

MAX1845 ( +1.5V & VCCP1.05V )  
P31

SC486IMLTRT ( +1.8SUS & 0.9V )  
P32

SC4215 ( +2.5V )  
P32

MAX1999 ( 3VPCU & 5VPCU )  
P33

BATTERY CHARGER  
P34

MAX1907 ( CPU\_CORE )  
P35

DISCHARGE  
P36

Intel Dothan Processor  
478 uFCPGA  
VCC\_CORE  
GMCH\_VTT  
VCCA

CPU Thermal Sensor  
+5V  
P3

Alviso-GM  
GMCH  
82915GM  
1257 PCBGA  
GMCH\_VTT  
1.8VSUS  
+1.5V  
+2.5V  
+3V  
P5,6,7,8,9

LCD/INV  
CONN  
+5V  
+3V  
P13

CRT  
+5V  
+2.5V  
P12

S-VIDEO  
P12

CK-GEN  
CK410M  
+3V  
ICS954206  
P2  
X'TAL  
14.318M

Dual Channel  
DDR2  
DDR II  
SODIMMO  
DDR II  
SODIMM1  
1.8VSUS  
SMDDR\_VTERM  
P10,11

ICH6-M  
609 BGA  
+3V  
3VSUS  
+2.5V  
+1.5V  
1.5VSUS  
VCCRTC  
GMCH\_VTT  
P14,15,16

SATA  
( reserved )  
P18

HDD/CD-ROM  
+5V  
P18

USB Port 0 ~ 3  
5VSUS  
P17

TYPE III  
MINI-PCI  
Socket  
+3V  
3VSUS  
5VSUS  
P25

TI PCI7411  
288 PBGA  
( PCMCIA+1394  
+Cardreader )  
+3V  
3VSUS  
5VSUS  
+1.5V  
P28  
X'TAL  
24.576M

RELTEK  
RTL8100CL(10/100M)  
RTL8110SB(1G)  
INTD  
REQ2  
GNT2  
AD16  
P26  
X'TAL  
25M  
LANVCC3  
LANVCC18  
LANVCC10

AMCODEC  
CONEXANT  
20468-31  
P19

MODEM DAA  
CONEXANT  
20463-31  
P20

EC/KBC  
PC97551  
+3VPCU  
+3V  
VCCRTC  
P22  
X'TAL  
32.768K

SIOPC87383  
P30

FIR  
P30

PORT  
REPLICATOR  
P24

NEW  
CARD  
( reserved )  
P37

BLUETOOTH  
P37

3 in 1 Cardreader  
Socket  
P29

CARDBUS  
Slot  
type I X II  
P28

RJ45  
P27

MIC IN  
JACK  
P21

Audio  
Amplifier  
GMT1428  
+5V  
P21

RJ11  
P27

ISA BIOS  
+3VPCU  
P22

TOUCHPAD  
+5V  
P23

Keyboard  
P23

CRT  
PORT

COM&PRT  
PORT

USB PORT  
5,6

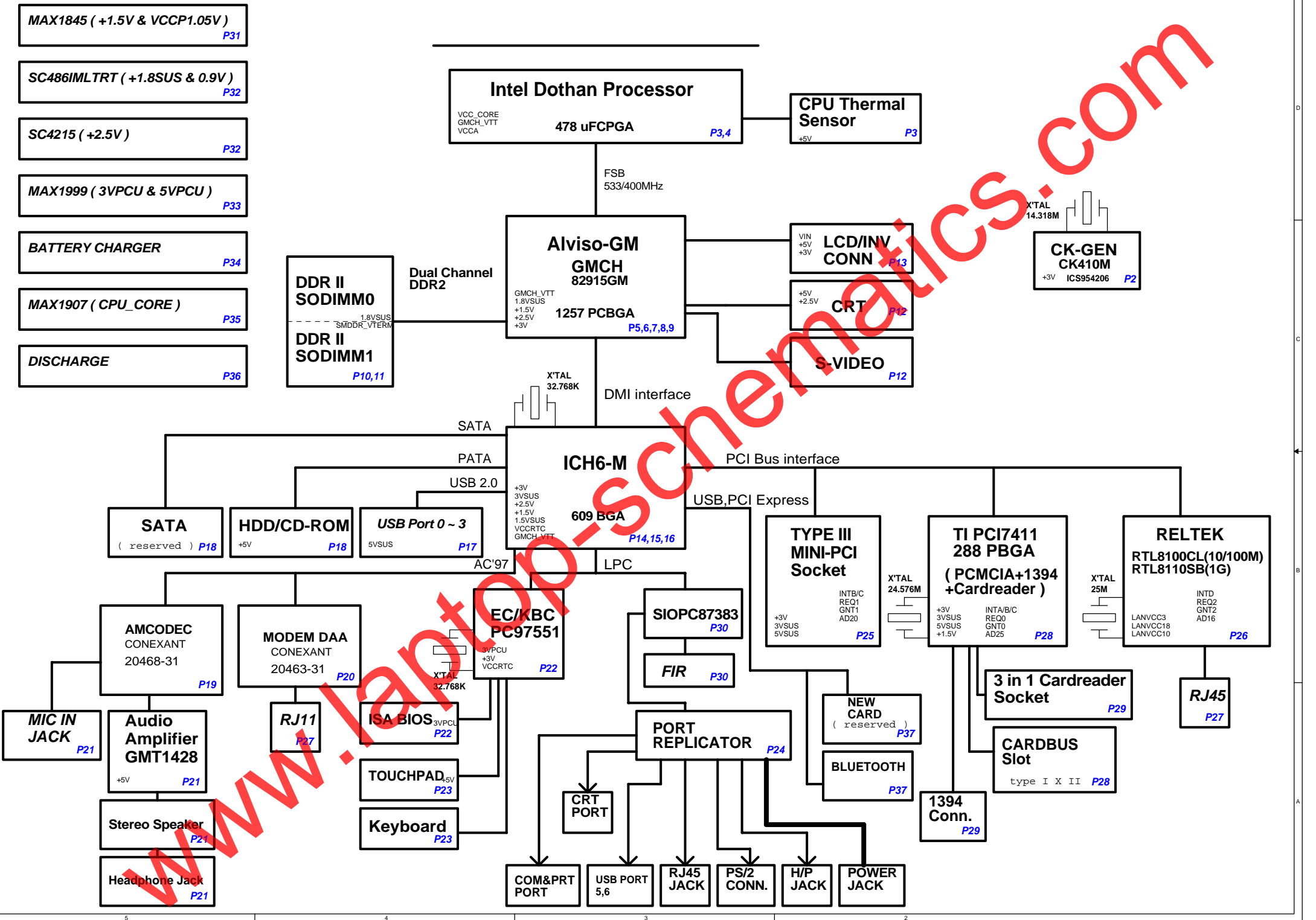
RJ45  
JACK

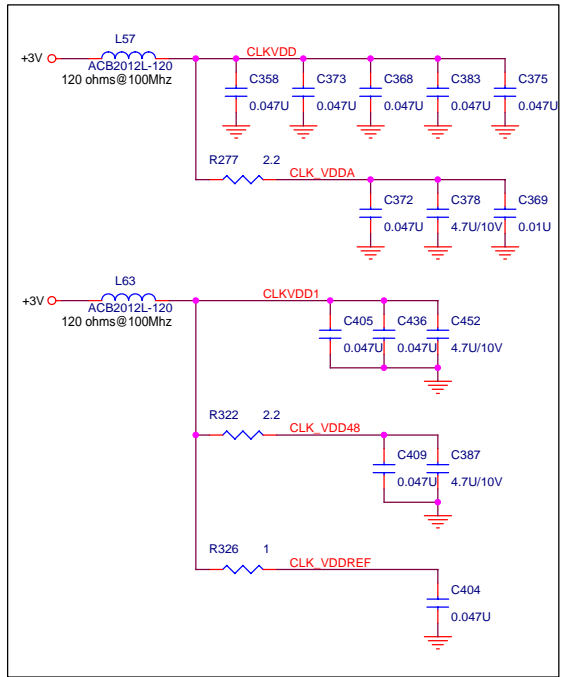
PS/2  
CONN.

H/P  
JACK

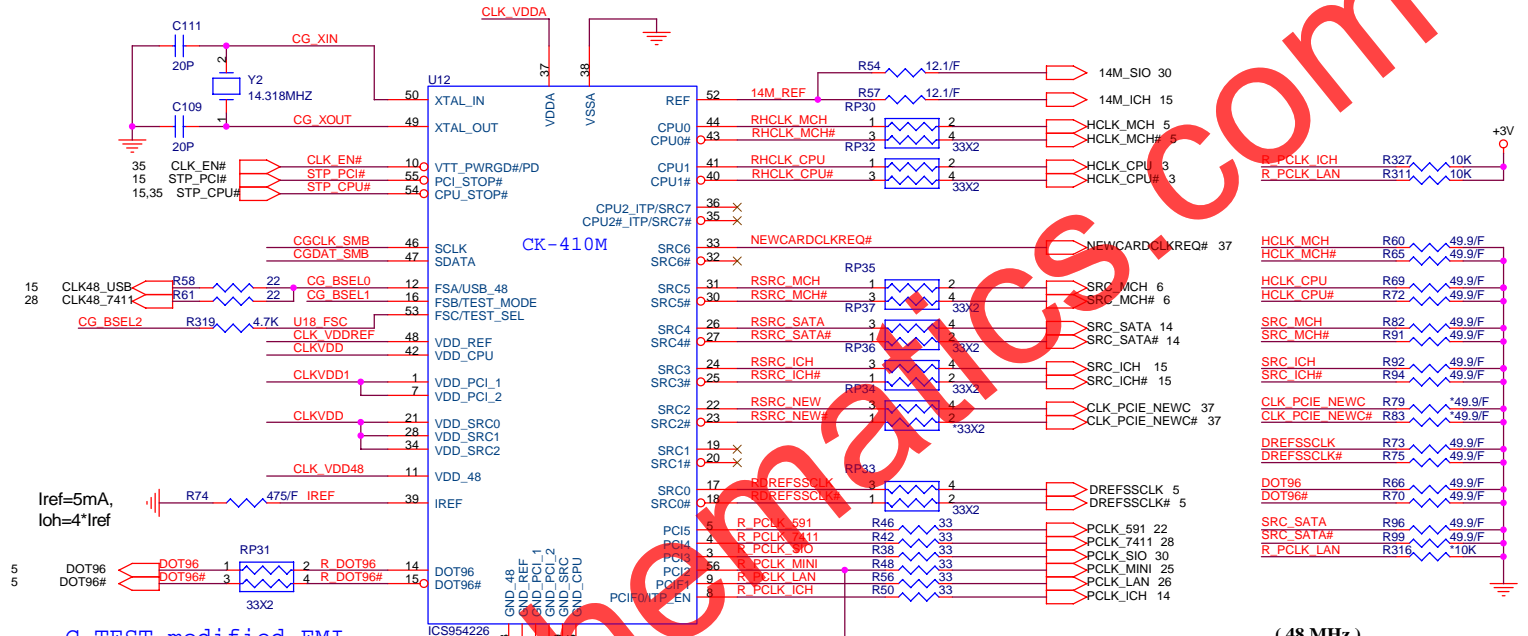
POWER  
JACK

1394  
Conn.  
P29



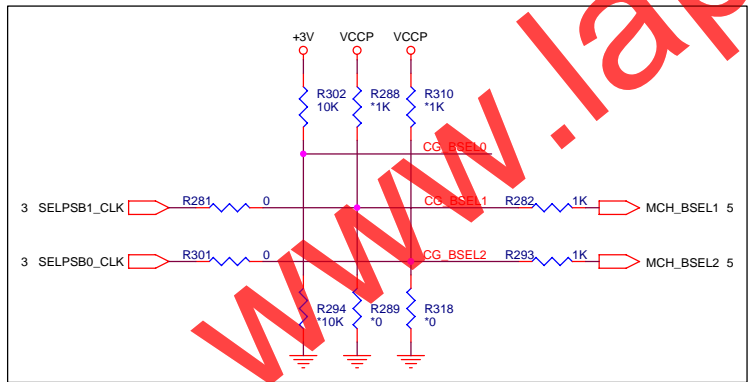
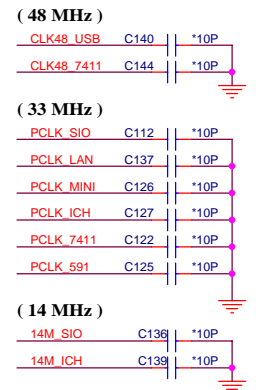
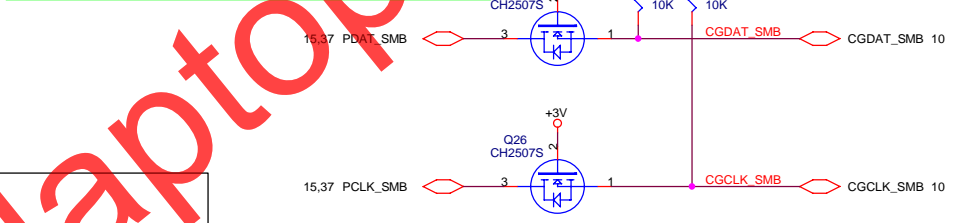
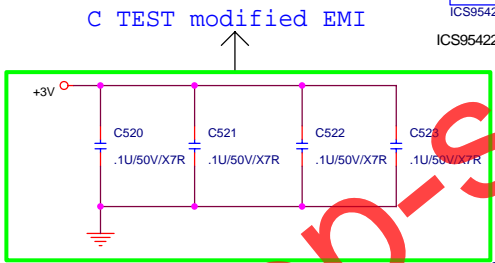


Place these termination to close ICS954226

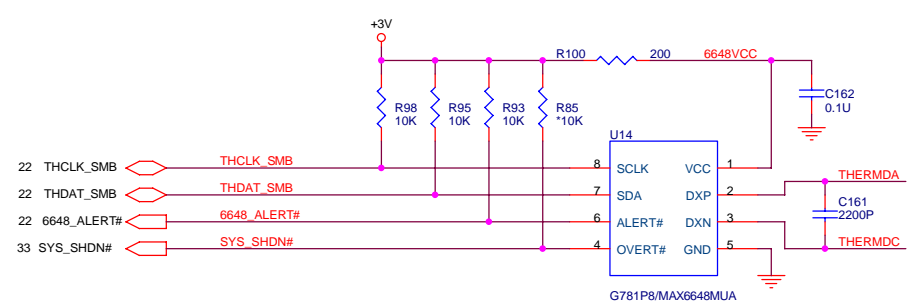
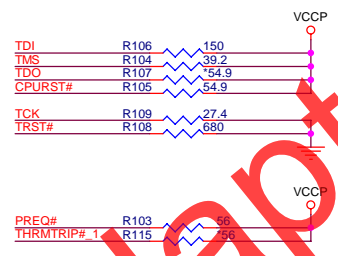
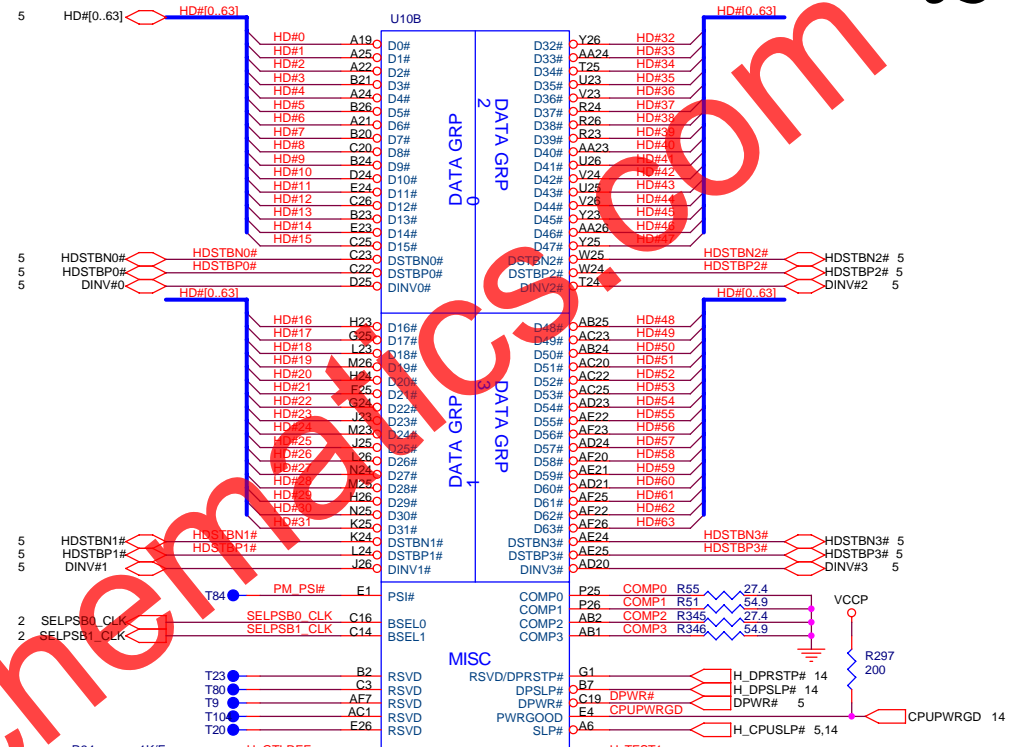
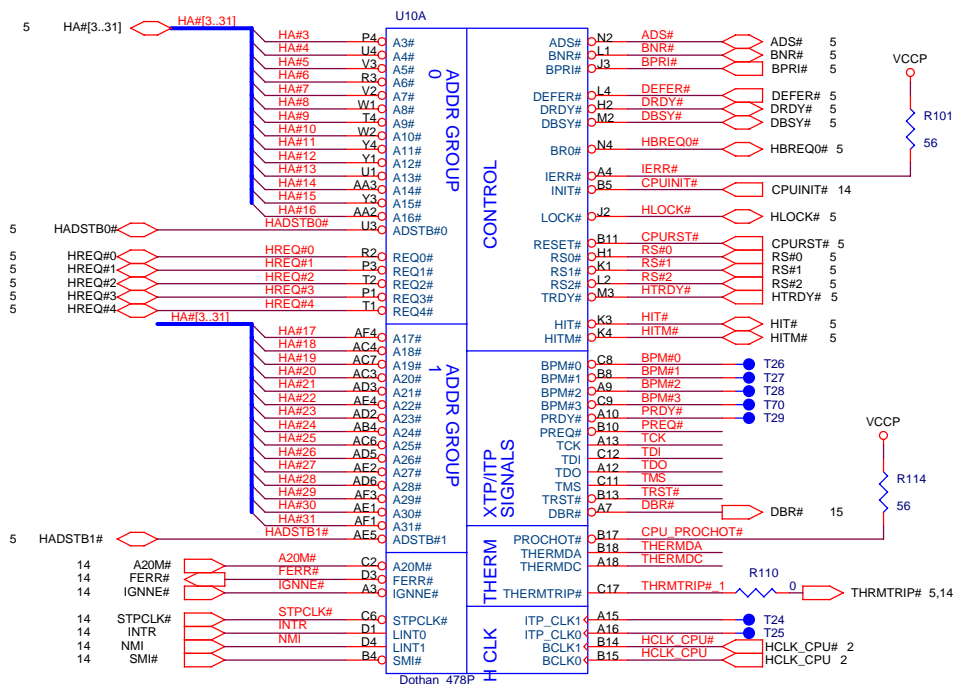


FSC	FSB	FSA	CPU	SRC	PCI
1	0	1	100	100	33
0	0	1	133	100	33
0	1	1	166	100	33
0	1	0	200	100	33
0	0	0	266	100	33
1	0	0	333	100	33
1	1	0	400	100	33
1	1	1	RESERVED		

\* Frequency select by CPU auto sense.

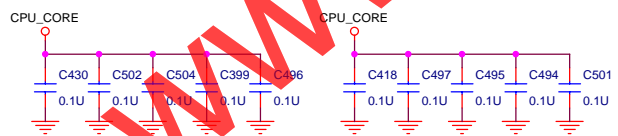
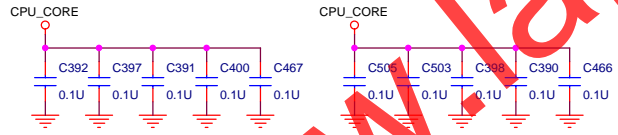
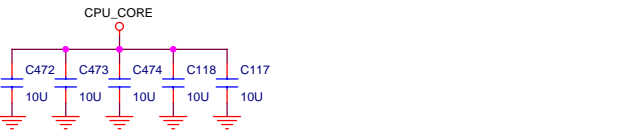
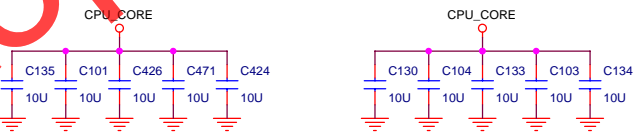
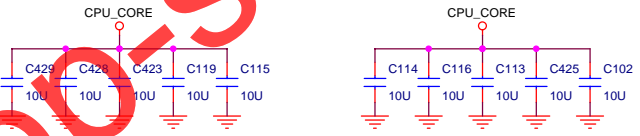
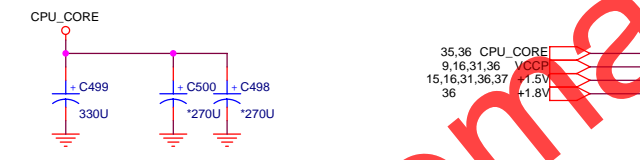
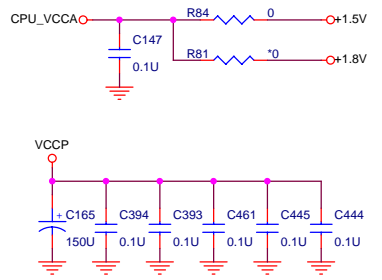
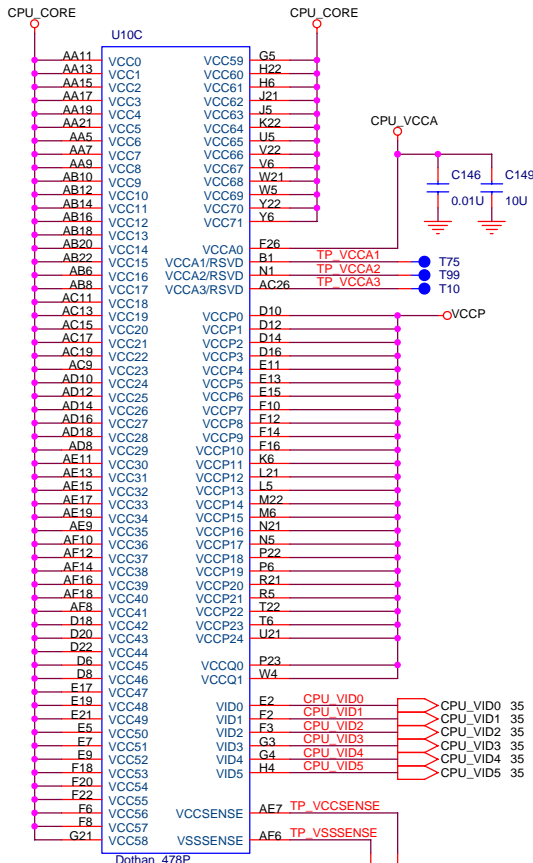


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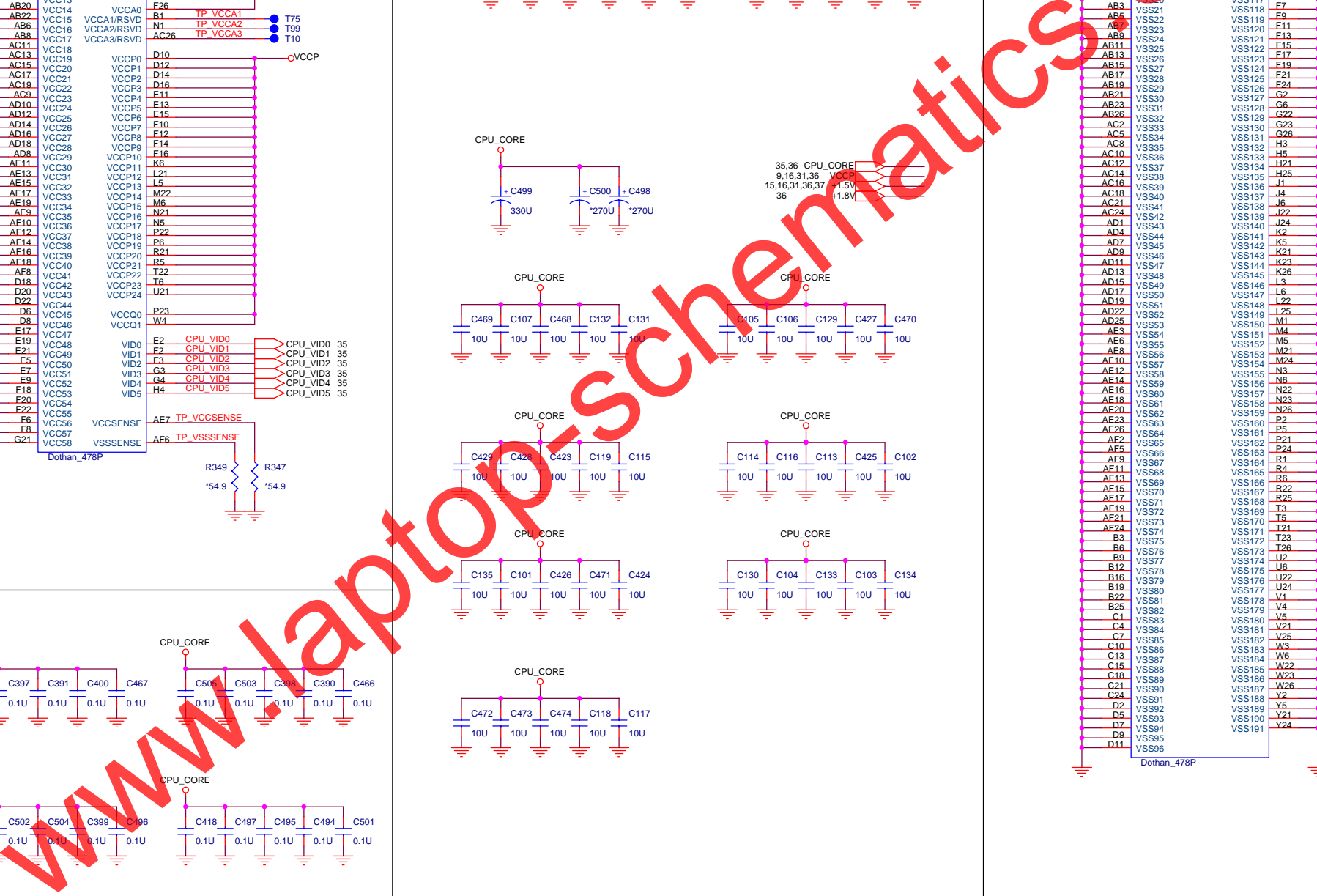


**CPUSLP#**  
 1.connected between Dothan and ICH6 for Dothan A Stepping.  
 2.connected between Dothan and Alviso for Dothan B Stepping.

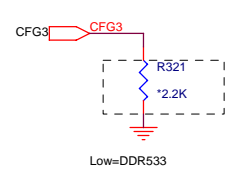
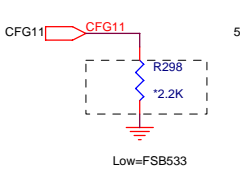
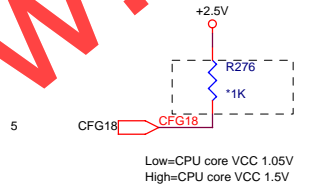
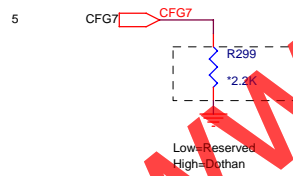
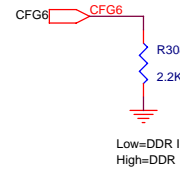
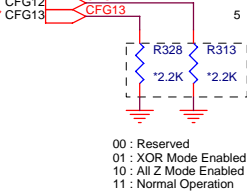
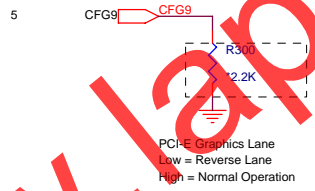
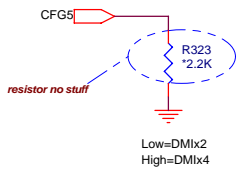
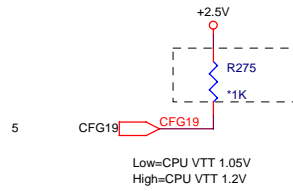
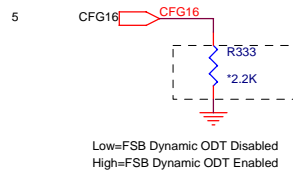
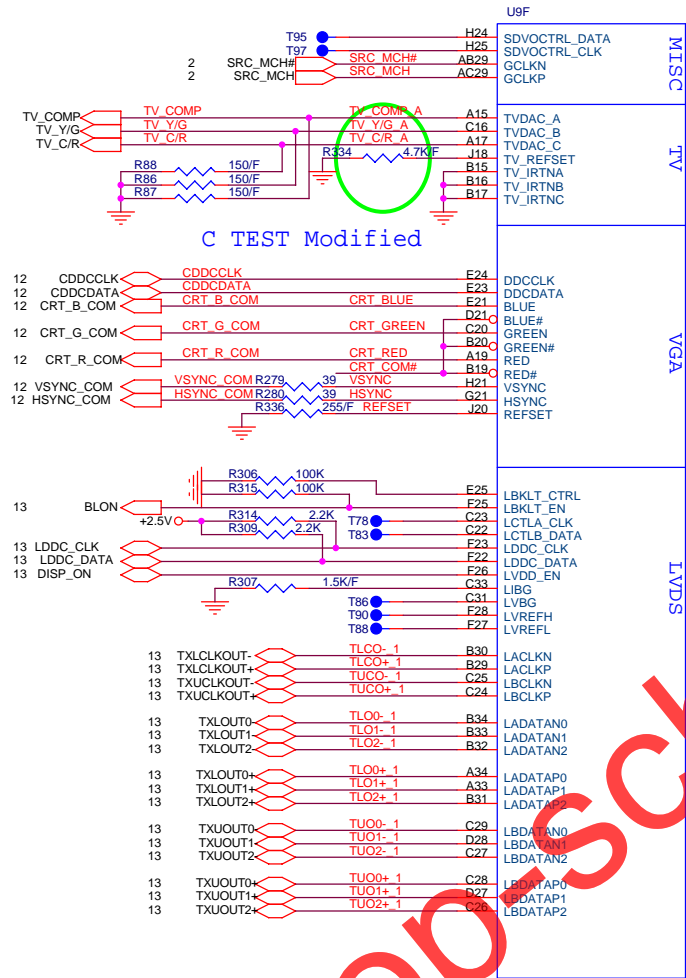
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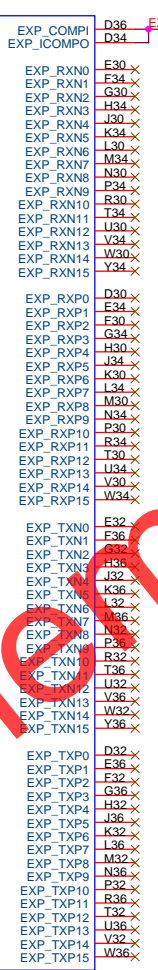
U10D		
A2	VSS0	VSS97
A5	VSS1	VSS98
A8	VSS2	VSS99
A11	VSS3	VSS100
A14	VSS4	VSS101
A17	VSS5	VSS102
A20	VSS6	VSS103
A23	VSS7	VSS104
A26	VSS8	VSS105
AA1	VSS9	VSS106
AA4	VSS10	VSS107
AA6	VSS11	VSS108
AA8	VSS12	VSS109
AA10	VSS13	VSS110
AA12	VSS14	VSS111
AA14	VSS15	VSS112
AA15	VSS16	VSS113
AA18	VSS17	VSS114
AA20	VSS18	VSS115
AA22	VSS19	VSS116
AA25	VSS20	VSS117
AB3	VSS21	VSS118
AB5	VSS22	VSS119
AB7	VSS23	VSS120
AB9	VSS24	VSS121
AB11	VSS25	VSS122
AB13	VSS26	VSS123
AB15	VSS27	VSS124
AB17	VSS28	VSS125
AB19	VSS29	VSS126
AB21	VSS30	VSS127
AB23	VSS31	VSS128
AB26	VSS32	VSS129
AC2	VSS33	VSS130
AC5	VSS34	VSS131
AC8	VSS35	VSS132
AC10	VSS36	VSS133
AC12	VSS37	VSS134
AC14	VSS38	VSS135
AC16	VSS39	VSS136
AC18	VSS40	VSS137
AC21	VSS41	VSS138
AC24	VSS42	VSS139
AD1	VSS43	VSS140
AD4	VSS44	VSS141
AD7	VSS45	VSS142
AD9	VSS46	VSS143
AD11	VSS47	VSS144
AD13	VSS48	VSS145
AD15	VSS49	VSS146
AD17	VSS50	VSS147
AD19	VSS51	VSS148
AD22	VSS52	VSS149
AD25	VSS53	VSS150
AE3	VSS54	VSS151
AE6	VSS55	VSS152
AE8	VSS56	VSS153
AE10	VSS57	VSS154
AE12	VSS58	VSS155
AE14	VSS59	VSS156
AE16	VSS60	VSS157
AE18	VSS61	VSS158
AE20	VSS62	VSS159
AE23	VSS63	VSS160
AE26	VSS64	VSS161
AF2	VSS65	VSS162
AF5	VSS66	VSS163
AF9	VSS67	VSS164
AF11	VSS68	VSS165
AF13	VSS69	VSS166
AF15	VSS70	VSS167
AF17	VSS71	VSS168
AF19	VSS72	VSS169
AF21	VSS73	VSS170
AF24	VSS74	VSS171
B3	VSS75	VSS172
B6	VSS76	VSS173
B9	VSS77	VSS174
B12	VSS78	VSS175
B16	VSS79	VSS176
B19	VSS80	VSS177
B22	VSS81	VSS178
B25	VSS82	VSS179
C1	VSS83	VSS180
C4	VSS84	VSS181
C7	VSS85	VSS182
C10	VSS86	VSS183
C13	VSS87	VSS184
C15	VSS88	VSS185
C18	VSS89	VSS186
C21	VSS90	VSS187
C24	VSS91	VSS188
D2	VSS92	VSS189
D5	VSS93	VSS190
D7	VSS94	VSS191
D9	VSS95	
D11	VSS96	







PCI-EXPRESS GRAPHICS



**ALVISO POWER STRAP PIN define**

CFG[2:0] : 001=FSB533  
 101=FSB400  
 other = Reserved

CFG[4:3] : Reserved

CFG5 : 0=DMI X 2  
 1=DMI X 4 ( Default )

CFG6 : 0=DDR2  
 1=DDR ( Default )

CFG7 : 0=Reserved  
 1=Dothan ( Default )

CFG8 : Reserved

CFG9 : 0=Reserve Lanes (15->0, 14->1 etc)  
 1=Normal Operation ( Default )

CFG[11:10] : Reserved

CFG[13:12] : 00=Reserved  
 01=XOR Mode Enabled  
 10=All Z Mode Enabled  
 11=Normal Operation ( Default )

CFG[15:14] : Reserved

CFG16 : 0=Dynamic ODT Disabled  
 1=Dynamic ODT Enabled ( Default )

CFG17 : Reserved

CFG18 : 0=1.05V ( Default )  
 1=1.5V

CFG19 : 0 =1.05V ( Default )  
 1=1.2V ( Reserved )

CFG 20 : Reserved

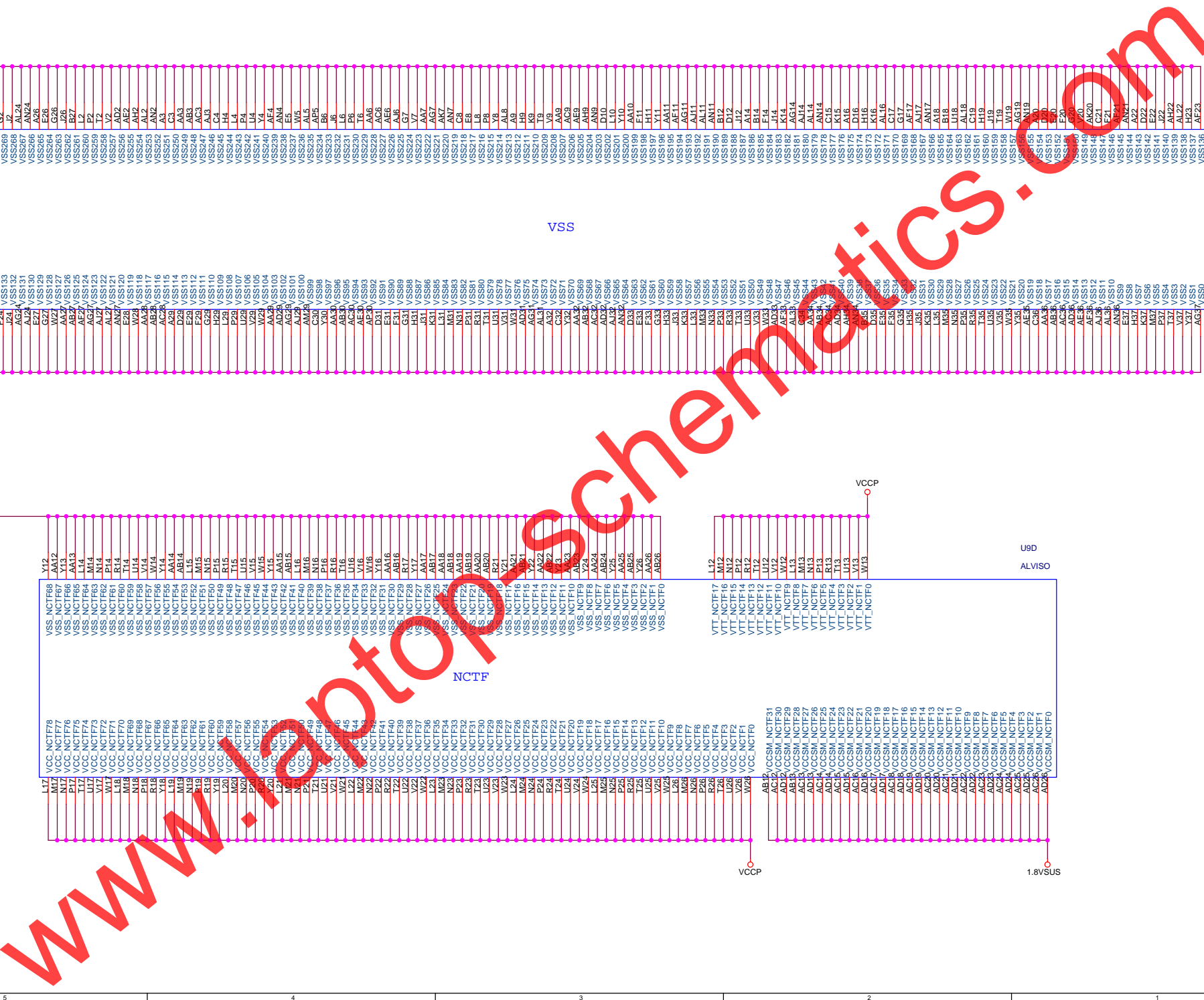
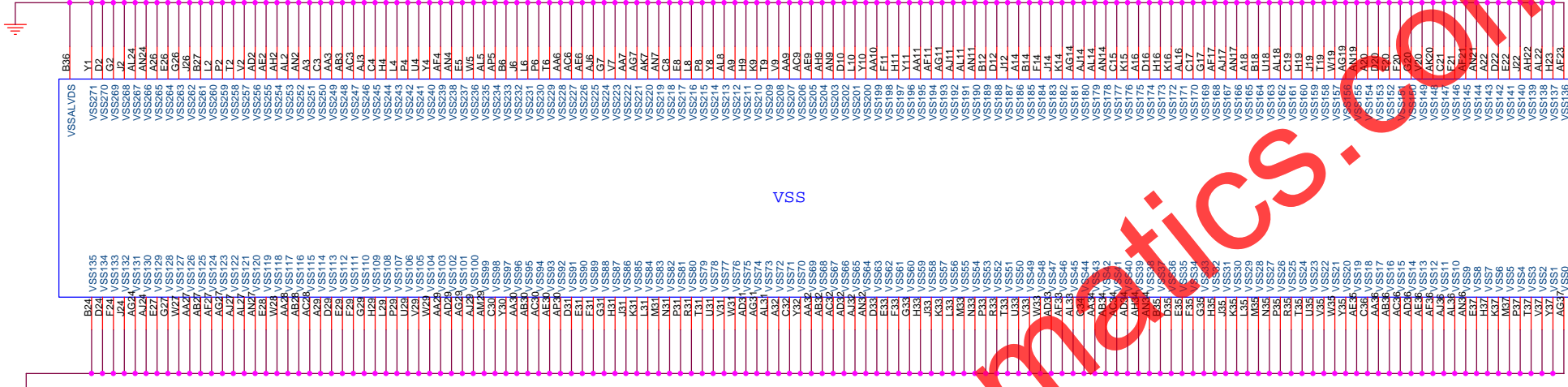
SDVOCTRL\_DATA : 0=No SDVO device present (Default)  
 1=SDVO device present

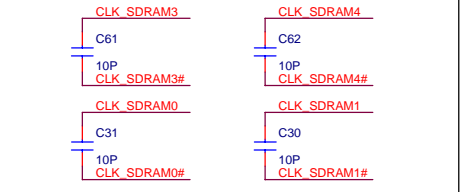
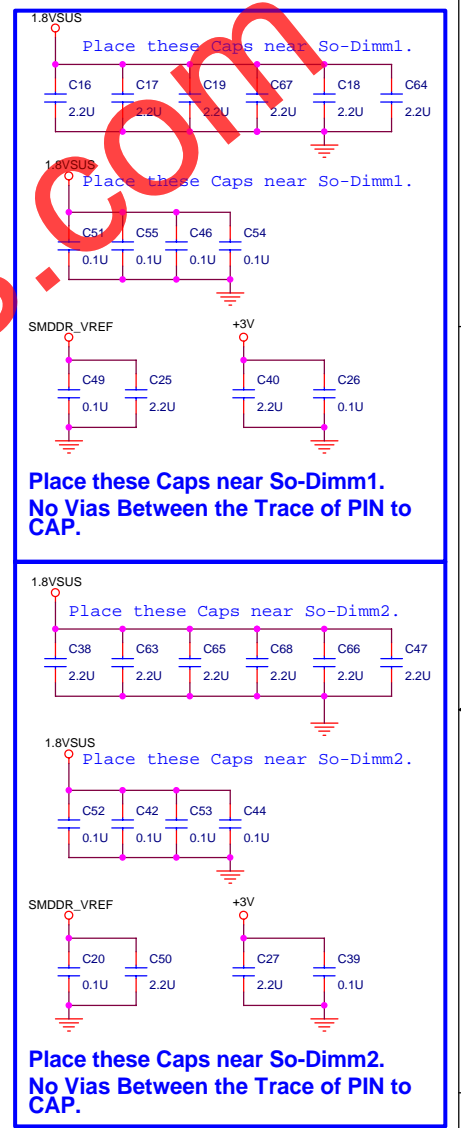
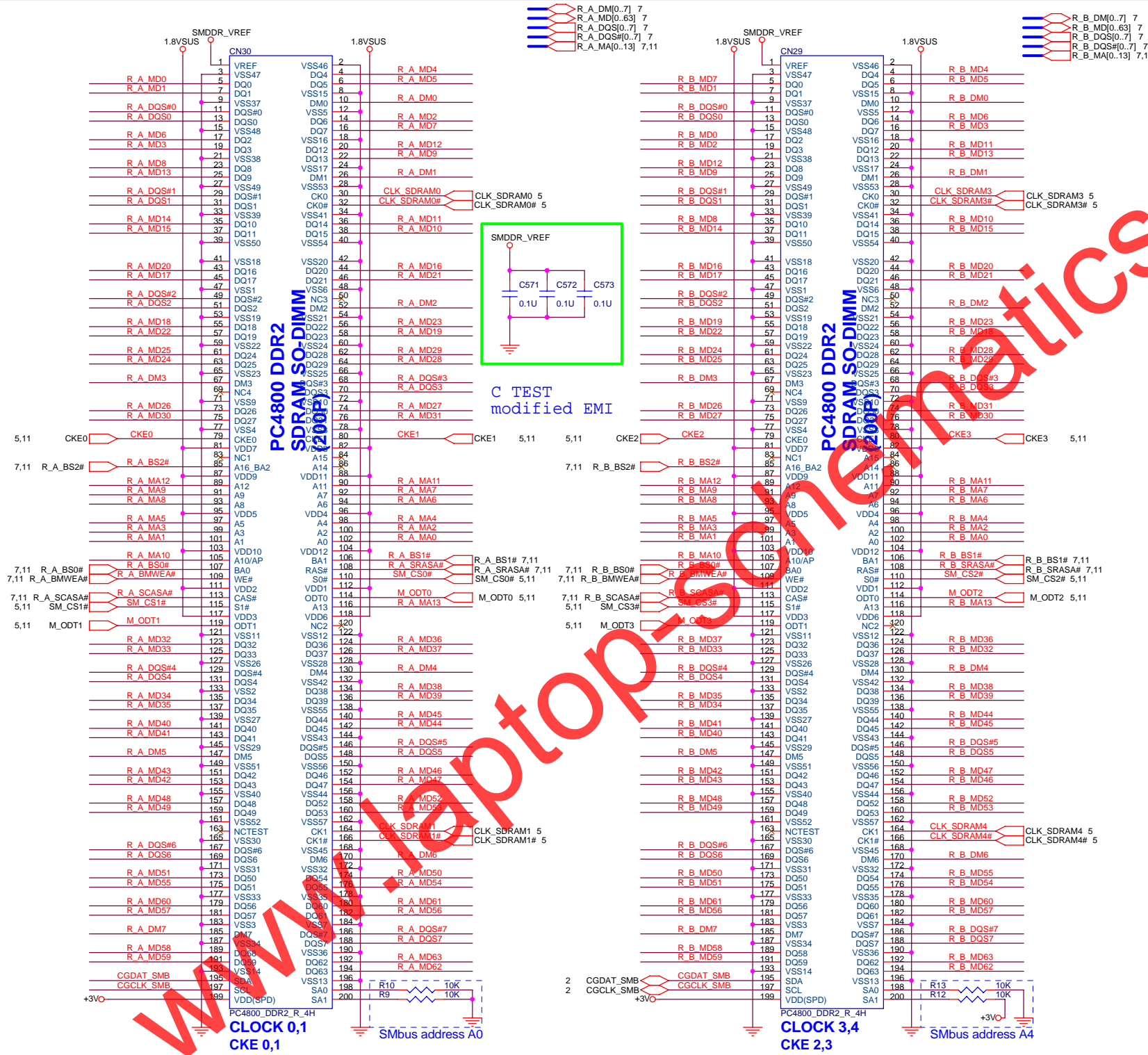
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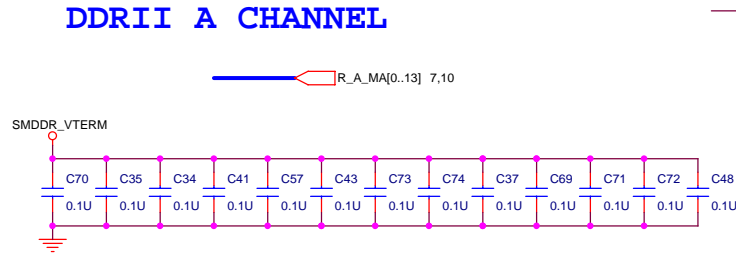




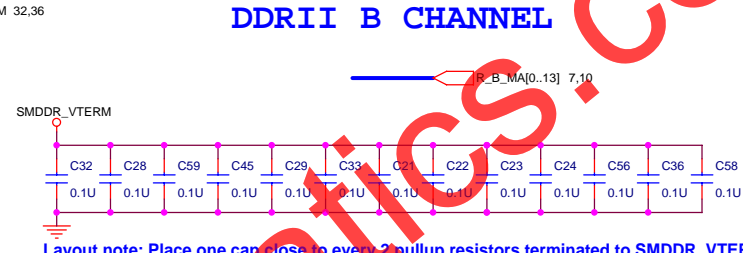
www.taptopsemi.com

# DDRII DUAL CHANNEL A,B.

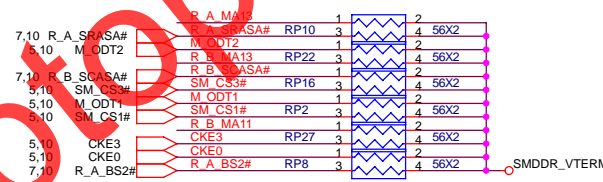
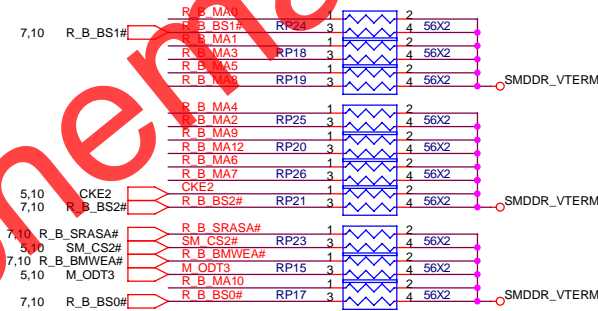
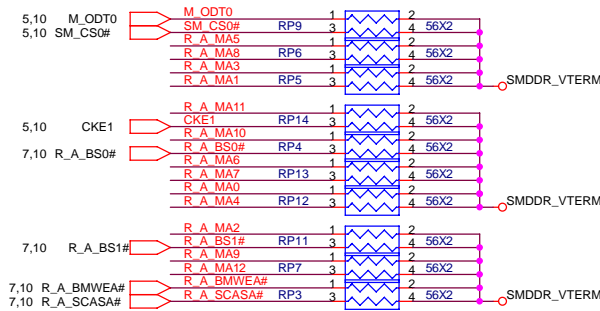
## DDRII A CHANNEL



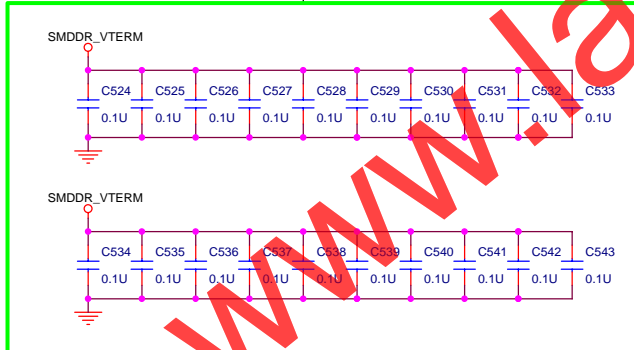
## DDRII B CHANNEL



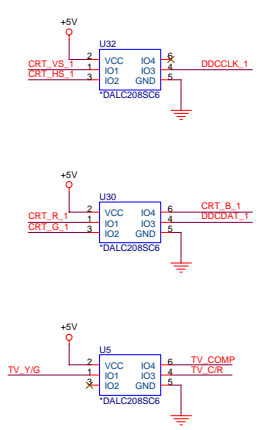
Layout note: Place one cap close to every 2 pullup resistors terminated to SMDDR\_VTERM



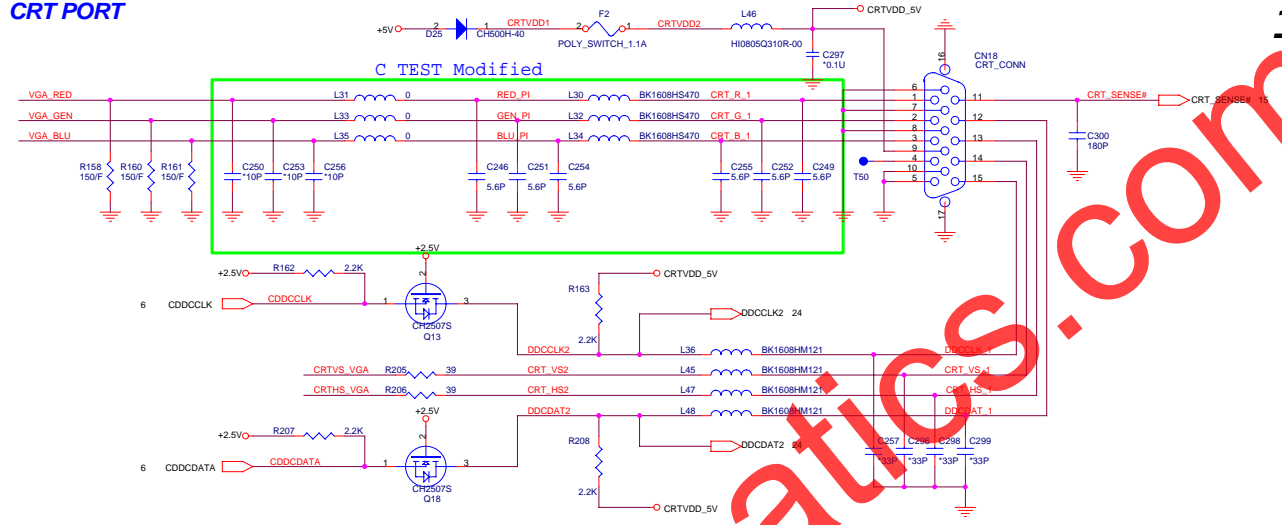
C TEST modified EMI



### ESD PORTECTION

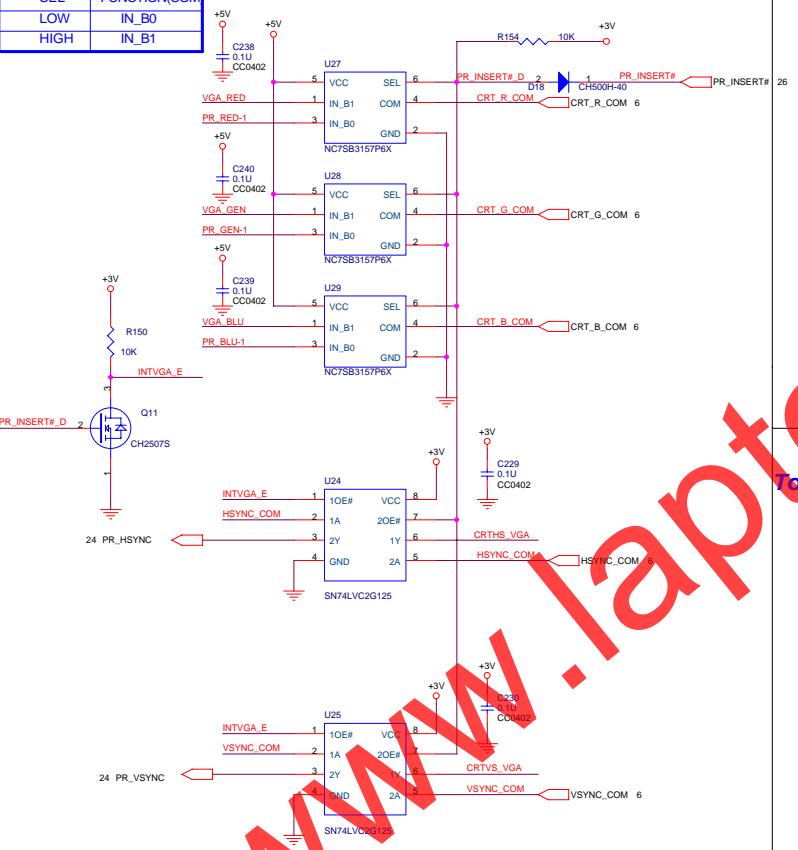


### CRT PORT

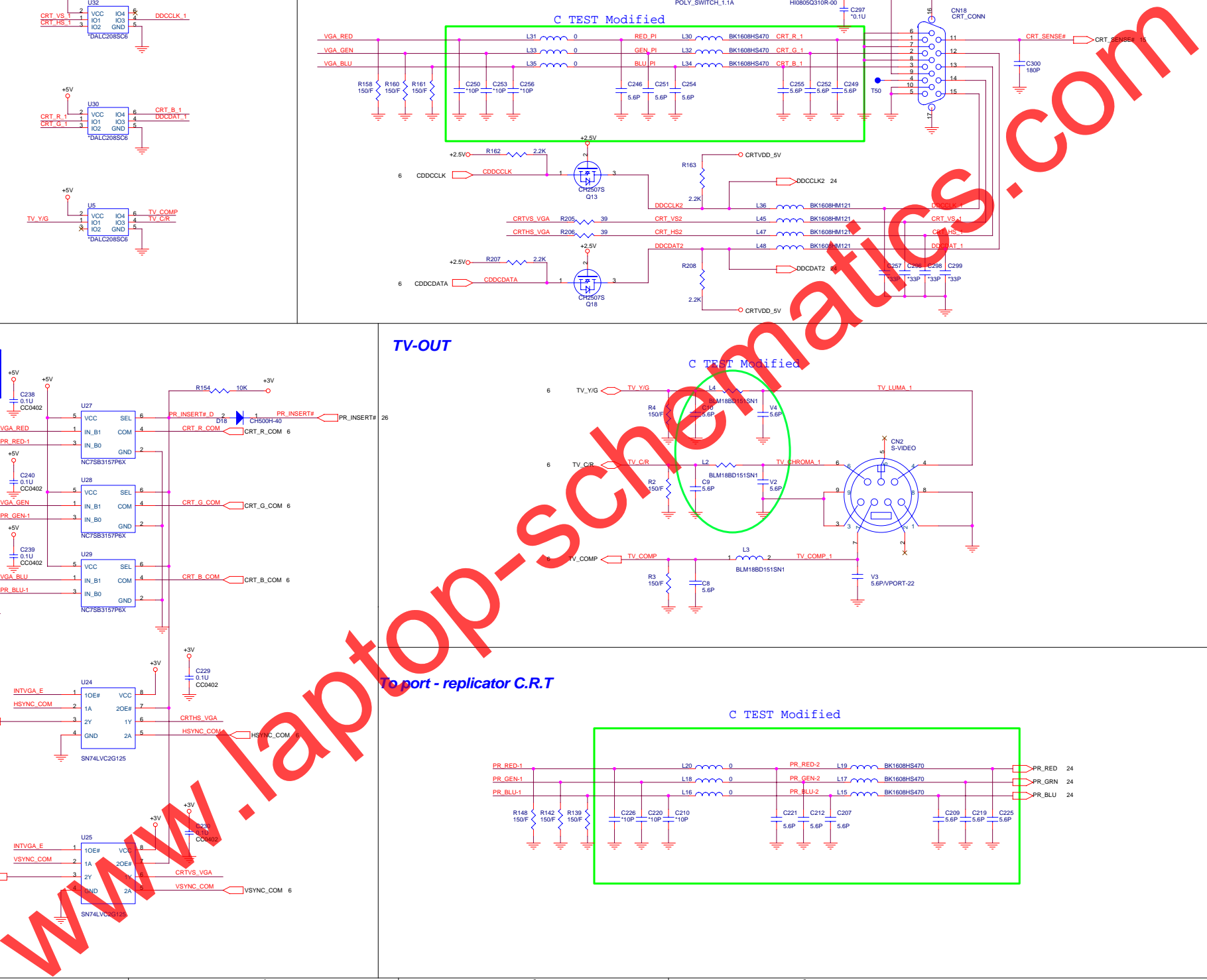
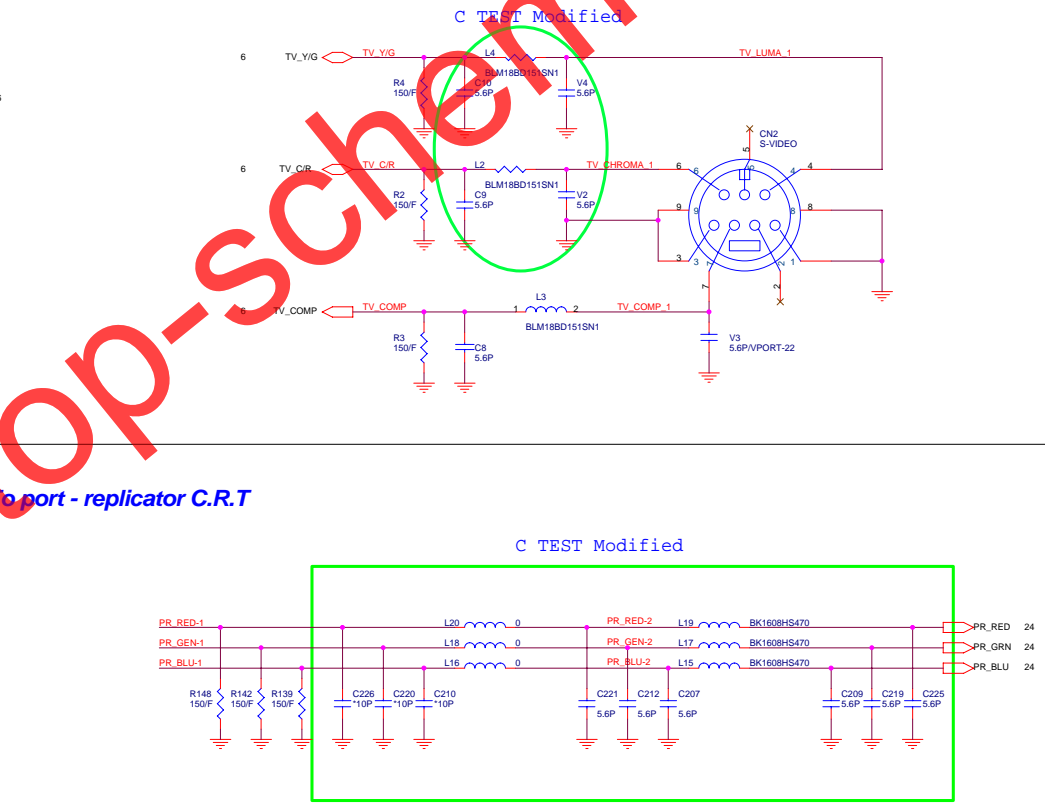


### CRT SWITCH

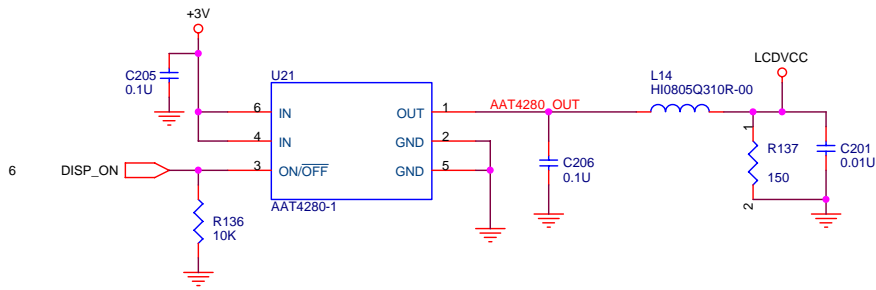
SEL	FUNCTION(COM)
LOW	IN_B0
HIGH	IN_B1



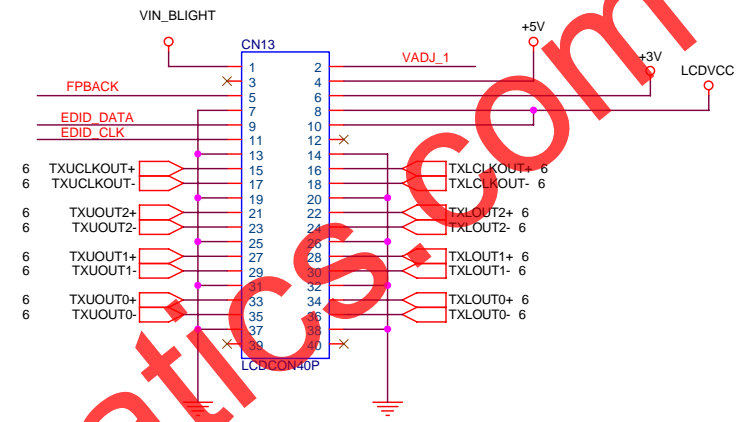
### TV-OUT



## PANEL VCC CONTROL

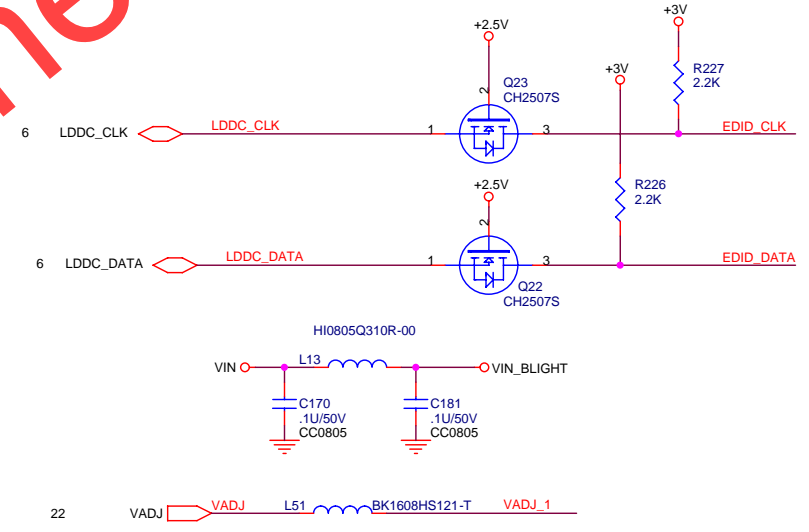
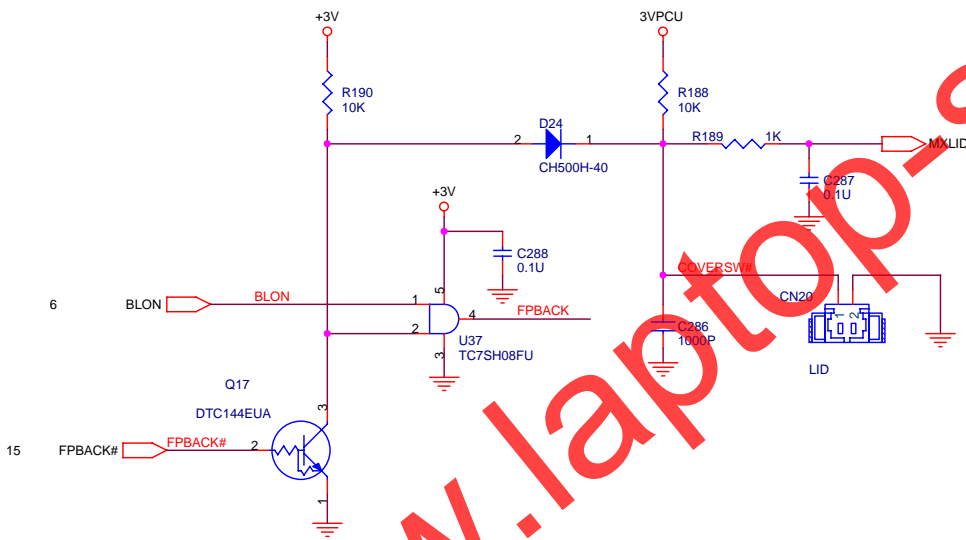


## LCD CONNECTOR

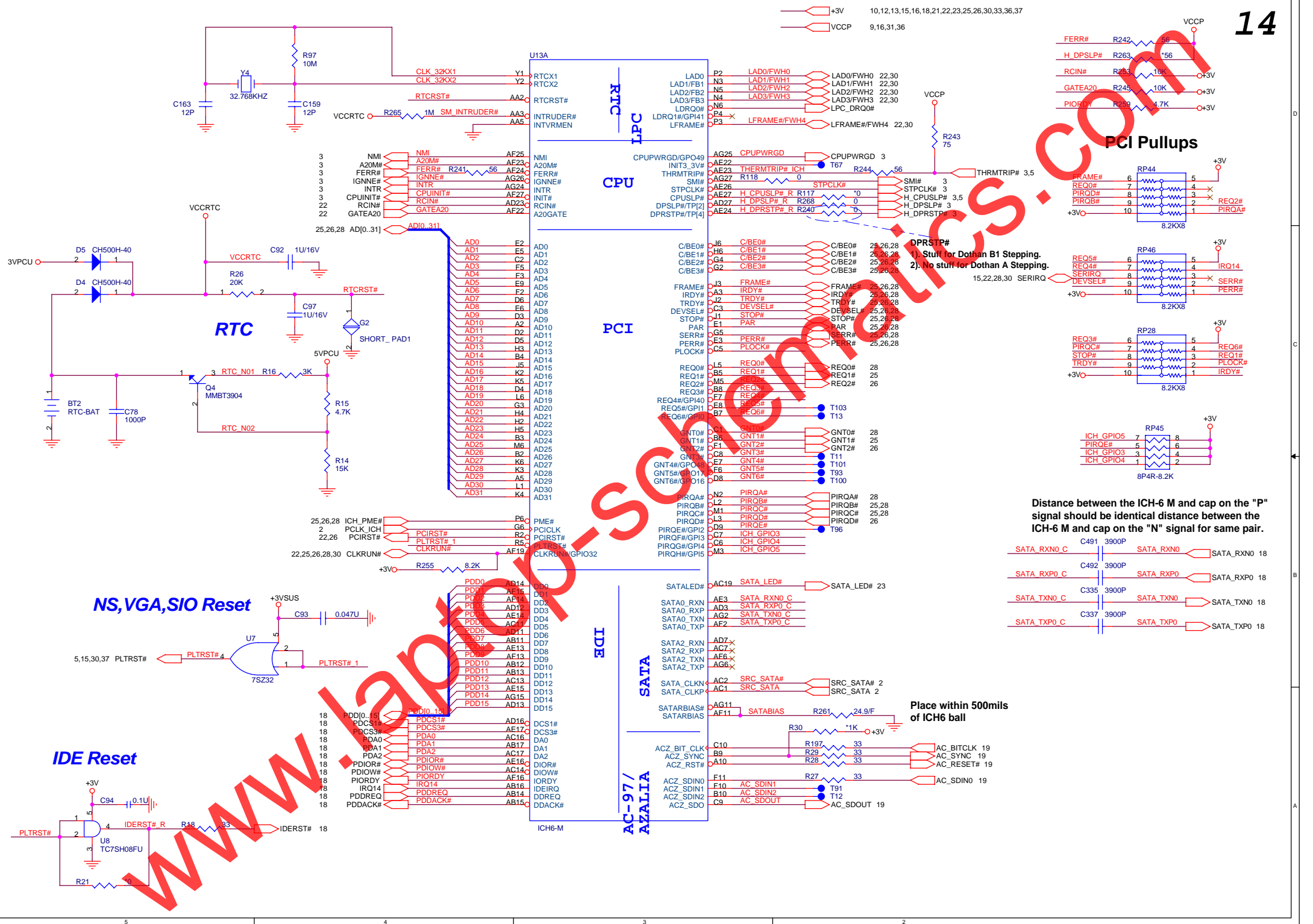


## BACKLIGHT CONTROL

- 2,3,8,10,12,14,15,16,18,21,22,23,25,26,30,33,35,36,37 +3V
- 14,22,23,32,33,34,36 3VPCU
- 5,6,8,12,16,32,36 +2.5V

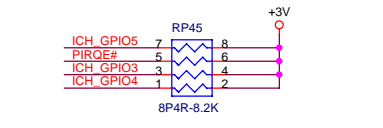
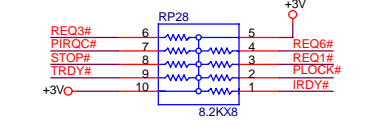
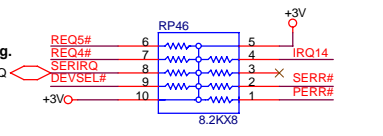
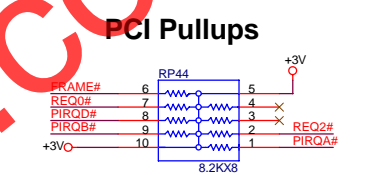


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+3V 10,12,13,15,16,18,21,22,23,25,26,30,33,36,37  
 VCCP 9,16,31,36

FERR# R242 56  
 H\_DPSLP# R263 56  
 RCIN# R243 10K  
 GATEA20 R245 10K  
 PIORDY R249 4.7K



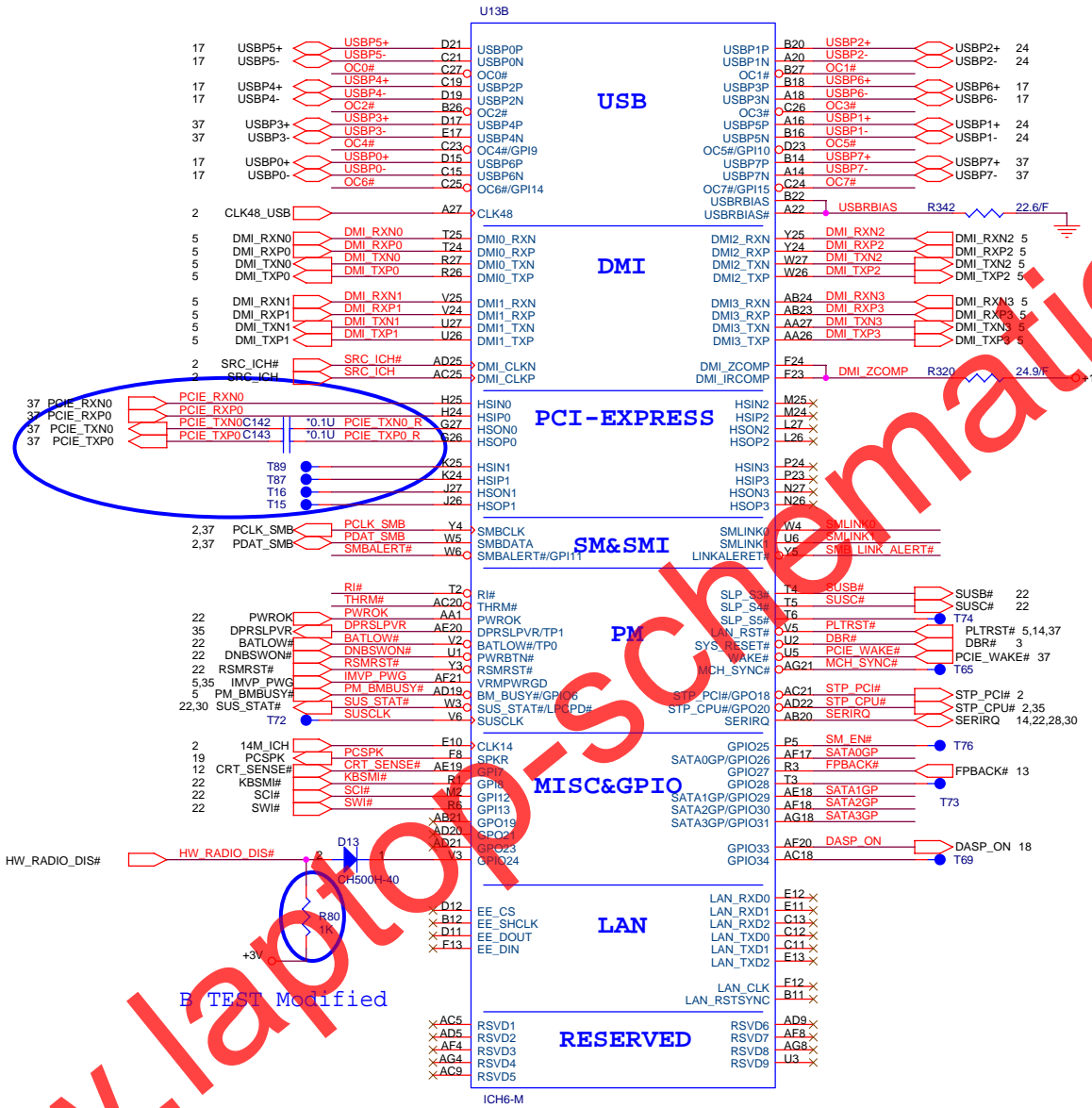
Distance between the ICH-6 M and cap on the "P" signal should be identical distance between the ICH-6 M and cap on the "N" signal for same pair.



DPRSTP#  
 1). Stuff for Dothan B1 Stepping.  
 2). No stuff for Dothan A Stepping.

Place within 500mils of ICH6 ball

www.laptop-schematics.com

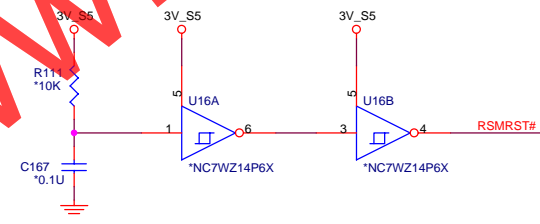
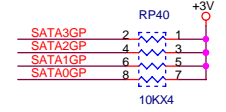
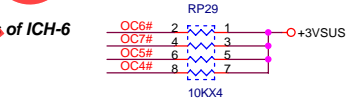
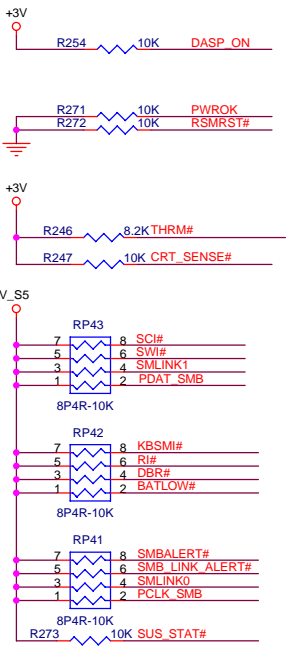


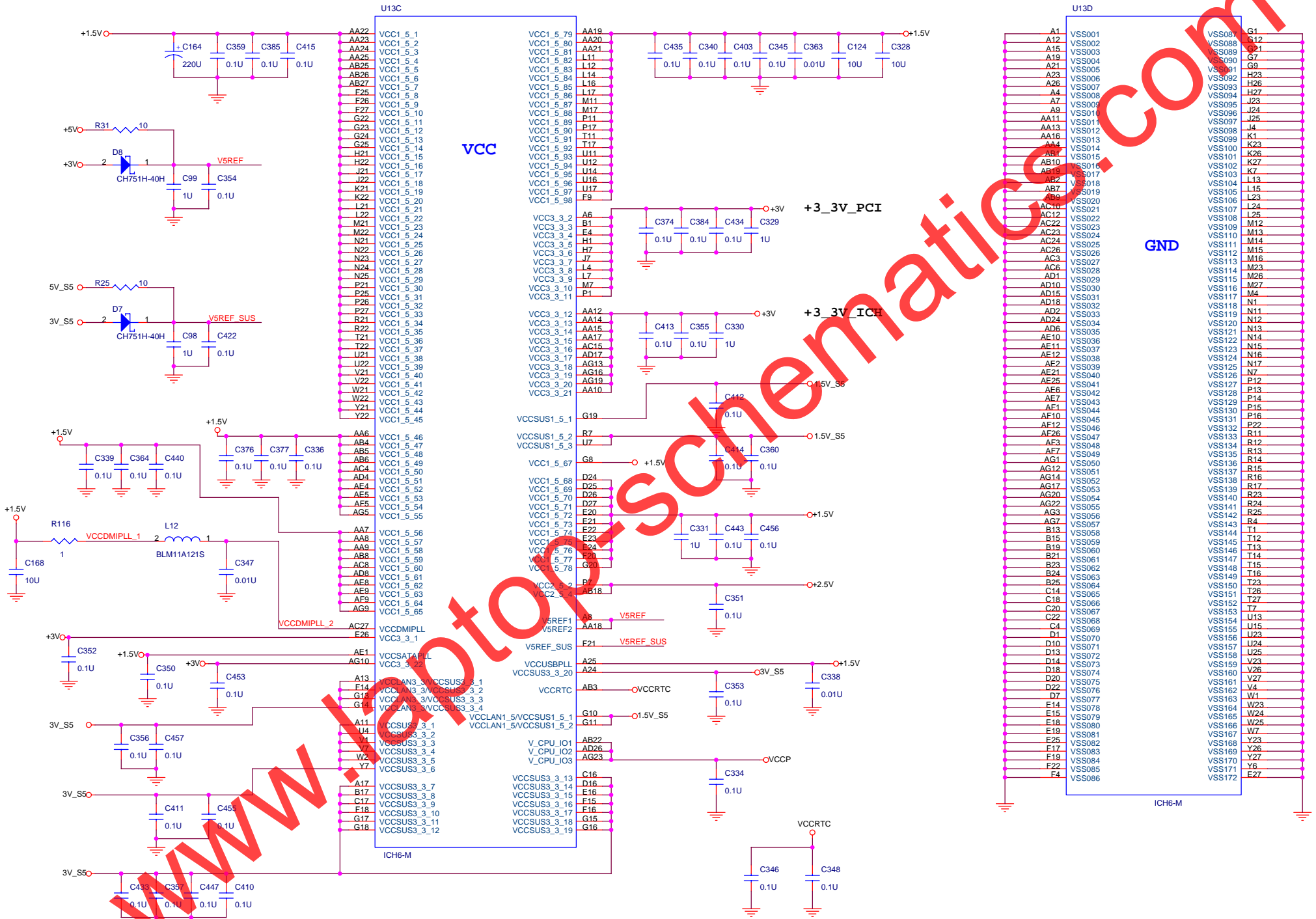
B TEST Modified

B TEST Modified

Place within 500mils of ICH-6

Place within 500mils of ICH-6



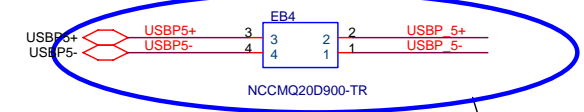
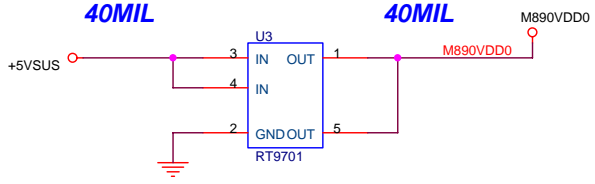


www.PhotoSchematics.com



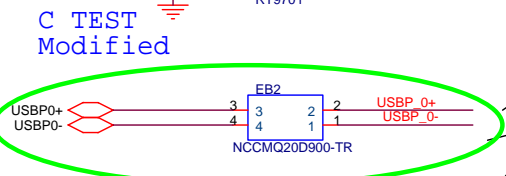
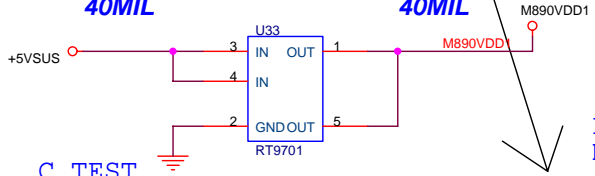
40MIL

40MIL



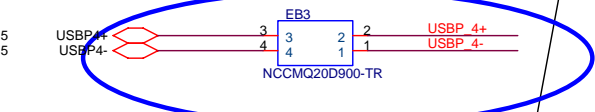
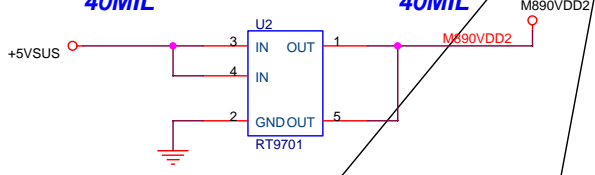
40MIL

40MIL



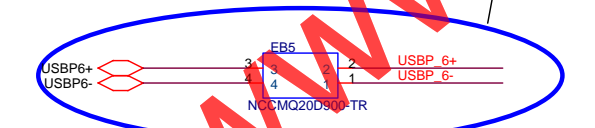
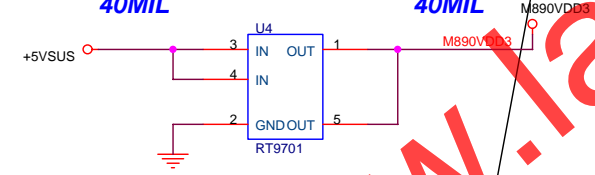
40MIL

40MIL



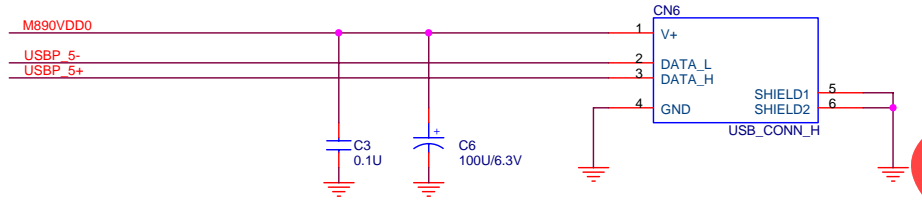
40MIL

40MIL

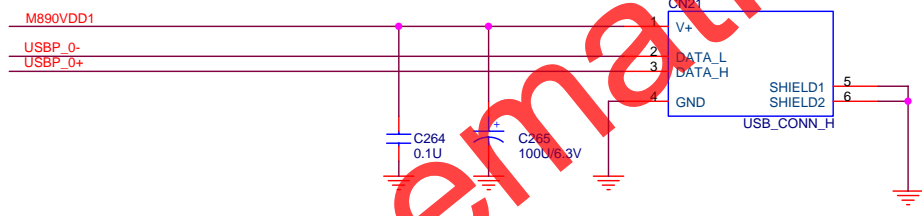


B TEST Modified  
C TEST Modified  
Signal pin swap for layout

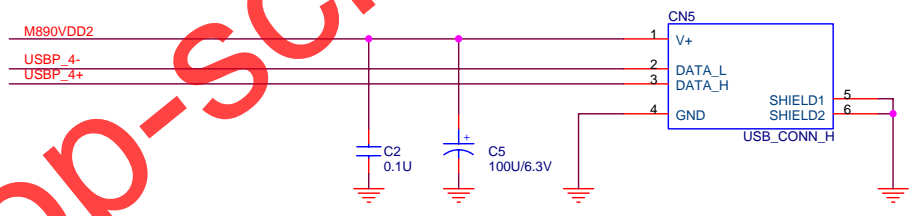
### USB-0



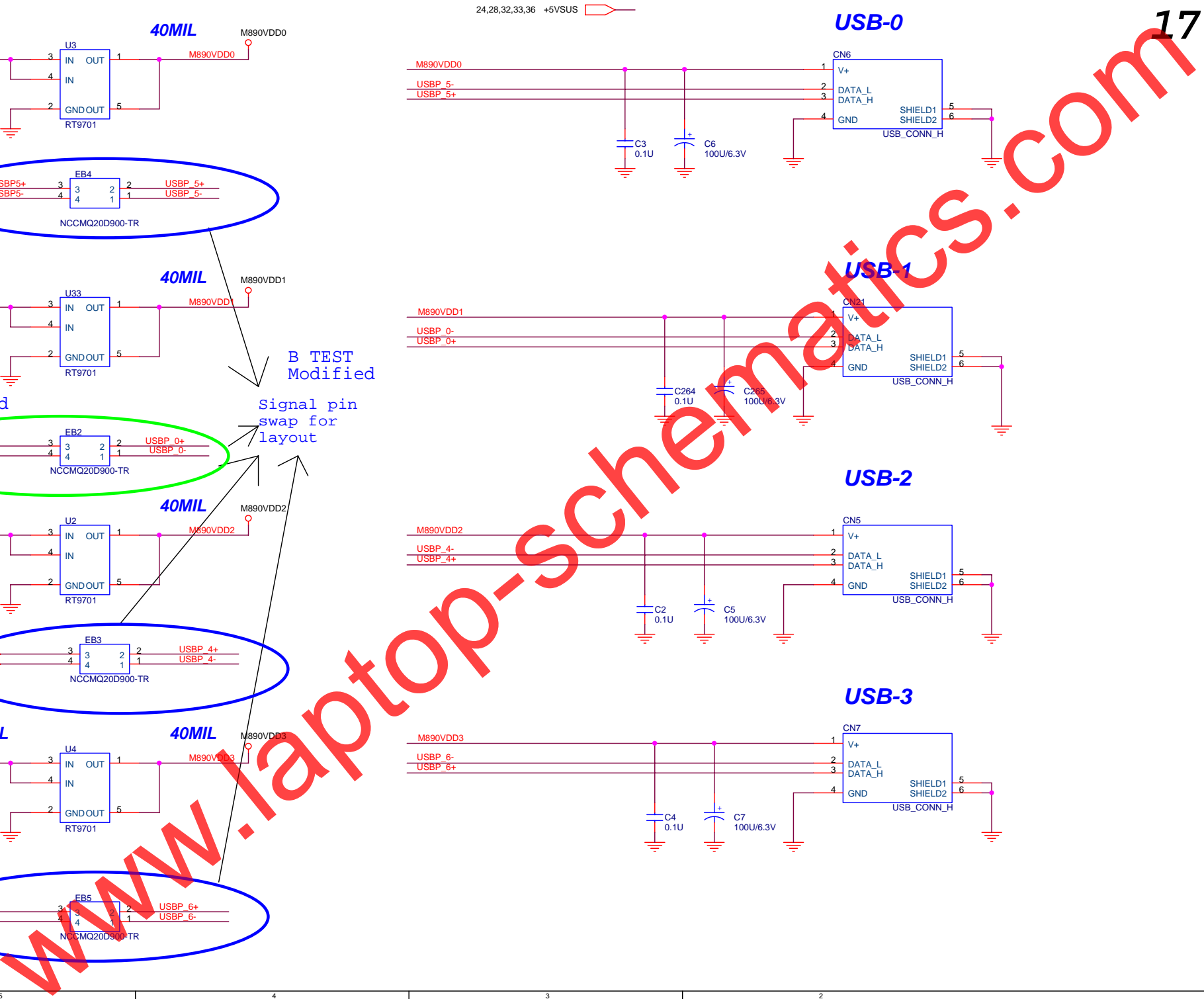
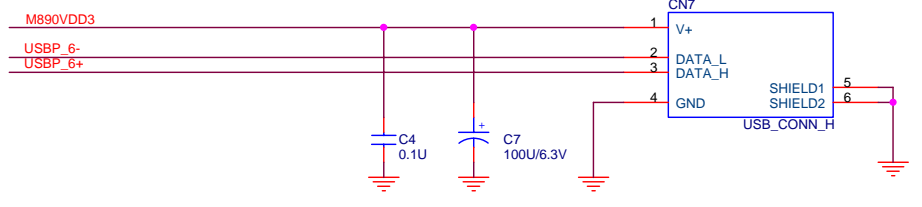
### USB-1



### USB-2

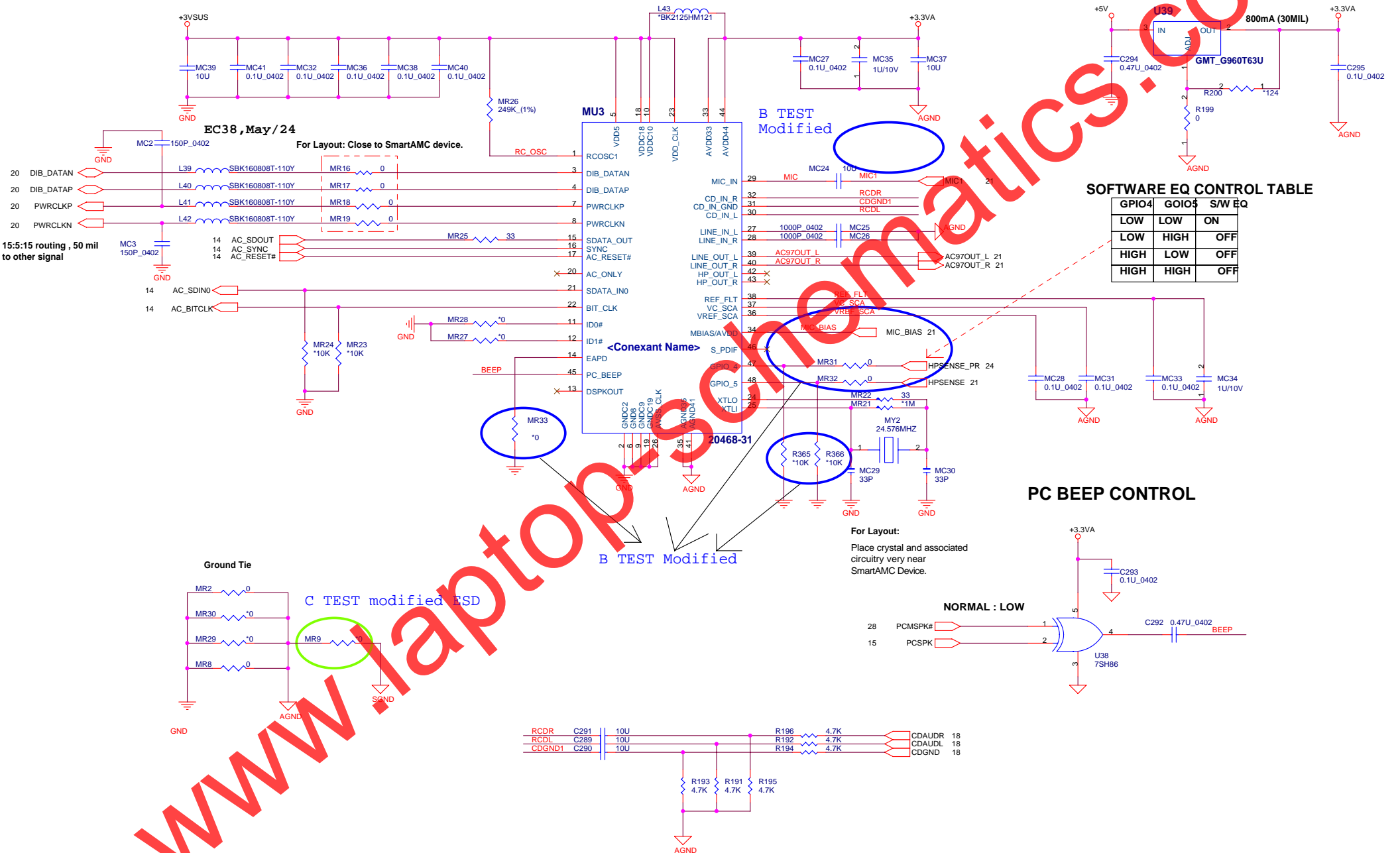


### USB-3





For Layout: Place decoupling caps near the power pins of SmartAMC device.



15:5:15 routing, 50 mil to other signal

EC38, May/24  
For Layout: Close to SmartAMC device.

B TEST Modified

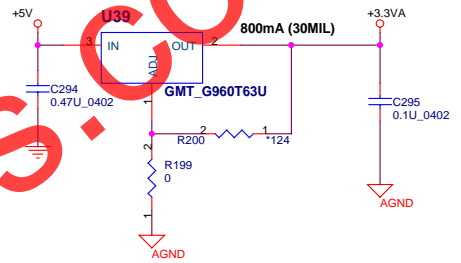
<Conexant Name>

20468-31

B TEST Modified

C TEST modified ESD

CODEC POWER



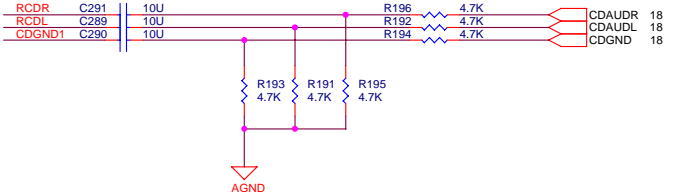
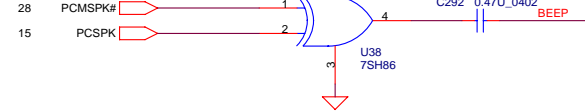
SOFTWARE EQ CONTROL TABLE

GPIO4	GOIO5	S/W Eq
LOW	LOW	ON
LOW	HIGH	OFF
HIGH	LOW	OFF
HIGH	HIGH	OFF

PC BEEP CONTROL

For Layout: Place crystal and associated circuitry very near SmartAMC Device.

NORMAL : LOW

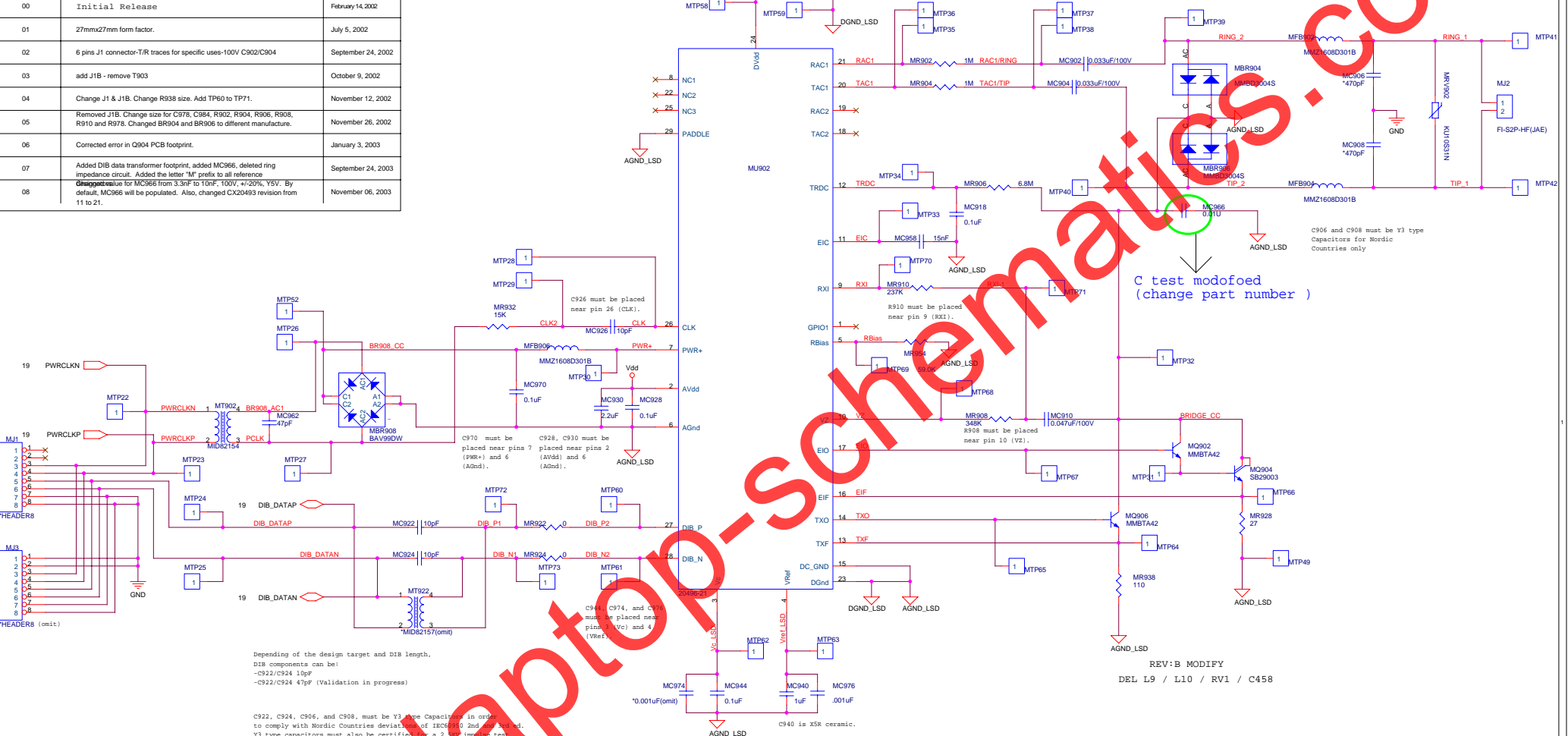


www.laptopcircuitronics.com

Revision History

REV	Description	Date
00	Initial Release	February 14, 2002
01	27mmx27mm form factor.	July 5, 2002
02	6 pins J1 connector-T/R traces for specific uses-100V C902/C904	September 24, 2002
03	add J1B - remove T903	October 9, 2002
04	Change J1 & J1B. Change R938 size. Add TP60 to TP71.	November 12, 2002
05	Removed J1B. Change size for C978, C984, R902, R904, R906, R908, R910 and R978. Changed BR904 and BR906 to different manufacture.	November 26, 2002
06	Corrected error in Q904 PCB footprint.	January 3, 2003
07	Added DIB data transformer footprint, added MC966, deleted ring impedance circuit. Added the letter "M" prefix to all reference designators for MC966 from 3.3nF to 10nF, 100V, +/-20%, Y5V. By default, MC966 will be populated. Also, changed CX28493 revision from 11 to 21.	September 24, 2003
08	Changed part number for MC966 from 3.3nF to 10nF, 100V, +/-20%, Y5V. By default, MC966 will be populated. Also, changed CX28493 revision from 11 to 21.	November 06, 2003

REV:B MODIFY FOR USE NEW MODEM MODULE

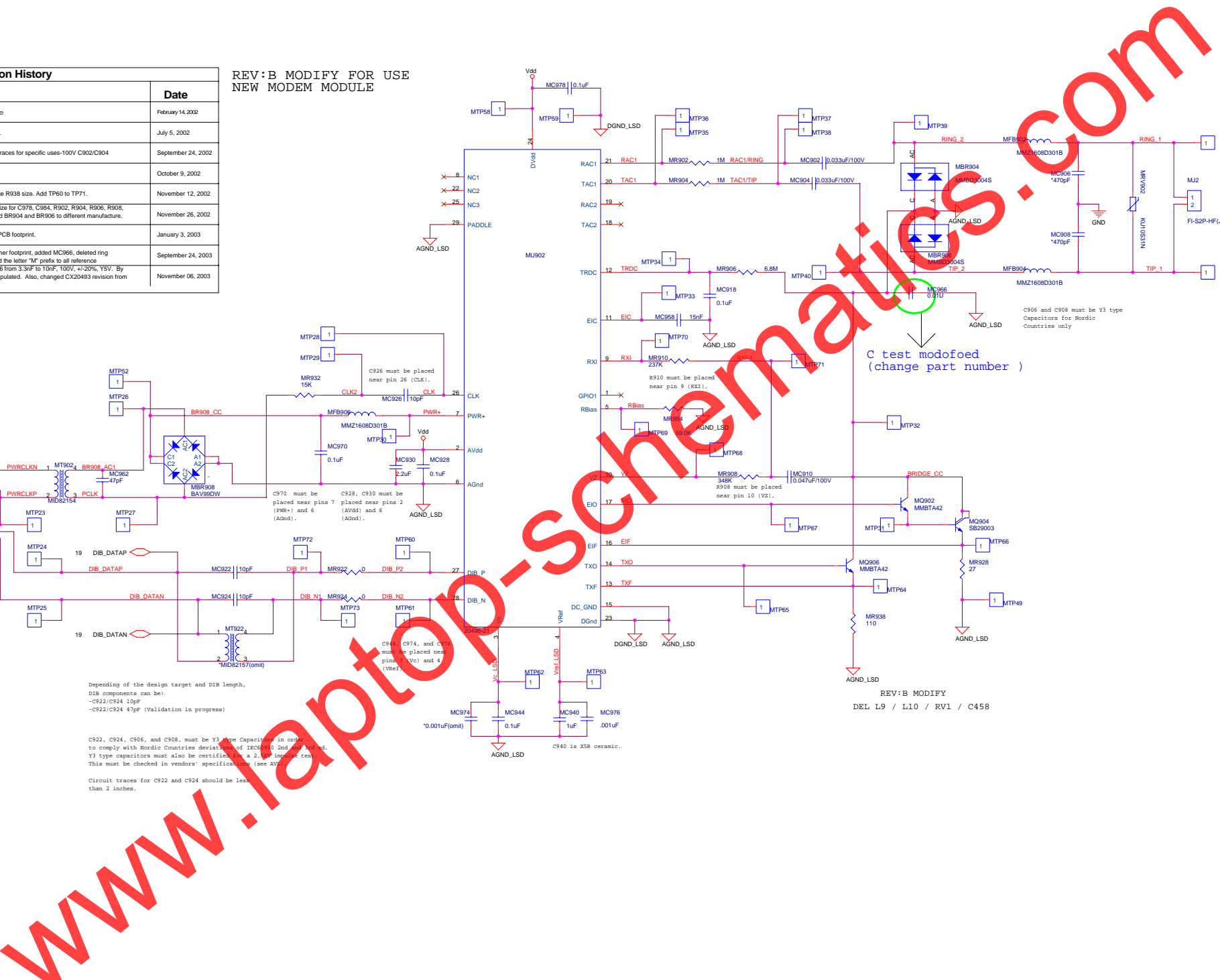


Depending of the design target and DIB length, DIB components can be:  
 -C922/C924 10pF  
 -C922/C924 47pF (Validation in progress)

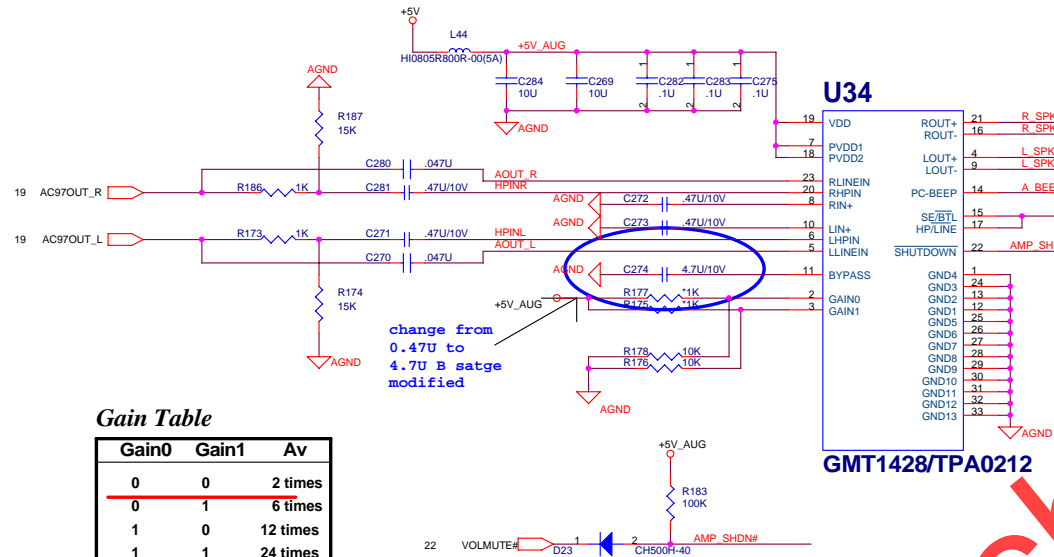
C922, C924, C906, and C908, must be Y3 type Capacitors in order to comply with Nordic Countries deviation of IEC60384-2 and not Y5V. Y3 type capacitors must also be certified for 2.5kV impulse test. This must be checked in vendors' specifications (see AVI).

Circuit traces for C922 and C924 should be less than 2 inches.

REV:B MODIFY  
 DEL L9 / L10 / RV1 / C458



# AUDIO AMPLIFIER-GMT\_1428



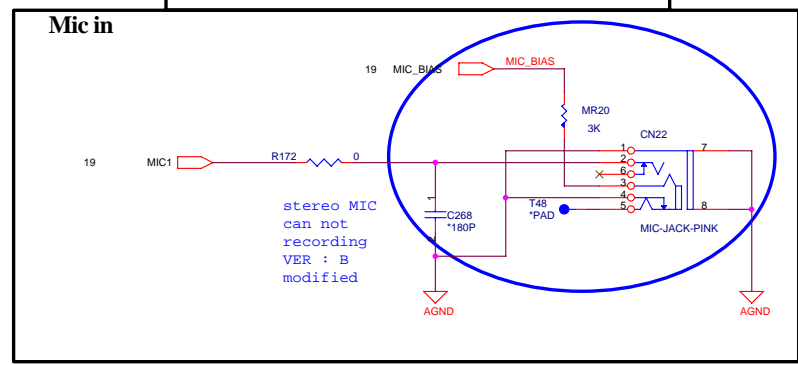
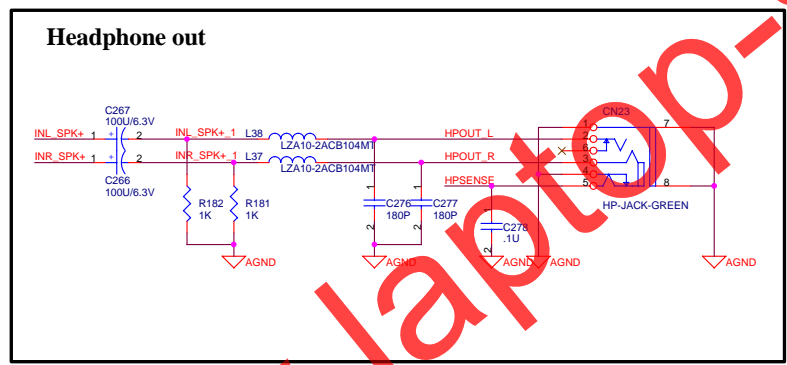
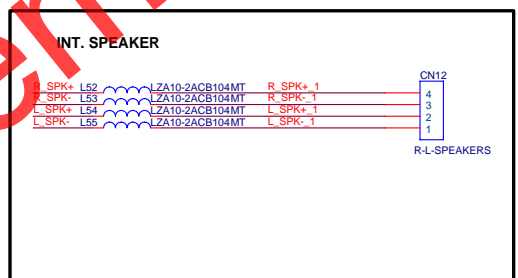
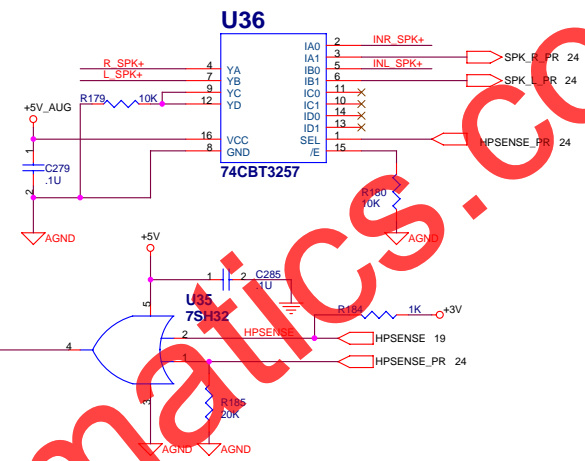
change from 0.47U to 4.7U B satge modified

Gain Table

Gain0	Gain1	Av
0	0	2 times
0	1	6 times
1	0	12 times
1	1	24 times

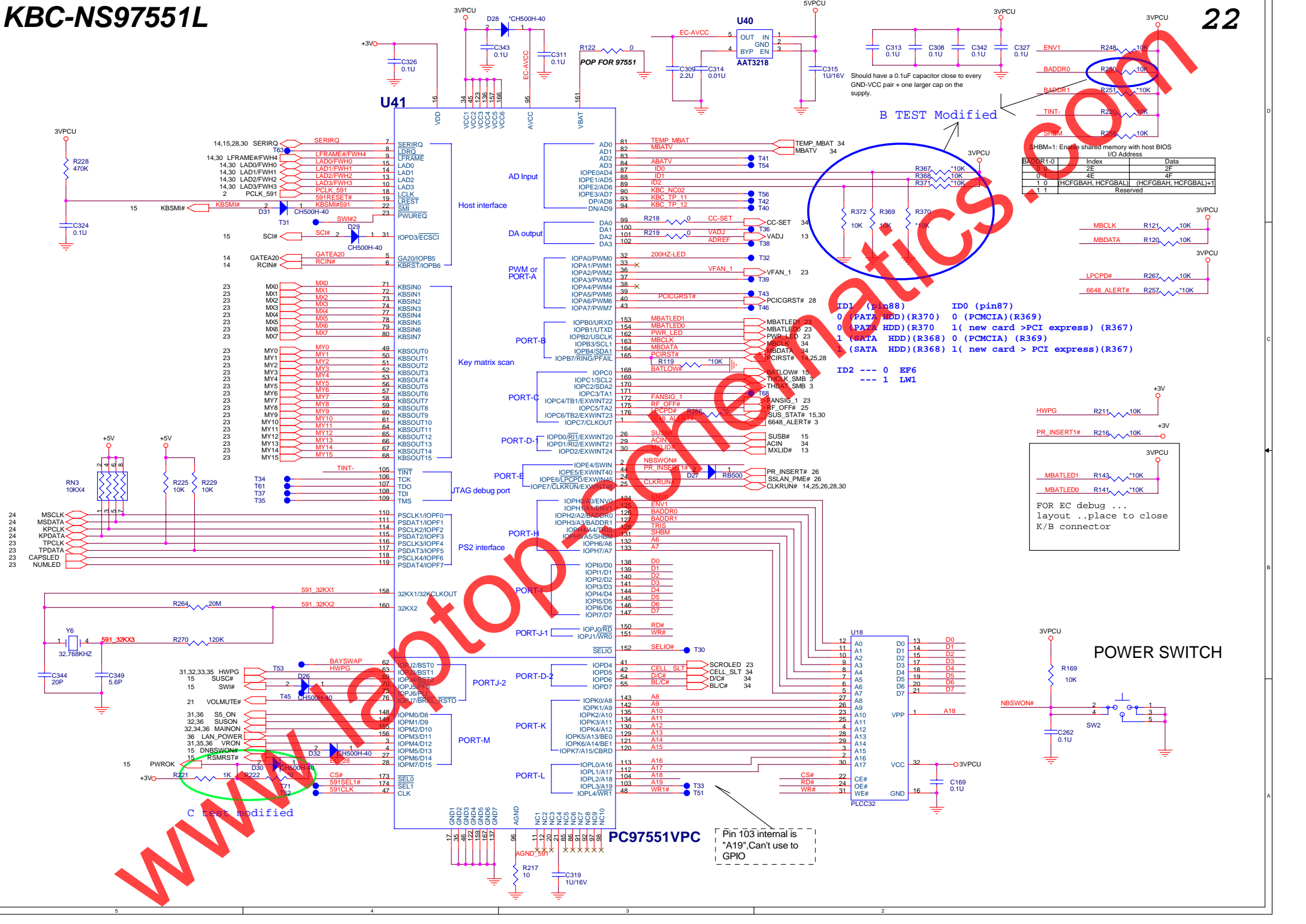
+5V 12,13,16,18,19,22,23,24,25,30,33,36

## To Port-Replicator

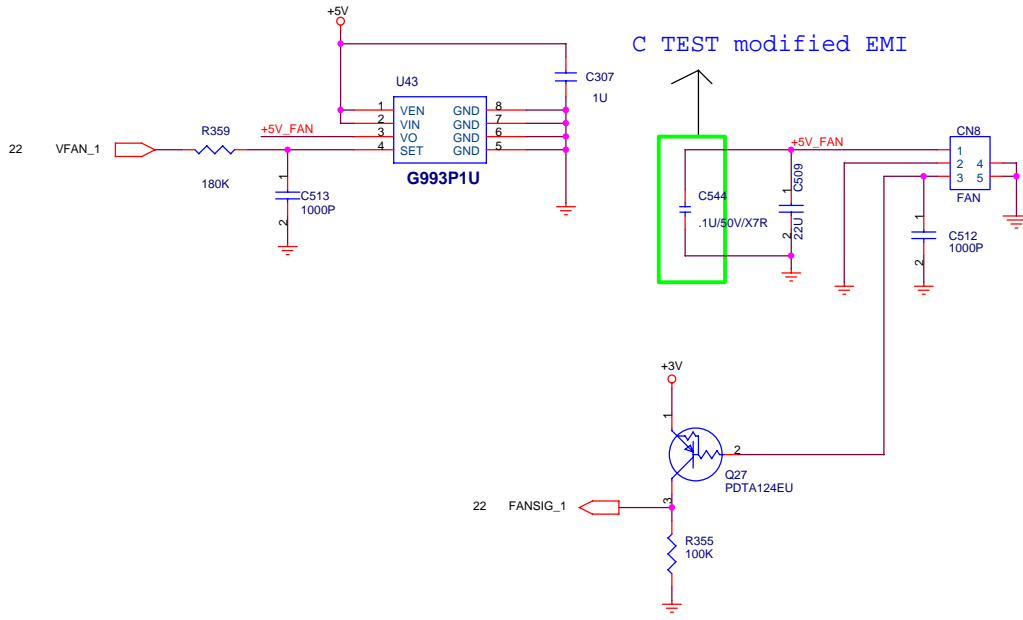


stereo MIC can not recording VER : B modified

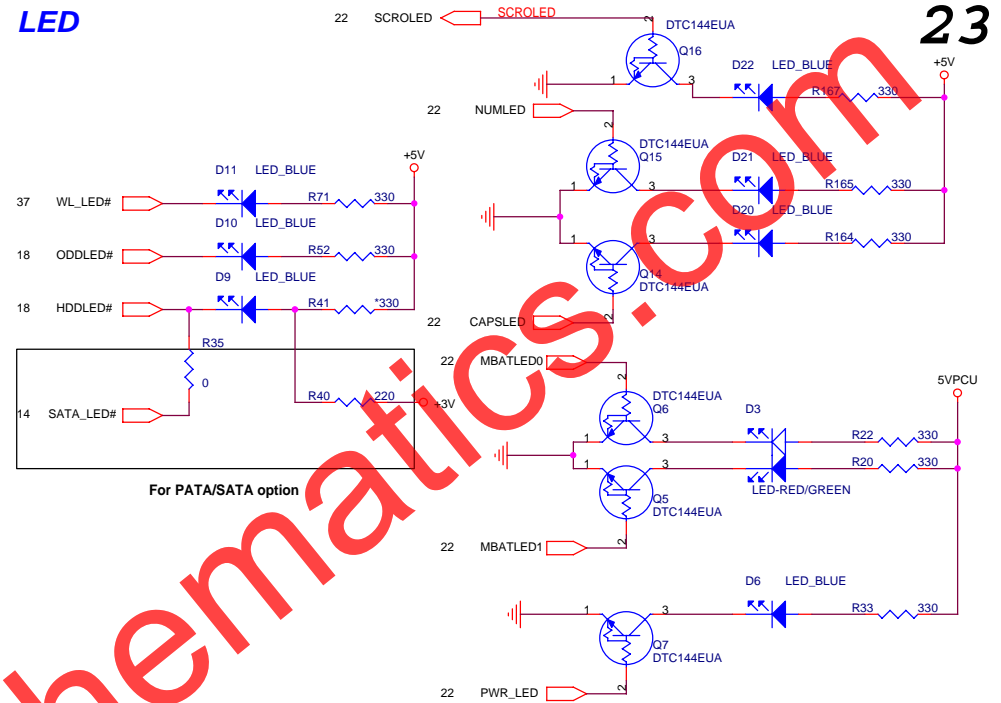
www.laptop-schematics.com



# 1st FAN OUT CONNECTOR

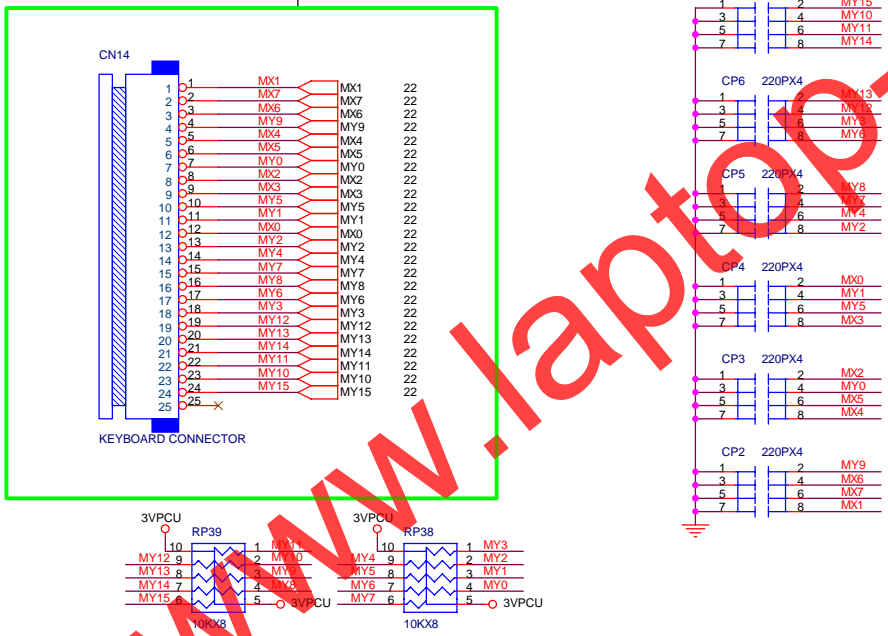


# LED

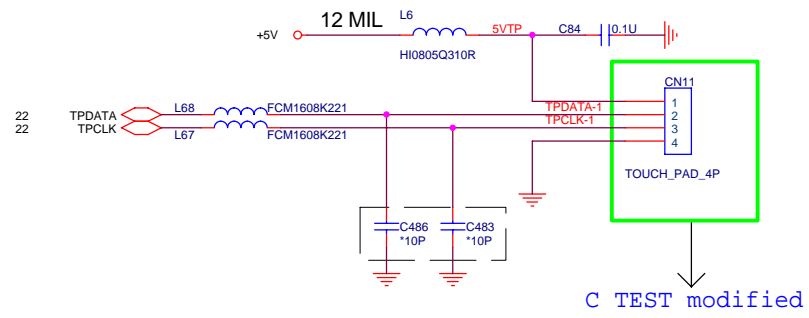


# KEYBOARD

C TEST modified




# TOUCHPAD



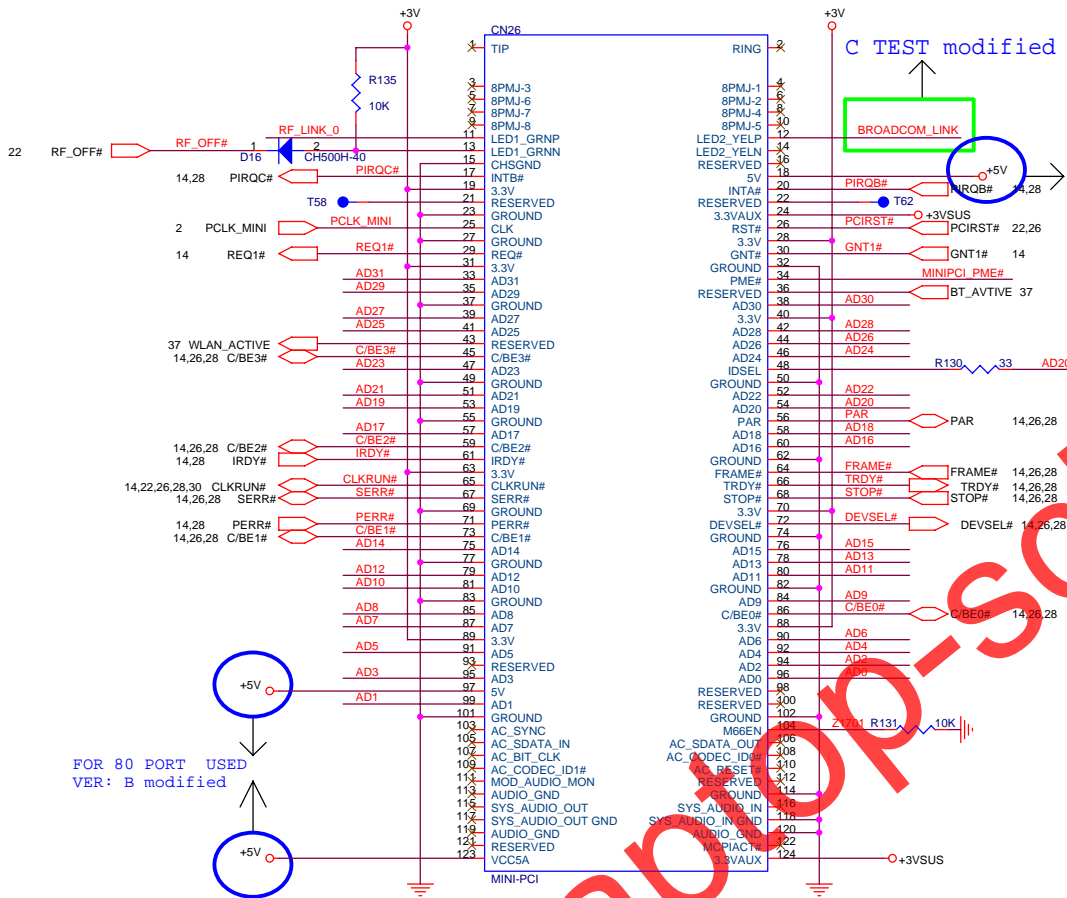




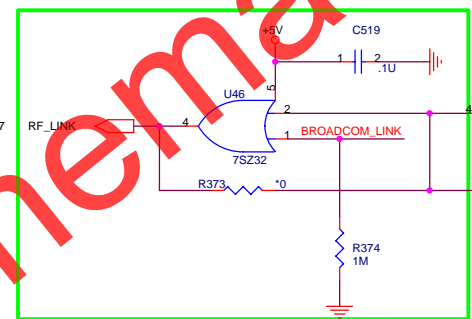
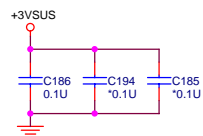
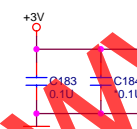
 +5V 12,13,16,18,19,21,22,23,24,30,33,36  
 +3V 2,3,8,10,12,13,14,15,16,18,21,22,23,26,30,33,35,36,37

ADIO\_311  AD[0..31] 14,26,28

### TYPE III MINI PCI SOCKET

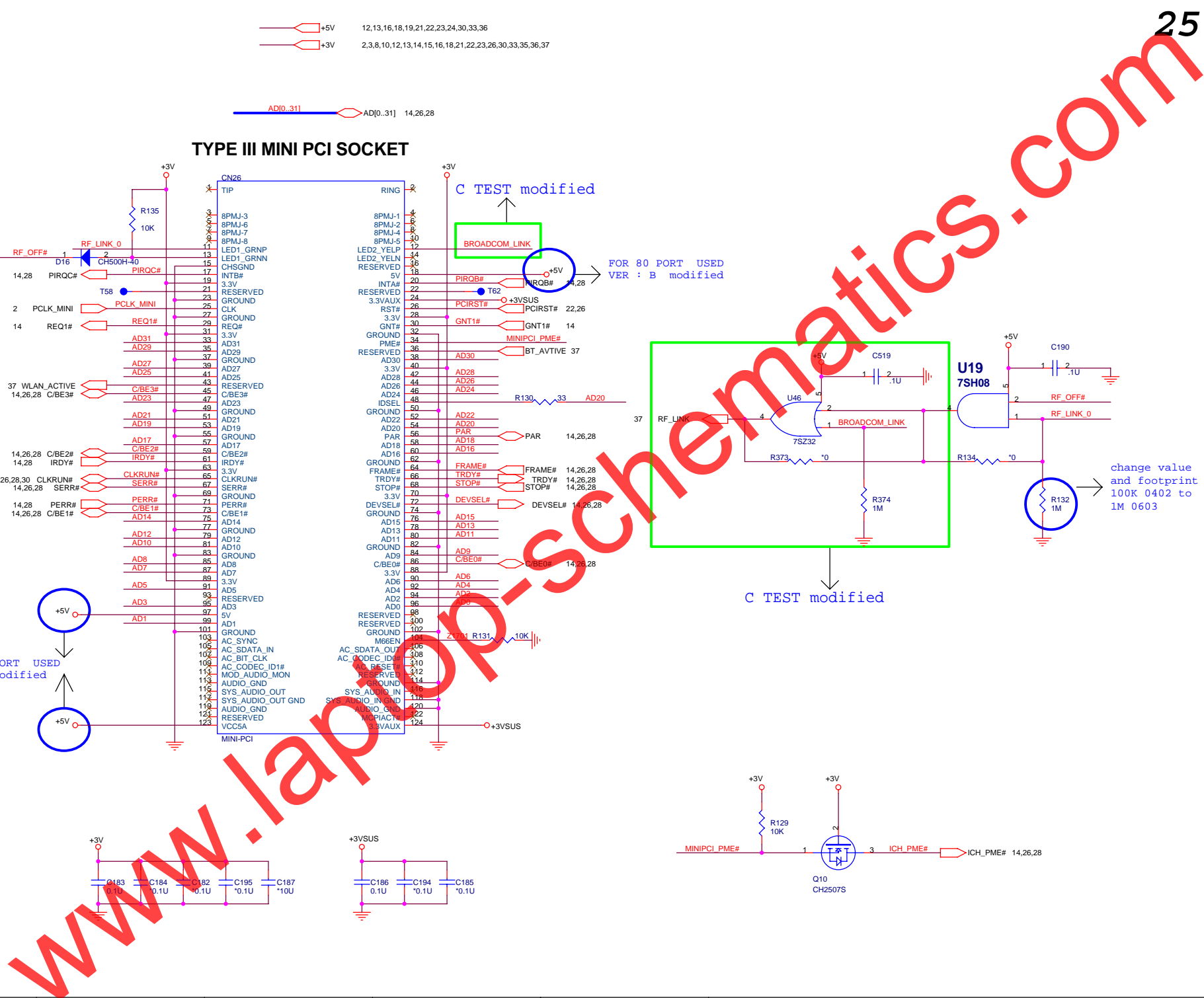
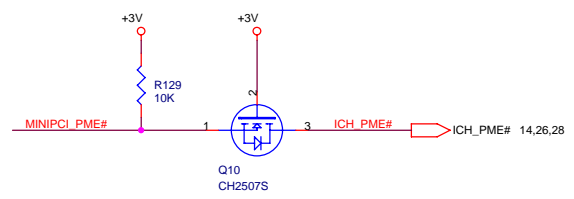


FOR 80 PORT USED  
VER: B modified

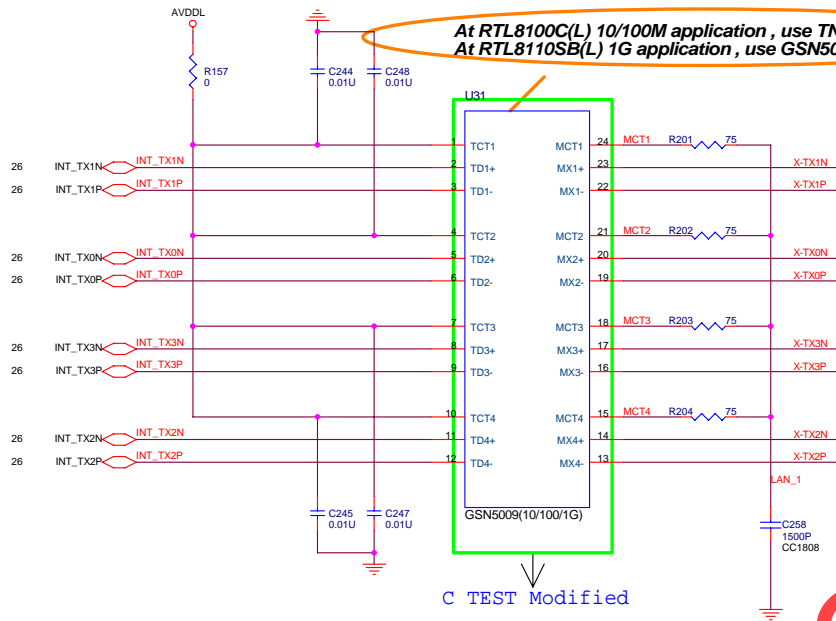


FOR 80 PORT USED  
VER: B modified

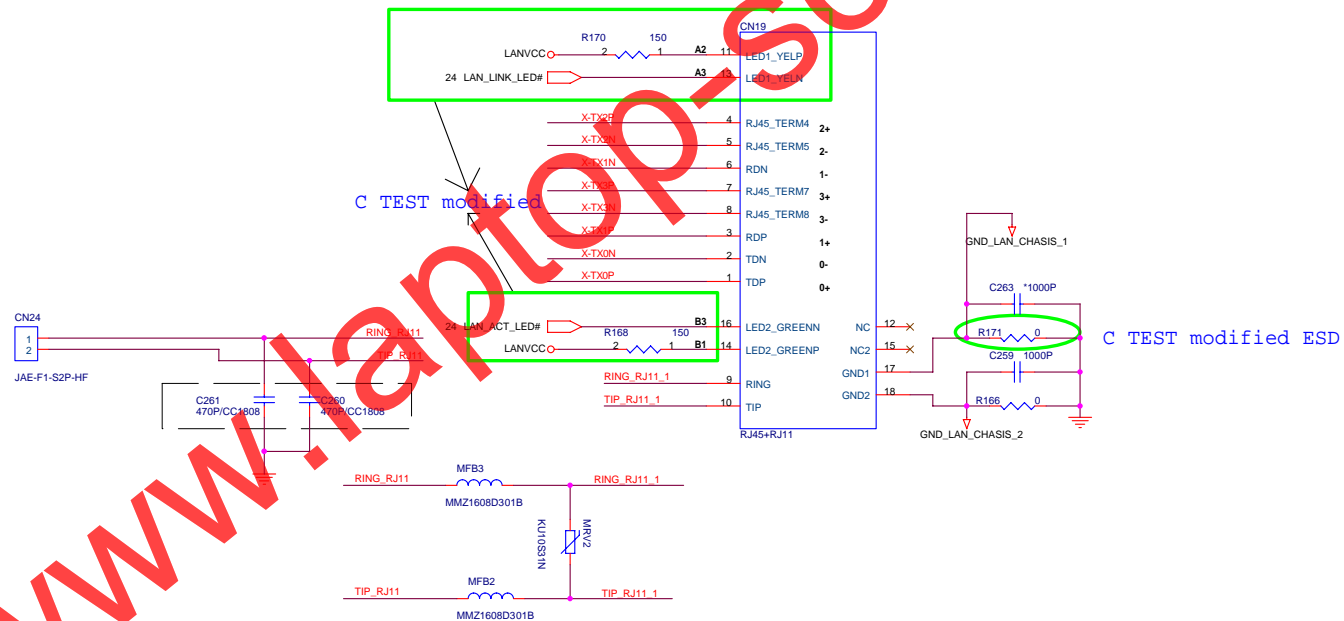
change value  
and footprint  
100K 0402 to  
1M 0603

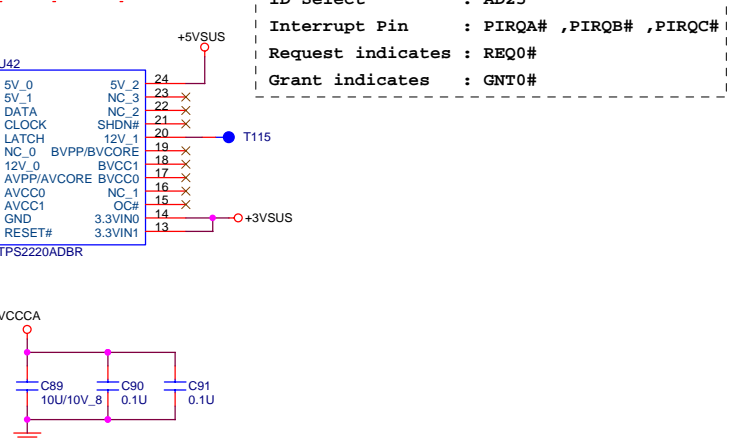
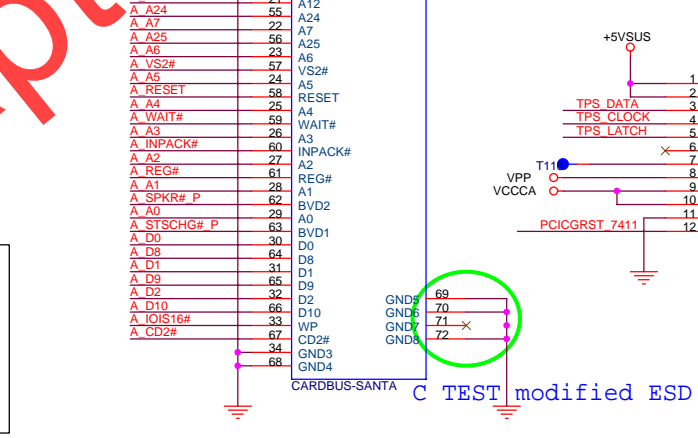
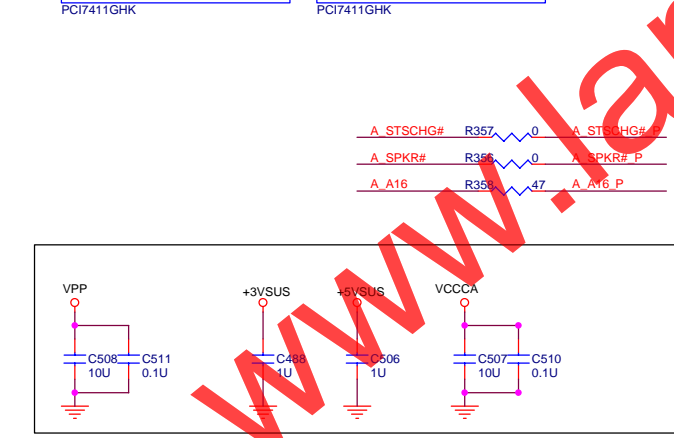
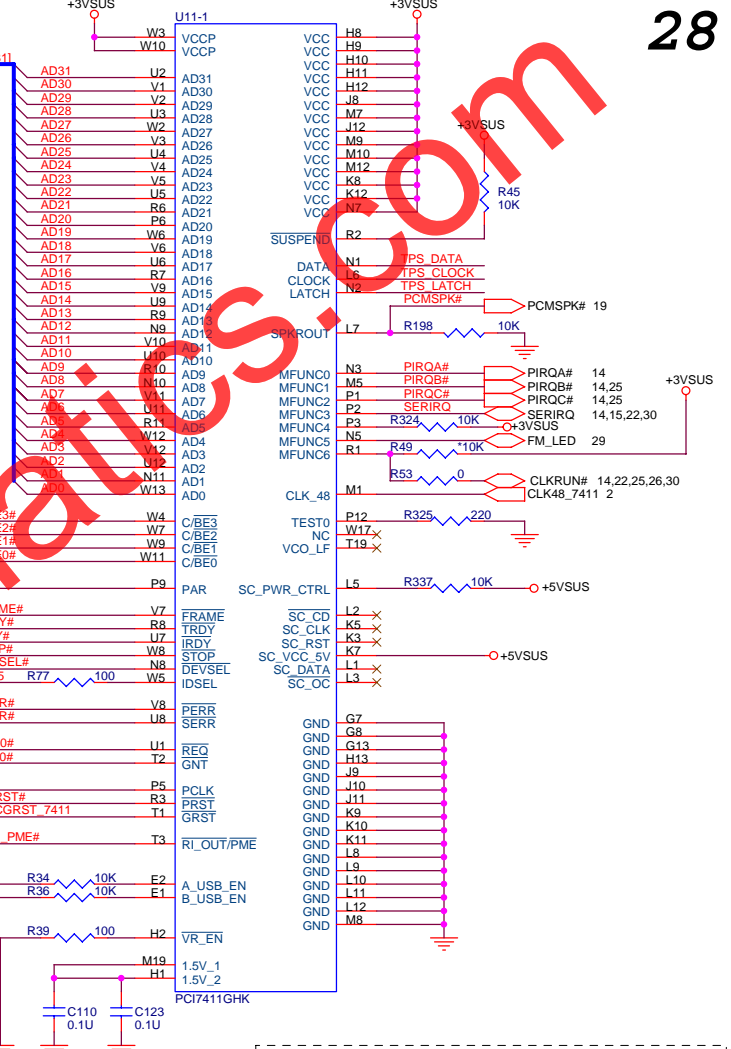
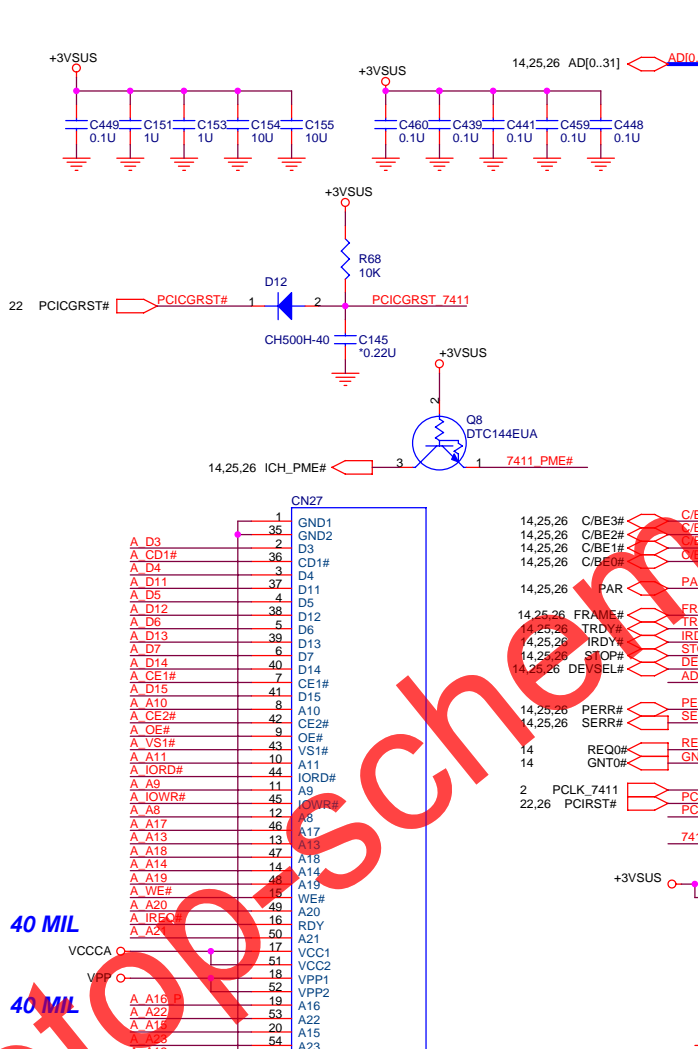
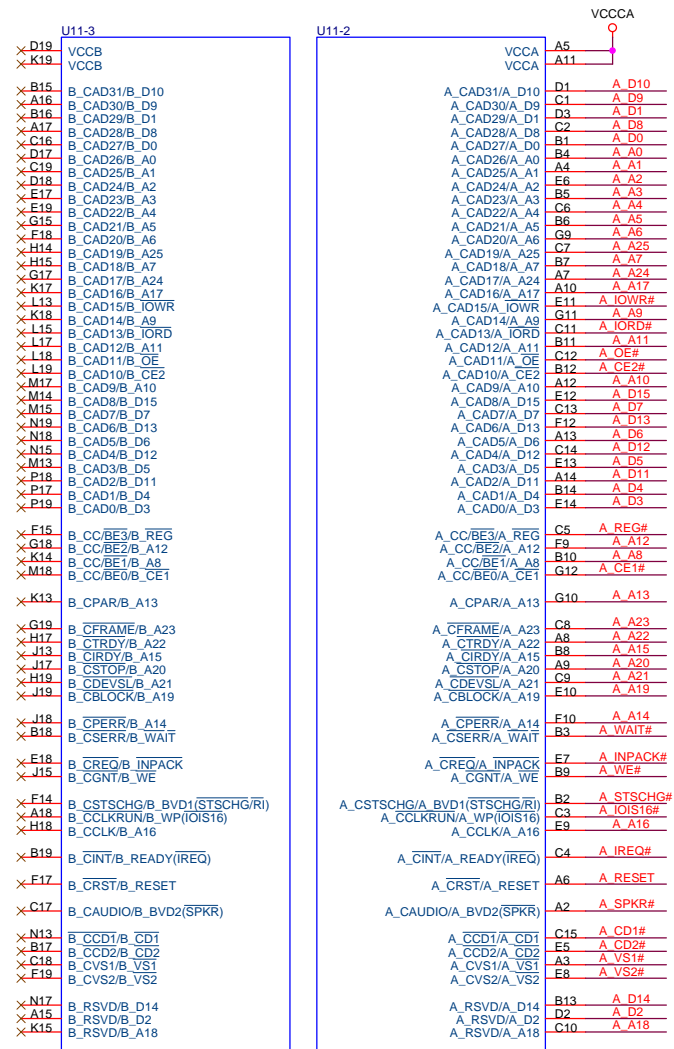






### RJ45 and RJ11 CONNECTOR





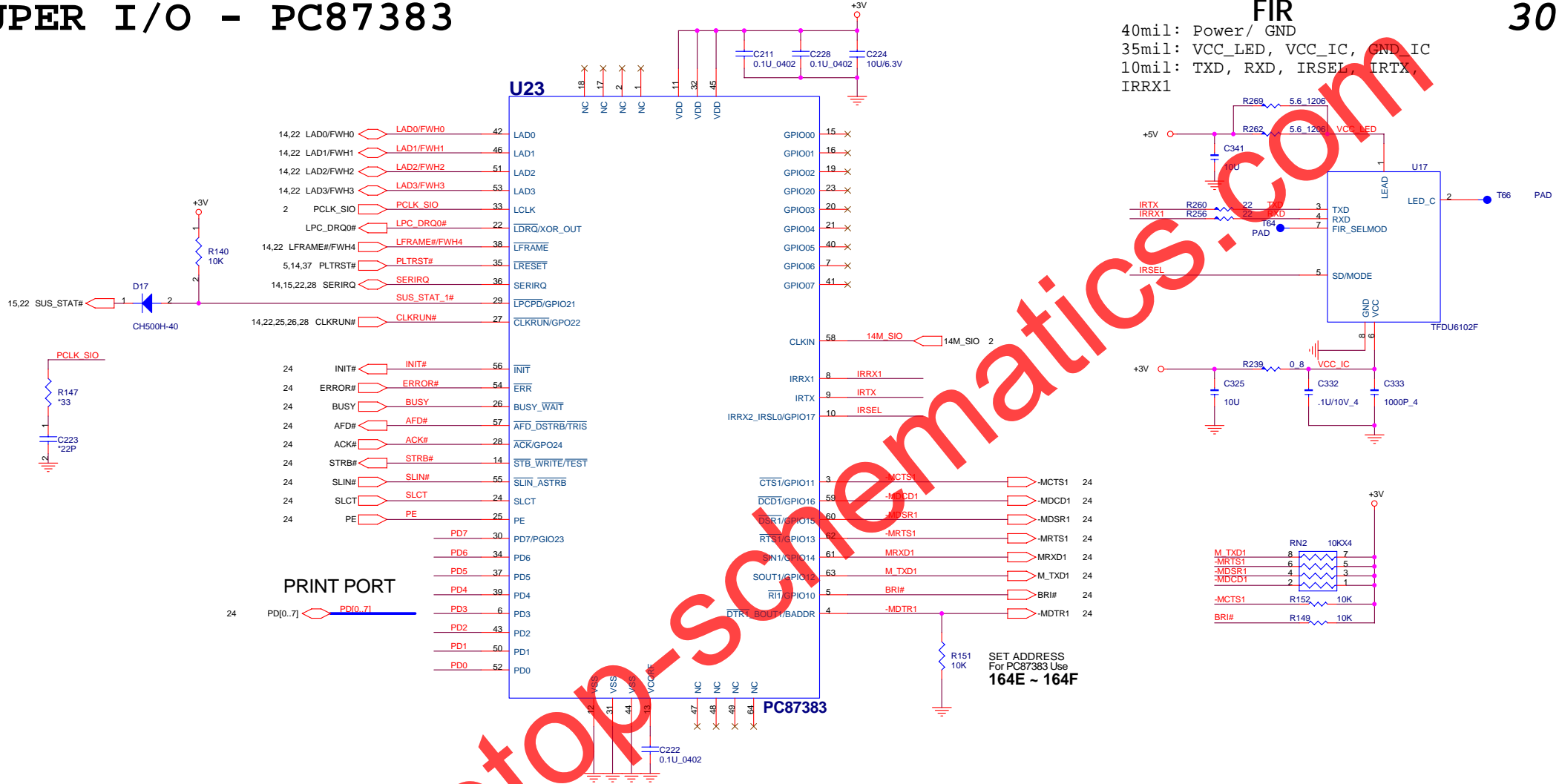
**ID Select** : AD25  
**Interrupt Pin** : PIRQA#, PIRQB#, PIRQC#  
**Request indicates** : REQ0#  
**Grant indicates** : GNT0#

www.laptopsch.com

C TEST modified ESD



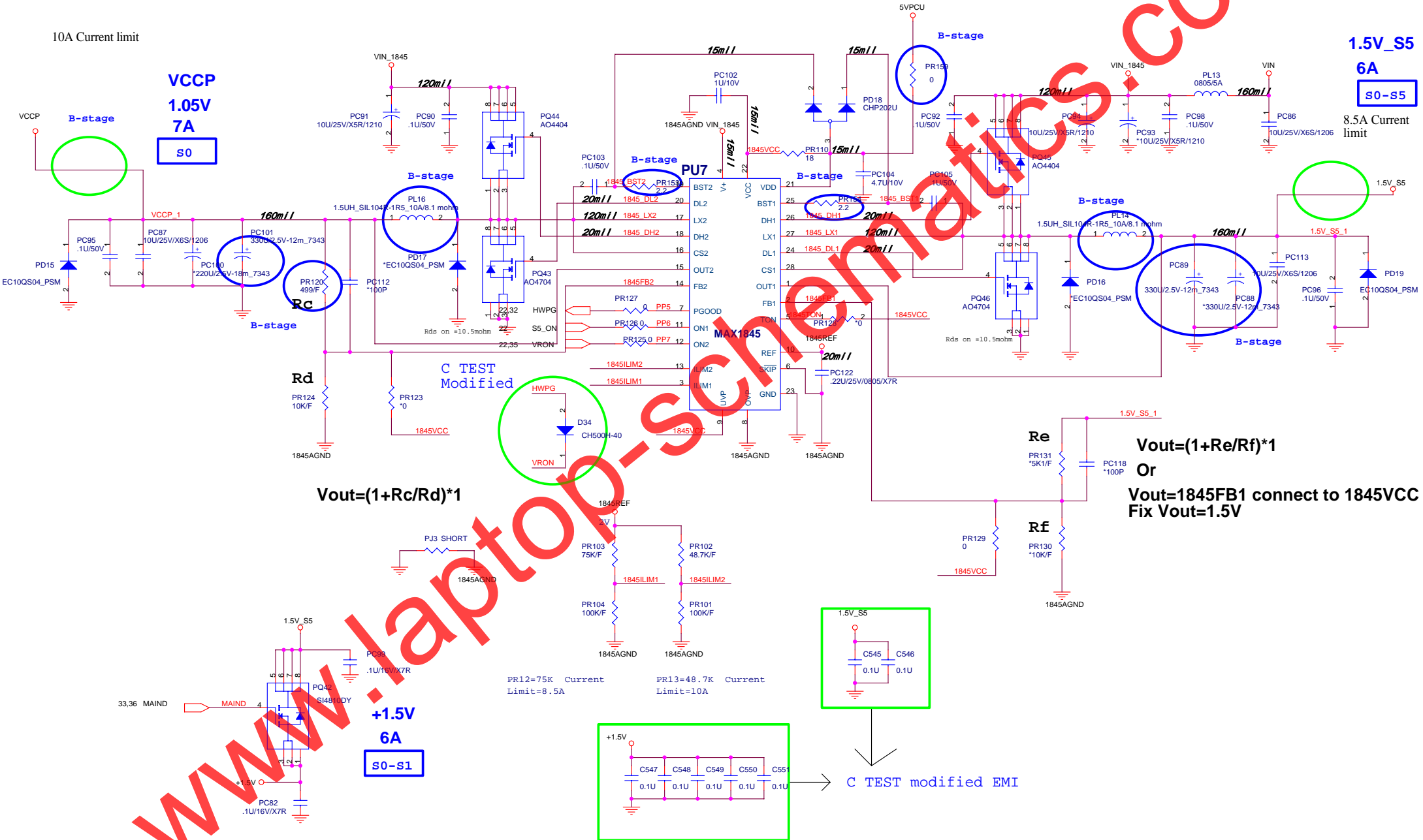
40mil: Power/ GND  
35mil: VCC\_LED, VCC\_IC, GND\_IC  
10mil: TXD, RXD, IRSEL, IRTX,  
IRRX1



www.laptop-schematics.com

SET ADDRESS  
For PC87383 Use  
164E ~ 164F

www.laptop-schematics.com



10A Current limit

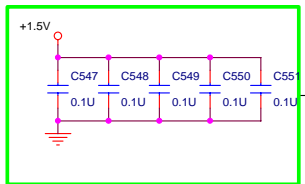
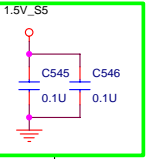
VCCP  
1.05V  
7A  
S0

1.5V\_S5  
6A  
S0-S5  
8.5A Current limit

$V_{out} = (1 + R_c/R_d) * 1$

$V_{out} = (1 + R_e/R_f) * 1$   
Or  
 $V_{out} = 1845FB1$  connect to 1845VCC  
Fix  $V_{out} = 1.5V$

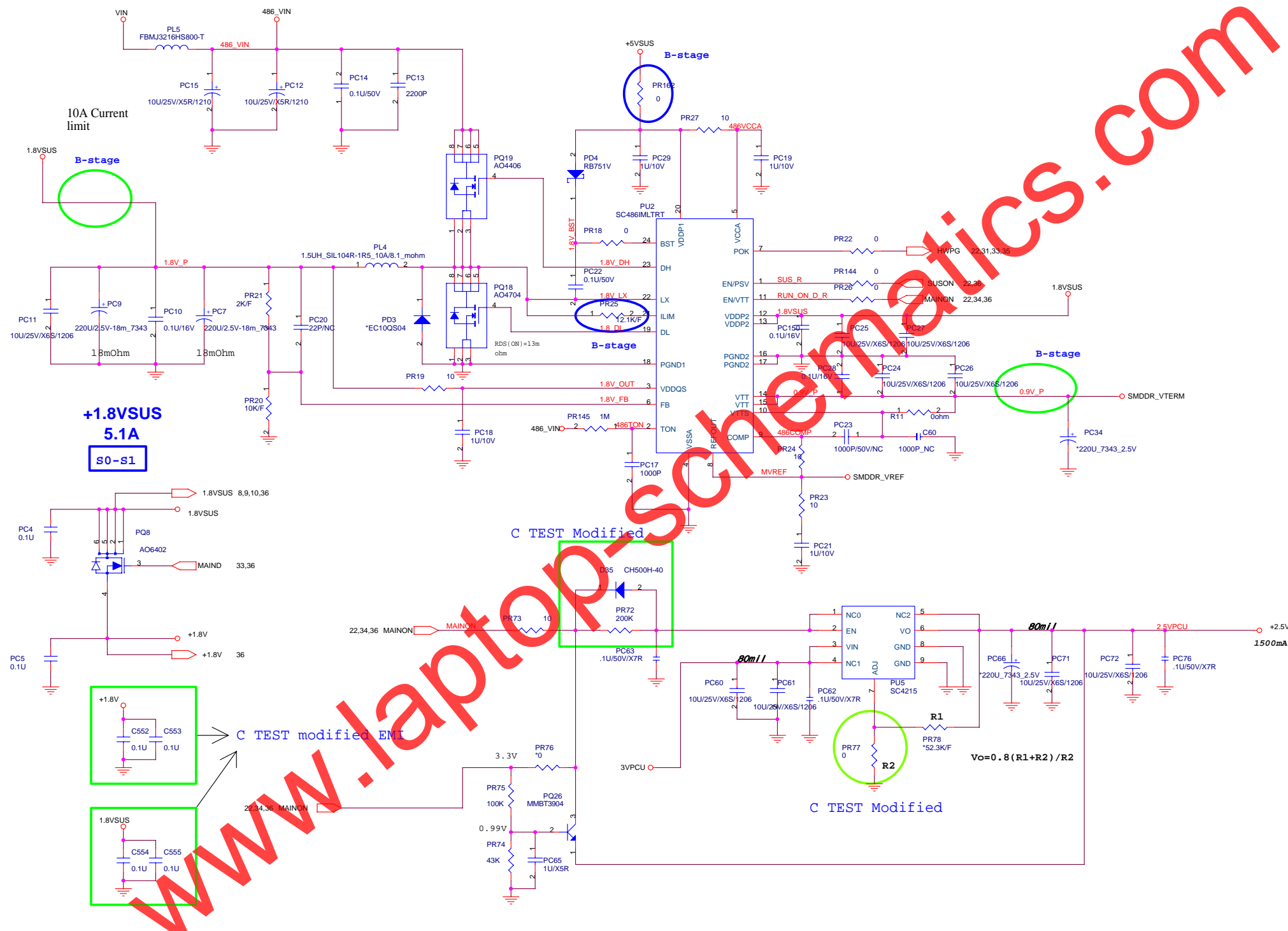
+1.5V  
6A  
S0-S1



C TEST modified EMI

PR12=75K Current Limit=8.5A

PR13=48.7K Current Limit=10A



10A Current limit

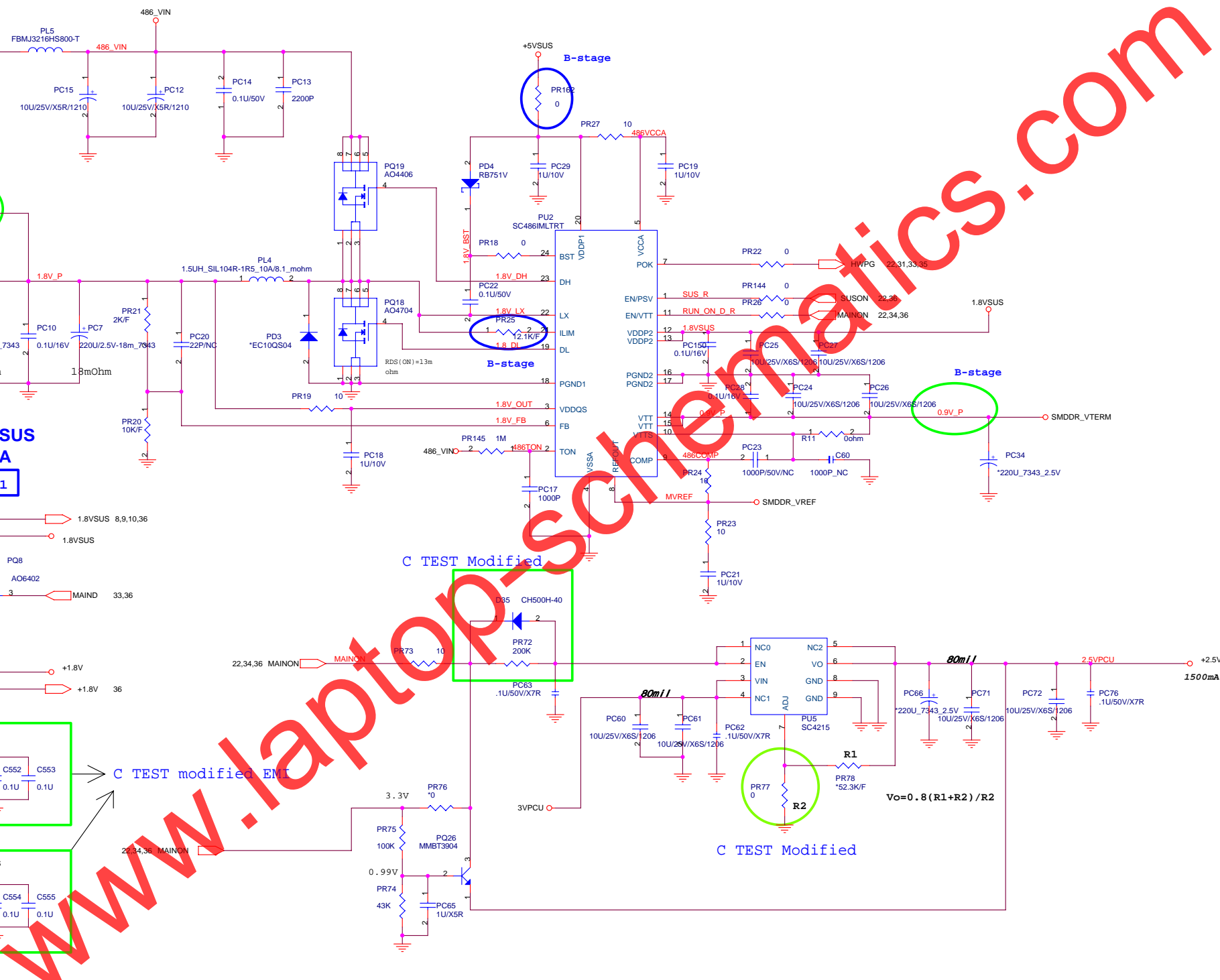
+1.8VSUS  
5.1A  
S0-S1

C TEST Modified

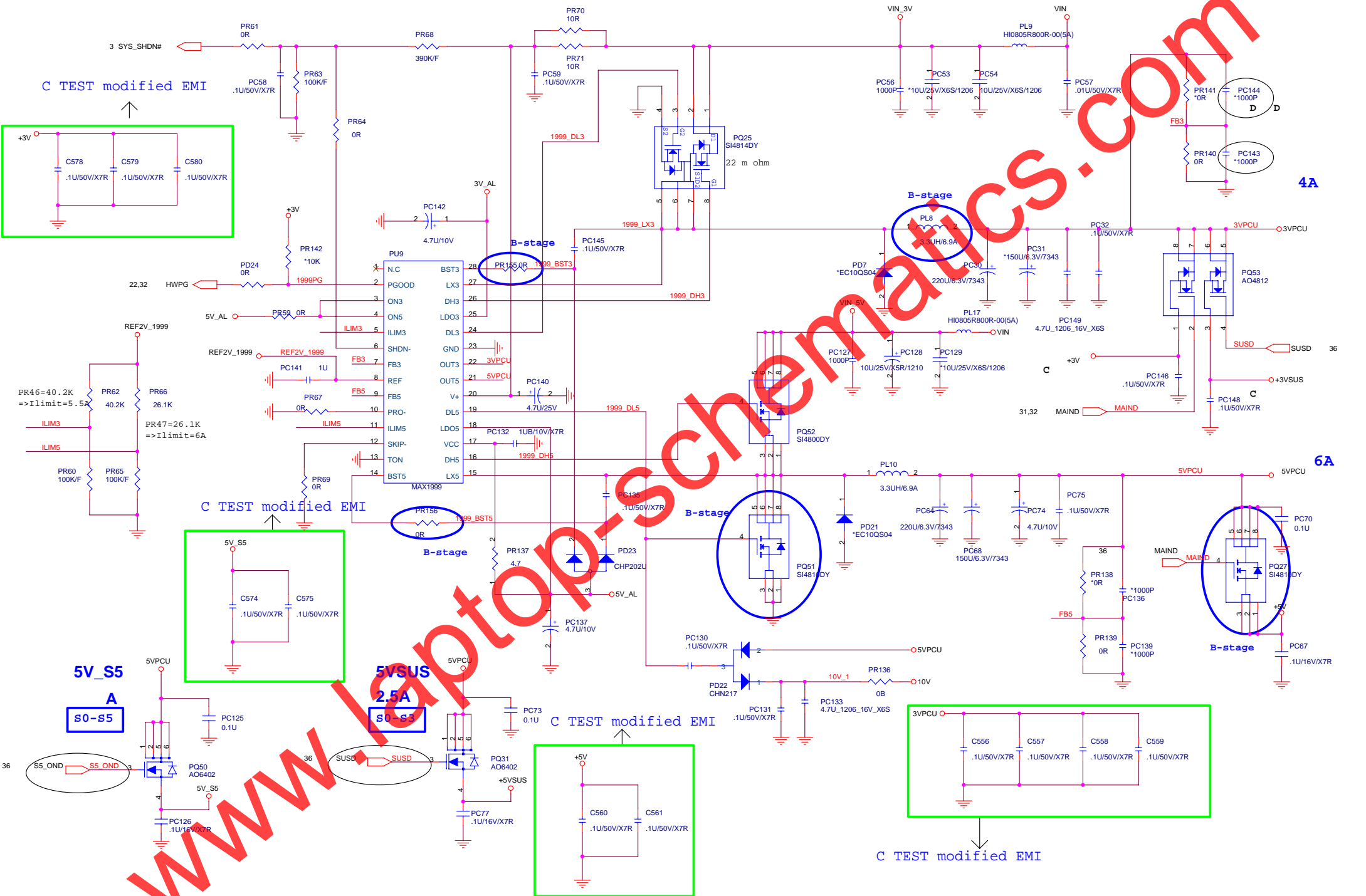
C TEST modified EMI

C TEST Modified

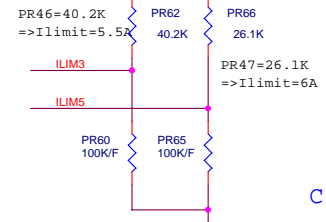
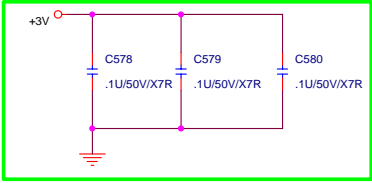
$$V_o = 0.8 \frac{R1 + R2}{R2}$$



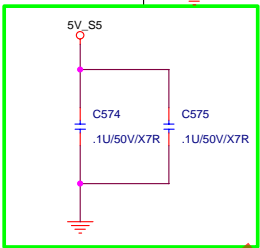




C TEST modified EMI

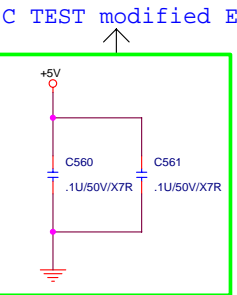


C TEST modified EMI

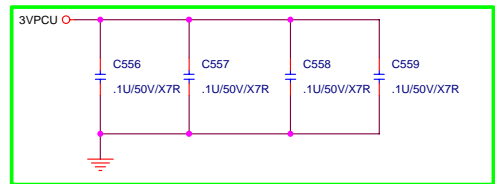


5V\_S5  
A  
S0-S5

5VSUS  
2.5A  
SU-S5



C TEST modified EMI



C TEST modified EMI

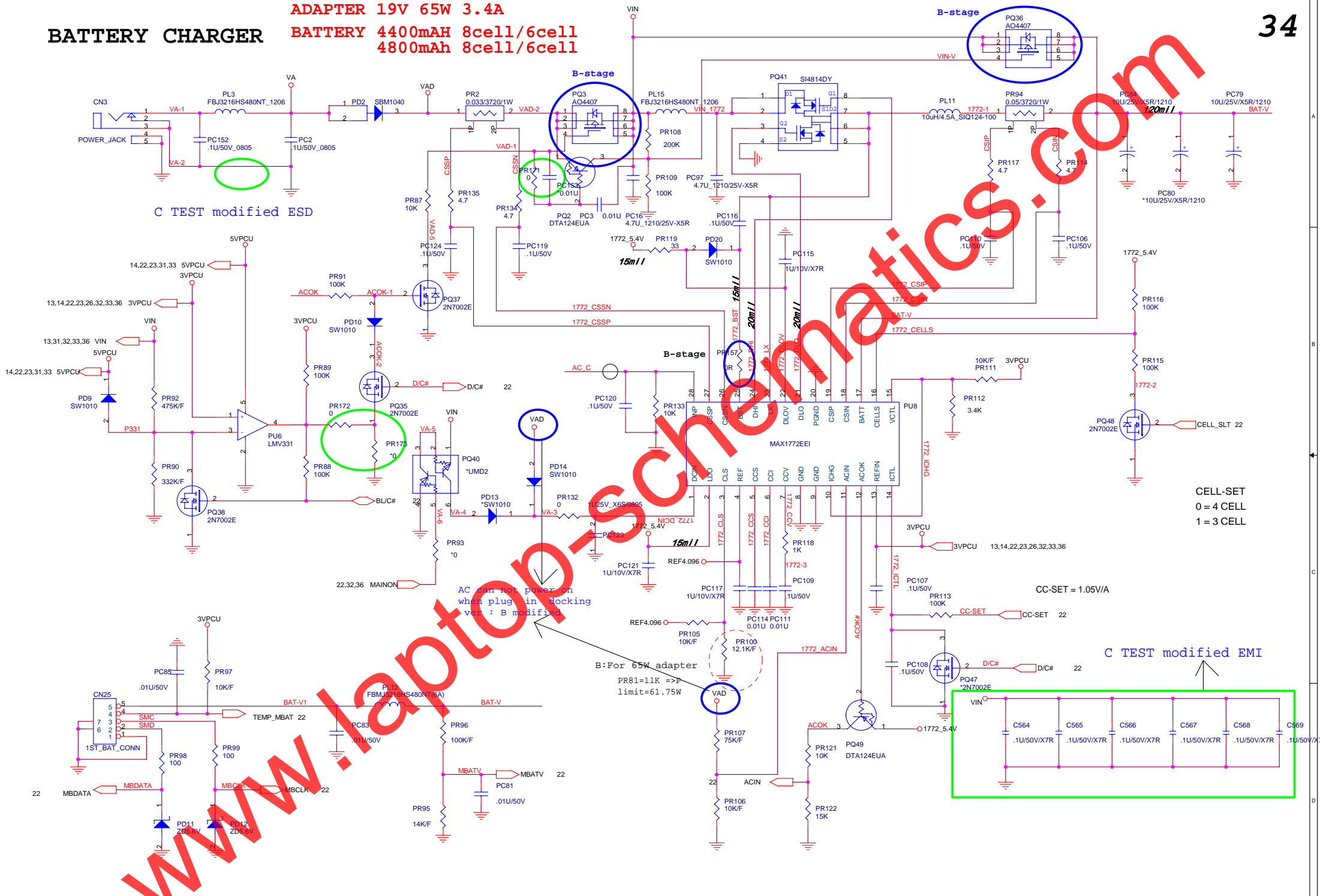
4A

6A

# BATTERY CHARGER

ADAPTER 19V 65W 3.4A

BATTERY 4400MAH 8cell/6cell  
4800mAh 8cell/6cell



C TEST modified ESD

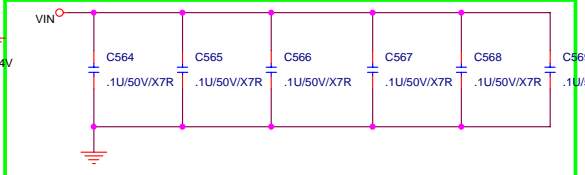
AC can not power on when plug in docking ver: B modified

B: For 65W adapter  
PR81=11K => limit=61.75W

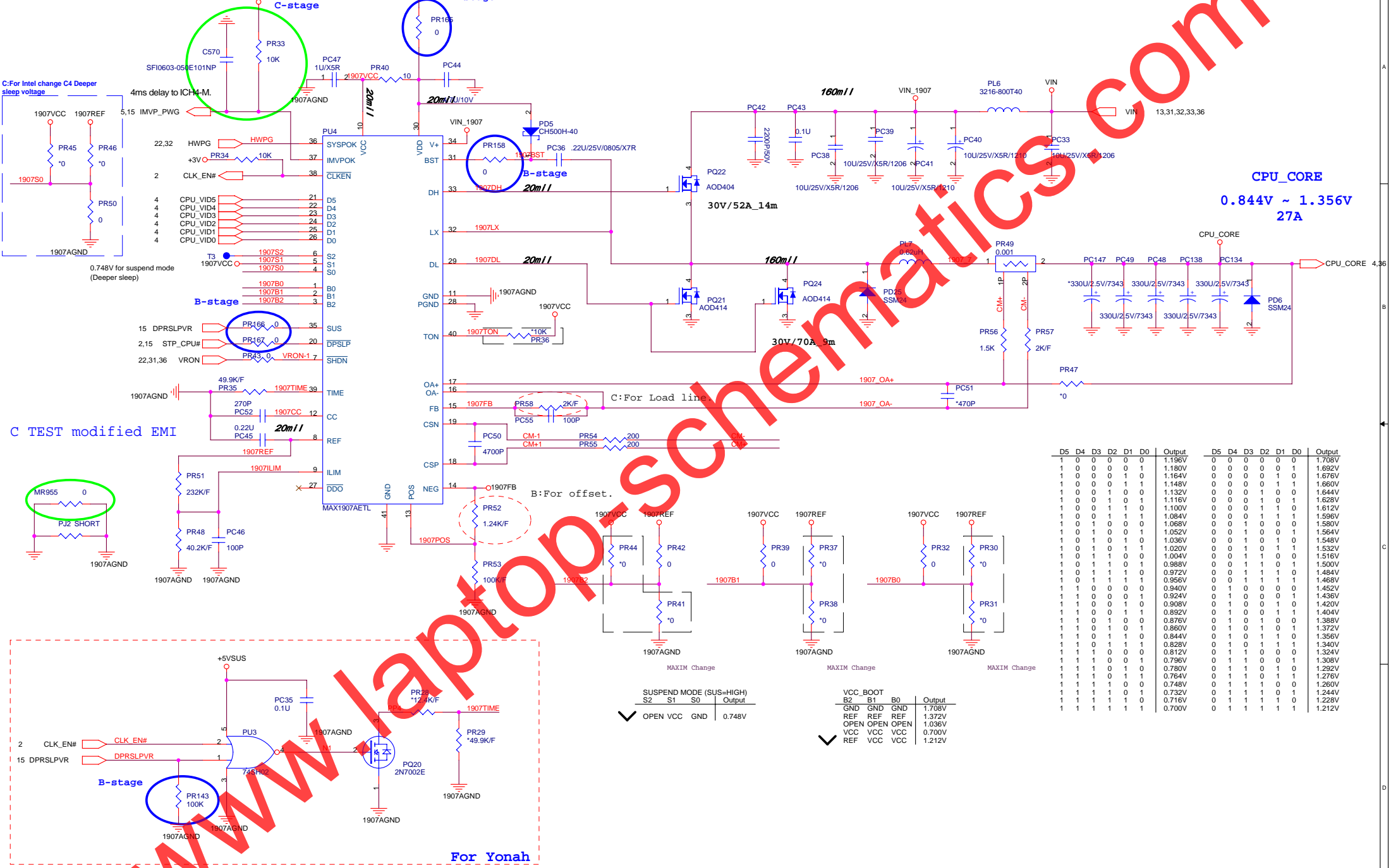
C TEST modified EMI

CELL-SET  
0 = 4 CELL  
1 = 3 CELL

CC-SET = 1.05V/A



CPU VCC CORE (MAX1907)



C:For Intel change C4 Deeper sleep voltage

0.748V for suspend mode (Deeper sleep)

C TEST modified EMI

MR955

PJ2 SHORT

B-stage

For Yonah

CPU\_CORE  
0.844V ~ 1.356V  
27A

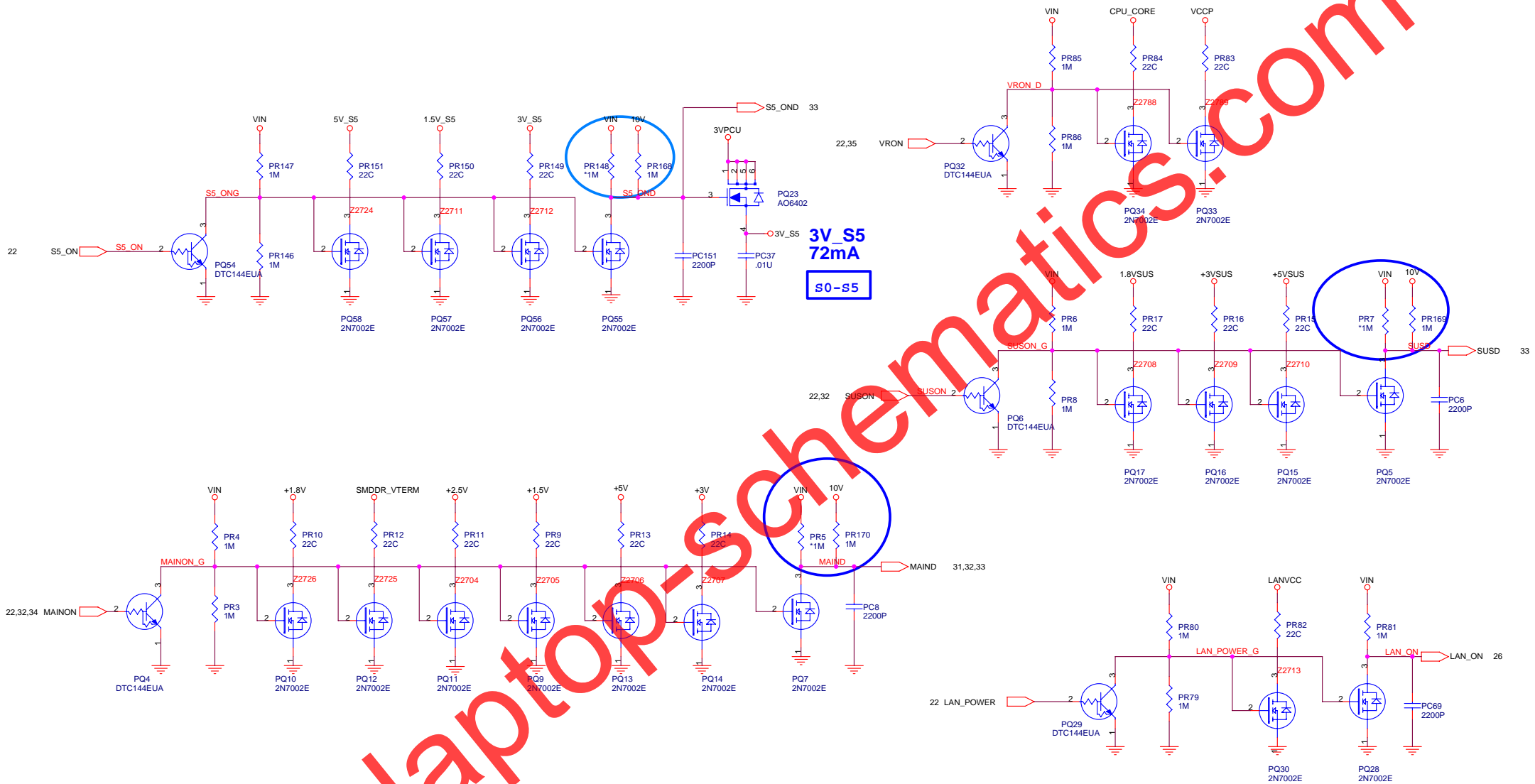
MAXIM Change

SUSPEND MODE (SUS=HIGH)	S2	S1	S0	Output
✓ OPEN VCC	GND	GND	GND	0.748V

MAXIM Change

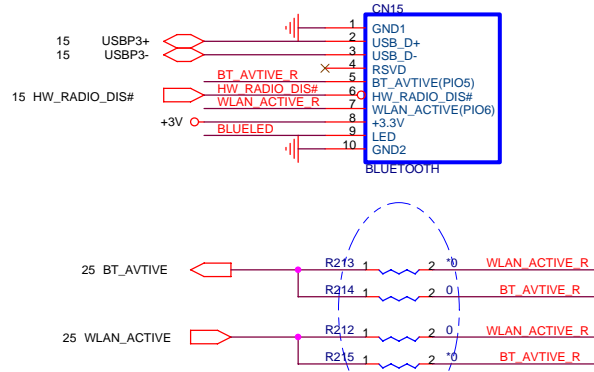
VCC_BOOT	B2	B1	B0	Output
✓ GND	GND	GND	GND	1.708V
REF	REF	REF	REF	1.372V
OPEN	OPEN	OPEN	OPEN	1.036V
VCC	VCC	VCC	VCC	0.700V
REF	VCC	VCC	VCC	1.212V

D5	D4	D3	D2	D1	D0	Output	D5	D4	D3	D2	D1	D0	Output
1	0	0	0	0	0	1.196V	0	0	0	0	0	0	1.708V
1	0	0	0	0	1	1.180V	0	0	0	0	0	1	1.692V
1	0	0	0	1	0	1.164V	0	0	0	0	1	0	1.676V
1	0	0	0	1	1	1.148V	0	0	0	0	1	1	1.660V
1	0	0	1	0	0	1.132V	0	0	0	1	0	0	1.644V
1	0	0	1	0	1	1.116V	0	0	0	1	0	1	1.628V
1	0	0	1	1	0	1.100V	0	0	0	1	1	0	1.612V
1	0	0	1	1	1	1.084V	0	0	0	1	1	1	1.596V
1	0	1	0	0	0	1.068V	0	0	1	0	0	0	1.580V
1	0	1	0	0	1	1.052V	0	0	1	0	0	1	1.564V
1	0	1	0	1	0	1.036V	0	0	1	0	1	0	1.548V
1	0	1	0	1	1	1.020V	0	0	1	0	1	1	1.532V
1	0	1	1	0	0	1.004V	0	0	1	0	0	0	1.516V
1	0	1	1	0	1	0.988V	0	0	1	0	1	0	1.500V
1	0	1	1	1	0	0.972V	0	0	1	1	0	0	1.484V
1	0	1	1	1	1	0.956V	0	0	1	1	1	1	1.468V
1	1	0	0	0	0	0.940V	0	1	0	0	0	0	1.452V
1	1	0	0	0	1	0.924V	0	1	0	0	1	0	1.436V
1	1	0	0	1	0	0.908V	0	1	0	0	1	0	1.420V
1	1	0	0	1	1	0.892V	0	1	0	0	1	1	1.404V
1	1	0	1	0	0	0.876V	0	1	0	1	0	0	1.388V
1	1	0	1	0	1	0.860V	0	1	0	1	1	0	1.372V
1	1	0	1	1	0	0.844V	0	1	0	1	1	0	1.356V
1	1	0	1	1	1	0.828V	0	1	0	1	1	1	1.340V
1	1	1	0	0	0	0.812V	0	1	1	0	0	0	1.324V
1	1	1	0	0	1	0.796V	0	1	1	0	0	1	1.308V
1	1	1	0	1	0	0.780V	0	1	1	0	1	0	1.292V
1	1	1	0	1	1	0.764V	0	1	1	0	1	1	1.276V
1	1	1	1	0	0	0.748V	0	1	1	0	0	0	1.260V
1	1	1	1	0	1	0.732V	0	1	1	0	1	0	1.244V
1	1	1	1	1	0	0.716V	0	1	1	1	0	0	1.228V
1	1	1	1	1	1	0.700V	0	1	1	1	1	1	1.212V

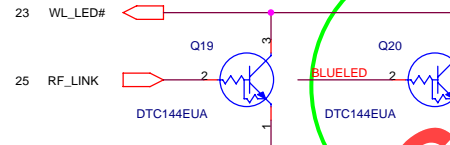


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# BLUETOOTH CONNECTOR

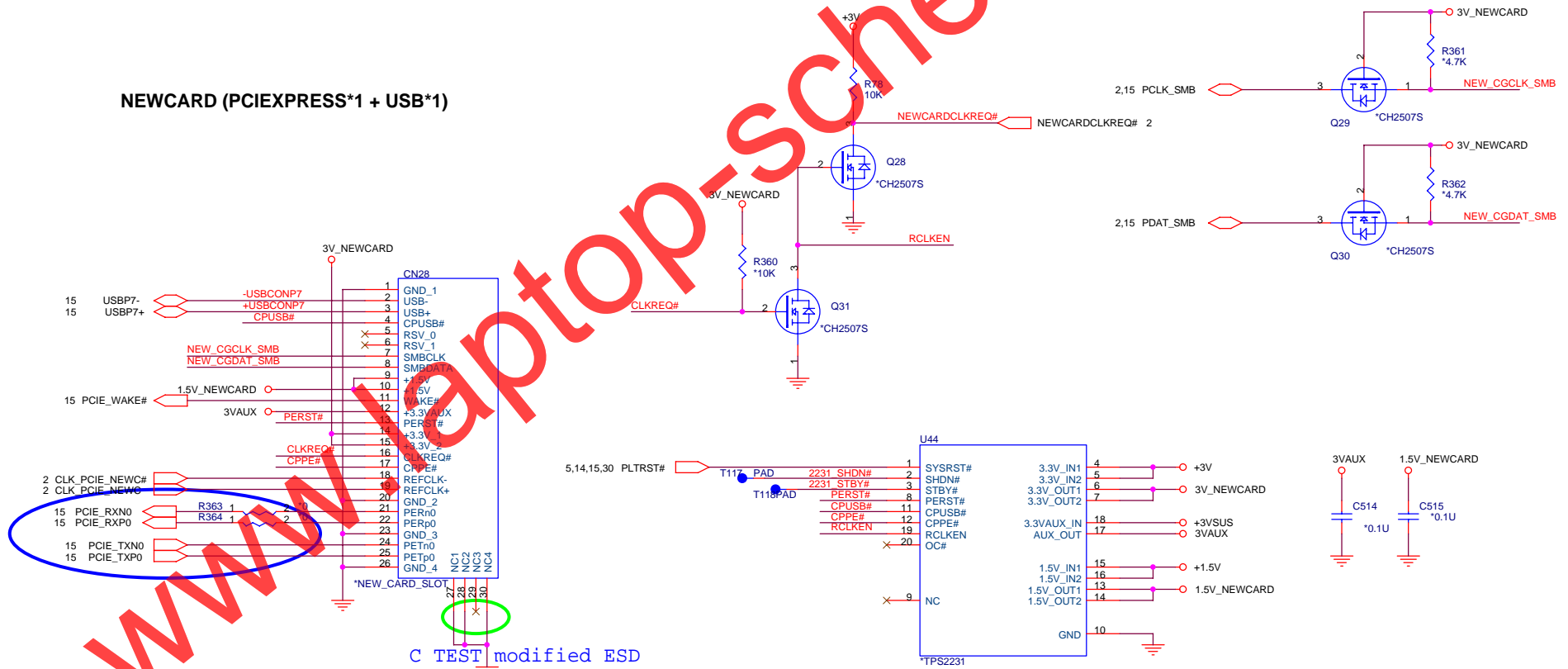


For bluetooth V1.2 spec option and combine intel wireless lan module use ,BC2-ext also provide the co-existence solution .



C TEST Modified

# NEWCARD (PCIEXPRESS\*1 + USB\*1)



C TEST modified ESD