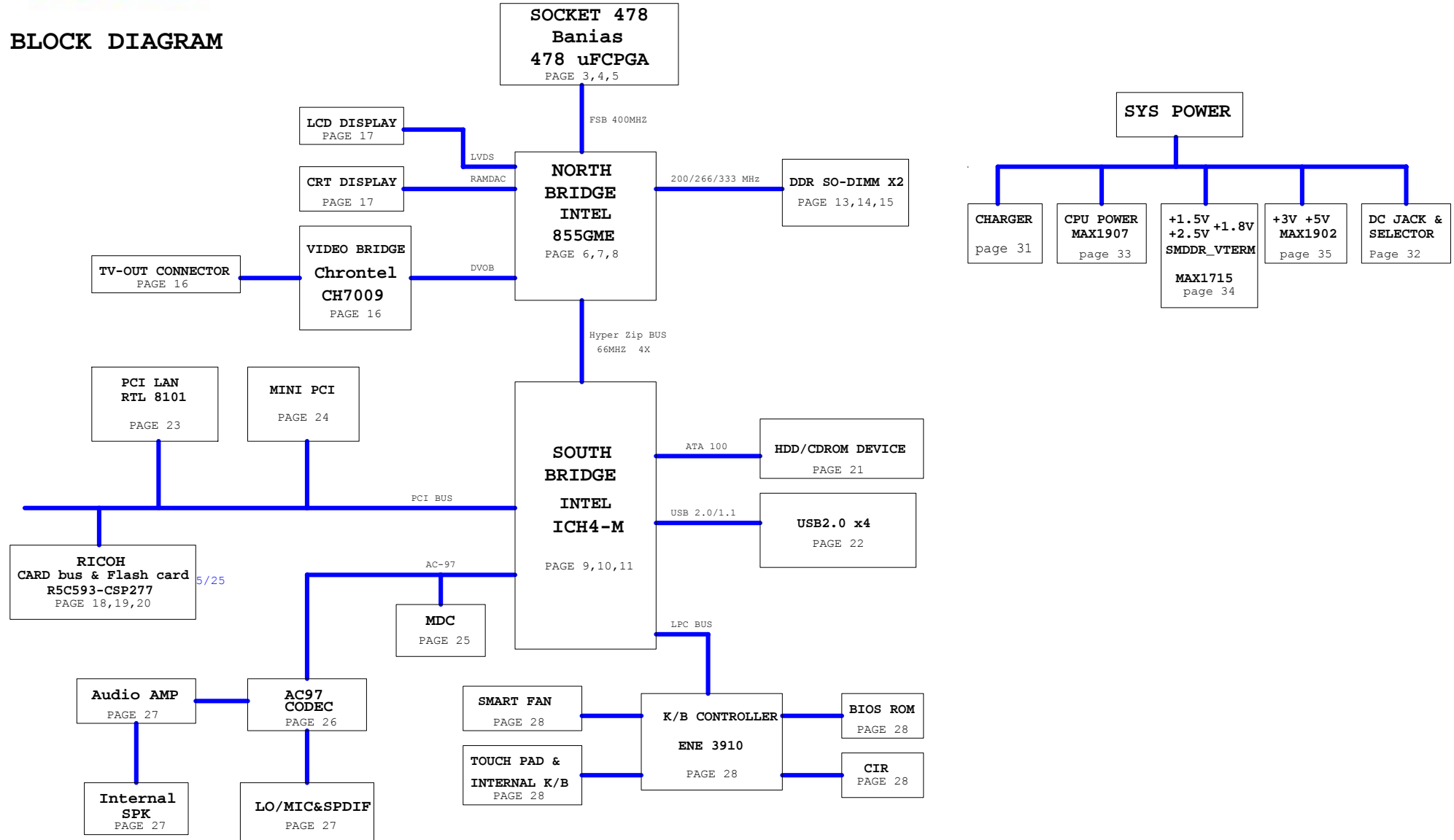




BLOCK DIAGRAM



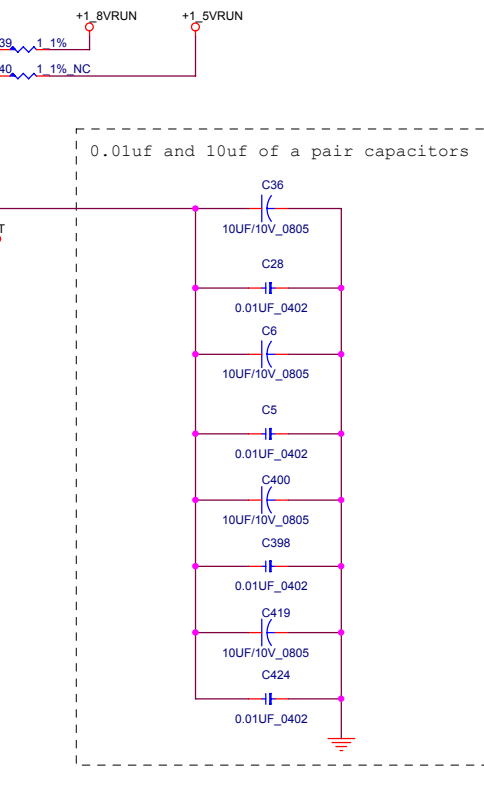
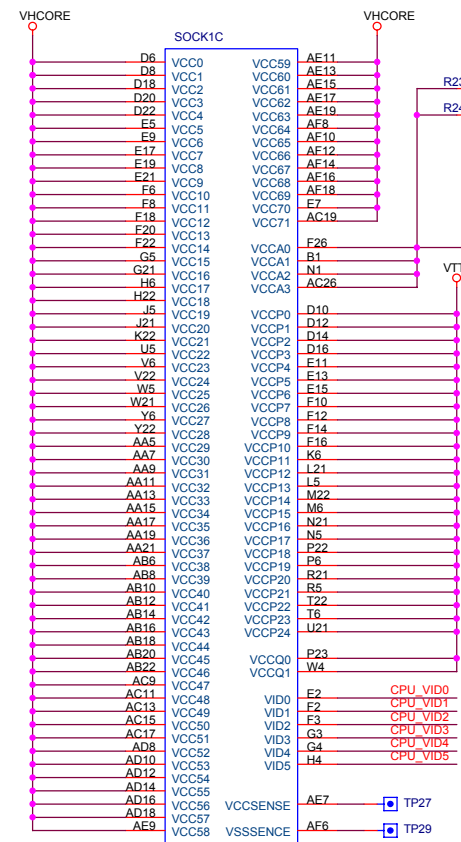
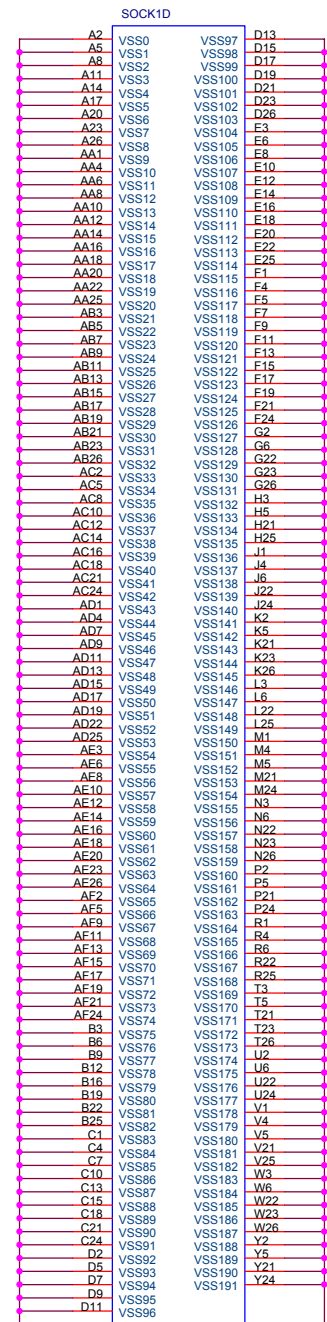
Voltage Rails

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
SMDDDR_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

STATE \ SIGNAL	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*

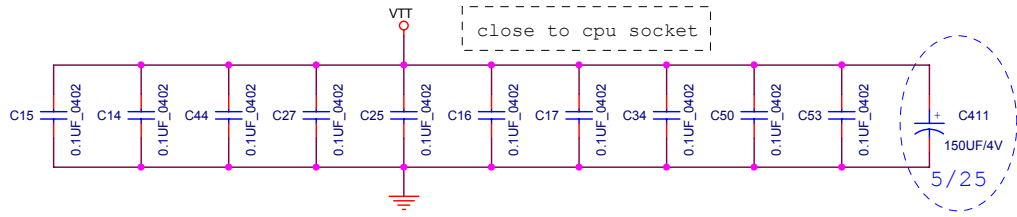
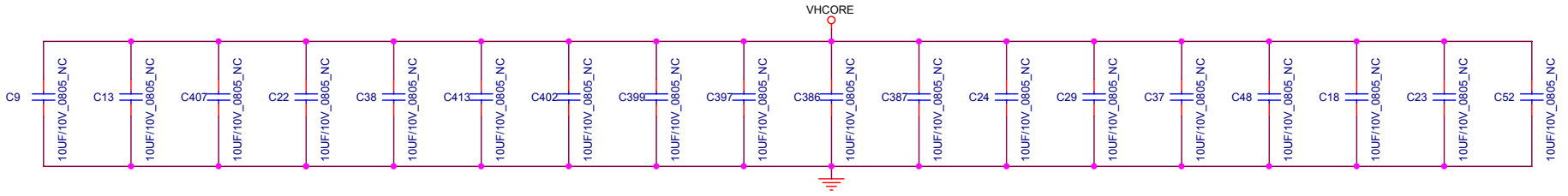
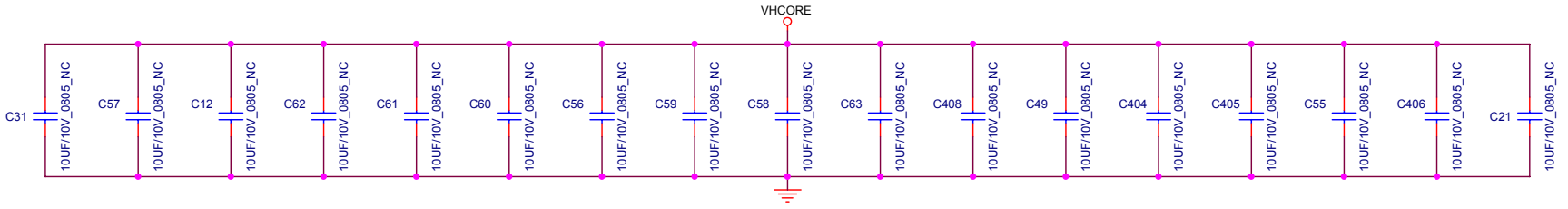


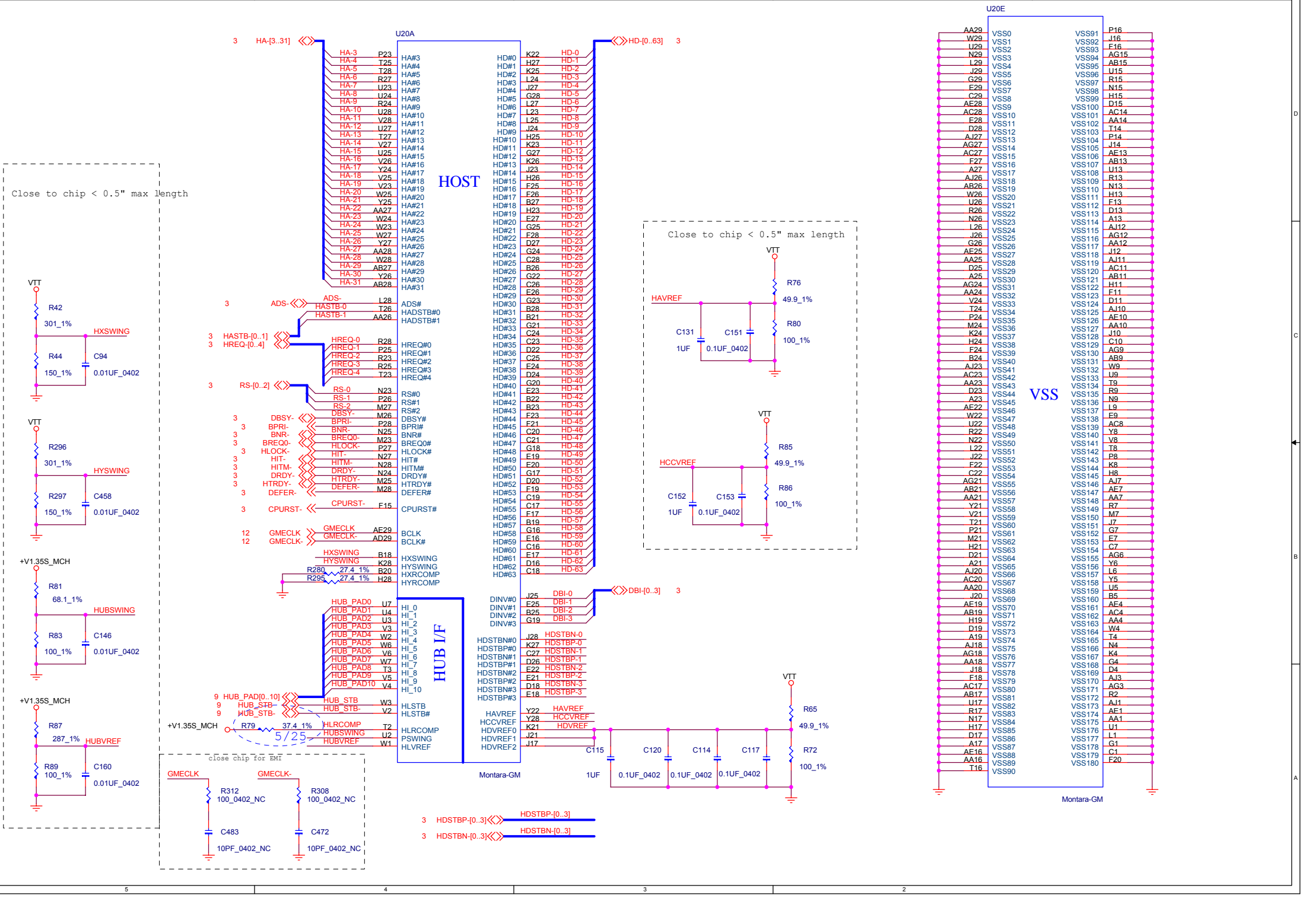
AMP_1612364_Banias-CPU-SOCKET

33 CPU_VID[0..5] << CPU_VID[0..5]

LAYOUT NOTE: Provide a test point (with no stub) to connect differential probe between VCCSENSE and VSSSENSE at the location where the two 54.9 ohm resistors terminate the 55 ohm transmission lines.

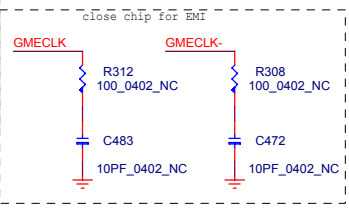
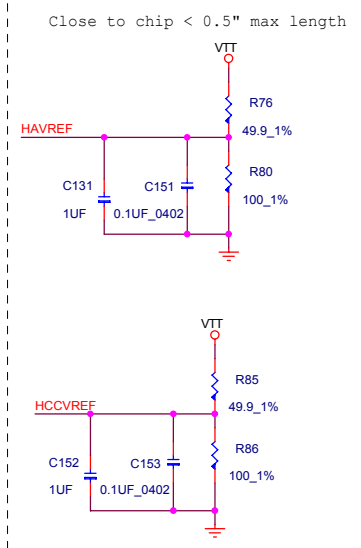
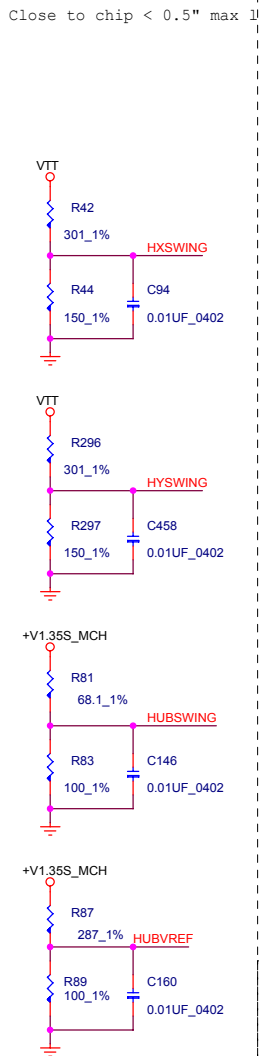
AMP_1612364_Banias-CPU-SOCKET



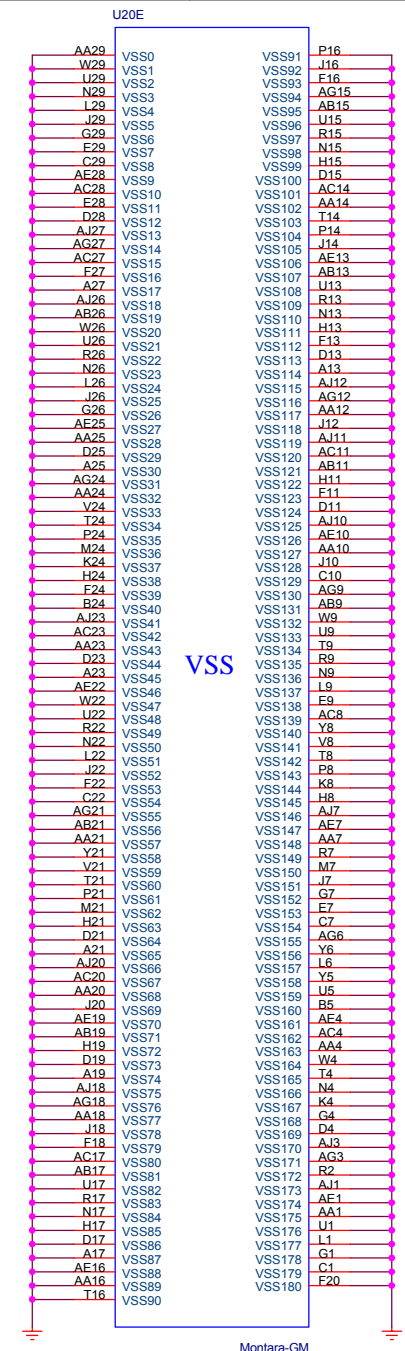


Close to chip < 0.5" max length

Close to chip < 0.5" max length

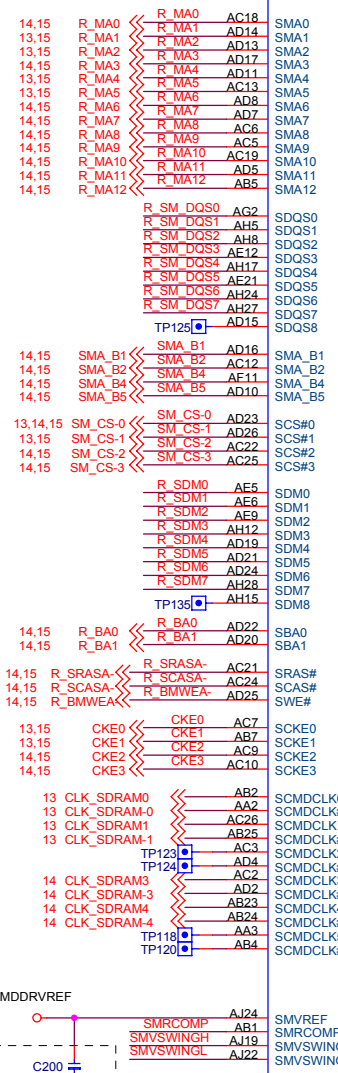


3 HDSTBP-[0..3] <<>> HDSTBP-[0..3]
 3 HDSTBN-[0..3] <<>> HDSTBN-[0..3]

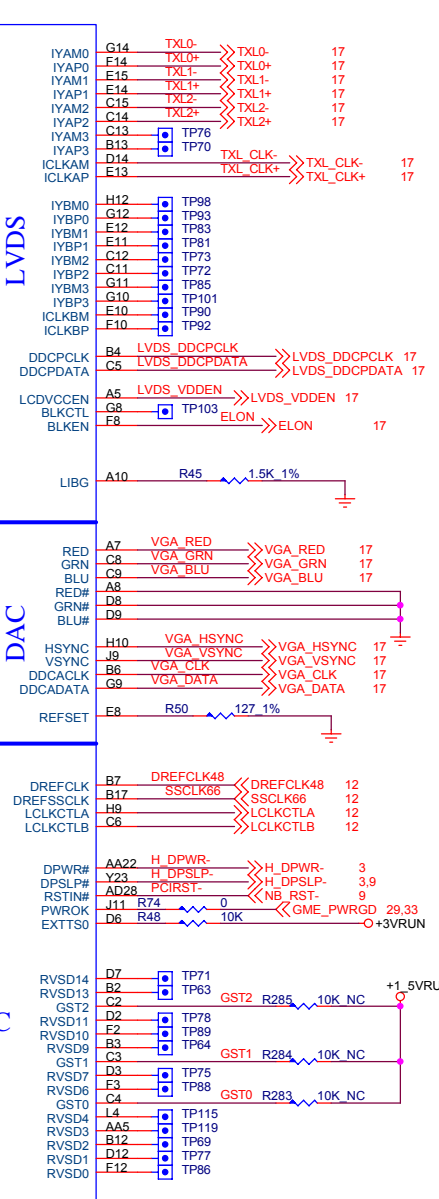
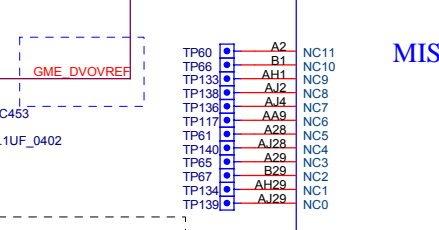
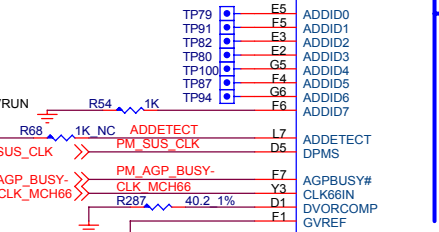
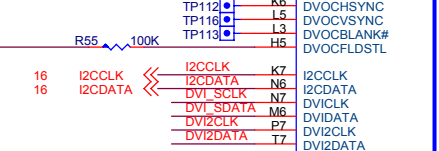
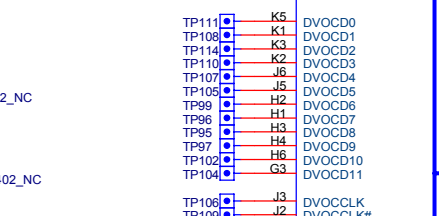
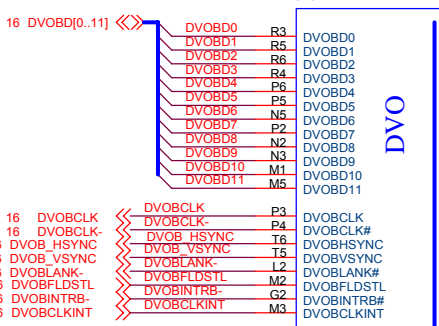
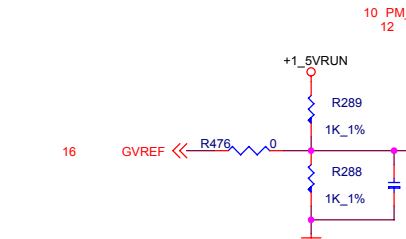
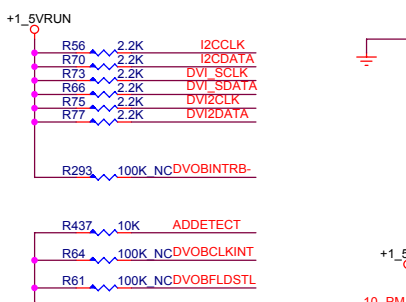
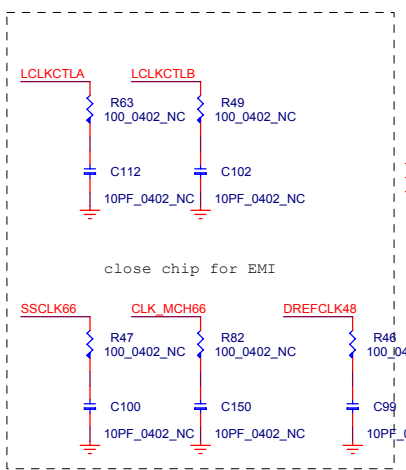
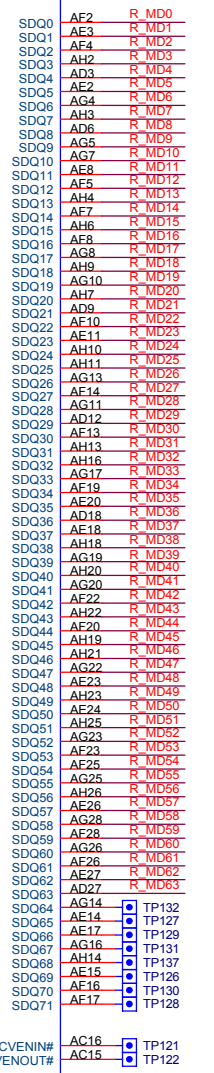


R_MD[0..63] 15
 R_SM_DQS[0..7] 15
 R_SDM[0..7] 15

U20C



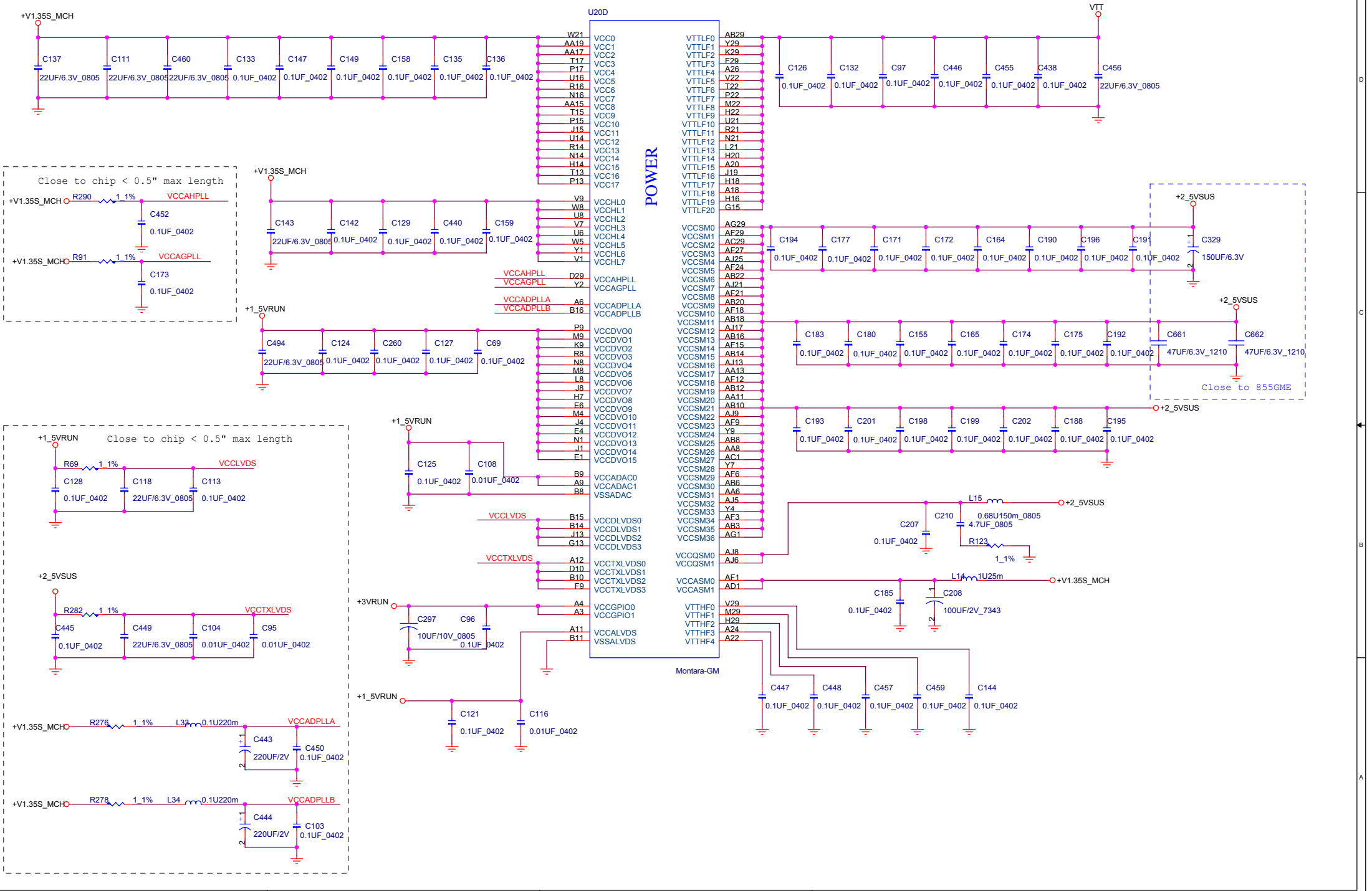
DDR 200/266 MHz



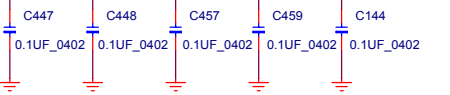
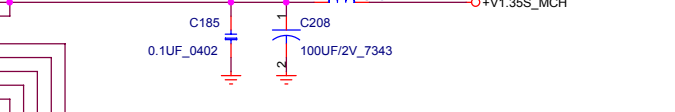
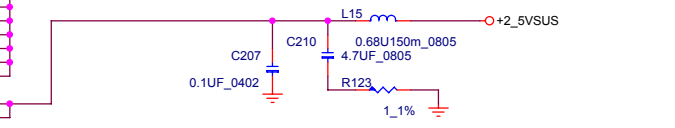
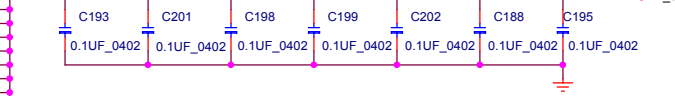
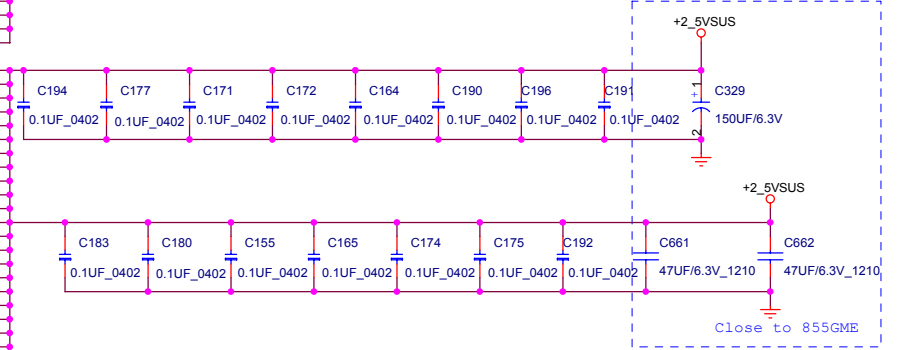
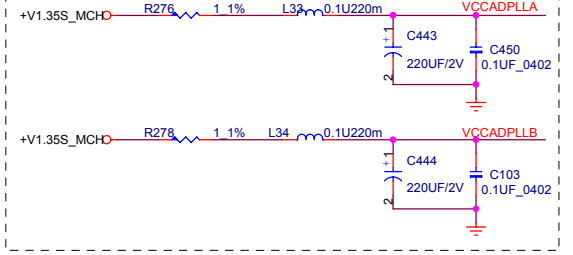
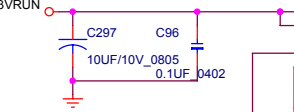
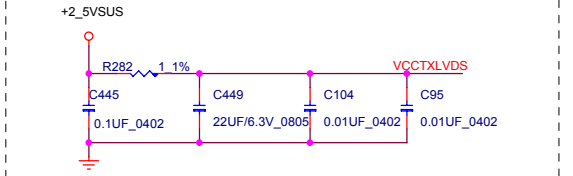
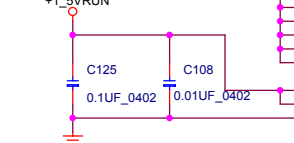
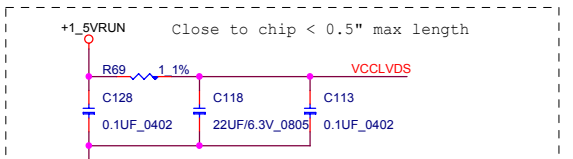
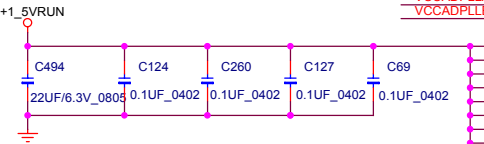
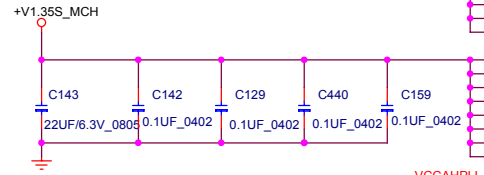
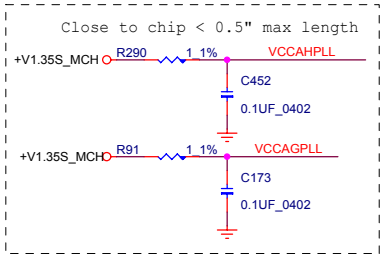
Close to chip < 0.5" max length

AS CLOSE AS POSSIBLE TO NB CHIP

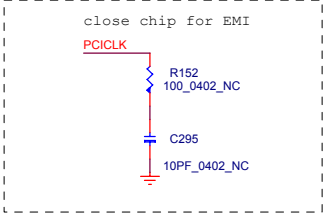
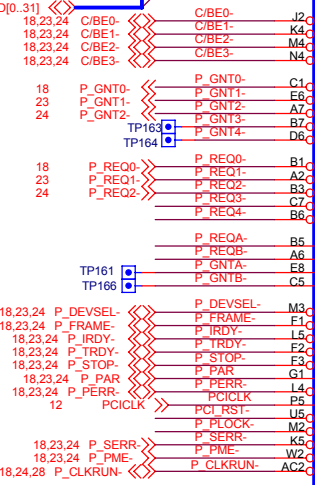
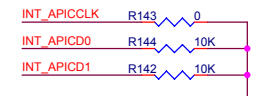
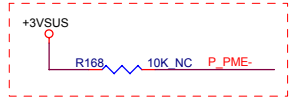
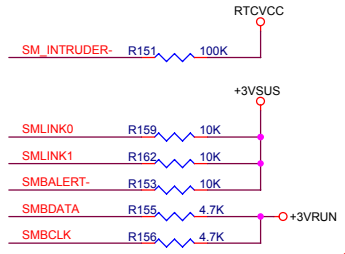
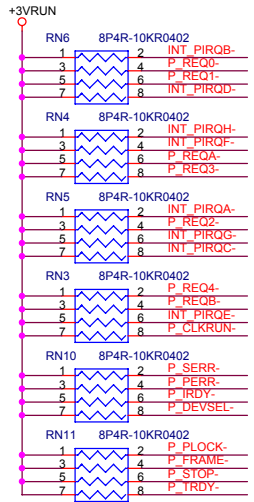
Montara-GM



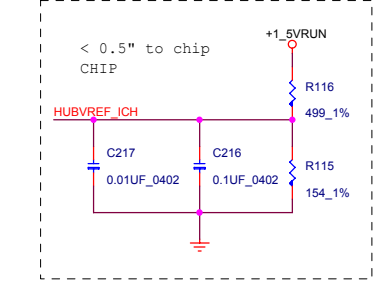
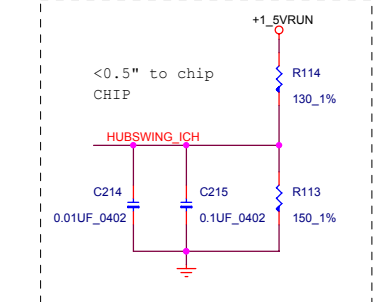
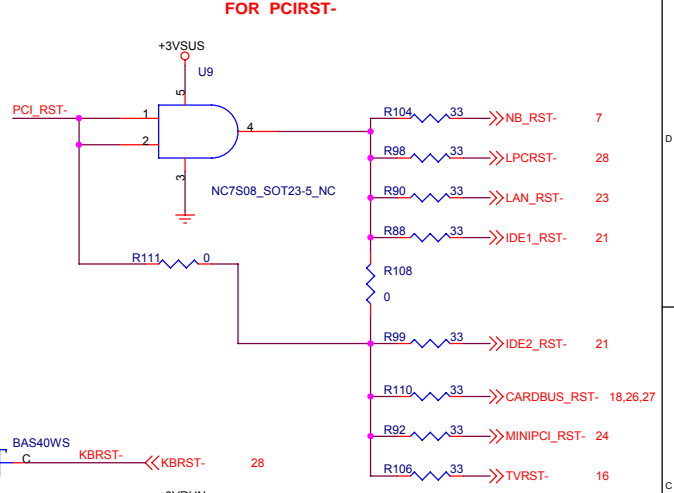
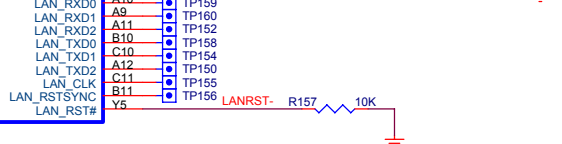
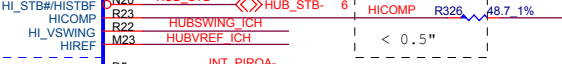
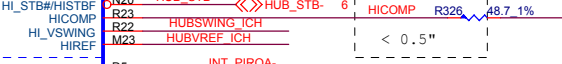
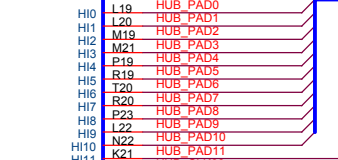
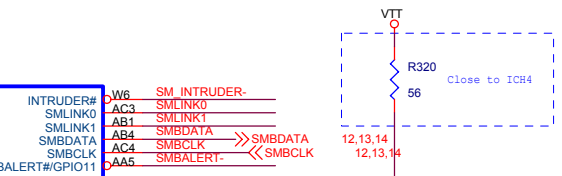
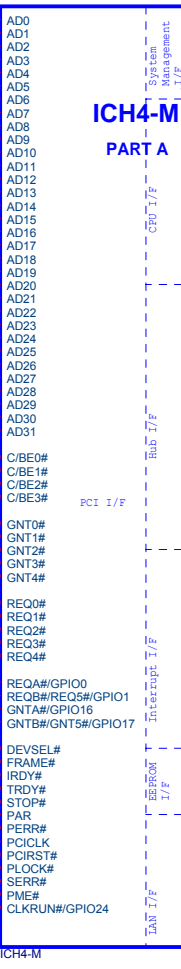
POWER

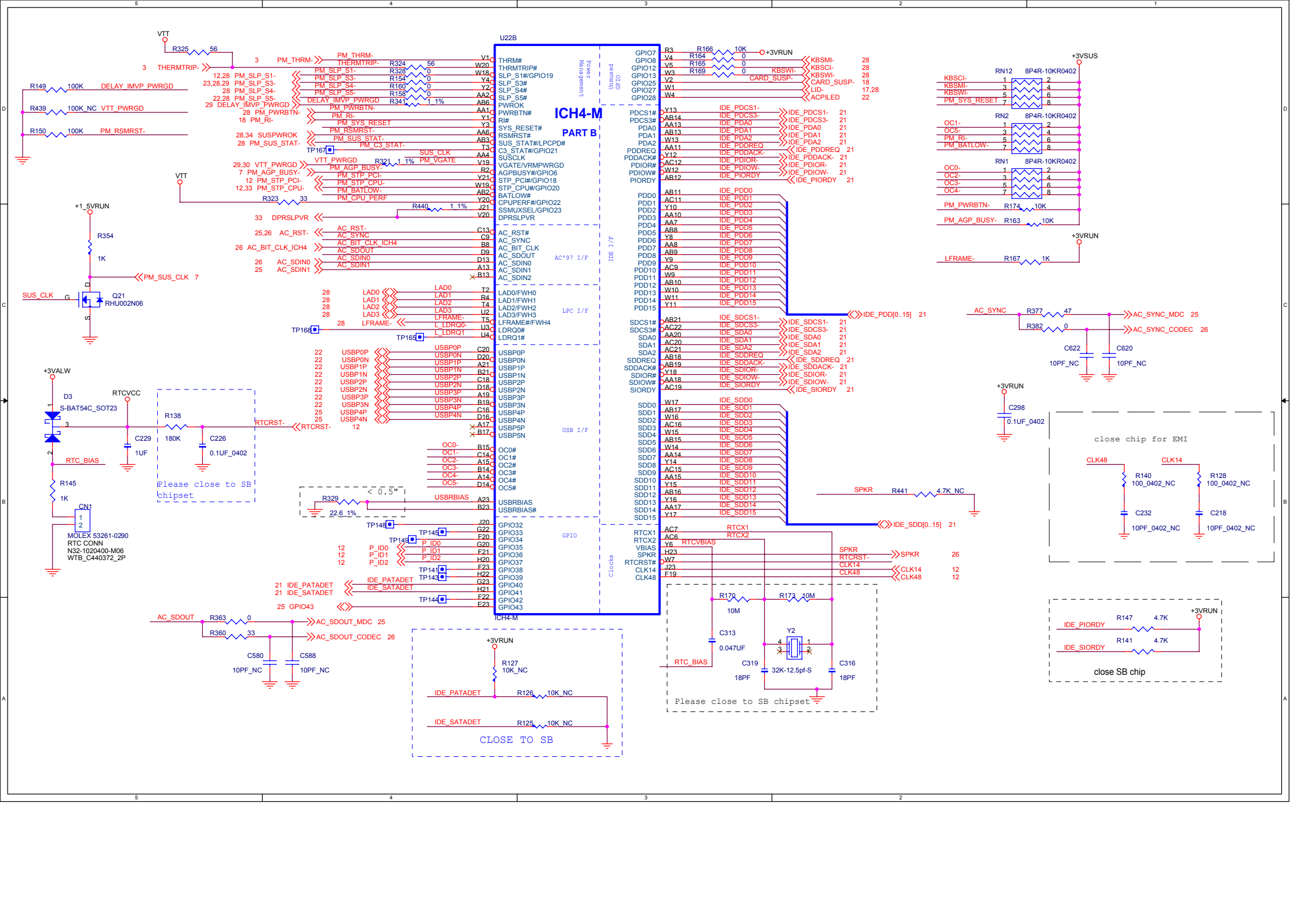


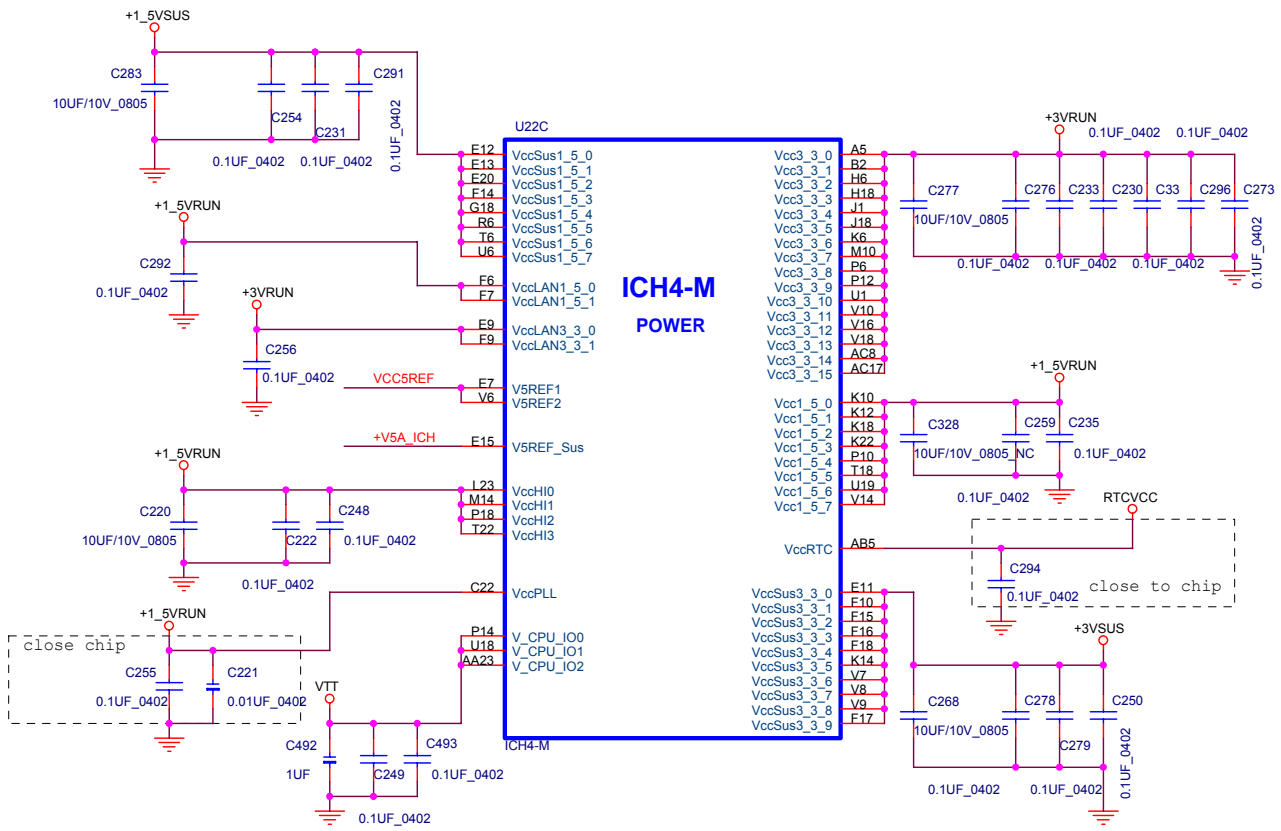
Montara-GM



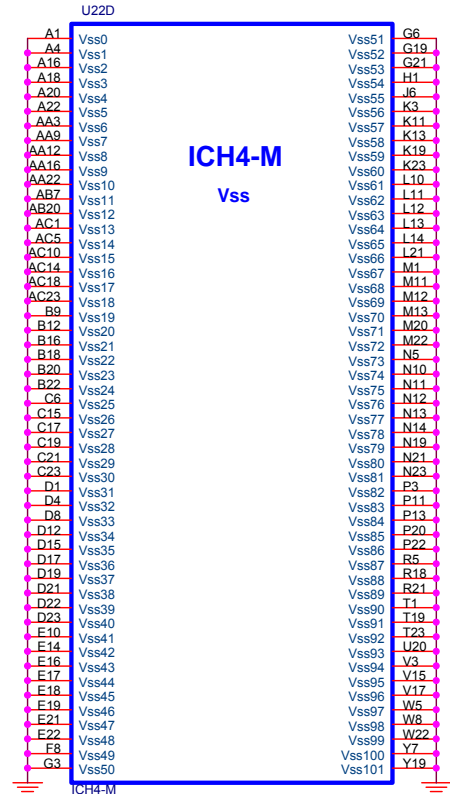
ICH4-M PART A



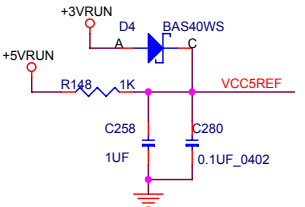
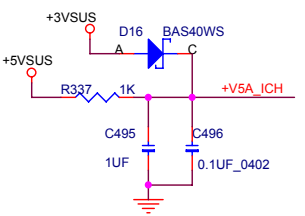




**ICH4-M
POWER**

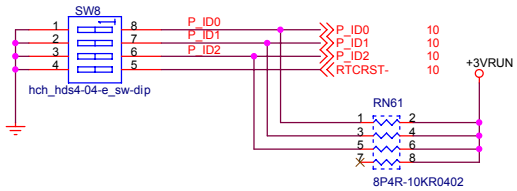
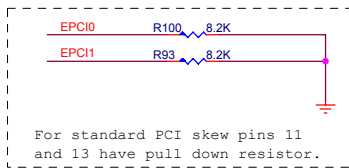
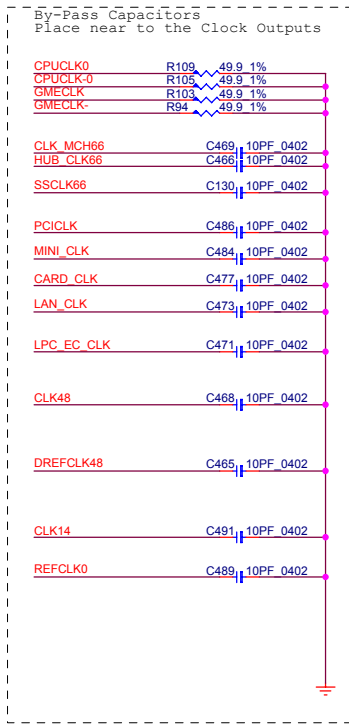
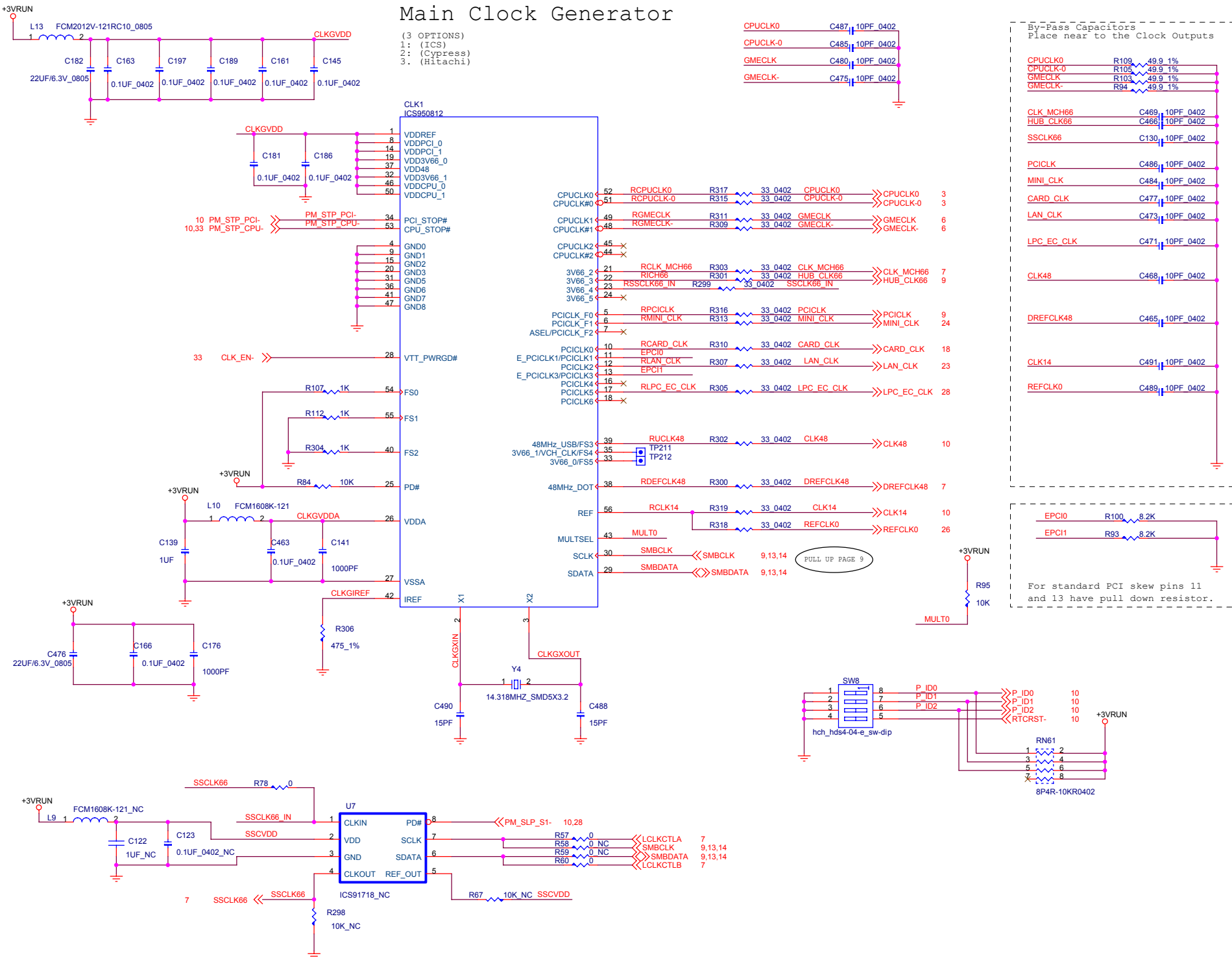


**ICH4-M
Vss**

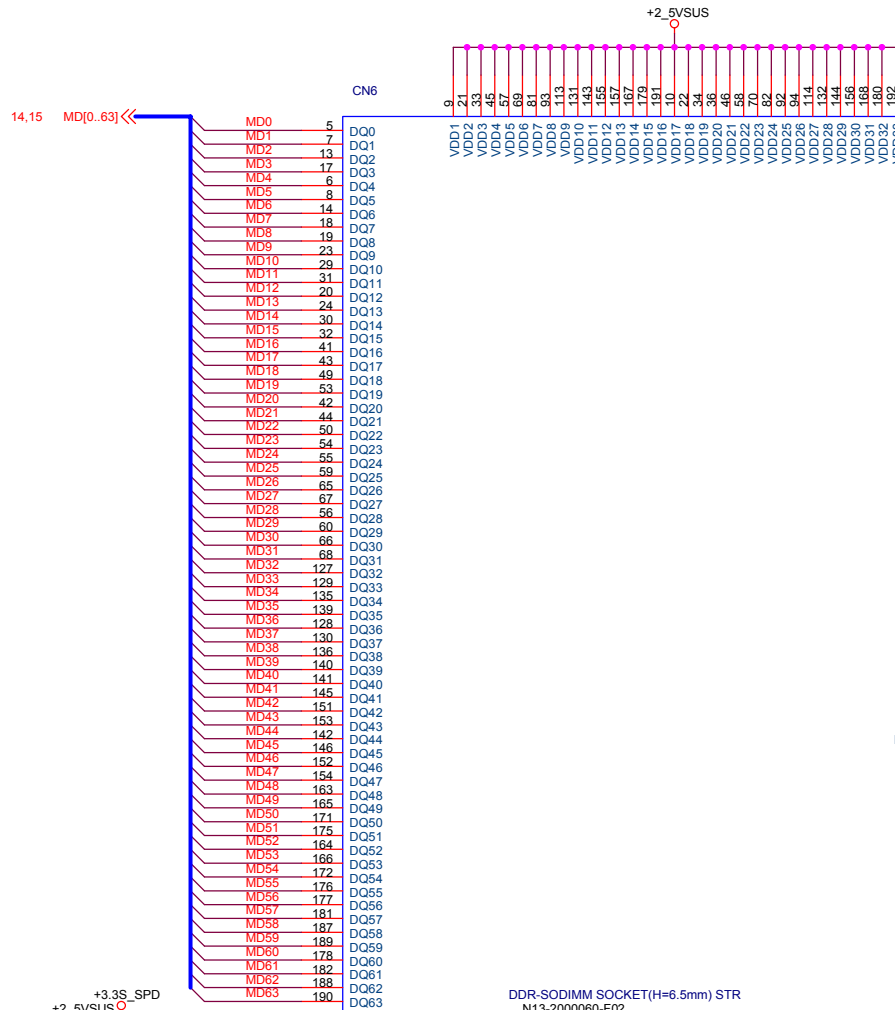


Main Clock Generator

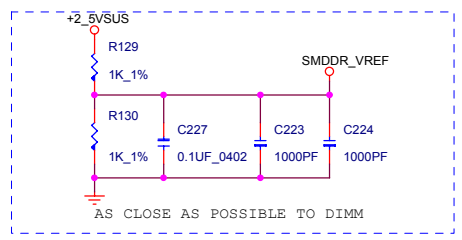
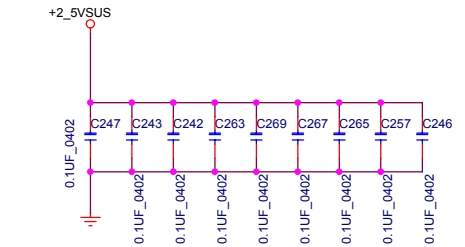
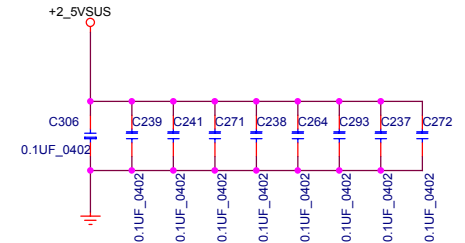
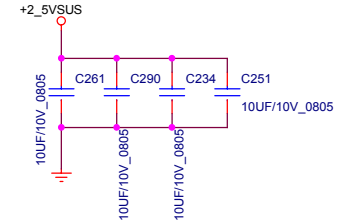
(3 OPTIONS)
 1: (ICS)
 2: (Cypress)
 3: (Hitachi)



PULL UP PAGE 9



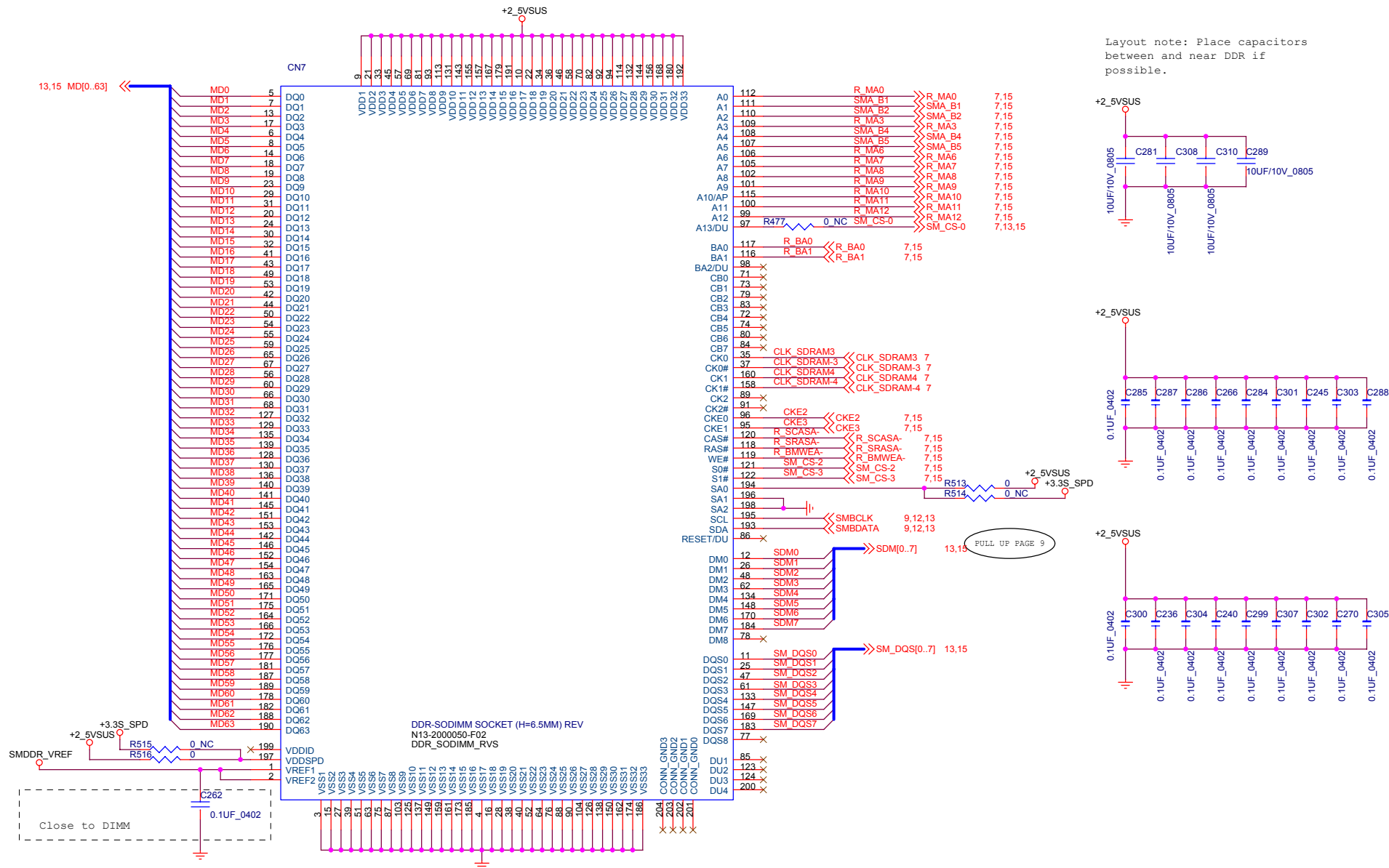
Layout note: Place capacitors between and near DDR connector if possible.



SODIMM_0

FULL UP PAGE 9

5/25



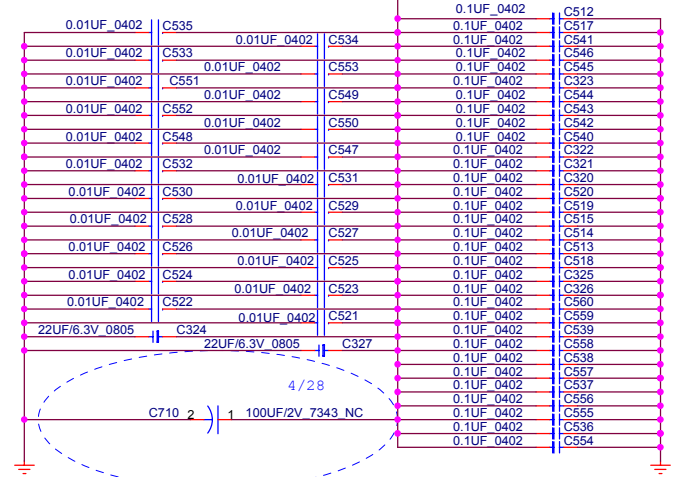
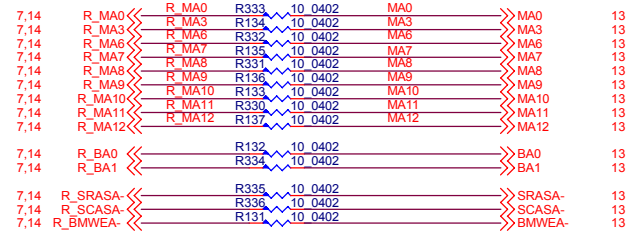
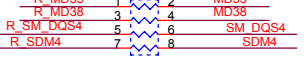
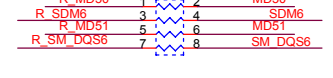
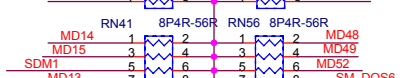
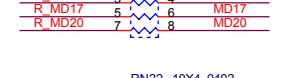
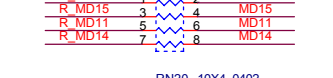
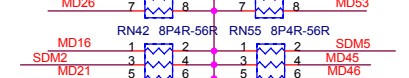
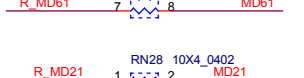
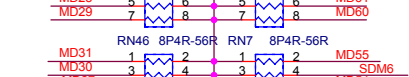
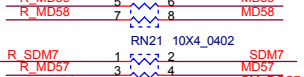
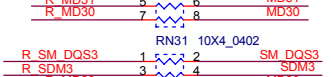
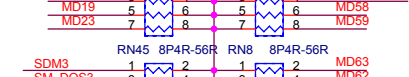
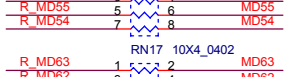
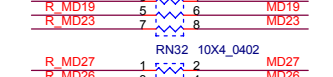
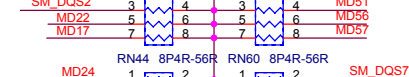
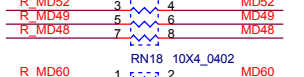
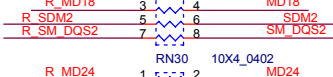
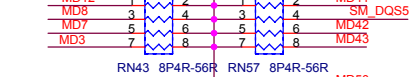
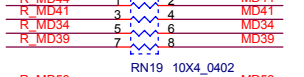
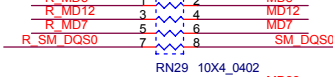
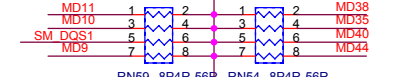
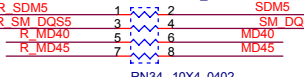
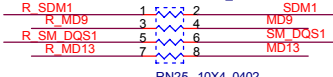
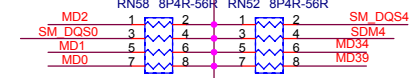
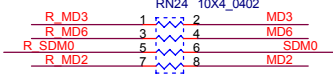
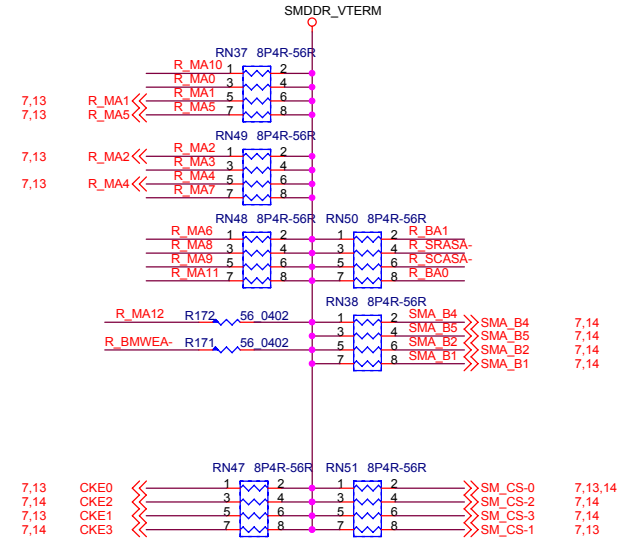
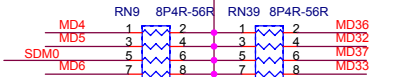
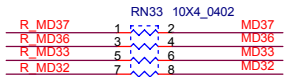
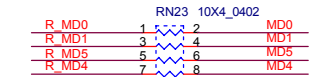
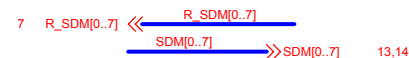
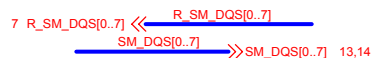
Layout note: Place capacitors between and near DDR if possible.

FULL UP PAGE 9

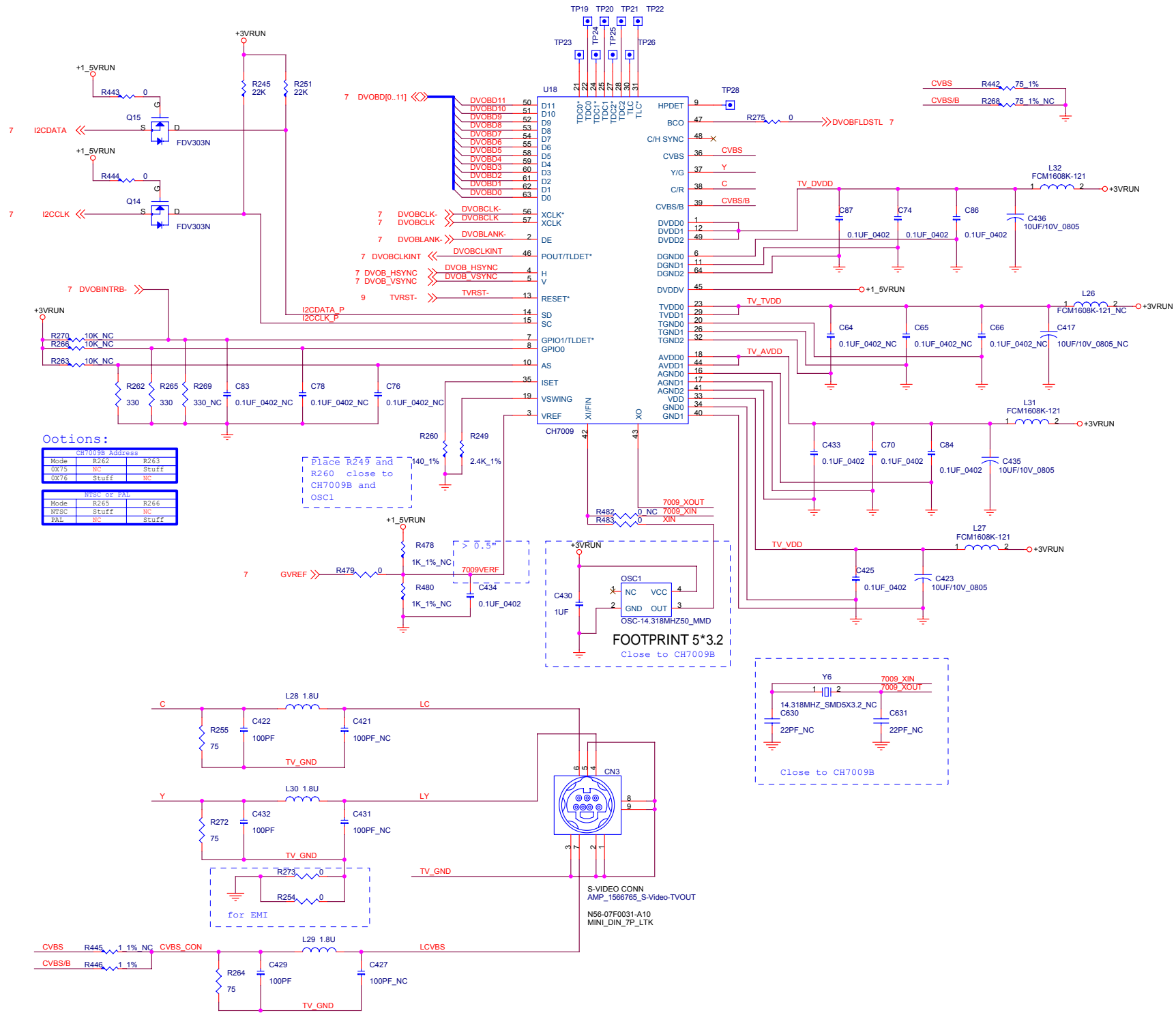
SODIMM_1

DDR-SODIMM SOCKET (H=6.5MM) REV
N13-2000050-F02
DDR_SODIMM_RVS

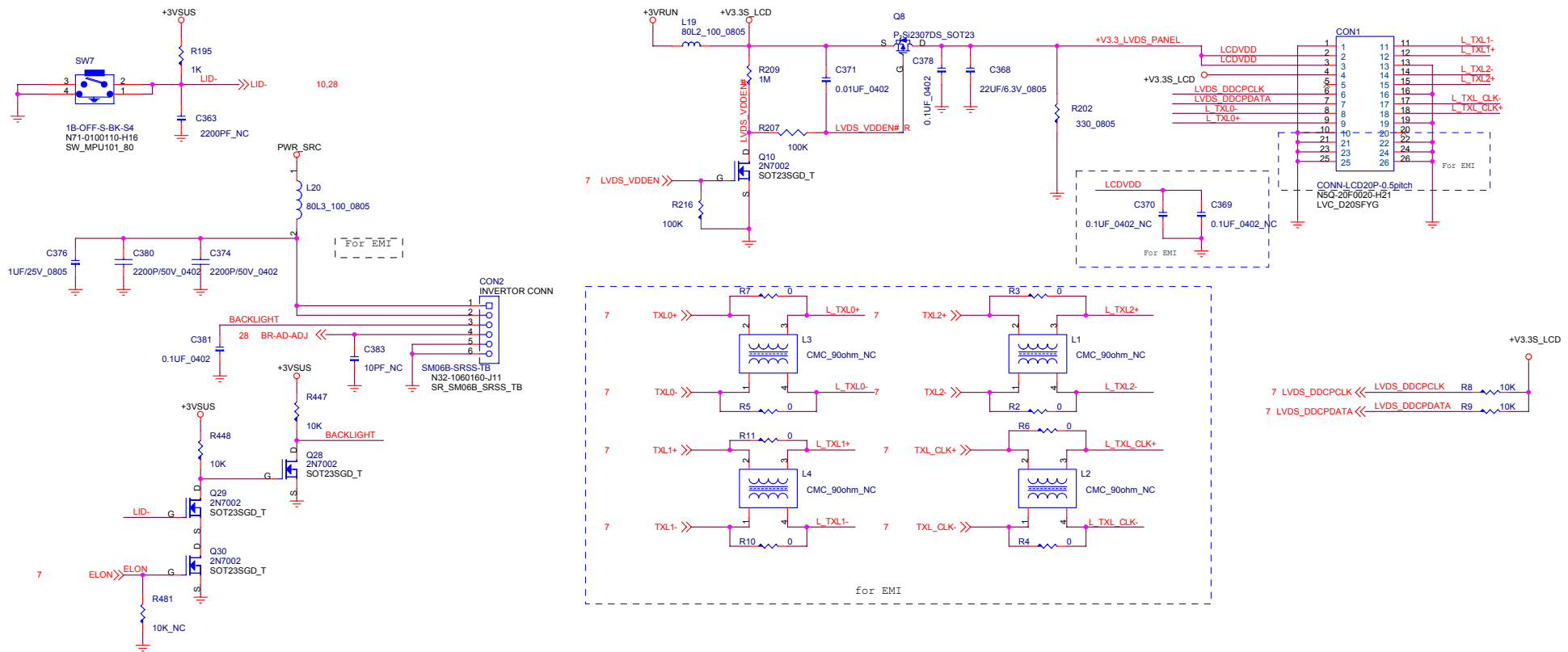
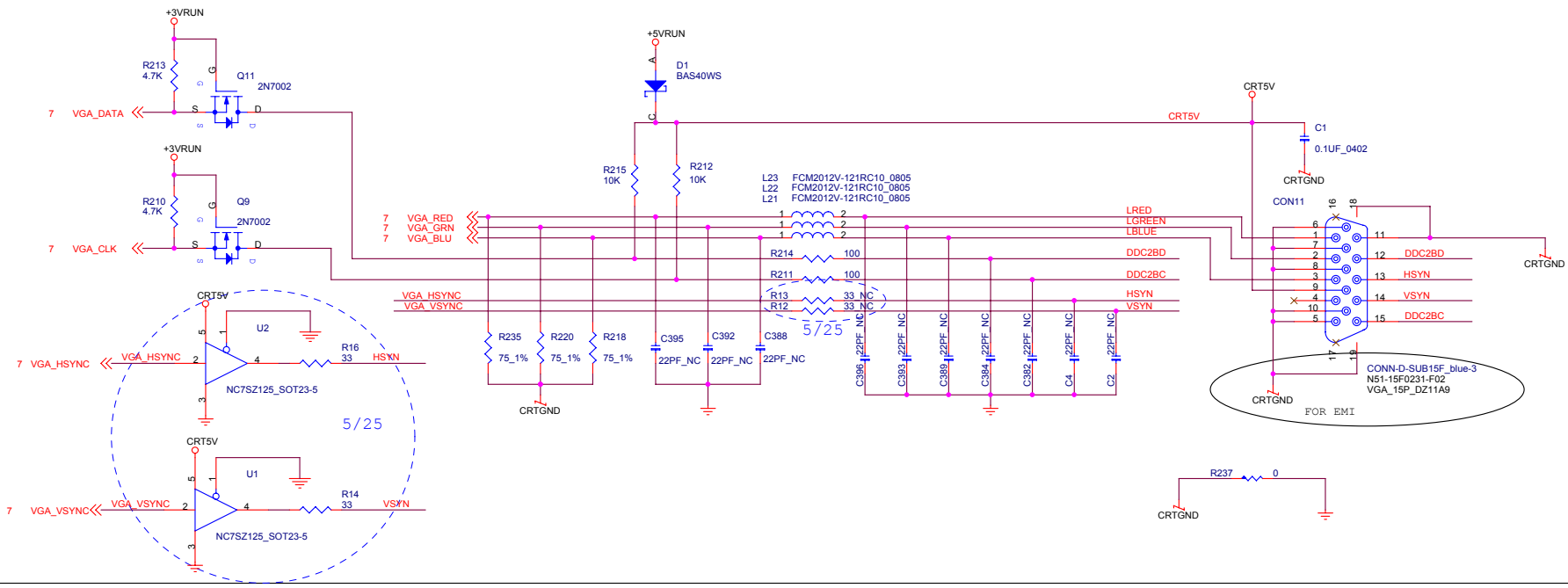
Close to DIMM

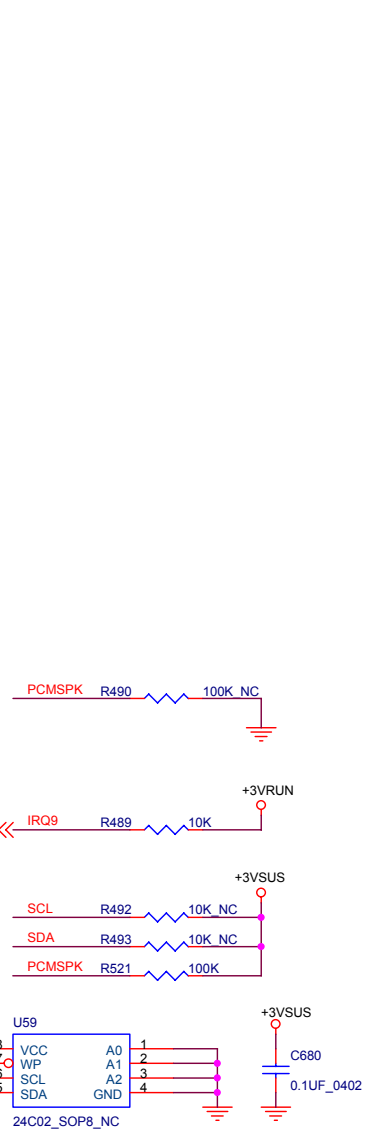
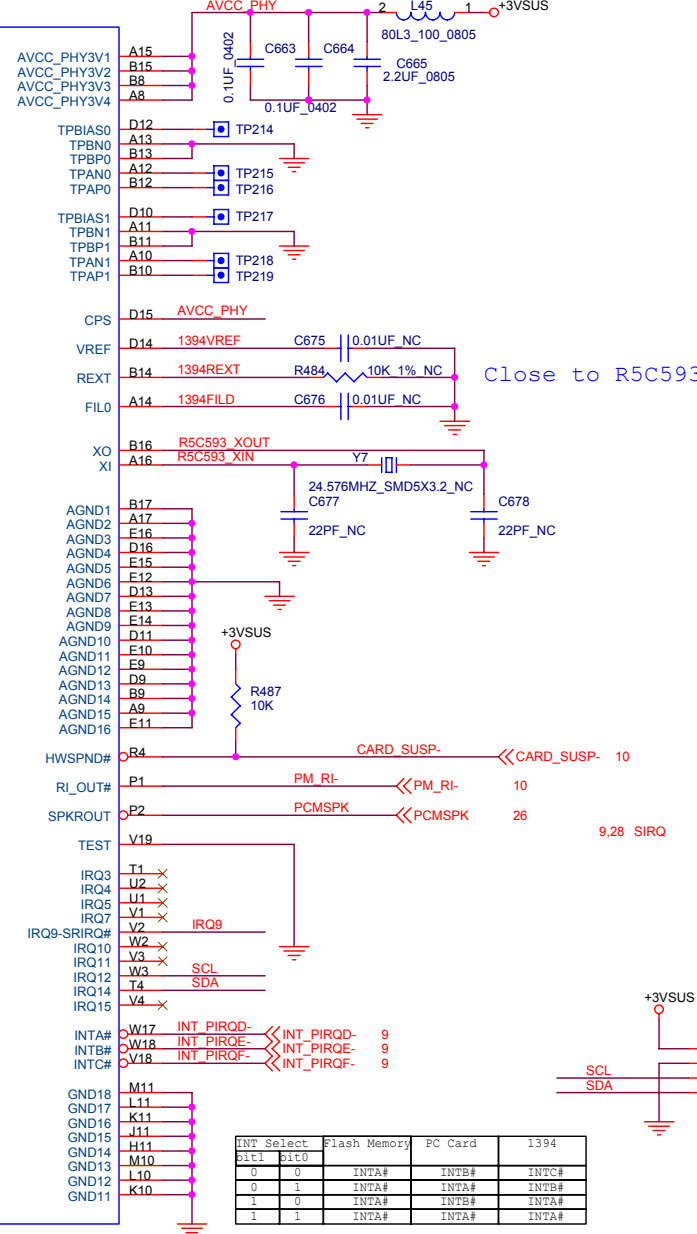
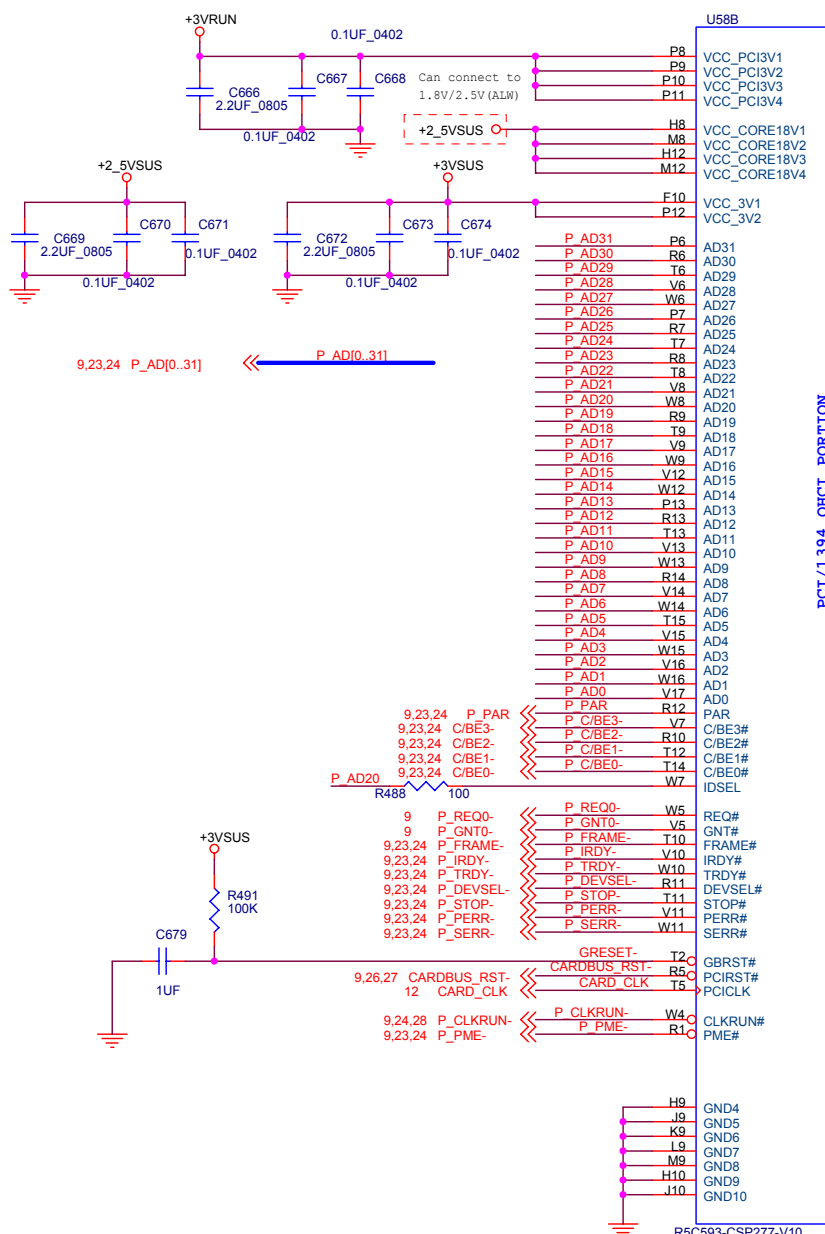


Layout note: Place one cap close to every 2 pullup resistors terminated to +V1.25.



S-VIDEO CONN
AMP_1566765_S-Video-TVOUT
N56-07F0031-A10
MINI_DIN_7P_LTK

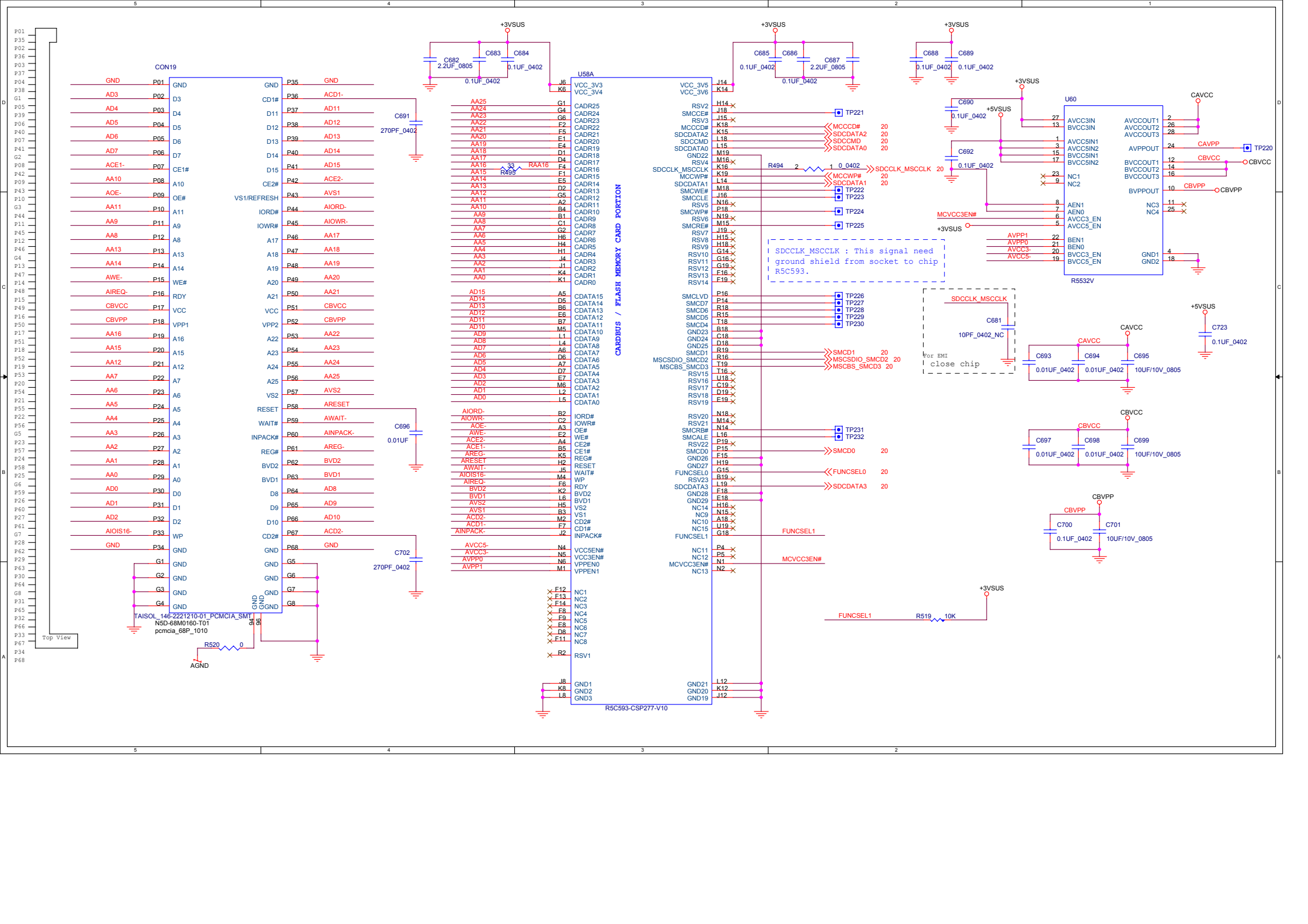


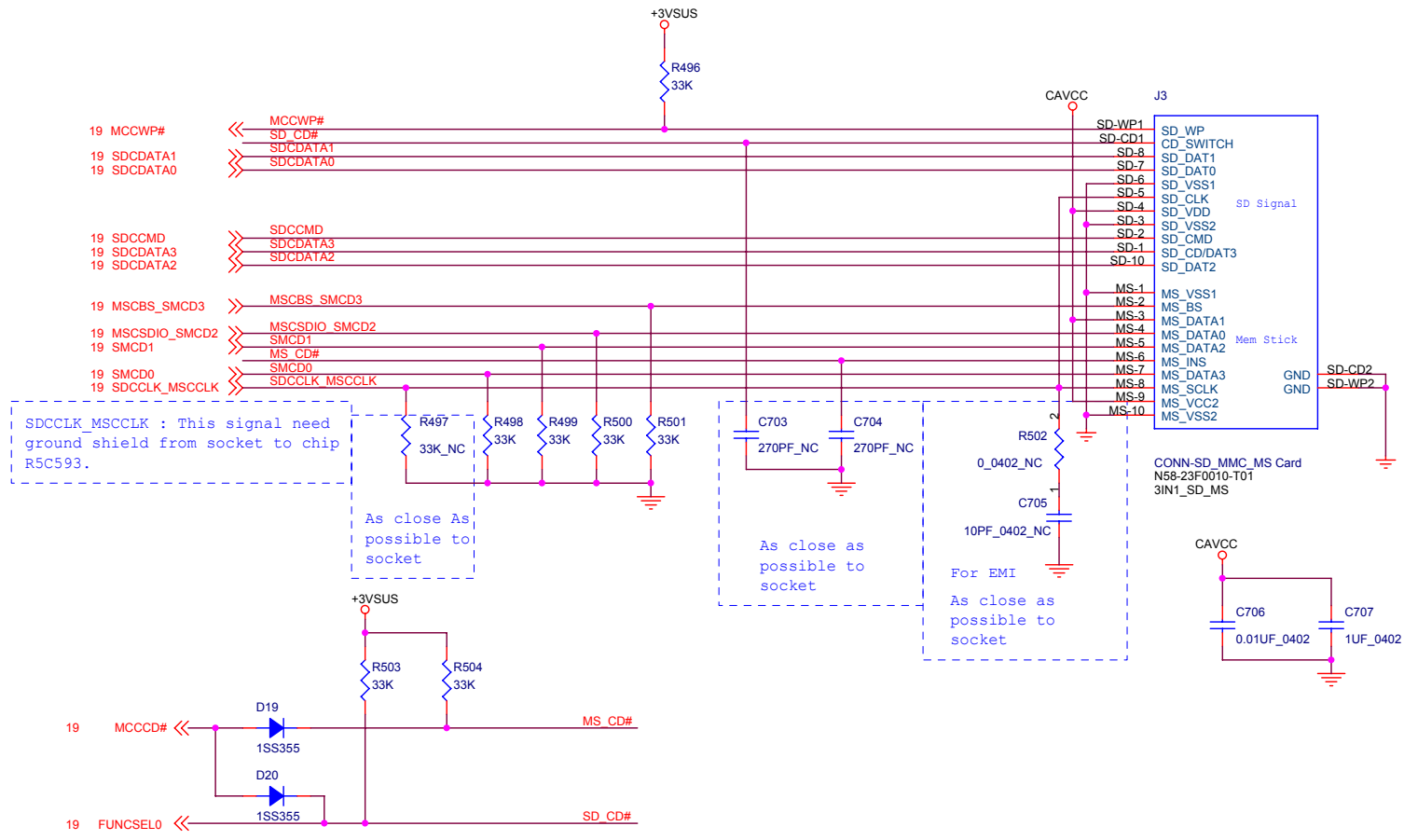


PCI/1394_OHCI PORTION

Close to R5C593

INT Select	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#



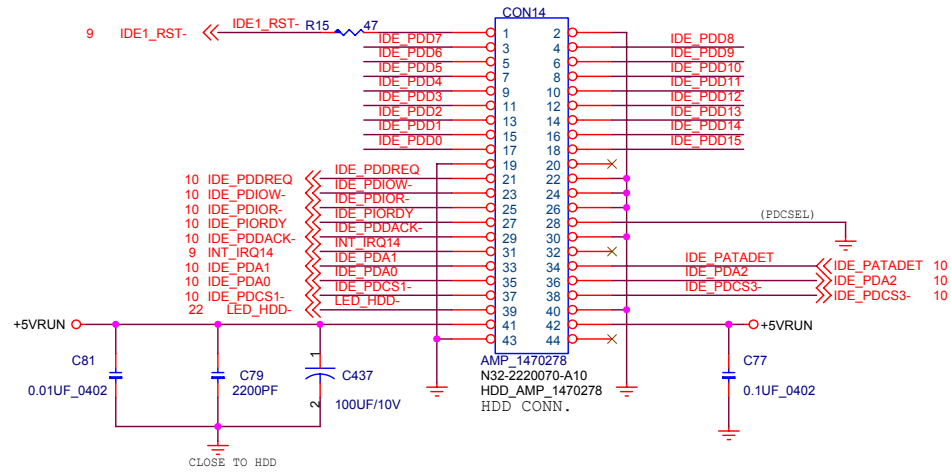


Memory Card Detect Logic Table

MS_CD#	SM_CD#	SD_CD#	-> Detected Card
0	0	0	-> INHIBIT
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

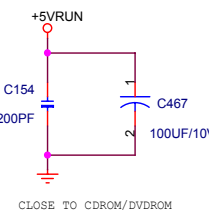
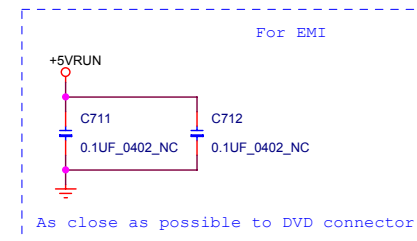
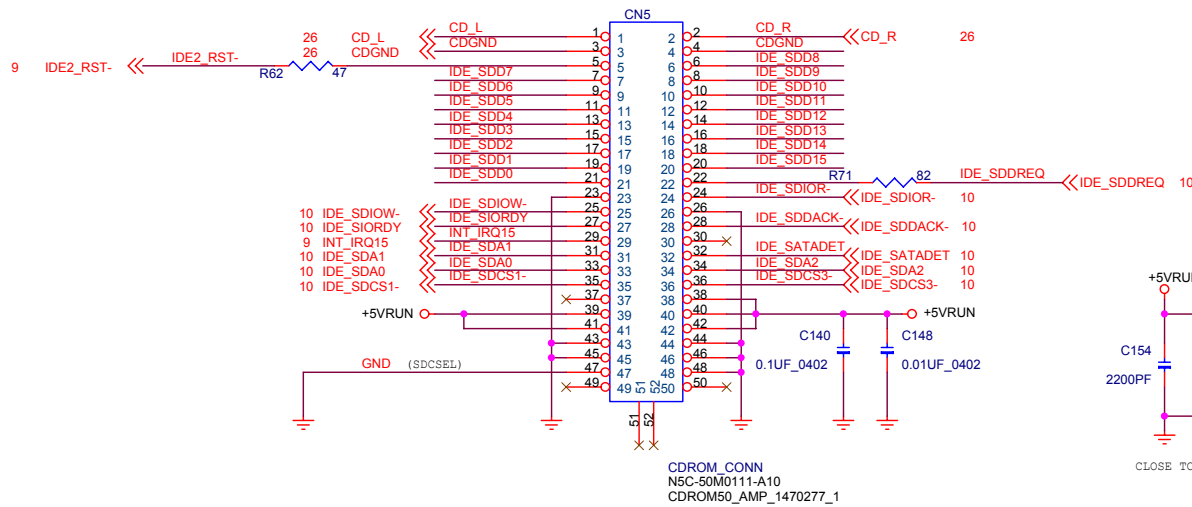
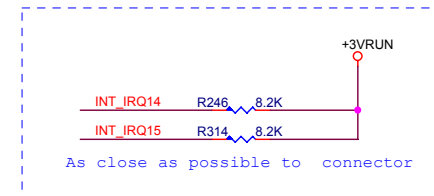
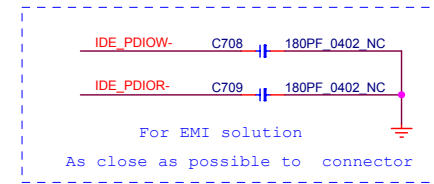
Unused

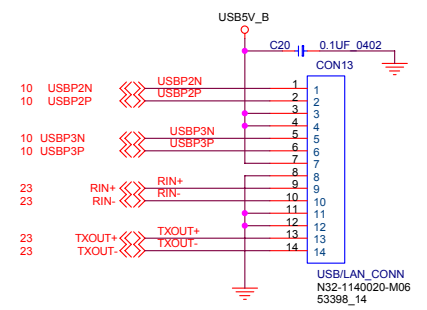
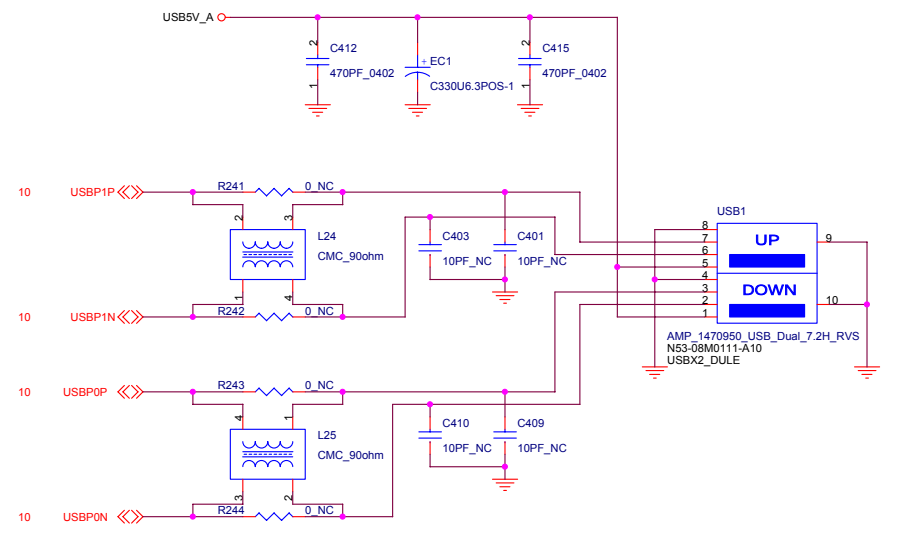
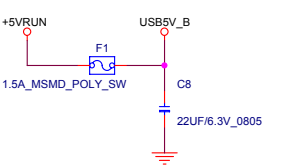
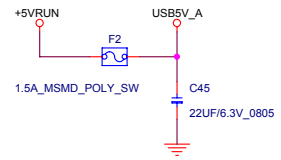
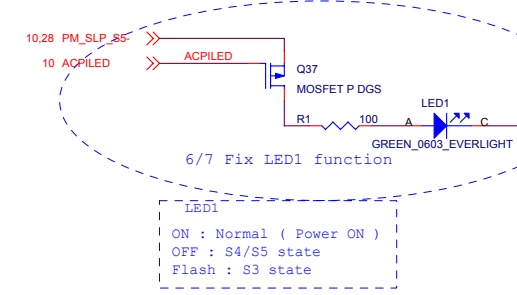
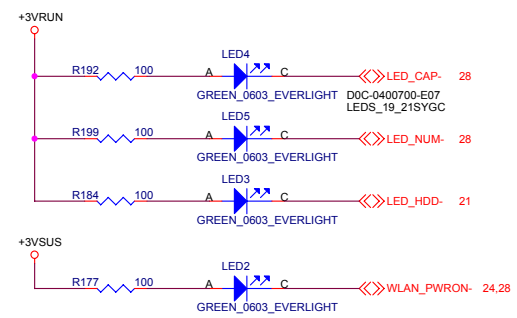
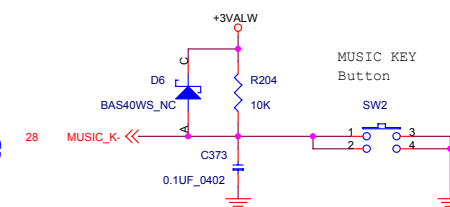
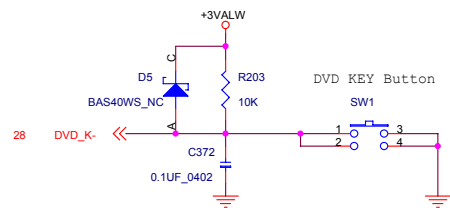
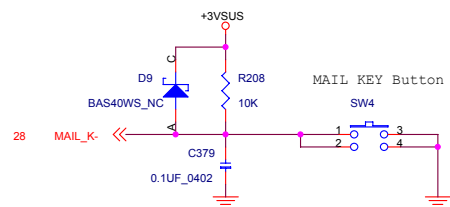
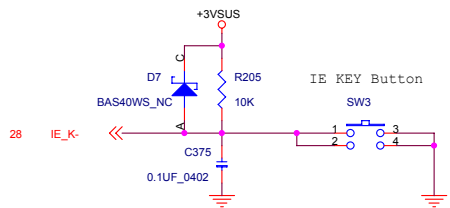
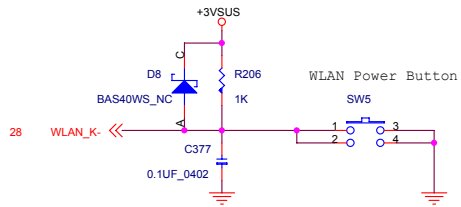
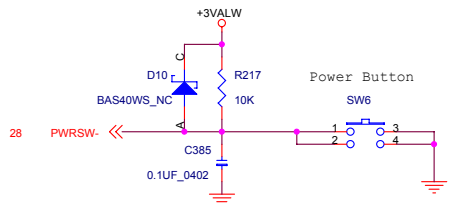
DO NOT INSERT SMARTMEDIA, SD/MMC AND MEMORYSTICK SIMULTANEOUSLY.

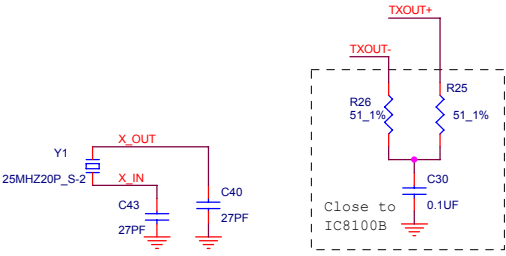


IDE_PDD[0..15] << IDE_PDD[0..15] 10

IDE_SDD[0..15] << IDE_SDD[0..15] 10



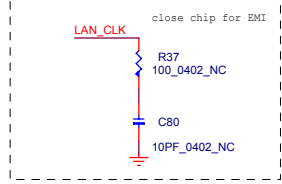
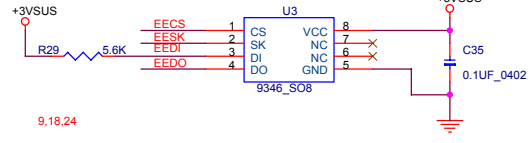
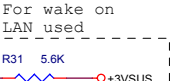
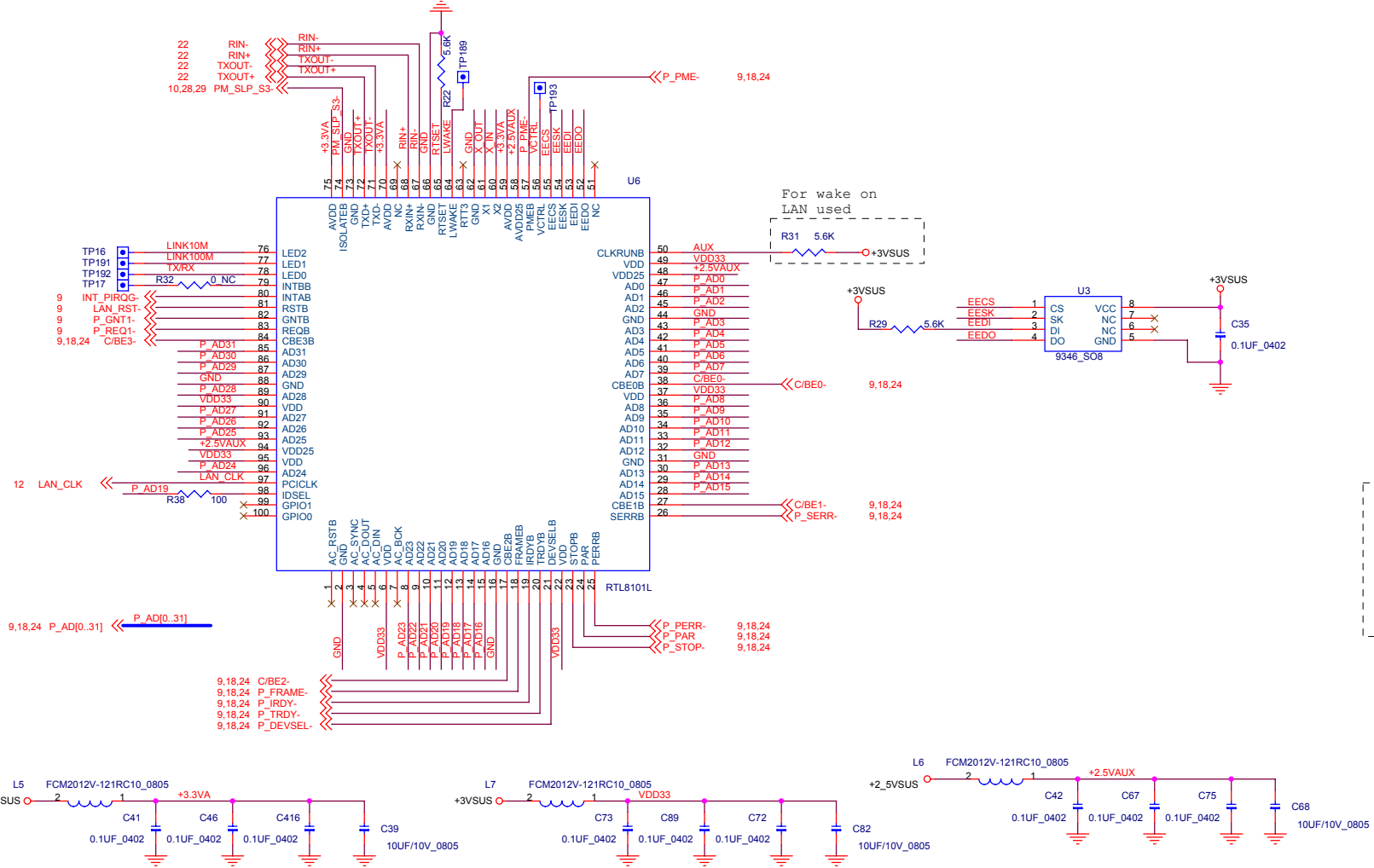




Lay out Rule:

1. Tx+/- and Rx+/- length : +100mil
2. Through hole less.
3. Tx+/- GND
- Rx+/- GND

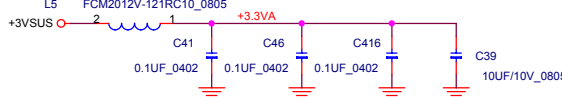
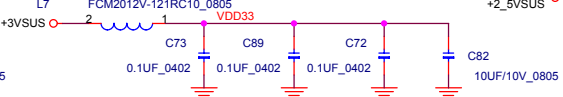
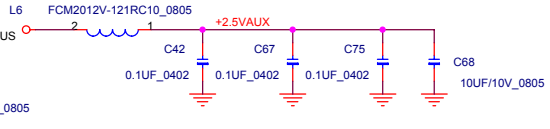
Ground separates Tx/Rx .



- 9,18,24 C/BE2-
- 9,18,24 P_FRAME-
- 9,18,24 P_IRDY-
- 9,18,24 P_TRDY-
- 9,18,24 P_DEVSEL-

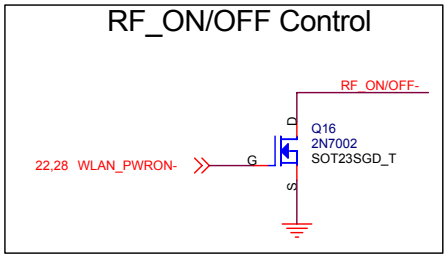
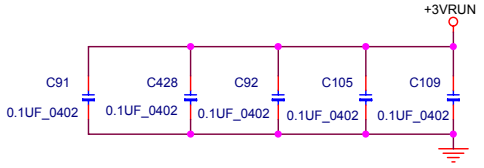
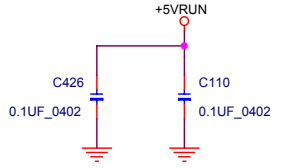
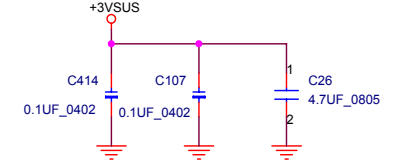
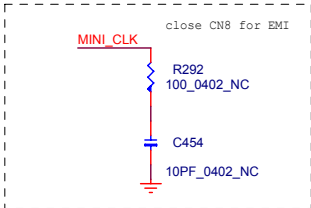
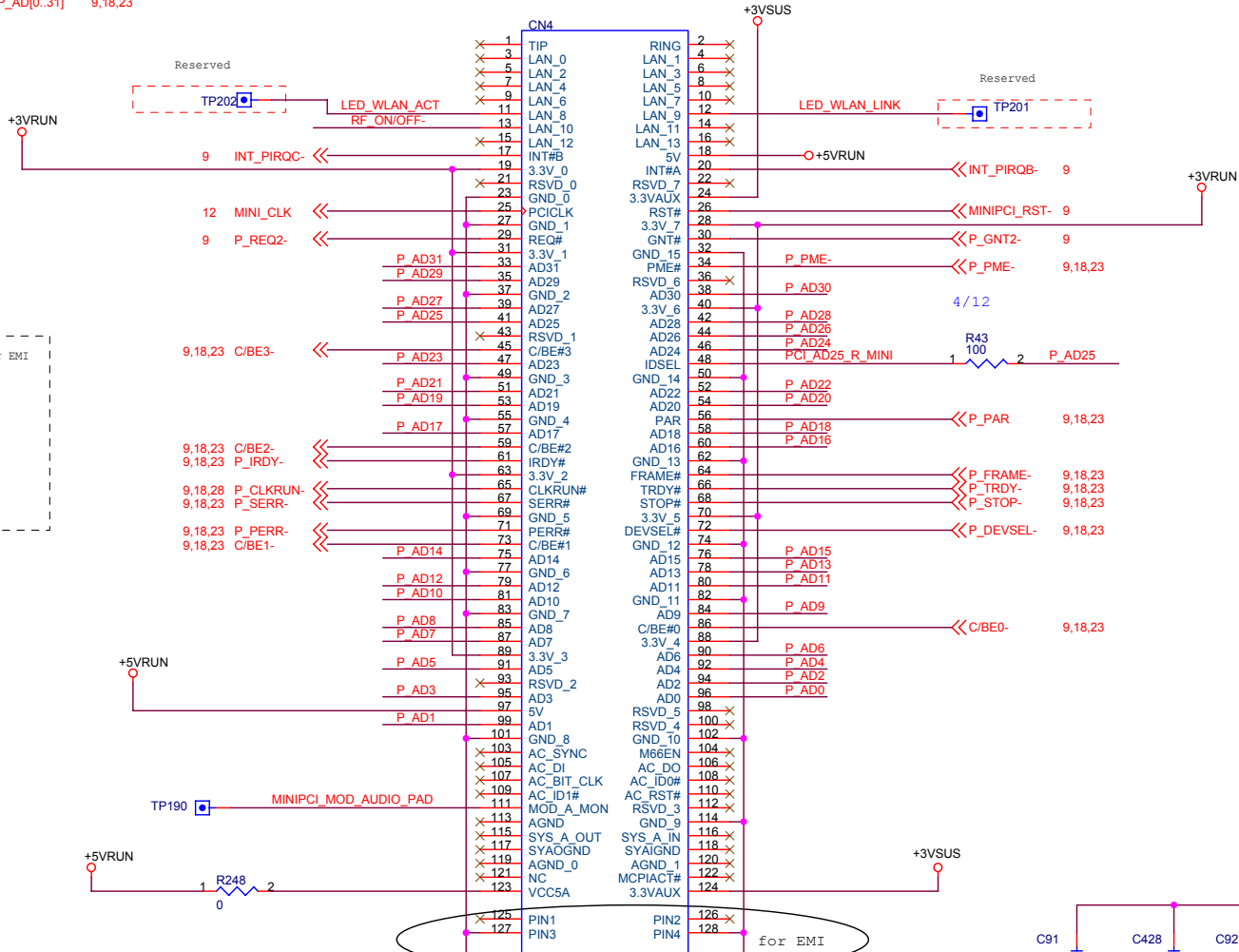
- 9,18,24 P_PERR-
- 9,18,24 P_PAR-
- 9,18,24 P_STOP-

- 9,18,24 C/BE1-
- 9,18,24 P_SERR-



MINI PCI SOCKET

P_AD10..31 << P_AD[0..31] 9,18,23



**OPEN RF ON (HiZ)
LOW RF OFF**

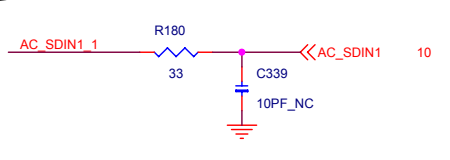
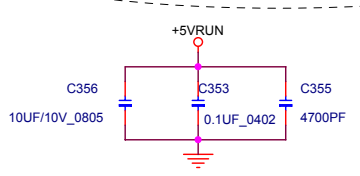
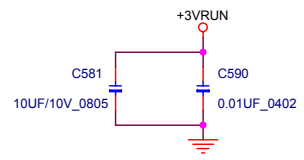
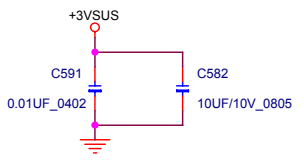
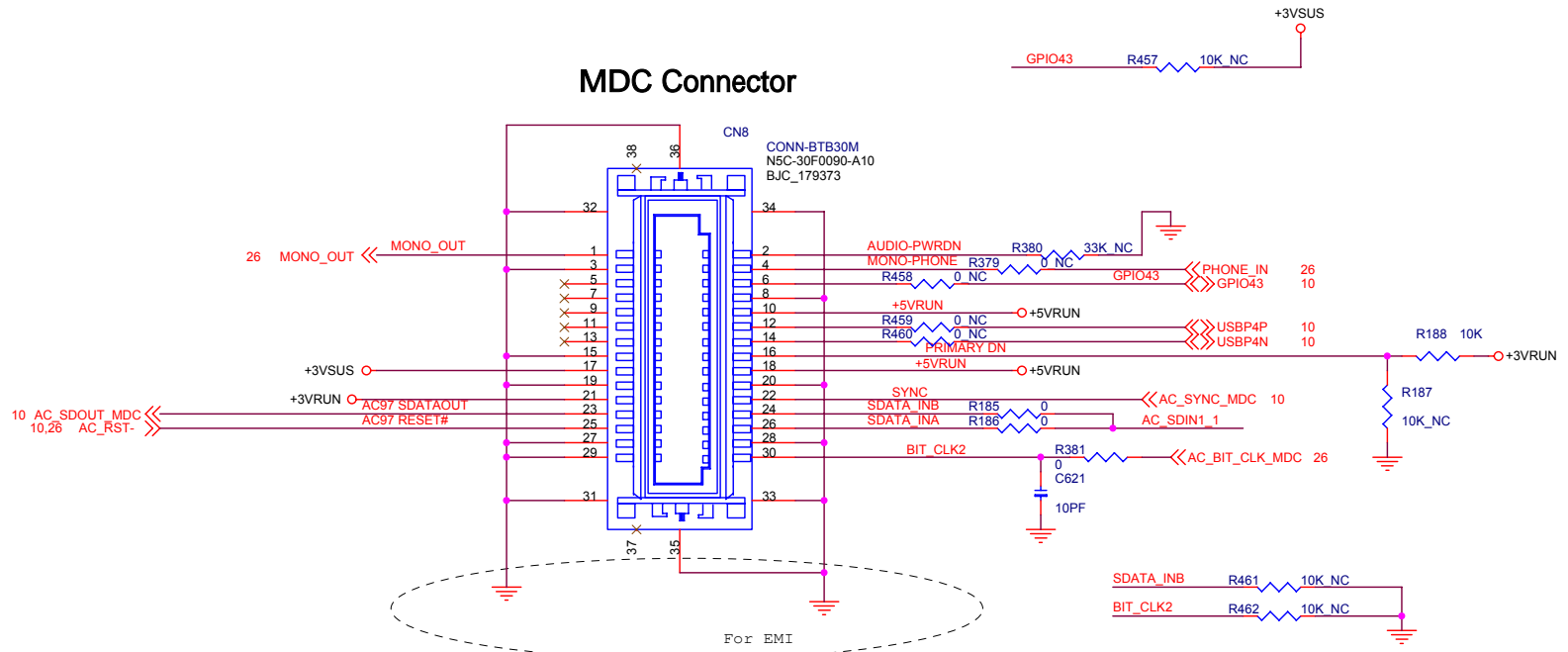
MINI PCI POWER SPEC.

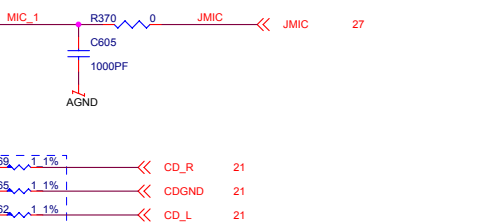
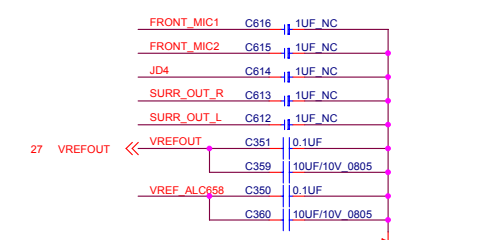
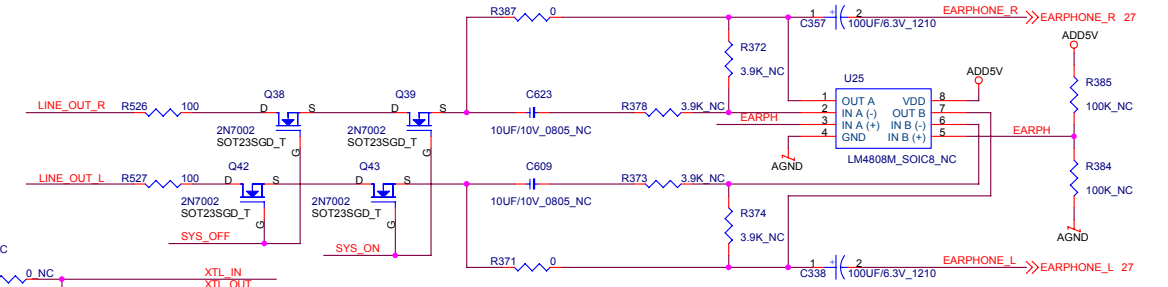
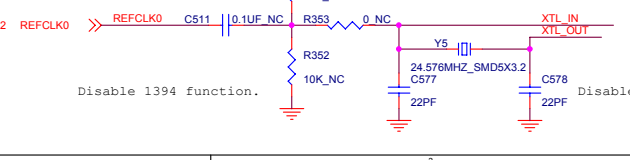
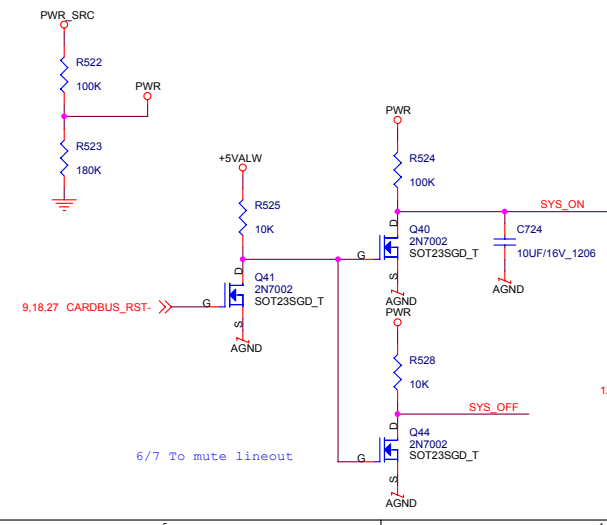
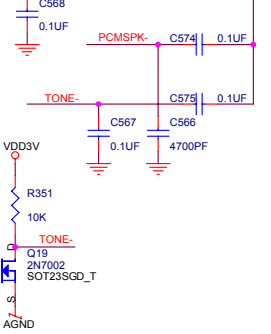
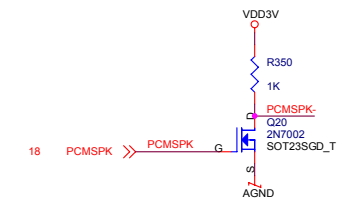
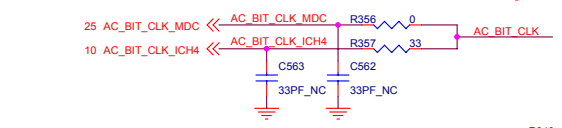
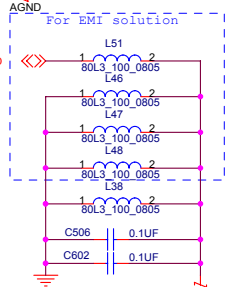
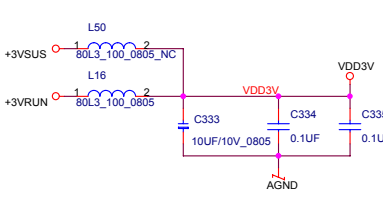
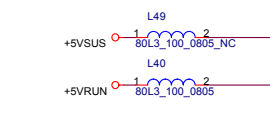
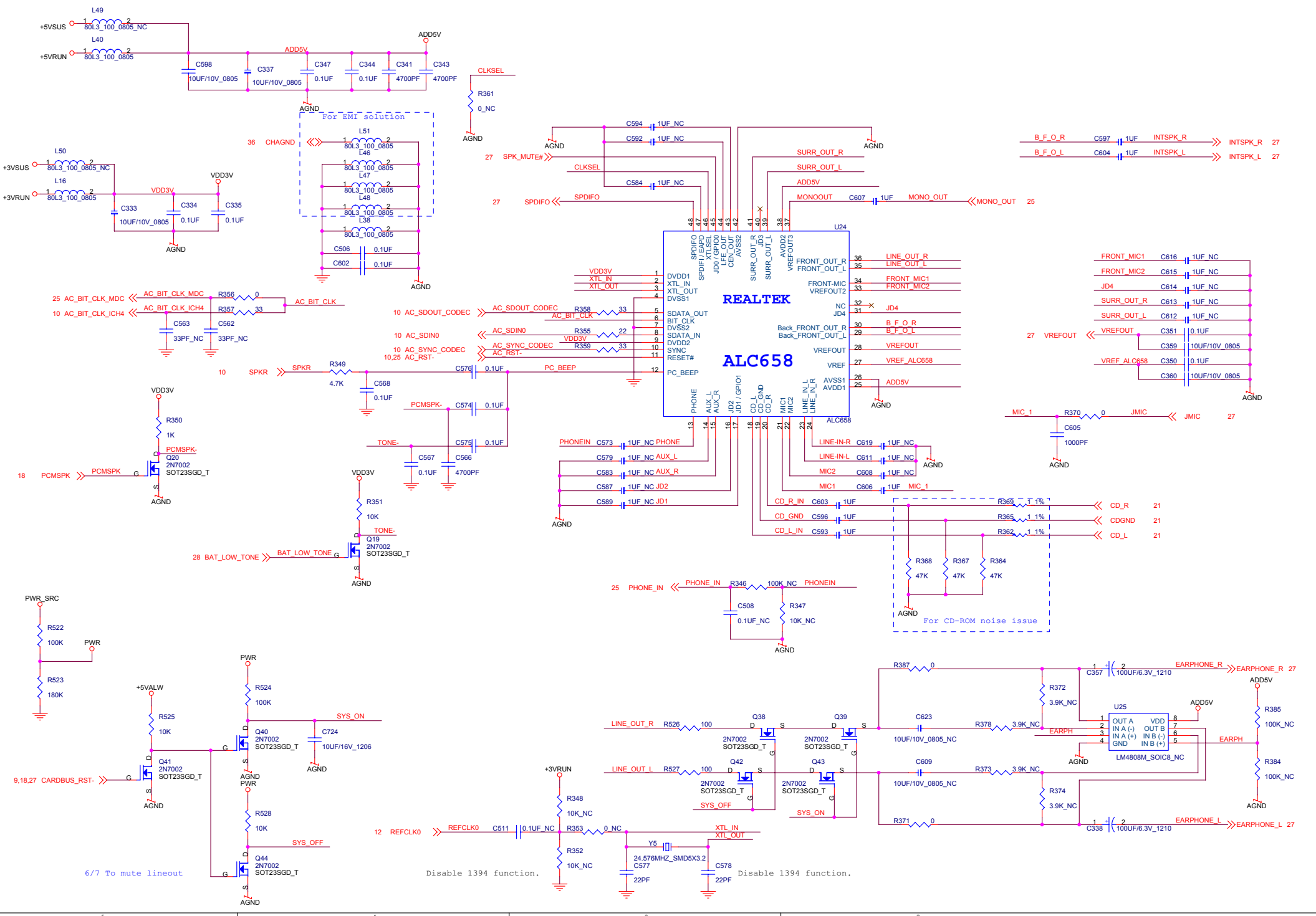
- TOYAL : 2W
- +5V : 100mA
- 3.3VAUX : 5/200/375mA
- VCC5A : 100mA
- +3V

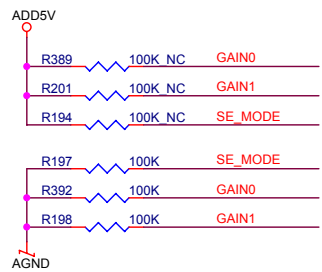
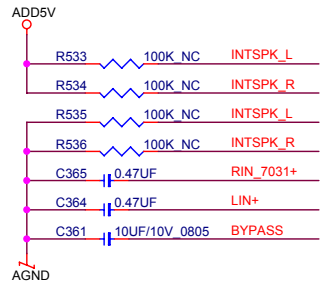
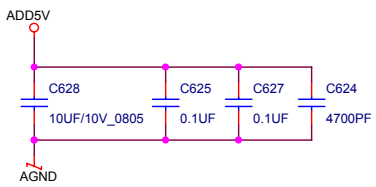
MINI-PCI SOCKET(H=9.2mm)
N11-1240150-A10
MINIPCI124

for EMI

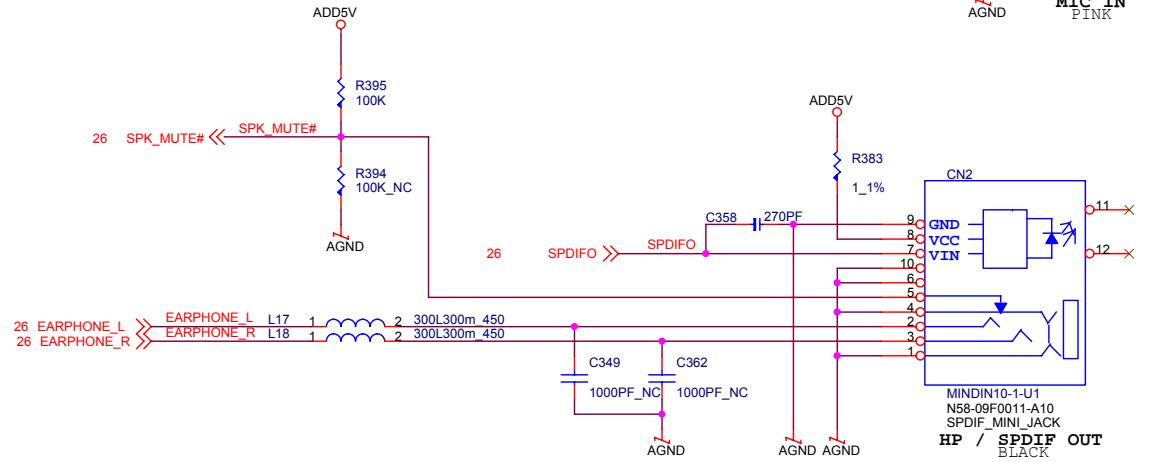
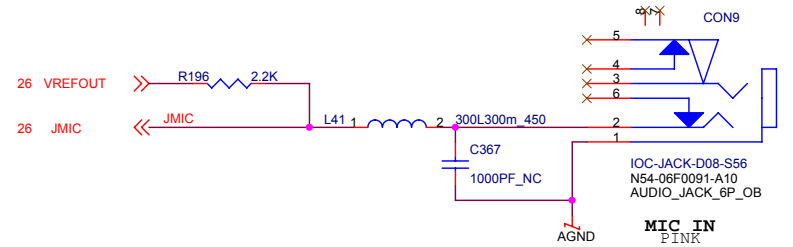
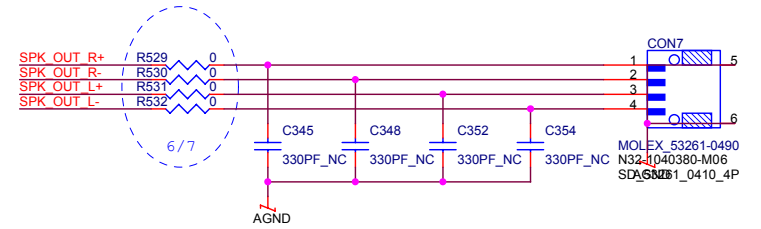
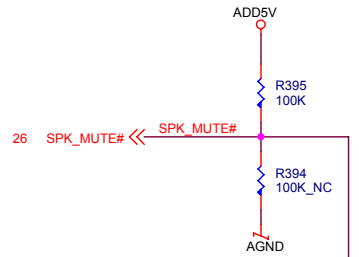
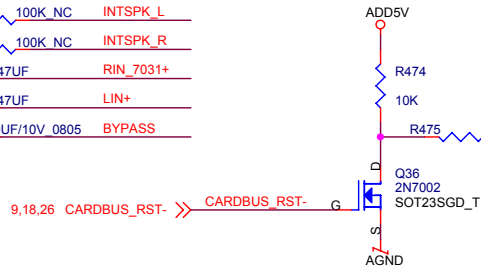
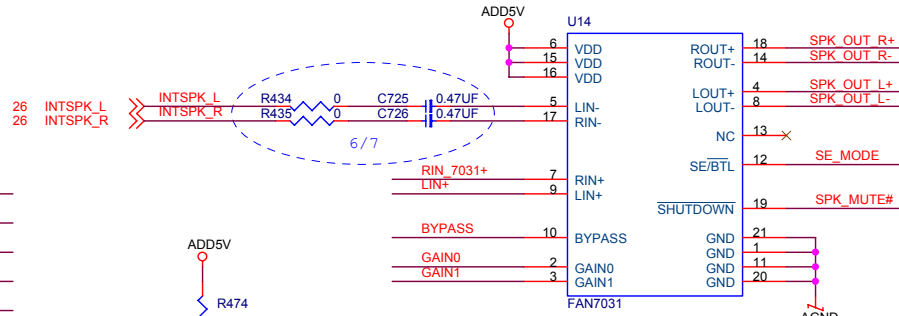
MDC Connector

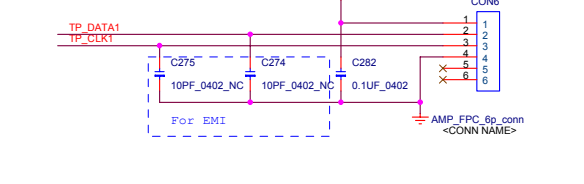
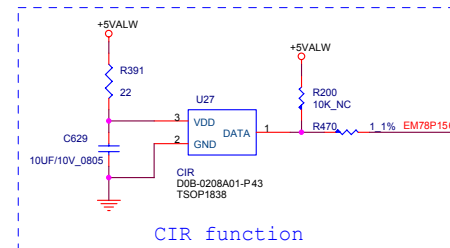
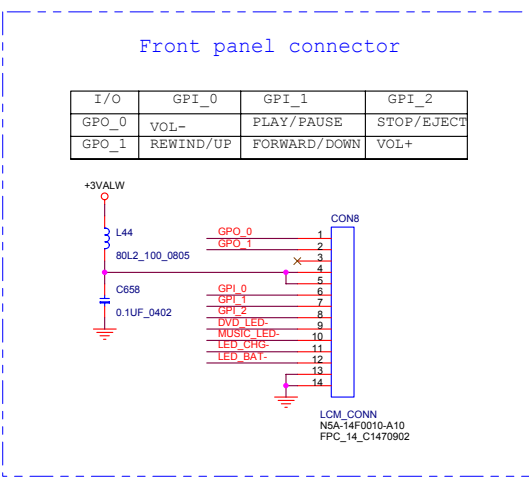
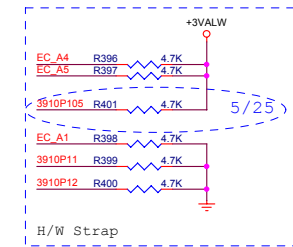
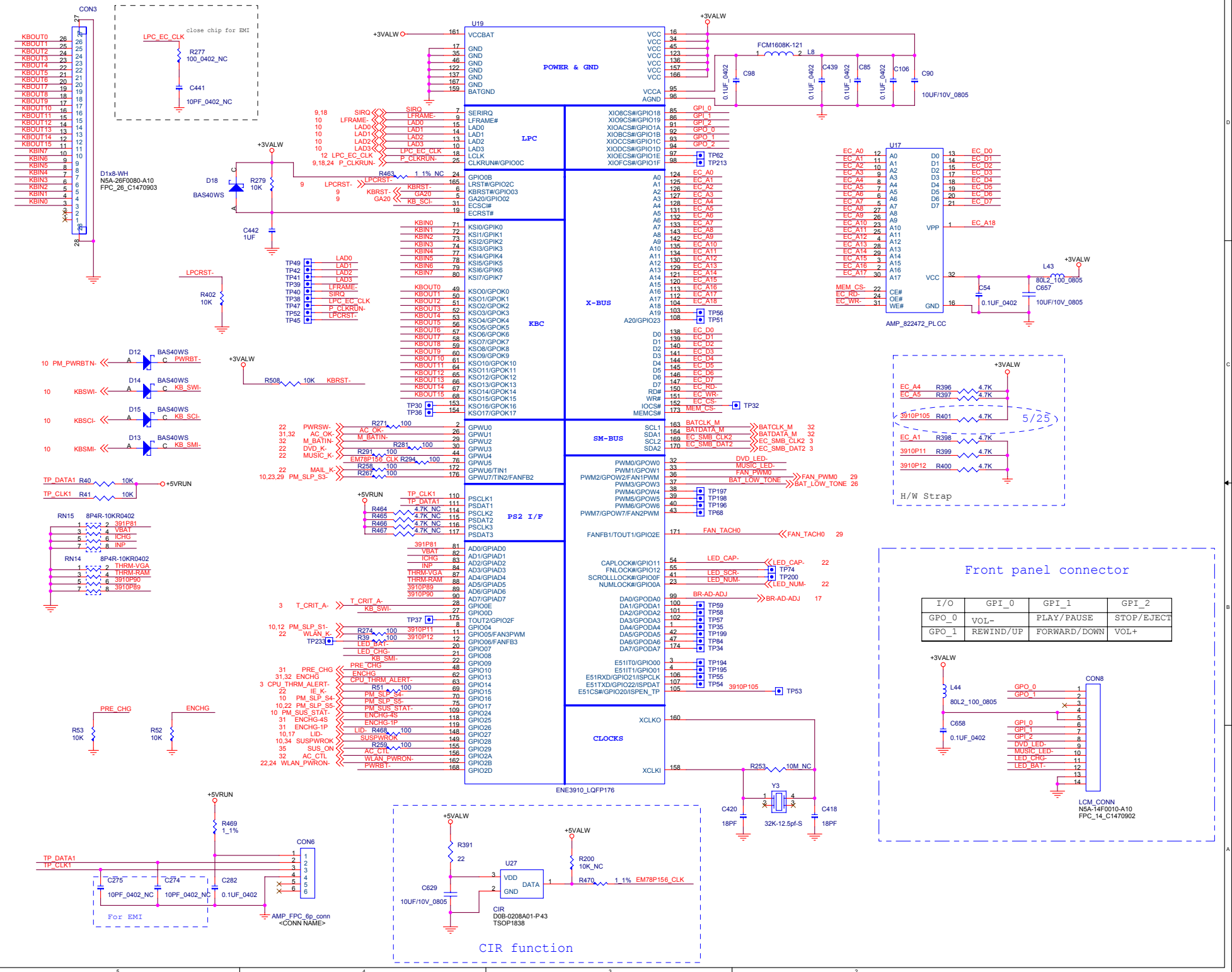






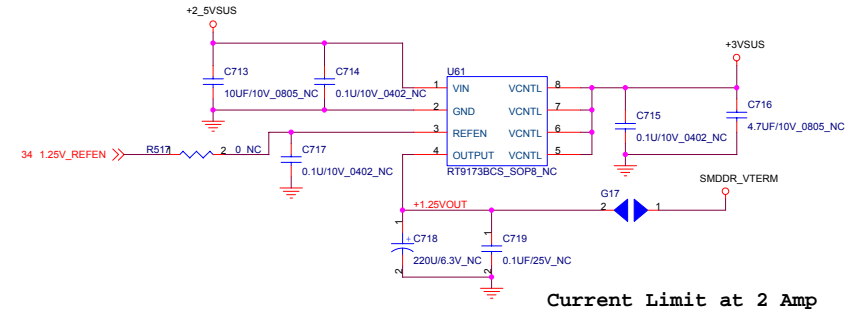
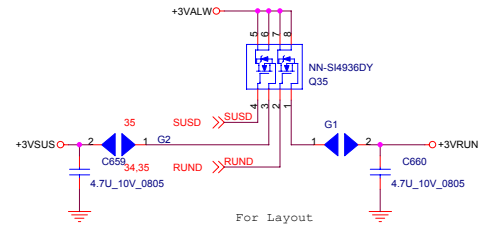
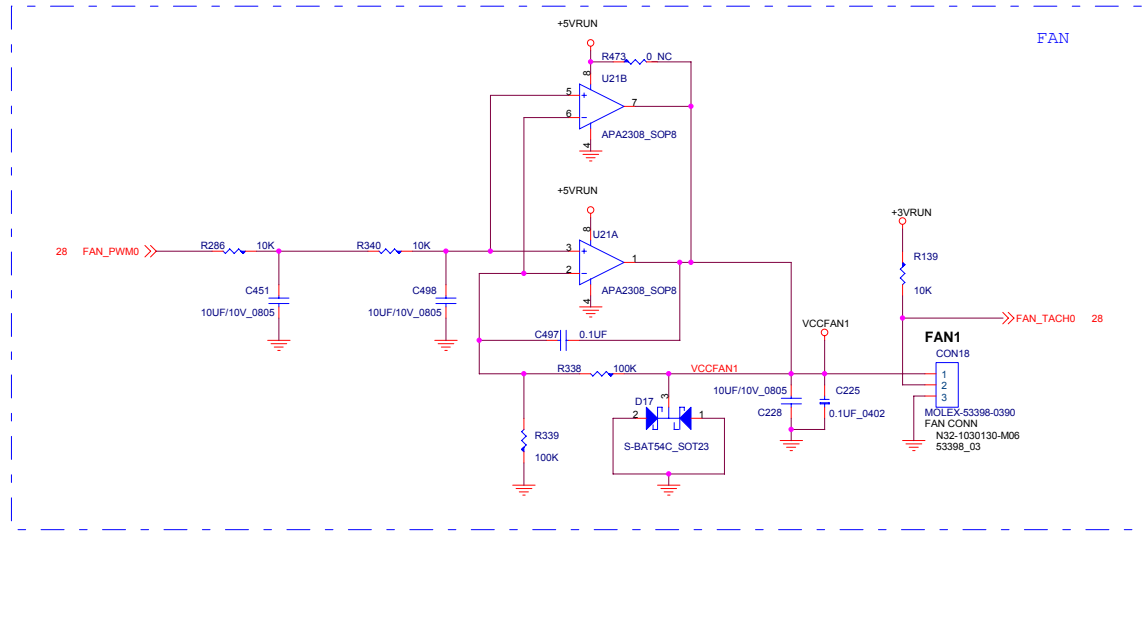
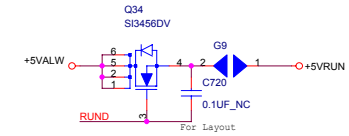
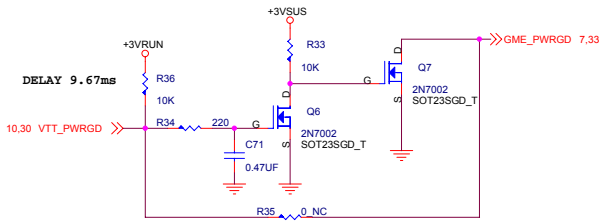
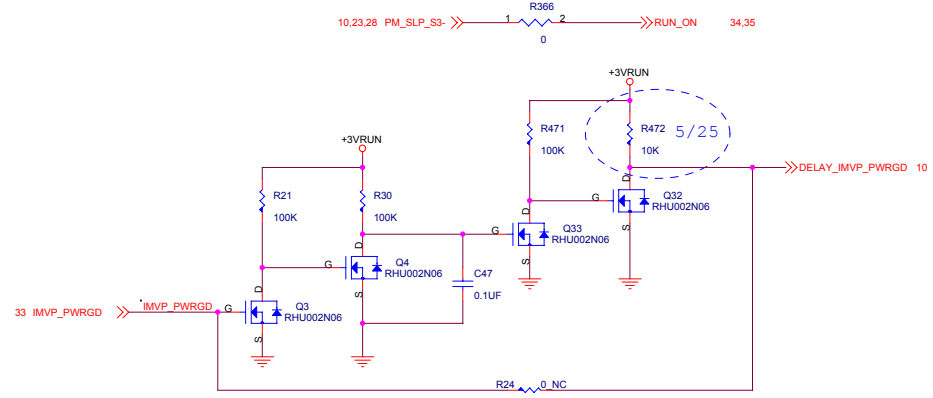
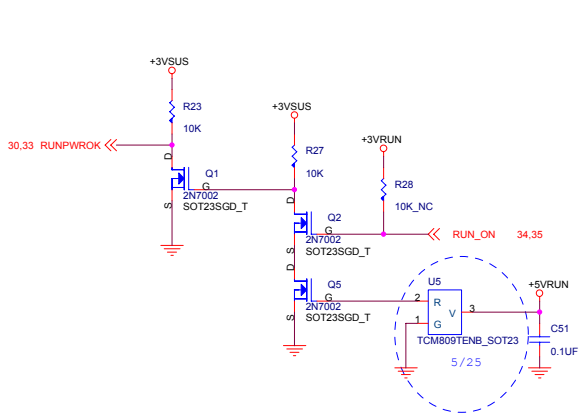
Av	GAIN0	GAIN1	SE/BTL#
6dB	0	0	0
10dB	0	1	0
15.6dB	1	0	0
21.6dB	1	1	0
4.3dB	X	X	1

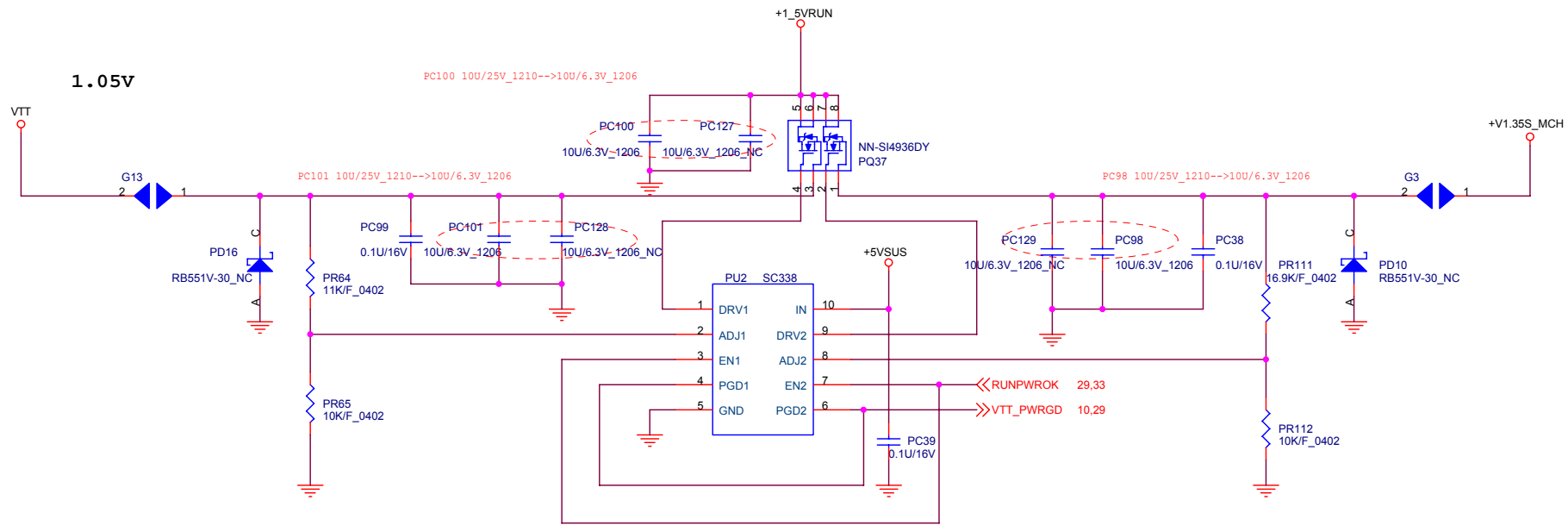




I/O	GPI_0	GPI_1	GPI_2
GPO_0	VOL-	PLAY/PAUSE	STOP/EJECT
GPO_1	REWIND/UP	FORWARD/DOWN	VOL+

LED	Function
LED_CAP	LED CAP
LED_SCR	LED SCR
LED_NUM	LED NUM
BR-AD-ADJ	BR-AD-ADJ
DVD_LED	DVD LED
MUSIC_LED	MUSIC LED
LED_CHG	LED CHG
LED_BAT	LED BAT

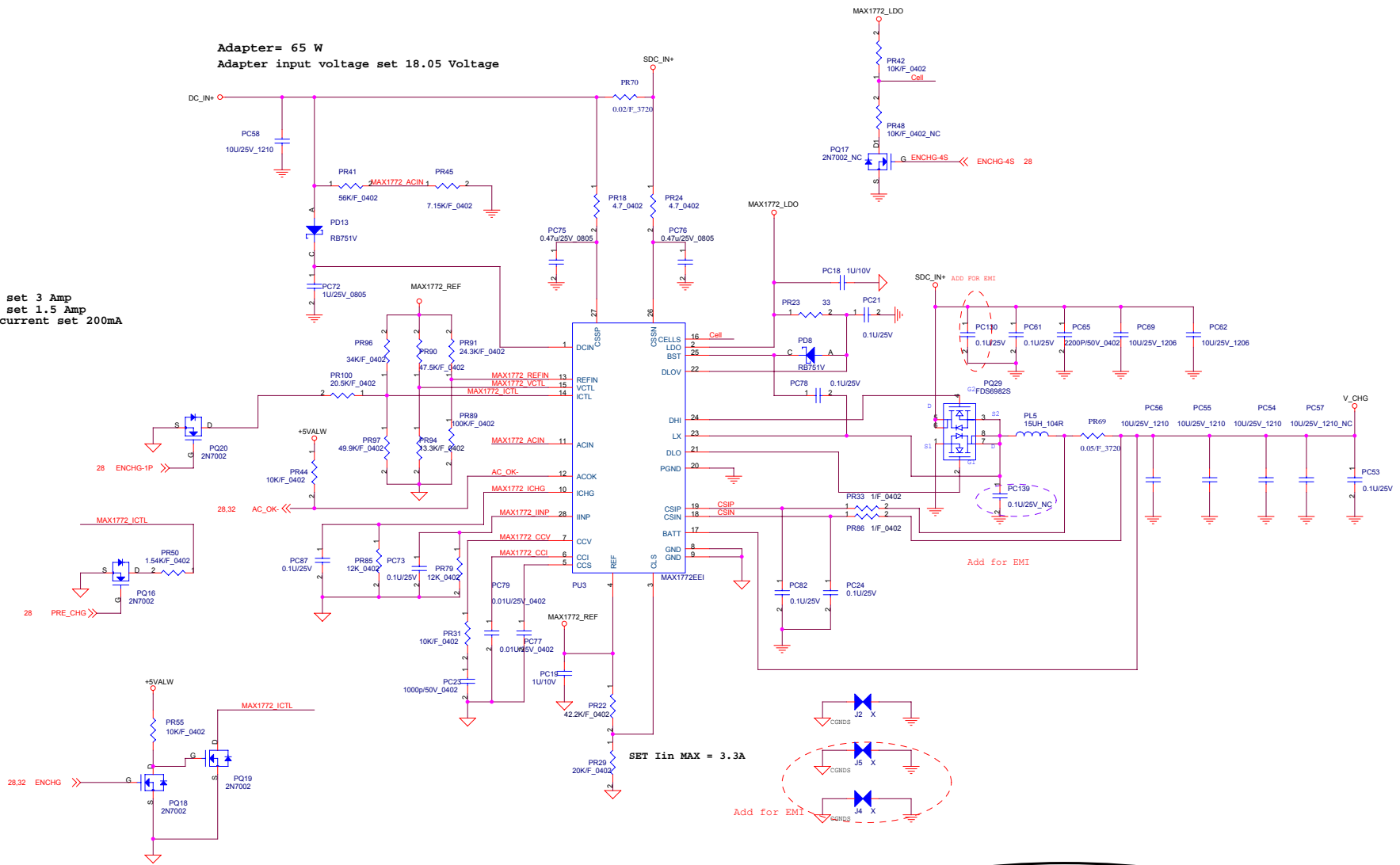




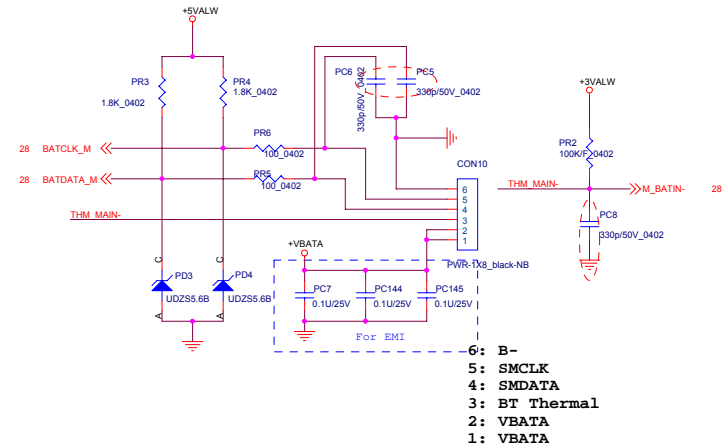
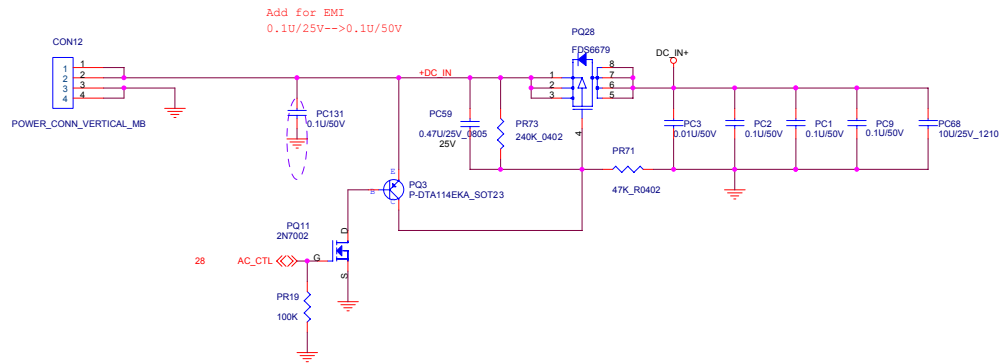
1.20V - GM, PR2=14.0K/F
 1.35V - GM+ PR2=16.9K/F

Adapter= 65 W
 Adapter input voltage set 18.05 Voltage

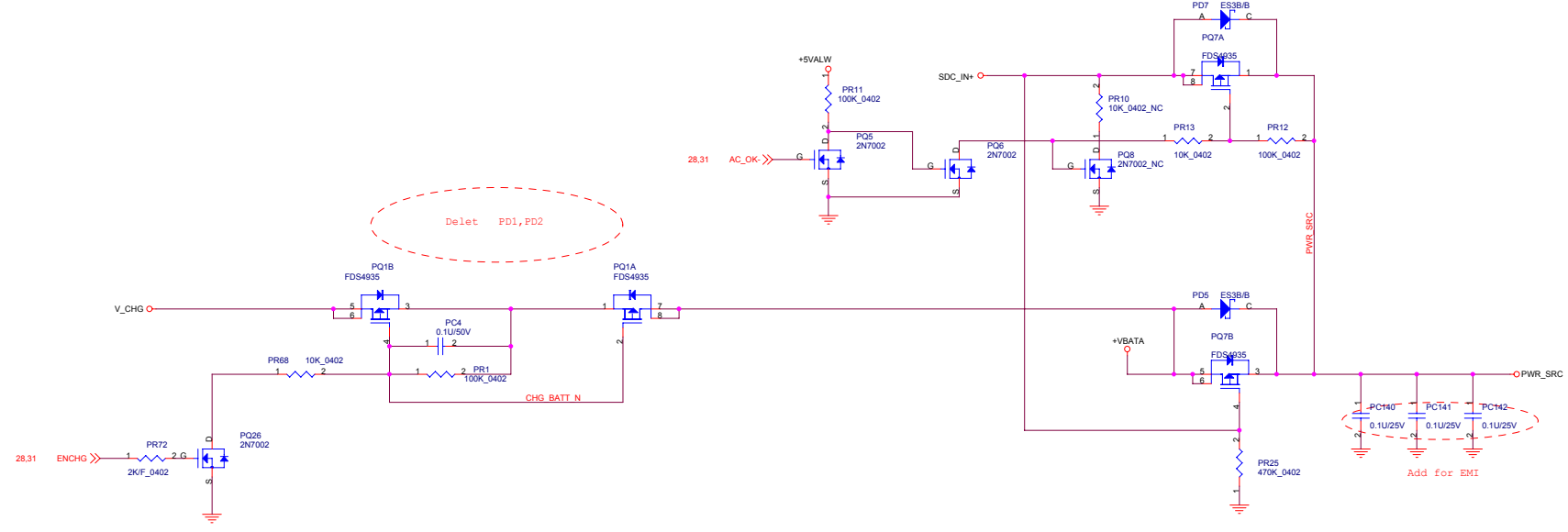
4S2P: Charge current set 3 Amp
 4S1P: Charge current set 1.5 Amp
 Pre-charger: Charge current set 200mA

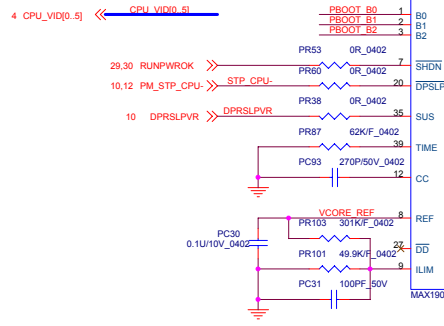
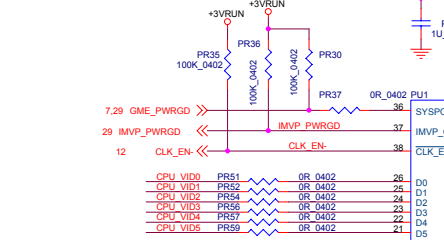
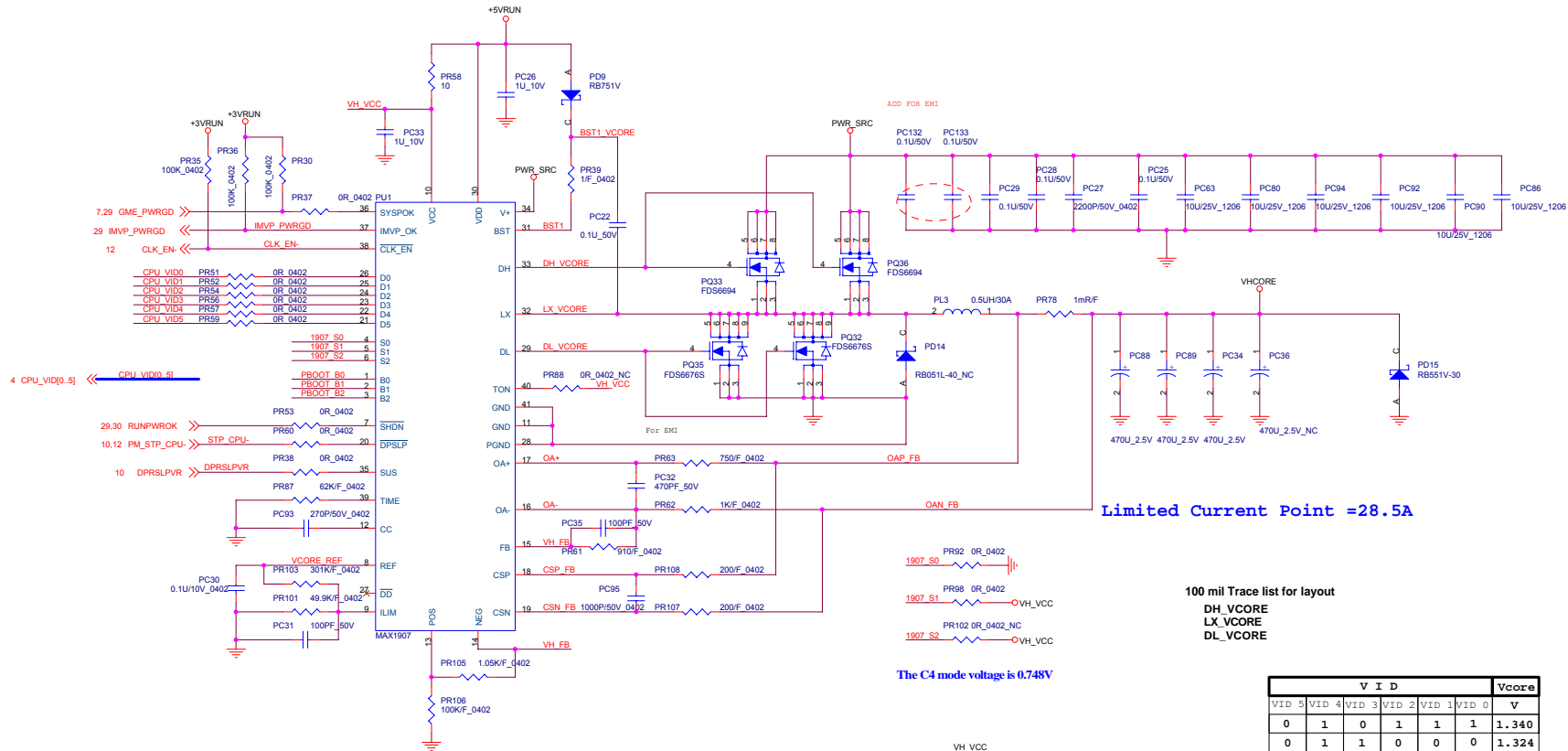


	ENCHG-1P	PRE_CHG	ENCHG	
Pre-charge	0	1	1	Pre-charge
Fast charge	0	0	1	4S2P
Fast charge	1	0	1	4S1P
STOP CHARGE	0	0	0	STOP CHARGE



- 6: B-
- 5: SMCLK
- 4: SMDATA
- 3: BT Thermal
- 2: VBATA
- 1: VBATA

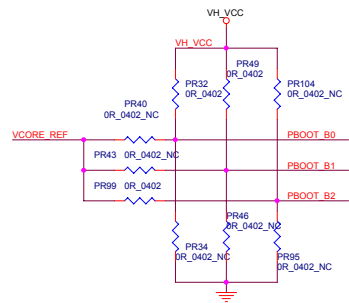




The C4 mode voltage is 0.748V

Limited Current Point =28.5A

100 mil Trace list for layout
 DH_VCORE
 LX_VCORE
 DL_VCORE

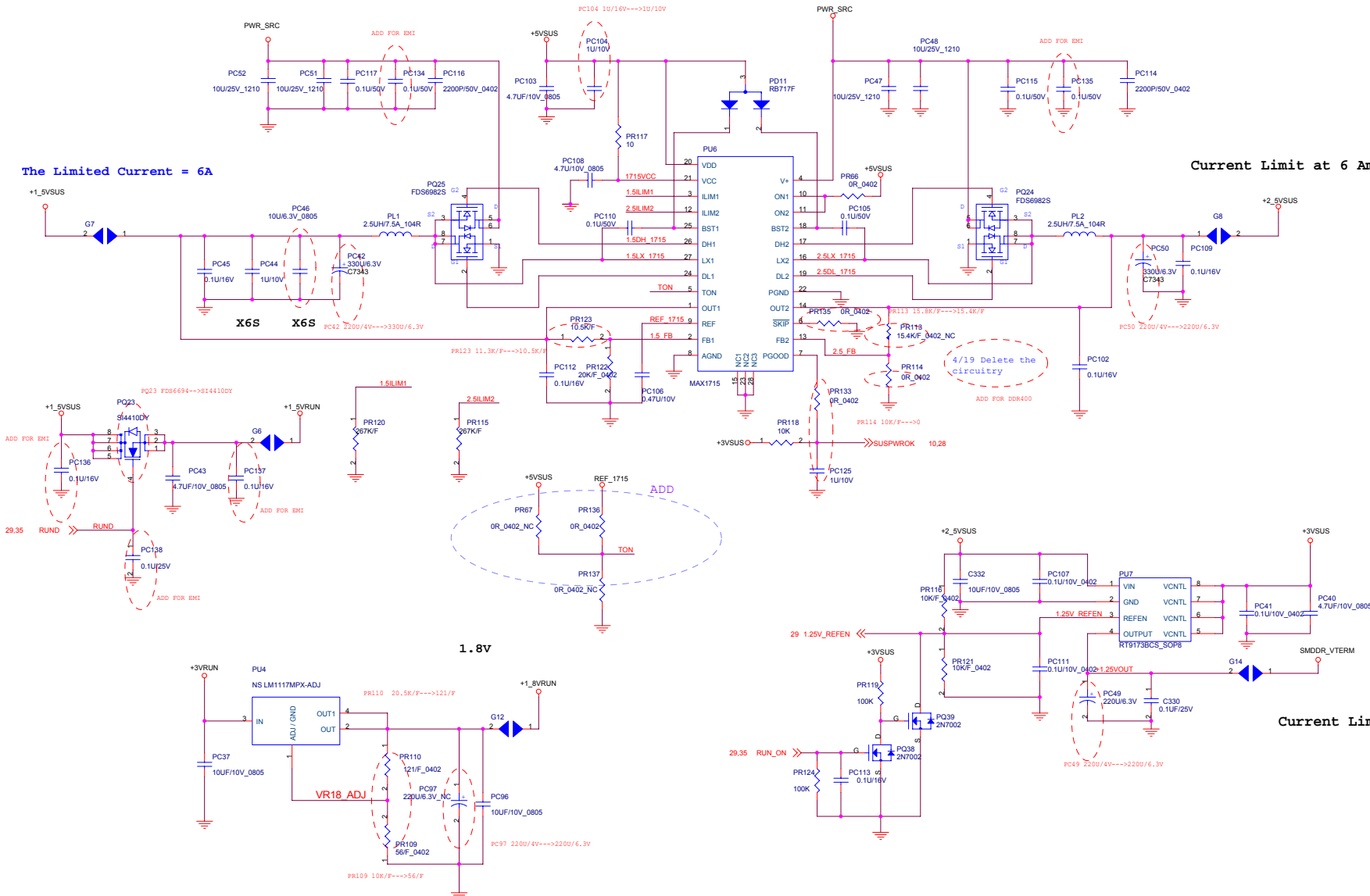


PBOOT VOLTAGE
 SETTING UP ON
 1.212V

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

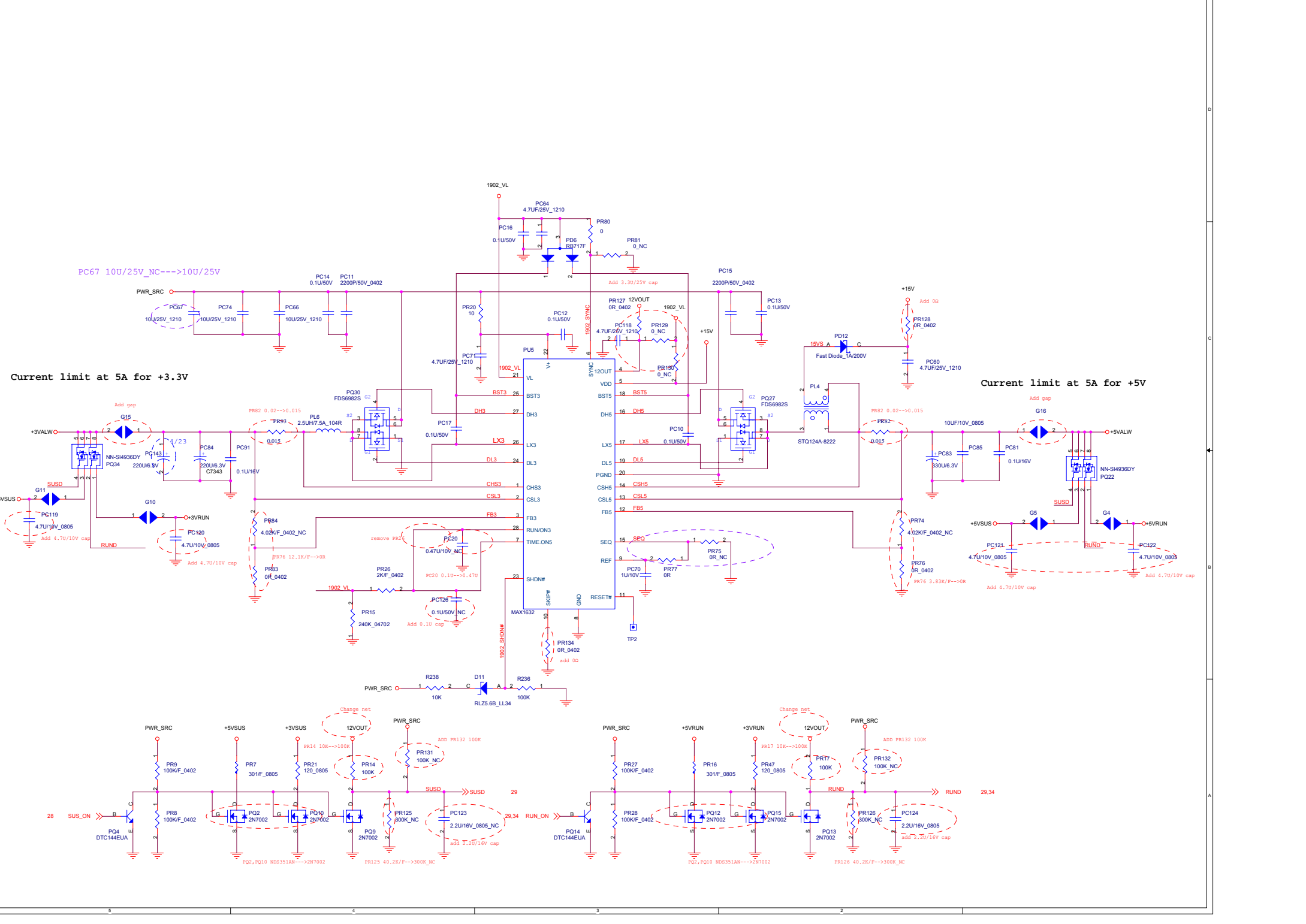
The Limited Current = 6A

Current Limit at 6 Amp



1.8V

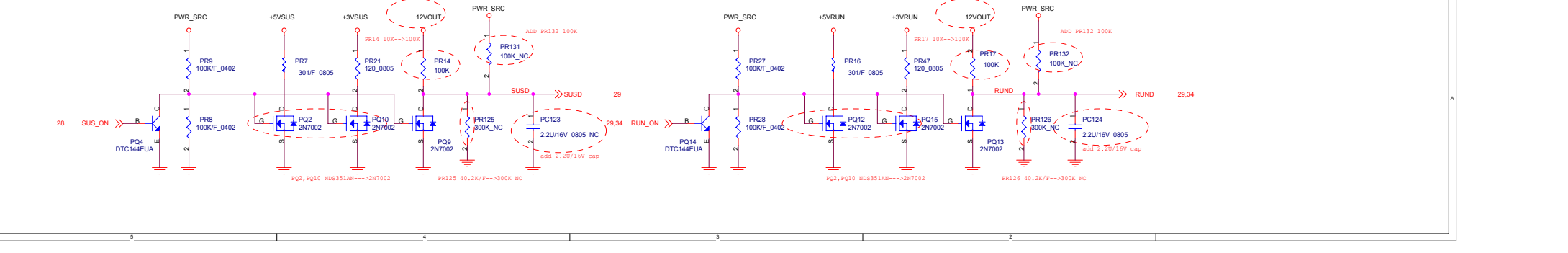
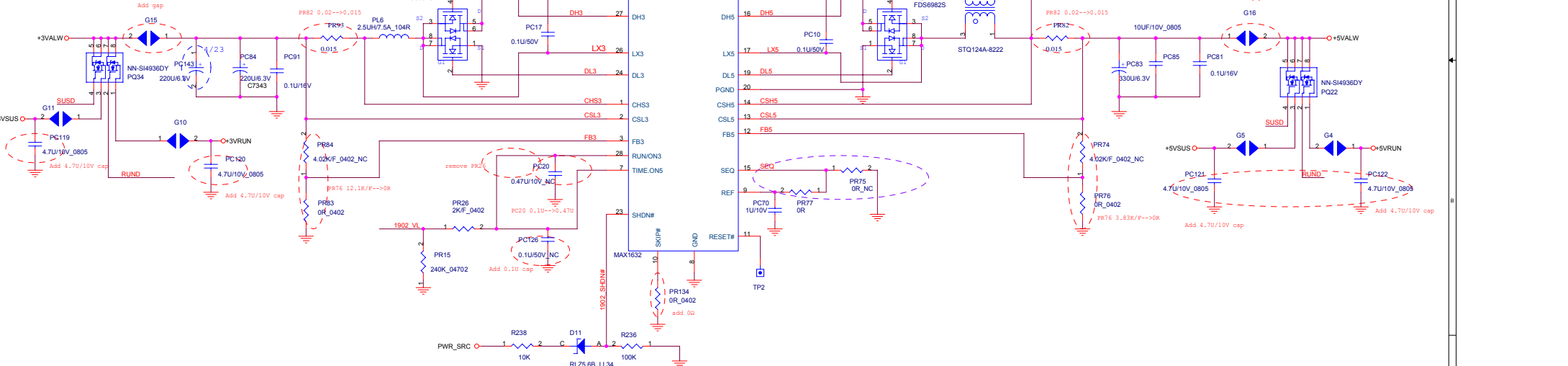
Current Limit at 2 Amp

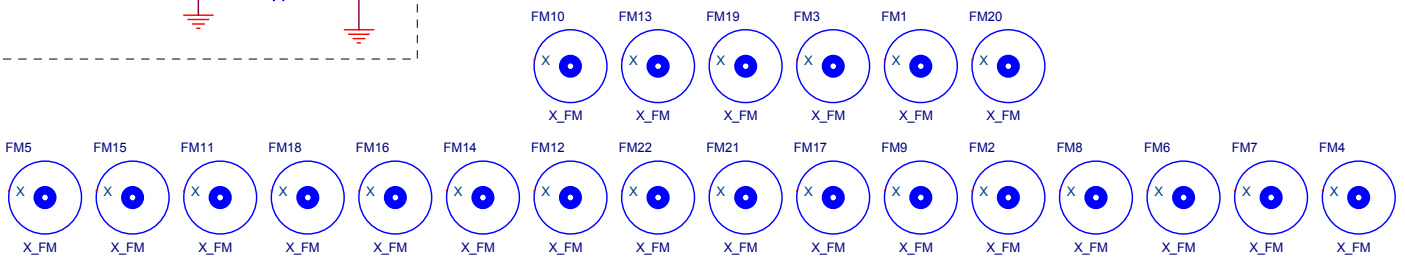
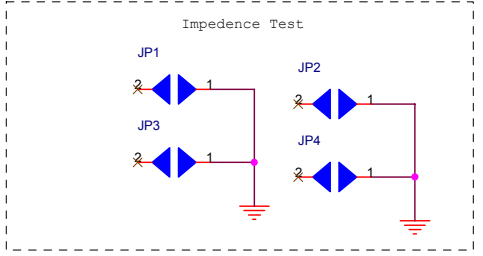
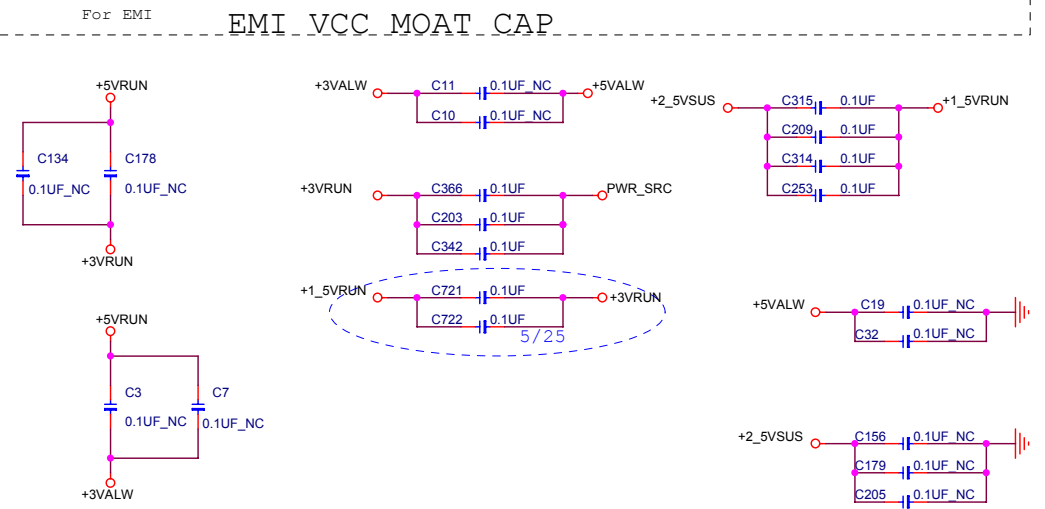
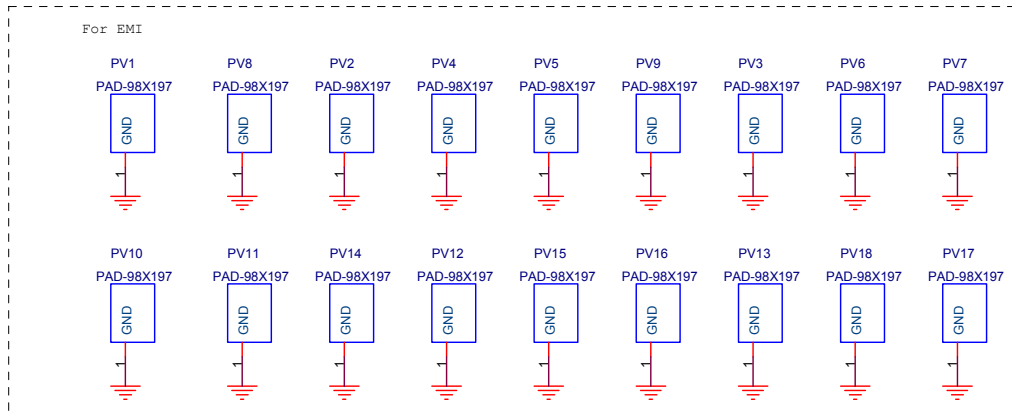
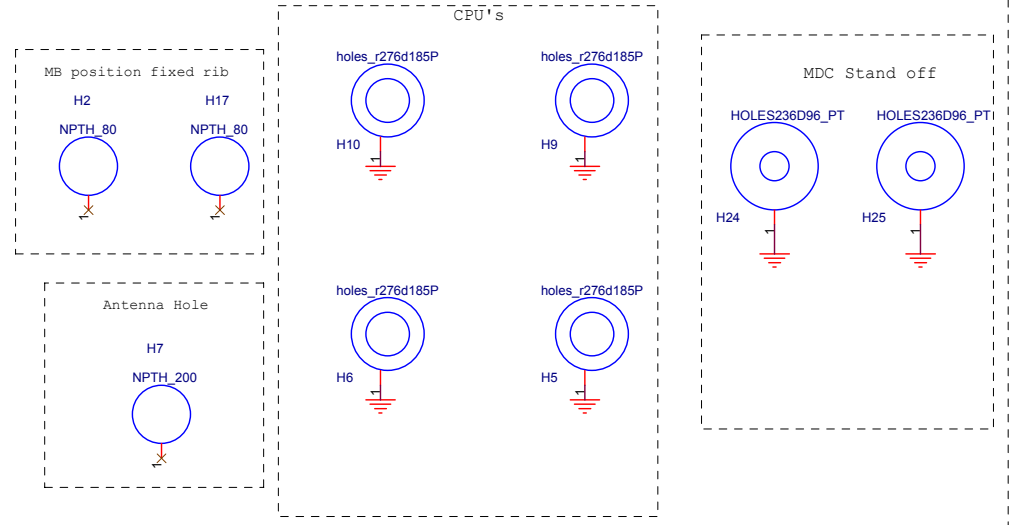
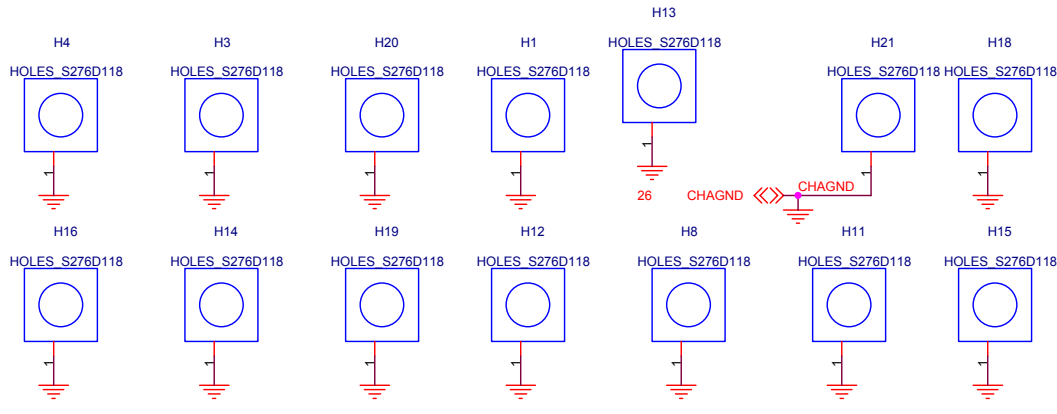


PC67 10U/25V_NC-->10U/25V

Current limit at 5A for +3.3V

Current limit at 5A for +5V





www.s-manuals.com