MS-1688 Ver : 10
Park XT

Calpella Platform

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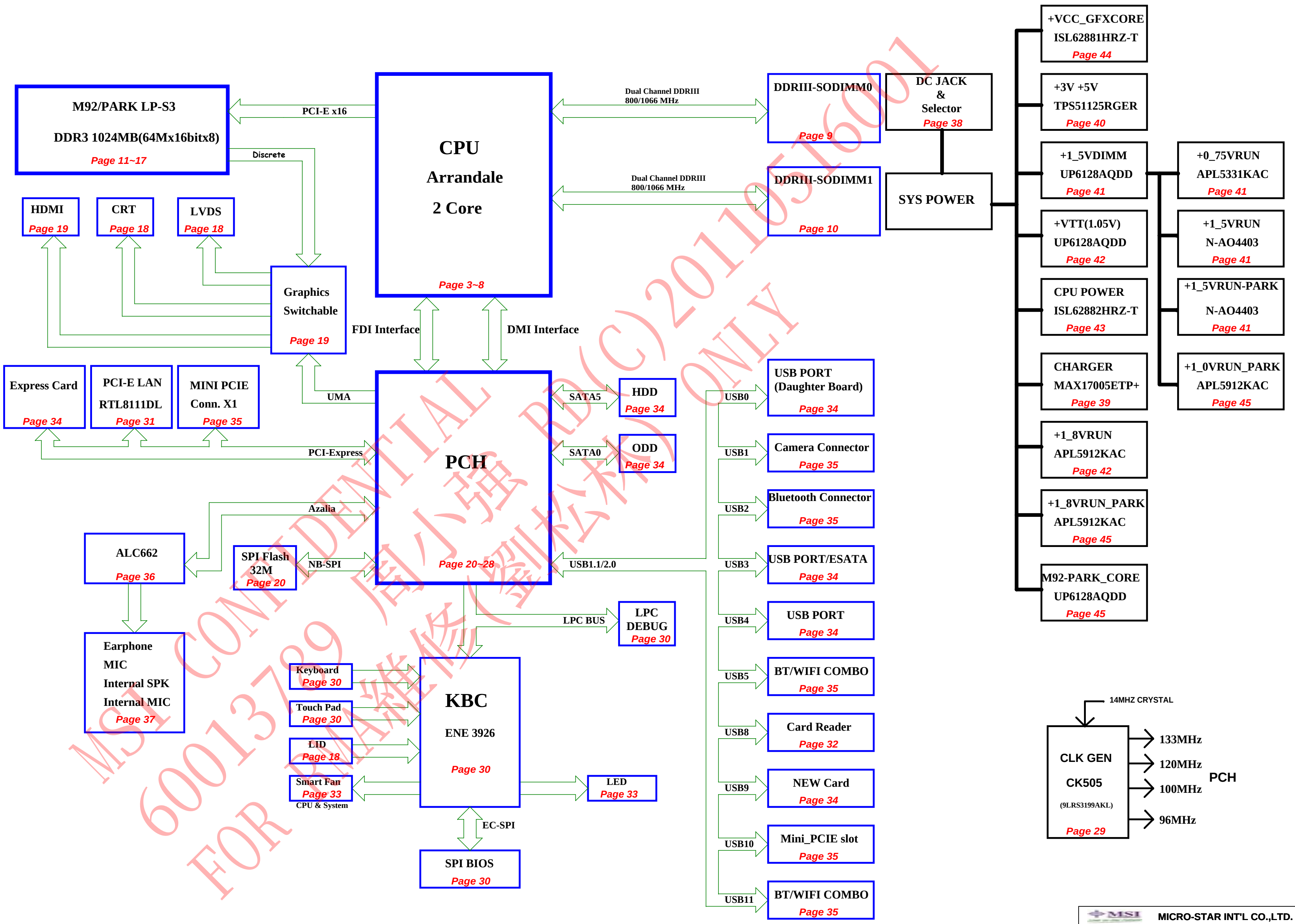

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+3V +5V
TPS51125RGER
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UP6128AQDD
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+0_75VRUN
APL5331KAC
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+VTT(1.05V)
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CLK GEN
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(9LRS3199AKL)
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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)
M92S_VDD_CORE	0.95V	S0	GPU core power
+1_8VRUN_PARK	1.8V	S0	GPU PCIE power
+1_5VRUN_PARK	1.5V	S0	GPU DDR3 power
+1_0VRUN_PARK	1.0V	S0	GPU PCIE power
VDDR3	3.3V	S0	GPU I/O and DAC power

Net Naming Conventions

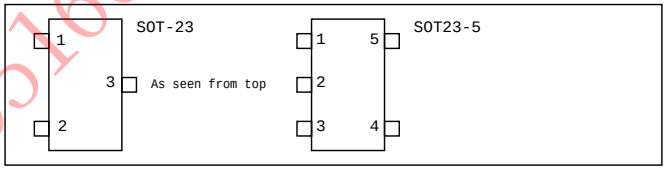
Suffix

\# = 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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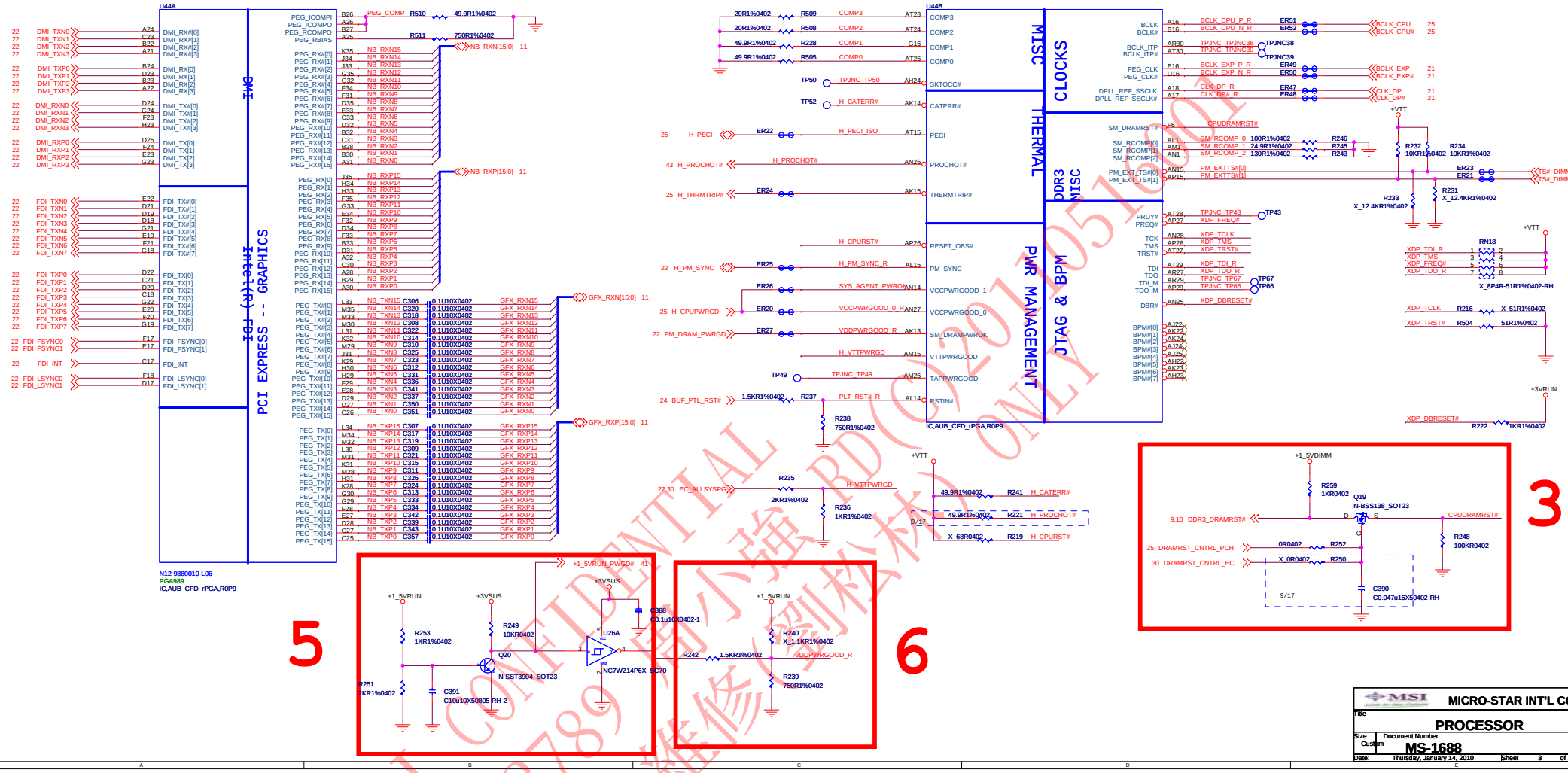
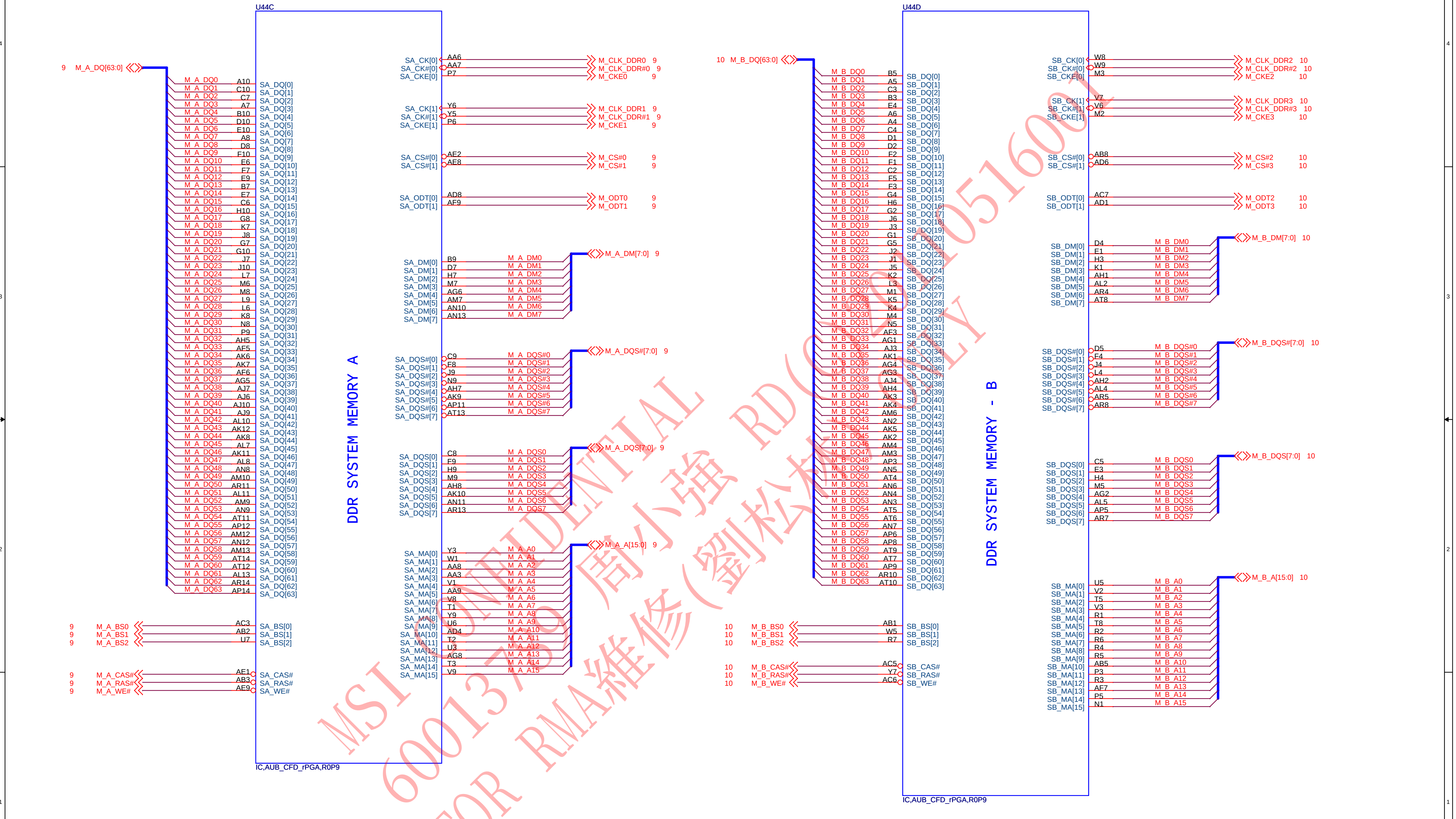
ARRANDALE PROCESSOR (CLK,MISC,JTAG)



ARRANDALE PROCESSOR (DDR3)



U44C
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M_A_DQ0 A10 SA_DQ[0]
M_A_DQ1 C10 SA_DQ[1]
M_A_DQ2 C7 SA_DQ[2]
M_A_DQ3 A7 SA_DQ[3]
M_A_DQ4 B10 SA_DQ[4]
M_A_DQ5 D10 SA_DQ[5]
M_A_DQ6 E10 SA_DQ[6]
M_A_DQ7 A8 SA_DQ[7]
M_A_DQ8 D8 SA_DQ[8]
M_A_DQ9 F10 SA_DQ[9]
M_A_DQ10 E6 SA_DQ[10]
M_A_DQ11 F7 SA_DQ[11]
M_A_DQ12 E9 SA_DQ[12]
M_A_DQ13 B7 SA_DQ[13]
M_A_DQ14 E7 SA_DQ[14]
M_A_DQ15 C6 SA_DQ[15]
M_A_DQ16 H10 SA_DQ[16]
M_A_DQ17 G8 SA_DQ[17]
M_A_DQ18 K7 SA_DQ[18]
M_A_DQ19 J8 SA_DQ[19]
M_A_DQ20 G7 SA_DQ[20]
M_A_DQ21 G10 SA_DQ[21]
M_A_DQ22 J7 SA_DQ[22]
M_A_DQ23 J10 SA_DQ[23]
M_A_DQ24 L7 SA_DQ[24]
M_A_DQ25 M6 SA_DQ[25]
M_A_DQ26 M8 SA_DQ[26]
M_A_DQ27 L9 SA_DQ[27]
M_A_DQ28 L6 SA_DQ[28]
M_A_DQ29 K8 SA_DQ[29]
M_A_DQ30 N8 SA_DQ[30]
M_A_DQ31 P9 SA_DQ[31]
M_A_DQ32 AH5 SA_DQ[32]
M_A_DQ33 AF5 SA_DQ[33]
M_A_DQ34 AK6 SA_DQ[34]
M_A_DQ35 AK7 SA_DQ[35]
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M_A_DQ37 AG5 SA_DQ[37]
M_A_DQ38 AJ7 SA_DQ[38]
M_A_DQ39 AJ6 SA_DQ[39]
M_A_DQ40 AJ10 SA_DQ[40]
M_A_DQ41 AJ9 SA_DQ[41]
M_A_DQ42 AL10 SA_DQ[42]
M_A_DQ43 AK12 SA_DQ[43]
M_A_DQ44 AK8 SA_DQ[44]
M_A_DQ45 AL7 SA_DQ[45]
M_A_DQ46 AK11 SA_DQ[46]
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M_A_DQ57 AN12 SA_DQ[57]
M_A_DQ58 AM13 SA_DQ[58]
M_A_DQ59 AT14 SA_DQ[59]
M_A_DQ60 AT12 SA_DQ[60]
M_A_DQ61 AL13 SA_DQ[61]
M_A_DQ62 AR14 SA_DQ[62]
M_A_DQ63 AP14 SA_DQ[63]
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9 M_A_BS1 AB2 SA_BS[1]
9 M_A_BS2 U7 SA_BS[2]
9 M_A_CAS# AE1 SA_CAS#
9 M_A_RAS# AB3 SA_RAS#
9 M_A_WE# AE9 SA_WE#
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SA_CK#[0] AA7 M_CLK_DDR#0 9
SA_CKE[0] P7 M_CKE0 9
SA_CK[1] Y6 M_CLK_DDR1 9
SA_CK#[1] Y5 M_CLK_DDR#1 9
SA_CKE[1] P6 M_CKE1 9
SA_CS#[0] AE2 M_CS#0 9
SA_CS#[1] AE8 M_CS#1 9
SA_ODT[0] AD8 M_ODT0 9
SA_ODT[1] AF9 M_ODT1 9
M_A_DM[7:0] 9
SA_DM[0] B9 M_A_DM0
SA_DM[1] D7 M_A_DM1
SA_DM[2] H7 M_A_DM2
SA_DM[3] M7 M_A_DM3
SA_DM[4] AG6 M_A_DM4
SA_DM[5] AM7 M_A_DM5
SA_DM[6] AN10 M_A_DM6
SA_DM[7] AN13 M_A_DM7
M_A_DQS#[7:0] 9
SA_DQS#[0] C9 M_A_DQS#0
SA_DQS#[1] F8 M_A_DQS#1
SA_DQS#[2] J9 M_A_DQS#2
SA_DQS#[3] N9 M_A_DQS#3
SA_DQS#[4] AH7 M_A_DQS#4
SA_DQS#[5] AK9 M_A_DQS#5
SA_DQS#[6] AP11 M_A_DQS#6
SA_DQS#[7] AT13 M_A_DQS#7
M_A_DQS[7:0] 9
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SA_DQS[2] H9 M_A_DQS2
SA_DQS[3] M9 M_A_DQS3
SA_DQS[4] AH8 M_A_DQS4
SA_DQS[5] AK10 M_A_DQS5
SA_DQS[6] AN11 M_A_DQS6
SA_DQS[7] AR13 M_A_DQS7
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SA_MA[1] W1 M_A_A1
SA_MA[2] AA8 M_A_A2
SA_MA[3] AA3 M_A_A3
SA_MA[4] V1 M_A_A4
SA_MA[5] AA9 M_A_A5
SA_MA[6] V8 M_A_A6
SA_MA[7] T1 M_A_A7
SA_MA[8] Y9 M_A_A8
SA_MA[9] U6 M_A_A9
SA_MA[10] AD4 M_A_A10
SA_MA[11] T2 M_A_A11
SA_MA[12] U3 M_A_A12
SA_MA[13] AG8 M_A_A13
SA_MA[14] T3 M_A_A14
SA_MA[15] V9 M_A_A15
DDR SYSTEM MEMORY A
IC,AUB_CFD_rPGA,R0P9
U44D
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M_B_DQ0 B5 SB_DQ[0]
M_B_DQ1 A5 SB_DQ[1]
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M_B_DQ9 D2 SB_DQ[9]
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M_B_DQ18 J6 SB_DQ[18]
M_B_DQ19 J3 SB_DQ[19]
M_B_DQ20 G1 SB_DQ[20]
M_B_DQ21 G5 SB_DQ[21]
M_B_DQ22 J2 SB_DQ[22]
M_B_DQ23 J1 SB_DQ[23]
M_B_DQ24 J5 SB_DQ[24]
M_B_DQ25 K2 SB_DQ[25]
M_B_DQ26 L3 SB_DQ[26]
M_B_DQ27 M1 SB_DQ[27]
M_B_DQ28 K5 SB_DQ[28]
M_B_DQ29 K4 SB_DQ[29]
M_B_DQ30 M4 SB_DQ[30]
M_B_DQ31 N5 SB_DQ[31]
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M_B_DQ33 AG1 SB_DQ[33]
M_B_DQ34 AJ3 SB_DQ[34]
M_B_DQ35 AK1 SB_DQ[35]
M_B_DQ36 AG4 SB_DQ[36]
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M_B_DQ41 AK4 SB_DQ[41]
M_B_DQ42 AM6 SB_DQ[42]
M_B_DQ43 AN2 SB_DQ[43]
M_B_DQ44 AK5 SB_DQ[44]
M_B_DQ45 AK2 SB_DQ[45]
M_B_DQ46 AM4 SB_DQ[46]
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M_B_DQ56 AN7 SB_DQ[56]
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M_B_DQ58 AP8 SB_DQ[58]
M_B_DQ59 AT9 SB_DQ[59]
M_B_DQ60 AT7 SB_DQ[60]
M_B_DQ61 AP9 SB_DQ[61]
M_B_DQ62 AR10 SB_DQ[62]
M_B_DQ63 AT10 SB_DQ[63]
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10 M_B_BS1 W5 SB_BS[1]
10 M_B_BS2 R7 SB_BS[2]
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10 M_B_RAS# Y7 SB_RAS#
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SB_CK[1] V7 M_CLK_DDR3 10
SB_CK#[1] V6 M_CLK_DDR#3 10
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SB_CS#[1] AD6 M_CS#3 10
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SB_ODT[1] AD1 M_ODT3 10
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SB_DM[0] D4 M_B_DM0
SB_DM[1] E1 M_B_DM1
SB_DM[2] H3 M_B_DM2
SB_DM[3] K1 M_B_DM3
SB_DM[4] AH1 M_B_DM4
SB_DM[5] AL2 M_B_DM5
SB_DM[6] AR4 M_B_DM6
SB_DM[7] AT8 M_B_DM7
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SB_DQS#[2] J4 M_B_DQS#2
SB_DQS#[3] L4 M_B_DQS#3
SB_DQS#[4] AH2 M_B_DQS#4
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SB_DQS#[6] AR5 M_B_DQS#6
SB_DQS#[7] AR8 M_B_DQS#7
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SB_DQS[2] H4 M_B_DQS2
SB_DQS[3] M5 M_B_DQS3
SB_DQS[4] AG2 M_B_DQS4
SB_DQS[5] AL5 M_B_DQS5
SB_DQS[6] AP5 M_B_DQS6
SB_DQS[7] AR7 M_B_DQS7
M_B_A[15:0] 10
SB_MA[0] U5 M_B_A0
SB_MA[1] V2 M_B_A1
SB_MA[2] T5 M_B_A2
SB_MA[3] V3 M_B_A3
SB_MA[4] R1 M_B_A4
SB_MA[5] T8 M_B_A5
SB_MA[6] R2 M_B_A6
SB_MA[7] R6 M_B_A7
SB_MA[8] R4 M_B_A8
SB_MA[9] R5 M_B_A9
SB_MA[10] AB5 M_B_A10
SB_MA[11] P3 M_B_A11
SB_MA[12] R3 M_B_A12
SB_MA[13] AF7 M_B_A13
SB_MA[14] P5 M_B_A14
SB_MA[15] N1 M_B_A15
DDR SYSTEM MEMORY - B
IC,AUB_CFD_rPGA,R0P9

MICRO-STAR INT'L CO.,LTD.

Title: DDR3

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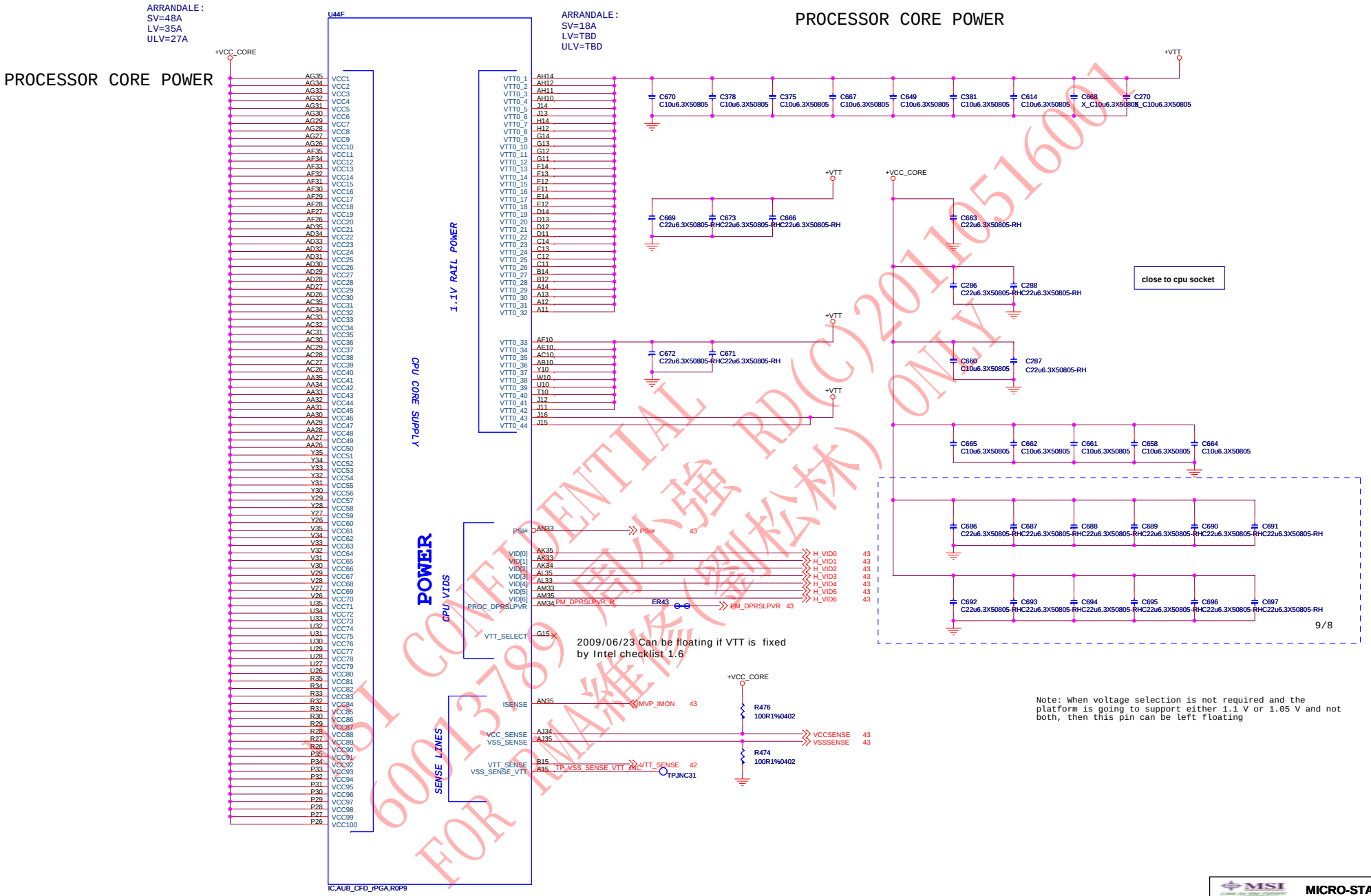
ARRANDALE PROCESSOR (POWER)



MSI MICRO-STAR INT'L CO.,LTD.

Title: PROCESSOR POWER

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ARRANDALE PROCESSOR (GRAPHICS POWER)

ARRANDALE:
SV=15A
LV=TBD
ULV=TBD

I=14A

+VCC_GFXCORE

C674 X_C22u6.3X50805-RH
C359 X_C22u6.3X50805-RH
C361 X_C22u6.3X50805-RH
C675 C10u6.3X50805
C656 C22u6.3X50805-RH
C655 C22u6.3X50805-RH
C373 C10u6.3X50805
C657 X_C10u6.3X50805

12/01 For DFM
12/01 For DFM

U44G

VAXG1 AT21
VAXG2 AT19
VAXG3 AT18
VAXG4 AT16
VAXG5 AR21
VAXG6 AR19
VAXG7 AR18
VAXG8 AR16
VAXG9 AP21
VAXG10 AP19
VAXG11 AP18
VAXG12 AP16
VAXG13 AN21
VAXG14 AN19
VAXG15 AN18
VAXG16 AN16
VAXG17 AM21
VAXG18 AM19
VAXG19 AM18
VAXG20 AM16
VAXG21 AL21
VAXG22 AL19
VAXG23 AL18
VAXG24 AL16
VAXG25 AK21
VAXG26 AK19
VAXG27 AK18
VAXG28 AK16
VAXG29 AJ21
VAXG30 AJ19
VAXG31 AJ18
VAXG32 AJ16
VAXG33 AH21
VAXG34 AH19
VAXG35 AH18
VAXG36 AH16

GRAPHICS

SENSE LINES
VAXG_SENSE AR22
VSSAXG_SENSE AT22

VCC_AXG_SENSE 44
VSS_AXG_SENSE 44

GRAPHICS VIDs
GFX_VID[0] AM22
GFX_VID[1] AP22
GFX_VID[2] AN22
GFX_VID[3] AP23
GFX_VID[4] AM23
GFX_VID[5] AP24
GFX_VID[6] AN24

GFXVR_VID_0 44
GFXVR_VID_1 44
GFXVR_VID_2 44
GFXVR_VID_3 44
GFXVR_VID_4 44
GFXVR_VID_5 44
GFXVR_VID_6 44

GFX_VR_EN AR25
GFX_DPRSLPVR AT25
GFX_IMON AM24

GFXVR_DPRSLPVR_R 0R0402 R506

GFXVR_EN 44
GFXVR_DPRSLPVR 44
GFXVR_IMON 44

1

ARRANDALE:
3A

+1_5VRUN

VDDQ1 AJ1
VDDQ2 AF1
VDDQ3 AE7
VDDQ4 AF4
VDDQ5 AC1
VDDQ6 AB7
VDDQ7 AB4
VDDQ8 Y1
VDDQ9 W7
VDDQ10 W4
VDDQ11 U1
VDDQ12 T7
VDDQ13 T4
VDDQ14 P1
VDDQ15 N7
VDDQ16 N4
VDDQ17 L1
VDDQ18 H1

DDR3 - 1.5V RAILS

C385 C1u16X-RH
C384 C1u16X-RH
C382 C1u16X-RH
C377 C1u16X-RH
C380 C1u16X-RH
C386 C22u6.3X50805-RH
C383 C22u6.3X50805-RH
C389 C330u2.5pSO-1

+VTT

C363 C22u6.3X50805-RH
C364 C22u6.3X50805-RH

J24 VTT1_45
J23 VTT1_46
H25 VTT1_47

FDI

POWER

+VTT

C360 C22u6.3X50805-RH
C376 C22u6.3X50805-RH
C659 C22u6.3X50805-RH
C652 C22u6.3X50805-RH

K26 VTT1_48
J27 VTT1_49
J26 VTT1_50
J25 VTT1_51
H27 VTT1_52
G28 VTT1_53
G27 VTT1_54
G26 VTT1_55
F26 VTT1_56
E26 VTT1_57
E25 VTT1_58

PEG & DMI

VTT0_59 P10
VTT0_60 N10
VTT0_61 L10
VTT0_62 K10

+VTT

C362 C10u6.3X5-RH
C371 C10u6.3X5-RH

VTT1_63 J22
VTT1_64 J20
VTT1_65 J18
VTT1_66 H21
VTT1_67 H20
VTT1_68 H19

+VTT

C367 C22u6.3X50805-RH
C368 C22u6.3X50805-RH

1.1V

VCCPLL1 L26
VCCPLL2 L27
VCCPLL3 M26

+1_8VRUN

C345 C1u16X-RH
C346 C1u16X-RH
C347 C2.2u6.3X5
C348 C4.7u6.3X
C349 C22u6.3X50805-RH

ARRANDALE:
0.6A

1.8V

IC_AUB_CFD_rPGA_R0P9

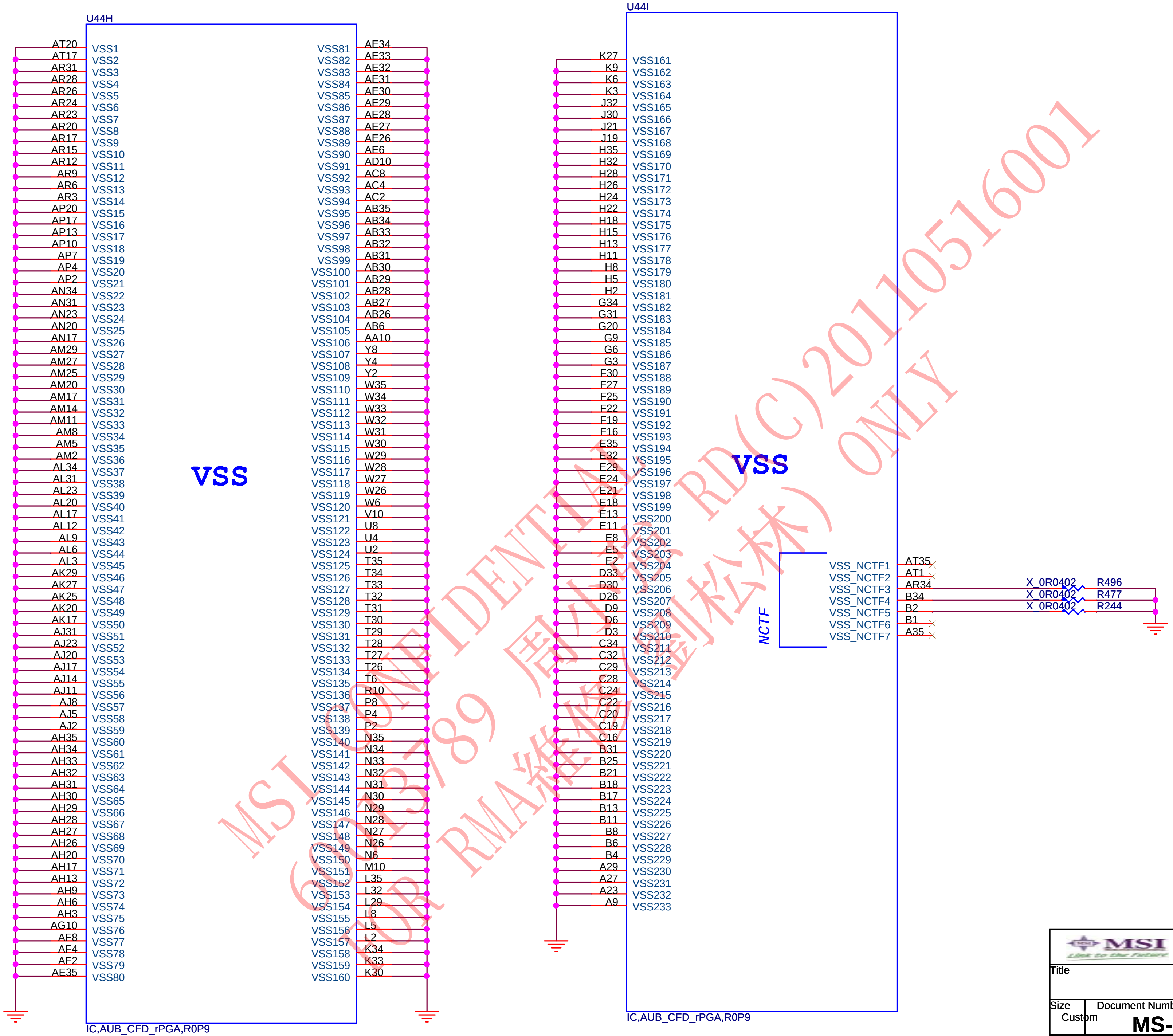
MICRO-STAR INT'L CO.,LTD.

Title: GRAPHICS POWER

Size: Custom | Document Number: MS-1688 | Rev: 10

Date: Thursday, January 14, 2010 | Sheet 6 of 53

ARRANDALE PROCESSOR (GND)



U44H
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
U44I
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 R496
X_0R0402 R477
X_0R0402 R244
IC,AUB_CFD_rPGA,R0P9

MICRO-STAR INT'L CO.,LTD.

Title	PROCESSOR GND	
Size: Custom	Document Number: MS-1688	Rev: 10
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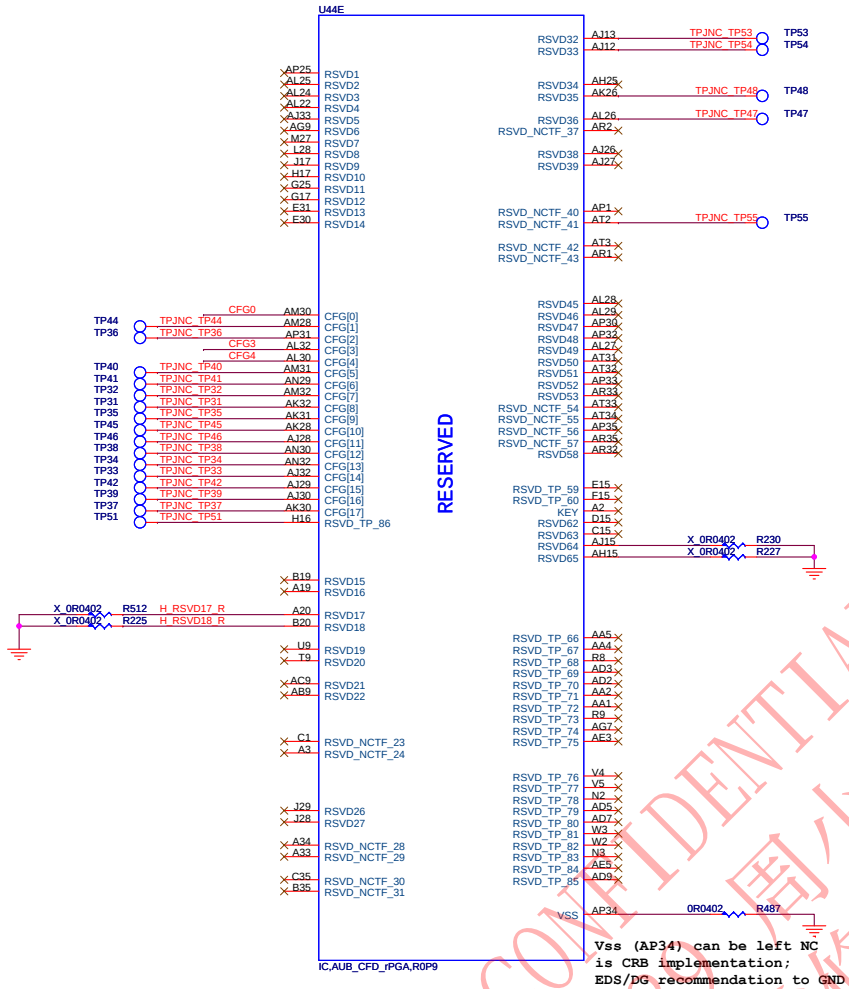
ARRANDALE PROCESSOR (RESERVED)



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 — R212 X_3.01KR1%0402

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

CFG3 — STUFF — R213 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 — R214 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

Size: Custom | Document Number: MS-1688 | Rev: 10

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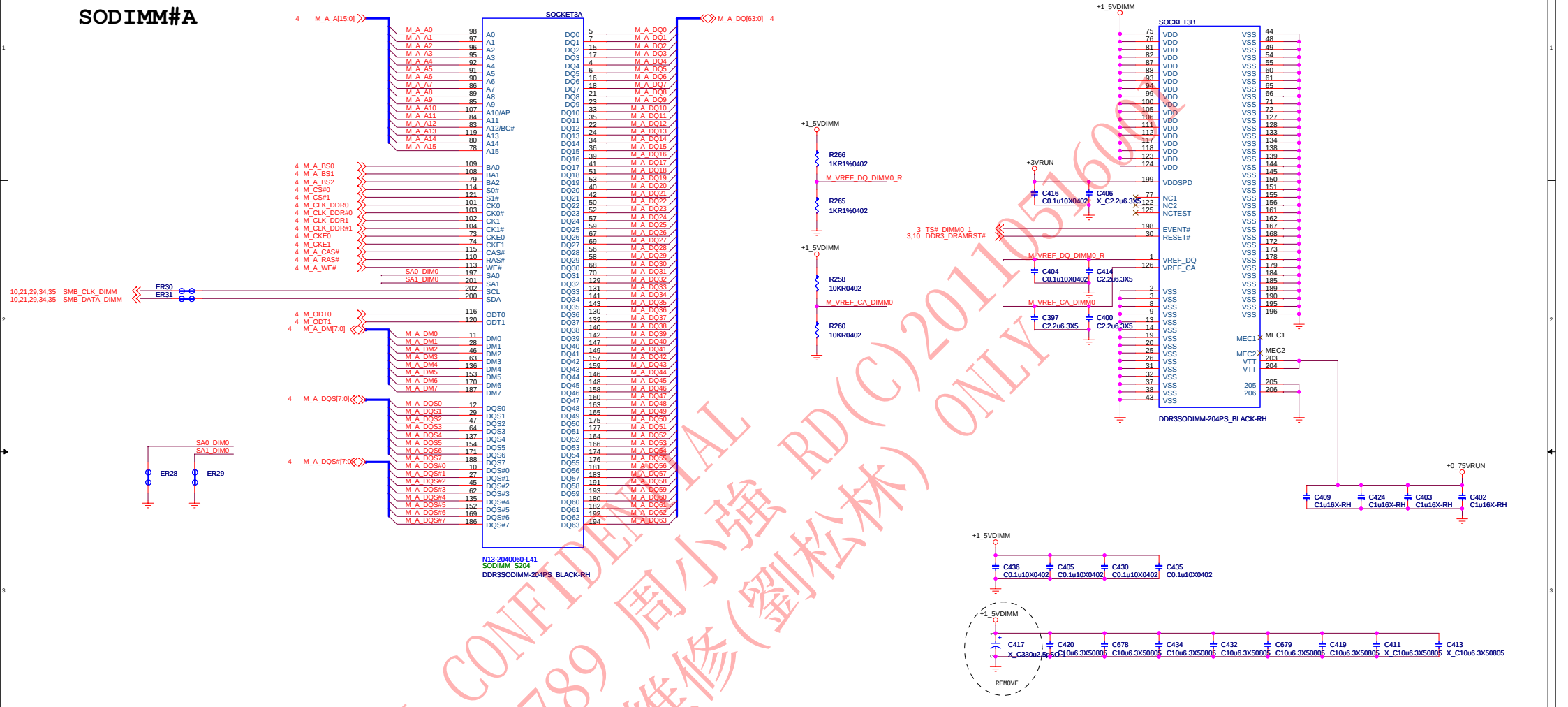
SODIMM#A



MICRO-STAR INT'L CO.,LTD.			
Title: DDR3 SODIMM0			
Size: Custom	Document Number: MS-1688		Rev: 10
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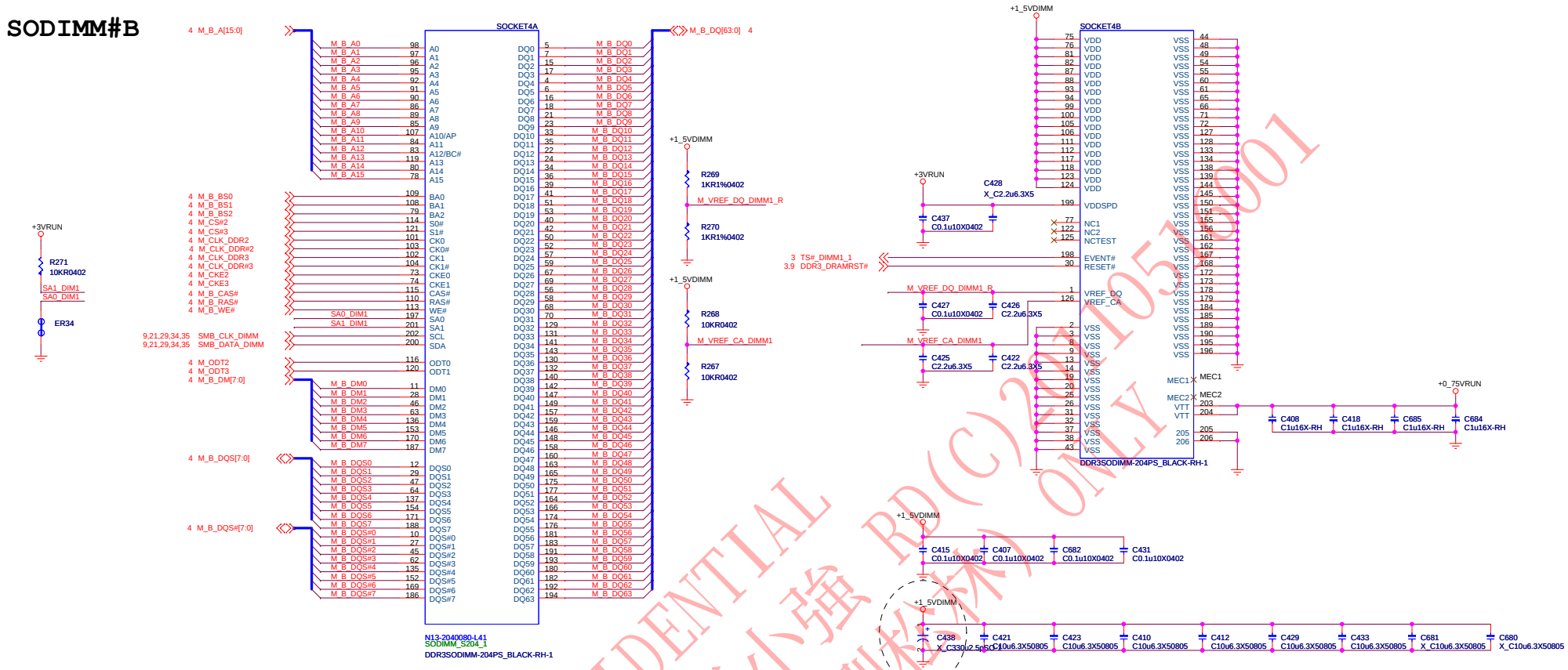
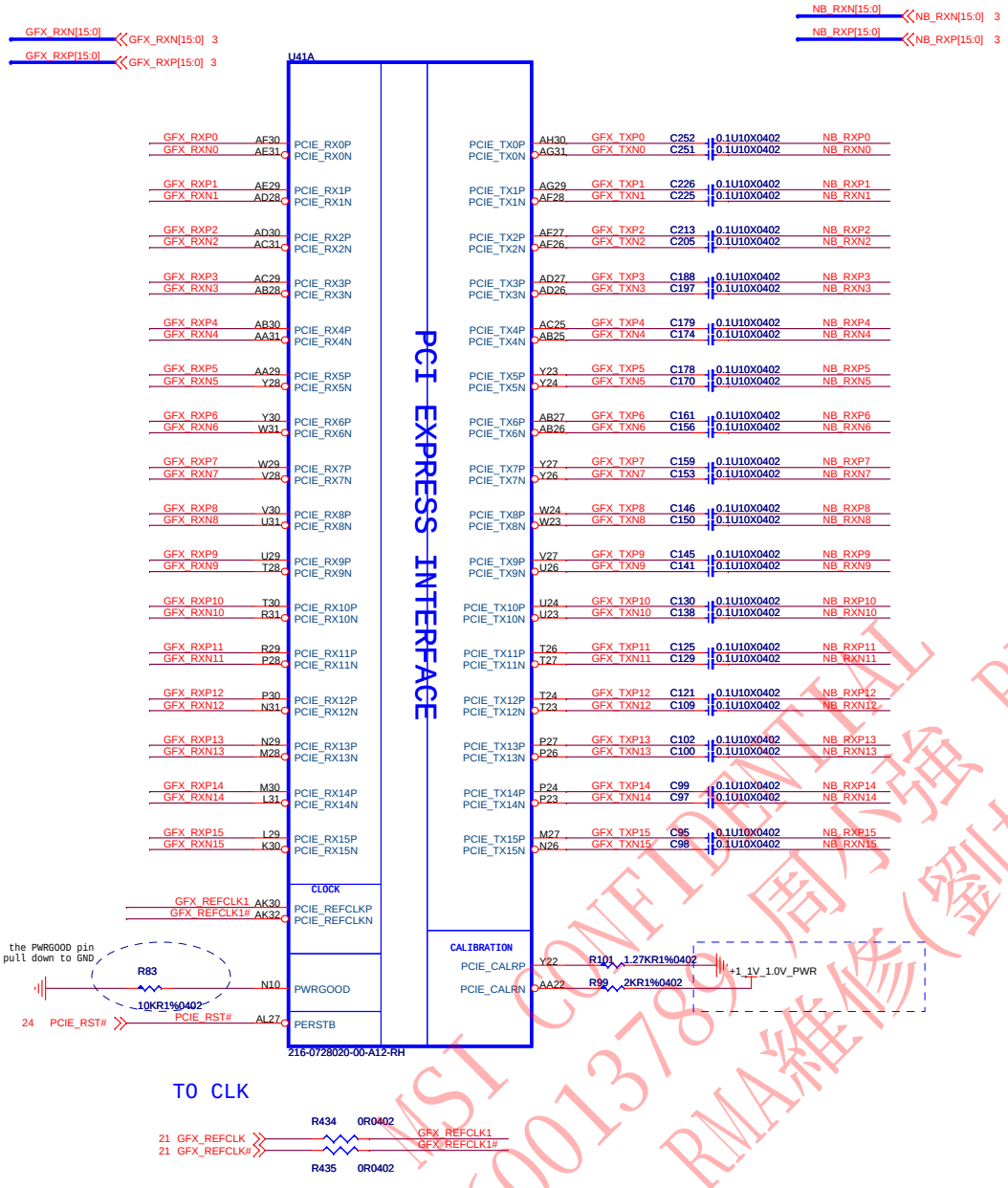
SODIMM#B

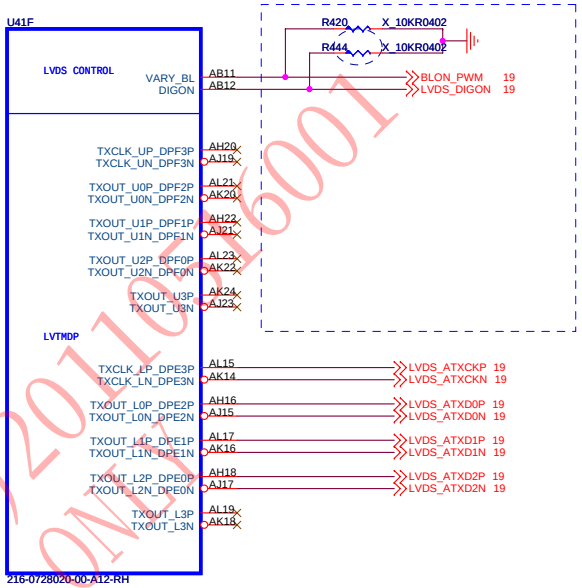


MICRO-STAR INT'L CO.,LTD.			
Title: DDR3 SODIMM1			
Size: Custom	Document Number: MS-1688		Rev: 10
Date: Thursday, January 14, 2010	Sheet 10 of 53		



TO CLK

LVDS Interface



DisplayPort E Configuration

MSI CORPORATION		
Title: PARK-HOST/LVDS		
Size: Custom	Document Number: MS-1688	Rev: 10
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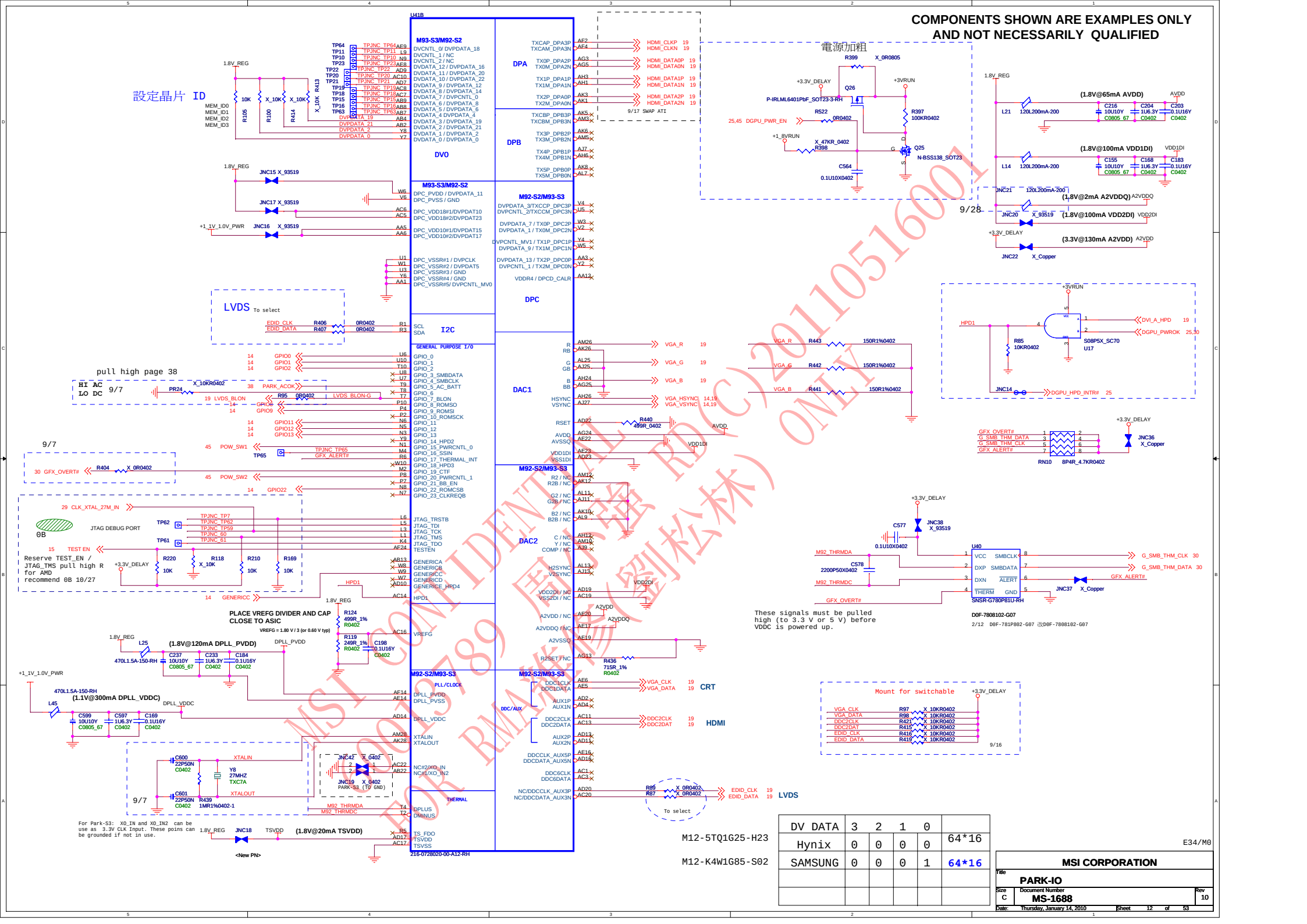
COMPONENTS SHOWN ARE EXAMPLES ONLY
AND NOT NECESSARILY QUALIFIED



DV DATA	3	2	1	0	
Hynix	0	0	0	0	64*16
SAMSUNG	0	0	0	1	64*16

M12-5TQ1G25-H23

M12-K4W1G85-S02

E34/M0

Title	PARK-IO
Size	C
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Date:	Thursday, January 14, 2010
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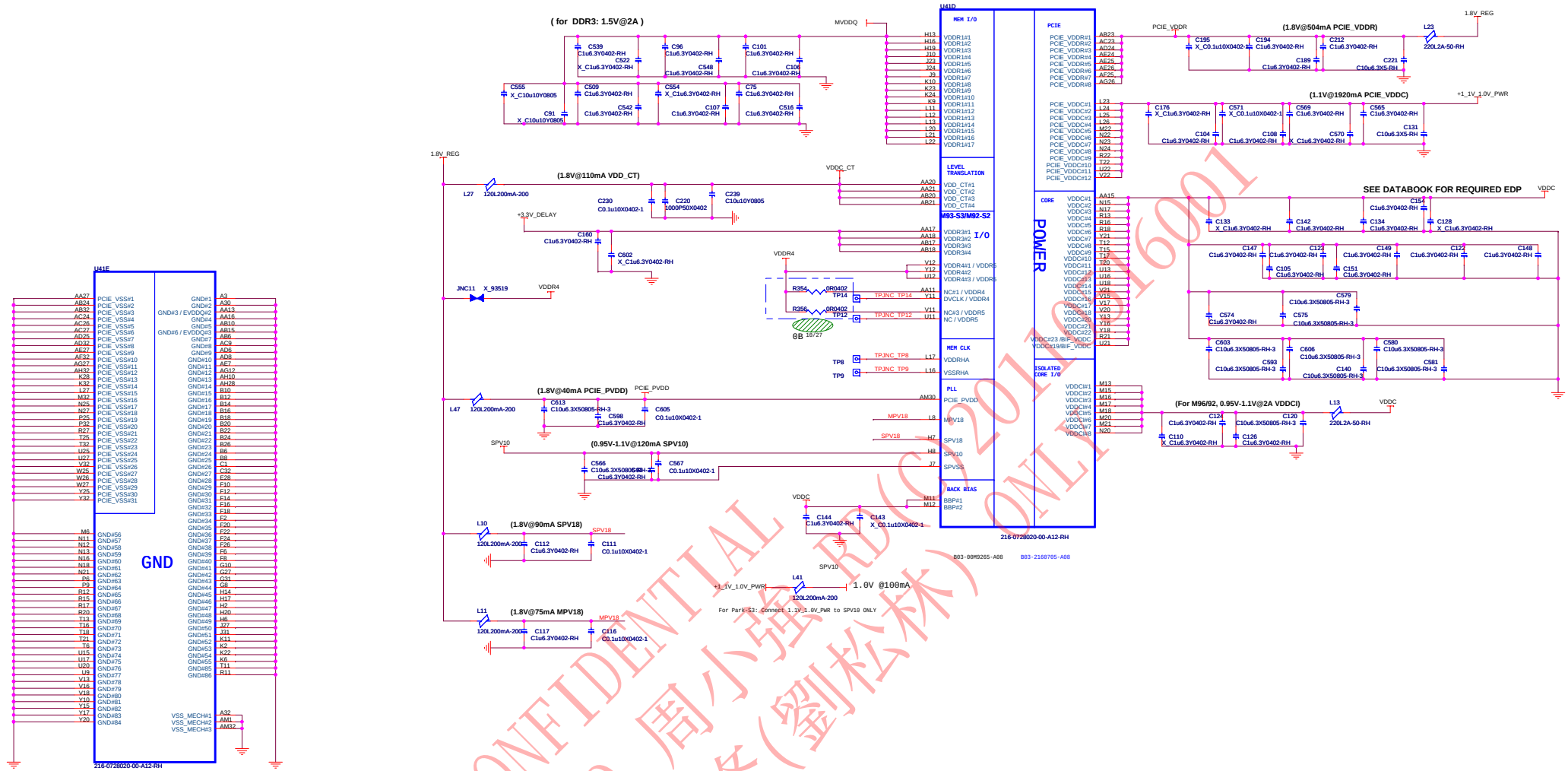
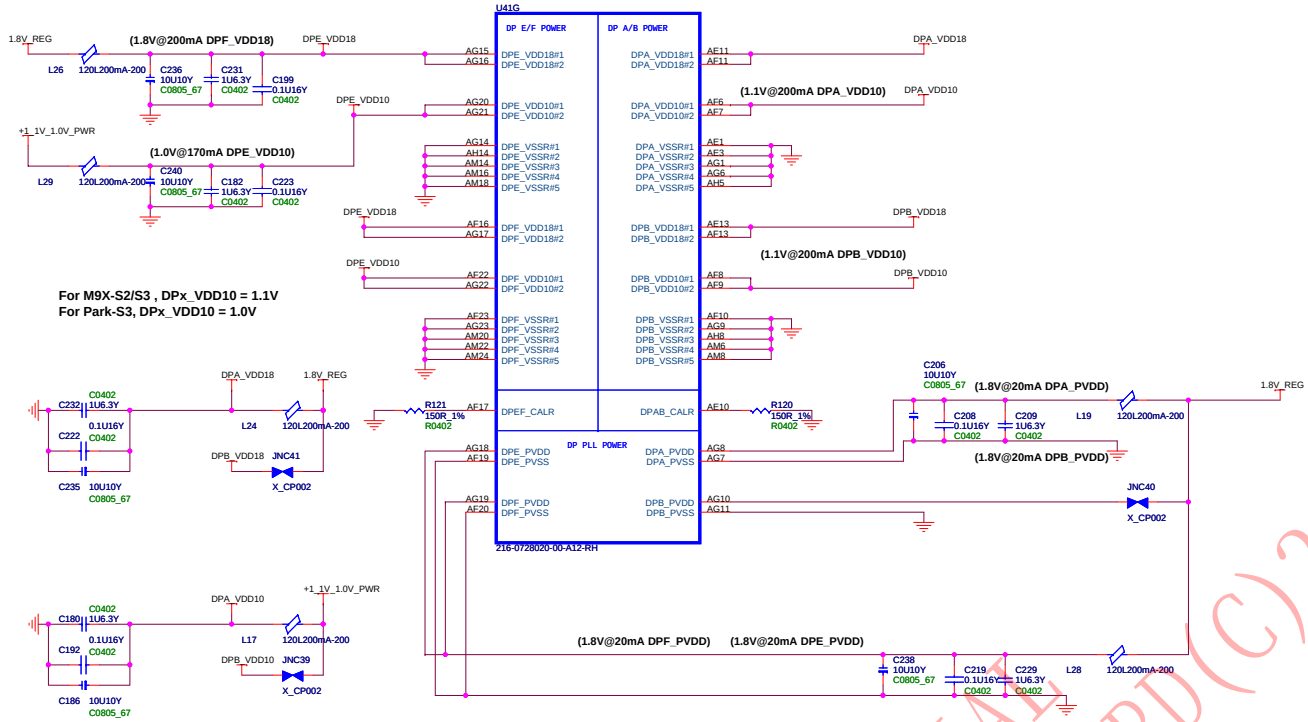
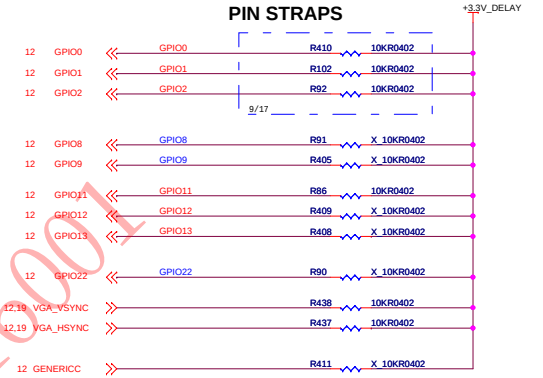


E69/M0

MSI CORPORATION			
Title: PARK-POWER			
Size: Custom	Document Number: MS-1688	Rev: 10	
Date: Thursday, January 14, 2010	Sheet 13 of 53		



PIN STRAPS



CONFIGURATION STRAPS

ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET

RECOMMENDED SETTINGS
0= DO NOT INSTALL RESISTOR
1 = INSTALL 10K RESISTOR
X = DESIGN DEPENDANT
NA = NOT APPLICABLE

STRAPS	PIN	DESCRIPTION OF DEFAULT SETTINGS	
TX_PWRS_ENB	GPIO0	PCIE FULL TX OUTPUT SWING	X
TX_DEEMPH_EN	GPIO1	PCIE TRANSMITTER DE-EMPHASIS ENABLED	X
BIF_GEN2_EN_A	GPIO2	PCIE GEN2 ENABLED	X
RSVD BIF_VGA_DIS RSVD	GPIO8 GPIO9 GPIO21	VGA ENABLED	0 0 0
BIOS_ROM_EN	GPIO_22_ROMCSB	ENABLE EXTERNAL BIOS ROM	X
ROMIDCFG(2:0)	GPIO[13:11]	SERIAL ROM TYPE OR MEMORY APERTURE SIZE SELECT	X X X
VIP_DEVICE_STRAP_ENA	V2SYNC	IGNORE VIP DEVICE STRAPS	X
RSVD AUD[1] AUD[0]	GENERICC HSYNC VSYNC	AUD[1] AUD[0] 0 0 No audio function 0 1 Audio for DisplayPort and HDMI if dongle is detected 1 0 Audio for DisplayPort only 1 1 Audio for both DisplayPort and HDMI	0 0 X X

GPIO 13 12 11

Size of the primary memory apertures	CONFIG[2:0]
128 MB	000
256 MB	001
64 MB	010
512 MB 1G MB	001

Due to memory management constraints, the aperture size should be the same size as the frame buffer for 64 MB, 128 MB
and 256 MB. For frame buffers larger than 256 MB (e.g. 512 MB, 1 GB) the aperture size should be 256 MB.

AMD RESERVED CONFIGURATION STRAPS

ALLOW FOR PULLUP PADS FOR THESE STRAPS AND IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET

H2SYNC GENERICC

PULLUP PADS ARE NOT REQUIRED FOR THESE STRAPS BUT IF THESE GPIOS ARE USED, THEY MUST NOT CONFLICT DURING RESET

GPIO21_BB_EN

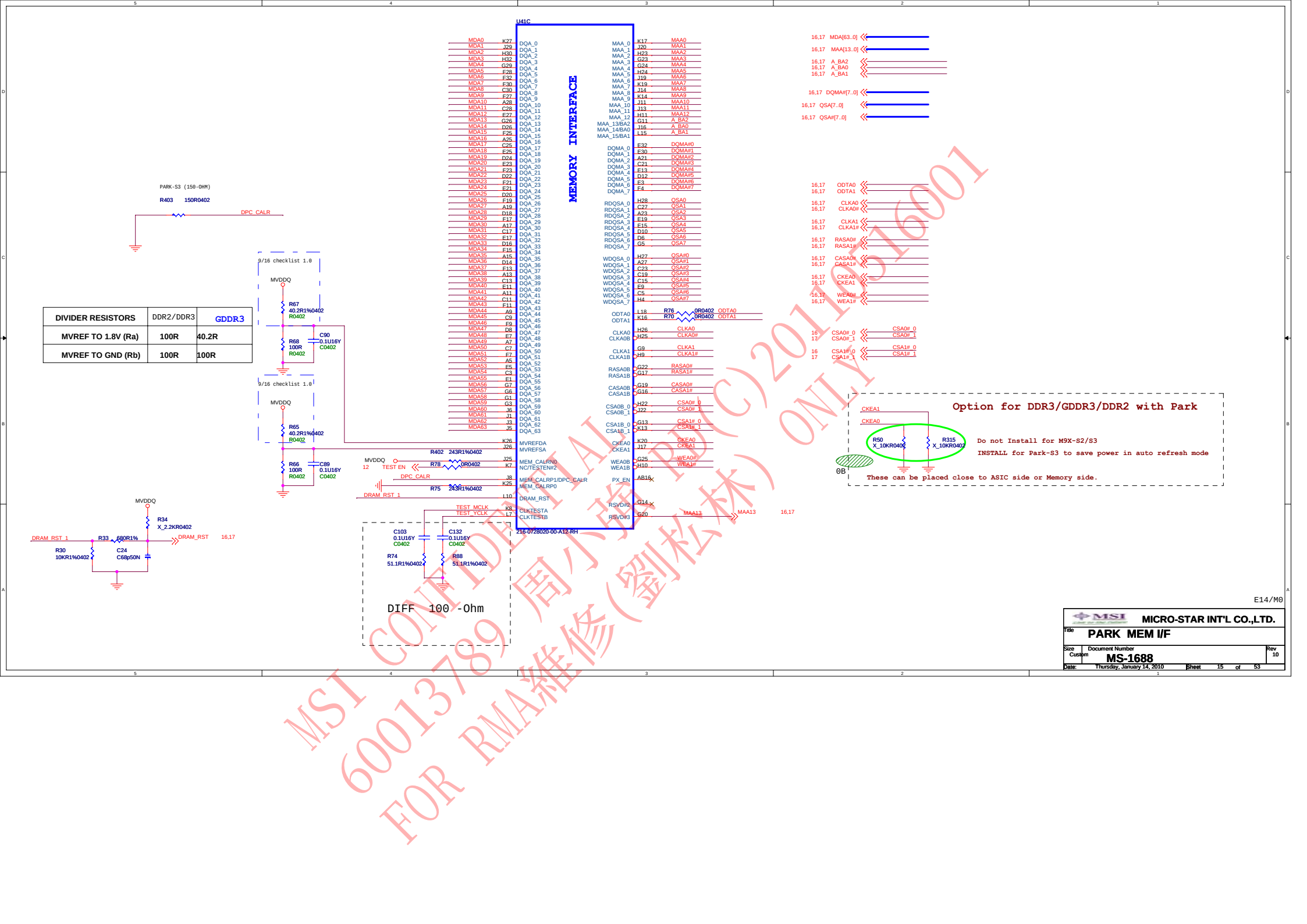
E23/M0

MSI CORPORATION

Title: **PARK-power straps**

Size: Custom | Document Number: **MS-1688** | Rev: 10

Date: Thursday, January 14, 2010 | Sheet 14 of 53



DIVIDER RESISTORS	DDR2/DDR3	GDDR3
MVREF TO 1.8V (Ra)	100R	40.2R
MVREF TO GND (Rb)	100R	100R

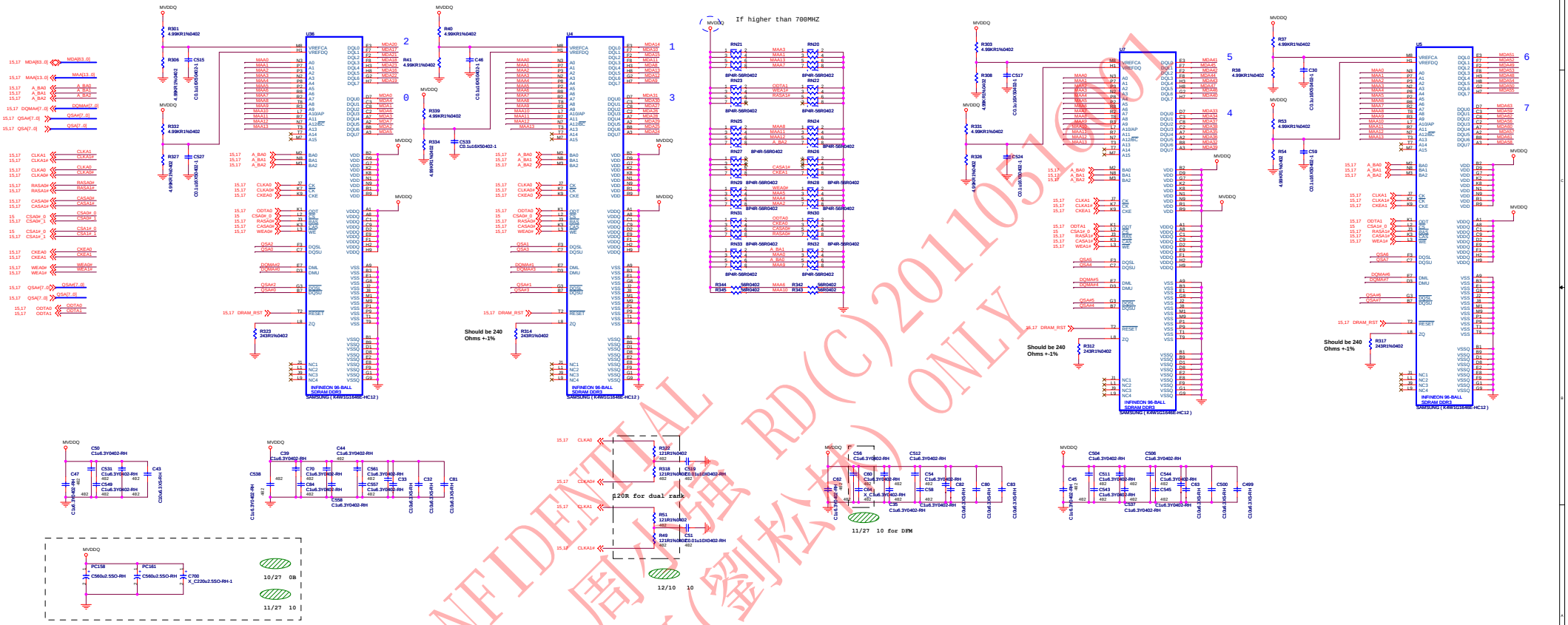
E14/M0

MICRO-STAR INT'L CO.,LTD.

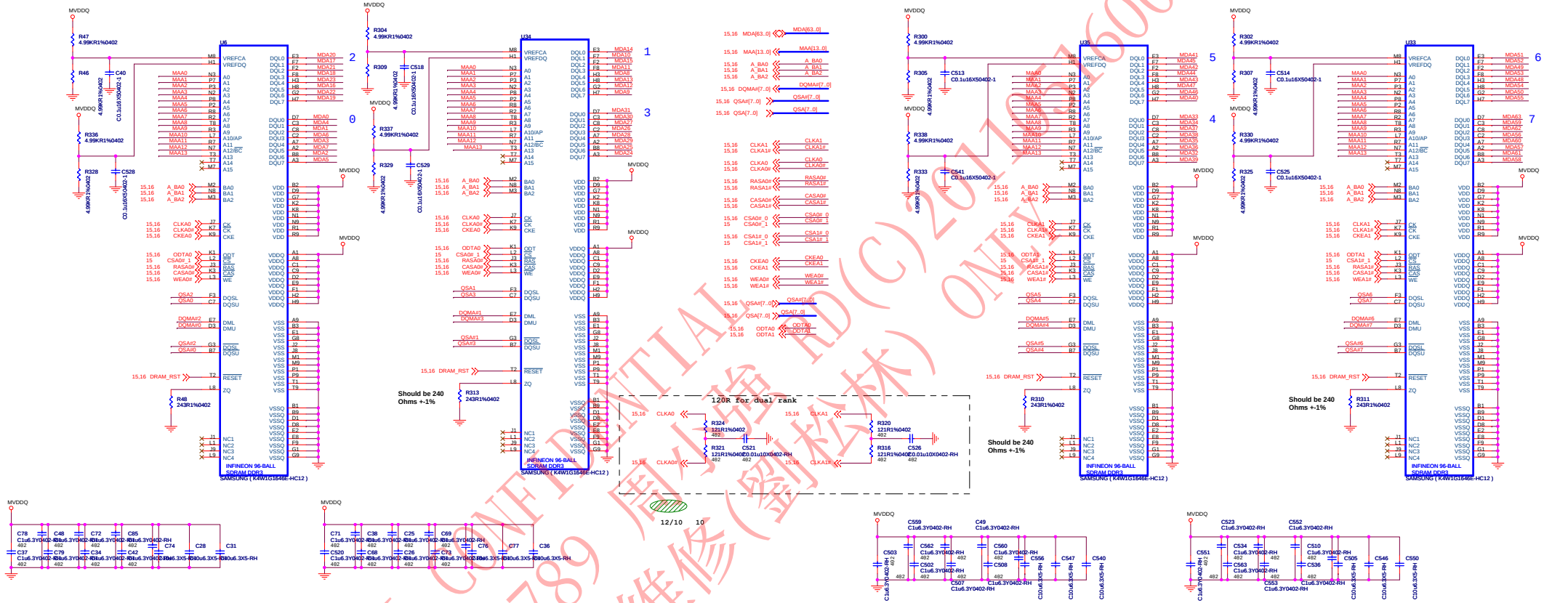
Title: PARK MEM I/F

Size: Custom | Document Number: MS-1688 | Rev: 10

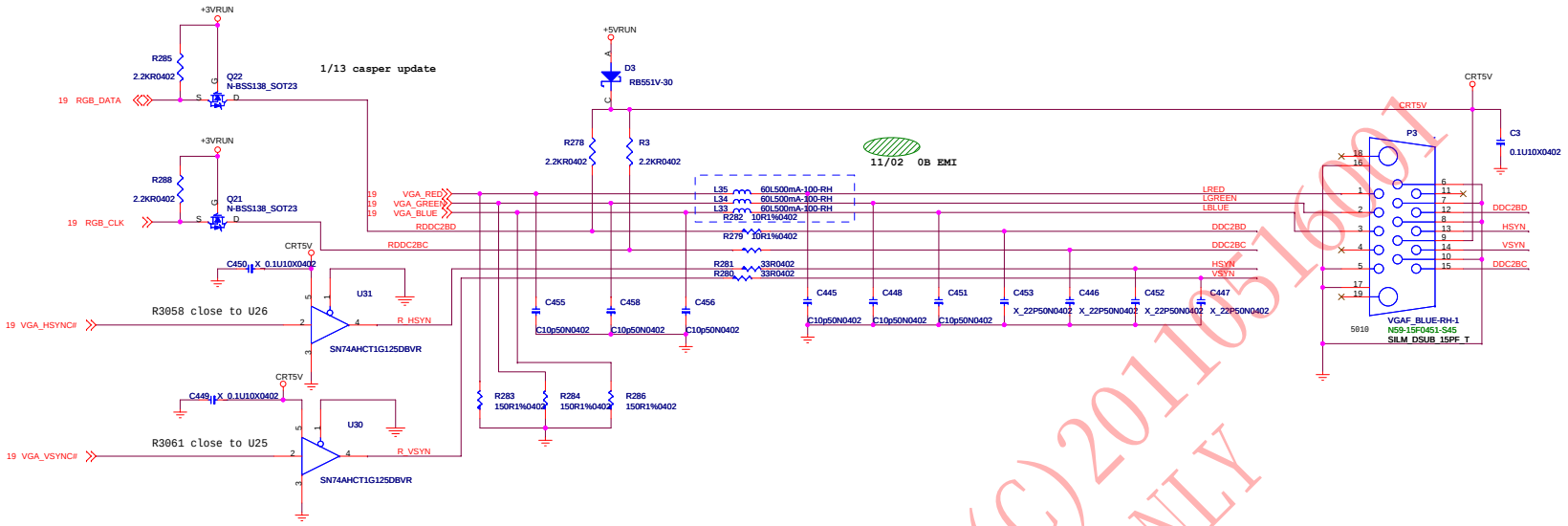
Date: Thursday, January 14, 2010 | Sheet 15 of 53

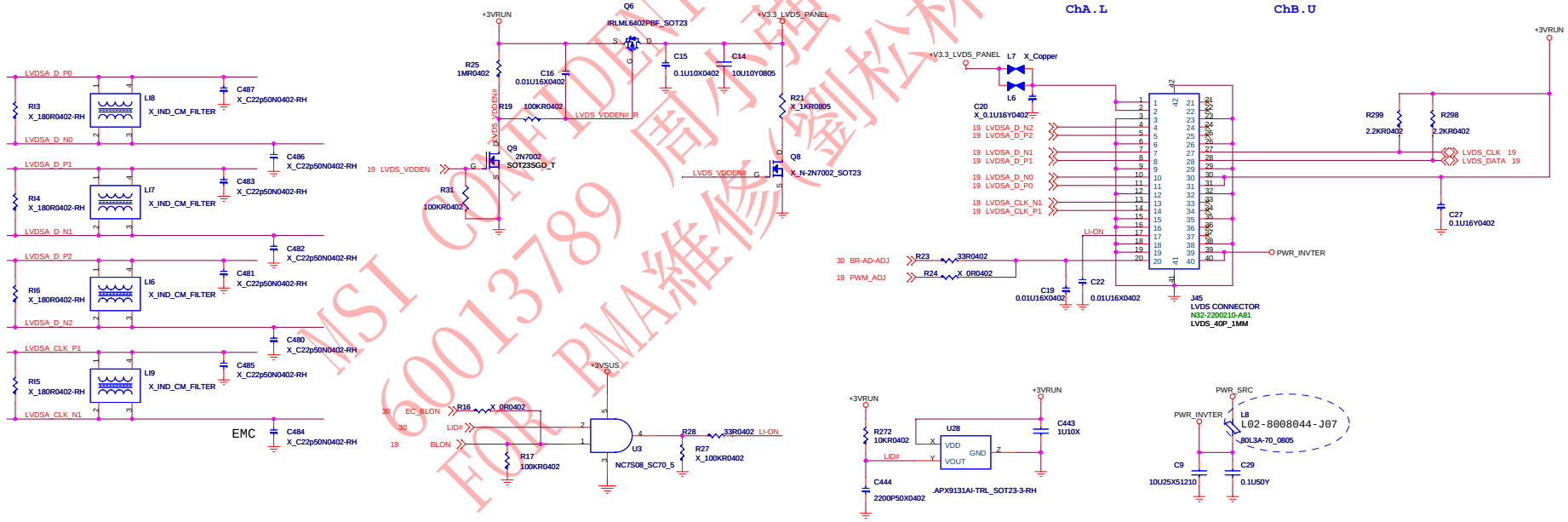


MICRO-STAR INT'L CO.,LTD.	
Title	PARK MEM DDR3 A0
Size: Custom	Document Number: MS-1688
Rev	1.0
Date: Thursday, January 14, 2010	Sheet 16 of 53



MSI	MICRO-STAR INT'L CO.,LTD.	
Title	PARK MEM DDR3 A1	
Size: Custom	Document Number: MS-1688	Rev: 10
Date: Thursday, January 14, 2010	Sheet 17 of 53	





MSI	MICRO-STAR INT'L CO.,LTD.		
Title	CRT,LVDS connector & LID		
Size	Document Number		Rev
Custom	MS-1688		10
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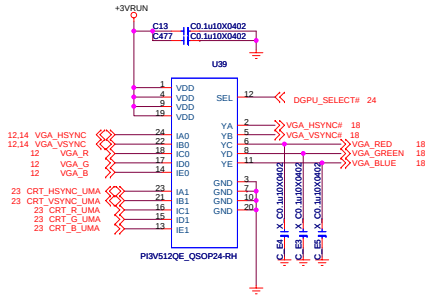
CRT Switch

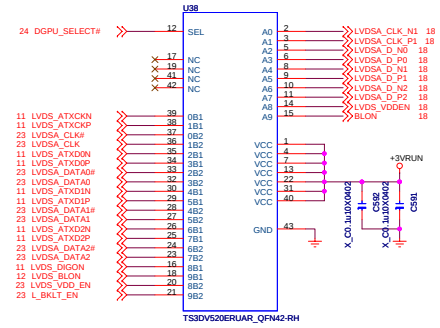
Logic Input	Function
0	S2 PORT
1	S1 PORT

BR-ADJ

MXM only	1. MXM 2. EC
Switchable	1. MXM 2. iGPU 3. EC

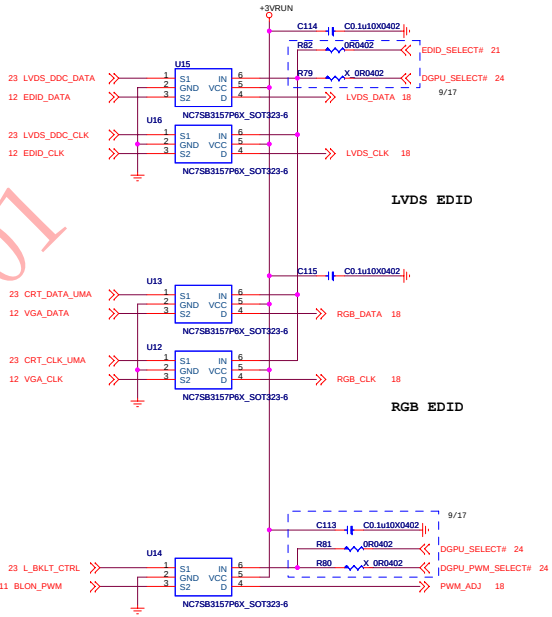


LVDS Switch



TS3DV520ERUAR

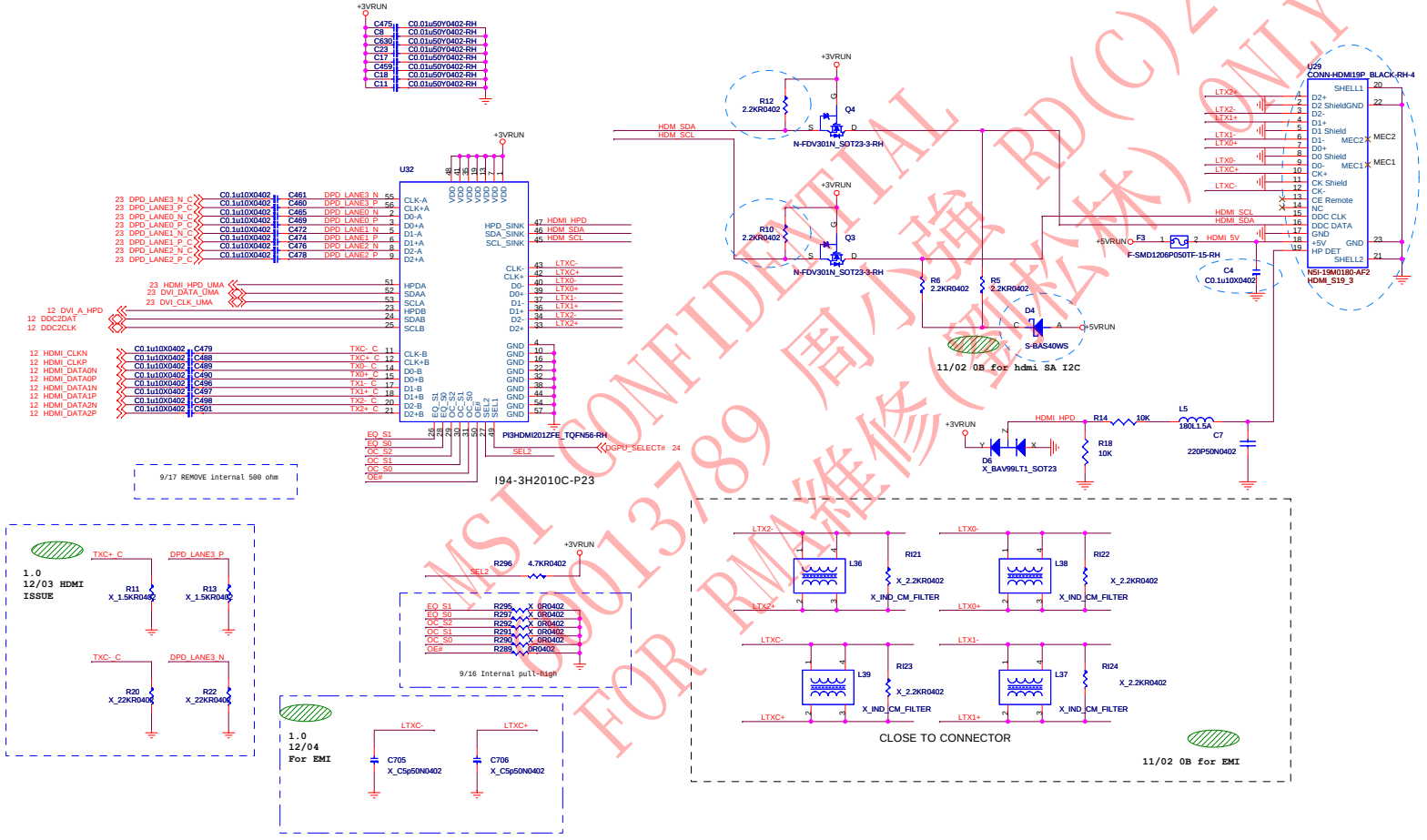
EDID Switch (CRT,LVDS)



Logic Input	Function
0	PORT 1
1	PORT 2

HDMI Switch

Logic Input	Function
0	B PORT
1	A PORT



MICRO-STAR INT'L CO.,LTD.	
Title	SWITCH&HDMI
Size: Custom	Document Number: MS-1688
Rev	10
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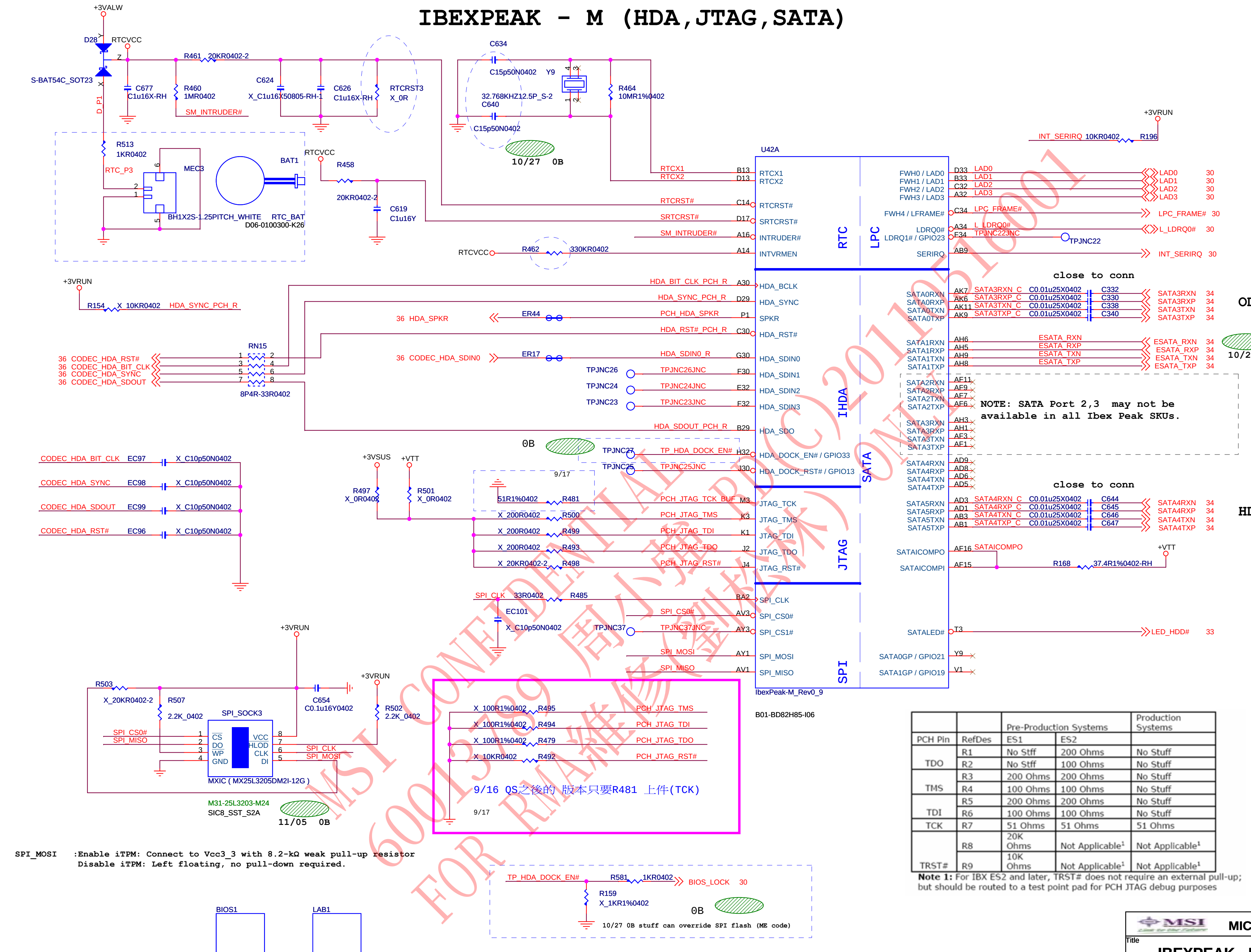
IBEXPEAK - M (HDA,JTAG,SATA)



+3VALW
RTCVCC
D28
S-BAT54C_SOT23
R461 20KR0402-2
C677 C1u16X-RH
R460 1MR0402
SM_INTRUDER#
C624 X_C1u16X50805-RH-1
C626 C1u16X-RH
RTCRST3 X_0R
C634 C15p50N0402
Y9
32.768KHZ12.5P_S-2
C640 C15p50N0402
R464 10MR1%0402
10/27 0B
R513 1KR0402
RTC_P3
MEC3
BAT1
BH1X2S-1.25PITCH_WHITE
RTC_BAT
D06-0100300-K26
R458 20KR0402-2
C619 C1u16Y
U42A
RTCX1
RTCX2
RTCRST#
SRTCRST#
INTRUDER#
INTVRMEN
R462 330KR0402
RTC
LPC
FWH0 / LAD0
FWH1 / LAD1
FWH2 / LAD2
FWH3 / LAD3
FWH4 / LFRAME#
LDRQ0#
LDRQ1# / GPIO23
SERIRQ
LAD0 30
LAD1 30
LAD2 30
LAD3 30
LPC_FRAME# 30
L_LDRQ0# 30
TPJNC22
INT_SERIRQ 30
+3VRUN
INT_SERIRQ 10KR0402 R196
+3VRUN
R154 X_10KR0402 HDA_SYNC_PCH_R
HDA_BIT_CLK_PCH_R
HDA_SYNC_PCH_R
36 HDA_SPKR
ER44
PCH_HDA_SPKR
HDA_RST#_PCH_R
RN15
36 CODEC_HDA_RST#
36 CODEC_HDA_BIT_CLK
36 CODEC_HDA_SYNC
36 CODEC_HDA_SDOUT
8P4R-33R0402
36 CODEC_HDA_SDIN0
ER17
HDA_SDIN0_R
TPJNC26
TPJNC24
TPJNC23
HDA_SDOUT_PCH_R
HDA_BCLK
HDA_SYNC
SPKR
HDA_RST#
HDA_SDIN0
HDA_SDIN1
HDA_SDIN2
HDA_SDIN3
HDA_SDO
HDA_DOCK_EN# / GPIO33
HDA_DOCK_RST# / GPIO13
IHDA
SATA
close to conn
ODD
ESATA
10/27 0B
SATA0RXN
SATA0RXP
SATA0TXN
SATA0TXP
SATA1RXN
SATA1RXP
SATA1TXN
SATA1TXP
SATA2RXN
SATA2RXP
SATA2TXN
SATA2TXP
SATA3RXN
SATA3RXP
SATA3TXN
SATA3TXP
SATA4RXN
SATA4RXP
SATA4TXN
SATA4TXP
SATA5RXN
SATA5RXP
SATA5TXN
SATA5TXP
NOTE: SATA Port 2,3 may not be available in all Ibex Peak SKUs.
HDD
SATAICOMPO
SATAICOMPI
R168 37.4R1%0402-RH
+VTT
CODEC_HDA_BIT_CLK EC97 X_C10p50N0402
CODEC_HDA_SYNC EC98 X_C10p50N0402
CODEC_HDA_SDOUT EC99 X_C10p50N0402
CODEC_HDA_RST# EC96 X_C10p50N0402
0B
TPJNC27 TP_HDA_DOCK_EN#
TPJNC25 TPJNC25JNC
+3VSUS
+VTT
R497 X_0R0402
R501 X_0R0402
9/17
51R1%0402 R481 PCH_JTAG_TCK_BUF
X_200R0402 R500 PCH_JTAG_TMS
X_200R0402 R499 PCH_JTAG_TDI
X_200R0402 R493 PCH_JTAG_TDO
X_20KR0402-2 R498 PCH_JTAG_RST#
JTAG_TCK
JTAG_TMS
JTAG_TDI
JTAG_TDO
JTAG_RST#
JTAG
SPI_CLK 33R0402 R485
EC101 X_C10p50N0402
SPI_CS0#
TPJNC37 TPJNC37JNC
SPI_MOSI
SPI_MISO
SPI_CLK
SPI_CS0#
SPI_CS1#
SPI_MOSI
SPI_MISO
SPI
SATALED#
LED_HDD# 33
SATA0GP / GPIO21
SATA1GP / GPIO19
IbexPeak-M_Rev0_9
B01-BD82H85-I06
+3VRUN
R503
X_20KR0402-2
R507 2.2K_0402
SPI_SOCK3
C654 C0.1u16Y0402
+3VRUN
R502 2.2K_0402
CS DO WP GND VCC HLOD CLK DI
SPI_CS0#
SPI_MISO
SPI_CLK
SPI_MOSI
MXIC (MX25L3205DM2I-12G)
M31-25L3203-M24
SIC8_SST_S2A
11/05 0B
X_100R1%0402 R495 PCH_JTAG_TMS
X_100R1%0402 R494 PCH_JTAG_TDI
X_100R1%0402 R479 PCH_JTAG_TDO
X_10KR0402 R492 PCH_JTAG_RST#
9/16 QS之後的 版本只要R481 上件(TCK)
9/17
TP_HDA_DOCK_EN# R581 1KR0402 BIOS_LOCK 30
R159 X_1KR1%0402
0B
10/27 0B stuff can override SPI flash (ME code)
BIOS1
W25X32VSSIG-RH
LAB1
G51-LA01678-A09

SPI_MOSI :Enable iTPM: Connect to Vcc3_3 with 8.2-kΩ weak pull-up resistor
Disable iTPM: Left floating, no pull-down required.

PCH Pin	RefDes	Pre-Production Systems ES1	Pre-Production Systems ES2	Production Systems
TDO	R1	No Stff	200 Ohms	No Stuff
	R2	No Stff	100 Ohms	No Stuff
TMS	R3	200 Ohms	200 Ohms	No Stuff
	R4	100 Ohms	100 Ohms	No Stuff
TDI	R5	200 Ohms	200 Ohms	No Stuff
	R6	100 Ohms	100 Ohms	No Stuff
TCK	R7	51 Ohms	51 Ohms	51 Ohms
TRST#	R8	20K Ohms	Not Applicable[1]	Not Applicable[1]
	R9	10K Ohms	Not Applicable[1]	Not Applicable[1]

Note 1: For IBX ES2 and later, TRST# does not require an external pull-up; but should be routed to a test pad for PCH JTAG debug purposes

MICRO-STAR INT'L CO.,LTD.

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

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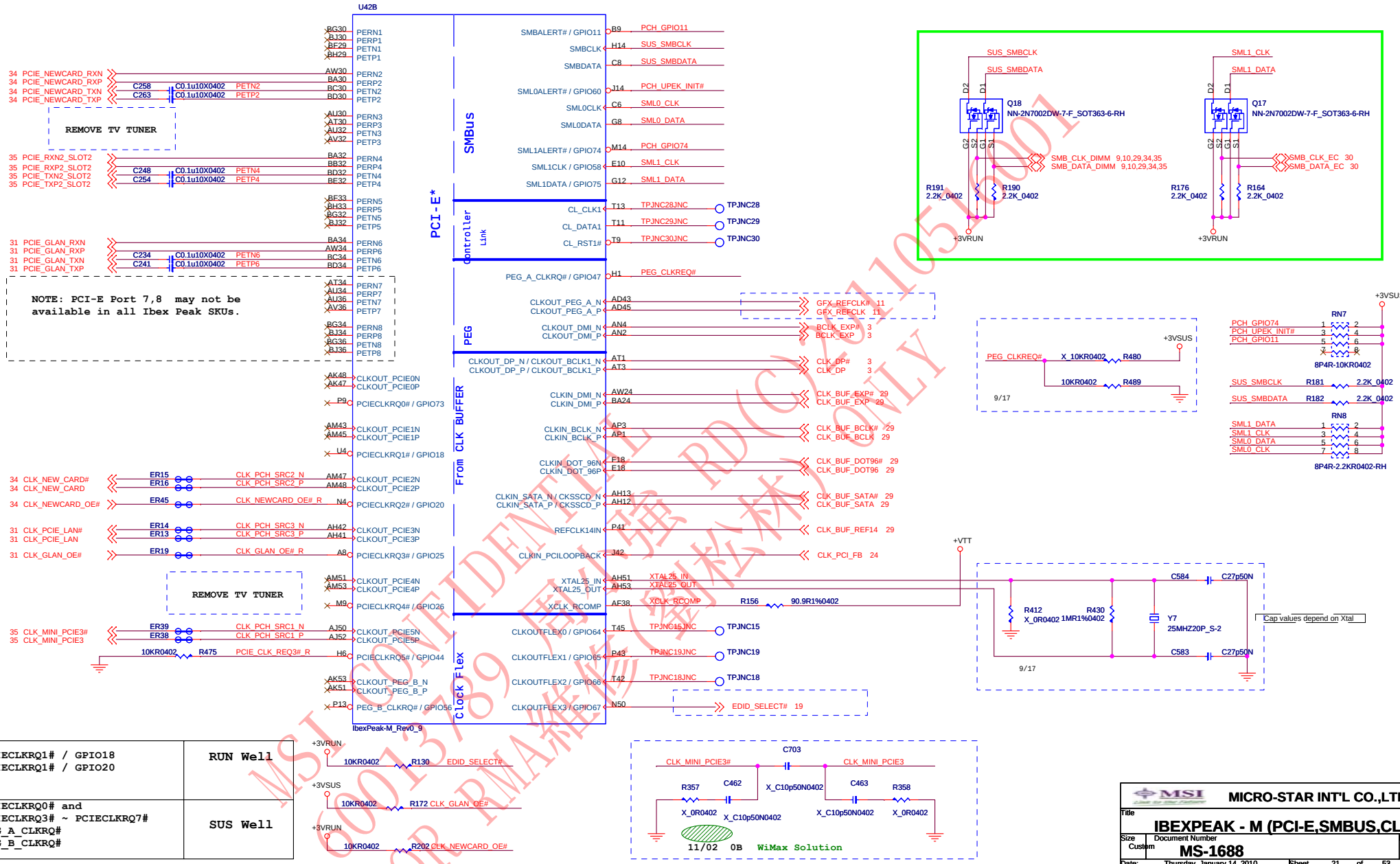
IBEXPEAK - M (PCI-E,SMBUS,CLK)



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

MSI MICRO-STAR INT'L CO.,LTD.

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

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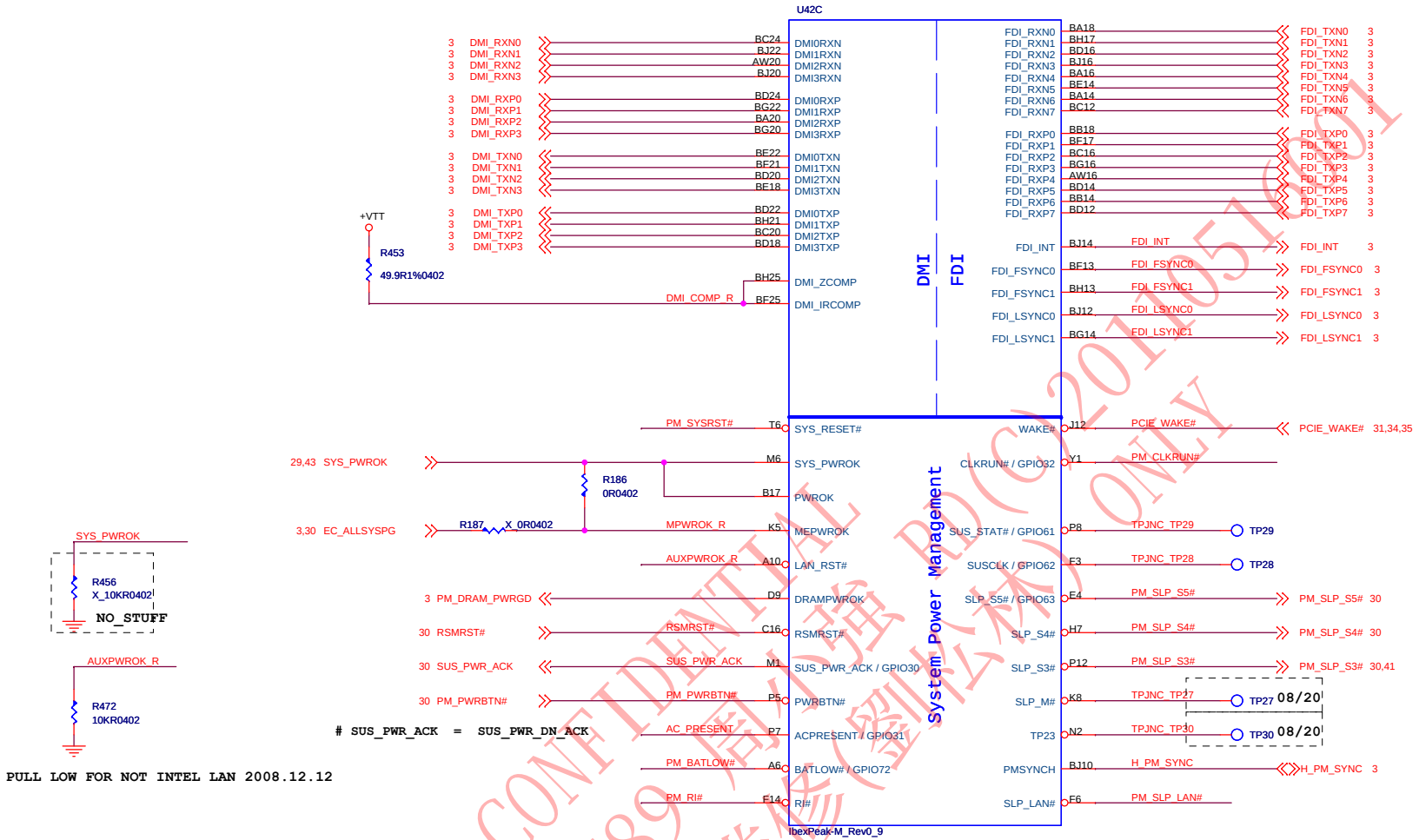
IBEXPEAK - M (DMI,FDI,GPIO)



MICRO-STAR INT'L CO.,LTD.

Title: IBEXPEAK - M (DMI,FDI,GPIO)

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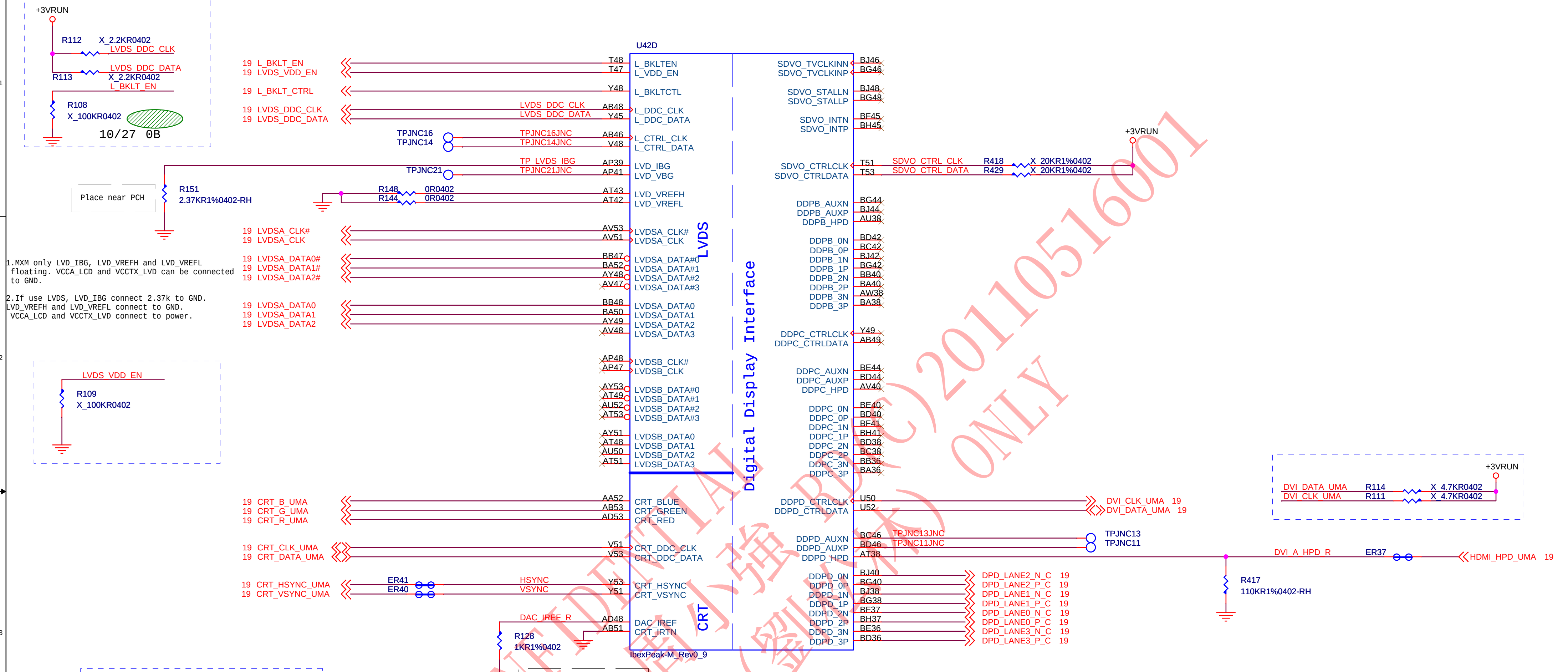
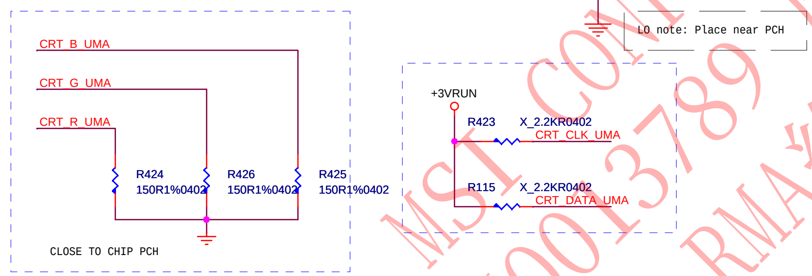
IBEXPEAK - M (LVDS,DDI)



+3VRUN
R112 X_2.2KR0402
LVDS_DDC_CLK
LVDS_DDC_DATA
R113 X_2.2KR0402
L_BKLT_EN
R108 X_100KR0402
10/27 0B
U42D
19 L_BKLT_EN
19 LVDS_VDD_EN
19 L_BKLT_CTRL
19 LVDS_DDC_CLK
19 LVDS_DDC_DATA
TPJNC16
TPJNC14
TPJNC16JNC
TPJNC14JNC
TP_LVDS_IBG
TPJNC21
TPJNC21JNC
Place near PCH
R151 2.37KR1%0402-RH
R148 0R0402
R144 0R0402
19 LVDSA_CLK#
19 LVDSA_CLK
19 LVDSA_DATA0#
19 LVDSA_DATA1#
19 LVDSA_DATA2#
19 LVDSA_DATA0
19 LVDSA_DATA1
19 LVDSA_DATA2
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.
LVDS_VDD_EN
R109 X_100KR0402
T48 L_BKLTEN
T47 L_VDD_EN
Y48 L_BKLTCTL
AB48 L_DDC_CLK
Y45 L_DDC_DATA
AB46 L_CTRL_CLK
V48 L_CTRL_DATA
AP39 LVD_IBG
AP41 LVD_VBG
AT43 LVD_VREFH
AT42 LVD_VREFL
AV53 LVDSA_CLK#
AV51 LVDSA_CLK
BB47 LVDSA_DATA#0
BA52 LVDSA_DATA#1
AY48 LVDSA_DATA#2
AV47 LVDSA_DATA#3
BB48 LVDSA_DATA0
BA50 LVDSA_DATA1
AY49 LVDSA_DATA2
AV48 LVDSA_DATA3
AP48 LVDSB_CLK#
AP47 LVDSB_CLK
AY53 LVDSB_DATA#0
AT49 LVDSB_DATA#1
AU52 LVDSB_DATA#2
AT53 LVDSB_DATA#3
AY51 LVDSB_DATA0
AT48 LVDSB_DATA1
AU50 LVDSB_DATA2
AT51 LVDSB_DATA3
LVDS
Digital Display Interface
19 CRT_B_UMA
19 CRT_G_UMA
19 CRT_R_UMA
19 CRT_CLK_UMA
19 CRT_DATA_UMA
19 CRT_HSYNC_UMA
19 CRT_VSYNC_UMA
ER41
ER40
HSYNC
VSYNC
DAC_IREF_R
R128 1KR1%0402
AA52 CRT_BLUE
AB53 CRT_GREEN
AD53 CRT_RED
V51 CRT_DDC_CLK
V53 CRT_DDC_DATA
Y53 CRT_HSYNC
Y51 CRT_VSYNC
AD48 DAC_IREF
AB51 CRT_IRTN
CRT
IbexPeak-M_Rev0_9
L0 note: Place near PCH
SDVO_TVCLKINN BJ46
SDVO_TVCLKINP BG46
SDVO_STALLN BJ48
SDVO_STALLP BG48
SDVO_INTN BF45
SDVO_INTP BH45
SDVO_CTRLCLK T51
SDVO_CTRLDATA T53
SDVO_CTRL_CLK
SDVO_CTRL_DATA
R418 X_20KR1%0402
R429 X_20KR1%0402
+3VRUN
DDPB_AUXN BG44
DDPB_AUXP BJ44
DDPB_HPD AU38
DDPB_0N BD42
DDPB_0P BC42
DDPB_1N BJ42
DDPB_1P BG42
DDPB_2N BB40
DDPB_2P BA40
DDPB_3N AW38
DDPB_3P BA38
DDPC_CTRLCLK Y49
DDPC_CTRLDATA AB49
DDPC_AUXN BE44
DDPC_AUXP BD44
DDPC_HPD AV40
DDPC_0N BE40
DDPC_0P BD40
DDPC_1N BF41
DDPC_1P BH41
DDPC_2N BD38
DDPC_2P BC38
DDPC_3N BB36
DDPC_3P BA36
DDPD_CTRLCLK U50
DDPD_CTRLDATA U52
DVI_CLK_UMA 19
DVI_DATA_UMA 19
DDPD_AUXN BC46
DDPD_AUXP BD46
DDPD_HPD AT38
TPJNC13JNC
TPJNC11JNC
TPJNC13
TPJNC11
DVI_A_HPD_R
ER37
HDMI_HPD_UMA 19
R417 110KR1%0402-RH
DDPD_0N BJ40
DDPD_0P BG40
DDPD_1N BJ38
DDPD_1P BG38
DDPD_2N BF37
DDPD_2P BH37
DDPD_3N BE36
DDPD_3P BD36
DPD_LANE2_N_C 19
DPD_LANE2_P_C 19
DPD_LANE1_N_C 19
DPD_LANE1_P_C 19
DPD_LANE0_N_C 19
DPD_LANE0_P_C 19
DPD_LANE3_N_C 19
DPD_LANE3_P_C 19
+3VRUN
DVI_DATA_UMA R114 X_4.7KR0402
DVI_CLK_UMA R111 X_4.7KR0402



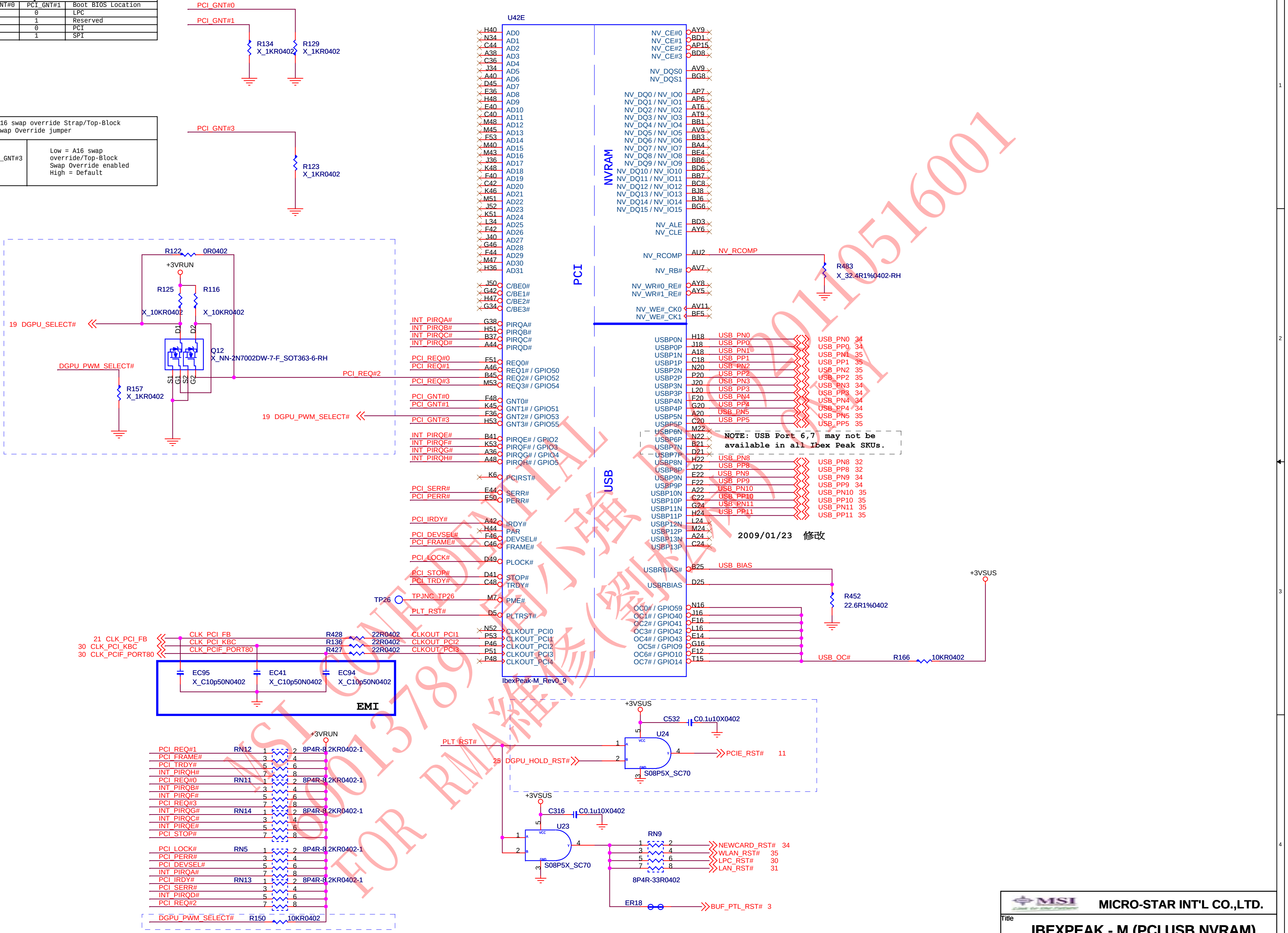
DisplayPort	DVI/HDMI
DP_X_L0	TX_x_D2
DP_X_L0#	TX_x_D2#
DP_X_L1	TX_x_D1
DP_X_L1#	TX_x_D1#
DP_X_L2	TX_x_D0
DP_X_L2#	TX_x_D0#
DP_X_L3	TX_x_CLK
DP_X_L3#	TX_x_CLK#
DP_X_AUX	DDC_x_CLK
DP_X_AUX#	DDC_x_DATA

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



U42E
PCI
NVRAM
USB
IbexPeak-M_Rev0_9
PCI_GNT#0
PCI_GNT#1
PCI_GNT#3
R134 X_1KR0402
R129 X_1KR0402
R123 X_1KR0402
R122 0R0402
+3VRUN
R125 X_10KR0402
R116 X_10KR0402
19 DGPU_SELECT#
DGPU_PWM_SELECT#
R157 X_1KR0402
Q12 X_NN-2N7002DW-7-F_SOT363-6-RH
PCI_REQ#2
19 DGPU_PWM_SELECT#
NV_RCOMP
R483 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
R452 22.6R1%0402
+3VSUS
USB_OC#
R166 10KR0402
TP26
21 CLK_PCI_FB
30 CLK_PCI_KBC
30 CLK_PCIF_PORT80
R428 22R0402
R136 22R0402
R427 22R0402
EC95 X_C10p50N0402
EC41 X_C10p50N0402
EC94 X_C10p50N0402
EMI
RN12 8P4R-8.2KR0402-1
RN11 8P4R-8.2KR0402-1
RN14 8P4R-8.2KR0402-1
RN5 8P4R-8.2KR0402-1
RN13 8P4R-8.2KR0402-1
R150 10KR0402
C532 C0.1u10X0402
U24 S08P5X_SC70
PLT_RST#
25 DGPU_HOLD_RST#
PCIE_RST# 11
C316 C0.1u10X0402
U23 S08P5X_SC70
RN9 8P4R-33R0402
NEWCARD_RST# 34
WLAN_RST# 35
LPC_RST# 30
LAN_RST# 31
ER18
BUF_PTL_RST# 3

MICRO-STAR INT'L CO.,LTD.

Title	IBEXPEAK - M (PCI,USB,NVRAM)	
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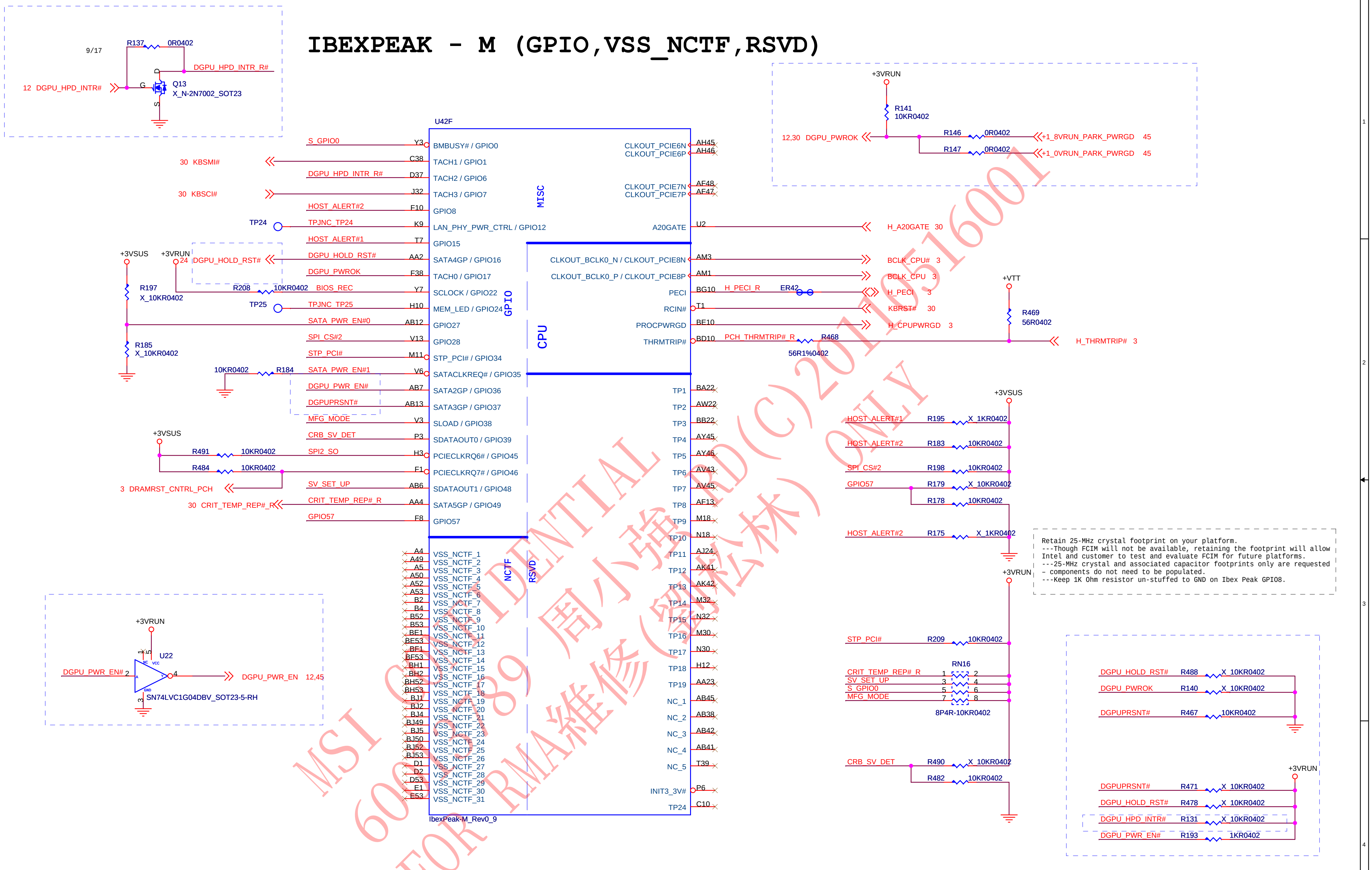
IBEXPEAK - M (GPIO,VSS_NCTF,RSVD)



9/17
R137 0R0402
DGPU_HPD_INTR_R#
12 DGPU_HPD_INTR#
Q13 X_N-2N7002_SOT23
U42F
S_GPIO0 Y3 BMBUSY# / GPIO0
30 KBSMI# C38 TACH1 / GPIO1
DGPU_HPD_INTR_R# D37 TACH2 / GPIO6
30 KBSCI# J32 TACH3 / GPIO7
HOST_ALERT#2 F10 GPIO8
TP24 TPJNC_TP24 K9 LAN_PHY_PWR_CTRL / GPIO12
HOST_ALERT#1 T7 GPIO15
24 DGPU_HOLD_RST# AA2 SATA4GP / GPIO16
DGPU_PWROK F38 TACH0 / GPIO17
R208 10KR0402 BIOS_REC Y7 SCLOCK / GPIO22
TP25 TPJNC_TP25 H10 MEM_LED / GPIO24
SATA_PWR_EN#0 AB12 GPIO27
SPI_CS#2 V13 GPIO28
STP_PCI# M11 STP_PCI# / GPIO34
10KR0402 R184 SATA_PWR_EN#1 V6 SATACLKREQ# / GPIO35
DGPU_PWR_EN# AB7 SATA2GP / GPIO36
DGPUPRSNT# AB13 SATA3GP / GPIO37
MFG_MODE V3 SLOAD / GPIO38
CRB_SV_DET P3 SDATAOUT0 / GPIO39
R491 10KR0402 SPI2_SO H3 PCIECLKRQ6# / GPIO45
R484 10KR0402 F1 PCIECLKRQ7# / GPIO46
3 DRAMRST_CNTRL_PCH SV_SET_UP AB6 SDATAOUT1 / GPIO48
30 CRIT_TEMP_REP#_R CRIT_TEMP_REP#_R AA4 SATA5GP / GPIO49
GPIO57 F8 GPIO57
+3VSUS +3VRUN R197 X_10KR0402 R185 X_10KR0402
MISC GPIO CPU NCTF RSVD
CLKOUT_PCIE6N AH45
CLKOUT_PCIE6P AH46
CLKOUT_PCIE7N AF48
CLKOUT_PCIE7P AF47
A20GATE U2 H_A20GATE 30
CLKOUT_BCLK0_N / CLKOUT_PCIE8N AM3 BCLK_CPU# 3
CLKOUT_BCLK0_P / CLKOUT_PCIE8P AM1 BCLK_CPU 3
PECI BG10 H_PECI_R ER42 H_PECI 3
RCIN# T1 KBRST# 30
PROCPWRGD BE10 H_CPUPWRGD 3
THRMTRIP# BD10 PCH_THRMTRIP#_R R468 56R1%0402 H_THRMTRIP# 3
+VTT R469 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
VSS_NCTF_1 … 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
IbexPeak-M_Rev0_9
+3VRUN R141 10KR0402
12,30 DGPU_PWROK R146 0R0402 +1_8VRUN_PARK_PWRGD 45
R147 0R0402 +1_0VRUN_PARK_PWRGD 45
+3VSUS
HOST_ALERT#1 R195 X_1KR0402
HOST_ALERT#2 R183 10KR0402
SPI_CS#2 R198 10KR0402
GPIO57 R179 X_10KR0402
R178 10KR0402
HOST_ALERT#2 R175 X_1KR0402
+3VRUN
STP_PCI# R209 10KR0402
RN16 8P4R-10KR0402
CRIT_TEMP_REP#_R SV_SET_UP S_GPIO0 MFG_MODE
CRB_SV_DET R490 X_10KR0402
R482 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.
DGPU_HOLD_RST# R488 X_10KR0402
DGPU_PWROK R140 X_10KR0402
DGPUPRSNT# R467 10KR0402
+3VRUN
DGPUPRSNT# R471 X_10KR0402
DGPU_HOLD_RST# R478 X_10KR0402
DGPU_HPD_INTR# R131 X_10KR0402
DGPU_PWR_EN# R193 1KR0402
+3VRUN U22
DGPU_PWR_EN# DGPU_PWR_EN 12,45
SN74LVC1G04DBV_SOT23-5-RH

MICRO-STAR INT'L CO.,LTD.

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

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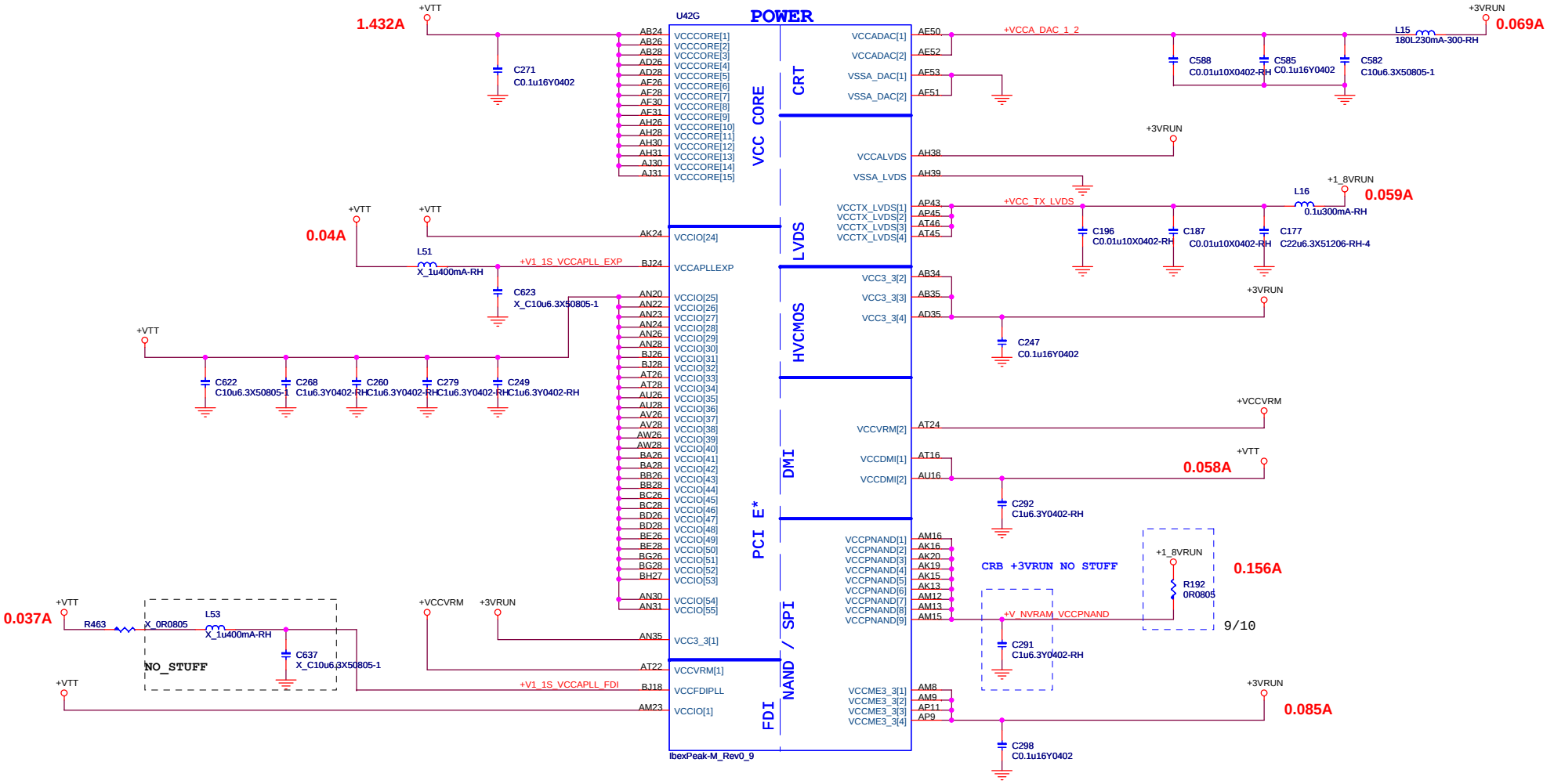
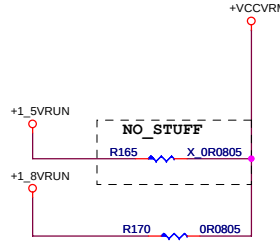
IBEXPEAK - M (POWER)



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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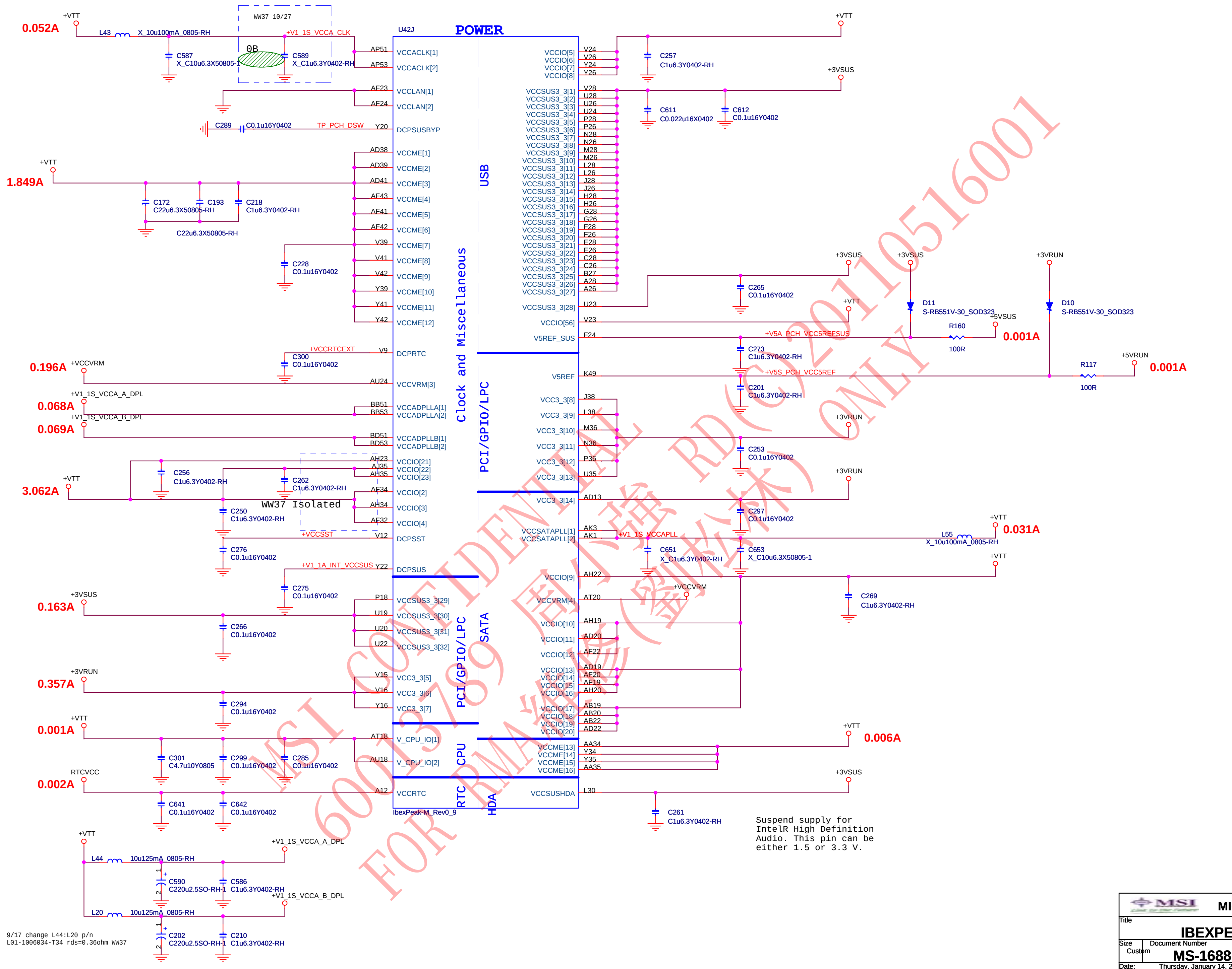
VccLAN may be grounded if Intel LAN is disabled.

IBEXPEAK - M (POWER)

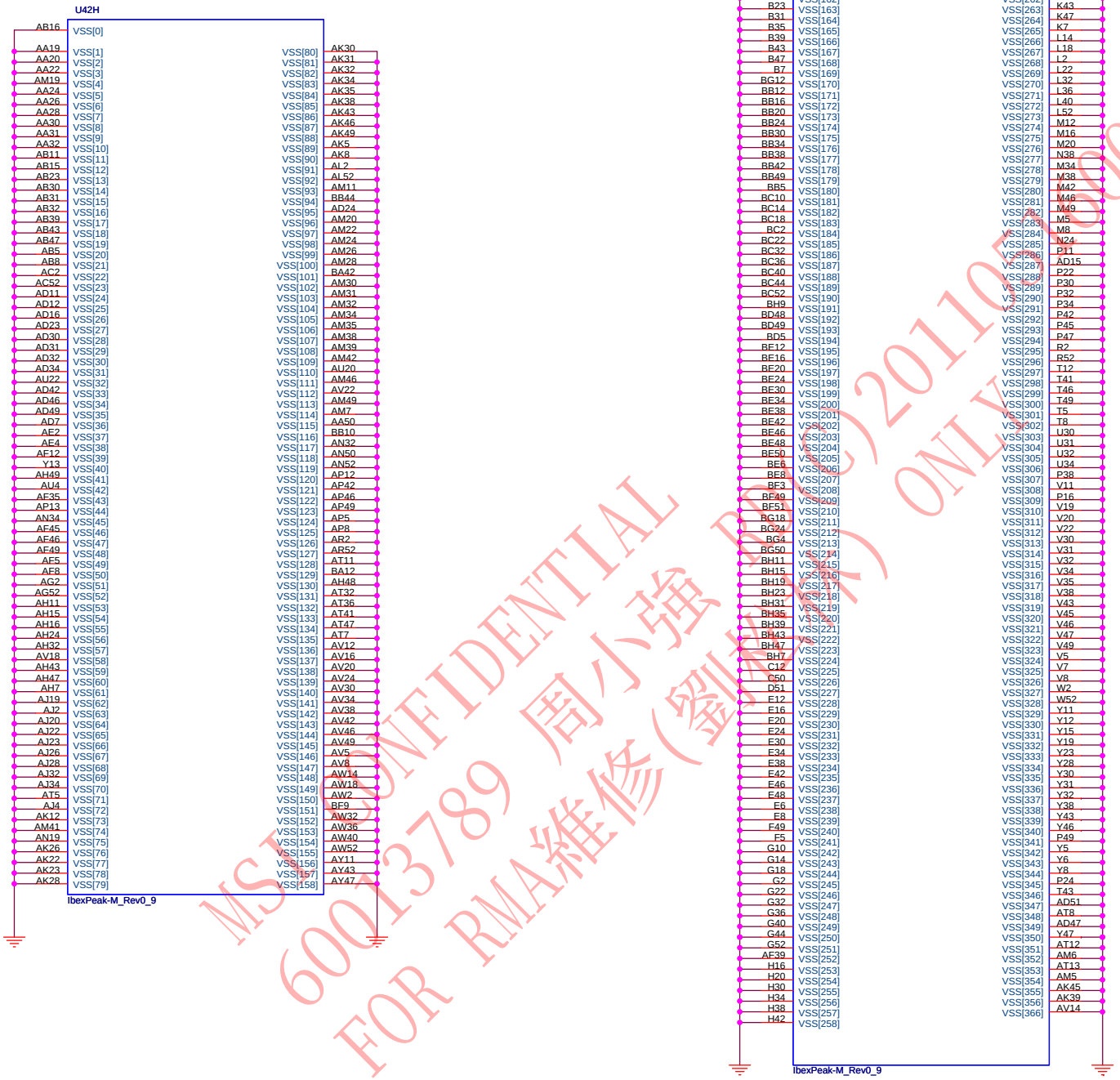


U42J
POWER
0.052A
+VTT
L43 X_10u100mA_0805-RH
WW37 10/27
+V1_1S_VCCA_CLK
0B
C587 X_C10u6.3X50805-1
C589 X_C1u6.3Y0402-RH
AP51 VCCACLK[1]
AP53 VCCACLK[2]
AF23 VCCLAN[1]
AF24 VCCLAN[2]
C289 C0.1u16Y0402
TP_PCH_DSW
Y20 DCPSUSBYP
AD38 VCCME[1]
AD39 VCCME[2]
AD41 VCCME[3]
AF43 VCCME[4]
AF41 VCCME[5]
AF42 VCCME[6]
V39 VCCME[7]
V41 VCCME[8]
V42 VCCME[9]
Y39 VCCME[10]
Y41 VCCME[11]
Y42 VCCME[12]
1.849A
C172 C22u6.3X50805-RH
C193
C218 C1u6.3Y0402-RH
C22u6.3X50805-RH
C228 C0.1u16Y0402
+VCCRTCEXT
V9 DCPRTC
C300 C0.1u16Y0402
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]
AH23 VCCIO[21]
AJ35 VCCIO[22]
AH35 VCCIO[23]
AF34 VCCIO[2]
AH34 VCCIO[3]
AF32 VCCIO[4]
3.062A
C256 C1u6.3Y0402-RH
C262 C1u6.3Y0402-RH
WW37 Isolated
C250 C1u6.3Y0402-RH
+VCCSST
V12 DCPSST
C276 C0.1u16Y0402
+V1_1A_INT_VCCSUS
Y22 DCPSUS
C275 C0.1u16Y0402
0.163A
+3VSUS
P18 VCCSUS3_3[29]
U19 VCCSUS3_3[30]
U20 VCCSUS3_3[31]
U22 VCCSUS3_3[32]
C266 C0.1u16Y0402
0.357A
+3VRUN
V15 VCC3_3[5]
V16 VCC3_3[6]
Y16 VCC3_3[7]
C294 C0.1u16Y0402
0.001A
AT18 V_CPU_IO[1]
AU18 V_CPU_IO[2]
C301 C4.7u10Y0805
C299 C0.1u16Y0402
C285 C0.1u16Y0402
0.002A
RTCVCC
A12 VCCRTC
C641 C0.1u16Y0402
C642 C0.1u16Y0402
IbexPeak-M_Rev0_9
Clock and Miscellaneous
USB
PCI/GPIO/LPC
SATA
CPU
RTC
HDA
VCCIO[5] V24
VCCIO[6] V26
VCCIO[7] Y24
VCCIO[8] Y26
C257 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
C611 C0.022u16X0402
C612 C0.1u16Y0402
VCCSUS3_3[28] U23
VCCIO[56] V23
V5REF_SUS F24
C265 C0.1u16Y0402
D11 S-RB551V-30_SOD323
D10 S-RB551V-30_SOD323
+3VRUN
+5VSUS
R160 100R
+V5A_PCH_VCC5REFSUS
C273 C1u6.3Y0402-RH
V5REF K49
+V5S_PCH_VCC5REF
+5VRUN
R117 100R
C201 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
C253 C0.1u16Y0402
VCC3_3[14] AD13
C297 C0.1u16Y0402
VCCSATAPLL[1] AK3
VCCSATAPLL[2] AK1
+V1_1S_VCCAPLL
0.031A
L55 X_10u100mA_0805-RH
C651 X_C1u6.3Y0402-RH
C653 X_C10u6.3X50805-1
VCCIO[9] AH22
C269 C1u6.3Y0402-RH
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
C261 C1u6.3Y0402-RH
Suspend supply for IntelR High Definition Audio. This pin can be either 1.5 or 3.3 V.
L44 10u125mA_0805-RH
+V1_1S_VCCA_A_DPL
C590 C220u2.5SO-RH-1
C586 C1u6.3Y0402-RH
L20 10u125mA_0805-RH
+V1_1S_VCCA_B_DPL
C202 C220u2.5SO-RH-1
C210 C1u6.3Y0402-RH
9/17 change L44:L20 p/n
L01-1006034-T34 rds=0.36ohm WW37

MICRO-STAR INT'L CO.,LTD.

Title	IBEXPEAK - M (POWER)
Size	Custom
Document Number	MS-1688
Rev	10
Date:	Thursday, January 14, 2010
Sheet	27 of 53

IBEXPEAK - M (GND)

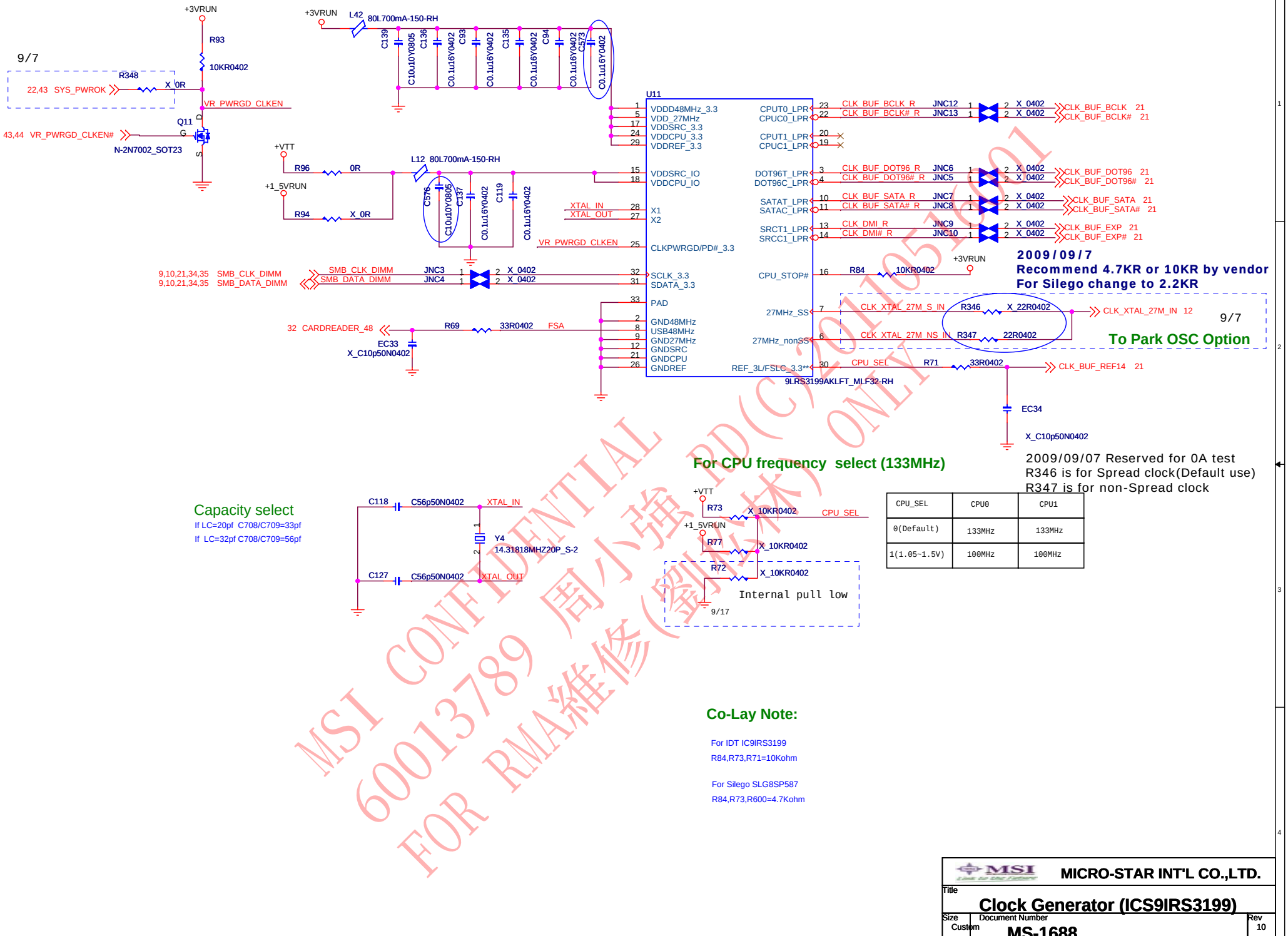


MICRO-STAR INT'L CO.,LTD.

Title: IBEXPEAK - M (GND)

Size: Custom | Document Number: MS-1688 | Rev: 10

Date: Thursday, January 14, 2010 | Sheet 28 of 53



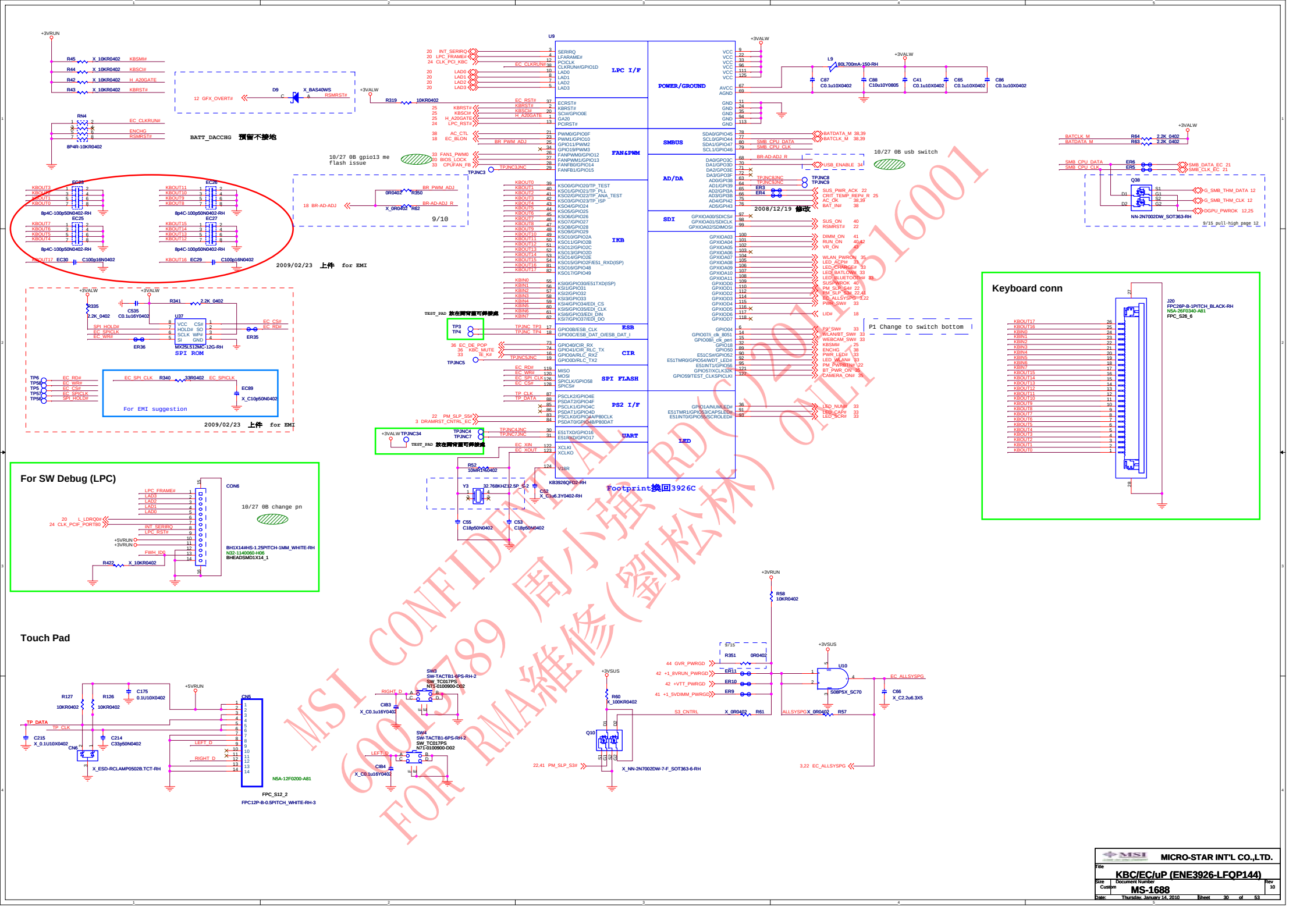
CPU_SEL	CPU0	CPU1
0(Default)	133MHz	133MHz
1(1.05~1.5V)	100MHz	100MHz

MICRO-STAR INT'L CO.,LTD.

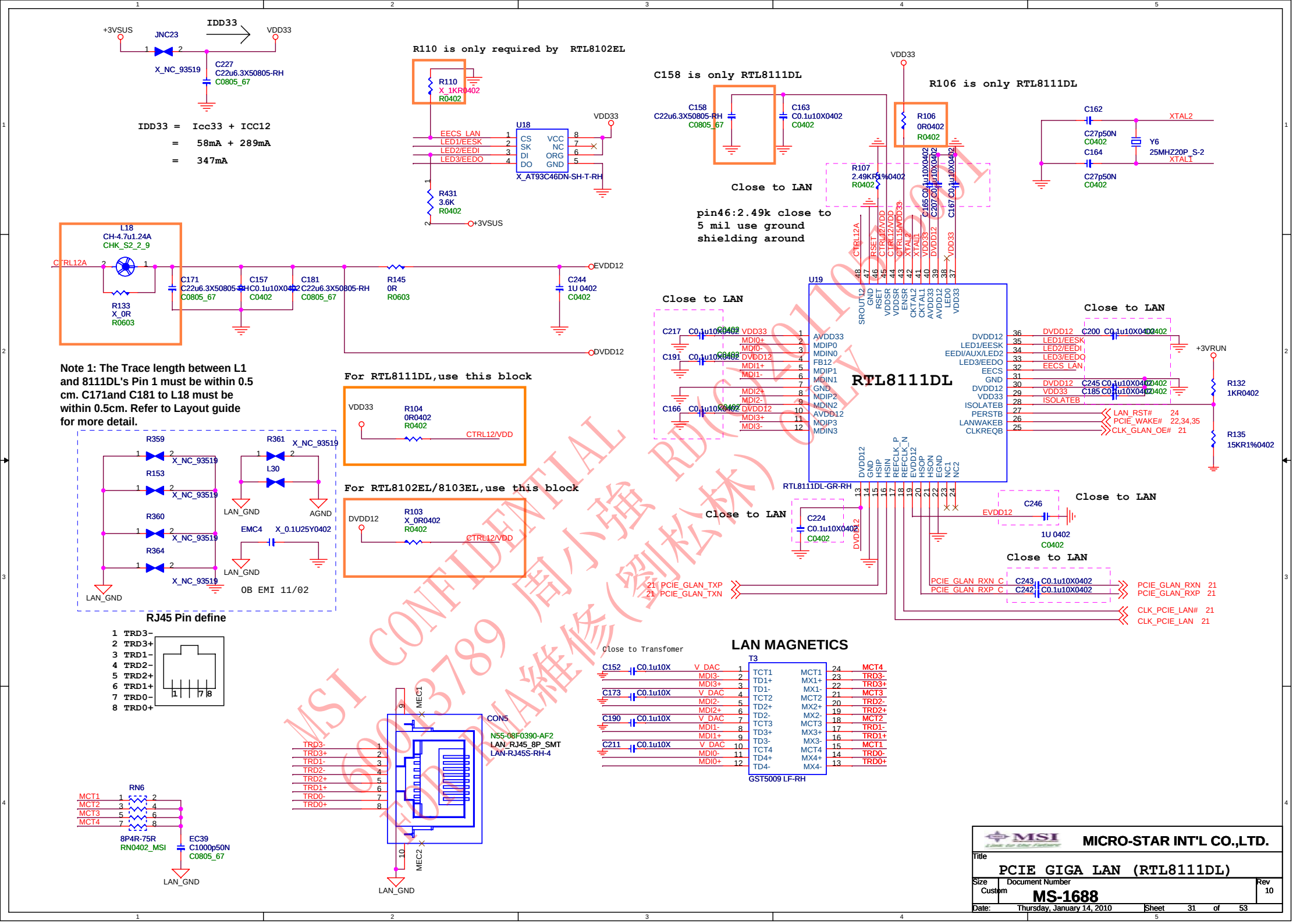
Title: Clock Generator (ICS9IRS3199)

Size: Custom | Document Number: MS-1688 | Rev: 10

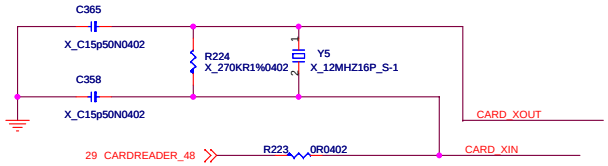
Date: Thursday, January 14, 2010 | Sheet 29 of 53

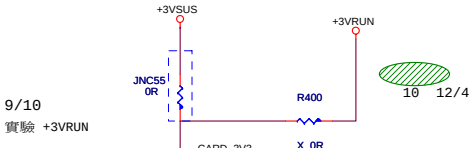


MICRO-STAR INT'L CO.,LTD.	
Title	KBC/EC/uP (ENE3926-LFQP144)
Size: Custom	Document Number: MS-1688
Rev	10
Date: Thursday, January 14, 2010	Sheet 30 of 53



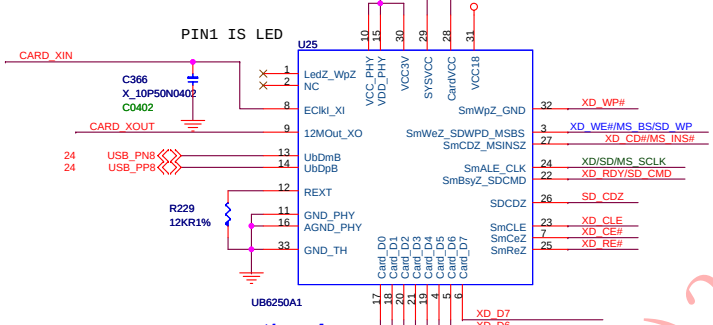
MICRO-STAR INT'L CO.,LTD.			
Title: PCIE GIGA LAN (RTL8111DL)			
Size: Custom	Document Number: MS-1688		Rev: 10
Date: Thursday, January 14, 2010	Sheet 31 of 53		

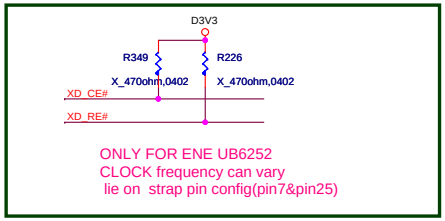




ENE UB6250 USB20 Flash Card Reader Controller
Pins for SD, MMC, MS, and xD memory cards

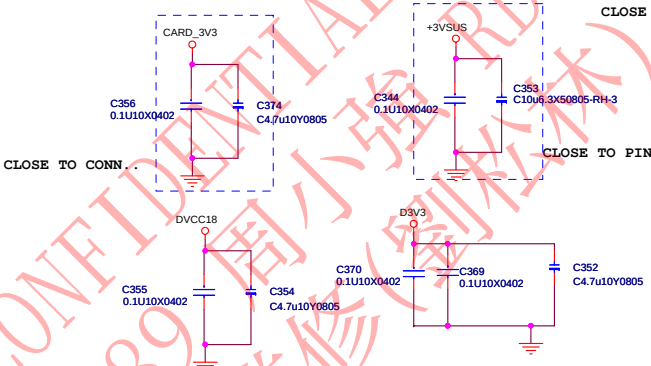
Name	No	I/O	XD	SD	MMC	MS
xDCeZ	7	O	xD card EN			
xDCle	23	O	xD CMD latch EN			
xDAle	24	O	xD ADDR latch EN	SD clock	MMC clock	MS serial clock
xDBsyZ	22	B	xD Ready/busy	SD CMD/response	MMC CMD/response	
xDData0	17	B	xD D0	SD D0	MMC D0	MS D0
xDData1	18	B	xD D1	SD D1	MMC D1	MS D1
xDData2	20	B	xD D2	SD D2	MMC D2	MS D2
xDData3	21	B	xD D3	SD D3	MMC D3	MS D3
xDData4	19	B	xD D4		MMC D4	MS D4
xDData5	4	B	xD D5		MMC D5	MS D5
xDData6	5	B	xD D6		MMC D6	MS D6
xDData7	6	B	xD D7		MMC D7	MS D7
xDWeZ	3	B	xD W EN	SD WP		MS Busy
xDReZ	25	O	xD R EN			
xDWpZ	32	O	xD WP			
SdCdZ	26	I		SD CD	MMC CD	
xDCdZ	27	I	xD CD			MS CD

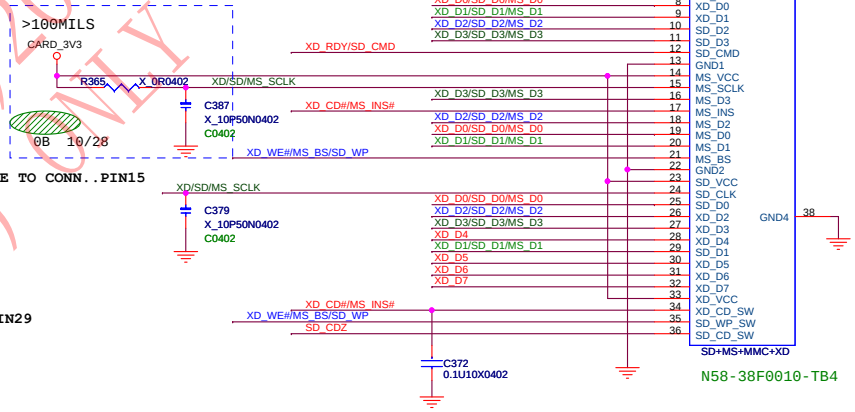




Configurations for Clock Source Selection:

4.7K Pull-high Resistor on		Frequency of external clock source to EClkin pin
xDReZ	xDCeZ	
NC	NC	48MHz
NC	O	24MHz
O	NC	12MHz



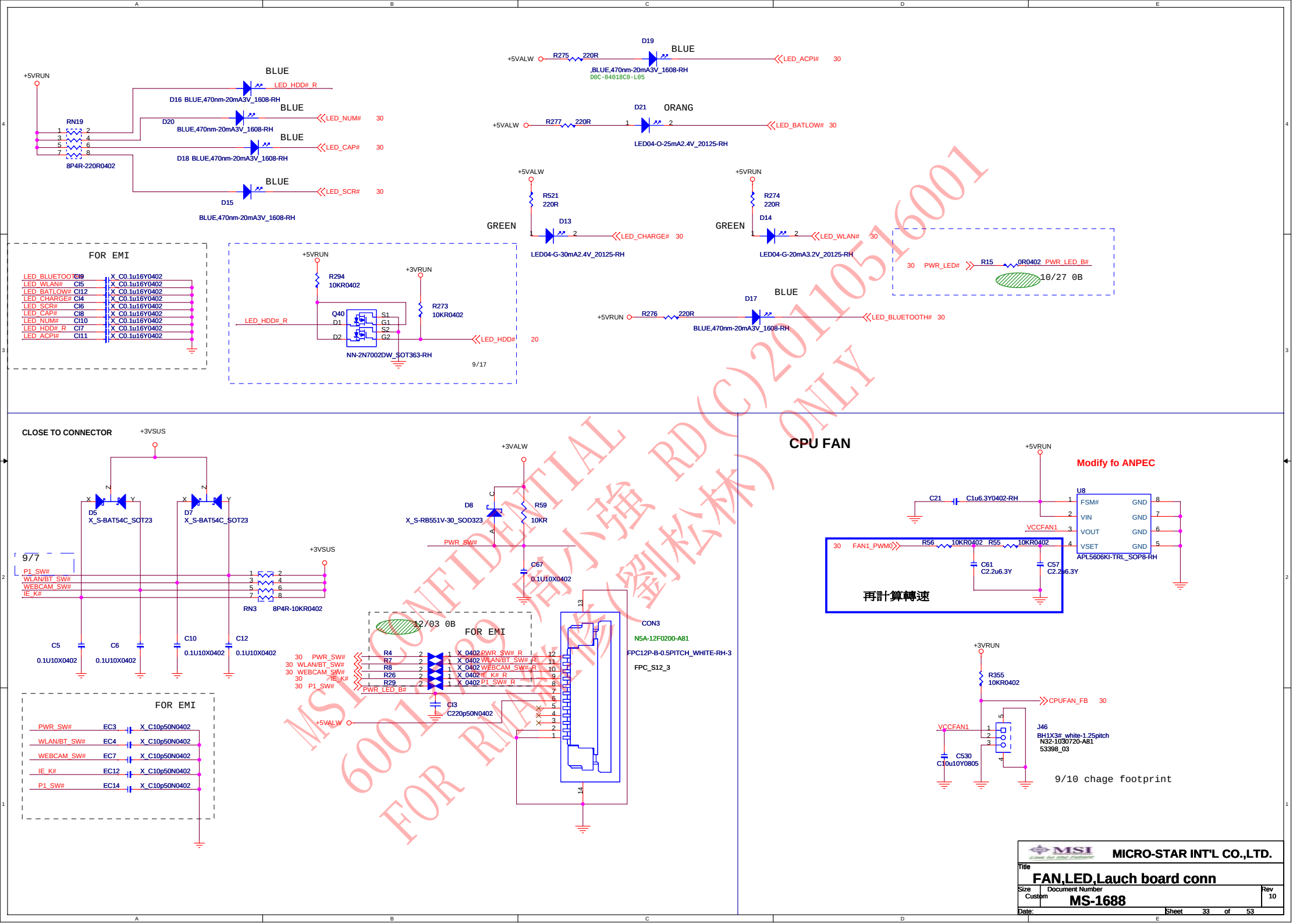


MICRO-STAR INT'L CO.,LTD.

Title: Cardreader(UB6250)

Size: Custom | Document Number: MS-1688 | Rev: 10

Date: | Sheet 32 of 53

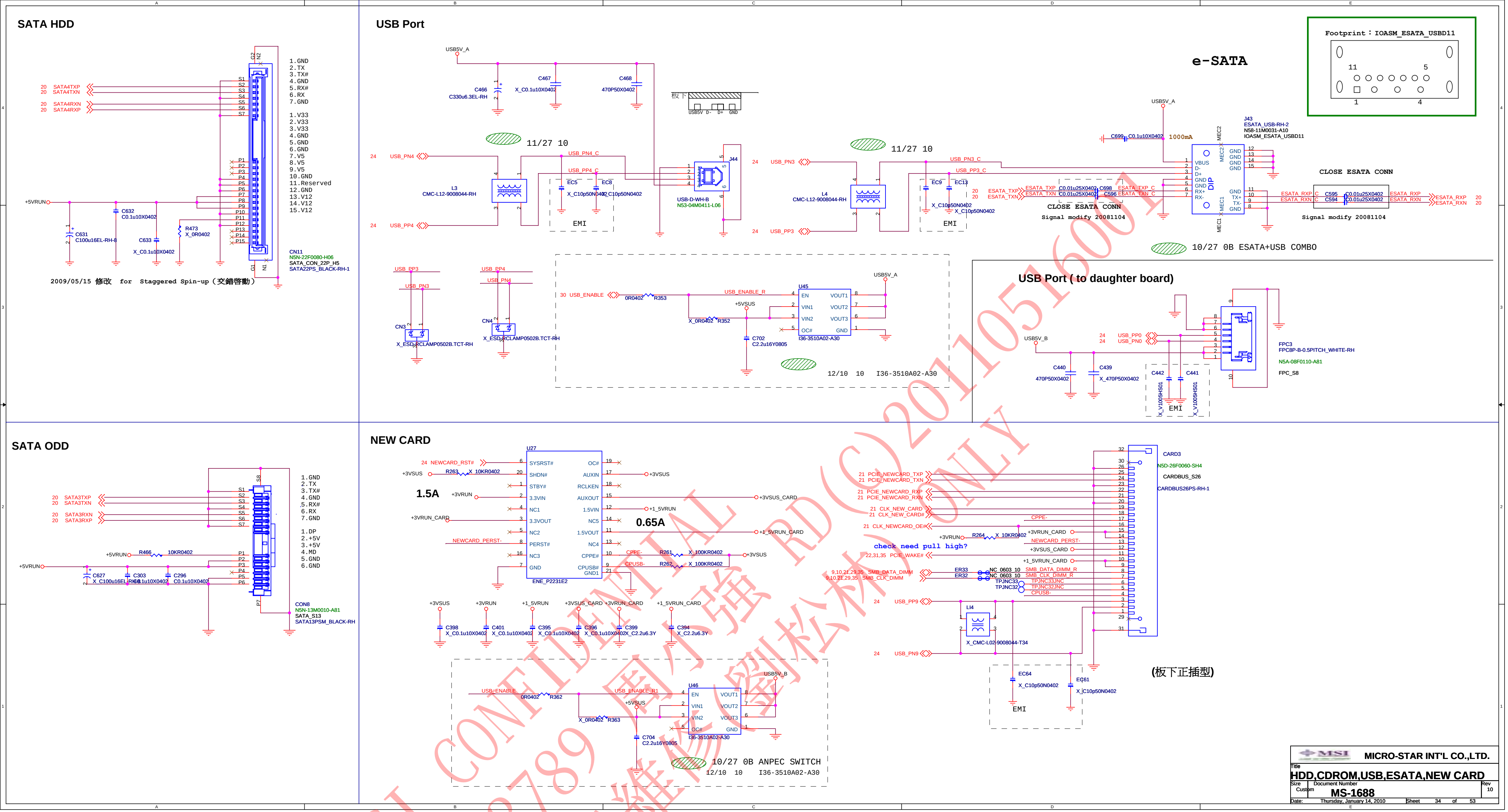


MICRO-STAR INT'L CO.,LTD.

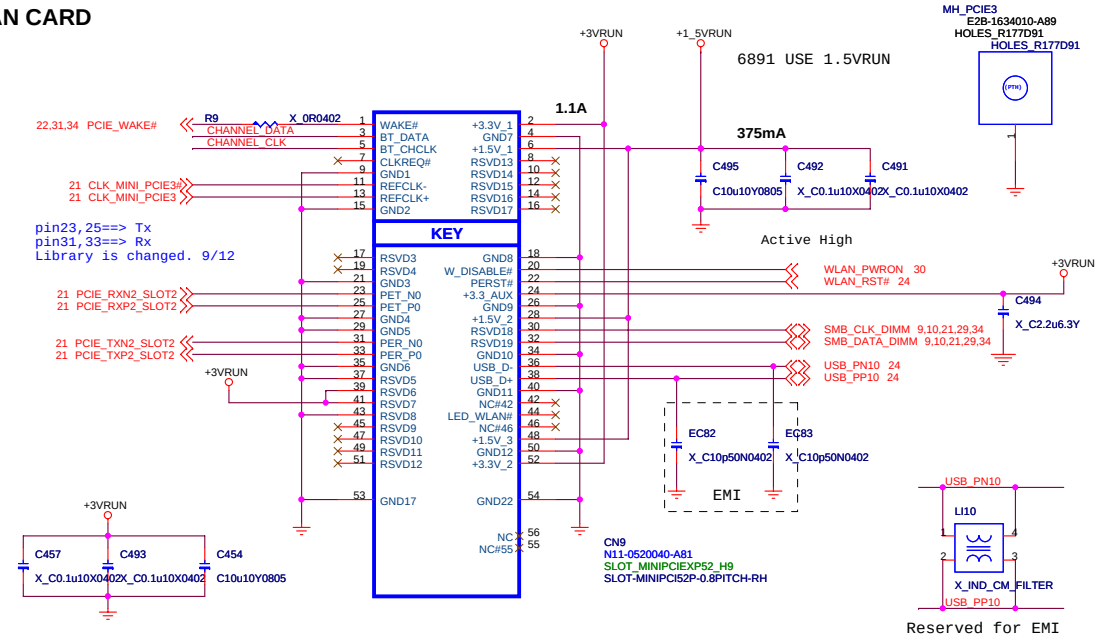
Title: FAN,LED,Lauch board conn

Size: Custom | Document Number: MS-1688 | Rev: 10

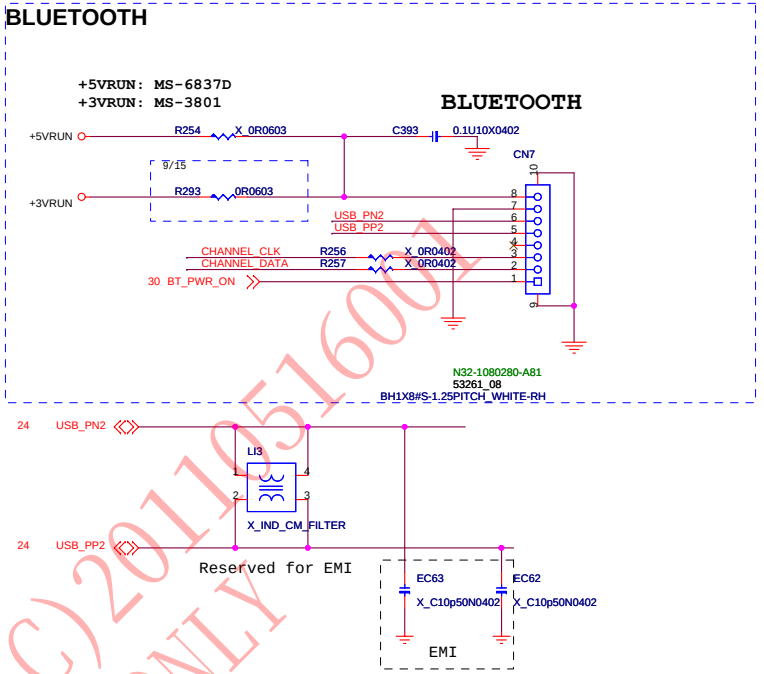
Date: | Sheet 33 of 53


SATA HDD
1.GND
2.TX
3.TX#
4.GND
5.RX#
6.RX
7.GND
1.V33
2.V33
3.V33
4.GND
5.GND
6.GND
7.V5
8.V5
9.V5
10.GND
11.Reserved
12.GND
13.V12
14.V12
15.V12
SATA4TXP
SATA4TXN
SATA4RXN
SATA4RXP
+5VRUN
C632 C0.1u10X0402
C631 C100u16EL-RH-8
C633 X_C0.1u10X0402
R473 X_0R0402
CN11 N5N-22F0080-H06 SATA_CON_22P_H5 SATA22PS_BLACK-RH-1
2009/05/15 修改 for Staggered Spin-up (交錯啓動)
USB Port
USB5V_A
C466 C330u6.3EL-RH
C467 X_C0.1u10X0402
C468 470P50X0402
11/27 10
USB_PN4
USB_PP4
L3 CMC-L12-9008044-RH
EC5 X_C10p50N0402
EC8 X_C10p50N0402
EMI
J44 USB-D-WH-B N53-04M0411-L06
USB5V D- D+ GND
USB_PN3
USB_PP3
L4 CMC-L12-9008044-RH
EC9 X_C10p50N0402
EC13 X_C10p50N0402
e-SATA
Footprint：IOASM_ESATA_USBD11
USB5V_A
C699 C0.1u10X0402 1000mA
J43 ESATA_USB-RH-2 N58-11M0031-A10 IOASM_ESATA_USBD11
ESATA_TXP ESATA_TXN
C698 C0.01u25X0402
C596 C0.01u25X0402
CLOSE ESATA CONN
Signal modify 20081104
ESATA_RXP ESATA_RXN
C595 C0.01u25X0402
C594 C0.01u25X0402
10/27 0B ESATA+USB COMBO
CN3 X_ESD_RCLAMP0502B.TCT-RH
CN4 X_ESD_RCLAMP0502B.TCT-RH
USB_ENABLE
0R0402 R353
USB_ENABLE_R
X_0R0402 R352
+5VSUS
U45 I36-3510A02-A30
EN VIN1 VIN2 OC# VOUT1 VOUT2 VOUT3 GND
C702 C2.2u16Y0805
12/10 10 I36-3510A02-A30
USB Port (to daughter board)
USB5V_B
USB_PP0 USB_PN0
C440 470P50X0402
C439 X_470P50X0402
C442 C441 X_V1005HS01
EMI
FPC3 FPC8P-B-0.5PITCH_WHITE-RH N5A-08F0110-A81 FPC_S8
SATA ODD
1.GND
2.TX
3.TX#
4.GND
5.RX#
6.RX
7.GND
1.DP
2.+5V
3.+5V
4.MD
5.GND
6.GND
SATA3TXP SATA3TXN SATA3RXN SATA3RXP
+5VRUN R466 10KR0402
C627 X_C100u16EL-RH-8
C303 C0.1u10X0402
C296 C0.1u10X0402
CON8 N5N-13M0010-A81 SATA_S13 SATA13PSM_BLACK-RH-1
NEW CARD
U27 ENE_P2231E2
NEWCARD_RST#
+3VSUS R263 X_10KR0402
1.5A
+3VRUN
+3VRUN_CARD
NEWCARD_PERST-
SYSRST# SHDN# STBY# 3.3VIN 3.3VOUT NC1 NC2 PERST# NC3 GND
OC# AUXIN RCLKEN AUXOUT 1.5VIN 1.5VOUT NC4 NC5 CPPE# CPUSB# GND1
+3VSUS_CARD
+1_5VRUN
+1_5VRUN_CARD
0.65A
CPPE- R261 X_100KR0402
CPUSB- R262 X_100KR0402
C398 X_C0.1u10X0402
C401 X_C0.1u10X0402
C395 X_C0.1u10X0402
C396 X_C0.1u10X0402
C399 X_C2.2u6.3Y
C394 X_C2.2u6.3Y
USB_ENABLE 0R0402 R362
USB_ENABLE_R1
X_0R0402 R363
U46 I36-3510A02-A30
C704 C2.2u16Y0805
10/27 0B ANPEC SWITCH
12/10 10 I36-3510A02-A30
PCIE_NEWCARD_TXP PCIE_NEWCARD_TXN
PCIE_NEWCARD_RXP PCIE_NEWCARD_RXN
CLK_NEW_CARD CLK_NEW_CARD#
CLK_NEWCARD_OE#
PCIE_WAKE#
check need pull high?
R264 X_10KR0402
SMB_DATA_DIMM SMB_CLK_DIMM
ER33 ER32 NC_0603_10
TPJNC33 TPJNC32
USB_PP9 USB_PN9
LI4 X_CMC-L02-9008044-T34
EC64 X_C10p50N0402
EC61 X_C10p50N0402
CARD3 N5D-26F0060-SH4 CARDBUS_S26 CARDBUS26PS-RH-1
(板下正插型)
MICRO-STAR INT'L CO.,LTD.
Title HDD,CDROM,USB,ESATA,NEW CARD
Size Custom Document Number MS-1688 Rev 10
Date: Thursday, January 14, 2010 Sheet 34 of 53

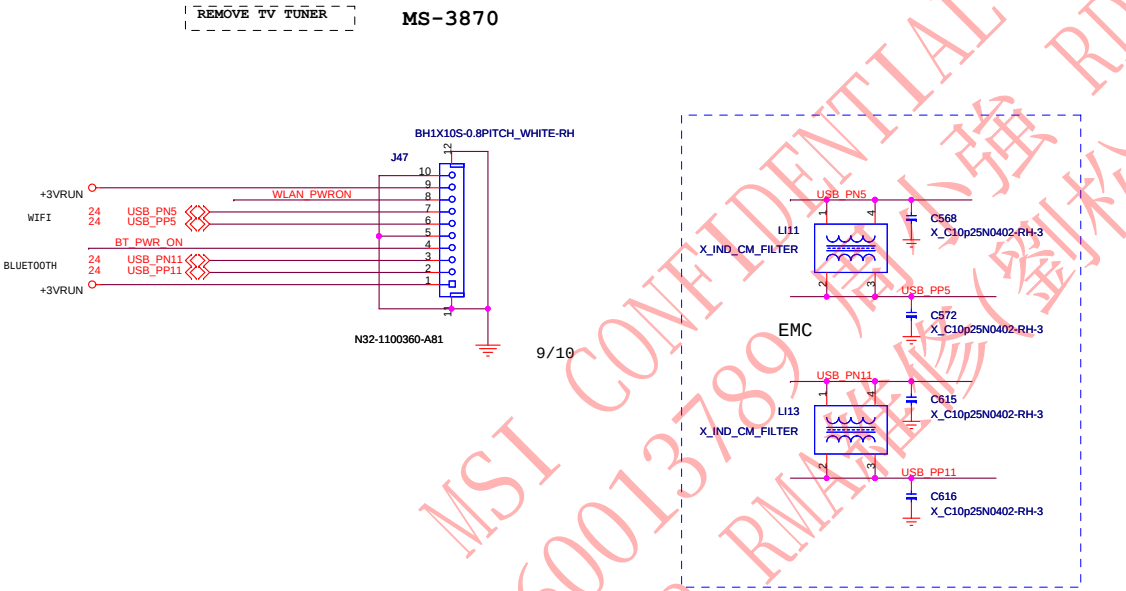
WLAN CARD



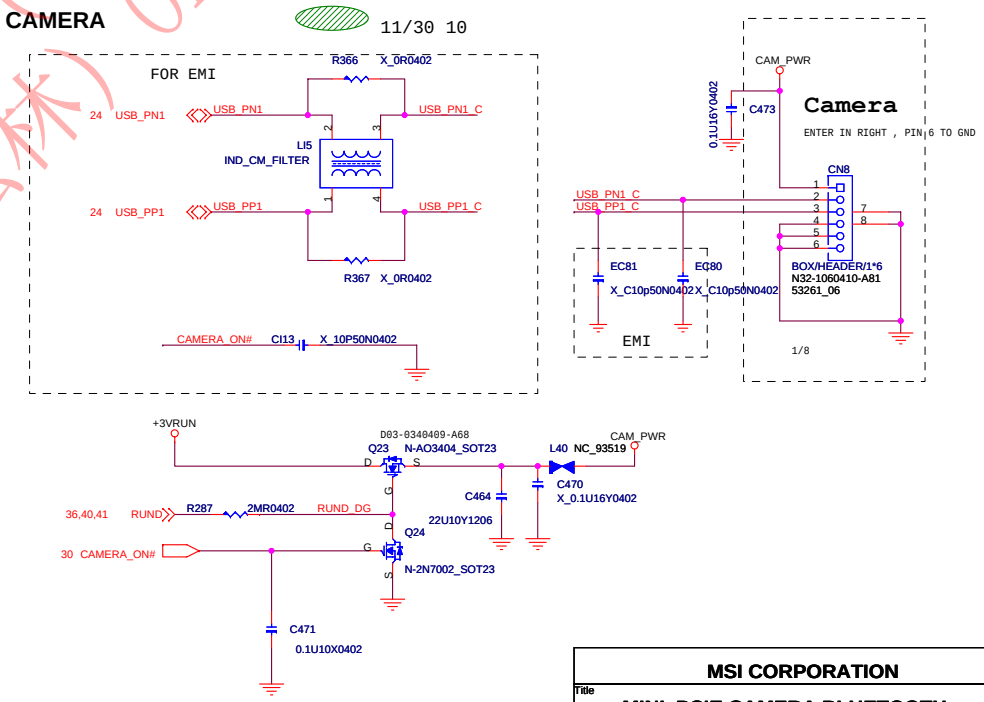
BLUETOOTH



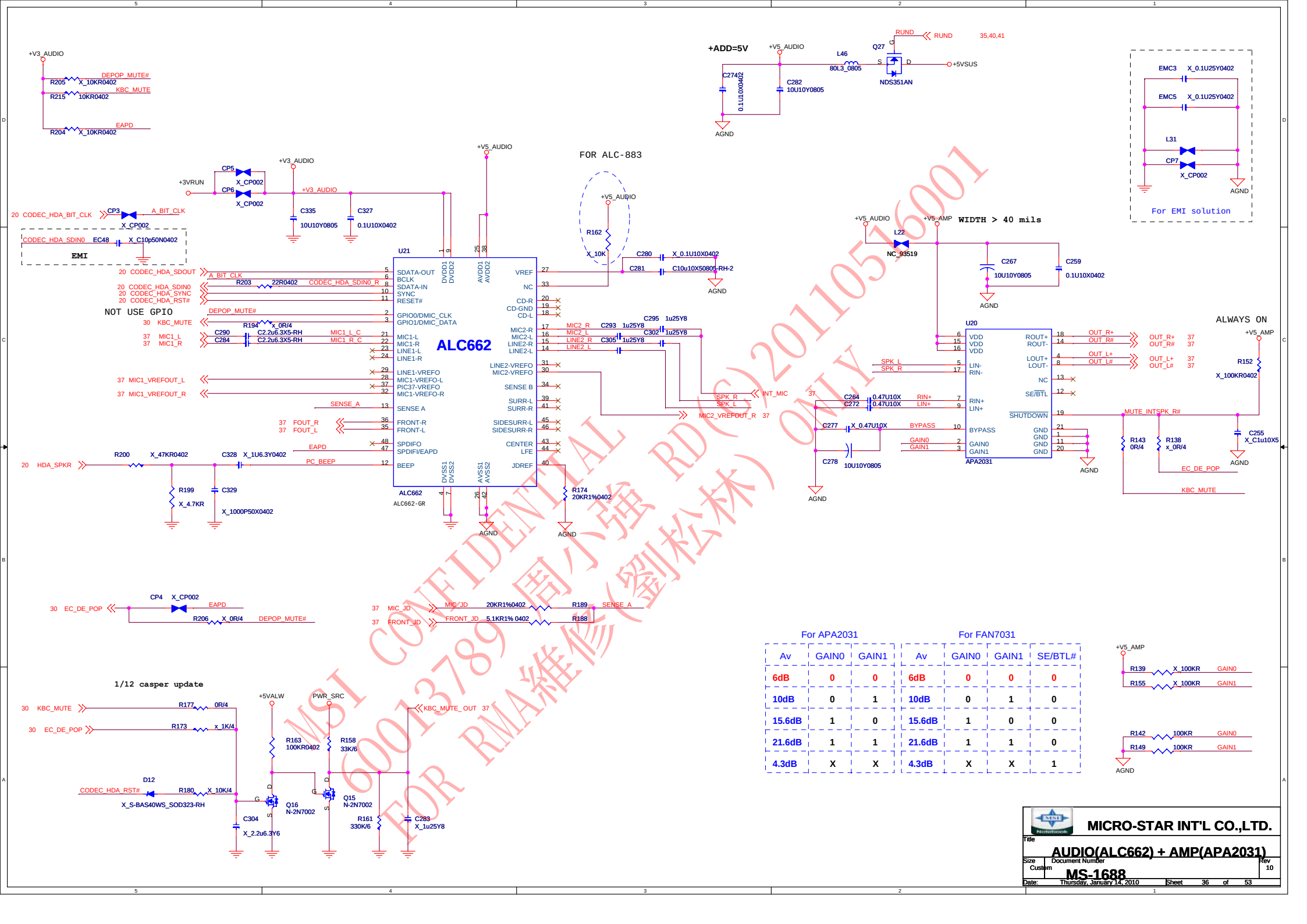
MS-3870



CAMERA



MSI CORPORATION		
Title: MINI_PCIE,CAMERA,BLUETOOTH		
Size: Custom	Document Number: MS-1688	Rev: 10
Date: Thursday, January 14, 2010	Sheet 35 of 53	



For APA2031			For FAN7031			
Av	GAIN0	GAIN1	Av	GAIN0	GAIN1	SE/BTL#
6dB	0	0	6dB	0	0	0
10dB	0	1	10dB	0	1	0
15.6dB	1	0	15.6dB	1	0	0
21.6dB	1	1	21.6dB	1	1	0
4.3dB	X	X	4.3dB	X	X	1

MICRO-STAR INT'L CO.,LTD.

Title: AUDIO(ALC662) + AMP(APA2031)

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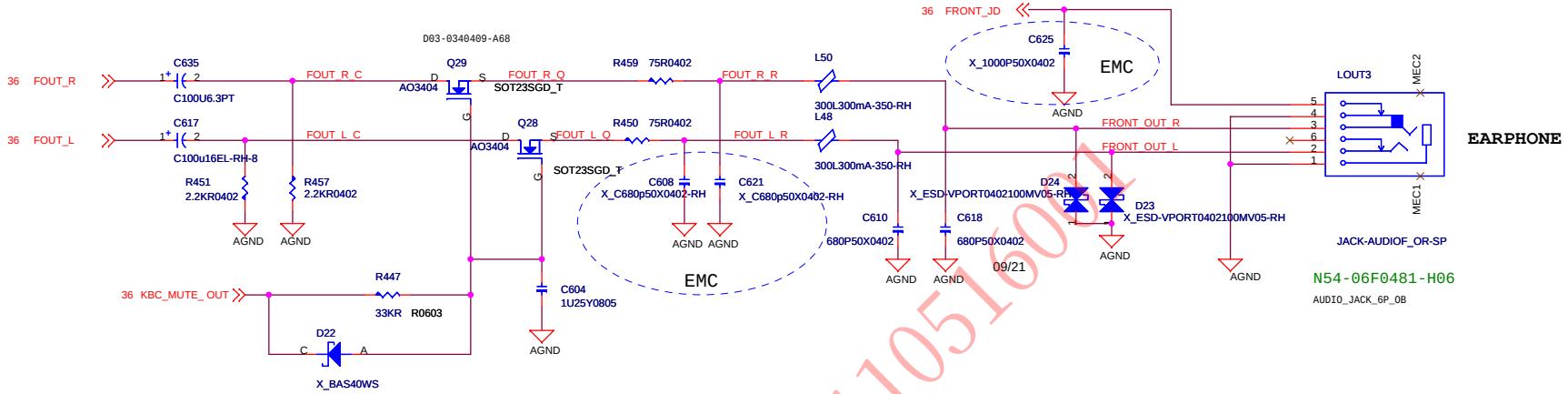
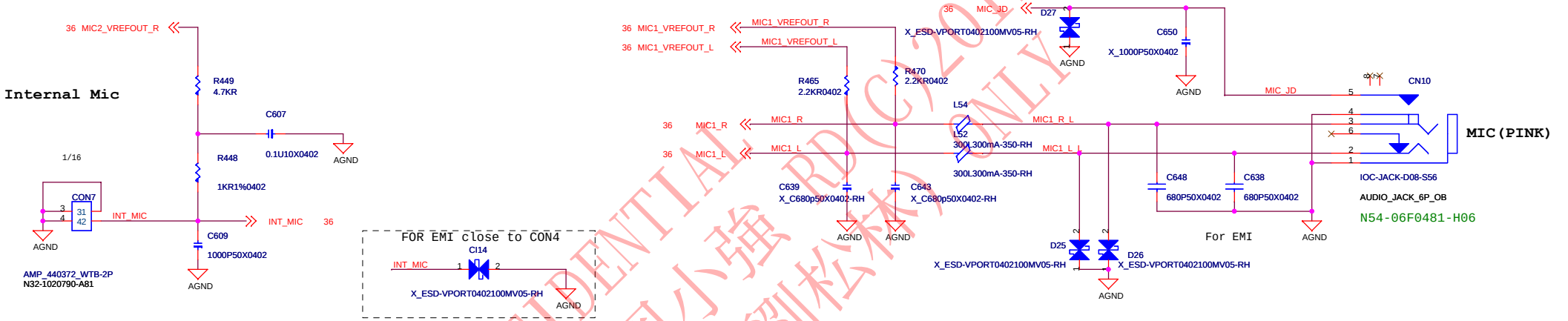
Date: Thursday, January 14, 2010 | Sheet 36 of 53

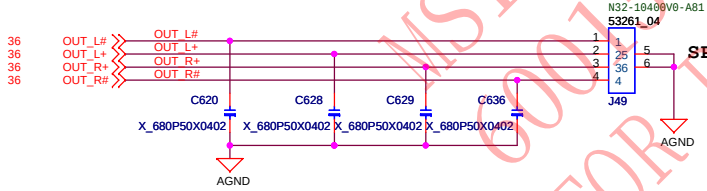
1/20 EAPD DELAY 650ms

HP IN IS LOW

D03-0340409-A68







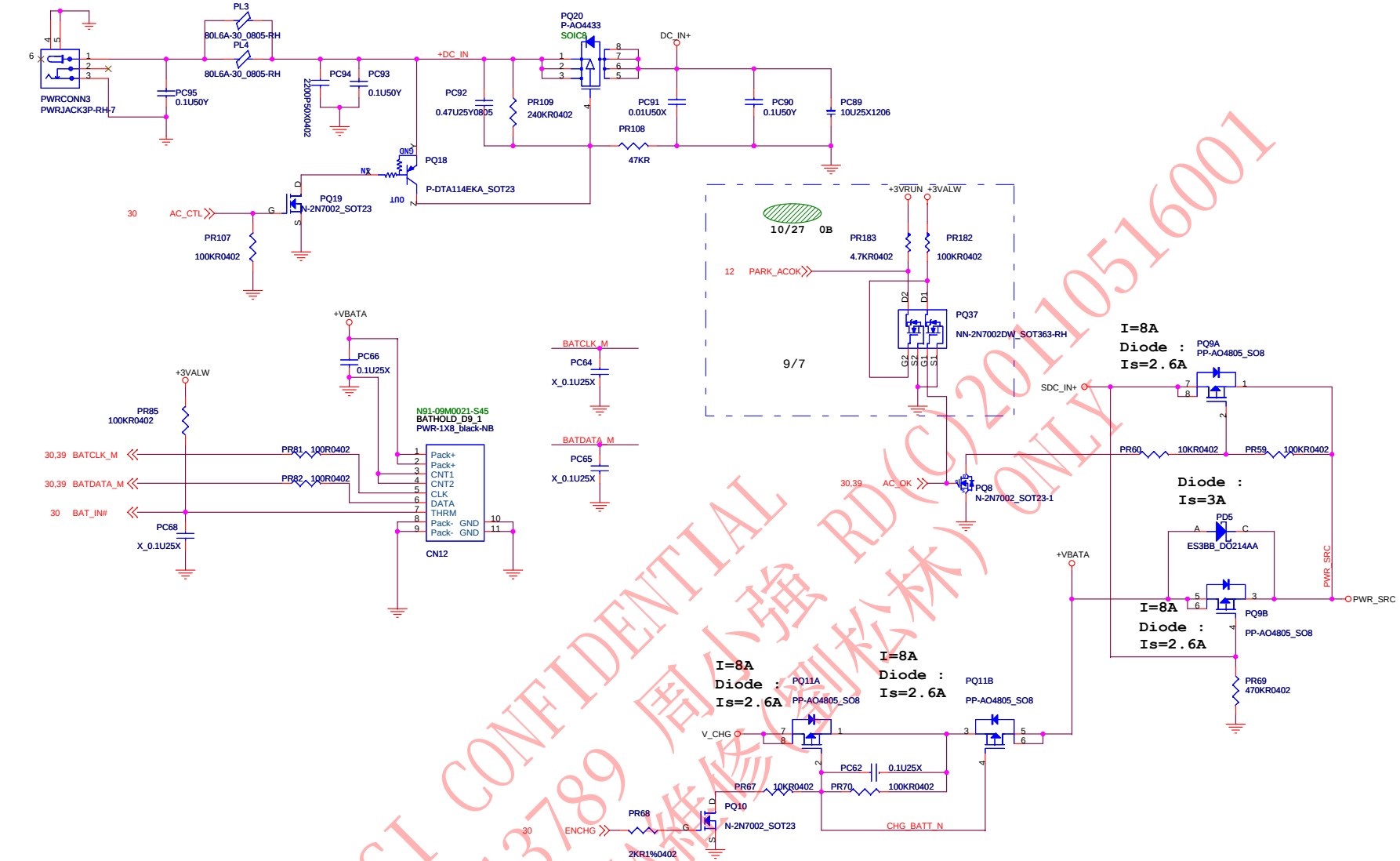
MICRO-STAR INT'L CO.,LTD.

Title: SPK / HP / MIC E28/M0

Size: Custom | Document Number: MS-1688 | Rev: 10

Date: Thursday, January 14, 2010 | Sheet 37 of 53

N92-03M0351-AF2



MICRO-STAR INT'L CO.,LTD.

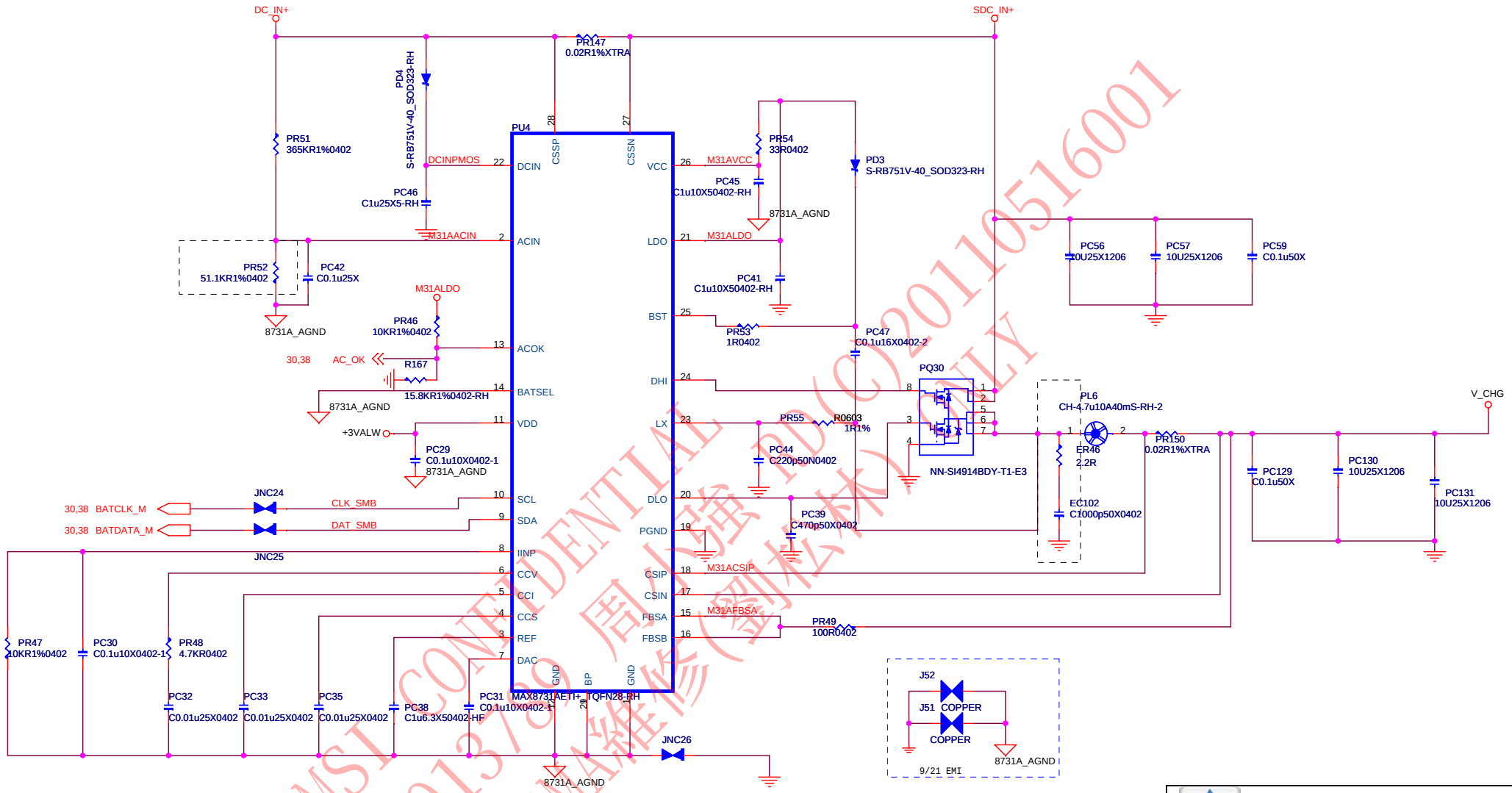
Title: Battery select

E39/M0

Size: Custom | Document Number: MS-1688 | Rev: 10

Date: Thursday, January 14, 2010 | Sheet 38 of 53

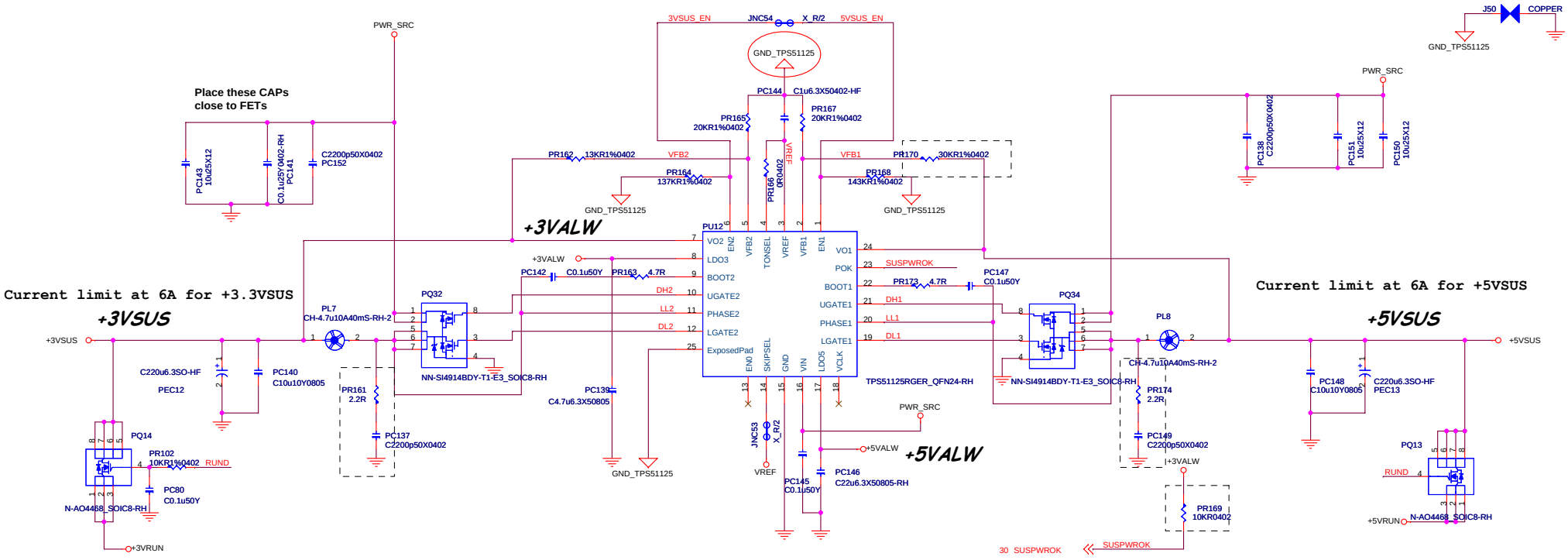
Adapter input voltage set 19 Voltage

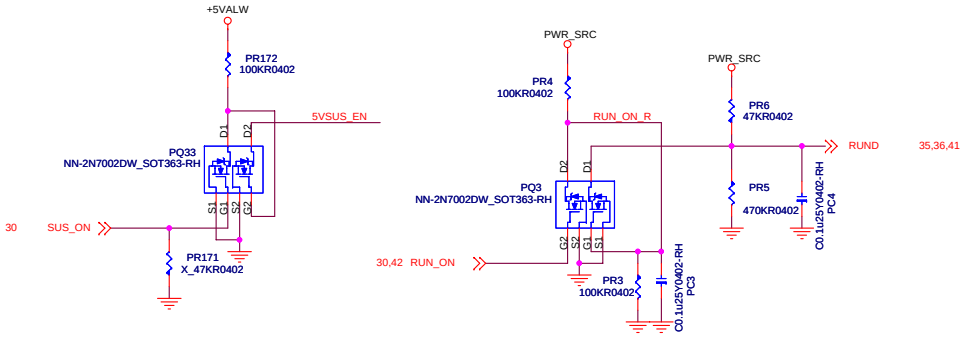


IINP :

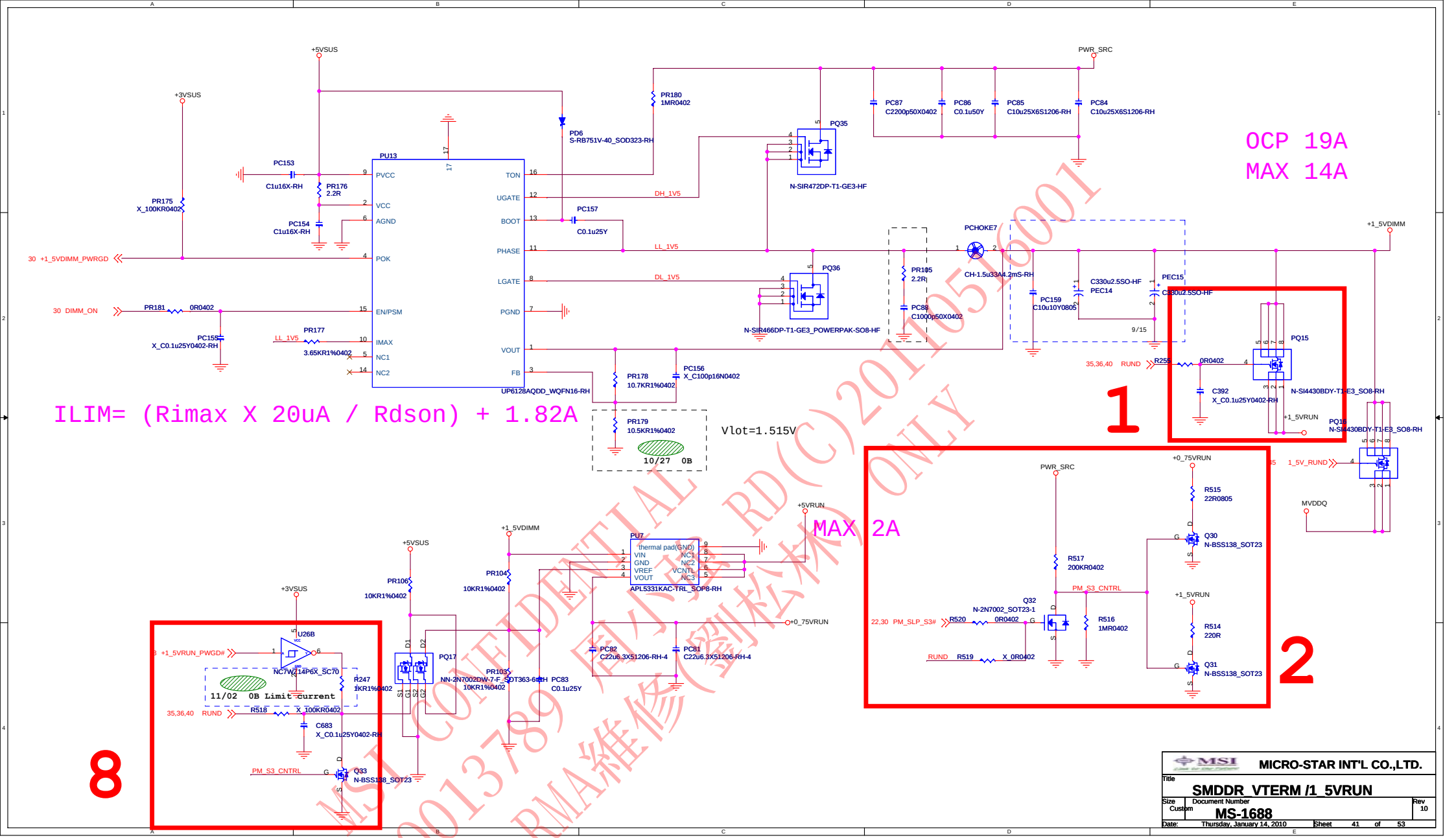
1. The transconductance from (CSSP - CSSN) to IINP is 3mA/V.
2. V_IINP = IINPUT x RS1 x 3mA/V x PR25

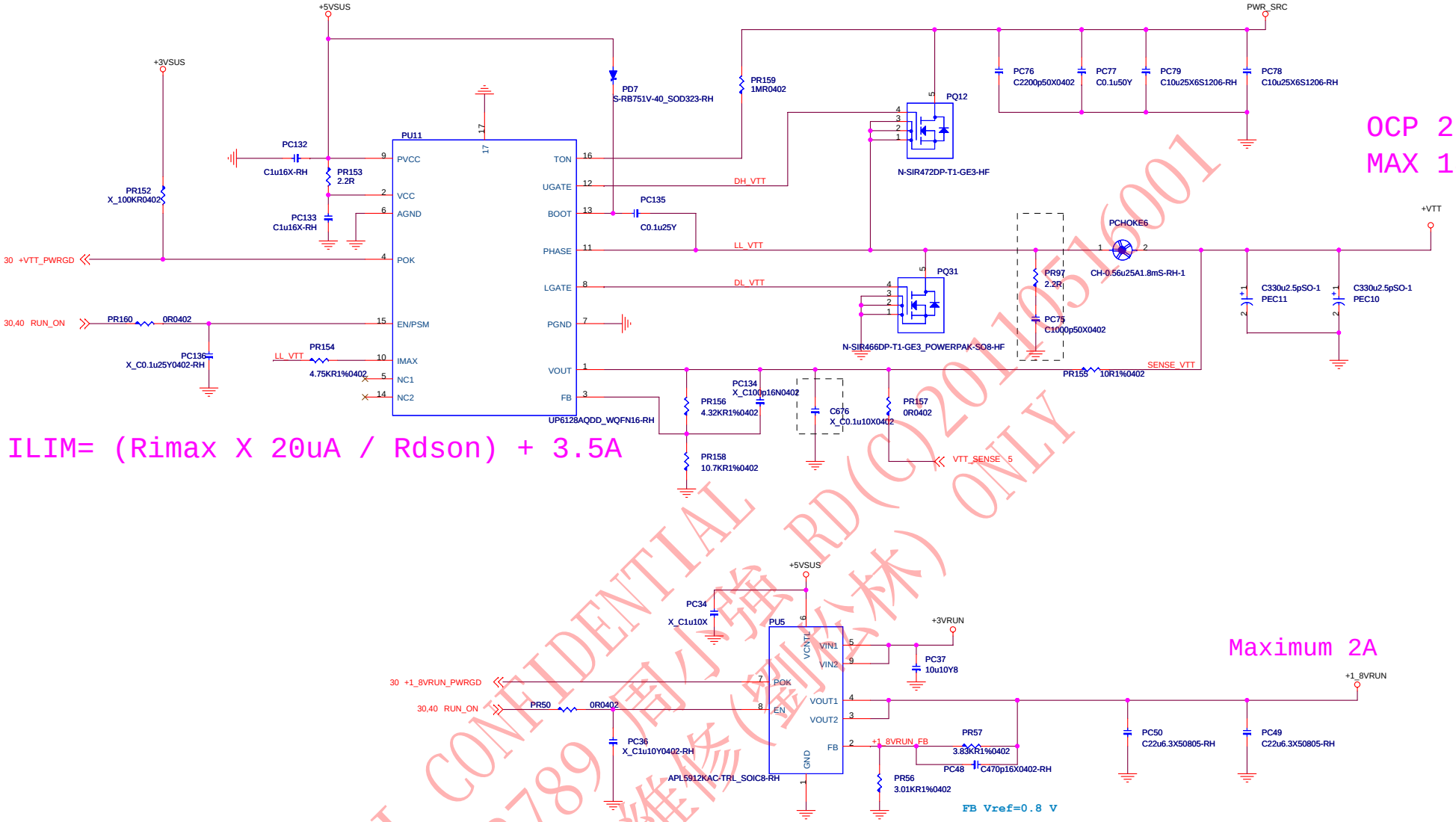
MICRO-STAR INT'L CO.,LTD.		
Title: Battery Charger		E51/M0
Size: B	Document Number: MS-1688	Rev: 10
Date: Thursday, January 14, 2010	Sheet 39 of 53	





MSI	MICRO-STAR INT'L CO.,LTD.	
Title: System power		
Size: Custom	Document Number: MS-1688	Rev: 10
Date: Thursday, January 14, 2010	Sheet 40 of 53	



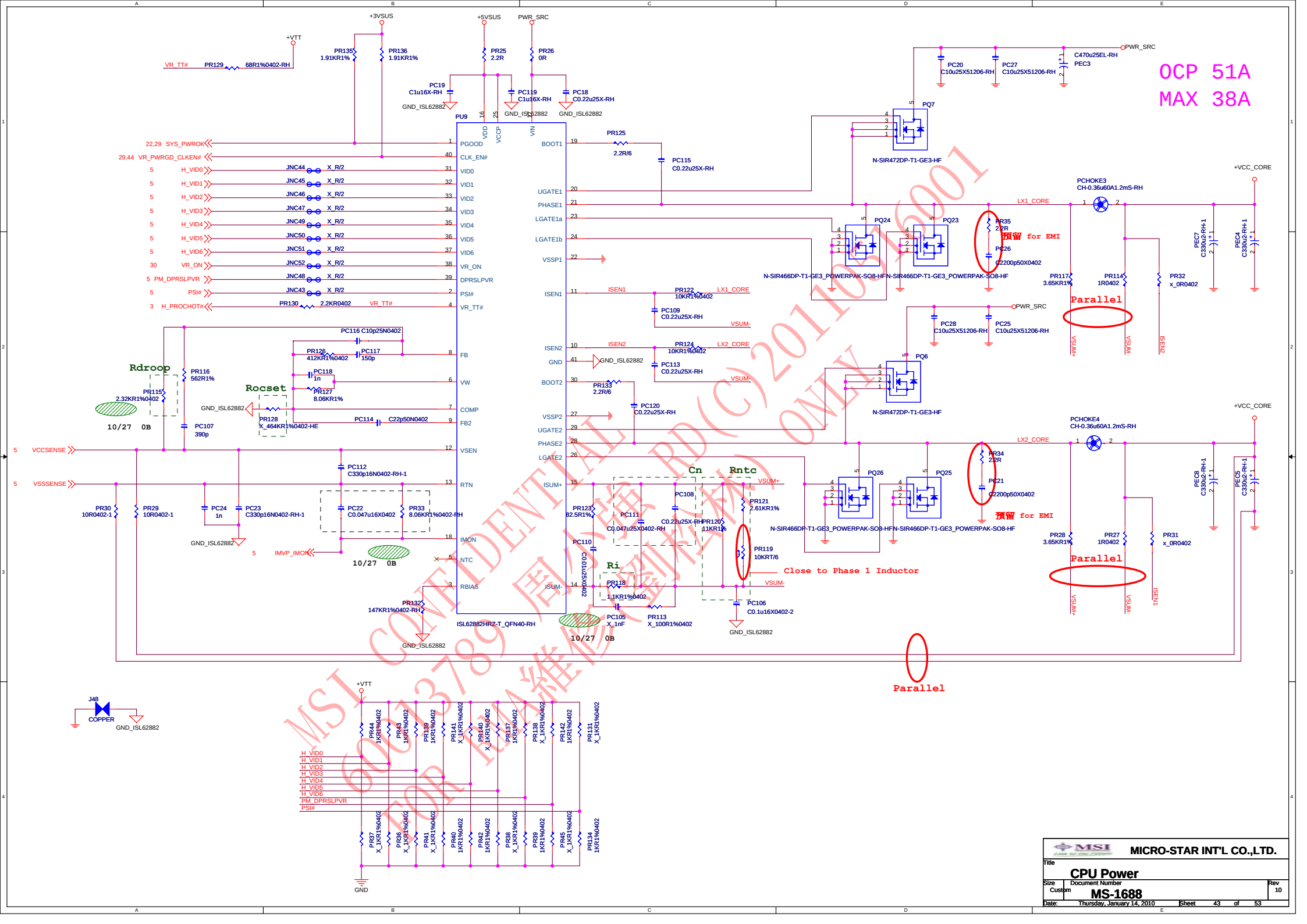


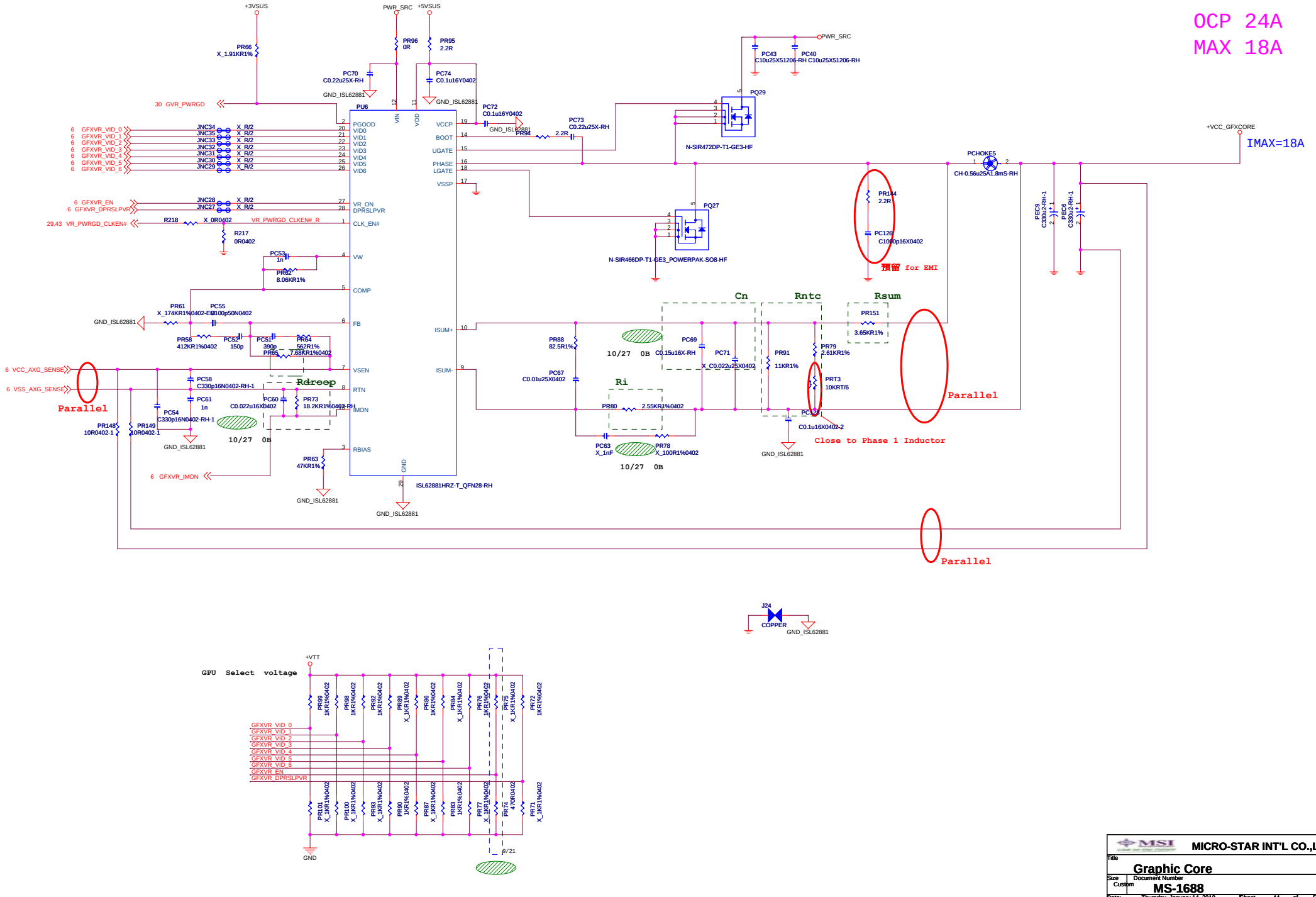
MICRO-STAR INT'L CO.,LTD.

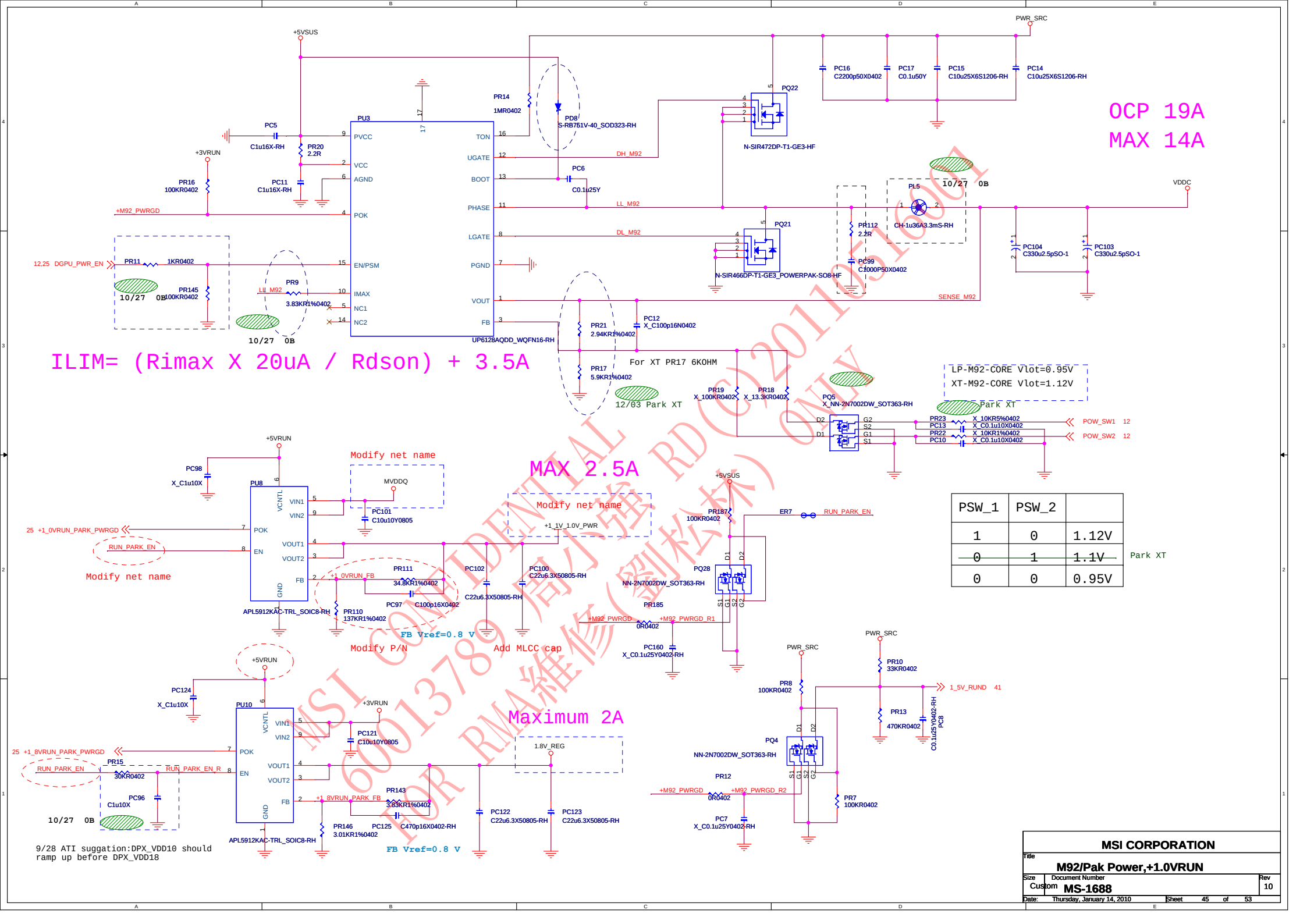
Title: VTT Power,+1.8VRUN

Size: Custom | Document Number: MS-1688 | Rev: 10

Date: Thursday, January 14, 2010 | Sheet 42 of 53

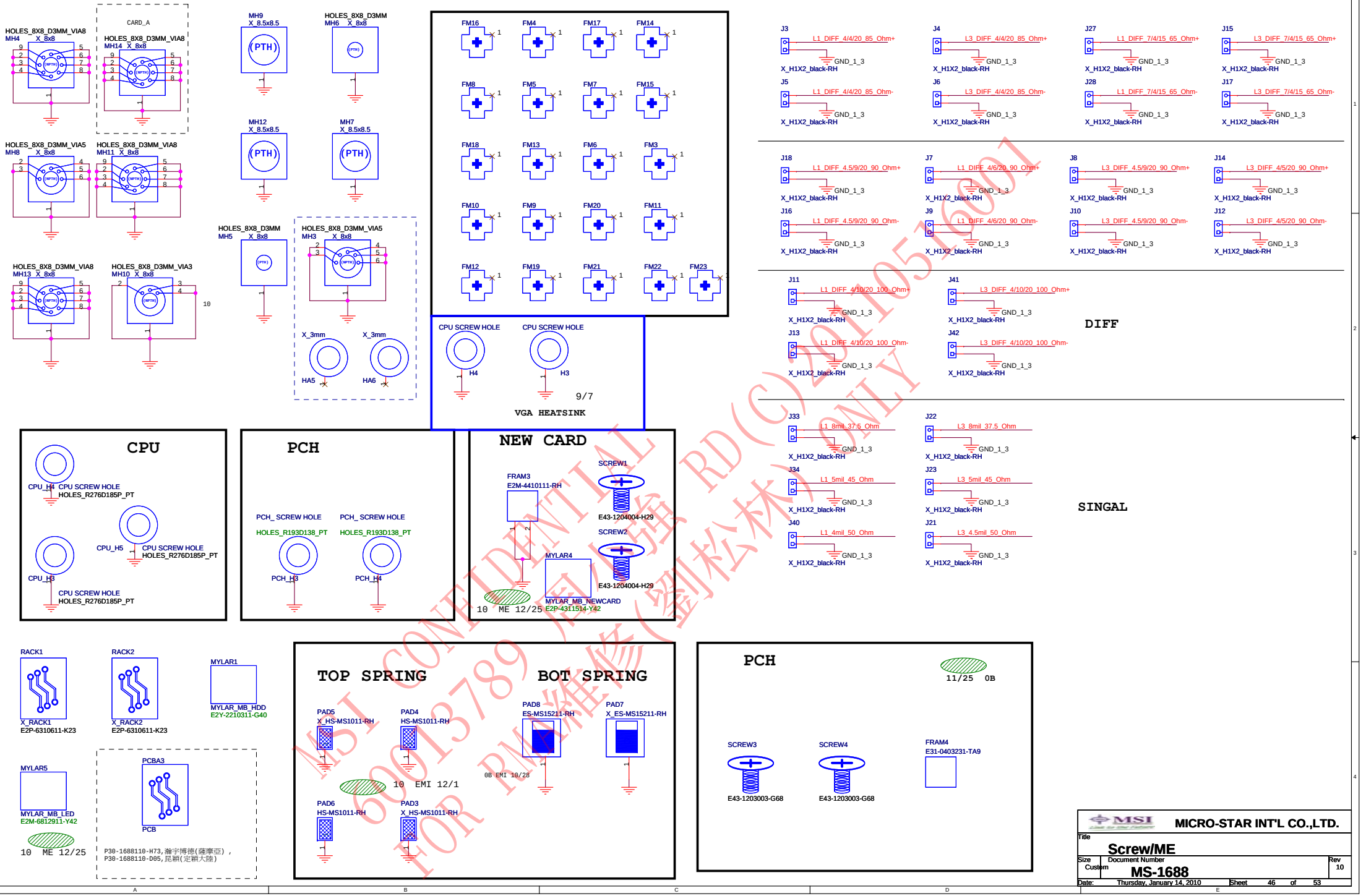

OCP 51A
MAX 38A
ISL62882HRZ-T_QFN40-RH
N-SIR472DP-T1-GE3-HF
N-SIR466DP-T1-GE3_POWERPAK-SO8-HF
Rdroop
Rocset
Cn
Rntc
Ri
Close to Phase 1 Inductor
Parallel
預留 for EMI
PCHOKE3 CH-0.36u60A1.2mS-RH
PCHOKE4 CH-0.36u60A1.2mS-RH
C470u25EL-RH PEC3
MICRO-STAR INT'L CO.,LTD.
CPU Power
MS-1688
Thursday, January 14, 2010
Sheet 43 of 53
Rev 10

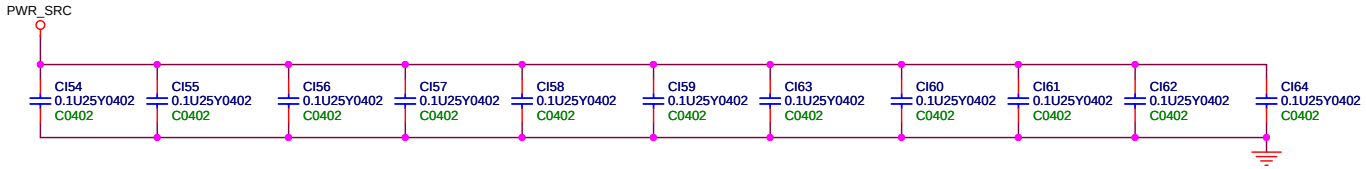

OCP 24A
MAX 18A
IMAX=18A
+3VSUS
PWR_SRC
+5VSUS
+VCC_GFXCORE
PU6
ISL62881HRZ-T_QFN28-RH
N-SIR472DP-T1-GE3-HF
N-SIR466DP-T1-GE3_POWERPAK-SO8-HF
CH-0.56u25A1.8mS-RH
Parallel
Close to Phase 1 Inductor
for EMI
Rdroop
Cn
Rntc
Rsum
Ri
GPU Select voltage
+VTT
COPPER
MICRO-STAR INT'L CO.,LTD.
Graphic Core
MS-1688
Thursday, January 14, 2010

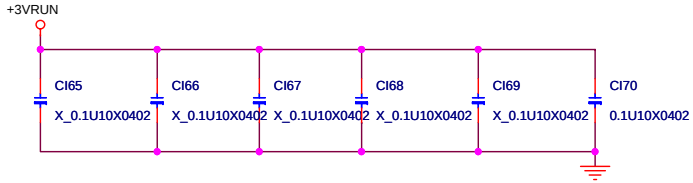


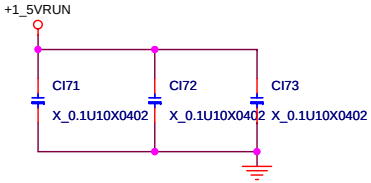
PSW_1	PSW_2	
1	0	1.12V
~~0~~	~~1~~	~~1.1V~~ Park XT
0	0	0.95V

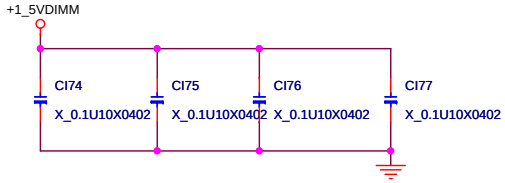
MSI CORPORATION		
Title: M92/Pak Power,+1.0VRUN		
Size: Custom	Document Number: MS-1688	Rev: 10
Date: Thursday, January 14, 2010	Sheet 45 of 53	

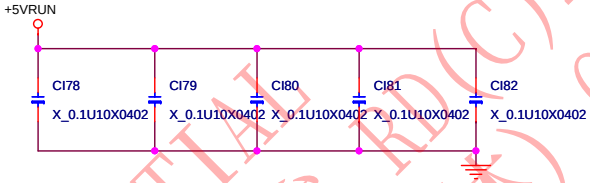


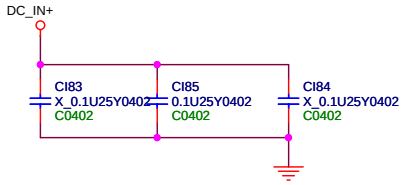


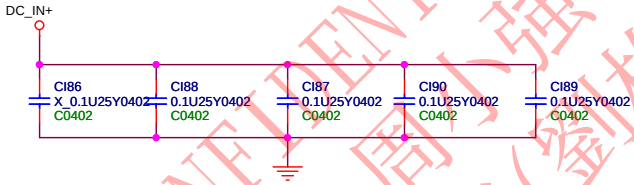


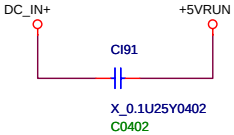


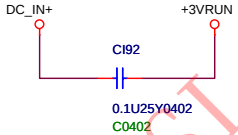


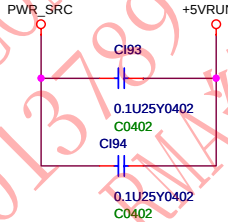


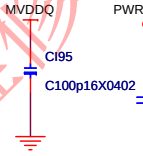


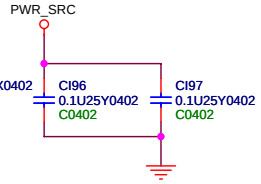


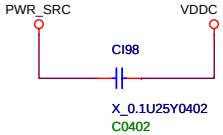












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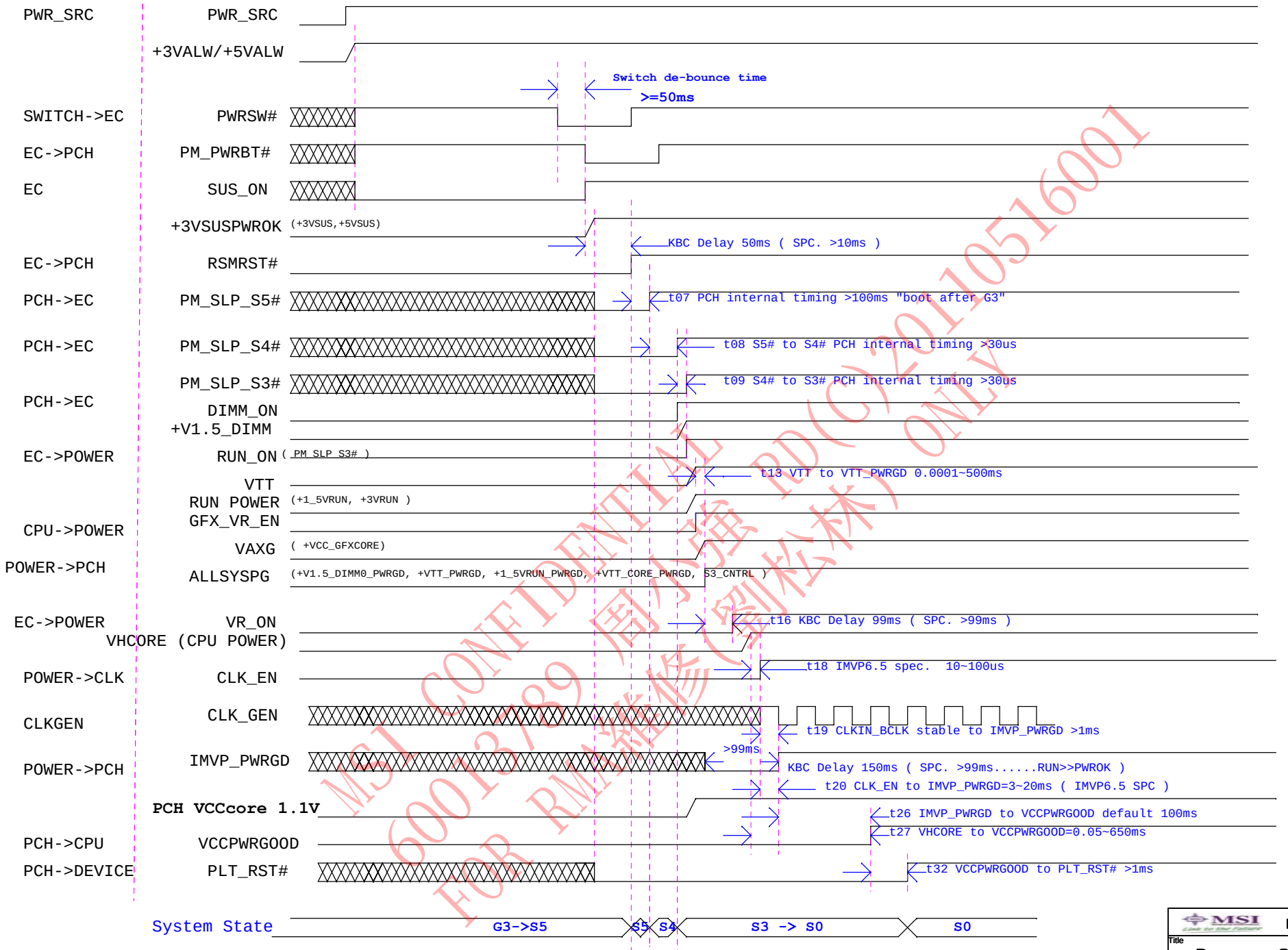
Calpella System Power on Sequence DC mode



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Title: Power on Sequency

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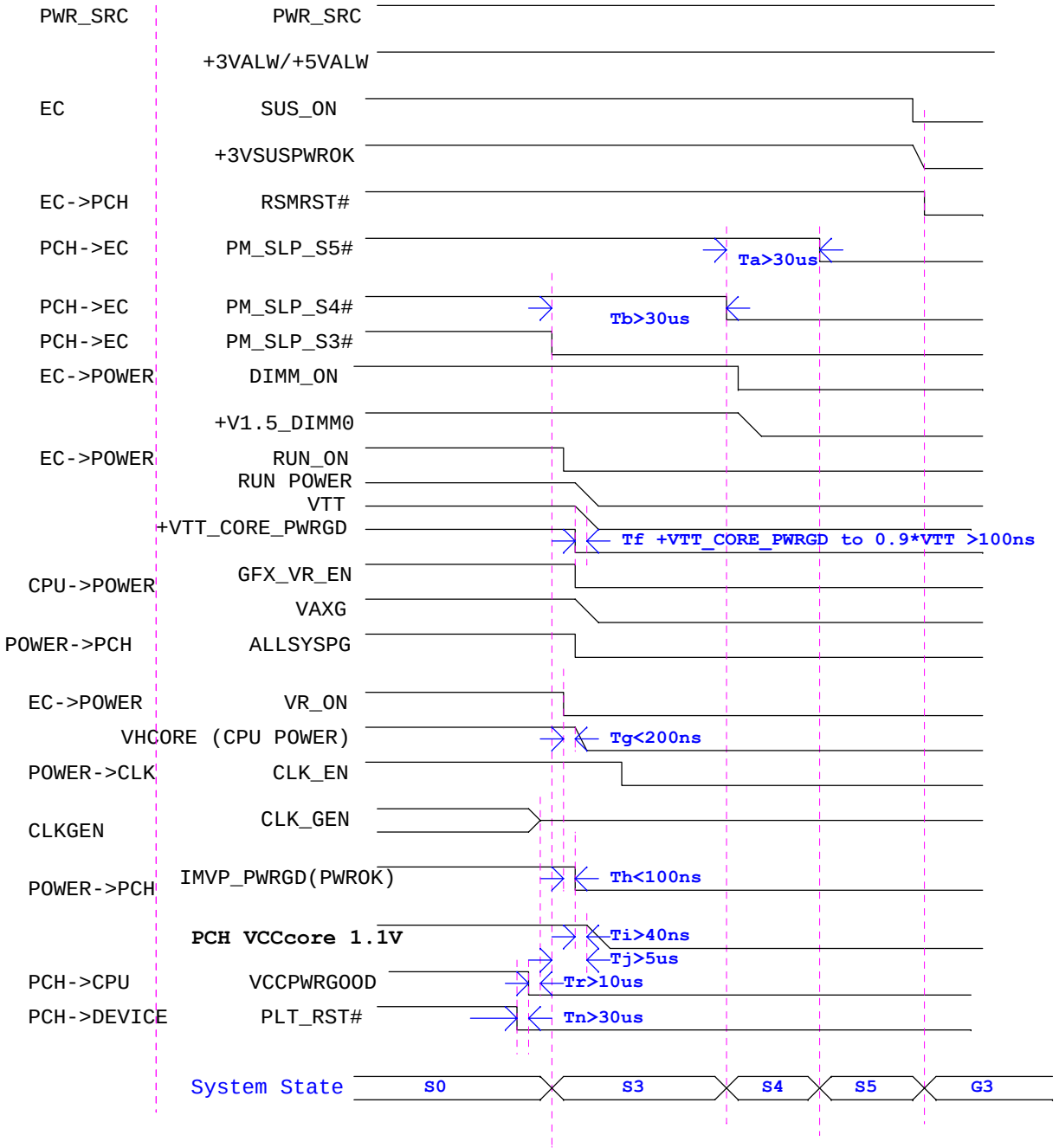
Power down Sequence DC mode S0 to G3



MICRO-STAR INT'L CO.,LTD.			
Title: Power down Sequency			
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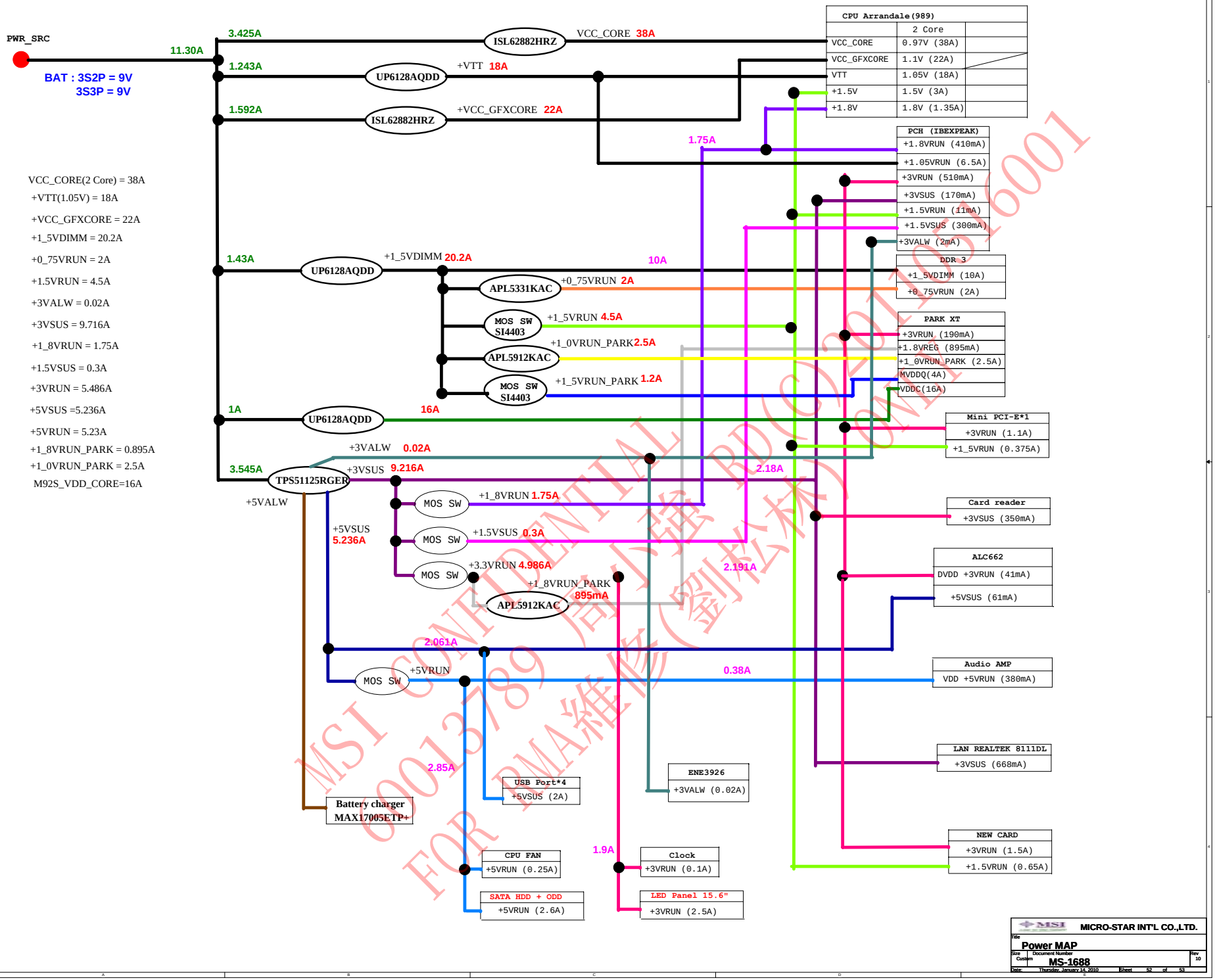

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Power MAP

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0B

1. Page 13, Add R354, R356 0 ohm for Park VDDR4 connection
2. Page 14, Stuff R92 10K ohms for GPIO2 straps
3. Page 15, Remove R50, R315
4. Page 18, Change L33~35 for CRT RGB
5. Page 19, Change D4 to BAS40 for HDMI testing
6. Page 20, Remove BIOS1 socket
7. Page 20, Add R581 1K ohms for PCH GPIO33 to EC GPIO13 connection and remove R159
8. Page 20, Change C634, C640 to 15pF
9. Page 23, Remove R108
10. Page 30, Change CON6 to vertical type for debug card
11. Page 33, Remove Q5, Q14 for Power switch LED and change R15 to 0 ohm
12. Page 34, Change J43 to eSATA connector and add C594~596, C698, C699 for eSATA solution, Remove C462
13. Page 34, Add U45, U46, C702, C704, R353, R362 for USB power protect switch and remove F4, F5
14. Page 38, Change PR183 to 4.7K to reduce the drop voltage
15. Page 39, Stuff ER46, EC102 for V_CHG
16. Page 40, Stuff PR161, PC137 for +3VSUS, PR174, PC149 for +5VSUS
17. Page 41, Stuff R247 1K ohms, No stuff R518, Change PR179 to 10.5K, R517 to 200K
18. Page 41, Stuff PR105, PC88 for +1_5VDIMM
19. Page 42, Stuff PR97, PC75 for +VTT
20. Page 43, Stuff PR35, PC26, PR34, PC21 for +VCC_CORE
21. Page 43, Change PC22 to 0.047uF, PR33 to 8.06K, PR115 to 2.32K, PR118 to 1.1K
22. Page 44, Stuff PR144, PC126 for +VCC_GFXCORE
23. Page 44, Change PC60 to 0.022uF, PC69 to 0.15uF, PR65 to 7.68K, PR73 to 18.2K, PR80 to 2.55K
24. Page 45, Change PR9 to 3.83K
25. Page 45, Stuff PR112, PC99 for VDDC and change PL5 to 1uH for reduce noise
26. Page 45, Change PR15 to 30K and stuff PC96 1uF for 1.8V_REG delay 1.2mS after +1_1V_1.0V_PWR
27. Page 45, Change PR11 to 1K and stuff PR145 100K to reduce current leakage
28. Page 46, Stuff PAD8 for EMI and add SCREW1, 2 in BOM. Remove BRAKET1
29. Page 49, Stuff CI54~64, CI70, CI85, CI87~90, CI92~97 for EMI
30. Page 16, Add PC158, PC161, Reserve C700, C701 for MVDDQ
31. Page 12, Add ATI debug point
32. Page 31, Add EMI cooper to seperate LAN GND
33. Page 32, Reserve R365 for cardreader issue
34. Page 45, Stuff PR18 13.3K, PQ5, PR23 10K for Park XT

10

1. Page 12, No stuff R118; stuff R220,R210,R169 for ATI PARK SAMPLE
2. Page 16, Remove C701 location, No stuff C64 for DFM
3. Page 16,page17, modify R322,R318,R51,R49,R324,R321,R320,R316 to 121R ohm for 3D device lost
4. Page 19, Add R11, R13, R20, R22 for GPU switch issue
5. Page 19, Add C705, C706 5pF0402 for EMI
6. Page 29, stuff R347 for ATI PARK sample
7. Page 32, Reserve R400 for ene S3 resume issue
8. Page 33, Change R26, R29 location name (Org. is R11, R13) and change the footprint to NC_0402_6
9. Page 34, Stuff CMC L3, L4 for EMI
10. Page 35, Stuff CMC LI5 for EMI, and reserve R366, R367
11. Page 44, PR74 change to 470ohm for intel ww48
12. Page 45, unstuff PR19 PQ5 PR22 ,PR17 change to 5.9Kohm fix =1.12vlot,stuff PC103 for PARK--XT
13. Page 47, Stuff CMC LIA3 for EMI, and reserve R368, R369
14. Page 48, Stuff CB3~7, JNCB3~7 for ESD
15. Page 46, Stuff PAD4, PAD6 for ESD, Add Fram4, SCREW3, SCREW4
16. Page 46, ADD mylar4;mylar5 for newcard and led ESD

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