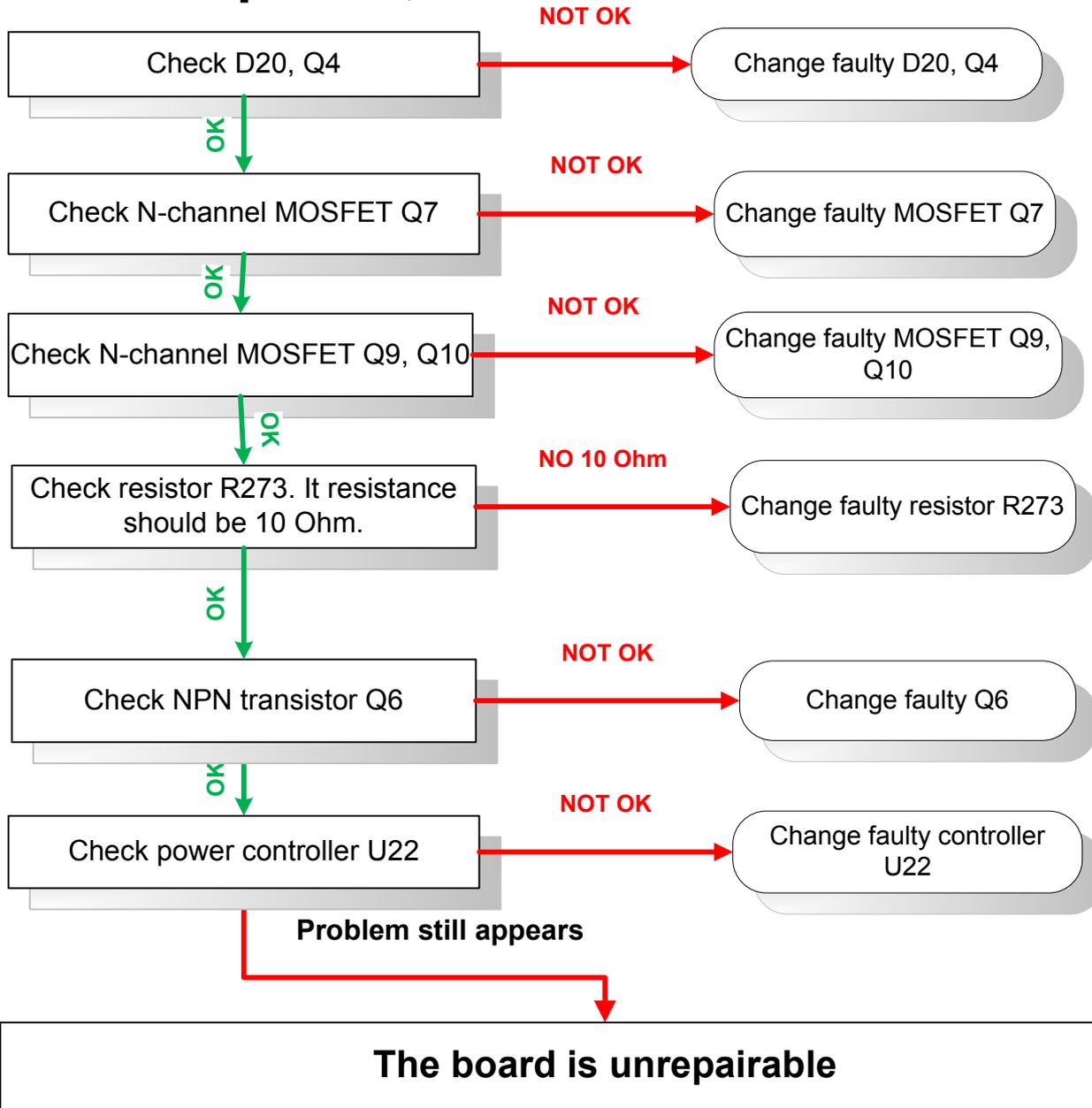
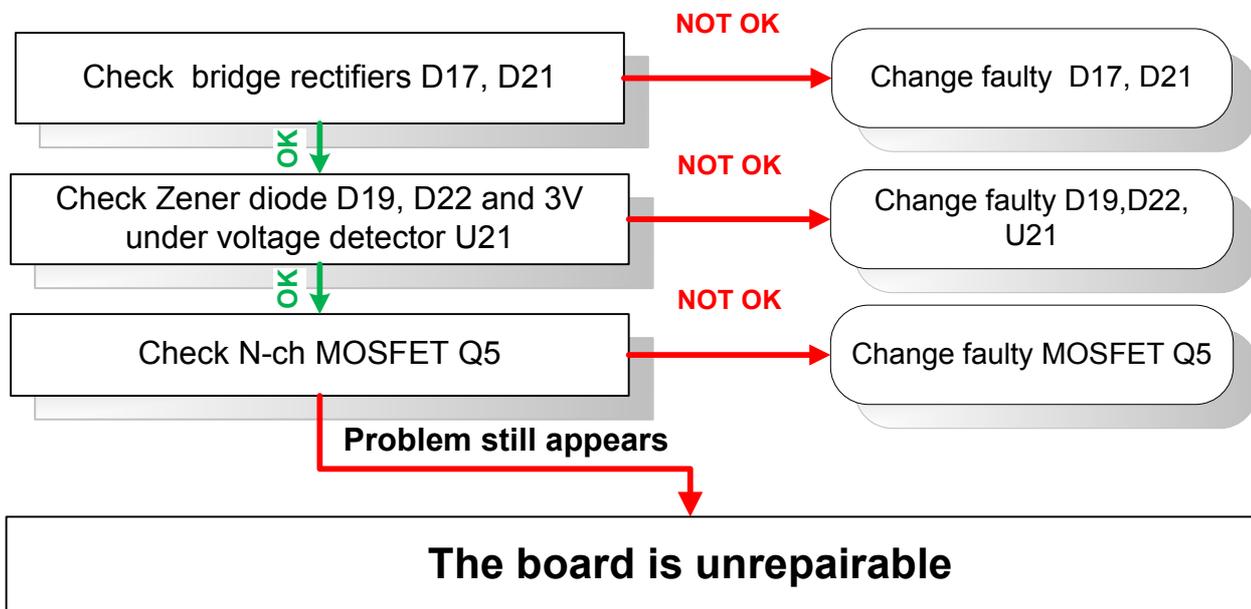


TroubleShooting for RB800r2v5

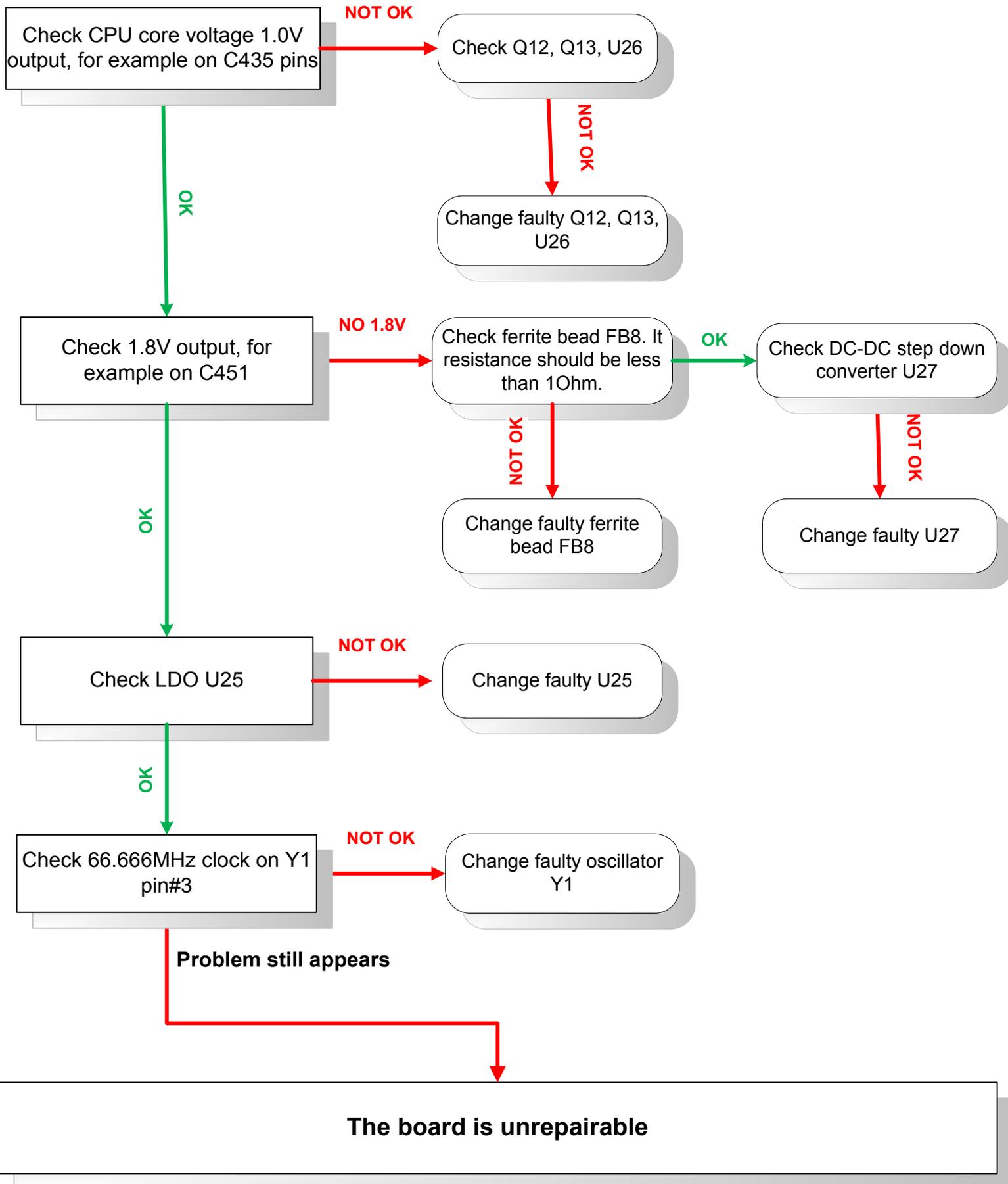
No power, blue LED doesn't shine



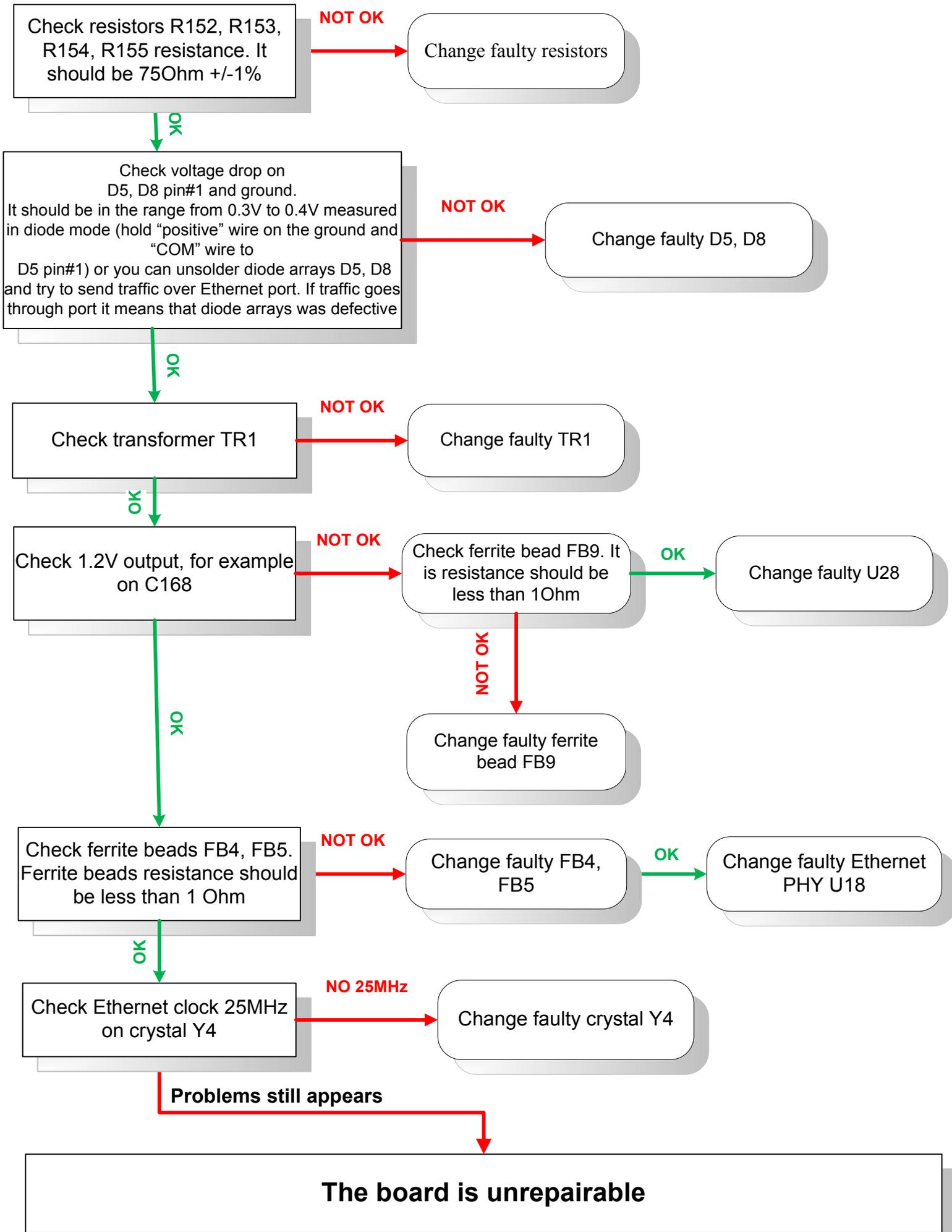
PoE doesn't work



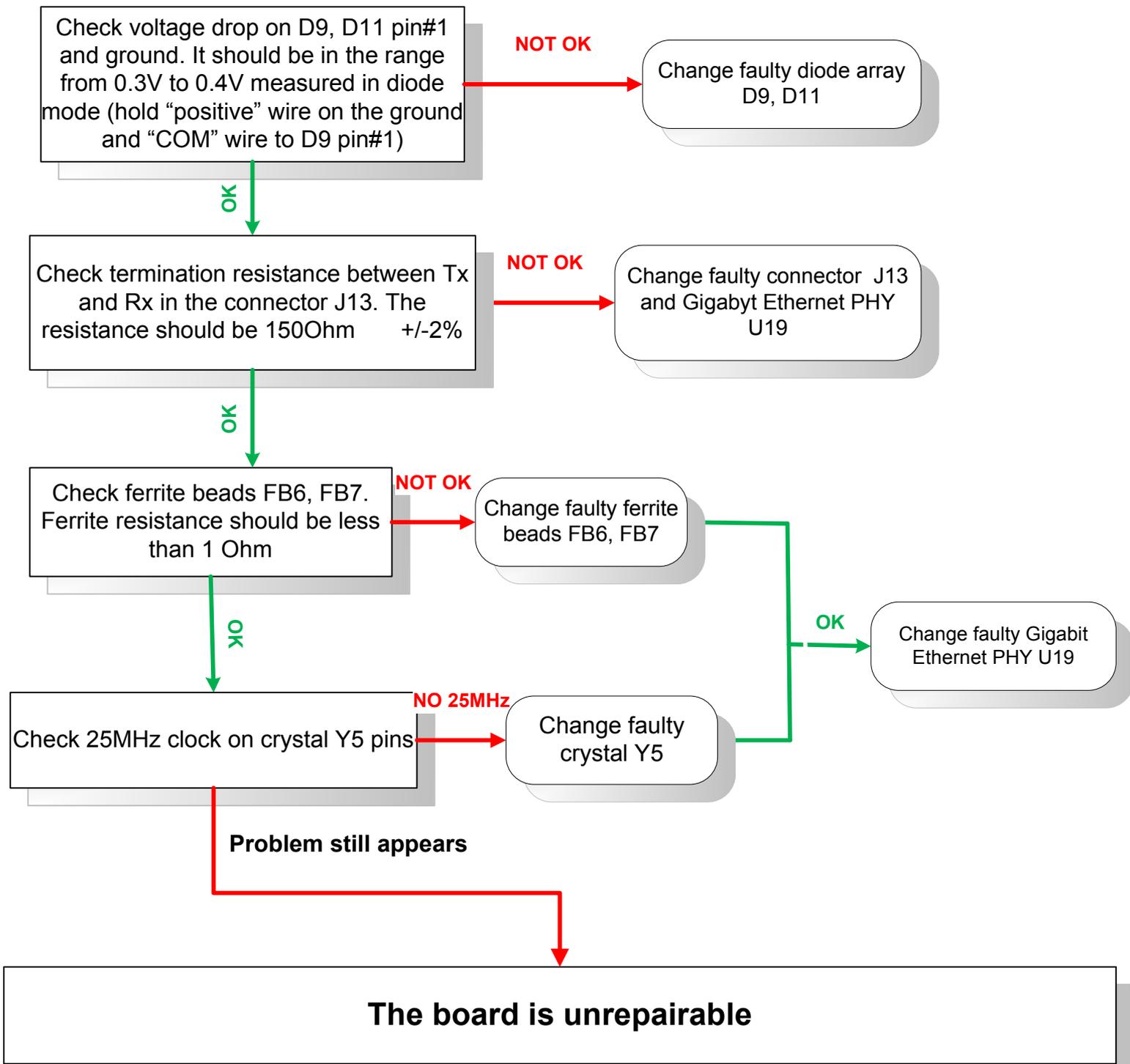
Doesn't boot, blue LED is ON



Ethernet1 doesn't work, drops ping packets



Ethernet2 doesn't work, drops ping packets



Ethernet3 doesn't work, drops ping packets

Check voltage drop on D1, D3 pin#1 and ground. It should be in the range from 0.3V to 0.4V measured in diode mode (hold "positive" wire on the ground and "COM" wire to D1 pin#1)

NOT OK

Change faulty diode array D1, D3

OK

Check termination resistance between Tx and Rx in the connector J13. The resistance should be 150Ohm +/-2%

NOT OK

Change faulty connector J13 and Gigabyt Ethernet PHY U19

OK

Check ferrite beads FB2, FB13, FB14. Ferrite beads resistance should be less than 1 Ohm

NOT OK

Change faulty FB2, FB13, FB14

NOT OK

Change faulty Gigabit Ethernet PHY U16

OK

Check 1.6-1.7V on C160 pins

NO 1.6V

Change faulty Gigabit Ethernet PHY U16

OK

Check Ethernet clock 25MHz on R97 pins

NO 25MHz

Check Ethernet clock 25MHz on crystal Y3 pins

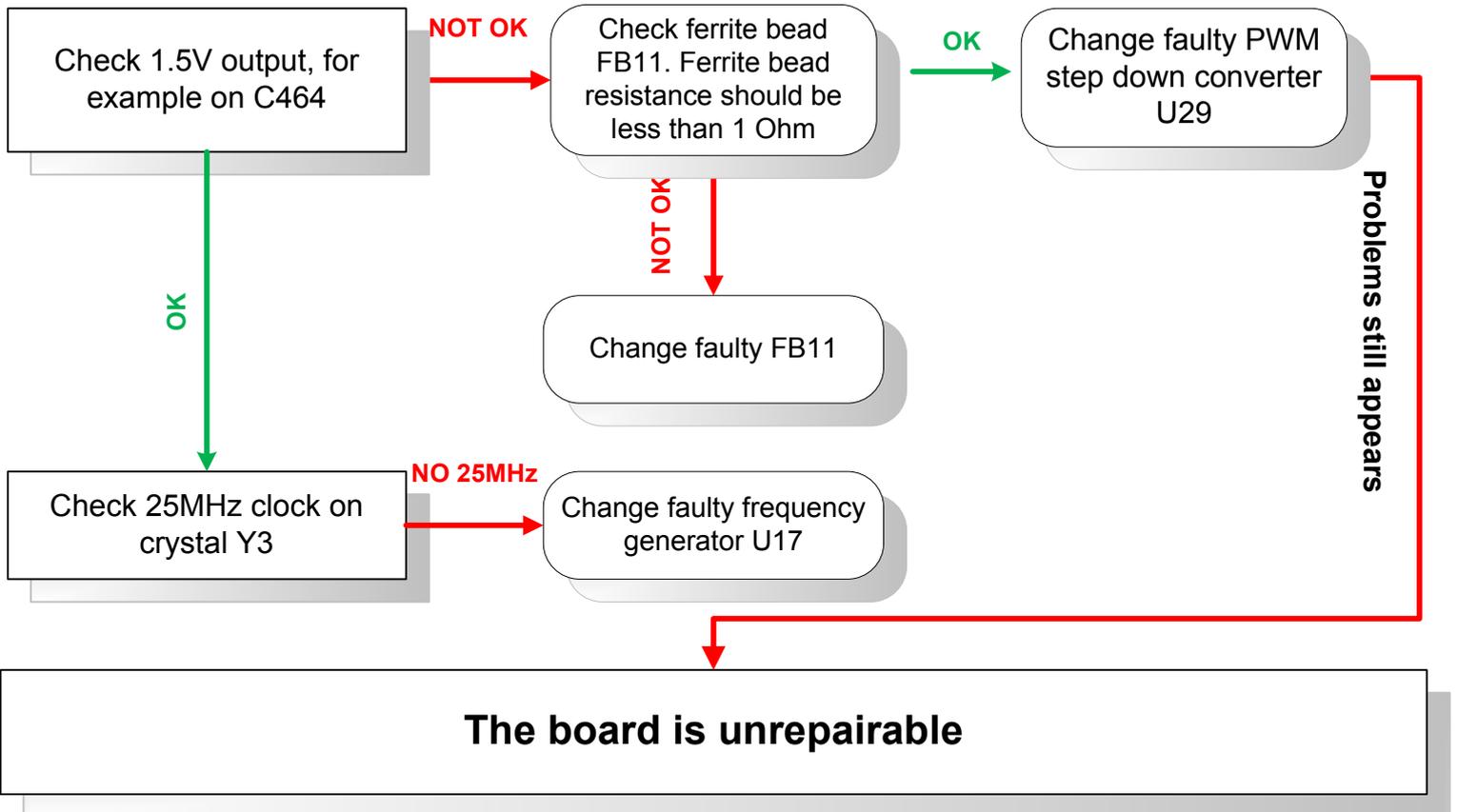
NO 25MHz

Change frequency generator U17

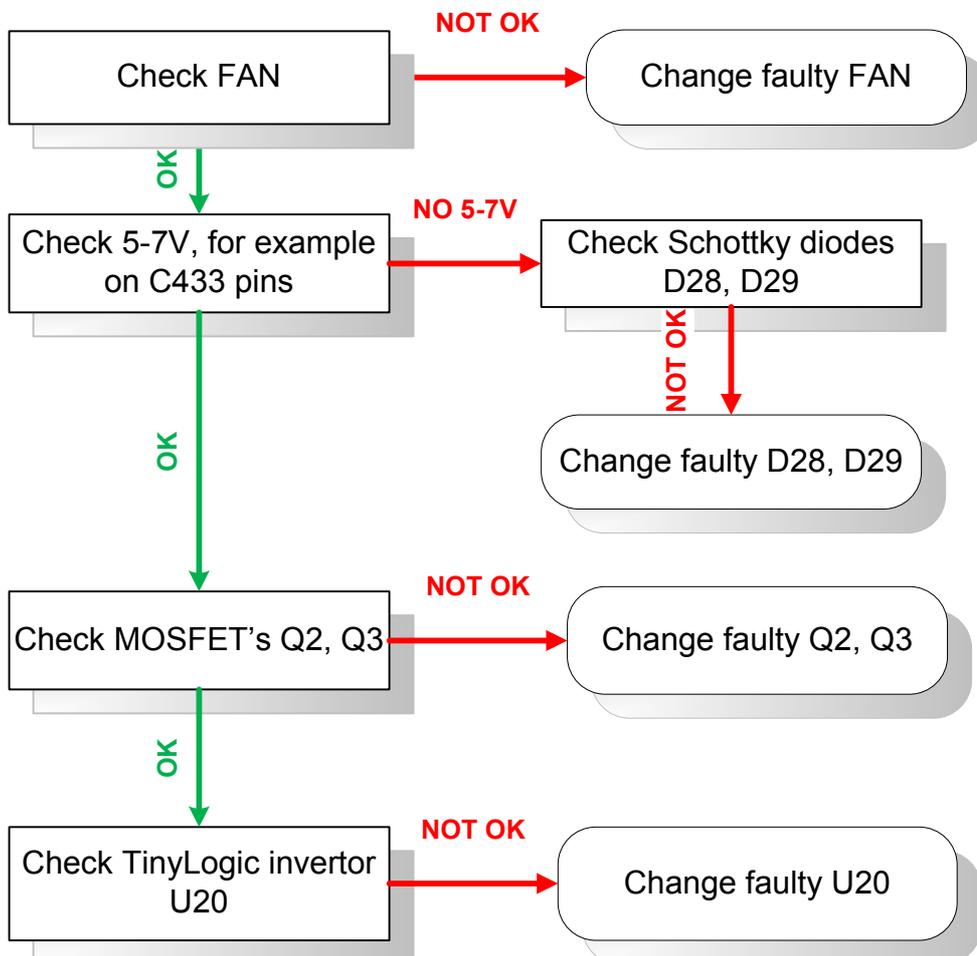
Problem still appears

The board is unrepairable

MiniPCI-Express doesn't work



FAN doesn't work



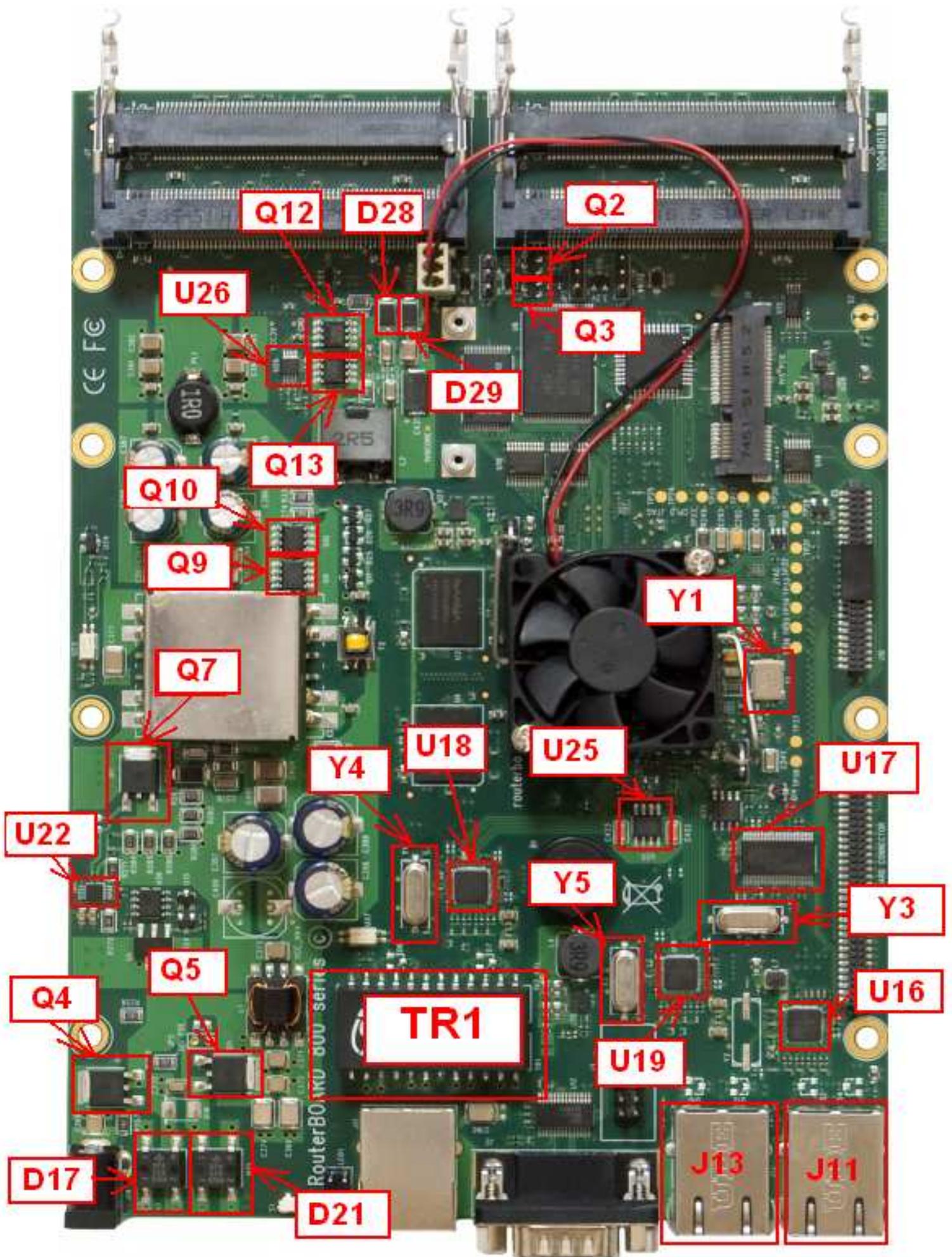
Reference number	Part Number	Manufacturer	Description
D1, D3, D5, D8, D9, D11	AOZ8000CIL	Alpha & Omega	IC TVS ARRAY LOW-CAP SOT23-6
D17, D21	DF02SA-E3/77	Vishay Intertechnology, Inc.	Bridge Rectifier, 1A 200V, DFS
D19	BZX84C6V8LT1G	ON Semiconductor	Diode Zener BZX84C 6.8V 5.9% 225mW SOT23
D20	BZX84C10/SOT23-GP	SINYORK CO., LTD.	Zener Diode BZX84C10 SOT23
D28, D29	FM2100/SMA-GP	SINYORK CO., LTD.	Diode Schottky FM2100 Vf=0.85V Vr=100V If=2A SMA
D22	BZX84C6V8LT1G	ON Semiconductor	Diode Zener BZX84C 6.8V 5.9% 225mW SOT23
FB2, FB13	BLM15AG121SN1D	Murata manufacturing Co.	Ferr Chip Beads 120 Ohm 500mA, 0402, FB120
FB4, FB6, FB14	BLM15AG121SN1D	Murata manufacturing Co.	Ferr Chip Beads 120 Ohm 500mA, 0402, FB120
FB5, FB7	BLM15PD121SN1D	Murata manufacturing Co.	Ferr Chip Beads 120 Ohm $\pm 25\%$, 1300mA, 0402
FB8, FB9	BLM18PG331SN1D	Murata manufacturing Co.	Ferr Chip Beads 330 Ohm 1200mA, 0603
FB11	RC1608J000CS	Samsung Electronics Co.	Resistor 0R 5% Jumper 0603
J11, J13	RB1-216BAK1A	U.D. Electronic Corp.	RJ45 Ethernet connector 10/100/1000 , LEDs(G/Y), without springs
Q2, Q3	2N7002,215	NXP Semiconductors	TRENCH MOSFET, SOT23
Q4, Q5, Q7	FDD3682	Fairchild Semiconductor [FSC]	100V, 32A, 36mOHM, 18.5nQ
Q6	BCP56-16T1G	ON Semiconductor	NPN Silicon Epitaxial Transistor
Q9, Q10	AO4484	Alpha & Omega	N-Ch MOSFET 40V 10A 10mOhm SO-8
Q12, Q13	AP4434GM	Advanced Power Electronics Corp.	N-ch MOSFET 20V 18.5mOhm 8.3A SO-8
R152-R155	RC0603FR-0775RL	Yageo Corporation	Resistor 0603 75,0R 1% 0,1W
R273	ERJ-2RKF10R0X	Panasonic	Resistor R10, 1%, 1/16W, 50V, 0402
TR1	15F-90NL	Yuan Dean Scientific Co., Ltd	10/100/1000 Transformer with PoE support
U16	AR8131-AL1E	Atheros Technology Ltd.	AR8131, QFN48-04MM, Gbe NIC, PCIe, 3V
U17	ICS9FG108DGLFT	IDT	Frequency Generator for CPU, QPI, FBD, PCIe & SATA, TSSOP48
U18, U19	AR8021-AL1E	Atheros Technology Ltd.	Single-port Gigabit Ethernet (GbE) PHY device
U20	NC7S04M5X	Fairchild Semiconductor [FSC]	1 TinyLogic HS Inverter

When you order components for repairing router boards from our sales, please, write components reference number not a part number

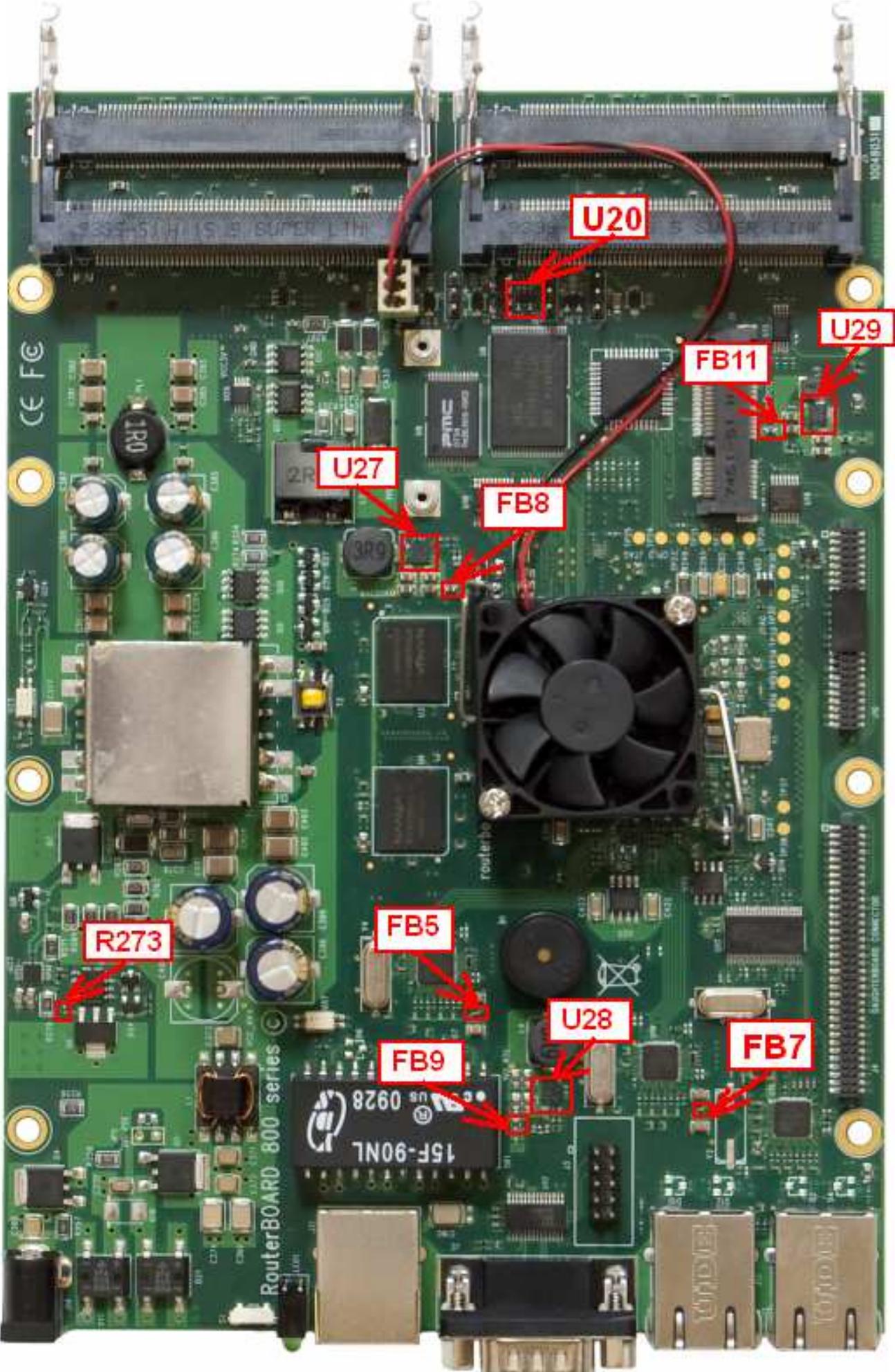
Reference number	Part Number	Manufacturer	Description
U21	LMS33460MGX/ NOPB	NATIONAL SEMICONDUCTOR [NSC]	3V Under Voltage Detector (lead free)
U22	LM5020MM-1/NOPB	NATIONAL SEMICONDUCTOR [NSC]	Power Controller MSOP10
U25	RT9183HPS	Richtek Technology Corporation	1.5A Adj LDO SO8
U26	TPS40009DGQ	Texas Instruments	600kHz, 2.25-5.5Vin/0.7-5.0Vout
U27, U28	RT8011APQW	Richtek Technology Corporation	DC-DC Step down converter, WDFN-8E
U29	RT8010APQW	Richtek Technology Corporation	High Efficiency PWM Step- Down DC/DC Converter
Y1	NAOD66.666-C3C	NSK Jenjaan Quartek Corporation	Crystal oscillator 7*5, +/-30PPM
Y3, Y4, Y5	NXE25.000AC20F- AHF	NSK Jenjaan Quartek Corporation	25Mhz Crystal

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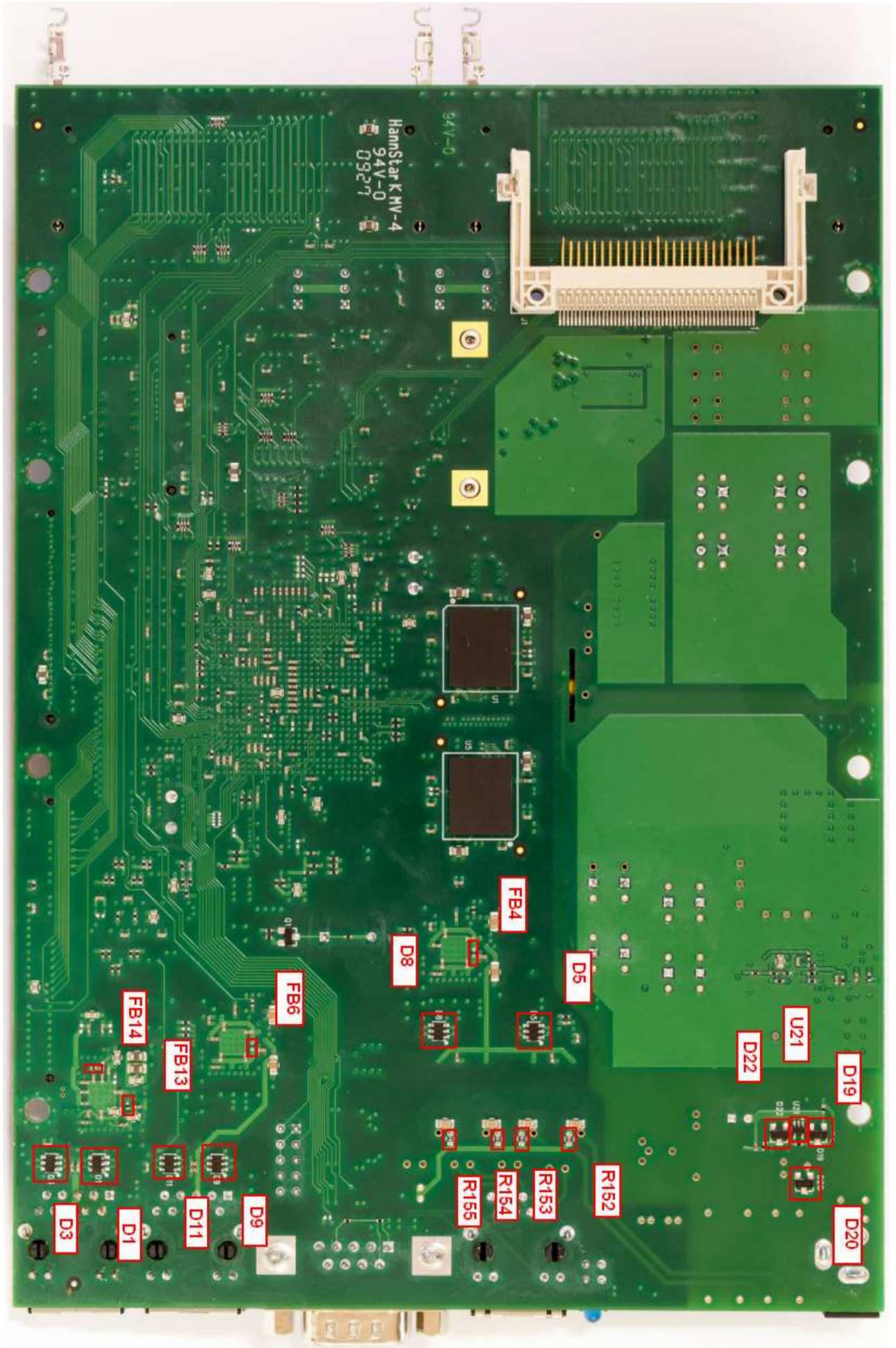
RB800r2v5 Reference picture



RB800r2v5 Reference picture



RB800r2v5 Reference picture



RB800r2v5 Reference picture

