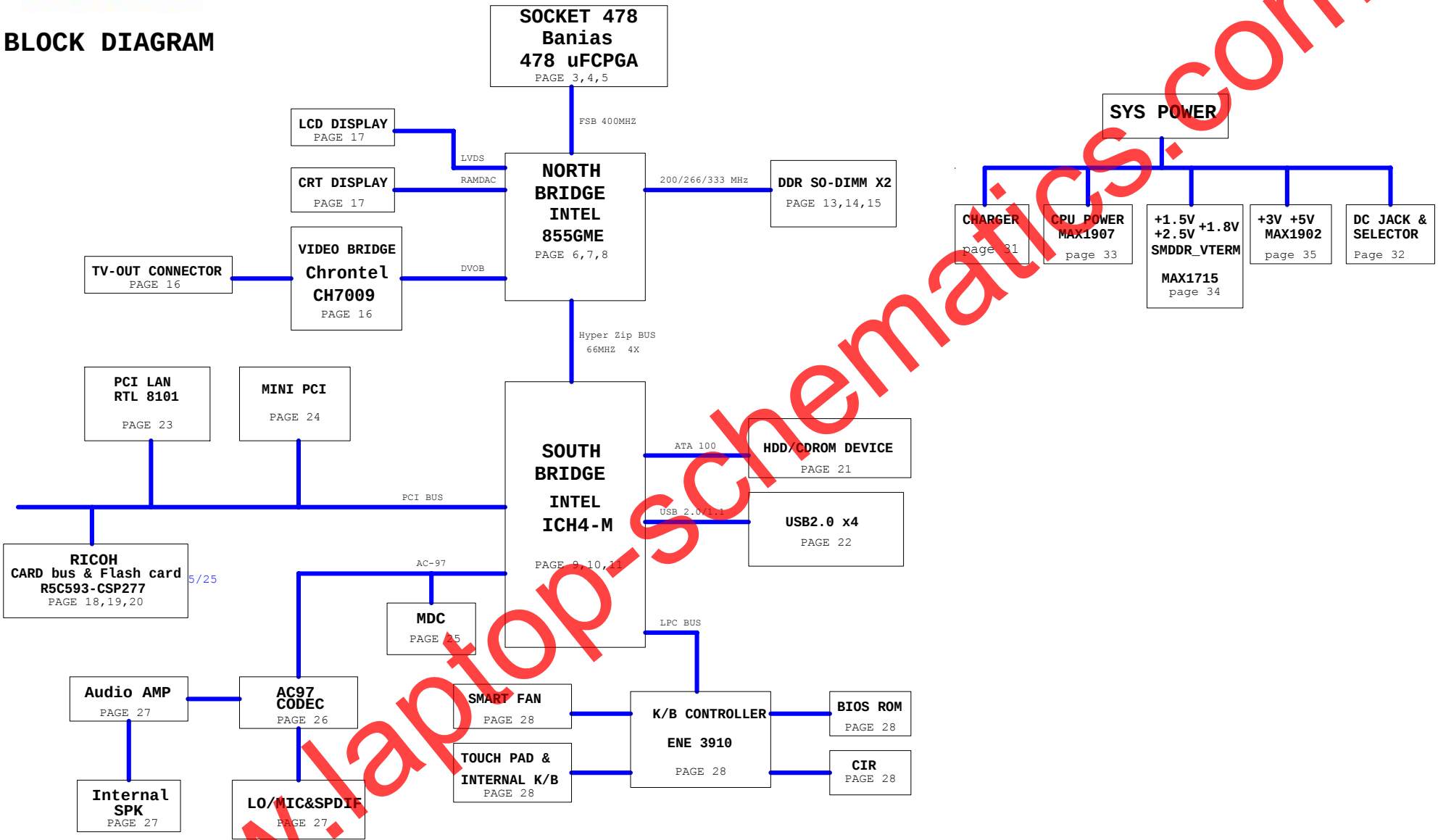
MSI

BLOCK DIAGRAM



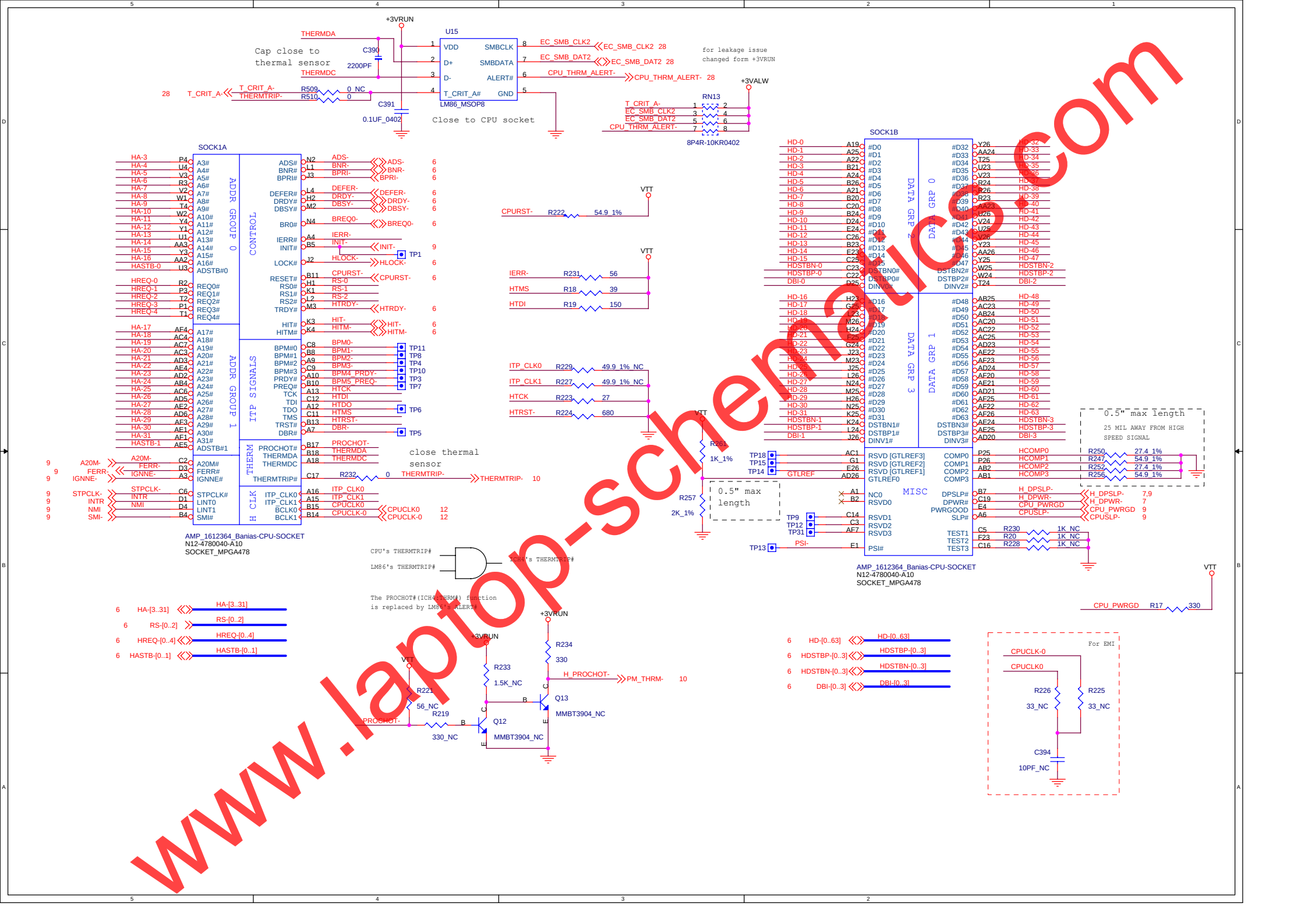
Voltage Rails

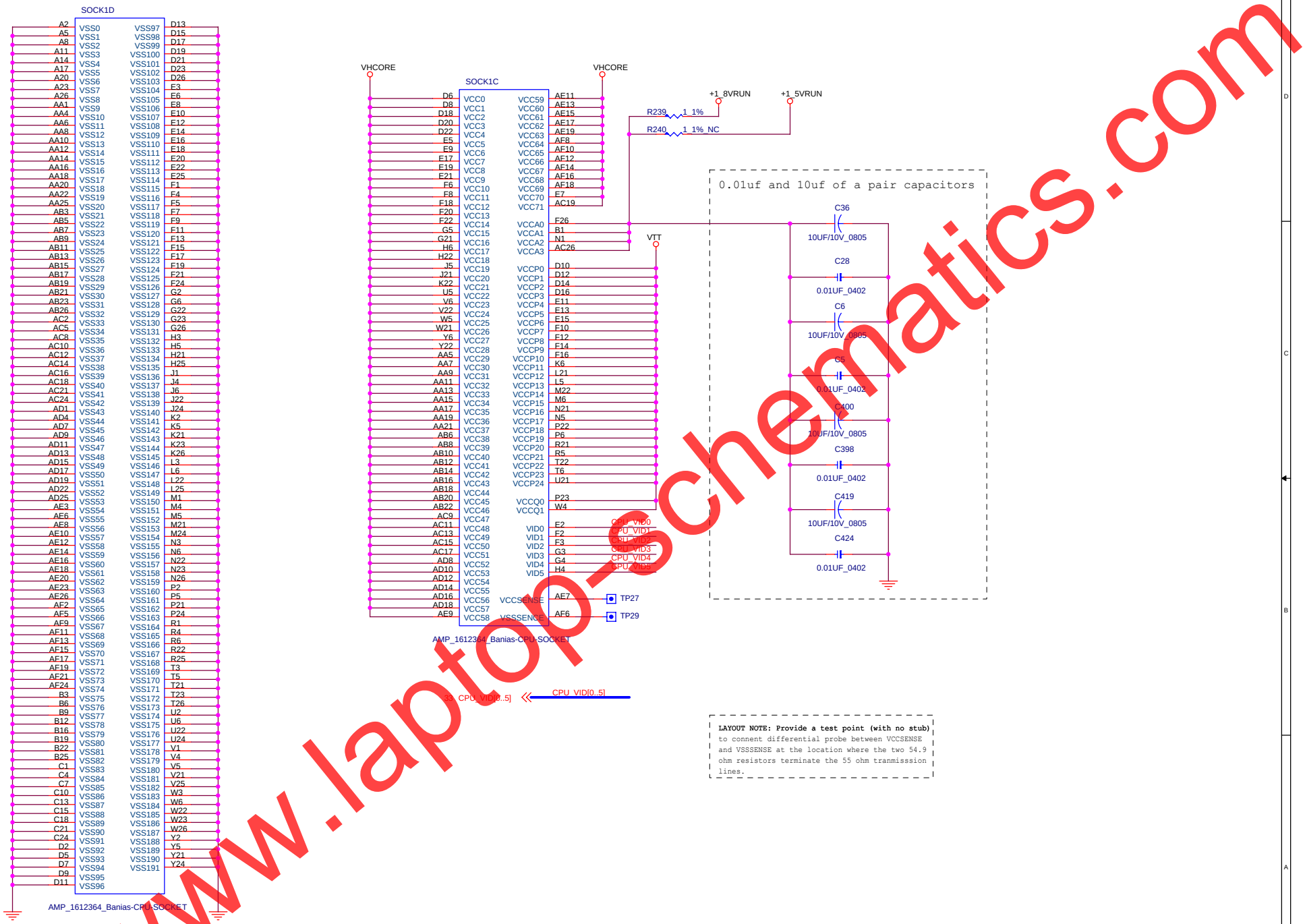
Voltage	Description	Control Signal
PWR_SRC	**AC ADAPTER OR BATTERY IN**	
VHCORE	Core voltage for Processor	GME_PWRGD
VTT	1.05V rail for Processor I/O	RUNPWROK
+V1.35S_MCH	1.35V For 855GME Core(off in S3-S5)	RUNPWROK
SMDDR_VTERM	1.25V DDR Termination voltage(off in S4-S5)	+5VRUN
+1_5VSUS	1.5V power rail (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

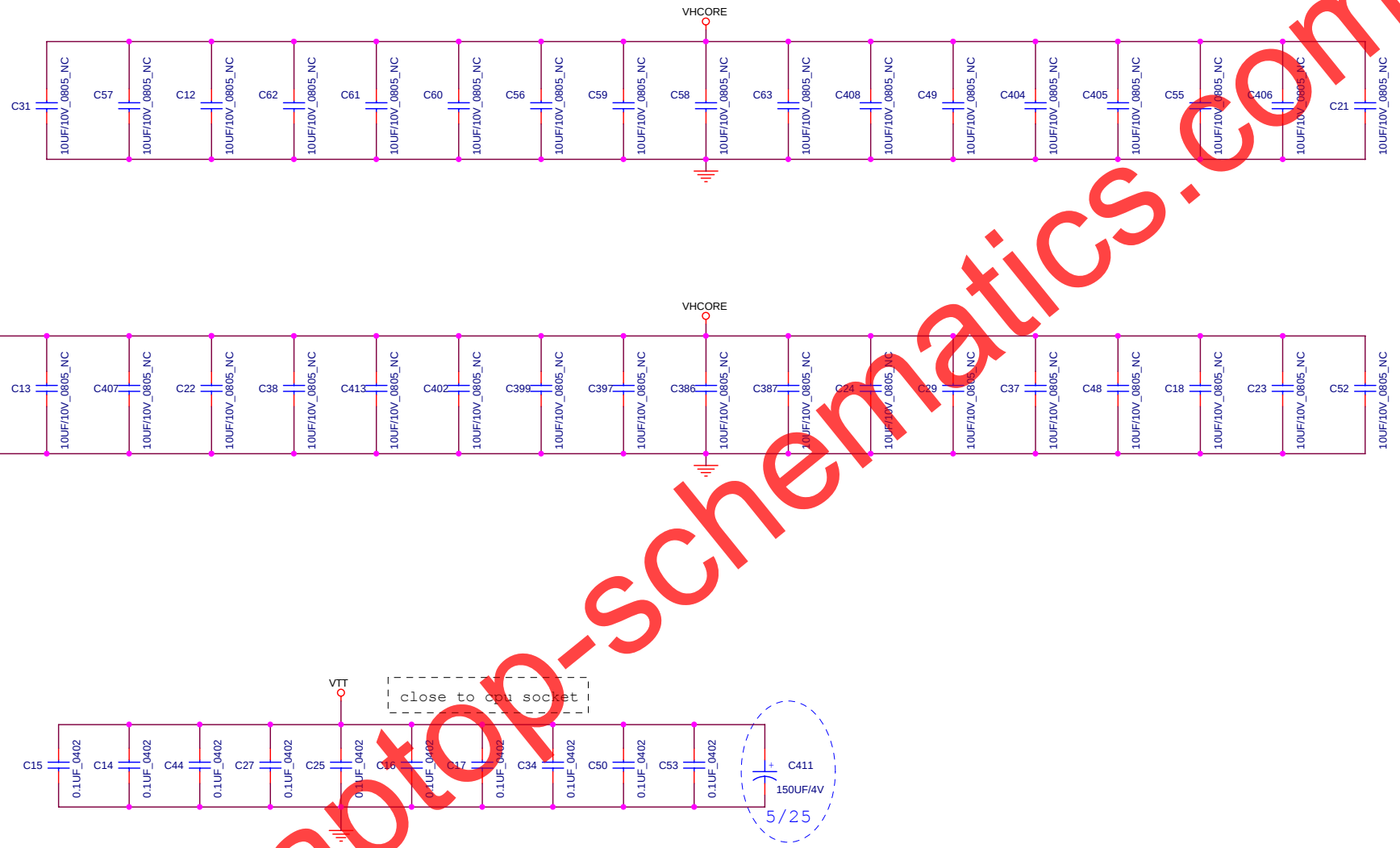
POWER STATES

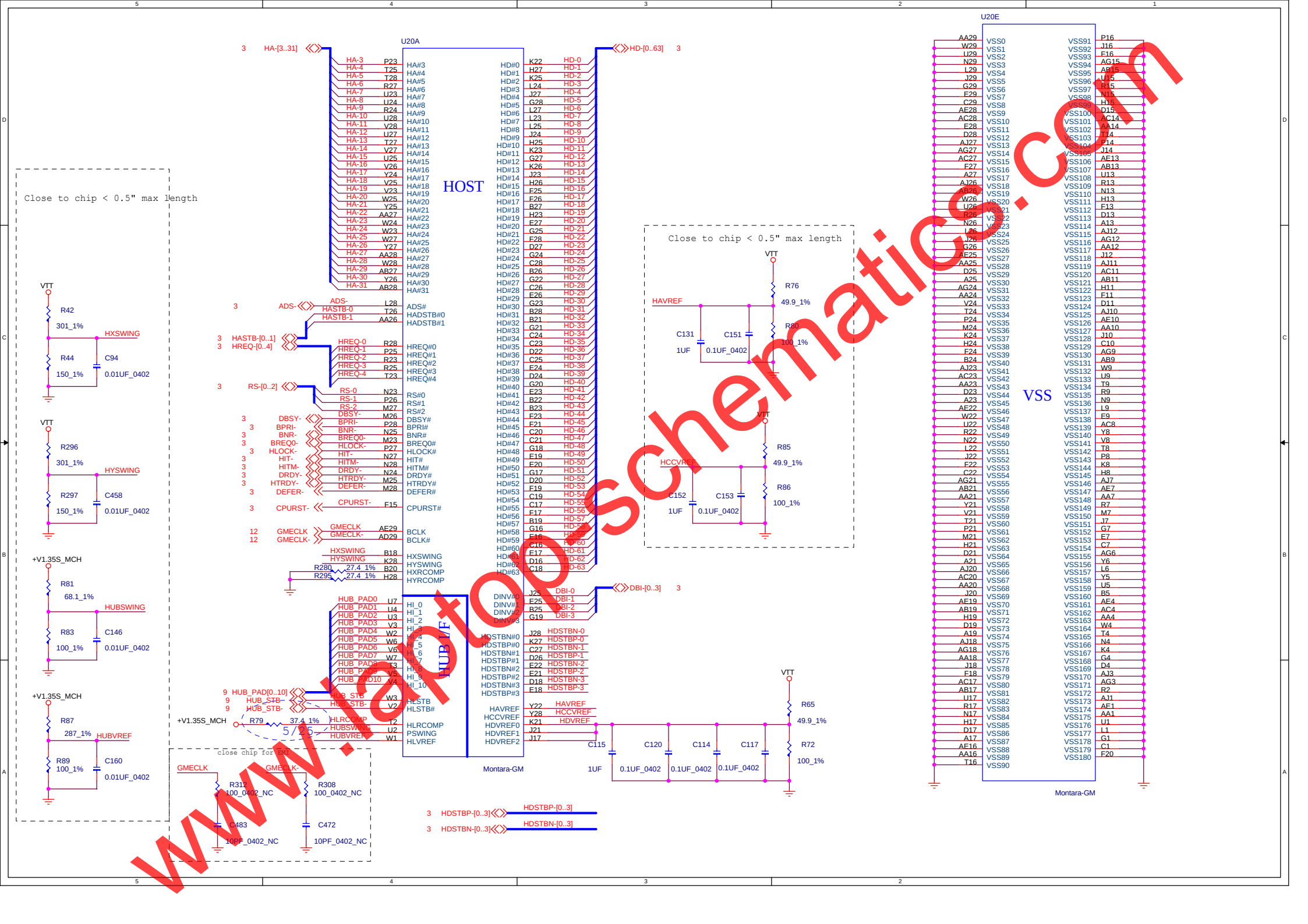
STATE \ SIGNAL	SLP_S3#	SLP_S4#	SLP_S5#	+V*ALWAYS	+V*SUS	+V*RUN	Clocks
Full ON	HIGH	HIGH	HIGH	ON	ON	ON	ON
S1M(Power On Suspend)	HIGH	HIGH	HIGH	ON	ON	ON	LOW
S3(Suspend to RAM)	LOW	HIGH	HIGH	ON	ON	OFF	OFF
S4(Suspend to Disk)	LOW	LOW	HIGH	ON	OFF	OFF	OFF
S5 / Soft OFF	LOW	LOW	LOW	ON	OFF	OFF	OFF

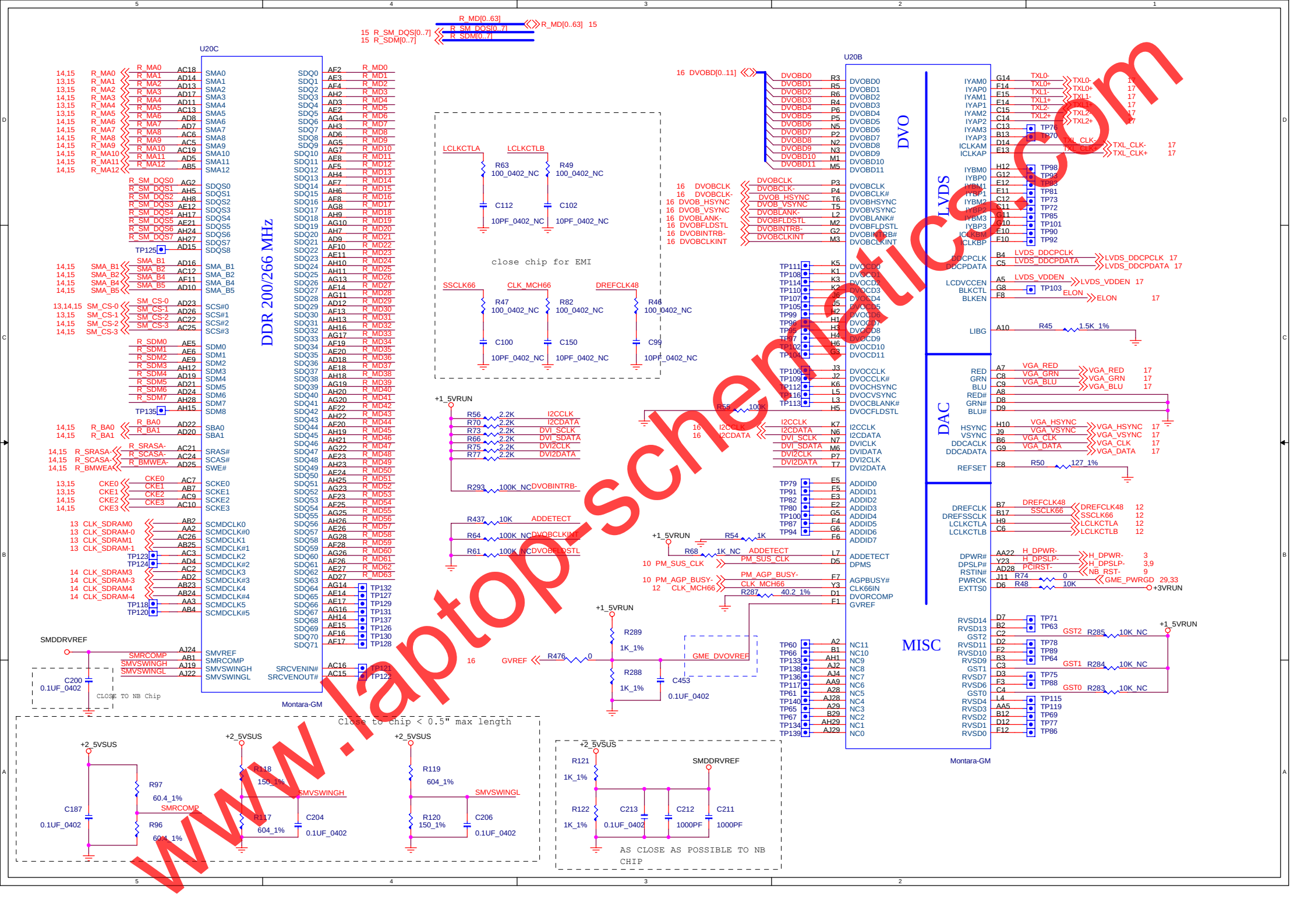
Note : WHEN AC MODE , System turn on then +V*SUS will always keep high

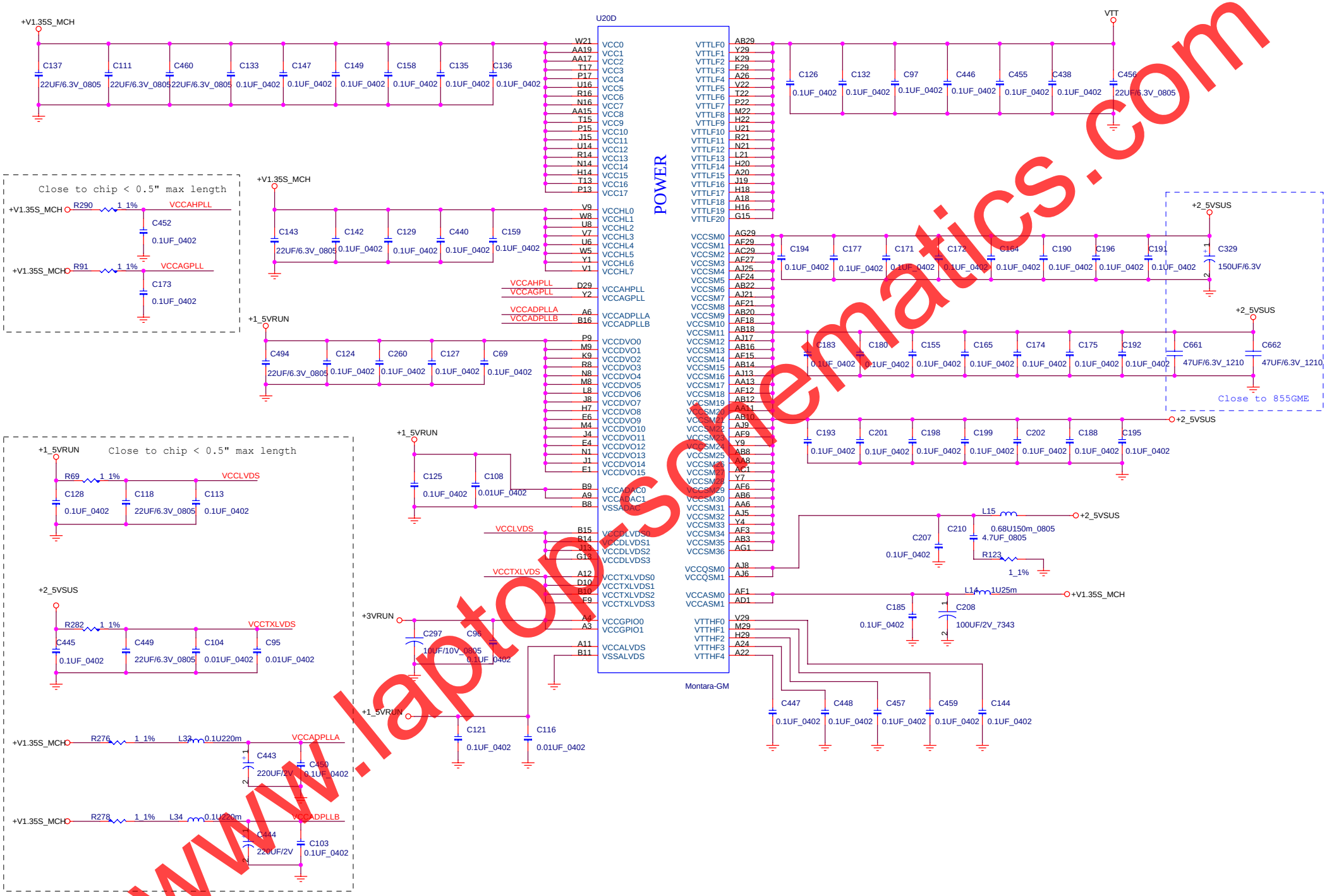


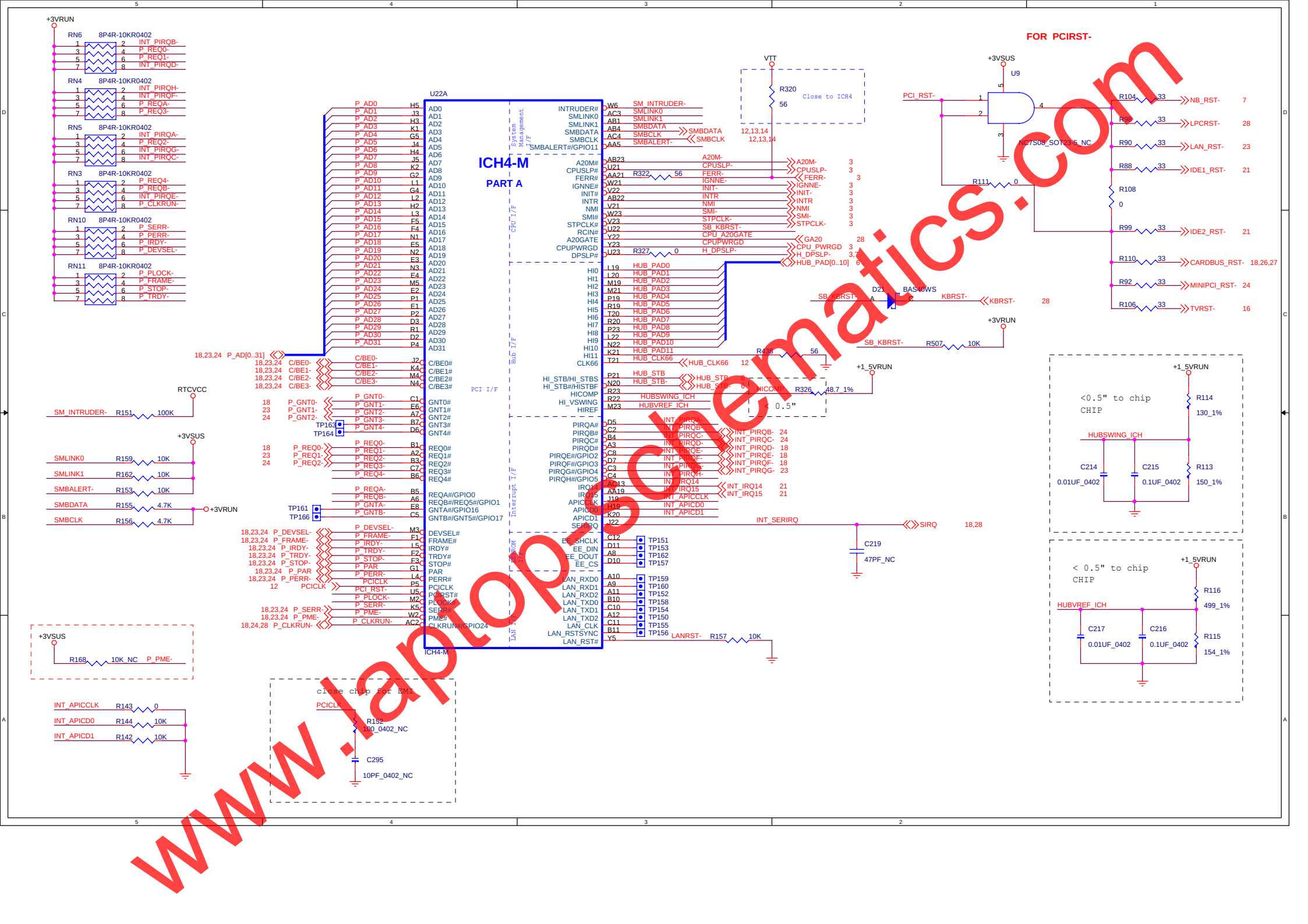


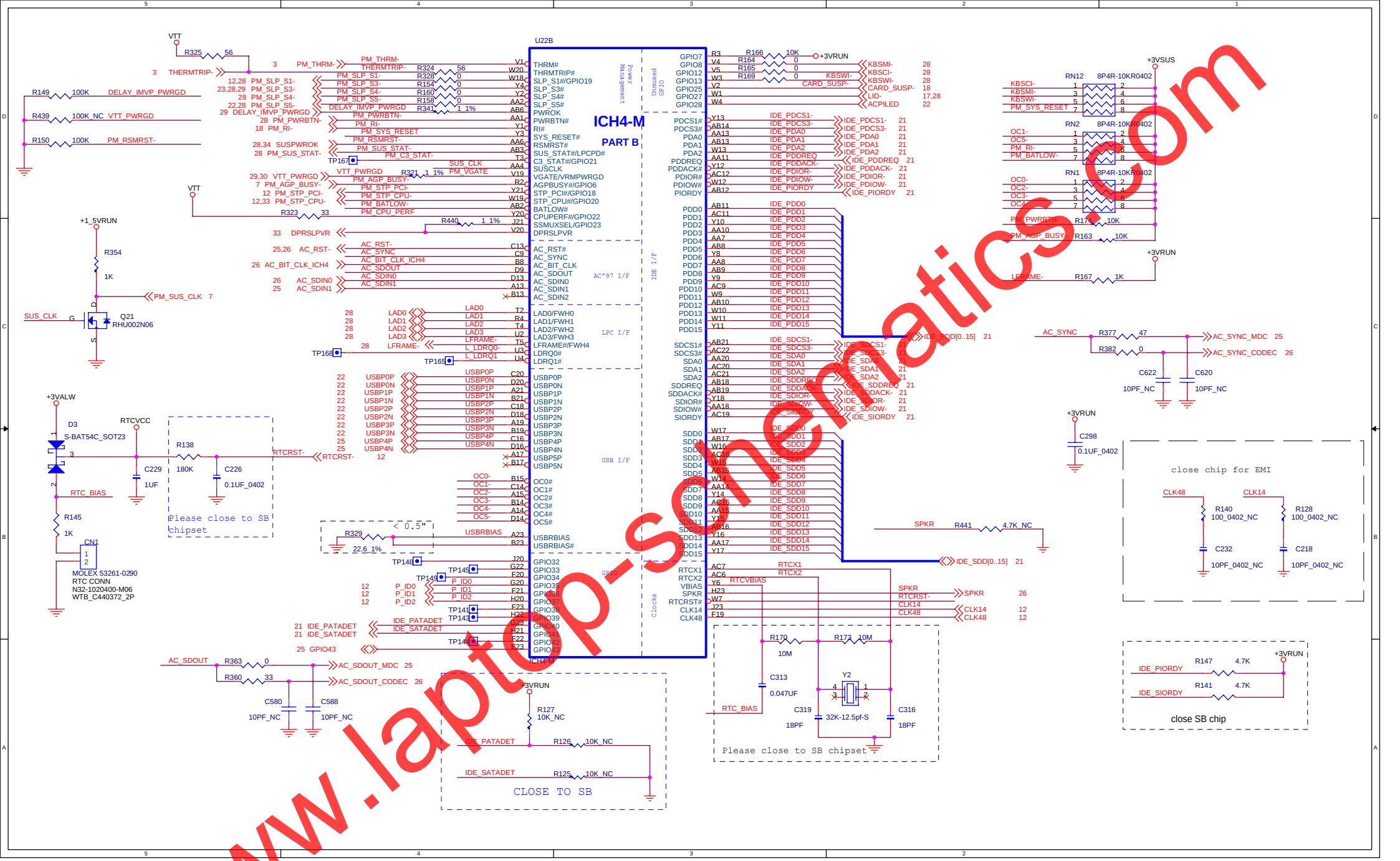


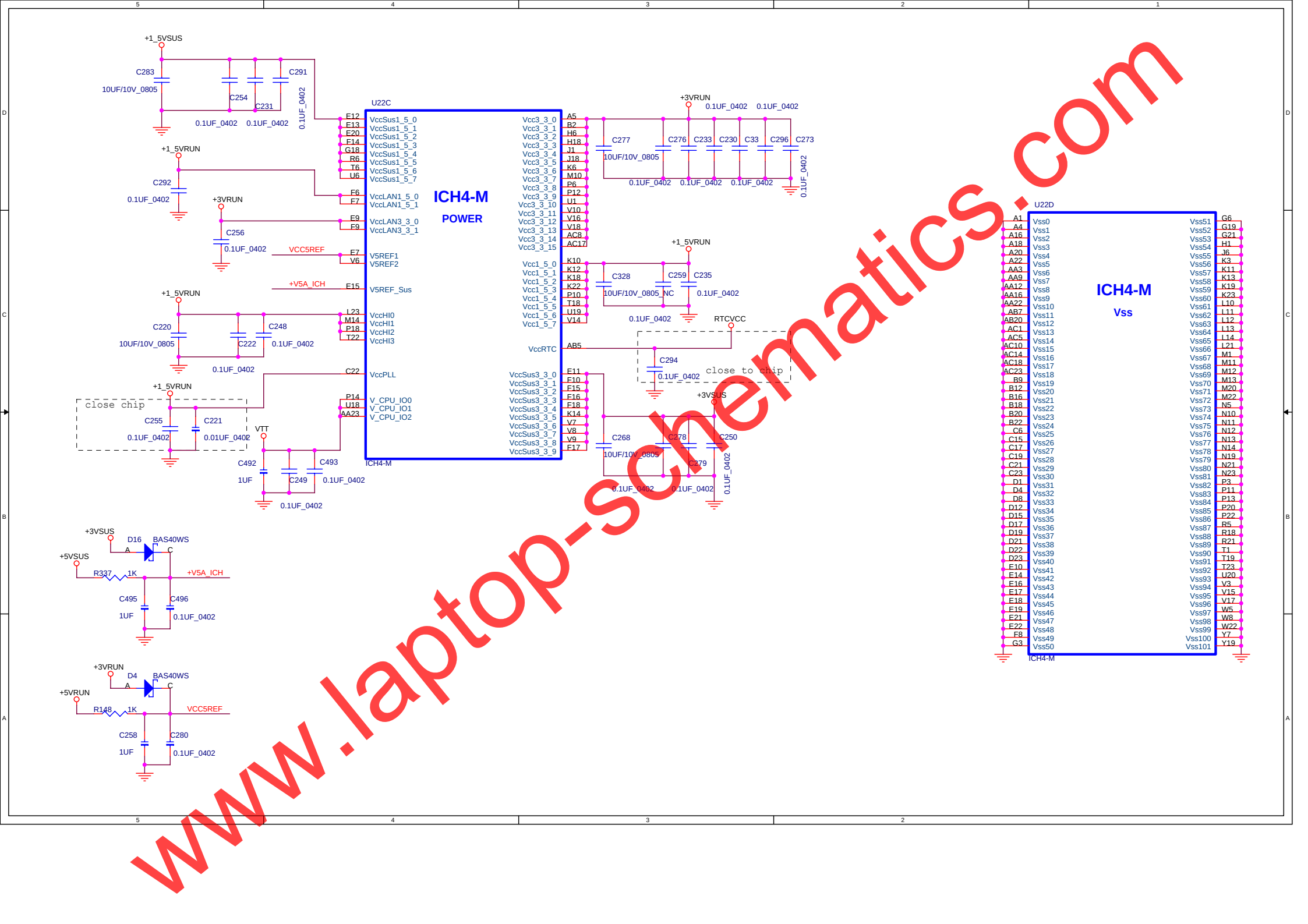



U20C
DDR 200/266 MHz
Montara-GM
U20B
DVO
LVDS
DAC
MISC
close chip for EMI
Close to chip < 0.5" max length
AS CLOSE AS POSSIBLE TO NB CHIP
CLOSE TO NB Chip
www.laptop-schematics.com


U20D
POWER
Montara-GM
+V1.35S_MCH
VTT
+2_5VSUS
+1_5VRUN
+3VRUN
VCCLVDS
VCCTXLVDS
VCCAHPLL
VCCAGPLL
VCCADPLLA
VCCADPLLB
Close to chip < 0.5" max length
Close to 855GME
www.laptopschematics.com

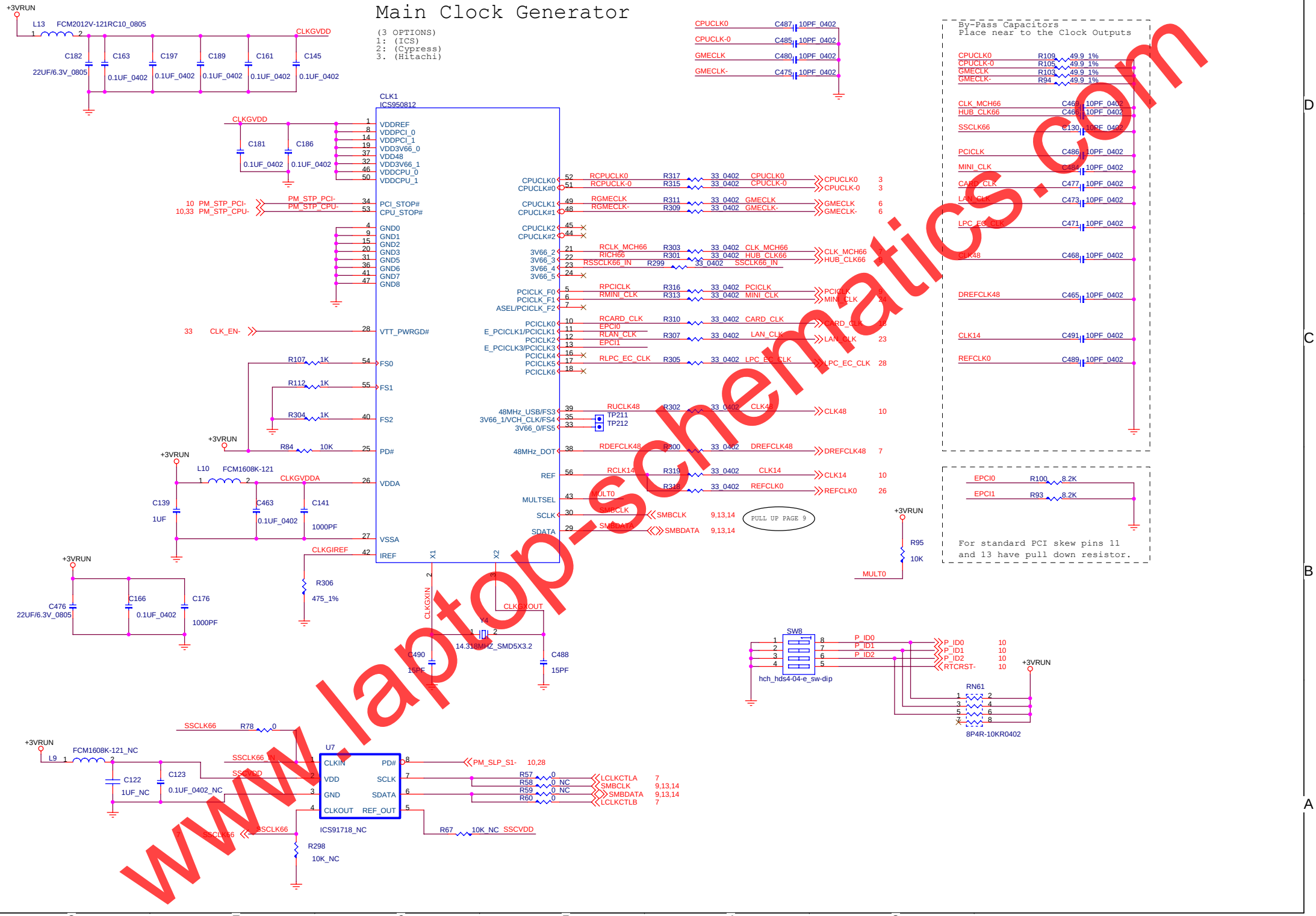


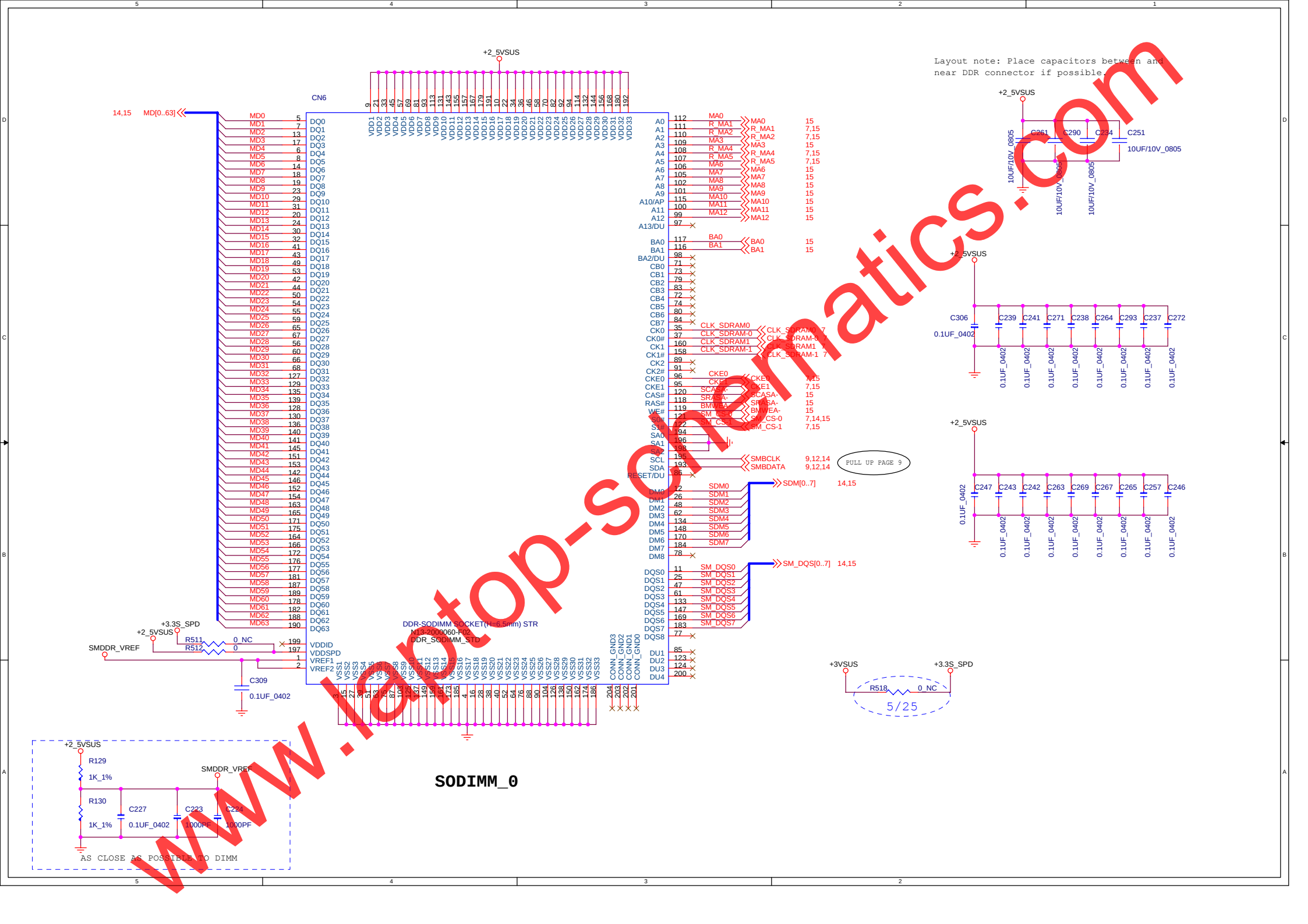

U22B
ICH4-M
PART B
Please close to SB chipset
CLOSE TO SB
close chip for EMI
close SB chip
Please close to SB chipset
MOLEX 53261-0290
RTC CONN
N32-1020400-M06
WTB_C440372_2P
S-BAT54C_SOT23
RHU002N06
www.laptop-schematics.com

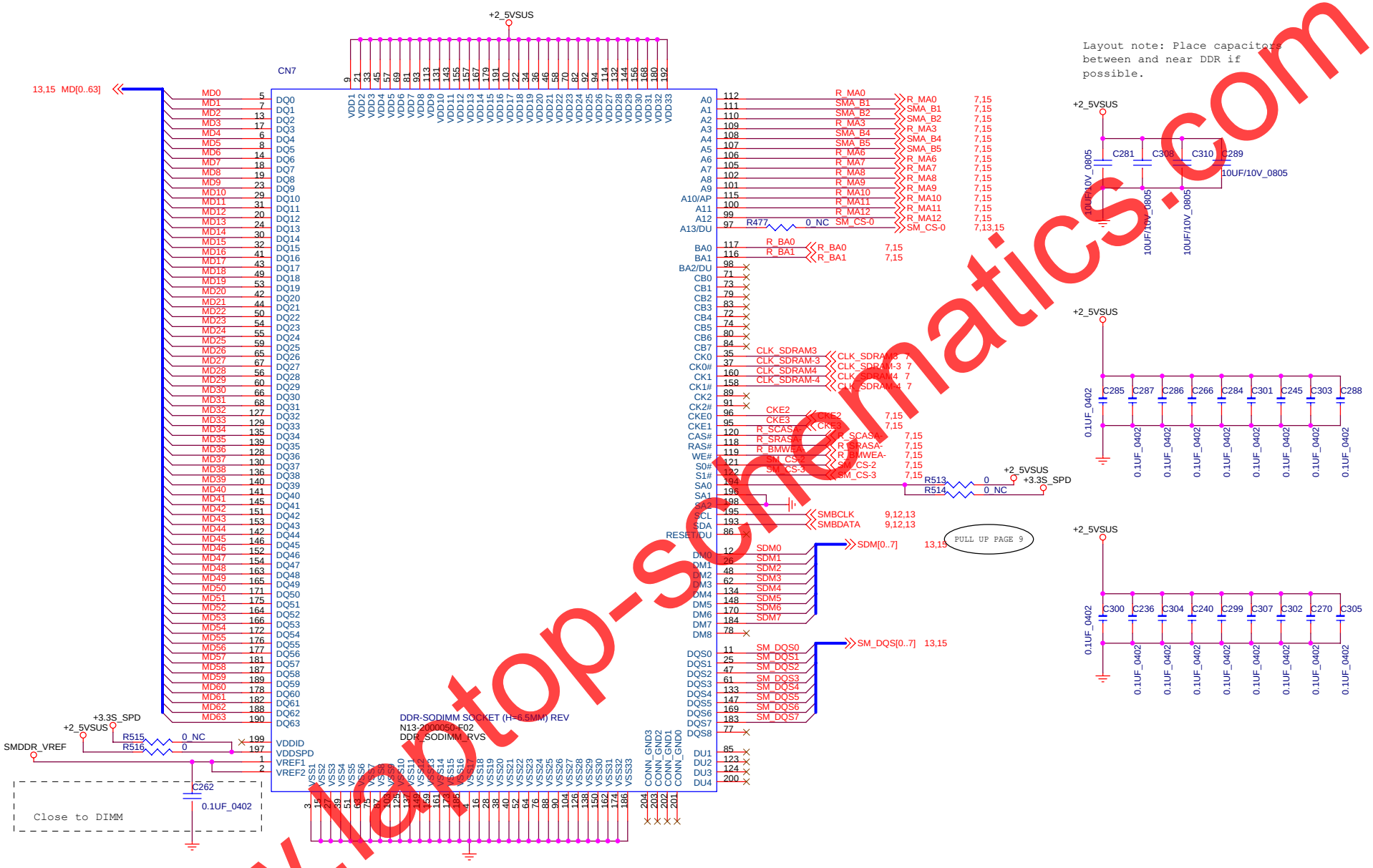

U22C
ICH4-M
POWER
U22D
ICH4-M
Vss
close chip
close to chip
+1_5VSUS
+1_5VRUN
+3VRUN
+3VSUS
+5VSUS
+5VRUN
+V5A_ICH
VCC5REF
VTT
RTCVCC
D16
BAS40WS
D4
BAS40WS
www.laptop-schematics.com

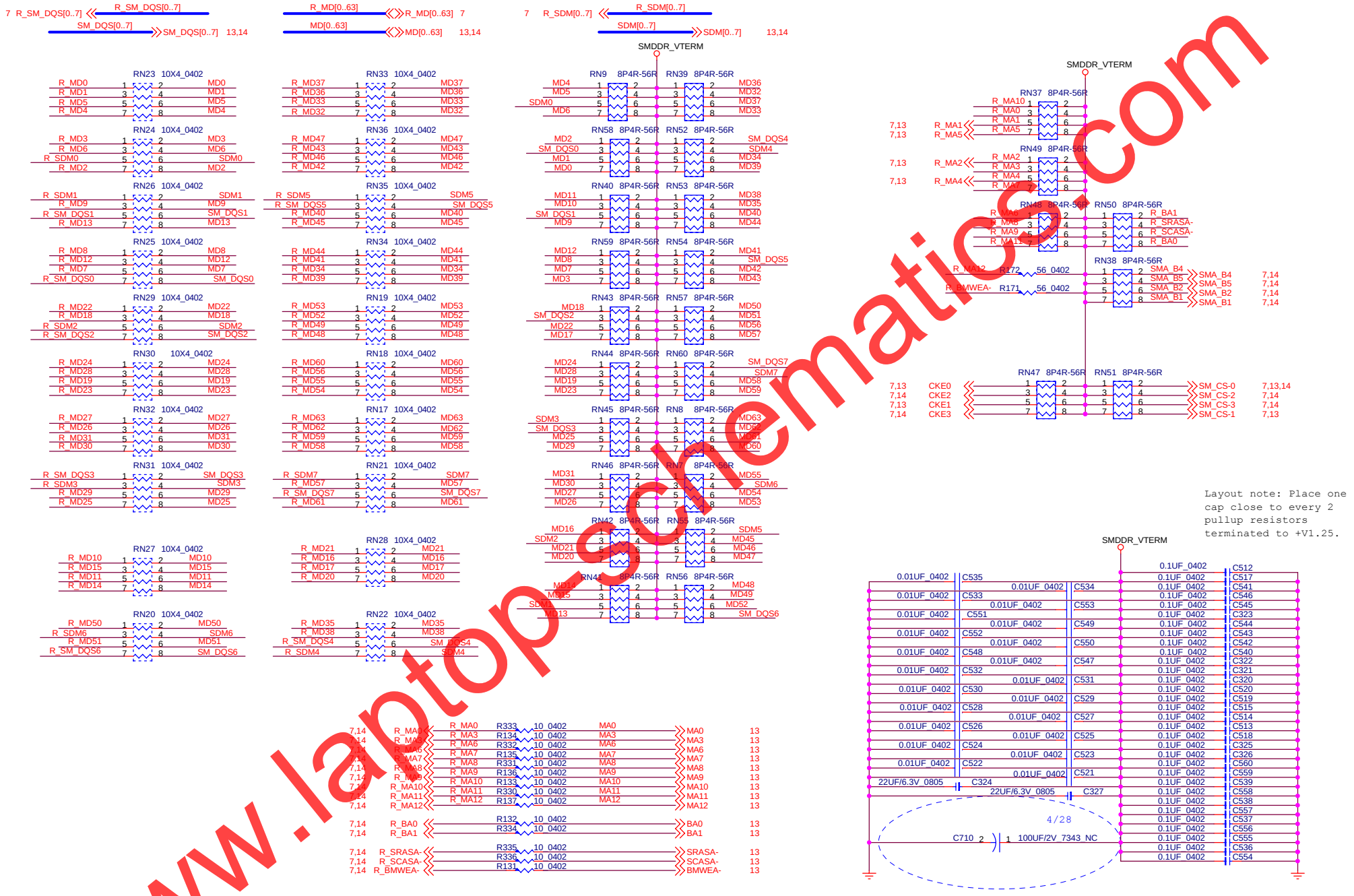
Main Clock Generator

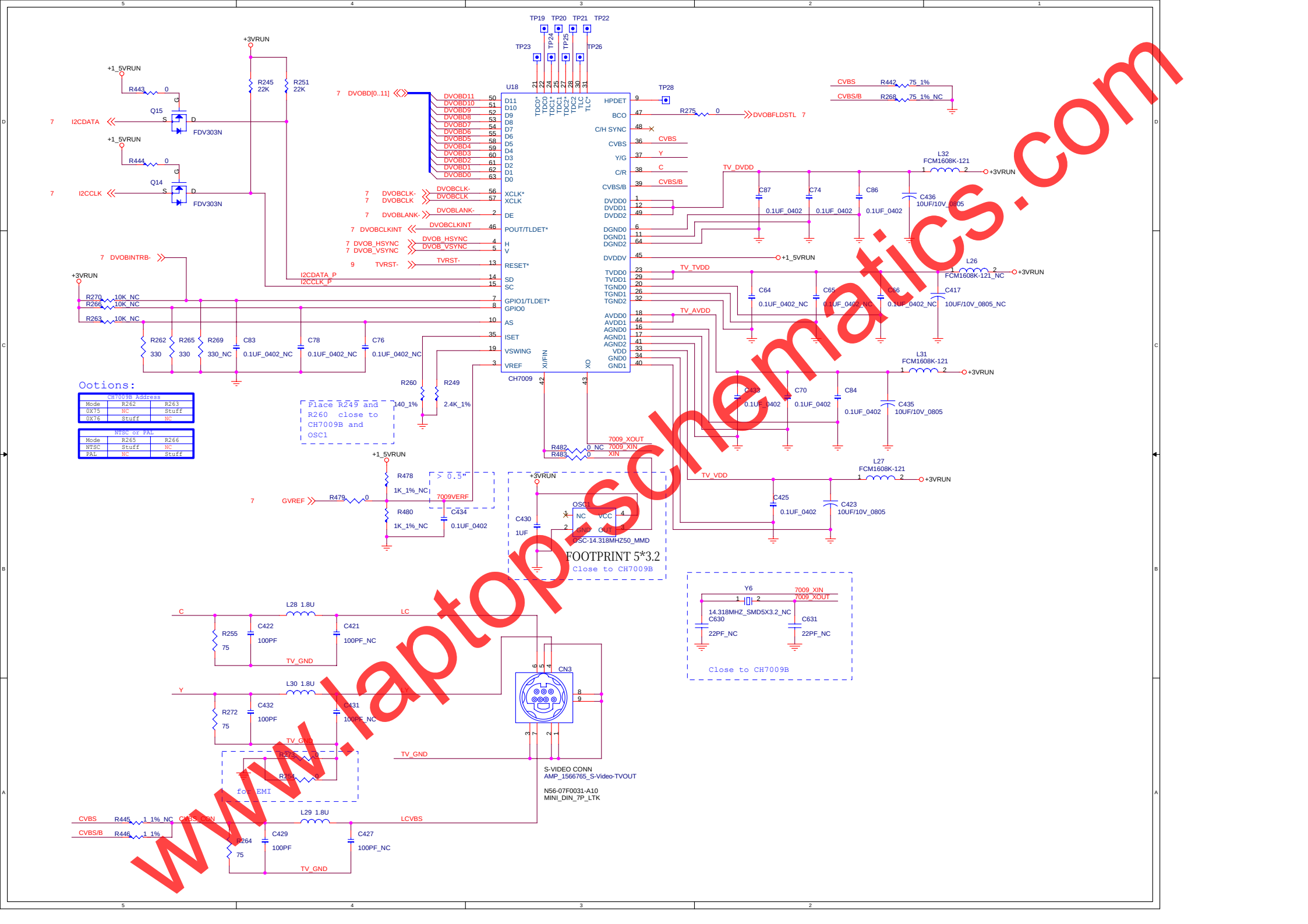
(3 OPTIONS)
1: (ICS)
2: (Cypress)
3. (Hitachi)

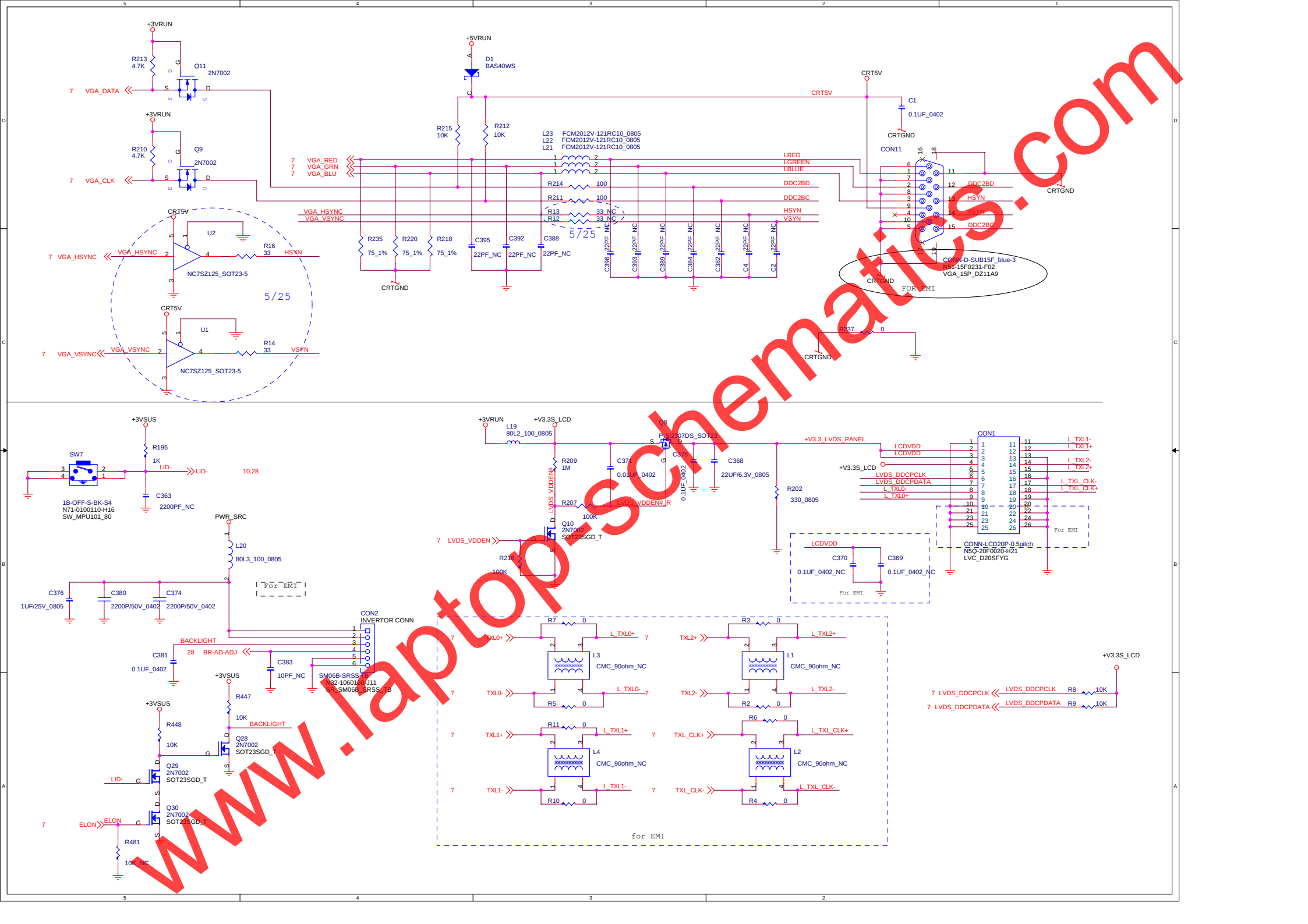


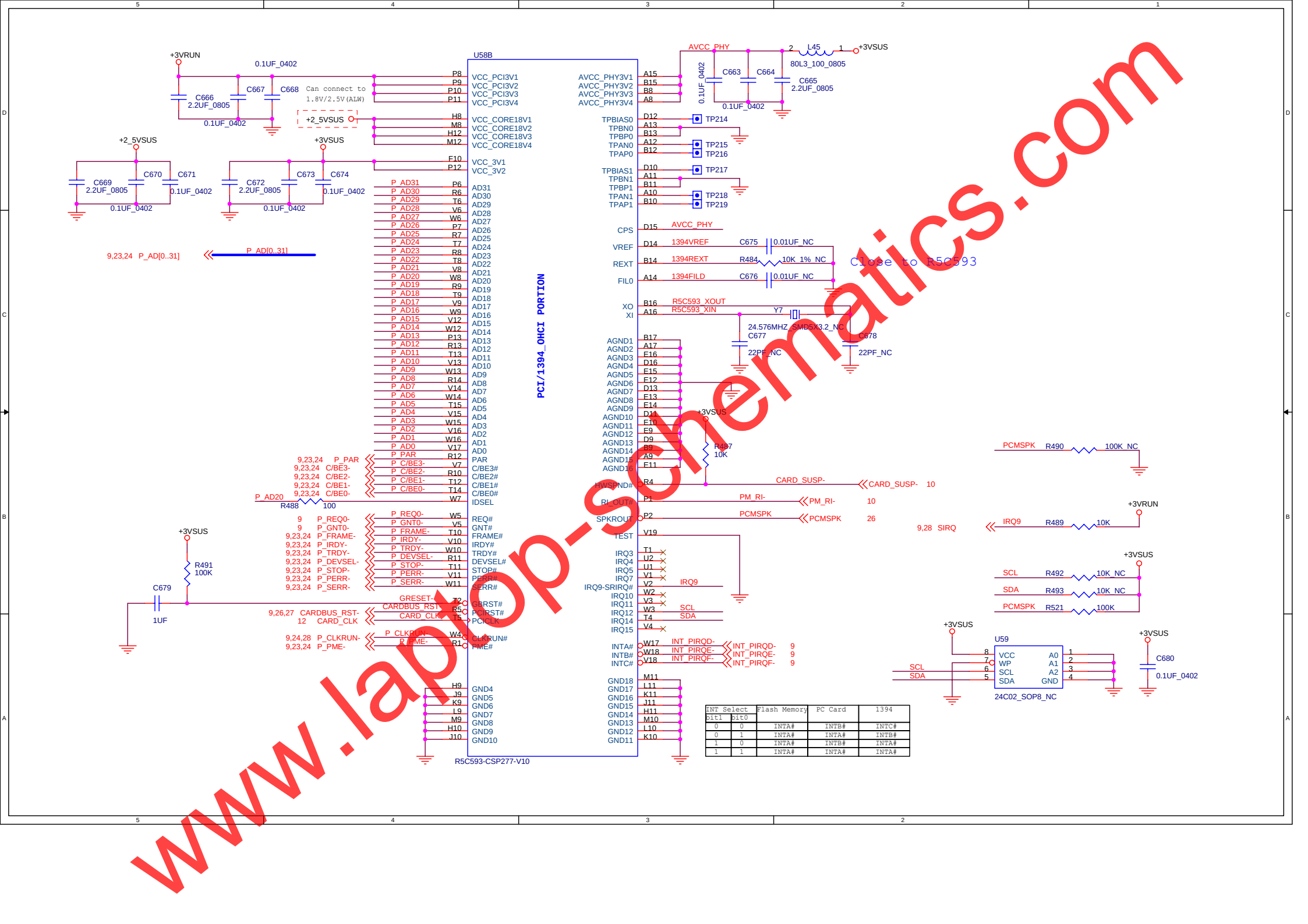

Layout note: Place capacitors between and near DDR connector if possible.
CN6
DDR-SODIMM SOCKET(H=6.5mm) STR
N13-20000060-F02
DDR_SODIMM_STD
SODIMM_0
+2_5VSUS
+3.3S_SPD
+3VSUS
SMDDR_VREF
PULL UP PAGE 9
AS CLOSE AS POSSIBLE TO DIMM
5/25
www.laptop-schematics.com

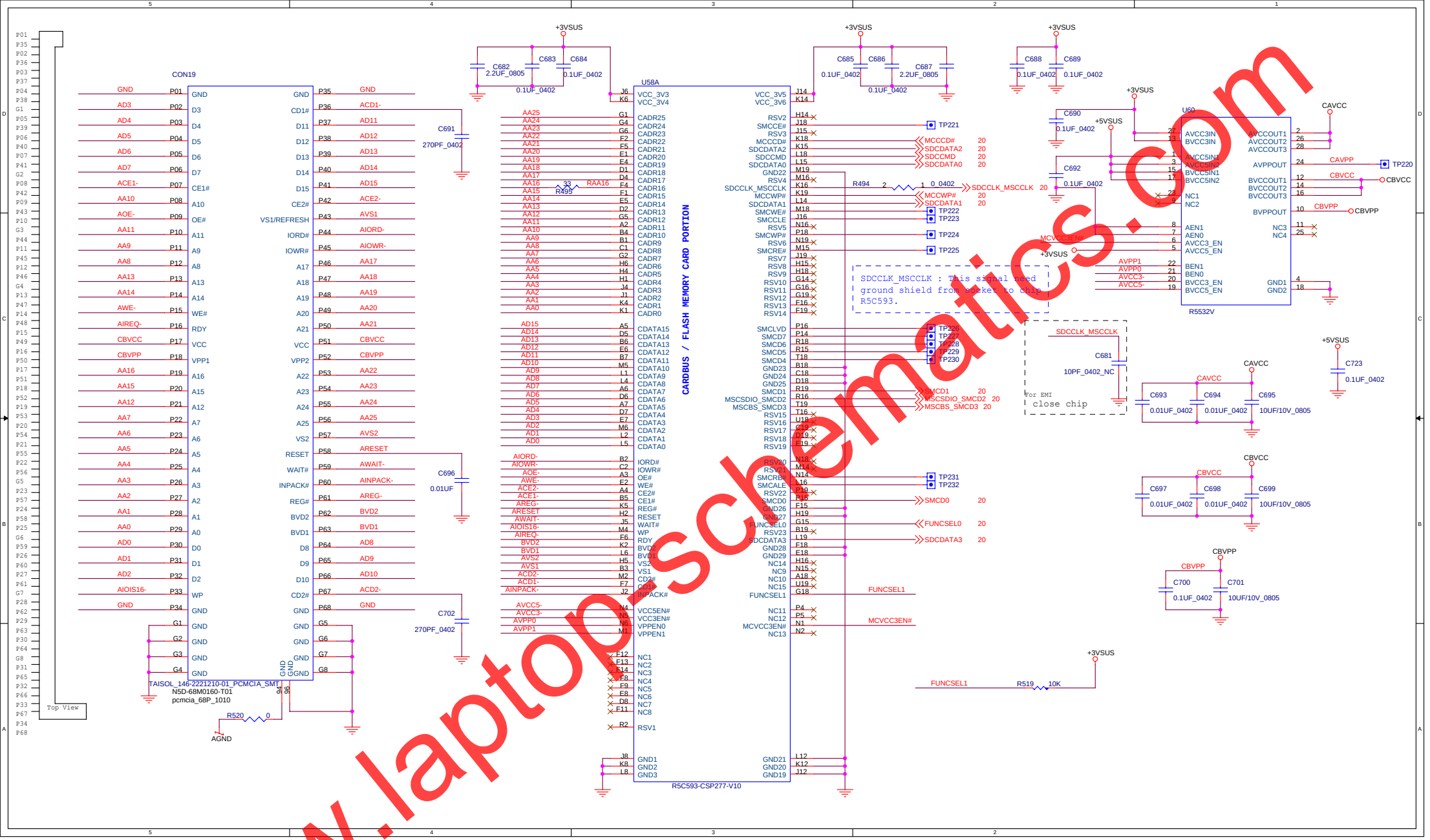


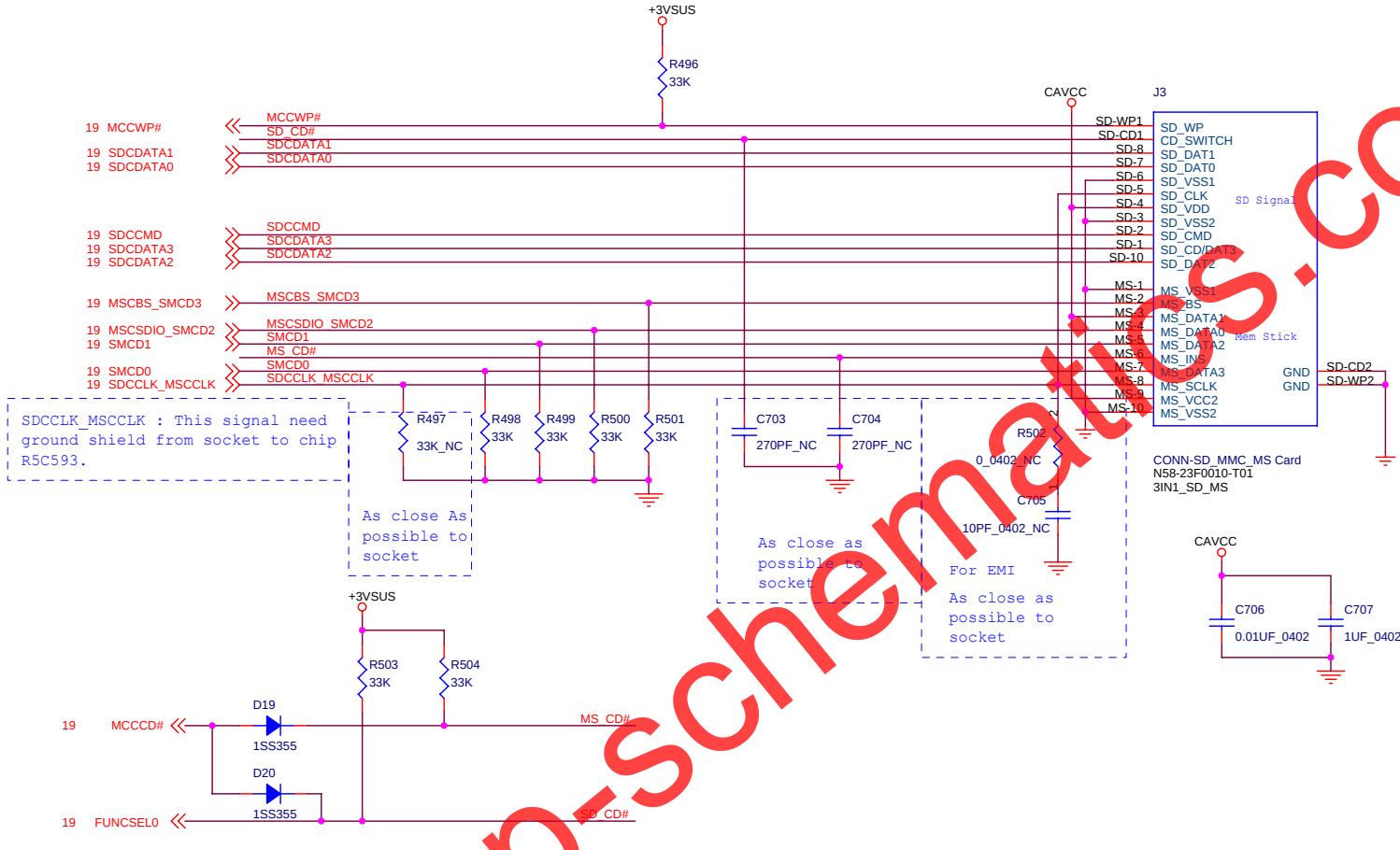










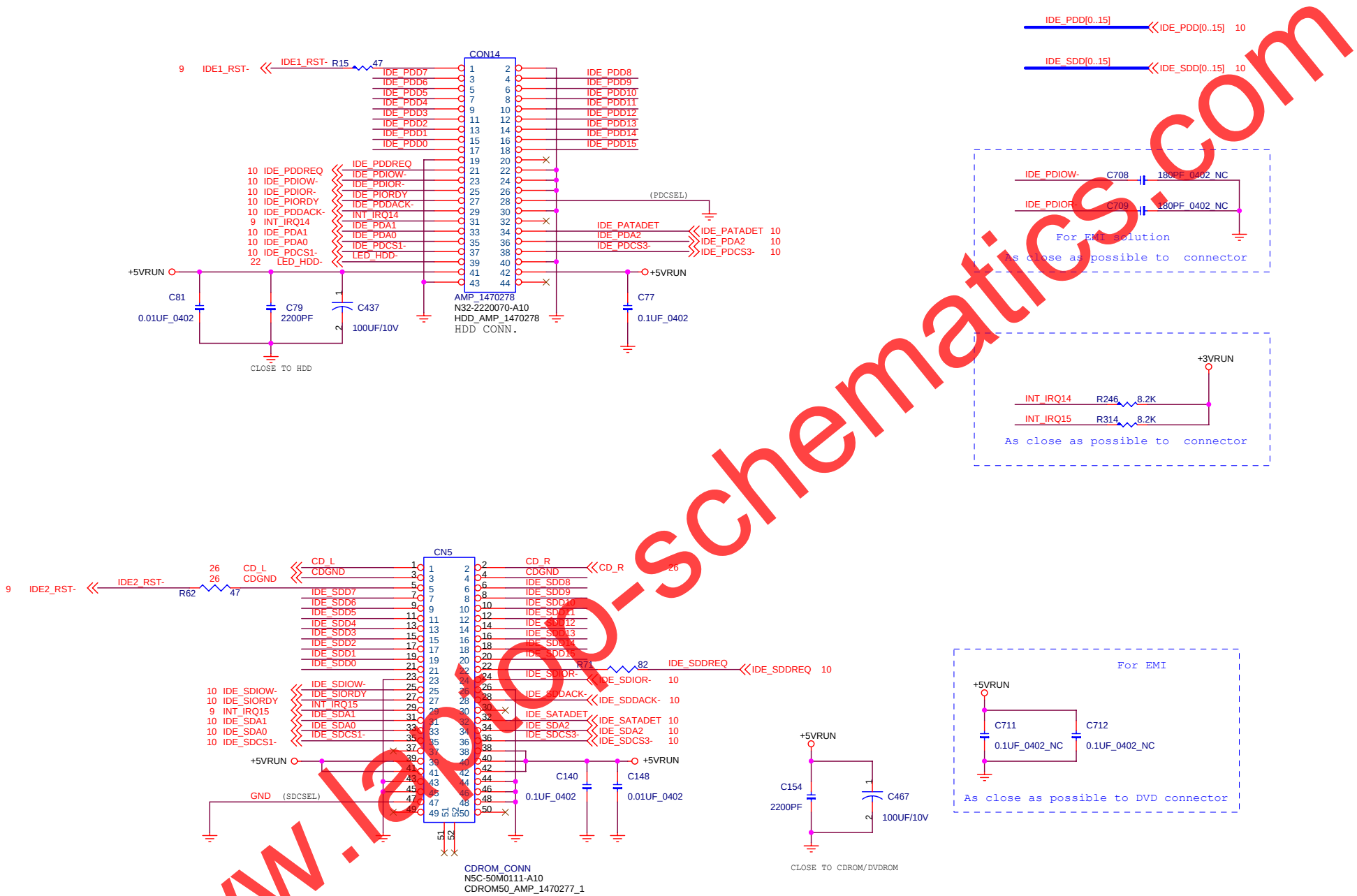


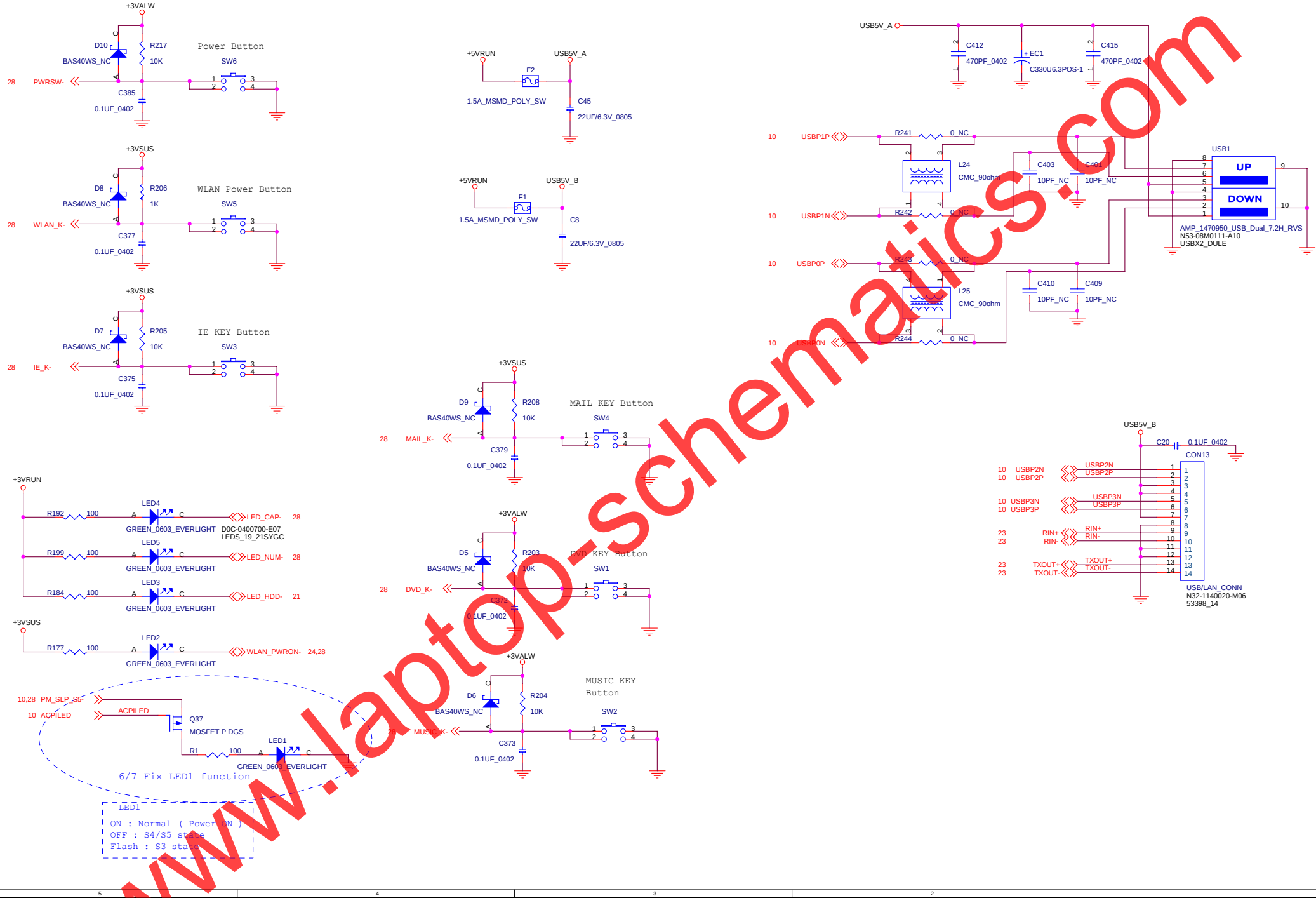
Memory Card Detect Logic Table

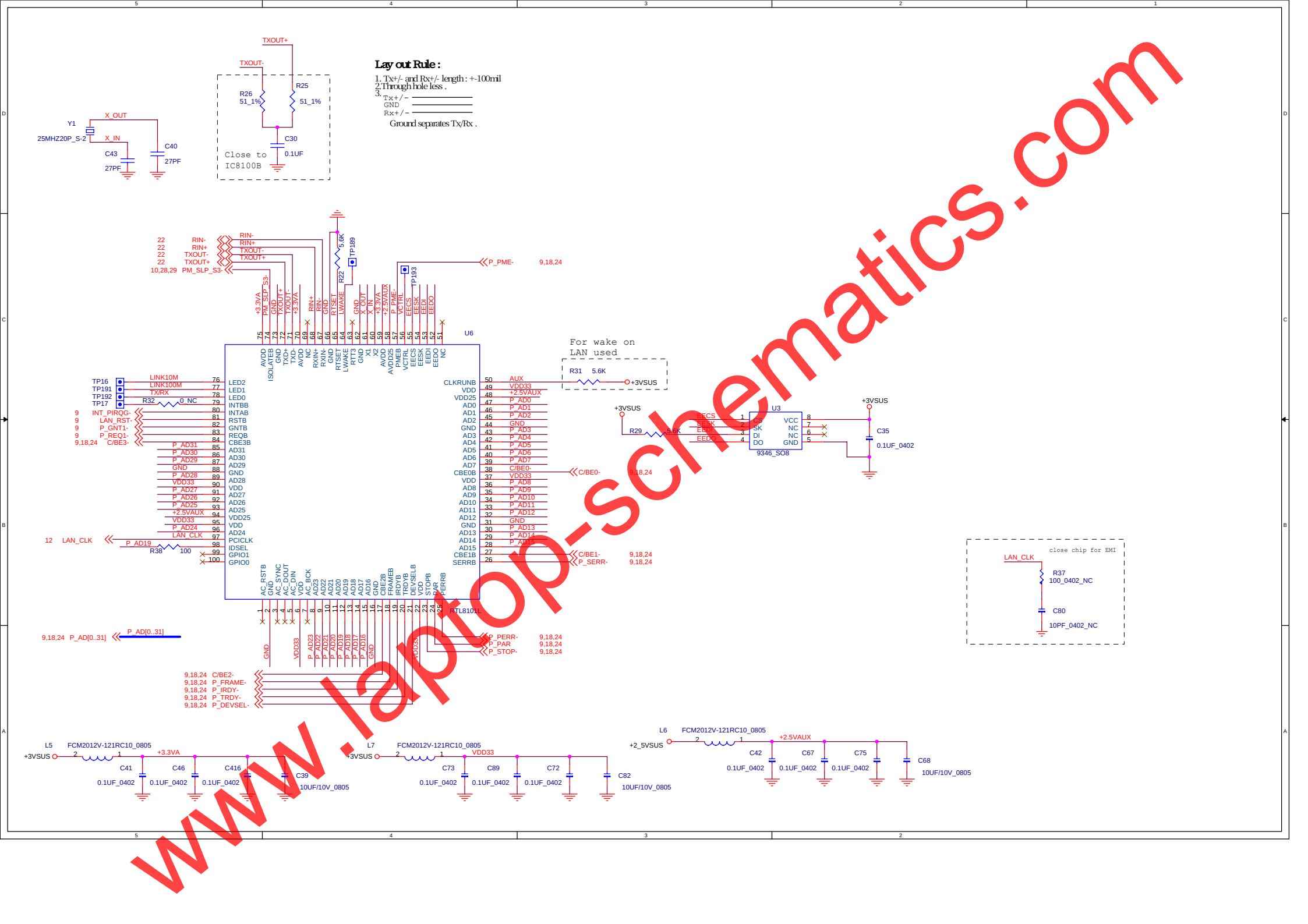
MS_CD#	SM_CD#	SD_CD#		Detected Card
0	0	0	->	INHIBIT
0	0	1	->	INHIBIT
0	1	0	->	INHIBIT
0	1	1	->	MemoryStick Detected
1	0	0	->	INHIBIT
1	0	1	->	SmartMedia Detected
1	1	0	->	SD/MMC Detected
1	1	1	->	Not Detected

Unused

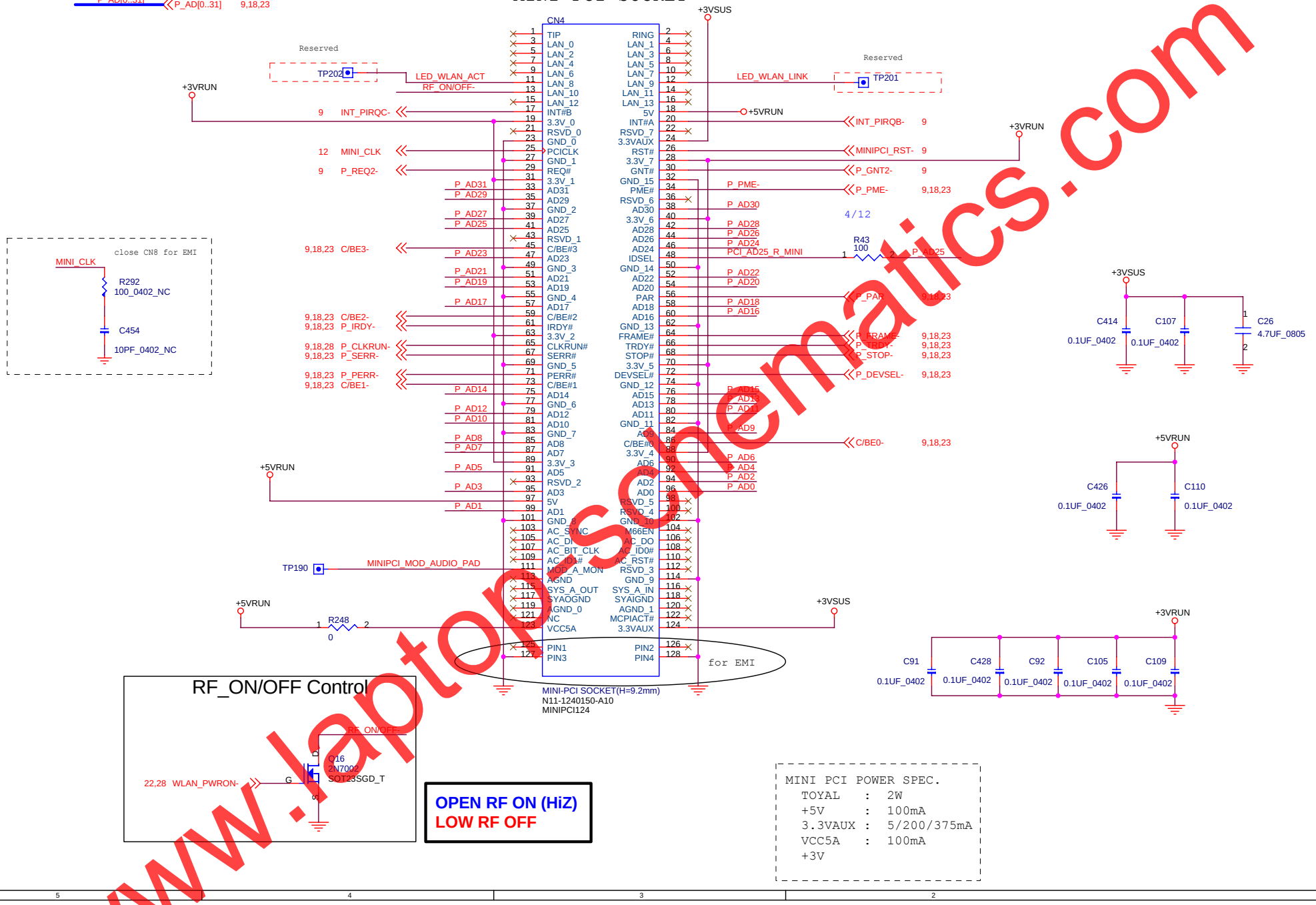
DO NOT INSERT SMARTMEDIA, SD/MMC AND MEMORYSTICK SIMULTANEOUSLY.

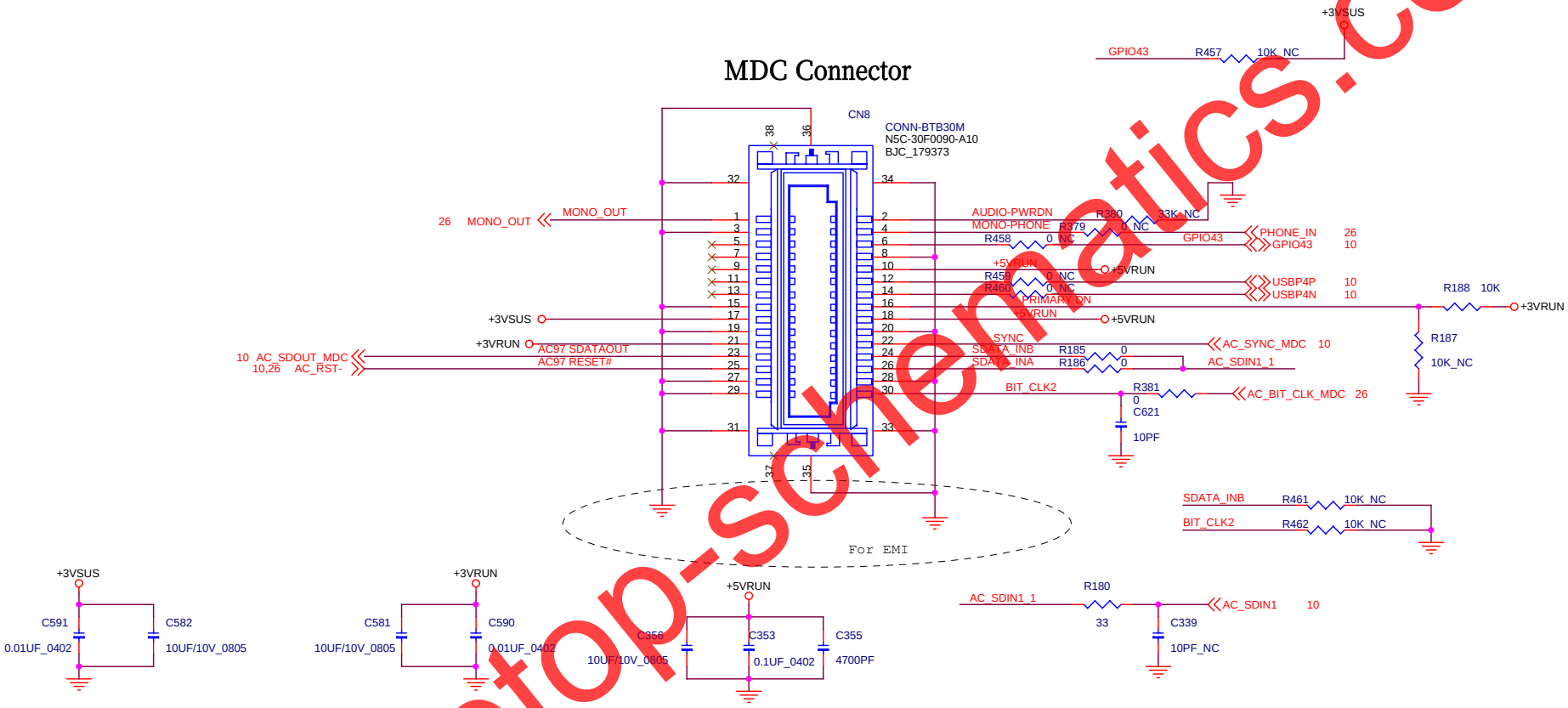


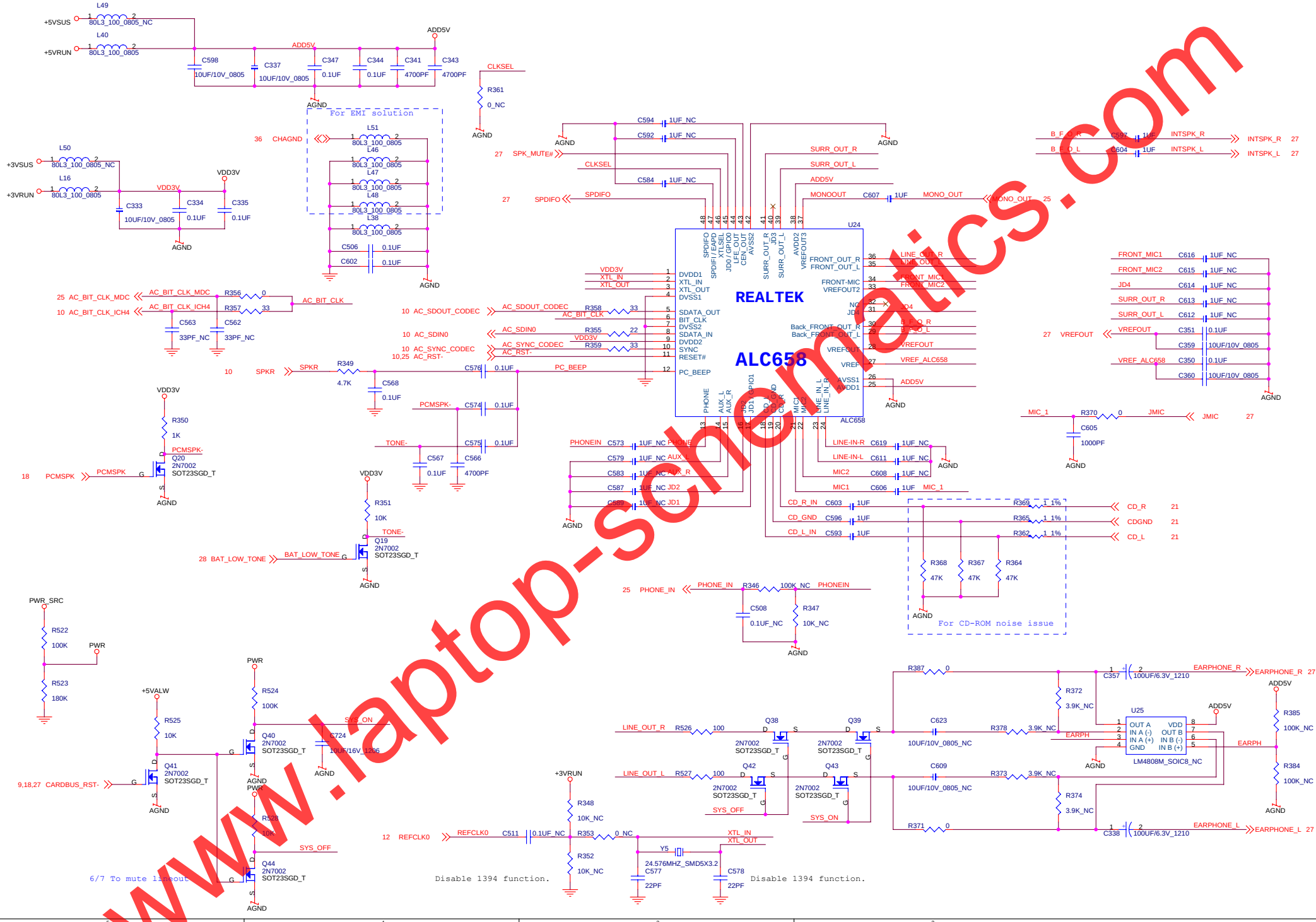


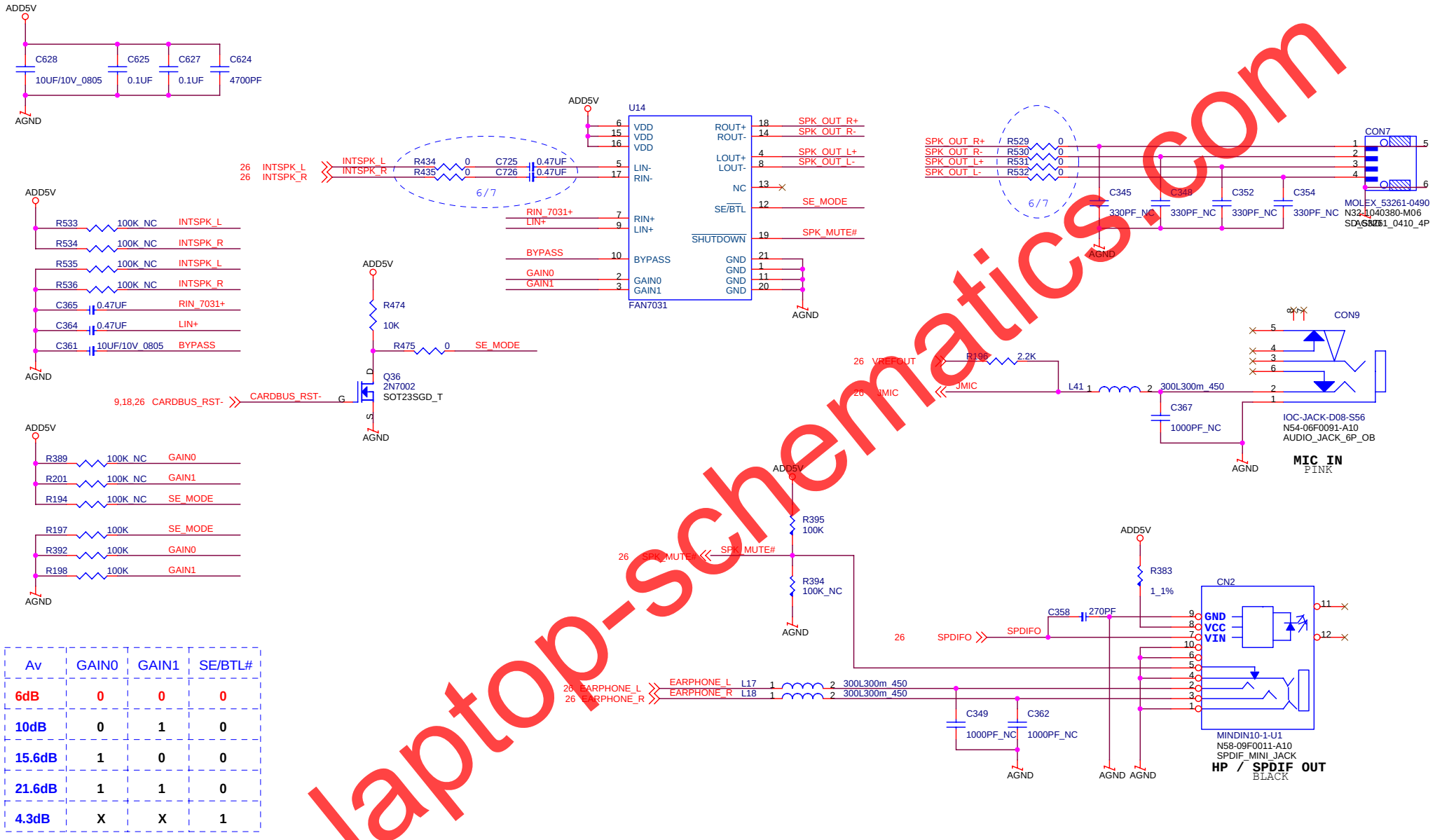


MINI PCI SOCKET

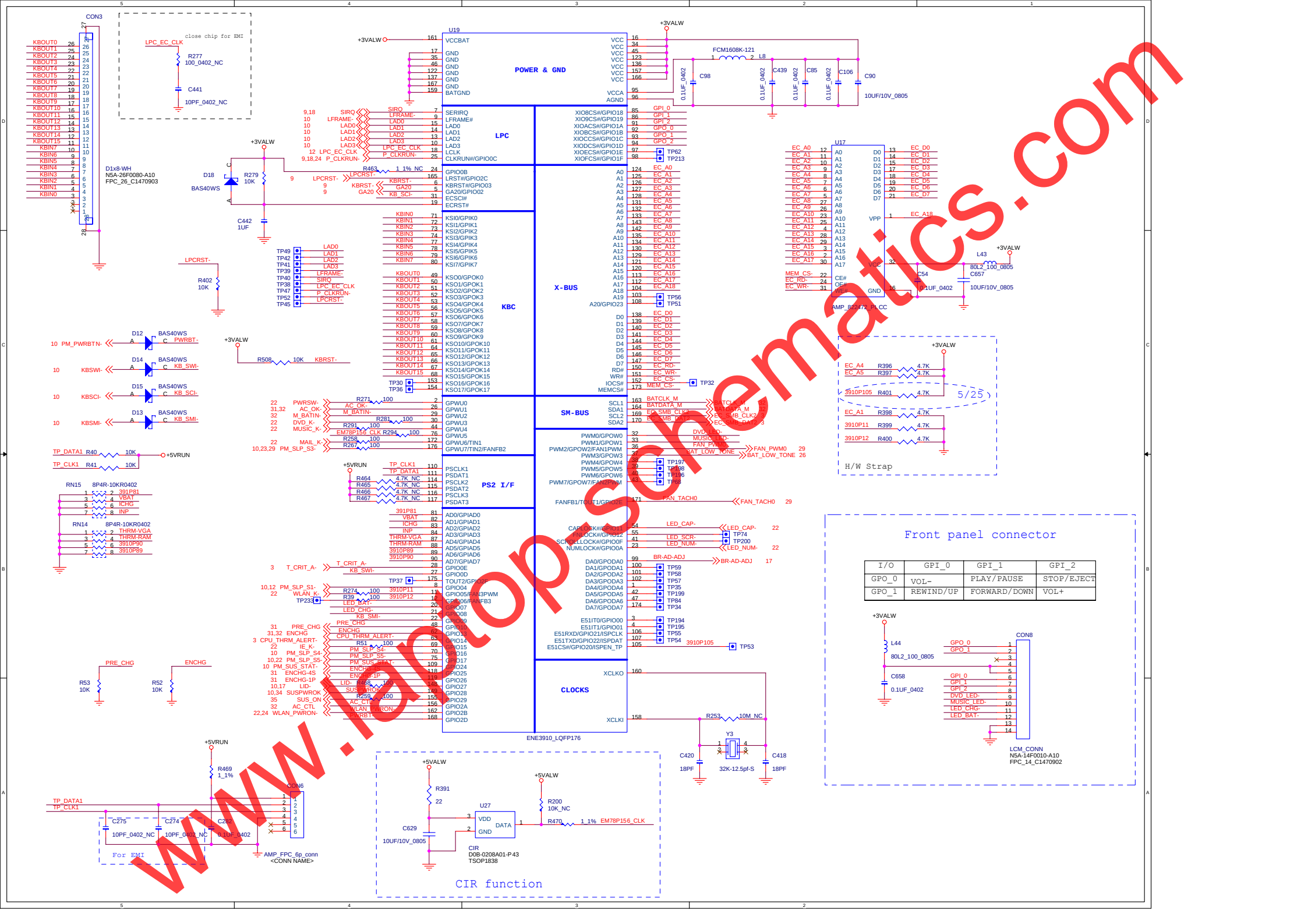


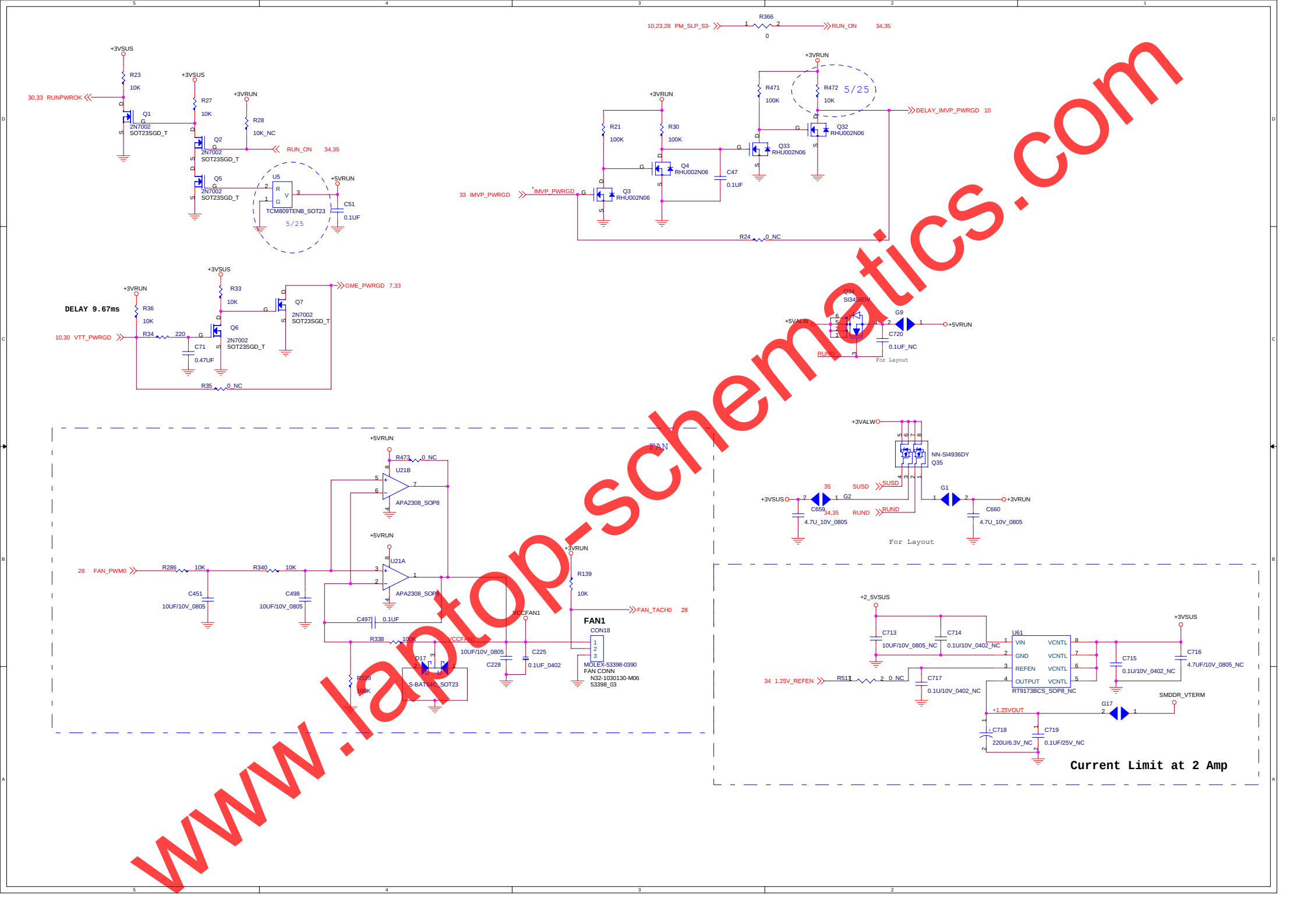


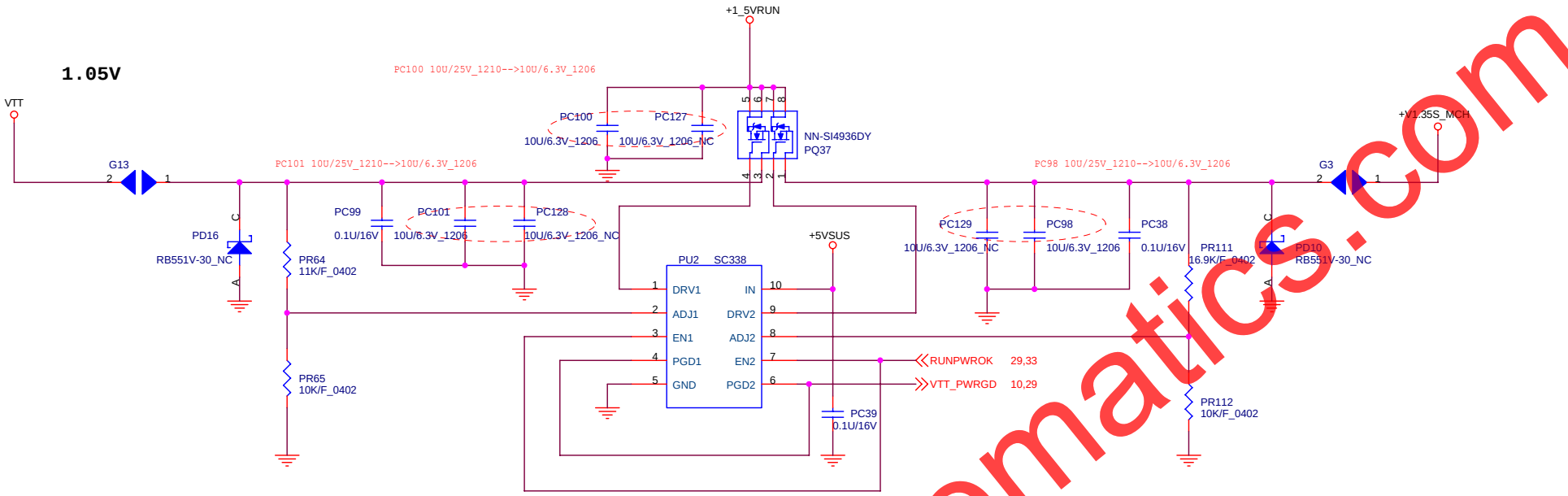




Av	GAIN0	GAIN1	SE/BTL#
6dB	0	0	0
10dB	0	1	0
15.6dB	1	0	0
21.6dB	1	1	0
4.3dB	X	X	1



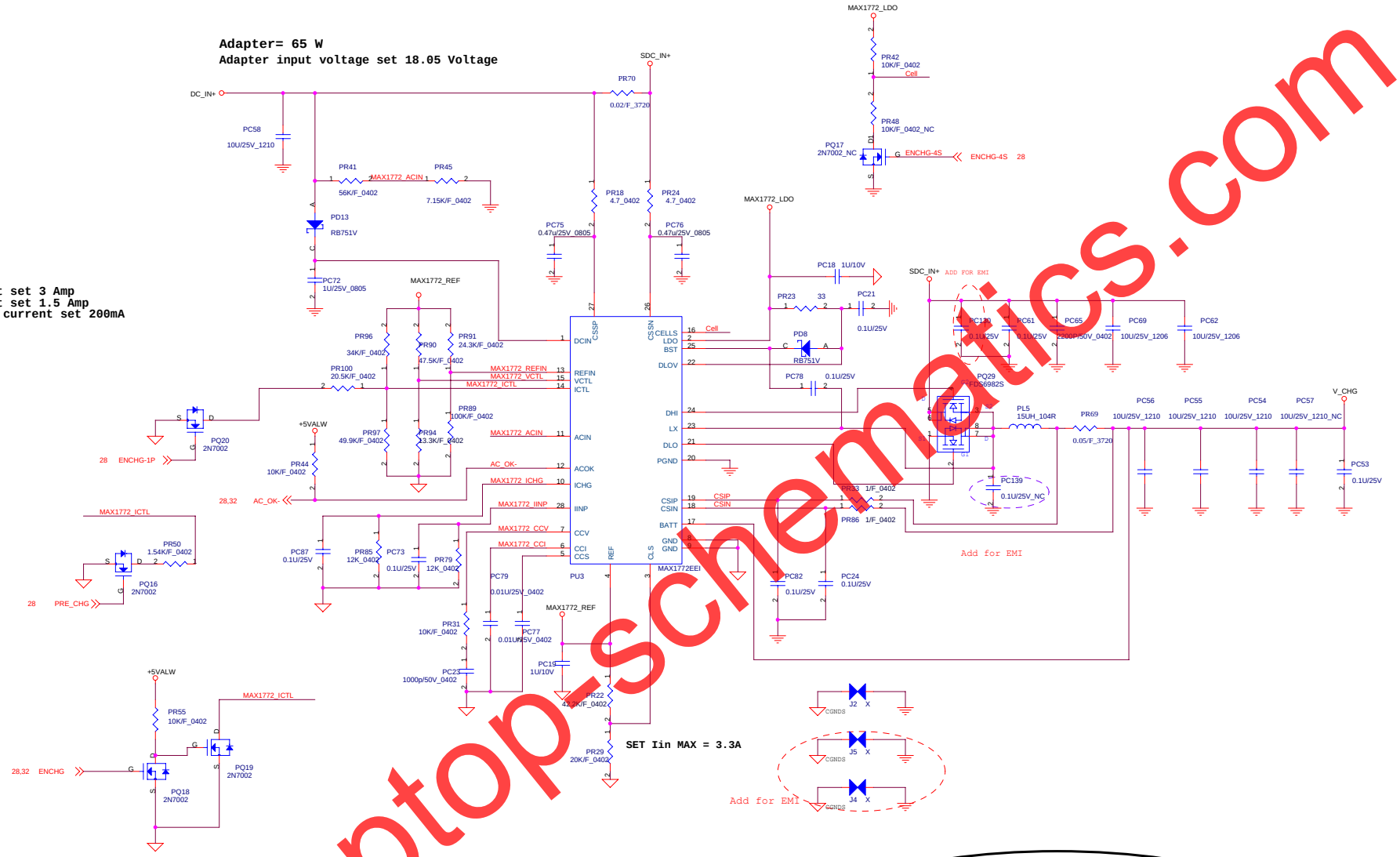




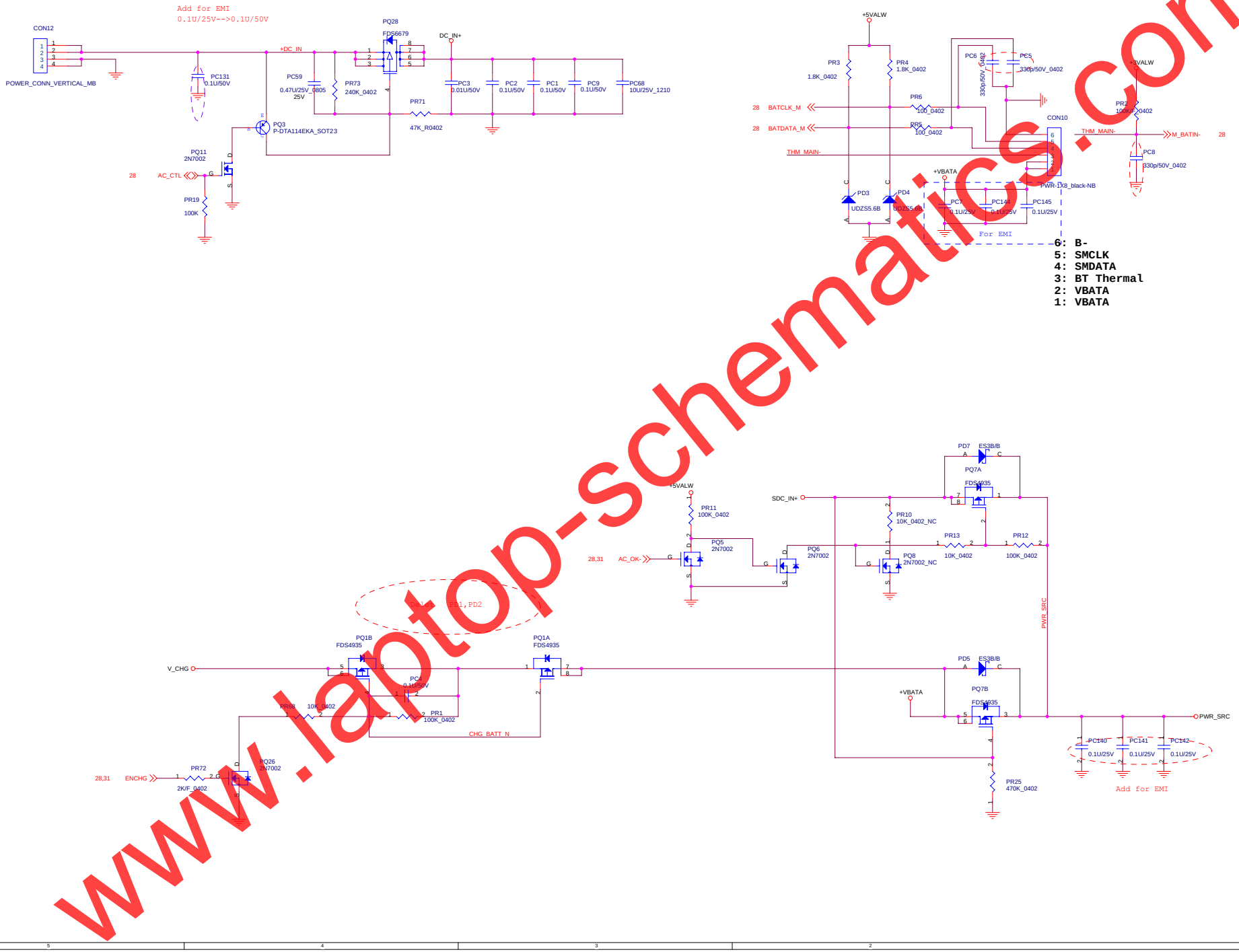
1.20V - GM, PR2=14.0K/F
1.35V - GM+ PR2=16.9K/F

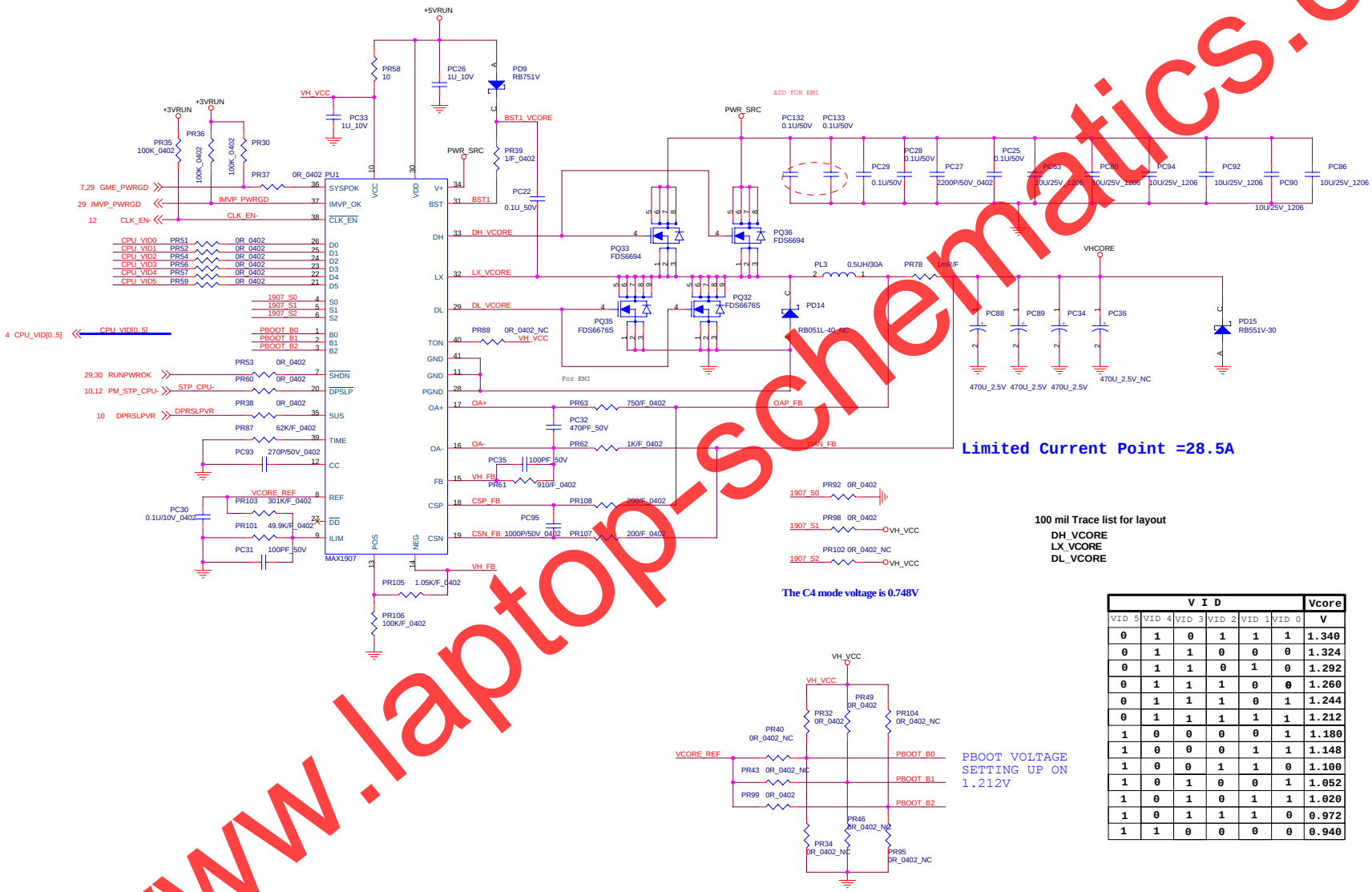
Adapter= 65 W
Adapter input voltage set 18.05 Voltage

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

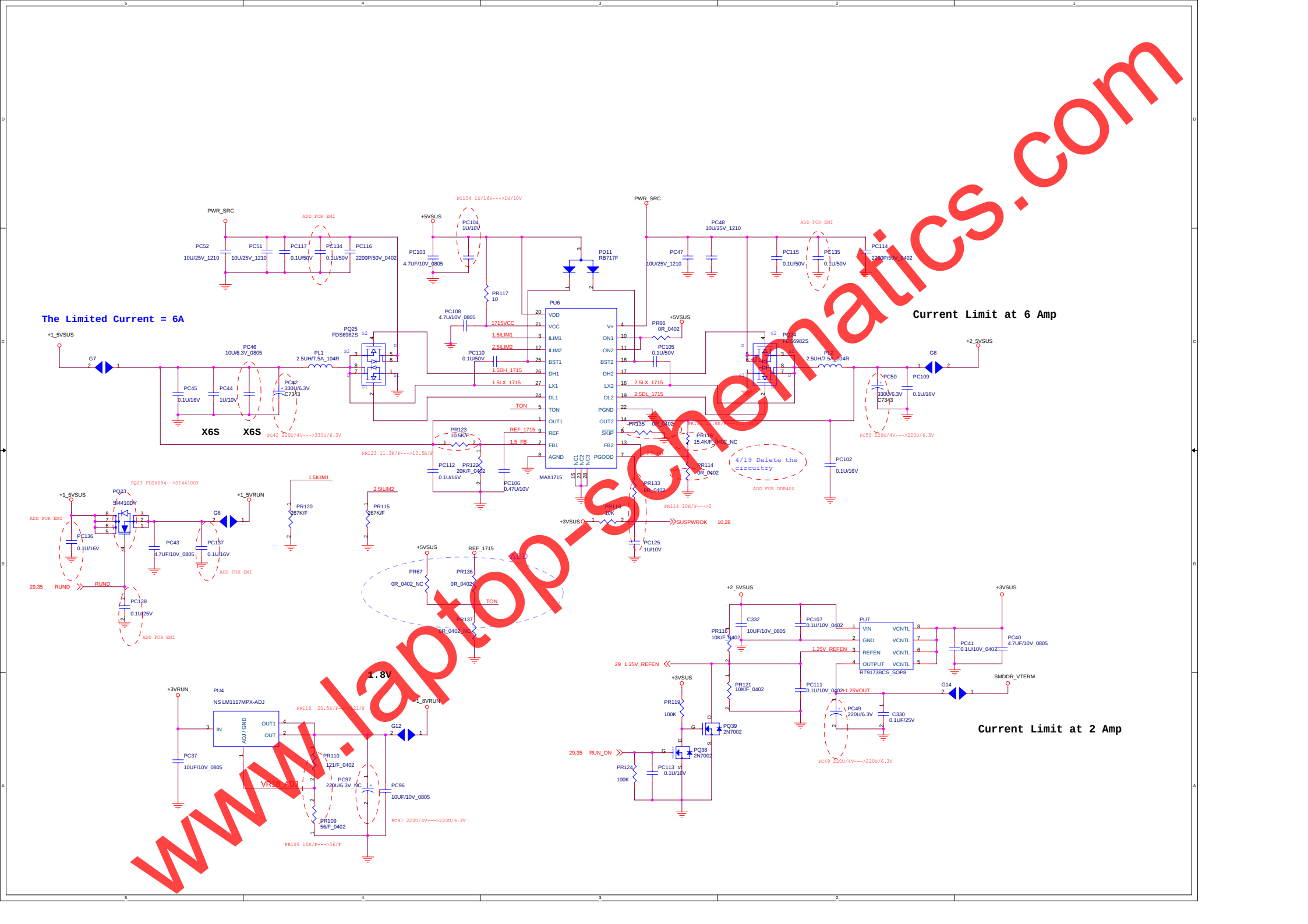


	ENCHG-1P	PRE_CHG	ENCHG	
Pre-charge	0	1	1	Pre-charge
Fast charge	0	0	1	4S2P
Fast charge	1	0	1	4S1P
STOP CHARGE	0	0	0	STOP CHARGE





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
PWR_SRC
+5VSUS
+1_5VSUS
+1_5VRUN
+3VSUS
+3VRUN
+2_5VSUS
+1_8VRUN
PU6
MAX1715
PU4
NS LM1117MPX-ADJ
PU7
RT9173BCS_SOP8
4/19 Delete the circuitry
ADD FOR EMI
ADD FOR DDR400
SUSPWROK
RUN_ON
1.25V_REFEN
1.25VOUT
SMDDR_VTERM
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