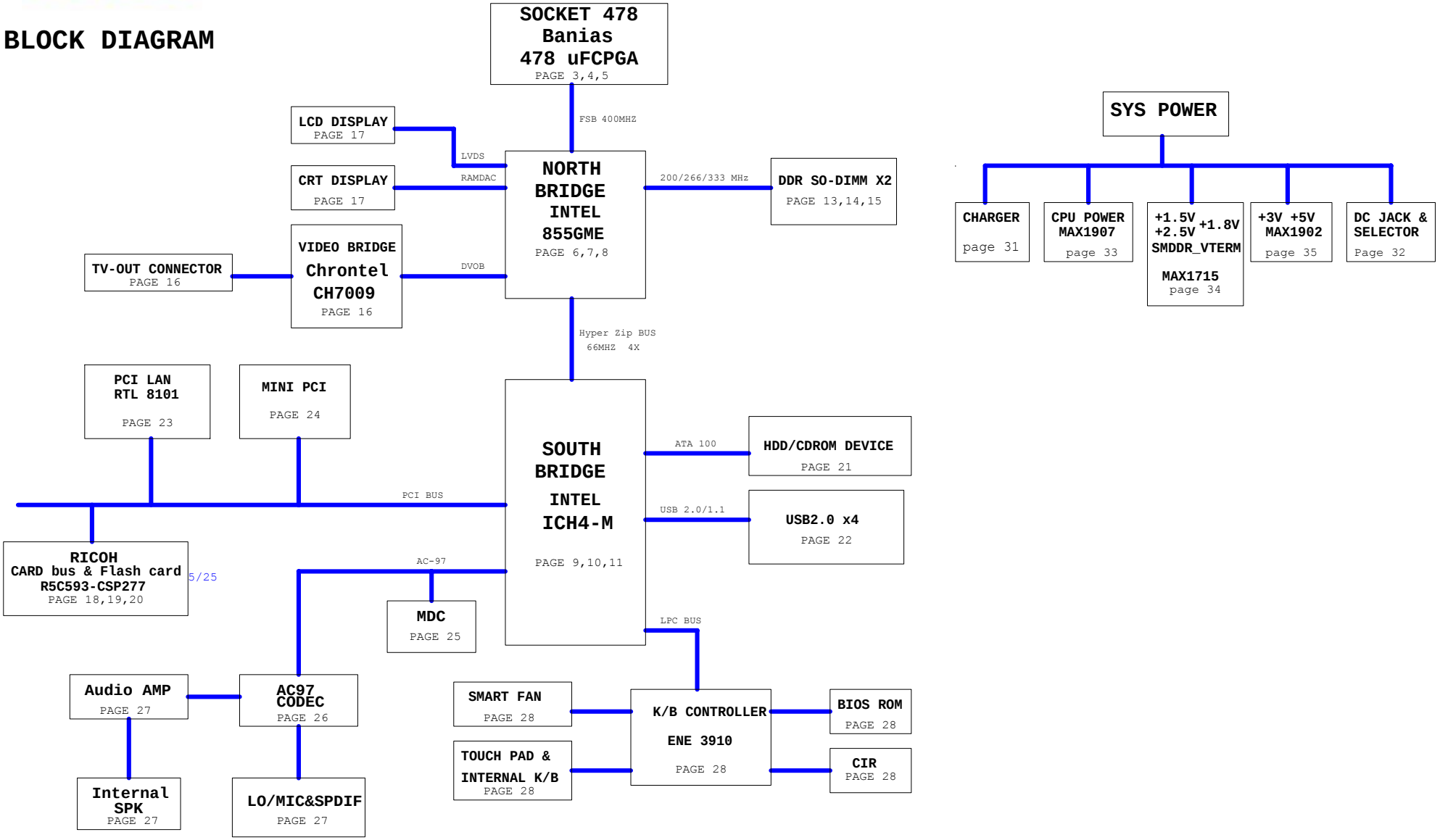
BLOCK DIAGRAM



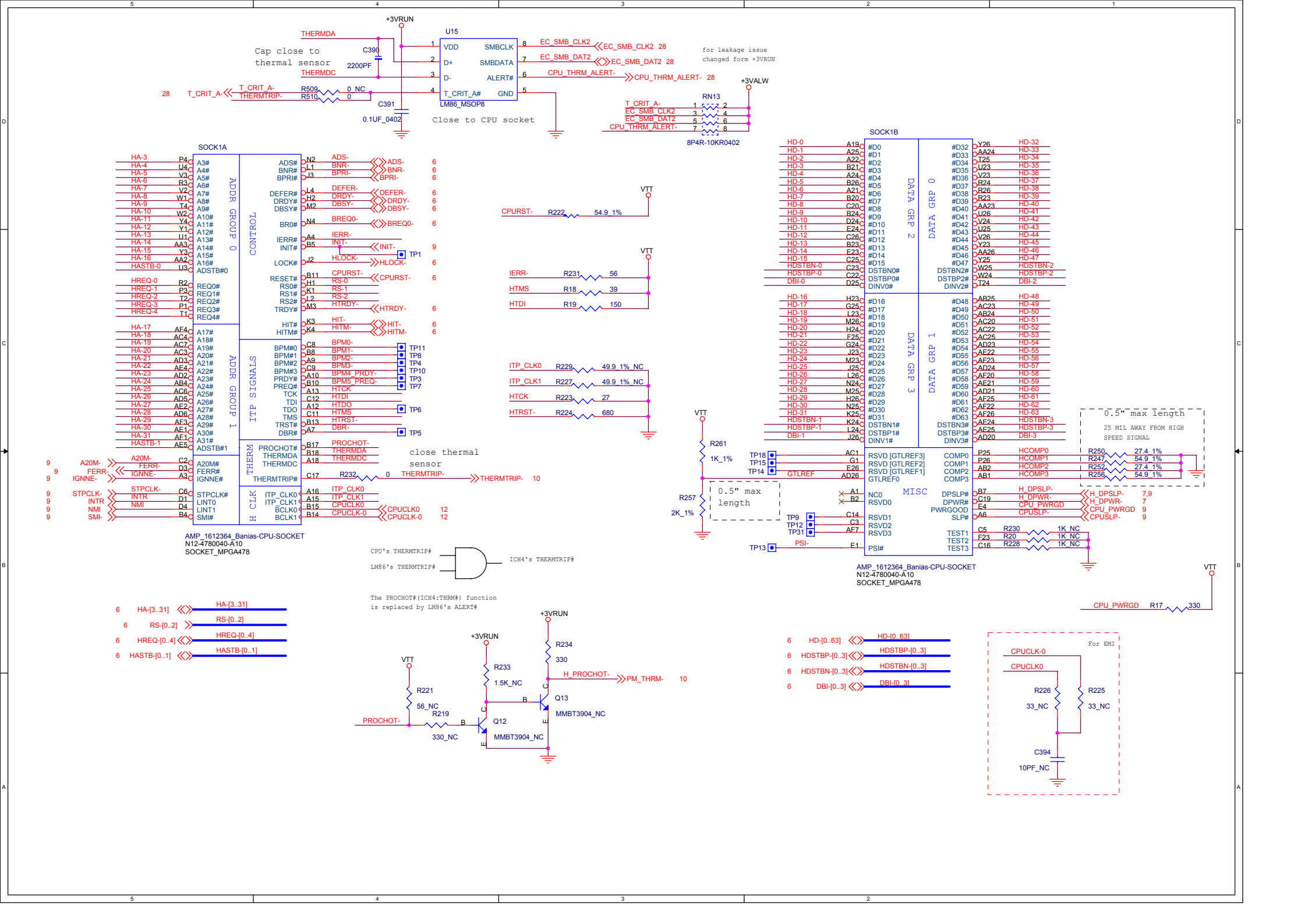
Voltage Rails

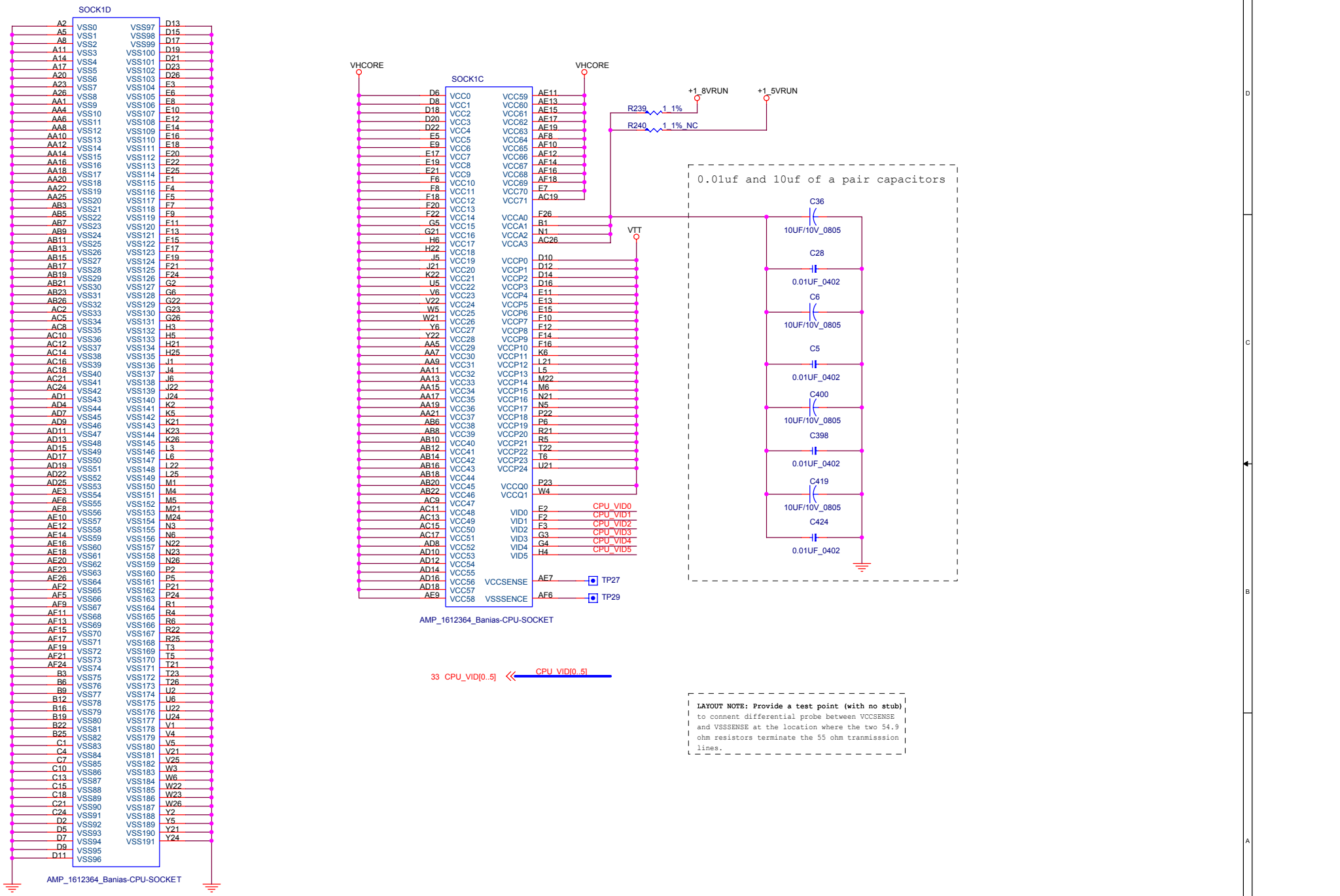
Voltage	Description	Control Signal
PWR_SRC	**AC ADAPTER OR BATTERY IN**	
VHCORE	Core voltage for Processor	GME_PWRGD
VTT	1.05V rail for Processor I/O	RUNPWROK
+V1.35S_MCH	1.35V For 855GME Core(off in S3-S5)	RUNPWROK
SMDDR_VTERM	1.25V DDR Termination voltage(off in S4-S5)	+5VRUN
+1_5VSUS	1.5V power rail (off in S4-S5)	+5VSUS
+1_5VRUN	1.5V switched power rail(off in S3-S5)	RUN_ON
+1_8VRUN	1.8V switched power rail (off in S3-S5)	+1_5VRUN
+2_5VSUS	2.5V power rail for DDR(off in S4-S5)	+5VSUS
+3VALW	3.3V always on power rail	PWR_SRC
+3VSUS	3.3V power rail (off in S4-S5)	SUS_ON
+3VRUN	3.3V switched power rail(off in S3-S5)	RUN_ON
+5VALW	5.0V always on power rail	PWR_SRC
+5VSUS	5.0V power rail (off in S4-S5)	SUS_ON
+5VRUN	5.0V switched power rail(off in S3-S5)	RUN_ON

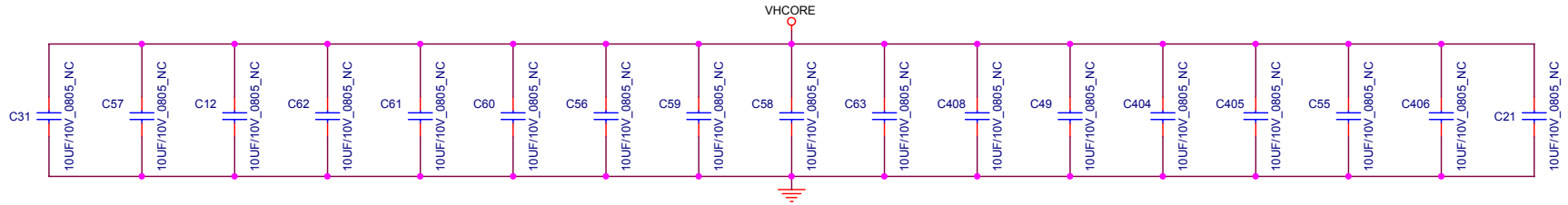
POWER STATES

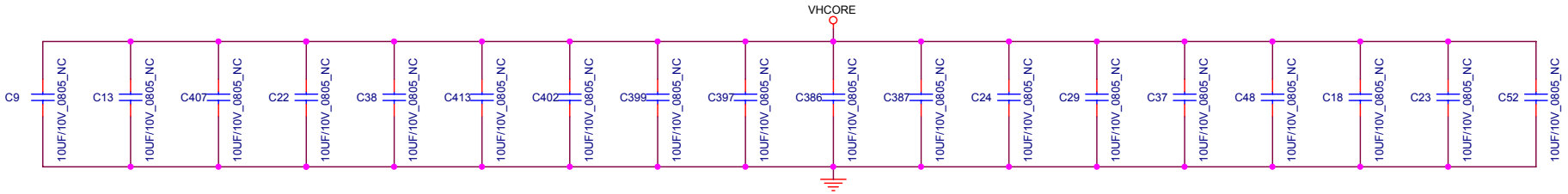
SIGNAL / STATE	SLP_S3#	SLP_S4#	SLP_S5#	+V*ALWAYS	+V*SUS	+V*RUN	Clocks
Full ON	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1M(Power On Suspend)	HIGH	HIGH	HIGH	ON	ON	ON	LOW
S3(Suspend to RAM)	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4(Suspend to Disk)	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 / Soft OFF	LOW	LOW	LOW	ON	OFF	OFF	OFF

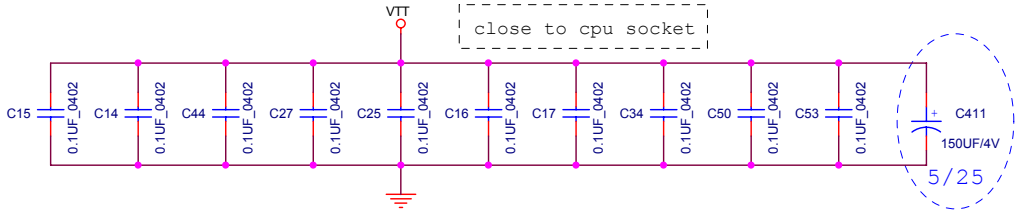
Note : WHEN AC MODE , System turn on then +V*SUS will always keep high

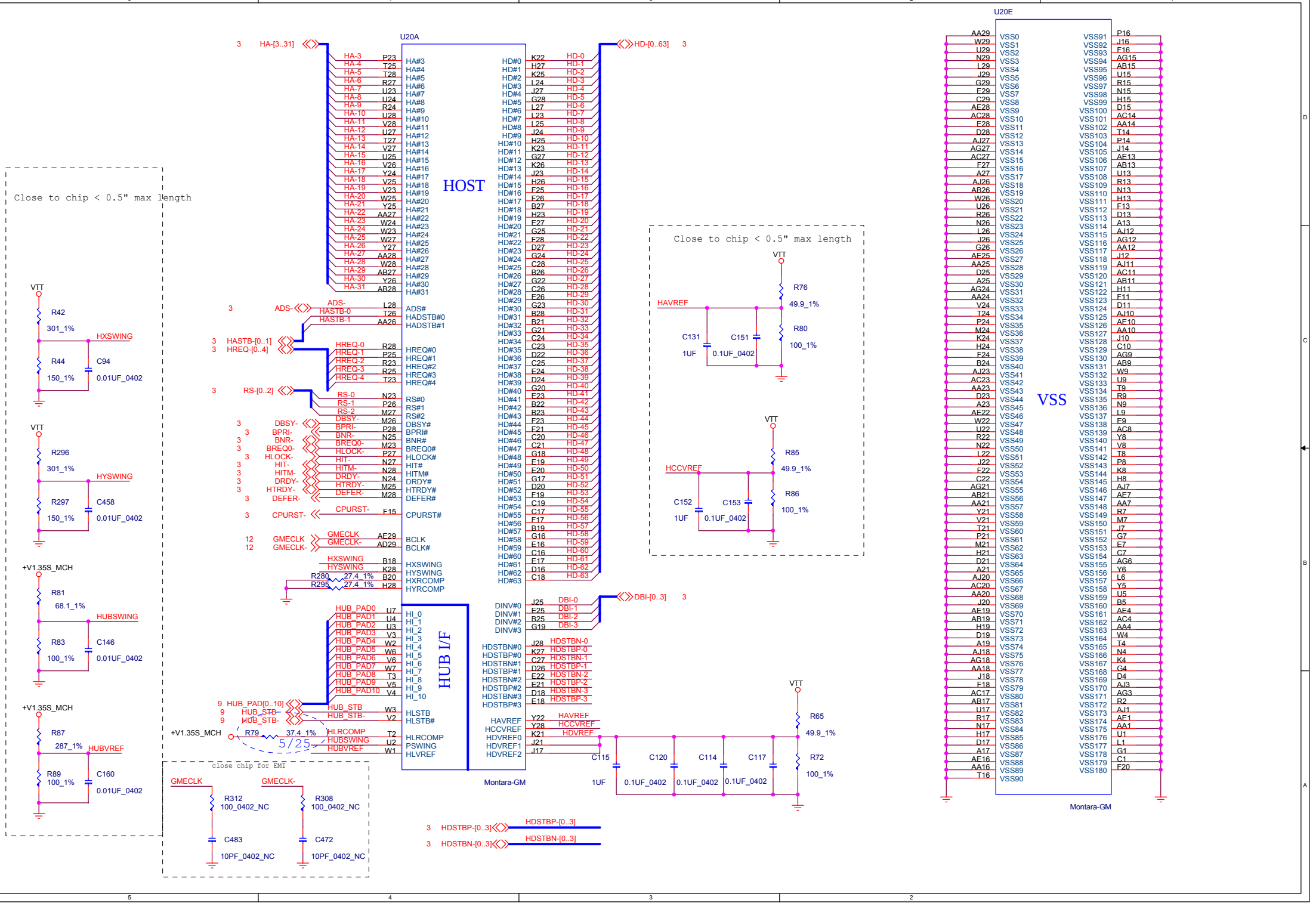

+3VRUN
THERMDA
Cap close to thermal sensor
C390
2200PF
THERMDC
U15
VDD
D+
D-
T_CRIT_A#
SMBCLK
SMBDATA
ALERT#
GND
LM86_MSOP8
EC_SMB_CLK2
EC_SMB_DAT2
CPU_THRM_ALERT-
for leakage issue changed form +3VRUN
28 T_CRIT_A-
T_CRIT_A-
THERMTRIP-
R509 0_NC
R510 0
C391
0.1UF_0402
Close to CPU socket
+3VALW
RN13
8P4R-10KR0402
SOCK1A
SOCK1B
ADDR GROUP 0
ADDR GROUP 1
CONTROL
ITP SIGNALS
THERM
CLK
DATA GRP 0
DATA GRP 1
DATA GRP 2
DATA GRP 3
MISC
VTT
CPURST- R222 54.9_1%
IERR- R231 56
HTMS R18 39
HTDI R19 150
ITP_CLK0 R229 49.9_1%_NC
ITP_CLK1 R227 49.9_1%_NC
HTCK R223 27
HTRST- R224 680
R261 1K_1%
R257 2K_1%
0.5" max length
close thermal sensor
THERMTRIP- R232 0
THERMTRIP- 10
0.5" max length
25 MIL AWAY FROM HIGH SPEED SIGNAL
R250 27.4_1%
R247 54.9_1%
R252 27.4_1%
R256 54.9_1%
AMP_1612364_Banias-CPU-SOCKET
N12-4780040-A10
SOCKET_MPGA478
CPU's THERMTRIP#
LM86's THERMTRIP#
ICH4's THERMTRIP#
The PROCHOT#(ICH4:THRM#) function is replaced by LM86's ALERT#
R234 330
R233 1.5K_NC
R221 56_NC
R219 330_NC
Q13 MMBT3904_NC
Q12 MMBT3904_NC
H_PROCHOT- PM_THRM- 10
CPU_PWRGD R17 330
For EMI
CPUCLK-0
CPUCLK0
R226 33_NC
R225 33_NC
C394 10PF_NC

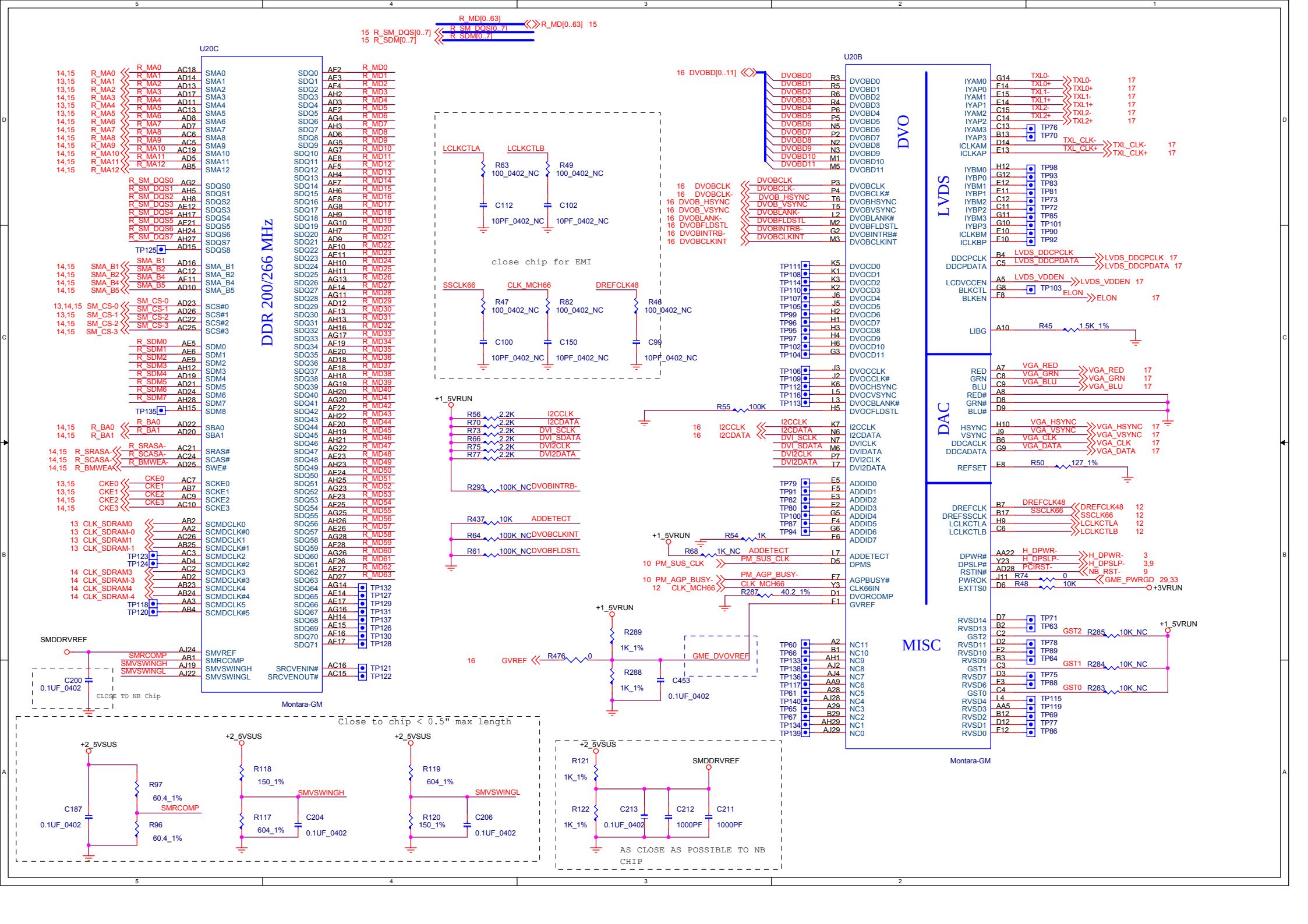

SOCK1D
AMP_1612364_Banias-CPU-SOCKET
SOCK1C
AMP_1612364_Banias-CPU-SOCKET
VHCORE
VHCORE
+1_8VRUN
+1_5VRUN
R239 1_1%
R240 1_1%_NC
VTT
0.01uf and 10uf of a pair capacitors
C36
10UF/10V_0805
C28
0.01UF_0402
C6
10UF/10V_0805
C5
0.01UF_0402
C400
10UF/10V_0805
C398
0.01UF_0402
C419
10UF/10V_0805
C424
0.01UF_0402
CPU_VID0
CPU_VID1
CPU_VID2
CPU_VID3
CPU_VID4
CPU_VID5
TP27
TP29
33 CPU_VID[0..5]
CPU_VID[0..5]
LAYOUT NOTE: Provide a test point (with no stub) to connent differential probe between VCCSENSE and VSSSENSE at the location where the two 54.9 ohm resistors terminate the 55 ohm tranmisssion lines.

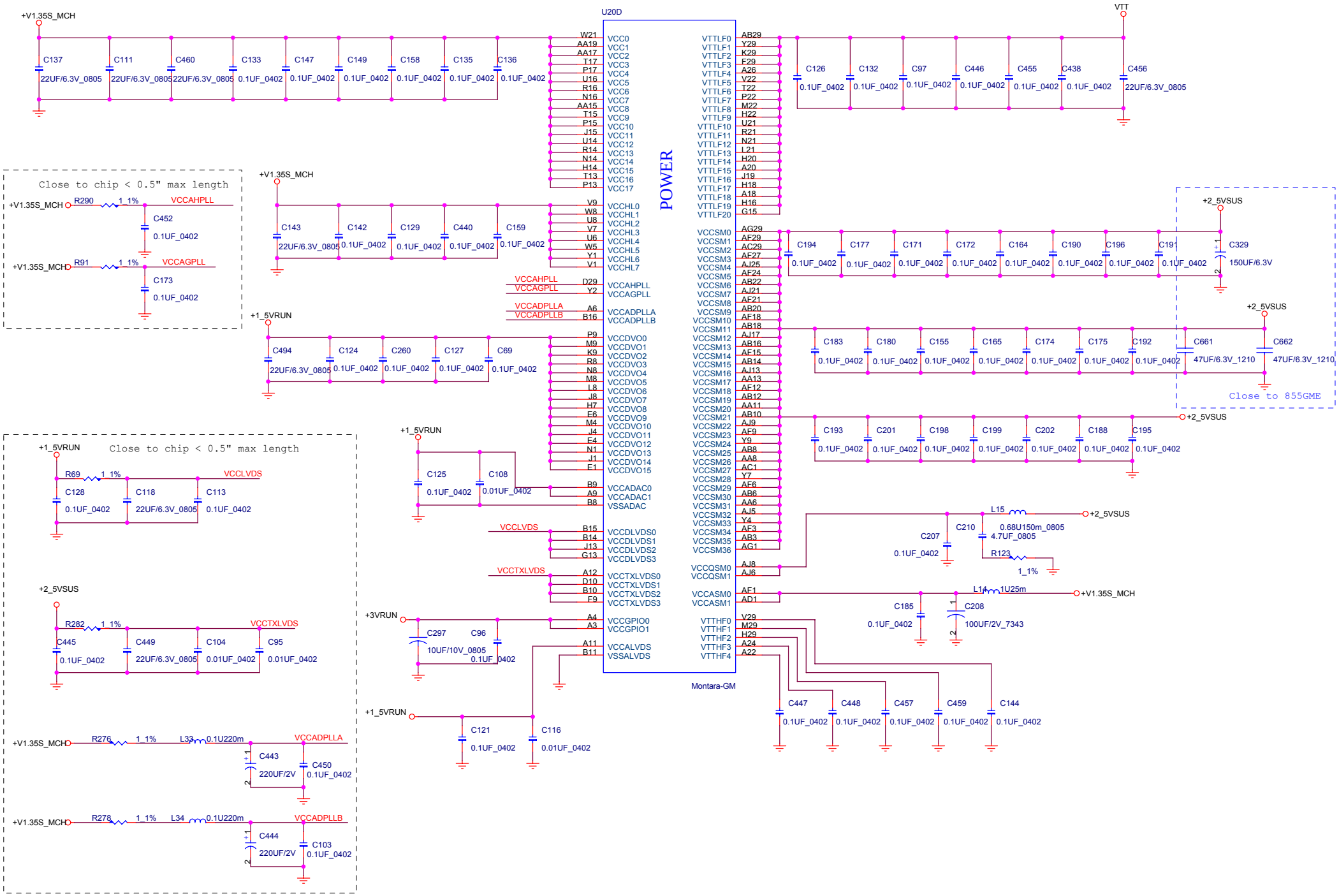

VHCORE
C31 10UF/10V_0805_NC
C57 10UF/10V_0805_NC
C12 10UF/10V_0805_NC
C62 10UF/10V_0805_NC
C61 10UF/10V_0805_NC
C60 10UF/10V_0805_NC
C56 10UF/10V_0805_NC
C59 10UF/10V_0805_NC
C58 10UF/10V_0805_NC
C63 10UF/10V_0805_NC
C408 10UF/10V_0805_NC
C49 10UF/10V_0805_NC
C404 10UF/10V_0805_NC
C405 10UF/10V_0805_NC
C55 10UF/10V_0805_NC
C406 10UF/10V_0805_NC
C21 10UF/10V_0805_NC

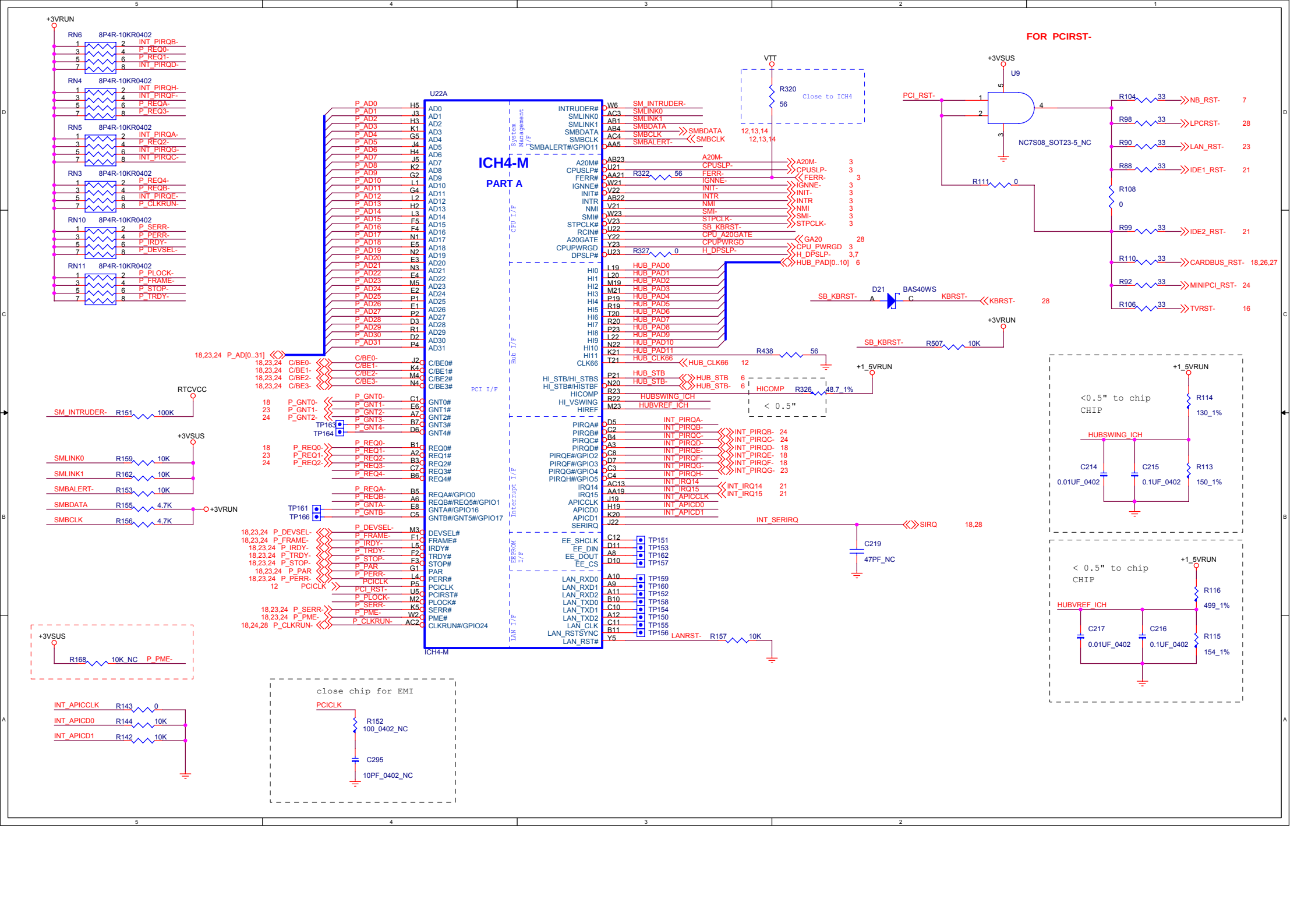

VHCORE
C9 10UF/10V_0805_NC
C13 10UF/10V_0805_NC
C407 10UF/10V_0805_NC
C22 10UF/10V_0805_NC
C38 10UF/10V_0805_NC
C413 10UF/10V_0805_NC
C402 10UF/10V_0805_NC
C399 10UF/10V_0805_NC
C397 10UF/10V_0805_NC
C386 10UF/10V_0805_NC
C387 10UF/10V_0805_NC
C24 10UF/10V_0805_NC
C29 10UF/10V_0805_NC
C37 10UF/10V_0805_NC
C48 10UF/10V_0805_NC
C18 10UF/10V_0805_NC
C23 10UF/10V_0805_NC
C52 10UF/10V_0805_NC

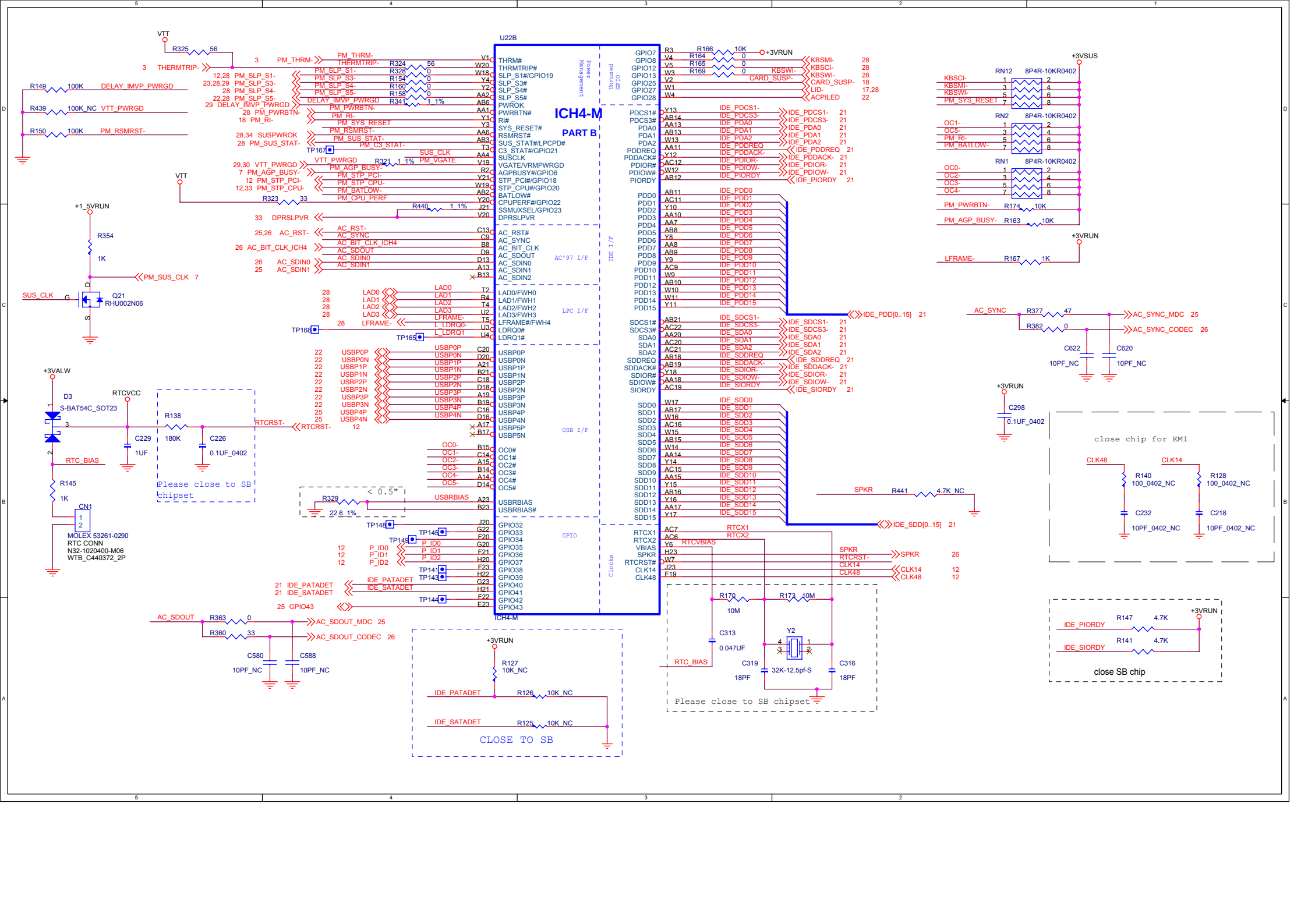

VTT
close to cpu socket
C15 0.1UF_0402
C14 0.1UF_0402
C44 0.1UF_0402
C27 0.1UF_0402
C25 0.1UF_0402
C16 0.1UF_0402
C17 0.1UF_0402
C34 0.1UF_0402
C50 0.1UF_0402
C53 0.1UF_0402
C411
150UF/4V
5/25

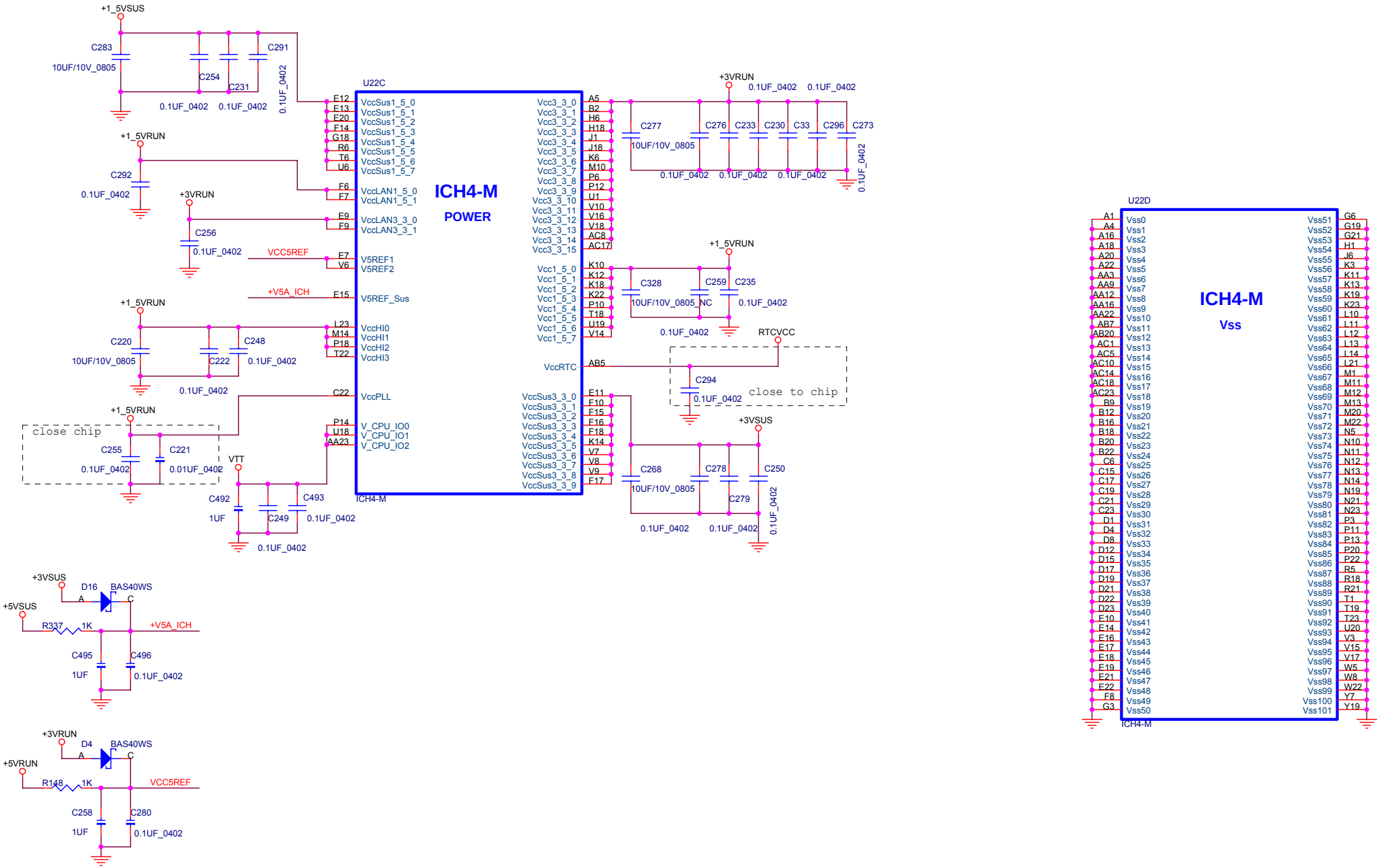

U20A
HOST
HA#3
HA#4
HA#5
HA#6
HA#7
HA#8
HA#9
HA#10
HA#11
HA#12
HA#13
HA#14
HA#15
HA#16
HA#17
HA#18
HA#19
HA#20
HA#21
HA#22
HA#23
HA#24
HA#25
HA#26
HA#27
HA#28
HA#29
HA#30
HA#31
ADS#
HADSTB#0
HADSTB#1
HREQ#0
HREQ#1
HREQ#2
HREQ#3
HREQ#4
RS#0
RS#1
RS#2
DBSY#
BPRI#
BNR#
BREQ0#
HLOCK#
HIT#
HITM#
DRDY#
HTRDY#
DEFER#
CPURST#
BCLK
BCLK#
HXSWING
HYSWING
HXRCOMP
HYRCOMP
HI_0
HI_1
HI_2
HI_3
HI_4
HI_5
HI_6
HI_7
HI_8
HI_9
HI_10
HLSTB
HLSTB#
HLRCOMP
PSWING
HLVREF
HD#0
HD#1
HD#2
HD#3
HD#4
HD#5
HD#6
HD#7
HD#8
HD#9
HD#10
HD#11
HD#12
HD#13
HD#14
HD#15
HD#16
HD#17
HD#18
HD#19
HD#20
HD#21
HD#22
HD#23
HD#24
HD#25
HD#26
HD#27
HD#28
HD#29
HD#30
HD#31
HD#32
HD#33
HD#34
HD#35
HD#36
HD#37
HD#38
HD#39
HD#40
HD#41
HD#42
HD#43
HD#44
HD#45
HD#46
HD#47
HD#48
HD#49
HD#50
HD#51
HD#52
HD#53
HD#54
HD#55
HD#56
HD#57
HD#58
HD#59
HD#60
HD#61
HD#62
HD#63
DINV#0
DINV#1
DINV#2
DINV#3
HDSTBN#0
HDSTBP#0
HDSTBN#1
HDSTBP#1
HDSTBN#2
HDSTBP#2
HDSTBN#3
HDSTBP#3
HAVREF
HCCVREF
HDVREF0
HDVREF1
HDVREF2
HUB I/F
Montara-GM
HA-[3..31]
HD-[0..63]
DBI-[0..3]
HDSTBP-[0..3]
HDSTBN-[0..3]
Close to chip < 0.5" max length
VTT
R42
301_1%
HXSWING
R44
150_1%
C94
0.01UF_0402
R296
301_1%
HYSWING
R297
150_1%
C458
0.01UF_0402
+V1.35S_MCH
R81
68.1_1%
HUBSWING
R83
100_1%
C146
0.01UF_0402
R87
287_1%
HUBVREF
R89
100_1%
C160
0.01UF_0402
close chip for EMI
GMECLK
GMECLK-
R312
100_0402_NC
R308
100_0402_NC
C483
10PF_0402_NC
C472
10PF_0402_NC
R280
27.4_1%
R295
27.4_1%
R79
37.4_1%
5/25
HAVREF
HCCVREF
R76
49.9_1%
R80
100_1%
C131
1UF
C151
0.1UF_0402
R85
49.9_1%
R86
100_1%
C152
1UF
C153
0.1UF_0402
R65
49.9_1%
R72
100_1%
C115
1UF
C120
0.1UF_0402
C114
0.1UF_0402
C117
0.1UF_0402
U20E
VSS
Montara-GM


U20C
DDR 200/266 MHz
Montara-GM
U20B
DVO
LVDS
DAC
MISC
Montara-GM
close chip for EMI
Close to chip < 0.5" max length
AS CLOSE AS POSSIBLE TO NB CHIP
CLOSE TO NB Chip
SMDDRVREF
+1_5VRUN
+2_5VSUS
GVREF
GME_DVOVREF


U20D
POWER
Montara-GM
+V1.35S_MCH
VTT
+2_5VSUS
+1_5VRUN
+3VRUN
Close to chip < 0.5" max length
Close to 855GME
VCCAHPLL
VCCAGPLL
VCCADPLLA
VCCADPLLB
VCCLVDS
VCCTXLVDS
VCCASM1
VCCQSM1
VCCALVDS
VSSALVDS
VCCADAC0
VCCADAC1
VSSADAC
VCCGPIO0
VCCGPIO1
R290 1_1%
R91 1_1%
R69 1_1%
R282 1_1%
R276 1_1%
R278 1_1%
L32 0.1U220m
L34 0.1U220m
L15 0.68U150m_0805
L14 1U25m
R123 1_1%
C329 150UF/6.3V
C661 47UF/6.3V_1210
C662 47UF/6.3V_1210
C208 100UF/2V_7343
C443 220UF/2V
C444 220UF/2V
C297 10UF/10V_0805


FOR PCIRST-
ICH4-M
PART A
U22A
+3VRUN
RN6 8P4R-10KR0402
RN4 8P4R-10KR0402
RN5 8P4R-10KR0402
RN3 8P4R-10KR0402
RN10 8P4R-10KR0402
RN11 8P4R-10KR0402
INT_PIRQB-
P_REQ0-
P_REQ1-
INT_PIRQD-
INT_PIRQH-
INT_PIRQF-
P_REQA-
P_REQ3-
P_REQ4-
P_REQ2-
INT_PIRQA-
INT_PIRQG-
INT_PIRQC-
P_REQB-
P_CLKRUN-
P_SERR-
P_PERR-
P_IRDY-
P_DEVSEL-
P_FRAME-
P_STOP-
P_TRDY-
P_PLOCK-
VTT
R320
56
Close to ICH4
12,13,14
+3VSUS
U9
NC7S08_SOT23-5_NC
PCI_RST-
R111
0
R104
R98
R90
R88
R108
R99
R110
R92
R106
33
NB_RST-
LPCRST-
LAN_RST-
IDE1_RST-
IDE2_RST-
CARDBUS_RST-
MINIPCI_RST-
TVRST-
SB_KBRST-
D21
BAS40WS
KBRST-
R507
10K
RTCVCC
SM_INTRUDER-
R151
100K
+3VSUS
SMLINK0
SMLINK1
SMBALERT-
SMBDATA
SMBCLK
R159
R162
R153
R155
R156
10K
4.7K
+3VRUN
TP161
TP166
TP163
TP164
R438
56
HUB_CLK66
HICOMP
R326
48.7_1%
< 0.5"
HUBSWING_ICH
HUBVREF_ICH
+1_5VRUN
<0.5" to chip
CHIP
R114
130_1%
C214
C215
R113
150_1%
0.01UF_0402
0.1UF_0402
< 0.5" to chip
CHIP
R116
499_1%
C217
C216
R115
154_1%
C219
47PF_NC
SIRQ
INT_SERIRQ
LANRST-
R157
10K
R168
10K_NC
P_PME-
INT_APICCLK
INT_APICD0
INT_APICD1
R143
R144
R142
close chip for EMI
PCICLK
R152
100_0402_NC
C295
10PF_0402_NC


U22B
ICH4-M
PART B
ICH4-M
Power Management
Unmuxed GPIO
IDE I/F
AC'97 I/F
LPC I/F
USB I/F
GPIO
Clocks
THRM#
THRMTRIP#
SLP_S1#/GPIO19
SLP_S3#
SLP_S4#
SLP_S5#
PWROK
PWRBTN#
RI#
SYS_RESET#
RSMRST#
SUS_STAT#/LPCPD#
C3_STAT#/GPIO21
SUSCLK
VGATE/VRMPWRGD
AGPBUSY#/GPIO6
STP_PCI#/GPIO18
STP_CPU#/GPIO20
BATLOW#
CPUPERF#/GPIO22
SSMUXSEL/GPIO23
DPRSLPVR
AC_RST#
AC_SYNC
AC_BIT_CLK
AC_SDOUT
AC_SDIN0
AC_SDIN1
AC_SDIN2
LAD0/FWH0
LAD1/FWH1
LAD2/FWH2
LAD3/FWH3
LFRAME#/FWH4
LDRQ0#
LDRQ1#
USBP0P
USBP0N
USBP1P
USBP1N
USBP2P
USBP2N
USBP3P
USBP3N
USBP4P
USBP4N
USBP5P
USBP5N
OC0#
OC1#
OC2#
OC3#
OC4#
OC5#
USBRBIAS
USBRBIAS#
GPIO32
GPIO33
GPIO34
GPIO35
GPIO36
GPIO37
GPIO38
GPIO39
GPIO40
GPIO41
GPIO42
GPIO43
RTCX1
RTCX2
VBIAS
SPKR
RTCRST#
CLK14
CLK48
GPIO7
GPIO8
GPIO12
GPIO13
GPIO25
GPIO27
GPIO28
PDCS1#
PDCS3#
PDA0
PDA1
PDA2
PDDREQ
PDDACK#
PDIOR#
PDIOW#
PIORDY
PDD0
PDD1
PDD2
PDD3
PDD4
PDD5
PDD6
PDD7
PDD8
PDD9
PDD10
PDD11
PDD12
PDD13
PDD14
PDD15
SDCS1#
SDCS3#
SDA0
SDA1
SDA2
SDDREQ
SDDACK#
SDIOR#
SDIOW#
SIORDY
SDD0
SDD1
SDD2
SDD3
SDD4
SDD5
SDD6
SDD7
SDD8
SDD9
SDD10
SDD11
SDD12
SDD13
SDD14
SDD15
VTT
R325 56
THERMTRIP-
PM_THRM-
R324 56
PM_SLP_S1-
R328 0
PM_SLP_S3-
R154 0
PM_SLP_S4-
R160 0
PM_SLP_S5-
R158 0
DELAY_IMVP_PWRGD
R341 1 1%
PM_PWRBTN-
PM_RI-
PM_SYS_RESET
PM_RSMRST-
PM_SUS_STAT-
PM_C3_STAT-
SUS_CLK
TP167
VTT_PWRGD
R321 1 1%
PM_VGATE
PM_AGP_BUSY-
PM_STP_PCI-
PM_STP_CPU-
PM_BATLOW-
PM_CPU_PERF
R323 33
R440 1 1%
DPRSLPVR
AC_RST-
AC_SYNC
AC_BIT_CLK_ICH4
AC_SDOUT
AC_SDIN0
AC_SDIN1
LAD0
LAD1
LAD2
LAD3
LFRAME-
L_DRQ0-
L_DRQ1
TP168
TP165
USBP0P
USBP0N
USBP1P
USBP1N
USBP2P
USBP2N
USBP3P
USBP3N
USBP4P
USBP4N
RTCRST-
OC0-
OC1-
OC2-
OC3-
OC4-
OC5-
R329 22.6 1%
< 0.5"
TP148
TP145
TP149
P_ID0
P_ID1
P_ID2
TP141
TP143
IDE_PATADET
IDE_SATADET
TP144
GPIO43
AC_SDOUT
R363 0
R360 33
AC_SDOUT_MDC
AC_SDOUT_CODEC
C580 10PF_NC
C588 10PF_NC
R149 100K DELAY_IMVP_PWRGD
R439 100K_NC VTT_PWRGD
R150 100K PM_RSMRST-
+1_5VRUN
R354 1K
PM_SUS_CLK
SUS_CLK
Q21
RHU002N06
+3VALW
D3
S-BAT54C_SOT23
RTCVCC
R138 180K
C229 1UF
C226 0.1UF_0402
RTC_BIAS
R145 1K
CN1
MOLEX 53261-0290
RTC CONN
N32-1020400-M06
WTB_C440372_2P
Please close to SB chipset
+3VRUN
R166 10K
R164 0
R165 0
R169 0
KBSWI-
CARD_SUSP-
LID-
ACPILED
KBSMI-
KBSCI-
IDE_PDCS1-
IDE_PDCS3-
IDE_PDA0
IDE_PDA1
IDE_PDA2
IDE_PDDREQ
IDE_PDDACK-
IDE_PDIOR-
IDE_PDIOW-
IDE_PIORDY
IDE_PDD0
IDE_PDD1
IDE_PDD2
IDE_PDD3
IDE_PDD4
IDE_PDD5
IDE_PDD6
IDE_PDD7
IDE_PDD8
IDE_PDD9
IDE_PDD10
IDE_PDD11
IDE_PDD12
IDE_PDD13
IDE_PDD14
IDE_PDD15
IDE_PDD[0..15]
IDE_SDCS1-
IDE_SDCS3-
IDE_SDA0
IDE_SDA1
IDE_SDA2
IDE_SDDREQ
IDE_SDDACK-
IDE_SDIOR-
IDE_SDIOW-
IDE_SIORDY
IDE_SDD0
IDE_SDD1
IDE_SDD2
IDE_SDD3
IDE_SDD4
IDE_SDD5
IDE_SDD6
IDE_SDD7
IDE_SDD8
IDE_SDD9
IDE_SDD10
IDE_SDD11
IDE_SDD12
IDE_SDD13
IDE_SDD14
IDE_SDD15
IDE_SDD[0..15]
SPKR R441 4.7K_NC
RTCX1
RTCX2
RTCVBIAS
SPKR
RTCRST-
CLK14
CLK48
R170 10M
R173 10M
C313 0.047UF
Y2
32K-12.5pf-S
C319 18PF
C316 18PF
RTC_BIAS
Please close to SB chipset
+3VSUS
RN12 8P4R-10KR0402
RN2 8P4R-10KR0402
RN1 8P4R-10KR0402
PM_PWRBTN- R174 10K
PM_AGP_BUSY- R163 10K
LFRAME- R167 1K
AC_SYNC R377 47
R382 0
AC_SYNC_MDC
AC_SYNC_CODEC
C622 10PF_NC
C620 10PF_NC
C298 0.1UF_0402
close chip for EMI
CLK48
CLK14
R140 100_0402_NC
R128 100_0402_NC
C232 10PF_0402_NC
C218 10PF_0402_NC
R147 4.7K
R141 4.7K
close SB chip
R127 10K_NC
R126 10K_NC
R125 10K_NC
CLOSE TO SB


U22C
ICH4-M
POWER
VccSus1_5_0
VccSus1_5_1
VccSus1_5_2
VccSus1_5_3
VccSus1_5_4
VccSus1_5_5
VccSus1_5_6
VccSus1_5_7
VccLAN1_5_0
VccLAN1_5_1
VccLAN3_3_0
VccLAN3_3_1
V5REF1
V5REF2
V5REF_Sus
VccHI0
VccHI1
VccHI2
VccHI3
VccPLL
V_CPU_IO0
V_CPU_IO1
V_CPU_IO2
Vcc3_3_0
Vcc3_3_1
Vcc3_3_2
Vcc3_3_3
Vcc3_3_4
Vcc3_3_5
Vcc3_3_6
Vcc3_3_7
Vcc3_3_8
Vcc3_3_9
Vcc3_3_10
Vcc3_3_11
Vcc3_3_12
Vcc3_3_13
Vcc3_3_14
Vcc3_3_15
Vcc1_5_0
Vcc1_5_1
Vcc1_5_2
Vcc1_5_3
Vcc1_5_4
Vcc1_5_5
Vcc1_5_6
Vcc1_5_7
VccRTC
VccSus3_3_0
VccSus3_3_1
VccSus3_3_2
VccSus3_3_3
VccSus3_3_4
VccSus3_3_5
VccSus3_3_6
VccSus3_3_7
VccSus3_3_8
VccSus3_3_9
+1_5VSUS
+1_5VRUN
+3VRUN
+3VSUS
+V5A_ICH
VCC5REF
VTT
RTCVCC
close chip
close to chip
C283
10UF/10V_0805
C254
C231
C291
0.1UF_0402
C292
C256
C220
C222
C248
C255
C221
0.01UF_0402
C492
1UF
C249
C493
C277
C276
C233
C230
C33
C296
C273
C328
C259
C235
NC
C294
C268
C278
C279
C250
U22D
ICH4-M
Vss
Vss0
Vss1
Vss2
Vss3
Vss4
Vss5
Vss6
Vss7
Vss8
Vss9
Vss10
Vss11
Vss12
Vss13
Vss14
Vss15
Vss16
Vss17
Vss18
Vss19
Vss20
Vss21
Vss22
Vss23
Vss24
Vss25
Vss26
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Vss28
Vss29
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Vss36
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Vss44
Vss45
Vss46
Vss47
Vss48
Vss49
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Vss52
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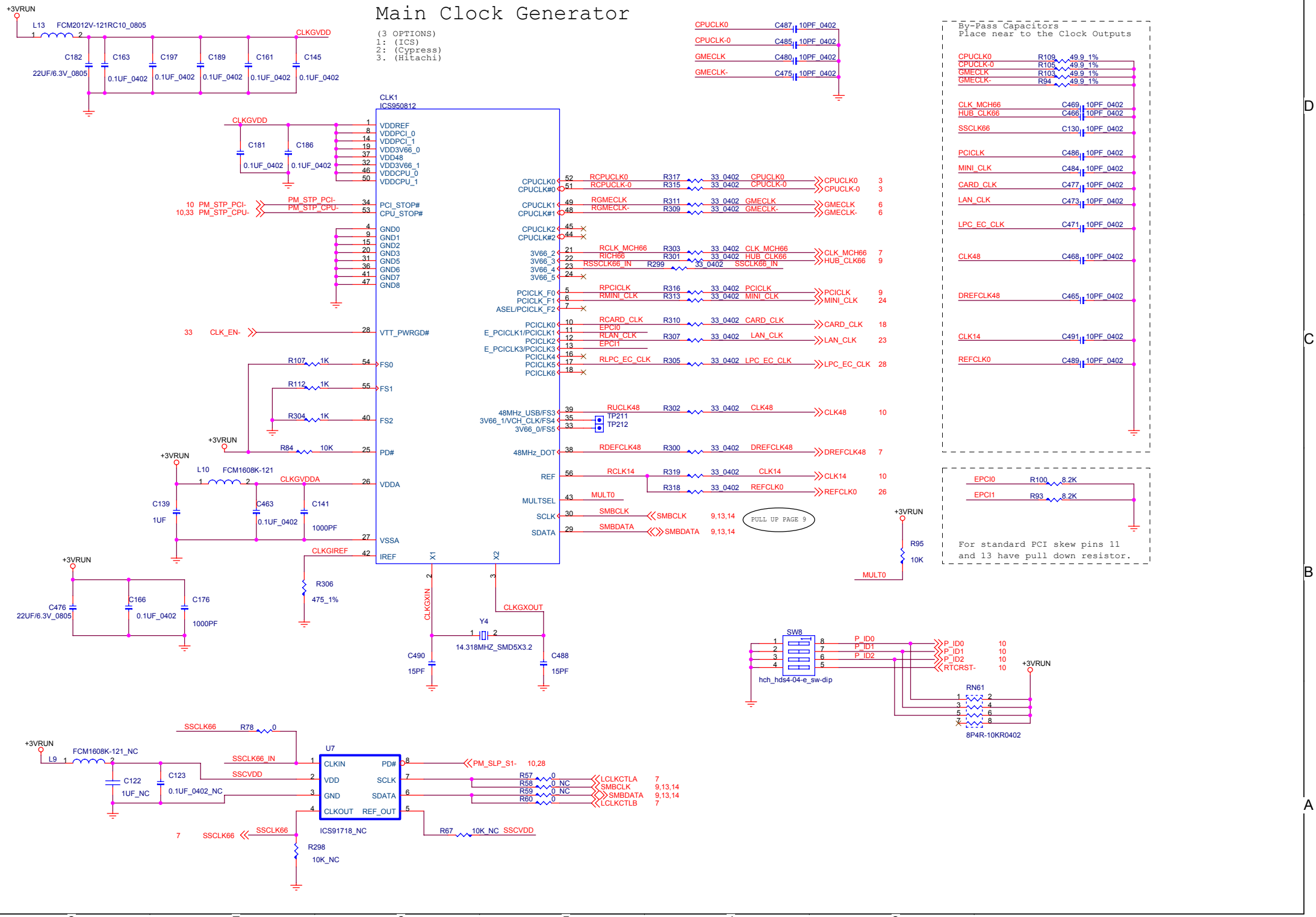
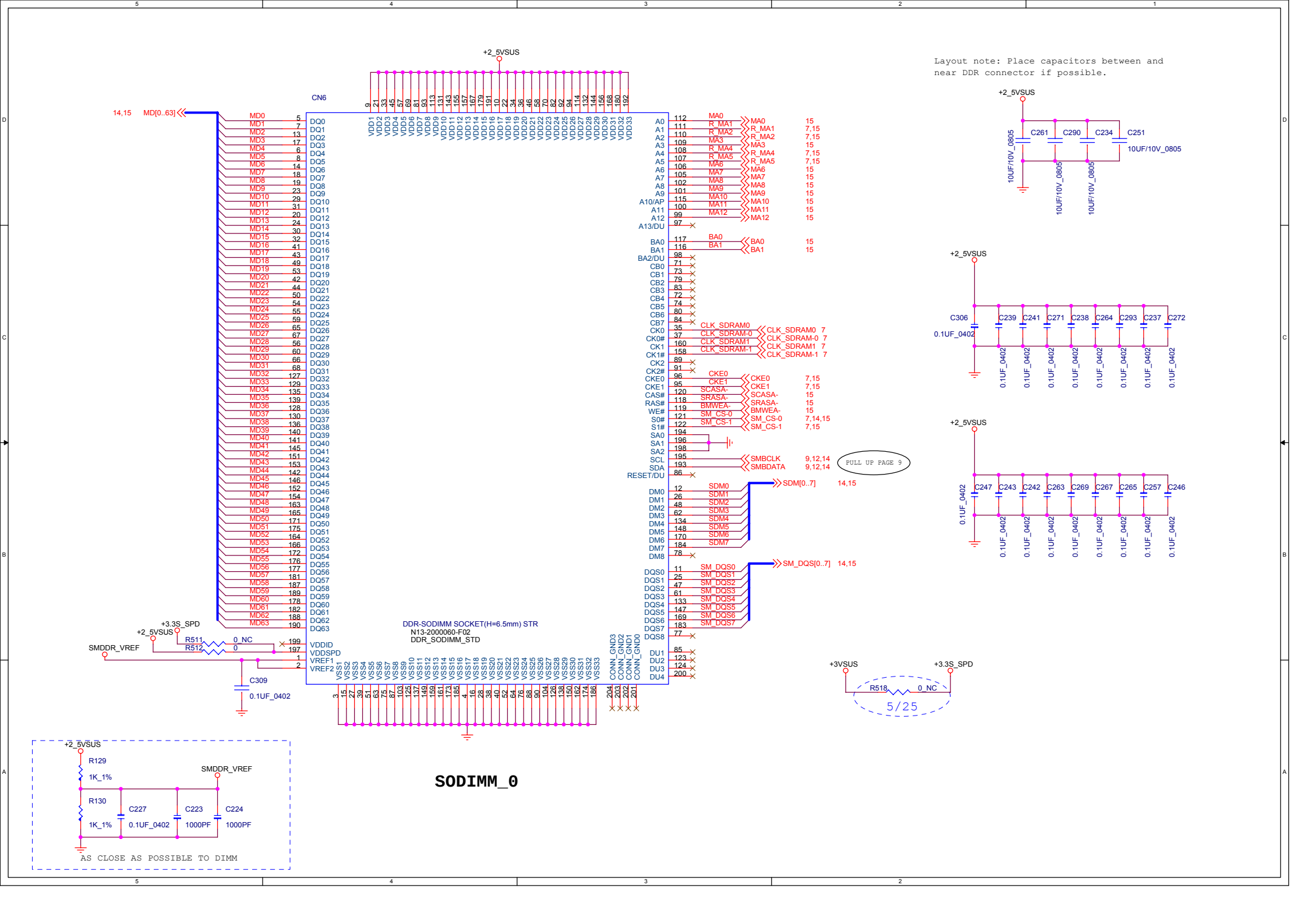
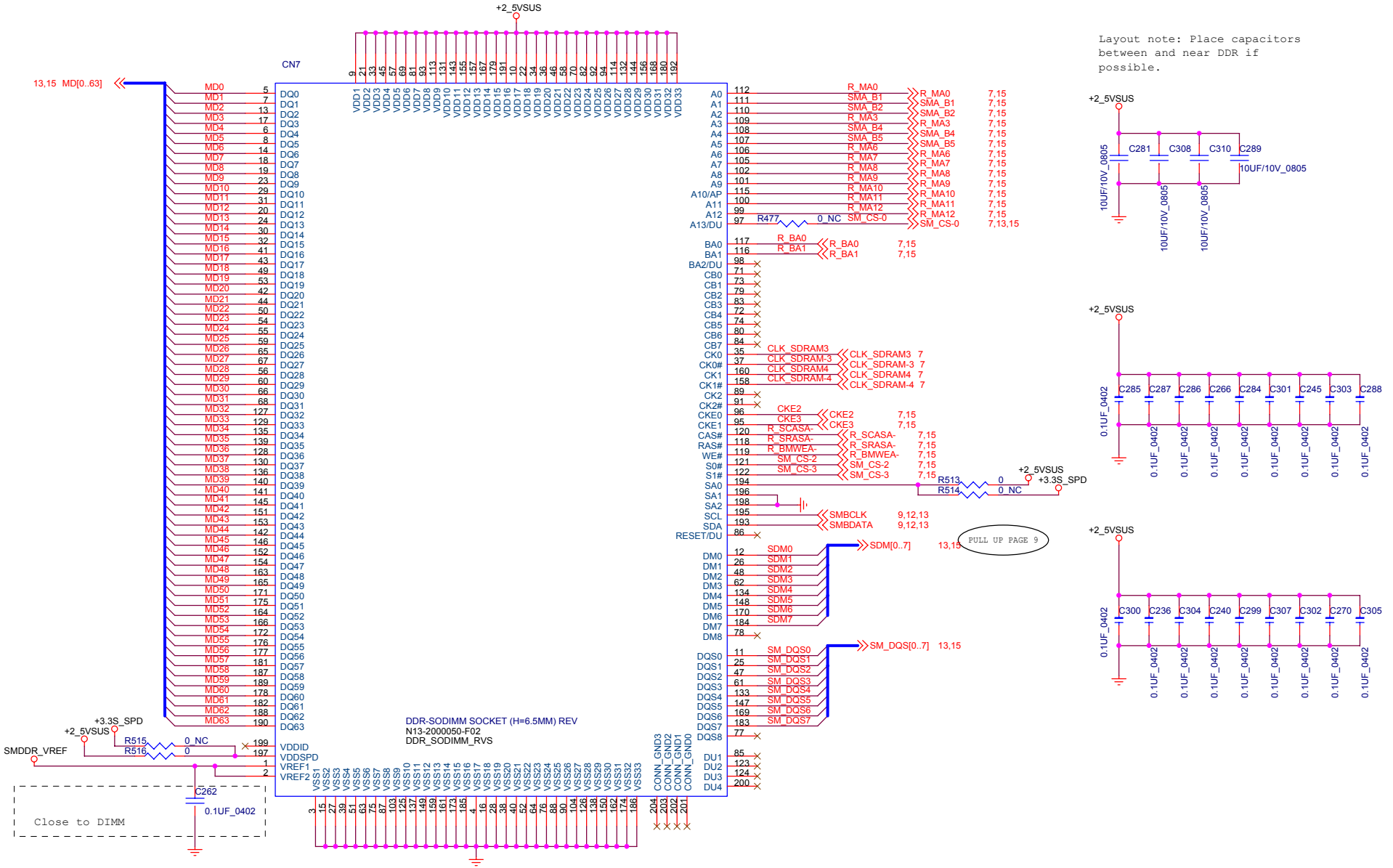
Vss60
Vss61
Vss62
Vss63
Vss64
Vss65
Vss66
Vss67
Vss68
Vss69
Vss70
Vss71
Vss72
Vss73
Vss74
Vss75
Vss76
Vss77
Vss78
Vss79
Vss80
Vss81
Vss82
Vss83
Vss84
Vss85
Vss86
Vss87
Vss88
Vss89
Vss90
Vss91
Vss92
Vss93
Vss94
Vss95
Vss96
Vss97
Vss98
Vss99
Vss100
Vss101
D16
BAS40WS
R337
1K
C495
C496
D4
R148
C258
C280

Main Clock Generator

(3 OPTIONS)
1: (ICS)
2: (Cypress)
3. (Hitachi)

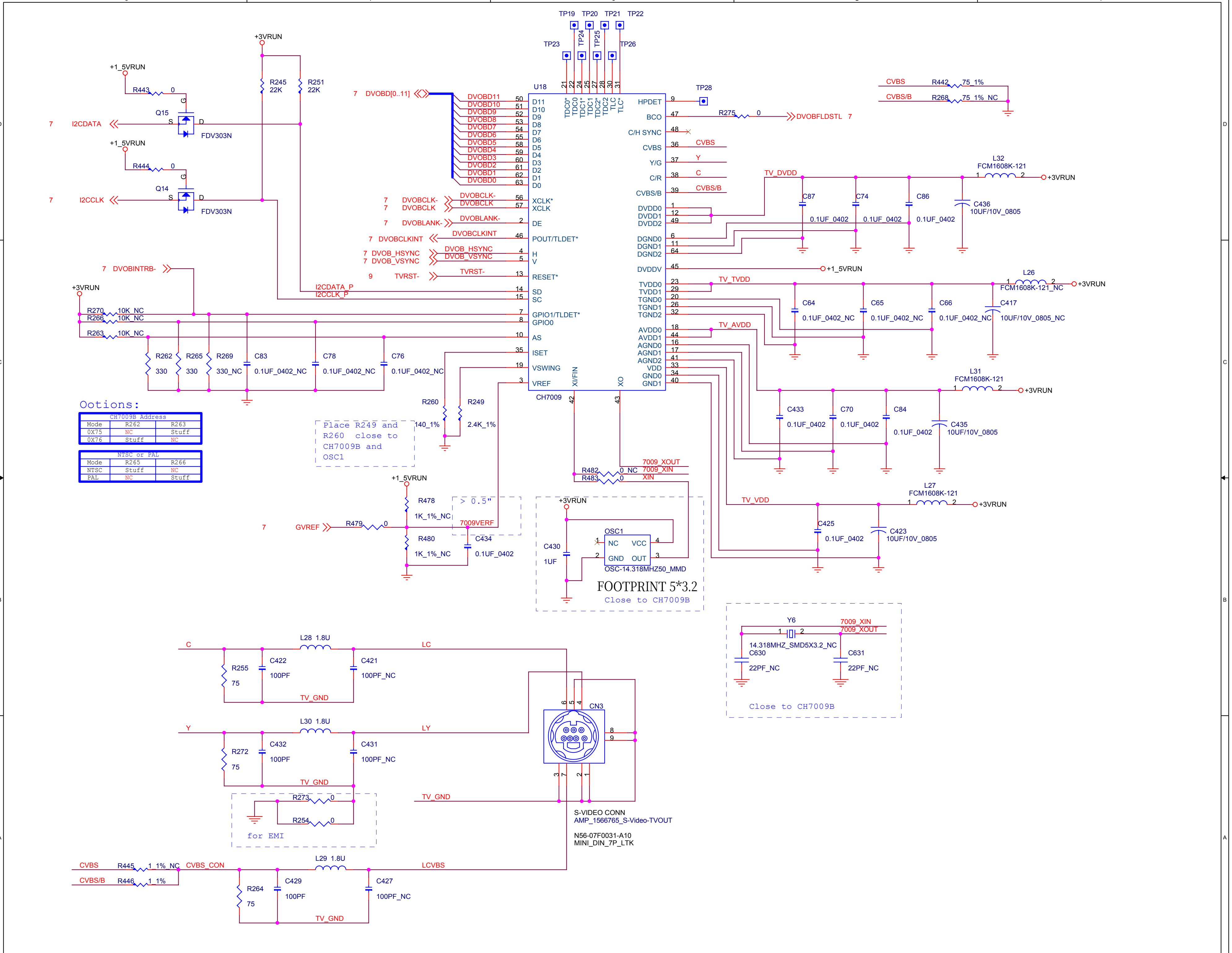



Layout note: Place capacitors between and near DDR connector if possible.
CN6
DDR-SODIMM SOCKET(H=6.5mm) STR
N13-2000060-F02
DDR_SODIMM_STD
SODIMM_0
PULL UP PAGE 9
AS CLOSE AS POSSIBLE TO DIMM
5/25


+2_5VSUS
CN7
13,15 MD[0..63]
DDR-SODIMM SOCKET (H=6.5MM) REV
N13-2000050-F02
DDR_SODIMM_RVS
+3.3S_SPD
SMDDR_VREF
R515 0_NC
R516 0
C262
0.1UF_0402
Close to DIMM
R513 0
R514 0_NC
PULL UP PAGE 9
SDM[0..7] 13,15
SM_DQS[0..7] 13,15
SMBCLK 9,12,13
SMBDATA 9,12,13
Layout note: Place capacitors between and near DDR if possible.
C281 C308 C310 C289
10UF/10V_0805
C285 C287 C286 C266 C284 C301 C245 C303 C288
C300 C236 C304 C240 C299 C307 C302 C270 C305
0.1UF_0402

SODIMM_1

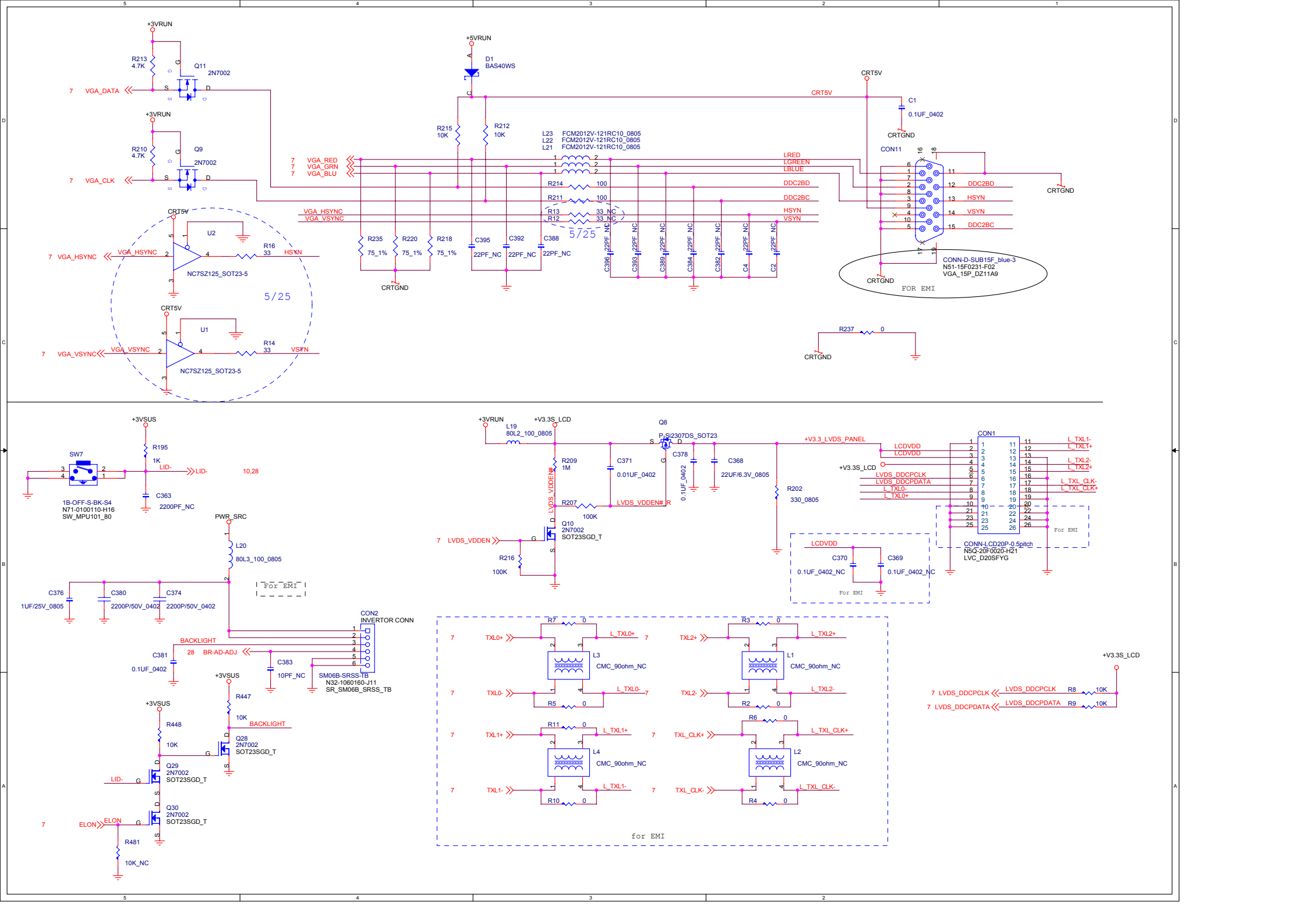

7 R_SM_DQS[0..7]
R_SM_DQS[0..7]
SM_DQS[0..7]
SM_DQS[0..7] 13,14
R_MD[0..63]
MD[0..63]
R_MD[0..63] 7
MD[0..63] 13,14
7 R_SDM[0..7]
R_SDM[0..7]
SDM[0..7]
SDM[0..7] 13,14
SMDDR_VTERM
RN23 10X4_0402
R_MD0 MD0
R_MD1 MD1
R_MD5 MD5
R_MD4 MD4
RN24 10X4_0402
R_MD3 MD3
R_MD6 MD6
R_SDM0 SDM0
R_MD2 MD2
RN26 10X4_0402
R_SDM1 SDM1
R_MD9 MD9
R_SM_DQS1 SM_DQS1
R_MD13 MD13
RN25 10X4_0402
R_MD8 MD8
R_MD12 MD12
R_MD7 MD7
R_SM_DQS0 SM_DQS0
RN29 10X4_0402
R_MD22 MD22
R_MD18 MD18
R_SDM2 SDM2
R_SM_DQS2 SM_DQS2
RN30 10X4_0402
R_MD24 MD24
R_MD28 MD28
R_MD19 MD19
R_MD23 MD23
RN32 10X4_0402
R_MD27 MD27
R_MD26 MD26
R_MD31 MD31
R_MD30 MD30
RN31 10X4_0402
R_SM_DQS3 SM_DQS3
R_SDM3 SDM3
R_MD29 MD29
R_MD25 MD25
RN27 10X4_0402
R_MD10 MD10
R_MD15 MD15
R_MD11 MD11
R_MD14 MD14
RN20 10X4_0402
R_MD50 MD50
R_SDM6 SDM6
R_MD51 MD51
R_SM_DQS6 SM_DQS6
RN33 10X4_0402
R_MD37 MD37
R_MD36 MD36
R_MD33 MD33
R_MD32 MD32
RN36 10X4_0402
R_MD47 MD47
R_MD43 MD43
R_MD46 MD46
R_MD42 MD42
RN35 10X4_0402
R_SDM5 SDM5
R_SM_DQS5 SM_DQS5
R_MD40 MD40
R_MD45 MD45
RN34 10X4_0402
R_MD44 MD44
R_MD41 MD41
R_MD34 MD34
R_MD39 MD39
RN19 10X4_0402
R_MD53 MD53
R_MD52 MD52
R_MD49 MD49
R_MD48 MD48
RN18 10X4_0402
R_MD60 MD60
R_MD56 MD56
R_MD55 MD55
R_MD54 MD54
RN17 10X4_0402
R_MD63 MD63
R_MD62 MD62
R_MD59 MD59
R_MD58 MD58
RN21 10X4_0402
R_SDM7 SDM7
R_MD57 MD57
R_SM_DQS7 SM_DQS7
R_MD61 MD61
RN28 10X4_0402
R_MD21 MD21
R_MD16 MD16
R_MD17 MD17
R_MD20 MD20
RN22 10X4_0402
R_MD35 MD35
R_MD38 MD38
R_SM_DQS4 SM_DQS4
R_SDM4 SDM4
RN9 8P4R-56R
MD4 MD36
MD5 MD32
SDM0 MD37
MD6 MD33
RN39 8P4R-56R
RN58 8P4R-56R
MD2 SM_DQS4
SM_DQS0 SDM4
MD1 MD34
MD0 MD39
RN52 8P4R-56R
RN40 8P4R-56R
MD11 MD38
MD10 MD35
SM_DQS1 MD40
MD9 MD44
RN53 8P4R-56R
RN59 8P4R-56R
MD12 MD41
MD8 SM_DQS5
MD7 MD42
MD3 MD43
RN54 8P4R-56R
RN43 8P4R-56R
MD18 MD50
SM_DQS2 MD51
MD22 MD56
MD17 MD57
RN57 8P4R-56R
RN44 8P4R-56R
MD24 SM_DQS7
MD28 SDM7
MD19 MD58
MD23 MD59
RN60 8P4R-56R
RN45 8P4R-56R
SDM3 MD63
SM_DQS3 MD62
MD25 MD61
MD29 MD60
RN8 8P4R-56R
RN46 8P4R-56R
MD31 MD55
MD30 SDM6
MD27 MD54
MD26 MD53
RN7 8P4R-56R
RN42 8P4R-56R
MD16 SDM5
SDM2 MD45
MD21 MD46
MD20 MD47
RN55 8P4R-56R
RN41 8P4R-56R
MD14 MD48
MD15 MD49
SDM1 MD52
MD13 SM_DQS6
RN56 8P4R-56R
RN37 8P4R-56R
R_MA10
R_MA0
R_MA1
R_MA5
7,13 R_MA1
7,13 R_MA5
RN49 8P4R-56R
7,13 R_MA2
7,13 R_MA4
R_MA2
R_MA3
R_MA4
R_MA7
RN48 8P4R-56R
RN50 8P4R-56R
R_MA6
R_MA8
R_MA9
R_MA11
R_BA1
R_SRASA-
R_SCASA-
R_BA0
RN38 8P4R-56R
R_MA12 R172 56_0402
R_BMWEA- R171 56_0402
SMA_B4 SMA_B4 7,14
SMA_B5 SMA_B5 7,14
SMA_B2 SMA_B2 7,14
SMA_B1 SMA_B1 7,14
RN47 8P4R-56R
RN51 8P4R-56R
7,13 CKE0
7,14 CKE2
7,13 CKE1
7,14 CKE3
SM_CS-0 7,13,14
SM_CS-2 7,14
SM_CS-3 7,14
SM_CS-1 7,13
Layout note: Place one cap close to every 2 pullup resistors terminated to +V1.25.
SMDDR_VTERM
0.01UF_0402 C535
C533
C551
C552
C548
C532
C530
C528
C526
C524
C522
22UF/6.3V_0805 C324
0.01UF_0402 C534
C553
C549
C550
C547
C531
C529
C527
C525
C523
C521
22UF/6.3V_0805 C327
0.1UF_0402 C512
C517
C541
C546
C545
C323
C544
C543
C542
C540
C322
C321
C320
C520
C519
C515
C514
C513
C518
C325
C326
C560
C559
C539
C558
C538
C557
C537
C556
C555
C536
C554
4/28
C710 2 1 100UF/2V_7343_NC
7,14 R_MA0 R333 10_0402 MA0 MA0 13
7,14 R_MA3 R134 10_0402 MA3 MA3 13
7,14 R_MA6 R332 10_0402 MA6 MA6 13
7,14 R_MA7 R135 10_0402 MA7 MA7 13
7,14 R_MA8 R331 10_0402 MA8 MA8 13
7,14 R_MA9 R136 10_0402 MA9 MA9 13
7,14 R_MA10 R133 10_0402 MA10 MA10 13
7,14 R_MA11 R330 10_0402 MA11 MA11 13
7,14 R_MA12 R137 10_0402 MA12 MA12 13
7,14 R_BA0 R132 10_0402 BA0 13
7,14 R_BA1 R334 10_0402 BA1 13
7,14 R_SRASA- R335 10_0402 SRASA- 13
7,14 R_SCASA- R336 10_0402 SCASA- 13
7,14 R_BMWEA- R131 10_0402 BMWEA- 13

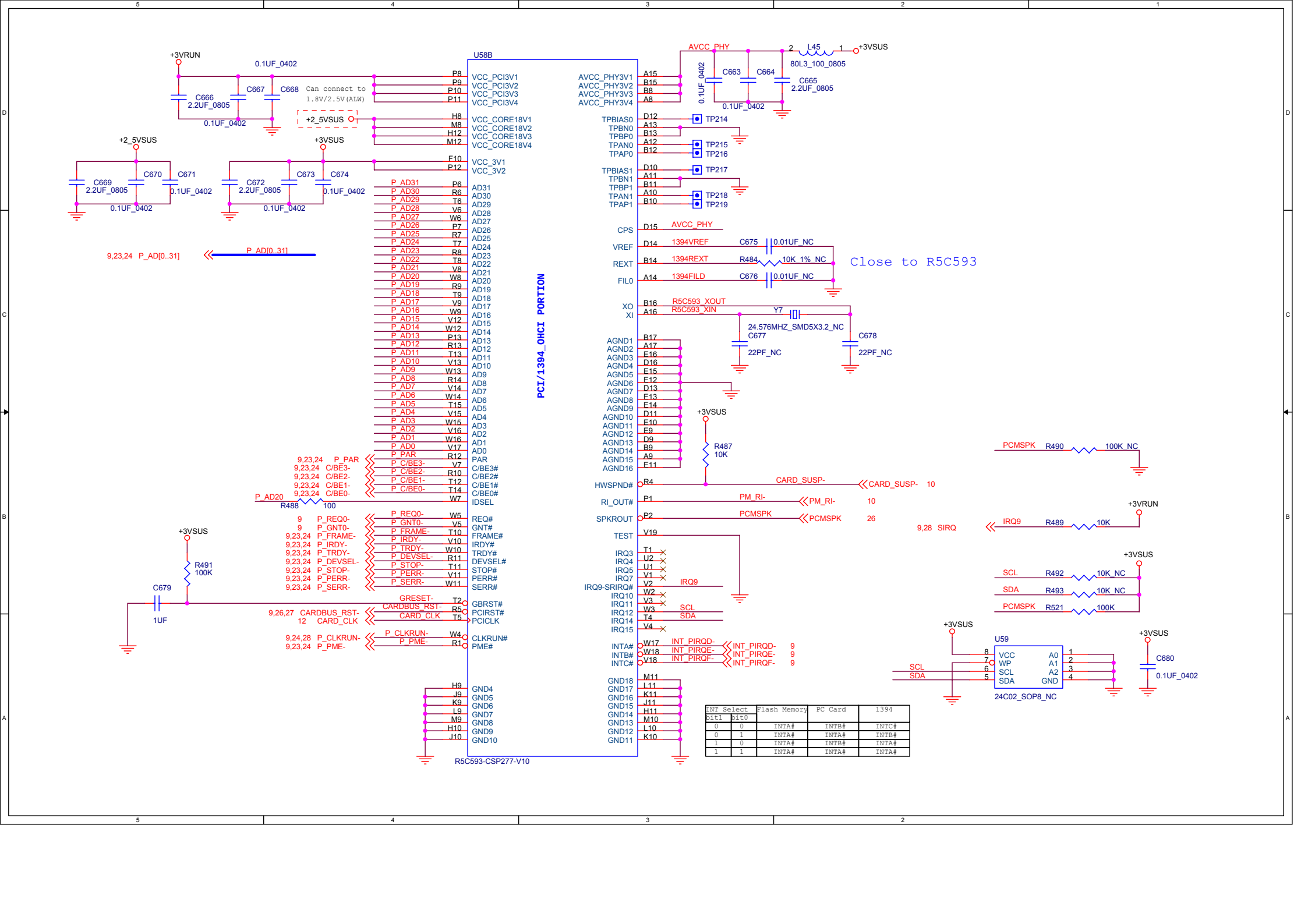


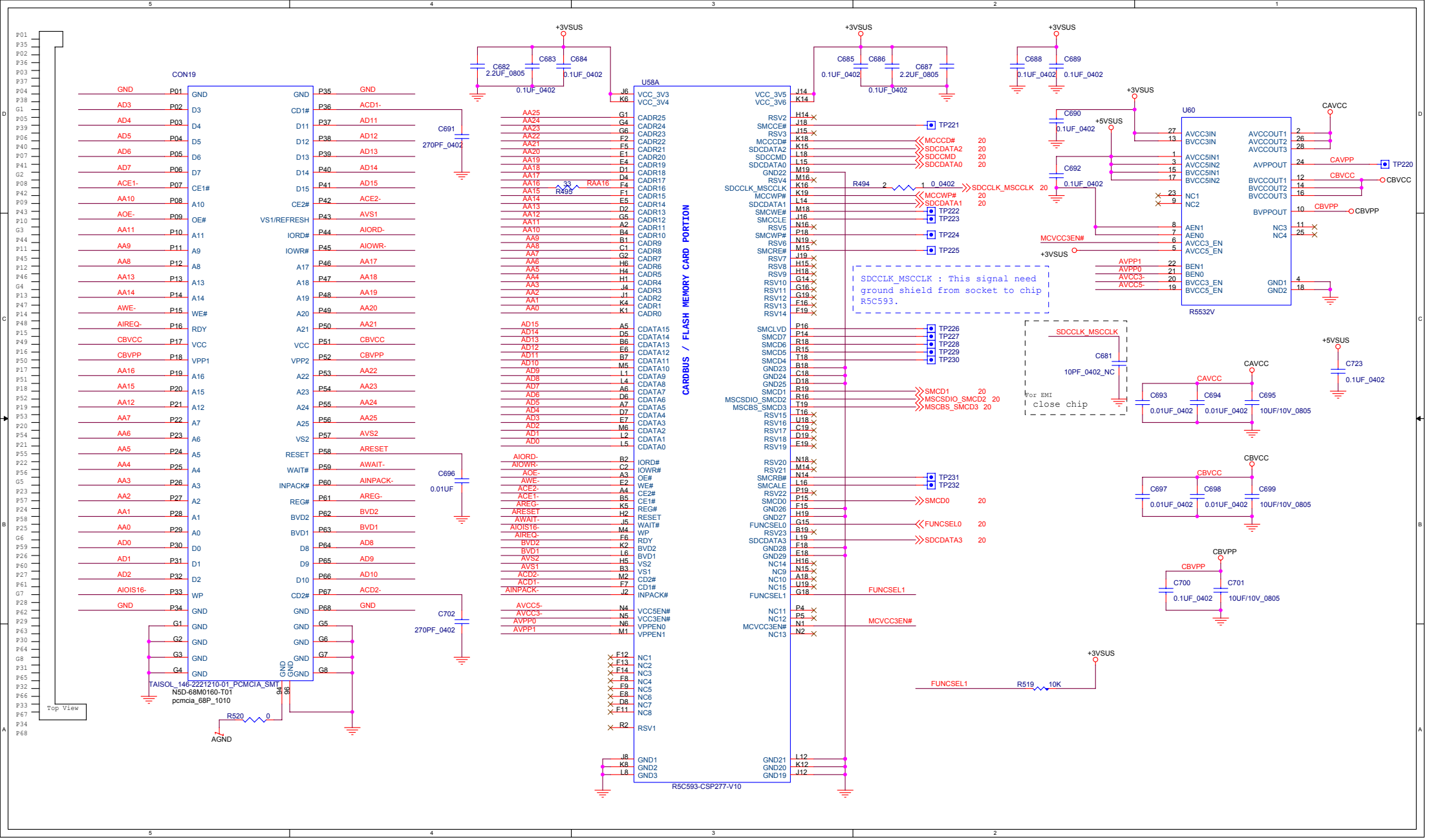
Ootions:

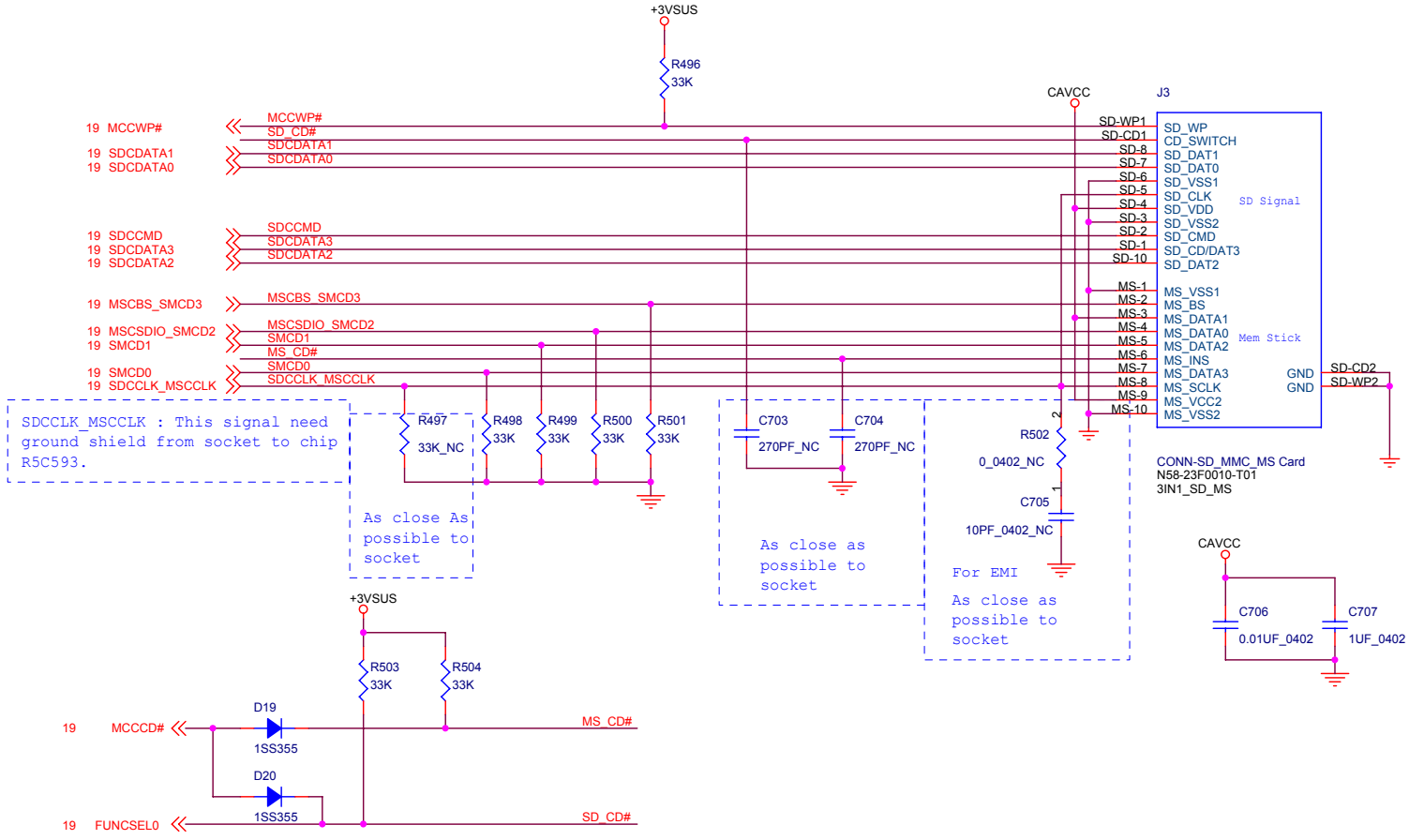
CH7009B Address		
Mode	R262	R263
0X75	NC	Stuff
0X76	Stuff	NC

NTSC or PAL		
Mode	R265	R266
NTSC	Stuff	NC
PAL	NC	Stuff


+3VRUN
R213 4.7K
Q11 2N7002
7 VGA_DATA
+3VRUN
R210 4.7K
Q9 2N7002
7 VGA_CLK
CRT5V
U2
7 VGA_HSYNC
VGA_HSYNC
R16 33
HSYN
NC7SZ125_SOT23-5
5/25
CRT5V
U1
7 VGA_VSYNC
VGA_VSYNC
R14 33
VSYN
NC7SZ125_SOT23-5
+5VRUN
D1 BAS40WS
R215 10K
R212 10K
7 VGA_RED
7 VGA_GRN
7 VGA_BLU
L23 FCM2012V-121RC10_0805
L22 FCM2012V-121RC10_0805
L21 FCM2012V-121RC10_0805
LRED
LGREEN
LBLUE
R214 100
R211 100
DDC2BD
DDC2BC
VGA_HSYNC
VGA_VSYNC
R13 33_NC
R12 33_NC
HSYN
VSYN
5/25
R235 75_1%
R220 75_1%
R218 75_1%
C395 22PF_NC
C392 22PF_NC
C388 22PF_NC
C396 22PF_NC
C393 22PF_NC
C389 22PF_NC
C384 22PF_NC
C382 22PF_NC
C4 22PF_NC
C2 22PF_NC
CRTGND
CRT5V
C1 0.1UF_0402
CRTGND
CON11
DDC2BD
HSYN
VSYN
DDC2BC
CRTGND
CONN-D-SUB15F_blue-3
N51-15F0231-F02
VGA_15P_DZ11A9
FOR EMI
R237 0
CRTGND
+3VSUS
SW7
R195 1K
LID-
LID-
10,28
1B-OFF-S-BK-S4
N71-0100110-H16
SW_MPU101_80
C363 2200PF_NC
PWR_SRC
L20 80L3_100_0805
For EMI
C376 1UF/25V_0805
C380 2200P/50V_0402
C374 2200P/50V_0402
CON2
INVERTOR CONN
BACKLIGHT
28 BR-AD-ADJ
C381 0.1UF_0402
C383 10PF_NC
SM06B-SRSS-TB
N32-1060160-J11
SR_SM06B_SRSS_TB
+3VSUS
R447 10K
BACKLIGHT
+3VSUS
R448 10K
Q28 2N7002 SOT23SGD_T
Q29 2N7002 SOT23SGD_T
LID-
Q30 2N7002 SOT23SGD_T
7 ELON
ELON
R481 10K_NC
+3VRUN
+V3.3S_LCD
L19 80L2_100_0805
Q8 P-Si2307DS_SOT23
+V3.3_LVDS_PANEL
R209 1M
C371 0.01UF_0402
C378 0.1UF_0402
C368 22UF/6.3V_0805
LVDS_VDDEN#
R207 100K
LVDS_VDDEN#_R
7 LVDS_VDDEN
Q10 2N7002 SOT23SGD_T
R216 100K
R202 330_0805
+V3.3S_LCD
LCDVDD
LVDS_DDCPCLK
LVDS_DDCPDATA
L_TXL0-
L_TXL0+
CON1
L_TXL1-
L_TXL1+
L_TXL2-
L_TXL2+
L_TXL_CLK-
L_TXL_CLK+
For EMI
CONN-LCD20P-0.5pitch
N5Q-20F0020-H21
LVC_D20SFYG
LCDVDD
C370 0.1UF_0402_NC
C369 0.1UF_0402_NC
For EMI
7 TXL0+
R7 0
L_TXL0+
L3 CMC_90ohm_NC
7 TXL0-
R5 0
L_TXL0-
7 TXL1+
R11 0
L_TXL1+
L4 CMC_90ohm_NC
7 TXL1-
R10 0
L_TXL1-
7 TXL2+
R3 0
L_TXL2+
L1 CMC_90ohm_NC
7 TXL2-
R2 0
L_TXL2-
7 TXL_CLK+
R6 0
L_TXL_CLK+
L2 CMC_90ohm_NC
7 TXL_CLK-
R4 0
L_TXL_CLK-
for EMI
+V3.3S_LCD
7 LVDS_DDCPCLK
LVDS_DDCPCLK
R8 10K
7 LVDS_DDCPDATA
LVDS_DDCPDATA
R9 10K


U58B
PCI/1394_OHCI PORTION
R5C593-CSP277-V10
+3VRUN
0.1UF_0402
C666 2.2UF_0805
C667
C668
Can connect to 1.8V/2.5V(ALW)
+2_5VSUS
+3VSUS
C669 2.2UF_0805
C670
C671
C672 2.2UF_0805
C673
C674
VCC_PCI3V1
VCC_PCI3V2
VCC_PCI3V3
VCC_PCI3V4
VCC_CORE18V1
VCC_CORE18V2
VCC_CORE18V3
VCC_CORE18V4
VCC_3V1
VCC_3V2
P_AD[0..31]
9,23,24 P_AD[0..31]
AD31
AD30
AD29
AD28
AD27
AD26
AD25
AD24
AD23
AD22
AD21
AD20
AD19
AD18
AD17
AD16
AD15
AD14
AD13
AD12
AD11
AD10
AD9
AD8
AD7
AD6
AD5
AD4
AD3
AD2
AD1
AD0
9,23,24 P_PAR
9,23,24 C/BE3-
9,23,24 C/BE2-
9,23,24 C/BE1-
9,23,24 C/BE0-
C/BE3#
C/BE2#
C/BE1#
C/BE0#
IDSEL
P_AD20
R488 100
9 P_REQ0-
9 P_GNT0-
9,23,24 P_FRAME-
9,23,24 P_IRDY-
9,23,24 P_TRDY-
9,23,24 P_DEVSEL-
9,23,24 P_STOP-
9,23,24 P_PERR-
9,23,24 P_SERR-
REQ#
GNT#
FRAME#
IRDY#
TRDY#
DEVSEL#
STOP#
PERR#
SERR#
+3VSUS
R491 100K
C679 1UF
GRESET-
CARDBUS_RST-
9,26,27 CARDBUS_RST-
12 CARD_CLK
GBRST#
PCIRST#
PCICLK
9,24,28 P_CLKRUN-
9,23,24 P_PME-
CLKRUN#
PME#
GND4
GND5
GND6
GND7
GND8
GND9
GND10
AVCC_PHY
L45 80L3_100_0805
C663
C664
C665 2.2UF_0805
0.1UF_0402
AVCC_PHY3V1
AVCC_PHY3V2
AVCC_PHY3V3
AVCC_PHY3V4
TPBIAS0
TPBN0
TPBP0
TPAN0
TPAP0
TPBIAS1
TPBN1
TPBP1
TPAN1
TPAP1
TP214
TP215
TP216
TP217
TP218
TP219
CPS
VREF
REXT
FIL0
1394VREF
1394REXT
1394FILD
C675 0.01UF_NC
R484 10K_1%_NC
C676 0.01UF_NC
Close to R5C593
XO
XI
R5C593_XOUT
R5C593_XIN
Y7
24.576MHZ_SMD5X3.2_NC
C677 22PF_NC
C678 22PF_NC
AGND1
AGND2
AGND3
AGND4
AGND5
AGND6
AGND7
AGND8
AGND9
AGND10
AGND11
AGND12
AGND13
AGND14
AGND15
AGND16
+3VSUS
R487 10K
HWSPND#
CARD_SUSP-
CARD_SUSP- 10
RI_OUT#
PM_RI-
PM_RI- 10
SPKROUT
PCMSPK
PCMSPK 26
TEST
IRQ3
IRQ4
IRQ5
IRQ7
IRQ9-SRIRQ#
IRQ10
IRQ11
IRQ12
IRQ14
IRQ15
IRQ9
SCL
SDA
INTA#
INTB#
INTC#
INT_PIRQD-
INT_PIRQE-
INT_PIRQF-
INT_PIRQD- 9
INT_PIRQE- 9
INT_PIRQF- 9
GND18
GND17
GND16
GND15
GND14
GND13
GND12
GND11
PCMSPK R490 100K_NC
9,28 SIRQ
IRQ9 R489 10K
+3VRUN
SCL R492 10K_NC
SDA R493 10K_NC
PCMSPK R521 100K
+3VSUS
U59
VCC
WP
SCL
SDA
A0
A1
A2
GND
24C02_SOP8_NC
C680 0.1UF_0402
INT Select bit1 bit0
Flash Memory
PC Card
1394
0 0 INTA# INTB# INTC#
0 1 INTA# INTA# INTB#
1 0 INTA# INTB# INTA#
1 1 INTA# INTA# INTA#


CON19
TAISOL_146-2221210-01_PCMCIA_SMT
N5D-68M0160-T01
pcmcia_68P_1010
Top View
U58A
CARDBUS / FLASH MEMORY CARD PORTION
R5C593-CSP277-V10
SDCCLK_MSCCLK : This signal need ground shield from socket to chip R5C593.
U60
R5532V
For EMI close chip
+3VSUS
+5VSUS
CAVCC
CBVCC
CBVPP
AGND

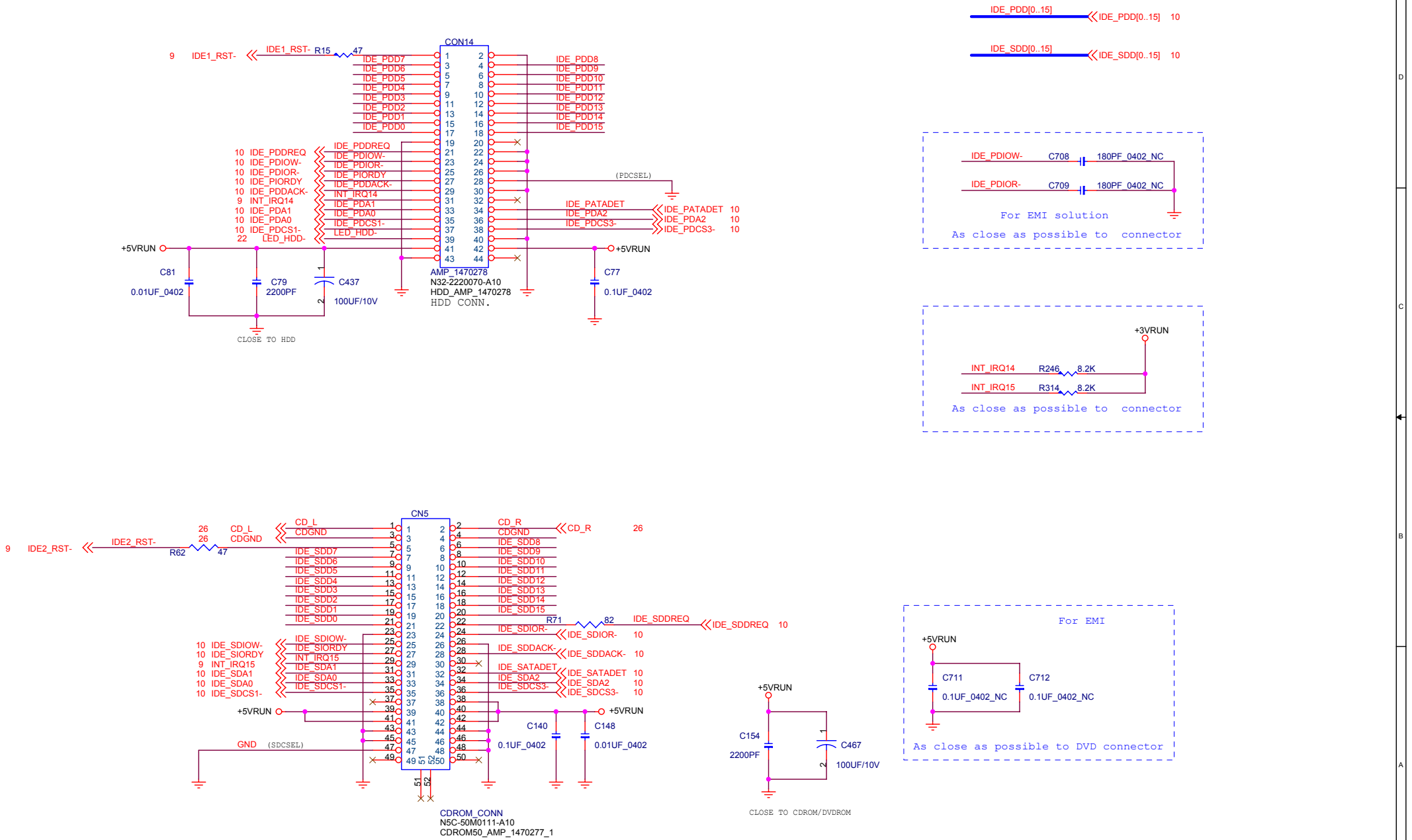


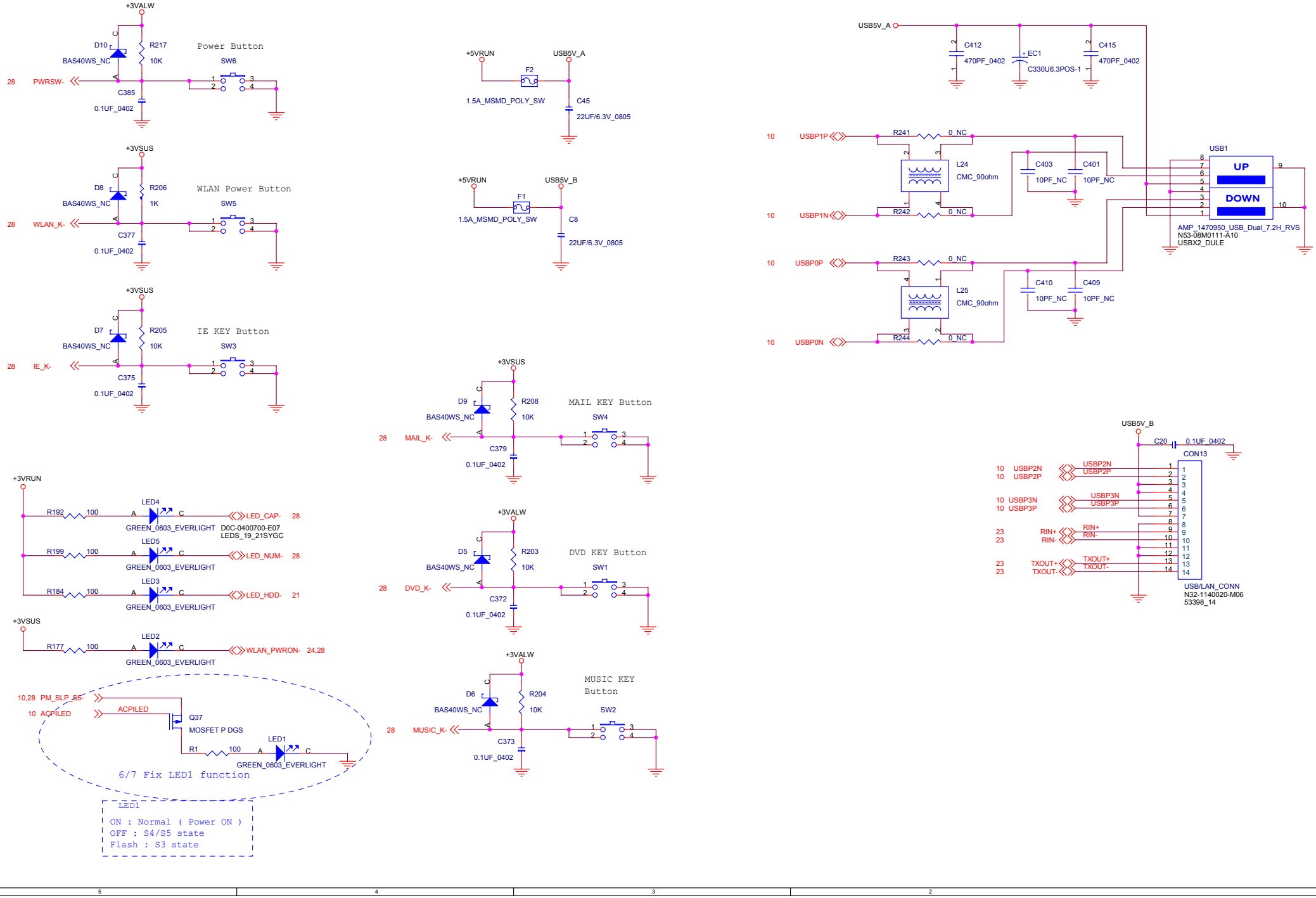
Memory Card Detect Logic Table

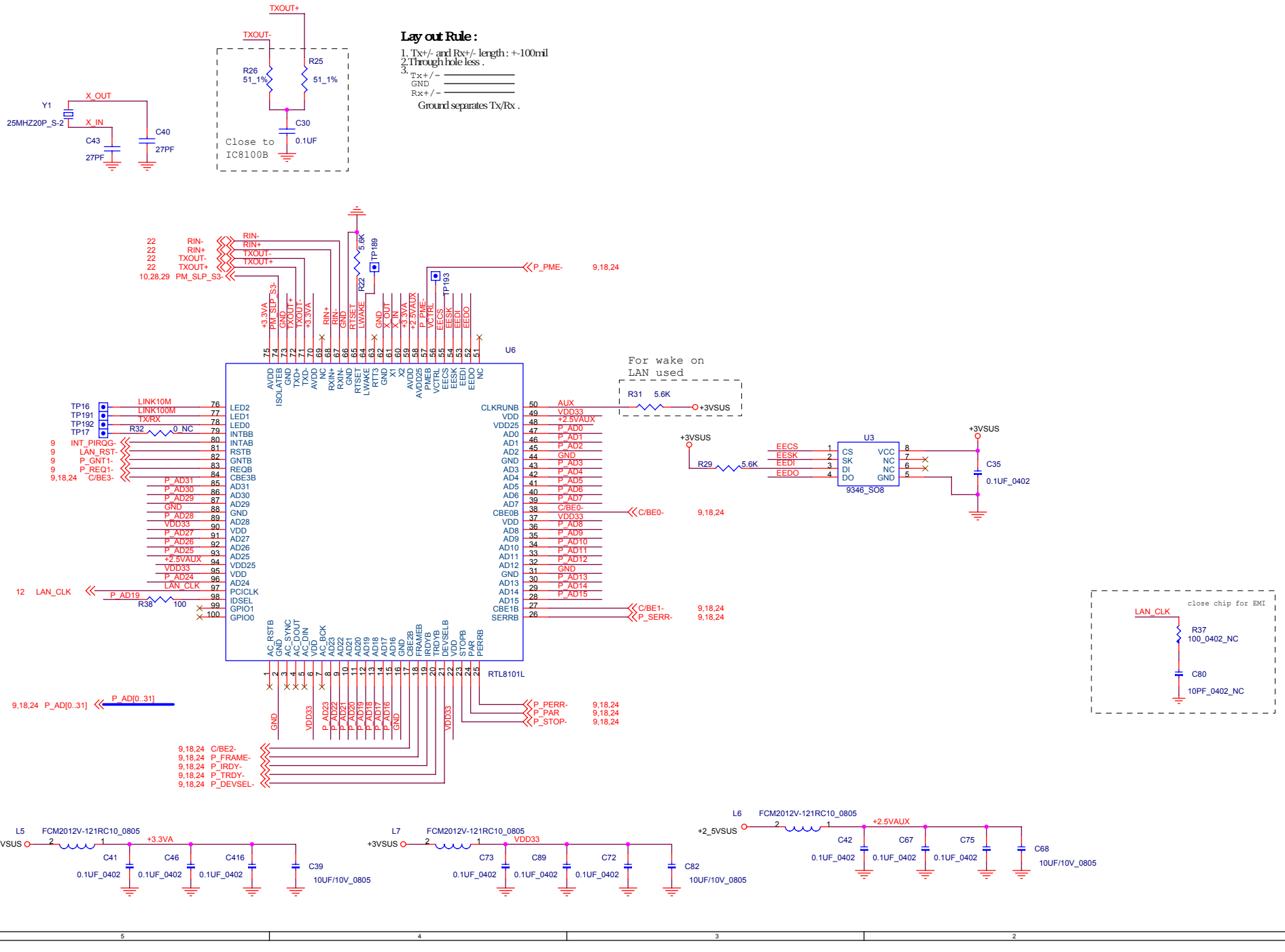
MS_CD#	SM_CD#	SD_CD#		
0	0	0	->	Detected Card
0	0	1	->	INHIBIT
0	1	0	->	INHIBIT
0	1	1	->	MemoryStick Detected
1	0	0	->	INHIBIT
1	0	1	->	SmartMedia Detected
1	1	0	->	SD/MMC Detected
1	1	1	->	Not Detected

Unused

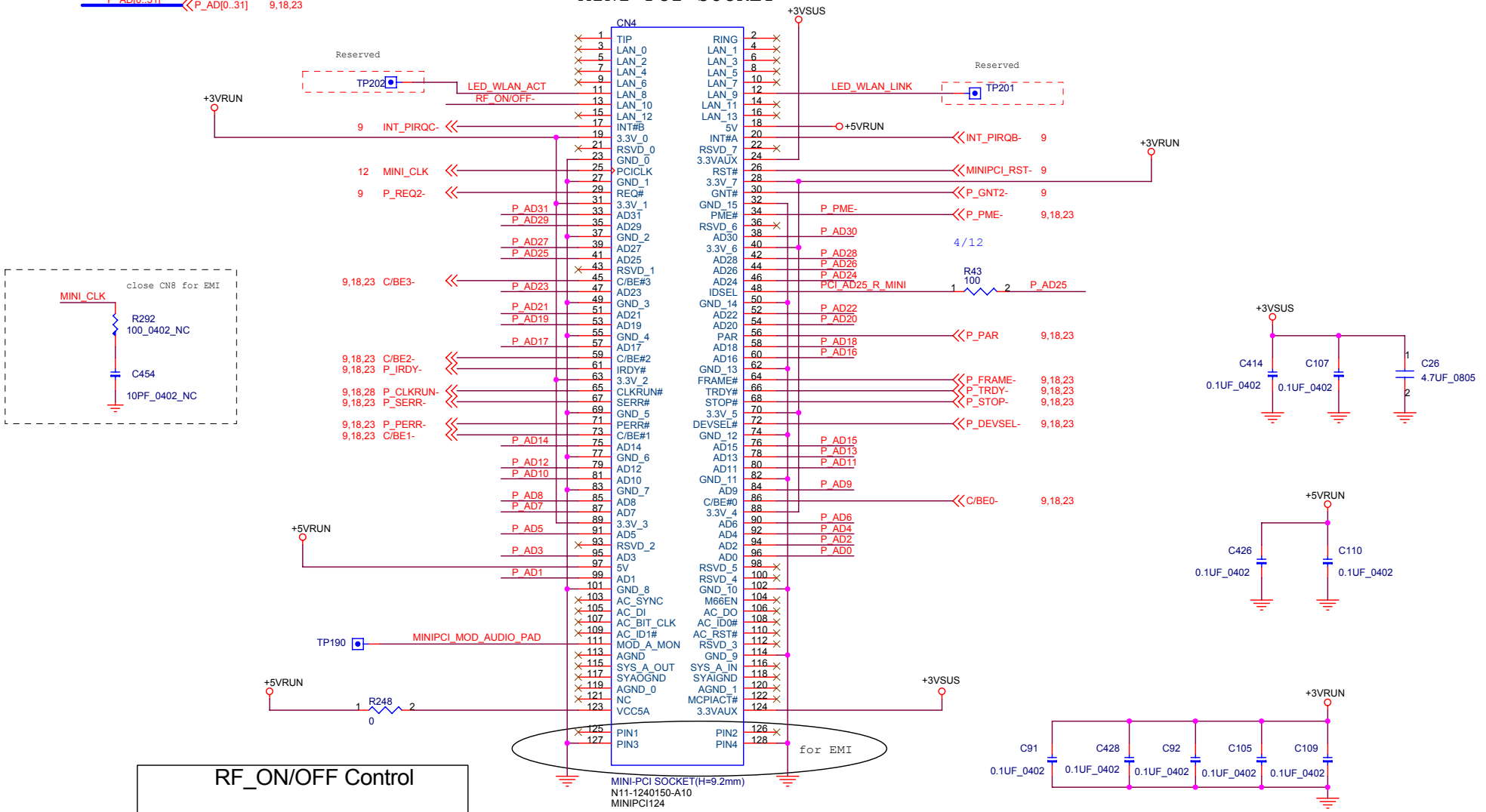
DO NOT INSERT SMARTMEDIA, SD/MMC AND MEMORYSTICK SIMULTANEOUSLY.


IDE_PDD[0..15]
IDE_PDD[0..15] 10
IDE_SDD[0..15]
IDE_SDD[0..15] 10
CON14
9 IDE1_RST-
IDE1_RST- R15 47
IDE_PDD7 IDE_PDD6 IDE_PDD5 IDE_PDD4 IDE_PDD3 IDE_PDD2 IDE_PDD1 IDE_PDD0
IDE_PDD8 IDE_PDD9 IDE_PDD10 IDE_PDD11 IDE_PDD12 IDE_PDD13 IDE_PDD14 IDE_PDD15
10 IDE_PDDREQ
10 IDE_PDIOW-
10 IDE_PDIOR-
10 IDE_PIORDY
10 IDE_PDDACK-
9 INT_IRQ14
10 IDE_PDA1
10 IDE_PDA0
10 IDE_PDCS1-
22 LED_HDD-
IDE_PDDREQ IDE_PDIOW- IDE_PDIOR- IDE_PIORDY IDE_PDDACK- INT_IRQ14 IDE_PDA1 IDE_PDA0 IDE_PDCS1- LED_HDD-
(PDCSEL)
IDE_PATADET IDE_PDA2 IDE_PDCS3-
IDE_PATADET 10
IDE_PDA2 10
IDE_PDCS3- 10
+5VRUN
+5VRUN
C81 0.01UF_0402
C79 2200PF
C437 100UF/10V
C77 0.1UF_0402
CLOSE TO HDD
AMP_1470278
N32-2220070-A10
HDD_AMP_1470278
HDD CONN.
IDE_PDIOW- C708 180PF_0402_NC
IDE_PDIOR- C709 180PF_0402_NC
For EMI solution
As close as possible to connector
+3VRUN
INT_IRQ14 R246 8.2K
INT_IRQ15 R314 8.2K
As close as possible to connector
CN5
9 IDE2_RST-
IDE2_RST- 26 CD_L 26 CDGND R62 47
CD_L CDGND
CD_R CDGND
CD_R 26
IDE_SDD7 IDE_SDD6 IDE_SDD5 IDE_SDD4 IDE_SDD3 IDE_SDD2 IDE_SDD1 IDE_SDD0
IDE_SDD8 IDE_SDD9 IDE_SDD10 IDE_SDD11 IDE_SDD12 IDE_SDD13 IDE_SDD14 IDE_SDD15
R71 82 IDE_SDDREQ
IDE_SDDREQ 10
IDE_SDIOR-
IDE_SDIOR- 10
IDE_SDDACK-
IDE_SDDACK- 10
10 IDE_SDIOW-
10 IDE_SIORDY
9 INT_IRQ15
10 IDE_SDA1
10 IDE_SDA0
10 IDE_SDCS1-
IDE_SDIOW- IDE_SIORDY INT_IRQ15 IDE_SDA1 IDE_SDA0 IDE_SDCS1-
IDE_SATADET
IDE_SATADET 10
IDE_SDA2 10
IDE_SDCS3- 10
IDE_SDA2 IDE_SDCS3-
+5VRUN
+5VRUN
GND (SDCSEL)
C140 0.1UF_0402
C148 0.01UF_0402
CDROM_CONN
N5C-50M0111-A10
CDROM50_AMP_1470277_1
+5VRUN
C154 2200PF
C467 100UF/10V
CLOSE TO CDROM/DVDROM
For EMI
+5VRUN
C711 0.1UF_0402_NC
C712 0.1UF_0402_NC
As close as possible to DVD connector

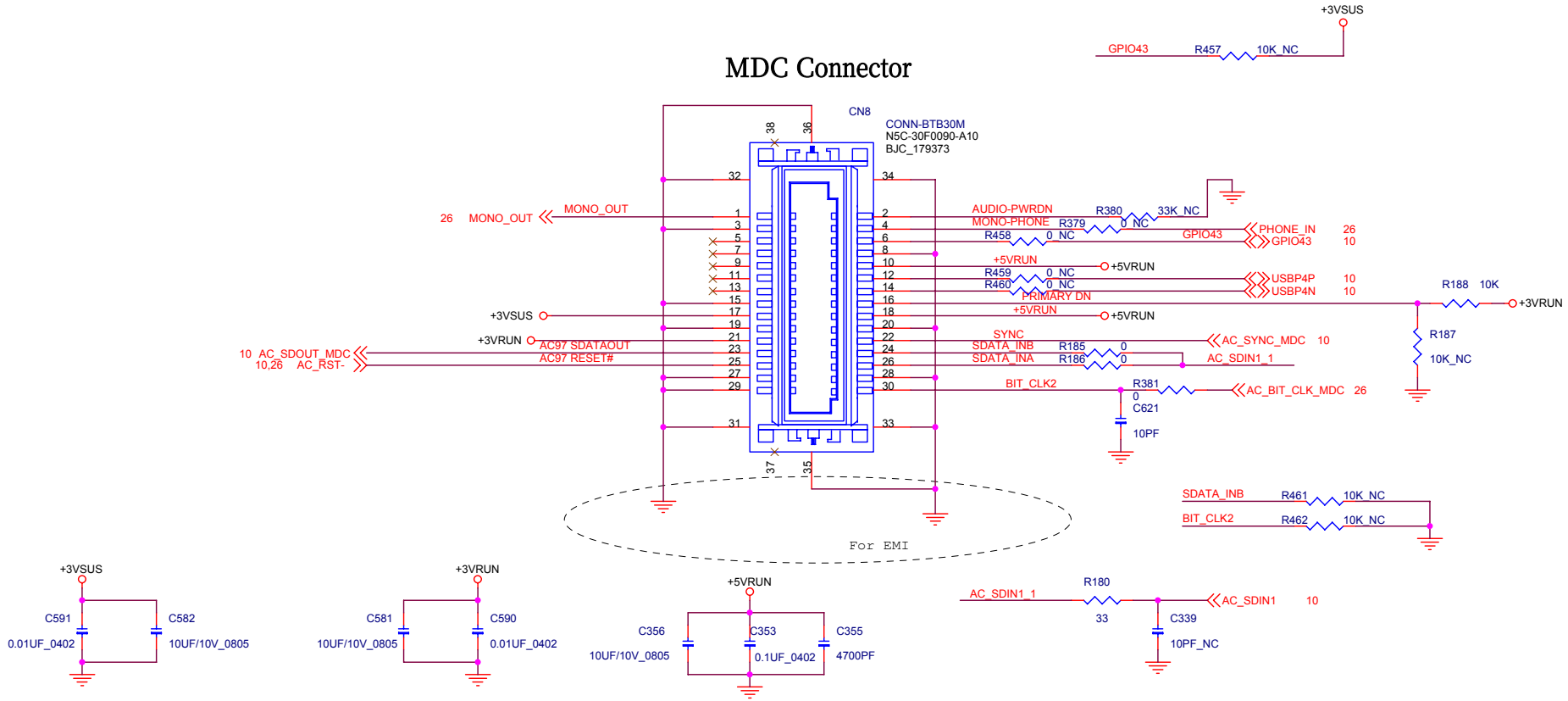

+3VALW
D10
R217
10K
BAS40WS_NC
Power Button
SW6
28 PWRSW-
C385
0.1UF_0402
+3VSUS
D8
R206
1K
WLAN Power Button
SW5
28 WLAN_K-
C377
0.1UF_0402
+3VSUS
D7
R205
10K
IE KEY Button
SW3
28 IE_K-
C375
0.1UF_0402
+5VRUN
F2
1.5A_MSMD_POLY_SW
USB5V_A
C45
22UF/6.3V_0805
+5VRUN
F1
1.5A_MSMD_POLY_SW
USB5V_B
C8
22UF/6.3V_0805
+3VSUS
D9
R208
10K
BAS40WS_NC
MAIL KEY Button
SW4
28 MAIL_K-
C379
0.1UF_0402
+3VALW
D5
R203
10K
BAS40WS_NC
DVD KEY Button
SW1
28 DVD_K-
C372
0.1UF_0402
+3VALW
D6
R204
10K
BAS40WS_NC
MUSIC KEY Button
SW2
28 MUSIC_K-
C373
0.1UF_0402
+3VRUN
R192 100
LED4
GREEN_0603_EVERLIGHT
D0C-0400700-E07
LEDS_19_21SYGC
LED_CAP- 28
R199 100
LED5
GREEN_0603_EVERLIGHT
LED_NUM- 28
R184 100
LED3
GREEN_0603_EVERLIGHT
LED_HDD- 21
+3VSUS
R177 100
LED2
GREEN_0603_EVERLIGHT
WLAN_PWRON- 24,28
10,28 PM_SLP_S5-
10 ACPILED
ACPILED
Q37
MOSFET P DGS
R1 100
LED1
GREEN_0603_EVERLIGHT
6/7 Fix LED1 function
LED1
ON : Normal (Power ON)
OFF : S4/S5 state
Flash : S3 state
USB5V_A
C412
470PF_0402
EC1
C330U6.3POS-1
C415
470PF_0402
10 USBP1P
R241 0_NC
L24
CMC_90ohm
C403 10PF_NC
C401 10PF_NC
10 USBP1N
R242 0_NC
10 USBP0P
R243 0_NC
L25
CMC_90ohm
C410 10PF_NC
C409 10PF_NC
10 USBP0N
R244 0_NC
USB1
UP
DOWN
AMP_1470950_USB_Dual_7.2H_RVS
N53-08M0111-A10
USBX2_DULE
USB5V_B
C20 0.1UF_0402
CON13
10 USBP2N
10 USBP2P
USBP2N
USBP2P
10 USBP3N
10 USBP3P
USBP3N
USBP3P
23 RIN+
23 RIN-
RIN+
RIN-
23 TXOUT+
23 TXOUT-
TXOUT+
TXOUT-
USB/LAN_CONN
N32-1140020-M06
53398_14

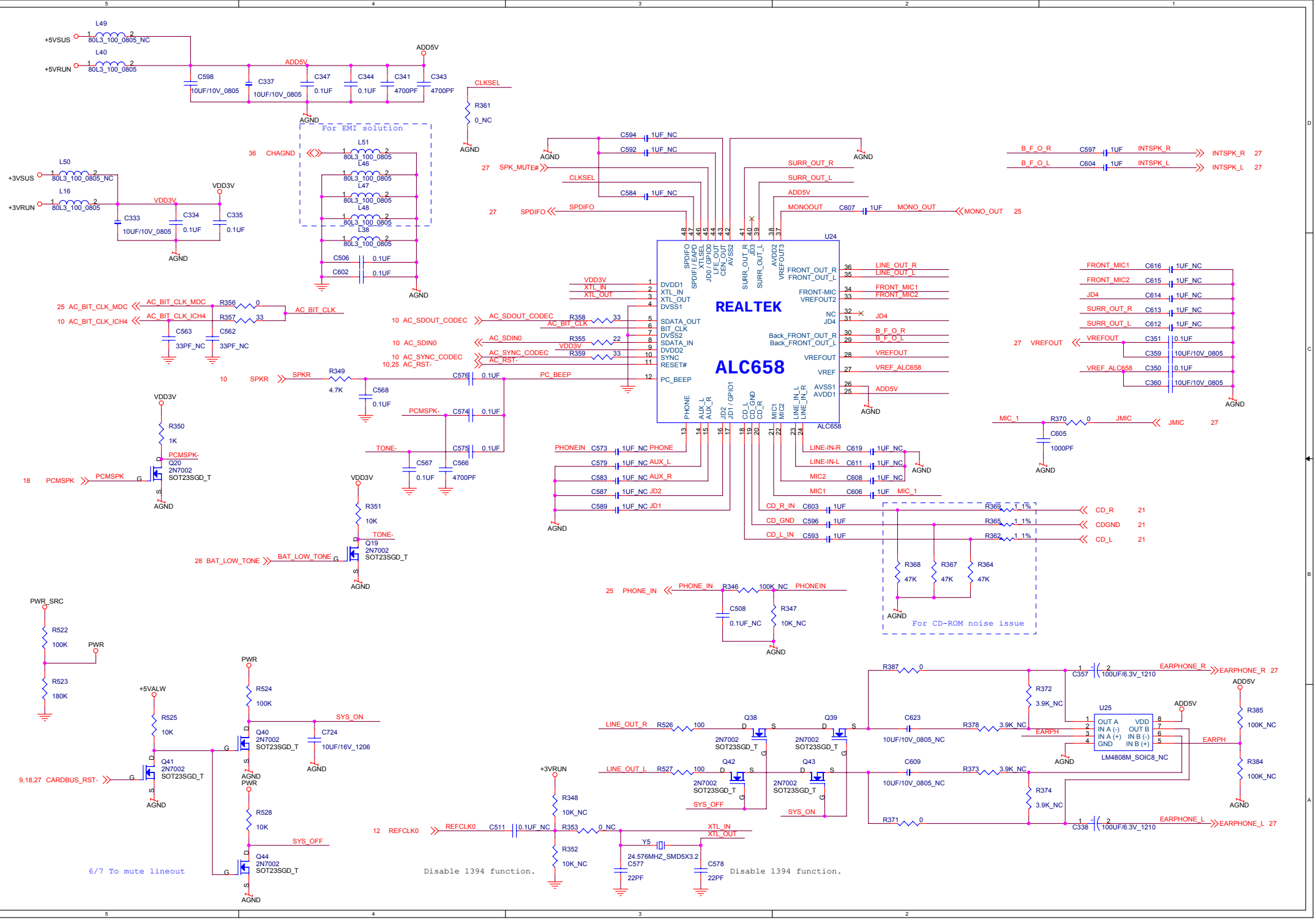

TXOUT+
TXOUT-
R26
51_1%
R25
51_1%
C30
0.1UF
Close to
IC8100B
Y1
25MHZ20P_S-2
X_OUT
X_IN
C43
27PF
C40
27PF
Lay out Rule :
1. Tx+/- and Rx+/- length : +-100mil
2.Through hole less .
3.
Tx+/-
GND
Rx+/-
Ground separates Tx/Rx .
U6
RTL8101L
RIN-
RIN+
TXOUT-
TXOUT+
PM_SLP_S3-
P_PME-
9,18,24
TP189
TP193
R22
5.6K
For wake on
LAN used
R31 5.6K
+3VSUS
LINK10M
LINK100M
TX/RX
TP16
TP191
TP192
TP17
R32 0_NC
INT_PIRQG-
LAN_RST-
P_GNT1-
P_REQ1-
C/BE3-
P_AD31
P_AD30
P_AD29
P_AD28
P_AD27
P_AD26
P_AD25
P_AD24
P_AD19
LAN_CLK
R38 100
P_AD[0..31]
C/BE0-
C/BE1-
P_SERR-
P_PERR-
P_PAR
P_STOP-
C/BE2-
P_FRAME-
P_IRDY-
P_TRDY-
P_DEVSEL-
U3
9346_SO8
EECS
EESK
EEDI
EEDO
R29 5.6K
C35
0.1UF_0402
close chip for EMI
R37
100_0402_NC
C80
10PF_0402_NC
L5
FCM2012V-121RC10_0805
+3VSUS
+3.3VA
C41
C46
C416
C39
0.1UF_0402
10UF/10V_0805
L7
FCM2012V-121RC10_0805
VDD33
C73
C89
C72
C82
L6
FCM2012V-121RC10_0805
+2_5VSUS
+2.5VAUX
C42
C67
C75
C68

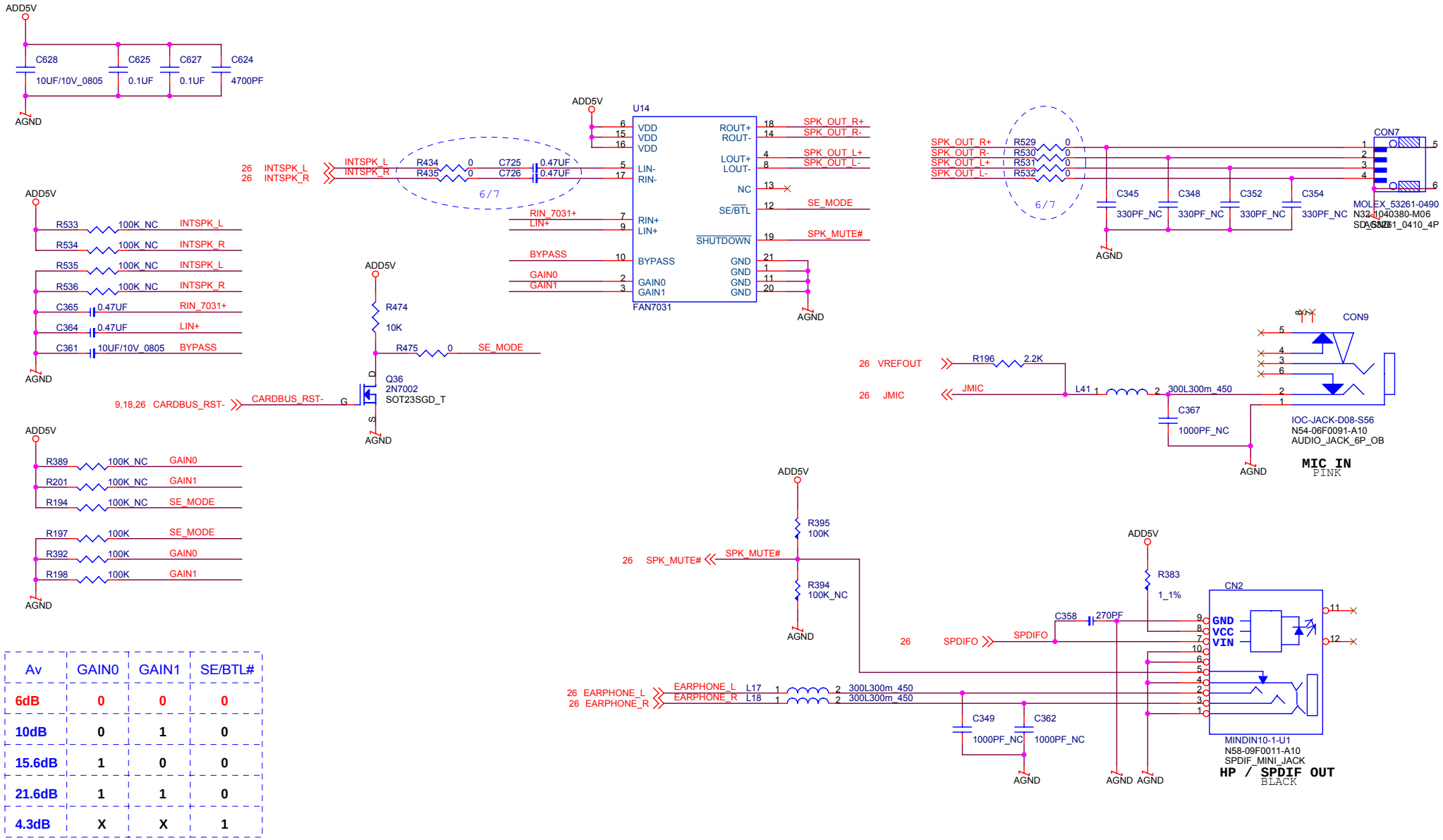
MINI PCI SOCKET



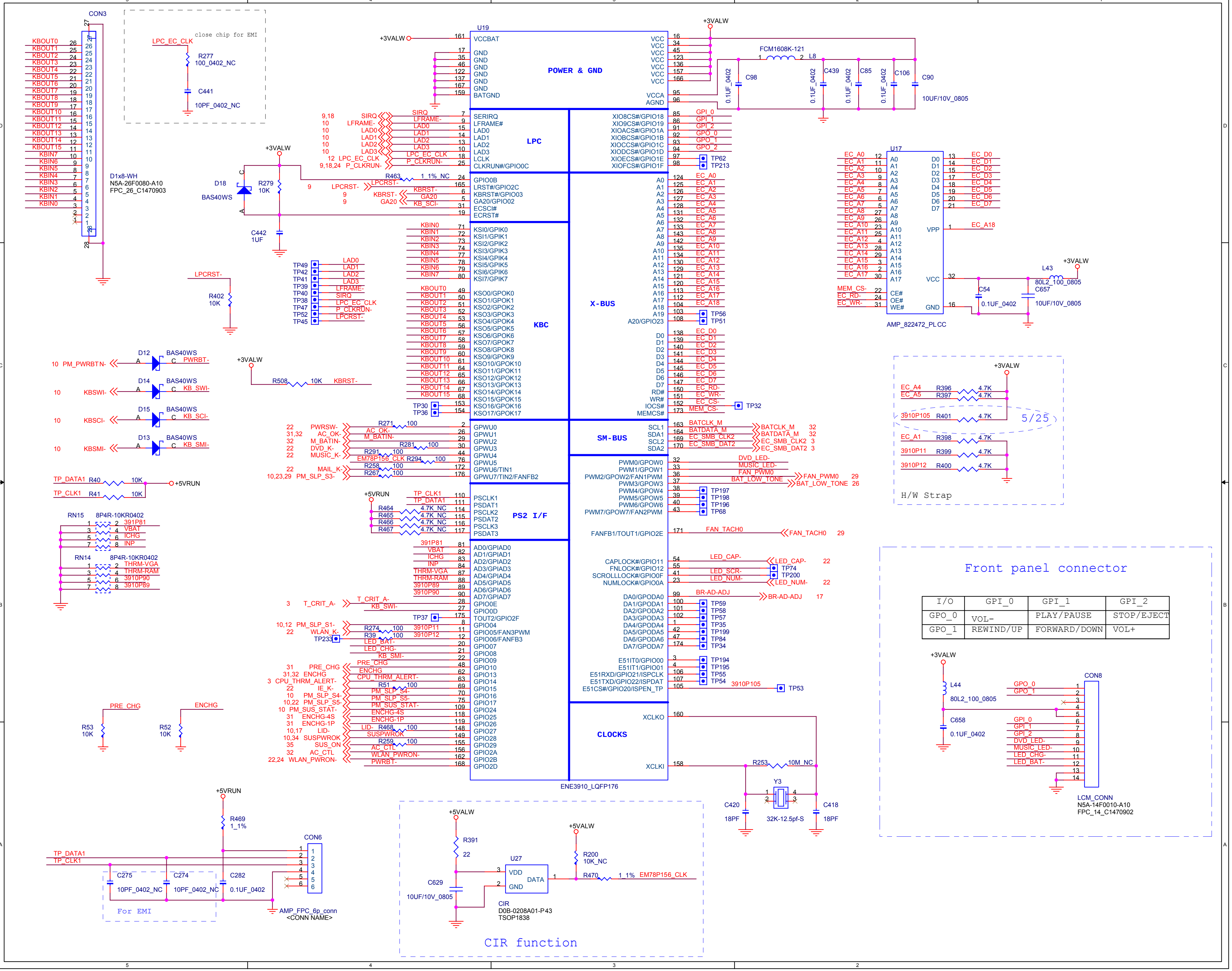
MDC Connector




REALTEK
ALC658
U24
ALC658
For EMI solution
For CD-ROM noise issue
6/7 To mute lineout
Disable 1394 function.
Disable 1394 function.
+5VSUS
+5VRUN
+3VSUS
+3VRUN
+5VALW
PWR_SRC
ADD5V
VDD3V
PWR
AGND
L49
L40
L50
L16
L51
L46
L47
L48
L38
C598
C337
C347
C344
C341
C343
C333
C334
C335
C506
C602
R361
0_NC
CLKSEL
CHAGND
SPK_MUTE#
SPDIFO
SURR_OUT_R
SURR_OUT_L
MONOOUT
MONO_OUT
B_F_O_R
B_F_O_L
INTSPK_R
INTSPK_L
C594
C592
C584
C607
C597
C604
AC_BIT_CLK_MDC
AC_BIT_CLK_ICH4
AC_BIT_CLK
AC_SDOUT_CODEC
AC_SDIN0
AC_SYNC_CODEC
AC_RST-
SPKR
PC_BEEP
PCMSPK-
TONE-
PCMSPK
TONE-
BAT_LOW_TONE
R356
R357
R358
R355
R359
R349
R350
R351
C563
C562
C568
C574
C575
C567
C566
Q20
Q19
2N7002
SOT23SGD_T
FRONT_OUT_R
FRONT_OUT_L
FRONT-MIC
VREFOUT2
NC
JD4
Back_FRONT_OUT_R
Back_FRONT_OUT_L
VREFOUT
VREF
AVSS1
AVDD1
LINE_OUT_R
LINE_OUT_L
FRONT_MIC1
FRONT_MIC2
JD4
B_F_O_R
B_F_O_L
VREFOUT
VREF_ALC658
ADD5V
DVDD1
XTL_IN
XTL_OUT
DVSS1
SDATA_OUT
BIT_CLK
DVSS2
SDATA_IN
DVDD2
SYNC
RESET#
PC_BEEP
PHONE
AUX_L
AUX_R
JD2
JD1 / GPIO1
CD_L
CD_GND
CD_R
MIC1
MIC2
LINE_IN_L
LINE_IN_R
PHONEIN
C573
C579
C583
C587
C589
LINE-IN-R
LINE-IN-L
MIC2
MIC1
C619
C611
C608
C606
MIC_1
R370
JMIC
C605
1000PF
CD_R_IN
CD_GND
CD_L_IN
C603
C596
C593
R369
R365
R362
CD_R
CDGND
CD_L
R368
R367
R364
47K
PHONE_IN
R346
100K_NC
C508
0.1UF_NC
R347
10K_NC
PWR_SRC
R522
100K
R523
180K
R524
R525
R528
Q40
Q41
Q44
SYS_ON
SYS_OFF
CARDBUS_RST-
C724
10UF/16V_1206
LINE_OUT_R
LINE_OUT_L
R526
R527
Q38
Q39
Q42
Q43
C623
C609
R378
R373
R372
R374
3.9K_NC
EARPH
U25
LM4808M_SOIC8_NC
OUT A
IN A (-)
IN A (+)
GND
VDD
OUT B
IN B (-)
IN B (+)
R387
R371
C357
C338
100UF/6.3V_1210
EARPHONE_R
EARPHONE_L
R385
R384
100K_NC
REFCLK0
C511
0.1UF_NC
R353
0_NC
R348
R352
10K_NC
Y5
24.576MHZ_SMD5X3.2
C577
C578
22PF
XTL_IN
XTL_OUT
FRONT_MIC1
FRONT_MIC2
JD4
SURR_OUT_R
SURR_OUT_L
VREFOUT
VREF_ALC658
C616
C615
C614
C613
C612
C351
C359
C350
C360
1UF_NC
0.1UF
10UF/10V_0805

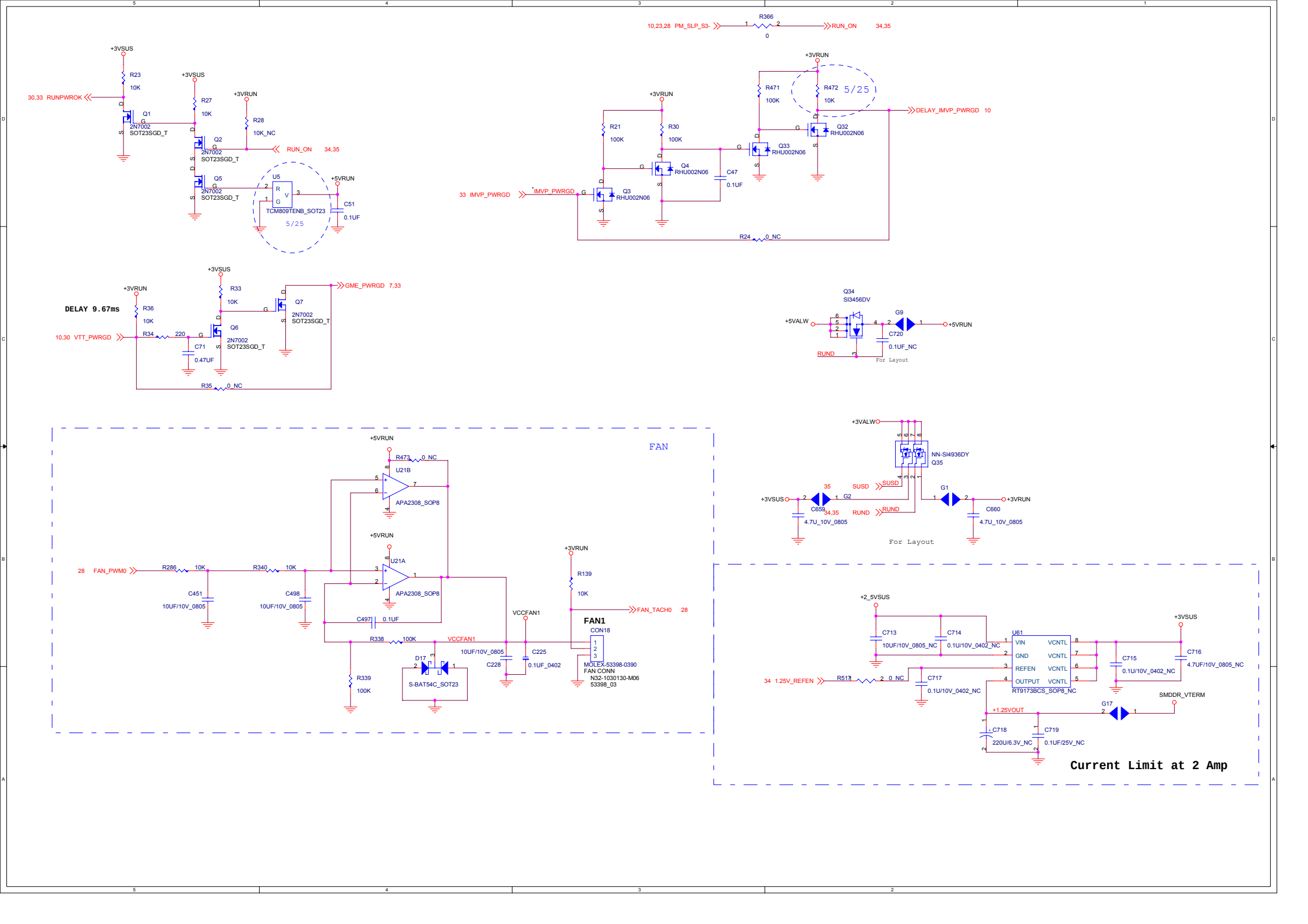


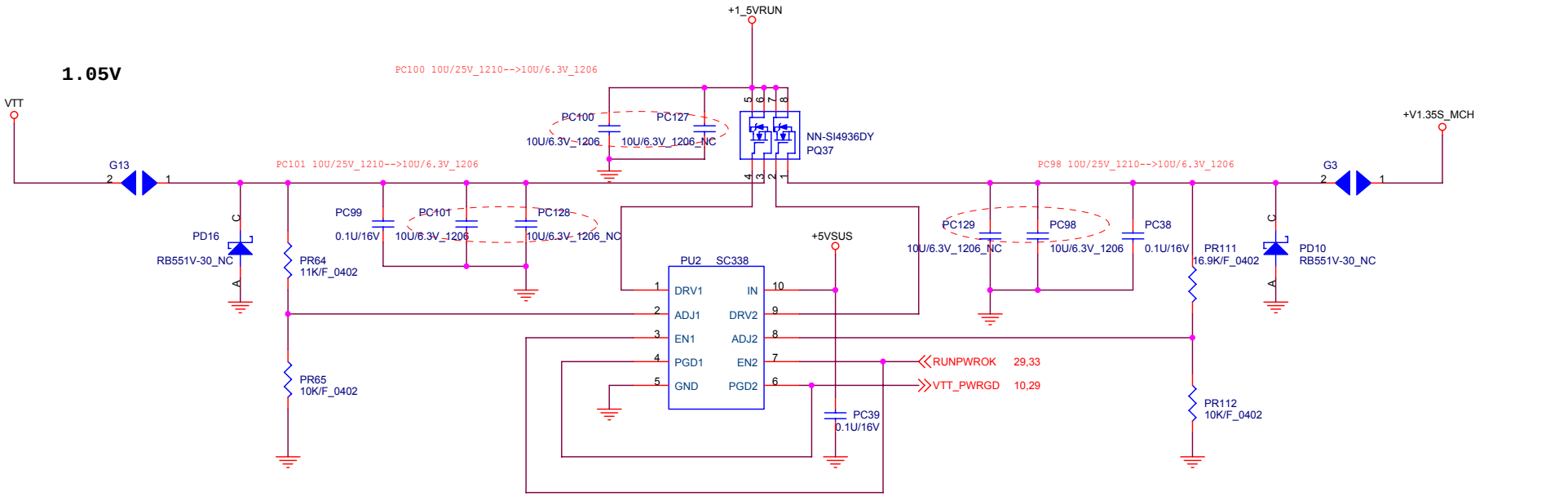
Av	GAIN0	GAIN1	SE/BTL#
6dB	0	0	0
10dB	0	1	0
15.6dB	1	0	0
21.6dB	1	1	0
4.3dB	X	X	1



Front panel connector

I/O	GPI_0	GPI_1	GPI_2
GPO_0	VOL-	PLAY/PAUSE	STOP/EJECT
GPO_1	REWIND/UP	FORWARD/DOWN	VOL+

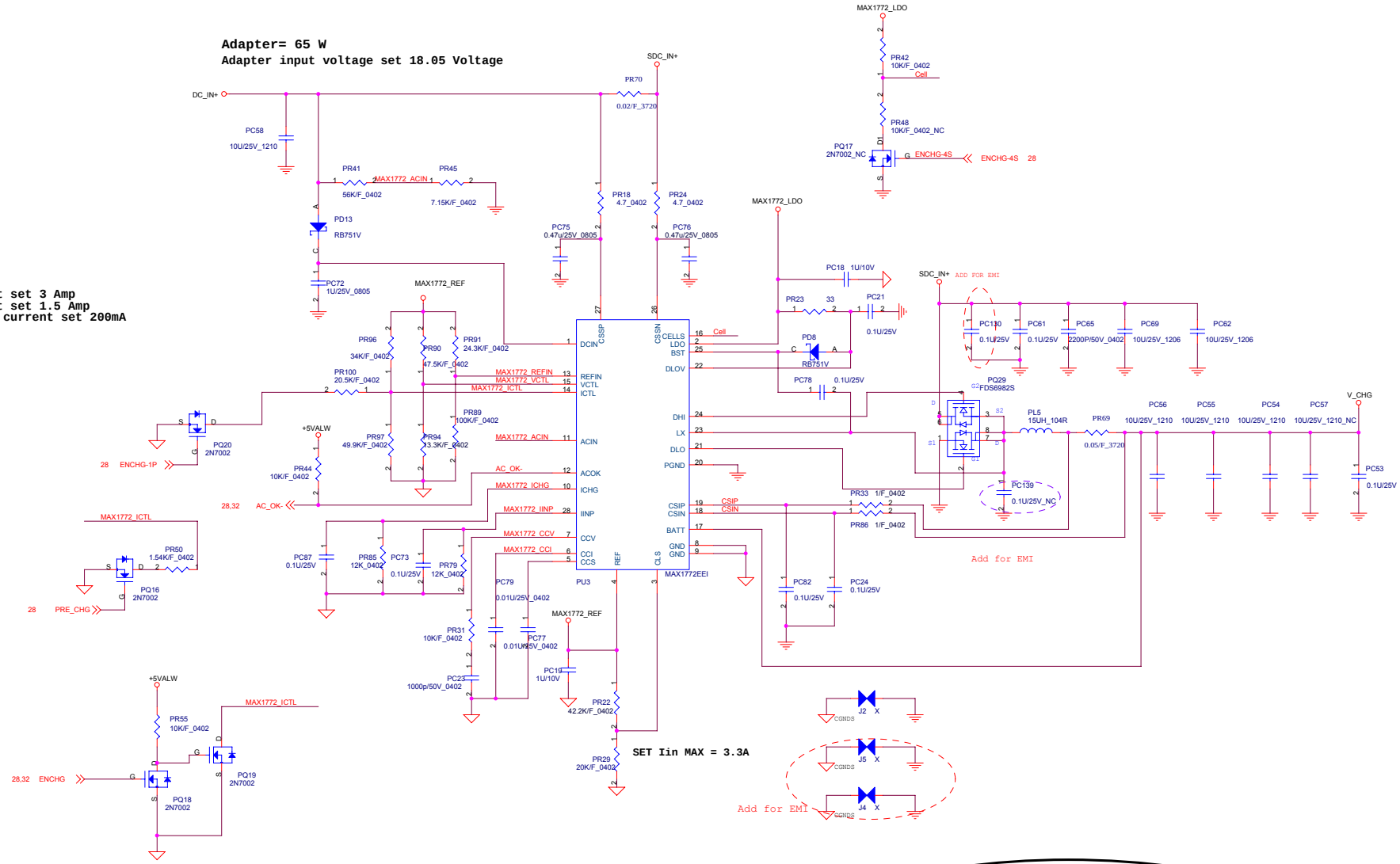

10,23,28 PM_SLP_S3-
R366
0
RUN_ON 34,35
30,33 RUNPWROK
+3VSUS
R23
10K
Q1
2N7002
SOT23SGD_T
R27
10K
Q2
2N7002
SOT23SGD_T
+3VRUN
R28
10K_NC
RUN_ON 34,35
Q5
2N7002
SOT23SGD_T
U5
TCM809TENB_SOT23
5/25
+5VRUN
C51
0.1UF
+3VRUN
R21
100K
R30
100K
Q4
RHU002N06
C47
0.1UF
Q3
RHU002N06
33 IMVP_PWRGD
IMVP_PWRGD
R471
100K
R472
10K
5/25
Q32
RHU002N06
Q33
RHU002N06
DELAY_IMVP_PWRGD 10
R24
0_NC
DELAY 9.67ms
R33
10K
R36
10K
R34
220
Q6
2N7002
SOT23SGD_T
Q7
2N7002
SOT23SGD_T
10,30 VTT_PWRGD
C71
0.47UF
GME_PWRGD 7,33
R35
0_NC
Q34
SI3456DV
+5VALW
G9
C720
0.1UF_NC
For Layout
RUND
FAN
R473
0_NC
U21B
APA2308_SOP8
U21A
28 FAN_PWM0
R286
10K
R340
10K
C451
10UF/10V_0805
C498
10UF/10V_0805
C497
0.1UF
R338
100K
VCCFAN1
R339
100K
D17
S-BAT54C_SOT23
10UF/10V_0805
C228
C225
0.1UF_0402
R139
10K
FAN_TACH0 28
FAN1
CON18
MOLEX-53398-0390
FAN CONN
N32-1030130-M06
53398_03
+3VALW
NN-SI4936DY
Q35
35 SUSD
SUSD
G1
G2
+3VSUS
C659
4.7U_10V_0805
34,35 RUND
RUND
C660
4.7U_10V_0805
+3VRUN
For Layout
+2_5VSUS
C713
10UF/10V_0805_NC
C714
0.1U/10V_0402_NC
U61
VIN
GND
REFEN
OUTPUT
VCNTL
VCNTL
VCNTL
VCNTL
RT9173BCS_SOP8_NC
+3VSUS
C715
0.1U/10V_0402_NC
C716
4.7UF/10V_0805_NC
34 1.25V_REFEN
R517
0_NC
C717
0.1U/10V_0402_NC
SMDDR_VTERM
G17
+1.25VOUT
C718
220U/6.3V_NC
C719
0.1UF/25V_NC
Current Limit at 2 Amp



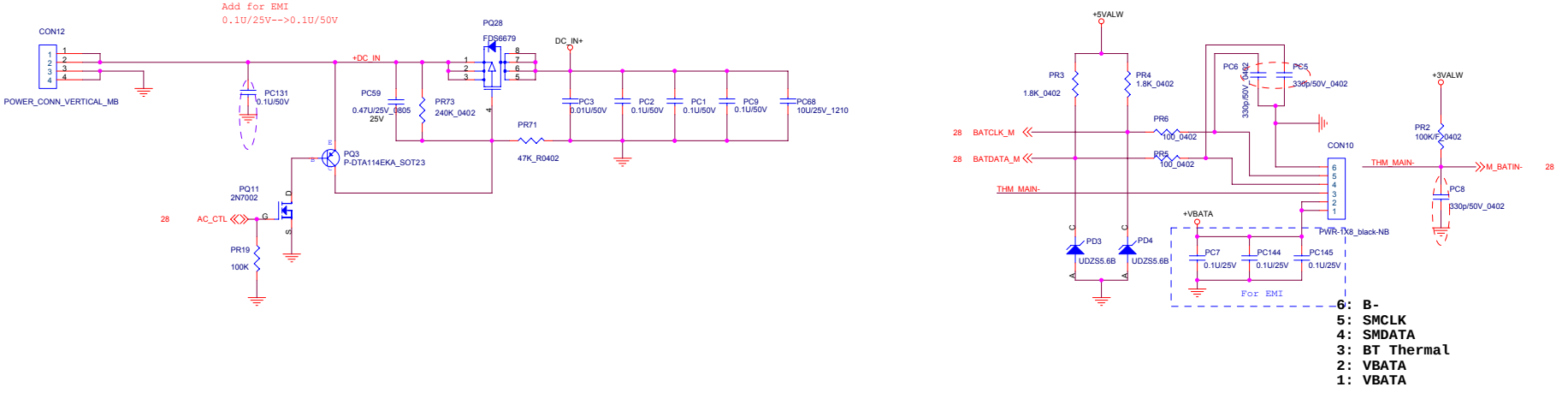
1.20V - GM, PR2=14.0K/F
1.35V - GM+ PR2=16.9K/F

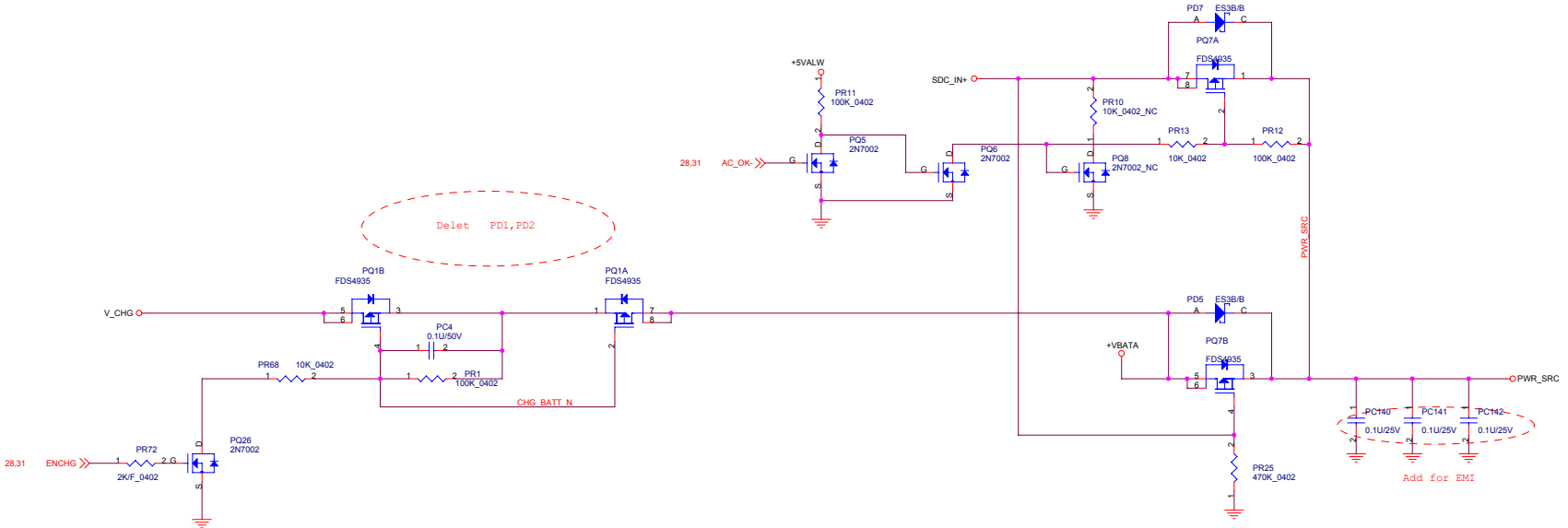
Adapter= 65 W
Adapter input voltage set 18.05 Voltage

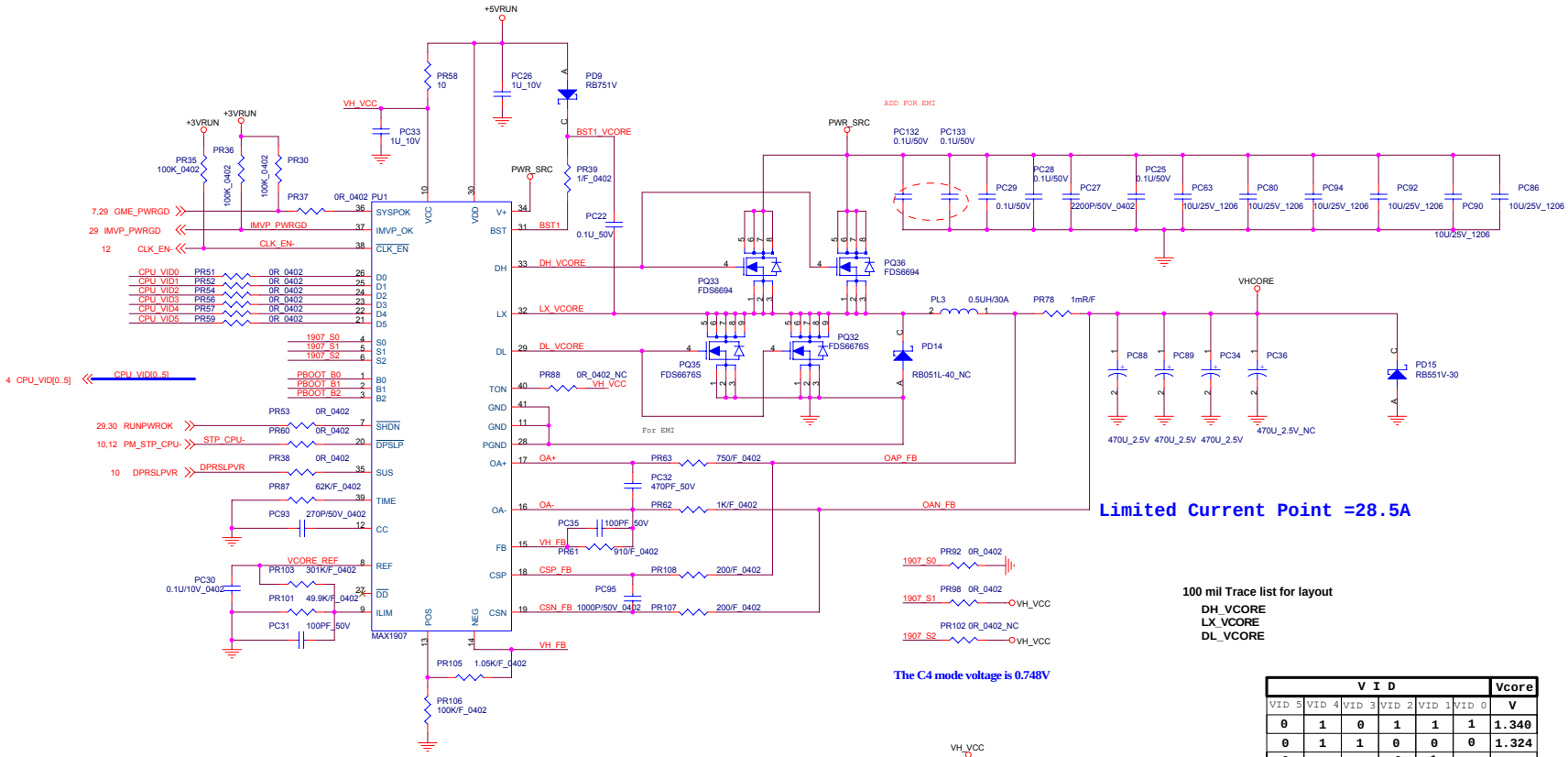
4S2P: Charge current set 3 Amp
4S1P: Charge current set 1.5 Amp
Pre-charger: Charge current set 200mA



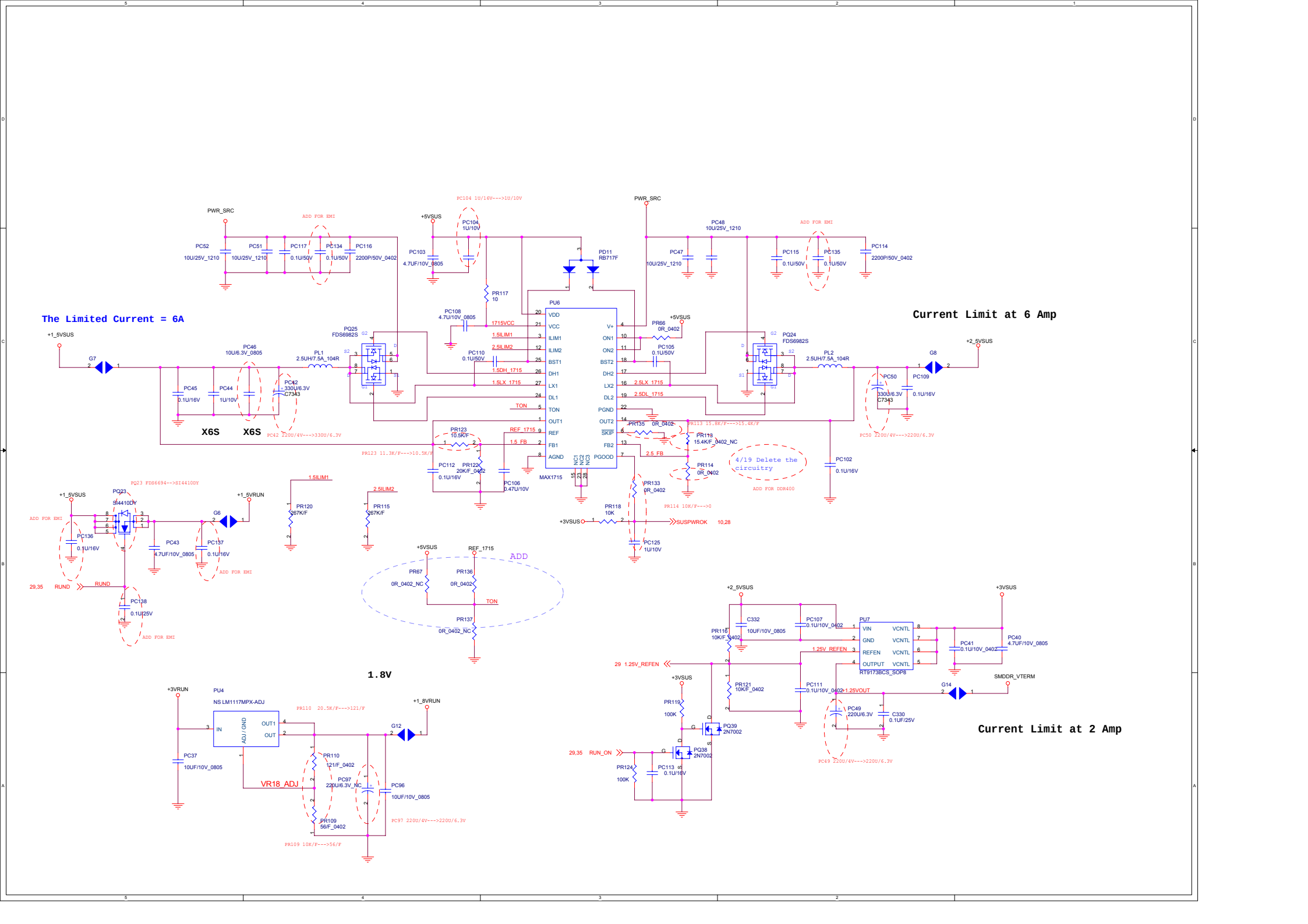
	ENCHG-1P	PRE_CHG	ENCHG	
Pre-charge	0	1	1	Pre-charge
Fast charge	0	0	1	4S2P
Fast charge	1	0	1	4S1P
STOP CHARGE	0	0	0	STOP CHARGE

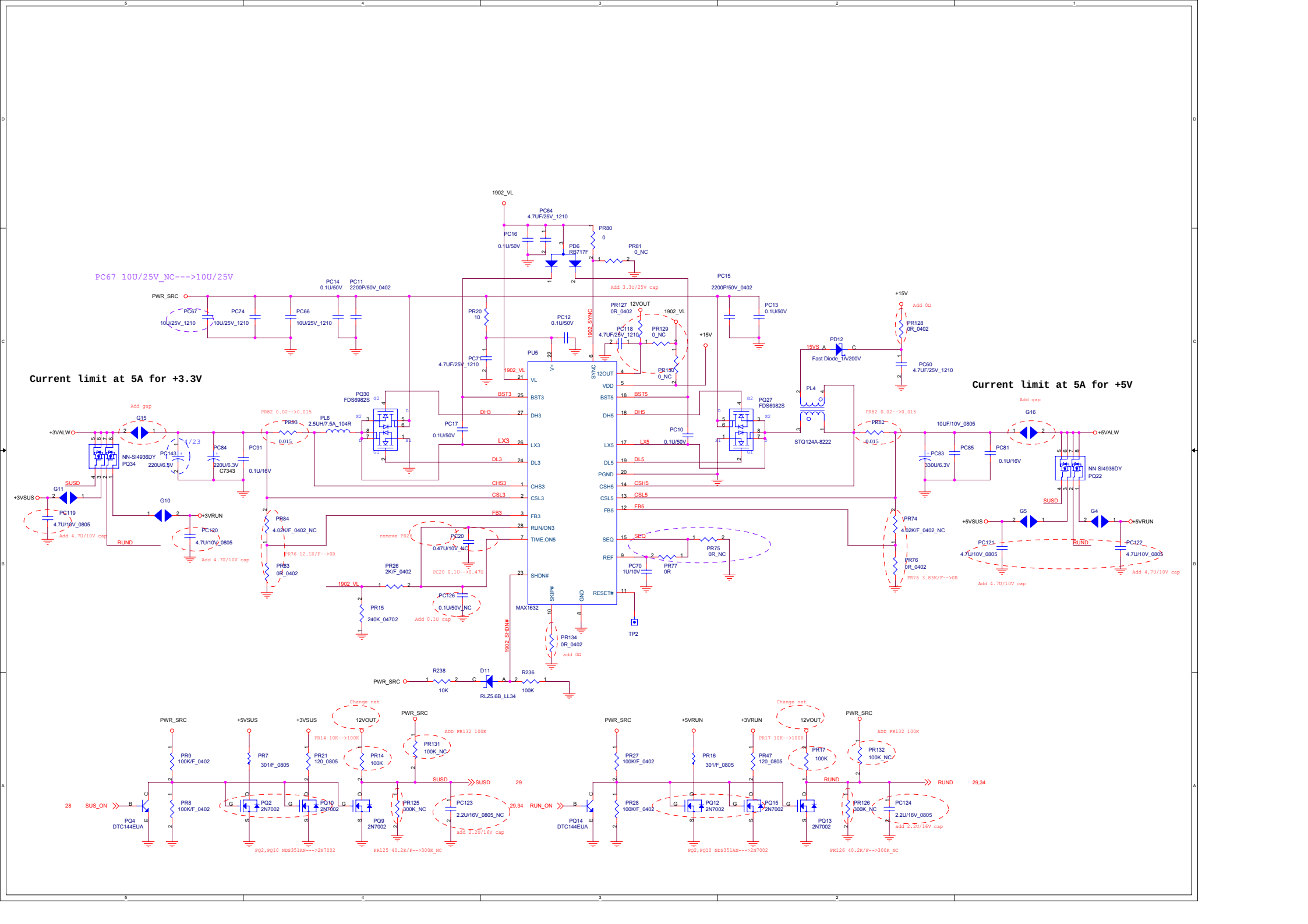

Add for EMI
0.1U/25V-->0.1U/50V
CON12
POWER_CONN_VERTICAL_MB
PC131
0.1U/50V
PQ28
FDS6679
+DC_IN
DC_IN+
PC59
0.47U/25V_0805
25V
PR73
240K_0402
PR71
47K_R0402
PC3
0.01U/50V
PC2
0.1U/50V
PC1
0.1U/50V
PC9
0.1U/50V
PC68
10U/25V_1210
PQ3
P-DTA114EKA_SOT23
PQ11
2N7002
28
AC_CTL
PR19
100K
+5VALW
PR3
1.8K_0402
PR4
1.8K_0402
PC6
330p/50V_0402
PC5
330p/50V_0402
28
BATCLK_M
28
BATDATA_M
PR6
100_0402
PR5
100_0402
THM_MAIN-
CON10
PWR-TX8_black-NB
+3VALW
PR2
100K/F_0402
THM_MAIN-
M_BATIN-
28
PC8
330p/50V_0402
+VBATA
PD3
UDZS5.6B
PD4
UDZS5.6B
PC7
0.1U/25V
PC144
0.1U/25V
PC145
0.1U/25V
For EMI
6: B-
5: SMCLK
4: SMDATA
3: BT Thermal
2: VBATA
1: VBATA

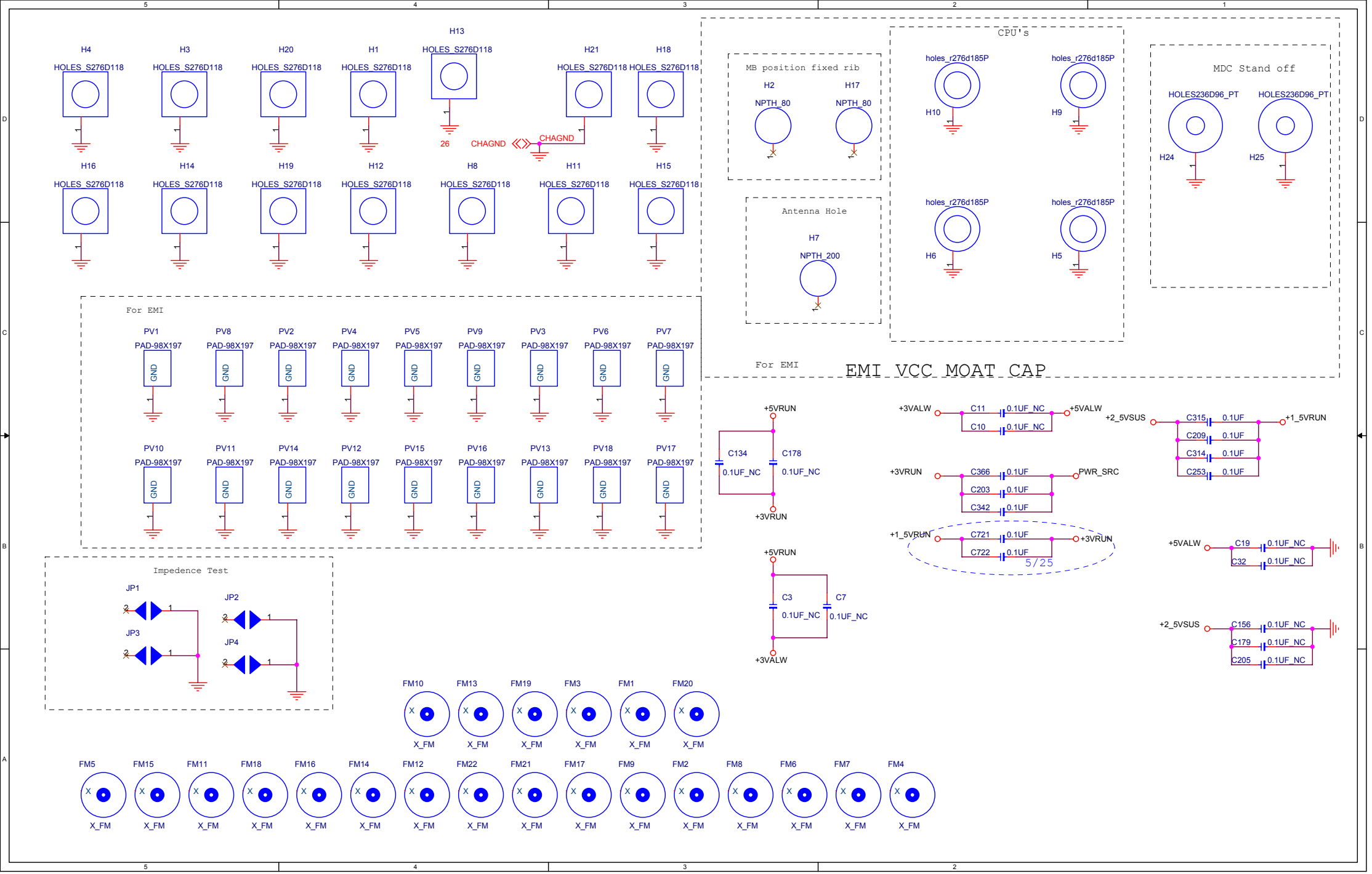

Delet PD1,PD2
PQ1B
FDS4935
PQ1A
FDS4935
V_CHG
PC4
0.1U/50V
PR68
10K_0402
PR1
100K_0402
CHG_BATT_N
28,31
ENCHG
PR72
2K/F_0402
PQ26
2N7002
+5VALW
PR11
100K_0402
28,31
AC_OK-
PQ5
2N7002
PQ6
2N7002
SDC_IN+
PR10
10K_0402_NC
PQ8
2N7002_NC
PR13
10K_0402
PR12
100K_0402
PD7
ES3B/B
PQ7A
FDS4935
PWR_SRC
PD5
ES3B/B
PQ7B
FDS4935
+VBATA
PR25
470K_0402
PC140
0.1U/25V
PC141
0.1U/25V
PC142
0.1U/25V
Add for EMI
PWR_SRC



V I D						Vcore
VID 5	VID 4	VID 3	VID 2	VID 1	VID 0	V
0	1	0	1	1	1	1.340
0	1	1	0	0	0	1.324
0	1	1	0	1	0	1.292
0	1	1	1	0	0	1.260
0	1	1	1	0	1	1.244
0	1	1	1	1	1	1.212
1	0	0	0	0	1	1.180
1	0	0	0	1	1	1.148
1	0	0	1	1	0	1.100
1	0	1	0	0	1	1.052
1	0	1	0	1	1	1.020
1	0	1	1	1	0	0.972
1	1	0	0	0	0	0.940


The Limited Current = 6A
Current Limit at 6 Amp
Current Limit at 2 Amp
1.8V
X6S
X6S
MAX1715
RT9173BCS_SOP8
ADD
4/19 Delete the circuitry
ADD FOR EMI
ADD FOR DDR400
PWR_SRC
+5VSUS
+1_5VSUS
+1_5VRUN
+2_5VSUS
+3VSUS
+3VRUN
+1_8VRUN
SUSPWROK
RUND
RUN_ON
1.25V_REFEN
1.25VOUT
SMDDR_VTERM
VR18_ADJ
PU6
PU4
PU7
PQ23 FDS6694-->SI4410DY
PQ25 FDS6982S
PQ24 FDS6982S
PC104 1U/16V--->1U/10V
PC42 220U/4V--->330U/6.3V
PC50 220U/4V--->220U/6.3V
PC49 220U/4V--->220U/6.3V
PC97 220U/4V--->220U/6.3V
PR123 11.3K/F--->10.5K/F
PR113 15.8K/F--->15.4K/F
PR114 10K/F--->0
PR110 20.5K/F--->121/F
PR109 10K/F--->56/F


PC67 10U/25V_NC--->10U/25V
Current limit at 5A for +3.3V
Current limit at 5A for +5V
1902_VL
PWR_SRC
+3VALW
+3VSUS
+5VALW
+5VSUS
+3VRUN
+5VRUN
+15V
MAX1632
PU5
PQ30 FDS6982S
PQ27 FDS6982S
NN-SI4936DY PQ34
NN-SI4936DY PQ22
PD6 RB717F
PD12 Fast Diode_1A/200V
STQ124A-8222
PL6 2.5UH/7.5A_104R
PL4
SUSD
RUND
SUS_ON
RUN_ON
PQ4 DTC144EUA
PQ14 DTC144EUA
PQ2 2N7002
PQ10 2N7002
PQ9 2N7002
PQ12 2N7002
PQ15 2N7002
PQ13 2N7002
D11 RLZ5.6B_LL34
TP2
Change net
ADD PR132 100K
PR14 10K-->100K
PR17 10K-->100K
PQ2,PQ10 NDS351AN--->2N7002
PR125 40.2K/F-->300K_NC
PR126 40.2K/F-->300K_NC
PR82 0.02-->0.015
PR76 12.1K/F-->0R
PR76 3.83K/F-->0R
remove PR26
PC20 0.1U-->0.47U
Add gap
Add 4.7U/10V cap
Add 0.1U cap
Add 2.2U/16V cap
Add 3.3U/25V cap
add 0Ω


H4
HOLES_S276D118
H3
HOLES_S276D118
H20
HOLES_S276D118
H1
HOLES_S276D118
H13
HOLES_S276D118
26
CHAGND
CHAGND
H21
HOLES_S276D118
H18
HOLES_S276D118
H16
HOLES_S276D118
H14
HOLES_S276D118
H19
HOLES_S276D118
H12
HOLES_S276D118
H8
HOLES_S276D118
H11
HOLES_S276D118
H15
HOLES_S276D118
MB position fixed rib
H2
NPTH_80
H17
NPTH_80
Antenna Hole
H7
NPTH_200
CPU's
holes_r276d185P
H10
holes_r276d185P
H9
holes_r276d185P
H6
holes_r276d185P
H5
MDC Stand off
HOLES236D96_PT
H24
HOLES236D96_PT
H25
For EMI
PV1
PAD-98X197
PV8
PAD-98X197
PV2
PAD-98X197
PV4
PAD-98X197
PV5
PAD-98X197
PV9
PAD-98X197
PV3
PAD-98X197
PV6
PAD-98X197
PV7
PAD-98X197
GND
PV10
PAD-98X197
PV11
PAD-98X197
PV14
PAD-98X197
PV12
PAD-98X197
PV15
PAD-98X197
PV16
PAD-98X197
PV13
PAD-98X197
PV18
PAD-98X197
PV17
PAD-98X197
For EMI
EMI VCC MOAT CAP
+5VRUN
C134
0.1UF_NC
C178
0.1UF_NC
+3VRUN
+3VALW
C11
0.1UF_NC
C10
0.1UF_NC
+5VALW
+2_5VSUS
C315
0.1UF
C209
0.1UF
C314
0.1UF
C253
0.1UF
+1_5VRUN
+3VRUN
C366
0.1UF
C203
0.1UF
C342
0.1UF
PWR_SRC
+1_5VRUN
C721
0.1UF
C722
0.1UF
+3VRUN
5/25
+5VALW
C19
0.1UF_NC
C32
0.1UF_NC
+5VRUN
C3
0.1UF_NC
C7
0.1UF_NC
+3VALW
+2_5VSUS
C156
0.1UF_NC
C179
0.1UF_NC
C205
0.1UF_NC
Impedence Test
JP1
JP2
JP3
JP4
FM10
FM13
FM19
FM3
FM1
FM20
FM5
FM15
FM11
FM18
FM16
FM14
FM12
FM22
FM21
FM17
FM9
FM2
FM8
FM6
FM7
FM4
X_FM