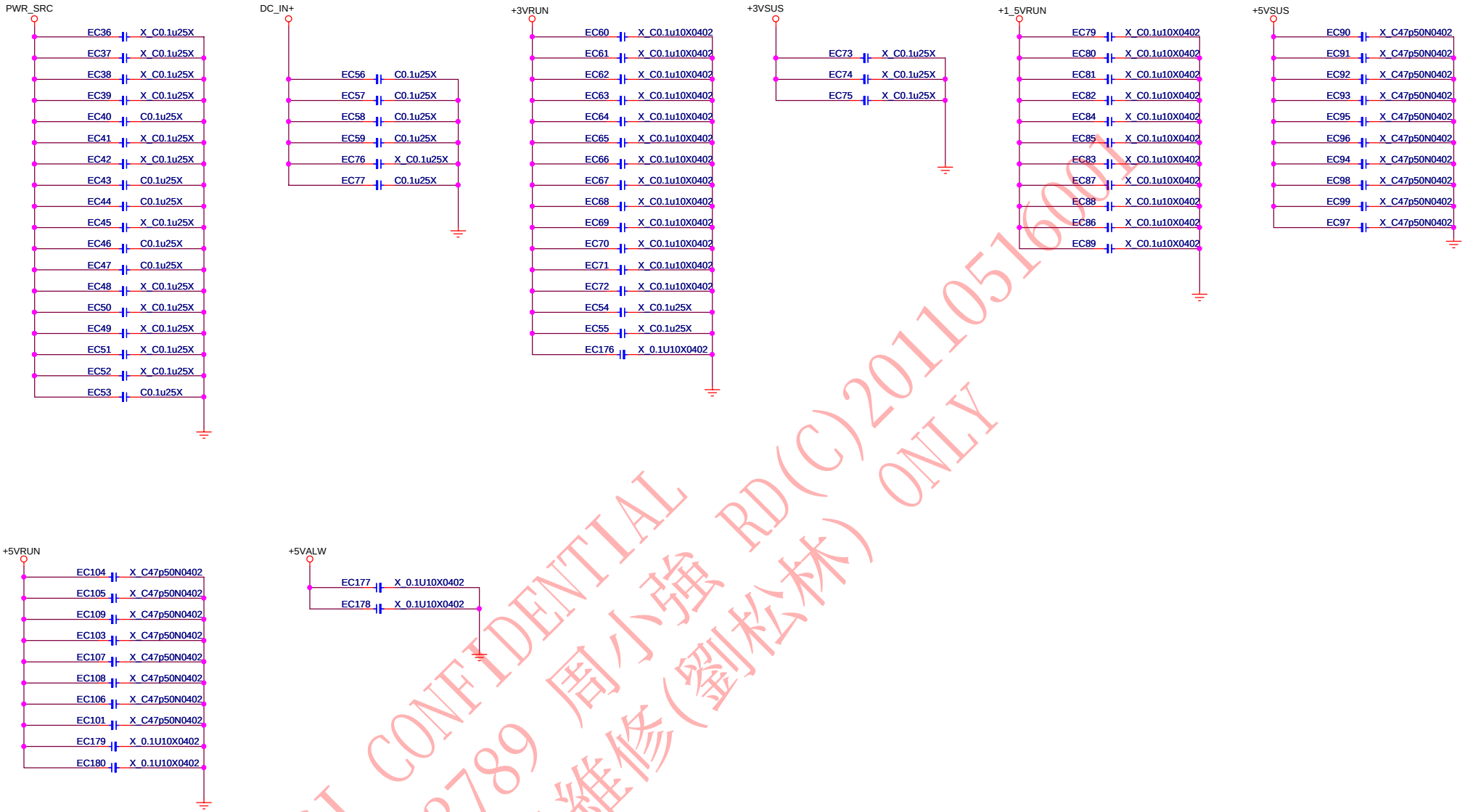

MICRO-STAR INT'L CO.,LTD.

Title: EMI

Size: B | Document Number: MS-1681 | Rev: 10

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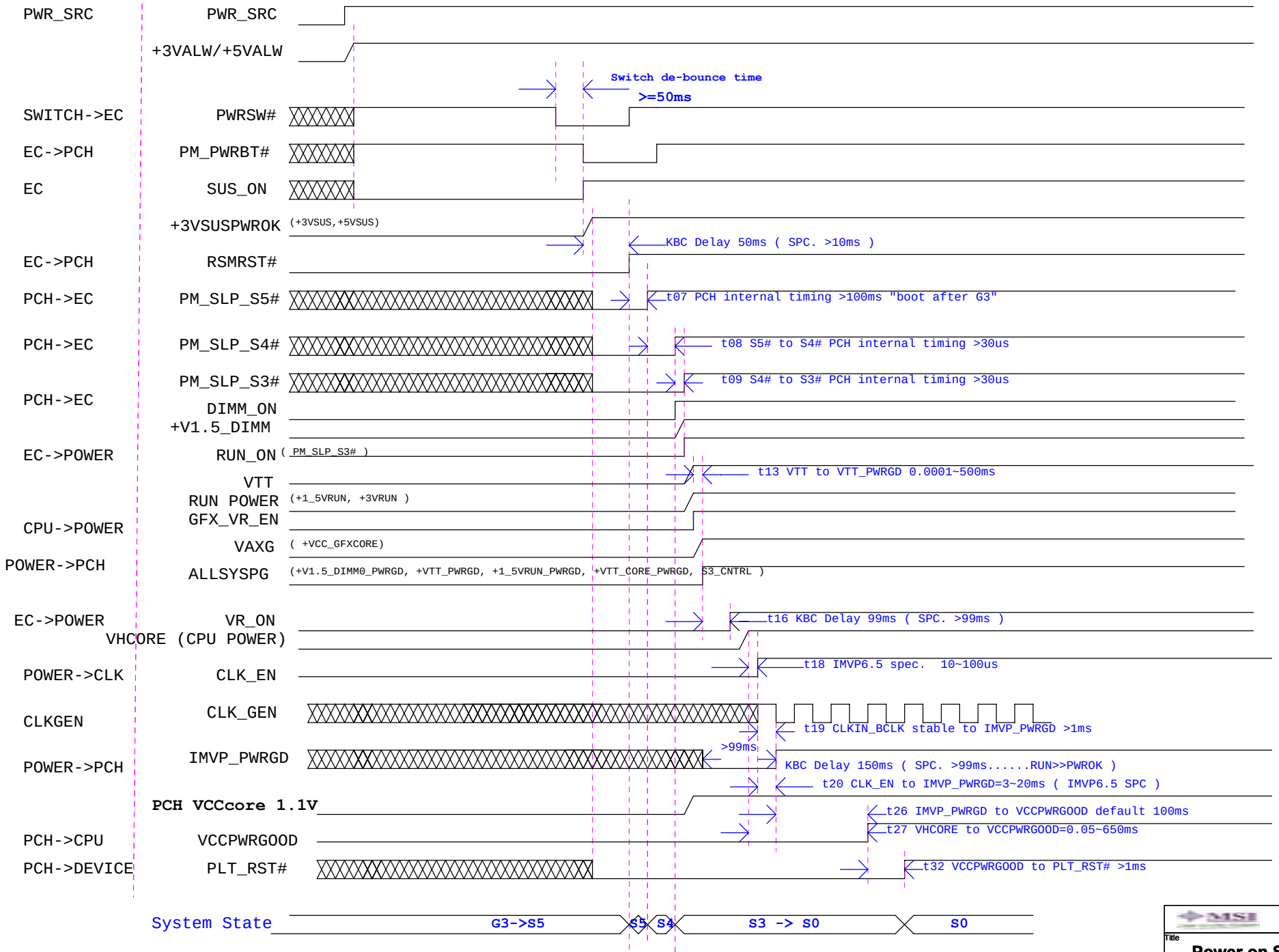
Calpella System Power on Sequence DC mode



MICRO-STAR INT'L CO.,LTD.

Title: Power on Sequency		
Size: A3	Document Number: MS-1681	Rev: 10
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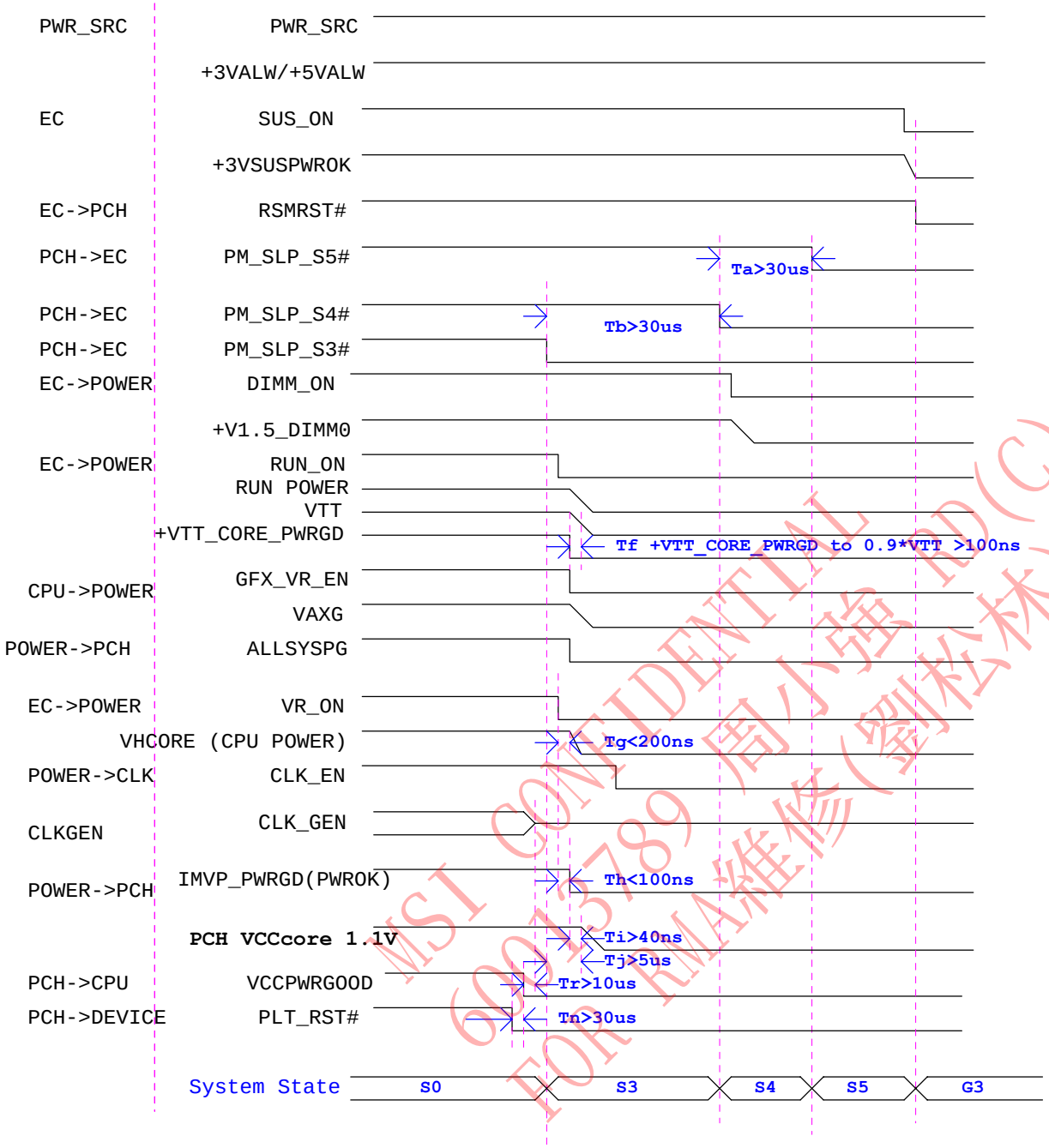
Power down Sequence DC mode S0 to G3



MICRO-STAR INT'L CO.,LTD.

Title: Power on Sequency

Size: A3 | Document Number: MS-1681 | Rev: 10

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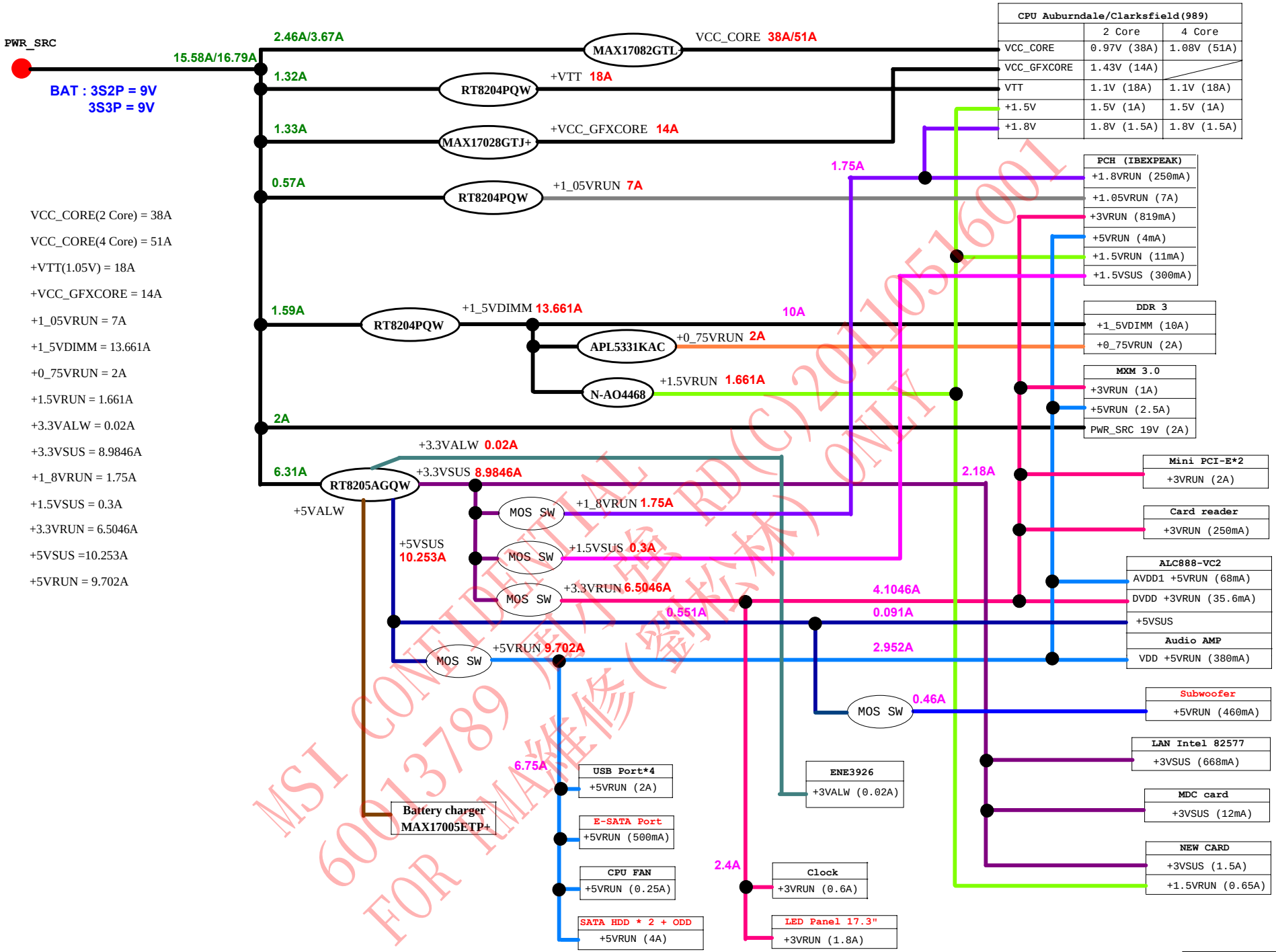

VCC_CORE(2 Core) = 38A

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

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Change Note :

0A-->0B

1.P19 stuff R113 & C85 for intel document about Braidwood

2.P23 add one PWM Pin for co-lay LED panel by EC

3.P25 Change CardReader to ENE

4.P26 Change "LED_HDD#" PU +5VRUN to +3VRUN

5.P26 Fan conn footprint change back to "53398_03"

6.P28 Add Wireless & Bluetooth combo(MS-3870)

7.P32 Change PR171 to 48.7K & PR172 to 1R0603

8.P33 Change PU2 from "UP6182AQAG" to "TPS51125" & PR18 to 30K

9.P34 Change PU9 from "UP6111AQDD" to "UP6128A" & PR156 to 3.48K & PR159 to 10.7K & PQ10 to "D03-0443033-V02"

10.P35 Change PU8 from "UP6111AQDD" to "UP6128A" & PR149 to 4.22K & remove C394

11.P36 Change PR95 to 1.82K & PR29 to 9.31K & PC90 to 47nf & PR99 to 931R & no stuff PC84 , PR94 , PEC4 , PEC5 , PEC6 , PEC8

0B-->10

1.P13 add net "TP_HDA_DOCK_EN#_R" for flash protect control.

2.P14 add wimax ac adepter schematic.

3.P23 add ENE GPIO13 for flash protect control.

4.P25 no stuff C399 & C400 for cardreader detect issus.

5.P26 change R307 from 0R to 33R for EMI.

6.P31 add 2 cap in +VBATA for EMI.

7.P34 change R329 from 0R to 1K for current limit.

8.P37 no stuff +VCC_GFXCOPE PQ23 no cost down.

9.P40 change JNCB2 to RB3 , and 33R for EMI.

10.P40 change CB2 from 0.1u to 300p for EMI.

11.P13 No stuff for MP ver PCH by R289 , R271 , R298 , R291 , R297 , R290.

10-->11

1.P37 add "PC1" & modify "PR12" & "PC104" for power shut down issue.

MICRO-STAR INT'L CO.,LTD.		
Title: NOTE		
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