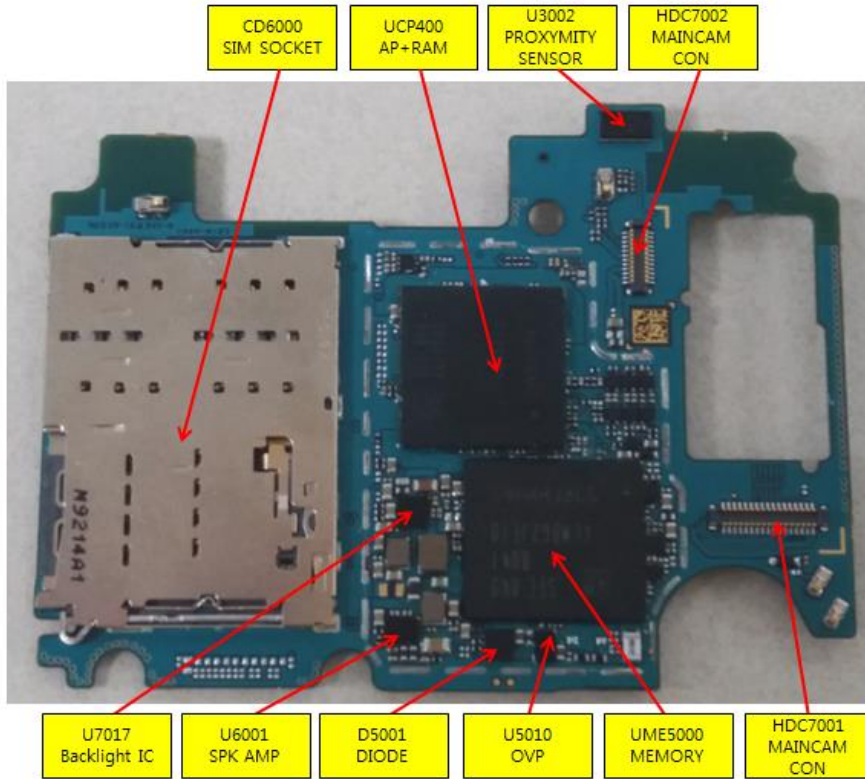


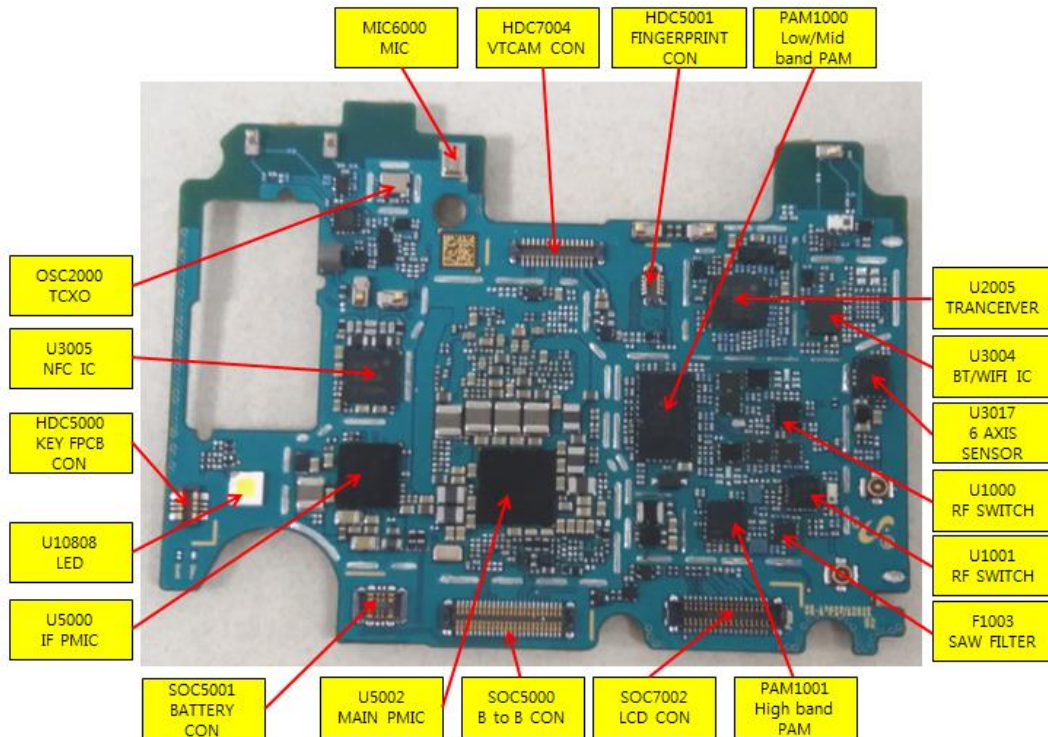
8. Level 3 Repair

8-1. Components Layout

MAIN PBA (TOP SIDE)

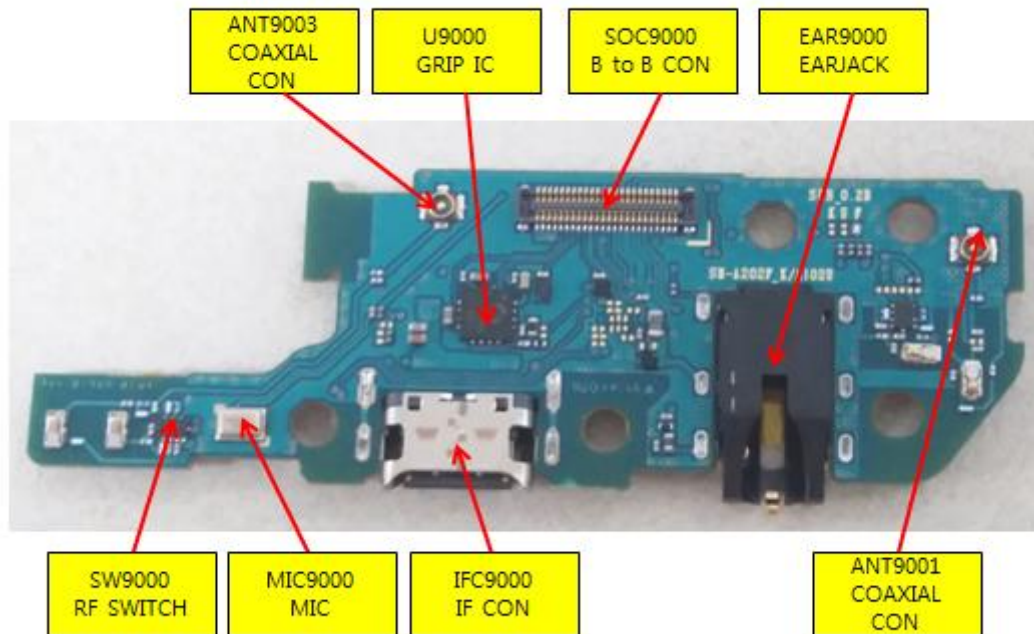


MAIN PBA (BOTTOM SIDE)

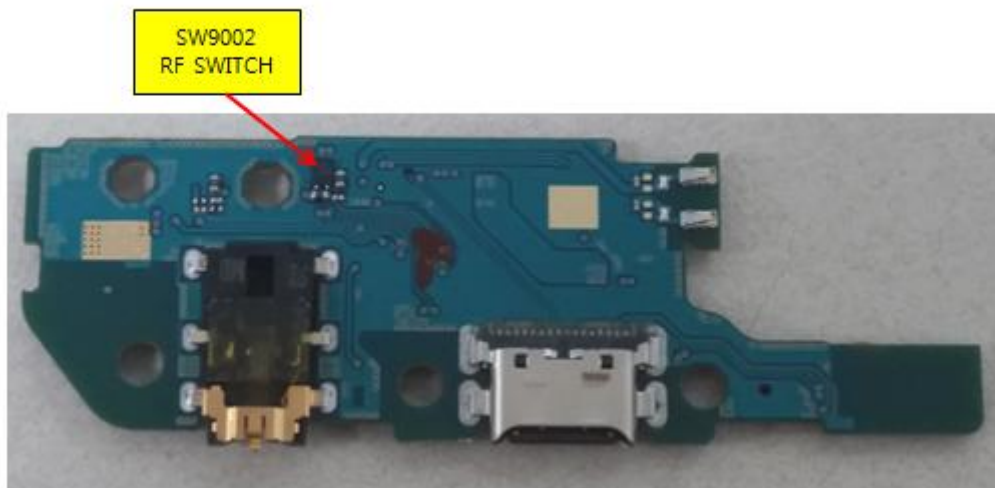


8. Level 3 Repair

SUB PBA (TOP SIDE)



SUB PBA (BOTTOM SIDE)

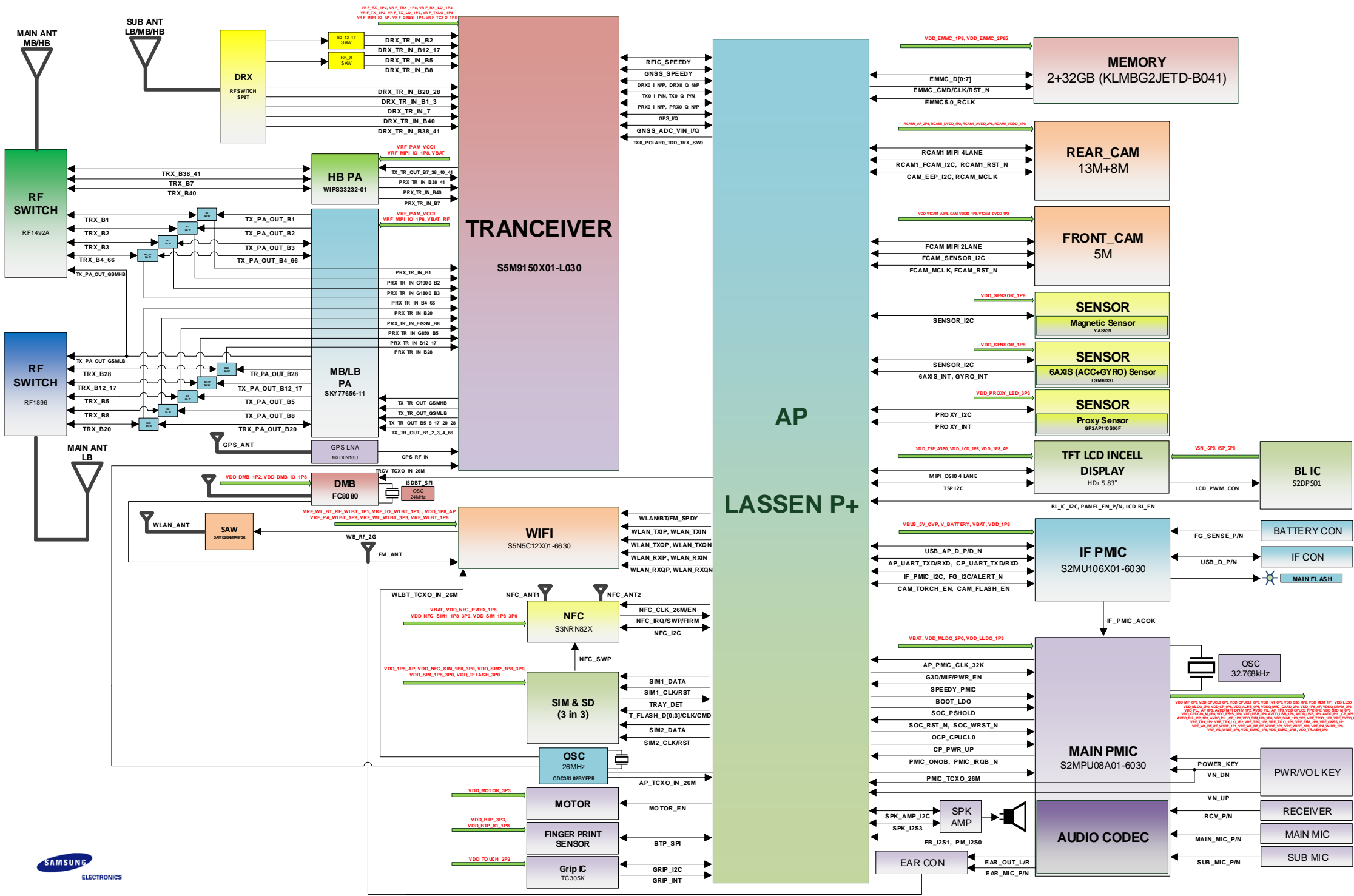


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A20e Block Diagram



ANT6004

U3002

CD6000

SC6000

UCP400

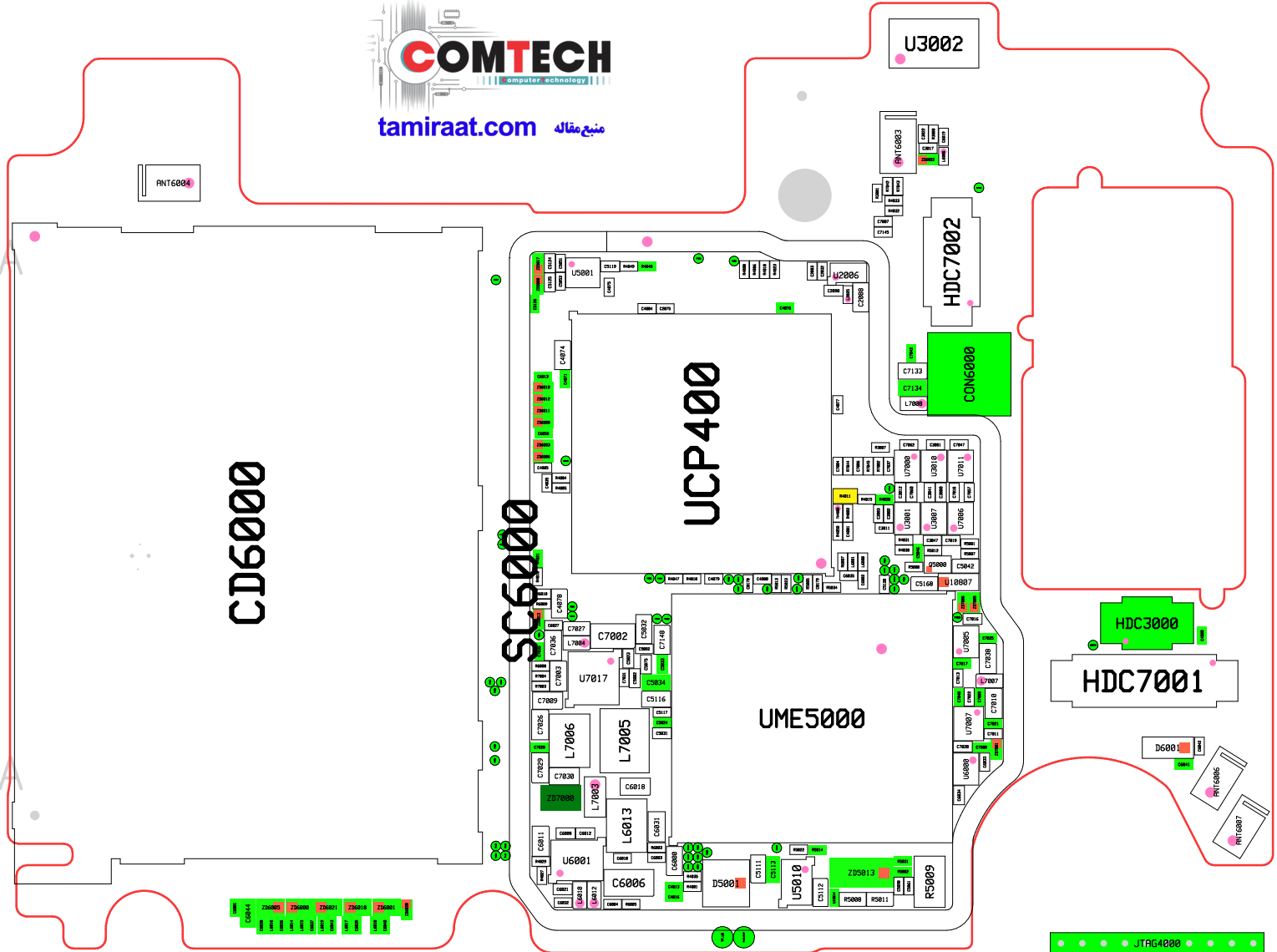
HDC7002

CCNG5000

HDC3000
HDC7001

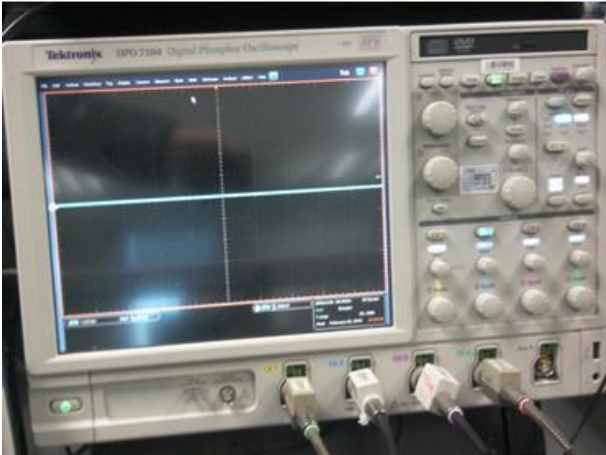
UME5000

CD6014
Z20003
Z20006
Z20021
Z20018
Z20041



8. Level 3 Repair

8-3. Flow chart of Troubleshooting.



Oscilloscope



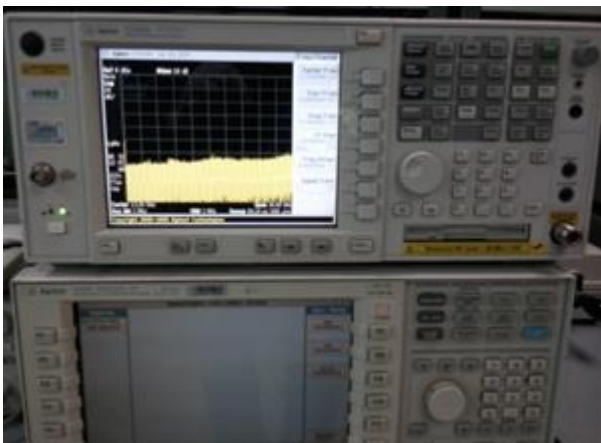
Digital Multimeter



Power Supply



+ driver, ESD Safe Tweezer



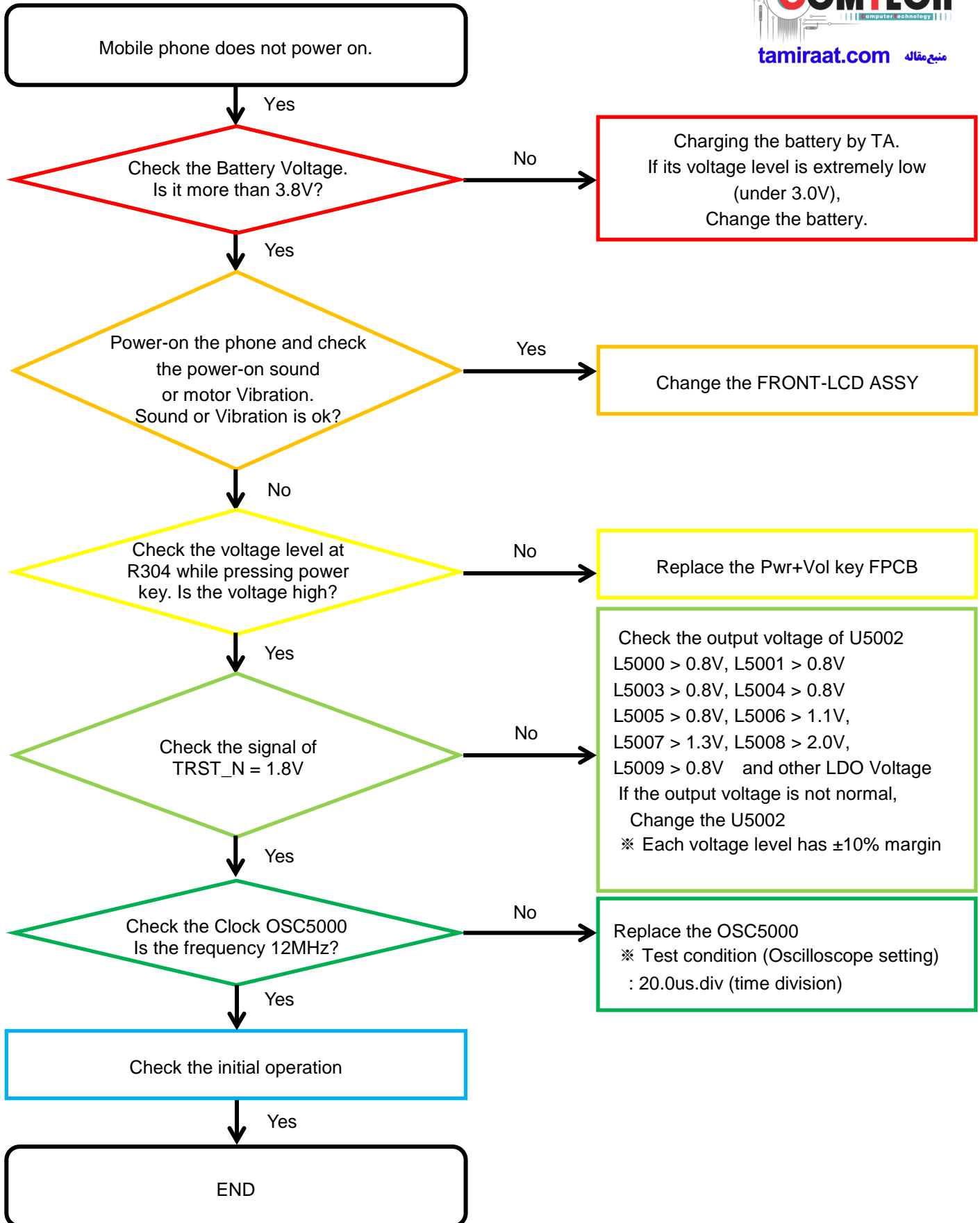
8960 & Spectrum Analyzer



Soldering iron

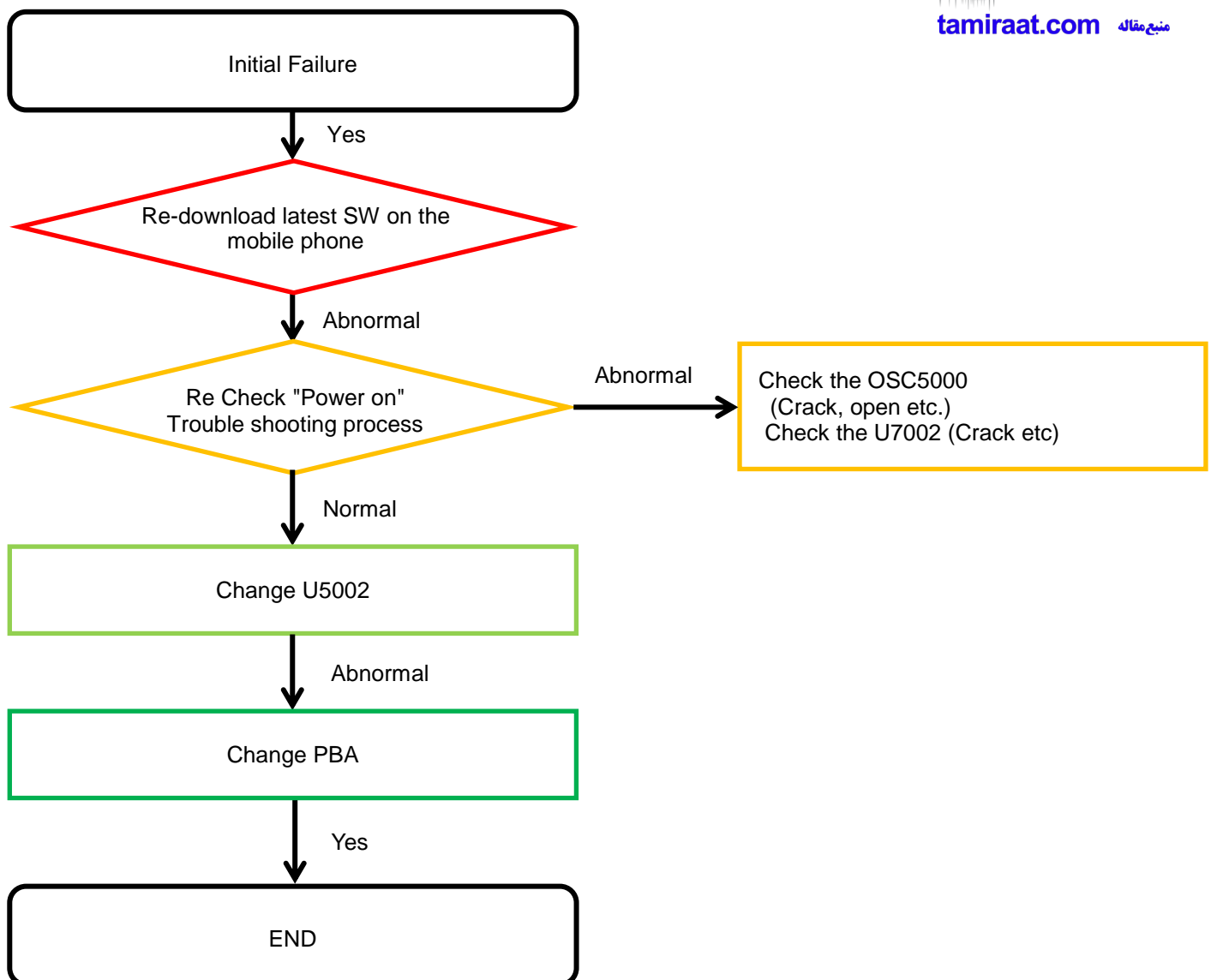
8. Level 3 Repair

8-4-1. Power On



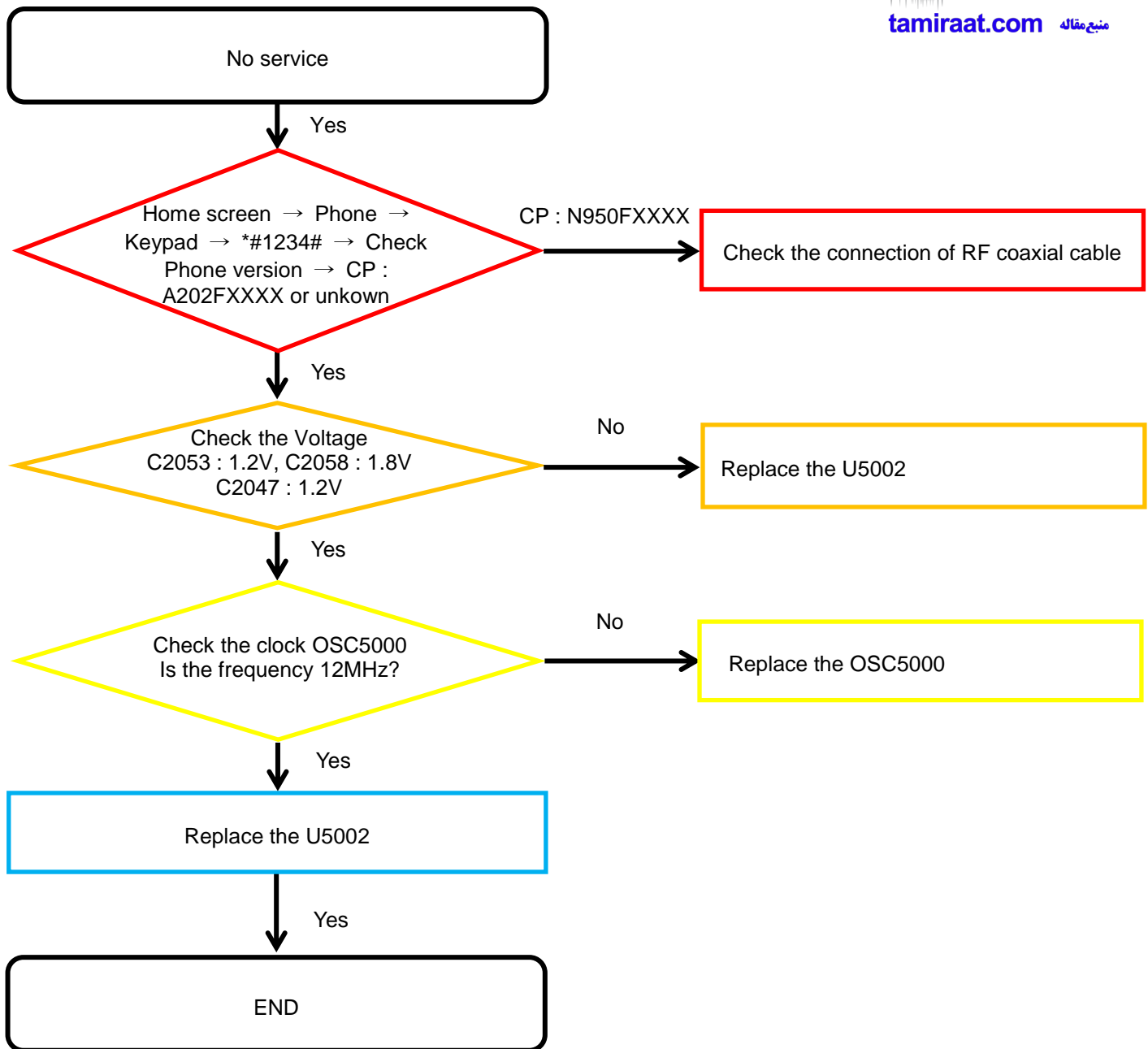
8. Level 3 Repair

8-4-2. Initial



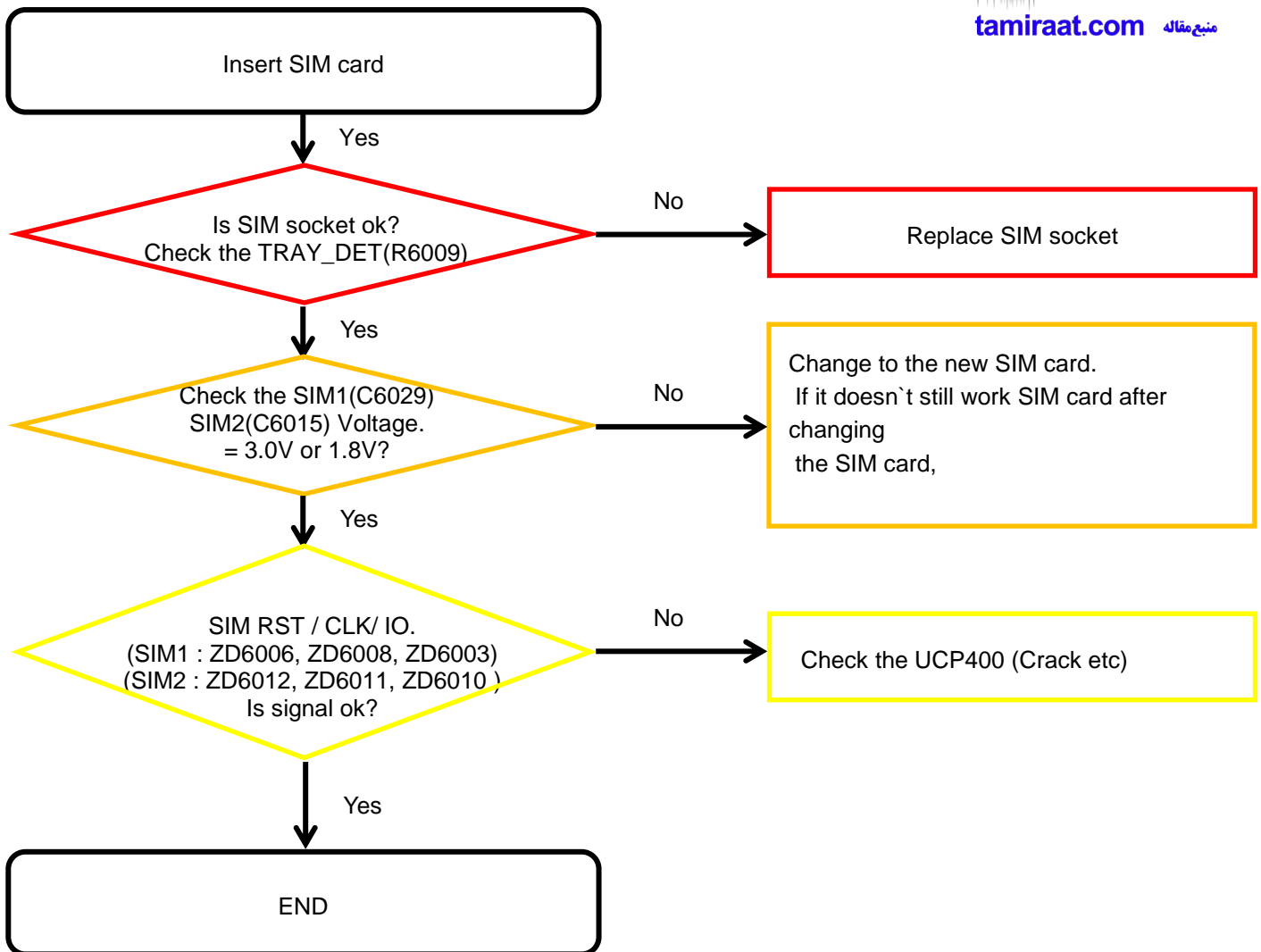
8. Level 3 Repair

8-4-3. No Service



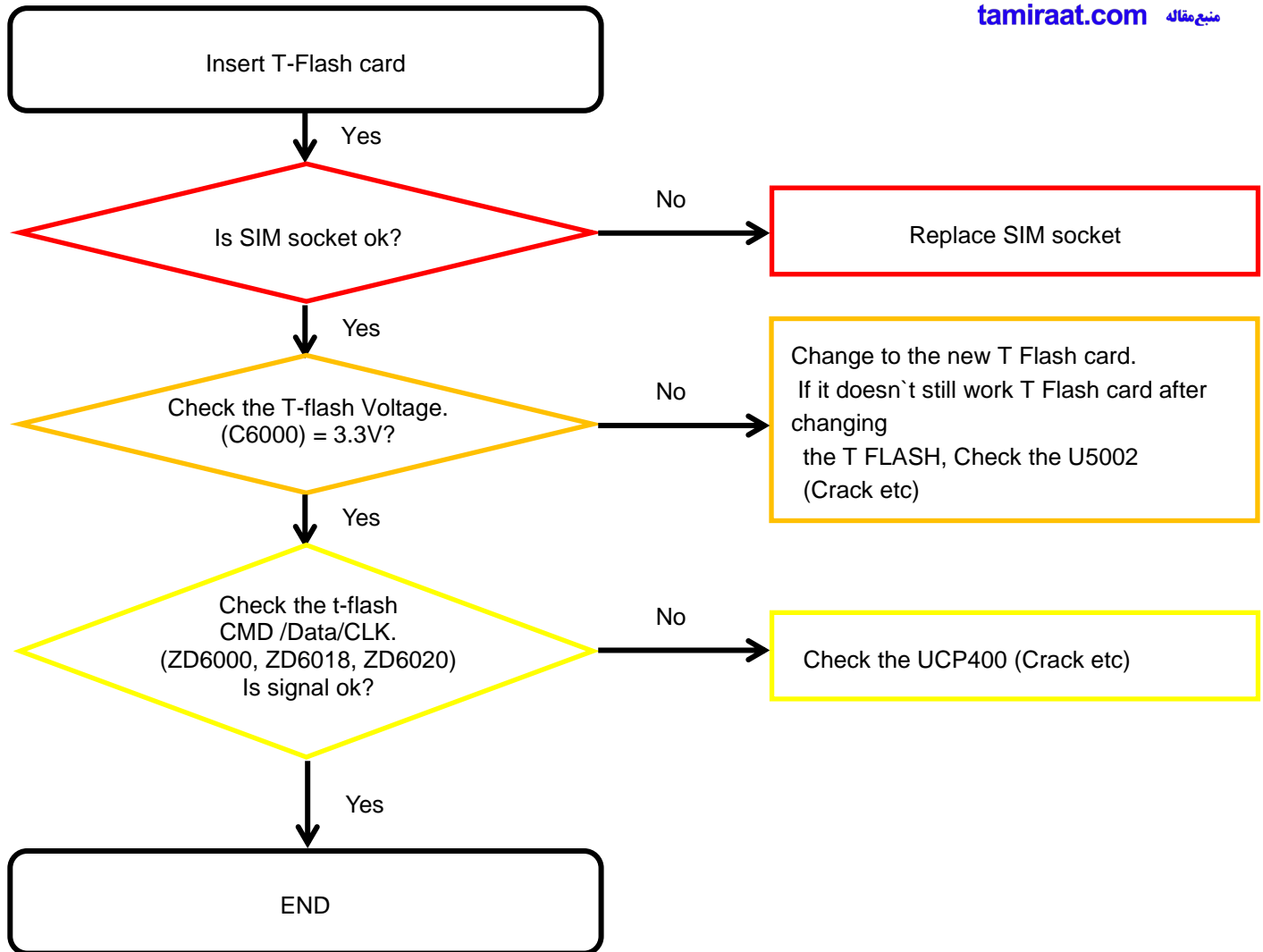
8. Level 3 Repair

8-4-4. SIM Part



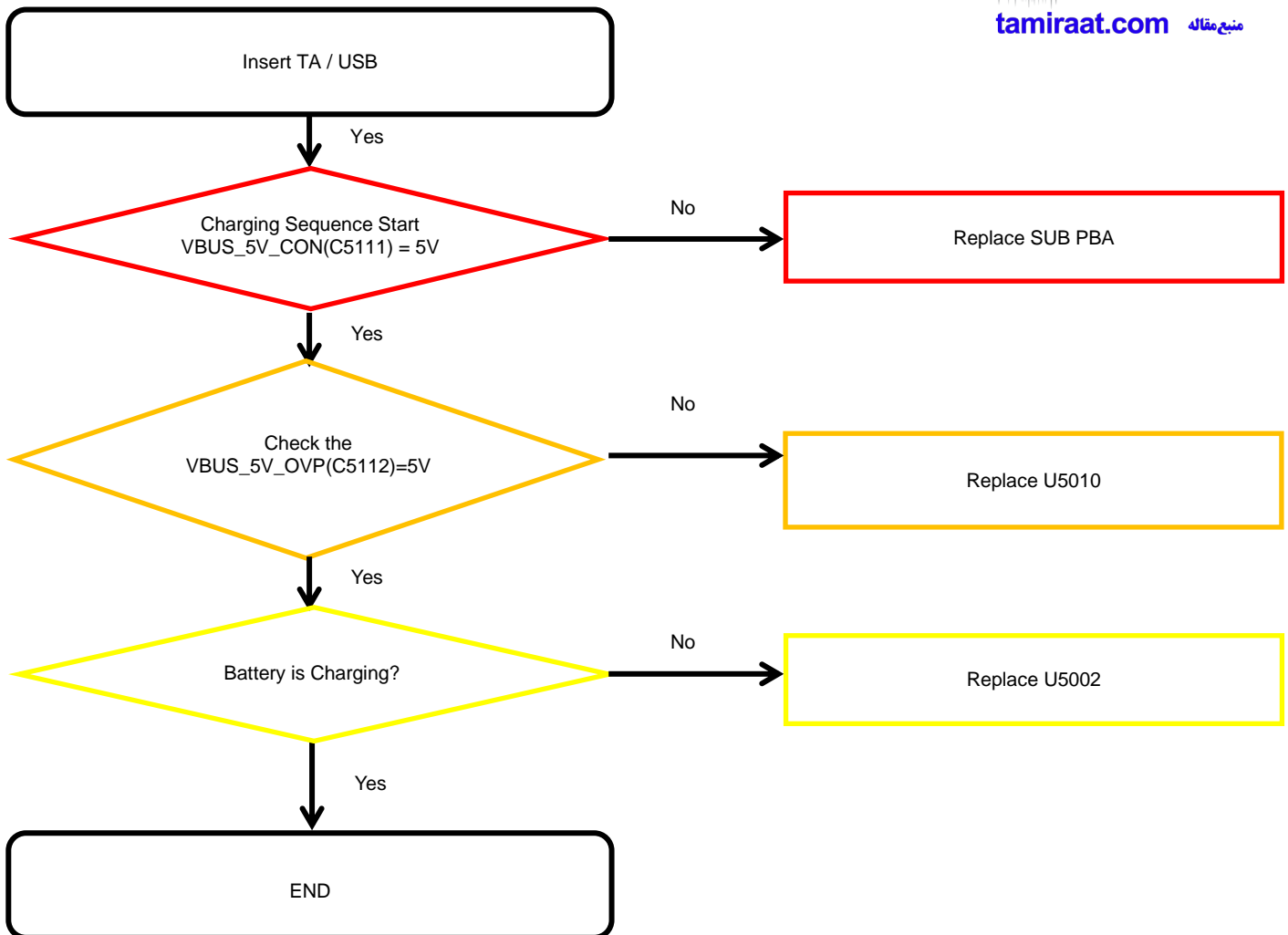
8. Level 3 Repair

8-4-5. T-Flash Part



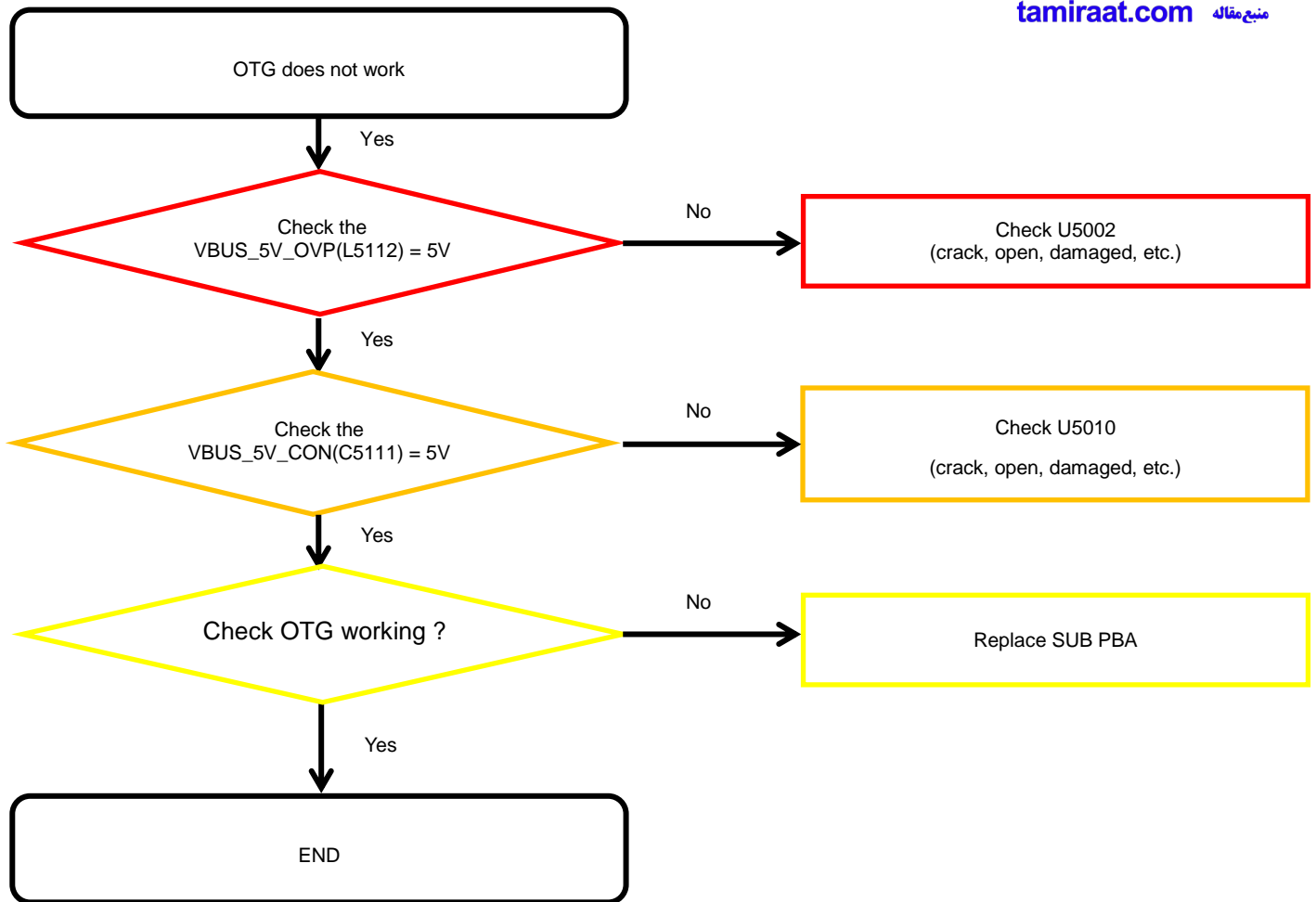
8. Level 3 Repair

8-4-6. Cable Charging Part (Normal)



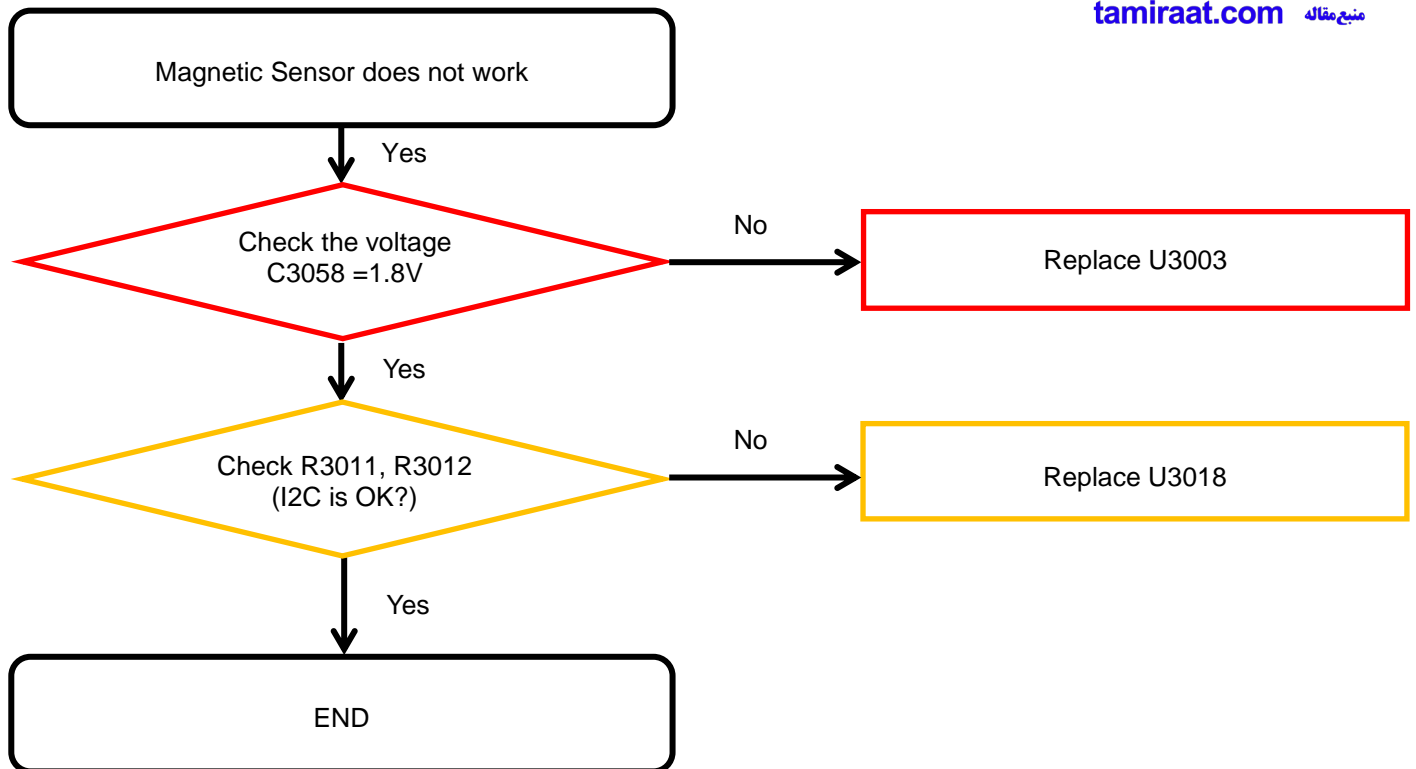
8. Level 3 Repair

8-4-7. OTG



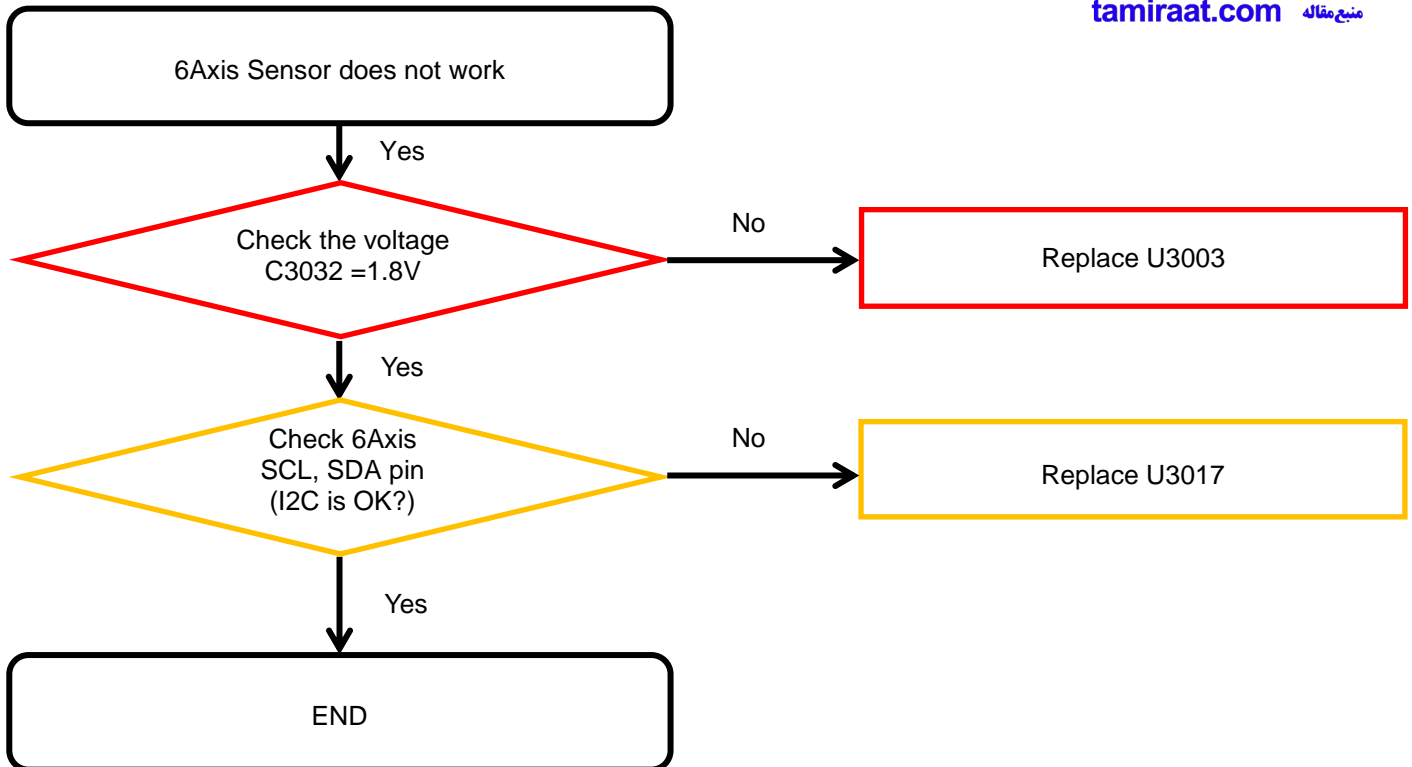
8. Level 3 Repair

8-4-8-1. Magnetic Sensor



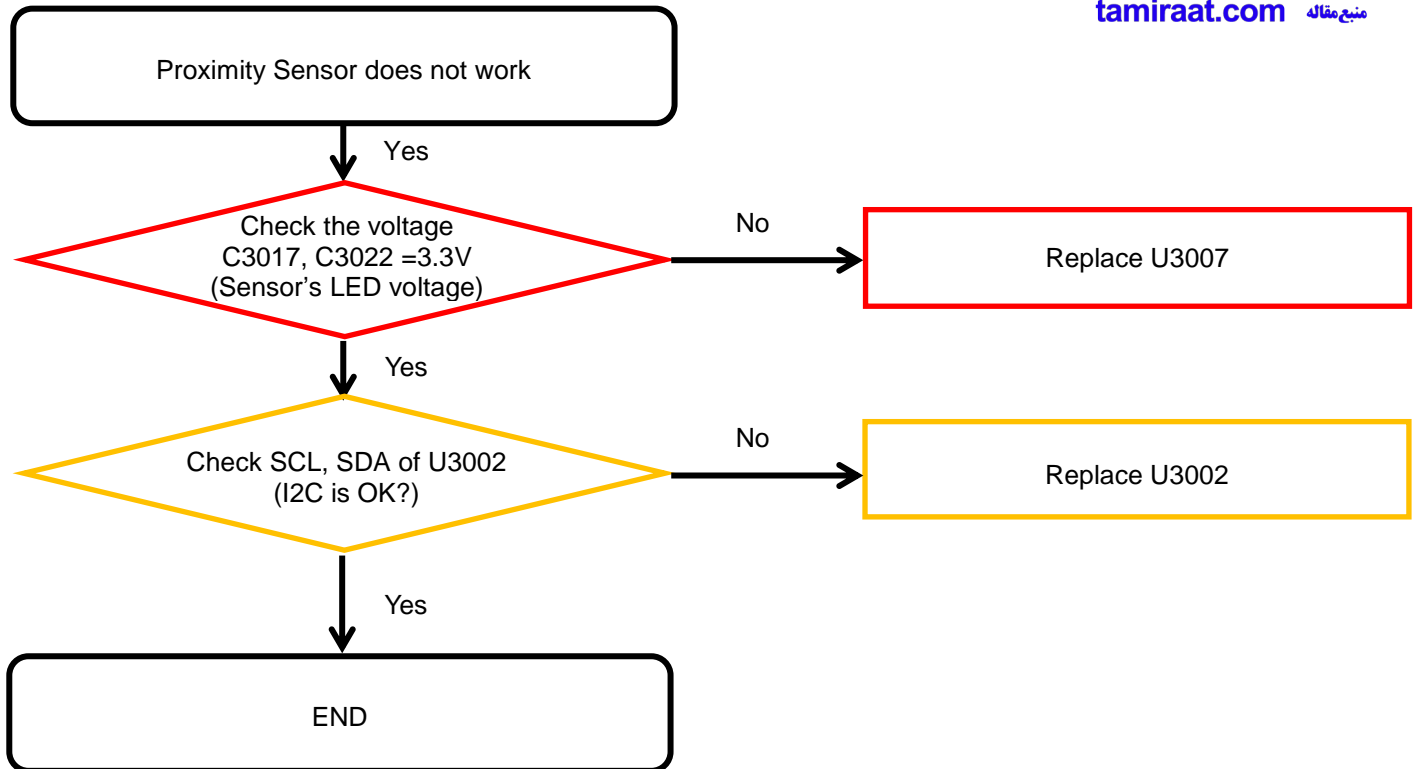
8. Level 3 Repair

8-4-8-2. 6Axis Sensor



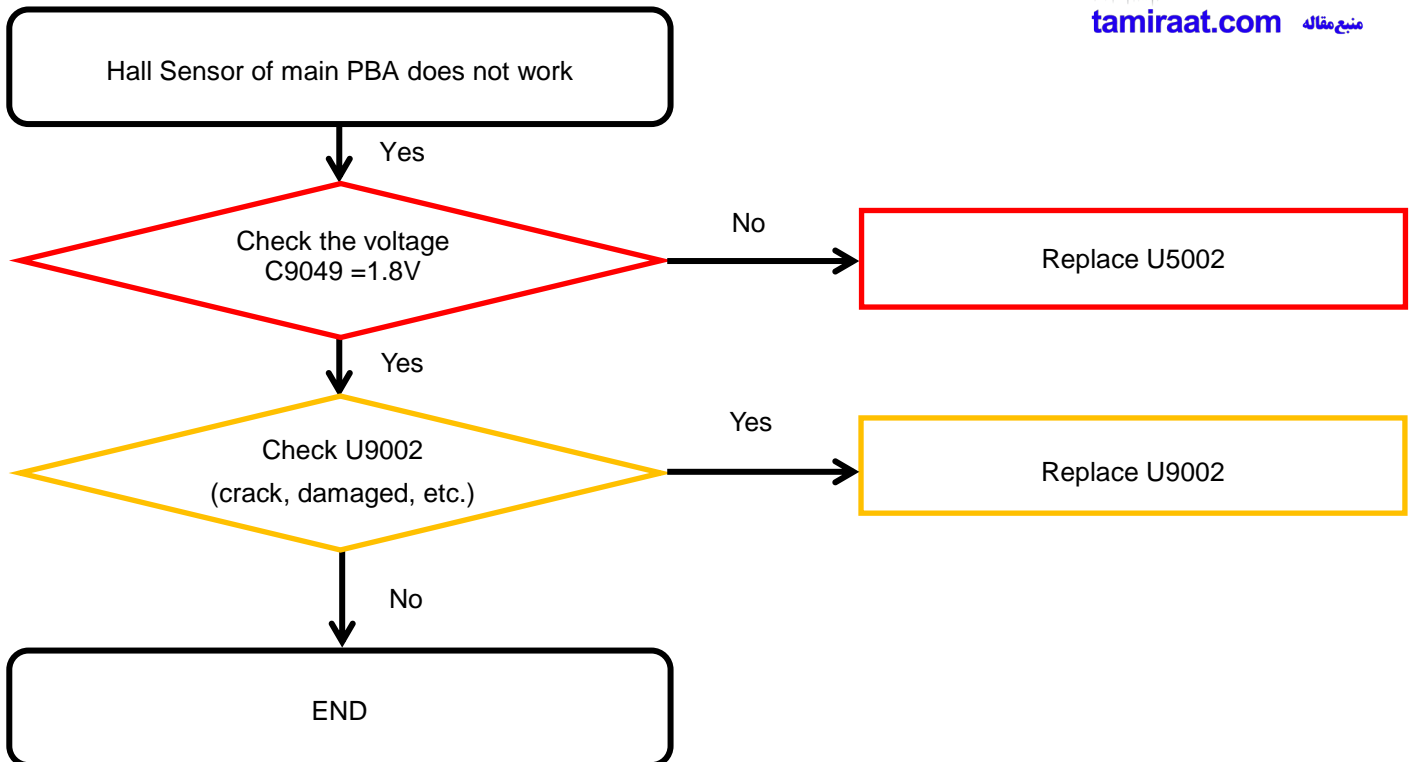
8. Level 3 Repair

8-4-8-3. Proximity sensor



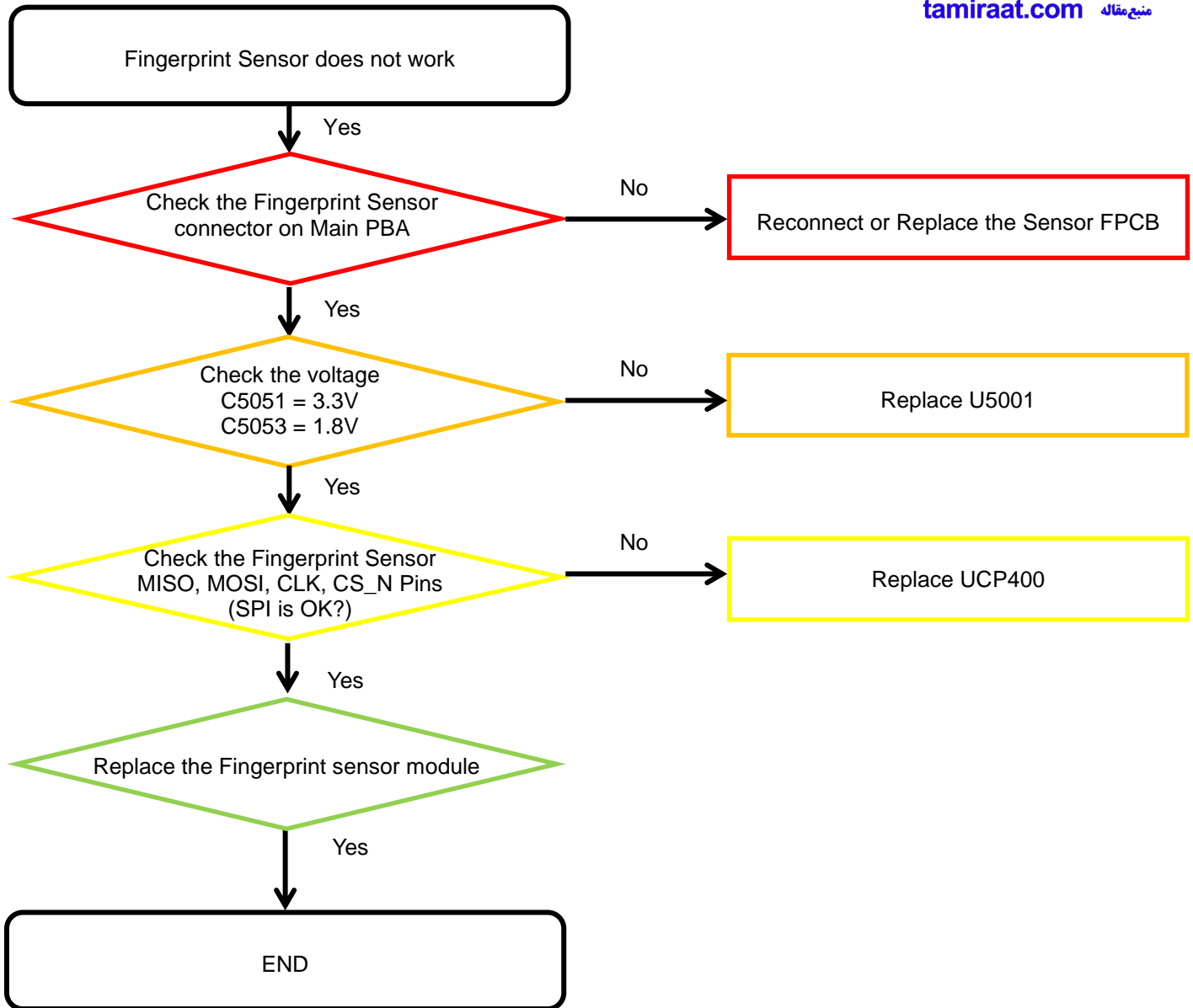
8. Level 3 Repair

8-4-8-4. Hall Sensor



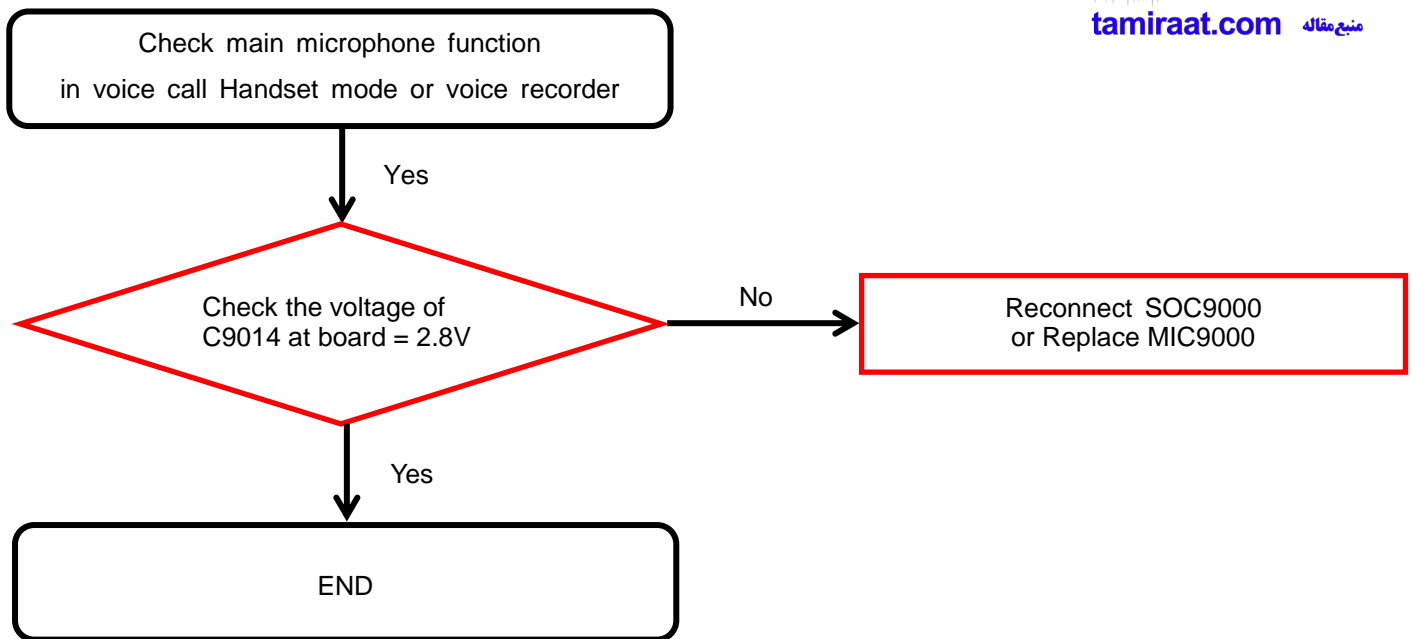
8. Level 3 Repair

8-4-8-5. Fingerprint Sensor



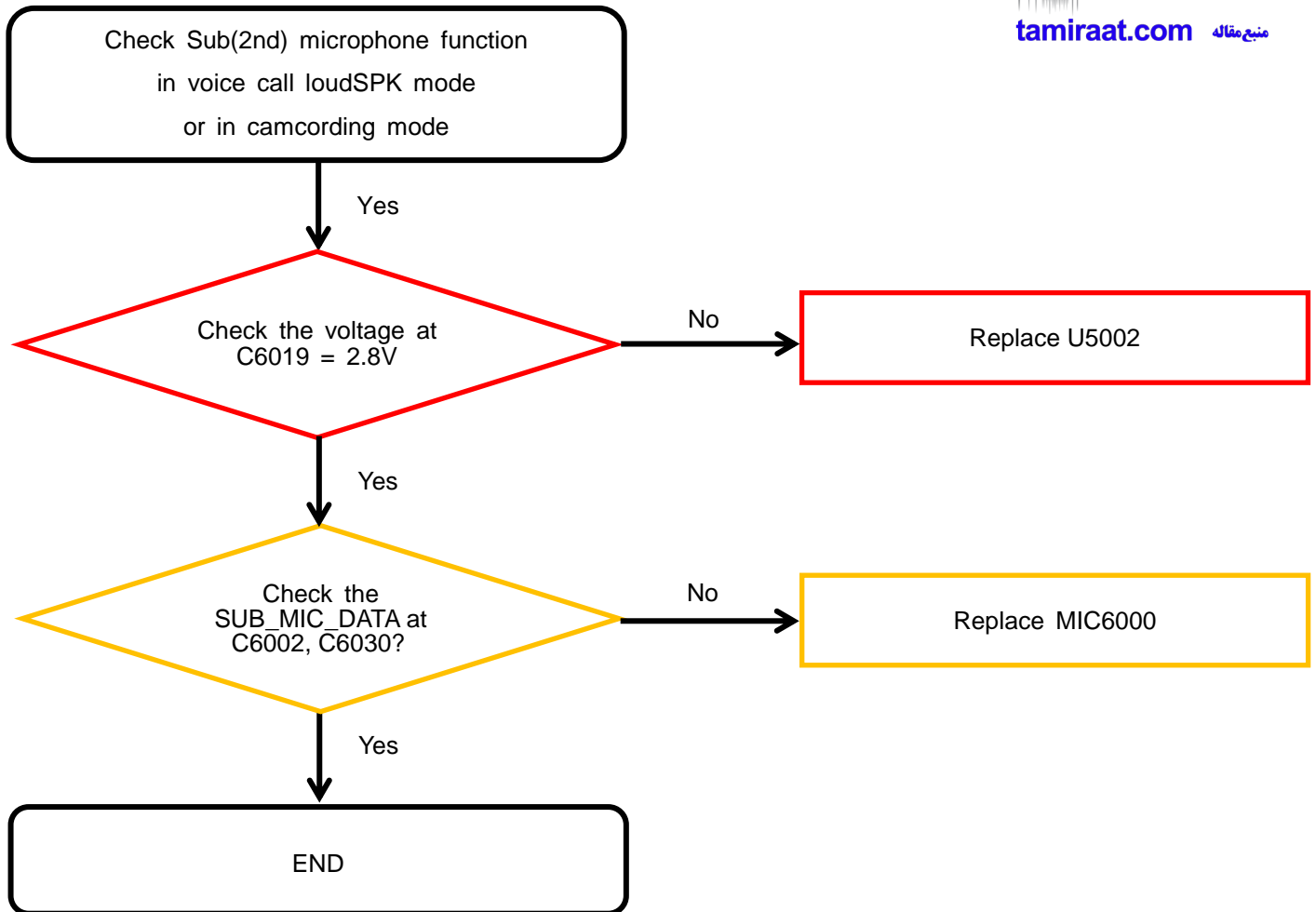
8. Level 3 Repair

8-4-9-1. Microphone Part - Main MIC



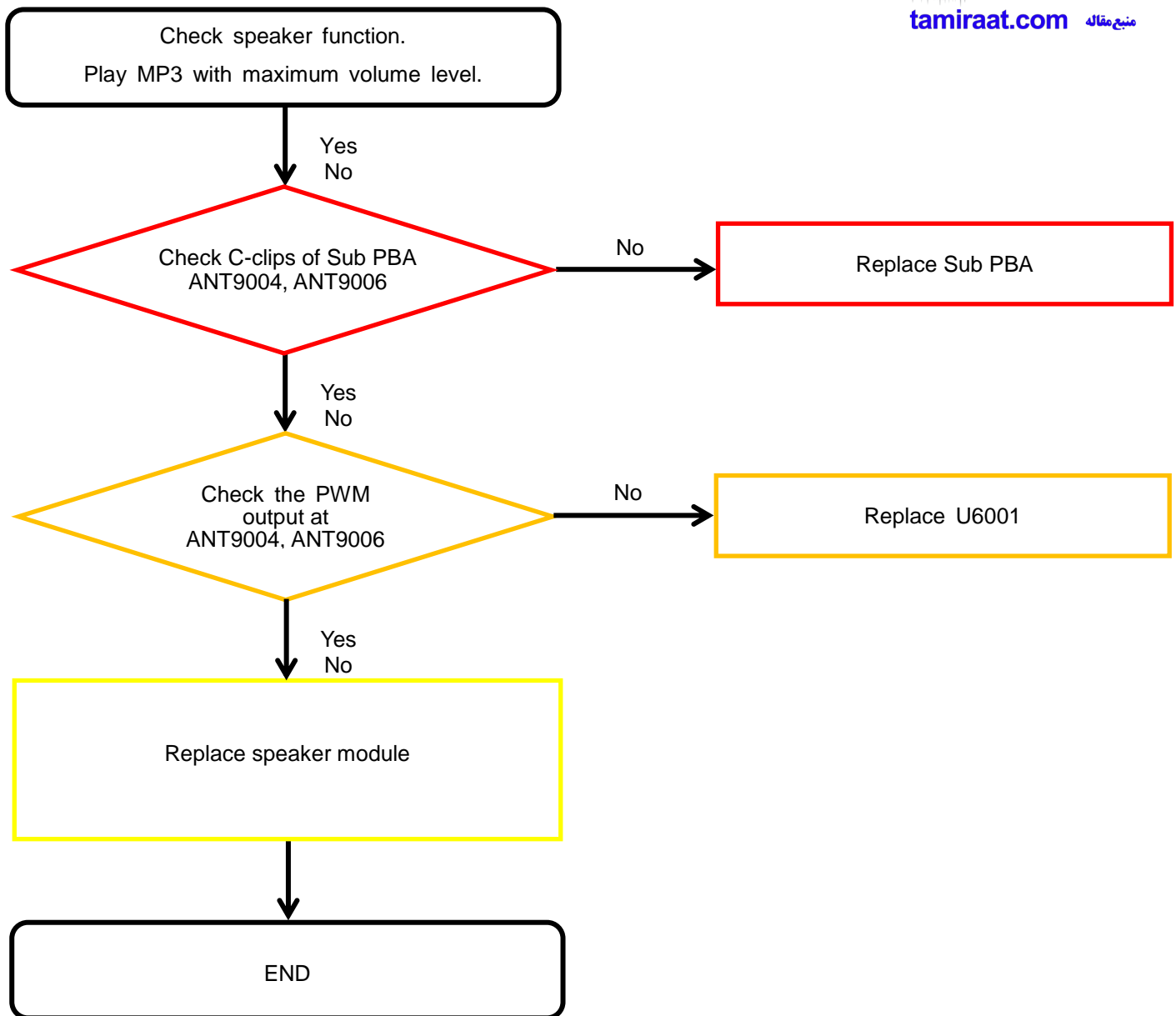
8. Level 3 Repair

8-4-9-2. Microphone Part - Sub(2nd) MIC



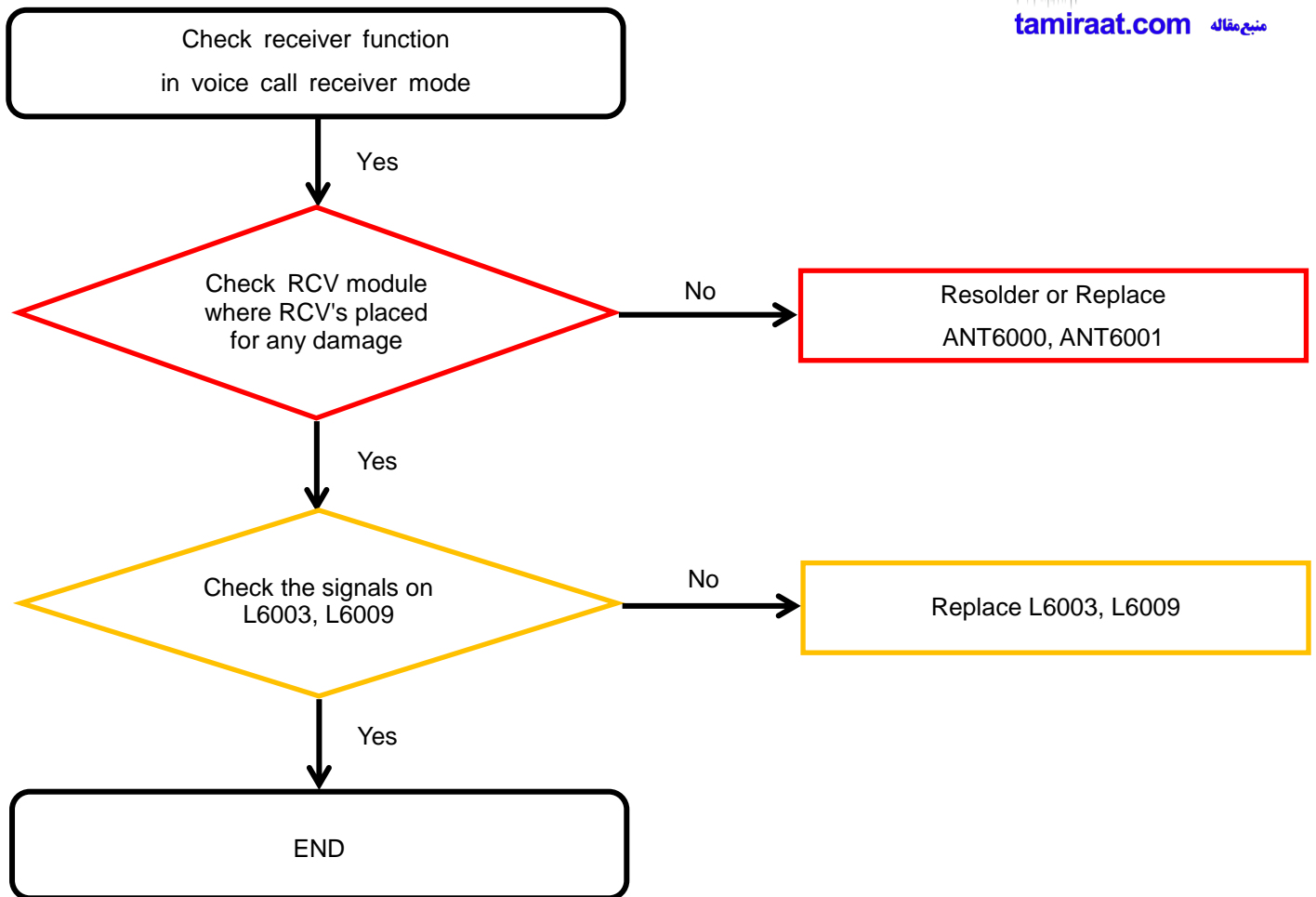
8. Level 3 Repair

8-4-10. Speaker Part



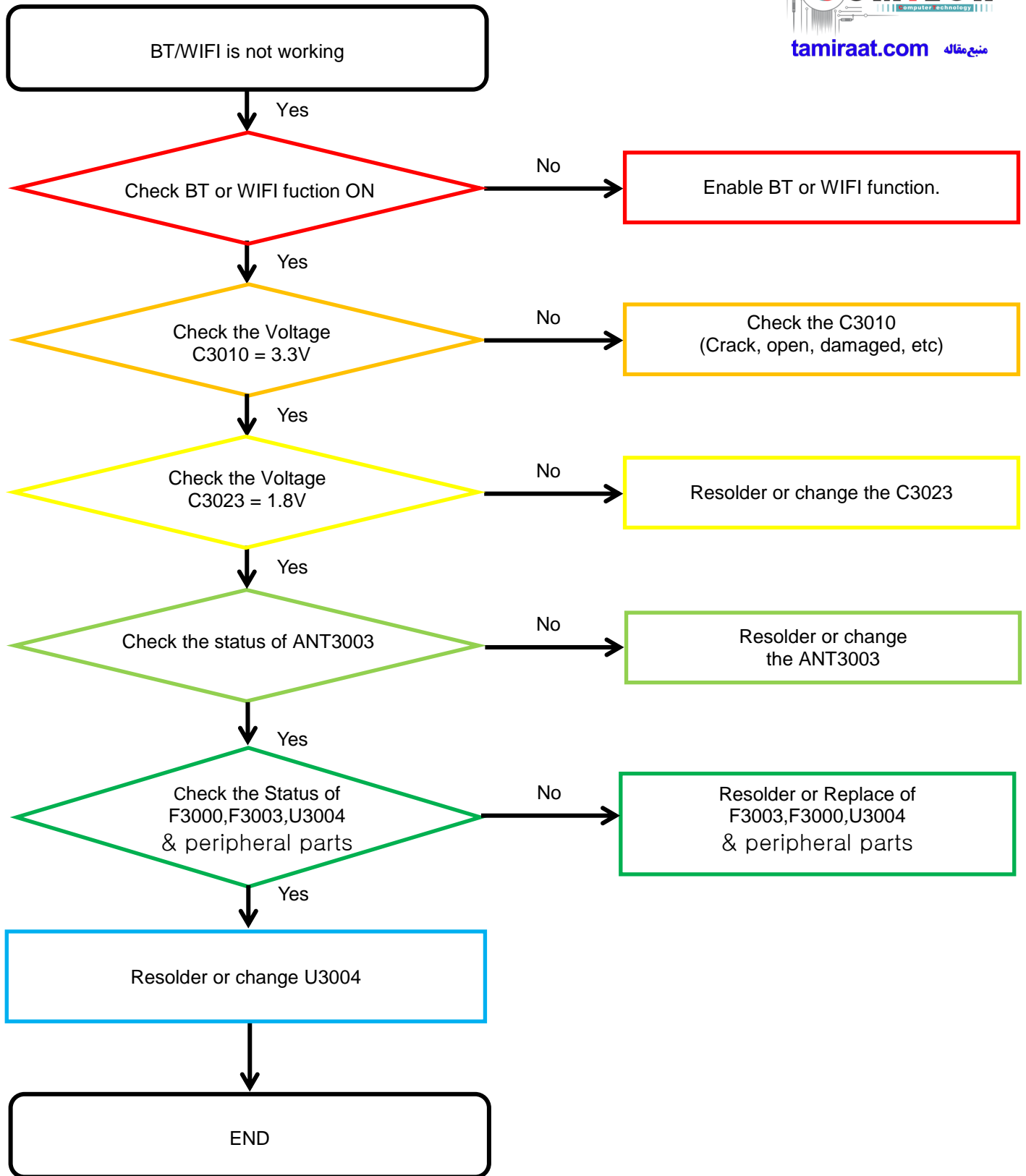
8. Level 3 Repair

8-4-11. Receiver Part



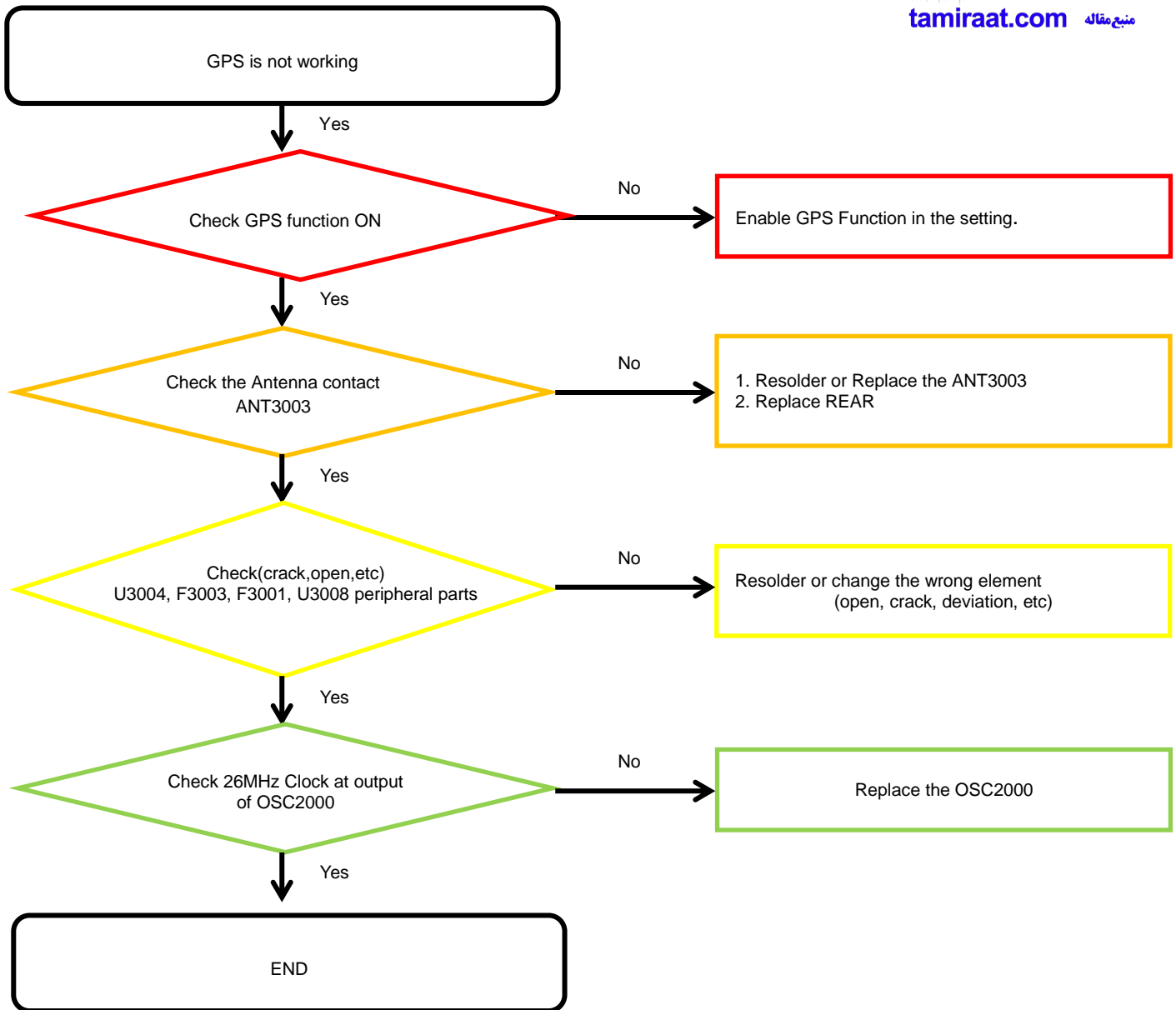
8. Level 3 Repair

8-4-12. BT/WIFI



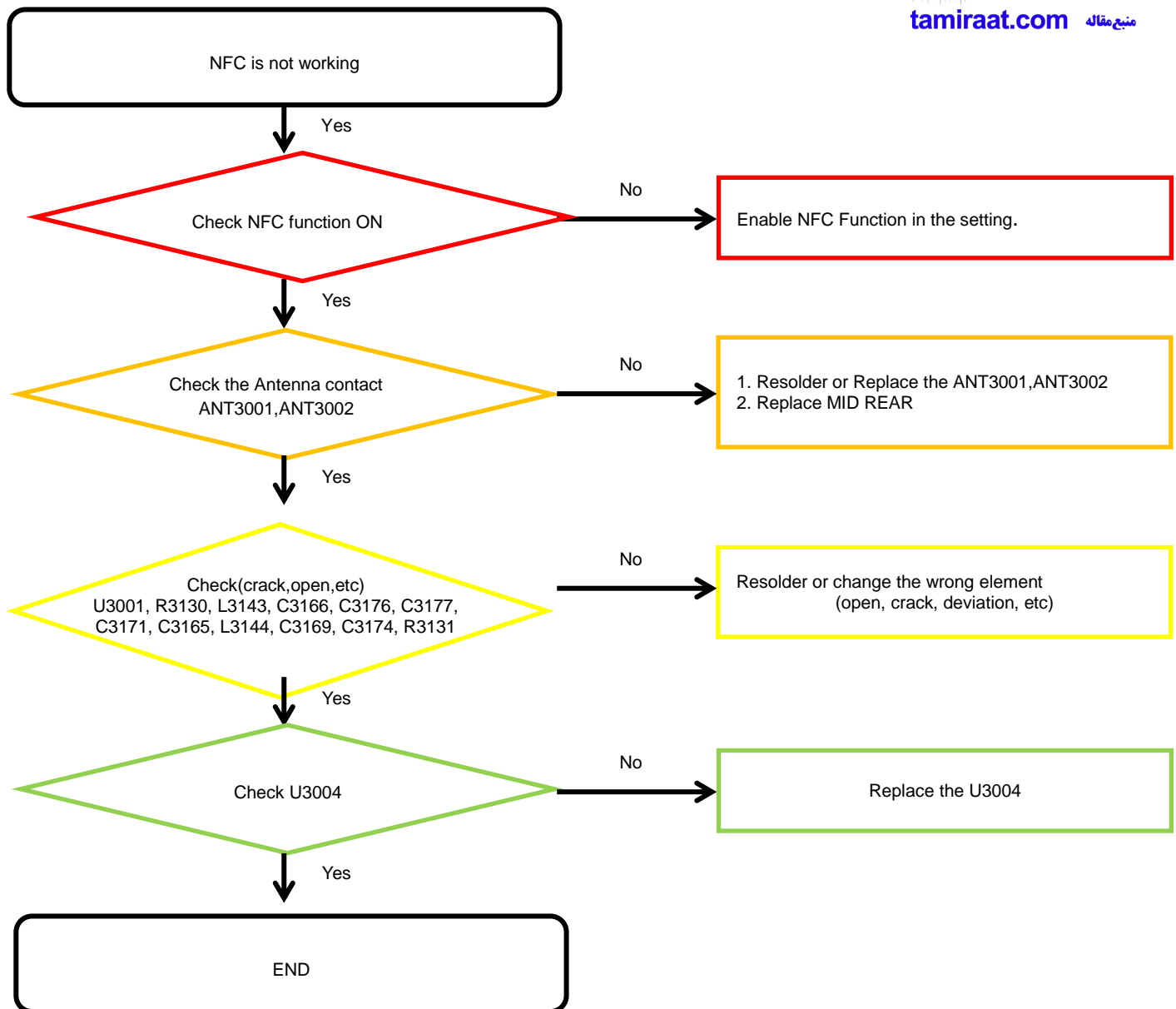
8. Level 3 Repair

8-4-13. GPS



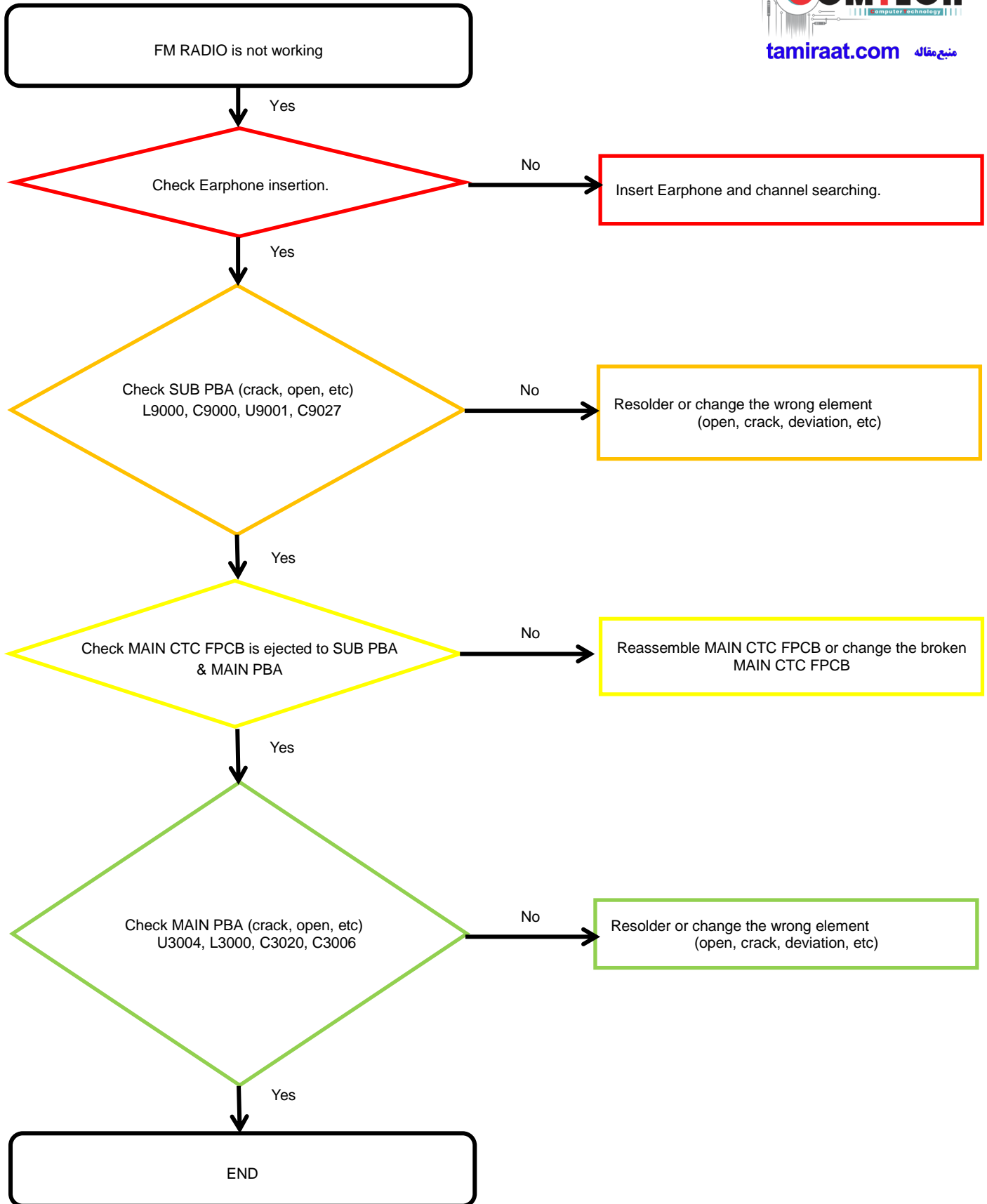
8. Level 3 Repair

8-4-14. NFC



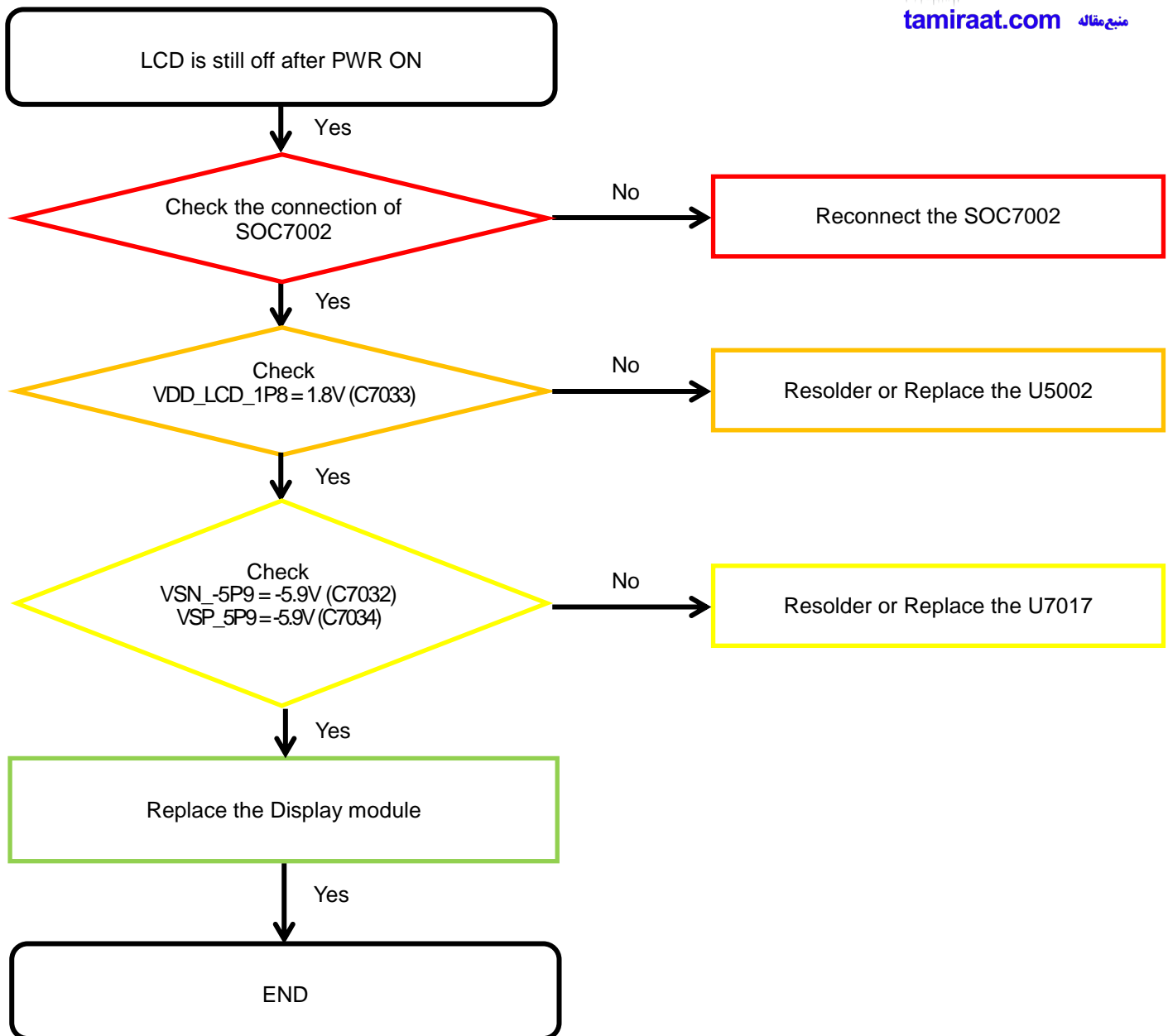
8. Level 3 Repair

8-4-15. FM RADIO



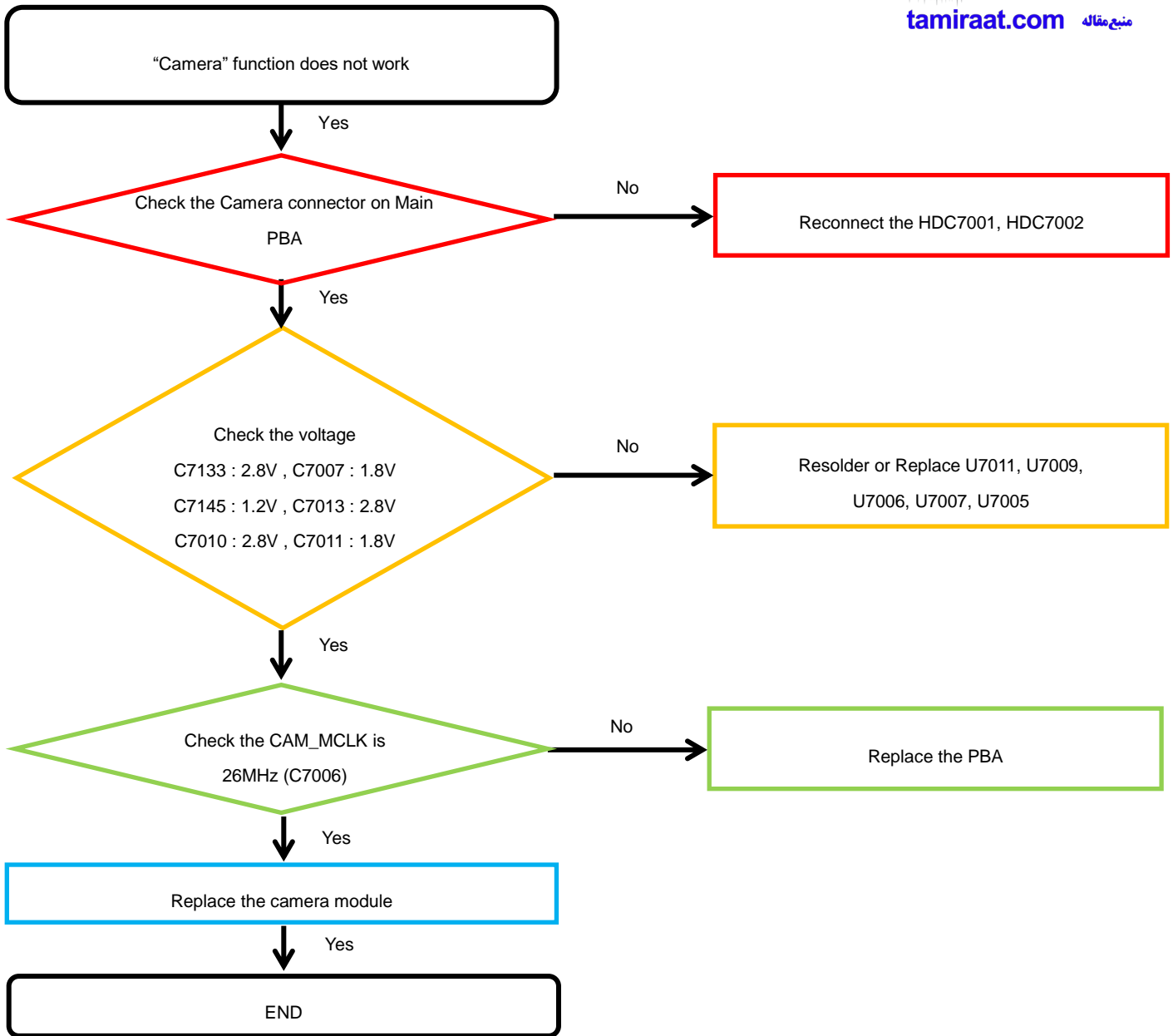
8. Level 3 Repair

8-4-16. Display



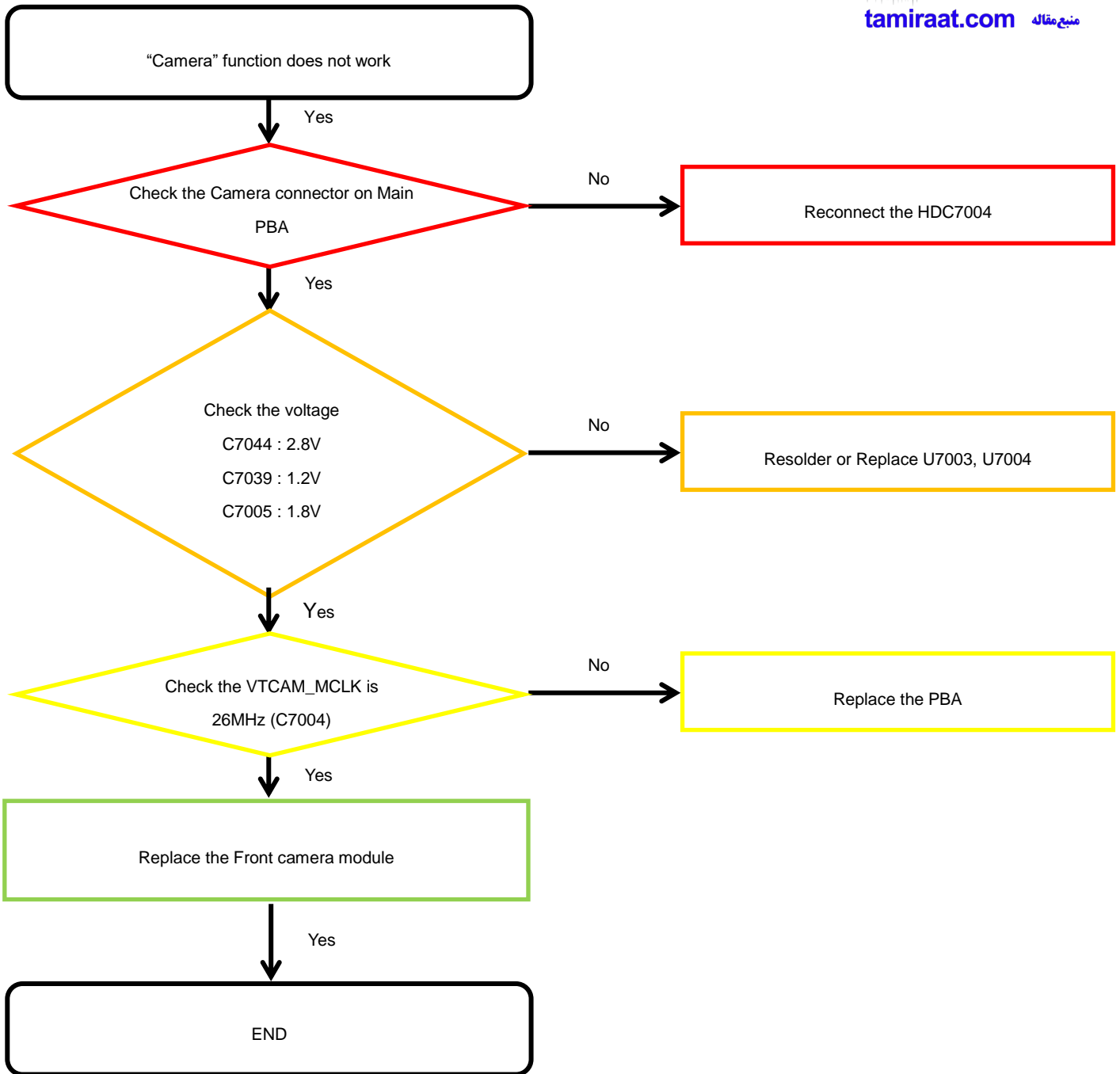
8. Level 3 Repair

8-4-17. 13M+5M REAR CAMERA



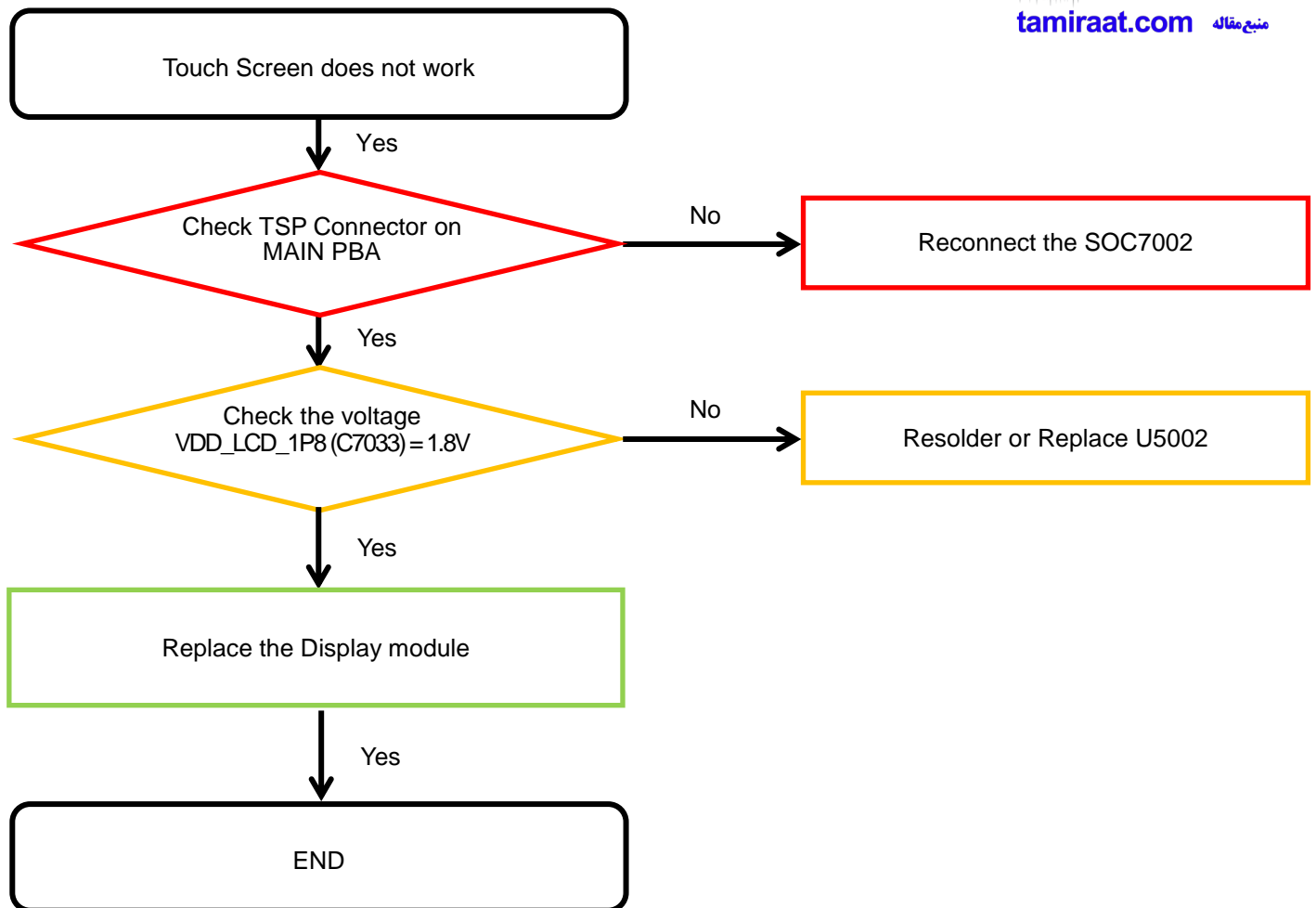
8. Level 3 Repair

8-4-18. 8M FRONT CAMERA



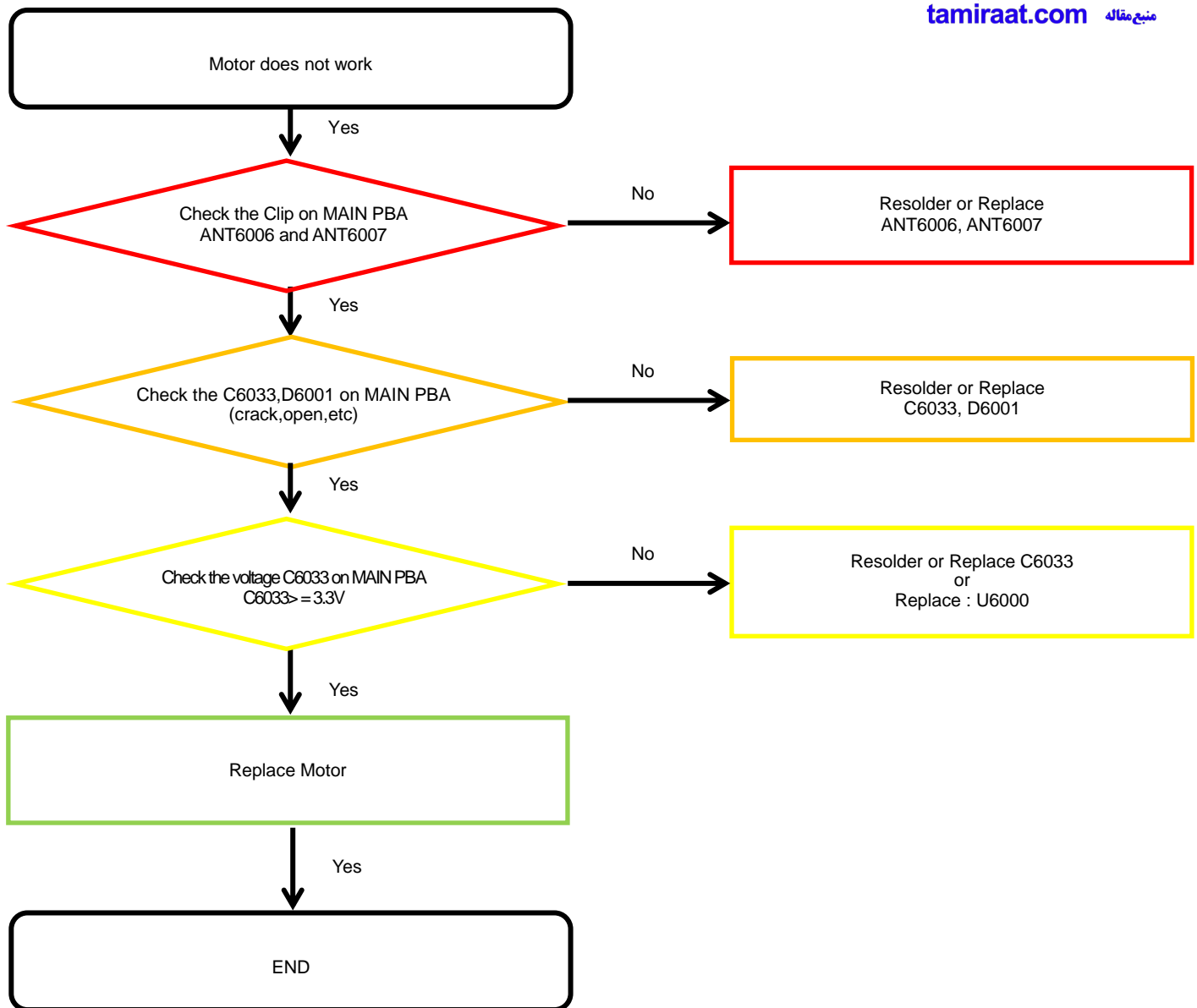
8. Level 3 Repair

8-4-19. TSP



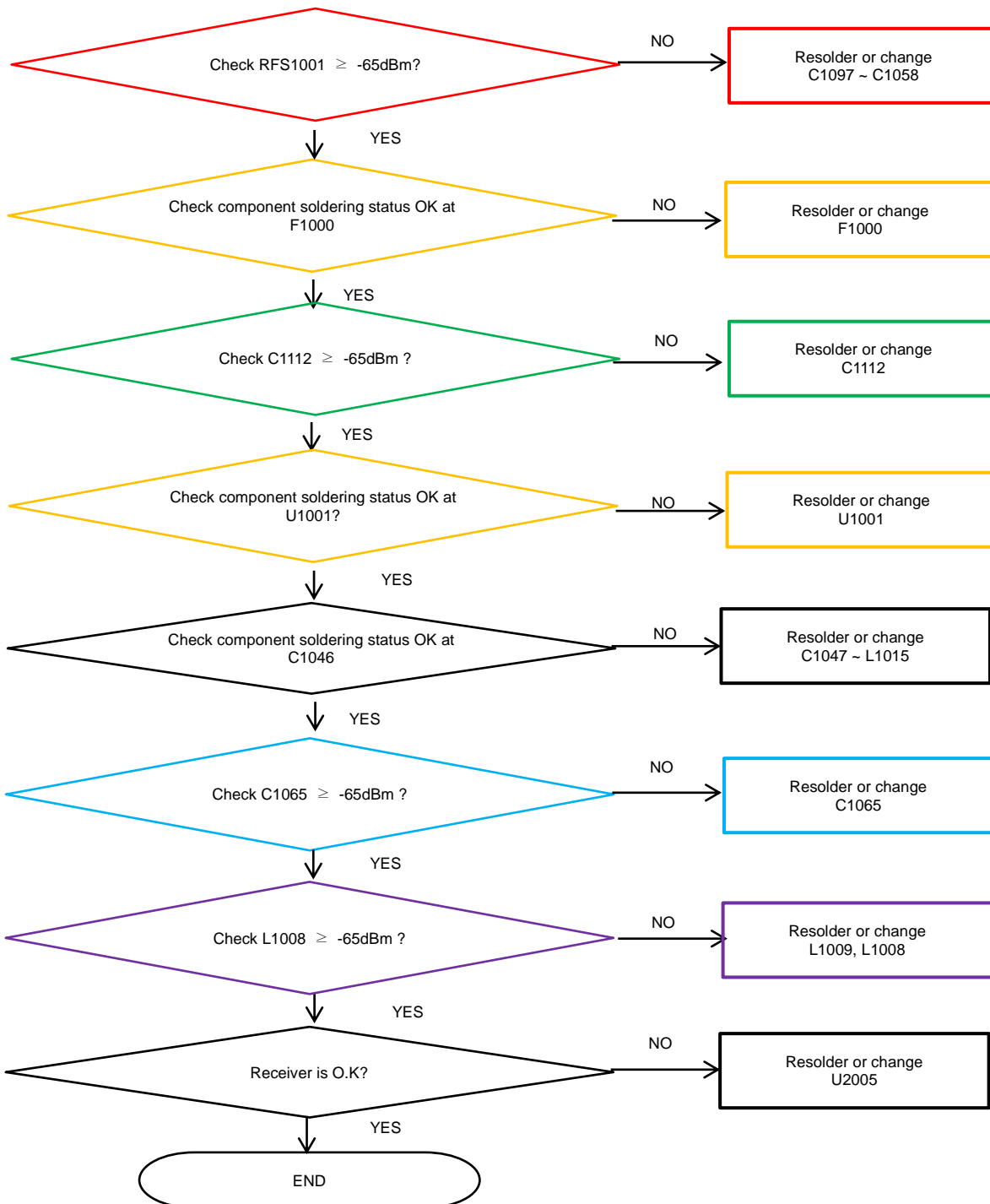
8. Level 3 Repair

8-4-20. Motor



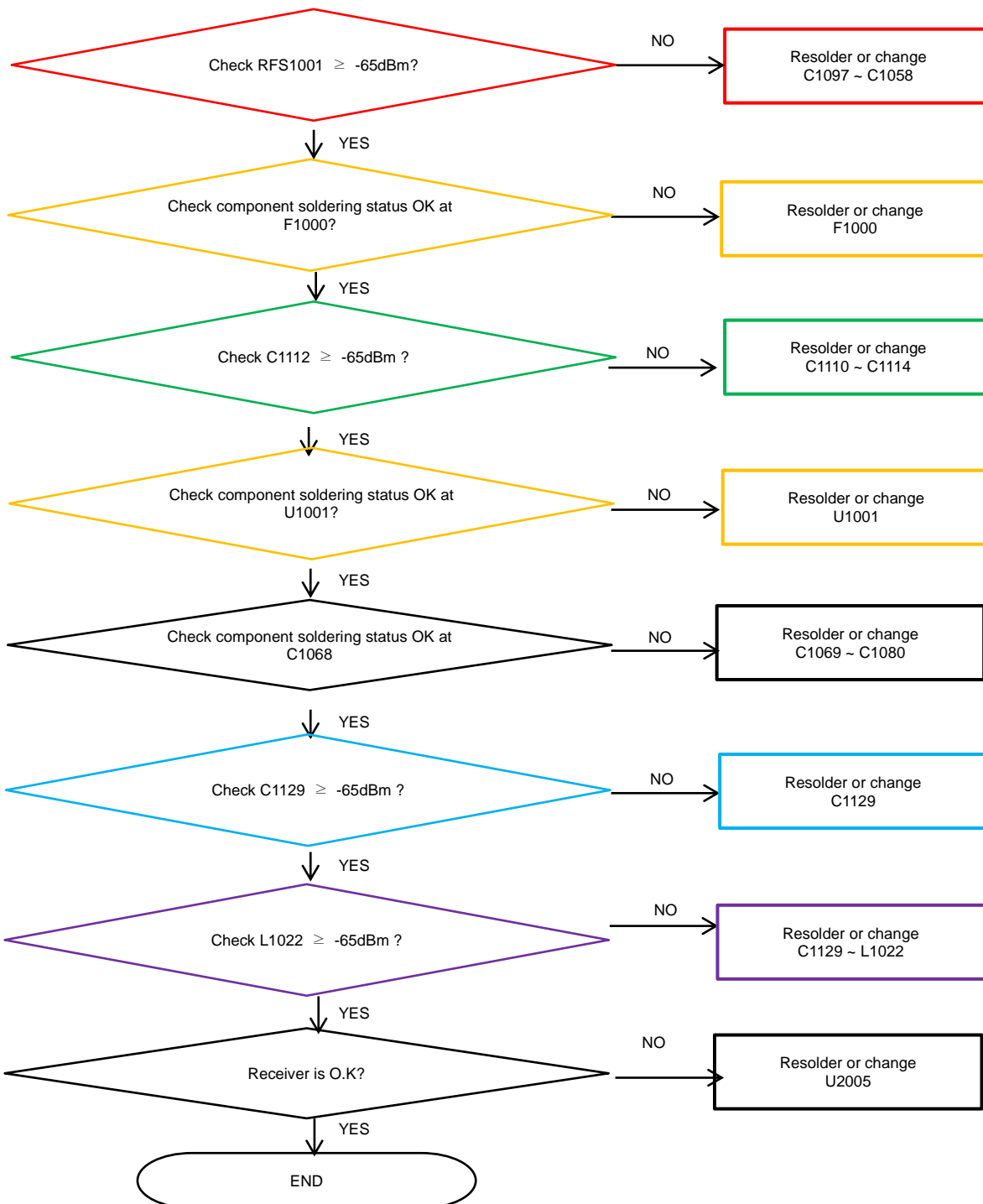
8. Level 3 Repair

8-4-21. WCDMA B1 / LTE B1 Rx



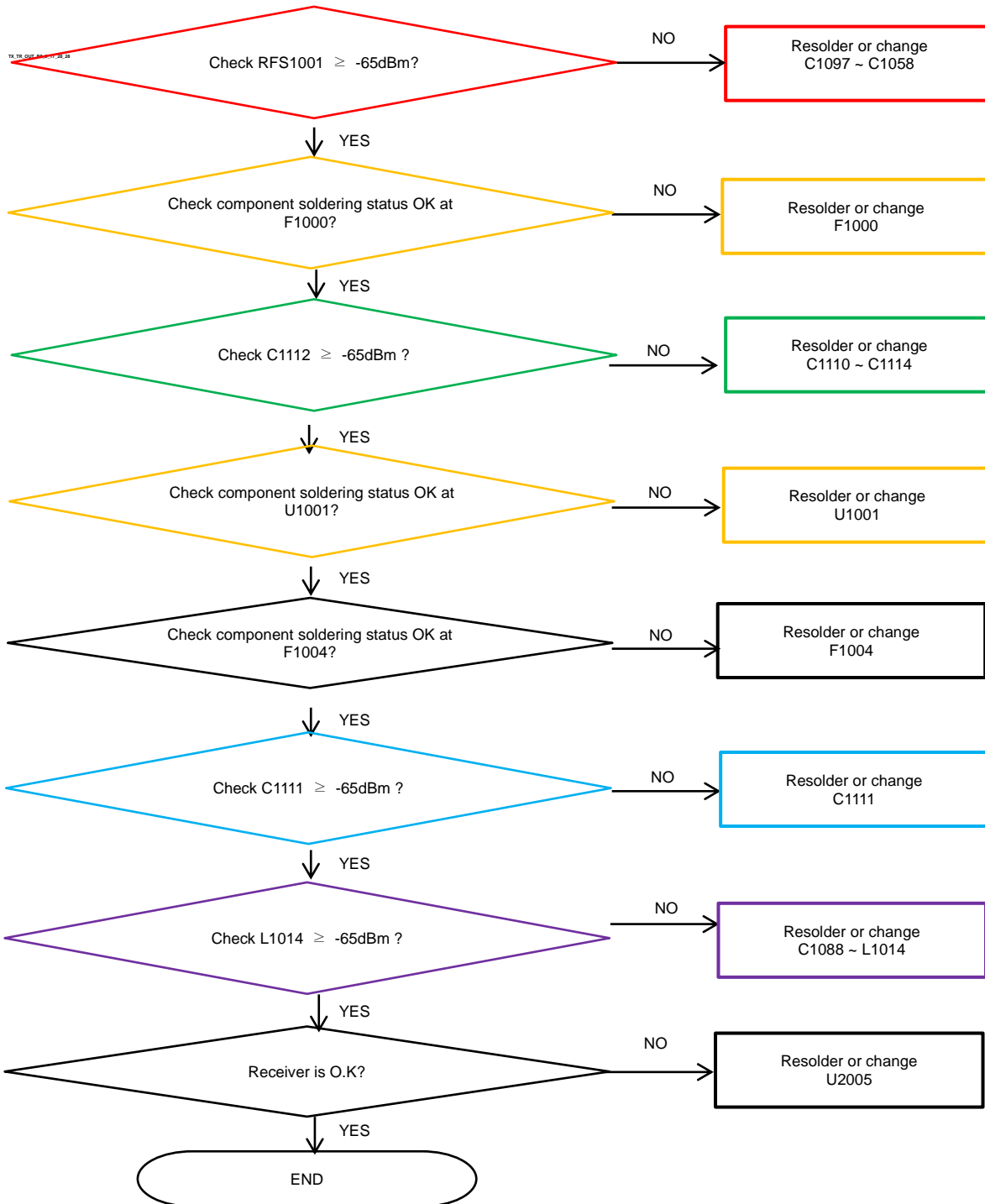
8. Level 3 Repair

8-4-22. PCS / WCDMA B2 / LTE B2 RX



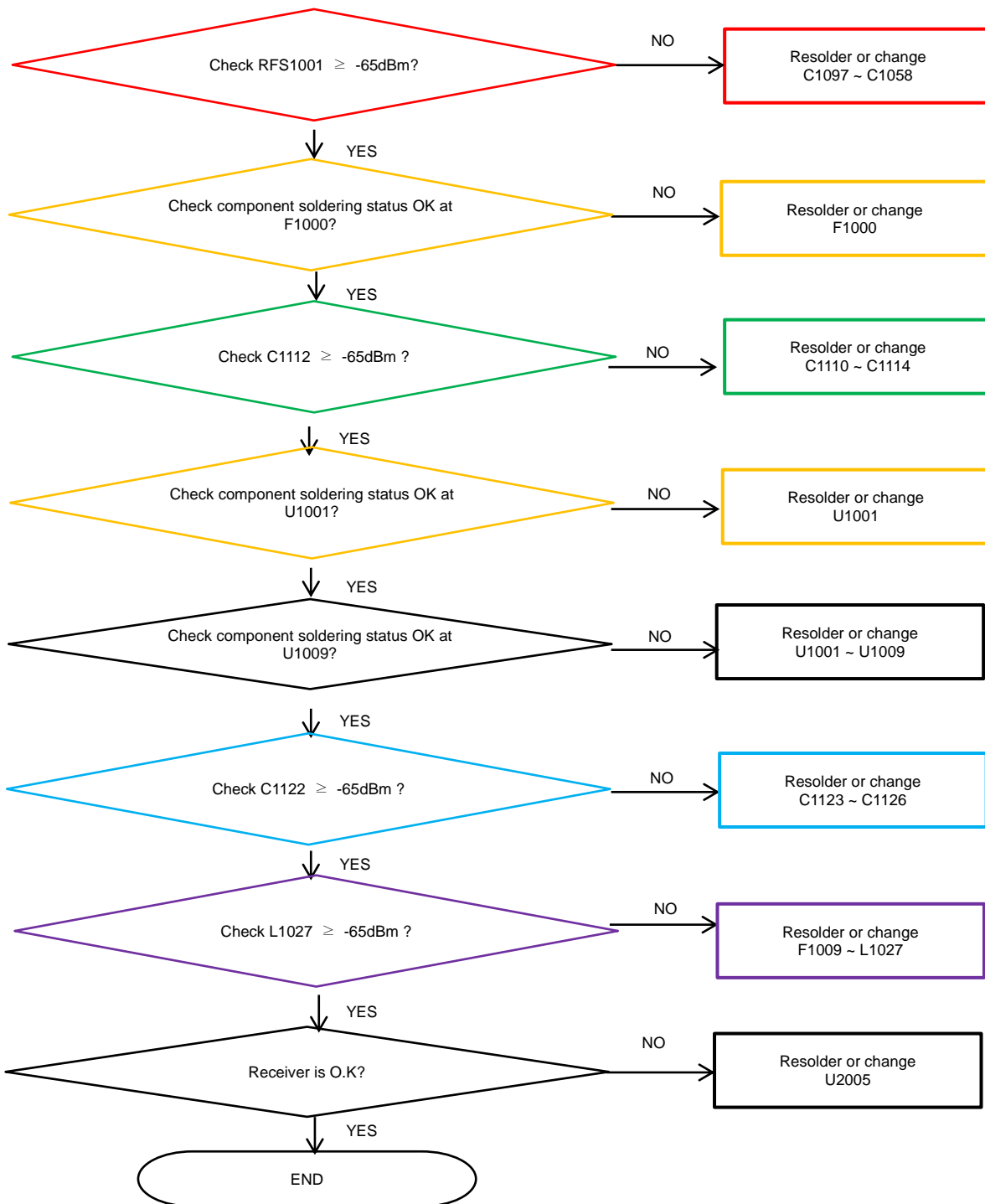
8. Level 3 Repair

8-4-23. LTE B3 / DCS RX



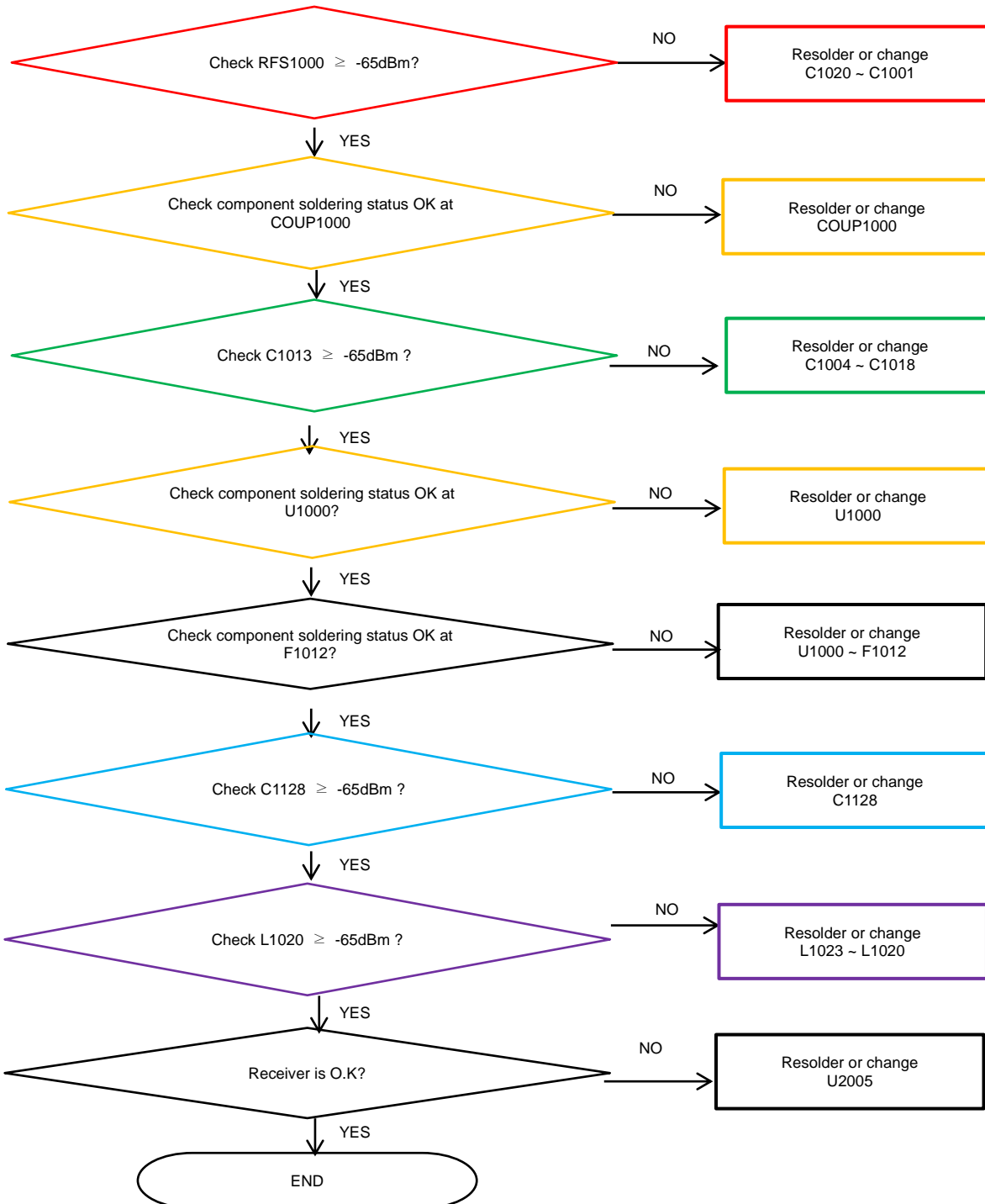
8. Level 3 Repair

8-4-24. LTE B4(B66) / WCDMA B4 RX



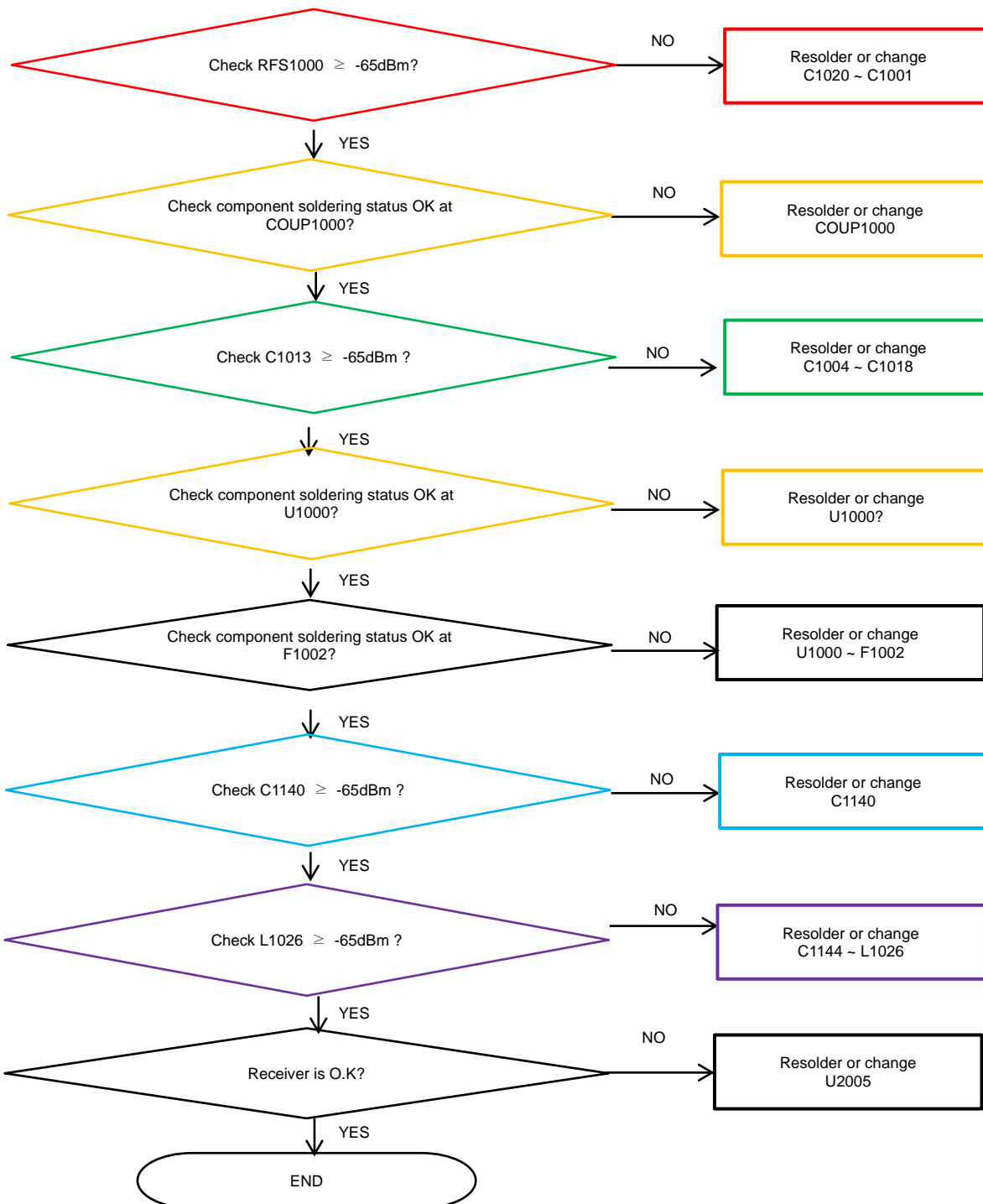
8. Level 3 Repair

8-4-25. LTE, WCDMA B5 / GSM850 RX



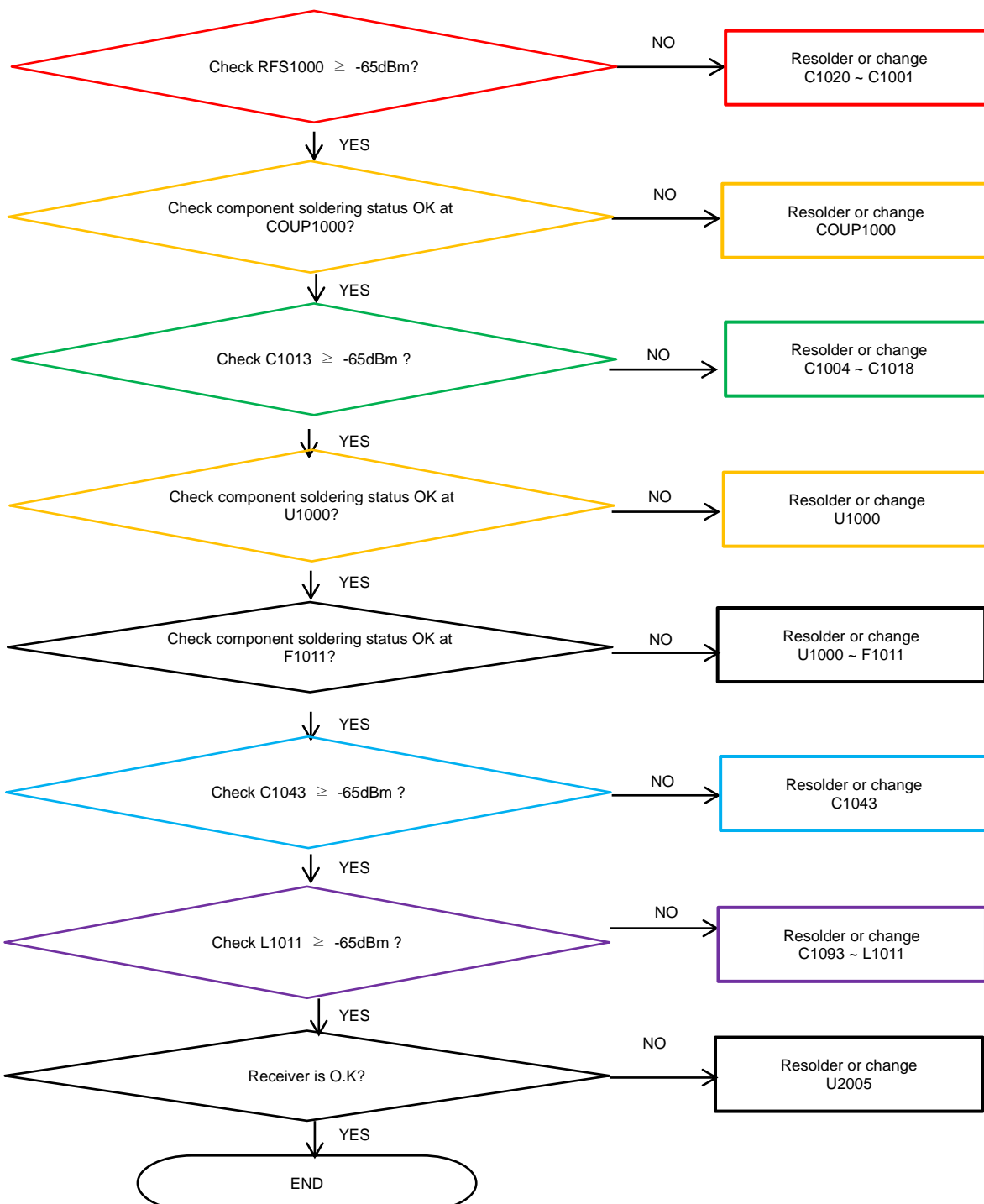
8. Level 3 Repair

8-4-26. LTE B8, WCDMA B8 / EGSM RX



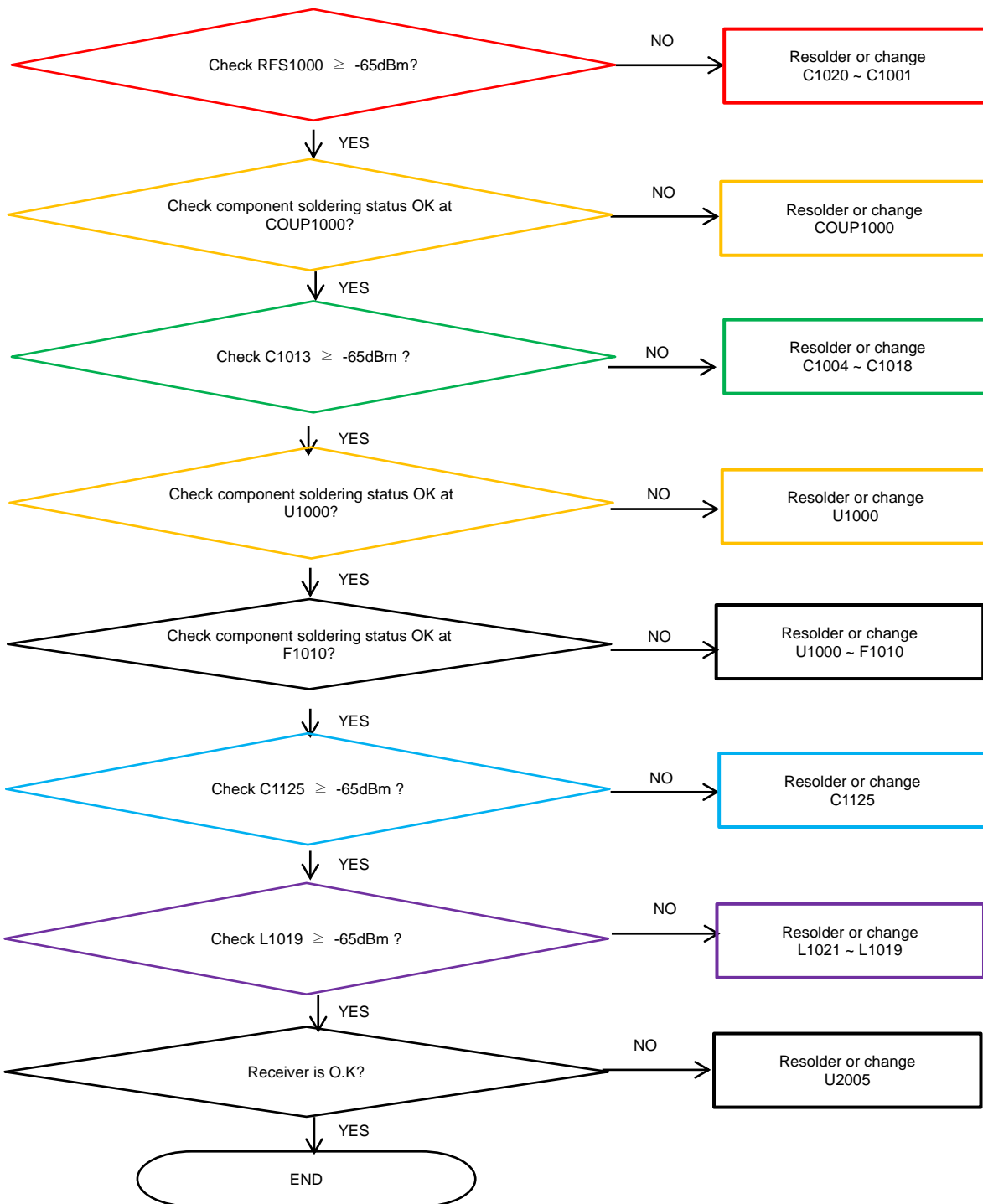
8. Level 3 Repair

8-4-27. LTE B20 RX



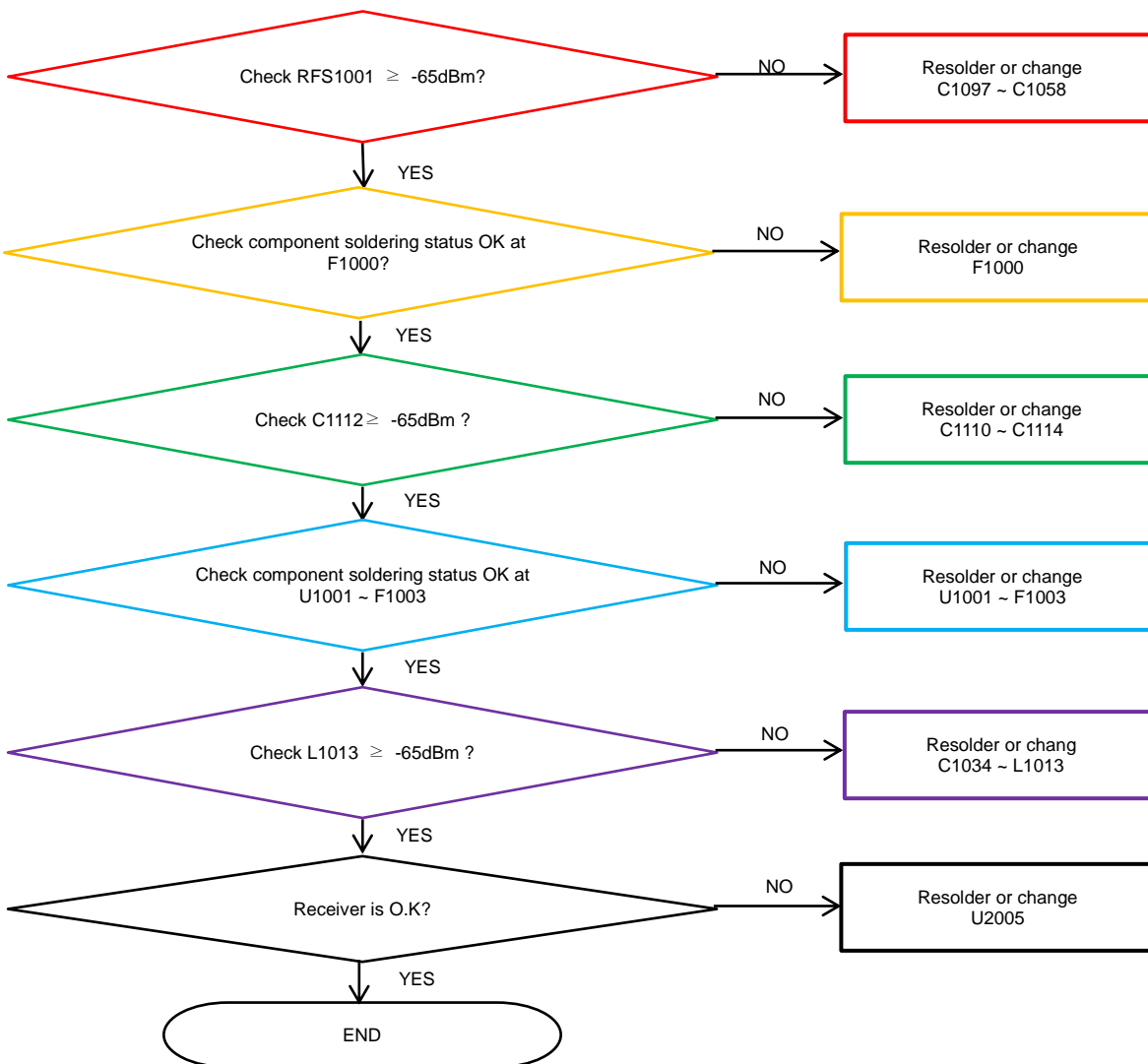
8. Level 3 Repair

8-4-28. LTE B17 RX



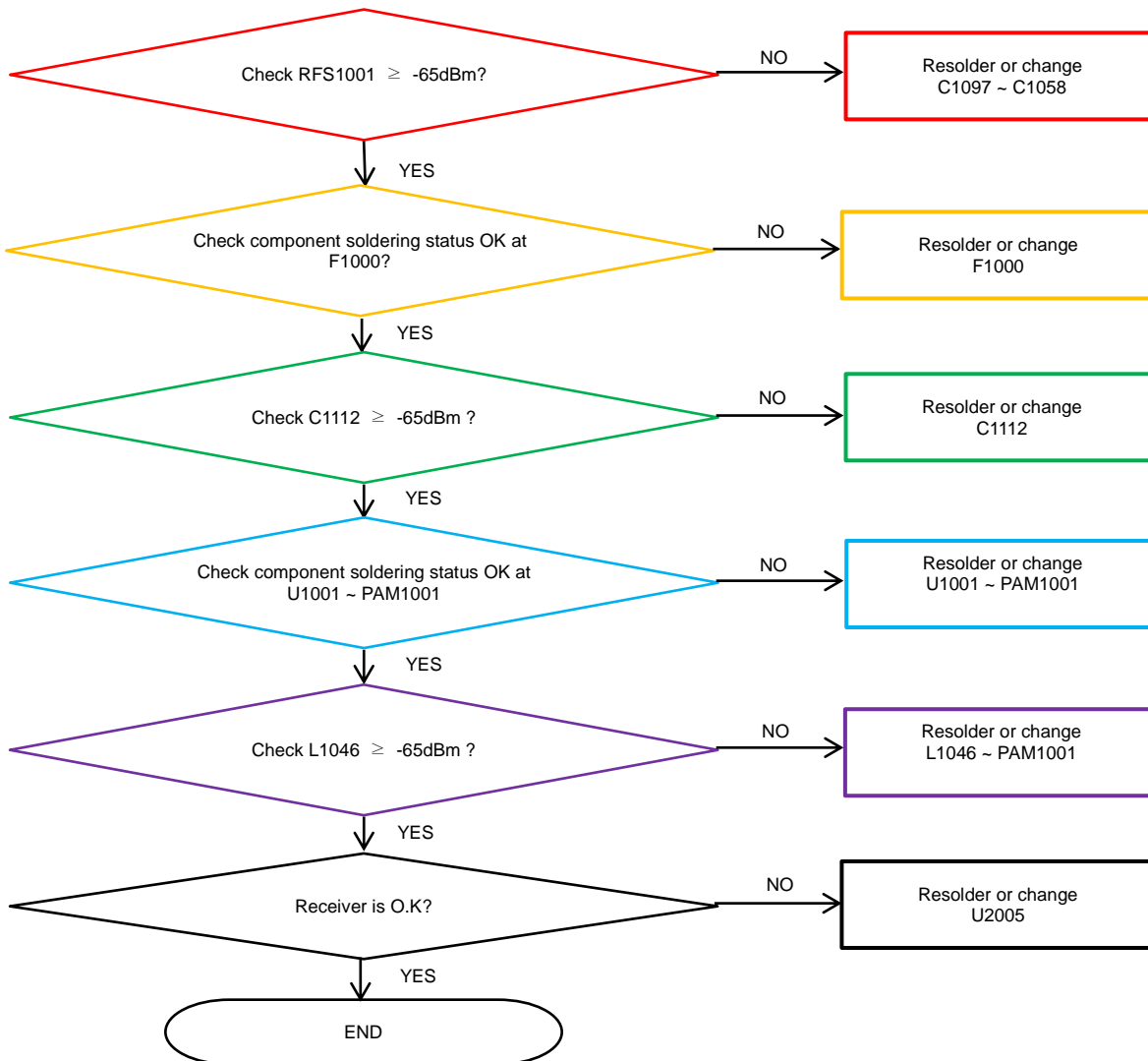
8. Level 3 Repair

8-4-29. LTE B7 RX



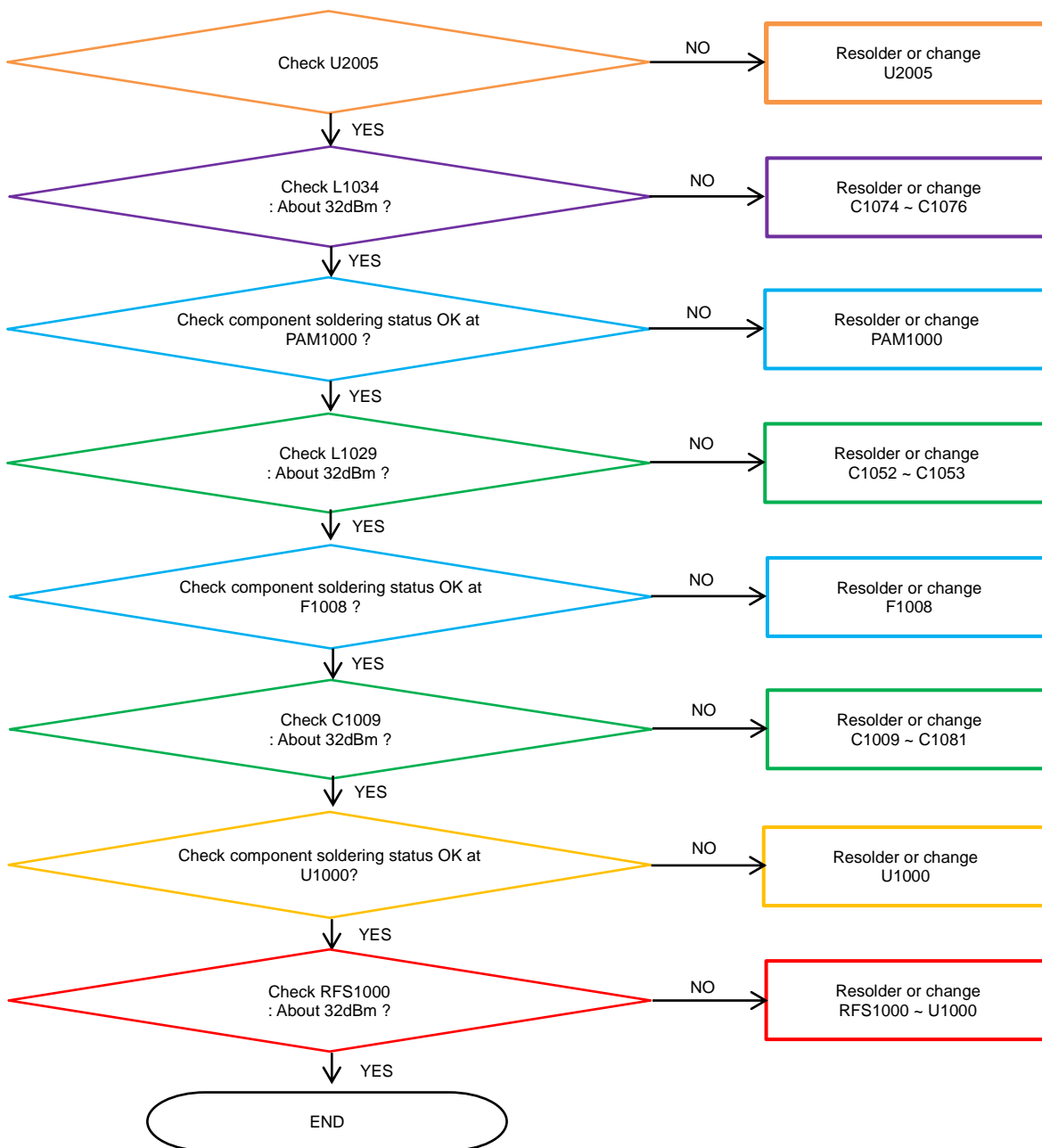
8. Level 3 Repair

8-4-30. LTE B40 RX



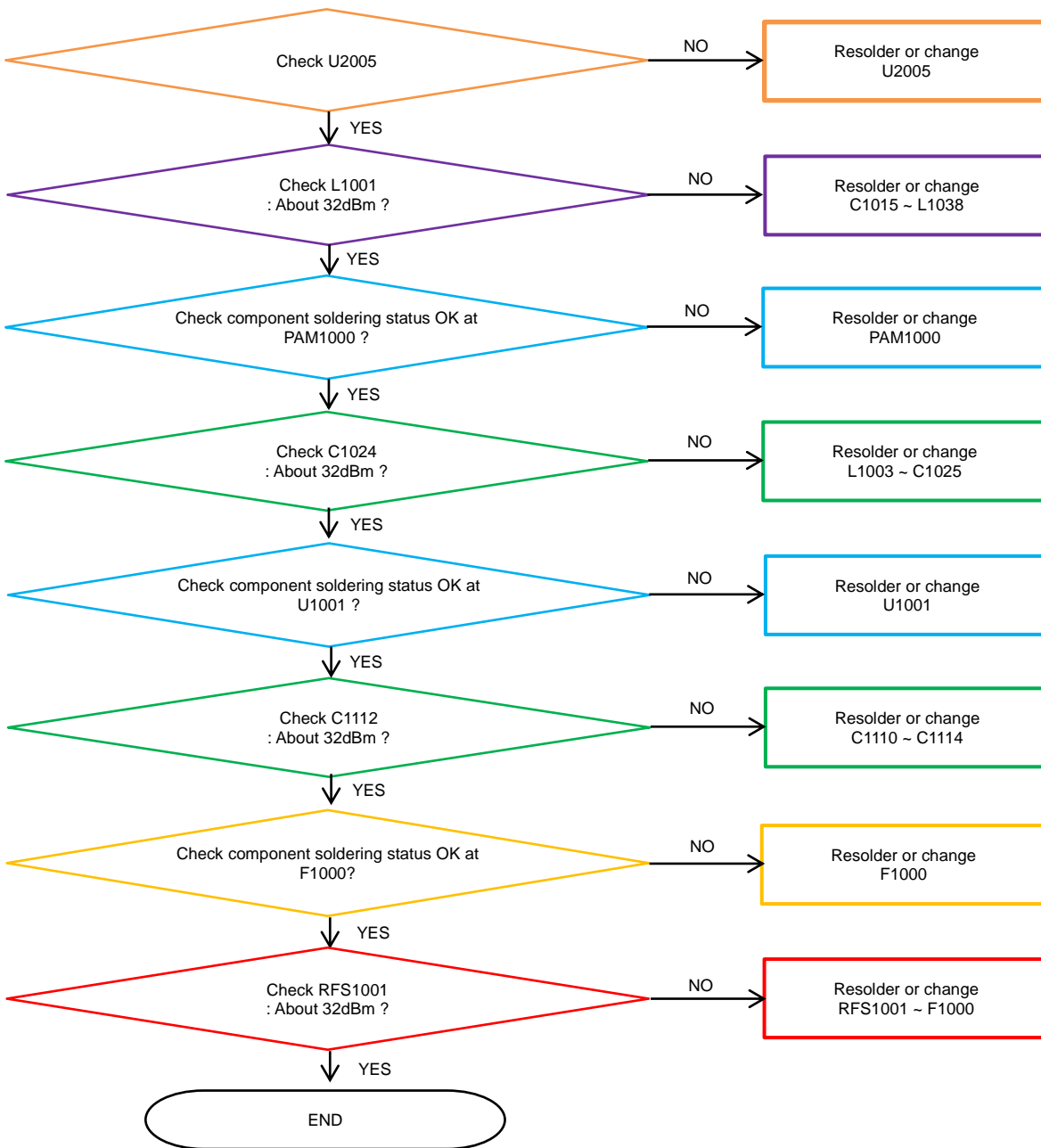
8. Level 3 Repair

8-4-31. GSM 850 / GSM900 TX



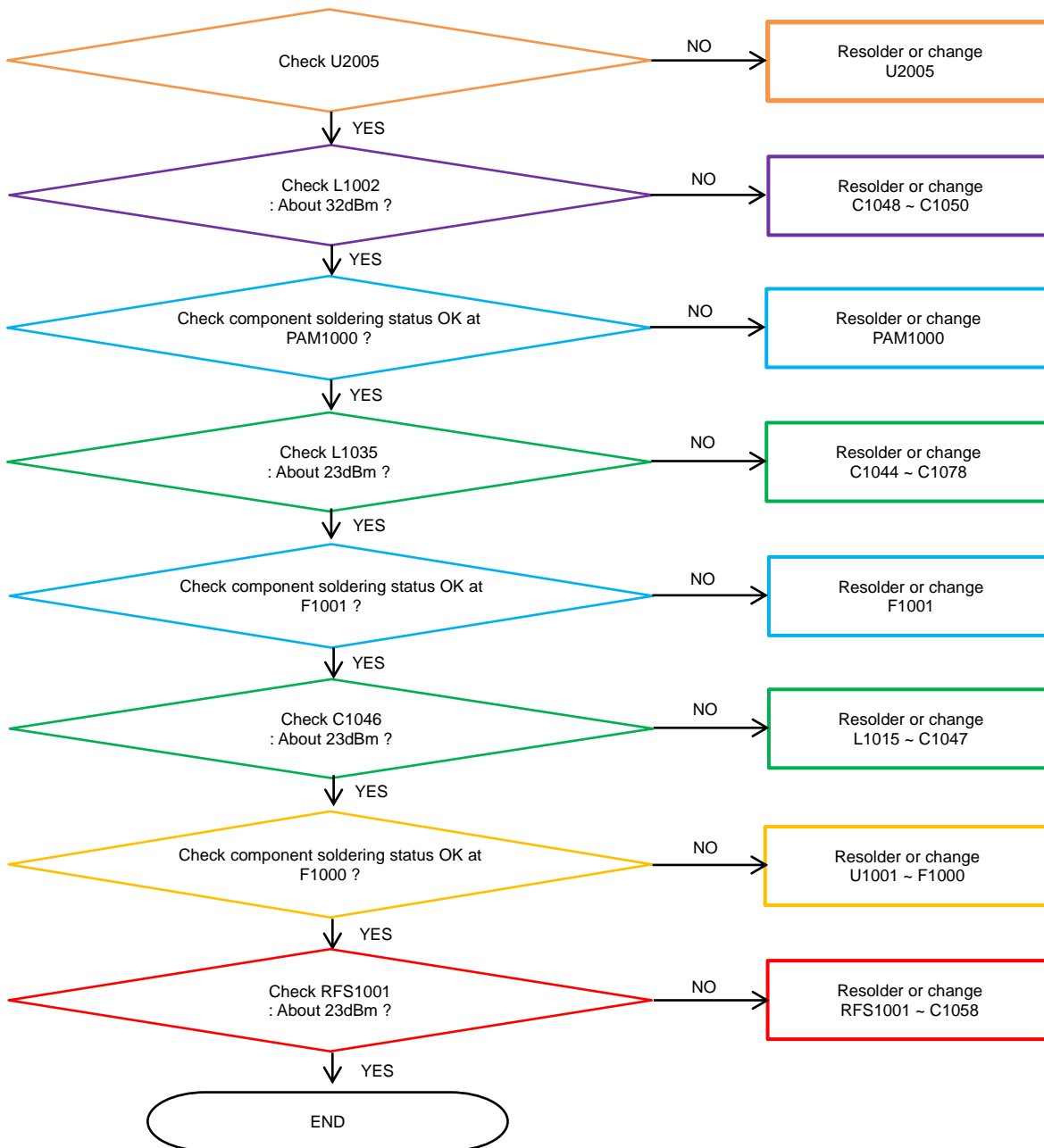
8. Level 3 Repair

8-4-32. GSM1800/ GSM1900 TX



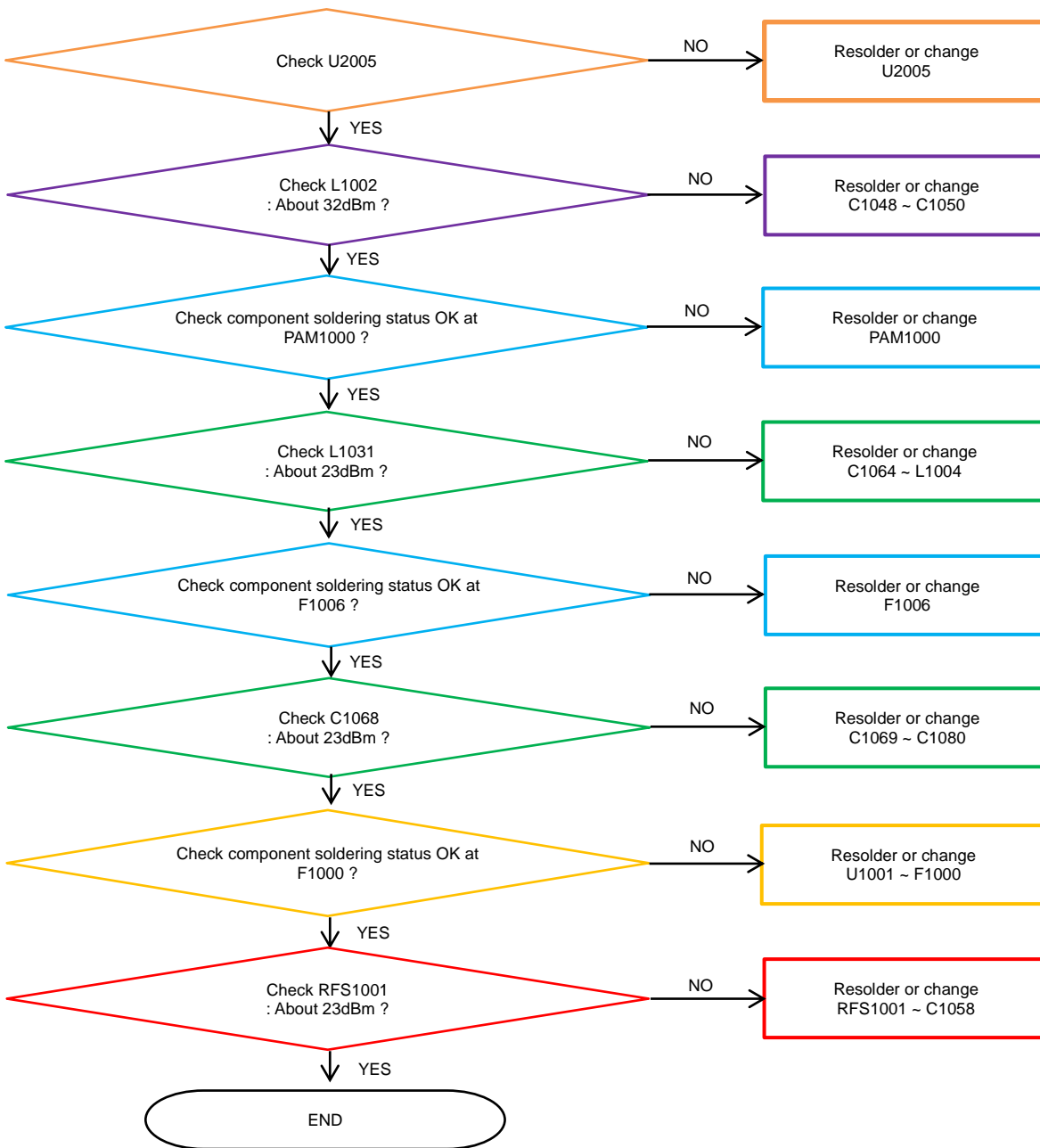
8. Level 3 Repair

8-4-33. LTE, WCDMA B1 TX



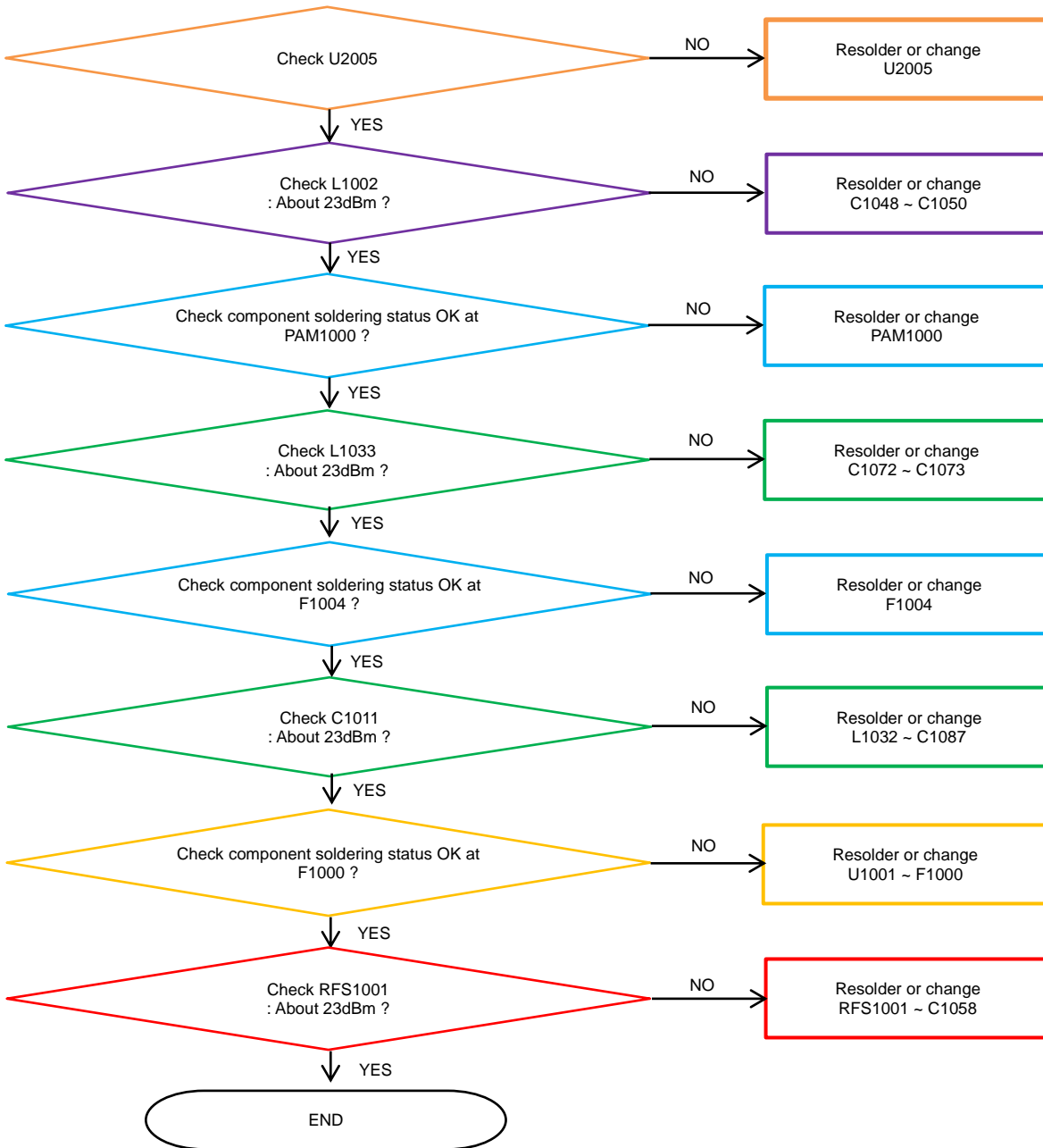
8. Level 3 Repair

8-4-34. WCDMA B2 TX, LTE B2



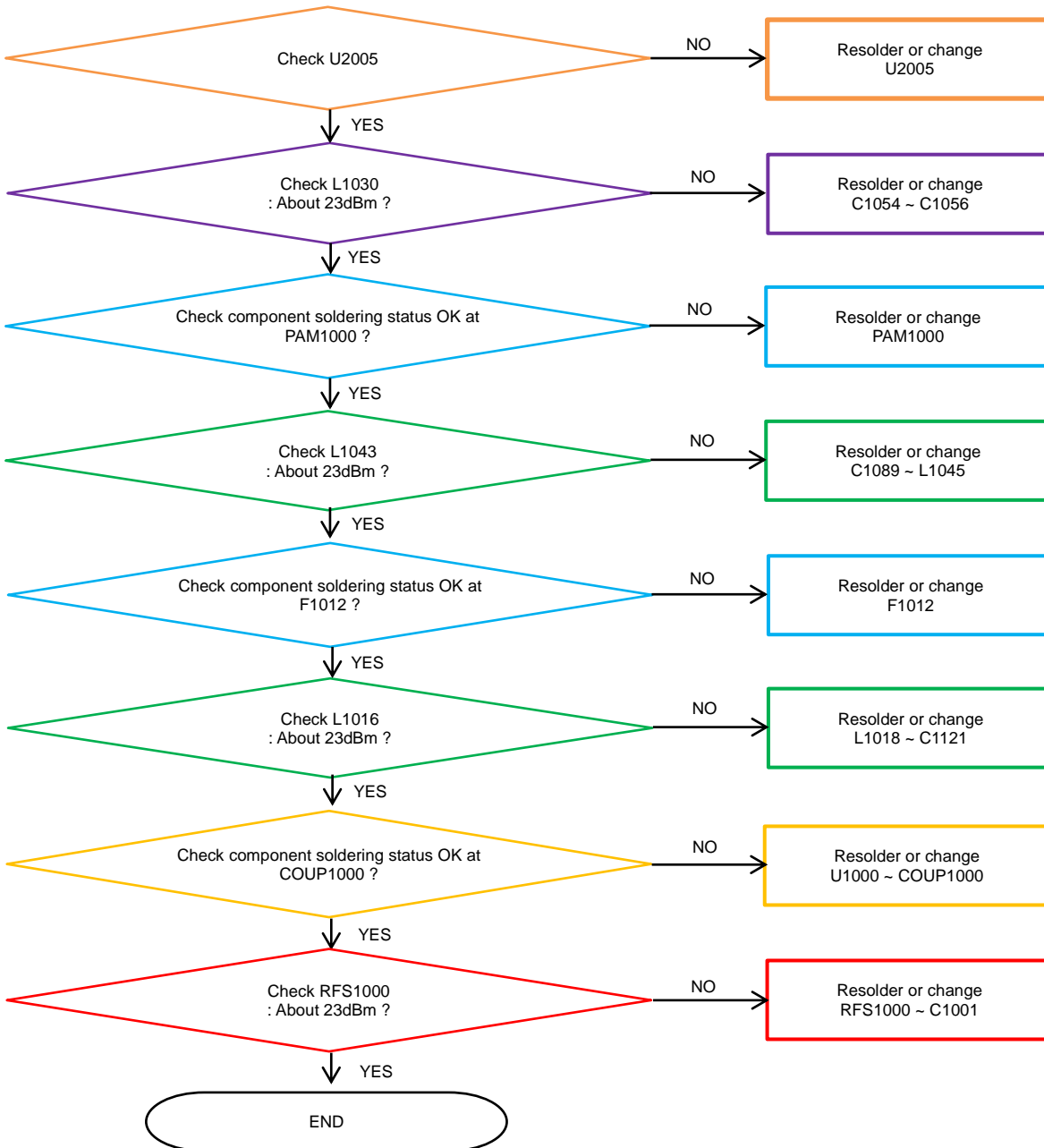
8. Level 3 Repair

8-4-35. LTE B3 TX



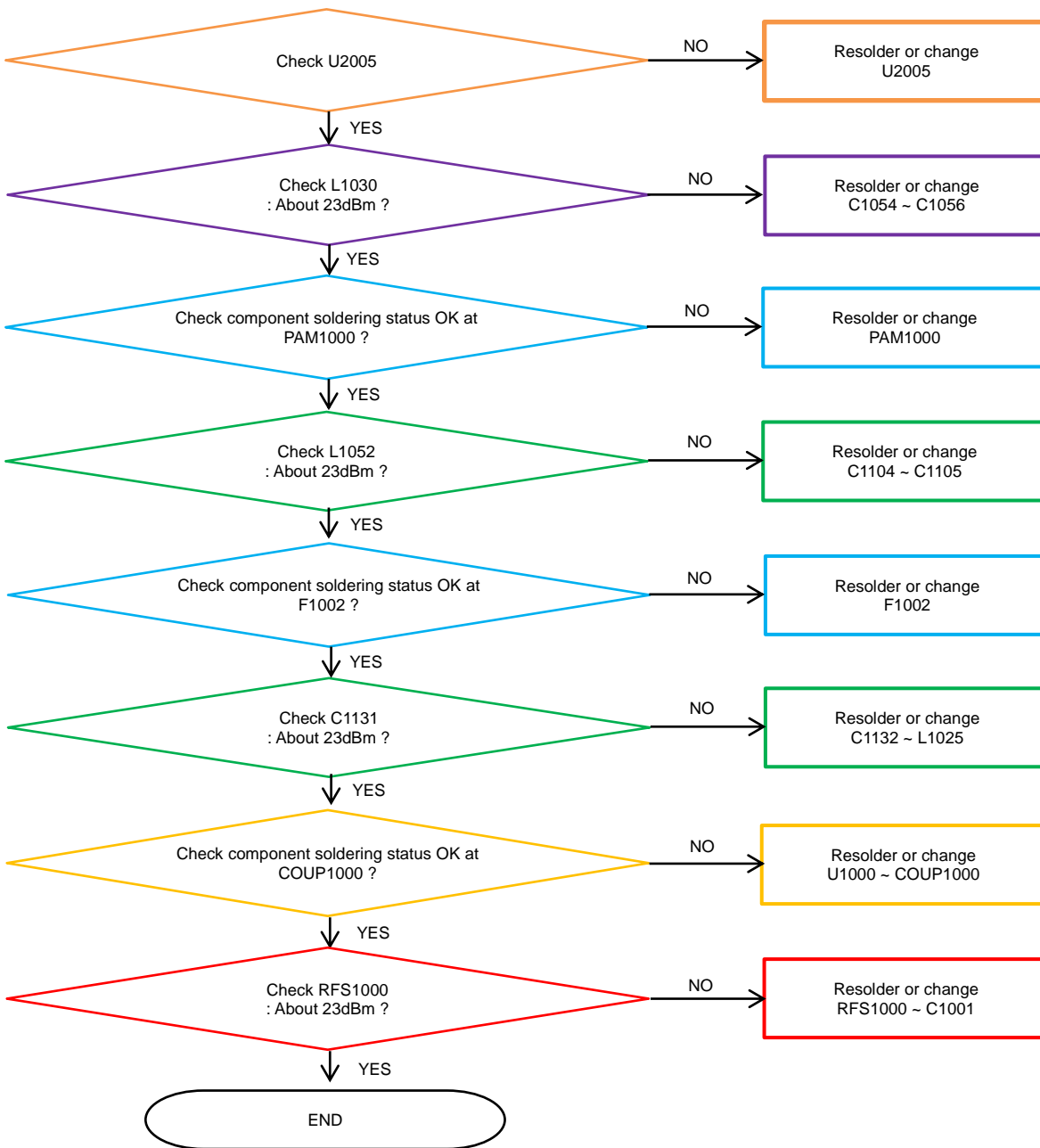
8. Level 3 Repair

8-4-36. LTE B5, WCDMA B5 TX



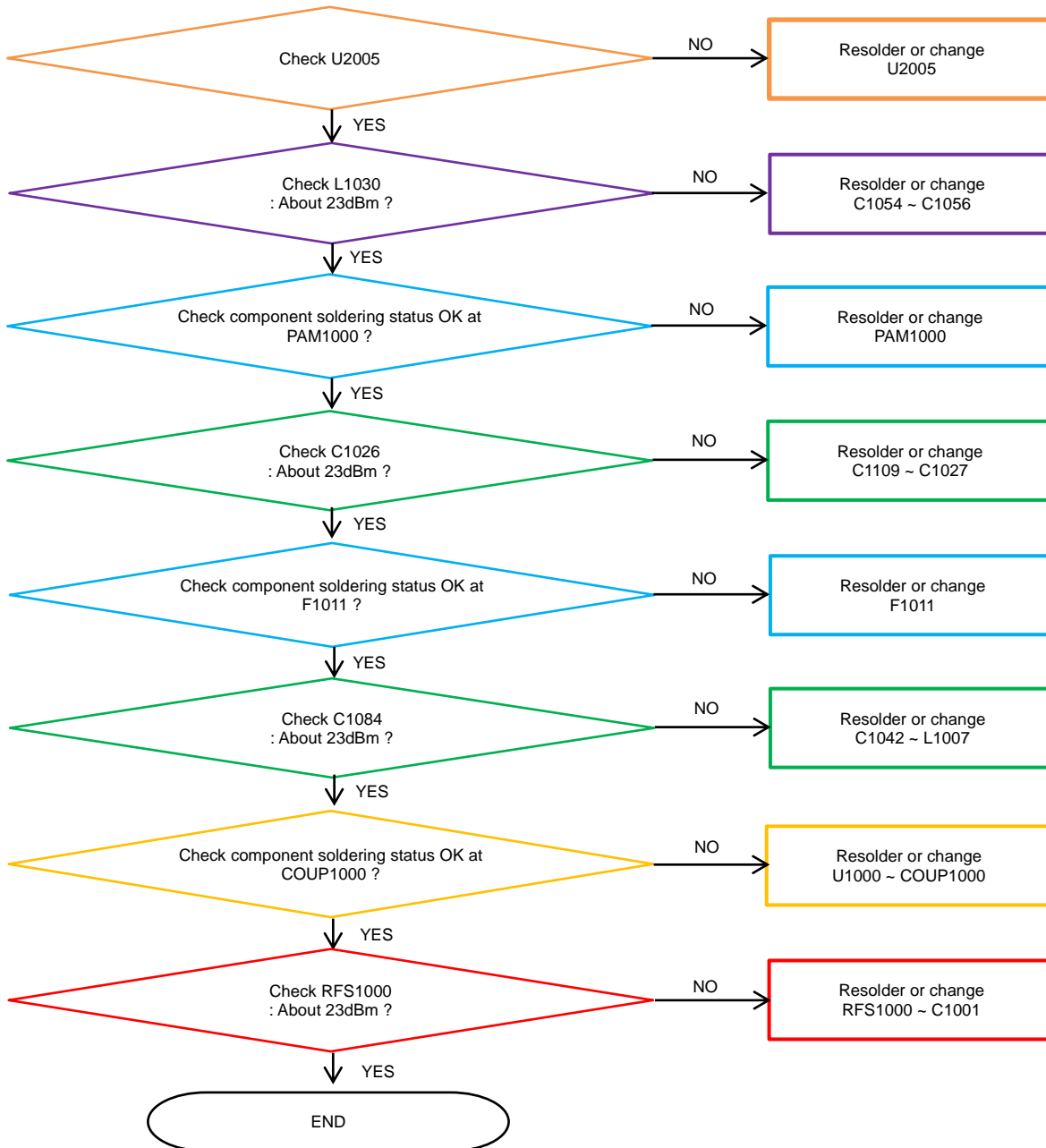
8. Level 3 Repair

8-4-37. LTE, WCDMA B8 TX



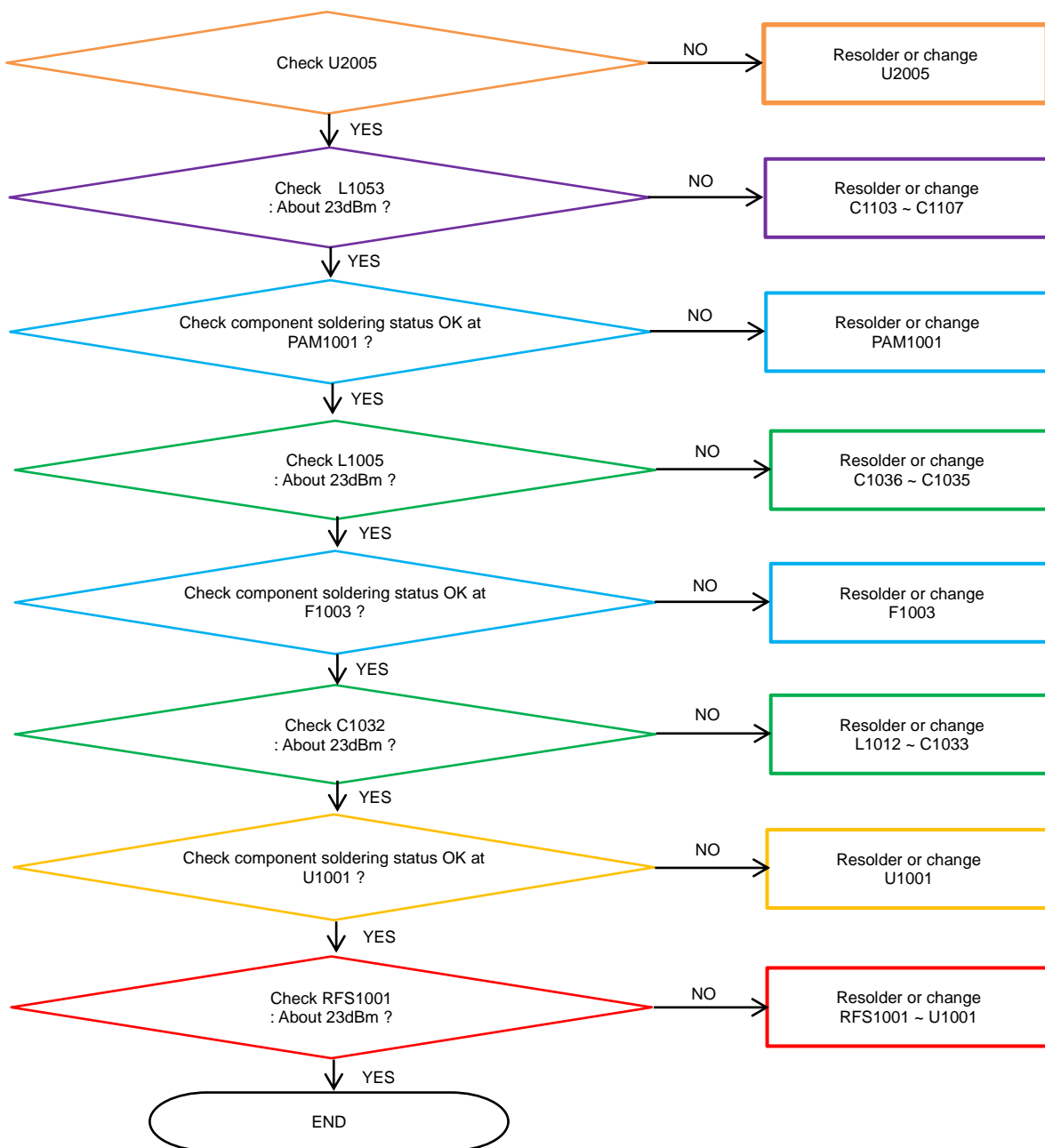
8. Level 3 Repair

8-4-38. LTE B20 TX



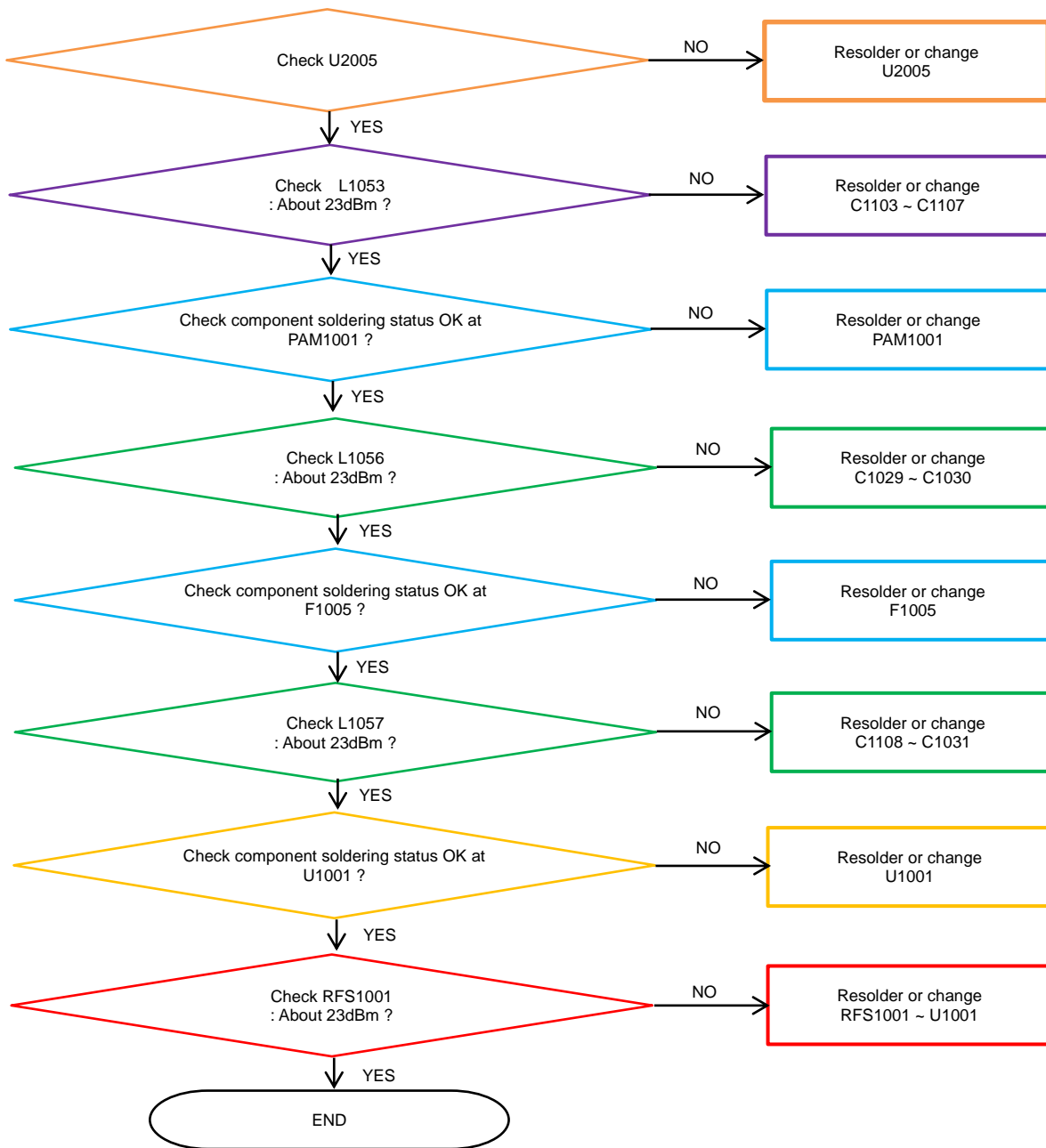
8. Level 3 Repair

8-4-39. LTE B7 TX



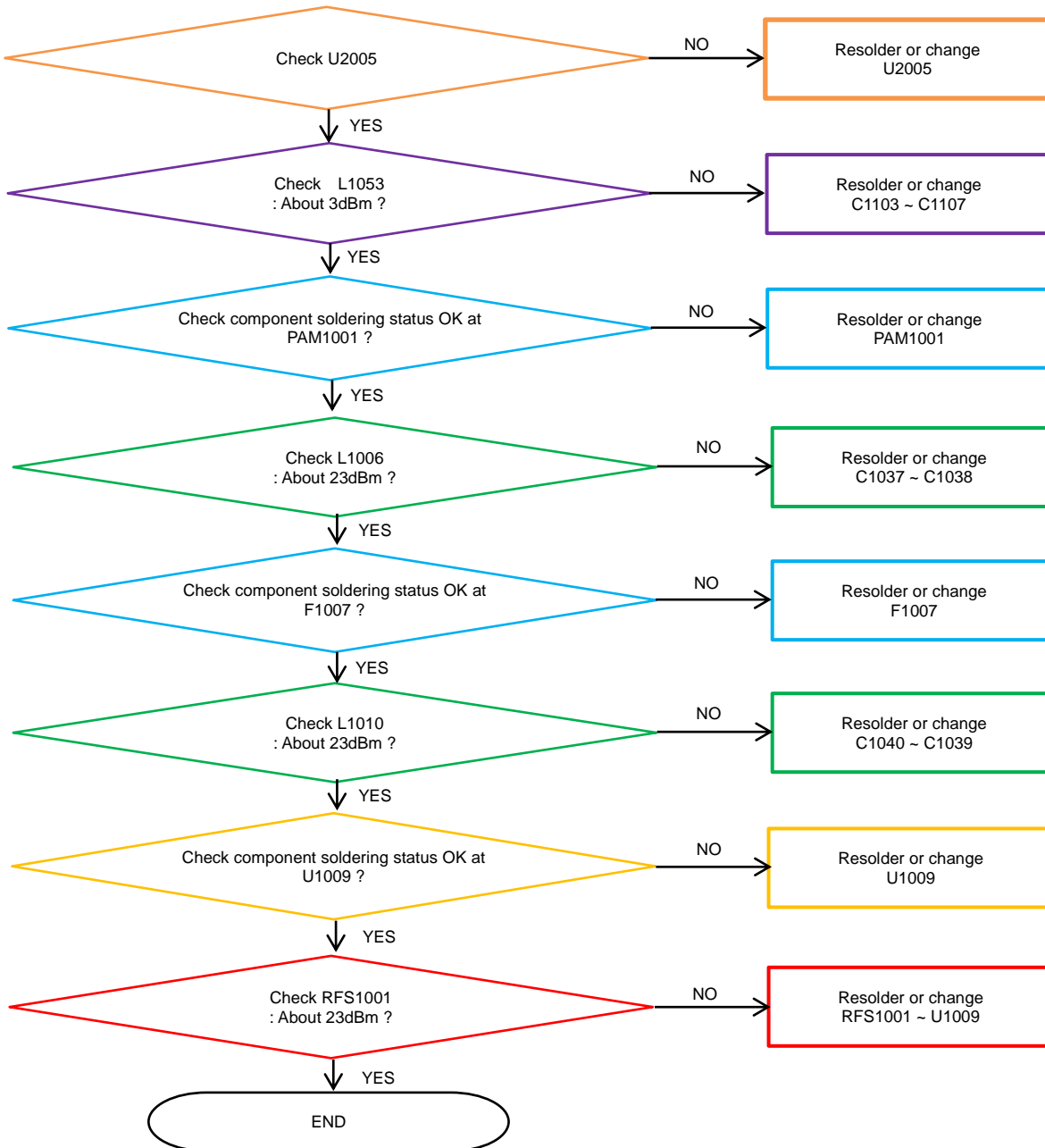
8. Level 3 Repair

8-4-40. LTE B38, 41 TX



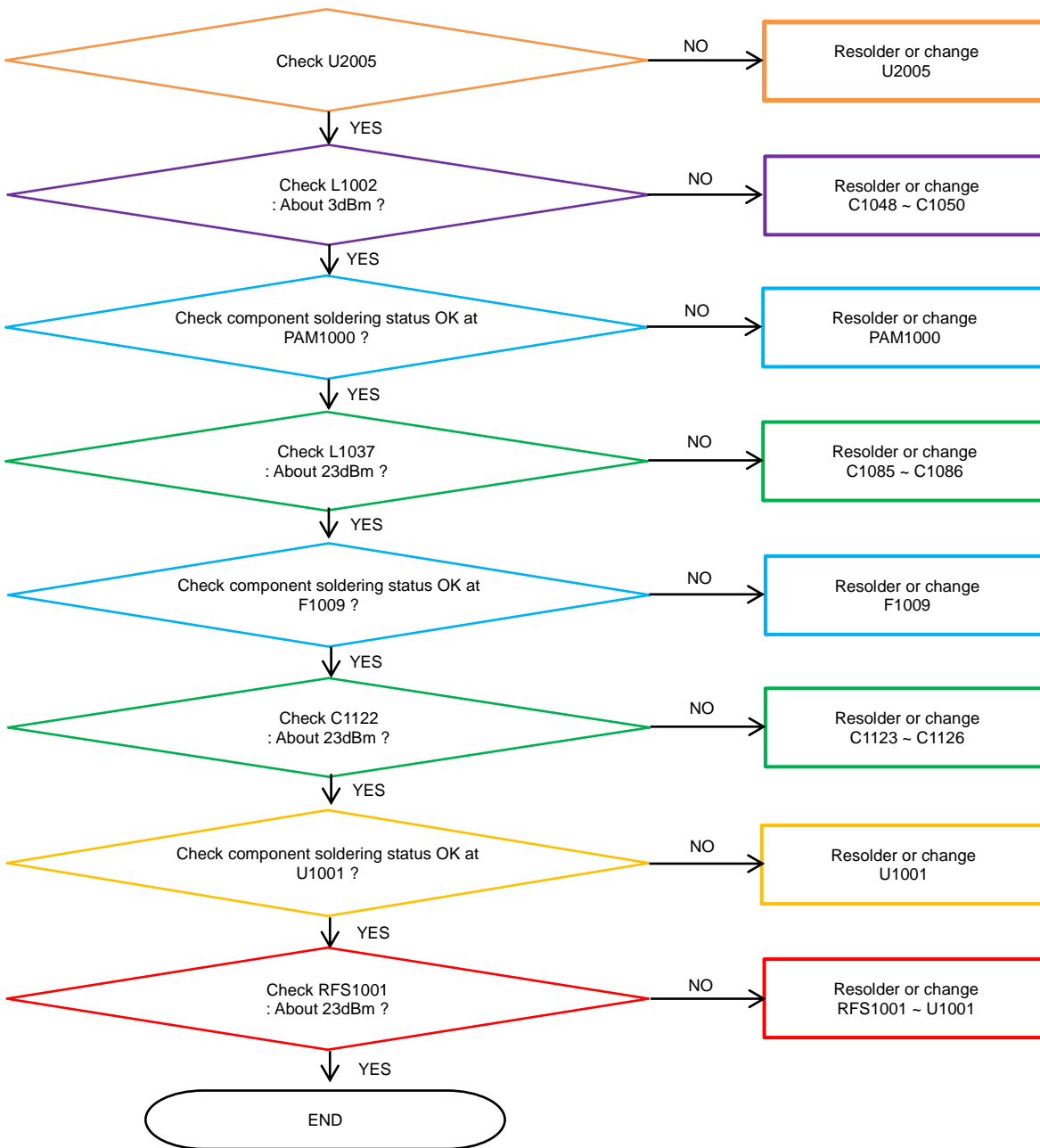
8. Level 3 Repair

8-4-41. LTE B40 TX



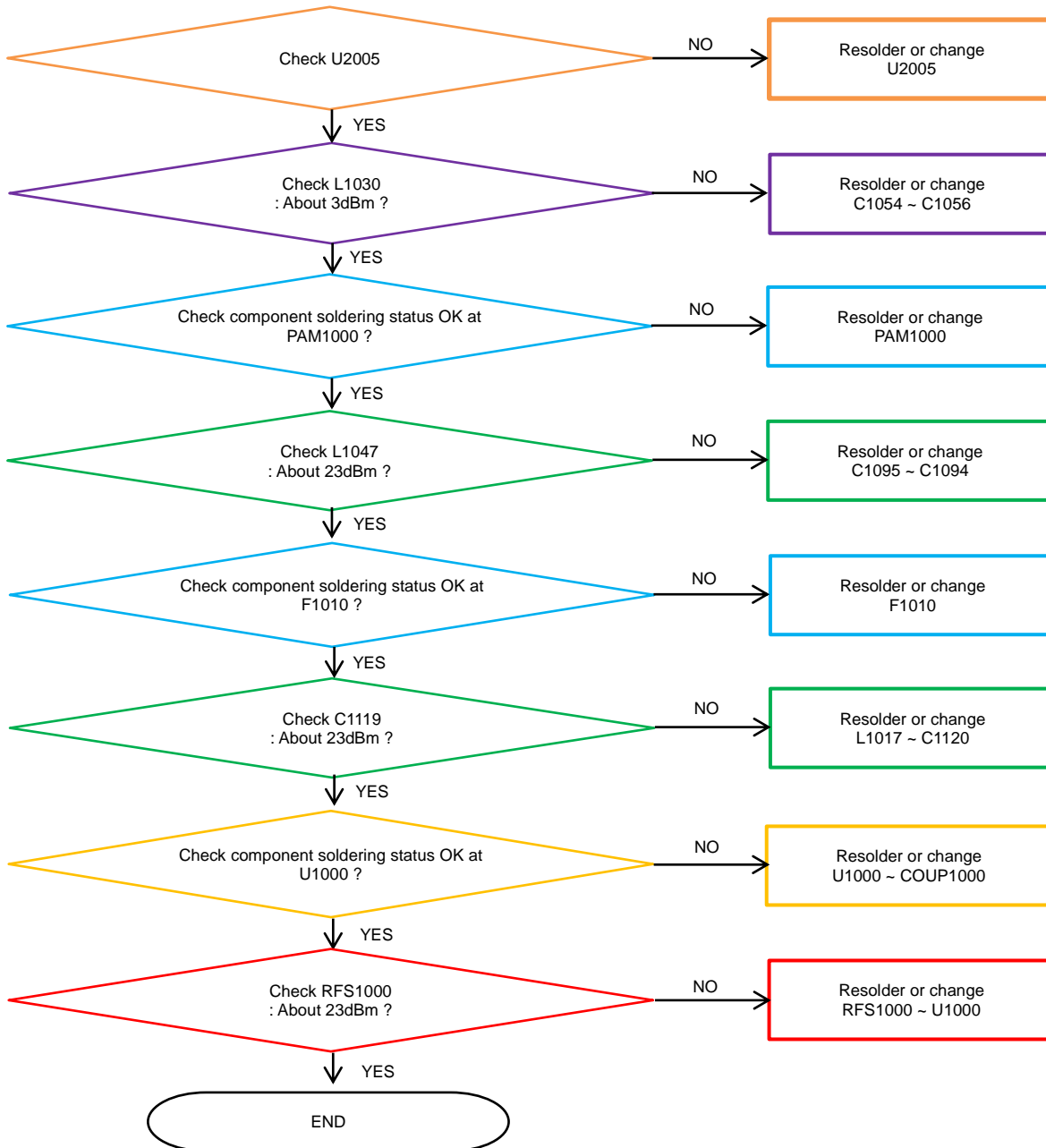
8. Level 3 Repair

8-4-42. WCDMA B4, LTE B4/B66 TX



8. Level 3 Repair

8-4-43. LTE B17 TX



8. Level 3 Repair

8-5. Service Schematics

- NC Point(Top View)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29			
A	VSS	VSS	VSS	XMMC.E MBD, CLK	XMMC.E MBD, RD, CS	VSS	VDDQ, M EM	VDDQ, M EM	VSS	XEINT_19	XEINT_15	XEINT_14	VSS	VDDQ, M EM	XEINT_1	VDDQ, M EM	VSS	XUTDO	XDBGSE, L	VDD1, M EM	XGPI021	VDDQ, M EM	VDDQ, M EM	XDC35CL	XGPI027	XGPI025	VSS	VSS	VSS			
B	VSS	VSS	XMMC.E ARD, CLK	VSS	XMMC.E MBD, CM	XMMC.E MBD, HW, RESET	XMMC.E MBD, DS	XMMC.E MBD, DS	VDD1, M EM	XNWRSE, T	XEINT_9	XEINT_10	XEINT_17	XEINT_18	XEINT_19	XEINT_2	XEINT_0	XTRSTN	XUTDI	XGPI018	XGPI023	XGPI06	VSS	XDC45CL	XGPI07	XGPI024	XUICSTN	XUORTN	VDDQ, M EM	VSS		
C	VSS	VDDQ, M EM	XMMC.E ARD, CM	XMMC.E DIO, CLK	XMMC.E DIO, CM	XMMC.E DIO, D	XMMC.E MBD, D6	XMMC.E MBD, D0	XNRESET	XPWRRG, TON, CO, N	VSS	XEINT_8	XEINT_7	VSS	XEINT_21	XEINT_20	XEINT_5	VSS	XUTCCK	XITMS	XGPI019	XGPI020	XDC45D, A	XGPI07	XGPI024	XUICSTN	XUORTN	VDDQ, M EM	VSS			
D	XUSB200, M	VDDQ, M EM	XMMC.E ARD, D0	XMMC.E DIO, D0	XMMC.E DIO, D1	XMMC.E DIO, D2	XMMC.E MBD, D0	XMMC.E MBD, D0	XPWRRG, TON, SUB	XPSHOLD	XEINT_12	XEINT_11	XEINT_14	XEINT_6	XEINT_4	XEINT_3	XOM_2	XOM_0	XOM_1	XGPI016	XGPI015	XGPI022	XGPI05	XDC65D, A	XDC65CL	XUOTAO	XUORAD	VDDQ, M EM	XWLBT, W LDA, TQD, P			
E	XUSB200, P	VSS	XMMC.C ARD, D3	XMMC.C ARD, D2																									XUOTAO	XUORAD	VDDQ, M EM	XWLBT, W LDA, TQD, P
F	XUSB300, RD, SS, RX, 1	XUSB300, RD, SS, RX, 2	VSS	XUSB300, VRTLINE	XMMC.C ARD, D1	VDDQ18, 33, MMC, CARD	XMMC.E MBD, D4	XMMC.E MBD, D3	VSS	XPWRRG, TON, G3D	XSPEDY, PMIC	XPWRRG, TON, MAI, N	VSS	XRTXCTI	XRTXCTO	XUART, D EBUG, TX, D	XCLKREQ	XCLKOUT, 2	XDC25D, A	XDC25CL	XGPI00	XGPI02	XDC35D, A	XDC15D, A	XDC15CL	XWLBT, W LSL, SPDY	VSS	XWLBT, W LDA, TQD	XWLBT, W LDA, TQD			
G	XUSB300, RD, SS, RX, 3	XUSB300, RD, SS, RX, 4	XUSB300, RD, SS, TX, 1	XUSB300, RD, SS, TX, 2	XUSB300, RD, SS, TX, 3	XUSB300, RD, SS, TX, 4	VDDQ18, 33, MMC, CARD	VDDQ18, 33, MMC, CARD	VSS	VSS	VSS	VSS	VDDQ18, 33, MMC, CARD	VDDQ18, 33, MMC, CARD	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
H	XUSB300, RD, SS, TX, 2	XUSB300, RD, SS, TX, 1	VSS	XUSB300, RD, SS, TX, 2	XUSB300, RD, SS, TX, 1	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
I	VDDQ, M EM	VDDQ, M EM	VSS	XADC0A1, N, 0	AVDD18, USB30, P, HY	AVDD18, USB30, P, HY	AVDD18, USB30, P, HY	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
J	XADC0A1, N, 5	XADC0A1, N, 3	XADC0A1, N, 1	XADC0A1, N, 2	AVDD18, USB30, P, HY	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
K	XADC0A1, N, 7	VDDQ, M EM	XADC0A1, N, 6	XADC0A1, N, 4	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
L	VSS	XGPI09	XGPI04	XGPI03	AVDD18, USB30, P, HY	AVDD18, USB30, P, HY	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
M	XGPI1, MC, LK	XGPI2, MC, LK	XGPI3, MC, LK	XGPI03	AVDD18, USB30, P, HY	AVDD18, USB30, P, HY	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
N	XSPH32, CSCL	XSPH32, CSCL	XGPI08	XGPI01	XGPI01	VSS	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
P	XSPH32, CS2DA	XSPH32, CS2DA	XSPH32, CS2DA	XGPI02	VDDQ18, 33, MMC, CARD	XGPI02	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
R	VSS	XSPH32, CS2DA	XSPH32, CS2DA	XSPH32, CS2DA	AVDD18, USB30, P, HY	AVDD18, USB30, P, HY	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
T	VSS	XSPH32, CS2DA	XSPH32, CS2DA	XSPH32, CS2DA	AVDD18, USB30, P, HY	AVDD18, USB30, P, HY	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
U	XMP1, DS, 94, D0, N	XMP1, DS, 94, D1, P	VSS	VY, TES	AVDD18, USB30, P, HY	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
V	XMP1, DS, 94, D1, N	XMP1, DS, 94, D1, P	XMP1, DS, 94, D1, N	XMP1, DS, 94, D1, P	AVDD18, USB30, P, HY	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
W	XMP1, DS, 94, D2, N	XMP1, DS, 94, D2, P	XMP1, DS, 94, D2, N	XMP1, DS, 94, D2, P	AVDD18, USB30, P, HY	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
Y	VDDQ, M EM	VDDQ, M EM	VSS	VSS	XMP1, DS, 94, D0, P	AVDD18, USB30, P, HY	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
AA	XMP1, CS, 94, D1, N	XMP1, CS, 94, D1, P	XMP1, CS, 94, D1, N	XMP1, CS, 94, D1, P	VSS	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
AB	VDDQ, M EM	XMP1, CS, 94, D1, N	VSS	XMP1, CS, 94, D1, P	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
AC	XMP1, CS, 94, D1, N	XMP1, CS, 94, D1, P	XMP1, CS, 94, D1, N	XMP1, CS, 94, D1, P	XAUD, 12, 3, SDO	XAUD, 12, 3, SDO	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
AD	XMP1, CS, 94, D2, N	XMP1, CS, 94, D2, P	XMP1, CS, 94, D2, N	XMP1, CS, 94, D2, P	XAUD, 12, 3, SDO	XAUD, 12, 3, SDO	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
AE	XMP1, CS, 94, D3, N	XMP1, CS, 94, D3, P	XMP1, CS, 94, D3, N	XMP1, CS, 94, D3, P	XAUD, 12, 3, SDO	XAUD, 12, 3, SDO	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
AF	VDDQ, M EM	VSS	XMP1, CS, 94, D1, N	XMP1, CS, 94, D1, P	XMP1, CS, 94, D1, N	XMP1, CS, 94, D1, P	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
AG	VSS	VDDQ, M EM	XMP1, CS, 94, D2, N	XMP1, CS, 94, D2, P	XMP1, CS, 94, D2, N	XMP1, CS, 94, D2, P	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
AH	VSS	VSS	XMP1, CS, 94, D3, N	XMP1, CS, 94, D3, P	VSS	XMP1, CS, 94, D3, N	XMP1, CS, 94, D3, P	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	
AJ	VSS	VSS	VSS	XMP1, CS, 94, D3, N	XMP1, CS, 94, D3, P	VDDQ, M EM	VDDQ, M EM	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	VSS	



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