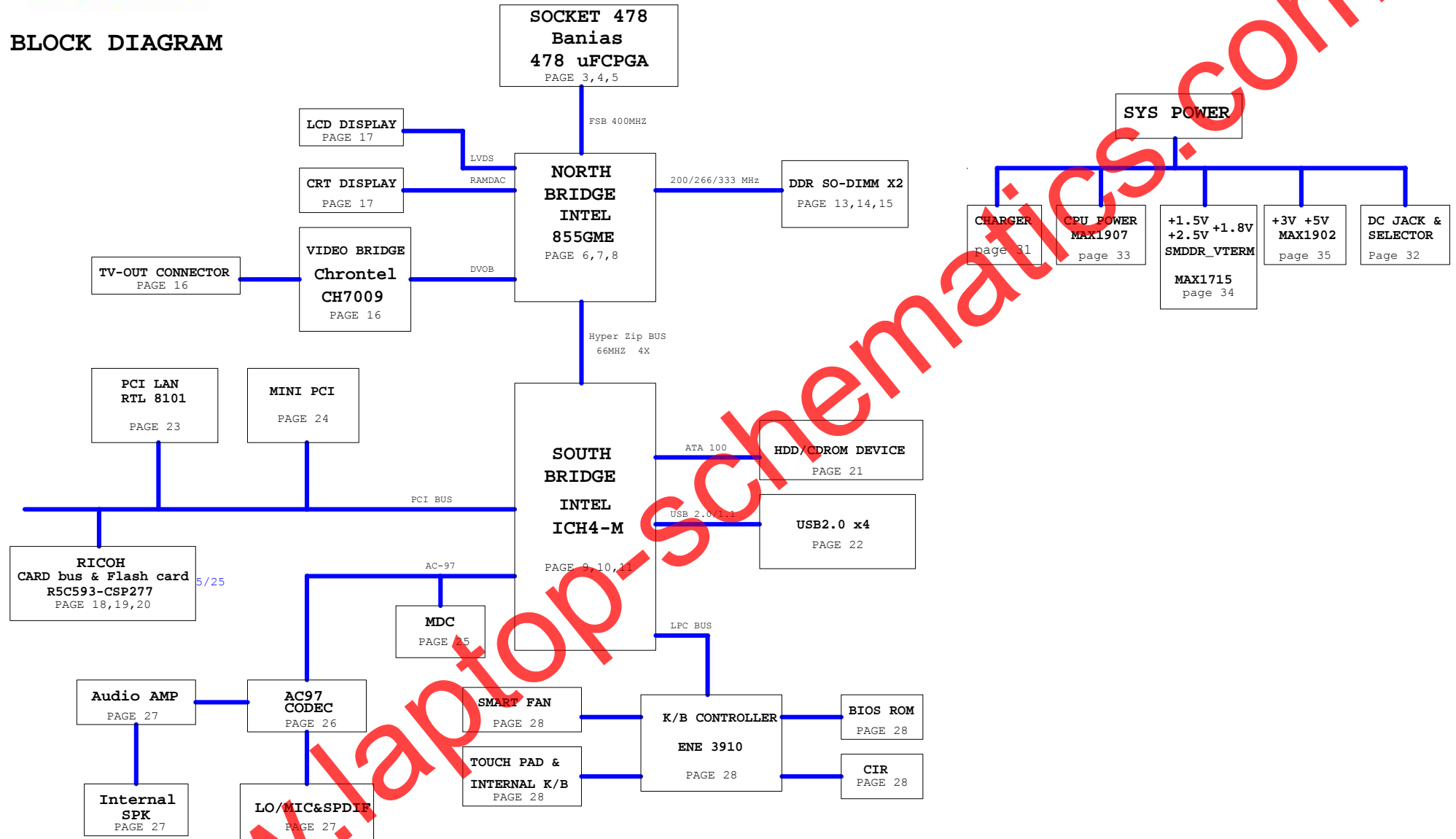


BLOCK DIAGRAM



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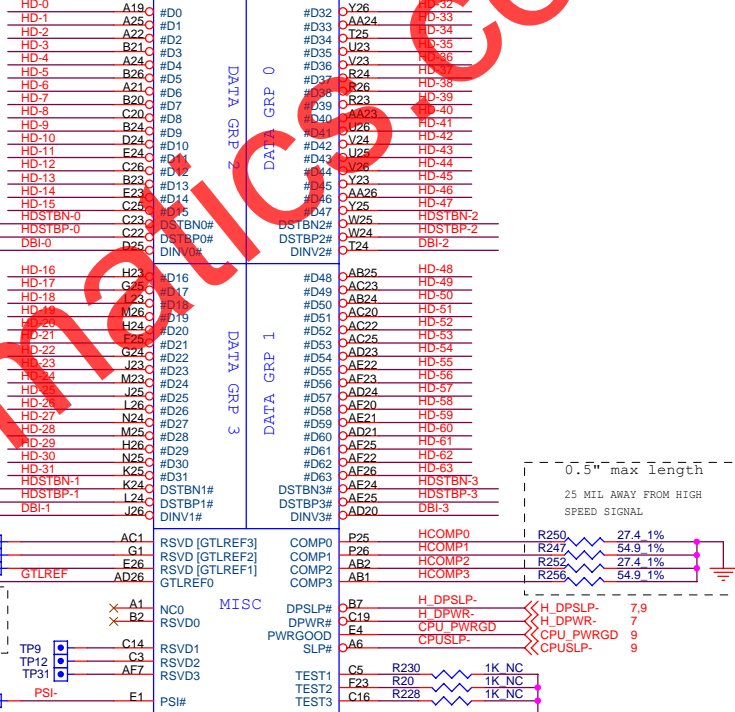
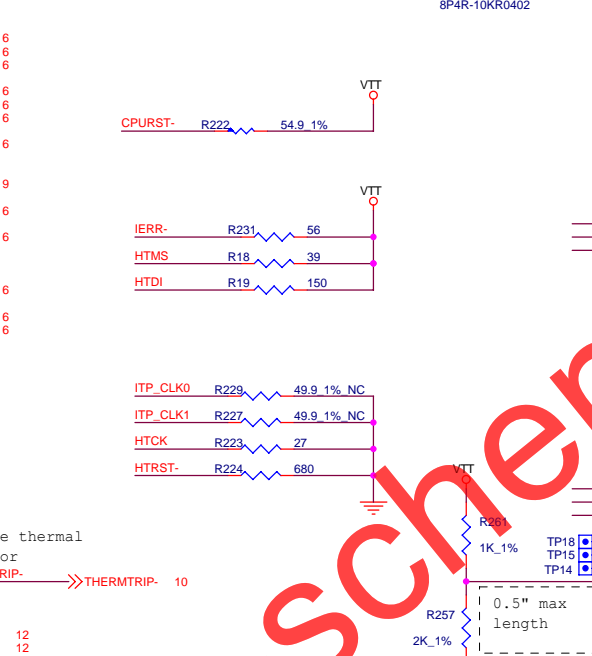
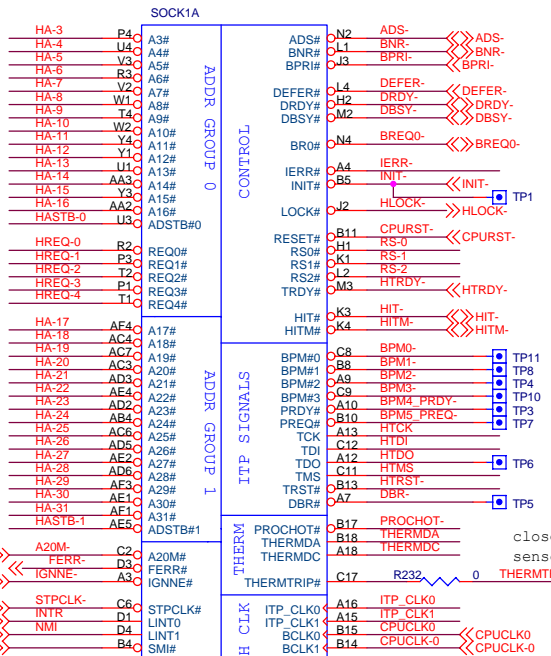
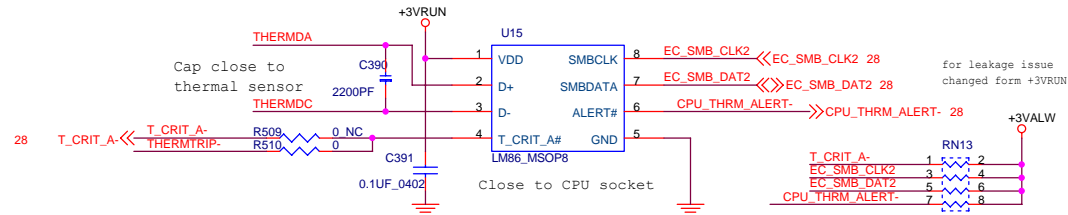
Voltage Rails

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

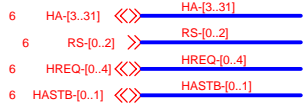
STATE \ SIGNAL	SLP_S3#	SLP_S4#	SLP_S5#	+V*ALWAYS	+V*SUS	+V*RUN	Clocks
Full ON	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1M(Power On Suspend)	HIGH	HIGH	HIGH	ON	ON	ON	LOW
S3(Suspend to RAM)	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4(Suspend to Disk)	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 / Soft OFF	LOW	LOW	LOW	ON	OFF	OFF	OFF

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

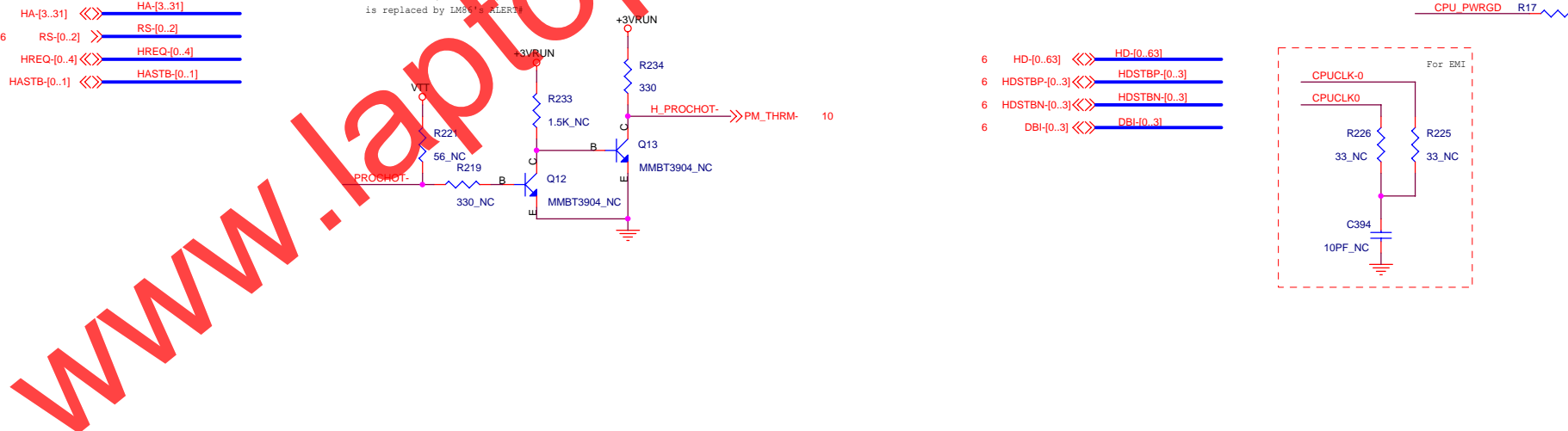
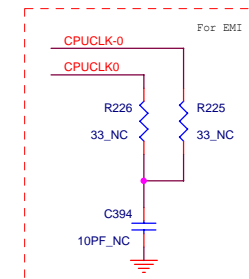
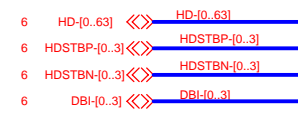
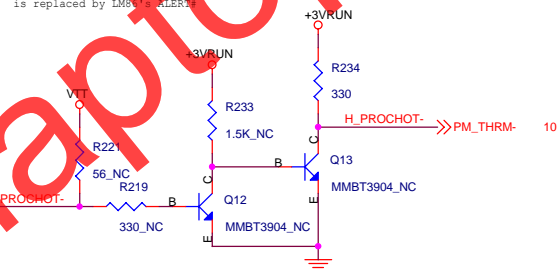


AMP_1612364_Banias-CPU-SOCKET
 N12-4780040-A10
 SOCKET_MPGA478

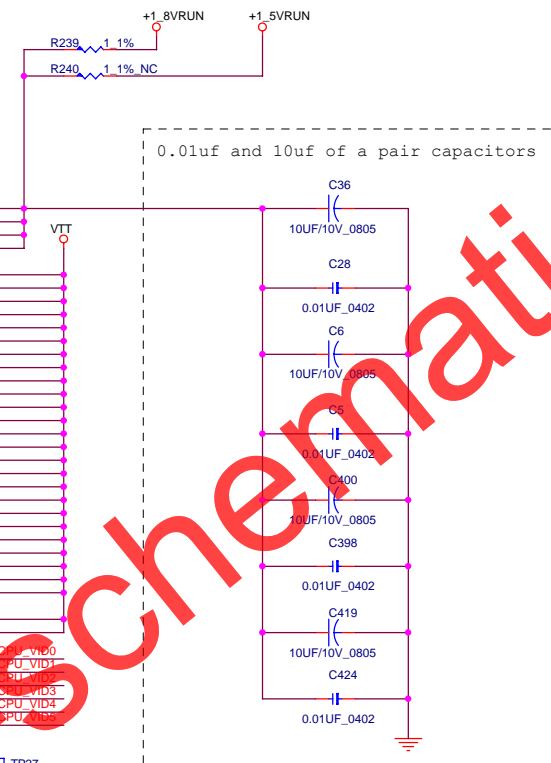
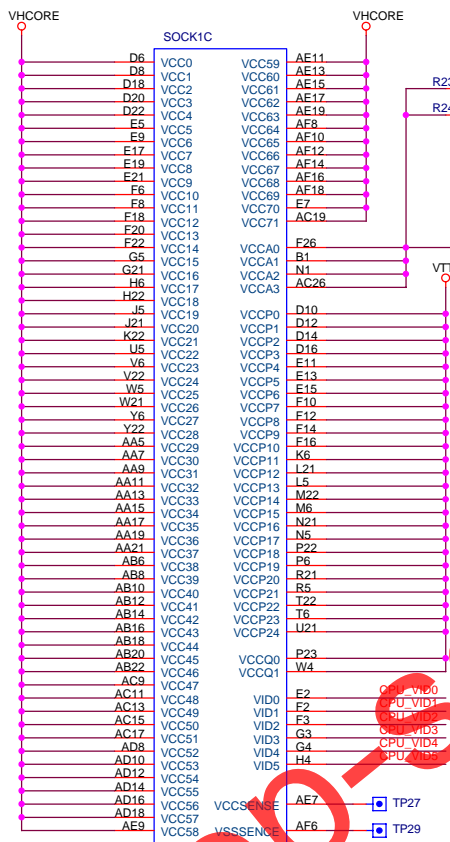
AMP_1612364_Banias-CPU-SOCKET
 N12-4780040-A10
 SOCKET_MPGA478



The PROCHOT# (ICH4_THERM) function is replaced by LM86's ALERT#

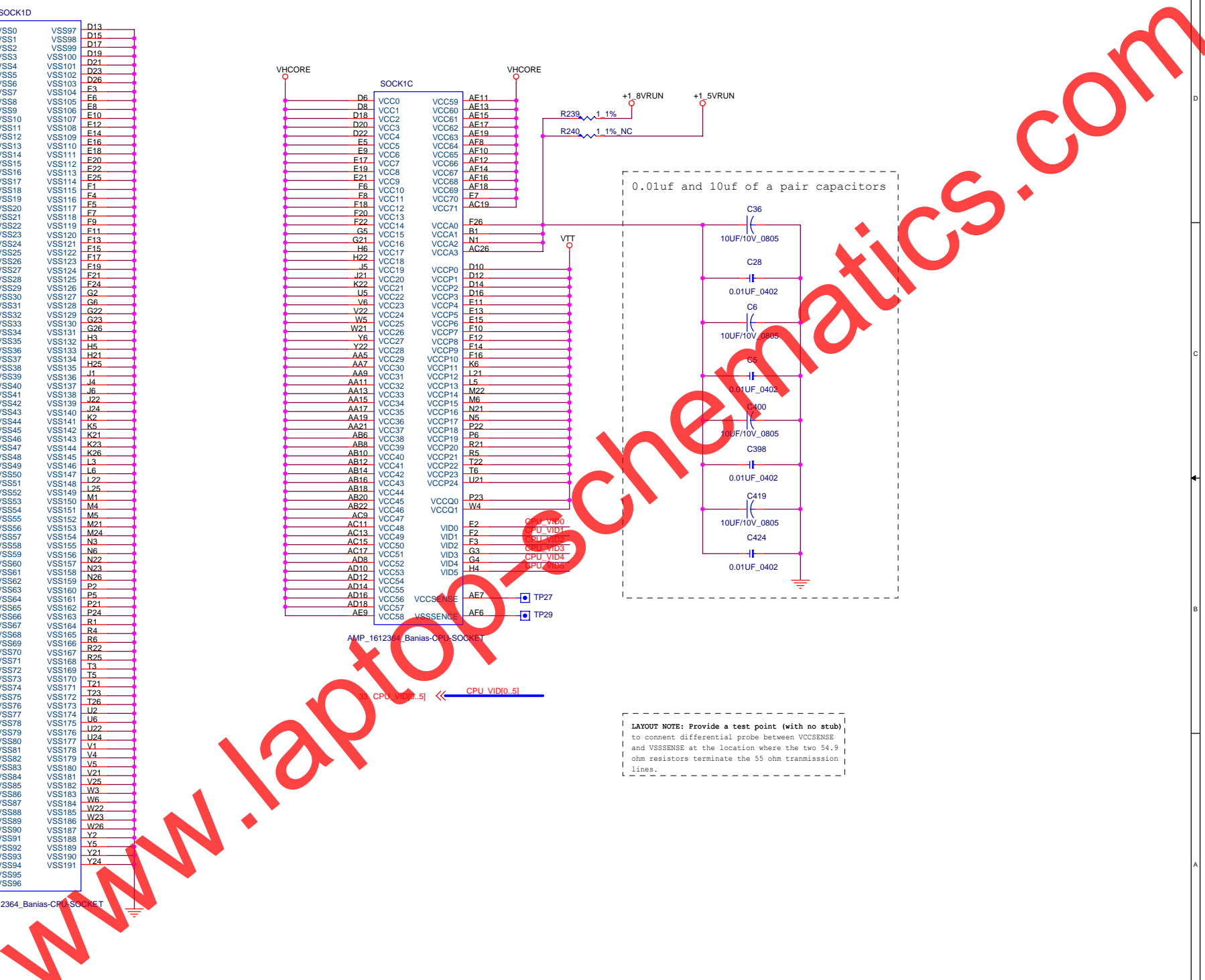


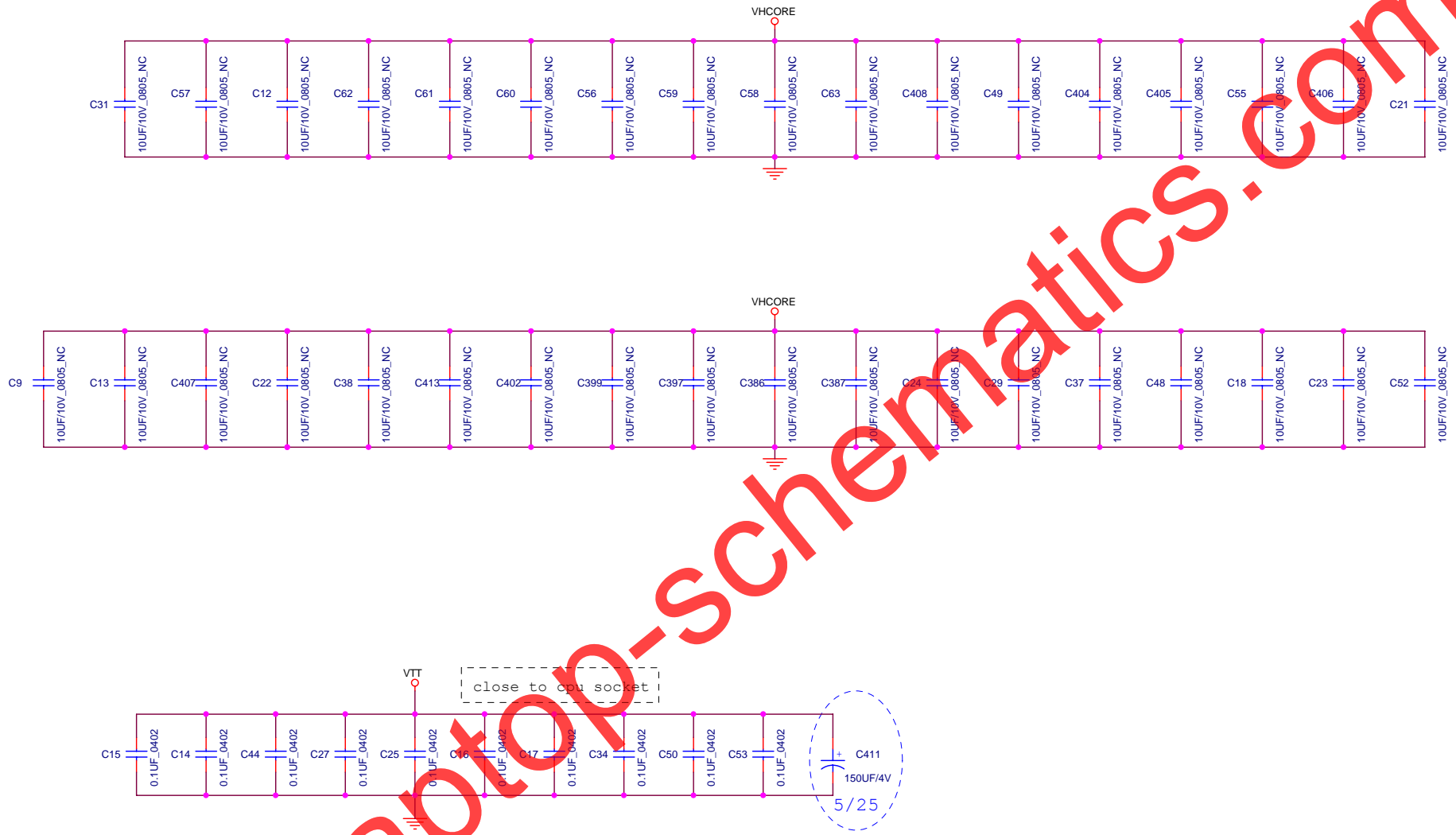
SOCK1D		
A2	VSS0	D13
A5	VSS1	D15
A8	VSS2	D17
A11	VSS3	D19
A14	VSS4	D21
A17	VSS5	D23
A20	VSS6	D26
A23	VSS7	E3
A26	VSS8	E8
AA1	VSS9	E10
AA4	VSS10	E12
AA6	VSS11	E14
AA8	VSS12	E16
AA10	VSS13	E18
AA12	VSS14	E20
AA14	VSS15	E22
AA16	VSS16	E25
AA18	VSS17	F1
AA20	VSS18	F4
AA22	VSS19	F5
AA25	VSS20	F7
AB3	VSS21	F9
AB5	VSS22	F11
AB7	VSS23	F13
AB9	VSS24	F15
AB11	VSS25	F17
AB13	VSS26	F19
AB15	VSS27	F21
AB17	VSS28	F24
AB19	VSS29	G2
AB21	VSS30	G6
AB23	VSS31	G6
AB26	VSS32	G22
AC2	VSS33	G26
AC5	VSS34	H3
AC8	VSS35	H5
AC10	VSS36	H21
AC12	VSS37	H25
AC14	VSS38	J5
AC16	VSS39	J5
AC18	VSS40	J6
AC21	VSS41	J22
AC24	VSS42	J24
AD1	VSS43	K2
AD4	VSS44	K2
AD7	VSS45	K21
AD9	VSS46	K23
AD11	VSS47	K26
AD13	VSS48	L3
AD15	VSS49	L6
AD17	VSS50	L25
AD19	VSS51	M1
AD22	VSS52	M4
AD25	VSS53	M5
AE3	VSS54	M24
AE6	VSS55	N3
AE8	VSS56	N6
AE10	VSS57	N22
AE12	VSS58	N23
AE14	VSS59	N26
AE16	VSS60	P2
AE18	VSS61	P5
AE20	VSS62	P21
AE23	VSS63	P24
AE26	VSS64	R1
AF2	VSS65	R4
AF5	VSS66	R6
AF9	VSS67	R22
AF11	VSS68	R25
AF13	VSS69	T3
AF15	VSS70	T5
AF17	VSS71	T6
AF19	VSS72	T21
AF21	VSS73	T23
AF24	VSS74	T26
B3	VSS75	U2
B6	VSS76	U6
B9	VSS77	U22
B12	VSS78	U24
B16	VSS79	V4
B19	VSS80	V5
B22	VSS81	V21
B25	VSS82	V25
C1	VSS83	W3
C4	VSS84	W6
C7	VSS85	W22
C10	VSS86	W23
C13	VSS87	W26
C15	VSS88	Y2
C18	VSS89	Y5
C21	VSS90	Y21
C24	VSS91	Y24
D2	VSS92	
D5	VSS93	
D7	VSS94	
D9	VSS95	
D11	VSS96	



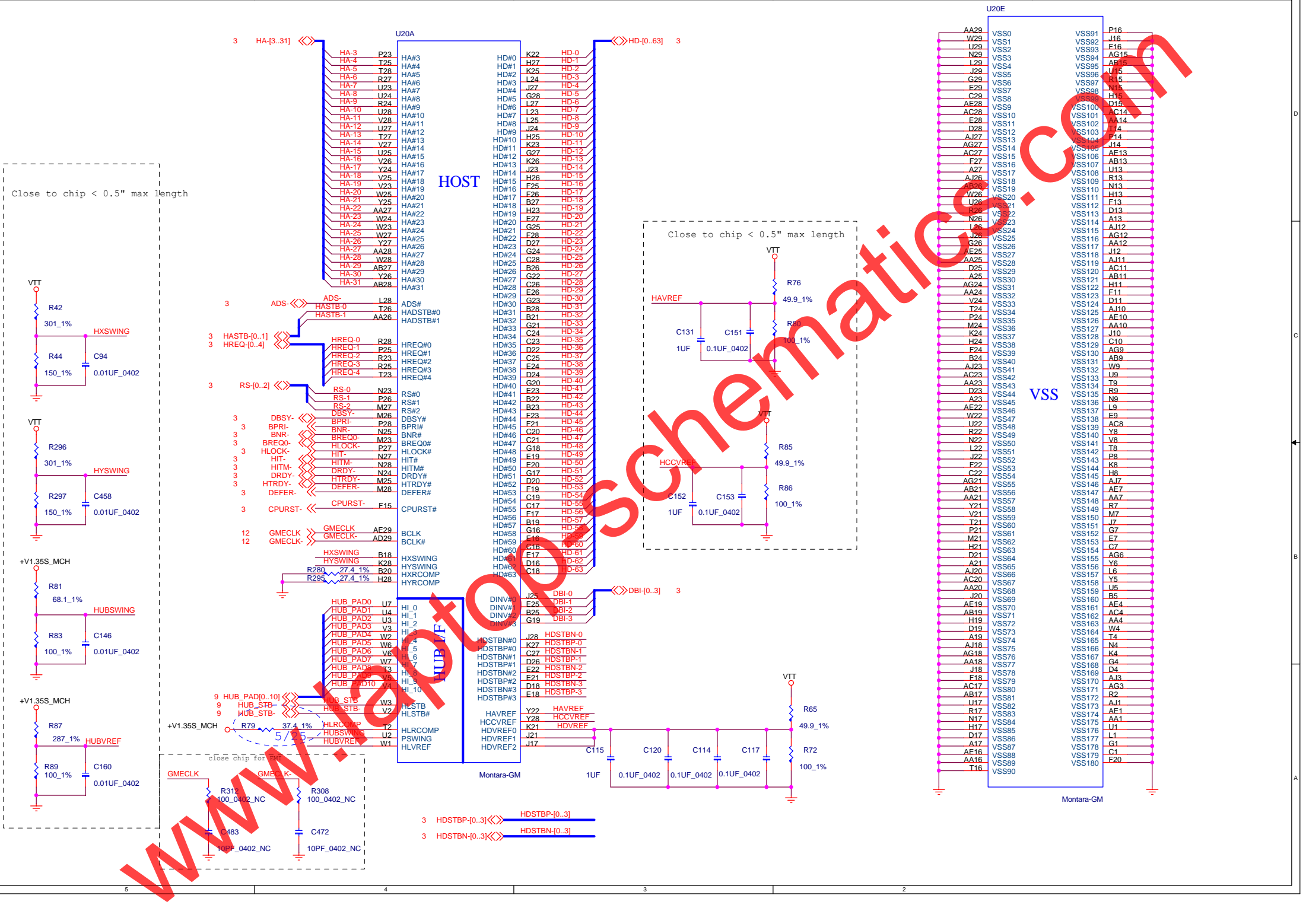
LAYOUT NOTE: Provide a test point (with no stub) to connect differential probe between VCCSENSE and VSSSENSE at the location where the two 54.9 ohm resistors terminate the 55 ohm transmission lines.

AMP_1612364_Banias-CPU-SOCKET



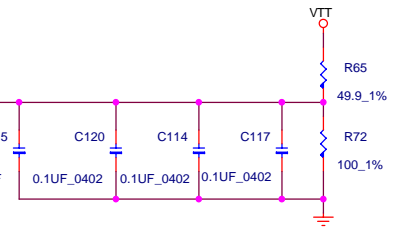
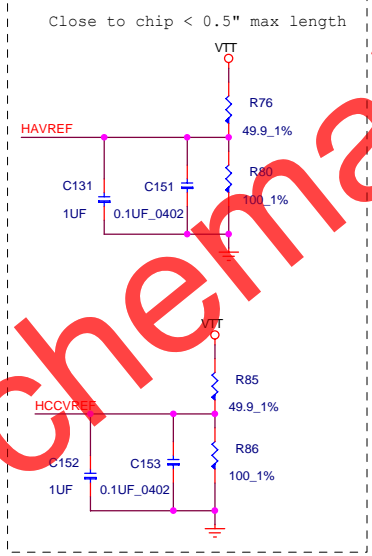
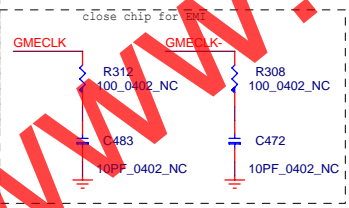
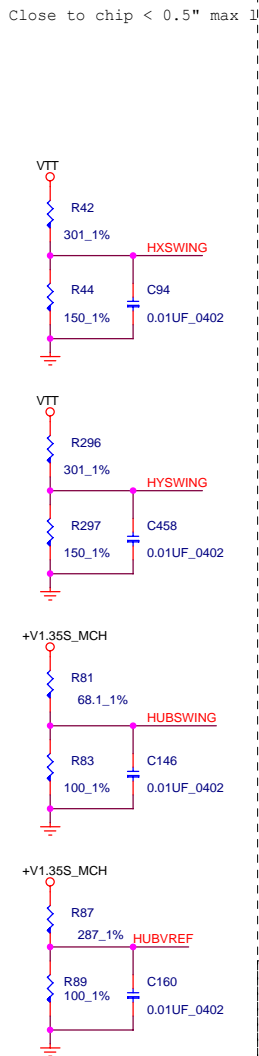


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Close to chip < 0.5" max length

Close to chip < 0.5" max length



HOST

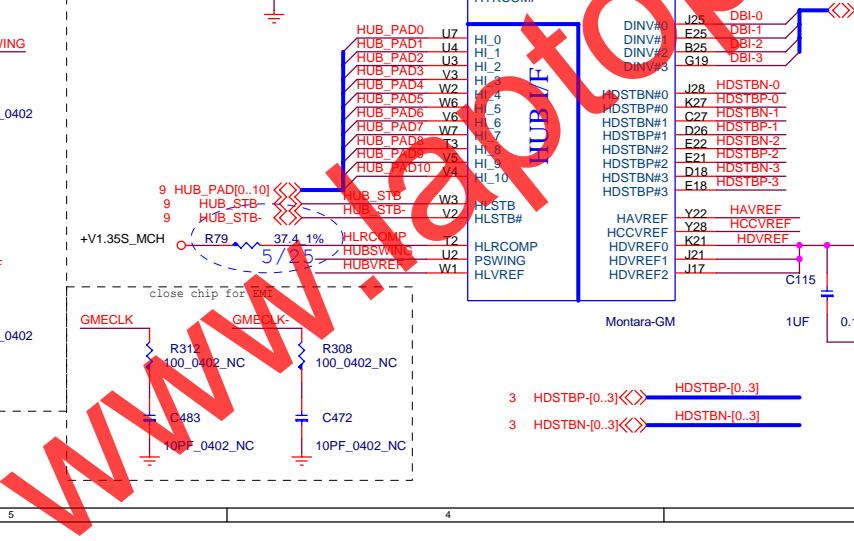
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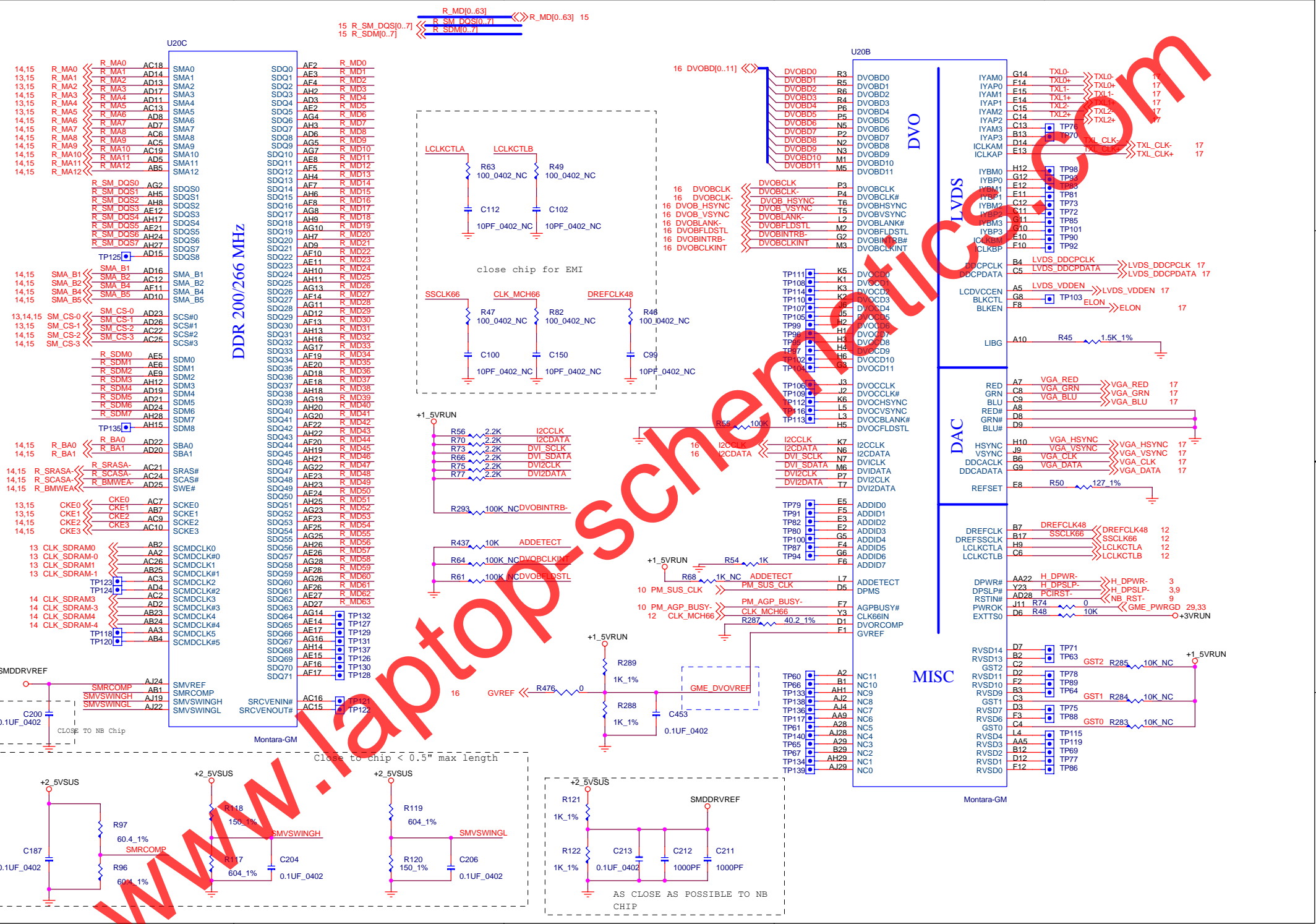
VSS

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

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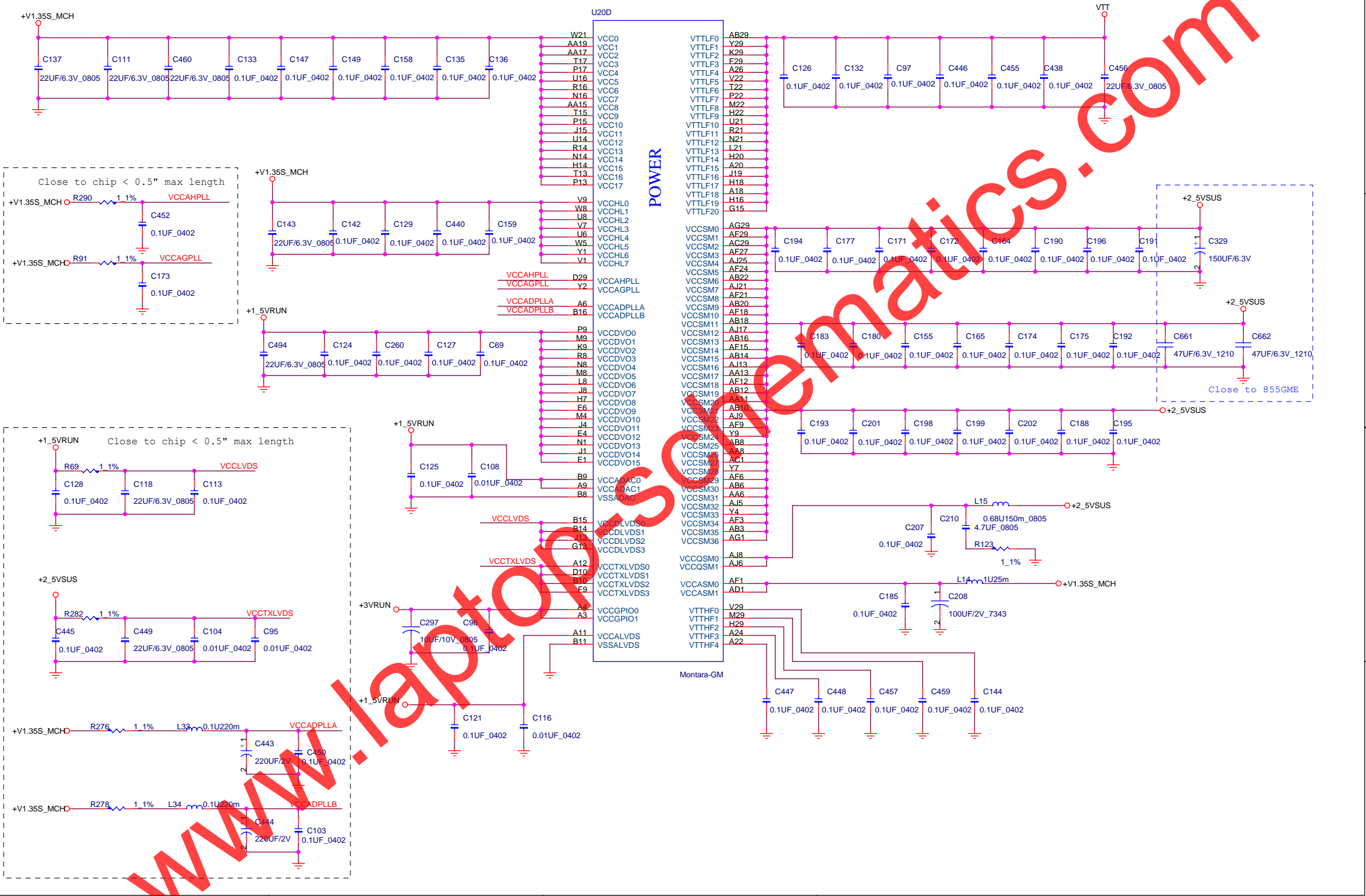
DDR 200/266 MHz

close chip for EMI

AS CLOSE AS POSSIBLE TO NB CHIP

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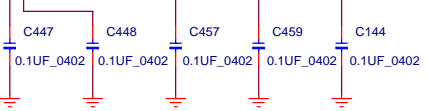
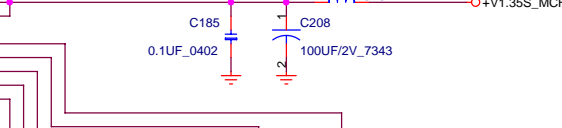
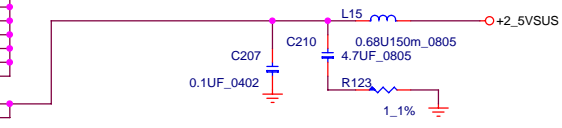
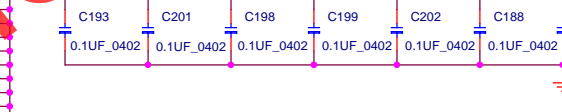
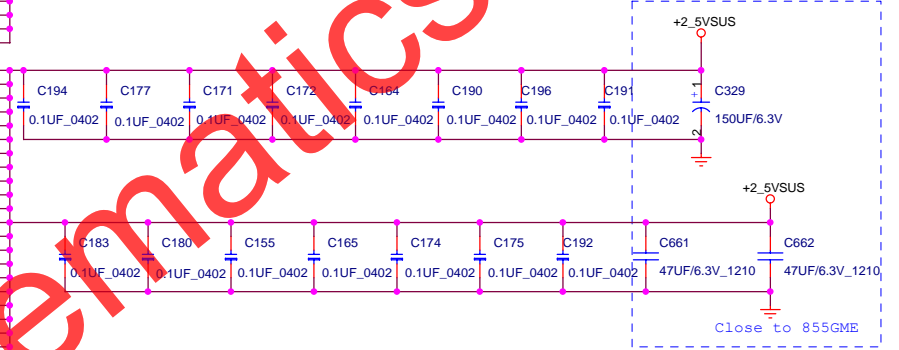
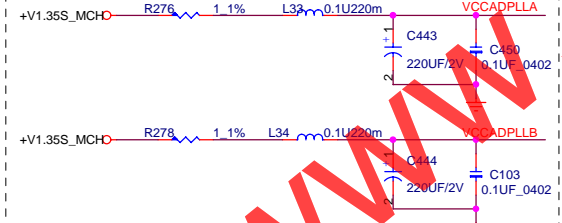
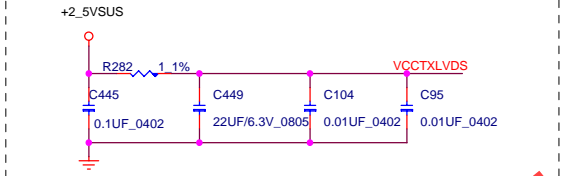
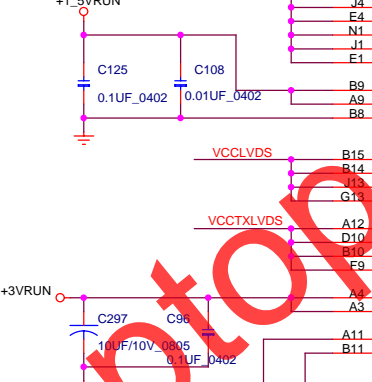
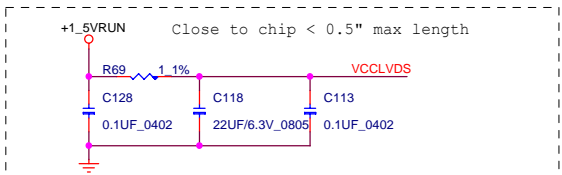
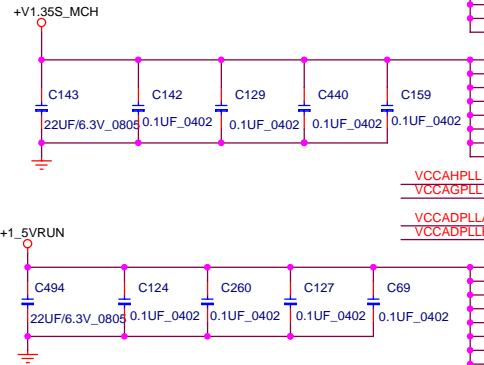
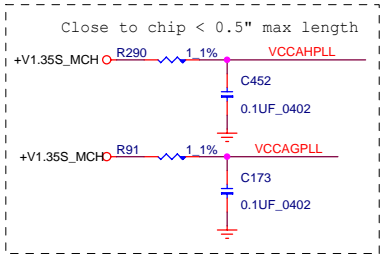


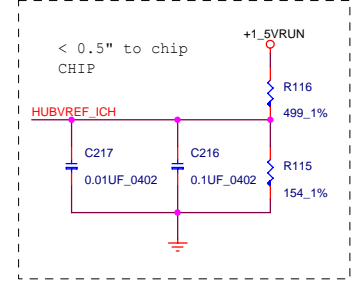
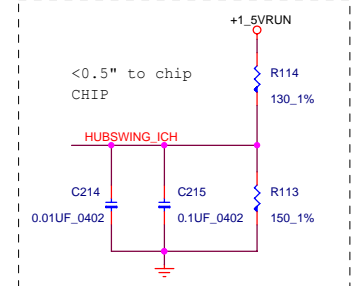
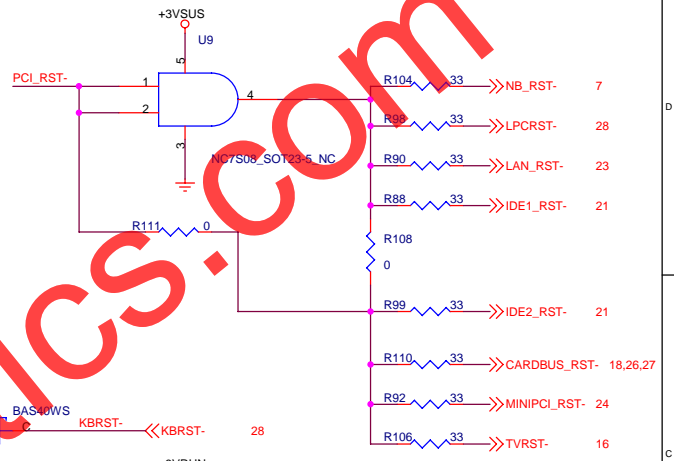
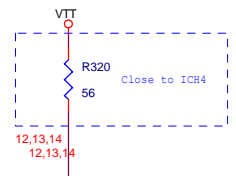
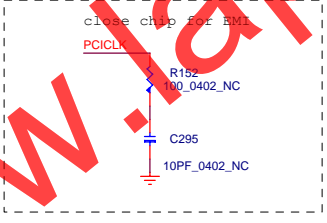
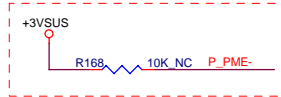
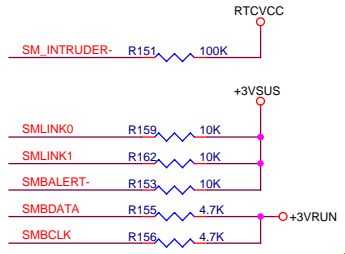
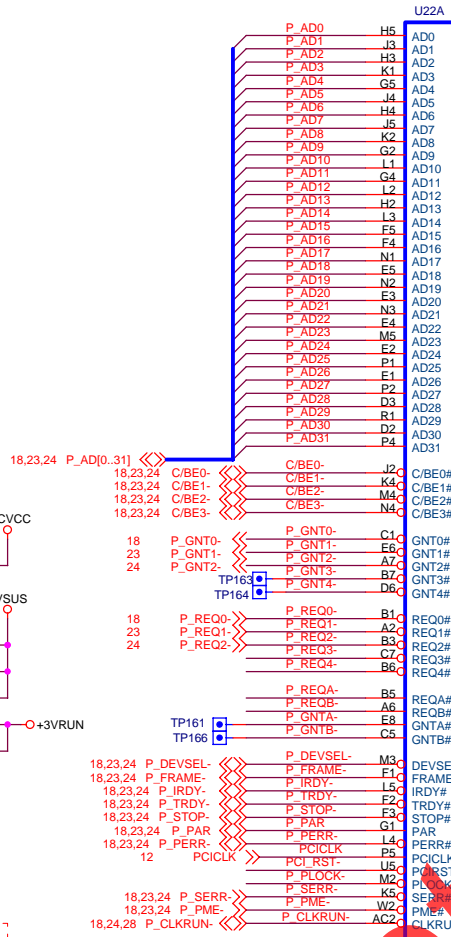
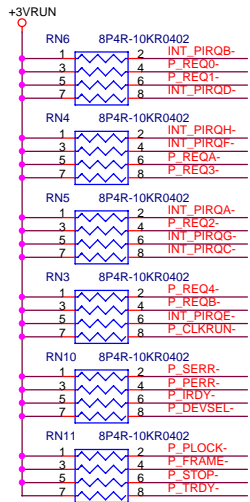
U20D

POWER

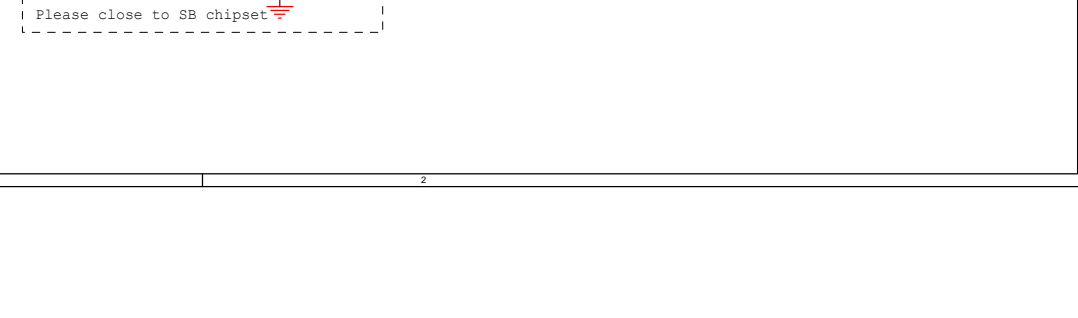
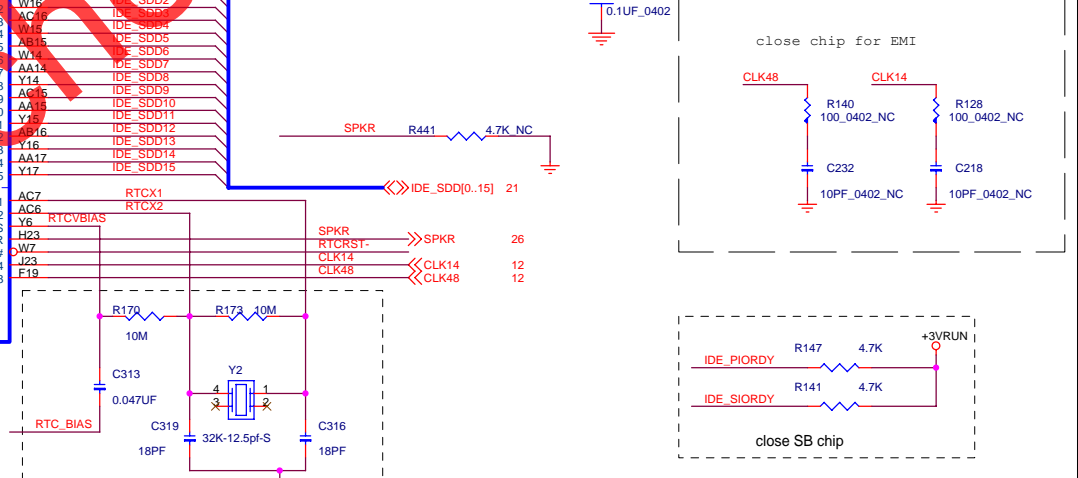
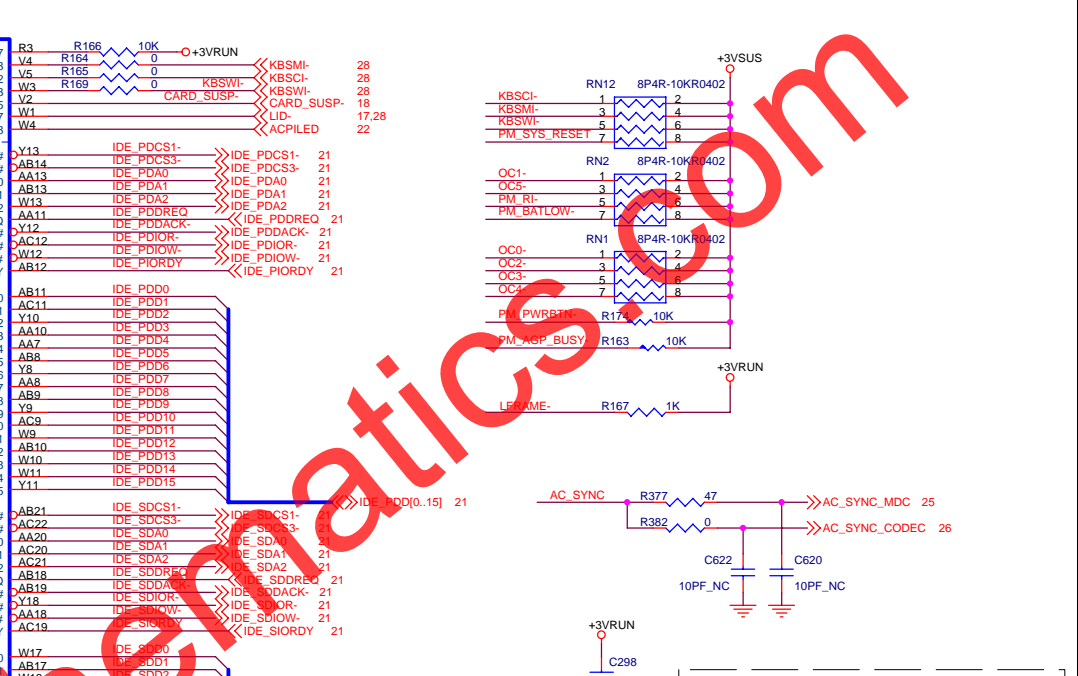
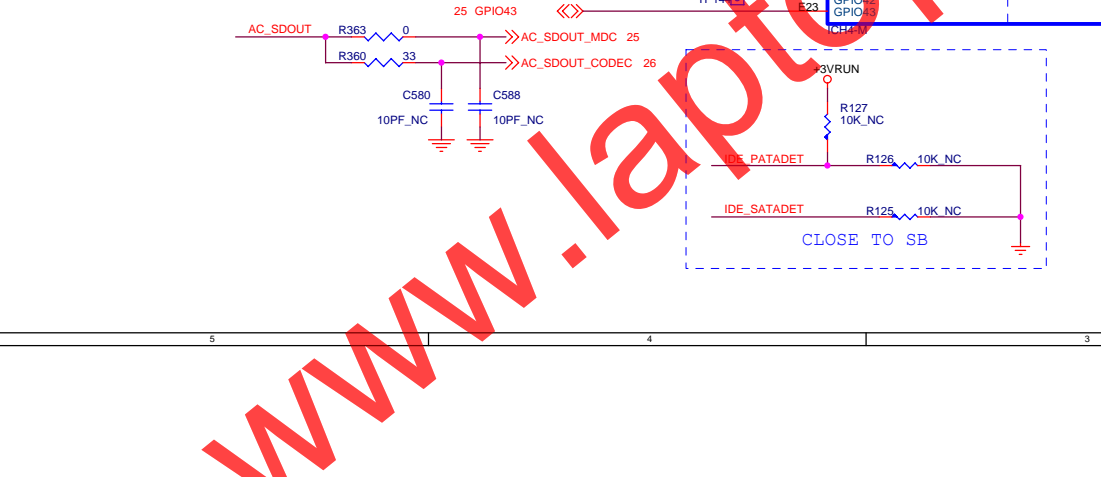
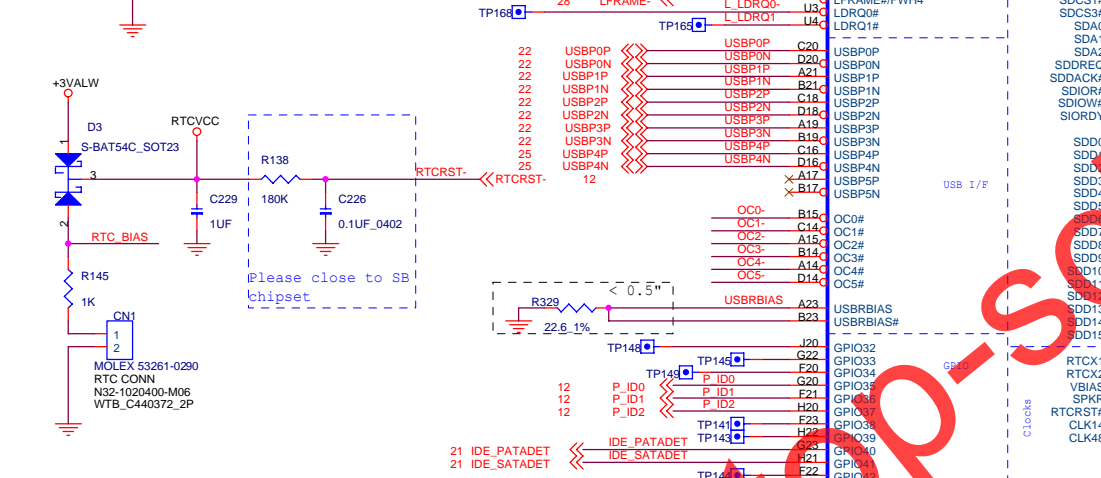
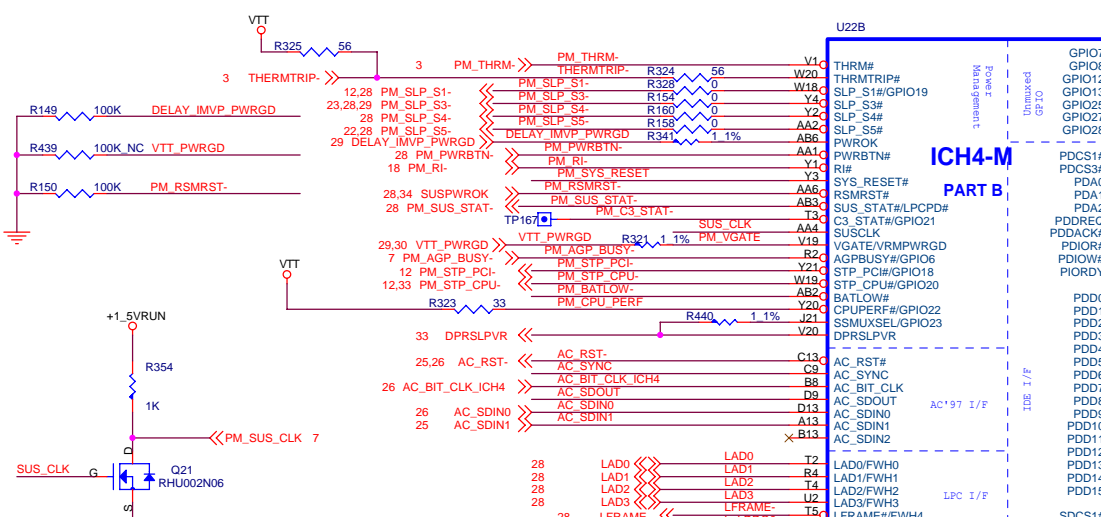
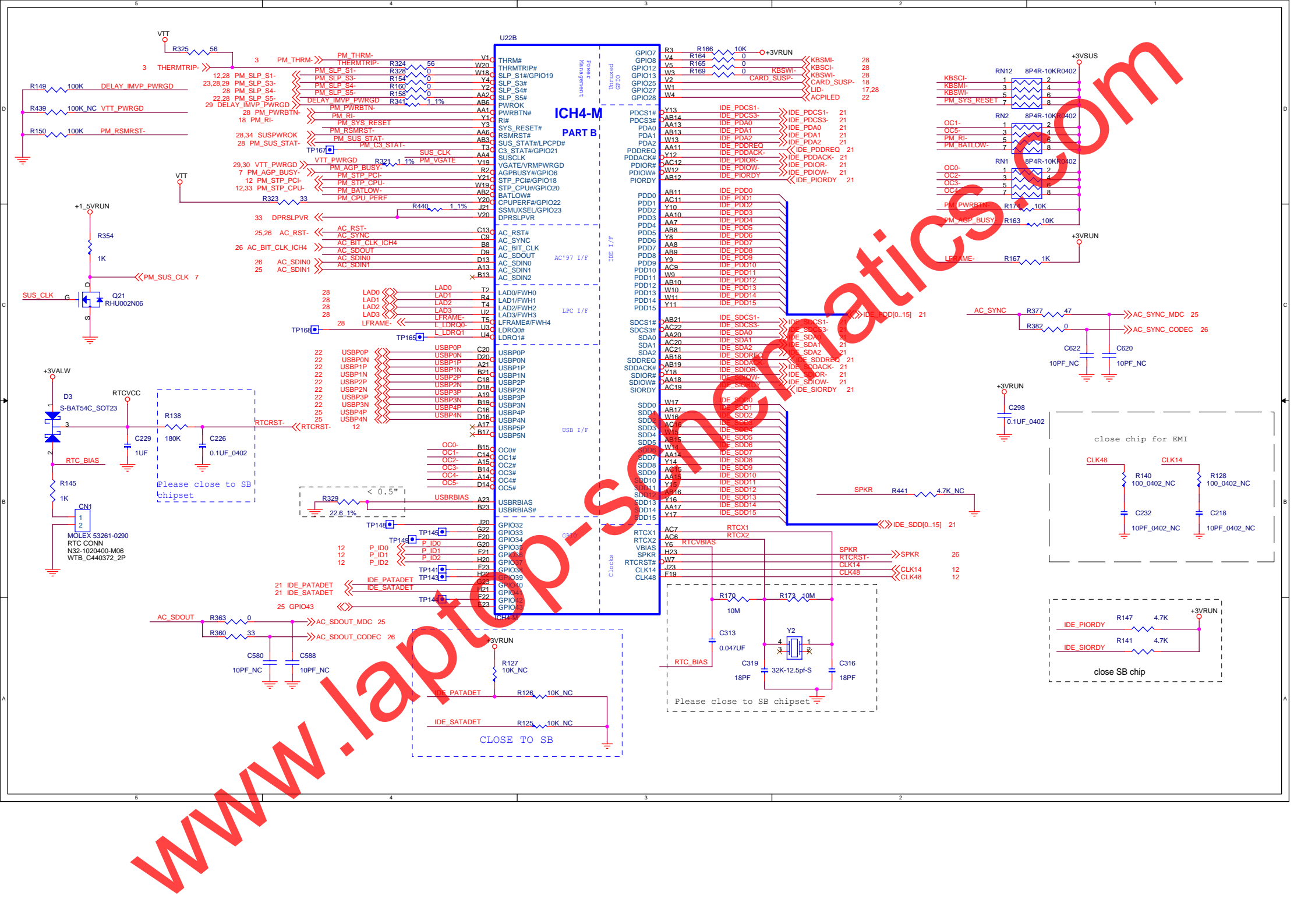
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AA19	VCC1	VTTLF1	Y29
AA17	VCC2	VTTLF2	K29
T17	VCC3	VTTLF3	F29
P17	VCC4	VTTLF4	A26
U16	VCC5	VTTLF5	V22
R16	VCC6	VTTLF6	T22
N16	VCC7	VTTLF7	P22
AA15	VCC8	VTTLF8	M22
T15	VCC9	VTTLF9	H22
P15	VCC10	VTTLF10	U21
H14	VCC11	VTTLF11	R21
R14	VCC12	VTTLF12	N21
N14	VCC13	VTTLF13	L21
H14	VCC14	VTTLF14	H20
T13	VCC15	VTTLF15	A20
P13	VCC16	VTTLF16	J19
U13	VCC17	VTTLF17	H18
V9	VCCHL0	VTTLF18	A18
W8	VCCHL1	VTTLF19	G15
U8	VCCHL2	VTTLF20	G15
V7	VCCHL3		
U6	VCCHL4	VCCSM0	AG29
W5	VCCHL5	VCCSM1	AF29
Y1	VCCHL6	VCCSM2	AC29
V1	VCCHL7	VCCSM3	AF27
		VCCSM4	AJ25
		VCCSM5	AF24
		VCCSM6	AB22
		VCCSM7	AJ21
		VCCSM8	AF21
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		VCCSM16	AJ13
		VCCSM17	AA13
		VCCSM18	AF12
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		VCCSM20	AA11
		VCCSM21	AB10
		VCCSM22	AJ9
		VCCSM23	AF9
		VCCSM24	Y9
		VCCSM25	AB8
		VCCSM26	AA8
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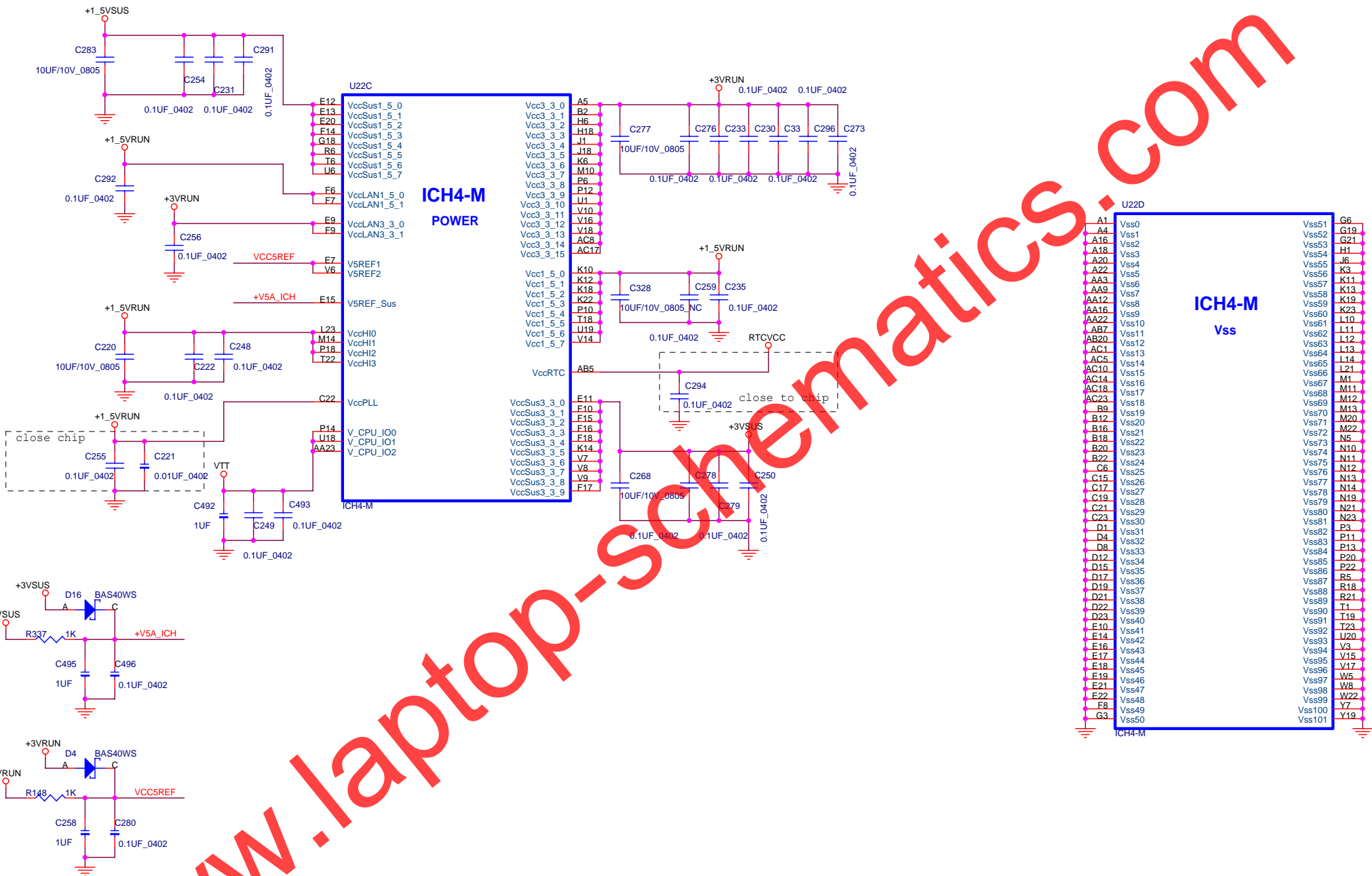




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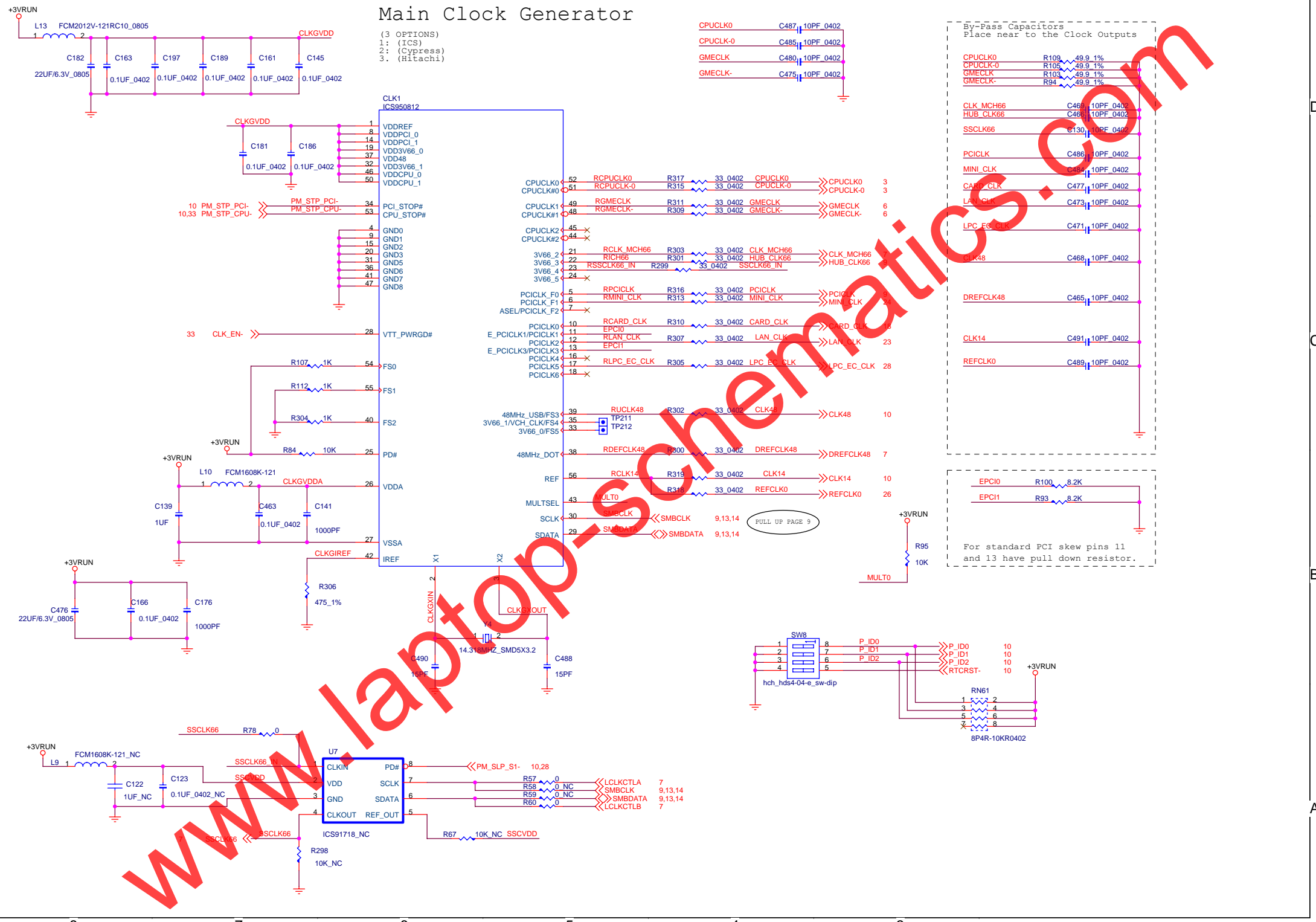
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www.laptop-schematics.com

Main Clock Generator

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



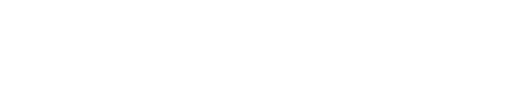
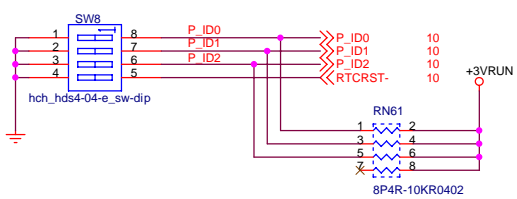
By-Pass Capacitors
Place near to the Clock Outputs

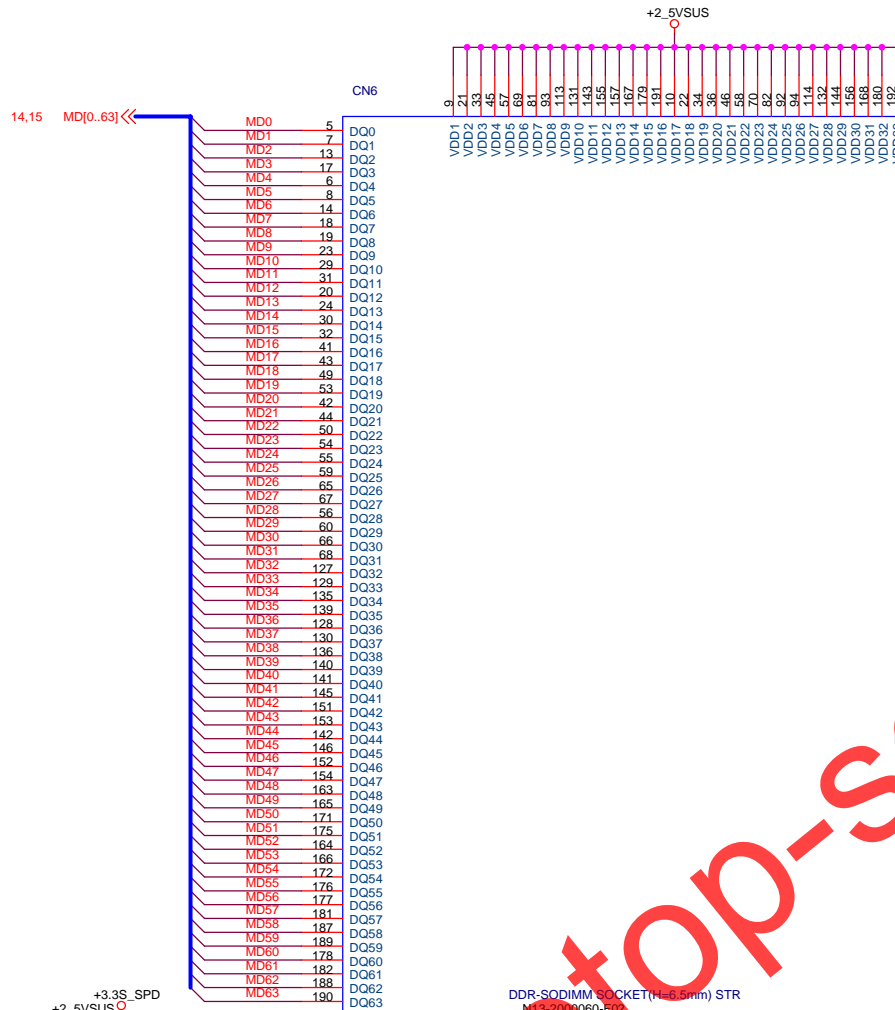
- CPUCLK0 R109 49.9 1%
- CPUCLK-0 R105 49.9 1%
- GMECLK R103 49.9 1%
- GMECLK- R94 49.9 1%

- CLK_MCH66 C469 10PF 0402
- HUB_CLK66 C468 10PF 0402
- SSCLK66 C130 10PF 0402
- PCICLK C486 10PF 0402
- MINI_CLK C484 10PF 0402
- CARD_CLK C477 10PF 0402
- LAN_CLK C473 10PF 0402
- LPC_EC_CLK C471 10PF 0402
- CLK48 C468 10PF 0402
- DREFCLK48 C465 10PF 0402
- CLK14 C491 10PF 0402
- REFCLK0 C489 10PF 0402

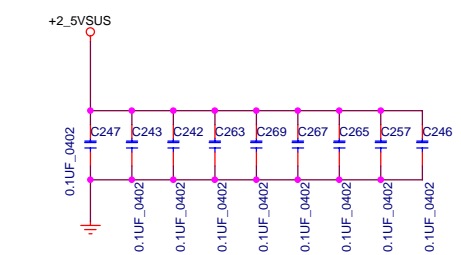
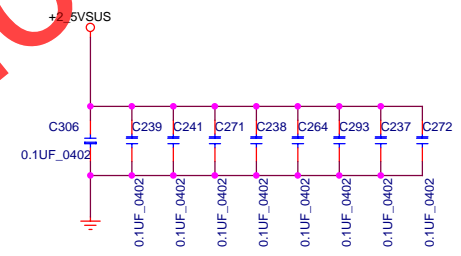
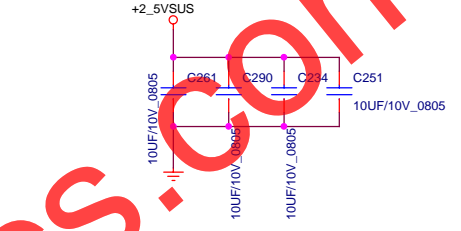
- EPCIO R100 8.2K
- EPC1 R93 8.2K

For standard PCI skew pins 11 and 13 have pull down resistor.



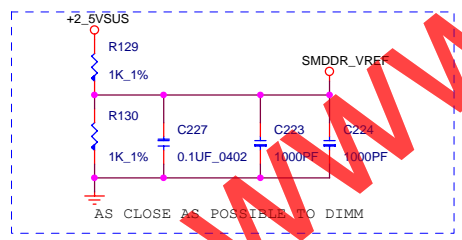


Layout note: Place capacitors between and near DDR connector if possible.

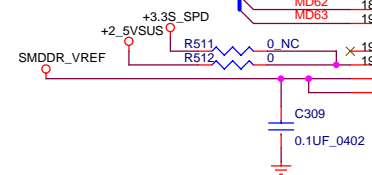


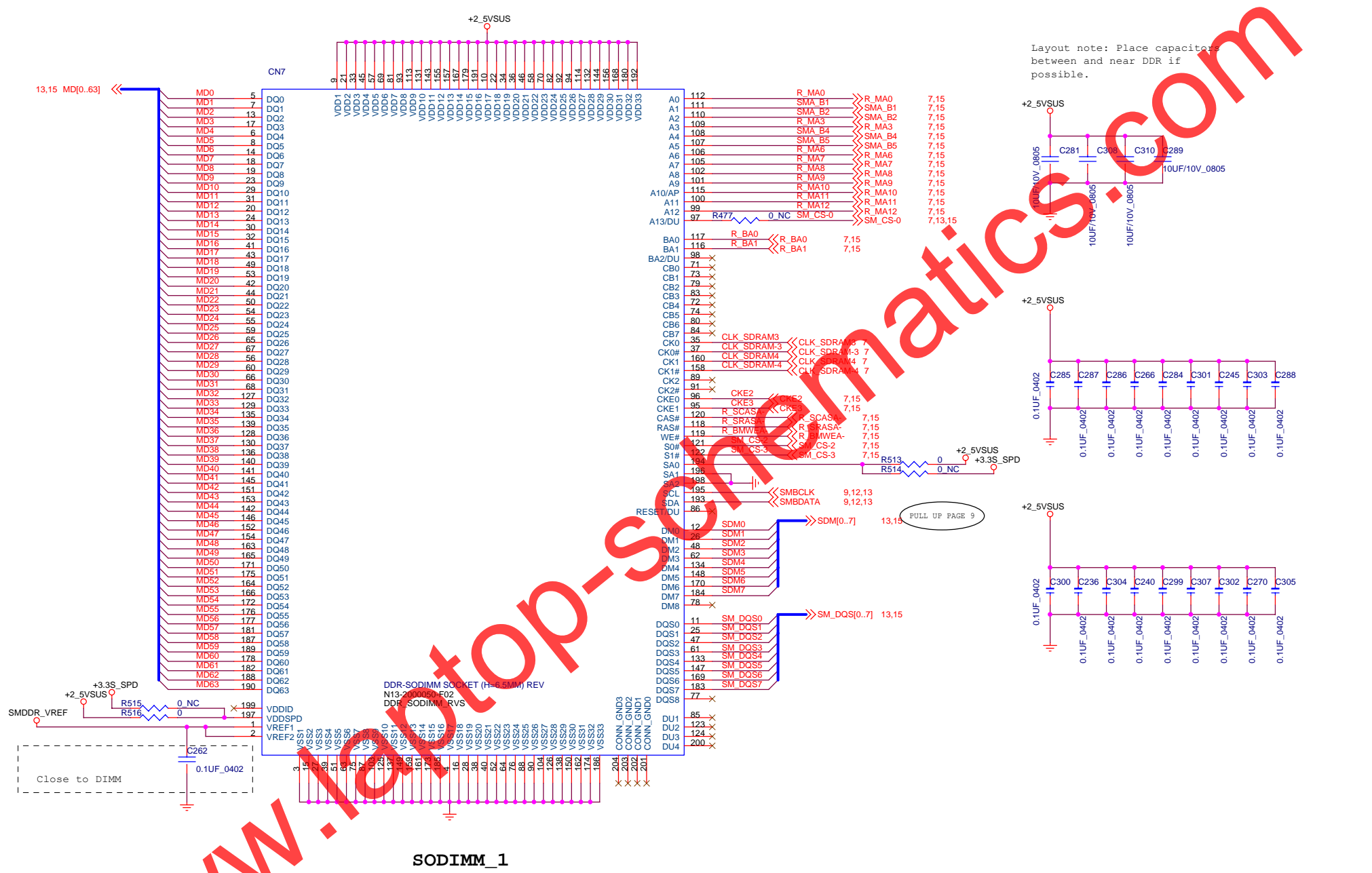
FULL UP PAGE 9

5/25



DDR-SODIMM SOCKET(H=6.5mm) STR
N13-200060-F02
DDR_SODIMM_STD





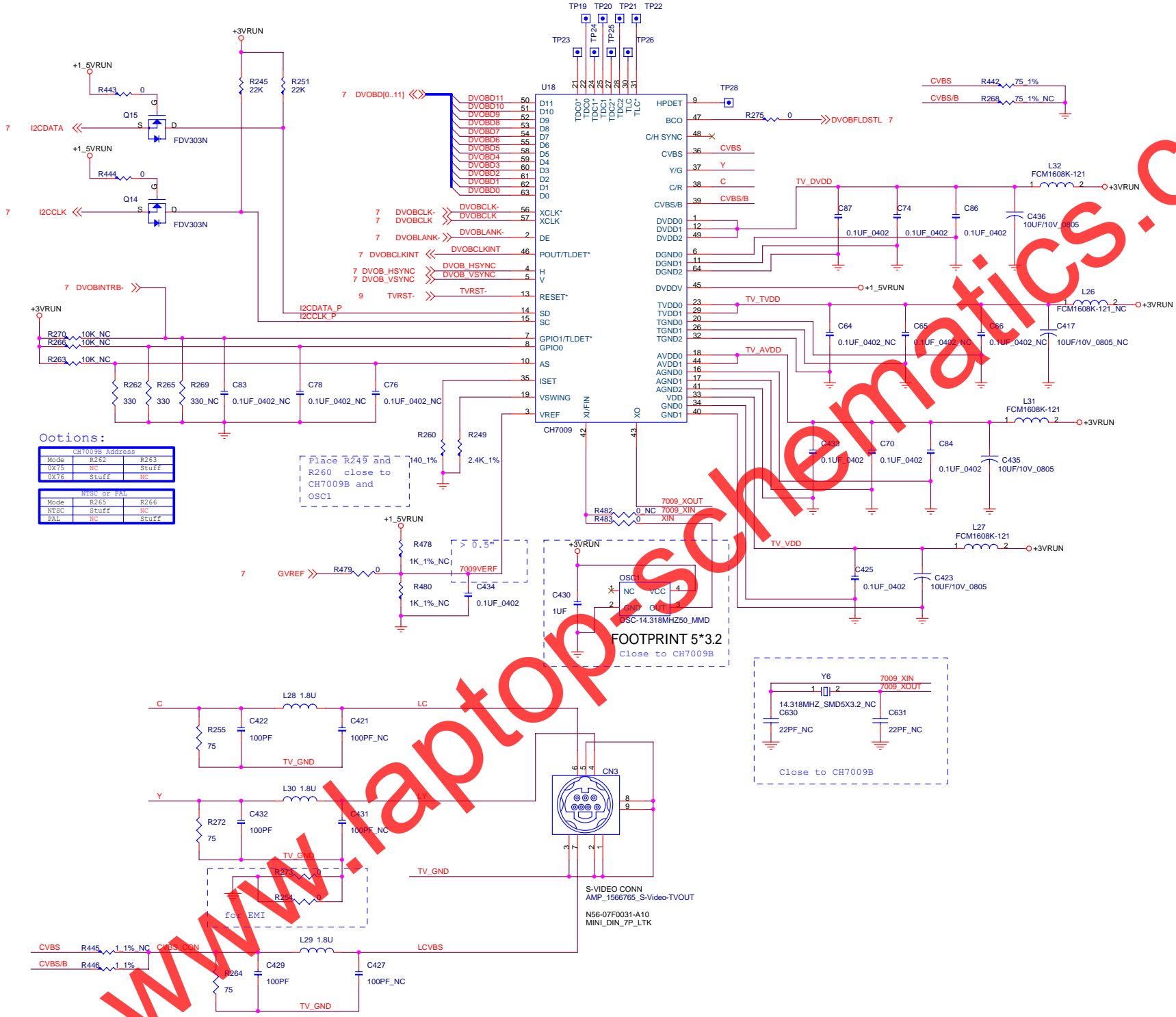
Layout note: Place capacitors between and near DDR if possible.

FULL UP PAGE 9

SODIMM_1

Close to DIMM

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Options:

CH7009B Address		
Mode	R262	R263
0x75	NC	Stuff
0x76	Stuff	NC

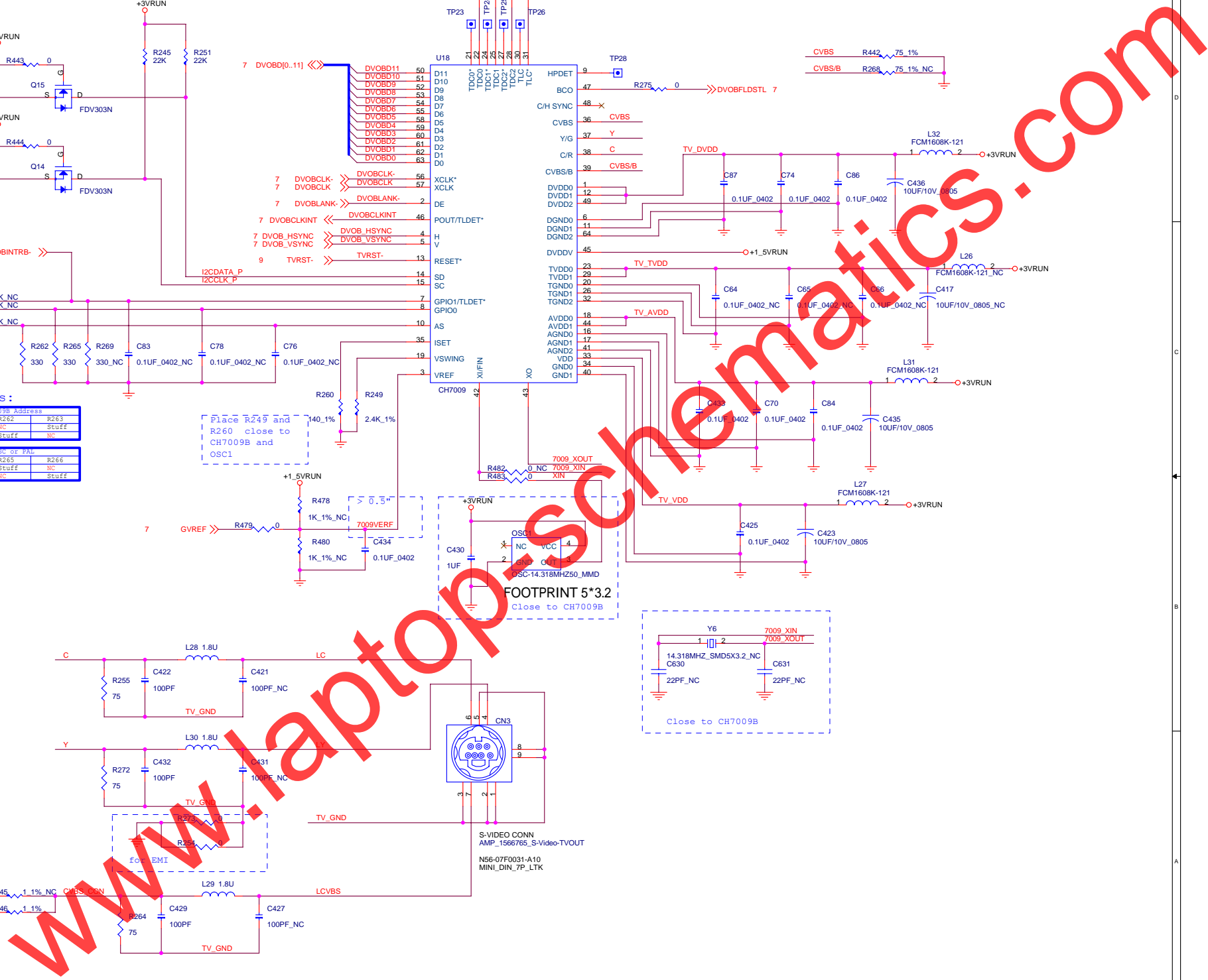
NTSC or PAL		
Mode	R265	R266
NTSC	Stuff	NC
PAL	NC	Stuff

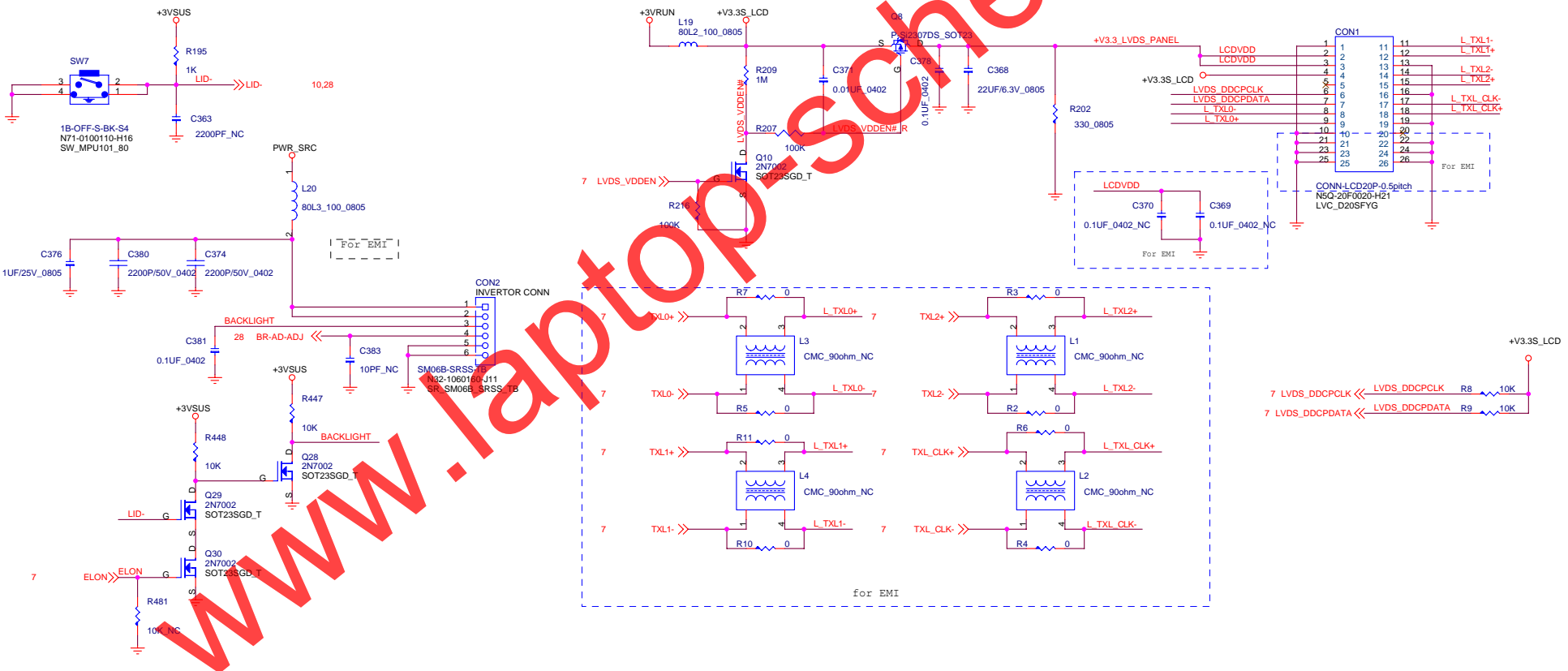
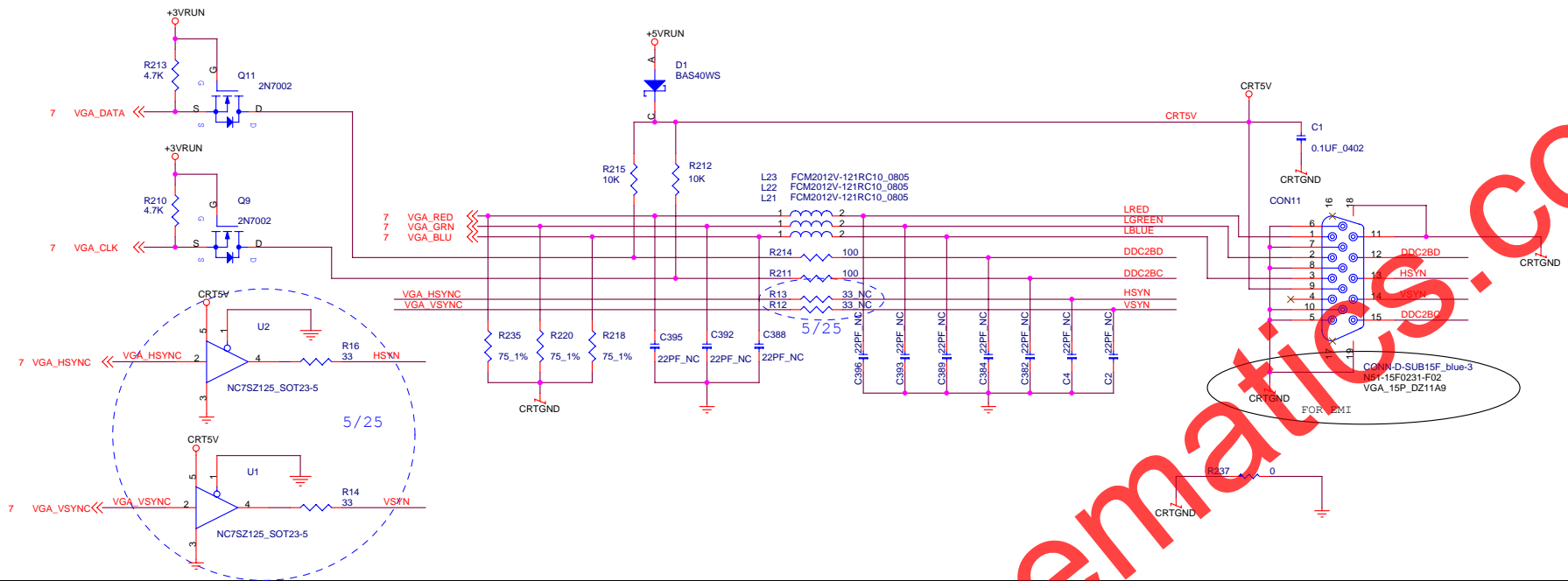
Place R249 and R260 close to CH7009B and OSC1

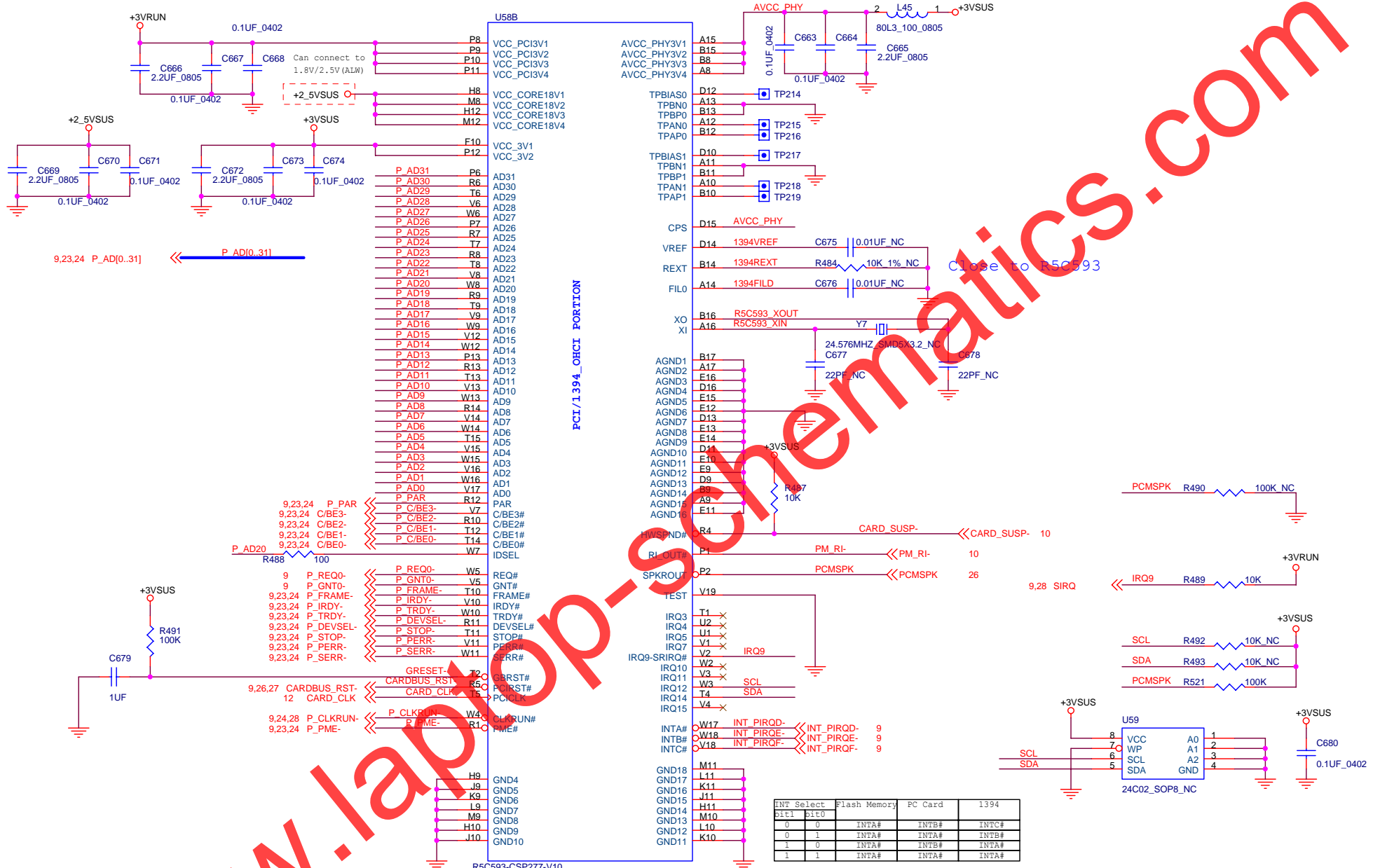
FOOTPRINT 5*3.2
Close to CH7009B

Y6
14.318MHZ_SMD5X3.2_NC
C630
22PF_NC
7009_XIN
7009_XOUT
C631
22PF_NC
Close to CH7009B

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



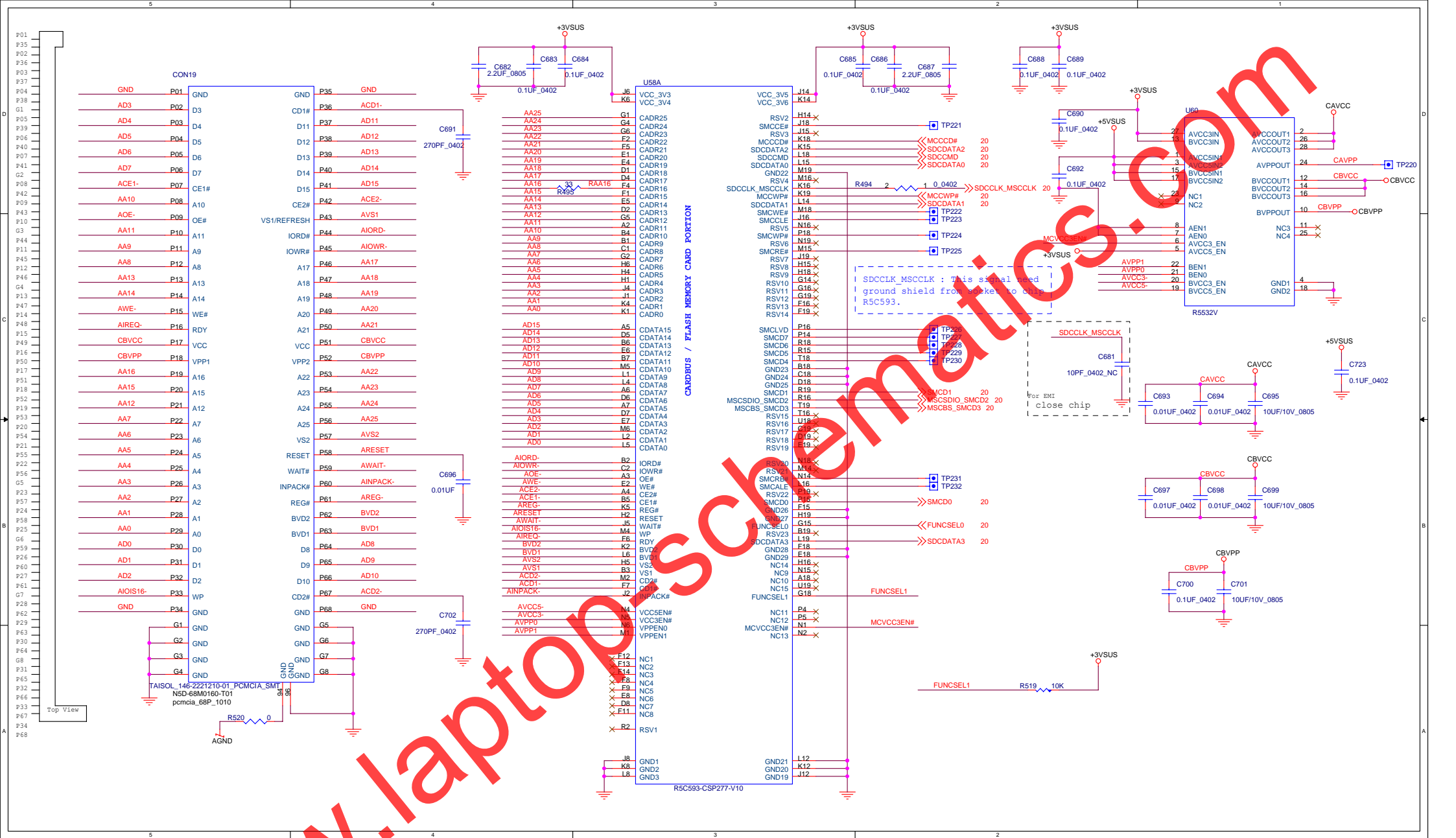




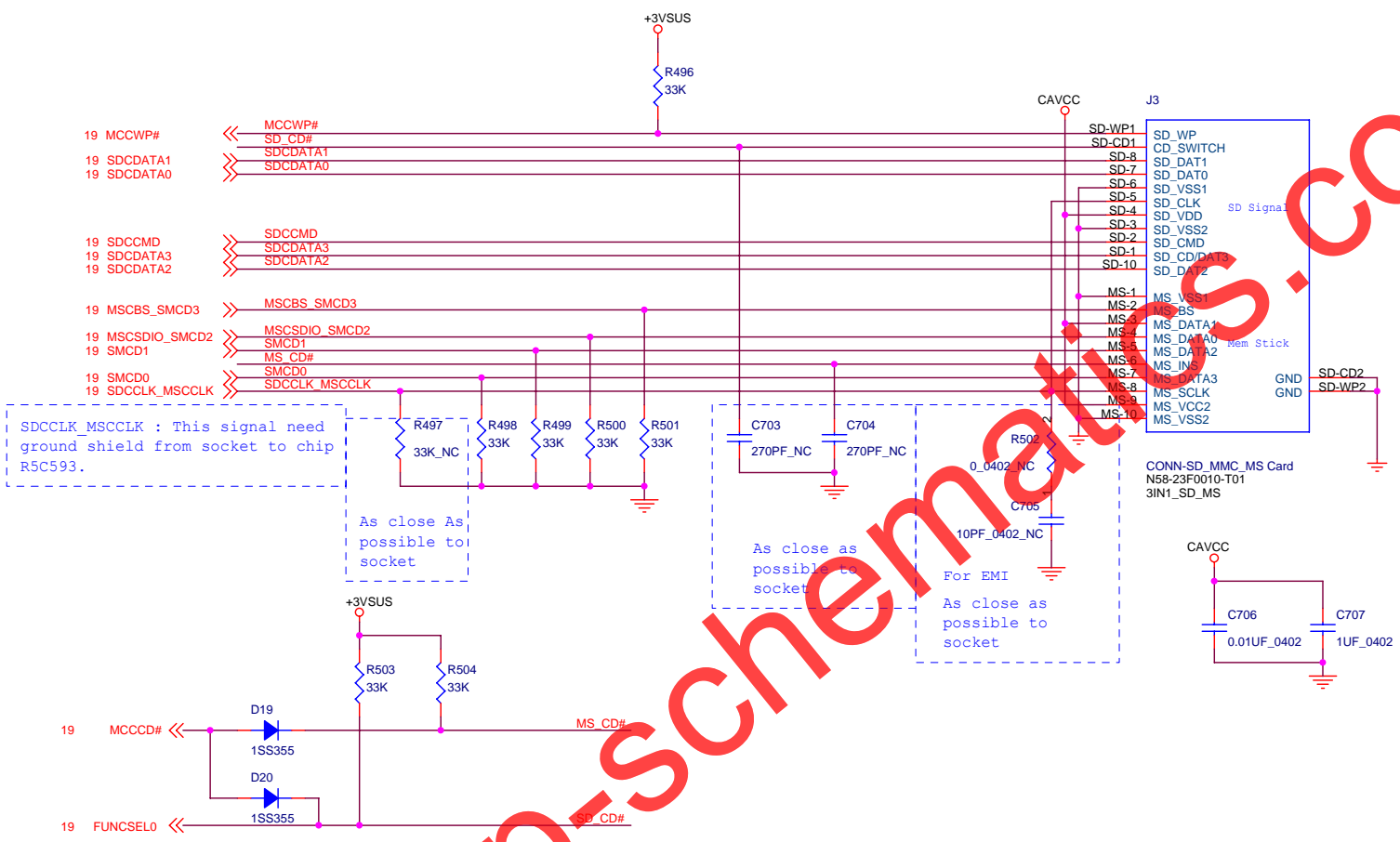
PCI/1394 OHCI PORTION

INT Select	Flash Memory	PC Card	1394
0	0	INTA#	INTB#
0	1	INTA#	INTA#
1	0	INTA#	INTB#
1	1	INTA#	INTA#

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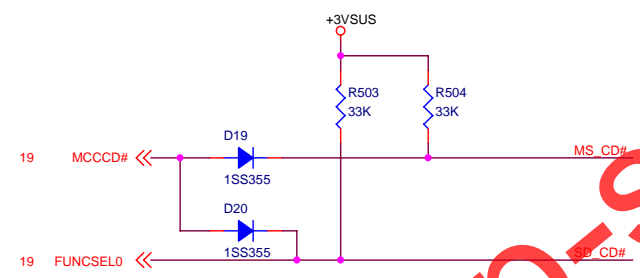


SDCLK_MSCCLK : This signal need ground shield from socket to chip R5C593.

As close as possible to socket

As close as possible to socket

For EMI

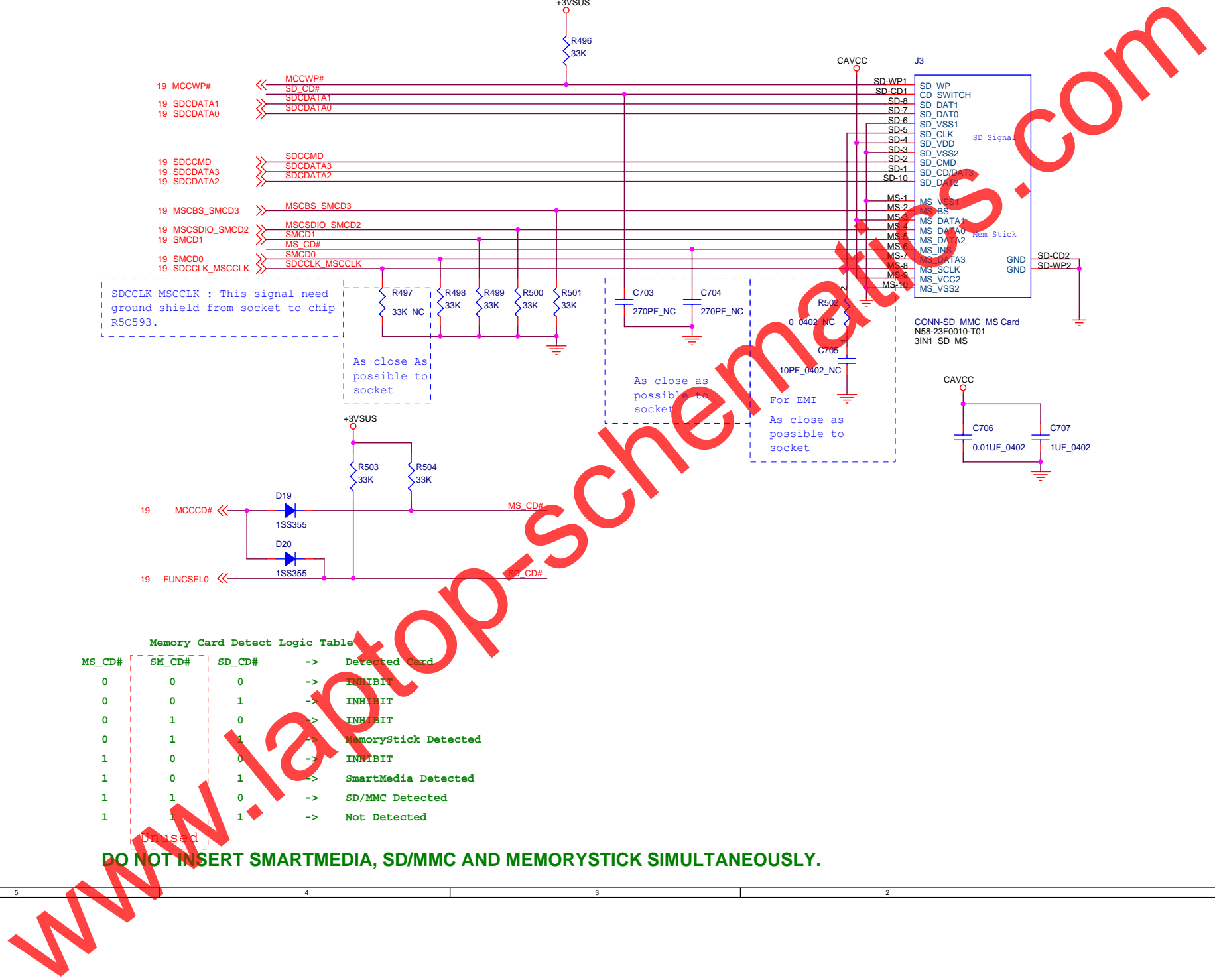


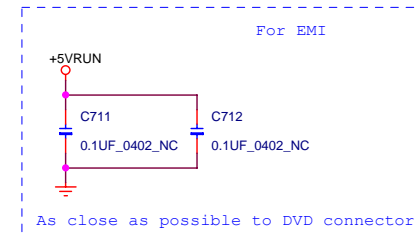
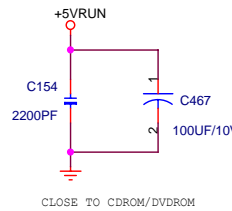
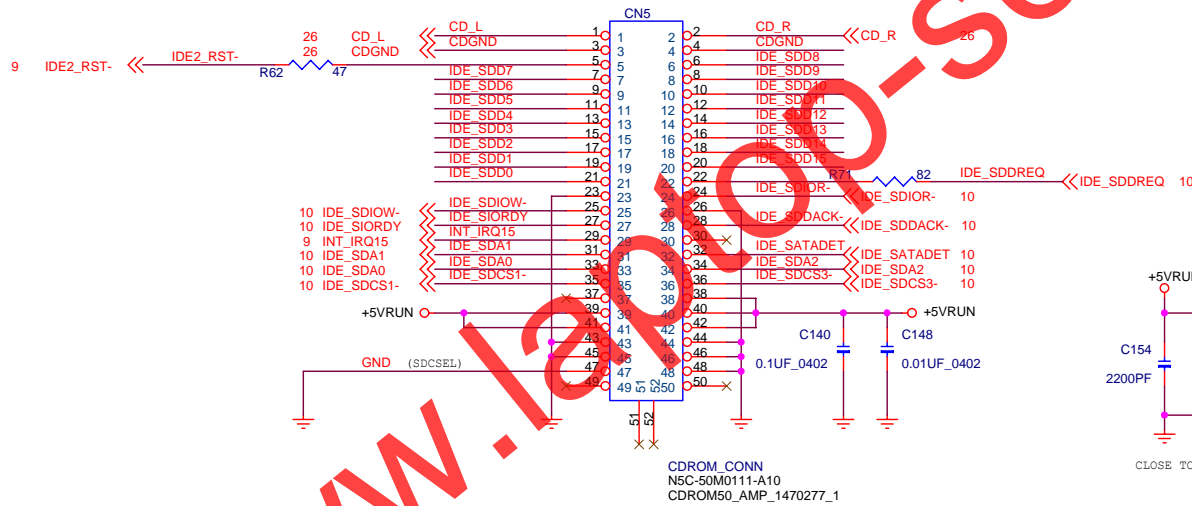
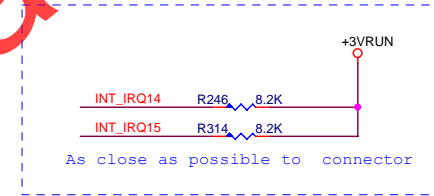
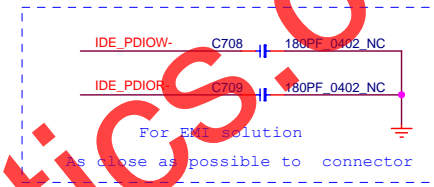
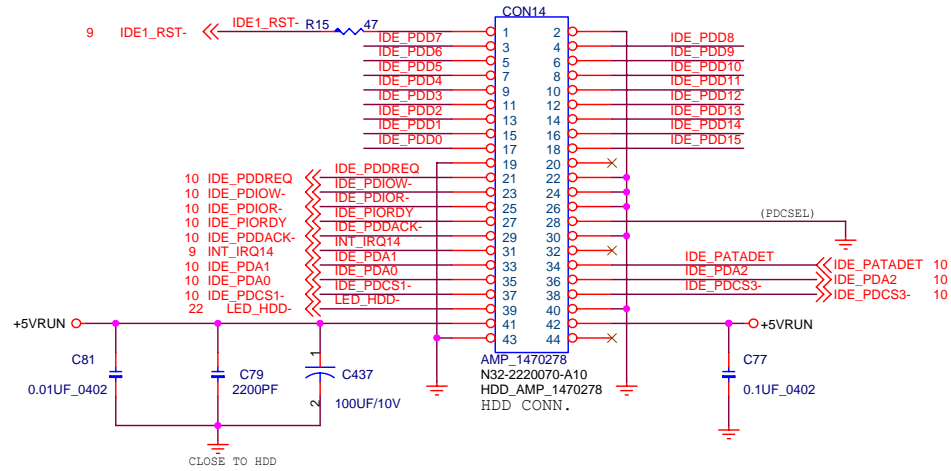
Memory Card Detect Logic Table

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

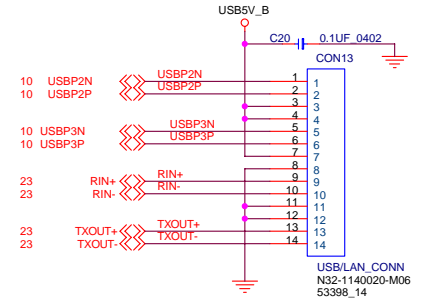
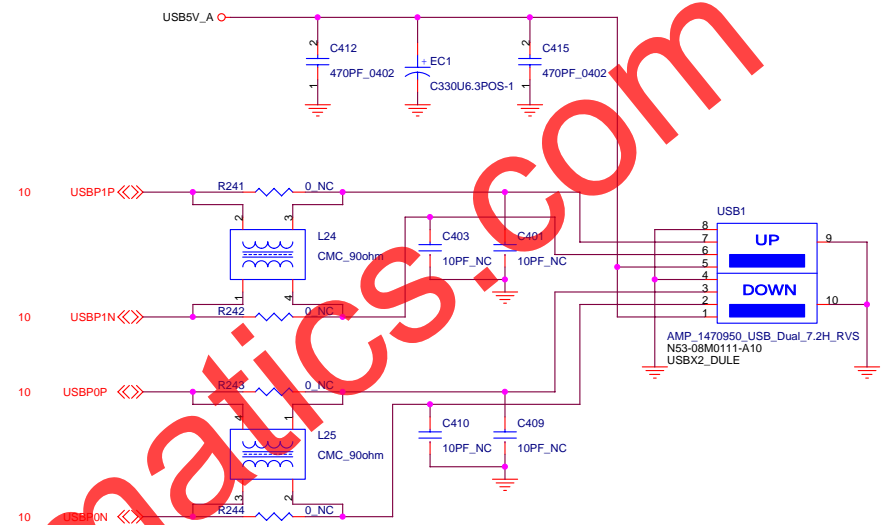
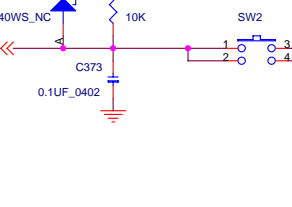
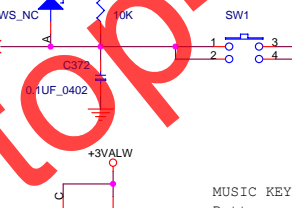
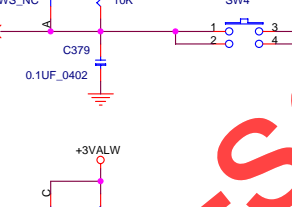
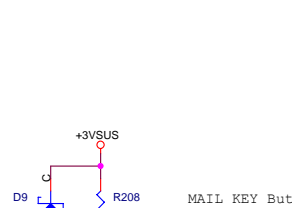
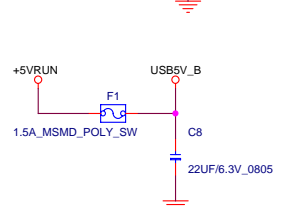
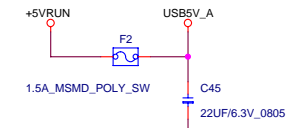
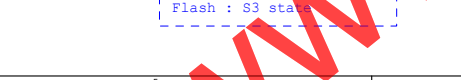
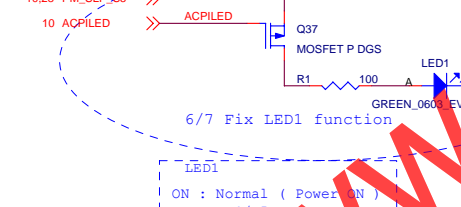
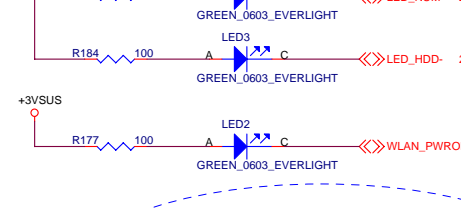
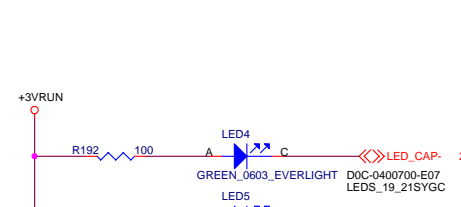
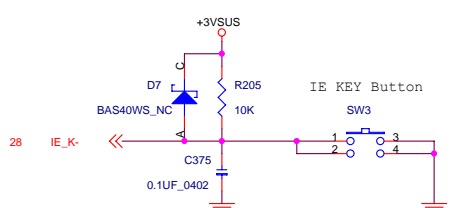
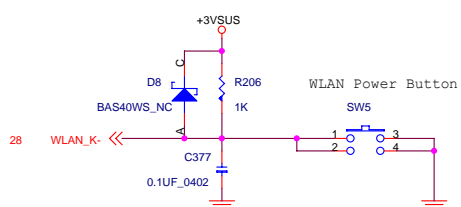
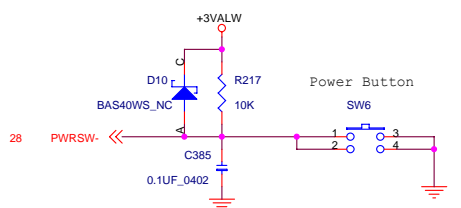
Unused

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

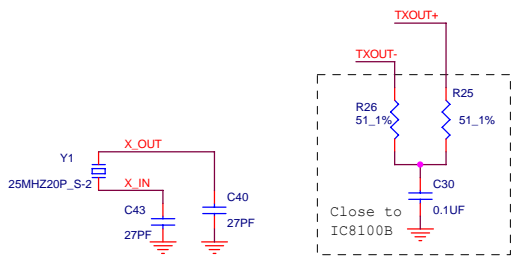







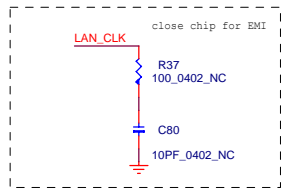
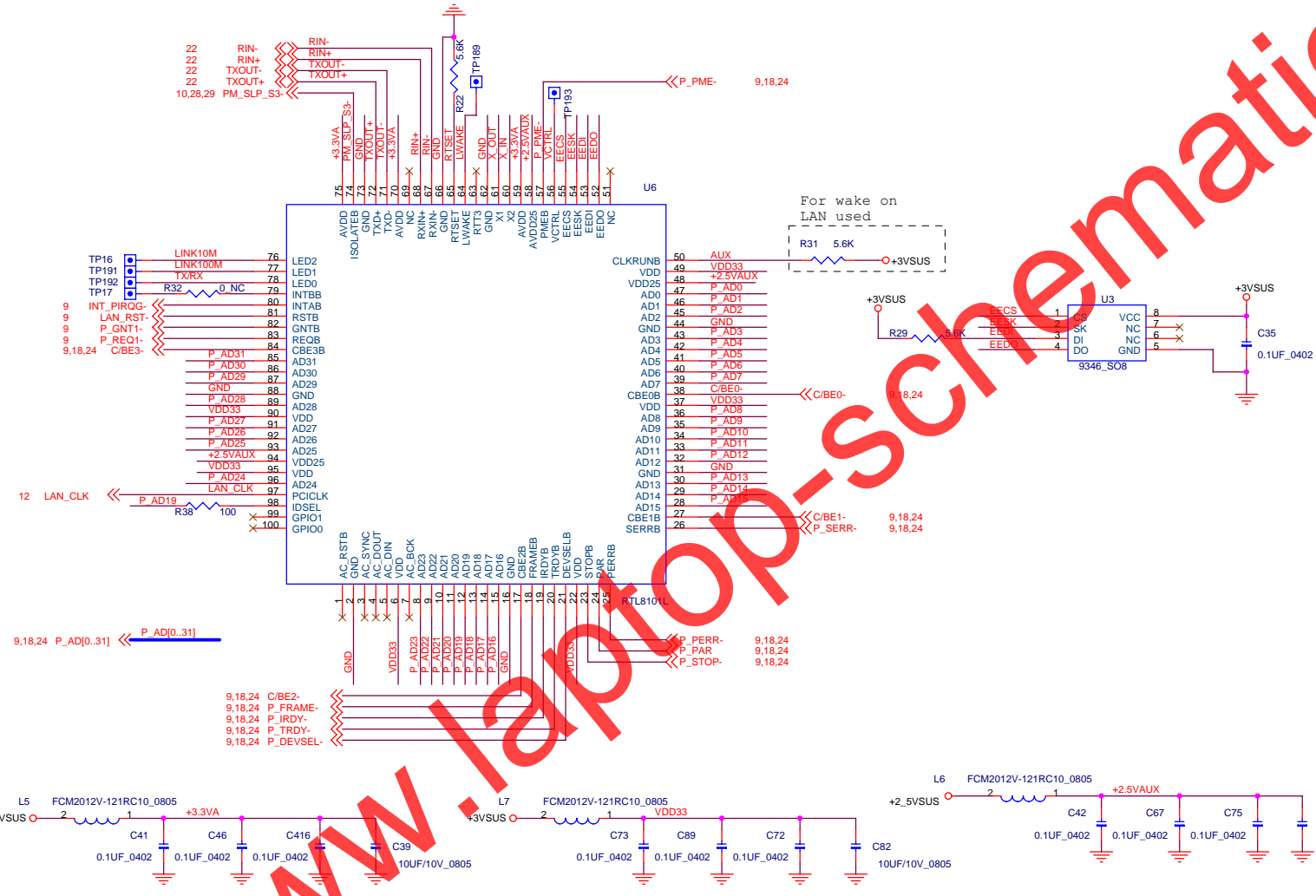
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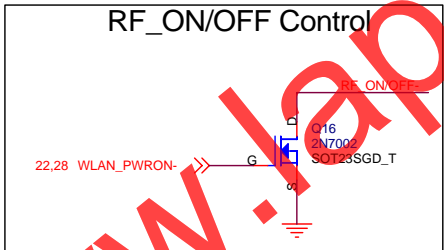
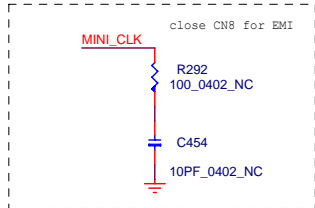
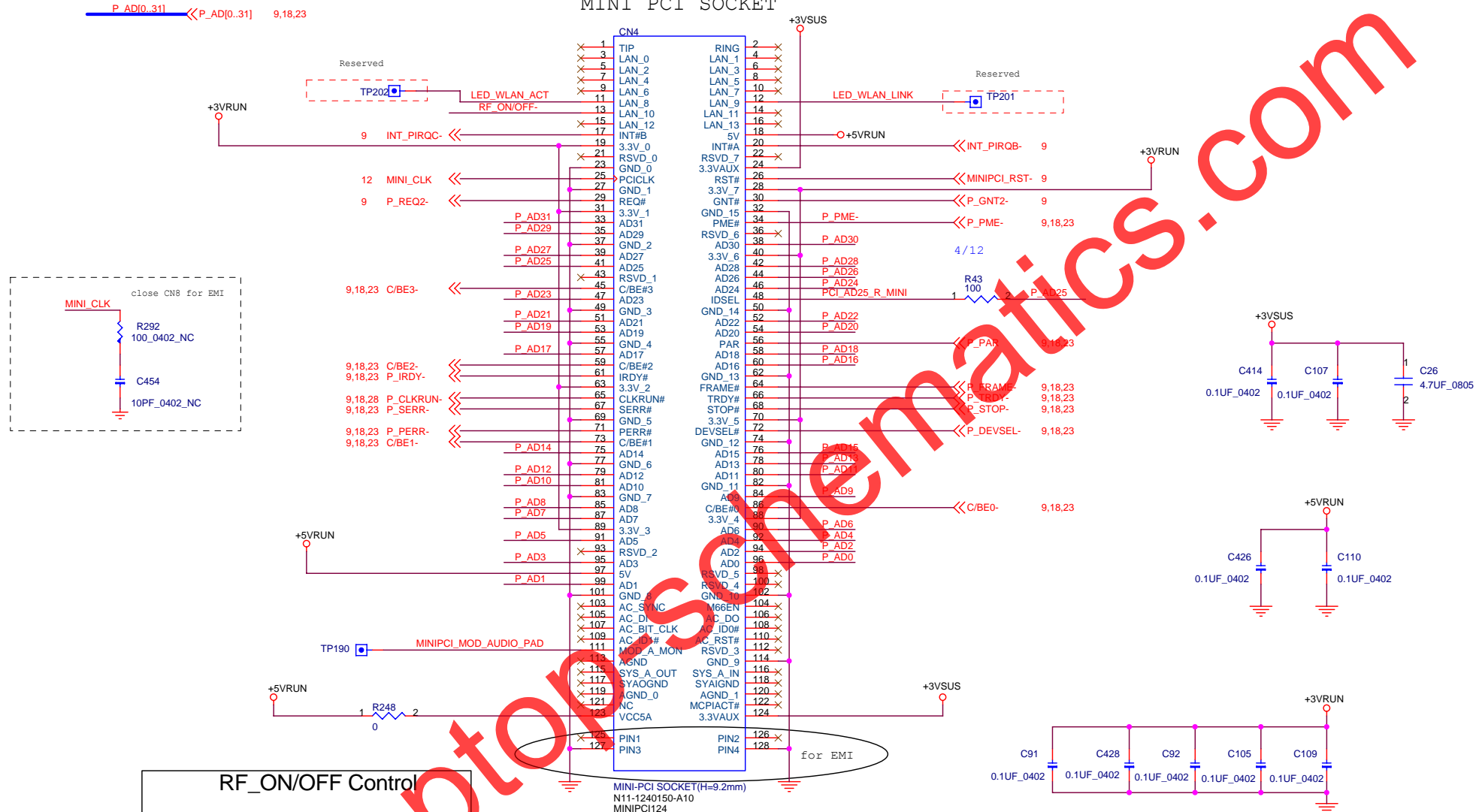


Layout Rule:
 1. Tx+/- and Rx+/- length : +100mil
 2. Through hole less.
 3. Tx+/- 
 GND 
 Rx+/- 
 Ground separates Tx/Rx .



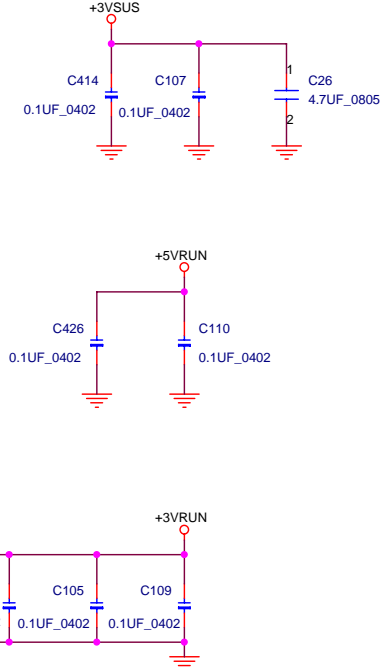
www.tropicschematics.com

MINI PCI SOCKET

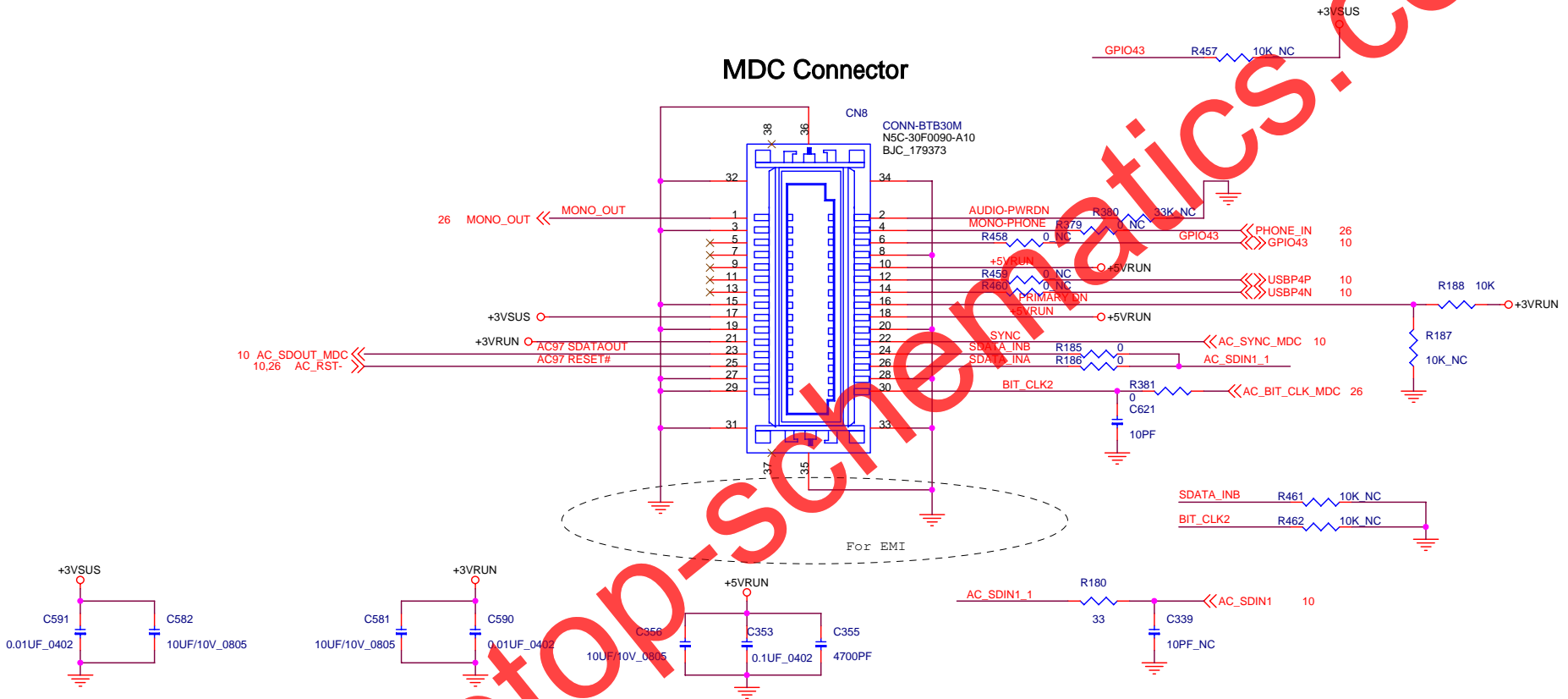


**OPEN RF ON (HiZ)
LOW RF OFF**

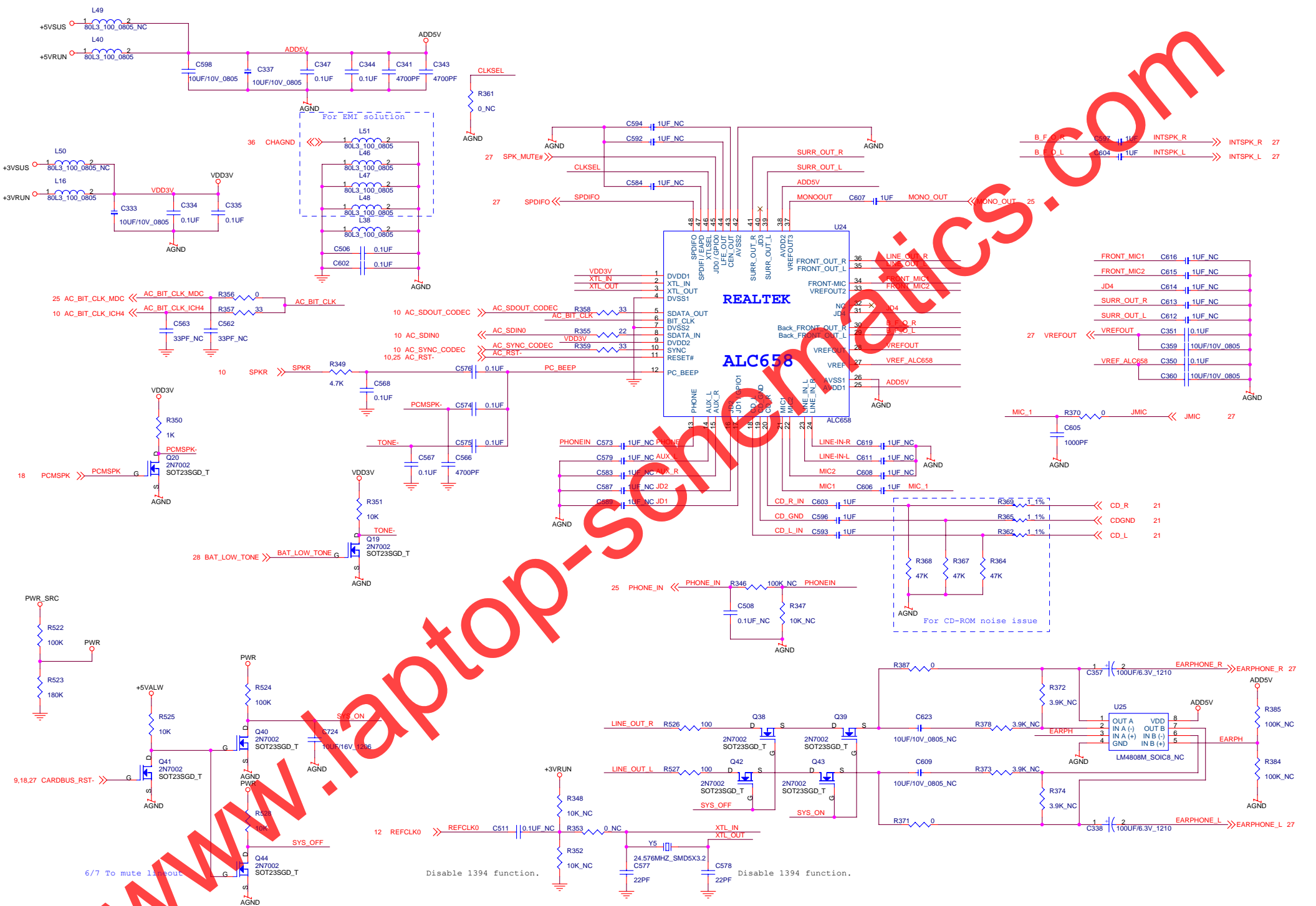
MINI PCI POWER SPEC.
TOYAL : 2W
+5V : 100mA
3.3VAUX : 5/200/375mA
VCC5A : 100mA
+3V



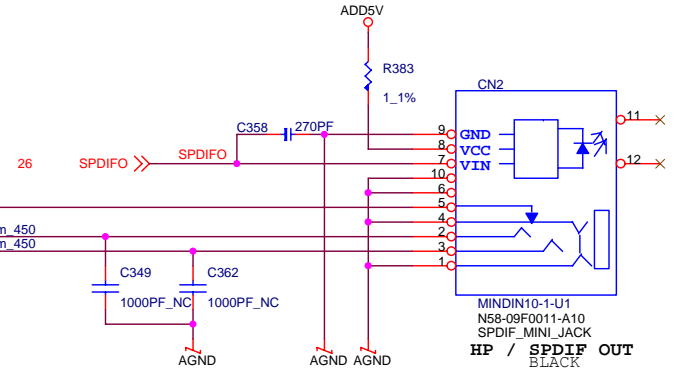
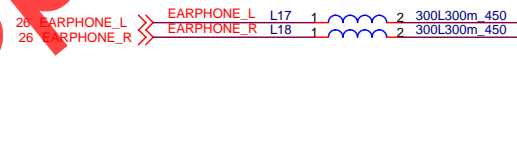
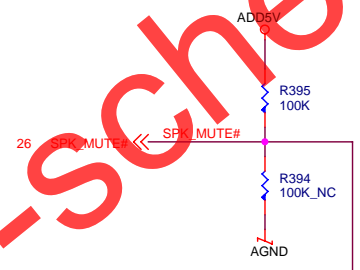
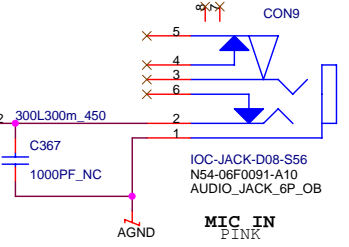
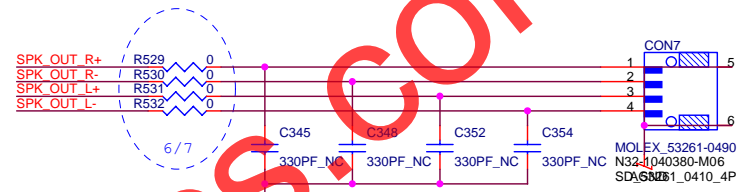
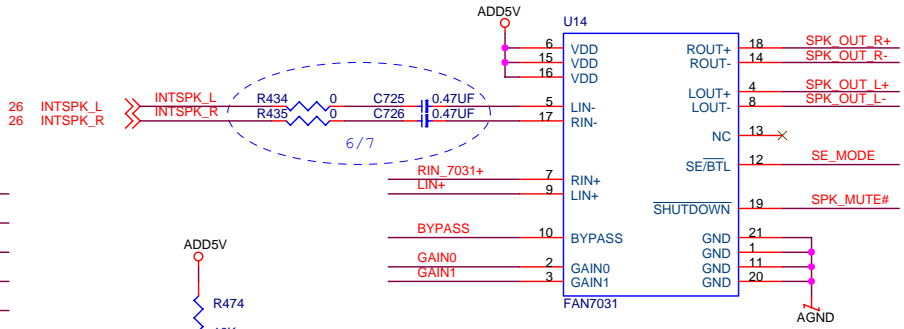
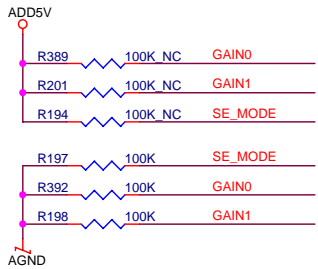
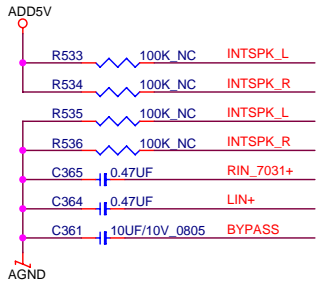
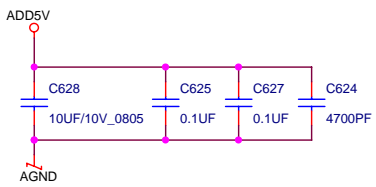
MDC Connector



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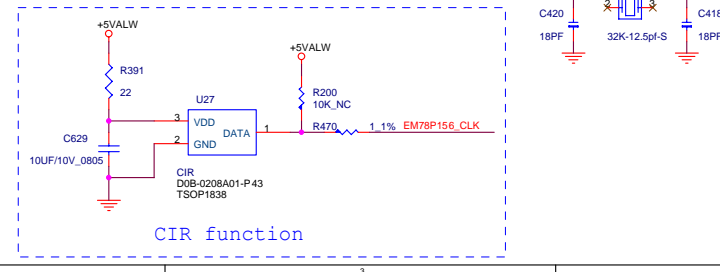
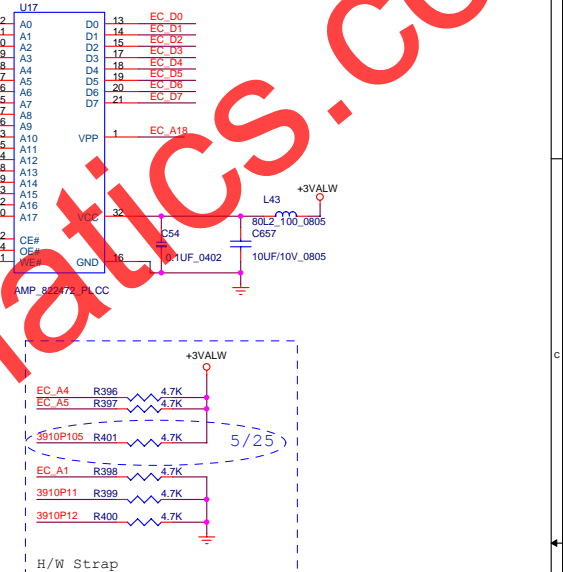
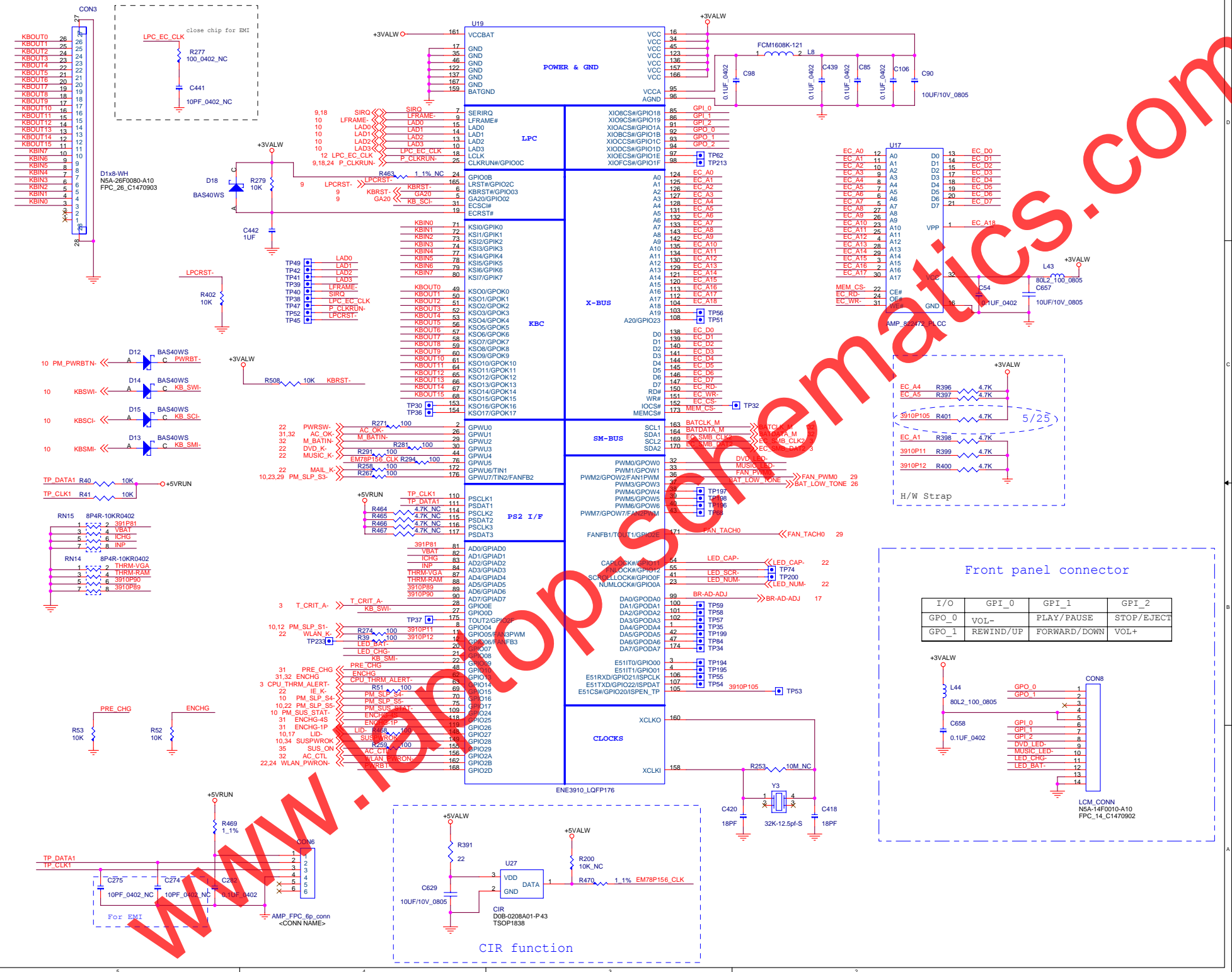


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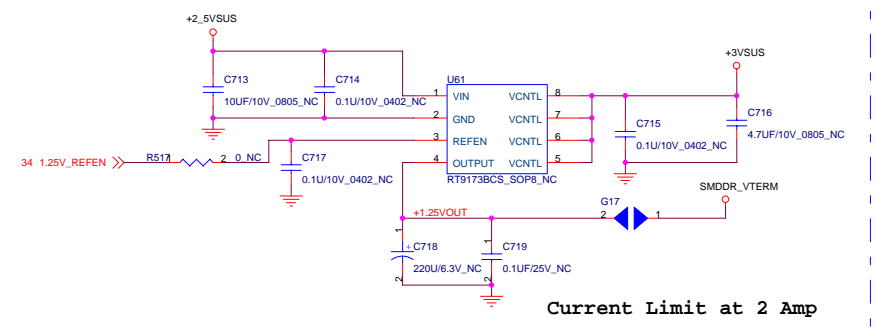
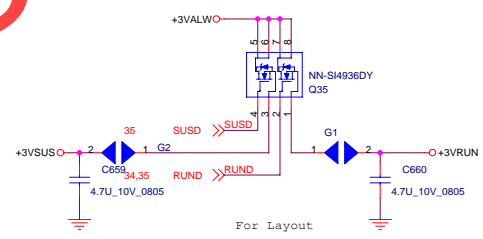
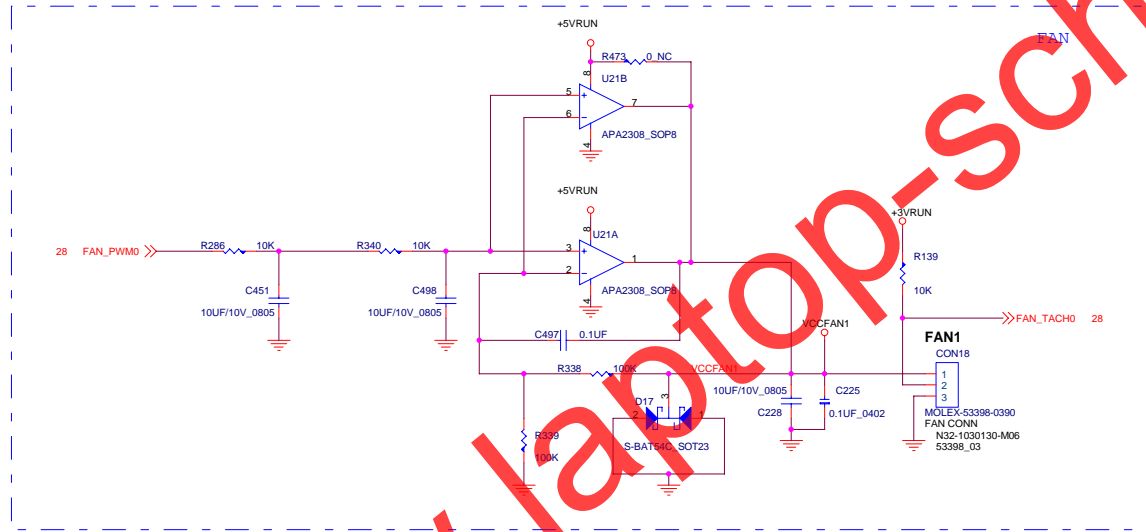
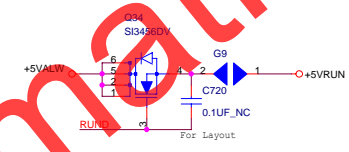
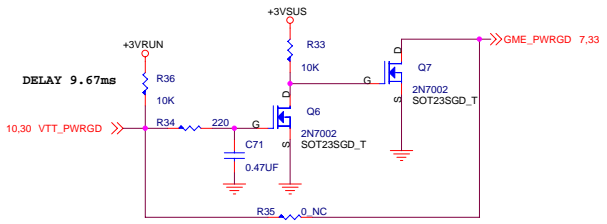
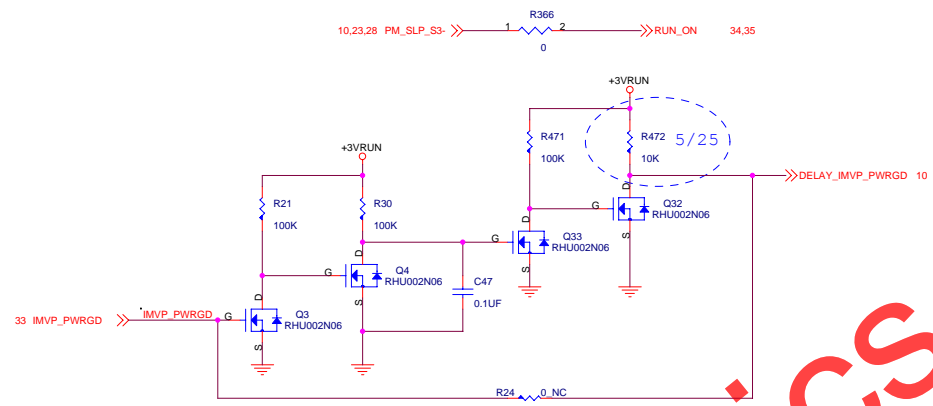
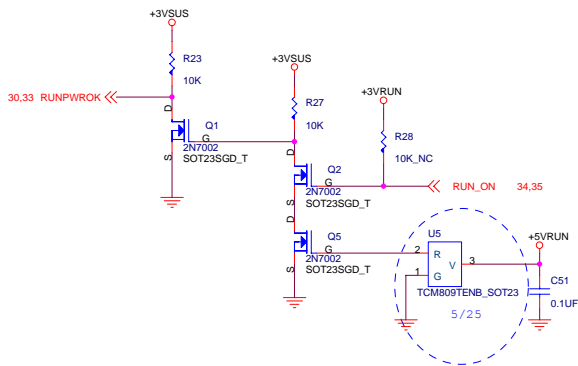


Av	GAIN0	GAIN1	SE/BTL#
6dB	0	0	0
10dB	0	1	0
15.6dB	1	0	0
21.6dB	1	1	0
4.3dB	X	X	1

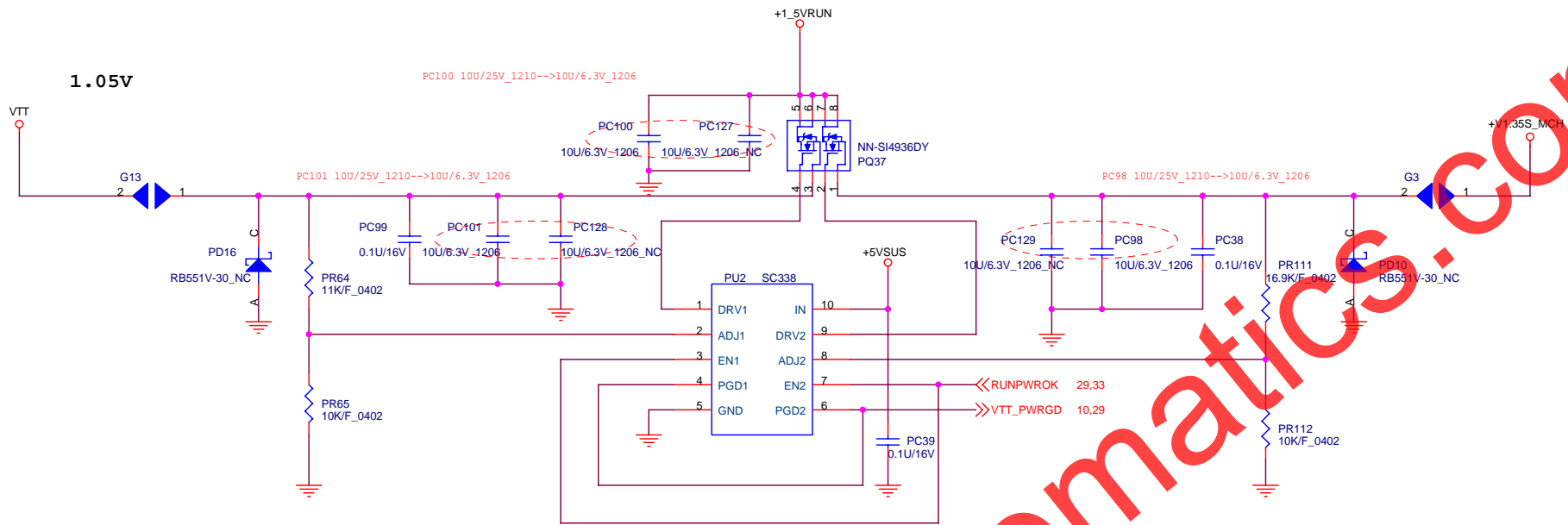
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I/O	GPI_0	GPI_1	GPI_2
GPO_0	VOL-	PLAY/PAUSE	STOP/EJECT
GPO_1	REWIND/UP	FORWARD/DOWN	VOL+



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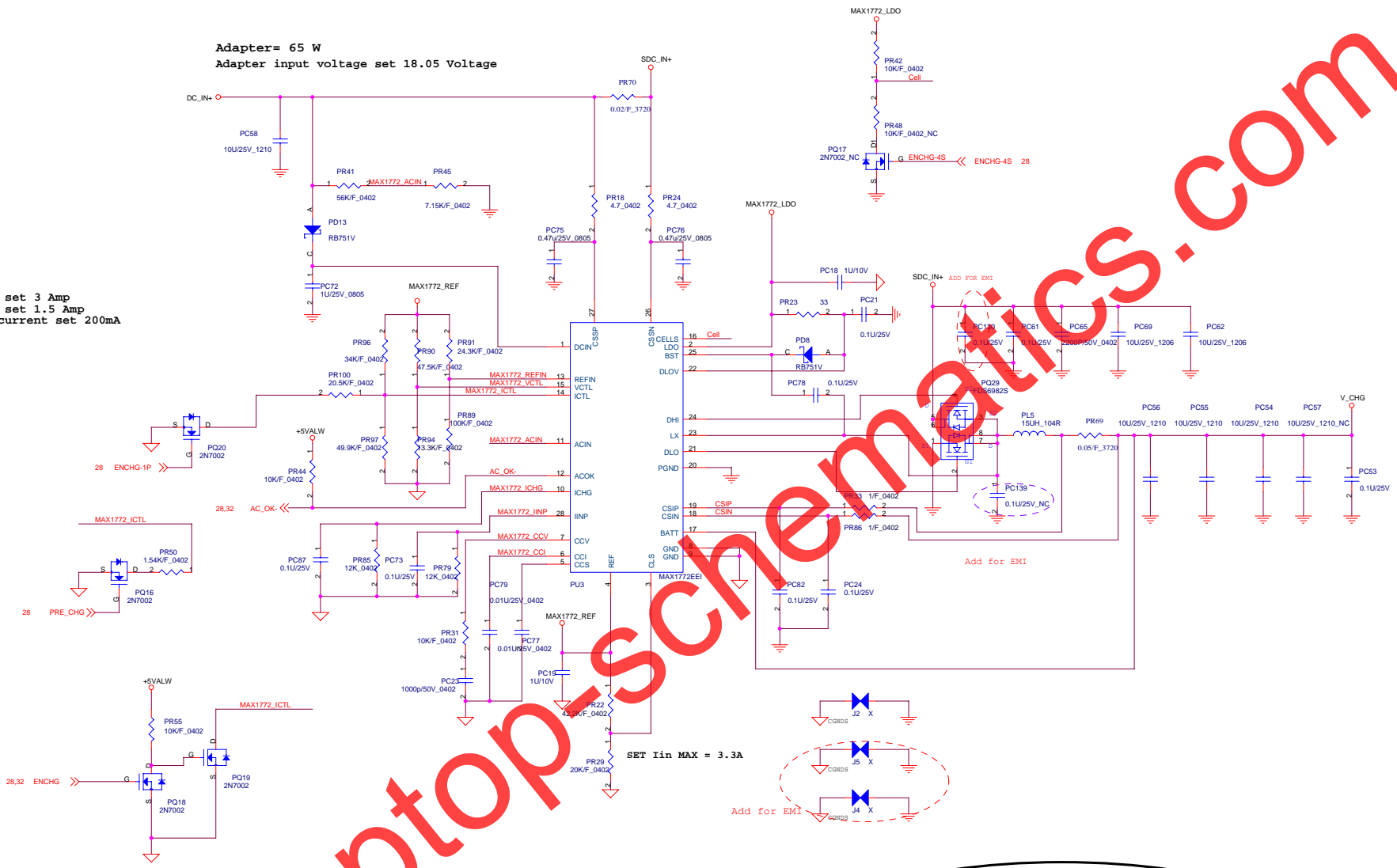


1.20V - GM, PR2=14.0K/F
 1.35V - GM+ PR2=16.9K/F

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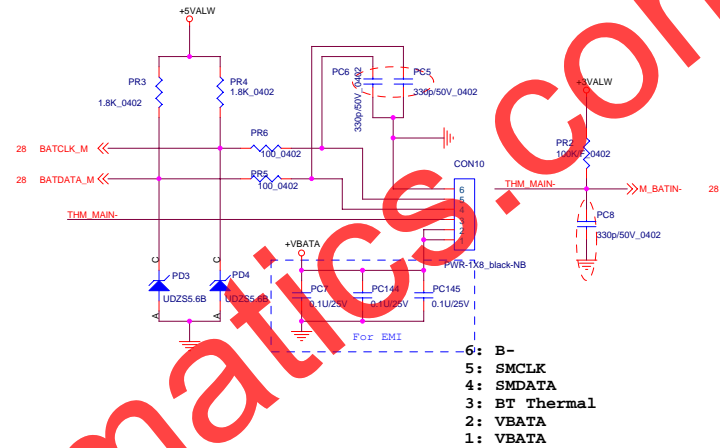
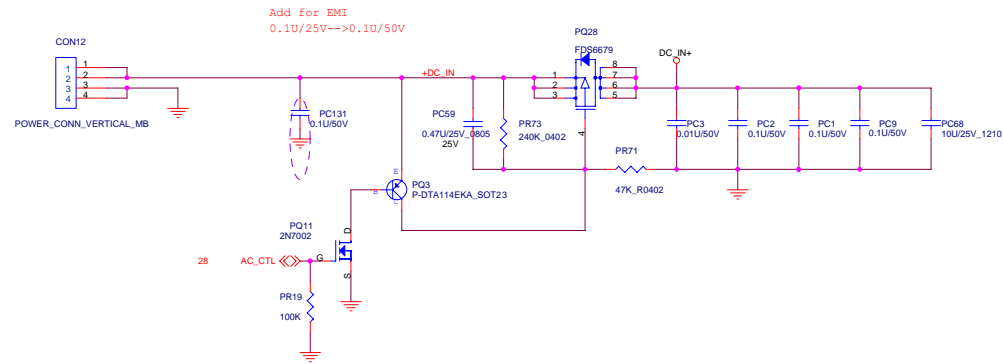
Adapter= 65 W
 Adapter input voltage set 18.05 Voltage

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

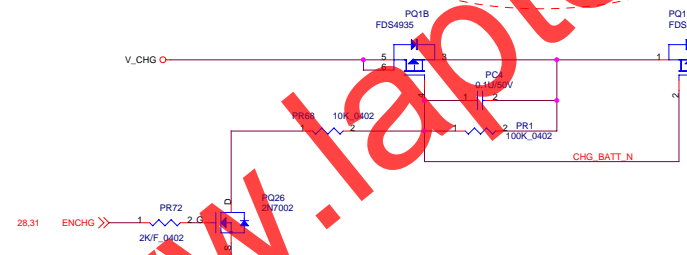
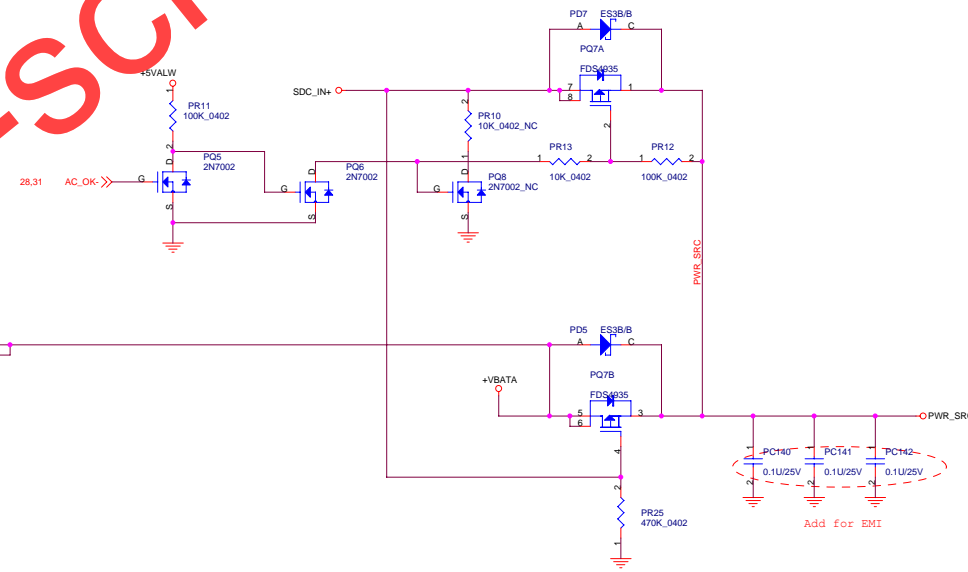


	ENCHG-1P	PRE_CHG	ENCHG	
Pre-charge	0	1	1	Pre-charge
Fast charge	0	0	1	4S2P
Fast charge	1	0	1	4S1P
STOP CHARGE	0	0	0	STOP CHARGE

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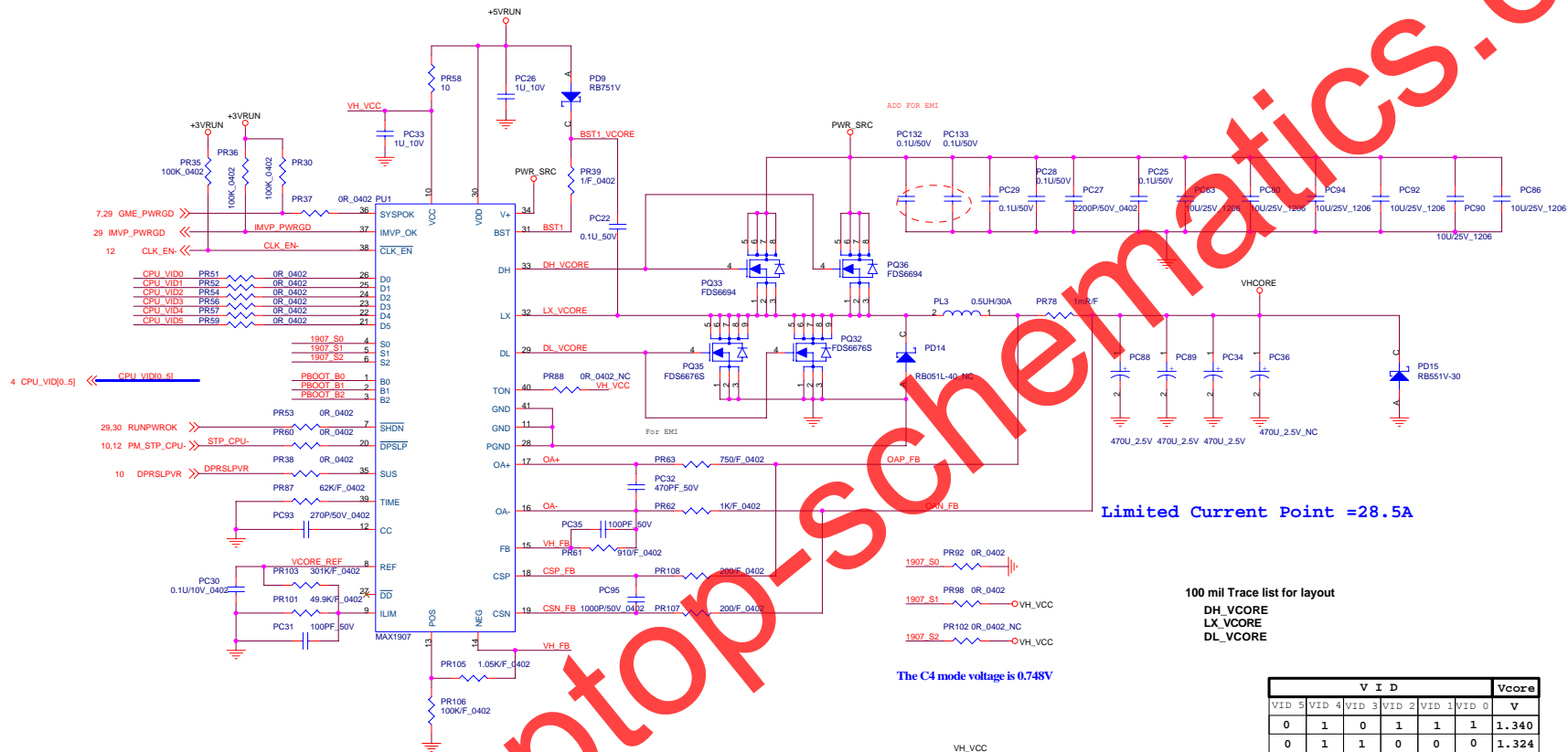


- 6: B-
- 5: SMCLK
- 4: SMDATA
- 3: BT Thermal
- 2: VBATA
- 1: VBATA



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4 CPU_VID[0..5] << CPU_VID0..S1

29.30 RUNPWOK << STP_CPU-
10.12 PM_STP_CPU- << DPRSLPVR

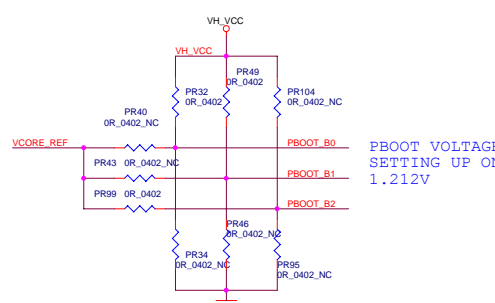
VCORE_REF
DD
ILIM

PR105 1.05K/F_0402
PR106 100K/F_0402

Limited Current Point =28.5A

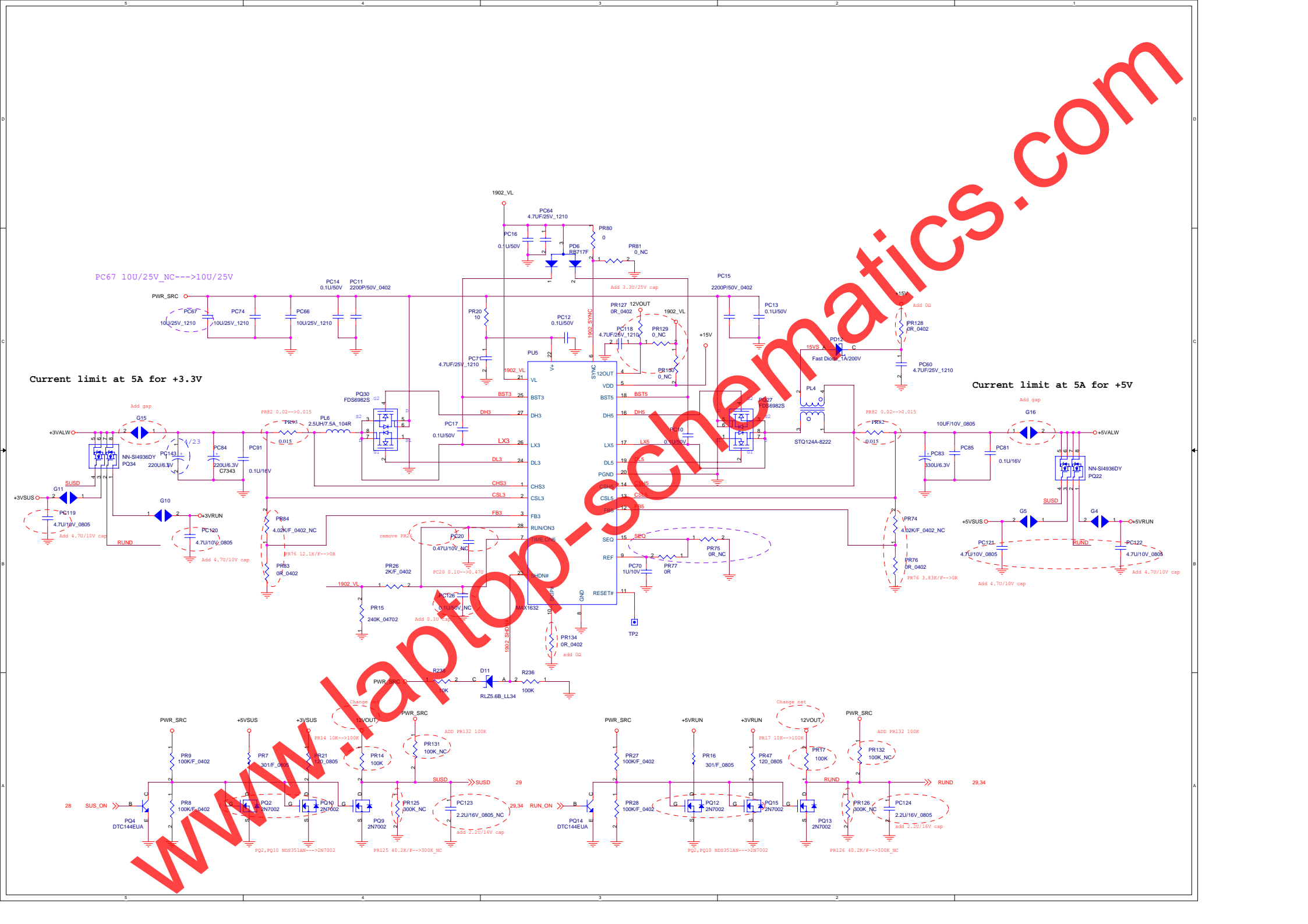
100 mil Trace list for layout
DH_VCORE
LX_VCORE
DL_VCORE

The C4 mode voltage is 0.748V



PBOOT VOLTAGE
SETTING UP ON
1.212V

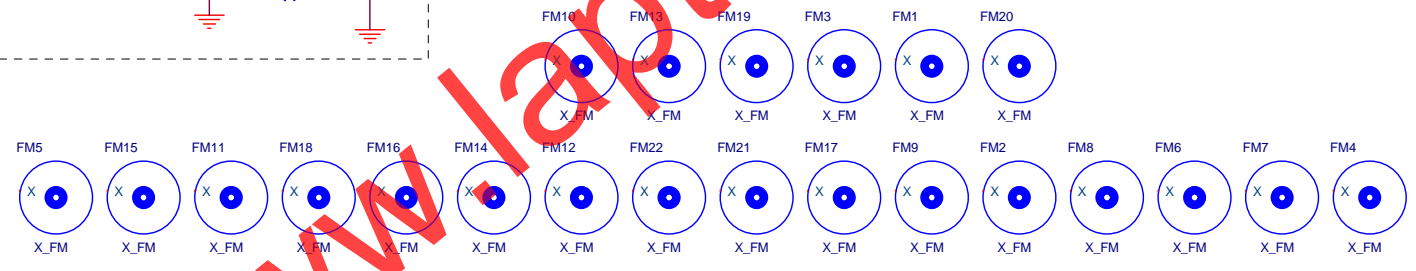
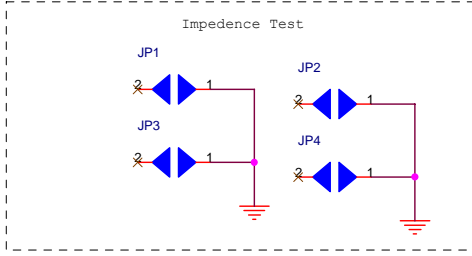
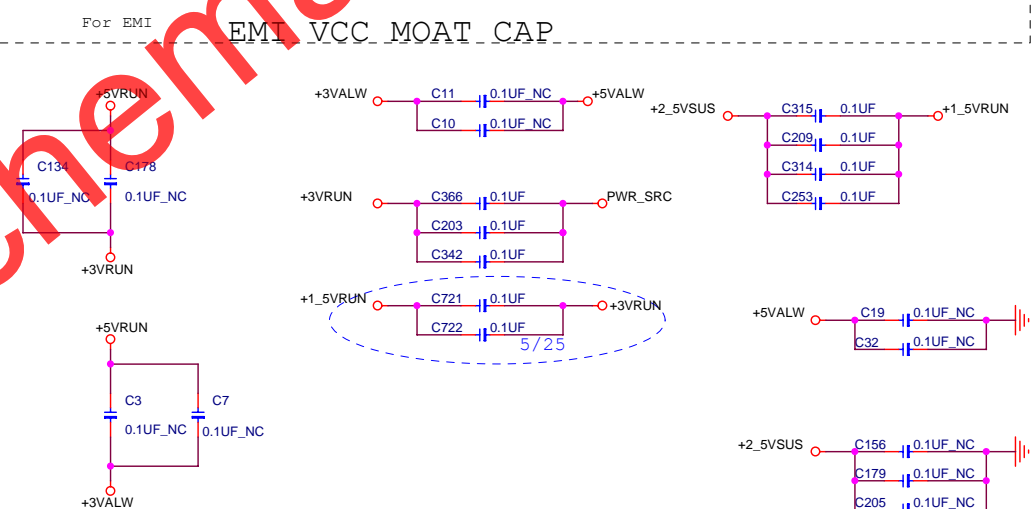
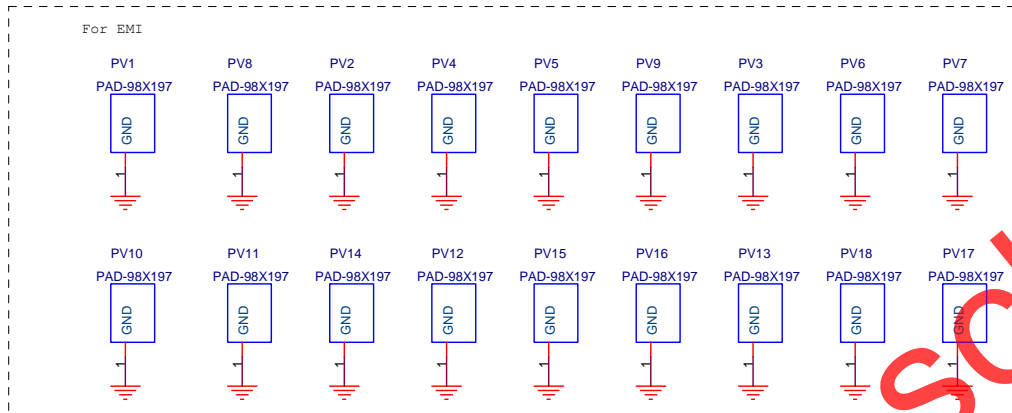
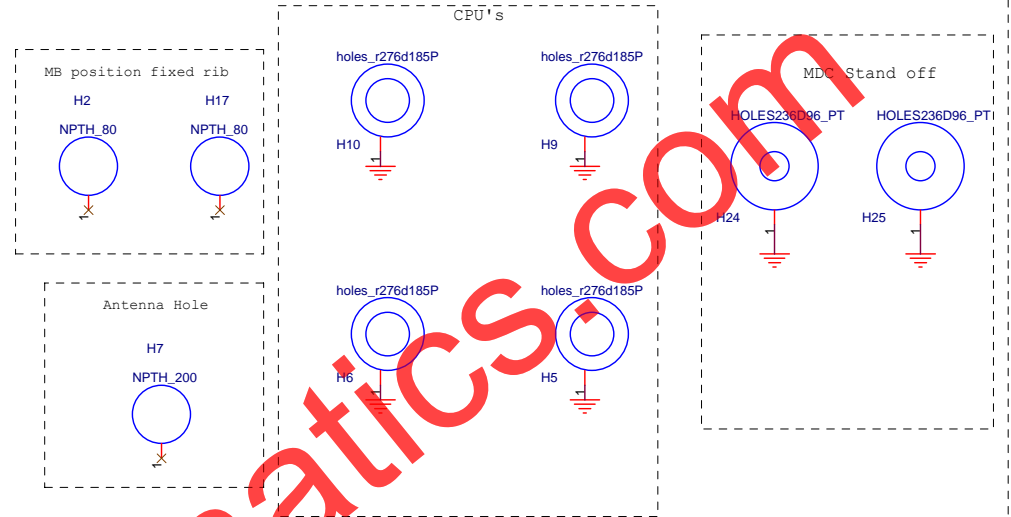
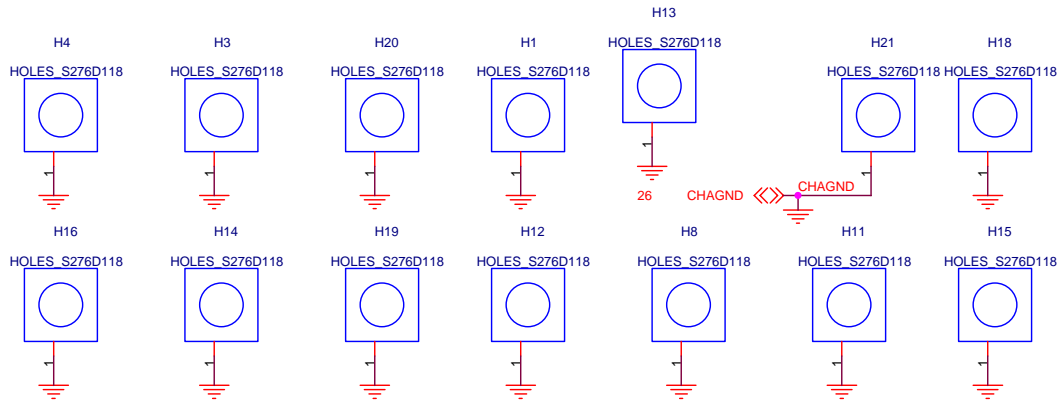
V I D						Vcore
VID 5	VID 4	VID 3	VID 2	VID 1	VID 0	V
0	1	0	1	1	1	1.340
0	1	1	0	0	0	1.324
0	1	1	0	1	0	1.292
0	1	1	1	0	0	1.260
0	1	1	1	0	1	1.244
0	1	1	1	1	1	1.212
1	0	0	0	0	1	1.180
1	0	0	0	1	1	1.148
1	0	0	1	1	0	1.100
1	0	1	0	0	1	1.052
1	0	1	0	1	1	1.020
1	0	1	1	1	0	0.972
1	1	0	0	0	0	0.940



Current limit at 5A for +3.3V

Current limit at 5A for +5V

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