



Repair instruction

RB wAP2nD

Published November 5, 2015

**These repair instructions are for NON WARRANTY repairs only!
Please make visual inspection for signs of corrosion
or mechanical damages before starting.**

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List of RouterBoard wAP series

wAP

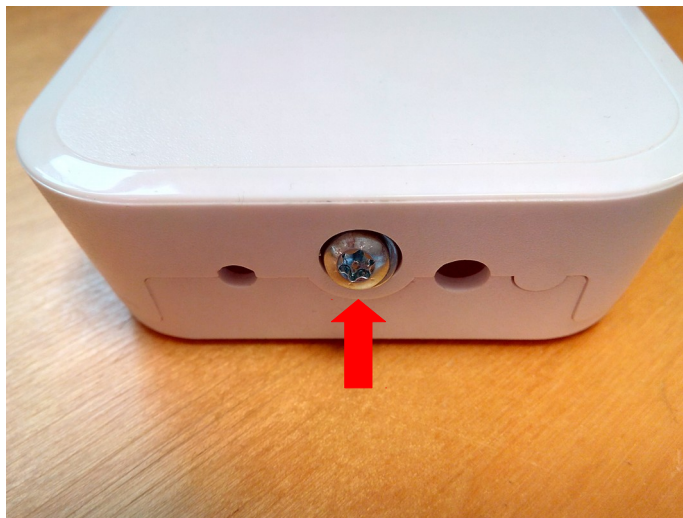


wAP ac

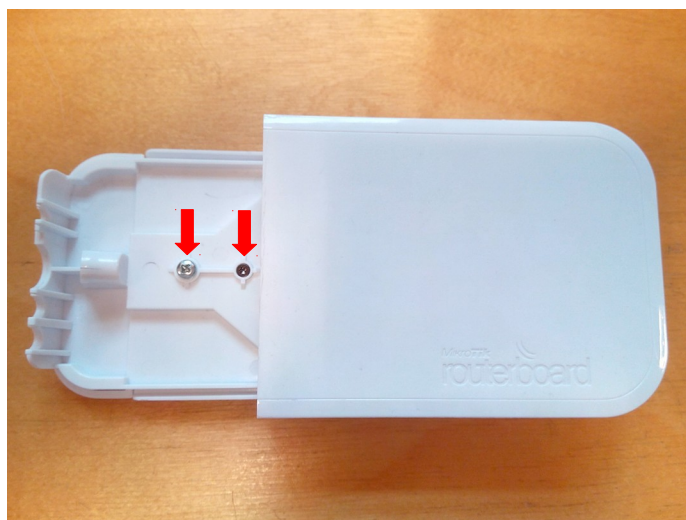


Disassembling information

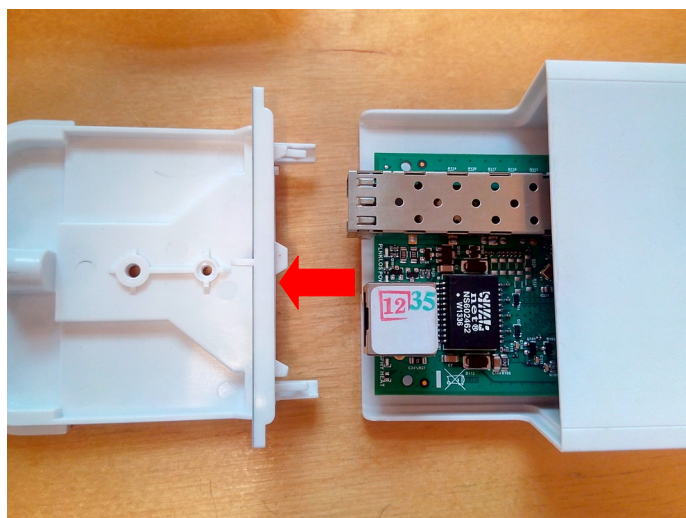
1. UnscREW the screw with torx allen key.



2. Remove cover and unscREW both screws.



3. Pull back front cover and slide out board.

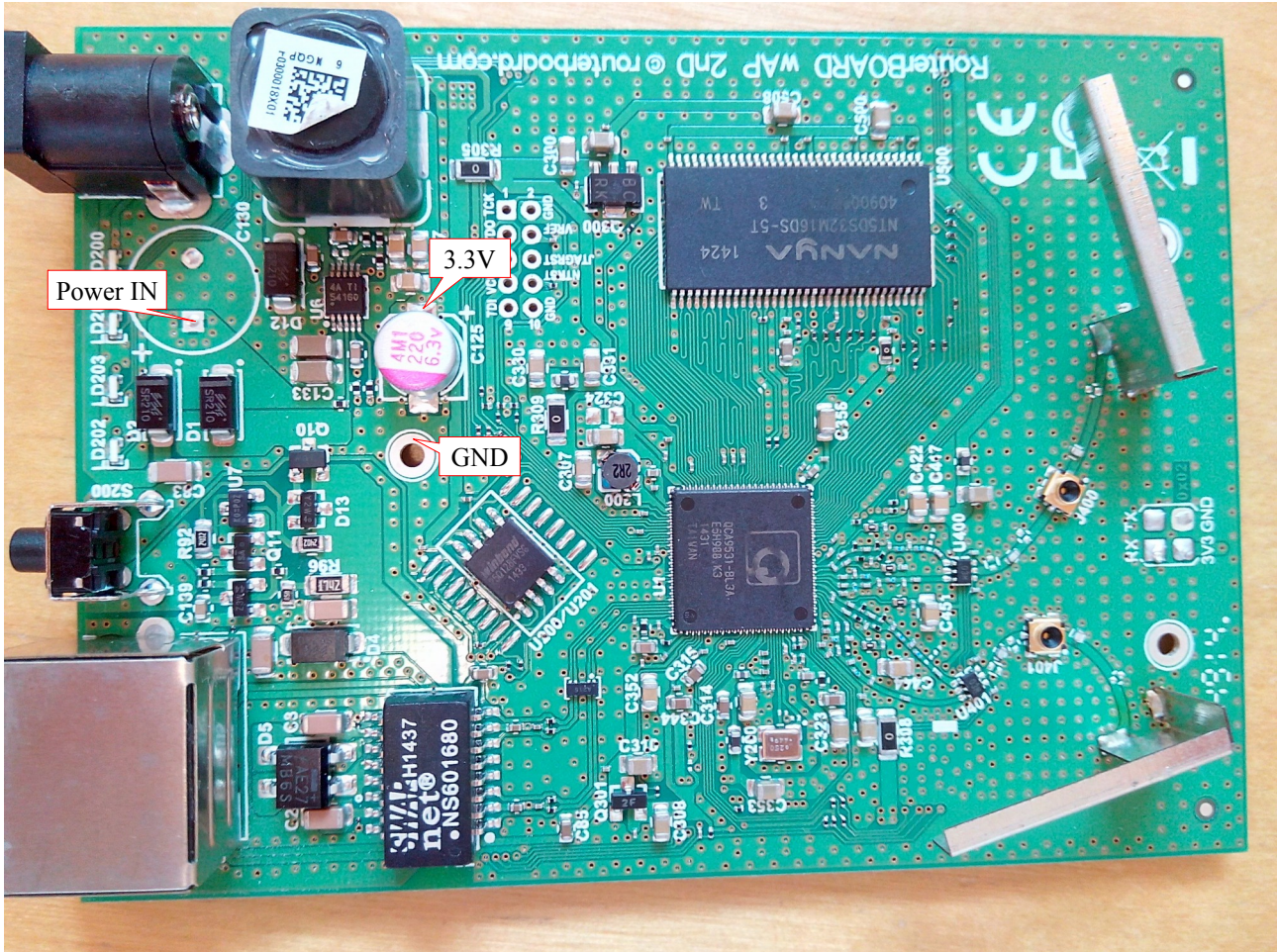


Routerboard does not power on

There no signs of any LED, LCD or buzzer activity

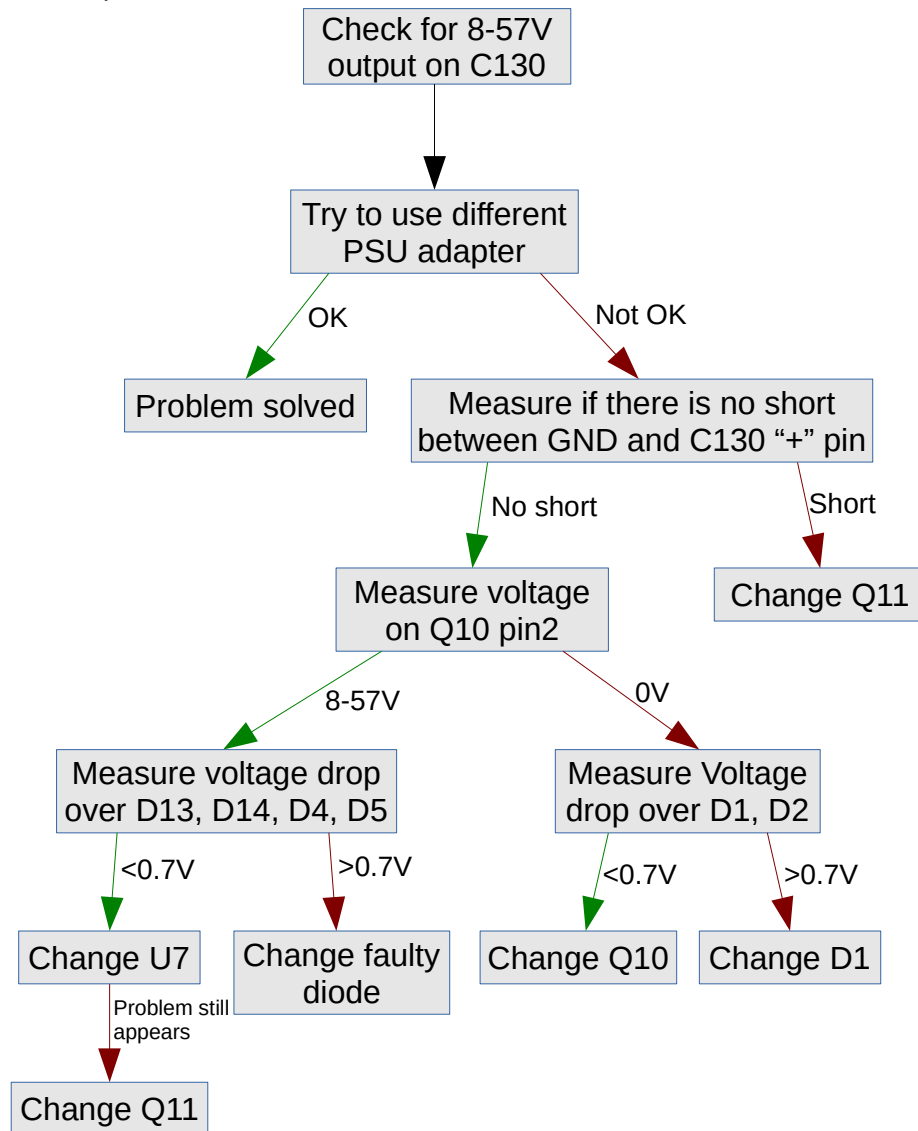
Find potential problem area

RouterBOARD does not turn on when one of the power is disconnected. Check Which voltage is switched off, Power IN (8 – 57V), 3.3V.

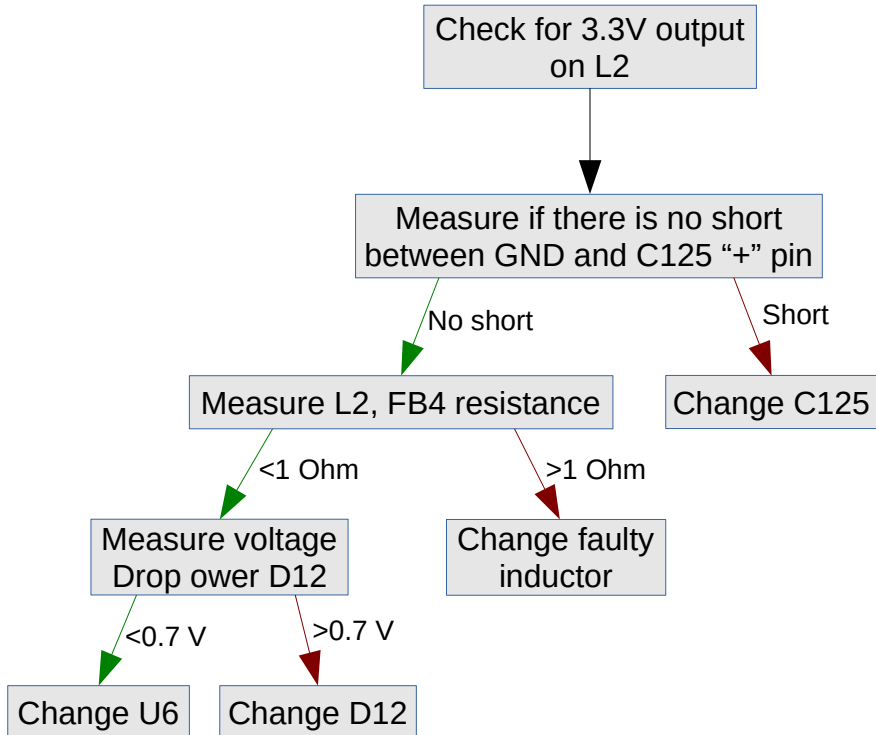


If Power_IN Failed

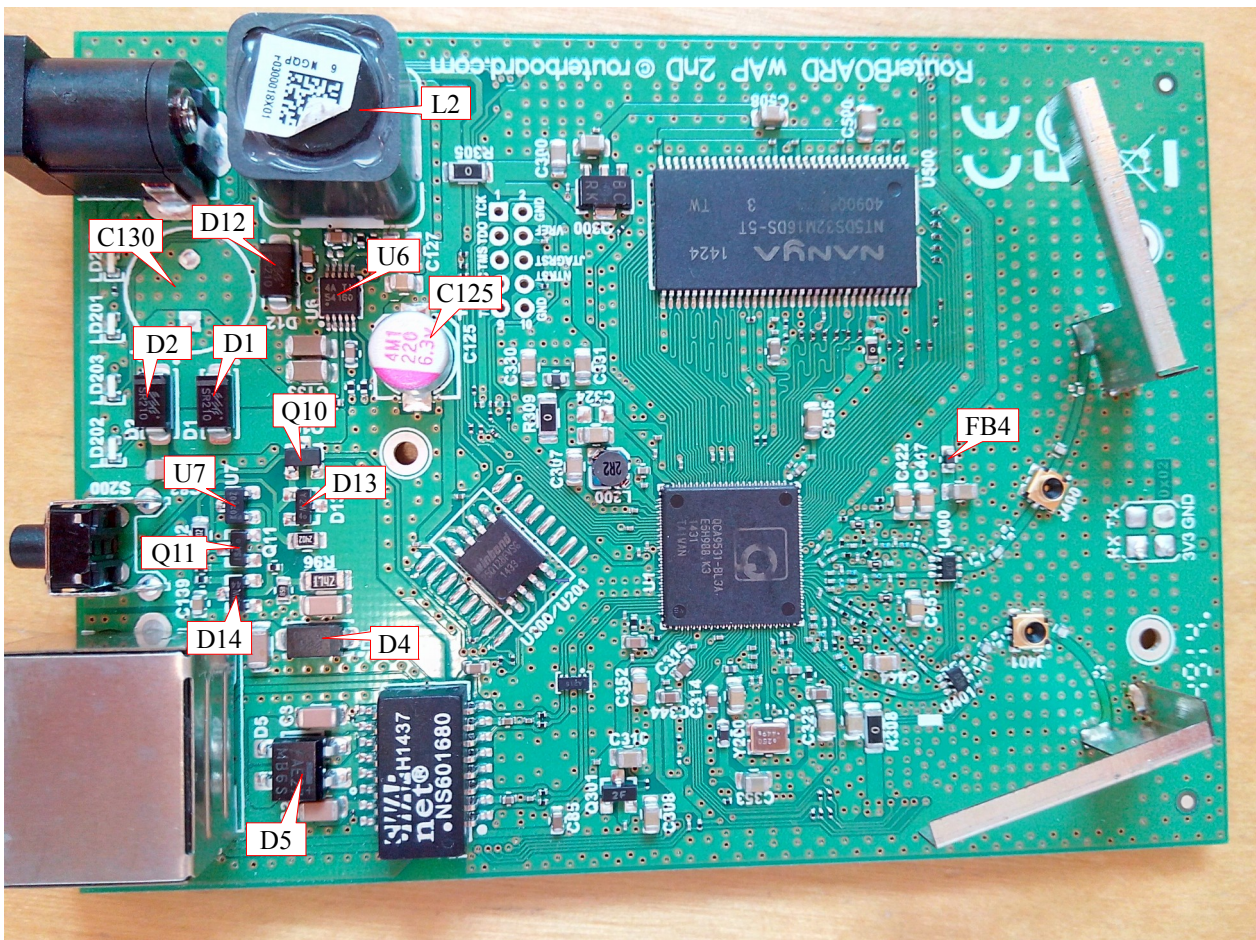
1. No power on 8-57V input



2. No Voltage on 3.3V output



4. Supply voltage components location on RouterBOARD



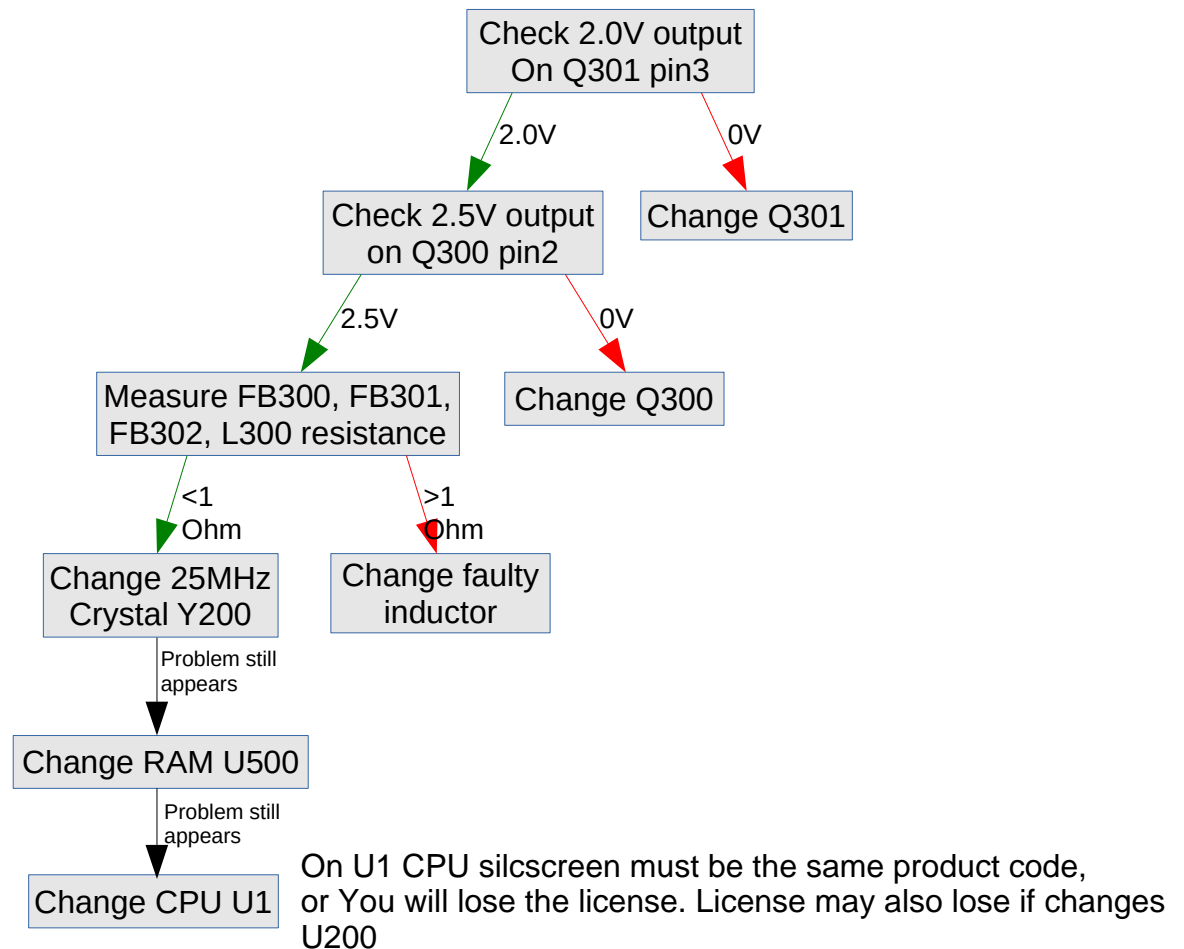
5. Supply voltage Components table

Reference	Manufacturer code	Description	Manufacturer
C125	MP6RL220MC6	Capacitor PolymerAl 220uF 20% 6.3V 6.3x6 TH P=2.5 2000h 3.16A 15mOhm	Matsuki Polymer Technology CO., LTD.
C130	HF063M101G13P787C35R	Capacitor elec 100uF 20% 63V 10x13 TH P=5 5000h 0.55A 0.25Ohm HF-series 105C	KUAN KUN ELECTRONIC ENTERPRISE CO., LTD. (Su-scon)
D1, D2, D4, D5	B2100AF	Diode Schottky 100V 2A SMA	Lite-On Semiconductor corporation
D5	HD02	0.8A 200V Rectifier Bridge	Lite-On Semiconductor corporation
D13	BZ84C12-7-F	Diode Zener BZ84C 12V 6% 350mW SOT23	Diodes Incorporated
D14	BZ84C5V6-7-F	Diode Zener BZ84C 5.6V 7.1% 350mW SOT23	Diodes Incorporated
FB4	CB03YTYH331	Ferrite Bead 330 Ohm 1.5A 0603	Viking Tech Corporation
L2	BCRH1212Y-680M	Inductor 68uH +/-20% 3.5A 63mOhm, RoHS, Tape&Reel	Bao Cheng Electronics Co.,Ltd.,
Q10	LTC2303	MOSFET P-ch -20V -4.7A 70mOhm 1.5V level SOT-23	Lite-On Semiconductor corporation
Q11	BSS123LT1G	MOSFET N-Ch 100V 170mA 6 Ohm 3V level SOT-23	ON Semiconductor [ONS]
U6	TPS54160DGQR	DC/DC Buck converter non-sync 60V in 1.5A out 10-MSOP RoHS Tape&Reel	Texas Instruments
U7	RT9818C-29GVL	IC Voltage Detector 2.9V 220ms SOT23-3 Low Open-Drain	Richtek Technology Corporation

Routerboard does not boot

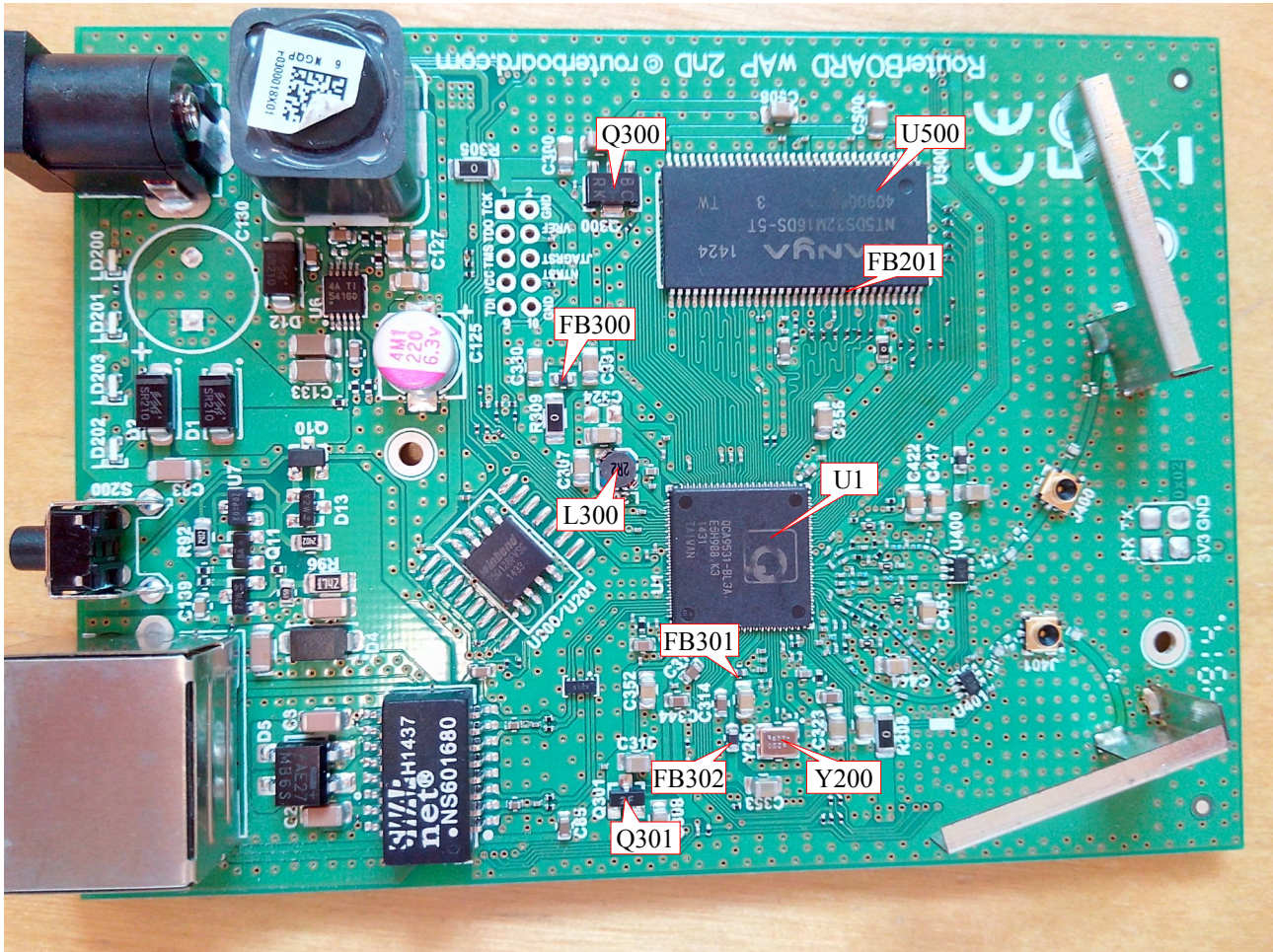
If Netinstall can see the board, but can not install it

1. Troubleshooting flow chart



If you still can't install Board, please send it to RMA.

2. Components location on RouterBOARD



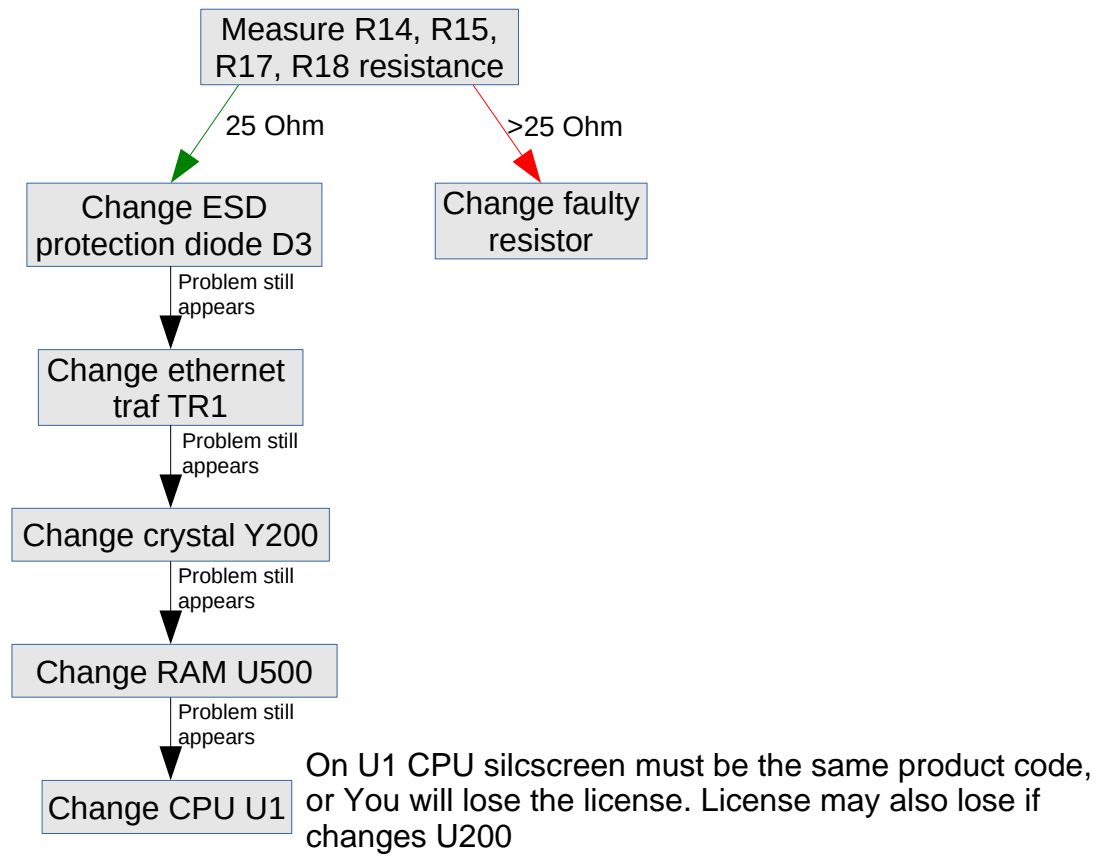
3. Components table

Reference	Manufacturer code	Description	Manufacturer
FB300, FB302	CB03YTYH331	Ferrite Bead 330 Ohm 1.5A 0603	Viking Tech Corporation
FB301	BK1005HS121-T	Ferrite Bead 120 Ohm 500mA 0402	Taiyo Yuden Co. Ltd.
L300	BCRH2D18B/HP-2R2N-NL	Inductor 2.2uH 30% 1.48A 3.2x3.2x2 RoHS	Bao Cheng Electronics Co.,Ltd.,
Q300	DXT2907A-13	Transistor PNP -60V -600mA 0.5W Hfe=100-300 SOT89 RoHS	Diodes Incorporated
Q301	MMBT2907A	Transistor PNP -60V -600mA 250mW Hfe=100-300 SOT-23	Lite-On Semiconductor corporation
U1	QCA9533-BL3A	QCA9533B CHIPSET: 2x2 SB 4+1 Fast Ethernet, No USB, No PCIE (Cu)	Qualcomm Atheros Technology Ltd.
U500	NT5DS32M16DS-5T	DDR SDRAM 512Mbit DDR400 32Mx16bit TSOPII-66 0+70C RoHS	NANYA TECHNOLOGY CORPORATION [F]

Ethernet port does not work

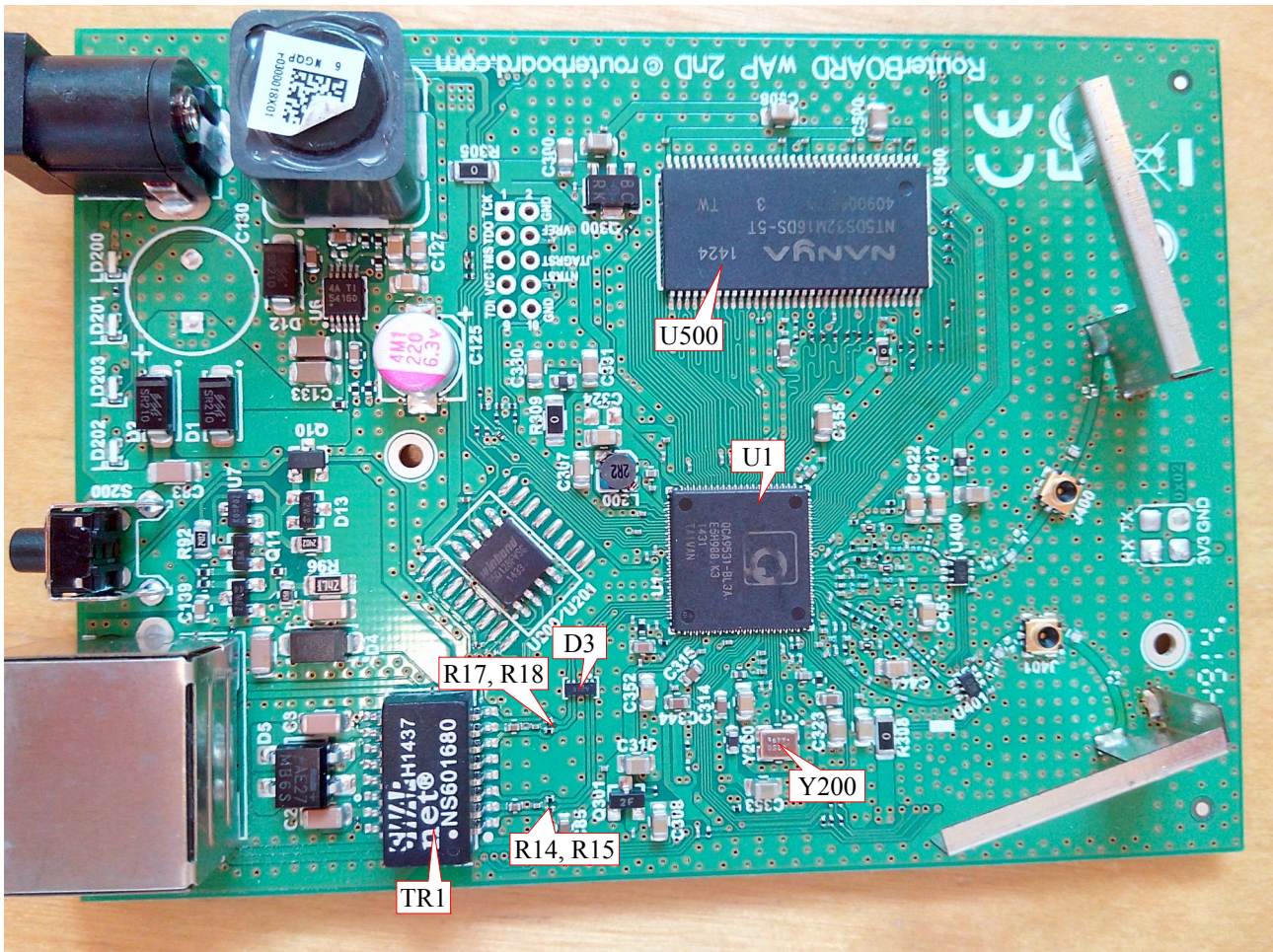
No link on Ethernet port

1. Troubleshooting flow chart



If there is still no link on ethernet port, please send board to RMA.

2. Components location on RouterBOARD



3. Components table

Reference	Manufacturer code	Description	Manufacturer
D3	L15ESDL5V0NA-4	Diode Array TVS 150W 4 channel low cap DFN-10	Lite-On Semiconductor corporation
R14, R15, R17, R18	RC0201FR-0749R9L	Resistor 49.9R 1% 0201	Yageo Corporation
U1	QCA9533-BL3A	QCA9533B CHIPSET: 2x2 SB 4+1 Fast Ethernet, No USB, No PCIE (Cu)	Qualcomm Atheros Technology Ltd.
U500	NT5DS32M16DS-5T	DDR SDRAM 512Mbit DDR400 32Mx16bit TSOPII-66 0+70C RoHS	NANYA TECHNOLOGY CORPORATION [F]
TR1	NS601680	10/100 Single Ethernet transformer SMD 16pin RoHS T&R	Feel Cherng Enterprise CO., LTD.
Y200	NXK25.000AE18F-KAB6-2	Crystal 25MHz 20ppm 18pF -20+70 3.2x2.5	NSK Jenjaan Quartek Corporation

WiFi does not work

1. Troubleshooting flow chart

- Change U400, U401

- Change Y200

- Change U1

On U1 CPU silcscreen must be the same product code,
or You will lose the license. License may also lose if changes U200

If there WiFi still does not work, please send board to RMA.

2. Components table

Reference	Manufacturer code	Description	Manufacturer
U1	QCA9533-BL3A	QCA9533B CHIPSET: 2x2 SB 4+1 Fast Ethernet, No USB, No PCIE (Cu)	Qualcomm Atheros Technology Ltd.
U400, U401	RTC6603	RF SPDT Switch 0.1-3GHz SC-70 Tape&Reel	Richwave
Y200	NXK25.000AE18F-KAB6-2	Crystal 25MHz 20ppm 18pF -20+70 3.2x2.5	NSK Jenjaan Quartek Corporation