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H81-M05 u| ATX

2013.11-13

CPU:

INTEL - Haswell LGA1150

System Chipset

INTEL - Lynix Point H81

OnBoard Chipsets

HD Audio Codec:ALC662
LAN RTL8111E
SIO ITE8772E
FlashROM 64Mb SPI

MAIN Memory

DDRIII 1066/1333MHz 2-DIMMs

Expansion Slots

PCI Express x16 x1
PCI Express x1 X1

PWM

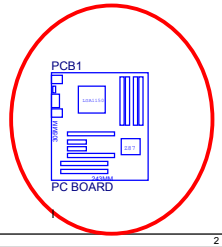
VRD12.5 Controller UPI1651 3 PHASE
DDR UP1504T
PCH OP+MOSFET/APL5930

ACPI

UPI

Other

SATA3.0X4
USB2.0 FX4+RX4
USB3.0 RX2
HDMIX1
D-SUB
COM HEADERX1



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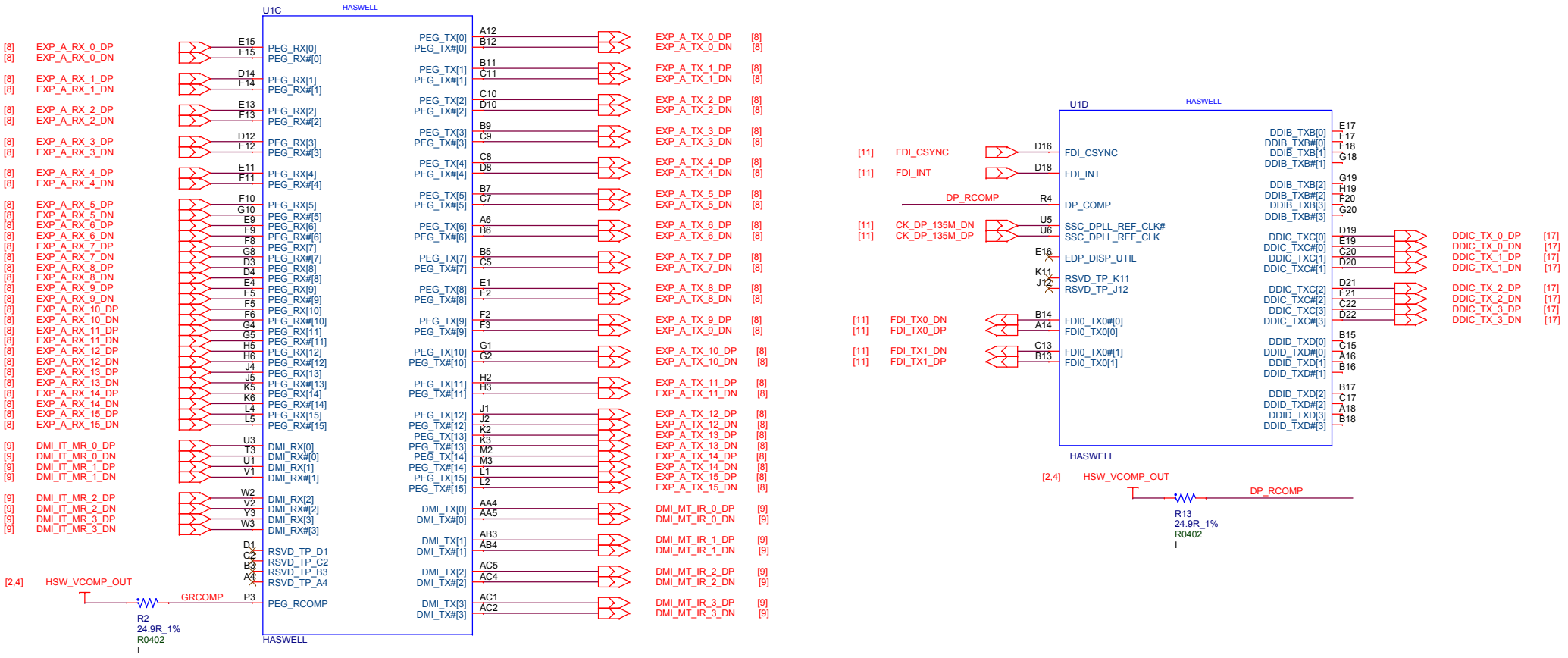

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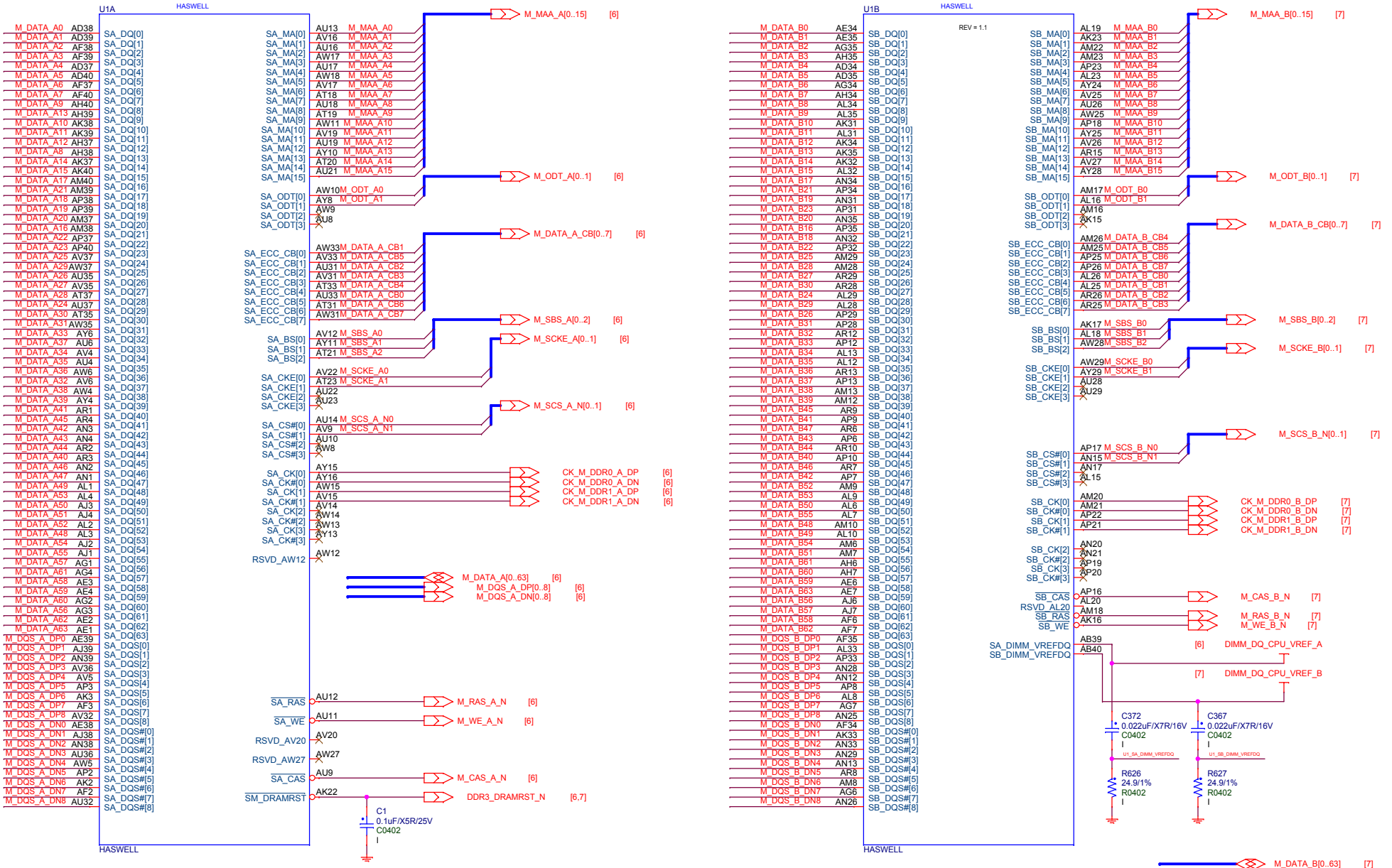
U1A
HASWELL
M_DATA_A0 AD38
M_DATA_A1 AD39
M_DATA_A2 AF38
M_DATA_A3 AF39
M_DATA_A4 AD37
M_DATA_A5 AD40
M_DATA_A6 AF37
M_DATA_A7 AF40
M_DATA_A9 AH40
M_DATA_A13 AH39
M_DATA_A10 AK38
M_DATA_A11 AK39
M_DATA_A12 AH37
M_DATA_A8 AH38
M_DATA_A14 AK37
M_DATA_A15 AK40
M_DATA_A17 AM40
M_DATA_A21 AM39
M_DATA_A18 AP38
M_DATA_A19 AP39
M_DATA_A20 AM37
M_DATA_A16 AM38
M_DATA_A22 AP37
M_DATA_A23 AP40
M_DATA_A25 AV37
M_DATA_A29 AW37
M_DATA_A26 AU35
M_DATA_A27 AV35
M_DATA_A28 AT37
M_DATA_A24 AU37
M_DATA_A30 AT35
M_DATA_A31 AW35
M_DATA_A33 AY6
M_DATA_A37 AU6
M_DATA_A34 AV4
M_DATA_A35 AU4
M_DATA_A36 AW6
M_DATA_A32 AV6
M_DATA_A38 AW4
M_DATA_A39 AY4
M_DATA_A41 AR1
M_DATA_A45 AR4
M_DATA_A42 AN3
M_DATA_A43 AN4
M_DATA_A44 AR2
M_DATA_A40 AR3
M_DATA_A46 AN2
M_DATA_A47 AN1
M_DATA_A49 AL1
M_DATA_A53 AL4
M_DATA_A50 AJ3
M_DATA_A51 AJ4
M_DATA_A52 AL2
M_DATA_A48 AL3
M_DATA_A54 AJ2
M_DATA_A55 AJ1
M_DATA_A57 AG1
M_DATA_A61 AG4
M_DATA_A58 AE3
M_DATA_A59 AE4
M_DATA_A60 AG2
M_DATA_A56 AG3
M_DATA_A62 AE2
M_DATA_A63 AE1
M_DQS_A_DP0 AE39
M_DQS_A_DP1 AJ39
M_DQS_A_DP2 AN39
M_DQS_A_DP3 AV36
M_DQS_A_DP4 AV5
M_DQS_A_DP5 AP3
M_DQS_A_DP6 AK3
M_DQS_A_DP7 AF3
M_DQS_A_DP8 AV32
M_DQS_A_DN0 AE38
M_DQS_A_DN1 AJ38
M_DQS_A_DN2 AN38
M_DQS_A_DN3 AU36
M_DQS_A_DN4 AW5
M_DQS_A_DN5 AP2
M_DQS_A_DN6 AK2
M_DQS_A_DN7 AF2
M_DQS_A_DN8 AU32
SA_DQ[0..63]
SA_DQS[0..8]
SA_DQS#[0..8]
SA_MA[0..15]
SA_ODT[0..3]
SA_ECC_CB[0..7]
SA_BS[0..2]
SA_CKE[0..3]
SA_CS#[0..3]
SA_CK[0..3]
SA_CK#[0..3]
RSVD_AW12
RSVD_AV20
RSVD_AW27
SA_RAS
SA_WE
SA_CAS
SM_DRAMRST
M_MAA_A[0..15] [6]
M_ODT_A[0..1] [6]
M_DATA_A_CB[0..7] [6]
M_SBS_A[0..2] [6]
M_SCKE_A[0..1] [6]
M_SCS_A_N[0..1] [6]
CK_M_DDR0_A_DP [6]
CK_M_DDR0_A_DN [6]
CK_M_DDR1_A_DP [6]
CK_M_DDR1_A_DN [6]
M_DATA_A[0..63] [6]
M_DQS_A_DP[0..8] [6]
M_DQS_A_DN[0..8] [6]
M_RAS_A_N [6]
M_WE_A_N [6]
M_CAS_A_N [6]
DDR3_DRAMRST_N [6,7]
C1
0.1uF/X5R/25V
C0402
U1B
HASWELL
REV = 1.1
M_DATA_B0 AE34
M_DATA_B1 AE35
M_DATA_B2 AG35
M_DATA_B3 AH35
M_DATA_B4 AD34
M_DATA_B5 AD35
M_DATA_B6 AG34
M_DATA_B7 AH34
M_DATA_B8 AL34
M_DATA_B9 AL35
M_DATA_B10 AK31
M_DATA_B11 AL31
M_DATA_B12 AK34
M_DATA_B13 AK35
M_DATA_B14 AK32
M_DATA_B15 AL32
M_DATA_B17 AN34
M_DATA_B21 AP34
M_DATA_B19 AN31
M_DATA_B23 AP31
M_DATA_B20 AN35
M_DATA_B16 AP35
M_DATA_B18 AN32
M_DATA_B22 AP32
M_DATA_B25 AM29
M_DATA_B28 AM28
M_DATA_B27 AR29
M_DATA_B30 AR28
M_DATA_B24 AL29
M_DATA_B29 AL28
M_DATA_B26 AP29
M_DATA_B31 AP28
M_DATA_B32 AR12
M_DATA_B33 AP12
M_DATA_B34 AL13
M_DATA_B35 AL12
M_DATA_B36 AR13
M_DATA_B37 AP13
M_DATA_B38 AM13
M_DATA_B39 AM12
M_DATA_B45 AR9
M_DATA_B41 AP9
M_DATA_B47 AR6
M_DATA_B43 AP6
M_DATA_B44 AR10
M_DATA_B40 AP10
M_DATA_B46 AR7
M_DATA_B42 AP7
M_DATA_B52 AM9
M_DATA_B53 AL9
M_DATA_B50 AL6
M_DATA_B55 AL7
M_DATA_B48 AM10
M_DATA_B49 AL10
M_DATA_B54 AM6
M_DATA_B51 AM7
M_DATA_B61 AH6
M_DATA_B60 AH7
M_DATA_B59 AE6
M_DATA_B63 AE7
M_DATA_B56 AJ6
M_DATA_B57 AJ7
M_DATA_B58 AF6
M_DATA_B62 AF7
M_DQS_B_DP0 AF35
M_DQS_B_DP1 AL33
M_DQS_B_DP2 AP33
M_DQS_B_DP3 AN28
M_DQS_B_DP4 AN12
M_DQS_B_DP5 AP8
M_DQS_B_DP6 AL8
M_DQS_B_DP7 AG7
M_DQS_B_DP8 AN25
M_DQS_B_DN0 AF34
M_DQS_B_DN1 AK33
M_DQS_B_DN2 AN33
M_DQS_B_DN3 AN29
M_DQS_B_DN4 AN13
M_DQS_B_DN5 AR8
M_DQS_B_DN6 AM8
M_DQS_B_DN7 AG6
M_DQS_B_DN8 AN26
SB_DQ[0..63]
SB_DQS[0..8]
SB_DQS#[0..8]
SB_MA[0..15]
SB_ODT[0..3]
SB_ECC_CB[0..7]
SB_BS[0..2]
SB_CKE[0..3]
SB_CS#[0..3]
SB_CK[0..3]
SB_CK#[0..3]
SB_CAS
RSVD_AL20
SB_RAS
SB_WE
SA_DIMM_VREFDQ
SB_DIMM_VREFDQ
M_MAA_B[0..15] [7]
M_ODT_B[0..1] [7]
M_DATA_B_CB[0..7] [7]
M_SBS_B[0..2] [7]
M_SCKE_B[0..1] [7]
M_SCS_B_N[0..1] [7]
CK_M_DDR0_B_DP [7]
CK_M_DDR0_B_DN [7]
CK_M_DDR1_B_DP [7]
CK_M_DDR1_B_DN [7]
M_CAS_B_N [7]
M_RAS_B_N [7]
M_WE_B_N [7]
[6] DIMM_DQ_CPU_VREF_A
[7] DIMM_DQ_CPU_VREF_B
C372
0.022uF/X7R/16V
C0402
C367
0.022uF/X7R/16V
C0402
U1_SA_DIMM_VREFDQ
U1_SB_DIMM_VREFDQ
R626
24.9/1%
R0402
R627
24.9/1%
R0402
M_DATA_B[0..63] [7]
M_DQS_B_DP[0..8] [7]
M_DQS_B_DN[0..8] [7]
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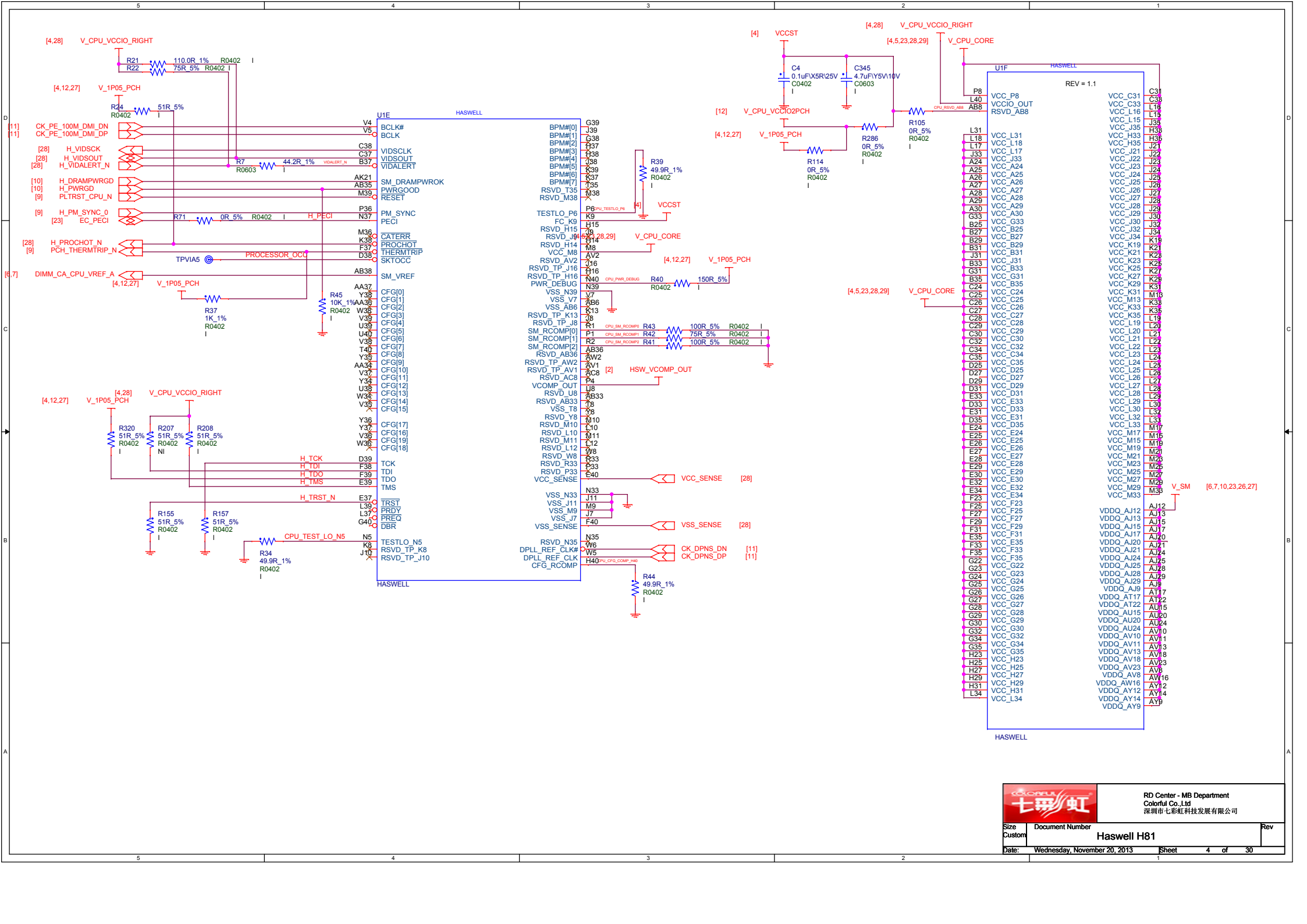
U1E
HASWELL
U1F
REV = 1.1
BCLK#
BCLK
VIDSCLK
VIDSOUT
VIDALERT
SM_DRAMPWROK
PWRGOOD
RESET
PM_SYNC
PECI
CATERR
PROCHOT
THERMTRIP
SKTOCC
SM_VREF
CFG[0]
CFG[1]
CFG[2]
CFG[3]
CFG[4]
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CFG[6]
CFG[7]
CFG[8]
CFG[9]
CFG[10]
CFG[11]
CFG[12]
CFG[13]
CFG[14]
CFG[15]
CFG[17]
CFG[16]
CFG[19]
CFG[18]
TCK
TDI
TDO
TMS
TRST
PRDY
PREQ
DBR
TESTLO_N5
RSVD_TP_K8
RSVD_TP_J10
BPM#[0]
BPM#[1]
BPM#[2]
BPM#[3]
BPM#[4]
BPM#[5]
BPM#[6]
BPM#[7]
RSVD_T35
RSVD_M38
TESTLO_P6
FC_K9
RSVD_H15
RSVD_J9
RSVD_H14
VCC_M8
RSVD_AV2
RSVD_TP_J16
RSVD_TP_H16
PWR_DEBUG
VSS_N39
VSS_V7
VSS_AB6
RSVD_TP_K13
RSVD_TP_J8
SM_RCOMP[0]
SM_RCOMP[1]
SM_RCOMP[2]
RSVD_AB36
RSVD_TP_AW2
RSVD_TP_AV1
RSVD_AC8
VCOMP_OUT
RSVD_U8
RSVD_AB33
VSS_T8
RSVD_Y8
RSVD_M10
RSVD_L10
RSVD_M11
RSVD_L12
RSVD_W8
RSVD_R33
RSVD_P33
VCC_SENSE
VSS_N33
VSS_J11
VSS_M9
VSS_J7
VSS_SENSE
RSVD_N35
DPLL_REF_CLK#
DPLL_REF_CLK
CFG_RCOMP
VCC_P8
VCCIO_OUT
RSVD_AB8
VCC_L31
VCC_L18
VCC_L17
VCC_J33
VCC_A24
VCC_A25
VCC_A26
VCC_A27
VCC_A28
VCC_A29
VCC_A30
VCC_G33
VCC_B25
VCC_B27
VCC_B29
VCC_B31
VCC_J31
VCC_B33
VCC_G31
VCC_B35
VCC_C24
VCC_C25
VCC_C26
VCC_C27
VCC_C28
VCC_C29
VCC_C30
VCC_C32
VCC_C34
VCC_C35
VCC_D25
VCC_D27
VCC_D29
VCC_D31
VCC_E33
VCC_D33
VCC_E31
VCC_D35
VCC_E24
VCC_E25
VCC_E26
VCC_E27
VCC_E28
VCC_E29
VCC_E30
VCC_E32
VCC_E34
VCC_F23
VCC_F25
VCC_F27
VCC_F29
VCC_F31
VCC_E35
VCC_F33
VCC_F35
VCC_G22
VCC_G23
VCC_G24
VCC_G25
VCC_G26
VCC_G27
VCC_G28
VCC_G29
VCC_G30
VCC_G32
VCC_G34
VCC_G35
VCC_H23
VCC_H25
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VCC_H29
VCC_H31
VCC_L34
VCC_C31
VCC_C33
VCC_L16
VCC_L15
VCC_J35
VCC_H33
VCC_H35
VCC_J21
VCC_J22
VCC_J23
VCC_J24
VCC_J25
VCC_J26
VCC_J27
VCC_J28
VCC_J29
VCC_J30
VCC_J32
VCC_J34
VCC_K19
VCC_K21
VCC_K23
VCC_K25
VCC_K27
VCC_K29
VCC_K31
VCC_M13
VCC_K33
VCC_K35
VCC_L19
VCC_L20
VCC_L21
VCC_L22
VCC_L23
VCC_L24
VCC_L25
VCC_L26
VCC_L27
VCC_L28
VCC_L29
VCC_L30
VCC_L32
VCC_L33
VCC_M17
VCC_M15
VCC_M19
VCC_M21
VCC_M23
VCC_M25
VCC_M27
VCC_M29
VCC_M33
VDDQ_AJ12
VDDQ_AJ13
VDDQ_AJ15
VDDQ_AJ17
VDDQ_AJ20
VDDQ_AJ21
VDDQ_AJ24
VDDQ_AJ25
VDDQ_AJ28
VDDQ_AJ29
VDDQ_AJ9
VDDQ_AT17
VDDQ_AT22
VDDQ_AU15
VDDQ_AU20
VDDQ_AU24
VDDQ_AV10
VDDQ_AV11
VDDQ_AV13
VDDQ_AV18
VDDQ_AV23
VDDQ_AV8
VDDQ_AW16
VDDQ_AY12
VDDQ_AY14
VDDQ_AY9
V_CPU_VCCIO_RIGHT
V_CPU_CORE
V_1P05_PCH
VCCST
V_CPU_VCCIO2PCH
HSW_VCOMP_OUT
PROCESSOR_OCC
DIMM_CA_CPU_VREF_A
CK_PE_100M_DMI_DN
CK_PE_100M_DMI_DP
H_VIDSCK
H_VIDSOUT
H_VIDALERT_N
H_DRAMPWRGD
H_PWRGD
PLTRST_CPU_N
H_PM_SYNC_0
EC_PECI
H_PECI
H_PROCHOT_N
PCH_THERMTRIP_N
H_TCK
H_TDI
H_TDO
H_TMS
H_TRST_N
CPU_TEST_LO_N5
CK_DPNS_DN
CK_DPNS_DP
V_SM
R21 110.0R_1% R0402
R22 75R_5% R0402
R24 51R_5% R0402
R7 44.2R_1% R0603
R71 0R_5% R0402
R45 10K_1% R0402
R37 1K_1% R0402
R320 51R_5% R0402
R207 51R_5% R0402 NI
R208 51R_5% R0402
R155 51R_5% R0402
R157 51R_5% R0402
R34 49.9R_1% R0402
R39 49.9R_1% R0402
R44 49.9R_1% R0402
R40 150R_5% R0402
R43 100R_5% R0402
R42 75R_5% R0402
R41 100R_5% R0402
C4 0.1uF\X5R\25V C0402
C345 4.7uF\Y5V\10V C0603
R105 0R_5% R0402
R286 0R_5% R0402
R114 0R_5% R0402
TPVIA5
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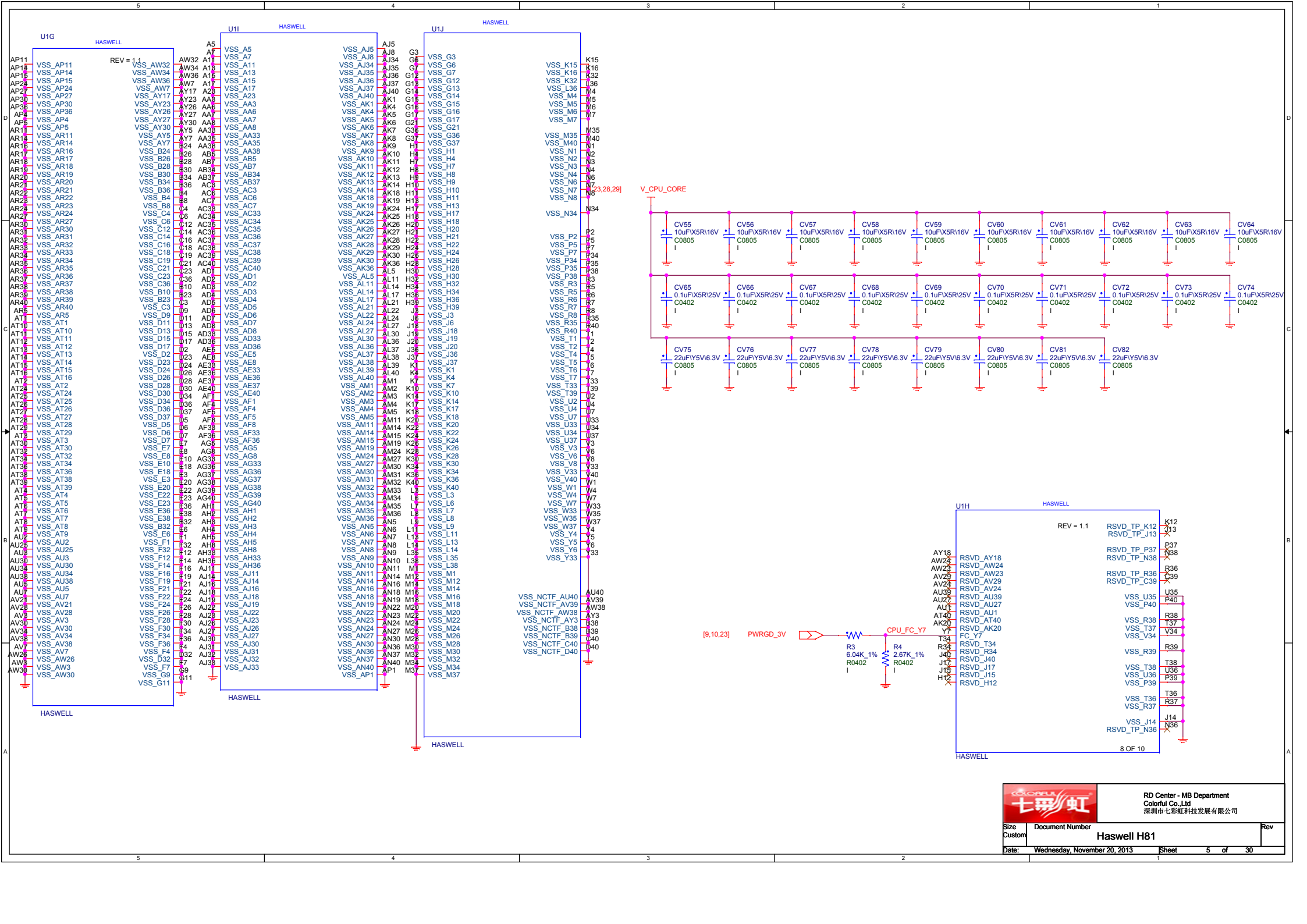
U1G
HASWELL
REV = 1.1
U1I
HASWELL
U1J
HASWELL
V_CPU_CORE
[23,28,29]
CV55 10uF\X5R\16V C0805
CV56 10uF\X5R\16V C0805
CV57 10uF\X5R\16V C0805
CV58 10uF\X5R\16V C0805
CV59 10uF\X5R\16V C0805
CV60 10uF\X5R\16V C0805
CV61 10uF\X5R\16V C0805
CV62 10uF\X5R\16V C0805
CV63 10uF\X5R\16V C0805
CV64 10uF\X5R\16V C0805
CV65 0.1uF\X5R\25V C0402
CV66 0.1uF\X5R\25V C0402
CV67 0.1uF\X5R\25V C0402
CV68 0.1uF\X5R\25V C0402
CV69 0.1uF\X5R\25V C0402
CV70 0.1uF\X5R\25V C0402
CV71 0.1uF\X5R\25V C0402
CV72 0.1uF\X5R\25V C0402
CV73 0.1uF\X5R\25V C0402
CV74 0.1uF\X5R\25V C0402
CV75 22uF\Y5V\6.3V C0805
CV76 22uF\Y5V\6.3V C0805
CV77 22uF\Y5V\6.3V C0805
CV78 22uF\Y5V\6.3V C0805
CV79 22uF\Y5V\6.3V C0805
CV80 22uF\Y5V\6.3V C0805
CV81 22uF\Y5V\6.3V C0805
CV82 22uF\Y5V\6.3V C0805
[9,10,23]
PWRGD_3V
R3 6.04K_1% R0402
CPU_FC_Y7
R4 2.67K_1% R0402
U1H
HASWELL
REV = 1.1
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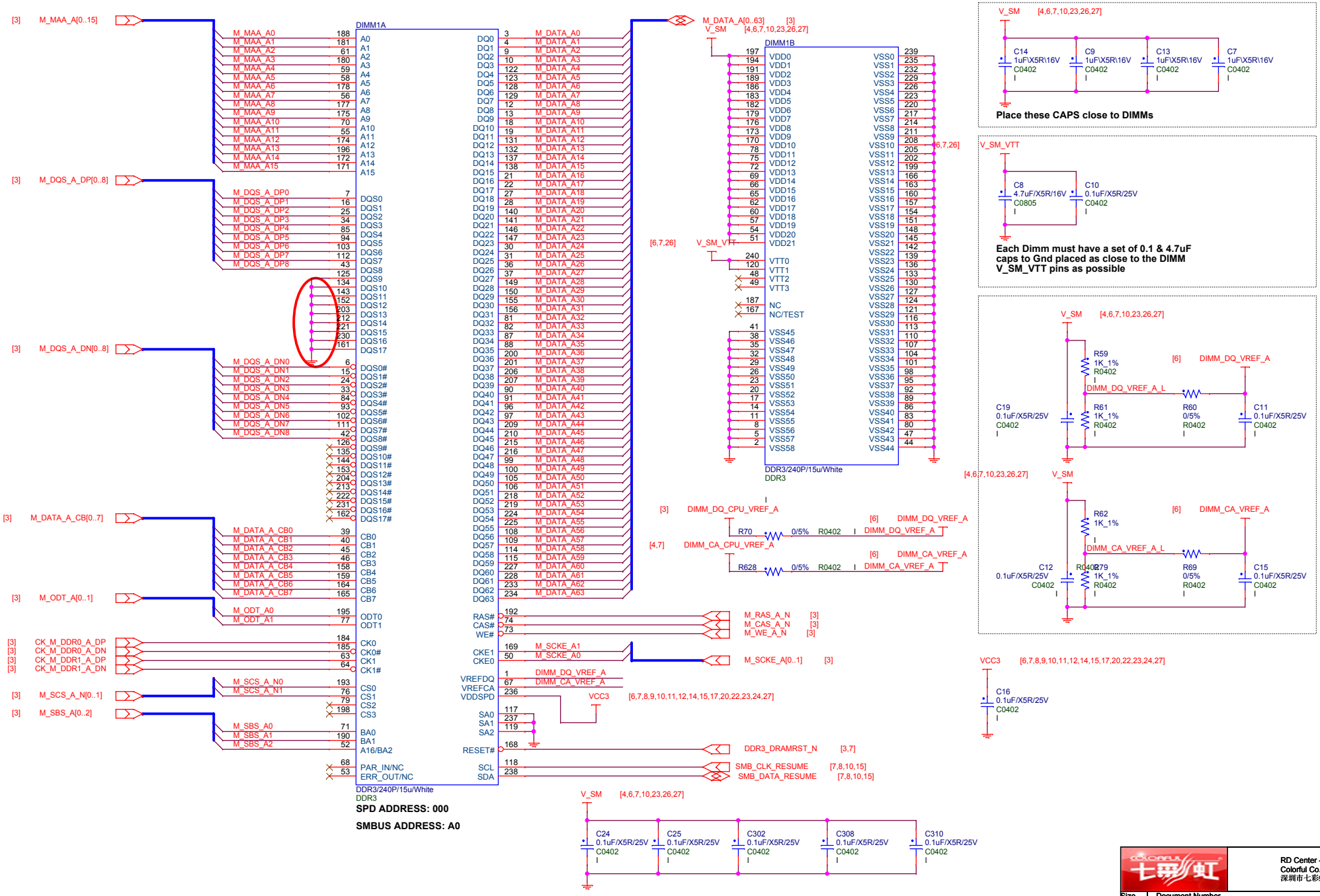
DDR3_CHA_DIMM1 Socket Color:Red

1st DIMM slot from Haswell



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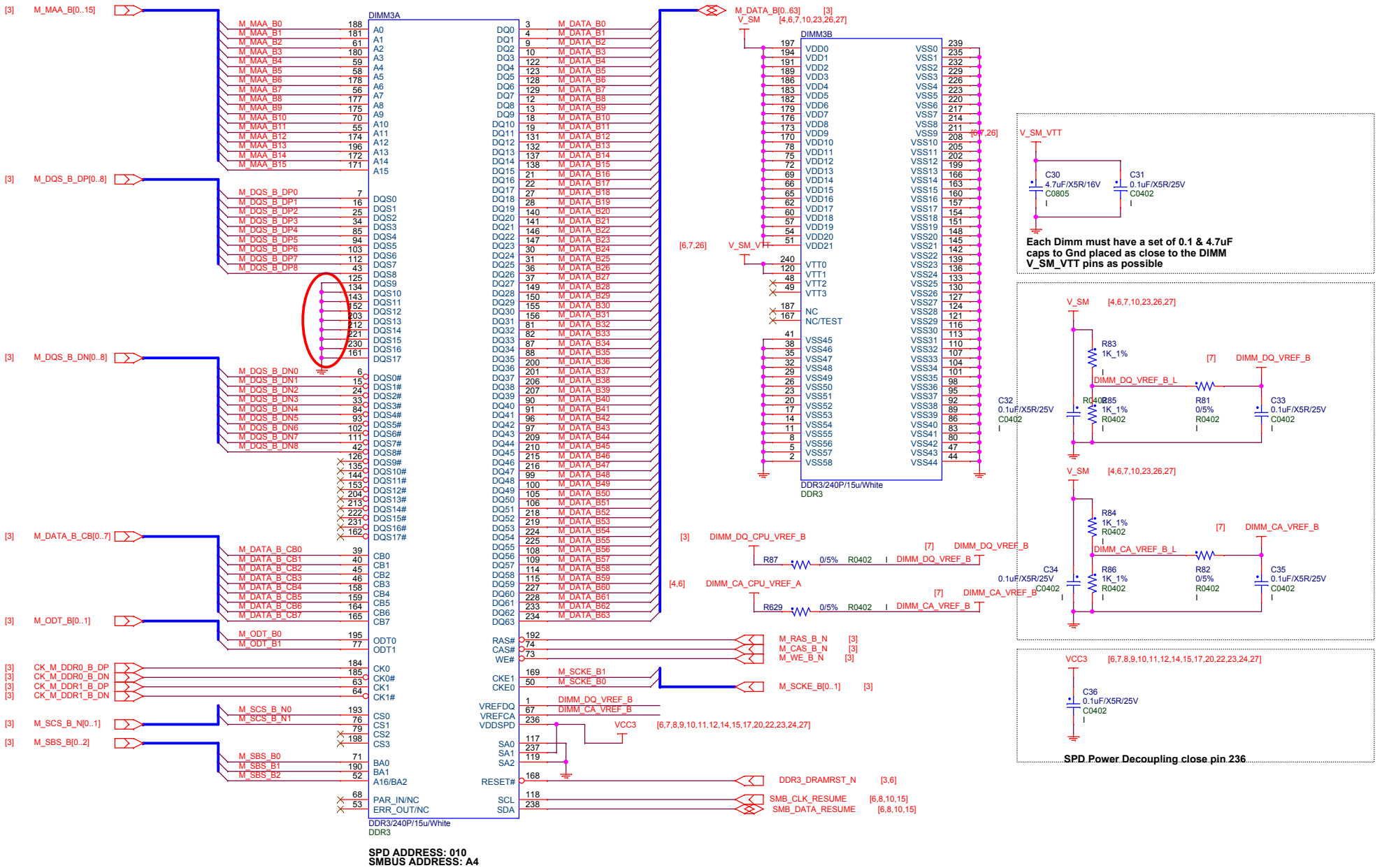
DDR3_CHB_DIMM1 Socket Color: Red
3rd DIMM slot from Haswell



SPD ADDRESS: 010
SMBUS ADDRESS: A4

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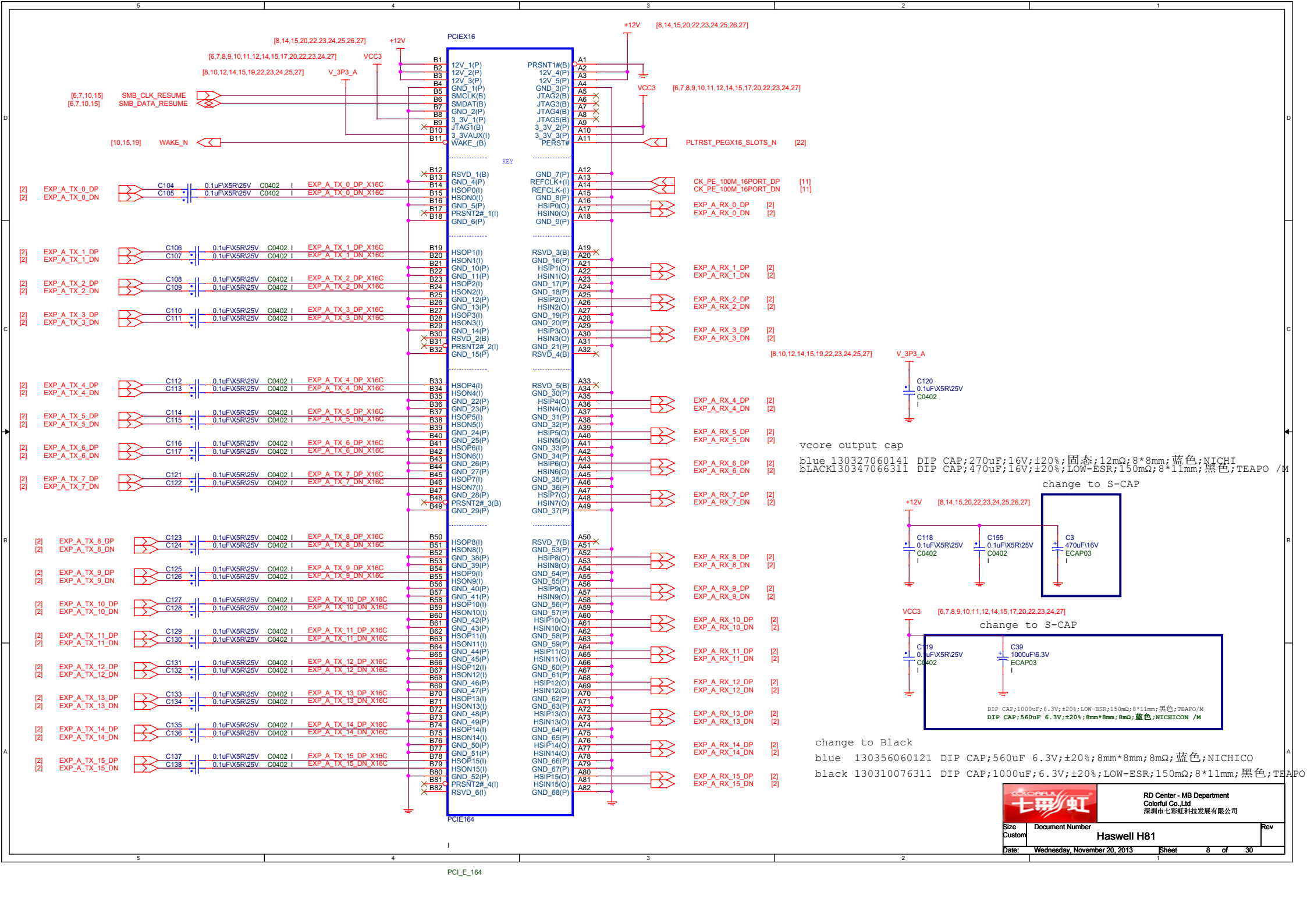
PCIEX16
PCIE164
PCI_E_164
KEY
[8,14,15,20,22,23,24,25,26,27]
+12V
[6,7,8,9,10,11,12,14,15,17,20,22,23,24,27]
VCC3
[8,10,12,14,15,19,22,23,24,25,27]
V_3P3_A
[6,7,10,15]
SMB_CLK_RESUME
SMB_DATA_RESUME
[10,15,19]
WAKE_N
PLTRST_PEGX16_SLOTS_N
[22]
CK_PE_100M_16PORT_DP
CK_PE_100M_16PORT_DN
[11]
12V_1(P)
12V_2(P)
12V_3(P)
GND_1(P)
SMCLK(B)
SMDAT(B)
GND_2(P)
3_3V_1(P)
JTAG1(B)
3_3VAUX(I)
WAKE_(B)
PRSNT1#(B)
12V_4(P)
12V_5(P)
GND_3(P)
JTAG2(B)
JTAG3(B)
JTAG4(B)
JTAG5(B)
3_3V_2(P)
3_3V_3(P)
PERST#
RSVD_1(B)
GND_4(P)
HSOP0(I)
HSON0(I)
GND_5(P)
PRSNT2#_1(I)
GND_6(P)
REFCLK+(I)
REFCLK-(I)
GND_8(P)
HSIP0(O)
HSIN0(O)
GND_9(P)
GND_7(P)
HSOP1(I)
HSON1(I)
GND_10(P)
GND_11(P)
HSOP2(I)
HSON2(I)
GND_12(P)
GND_13(P)
HSOP3(I)
HSON3(I)
GND_14(P)
RSVD_2(B)
PRSNT2#_2(I)
GND_15(P)
RSVD_3(B)
GND_16(P)
HSIP1(O)
HSIN1(O)
GND_17(P)
GND_18(P)
HSIP2(O)
HSIN2(O)
GND_19(P)
GND_20(P)
HSIP3(O)
HSIN3(O)
GND_21(P)
RSVD_4(B)
HSOP4(I)
HSON4(I)
GND_22(P)
GND_23(P)
HSOP5(I)
HSON5(I)
GND_24(P)
GND_25(P)
HSOP6(I)
HSON6(I)
GND_26(P)
GND_27(P)
HSOP7(I)
HSON7(I)
GND_28(P)
PRSNT2#_3(B)
GND_29(P)
RSVD_5(B)
GND_30(P)
HSIP4(O)
HSIN4(O)
GND_31(P)
GND_32(P)
HSIP5(O)
HSIN5(O)
GND_33(P)
GND_34(P)
HSIP6(O)
HSIN6(O)
GND_35(P)
GND_36(P)
HSIP7(O)
HSIN7(O)
GND_37(P)
HSOP8(I)
HSON8(I)
GND_38(P)
GND_39(P)
HSOP9(I)
HSON9(I)
GND_40(P)
GND_41(P)
HSOP10(I)
HSON10(I)
GND_42(P)
GND_43(P)
HSOP11(I)
HSON11(I)
GND_44(P)
GND_45(P)
HSOP12(I)
HSON12(I)
GND_46(P)
GND_47(P)
HSOP13(I)
HSON13(I)
GND_48(P)
GND_49(P)
HSOP14(I)
HSON14(I)
GND_50(P)
GND_51(P)
HSOP15(I)
HSON15(I)
GND_52(P)
PRSNT2#_4(I)
RSVD_6(I)
RSVD_7(B)
GND_53(P)
HSIP8(O)
HSIN8(O)
GND_54(P)
GND_55(P)
HSIP9(O)
HSIN9(O)
GND_56(P)
GND_57(P)
HSIP10(O)
HSIN10(O)
GND_58(P)
GND_59(P)
HSIP11(O)
HSIN11(O)
GND_60(P)
GND_61(P)
HSIP12(O)
HSIN12(O)
GND_62(P)
GND_63(P)
HSIP13(O)
HSIN13(O)
GND_64(P)
GND_65(P)
HSIP14(O)
HSIN14(O)
GND_66(P)
GND_67(P)
HSIP15(O)
HSIN15(O)
GND_68(P)
EXP_A_TX_0_DP
EXP_A_TX_0_DN
EXP_A_TX_1_DP
EXP_A_TX_1_DN
EXP_A_TX_2_DP
EXP_A_TX_2_DN
EXP_A_TX_3_DP
EXP_A_TX_3_DN
EXP_A_TX_4_DP
EXP_A_TX_4_DN
EXP_A_TX_5_DP
EXP_A_TX_5_DN
EXP_A_TX_6_DP
EXP_A_TX_6_DN
EXP_A_TX_7_DP
EXP_A_TX_7_DN
EXP_A_TX_8_DP
EXP_A_TX_8_DN
EXP_A_TX_9_DP
EXP_A_TX_9_DN
EXP_A_TX_10_DP
EXP_A_TX_10_DN
EXP_A_TX_11_DP
EXP_A_TX_11_DN
EXP_A_TX_12_DP
EXP_A_TX_12_DN
EXP_A_TX_13_DP
EXP_A_TX_13_DN
EXP_A_TX_14_DP
EXP_A_TX_14_DN
EXP_A_TX_15_DP
EXP_A_TX_15_DN
EXP_A_RX_0_DP
EXP_A_RX_0_DN
EXP_A_RX_1_DP
EXP_A_RX_1_DN
EXP_A_RX_2_DP
EXP_A_RX_2_DN
EXP_A_RX_3_DP
EXP_A_RX_3_DN
EXP_A_RX_4_DP
EXP_A_RX_4_DN
EXP_A_RX_5_DP
EXP_A_RX_5_DN
EXP_A_RX_6_DP
EXP_A_RX_6_DN
EXP_A_RX_7_DP
EXP_A_RX_7_DN
EXP_A_RX_8_DP
EXP_A_RX_8_DN
EXP_A_RX_9_DP
EXP_A_RX_9_DN
EXP_A_RX_10_DP
EXP_A_RX_10_DN
EXP_A_RX_11_DP
EXP_A_RX_11_DN
EXP_A_RX_12_DP
EXP_A_RX_12_DN
EXP_A_RX_13_DP
EXP_A_RX_13_DN
EXP_A_RX_14_DP
EXP_A_RX_14_DN
EXP_A_RX_15_DP
EXP_A_RX_15_DN
C104 C105 C106 C107 C108 C109 C110 C111 C112 C113 C114 C115 C116 C117 C121 C122 C123 C124 C125 C126 C127 C128 C129 C130 C131 C132 C133 C134 C135 C136 C137 C138
0.1uF\X5R\25V C0402
C120 0.1uF\X5R\25V C0402
vcore output cap
blue 130327060141 DIP CAP;270uF;16V;±20%;固态;12mΩ;8*8mm;蓝色;NICHI
bLACK130347066311 DIP CAP;470uF;16V;±20%;LOW-ESR;150mΩ;8*11mm;黑色;TEAPO /M
change to S-CAP
C118 0.1uF\X5R\25V C0402
C155 0.1uF\X5R\25V C0402
C3 470uF\16V ECAP03
C119 0.1uF\X5R\25V C0402
C39 1000uF\6.3V ECAP03
DIP CAP;1000uF;6.3V;±20%;LOW-ESR;150mΩ;8*11mm;黑色;TEAPO/M
DIP CAP;560uF 6.3V;±20%;8mm*8mm;8mΩ;蓝色;NICHICON /M
change to Black
blue 130356060121 DIP CAP;560uF 6.3V;±20%;8mm*8mm;8mΩ;蓝色;NICHICO
black 130310076311 DIP CAP;1000uF;6.3V;±20%;LOW-ESR;150mΩ;8*11mm;黑色;TEAPO
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FRONT USB2.0 h81/b85

REAR USB3.0

FRONT USB2.0 h81/b85

Port 6/7 Disable on H81/B85

REAR USB2.0

FRONT USB2.0 for B85 only

(6)KBRST,A20Gate 需要有pull high;

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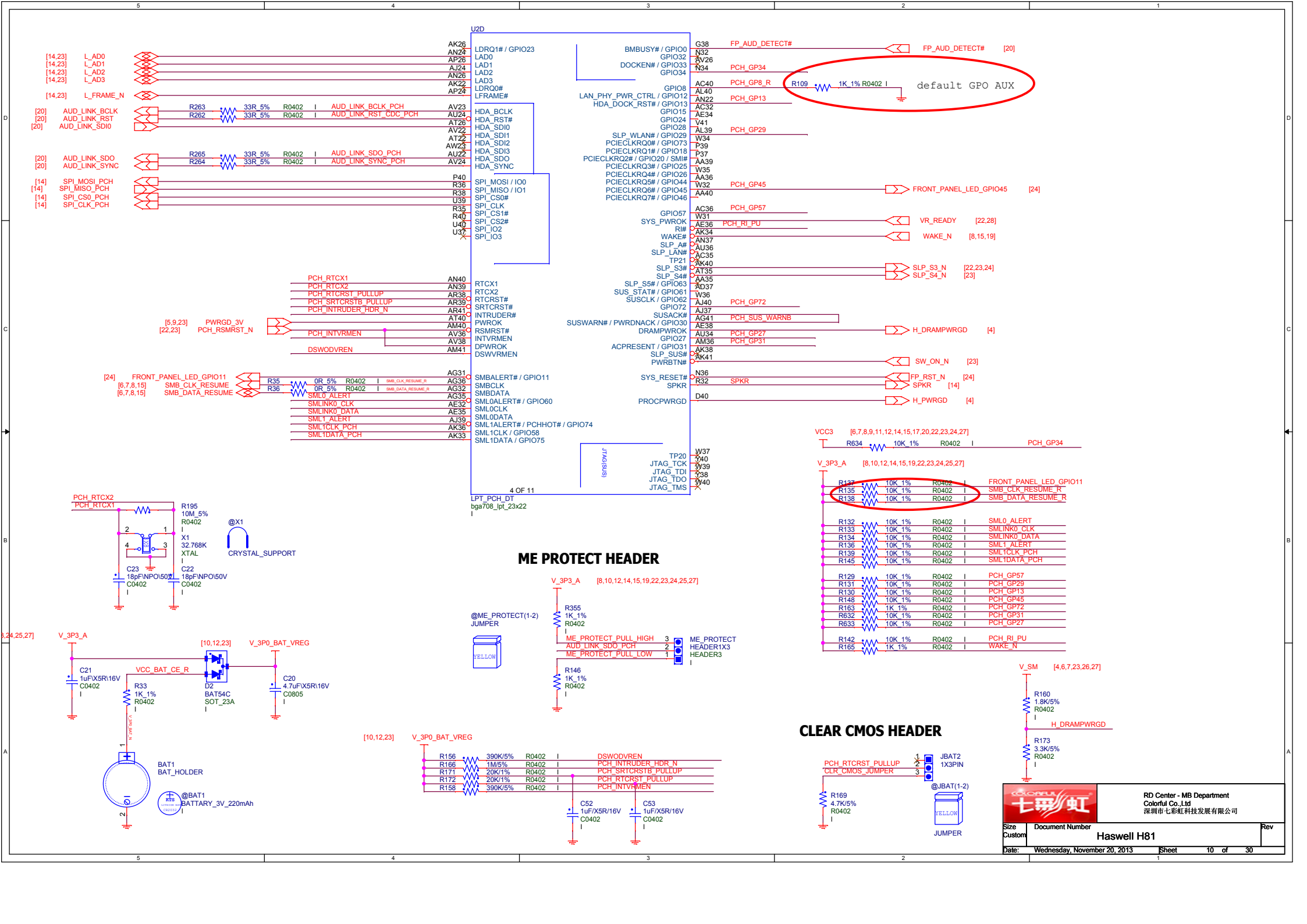
U2D
LPT_PCH_DT
bga708_lpt_23x22
4 OF 11
default GPO AUX
ME PROTECT HEADER
CLEAR CMOS HEADER
@ME_PROTECT(1-2)
JUMPER
ME_PROTECT_PULL_HIGH
AUD_LINK_SDO_PCH
ME_PROTECT_PULL_LOW
ME_PROTECT HEADER1X3
HEADER3
PCH_RTCRST_PULLUP
CLR_CMOS_JUMPER
JBAT2
1X3PIN
@JBAT(1-2)
JUMPER
BAT1
BAT_HOLDER
@BAT1
BATTARY_3V_220mAh
CRYSTAL_SUPPORT
@X1
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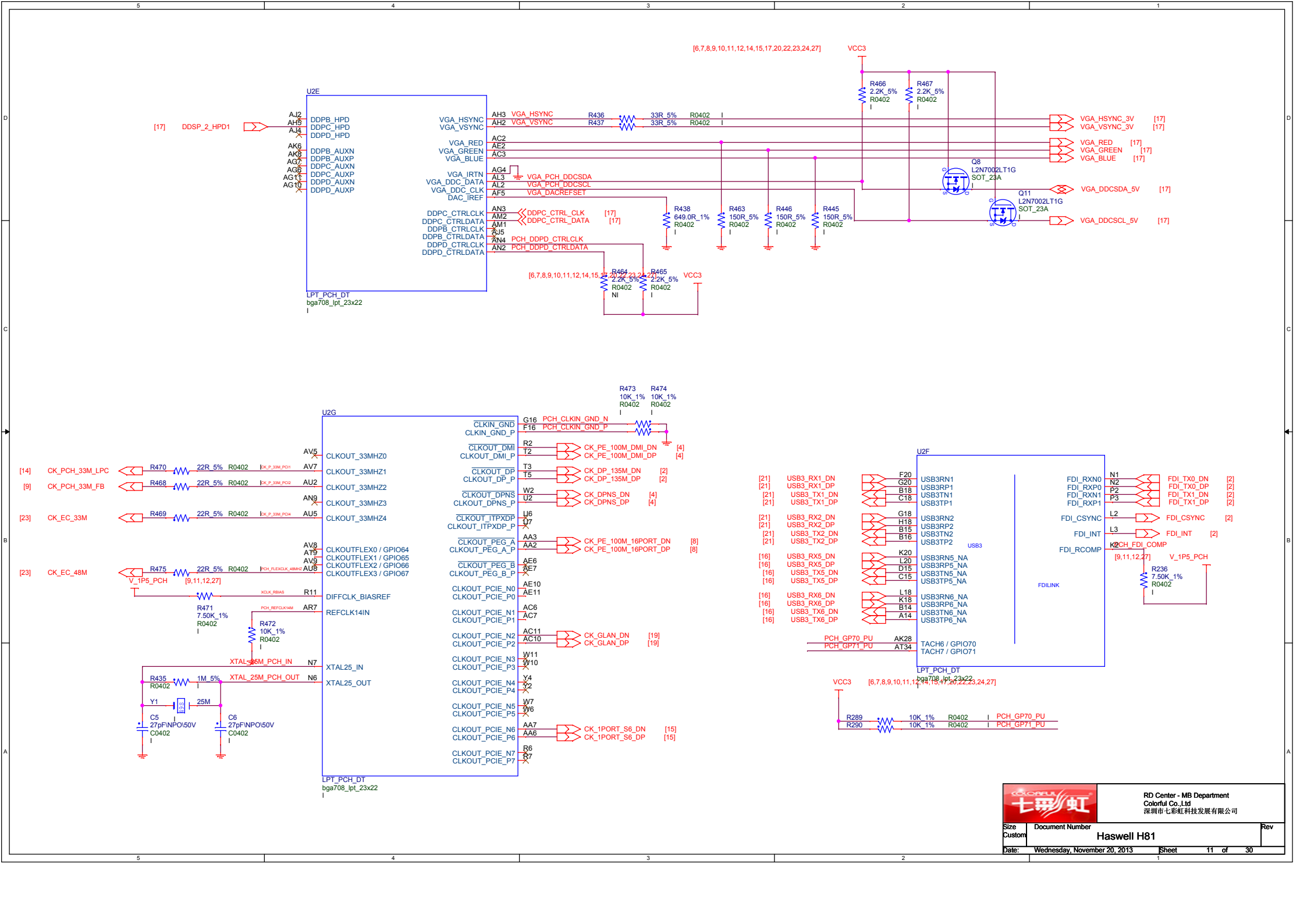
U2E
LPT_PCH_DT
bga708_lpt_23x22
[17] DDSP_2_HPD1
DDPB_HPD
DDPC_HPD
DDPD_HPD
DDPB_AUXN
DDPB_AUXP
DDPC_AUXN
DDPC_AUXP
DDPD_AUXN
DDPD_AUXP
VGA_HSYNC
VGA_VSYNC
VGA_RED
VGA_GREEN
VGA_BLUE
VGA_IRTN
VGA_DDC_DATA
VGA_DDC_CLK
DAC_IREF
DDPC_CTRLCLK
DDPC_CTRLDATA
DDPB_CTRLCLK
DDPB_CTRLDATA
DDPD_CTRLCLK
DDPD_CTRLDATA
VGA_HSYNC
VGA_VSYNC
R436 33R_5% R0402
R437 33R_5% R0402
VGA_PCH_DDCSDA
VGA_PCH_DDCSCL
VGA_DACREFSET
DDPC_CTRL_CLK [17]
DDPC_CTRL_DATA [17]
PCH_DDPD_CTRLCLK
PCH_DDPD_CTRLDATA
[6,7,8,9,10,11,12,14,15,17,20,22,23,24,27]
VCC3
R466 2.2K_5% R0402
R467 2.2K_5% R0402
R438 649.0R_1% R0402
R463 150R_5% R0402
R446 150R_5% R0402
R445 150R_5% R0402
R464 2.2K_5% R0402 NI
R465 2.2K_5% R0402
Q8 L2N7002LT1G SOT_23A
Q11 L2N7002LT1G SOT_23A
VGA_HSYNC_3V [17]
VGA_VSYNC_3V [17]
VGA_RED [17]
VGA_GREEN [17]
VGA_BLUE [17]
VGA_DDCSDA_5V [17]
VGA_DDCSCL_5V [17]
U2G
LPT_PCH_DT
bga708_lpt_23x22
CLKOUT_33MHZ0
CLKOUT_33MHZ1
CLKOUT_33MHZ2
CLKOUT_33MHZ3
CLKOUT_33MHZ4
CLKOUTFLEX0 / GPIO64
CLKOUTFLEX1 / GPIO65
CLKOUTFLEX2 / GPIO66
CLKOUTFLEX3 / GPIO67
DIFFCLK_BIASREF
REFCLK14IN
XTAL25_IN
XTAL25_OUT
CLKIN_GND
CLKOUT_DMI
CLKOUT_DP
CLKOUT_DPNS
CLKOUT_ITPXDP
CLKOUT_PEG_A
CLKOUT_PEG_B
CLKOUT_PCIE_N0
CLKOUT_PCIE_P0
CLKOUT_PCIE_N1
CLKOUT_PCIE_P1
CLKOUT_PCIE_N2
CLKOUT_PCIE_P2
CLKOUT_PCIE_N3
CLKOUT_PCIE_P3
CLKOUT_PCIE_N4
CLKOUT_PCIE_P4
CLKOUT_PCIE_N5
CLKOUT_PCIE_P5
CLKOUT_PCIE_N6
CLKOUT_PCIE_P6
CLKOUT_PCIE_N7
CLKOUT_PCIE_P7
PCH_CLKIN_GND_N
PCH_CLKIN_GND_P
CK_PE_100M_DMI_DN [4]
CK_PE_100M_DMI_DP [4]
CK_DP_135M_DN [2]
CK_DP_135M_DP [2]
CK_DPNS_DN [4]
CK_DPNS_DP [4]
CK_PE_100M_16PORT_DN [8]
CK_PE_100M_16PORT_DP [8]
CK_GLAN_DN [19]
CK_GLAN_DP [19]
CK_1PORT_S6_DN [15]
CK_1PORT_S6_DP [15]
R473 10K_1% R0402
R474 10K_1% R0402
[14] CK_PCH_33M_LPC
[9] CK_PCH_33M_FB
[23] CK_EC_33M
[23] CK_EC_48M
R470 22R_5% R0402
R468 22R_5% R0402
R469 22R_5% R0402
R475 22R_5% R0402
V_1P5_PCH [9,11,12,27]
R471 7.50K_1% R0402
R472 10K_1% R0402
R435 1M_5% R0402
Y1 25M
C5 27pF\NPO\50V C0402
C6 27pF\NPO\50V C0402
XTAL_25M_PCH_IN
XTAL_25M_PCH_OUT
U2F
LPT_PCH_DT
bga708_lpt_23x22
USB3RN1
USB3RP1
USB3TN1
USB3TP1
USB3RN2
USB3RP2
USB3TN2
USB3TP2
USB3RN5_NA
USB3RP5_NA
USB3TN5_NA
USB3TP5_NA
USB3RN6_NA
USB3RP6_NA
USB3TN6_NA
USB3TP6_NA
TACH6 / GPIO70
TACH7 / GPIO71
FDI_RXN0
FDI_RXP0
FDI_RXN1
FDI_RXP1
FDI_CSYNC
FDI_INT
FDI_RCOMP
FDI_TX0_DN [2]
FDI_TX0_DP [2]
FDI_TX1_DN [2]
FDI_TX1_DP [2]
FDI_CSYNC [2]
FDI_INT [2]
PCH_FDI_COMP
R236 7.50K_1% R0402
V_1P5_PCH
R289 10K_1% R0402 PCH_GP70_PU
R290 10K_1% R0402 PCH_GP71_PU
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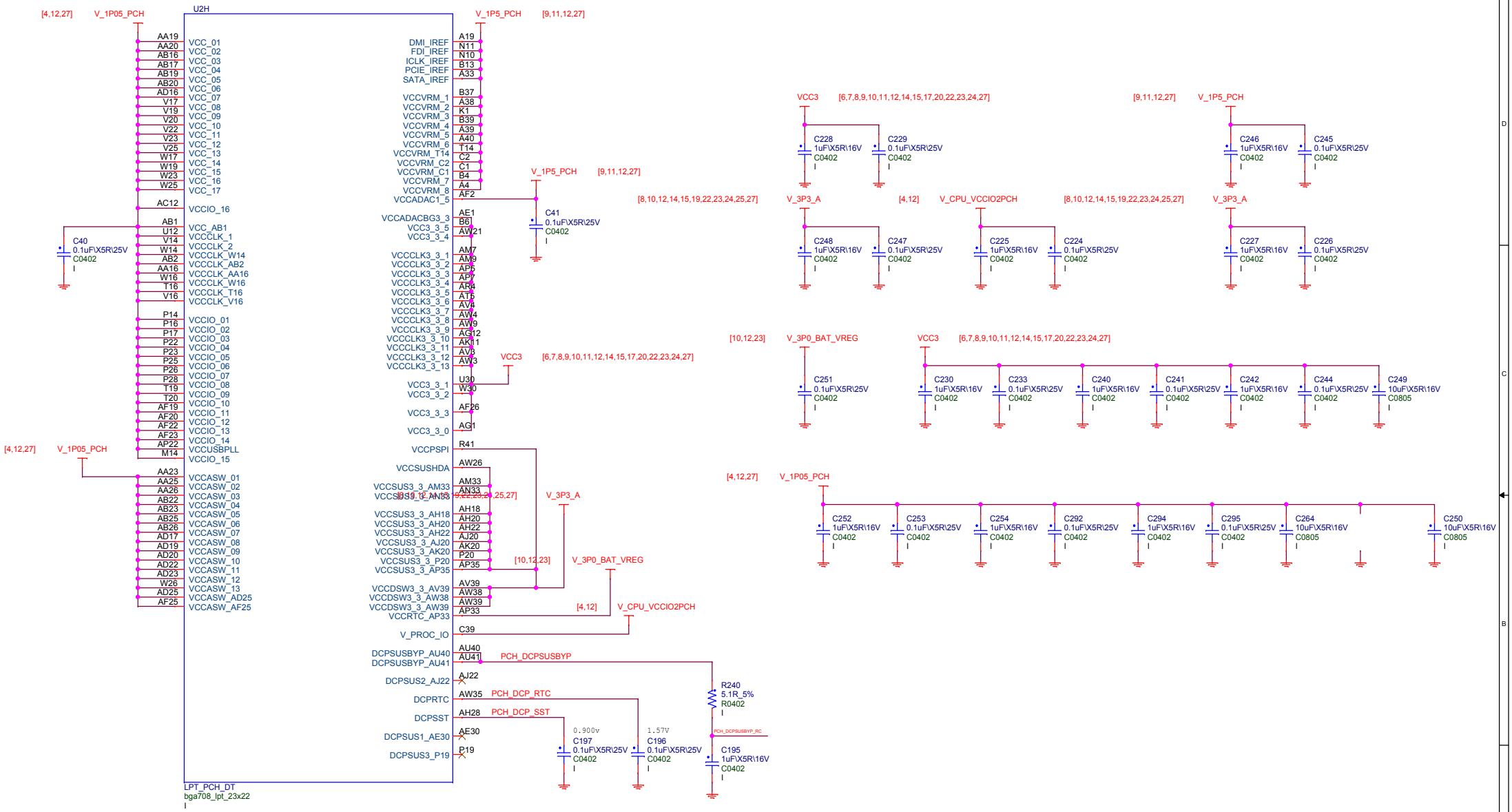

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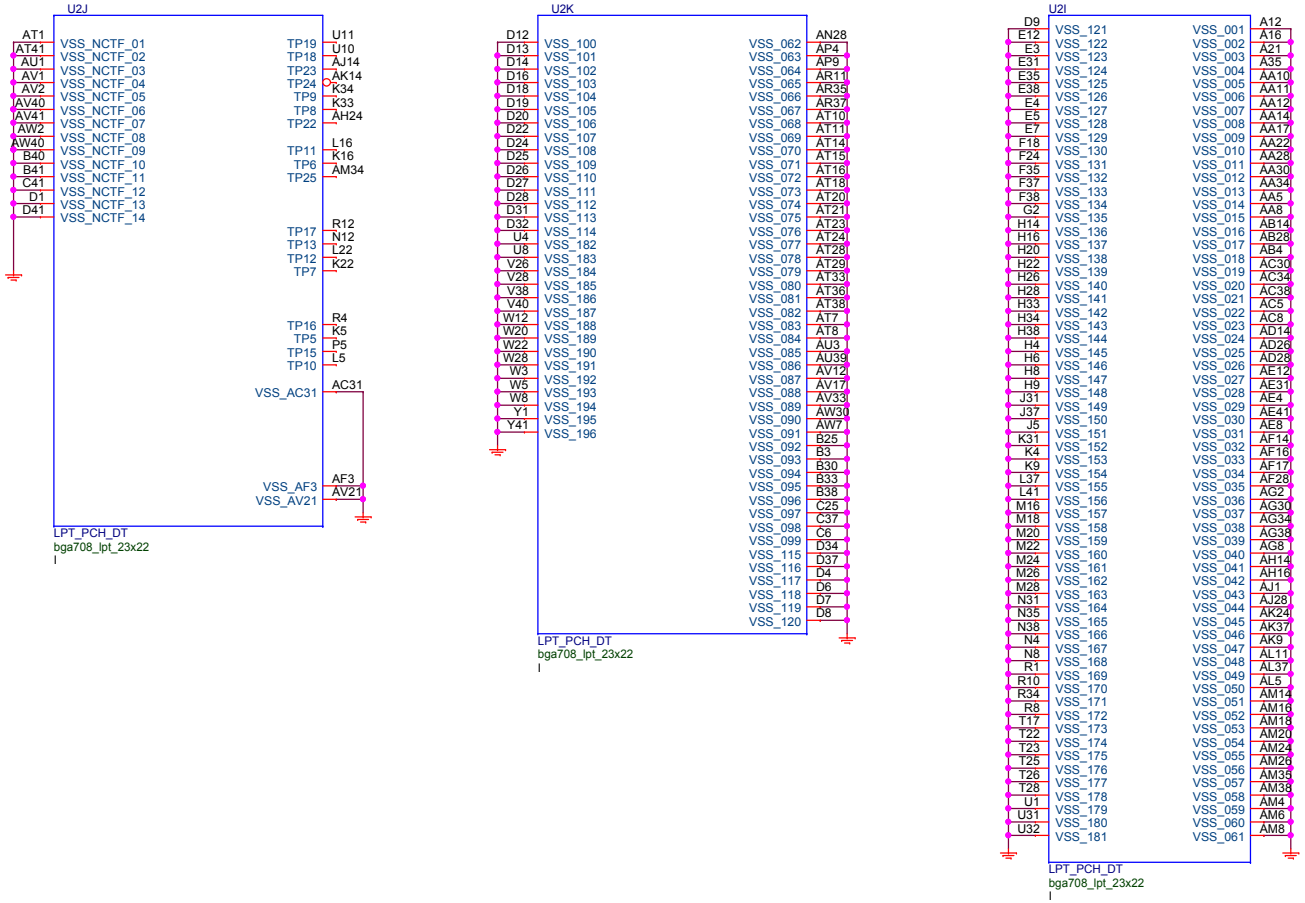

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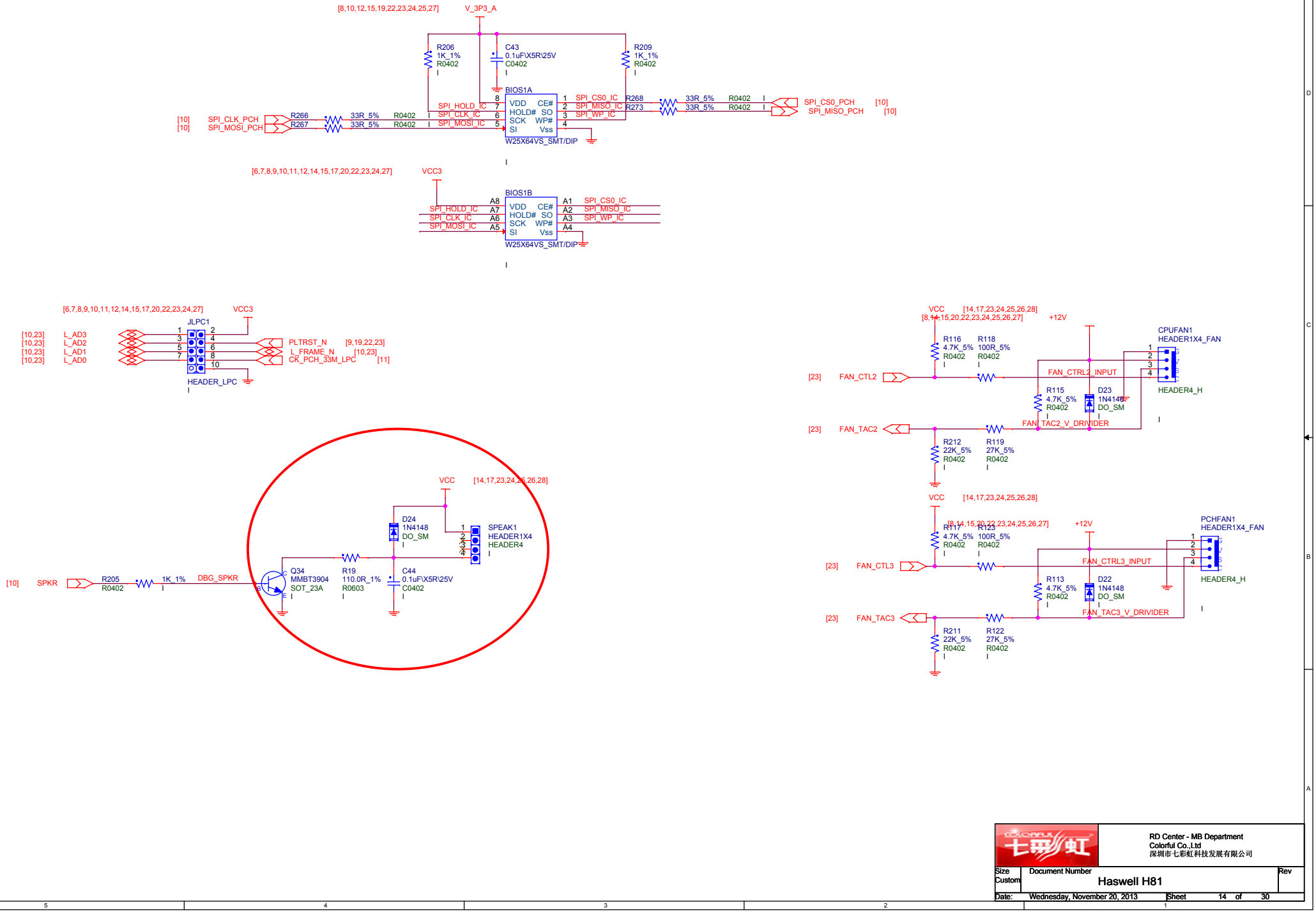

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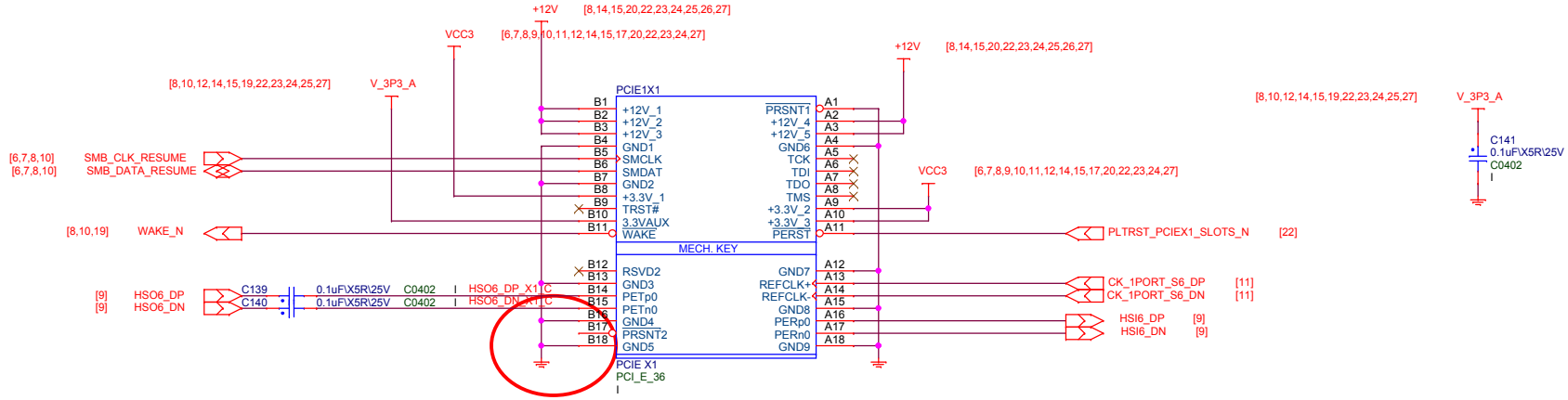

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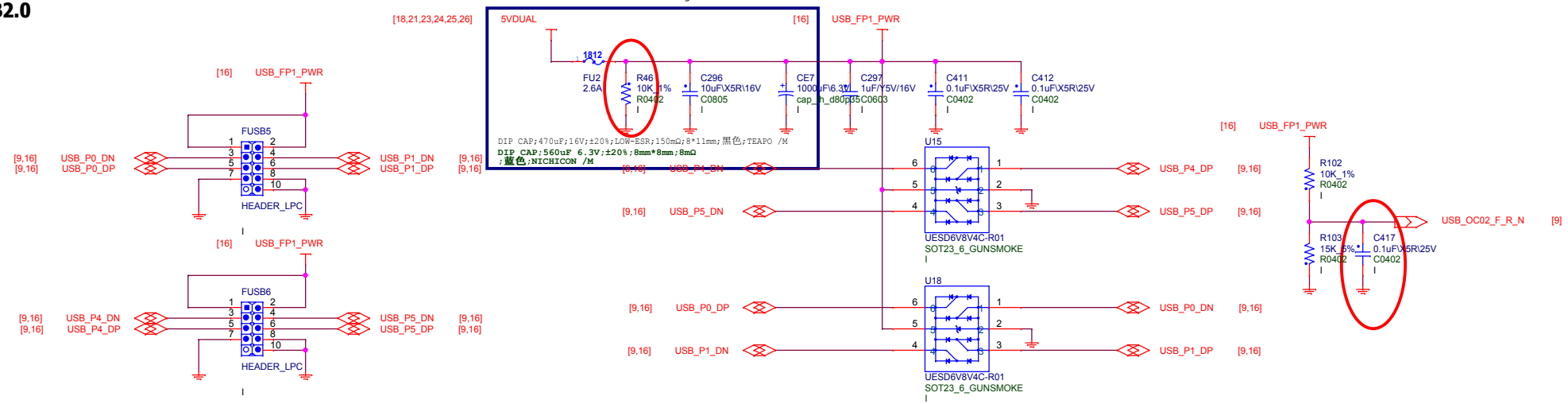
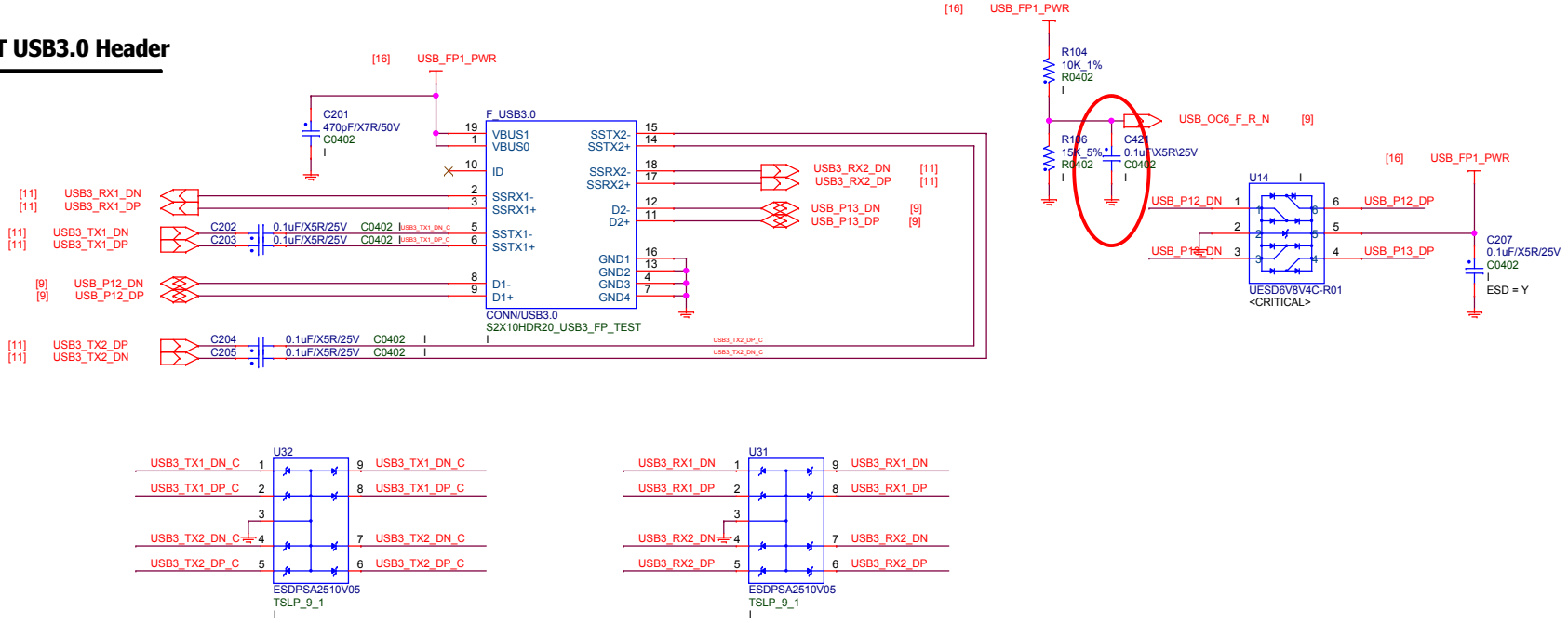
FRONT USB2.0

change to S-CAP

change to Black
blue 130356060121 DIP CAP;560uF 6.3V;±20%;8mm*8mm;8mΩ;蓝色;NICHICO
black 130310076311 DIP CAP;1000uF;6.3V;±20%;LOW-ESR;150mΩ;8*11mm;黑色;TEAPO/M



FRONT USB3.0 Header



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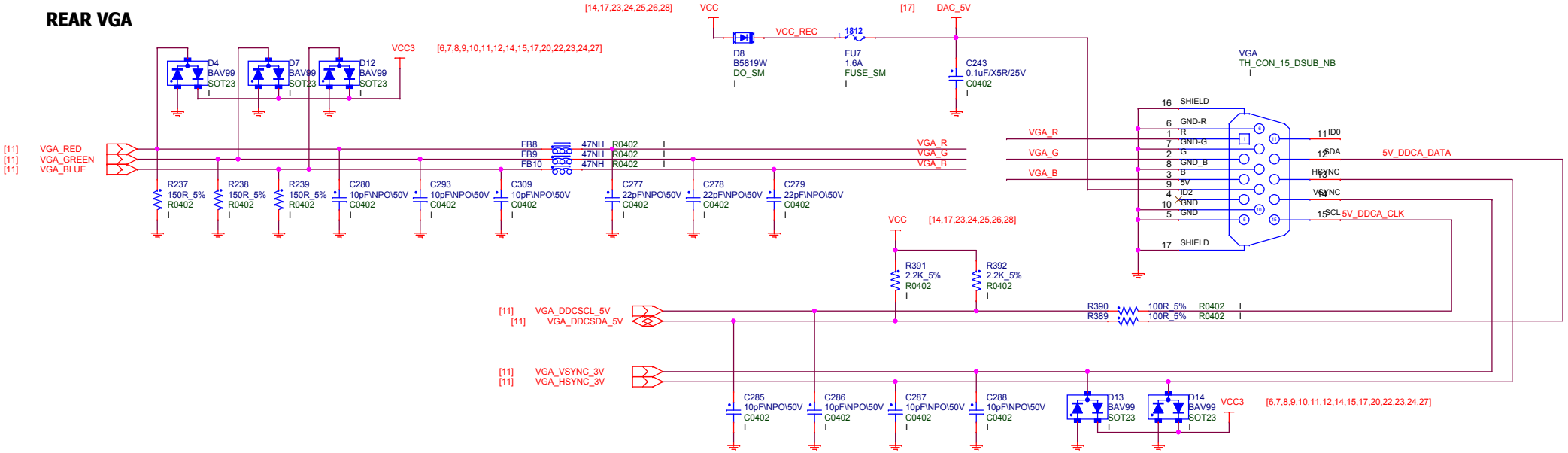
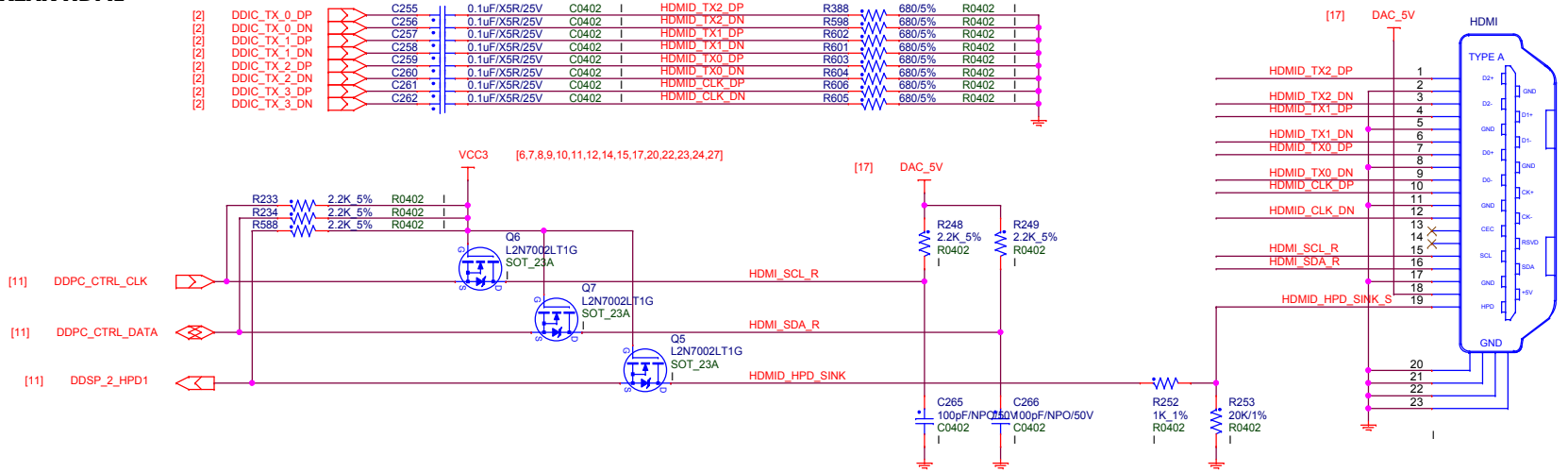
REAR VGA



REAR HDMI



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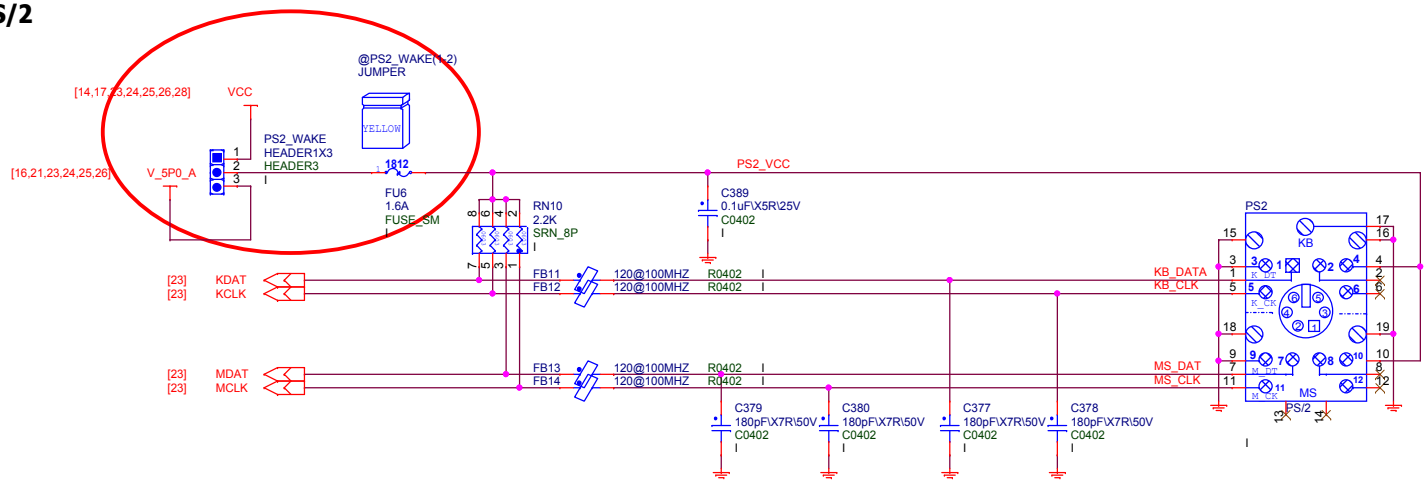
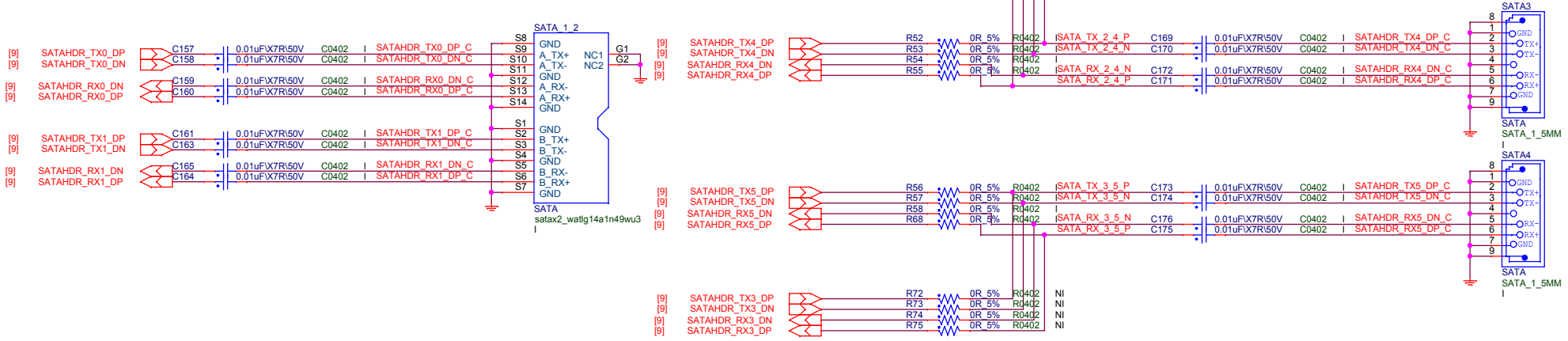
REAR IO PS/2



SATA3.0 1-4

BOM NOTE: FOR H81 using port 4/5

FOR B85,using port 2/3



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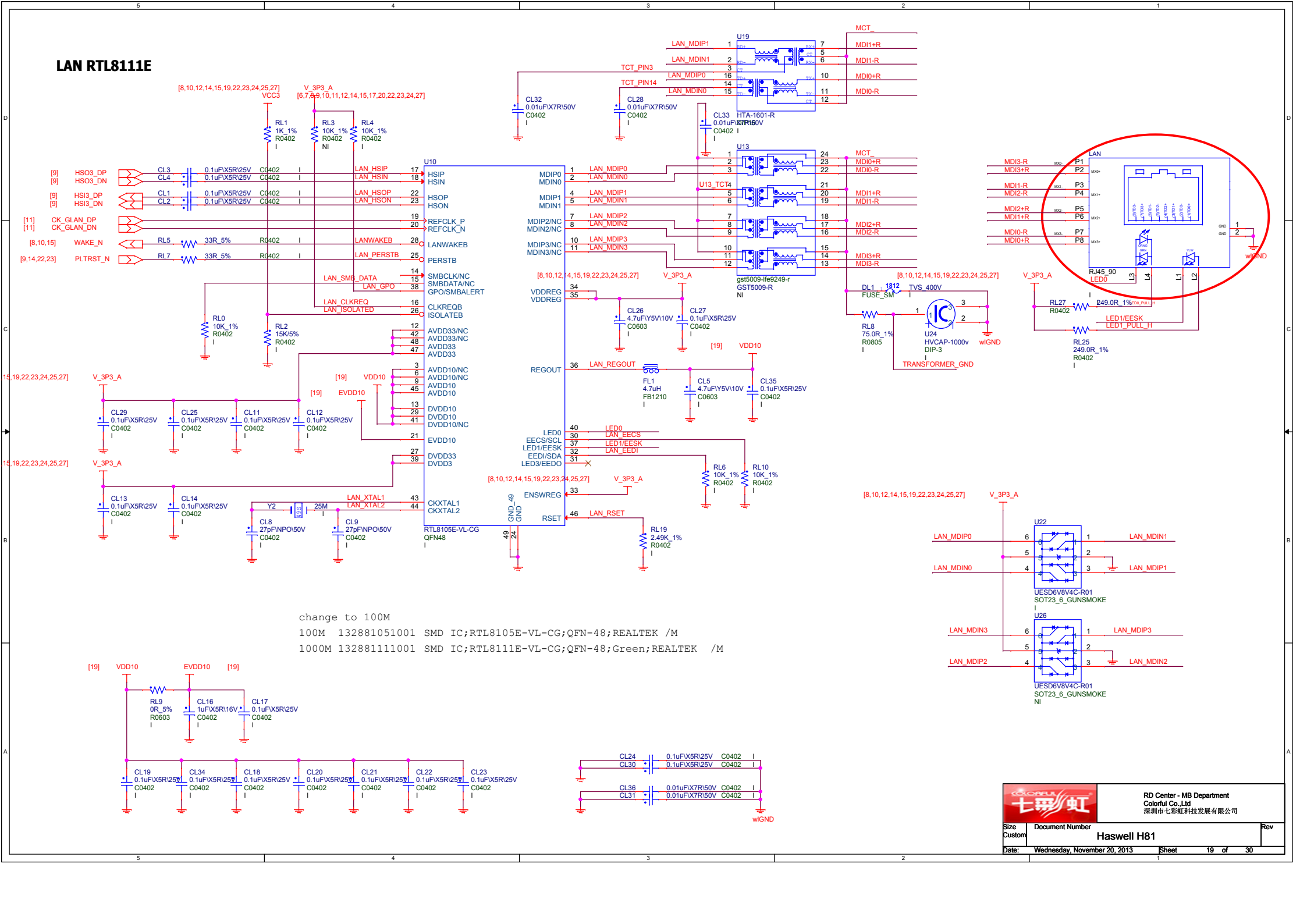
LAN RTL8111E



change to 100M

100M 132881051001 SMD IC;RTL8105E-VL-CG;QFN-48;REALTEK /M

1000M 132881111001 SMD IC;RTL8111E-VL-CG;QFN-48;Green;REALTEK /M

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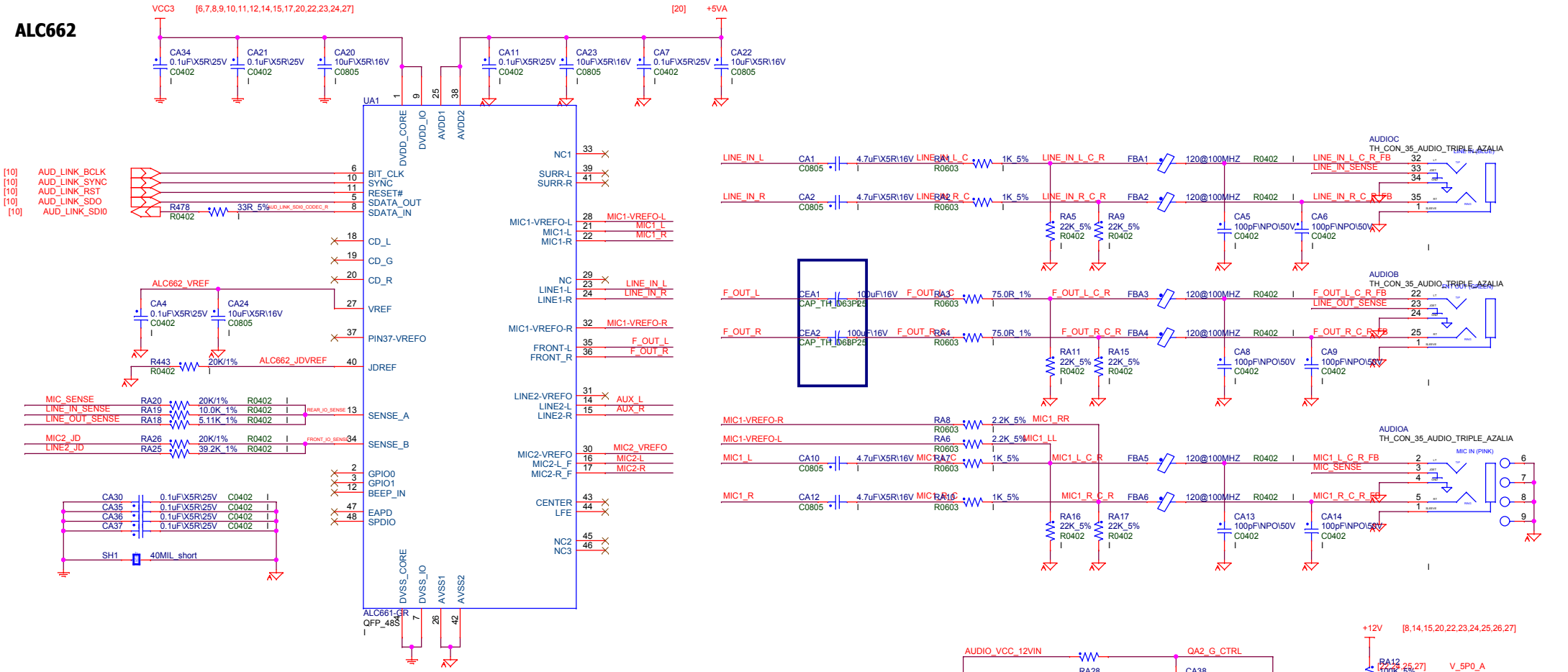
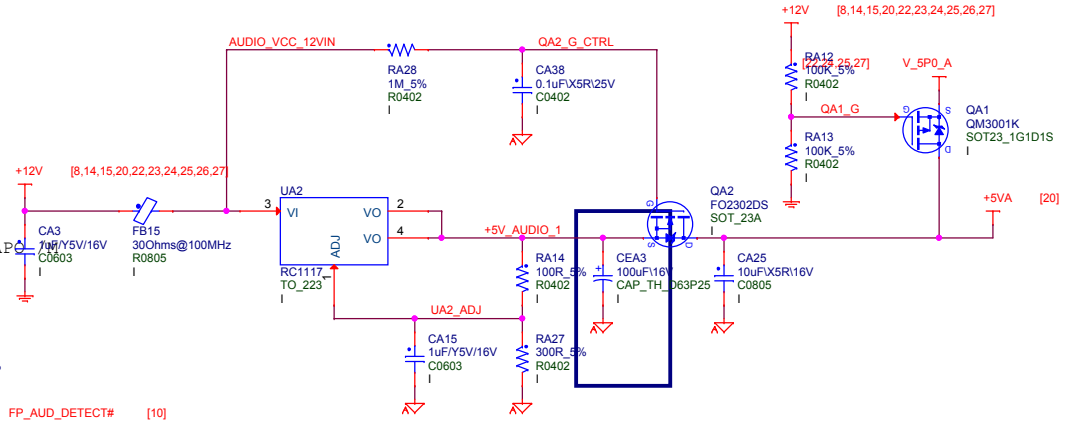
ALC662



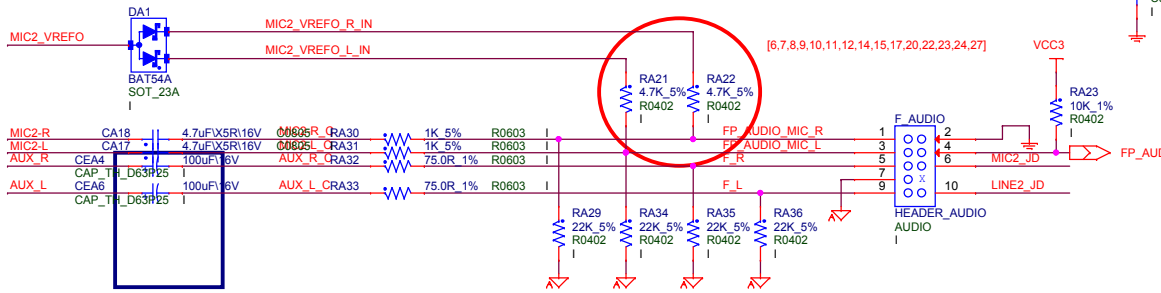


FRONT FANEL-AUDIO

change to Black

blue 130310060111 DIP CAP;100uF 16V;±20%;6.3mm*10mm;25mΩ;蓝色;NICHICO

black 130310066311 DIP CAP;100uF;16V;±20%;铝电解;6.3*7mm;240mΩ;黑色;TEAPO



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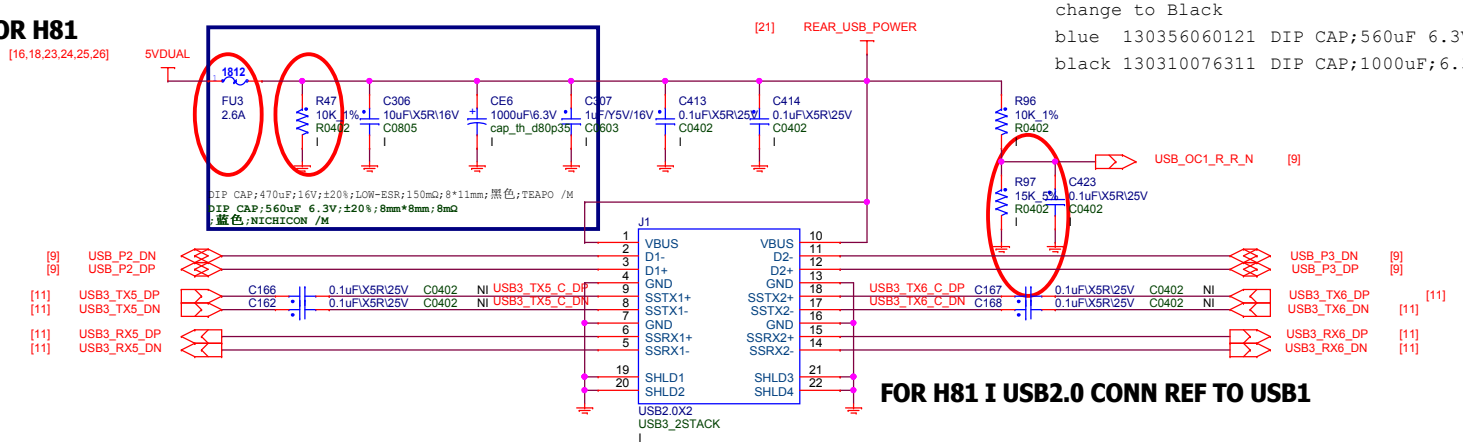
REAR USB 3.0 FOR B85

REAR USB 2.0 FOR H81

change to Black

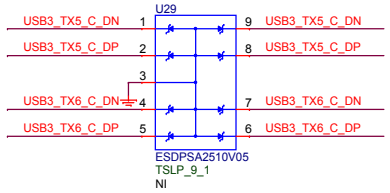
blue 130356060121 DIP CAP;560uF 6.3V;±20%;8mm*8mm;8mΩ;蓝色;NICHICO

black 130310076311 DIP CAP;1000uF;6.3V;±20%;LOW-ESR;150mΩ;8*11mm;黑色;TEAPO/M

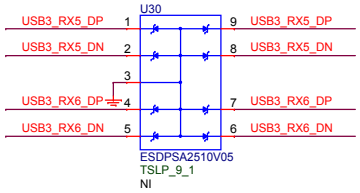


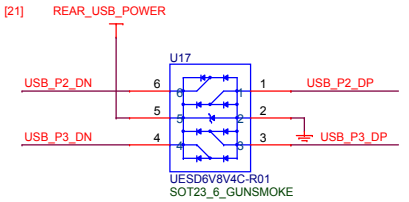
FOR H81 I USB2.0 CONN REF TO USB1

FOR H81 NI

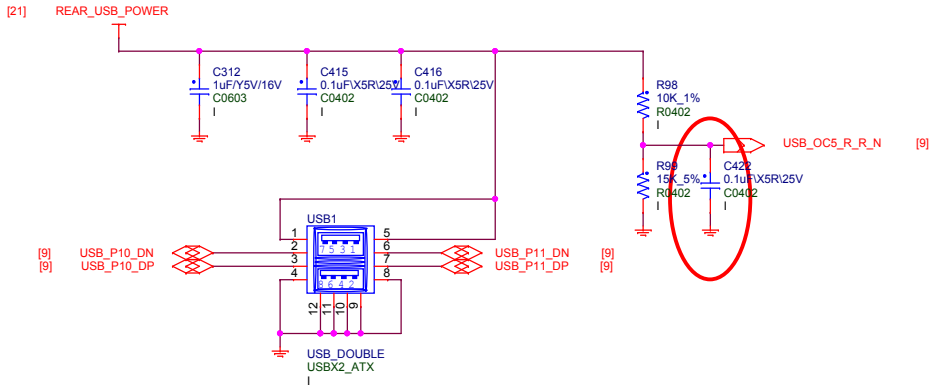


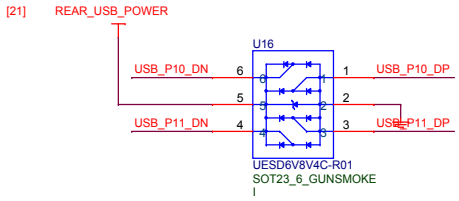
FOR H81 NI





REAR USB 2.0





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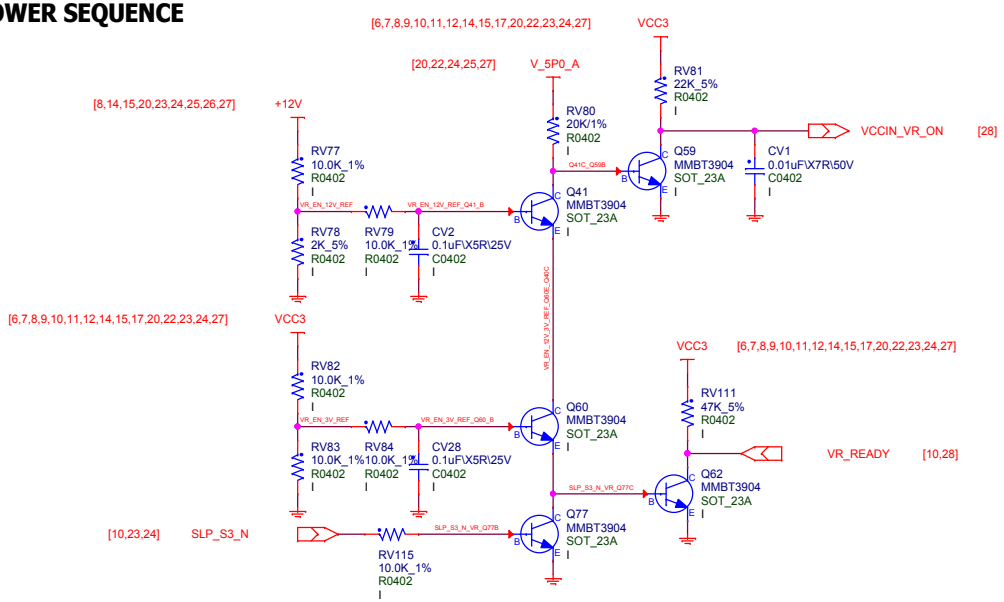
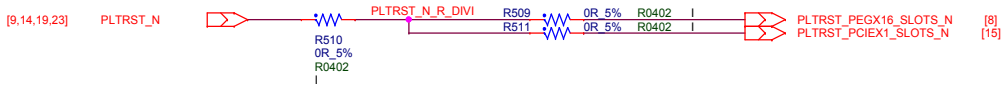
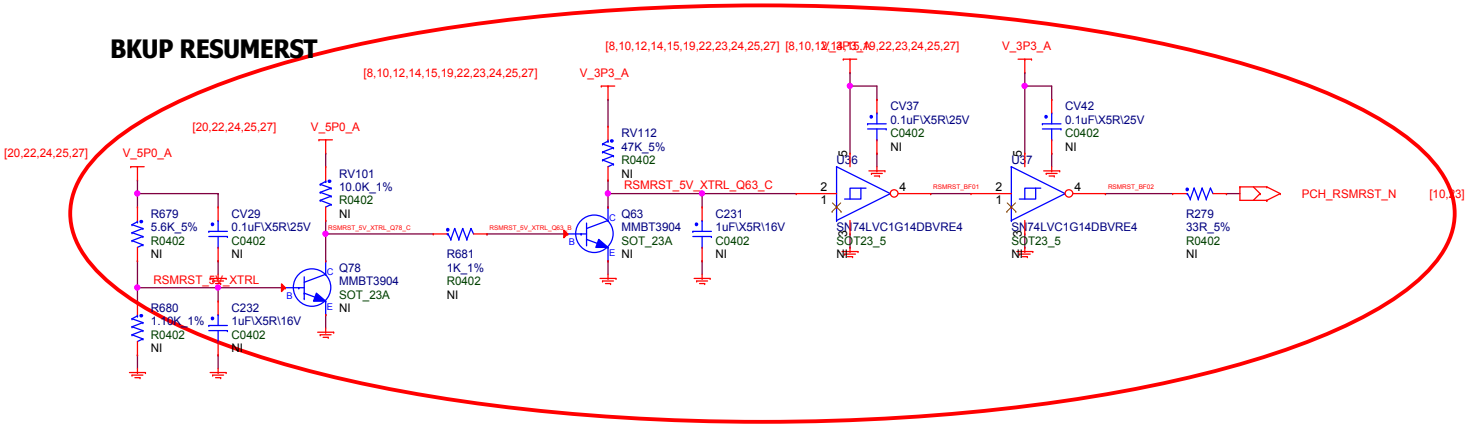
VR POWER SEQUENCE



PCIE SLOT RESET



BKUP RESUMERST



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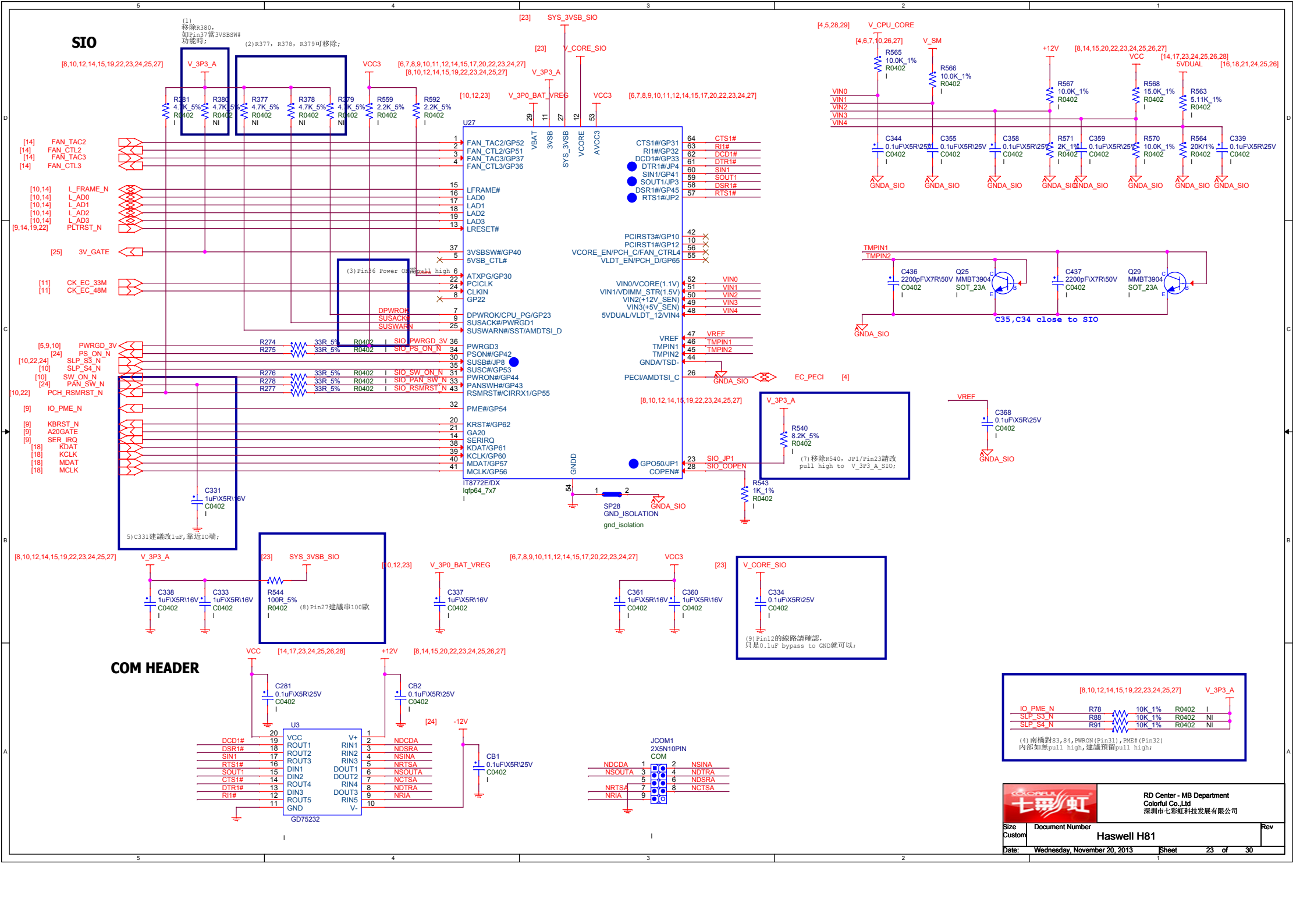
SIO
U27
IT8772E/DX
lqfp64_7x7
COM HEADER
U3
GD75232
JCOM1
2X5N10PIN
COM
C35,C34 close to SIO
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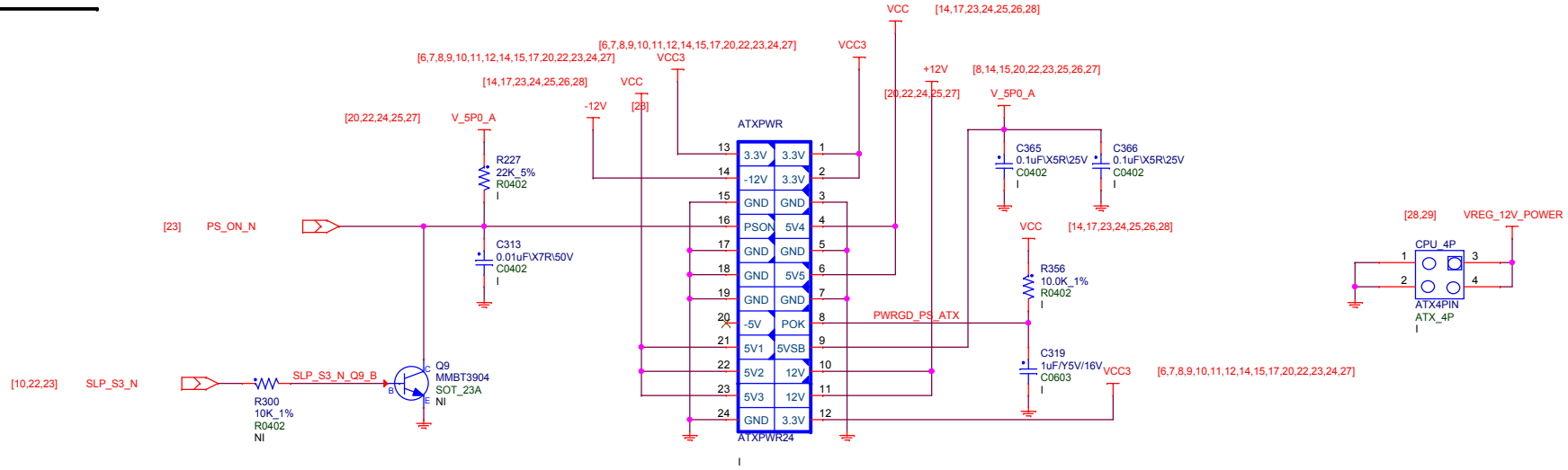
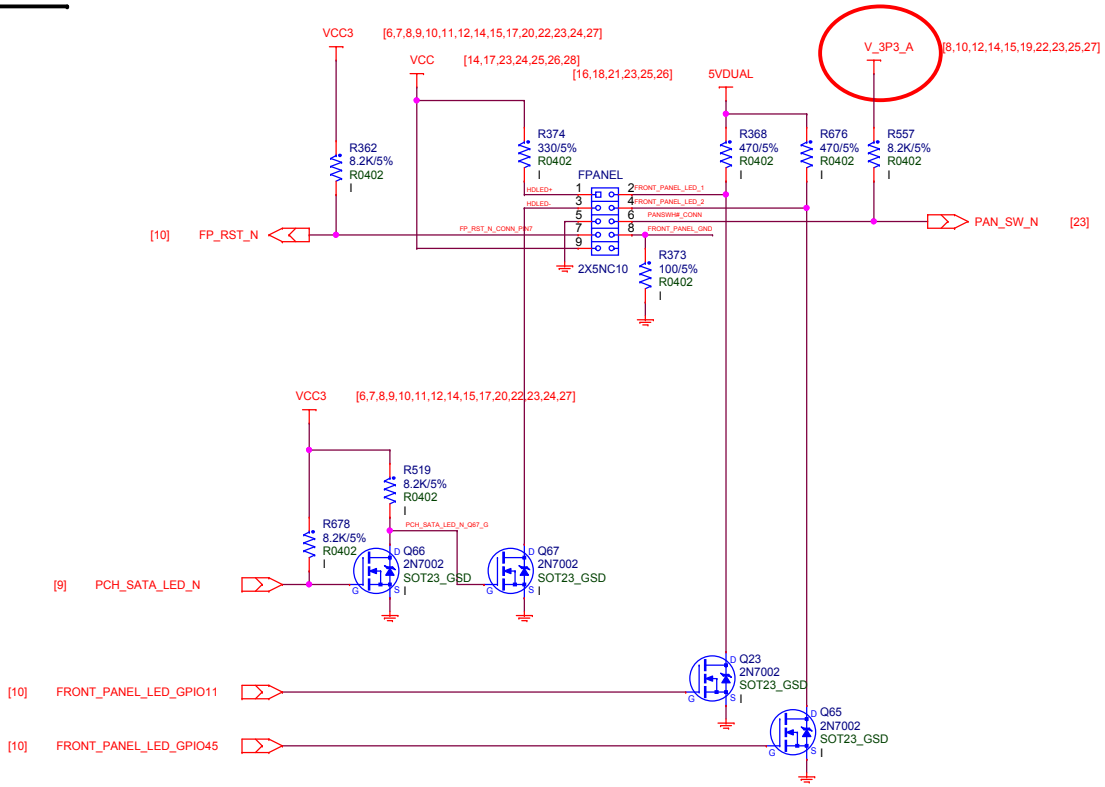
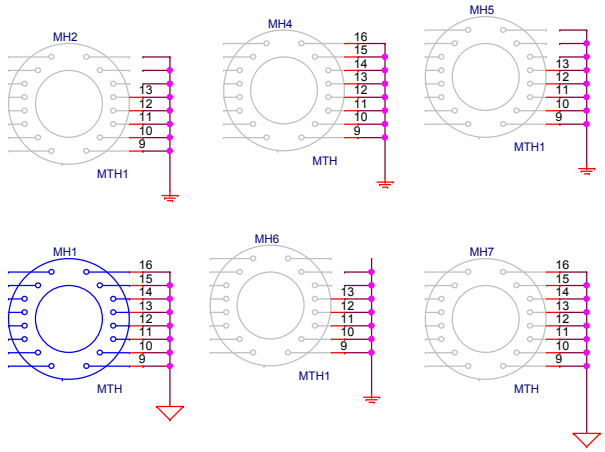
ATX POWER CONNECTOR



Front Panel Header



MOUNTING HOLES



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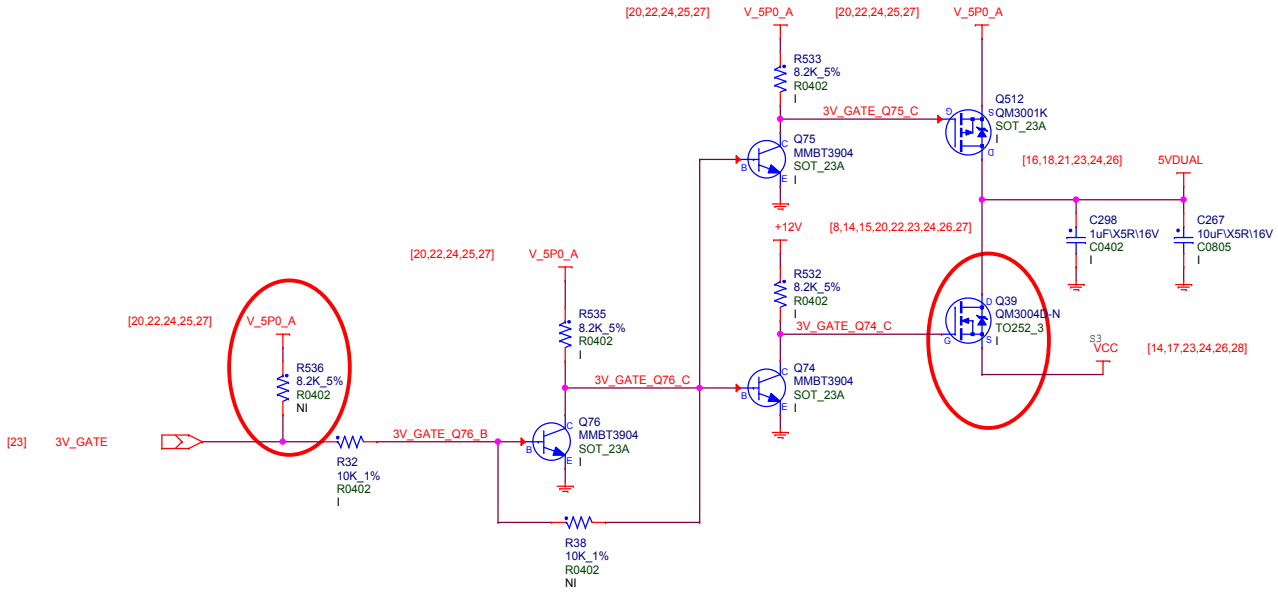
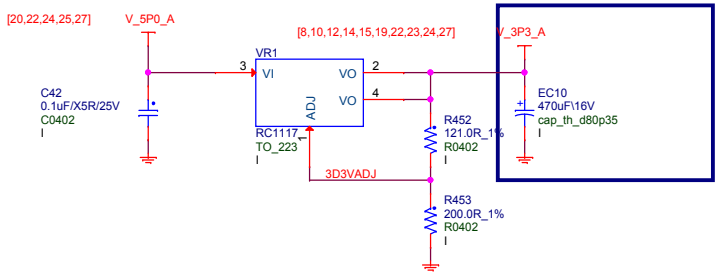


change to Black

blue 130356060121 DIP CAP;560uF 6.3V;±20%;8mm*8mm;8mΩ;蓝色;NICHICO

black 130310076311 DIP CAP;1000uF;6.3V;±20%;LOW-ESR;150mΩ;8*11mm;黑色;TEAPO/M

black 130347066311 DIP CAP;470uF;16V;±20%;LOW-ESR;150mΩ;8*11mm;黑色;TEAPO /M



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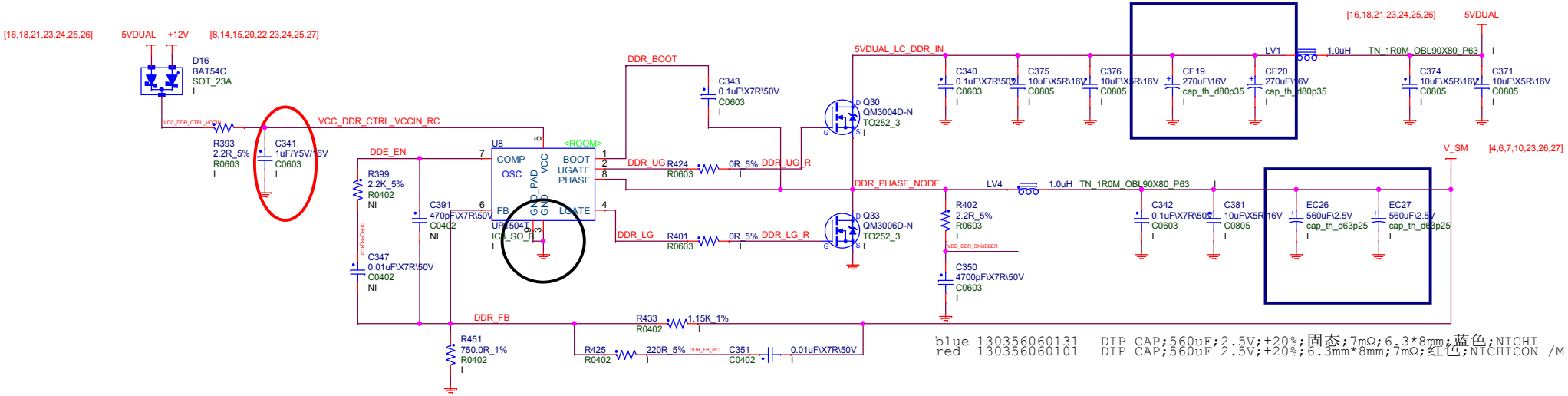
V_SM

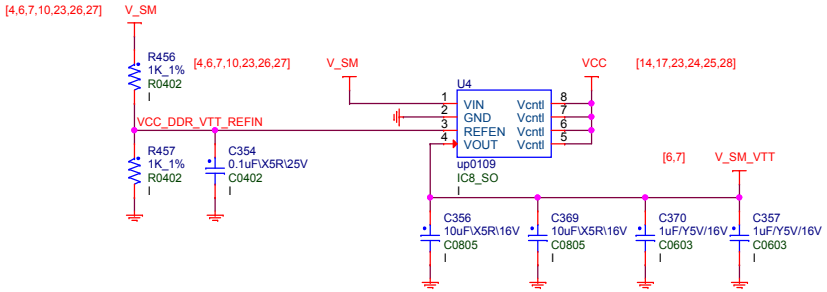
change to S-CAP

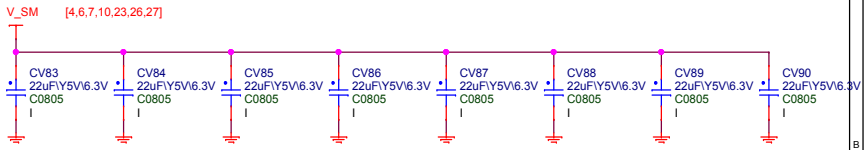
blue 130356060121 DIP CAP;560uF 6.3V;±20%;8mm*8mm;8mΩ;蓝色;NICHICON /M
red 130327060101 DIP CAP;270uF 16V;±20%;8mm*8mm;10mΩ;红色;NICHICON /M



blue 130356060131 DIP CAP;560uF;2.5V;±20%;固态;7mΩ;6.3*8mm;蓝色;NICHI
red 130356060101 DIP CAP;560uF 2.5V;±20%;6.3mm*8mm;7mΩ;红色;NICHICON /M

V_SM_VTT





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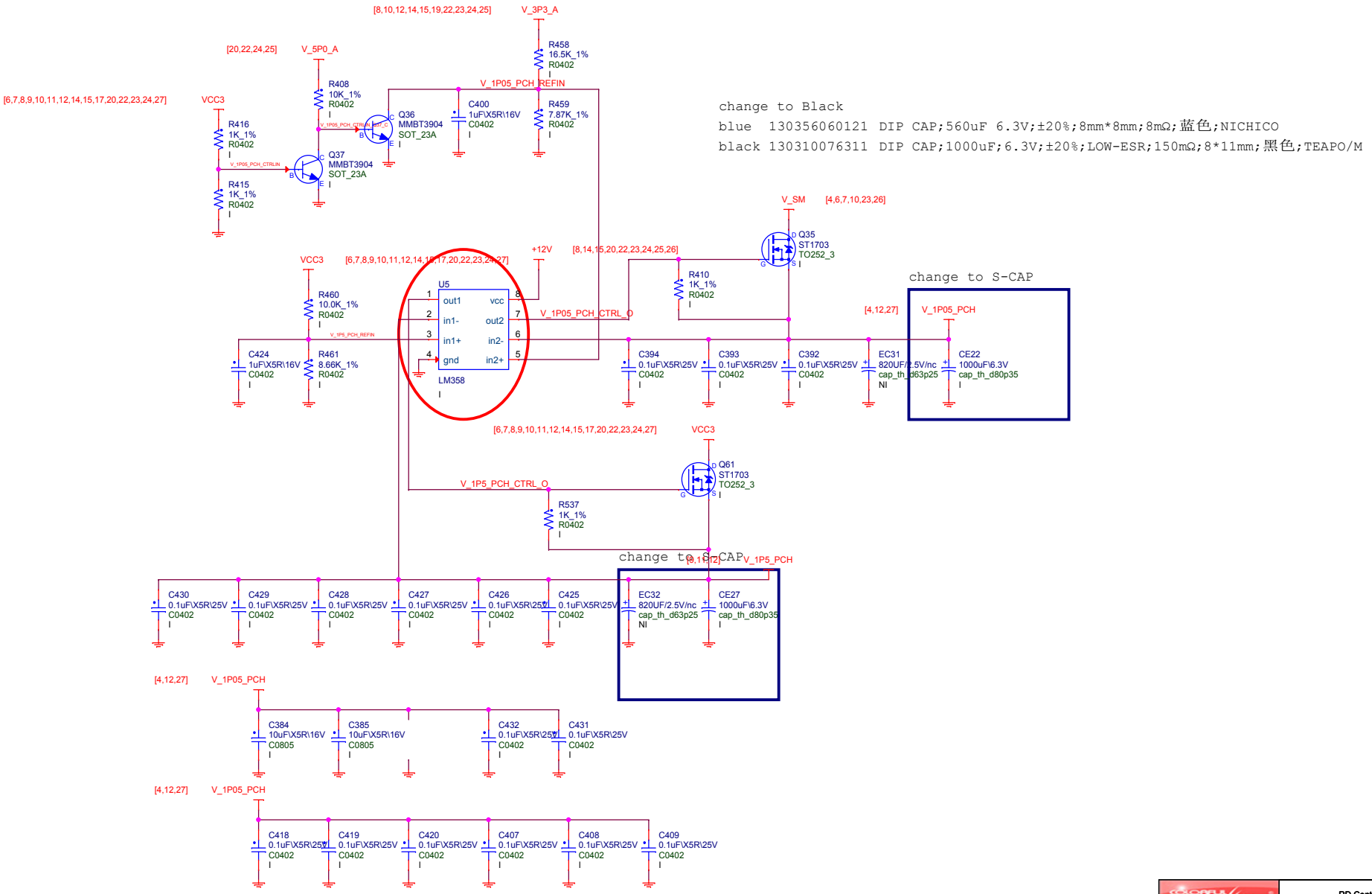

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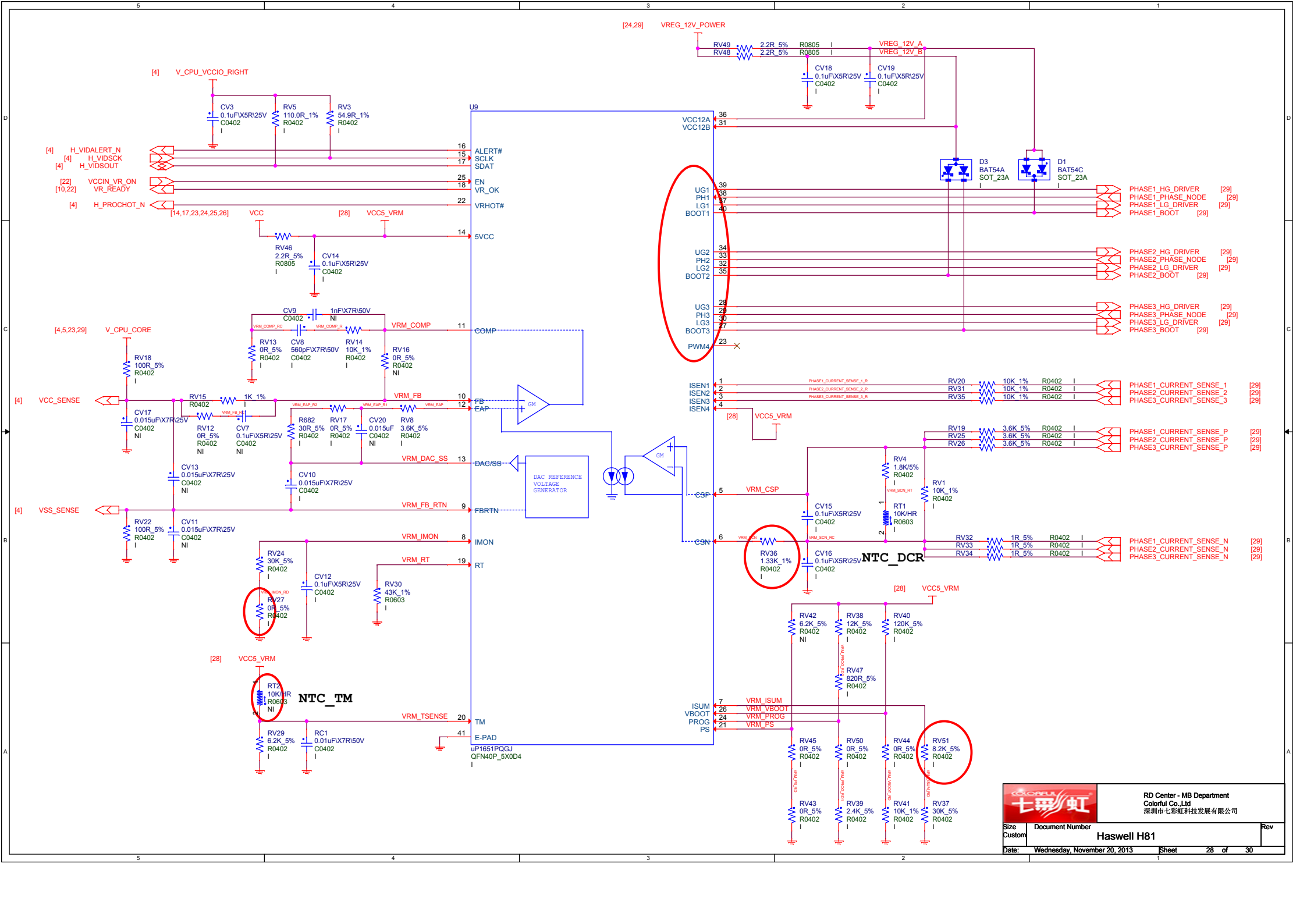
[24,29] VREG_12V_POWER
RV49 2.2R_5% R0805
RV48 2.2R_5% R0805
VREG_12V_A
VREG_12V_B
CV18 0.1uF\X5R\25V C0402
CV19 0.1uF\X5R\25V C0402
U9
VCC12A
VCC12B
D3 BAT54A SOT_23A
D1 BAT54C SOT_23A
[4] V_CPU_VCCIO_RIGHT
CV3 0.1uF\X5R\25V C0402
RV5 110.0R_1% R0402
RV3 54.9R_1% R0402
[4] H_VIDALERT_N
[4] H_VIDSCK
[4] H_VIDSOUT
[22] VCCIN_VR_ON
[10,22] VR_READY
[4] H_PROCHOT_N
ALERT#
SCLK
SDAT
EN
VR_OK
VRHOT#
[14,17,23,24,25,26] VCC
[28] VCC5_VRM
RV46 2.2R_5% R0805
CV14 0.1uF\X5R\25V C0402
5VCC
UG1
PH1
LG1
BOOT1
UG2
PH2
LG2
BOOT2
UG3
PH3
LG3
BOOT3
PWM4
PHASE1_HG_DRIVER [29]
PHASE1_PHASE_NODE [29]
PHASE1_LG_DRIVER [29]
PHASE1_BOOT [29]
PHASE2_HG_DRIVER [29]
PHASE2_PHASE_NODE [29]
PHASE2_LG_DRIVER [29]
PHASE2_BOOT [29]
PHASE3_HG_DRIVER [29]
PHASE3_PHASE_NODE [29]
PHASE3_LG_DRIVER [29]
PHASE3_BOOT [29]
CV9 C0402 1nF\X7R\50V NI
VRM_COMP_RC
VRM_COMP_R
VRM_COMP
COMP
[4,5,23,29] V_CPU_CORE
RV13 0R_5% R0402
CV8 560pF\X7R\50V C0402
RV14 10K_1% R0402
RV16 0R_5% R0402 NI
RV18 100R_5% R0402
[4] VCC_SENSE
RV15 R0402 1K_1%
VRM_FB_RT
VRM_FB
FB
EAP
CV17 0.015uF\X7R\25V C0402 NI
RV12 0R_5% R0402 NI
CV7 0.1uF\X5R\25V C0402 NI
VRM_EAP_R2
VRM_EAP_R1
VRM_EAP
R682 30R_5% R0402
RV17 0R_5% R0402
CV20 0.015uF C0402 NI
RV8 3.6K_5% R0402
VRM_DAC_SS
DAC/SS
DAC REFERENCE VOLTAGE GENERATOR
GM
CV13 0.015uF\X7R\25V C0402 NI
CV10 0.015uF\X7R\25V C0402
[4] VSS_SENSE
RV22 100R_5% R0402
CV11 0.015uF\X7R\25V C0402 NI
VRM_FB_RTN
FBRTN
VRM_IMON
IMON
VRM_RT
RT
RV24 30K_5% R0402
VRM_IMON_RD
RV27 0R_5% R0402
CV12 0.1uF\X5R\25V C0402
RV30 43K_1% R0603
[28] VCC5_VRM
RT2 10K/HR R0603 NI
NTC_TM
VRM_TSENSE
TM
E-PAD
uP1651PQGJ
QFN40P_5X0D4
ISEN1
ISEN2
ISEN3
ISEN4
PHASE1_CURRENT_SENSE_1_R
PHASE2_CURRENT_SENSE_2_R
PHASE3_CURRENT_SENSE_3_R
RV20 10K_1% R0402
RV31 10K_1% R0402
RV35 10K_1% R0402
PHASE1_CURRENT_SENSE_1 [29]
PHASE2_CURRENT_SENSE_2 [29]
PHASE3_CURRENT_SENSE_3 [29]
[28] VCC5_VRM
RV19 3.6K_5% R0402
RV25 3.6K_5% R0402
RV26 3.6K_5% R0402
PHASE1_CURRENT_SENSE_P [29]
PHASE2_CURRENT_SENSE_P [29]
PHASE3_CURRENT_SENSE_P [29]
CSP
CSN
VRM_CSP
RV4 1.8K/5% R0402
RV1 10K_1% R0402
VRM_SCN_RT
RT1 10K/HR R0603
CV15 0.1uF\X5R\25V C0402
VRM_SCN_RC
RV36 1.33K_1% R0402
CV16 0.1uF\X5R\25V C0402
NTC_DCR
RV32 1R_5% R0402
RV33 1R_5% R0402
RV34 1R_5% R0402
PHASE1_CURRENT_SENSE_N [29]
PHASE2_CURRENT_SENSE_N [29]
PHASE3_CURRENT_SENSE_N [29]
[28] VCC5_VRM
RV42 6.2K_5% R0402 NI
RV38 12K_5% R0402
RV40 120K_5% R0402
RV47 820R_5% R0402
ISUM
VBOOT
PROG
PS
VRM_ISUM
VRM_VBOOT
VRM_PROG
VRM_PS
RV45 0R_5% R0402
RV50 0R_5% R0402
RV44 0R_5% R0402
RV51 8.2K_5% R0402
RV43 0R_5% R0402
RV39 2.4K_5% R0402
RV41 10K_1% R0402
RV37 30K_5% R0402
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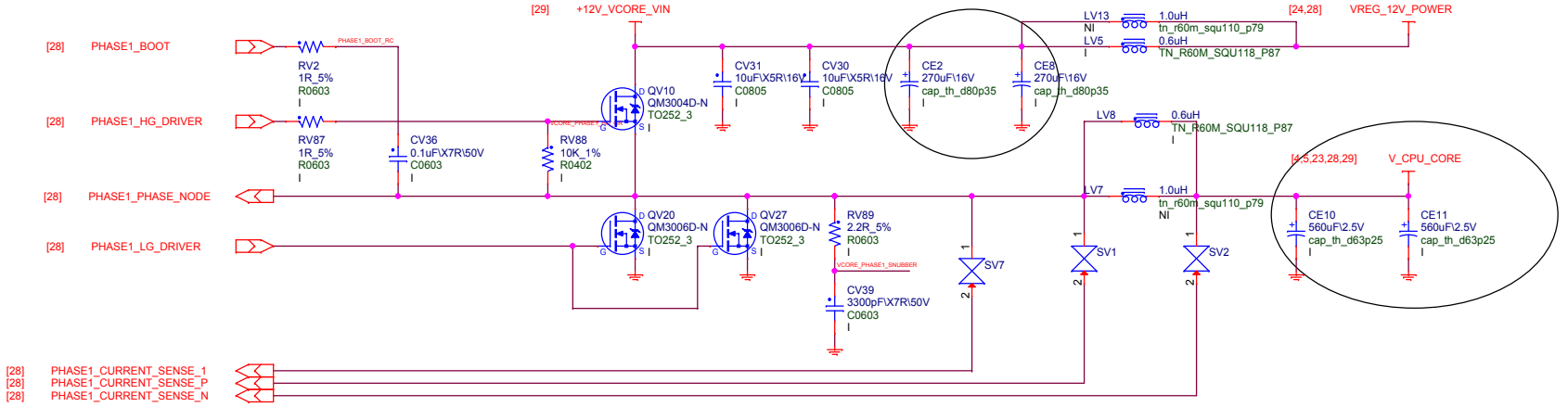
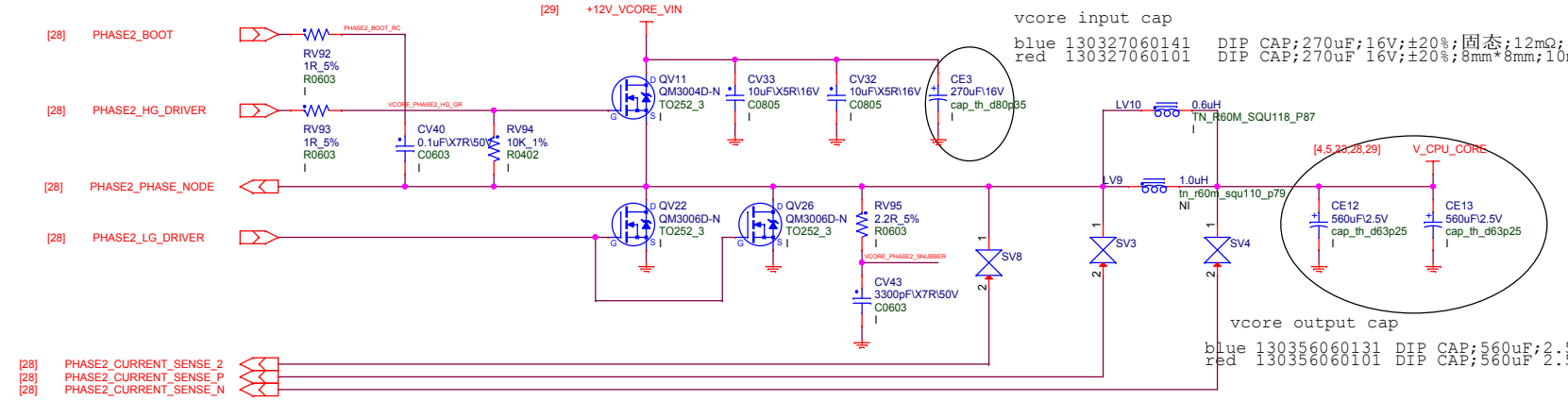


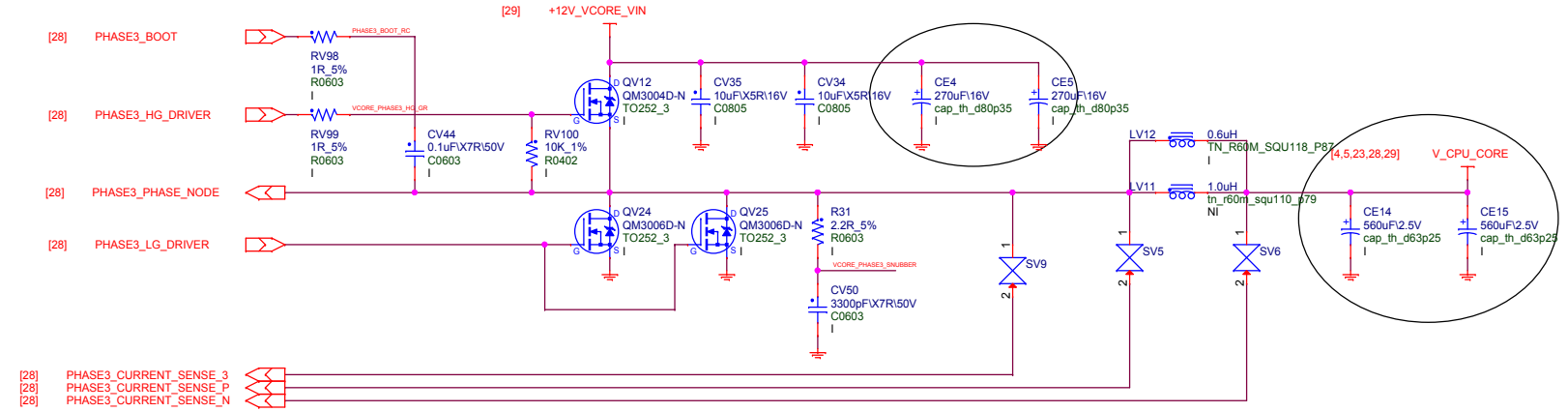


vcore input cap

blue 130327060141 DIP CAP;270uF;16V;±20%;固态;12mΩ;8*8mm;蓝色;NICHI
red 130327060101 DIP CAP;270uF 16V;±20%;8mm*8mm;10mΩ;红色;NICHICON /M

vcore output cap

blue 130356060131 DIP CAP;560uF;2.5V;±20%;固态;7mΩ;6.3*8mm;蓝色;NICHI
red 130356060101 DIP CAP;560uF 2.5V;±20%;6.3mm*8mm;7mΩ;红色;NICHICON /M



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H81M02-M03 change list

	SCH	PCB	BOM
001 PCB Change to H81-M03 [page 1]	●		●
002 R544 change position [page 23]	●		●
003 up1651 update symbol, UG/LG Swap[page 28]	●	●	
004 RV51,RV27 change to 0 OHM[page 28]	●		●
005 DDR DIMM DM pins short to GND[page 06,07]	●	●	
006 SMBUS/Alert add pull up resistor[page 10]	●	●	●
007 PWBTN pull up change to STBY Resistor[page 24]	●	●	
008 NI Resumrst reserved parts[page 22]	●		●
009 NI FRONt USB 3.0 part for H81 Sku[page 16]	●		●
010 D22/D23 I[page 14]	●		●
011 R536 NI, Duplicated pull up for 3V_gate[page 25]	●		●
012 Update Buzzer Circuit[PAGE 14]	●	●	●
013 Add 0.1uF 0402 on All USB OC pins[Page 16/21]	●	●	●
014 FU3 Change to 2.6A Fuse[page 21]	●		●
015 Silkscreen Issue from DYD		●	
001 R391/C285			
002 R25/R634			
003 C341 update PCB footprint to C0603[page 26]			
004 C312/C416			
016 Add Colorful silkscreen ,ref to luoyongxin		●	
017 Add 4 port SATA3.0 support		●	
017.1 Add Rn12/13 for H81 Sku			
017.2 Add Rn14/15 for b85 Sku			
018 SIO Review chnage[page 23]		●	
018.1 R380/R377/R378/R379 NI			
018.2 C331 CHANGE TO 1uF			
018.3 SYS_3VSB_SIO add 100 OHM			
018.4 R540 change from GND to VCC3 VSB			
018.5 Add R88/R91 and reserved			
019 Add Ps/2 wake Enable/Disable Header[page 18]	●	●	●
020 Add pull down 1k 0402 on usb power[page 16/21]	●	●	●
021 PRNSENT PIN NC ON pcie x1[page 15]			

2013-09-04

022 电解电容更换为固态电容 c3 change to NI

PAGE 20 AUDIO PART

DIP CAP;100uF;16V;±20%;铝电解;6.3*7mm;240mΩ;黑色;TEAPO /M

DIP CAP;100uF 16V;±20%;6.3mm*10mm;25mΩ;蓝色;NICHICON /M

H81M02-M03 change list

SCH PCB BOM

022 电解电容更换为固态电容 c3 change to 270uF/16v

PAGE 08/16/21/25/26/27

DIP CAP;470uF;16V;±20%;LOW-ESR;150mΩ;8*11mm;黑色;TEAPO /M

DIP CAP;560uF 6.3V;±20%;8mm*8mm;8mΩ;蓝色;NICHICON /M

023 SPI ROM Add Part Number

024 Thermister Update Description

025 5v Dual Q39 change from QM3010D to QM3004D

026 RV36 CHANGE FROM 560 TO 1.34K
RV51 CHANGE TO 8.2K

027 STAT conn: H81 Red B85 Black\

H81M03-M04 change list

LAN Isolated Pin Connected to VCC3 Main Power

usb3.0 signal swap

H81M03-M04 change list

2013-11-15

LAN Add RT8105E support

update USB 3.0 ESD Part Footprint

update DDR Power Controller Symbol and PCB Footprint

2013-11-18

update TRANSFORMER PIN CONNECTION

2013-11-19

电容颜色变更

CPU/memory power IO ECAP change to red color

other cap change to black

front usb header change to RED color

pcb change to Version 4

Front Audio Header change to Black

rt1 ni

2013-11-20

PCB Change name to M05

1.5V 1.05V MOSFET change Part Number to QM3010D

usb 2.0 ESD Part Number Update

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