

SAMSUNG

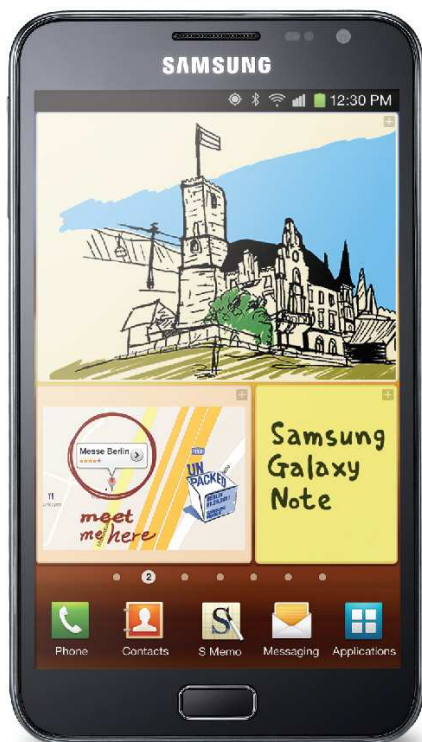
GSM TELEPHONE

GT-N7000/N7000L Common

SERVICE *Manual*

GSM TELEPHONE

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**SAMSUNG
ELECTRONICS**



2. Specification

2-1. GSM General Specification

	GSM850	EGSM 900	DCS1800	PCS1900	WCDMA 2100	WCDMA 1900	WCDMA 900	WCDMA 850
Freq. Band[MHz] Uplink/ Downlink	824~849 869~894	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990	1922~1977 2112~2167	1852~1907 1932~1987	880~915 925~960	824~849 869~894
ARFCN range	128~251	0~124 & 975~1023	512~885	512~810	UL: 9612~9888 DL: 10562~10838	UL: 9262~9538 DL: 9662~9938	UL: 2712~2863 DL: 2937~3088	UL: 4132~4233 DL: 4357~4458
Tx/Rx spacing	45MHz	45MHz	95MHz	80MHz	190MHz	80MHz	45MHz	45MHz
Mod. Bit rate/ Bit Period	270.833kbp s 3.692us	270.833kbp s 3.692us	270.833kbp s 3.692us	270.833kbp s 3.692us	3.84Mcps	3.84Mcps	3.84Mcps	3.84Mcps
Time Slot Period/ Frame Period	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	576.9us 4.615ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms	FrameLength: 10ms Slotlength: 0.667ms
Modulation	0.3GMSK	0.3GMSK	0.3GMSK	0.3GMSK	QPSKHQPS K	QPSKHQPS K	QPSKHQPS K	QPSKHQPS K
MS Power	33dBm~5dB m	33dBm~5dB m	30dBm~0dB m	30dBm~0dB m	24dBm~ -50dBm	24dBm~ -50dBm	24dBm~ -50dBm	24dBm~ -50dBm
Power Class	5pcl ~ 19pcl	5pcl ~ 19pcl	0pcl ~ 15pcl	0pcl ~ 15pcl	3(max+24dB m)	3(max+24dB m)	3(max+24dB m)	3(max+24dB m)
Sensitivity	-102dBm	-102dBm	-100dBm	-100dBm	-106.7dBm	-106.7dBm	-106.7dBm	-106.7dBm
TDMA Mux	8	8	8	8	8	8	8	8
Cell Radius	35Km	35Km	2Km	2Km	2Km	2Km	2Km	2Km

2-2. GSM Tx Power Class

TX Power control level	GSM850	TX Power control level	EGSM900	TX Power control level	DCS1800	TX Power control level	PCS1900
5	33±2 dBm	5	33±2 dBm	0	30±3 dBm	0	30±3 dBm
6	31±2 dBm	6	31±2 dBm	1	28±3 dBm	1	28±3 dBm
7	29±2 dBm	7	29±2 dBm	2	26±3 dBm	2	26±3 dBm
8	27±2 dBm	8	27±2 dBm	3	24±3 dBm	3	24±3 dBm
9	25±2 dBm	9	25±2 dBm	4	22±3 dBm	4	22±3 dBm
10	23±2 dBm	10	23±2 dBm	5	20±3 dBm	5	20±3 dBm
11	21±2 dBm	11	21±2 dBm	6	18±3 dBm	6	18±3 dBm
12	19±2 dBm	12	19±2 dBm	7	16±3 dBm	7	16±3 dBm
13	17±2 dBm	13	17±2 dBm	8	14±3 dBm	8	14±3 dBm
14	15±2 dBm	14	15±2 dBm	9	12±4 dBm	9	12±4 dBm
15	13±2 dBm	15	13±2 dBm	10	10±4 dBm	10	10±4 dBm
16	11±3 dBm	16	11±3 dBm	11	8±4 dBm	11	8±4 dBm
17	9±3dBm	17	9±3dBm	12	6±4 dBm	12	6±4 dBm
18	7±3 dBm	18	7±3 dBm	13	4±4 dBm	13	4±4 dBm
19	5±3 dBm	19	5±3 dBm	14	2±5 dBm	14	2±5 dBm
				15	0±5 dBm	15	0±5 dBm

3. Operation Instruction and Installation

Main Function

- Android OS: Gingerbread
- HSPA+ 21Mbps / HSUPA 5.76Mbps
- 8MP AF with LED Flash
- 5.29 WXGA Super AMOLED (C-Type)
- A-GPS / BT v3.0 USB v2.0 / WiFi (802.11 a/b/g/n) / OTG
- Recording definition: 1080p / Playback at 1080p resolution
- Sensors: Accelerometer, Electromagnetic, Gyro, Light, Proximity, Barometer
- Additional :
 - 1.4GHz Dual Core CPU
 - Application store / Precise Motion UI
 - Seamless Sharing Experience.

6. Level 6 Repair

6-1. S/W installation

6-1-1. Required items in order to install S/W

- Installation program: Downloader Program (**Odin3 v1.85.exe with odin3.ini**)
- GT-N7000 Mobile Phone
- Data Cable
- JIG BOX (GH99-36900B)
- RF Test Cable (GH39-00985A)
- JIG Cable (GH39-01290A)
- Adapter (GH99-38251A)
- Serial Cable
- Mobile device specific S/W: Binary files

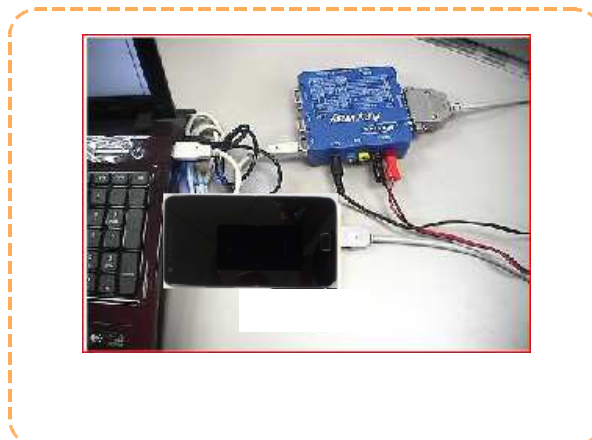
※ Settings



Connect ANYWAY JIG BOX
with JIG CABLE (Phone to JIG)
or PC to Phone Using Data Cable

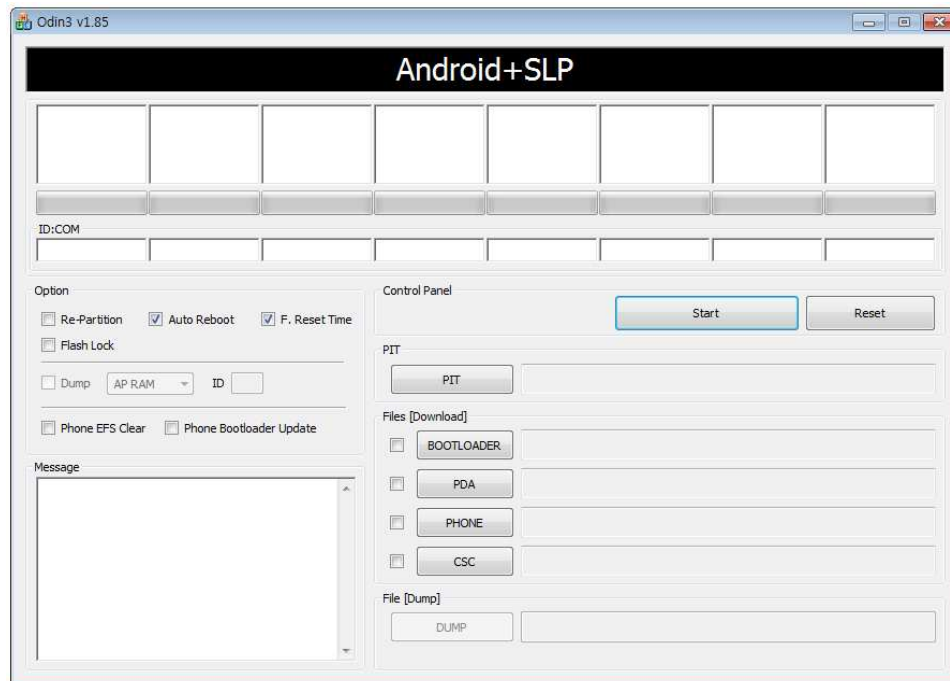


Chipset Solution Switch - 0

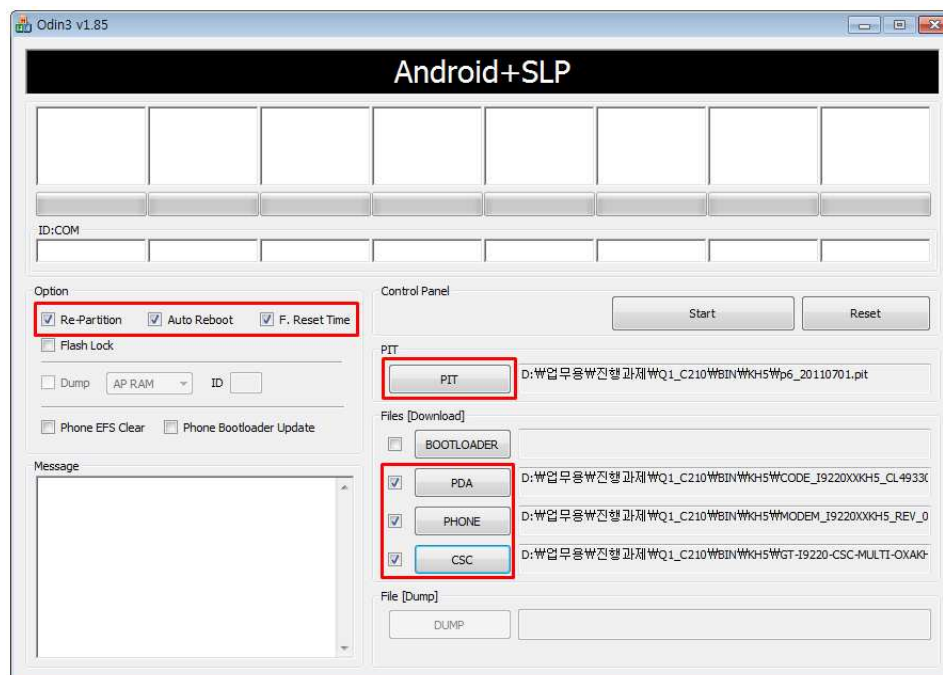


6-1-2. S/W Installation Program (Downloader program)

- Open up the S/W Installation Program by executing the **"Odin3 v1.85.exe"** ("odin3.ini" file should be in the same folder with odin3 v1.85.exe)



1. Enable the check mark by click on the following options,
 - Check Re-Partition, Auto Reboot, and F. Reset Time
 - Check PIT
 - Check PDA, PHONE, and CSC Files



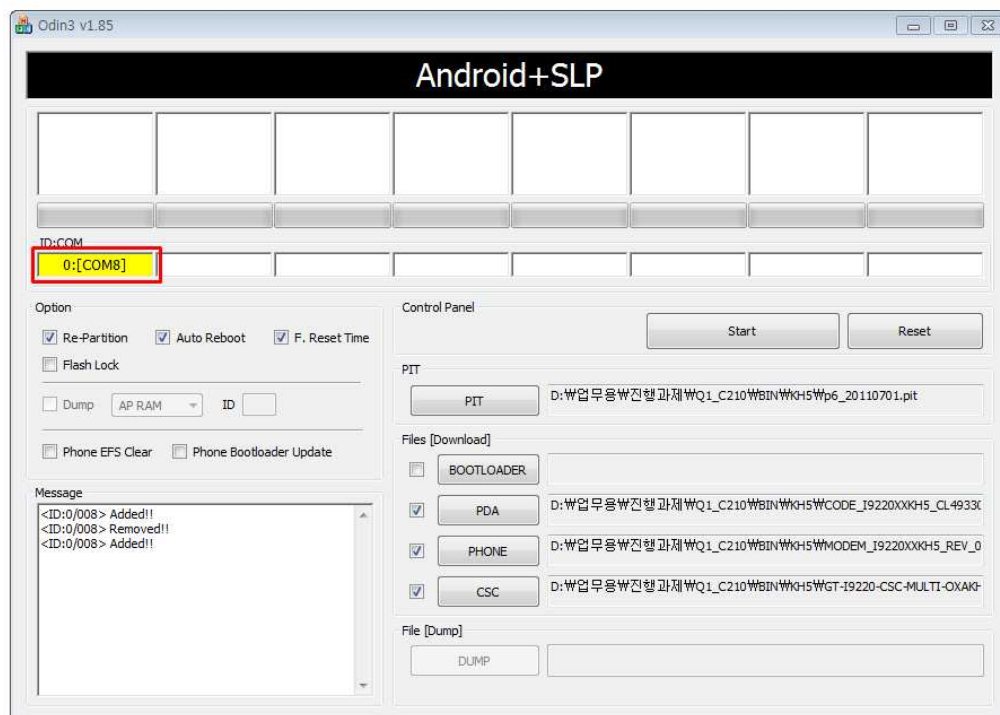
2. Enter into Download Mode

- ① Enter into Download Mode by pressing Volume Down button, OK button, and ON/OFF Button simultaneously.
- ② Next, press Volume Up button.

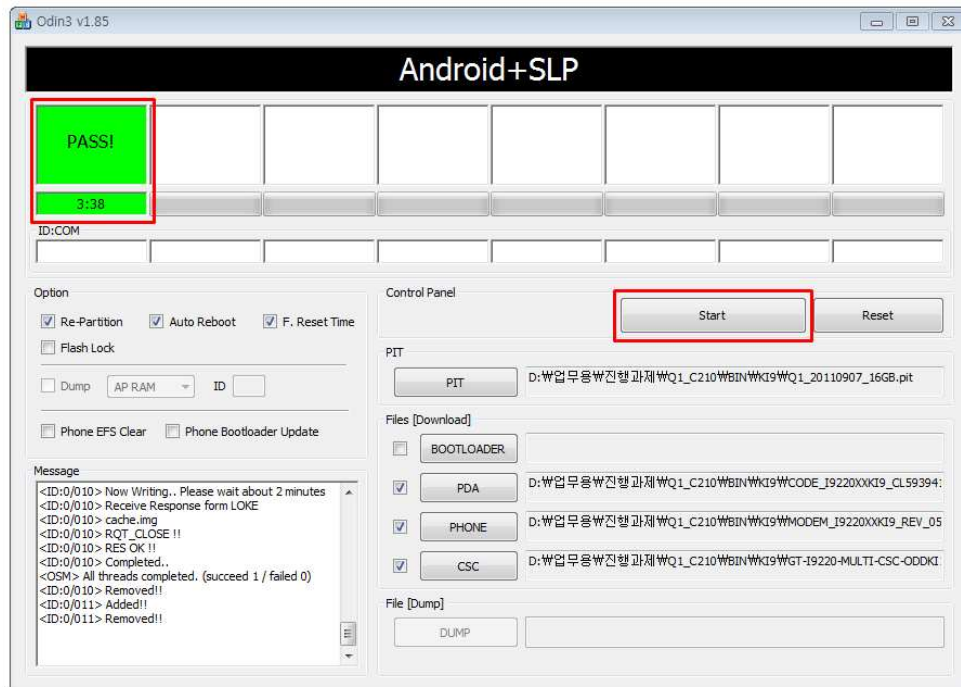


3. Connect the device to PC via Data Cable.

Make sure that the one of communication port [ID:COM] box is highlighted in yellow. The device is now connected with the PC and ready to download the binary file into the device.



- Start downloading binary file into the device by clicking Start Button on the screen. the green colored "PASS!" sign will appear on the upper-left box if the binary file has been successfully downloaded into the device.



- Disconnect the device from the Data cable.
- Once the device boots up, you can check the version of the binary file or name by pressing the following code in sequence;
***#1234#**

You can perform full reset by pressing the following code in sequence;

***2767*3855#**

9. Reference Abbreviate

Reference Abbreviate

- AAC: AdvancedAudioCoding.
- AVC: AdvancedVideoCoding.
- BER: BitErrorRate
- BPSK: BinaryPhaseShiftKeying
- CA: ConditionalAccess
- CDM: CodeDivisionMultiplexing
- C/I: Carrier to Interference
- DMB: DigitalMultimediaBroadcasting
- E: EuropeanStandard
- ES: ElementaryStream
- ETSI: EuropeanTelecommunicationsStandardsInstitute
- MPEG: MovingPictureExpertsGroup
- PN: Pseudo-randomNoise
- PS: PilotSymbol
- QPSK: QuadraturePhaseShiftKeying
- RS: Reed-Solomon
- SI: ServiceInformation
- TDM: TimeDivisionMultiplexing
- TS: TransportStream

1. Safety Precautions

1-1. Repair Precaution

Before attempting any repair or detailed tuning, shield the device from RF noise or static electricity discharges.

Use only demagnetized tools that are specifically designed for small electronic repairs, as most electronic parts are sensitive to electromagnetic forces.

Use only high quality screwdrivers when servicing products. Low quality screwdrivers can easily damage the heads of screws.

Use only conductor wire of the properly gauge and insulation for low resistance, because of the low margin of error of most testing equipment.

We recommend 22-gauge twisted copper wire.

Hand-soldering is not recommended, because printed circuit boards (PCBs) can be easily damaged, even with relatively low heat. Never use a soldering iron with a power rating of more than 100 watts and use only lead-free solder with a melting point below 250°C (482°F).

Prior to disassembling the battery charger for repair, ensure that the AC power is disconnected. Always use the replacement parts that are registered in the SEC system. Third-party replacement parts may not function properly.

1-2. ESD(Electrostatically Sensitive Devices) Precaution

Many semiconductors and ESDs in electronic devices are particularly sensitive to static discharge and can be easily damaged by it. We recommend protecting these components with conductive anti-static bags when you store or transport them.

Always use an anti-static strap or wristband and remove electrostatic buildup or dissipate static electricity from your body before repairing ESDs.

Ensure that soldering irons have AC adapter with ground wires and that the ground wires are properly connected.

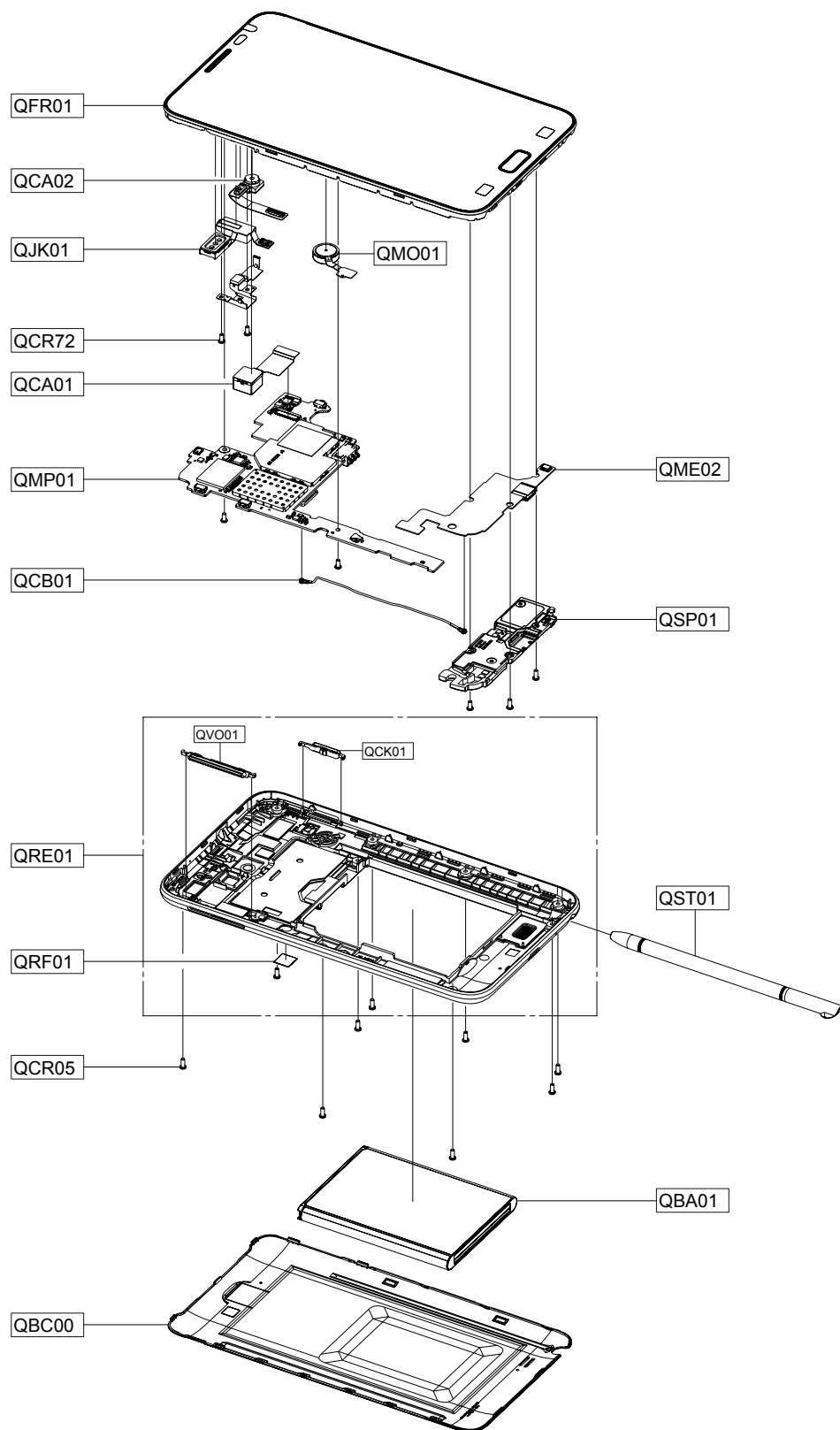
Use only desoldering tools with plastic tips to prevent static discharge.

Properly shield the work environment from accidental electrostatic discharge before opening packages containing ESDs.

The potential for static electricity discharge may be increased in low humidity environments, such as air-conditioned rooms. Increase the airflow to the working area to decrease the chance of accidental static electricity discharges.

4. Exploded View and Parts List

4-1. Cellular phone Exploded View



4-2. Cellular phone Parts list

Design LOC		Description	SEC CODE
QBA01		INNER BATTERY PACK-2500MAH,BLK,UNI,MAIN	GH43-03640A
QBC00		ASSY COVER-BATT	GH98-21606A
QCA01		ASSY CAMERA-8M 1/3.2" LSI MODULE(GT_I922	GH96-05397A
QCA02		CAMERA MODULE-2M VT LSI(GT-I9220)	GH59-11704A
QCB01		CBF COAXIAL CABLE-GT-I9103	GH39-01489A
QCR05		SCREW-MACHINE	6001-001478
QCR72		SCREW-MACHINE	6001-002051
QFR01		MEA FRONT-OCTA LCD ASSY(SVC)	GH97-12948A
QJK01		MODULE-GT_I9220 EARJACK+RCV	GH59-11714A
QME02		UNIT-SUB PBA(GT-I9220)	GH59-11676A
QMO01		MOTOR LINEAR VIBRATION-GT-I9220	GH31-00563A
QMP01		A/S ASSY-PBA MAIN (COMM)	GH82-06121A
QRF01		TAPE-RF SWITCH	GH74-57806A
QSP01		MODULE-GT_I9220L SPK+ENCLOSURE+INT	GH59-11746A
QST01		ASSY ACCE-E-PEN	GH98-21596A
QRE01		ASSY CASE-REAR	GH98-21616A
	QVO01	PMO KEY-VOL	GH72-65741A
	QCK01	PMO KEY-POWER	GH72-65742A

5. MAIN Electrical Parts List

SEC CODE	Design LOC	Description
0403-001688	D601	DIODE-ZENER
0406-001322	ZD600	DIODE-TVS
0406-001327	ZD300	DIODE-TVS
0407-001002	D600	DIODE-ARRAY
0601-003079	LED500	LED
0801-003031	U400,U600	IC
0801-003139	U303	IC
0902-002847	UCP400	IC
1001-001481	U604	IC
1001-001699	U512	IC
1001-001715	U1009	IC
1001-001733	U1004	IC
1003-002102	U503	IC
1003-002391	U500	IC
1108-000424	UME300	MEMORY
1201-003308	U1008	IC
1201-003317	U1005	IC
1202-001068	U505	IC
1202-001118	U200	IC
1203-004819	U205,U206,U208,U501	IC
1203-004819	U507,U510	IC
1203-005485	U601	IC
1203-005853	U508	IC
1203-005907	U502	IC
1203-006022	U506,U517	IC
1203-006494	U607	IC
1203-006801	U1000	IC
1203-006807	U509	IC
1203-006817	U301	IC
1203-006851	U602	IC
1203-006874	U511	IC
1203-006985	U1003	IC
1203-006986	U302	IC
1203-007142	U504	IC
1204-003176	U201	IC
1204-003328	U207	IC

SEC CODE	Design LOC	Description
1205-004174	U202	IC
1205-004195	U1001	IC
1205-004213	U300	IC
1205-004233	U518	IC
1205-004396	U1011	IC
1205-004399	U516	IC
1209-001997	U608	IC
1209-002041	U609	IC
1209-002045	U605	IC
1209-002096	U606	IC
1404-001221	TH300,TH400,TH401	THERMISTOR
1405-001183	V203,V204,V205,V206	VARISTOR
1405-001183	V207	VARISTOR
1405-001200	ZD302	VARISTOR
1405-001296	V200,V201,V208	VARISTOR
2007-000140	R307,R308,R430,R431	R-CHIP
2007-000141	R506	R-CHIP
2007-000143	R536	R-CHIP
2007-000148	R500	R-CHIP
2007-000162	R400,R401,R402,R403	R-CHIP
2007-000162	R516	R-CHIP
2007-000165	R514	R-CHIP
2007-000170	R513,R517	R-CHIP
2007-001290	R465	R-CHIP
2007-001298	R1016	R-CHIP
2007-003015	R332,R334	R-CHIP
2007-007014	R314,R315,R316,R317	R-CHIP
2007-007014	R318,R319,R320,R321	R-CHIP
2007-007107	R312,R437	R-CHIP
2007-007137	R223,R441	R-CHIP
2007-007334	R609	R-CHIP
2007-007489	R512,R534,R535	R-CHIP
2007-007517	R432,R433,R462,R463	R-CHIP
2007-007538	R515	R-CHIP
2007-007585	R205	R-CHIP
2007-007741	U515	R-CHIP

SEC CODE	Design LOC	Description
2007-007942	R201,R202,R204	R-CHIP
2007-008045	R621	R-CHIP
2007-008046	R1004	R-CHIP
2007-008048	R1017,R532,R533	R-CHIP
2007-008052	R322,R407,R408,R409	R-CHIP
2007-008052	R410,R421,R422,R456	R-CHIP
2007-008052	R457,R458,R503,R504	R-CHIP
2007-008052	R612	R-CHIP
2007-008055	R218,R220,R418,R426	R-CHIP
2007-008055	R428,R429,R436,R449	R-CHIP
2007-008055	R450,R452,R453,R454	R-CHIP
2007-008055	R507,R526,R528,R613	R-CHIP
2007-008055	R620	R-CHIP
2007-008419	R203,R419,R420,R447	R-CHIP
2007-008419	R448,R505	R-CHIP
2007-008420	R200,R509,R511,R615	R-CHIP
2007-008483	R211,R212,R213,R214	R-CHIP
2007-008483	R215,R301,R302,R303	R-CHIP
2007-008483	R304,R305	R-CHIP
2007-008486	R502	R-CHIP
2007-008516	R216,R300,R323,R324	R-CHIP
2007-008516	R404,R405,R406,R443	R-CHIP
2007-008516	R444,R445,R455,R508	R-CHIP
2007-008516	R531,R603,R604,R605	R-CHIP
2007-008516	R606,R608,R610,R611	R-CHIP
2007-008516	R614,R616	R-CHIP
2007-008531	R208,R209,R518	R-CHIP
2007-008579	R206	R-CHIP
2007-008588	R338,R339,R340,R411	R-CHIP
2007-008588	R412,R414,R415,R424	R-CHIP
2007-008588	R425,R459,R460,R617	R-CHIP
2007-008588	R618	R-CHIP
2007-008686	R1005,R1006	R-CHIP
2007-008774	R229,R231	R-CHIP
2007-008800	R434,R435,R461,R466	R-CHIP
2007-009084	R228,R230,R529	R-CHIP

SEC CODE	Design LOC	Description
2007-009111	R234,R235,R325	R-CHIP
2007-009115	R464,R524,R525,R600	R-CHIP
2007-009115	R601	R-CHIP
2007-009154	R521,R522	R-CHIP
2007-009157	U514	R-CHIP
2007-009182	R523	R-CHIP
2007-009199	R510	R-CHIP
2007-009212	R222	R-CHIP
2007-009315	R306	R-CHIP
2007-009354	R1013	R-CHIP
2007-009801	R1002,R1003	R-CHIP
2007-009849	R1007,R1008	R-CHIP
2007-009964	R438,R439	R-CHIP
2007-010029	R413	R-CHIP
2007-010202	R520	R-CHIP
2007-010233	R327	R-CHIP
2007-010827	R619	R-CHIP
2203-000233	C1083,C507	C-CERAMIC,CHIP
2203-000278	C270	C-CERAMIC,CHIP
2203-000386	C214	C-CERAMIC,CHIP
2203-000438	C524	C-CERAMIC,CHIP
2203-000725	C660	C-CERAMIC,CHIP
2203-000812	C269	C-CERAMIC,CHIP
2203-000995	C274	C-CERAMIC,CHIP
2203-001072	C213	C-CERAMIC,CHIP
2203-002982	C1037,C1039	C-CERAMIC,CHIP
2203-005057	C208	C-CERAMIC,CHIP
2203-005138	C440,C445	C-CERAMIC,CHIP
2203-005682	C1030,C1050,C345	C-CERAMIC,CHIP
2203-005682	C347,C348,C349	C-CERAMIC,CHIP
2203-005717	C1020	C-CERAMIC,CHIP
2203-005725	C1100,C438,C439	C-CERAMIC,CHIP
2203-005726	C1042,C1065,C1066	C-CERAMIC,CHIP
2203-005726	C1068,C1069,C1074	C-CERAMIC,CHIP
2203-005726	C1079,C1081,C1084	C-CERAMIC,CHIP
2203-005726	C1090,C1093,C1098	C-CERAMIC,CHIP

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2203-005726	C238	C-CERAMIC,CHIP
2203-005727	C209	C-CERAMIC,CHIP
2203-005729	C239,C267,C353,C620	C-CERAMIC,CHIP
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2203-005731	C290,C352	C-CERAMIC,CHIP
2203-005736	C1049,C1073,C1080	C-CERAMIC,CHIP
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2203-005736	U1014	C-CERAMIC,CHIP
2203-005777	C1054	C-CERAMIC,CHIP
2203-005806	C1038,C1077	C-CERAMIC,CHIP
2203-006048	C204,C302,C546,C548	C-CERAMIC,CHIP
2203-006048	C605,C672,C677,U1013	C-CERAMIC,CHIP
2203-006190	C306,C342	C-CERAMIC,CHIP
2203-006194	C1043,C1057,C242	C-CERAMIC,CHIP
2203-006194	C246,C248,C309,C312	C-CERAMIC,CHIP
2203-006194	C665	C-CERAMIC,CHIP
2203-006208	C1032,C629,C631,C632	C-CERAMIC,CHIP
2203-006208	C633	C-CERAMIC,CHIP
2203-006260	C671	C-CERAMIC,CHIP
2203-006305	C210,C559,C562	C-CERAMIC,CHIP
2203-006348	U603	C-CERAMIC,CHIP
2203-006379	C1035	C-CERAMIC,CHIP
2203-006399	C1016,C1022,C1059	C-CERAMIC,CHIP
2203-006399	C244,C359,C517,C518	C-CERAMIC,CHIP
2203-006399	C641,C644,C649,C650	C-CERAMIC,CHIP
2203-006399	C651,C655,C656,C657	C-CERAMIC,CHIP
2203-006399	C658,C670	C-CERAMIC,CHIP
2203-006423	C1002,C1003,C1004	C-CERAMIC,CHIP
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2203-006423	C1012,C1013,C1040	C-CERAMIC,CHIP
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2203-006423	C560,C565,C602,C603	C-CERAMIC,CHIP
2203-006423	C604,C616,C640,C663	C-CERAMIC,CHIP
2203-006423	C666	C-CERAMIC,CHIP
2203-006426	C555	C-CERAMIC,CHIP
2203-006439	C1034	C-CERAMIC,CHIP
2203-006562	C212,C360,C514,C542	C-CERAMIC,CHIP
2203-006562	C617,C618	C-CERAMIC,CHIP
2203-006642	C404,C407	C-CERAMIC,CHIP
2203-006647	C1007,C1008,C1009	C-CERAMIC,CHIP
2203-006647	C1014	C-CERAMIC,CHIP
2203-006648	C1047,C224,C226,C266	C-CERAMIC,CHIP
2203-006648	C276,C281	C-CERAMIC,CHIP
2203-006668	C286,C287,C410,C411	C-CERAMIC,CHIP
2203-006824	C1023,C1027,C561	C-CERAMIC,CHIP
2203-006839	C211,C215,C533,C539	C-CERAMIC,CHIP
2203-006872	C1010,C1024,C1076	C-CERAMIC,CHIP
2203-006872	C1085,C1088,C1089	C-CERAMIC,CHIP
2203-006872	C1099,C229,C310,C408	C-CERAMIC,CHIP
2203-006872	C414,C428,C432,C435	C-CERAMIC,CHIP
2203-006872	C537,C538,C544,C545	C-CERAMIC,CHIP
2203-006872	C547,C554,C643,C647	C-CERAMIC,CHIP
2203-006872	C648,C652,C653,C654	C-CERAMIC,CHIP
2203-006890	C628,C630,C675	C-CERAMIC,CHIP
2203-006896	C1095,C1096,C1097	C-CERAMIC,CHIP
2203-006978	C354,U1012	C-CERAMIC,CHIP

SEC CODE	Design LOC	Description
2203-006979	C1015,C1026,C1091	C-CERAMIC,CHIP
2203-006979	C231,C234,C662	C-CERAMIC,CHIP
2203-007133	C528,C531,C532,C534	C-CERAMIC,CHIP
2203-007147	C350,C351	C-CERAMIC,CHIP
2203-007194	C225	C-CERAMIC,CHIP
2203-007210	C1017,C236,C237,C300	C-CERAMIC,CHIP
2203-007210	C304,C305,C319,C322	C-CERAMIC,CHIP
2203-007210	C327,C331,C335,C336	C-CERAMIC,CHIP
2203-007210	C340,C356	C-CERAMIC,CHIP
2203-007270	C1001,C228,C676	C-CERAMIC,CHIP
2203-007271	C1041,C502,C503	C-CERAMIC,CHIP
2203-007279	C1029,C311,C317,C318	C-CERAMIC,CHIP
2203-007279	C535	C-CERAMIC,CHIP
2203-007317	C1025,C1056,C200	C-CERAMIC,CHIP
2203-007317	C205,C227,C413,C416	C-CERAMIC,CHIP
2203-007317	C421,C423,C427,C431	C-CERAMIC,CHIP
2203-007317	C434,C541,C636,C642	C-CERAMIC,CHIP
2203-007317	C646	C-CERAMIC,CHIP
2203-007385	C526	C-CERAMIC,CHIP
2203-007391	C664,C668	C-CERAMIC,CHIP
2203-007393	C1000,C1044,C303	C-CERAMIC,CHIP
2203-007393	C513,C610,C612,C613	C-CERAMIC,CHIP
2203-007393	C614,C615,C621,C622	C-CERAMIC,CHIP
2203-007393	C623,C624,C625,C626	C-CERAMIC,CHIP
2203-007393	C627	C-CERAMIC,CHIP
2203-007449	C1021,C202,C203,C206	C-CERAMIC,CHIP
2203-007449	C216,C217,C230,C232	C-CERAMIC,CHIP
2203-007449	C233,C235,C241,C243	C-CERAMIC,CHIP
2203-007449	C245,C247,C249,C250	C-CERAMIC,CHIP
2203-007449	C253,C254,C328,C341	C-CERAMIC,CHIP
2203-007449	C357,C358,C400,C401	C-CERAMIC,CHIP
2203-007449	C403,C406,C417,C418	C-CERAMIC,CHIP
2203-007449	C419,C422,C424,C429	C-CERAMIC,CHIP
2203-007449	C433,C436,C504,C505	C-CERAMIC,CHIP
2203-007449	C506,C508,C511,C516	C-CERAMIC,CHIP
2203-007449	C520,C521,C522,C527	C-CERAMIC,CHIP

SEC CODE	Design LOC	Description
2203-007449	C529,C530,C536,C543	C-CERAMIC,CHIP
2203-007449	C556,C557,C558,C563	C-CERAMIC,CHIP
2203-007449	C564,C600,C601,C608	C-CERAMIC,CHIP
2203-007449	C638,C645,C678	C-CERAMIC,CHIP
2203-007456	C607	C-CERAMIC,CHIP
2203-007474	C426,C430,C512,C639	C-CERAMIC,CHIP
2203-007693	C669	C-CERAMIC,CHIP
2203-007701	C609,U1017	C-CERAMIC,CHIP
2203-007795	C611,C659	C-CERAMIC,CHIP
2203-007796	C637,C661	C-CERAMIC,CHIP
2203-008095	C343,C344	C-CERAMIC,CHIP
2404-001496	TA200	C-TA,CHIP
2404-001506	TA600	C-TA,CHIP
2409-001186	BAT600	CAPACITOR
2703-002208	L1001	INDUCTOR-SMD
2703-002649	L1017	INDUCTOR-SMD
2703-002793	L1026,L1034	INDUCTOR-SMD
2703-002858	L1021	INDUCTOR-SMD
2703-002870	L1016,L1027,L1037	INDUCTOR-SMD
2703-002901	L1028	INDUCTOR-SMD
2703-002903	L1023	INDUCTOR-SMD
2703-002907	L1038	INDUCTOR-SMD
2703-002953	L1008	INDUCTOR-SMD
2703-002955	L1031	INDUCTOR-SMD
2703-002961	L1040,L205	INDUCTOR-SMD
2703-003125	L1022	INDUCTOR-SMD
2703-003293	L201	INDUCTOR-SMD
2703-003545	L204	INDUCTOR-SMD
2703-003685	L502	INDUCTOR-SMD
2703-003686	L603	INDUCTOR-SMD
2703-003687	L607	INDUCTOR-SMD
2703-003755	L1003,L1004,L1005	INDUCTOR-SMD
2703-003771	L1039	INDUCTOR-SMD
2703-003869	L302,L303	INDUCTOR-SMD
2703-003892	L604	INDUCTOR-SMD
2703-003896	L214	INDUCTOR-SMD

SEC CODE	Design LOC	Description
2703-003897	L505,L508	INDUCTOR-SMD
2703-003909	L601,L605	INDUCTOR-SMD
2703-003911	L600,L602	INDUCTOR-SMD
2703-003921	L1030	INDUCTOR-SMD
2703-004001	L1024	INDUCTOR-SMD
2703-004012	L1012	INDUCTOR-SMD
2703-004013	L1020	INDUCTOR-SMD
2703-004018	L1033	INDUCTOR-SMD
2703-004034	L1006	INDUCTOR-SMD
2703-004035	L1011	INDUCTOR-SMD
2703-004037	L1010	INDUCTOR-SMD
2703-004052	L606	INDUCTOR-SMD
2703-004132	L1002,L1007	INDUCTOR-SMD
2703-004185	L1013	INDUCTOR-SMD
2801-004339	OSC300,OSC600	CRYSTAL-UNIT
2801-004449	OSC500	CRYSTAL-UNIT
2801-004458	OSC400	CRYSTAL-UNIT
2801-005107	OSC200	CRYSTAL-UNIT
2809-001369	OSC1000	OSCILLATOR-VCTCXO
2809-001374	OSC1001	OSCILLATOR-VCTCXO
2901-001625	F500,F501	FILTER-EMI
2904-001988	F1002	FILTER-SAW
2904-002020	F1003	FILTER-SAW
2904-002027	F1001	FILTER-SAW
2910-000125	F1000	FILTER
2911-000191	U1002	FILTER
3003-001136	MIC200	MIC-CONDENSOR
3301-001659	L1029	CORE-FERRITE
3301-001729	L507,L510,L511	CORE-FERRITE
3301-001789	L506,L509	CORE-FERRITE
3301-001851	L608	CORE-FERRITE
3301-001895	L1025	CORE-FERRITE
3301-001912	L200	CORE-FERRITE
3301-001956	L300,L301,L304	CORE-FERRITE
3301-002037	L503,L504	CORE-FERRITE
3301-002062	L1000	CORE-FERRITE

SEC CODE	Design LOC	Description
3301-002065	L207,L211,L213	CORE-FERRITE
3301-002066	L202,L203,L206,L215	CORE-FERRITE
3301-002066	L500,L501	CORE-FERRITE
3301-002078	L210,L212	CORE-FERRITE
3404-001152	TAC300,TAC301,TAC302	SWITCH-TACT
3705-001448	RFS1000	CONNECTOR-COAXIAL
3705-001731	RFS1001	CONNECTOR-COAXIAL
3708-002162	SLC500	CONNECTOR-FPC/FFC/PIC
3709-001575	CD300	CONNECTOR-CARD
3709-001645	SIM300	CONNECTOR-CARD
3711-007244	HDC503	CONNECTOR-HEADER
3711-007313	HDC301	CONNECTOR-HEADER
3711-007332	HDC300	CONNECTOR-HEADER
3711-007478	HDC200	CONNECTOR-HEADER
3711-007629	BTC600	CONNECTOR-HEADER
3711-007746	HDC501	CONNECTOR-HEADER
3711-007810	HDC500	CONNECTOR-HEADER
3711-008011	HDC504	CONNECTOR-HEADER
3712-001375	ANT1000,ANT1001	CONNECTOR-TERMINAL
3712-001375	ANT1002,ANT200	CONNECTOR-TERMINAL
3712-001375	MOT600,MOT601	CONNECTOR-TERMINAL
4709-002048	U204	RF-MODULE
GH62-00015A	PORON1000	PAD GAP-PCB GASKET
GH70-04443A	SC1000,SC1001,SC1002	ICT SHIELD-CAN CLIP
GH70-04443A	SC1003,SC1004,SC1005	ICT SHIELD-CAN CLIP
GH70-07861A	SC1009	ICT SHIELD-FRAME_COVER
GH80-03321A	R1000,R1018,R309	Solder Bridge PAD
GH98-21812A	SC1006	ICT SHIELD-FRAME_COVER
GH98-21813A	SC1007	ICT SHIELD-FRAME_COVER
GH98-21814A	SC1008	ICT SHIELD-FRAME_COVER

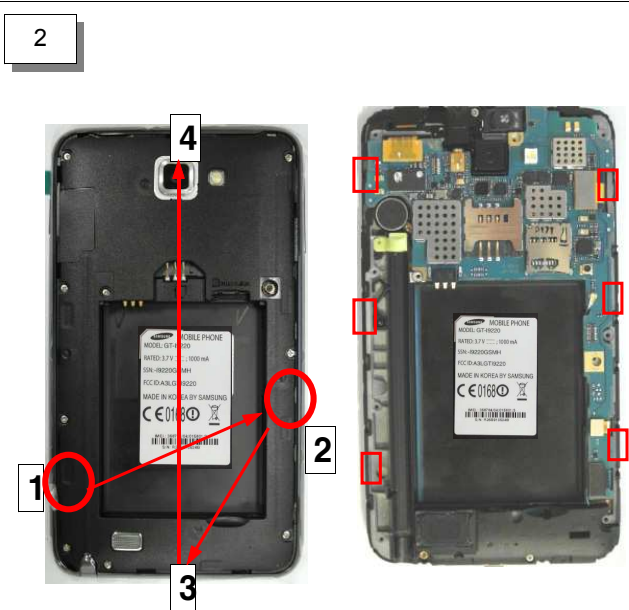
7. Level 2 Repair

7-1. Disassembly

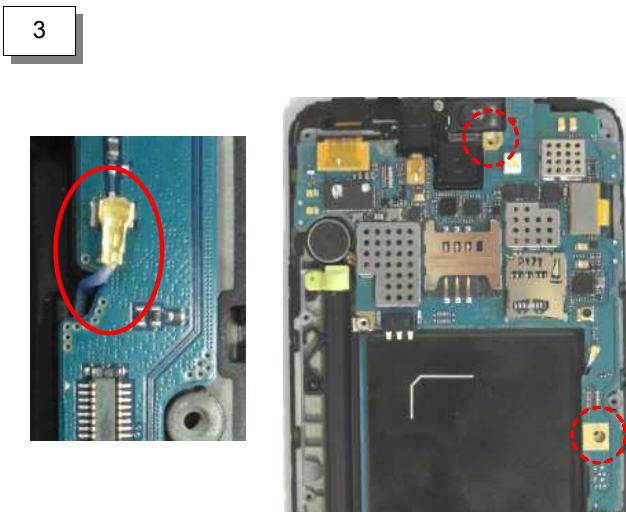


Release the screws at 9 points.
(Torque: 1.0 ± 0.1 kgf.cm) (Size: M1.4*L3)

DO NOT MAKE SCRATCH ON THE REAR.



Disjoint hook 6 points at the rear
(Follow the order)



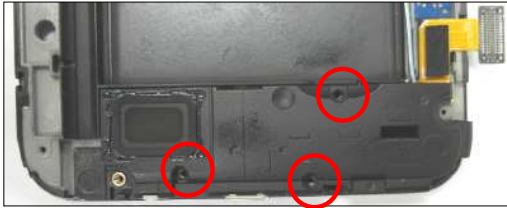
Separate the cable from the PBA.
Release the screw 2point(Size: M1.4*L3)
(Torque: 1.1 ± 0.1 kgf.cm)

Be careful not to rip up the FPCBs.



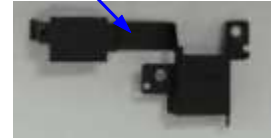
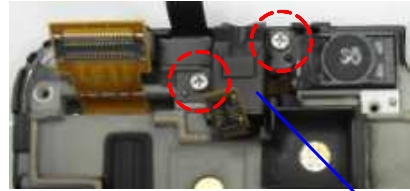
Separate all connectors from the PBA.
Separate the PBA from the Front.

5



Release the screw 3point(Size: M1.4*L2.5)
(Torque: 1.0±0.1 kgf.cm)
Separate the sub PBA from the PBA.

6

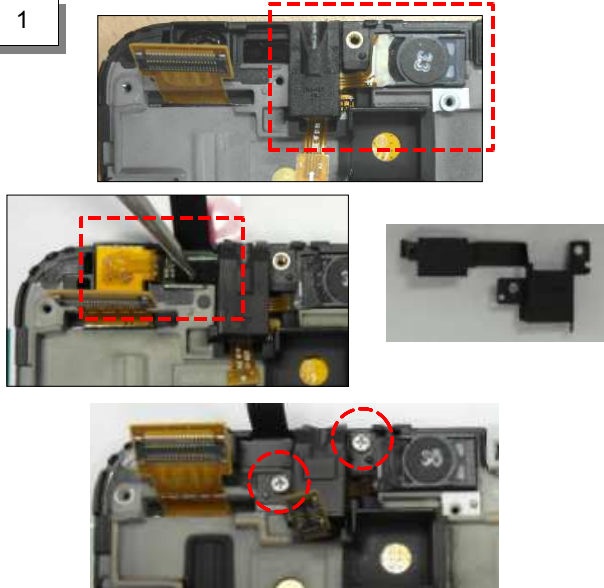


Release the screw 3-point(Size: M1.4*L2.5)
(Torque: 1.0±0.1 kgf.cm)
Separate the black plate.
Separate Receiver Ass'y and CAM/Sensor
Ass'y from the Front.

Be careful not to rip up the FPCBs.

7-2. Assembly

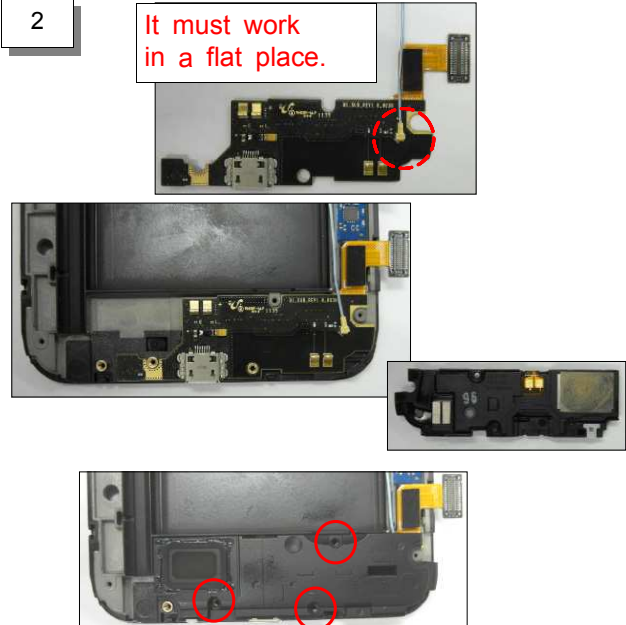
1



Insert the receiver/earjack ass'y into the front.
Insert the 2M cam/censor ass'y into the front.
Attach black plate.
Screw 2 points. (Size: M1.4*L2.5)
(Torque: 1.0 ± 0.1 kgf.cm)

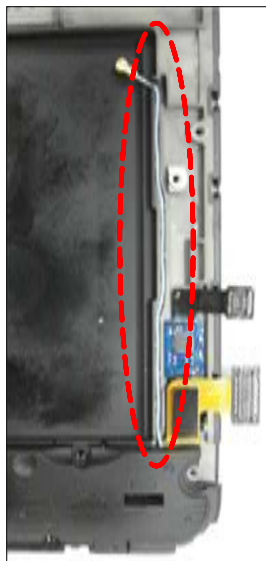
Be careful not to damage the camera FPCB.

2



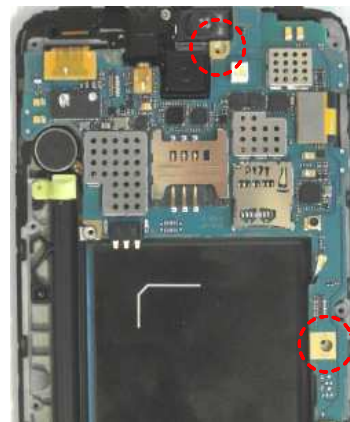
Connect the cable on the sub PBA.
Attach the sub PBA on the Front.
Attach SPK/Intenna module on the sub PBA.
Screw 3 points. (Size: M1.4*L2.5)
(Torque: 1.0 ± 0.1 kgf.cm)

3



Organize the cable in the furrow.

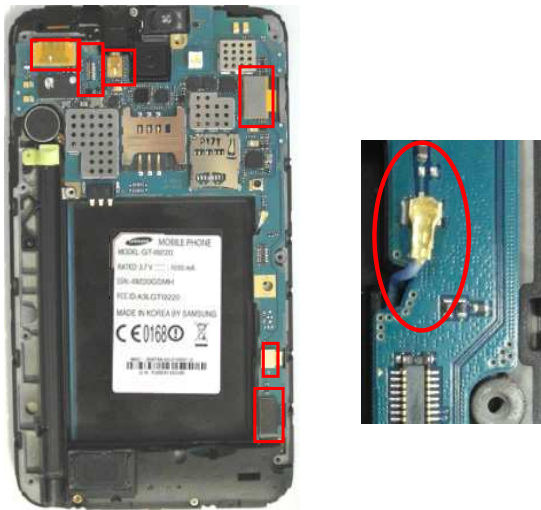
4



Put the PBA on the Front.
Screws at 2 point (Size: M1.4*L3)
(Torque: 1.1 ± 0.1 kgf.cm)

Be careful to damage the connector FPCB.

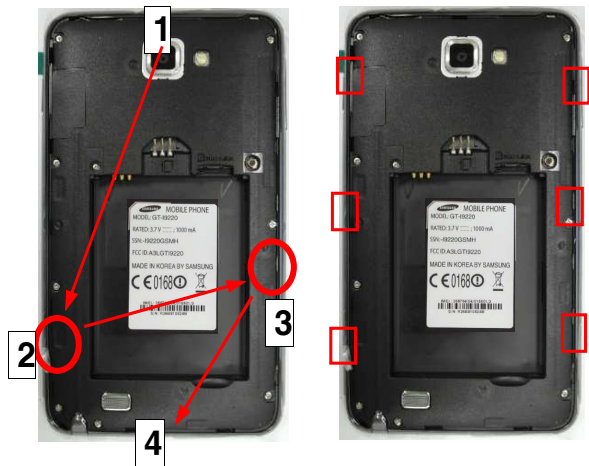
5



Connect all the connector on the PBA.
Connect the cable on the PBA.

Be careful to damage the cable.

6



Assemble the Rear and the Front.
(Follow the order)
Hook at the 6 points.

7



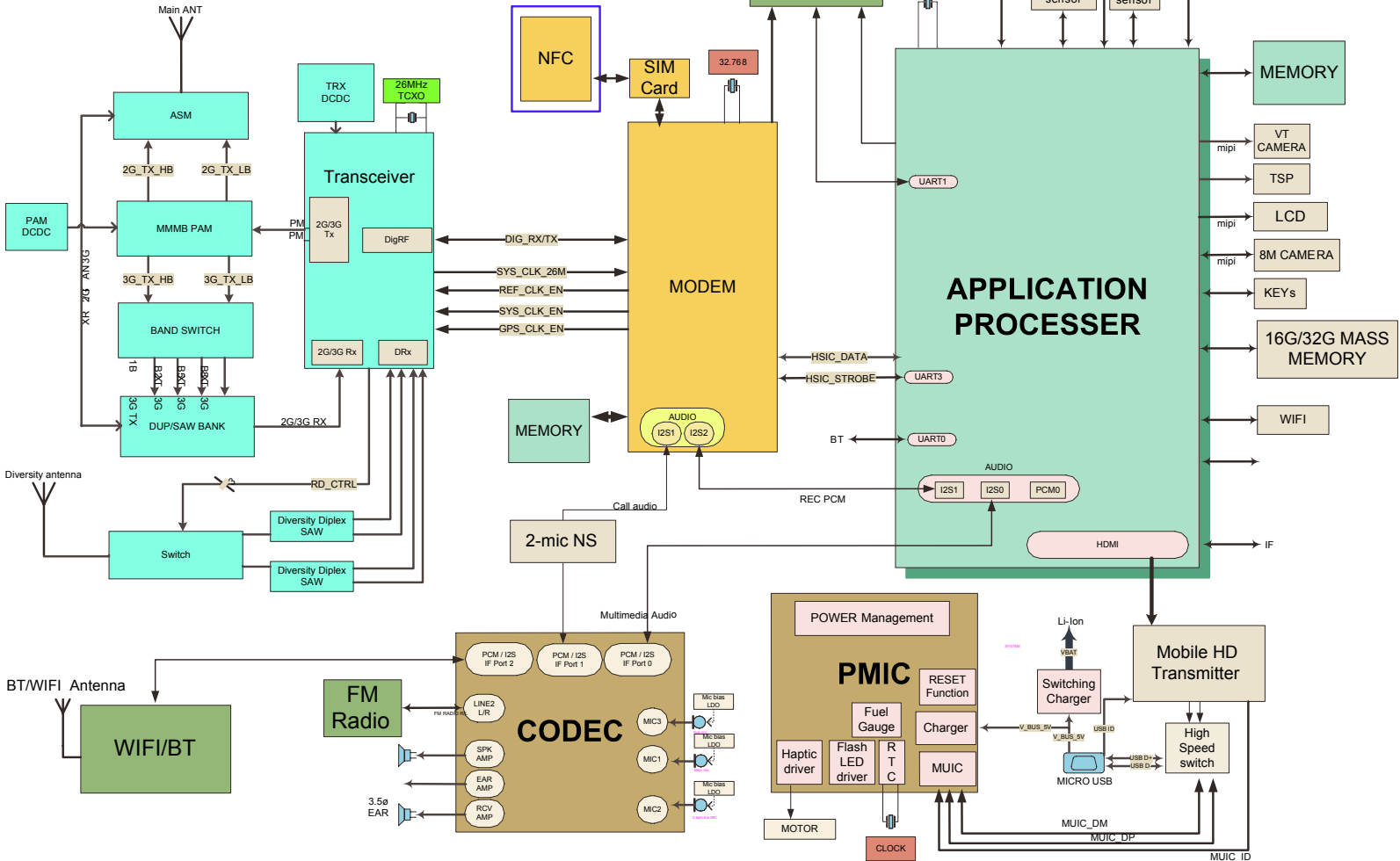
Screws at 9 points.
(Torque: 1.0 ± 0.1 kgf.cm)
(Size: M1.4*L3)

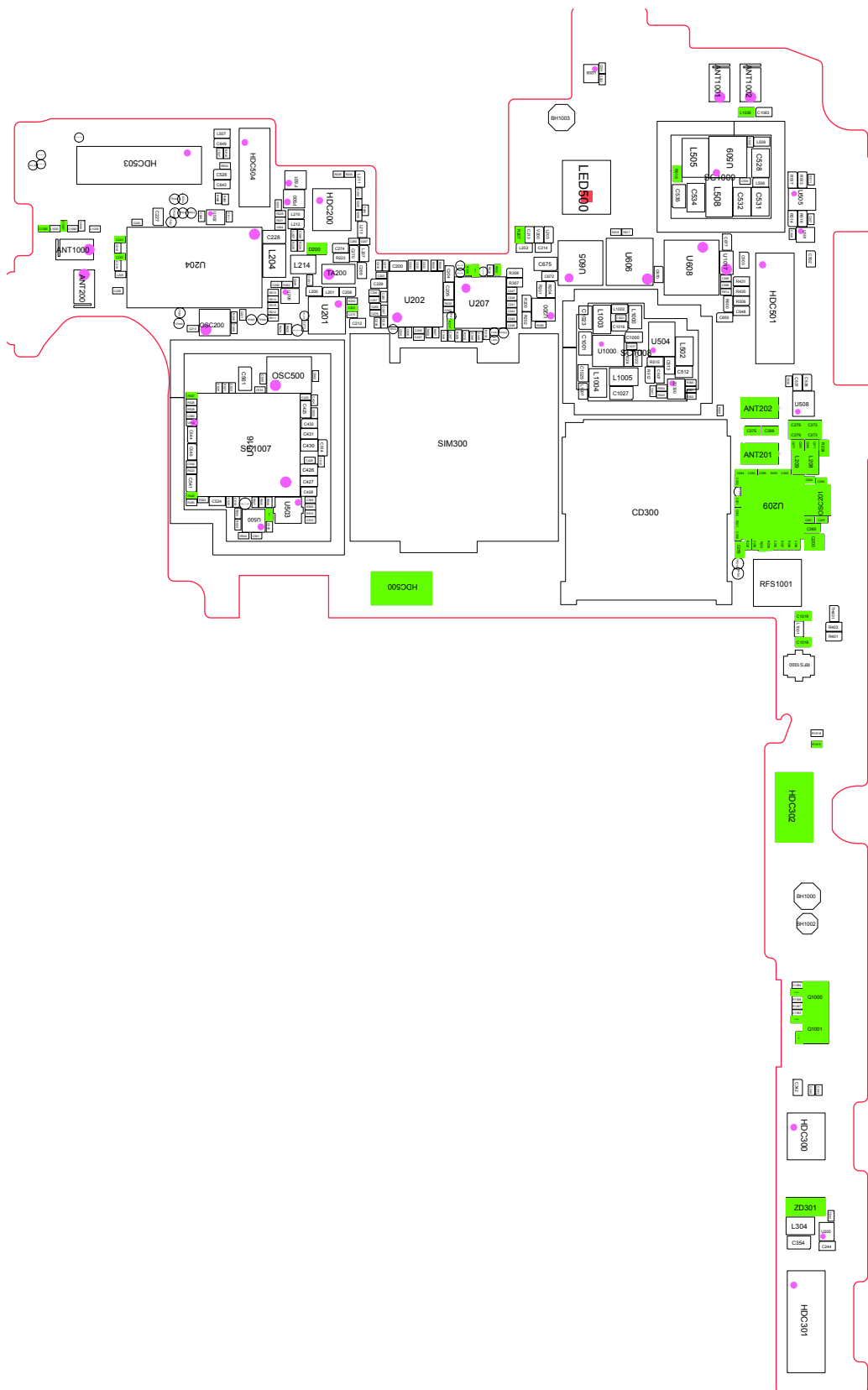
DO NOT MAKE SCRATCH ON THE REAR.

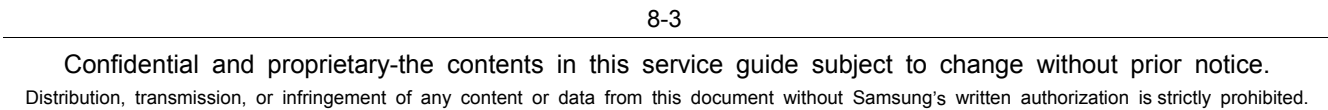
8. Level 3 Repair

Confidential

GT-N7000/I9220
BLOCK DIAGRAM

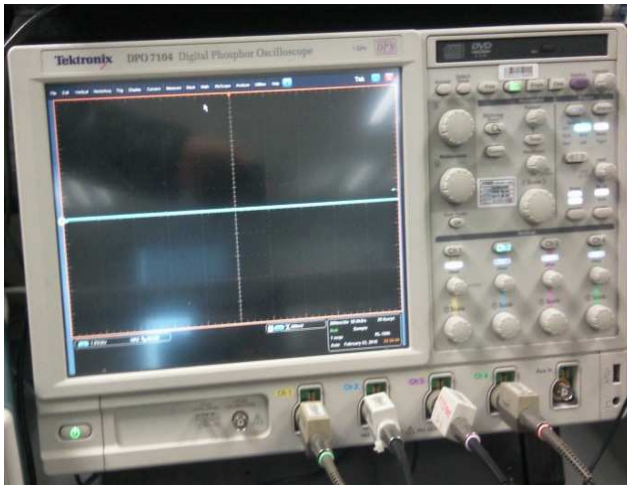






8-3. Flow Chart of Troubleshooting

Equipments



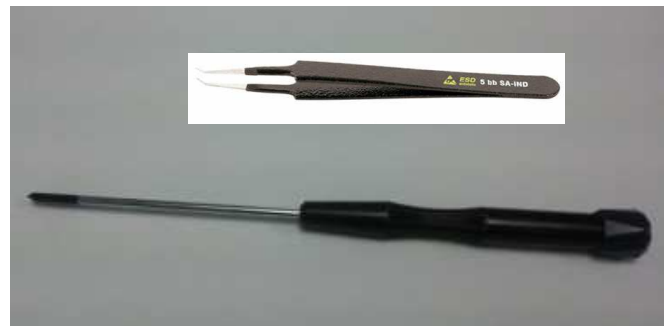
↑ Oscilloscope



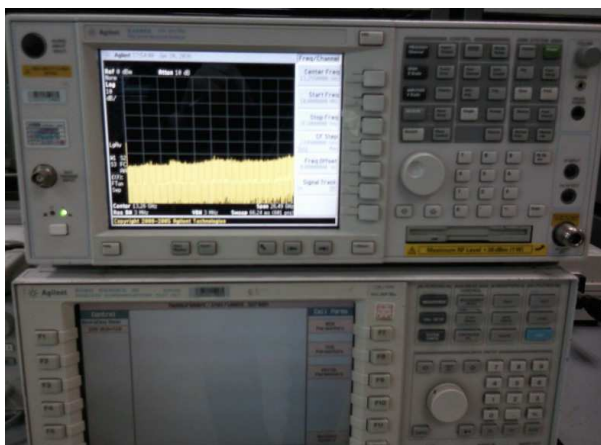
↑ Digital Multimeter



↑ Power Supply



↑ + driver, ESD Safe Tweezer



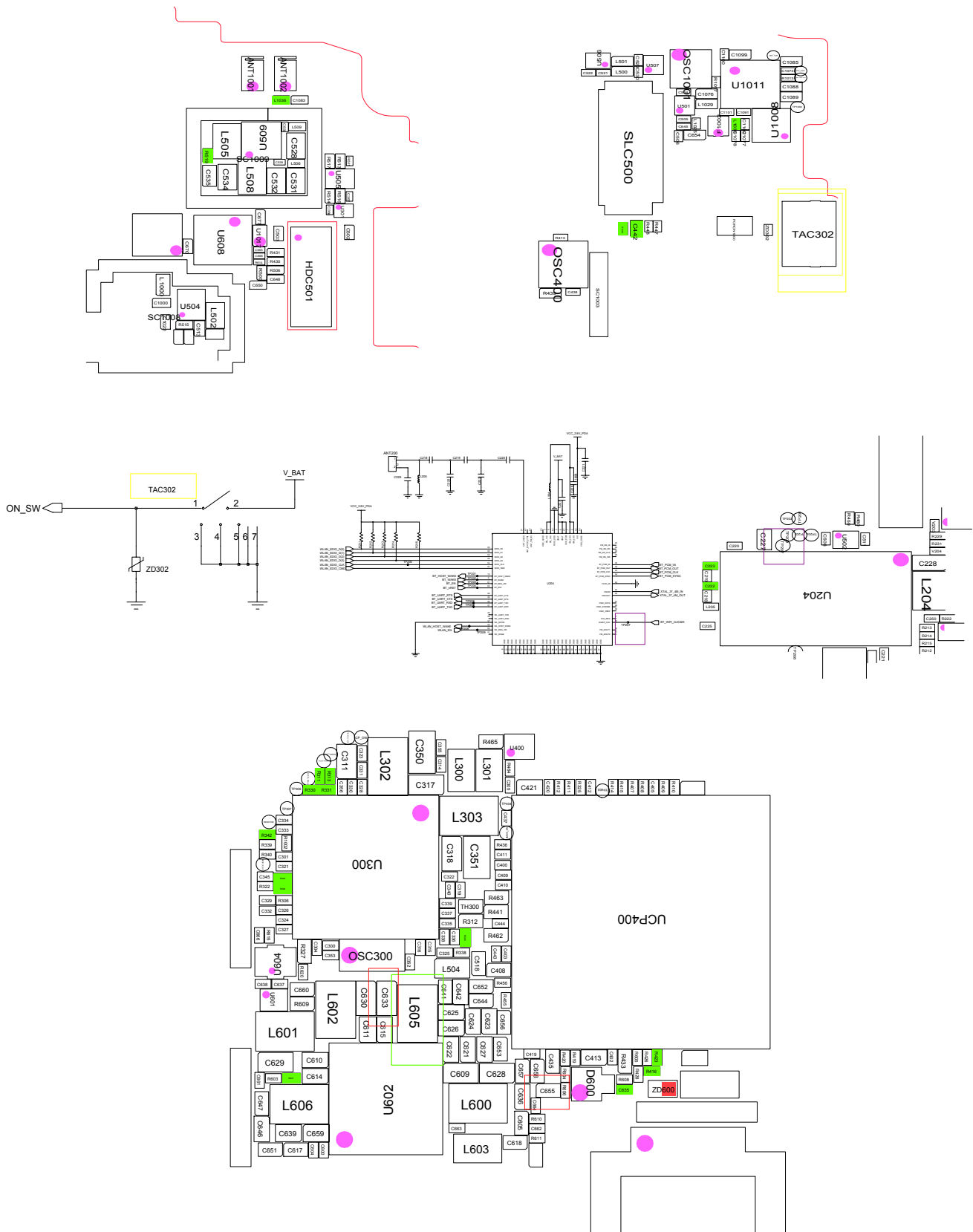
↑ 8960 & Spectrum Analyzer



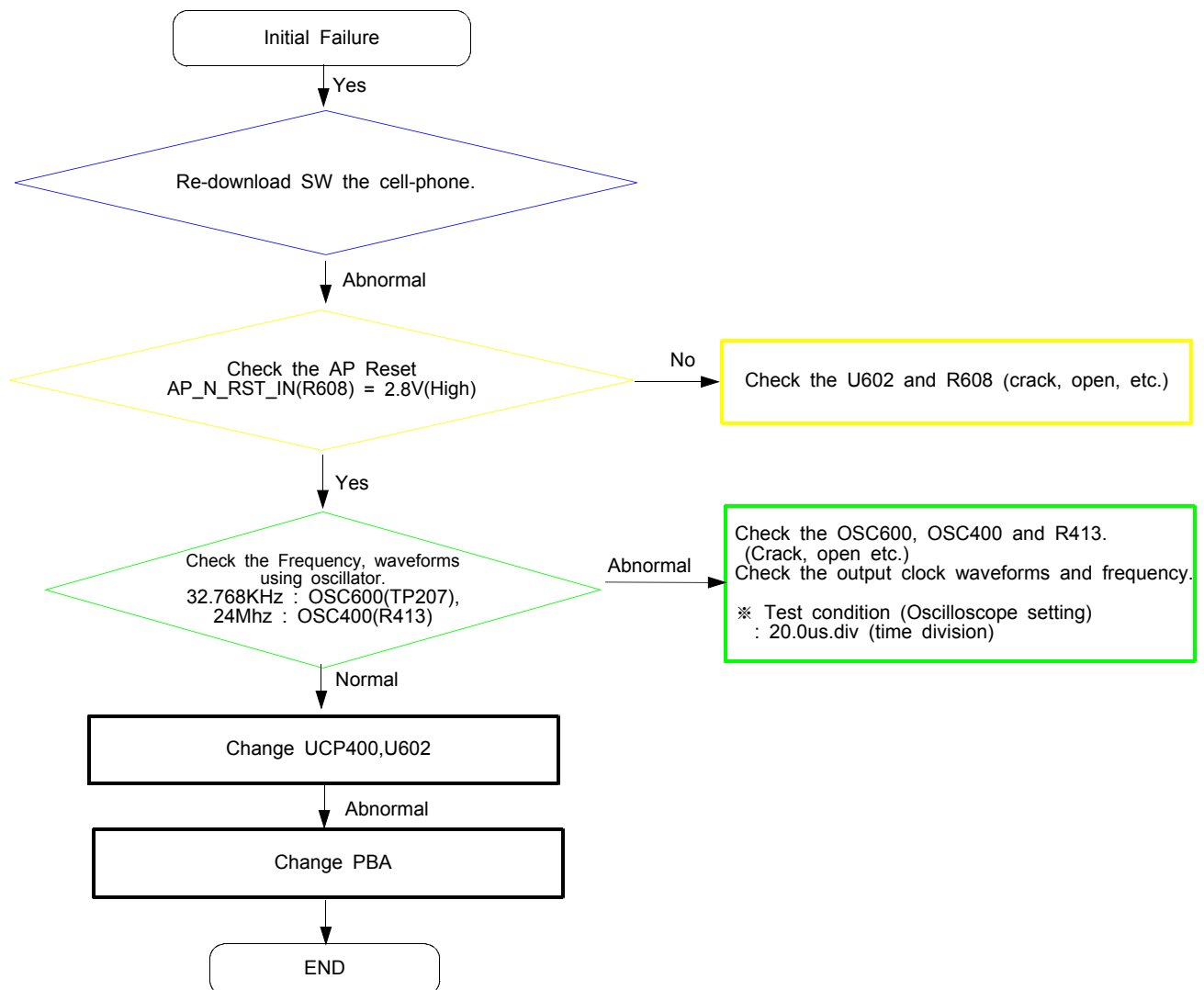
↑ Soldering iron

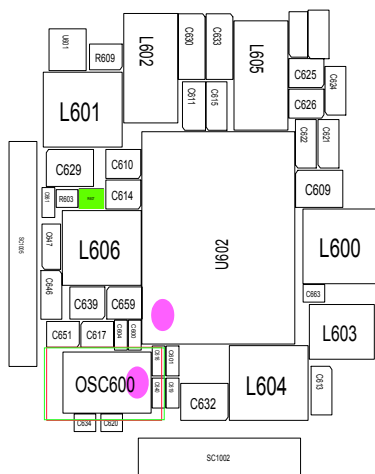
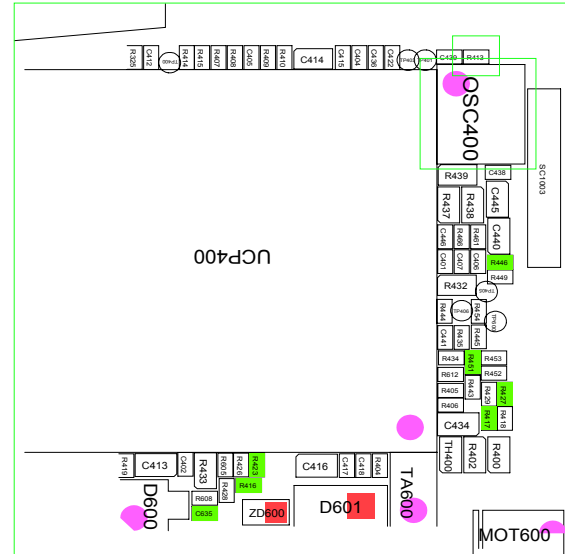
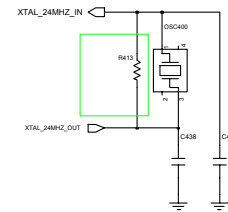
8-3-1. Power On



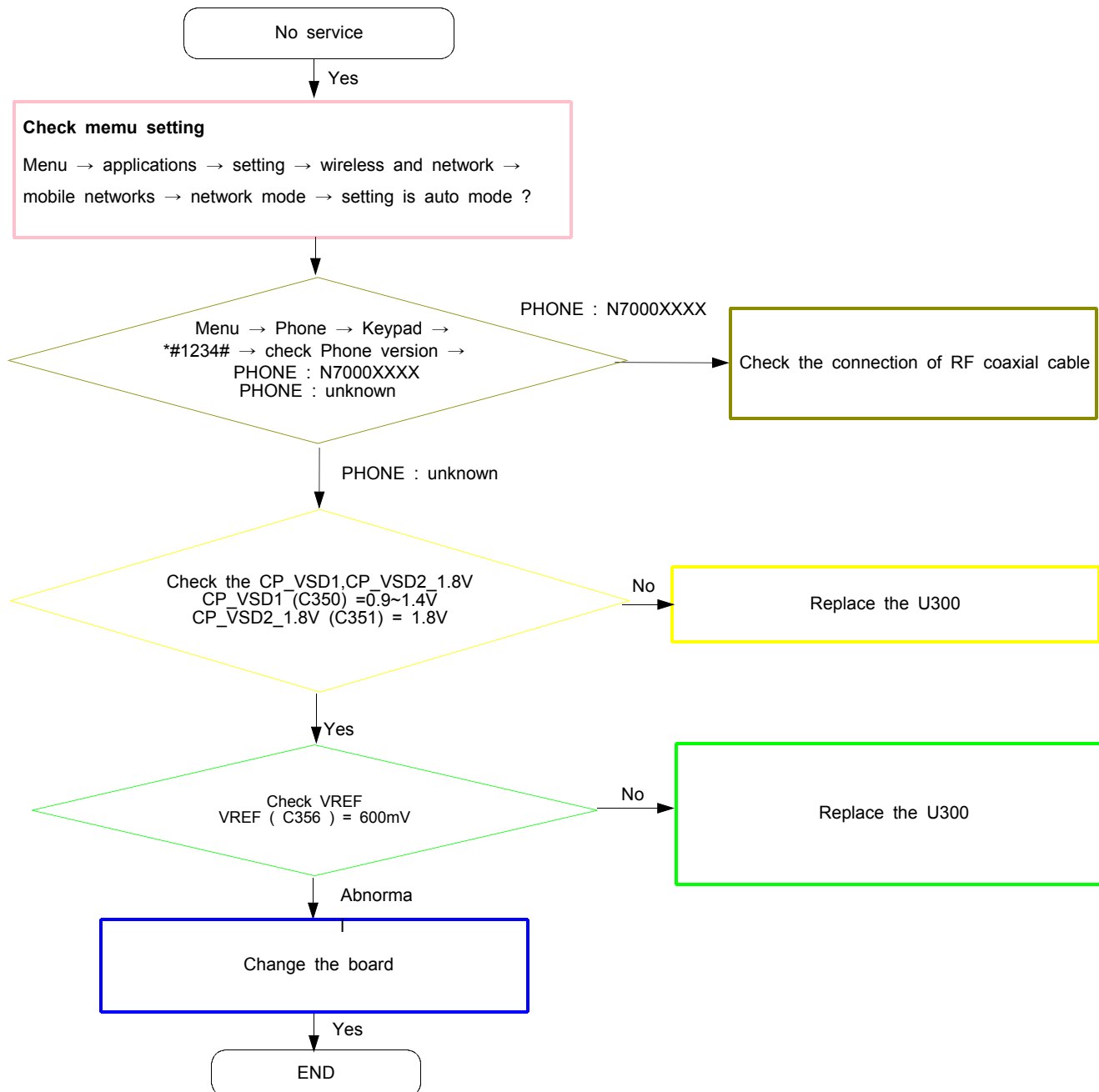


8-3-2. Initial

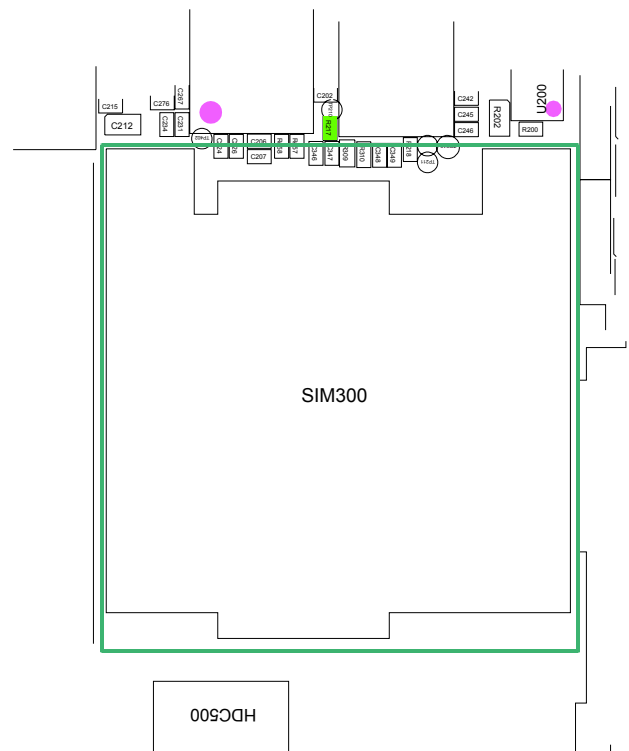
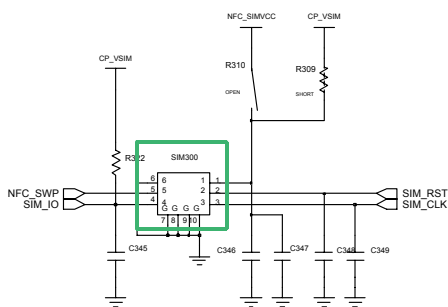
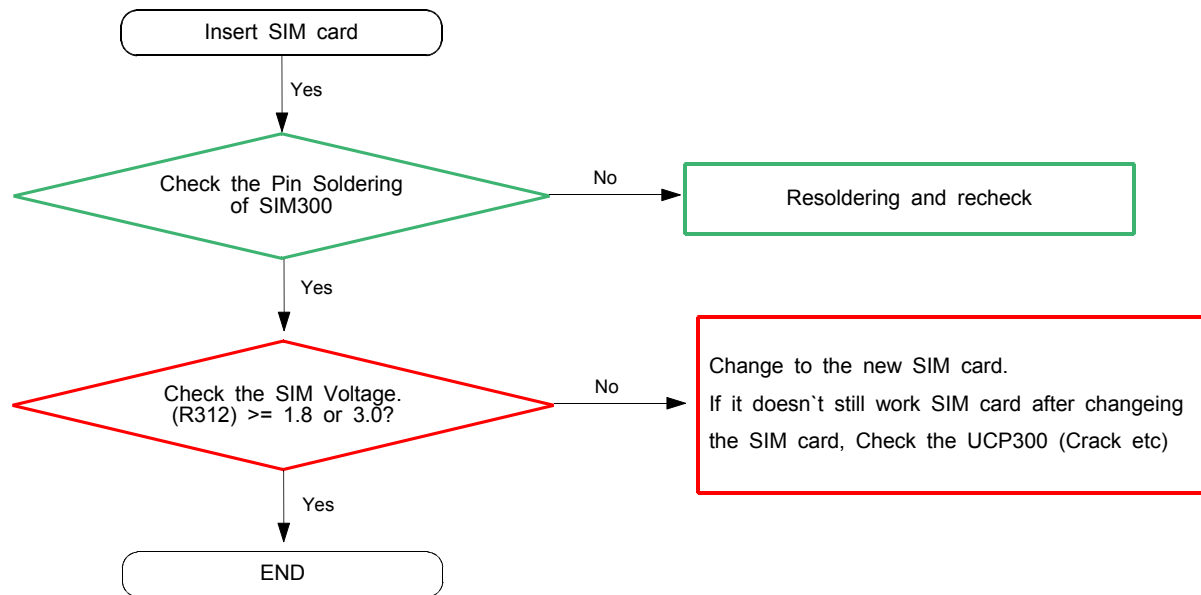




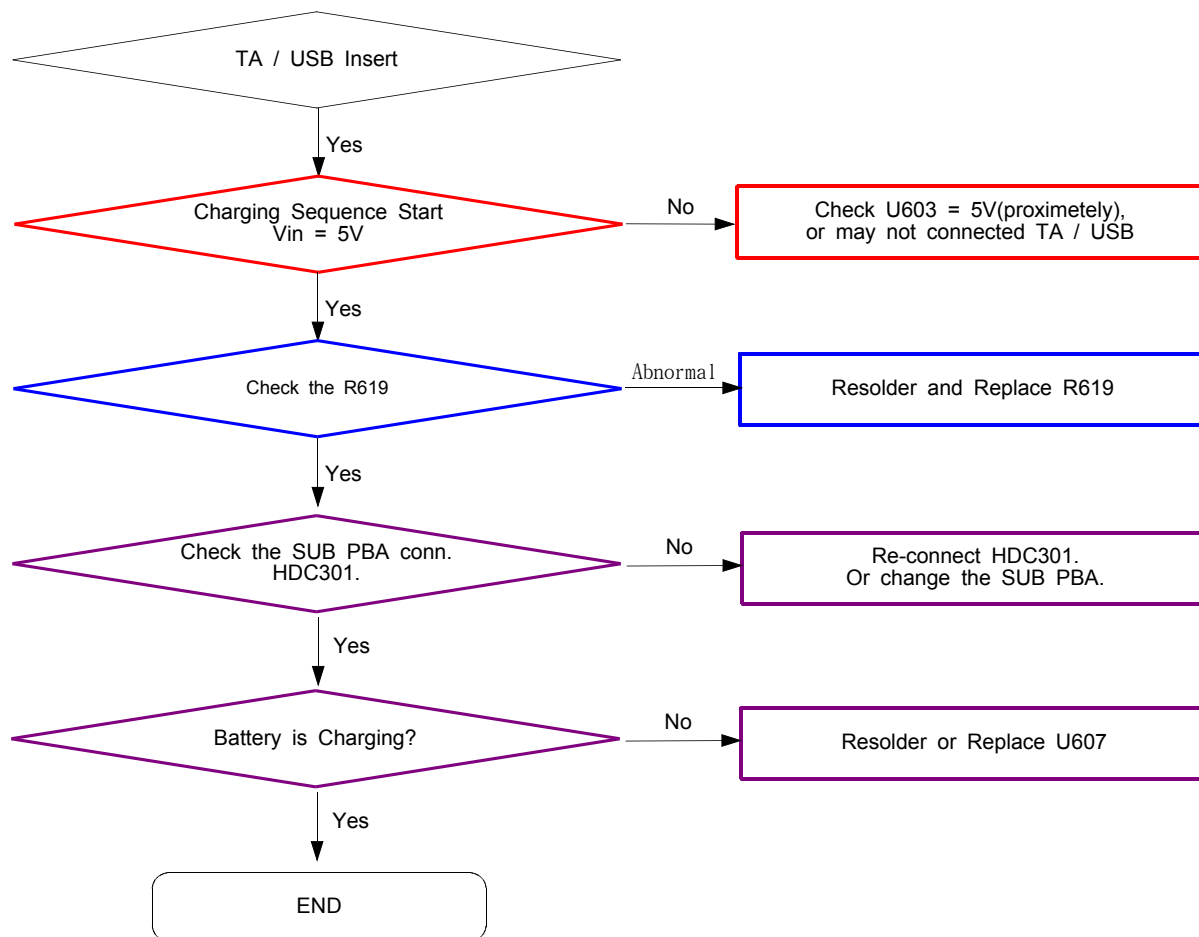
8-3-3. No Service

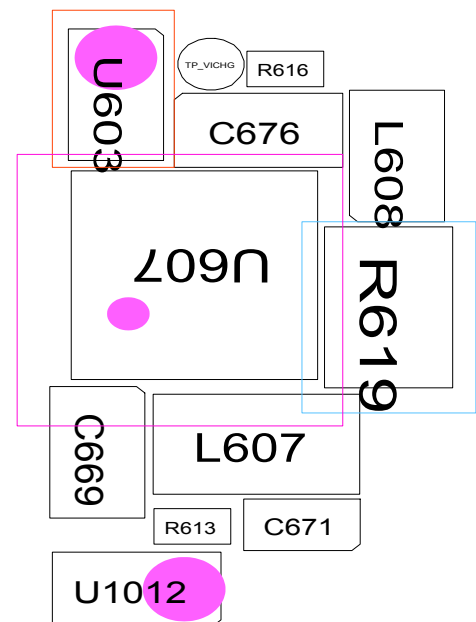
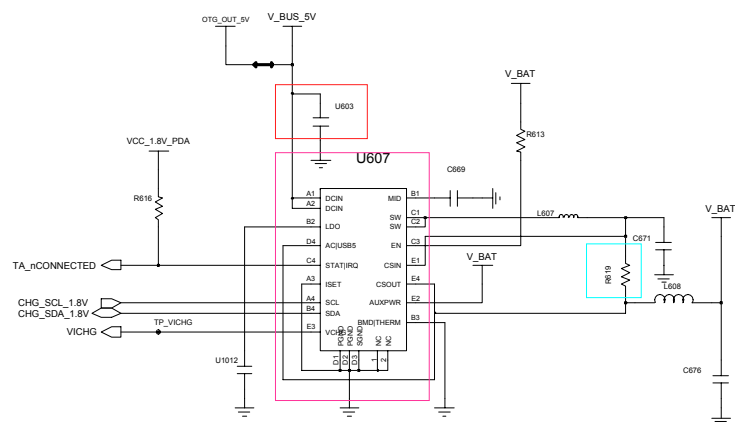
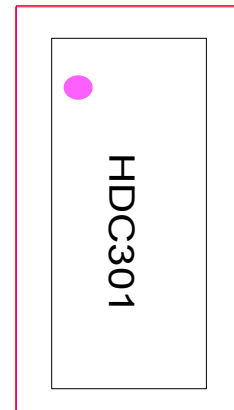
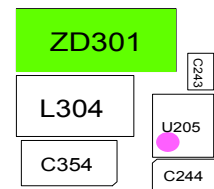
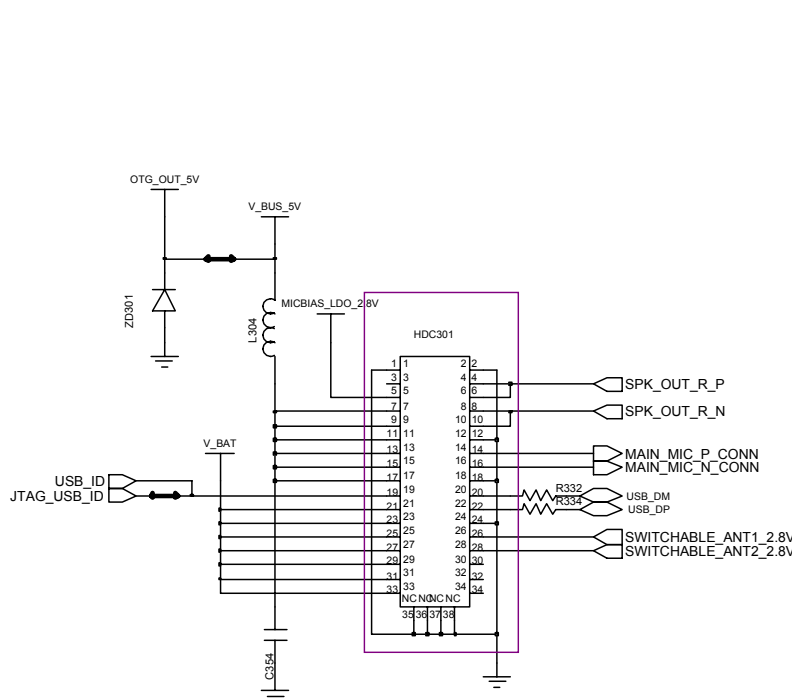


8-3-4. Sim Part

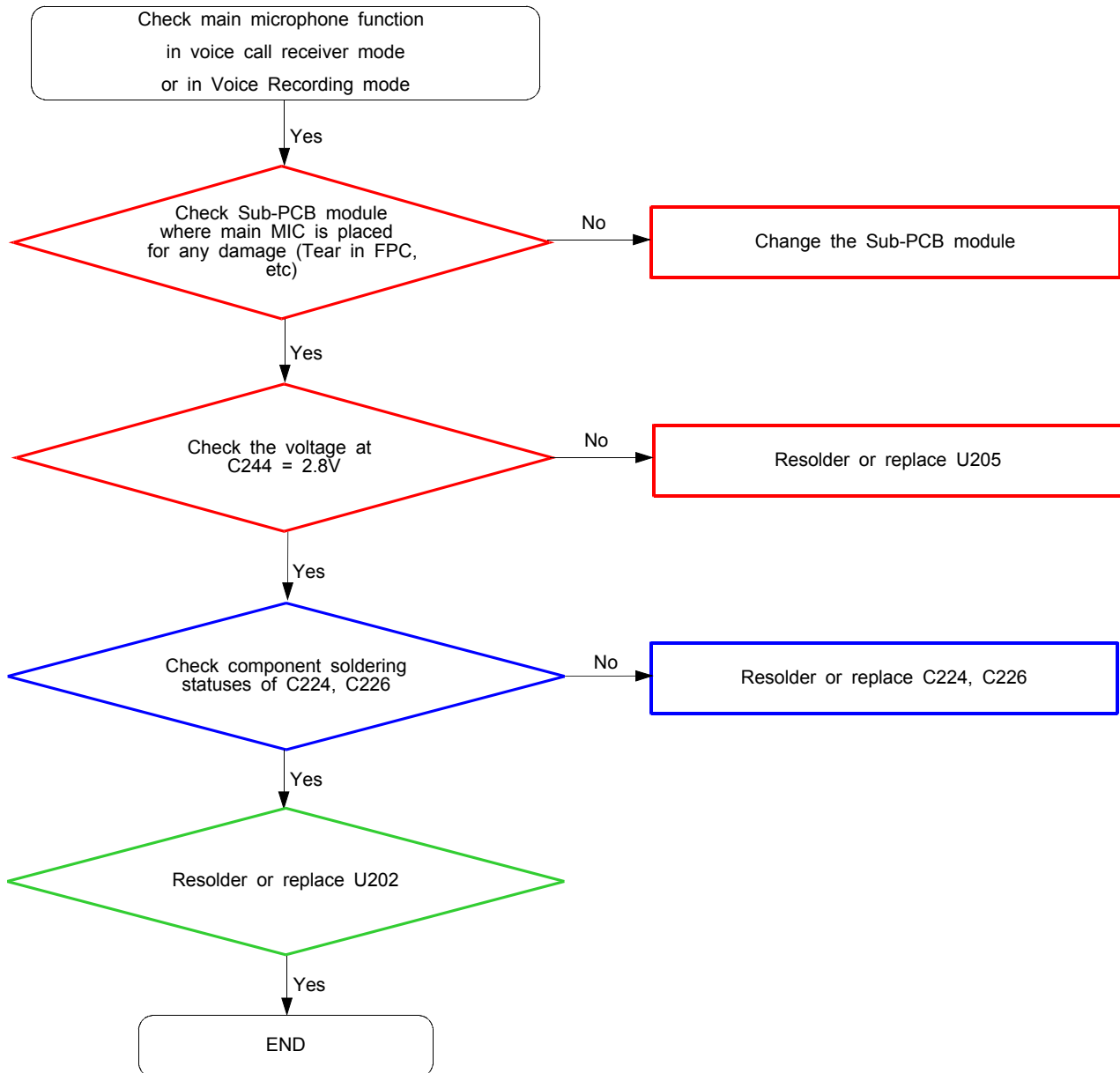


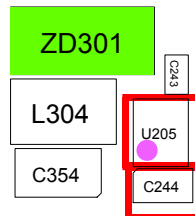
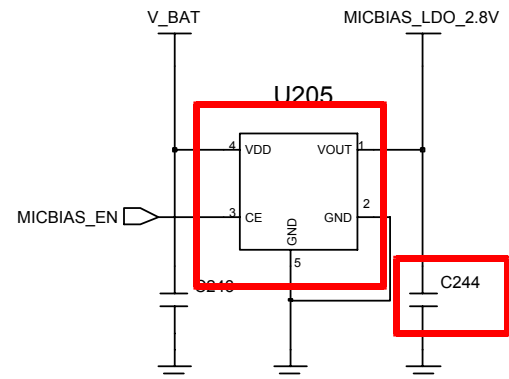
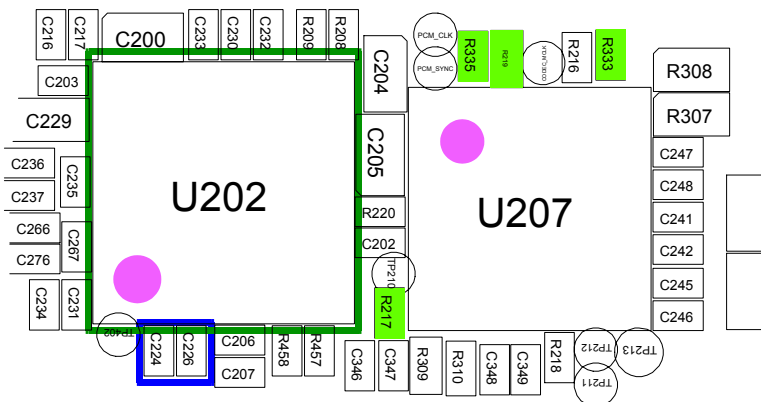
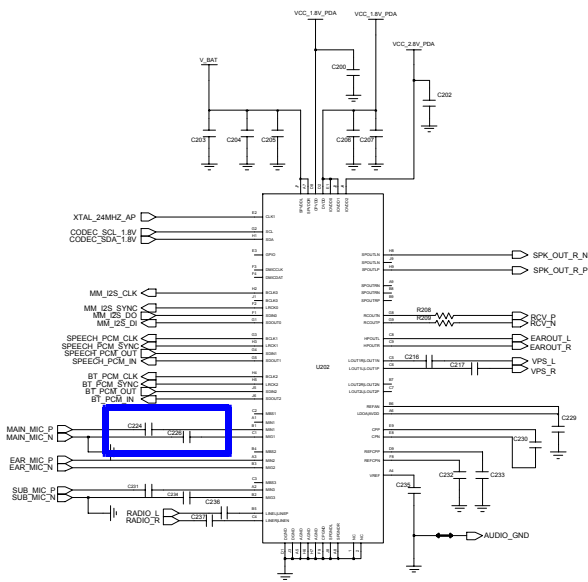
8-3-5. Charging Part



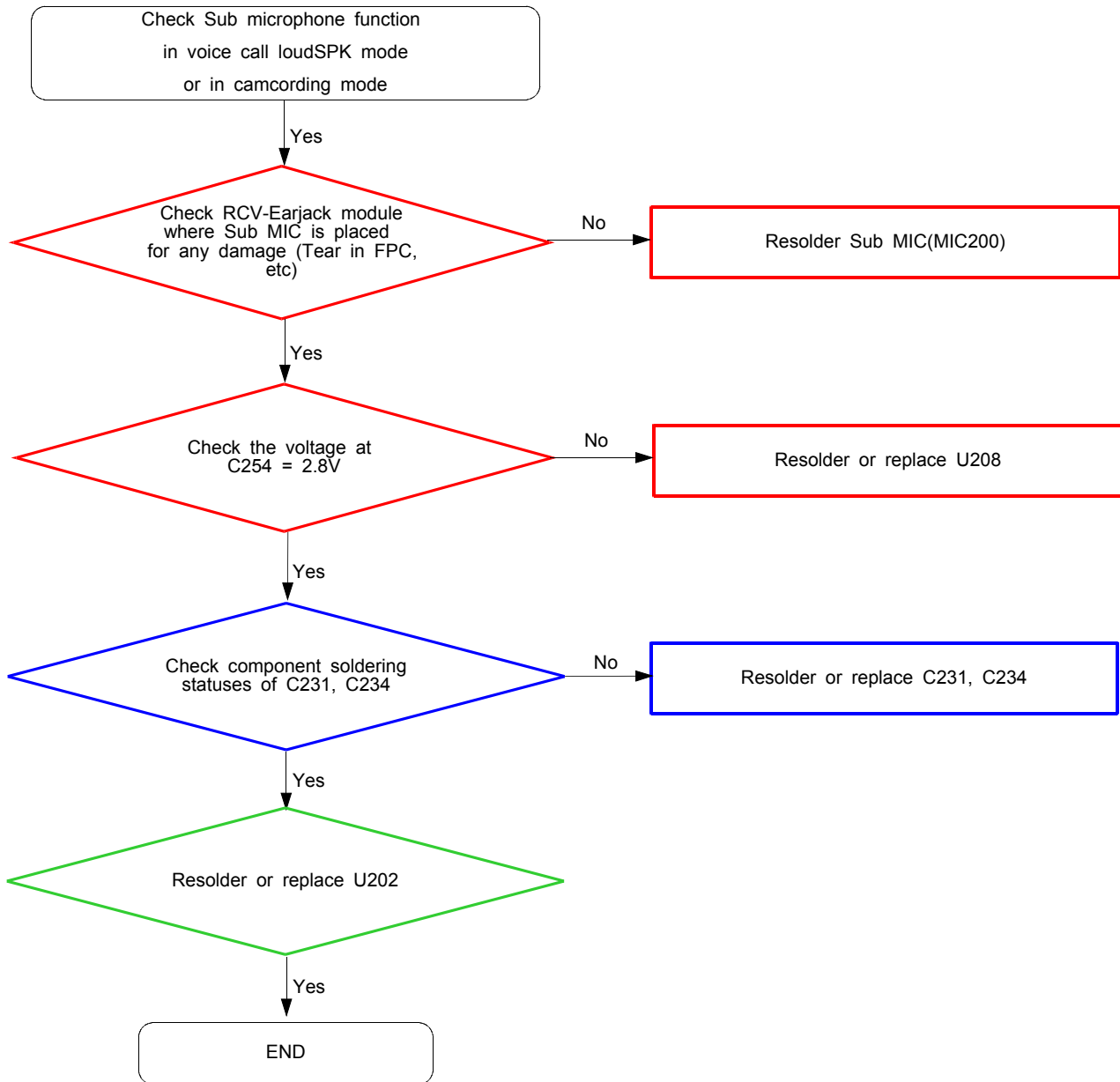


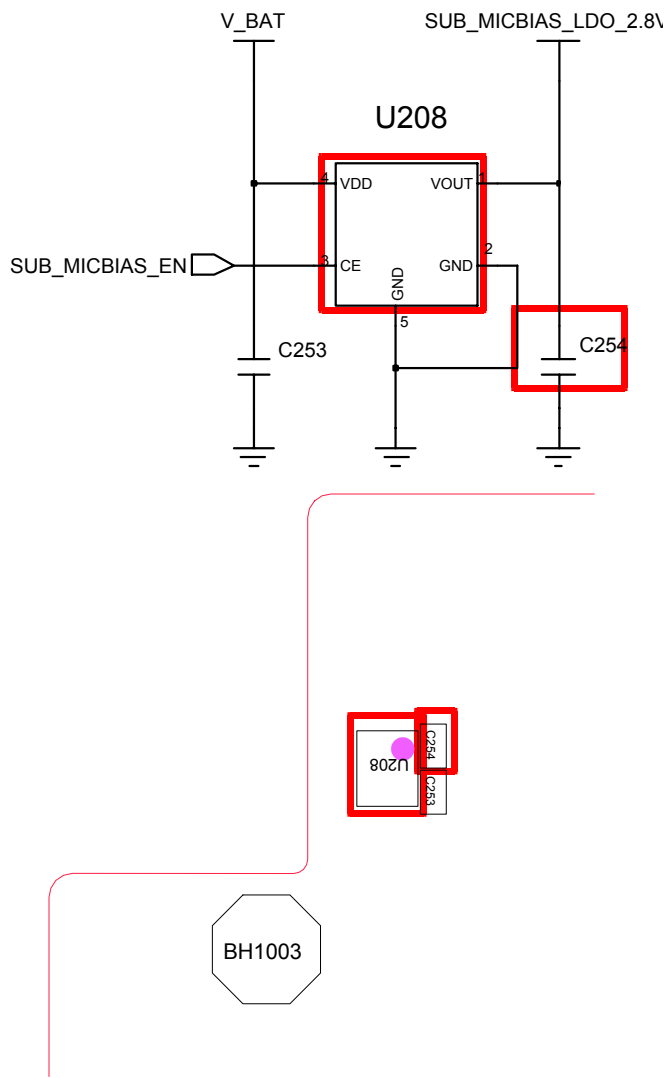
8-3-6. Microphone Part (Main MIC)

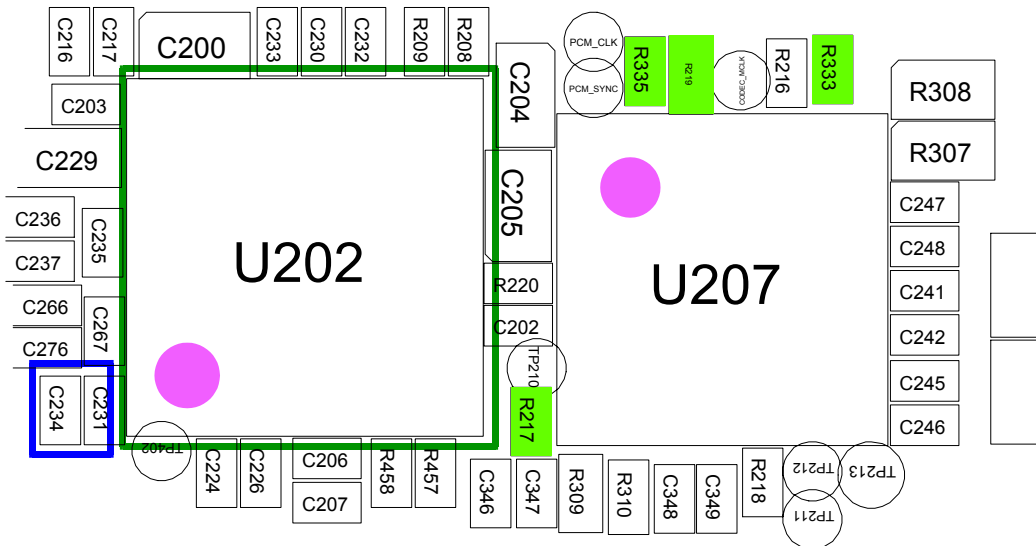
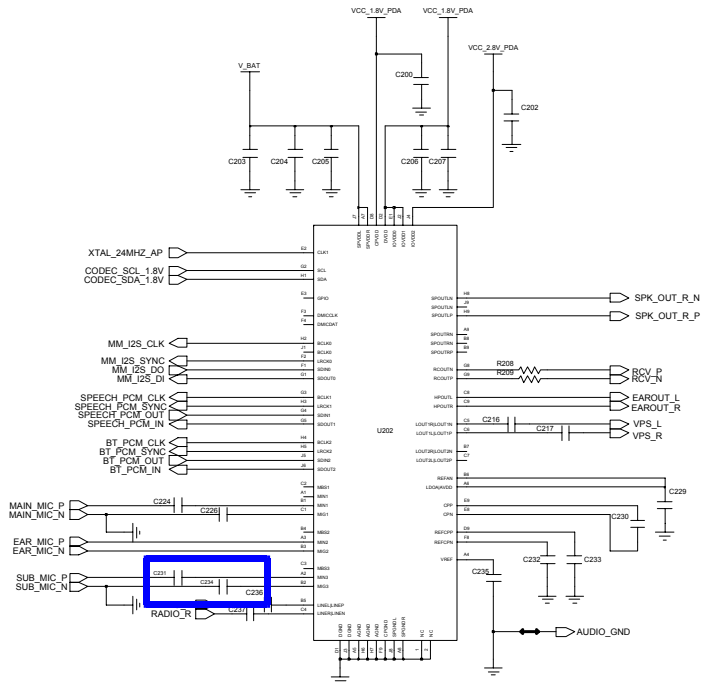




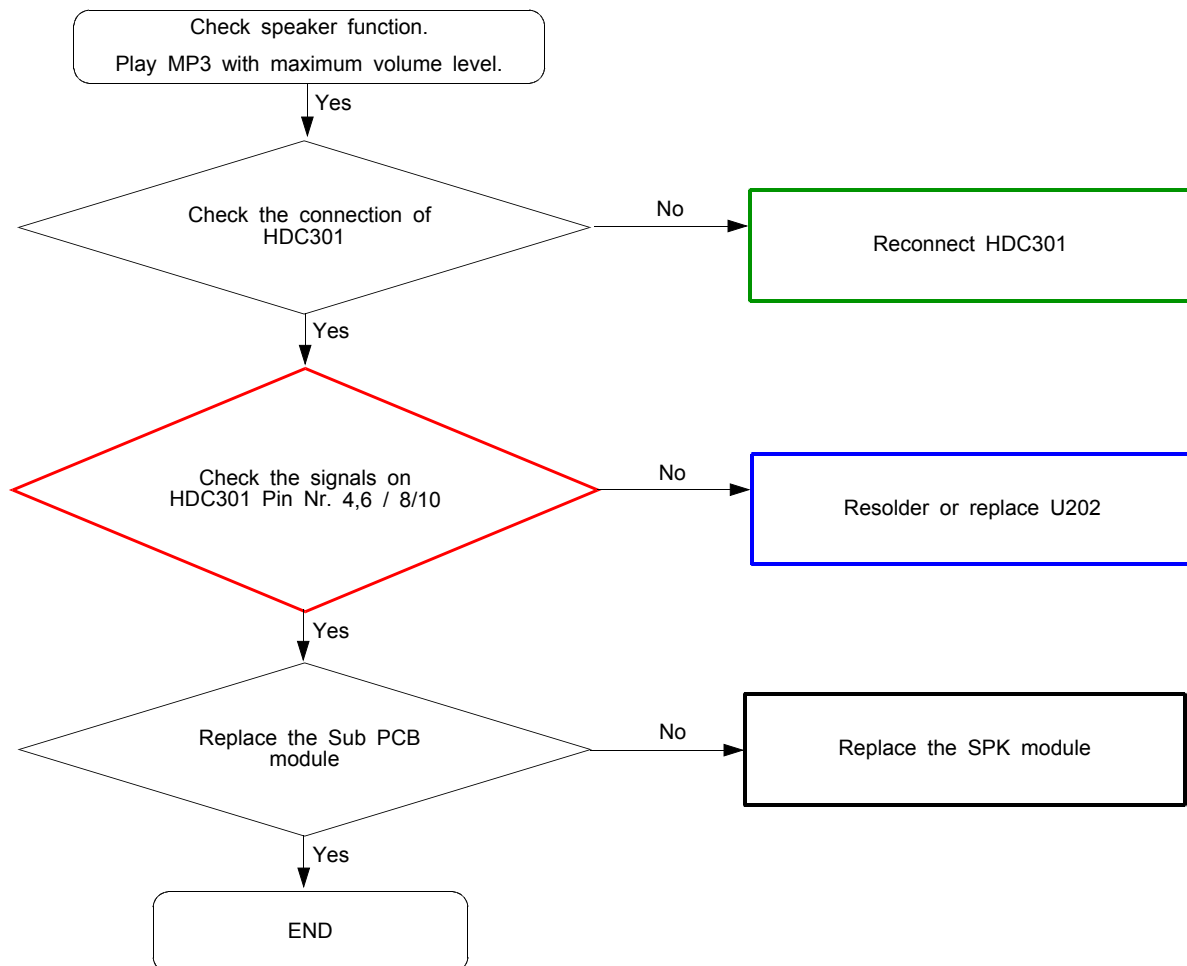
8-3-6-1. Microphone Part (Sub MIC)

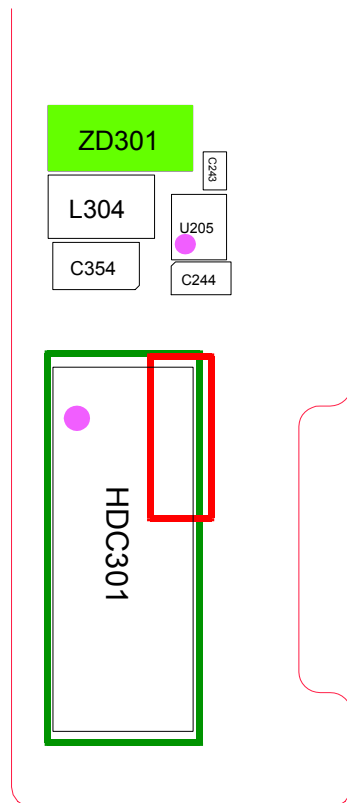
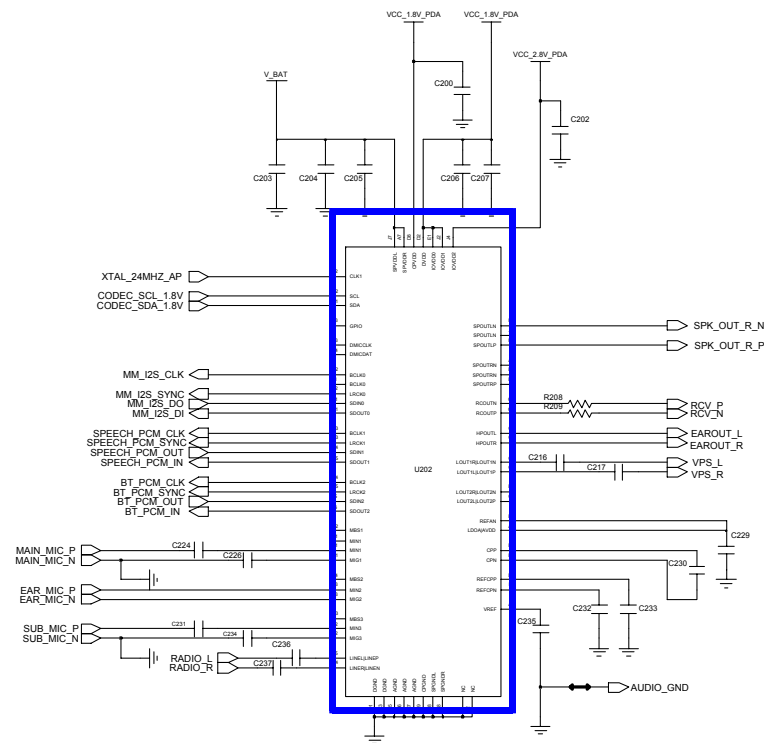
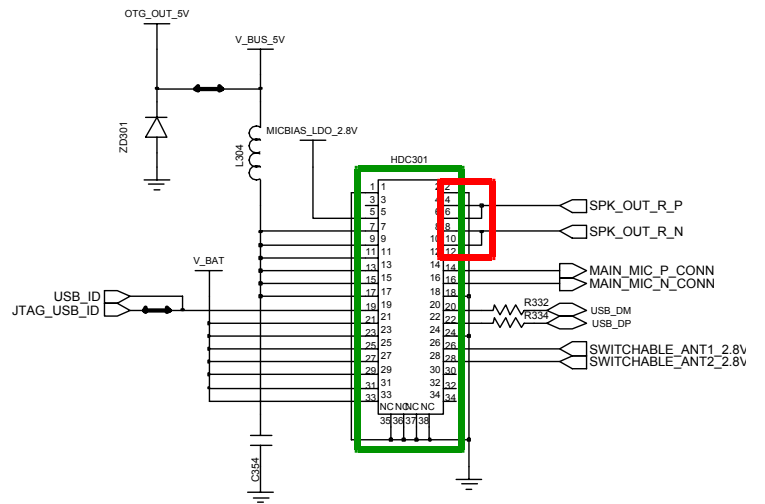


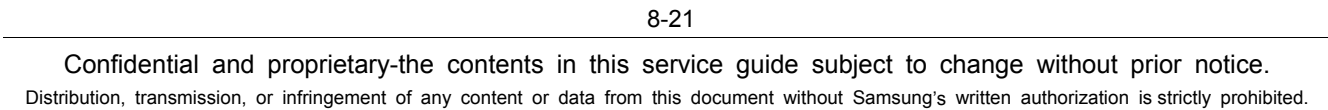




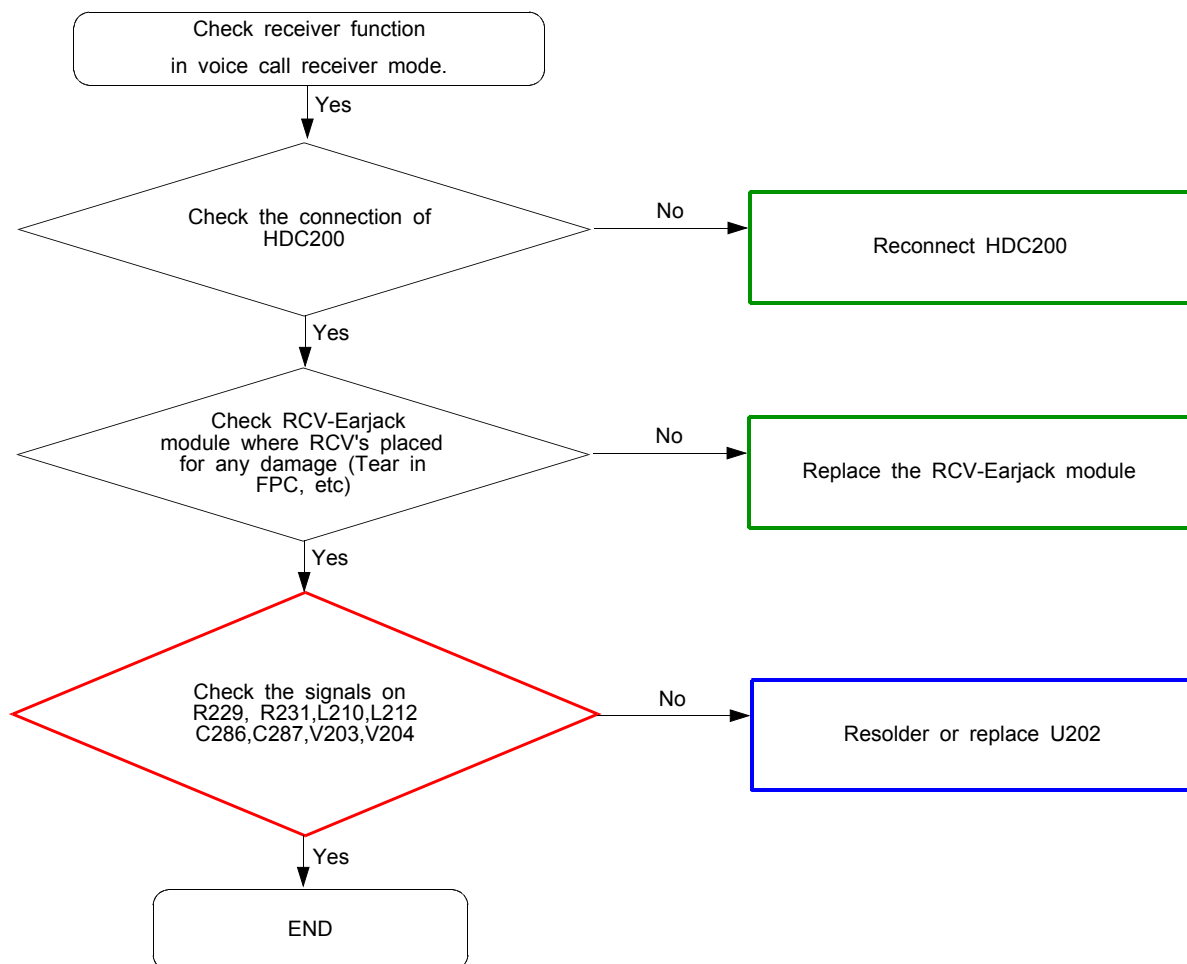
8-3-7. Speaker Part

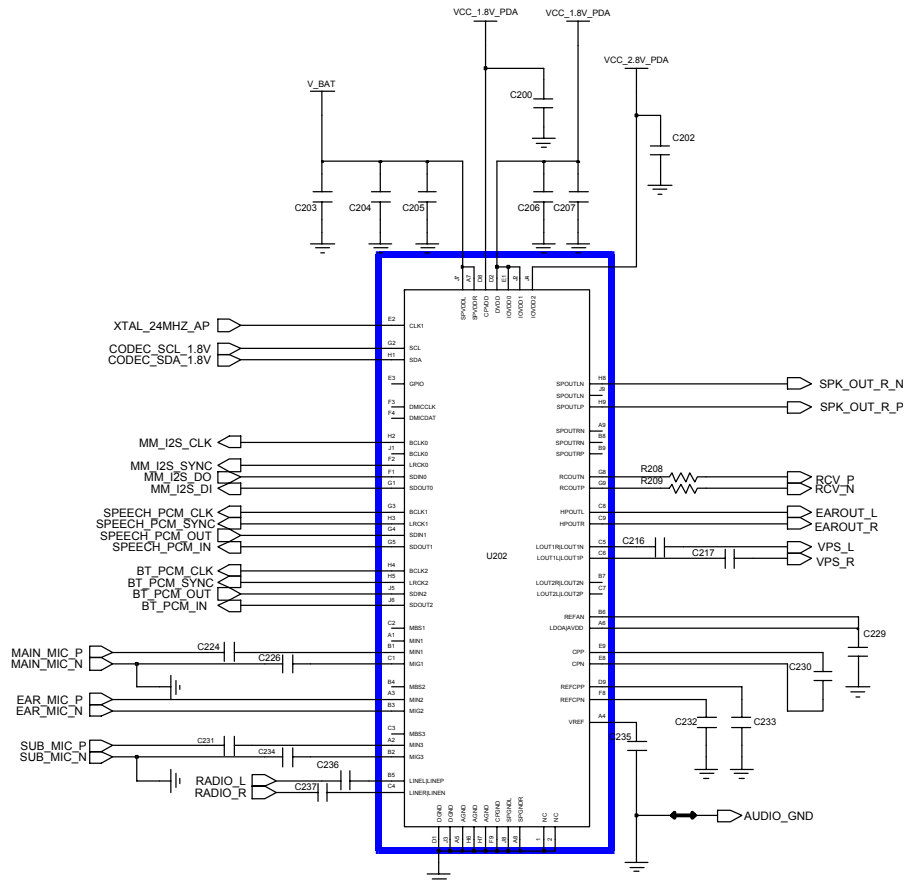


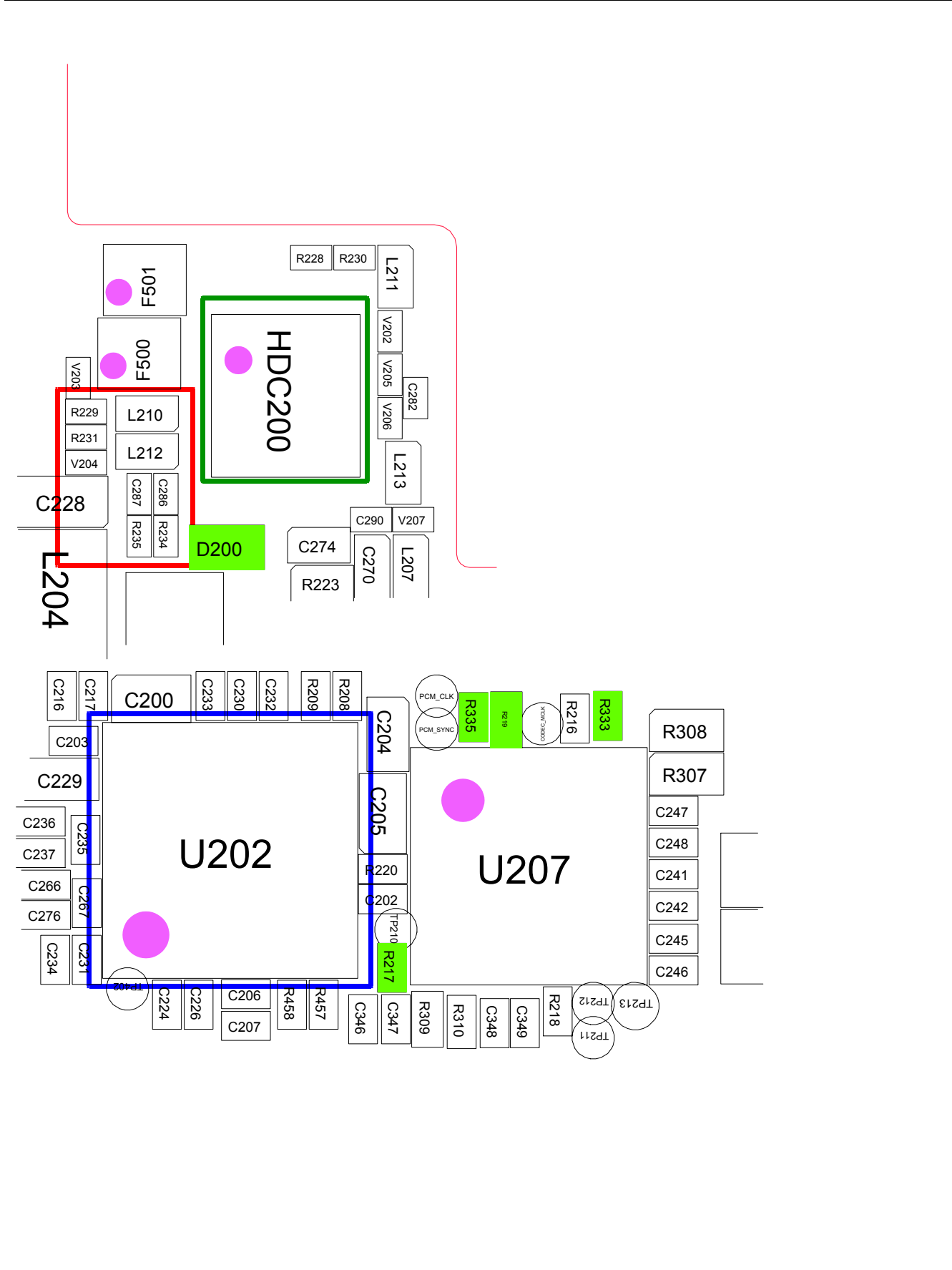




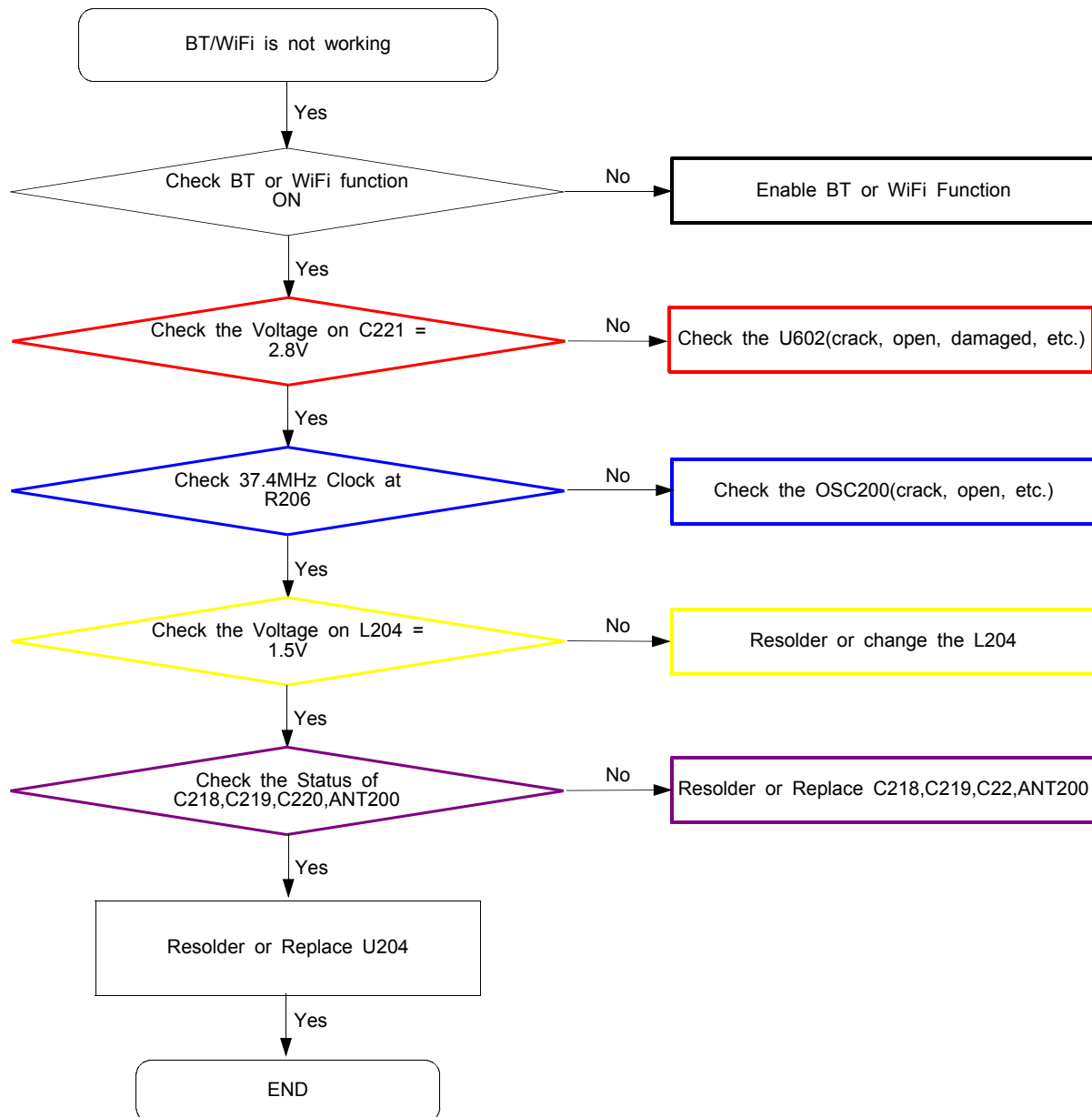
8-3-8. Receiver Part

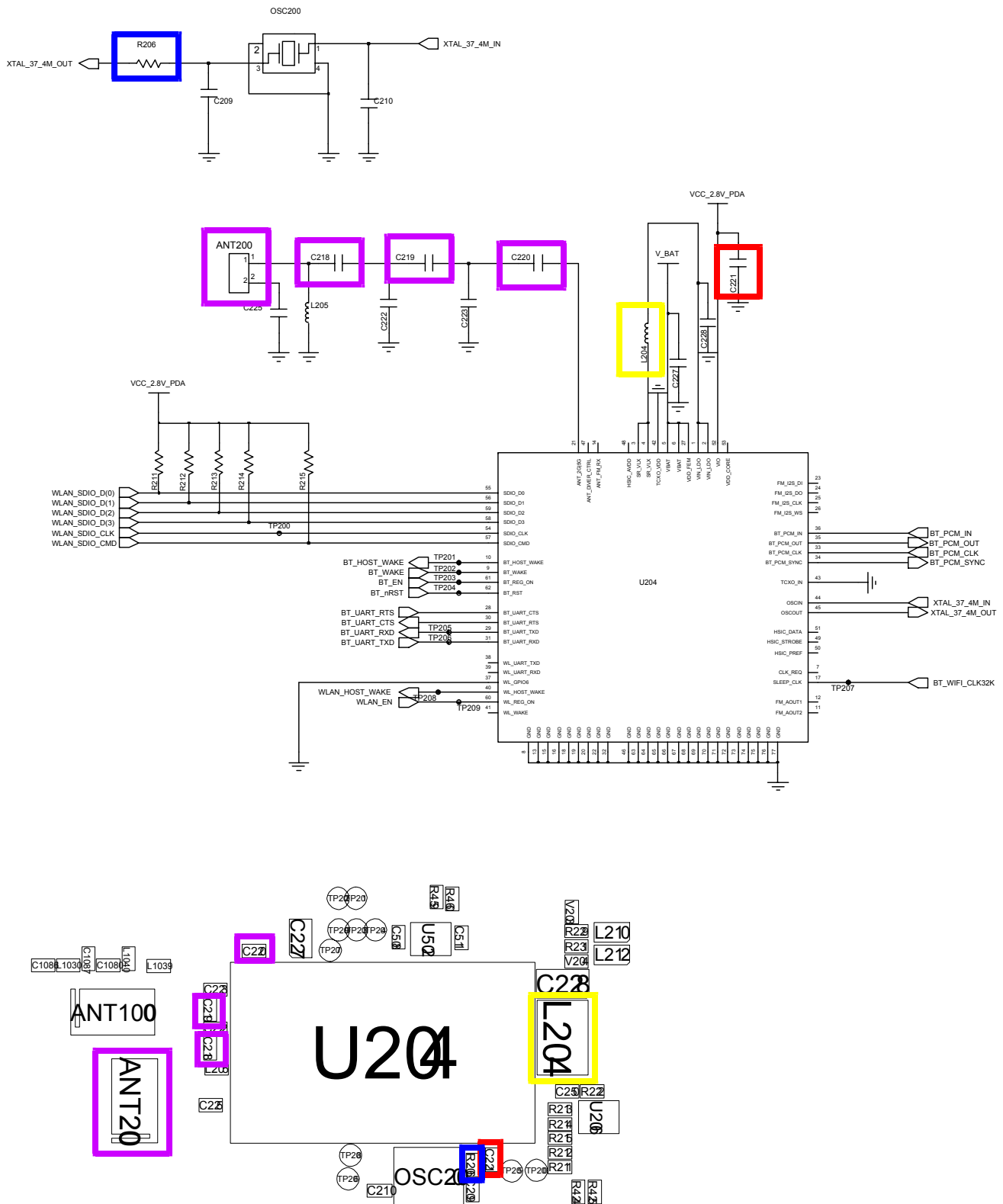






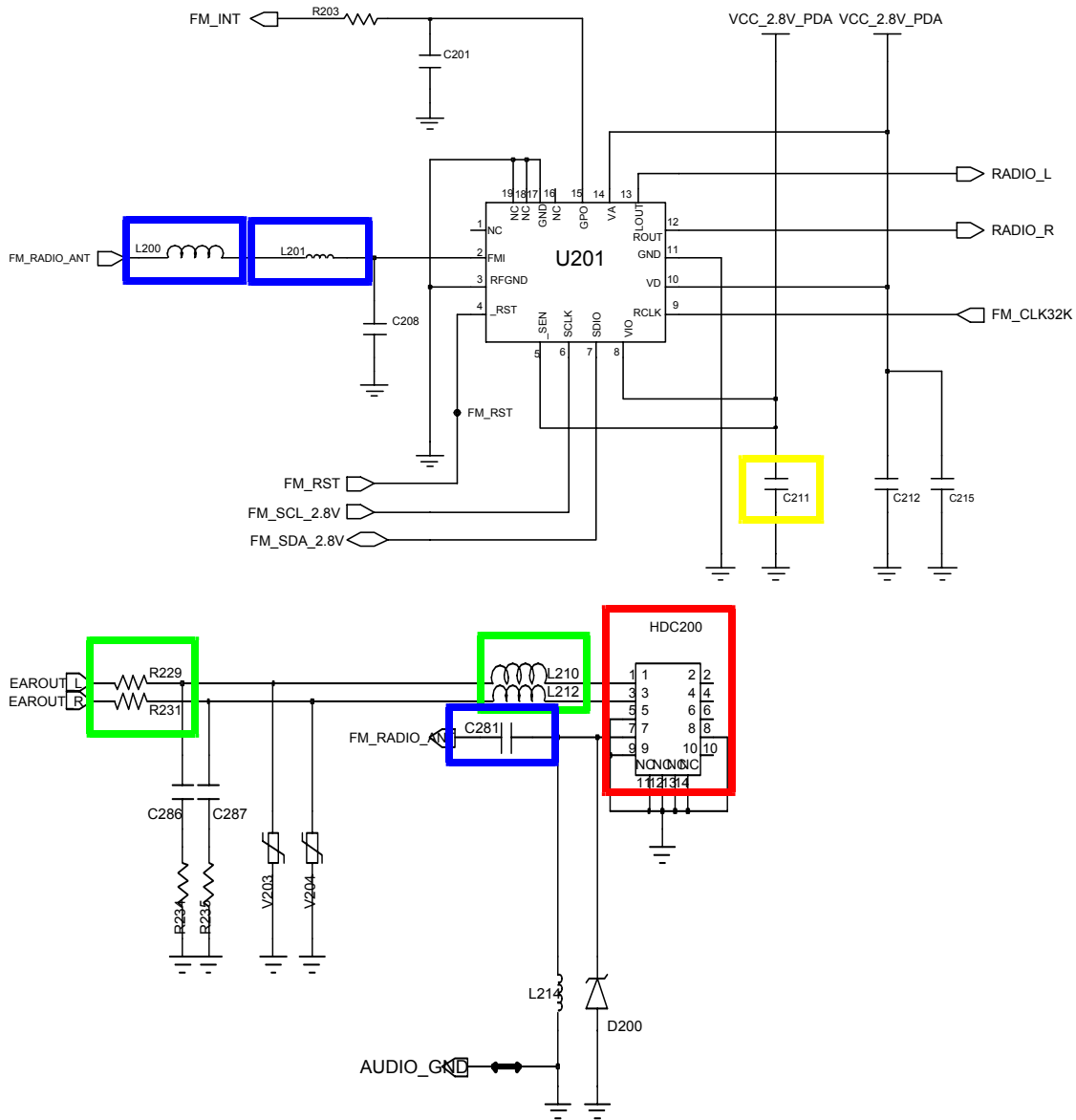
8-3-9. BT/WIFI



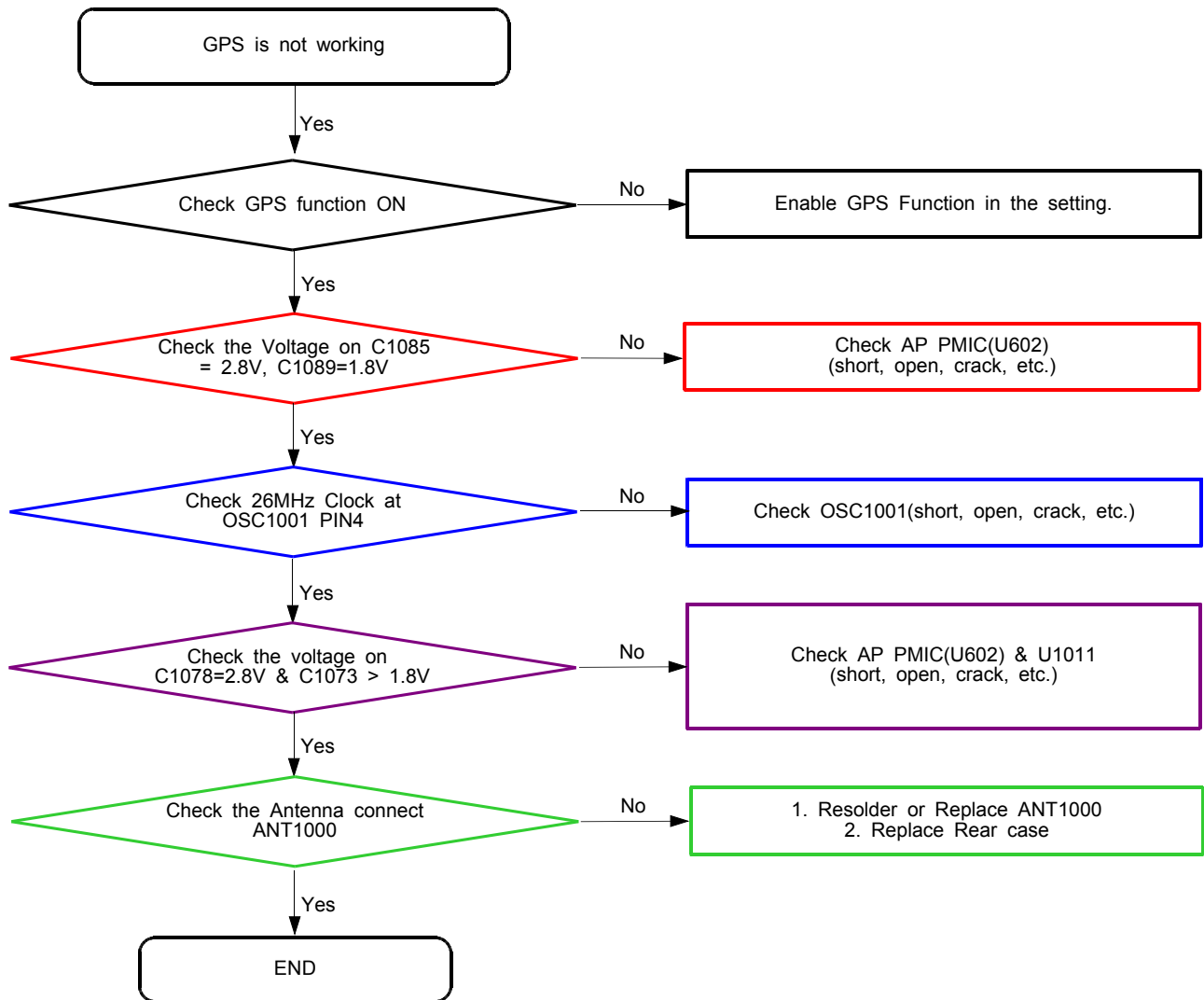


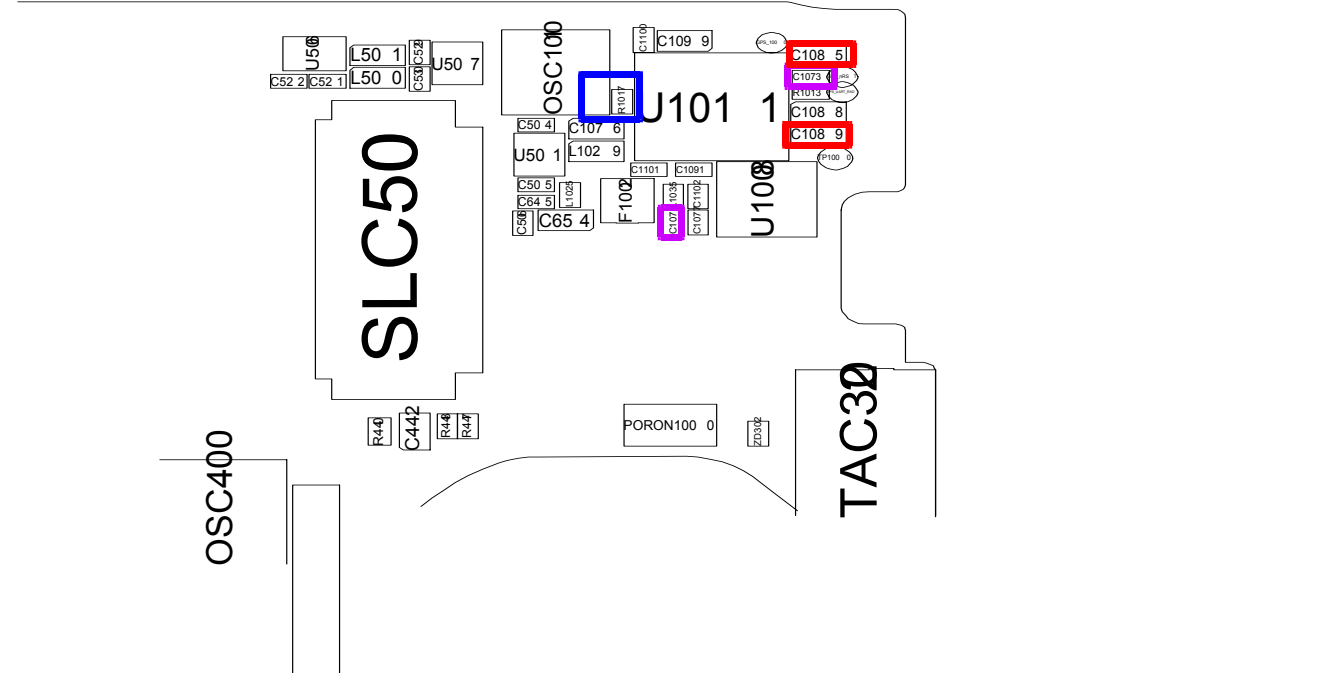
8-3-10. FM RADIO

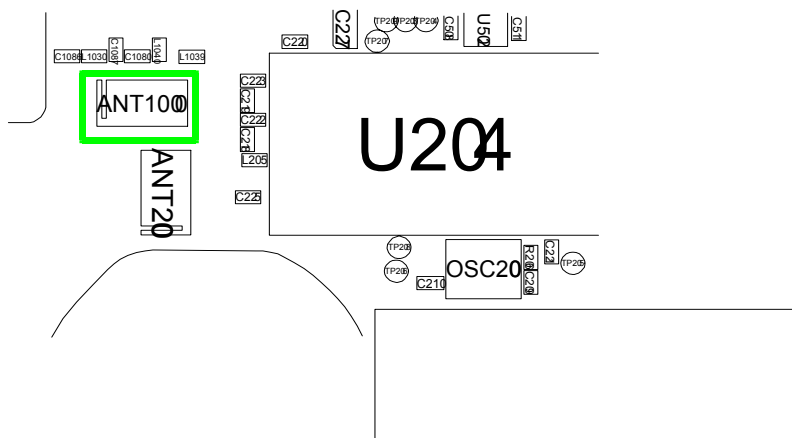




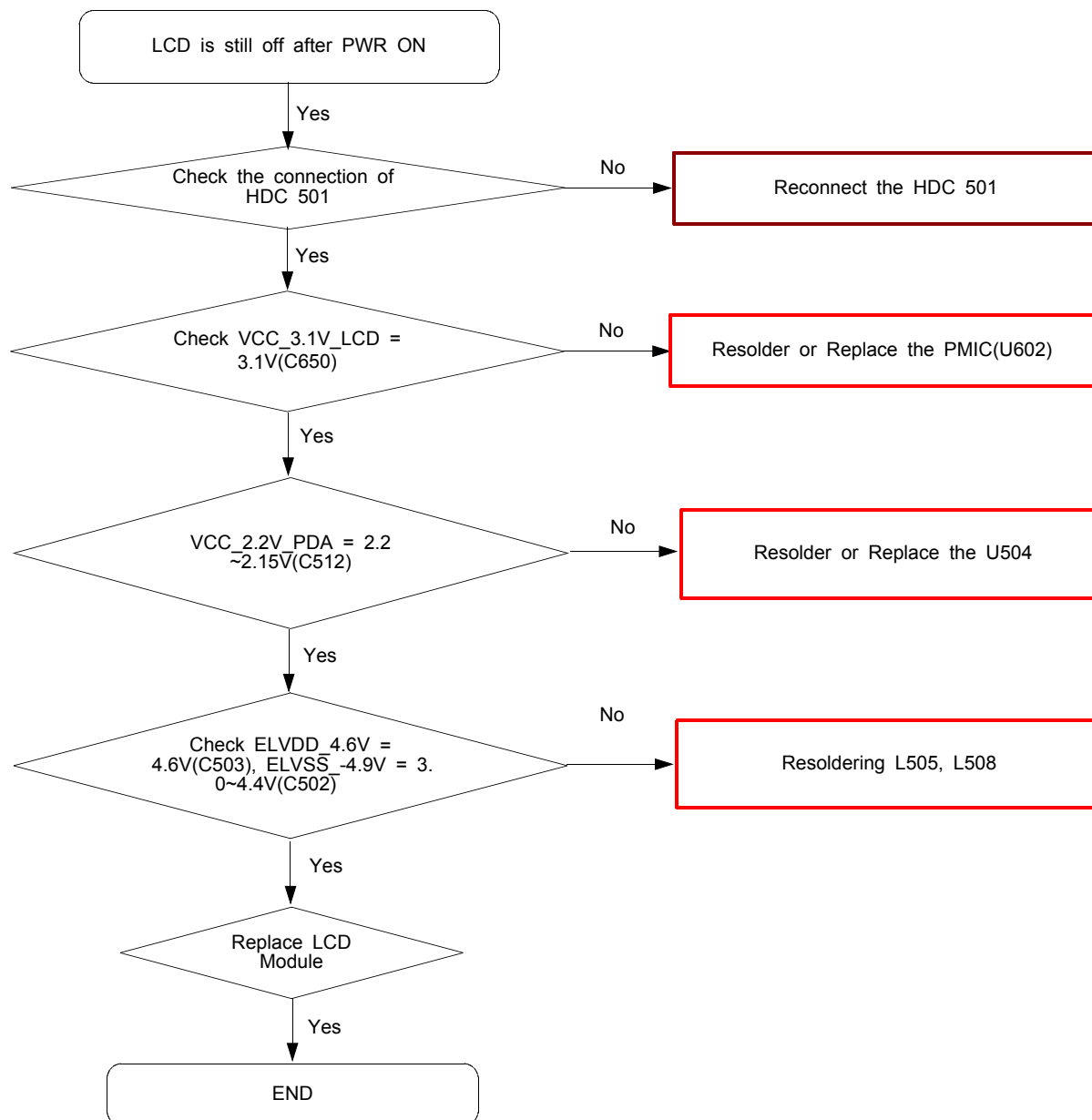
8-3-11. GPS

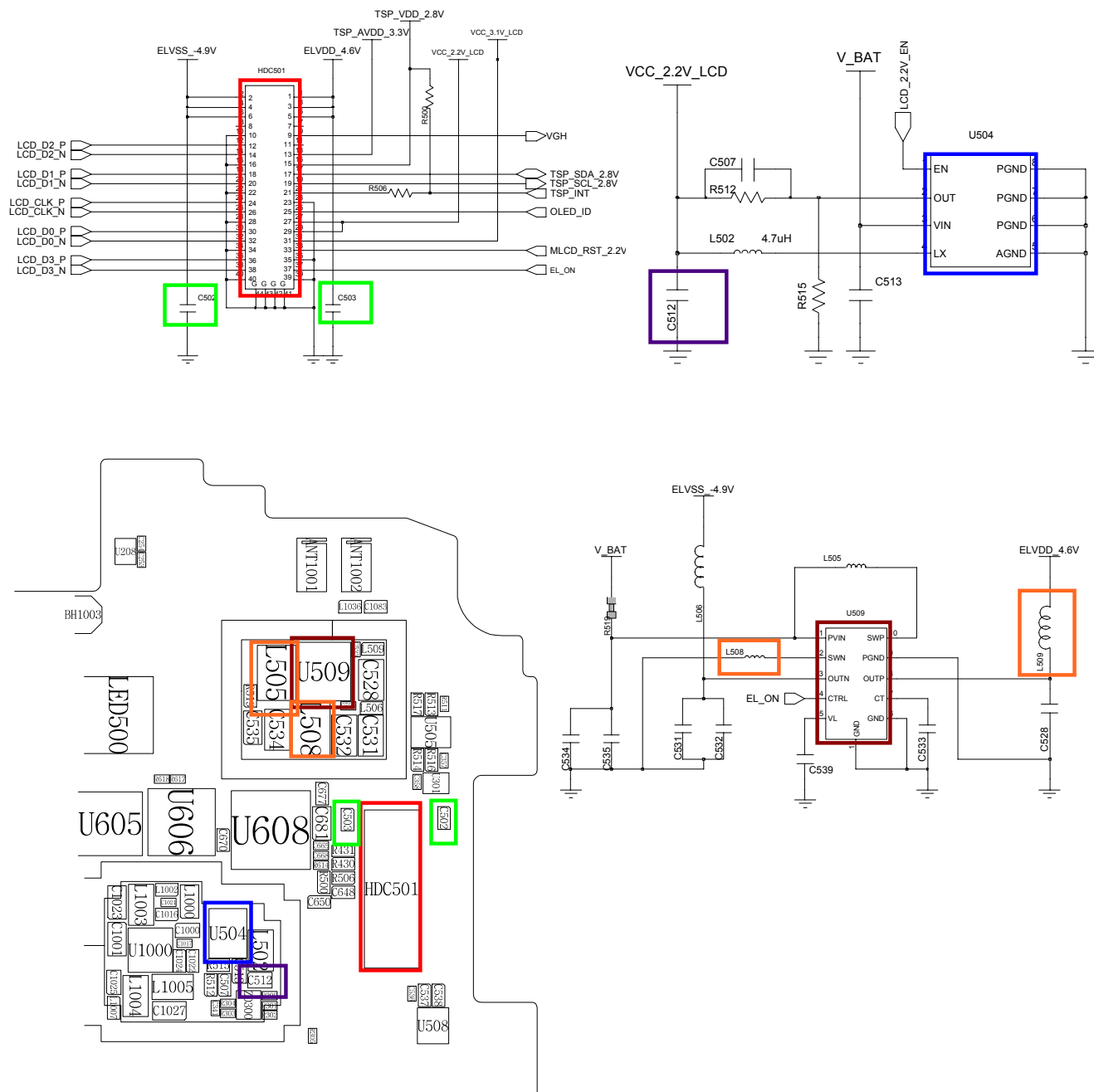




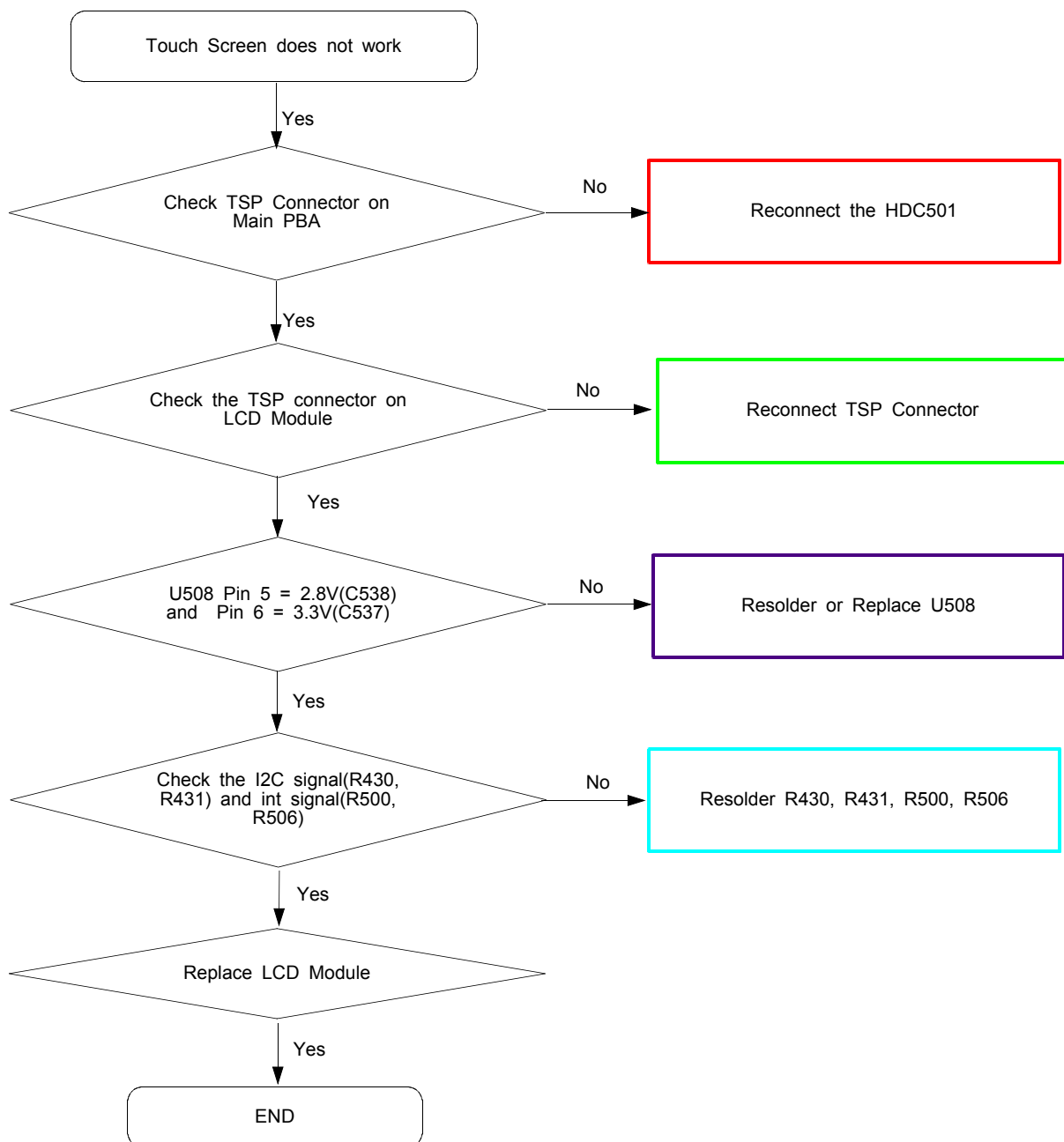


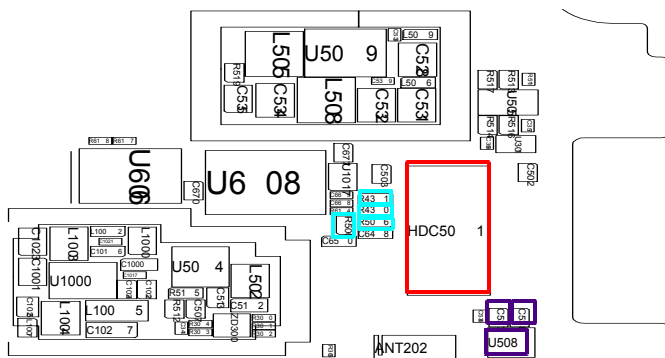
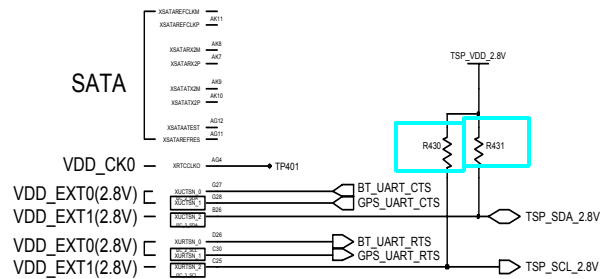
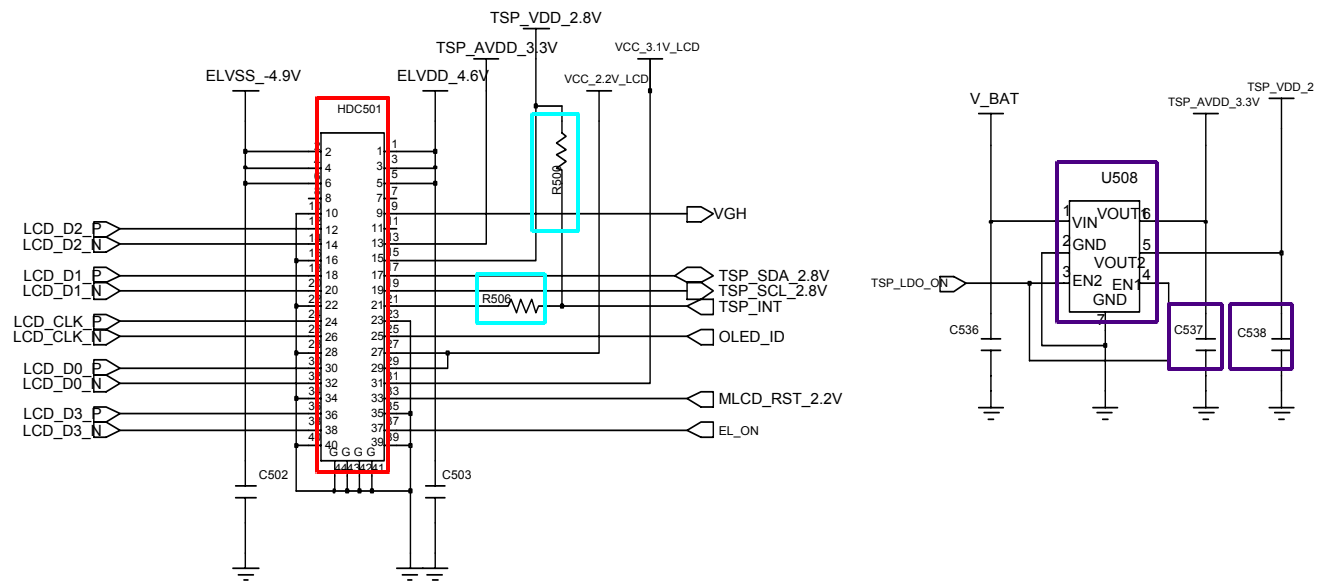
8-3-12. OLED



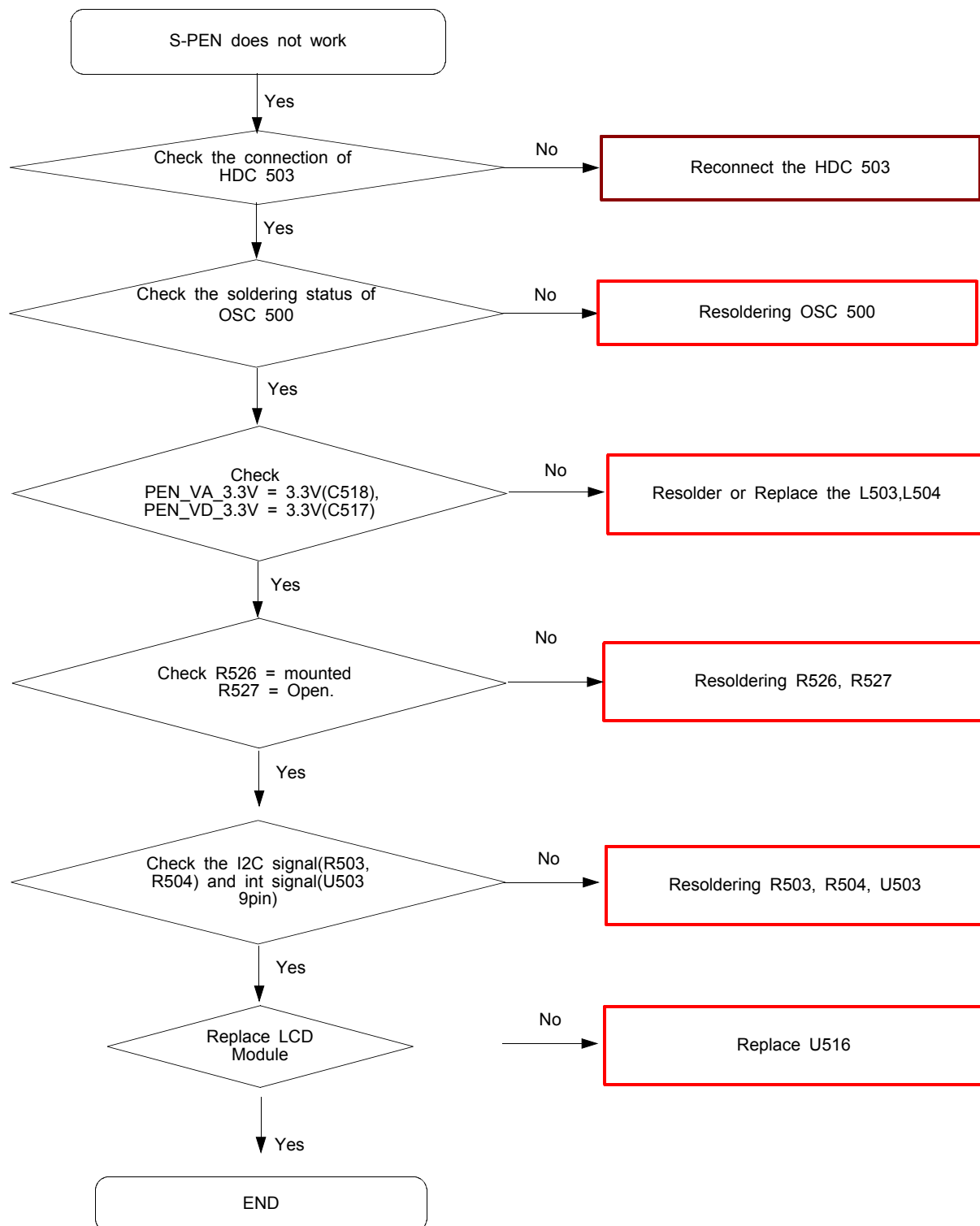


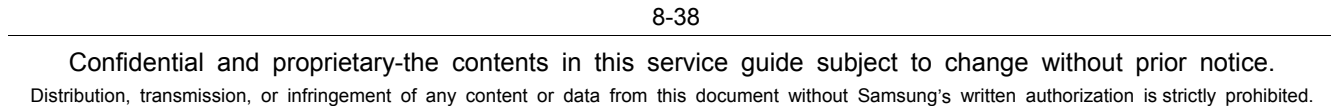
8-3-13 TSP





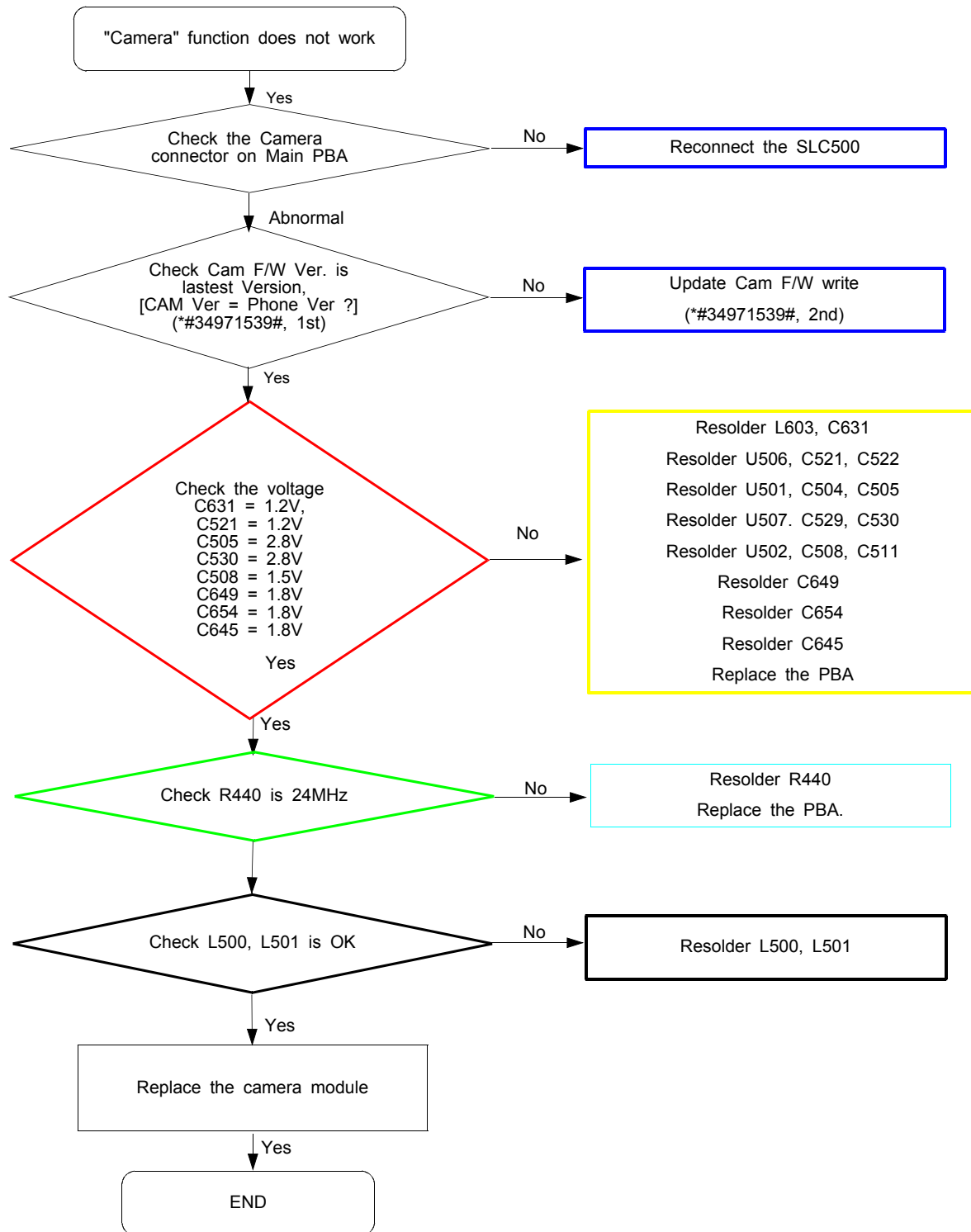
8-3-14 S-PEN

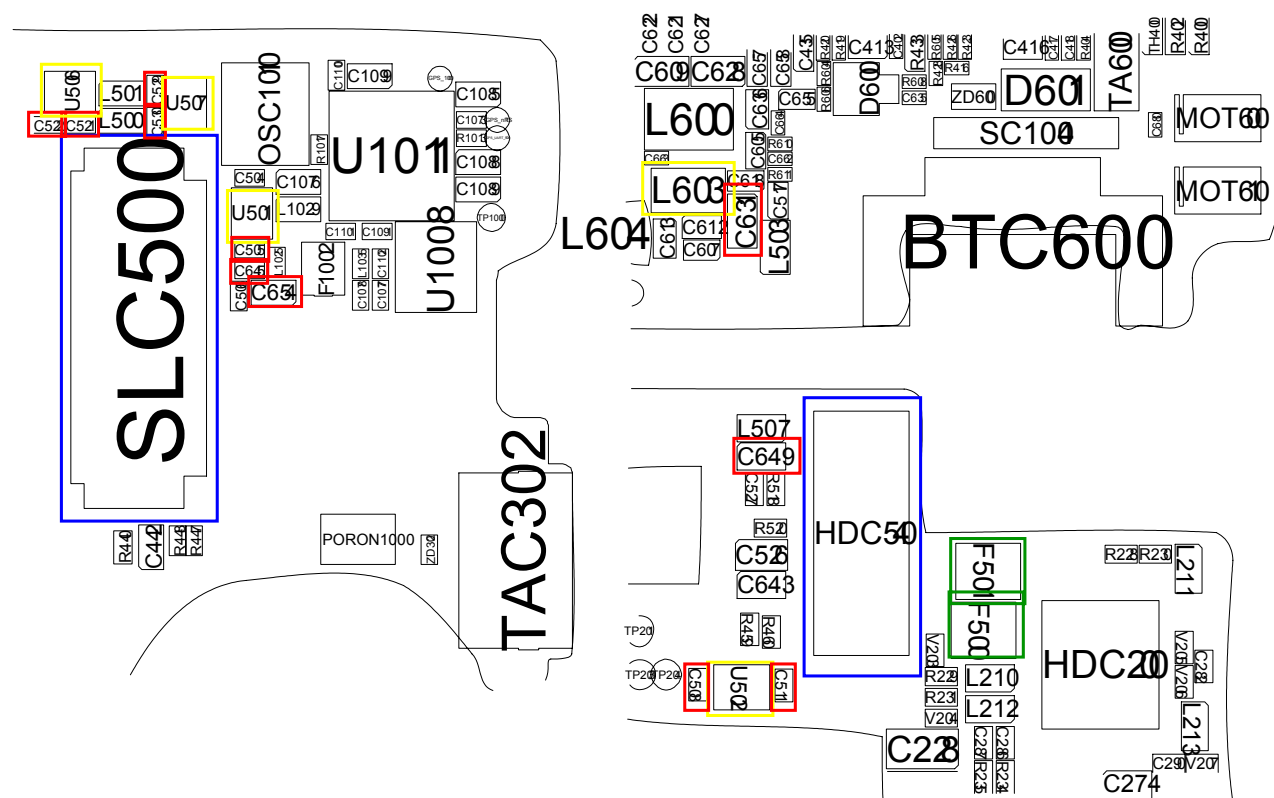
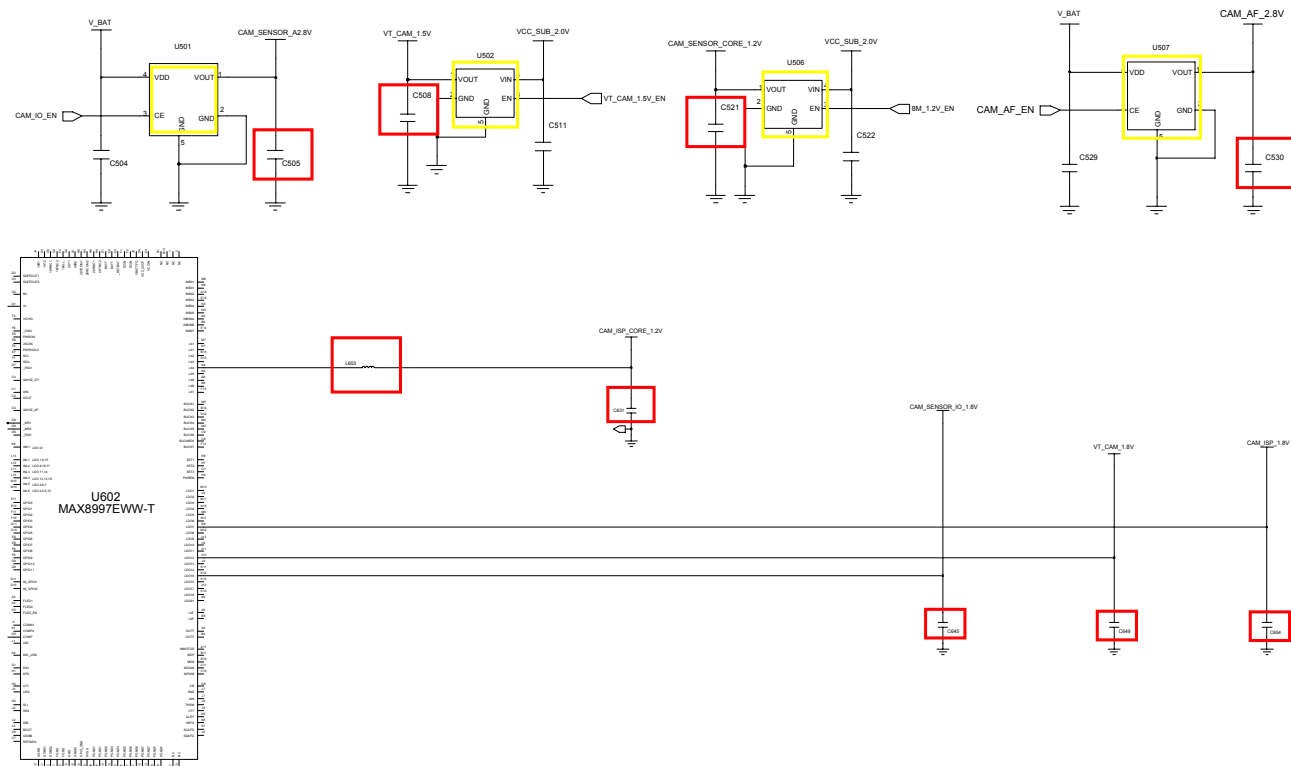




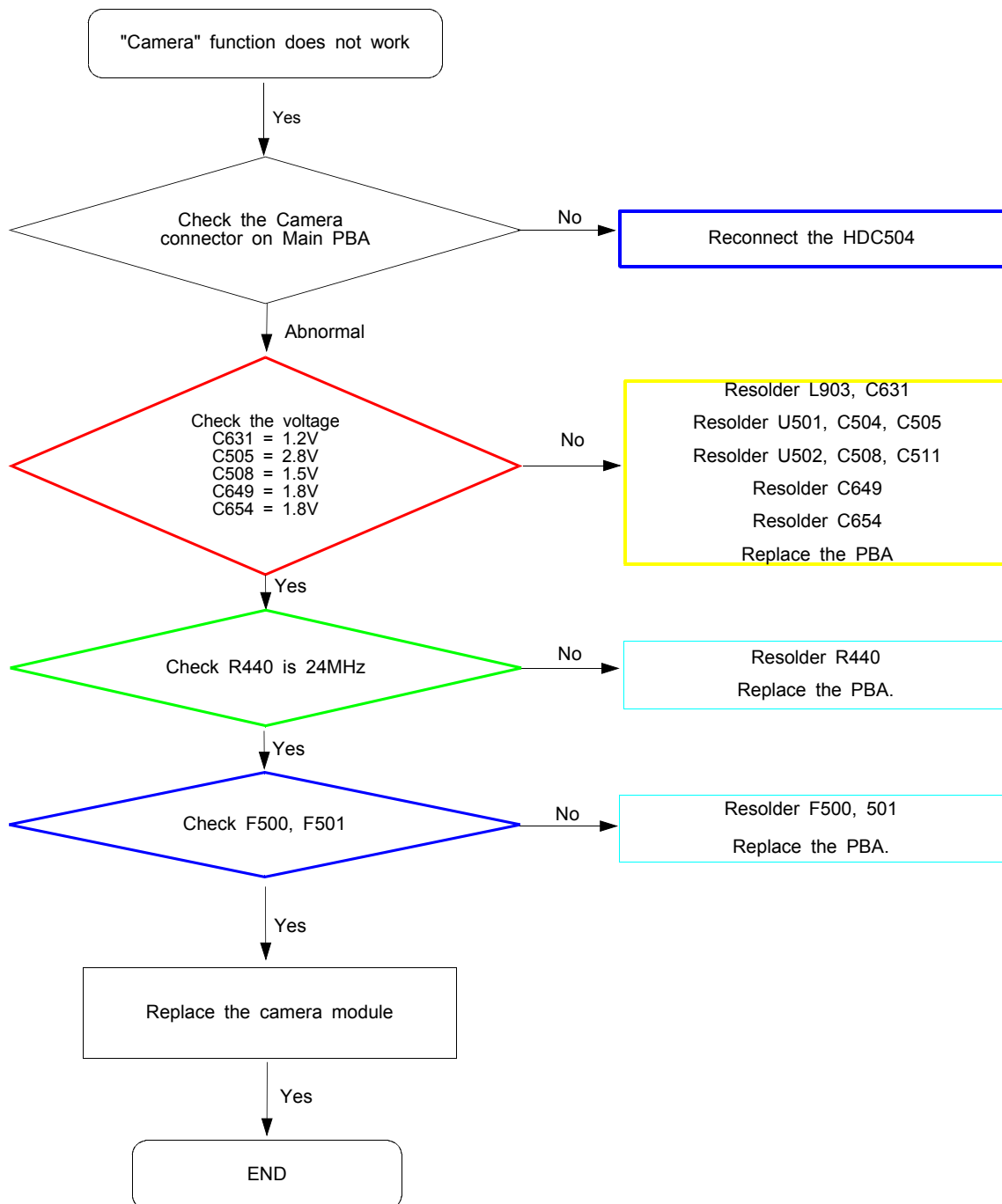


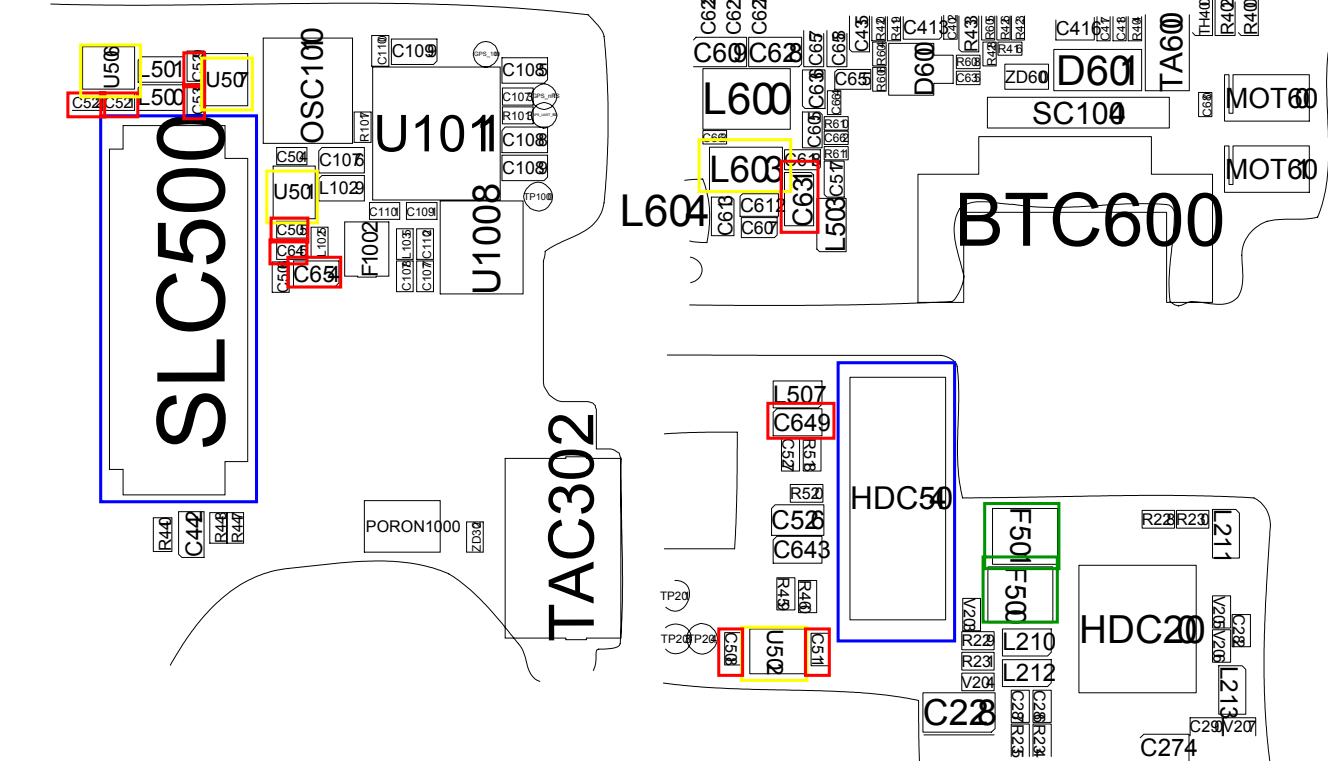
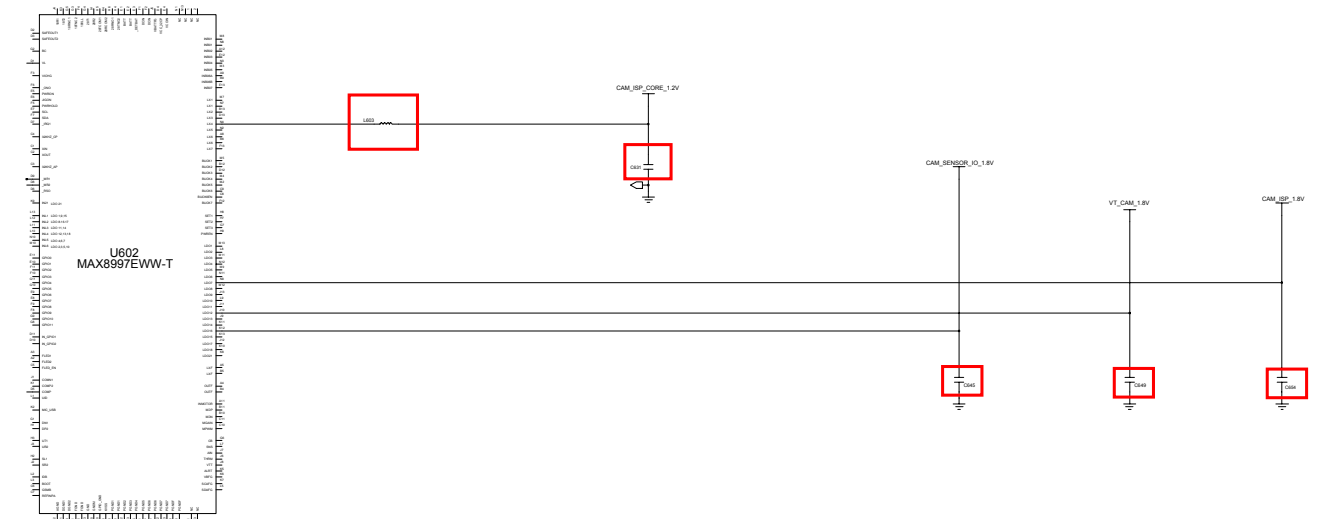
8-3-15. 8M CAM



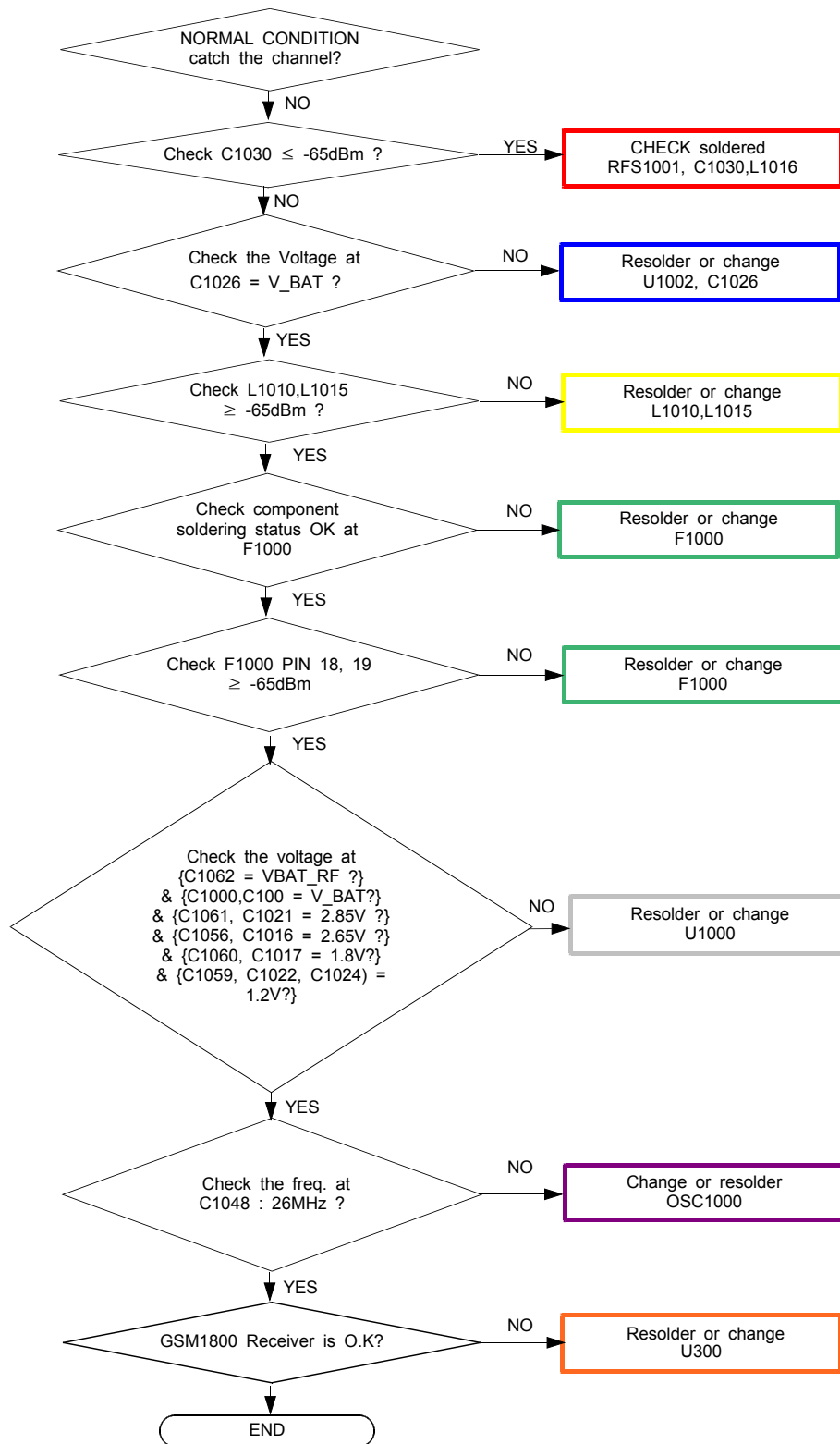


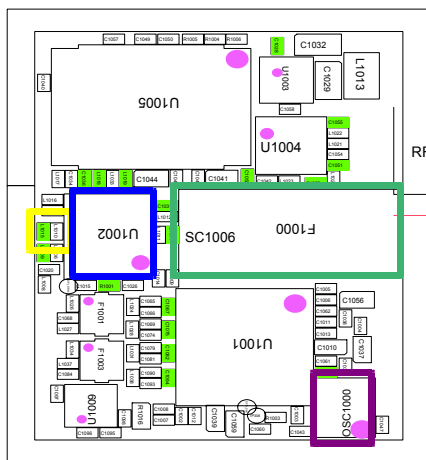
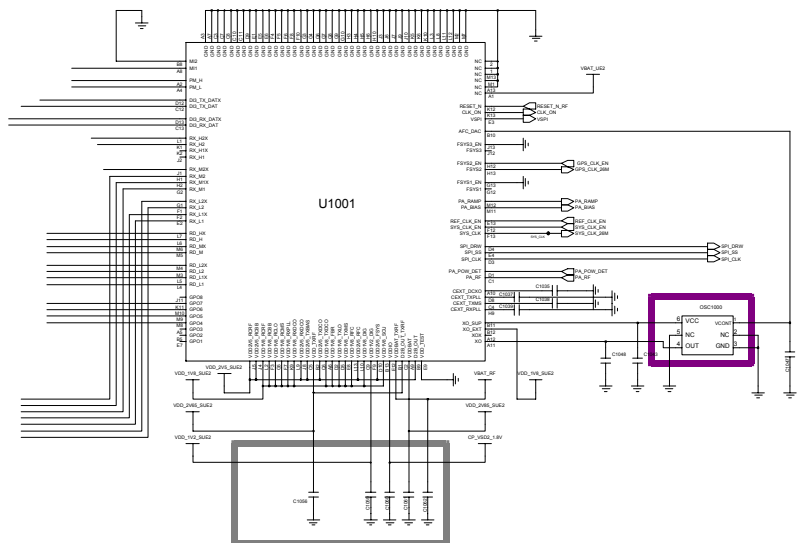
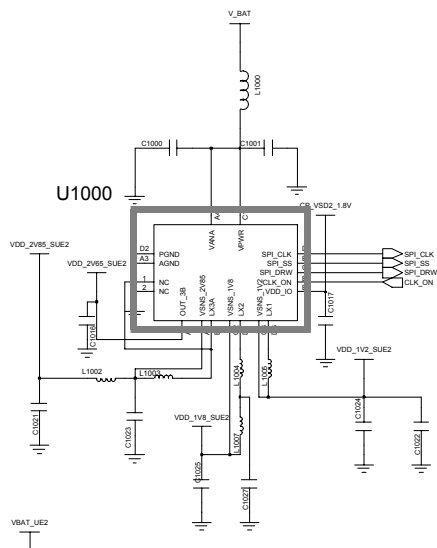
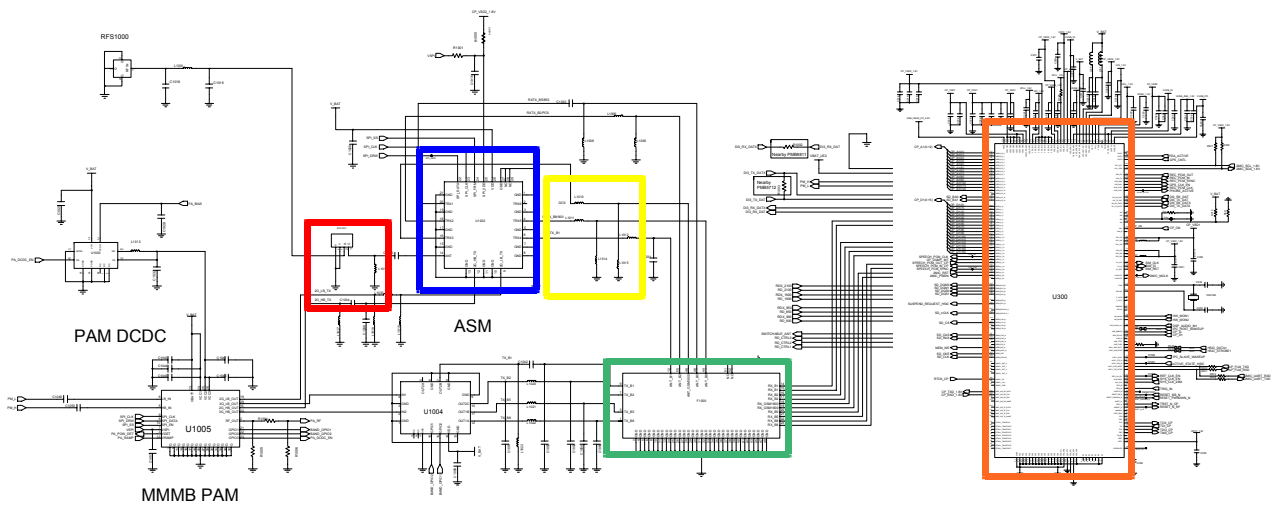
8-3-16 2M CAM



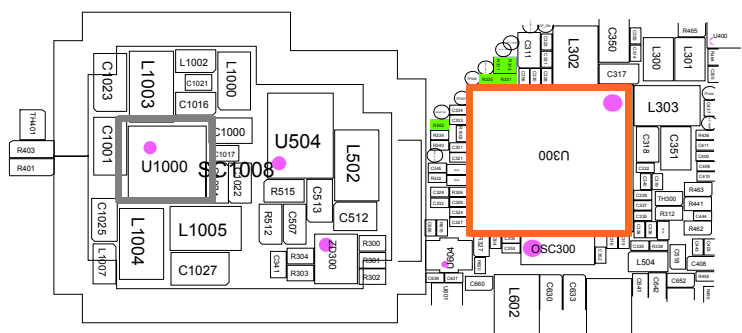
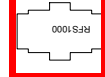


8-3-12. GSM1800 RX

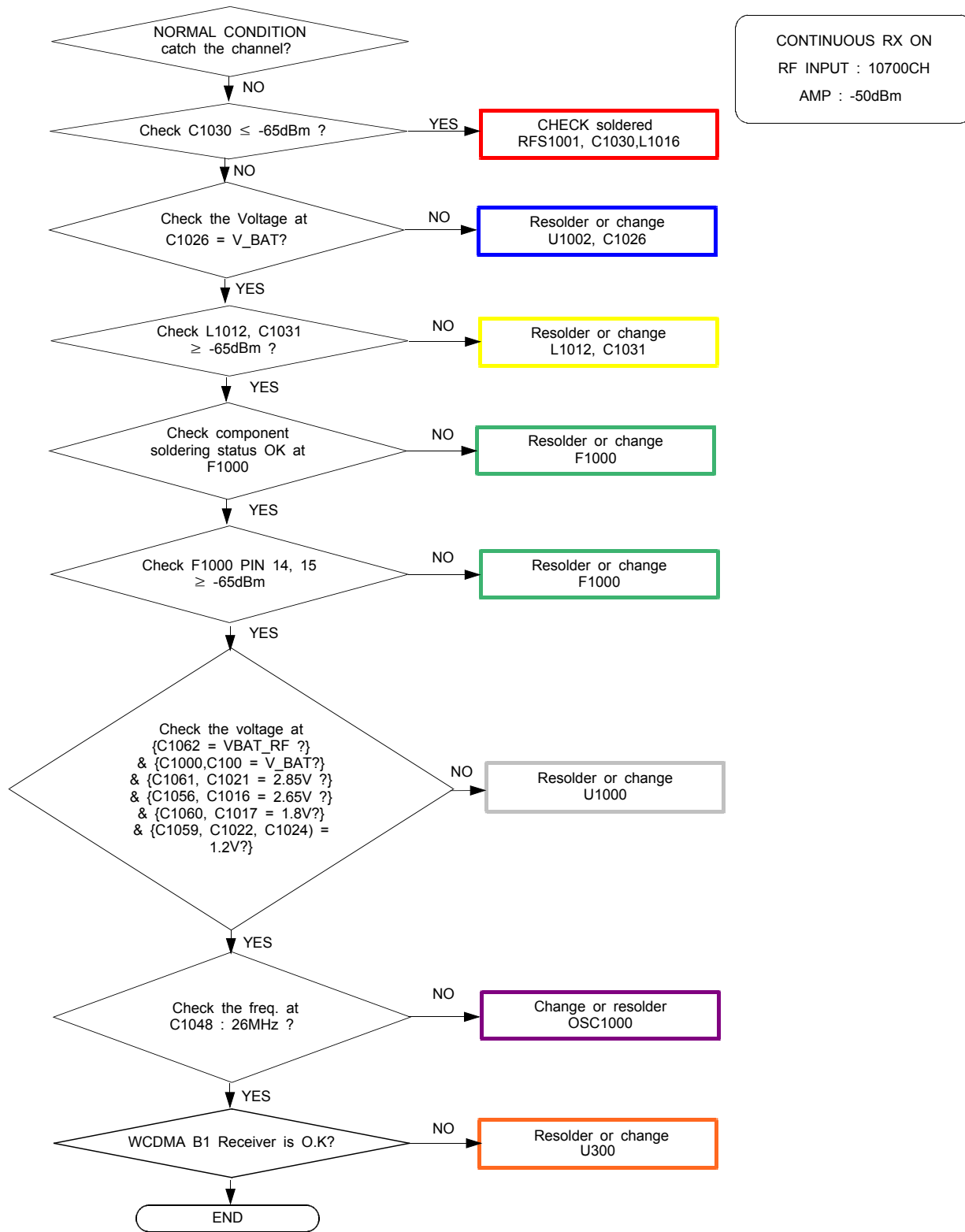




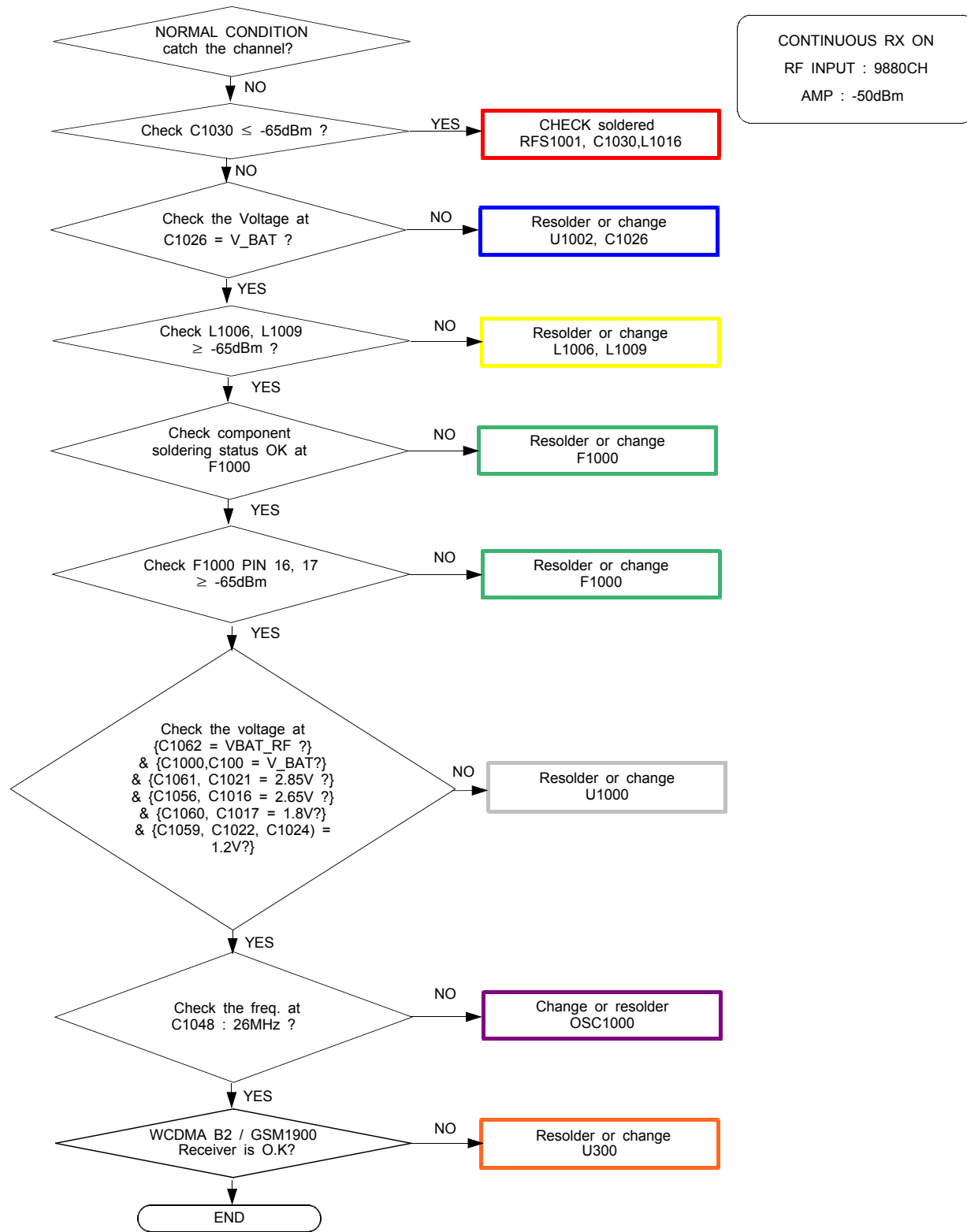
RFS1001

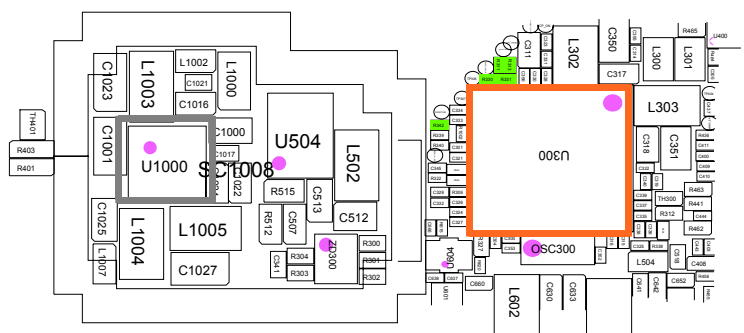
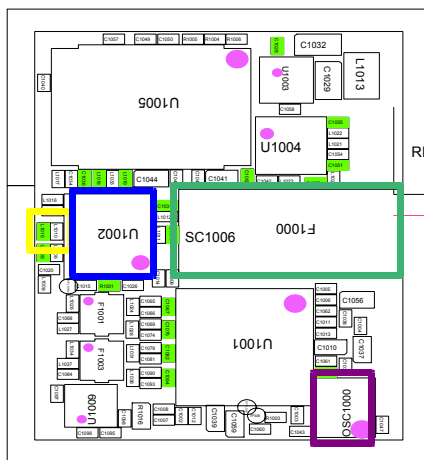
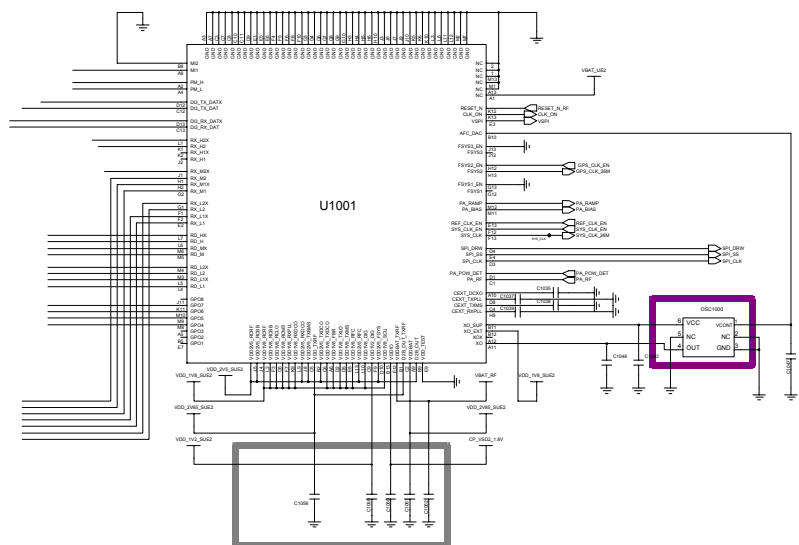
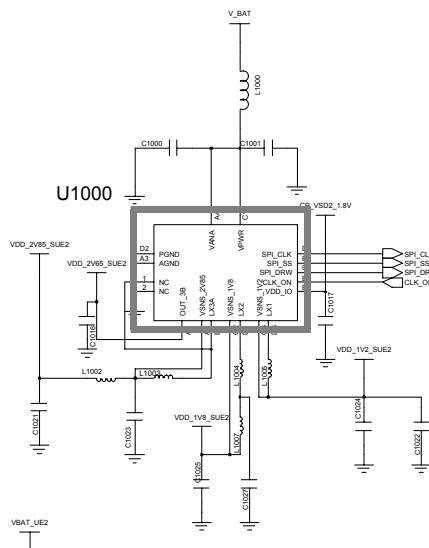
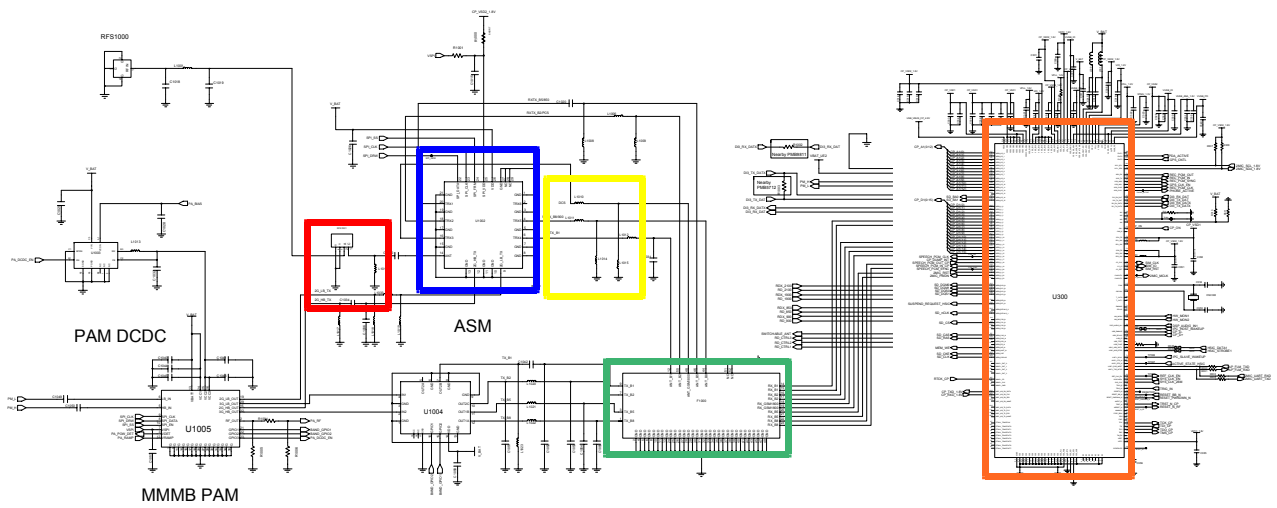


8-3-13. WCDMA Band1 RX

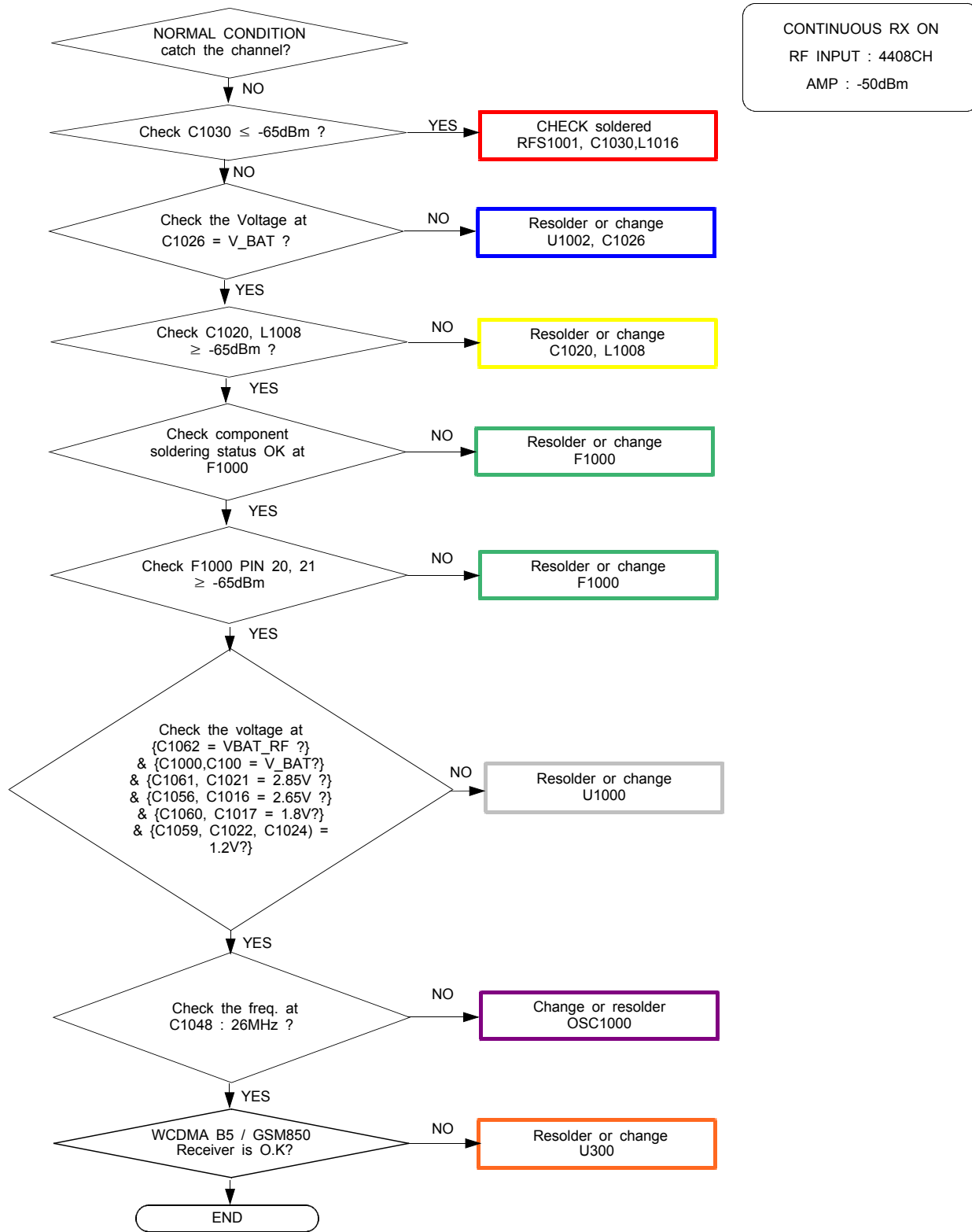


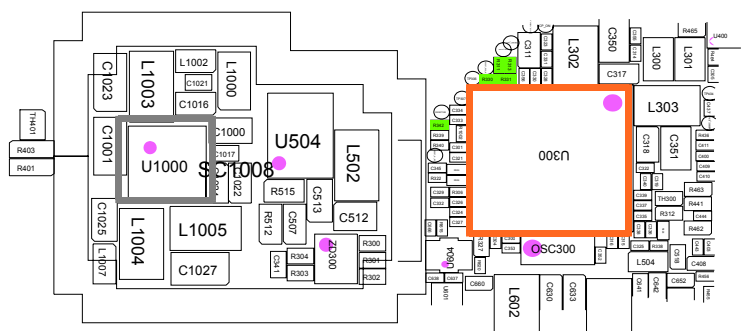
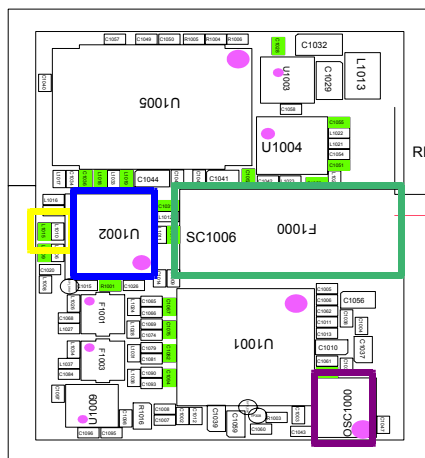
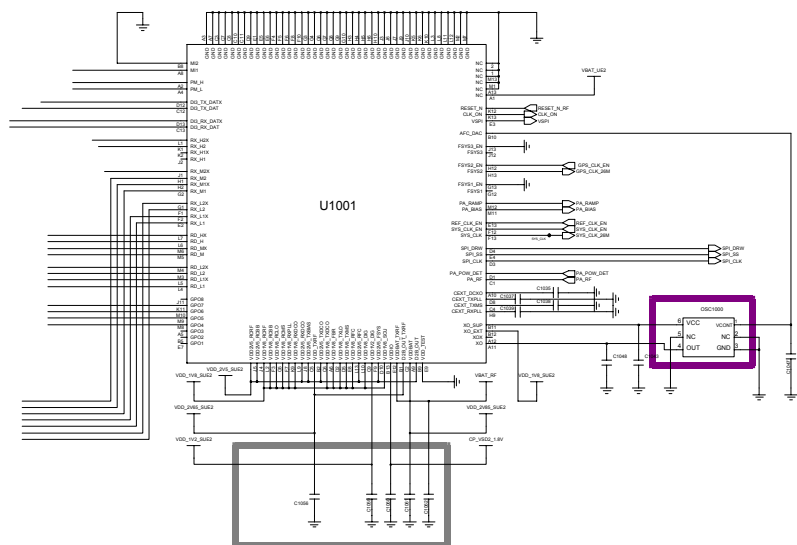
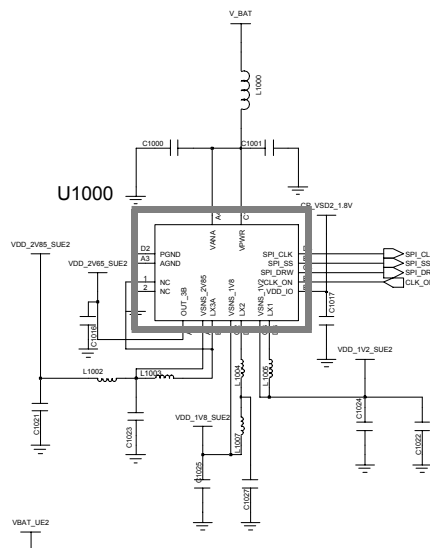
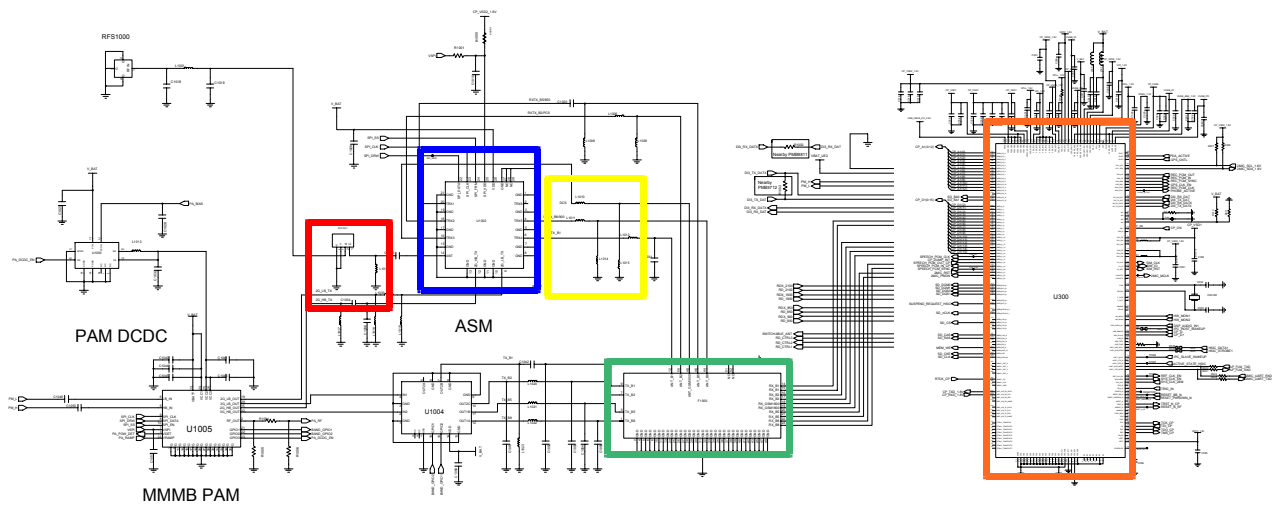
8-3-14. WCDMA Band2 / GSM1900 RX



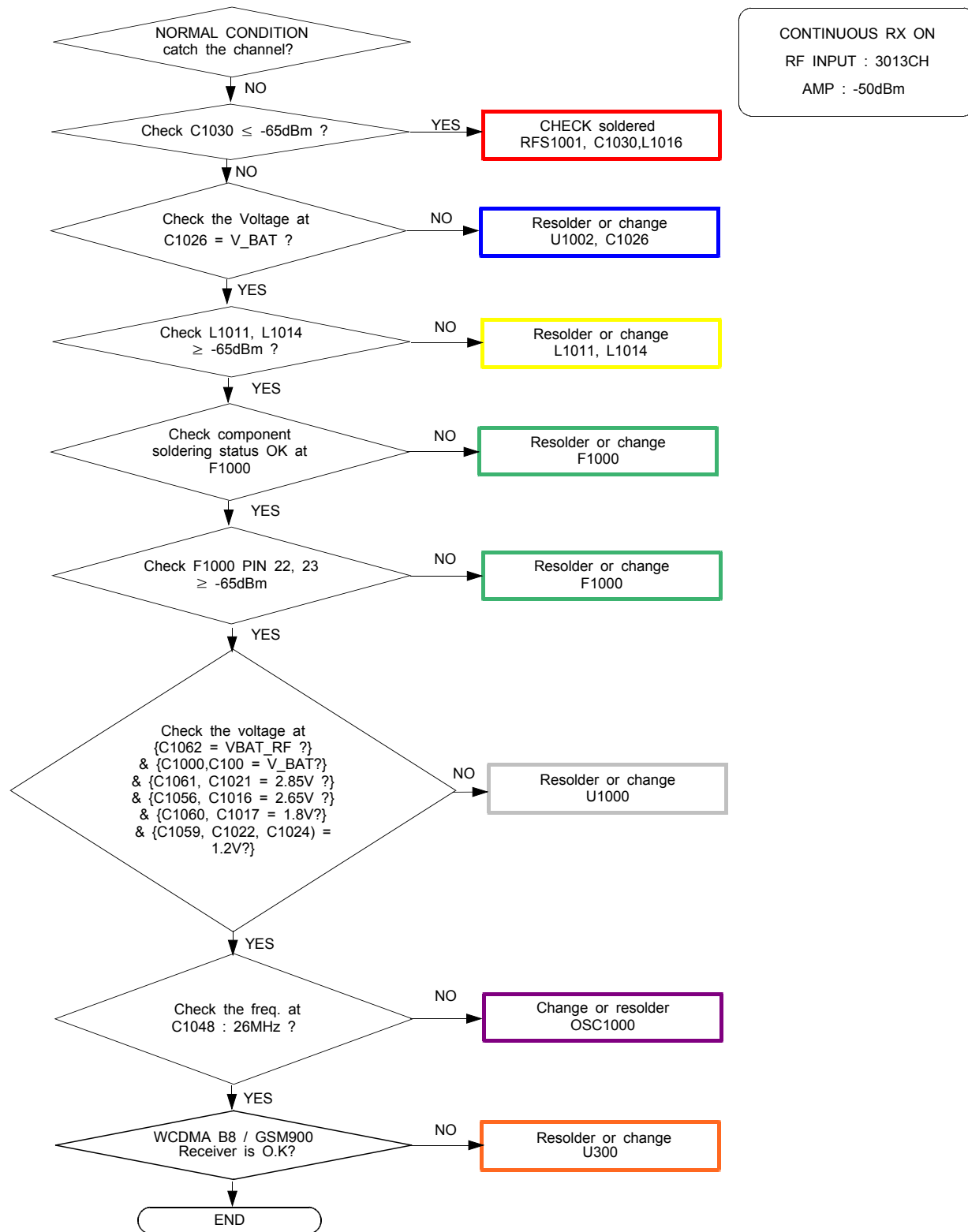


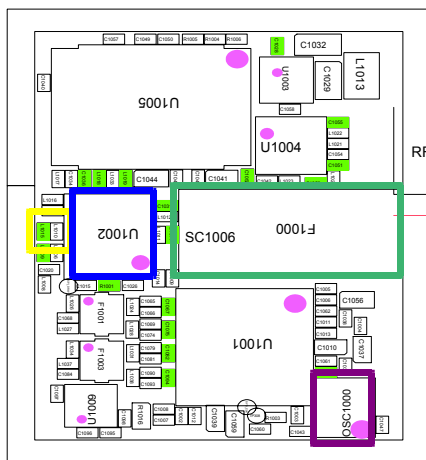
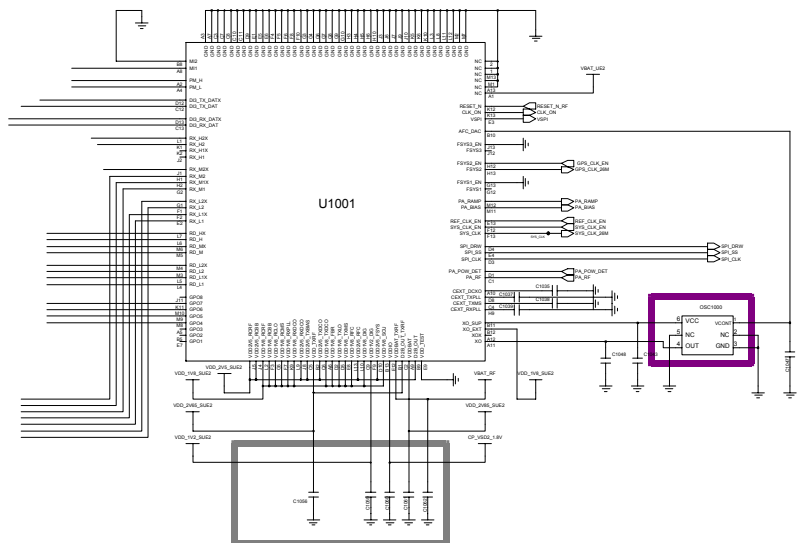
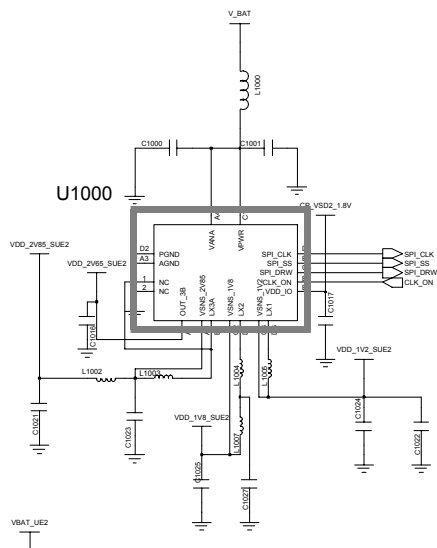
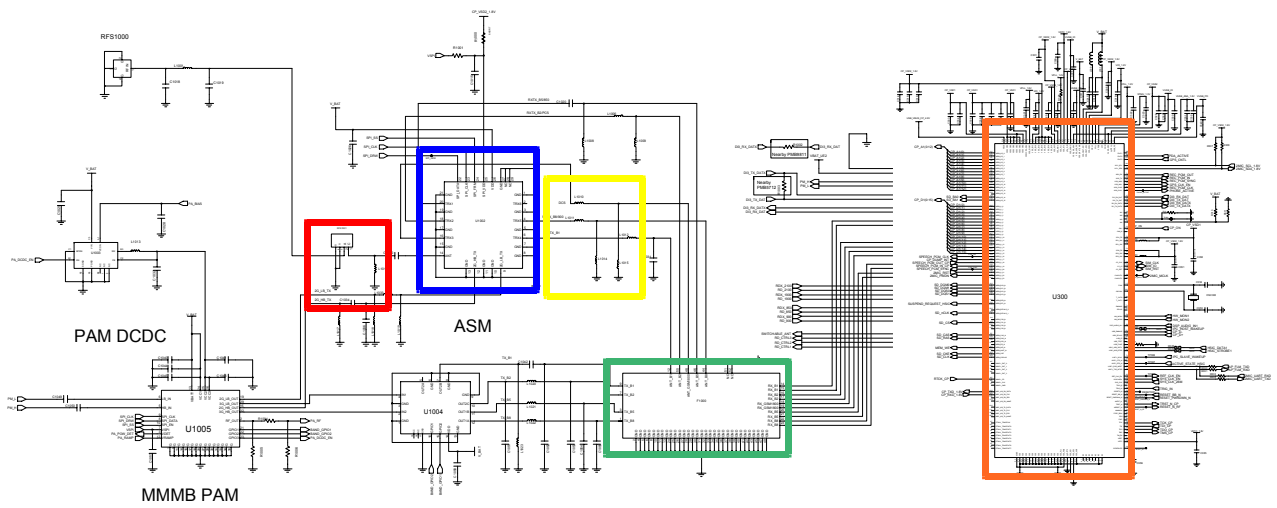
8-3-15. WCDMA Band5 / GSM 850 RX



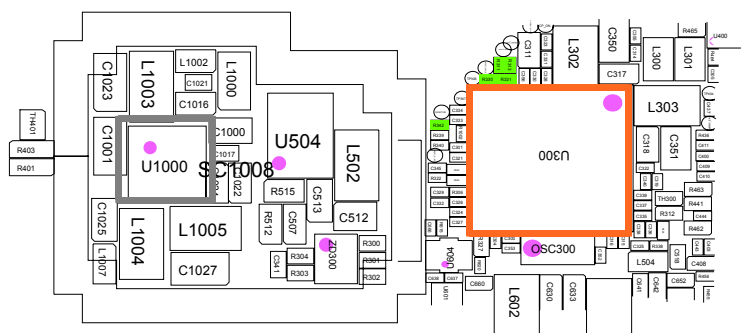
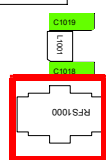


8-3-16. WCDMA Band8 / GSM900 RX



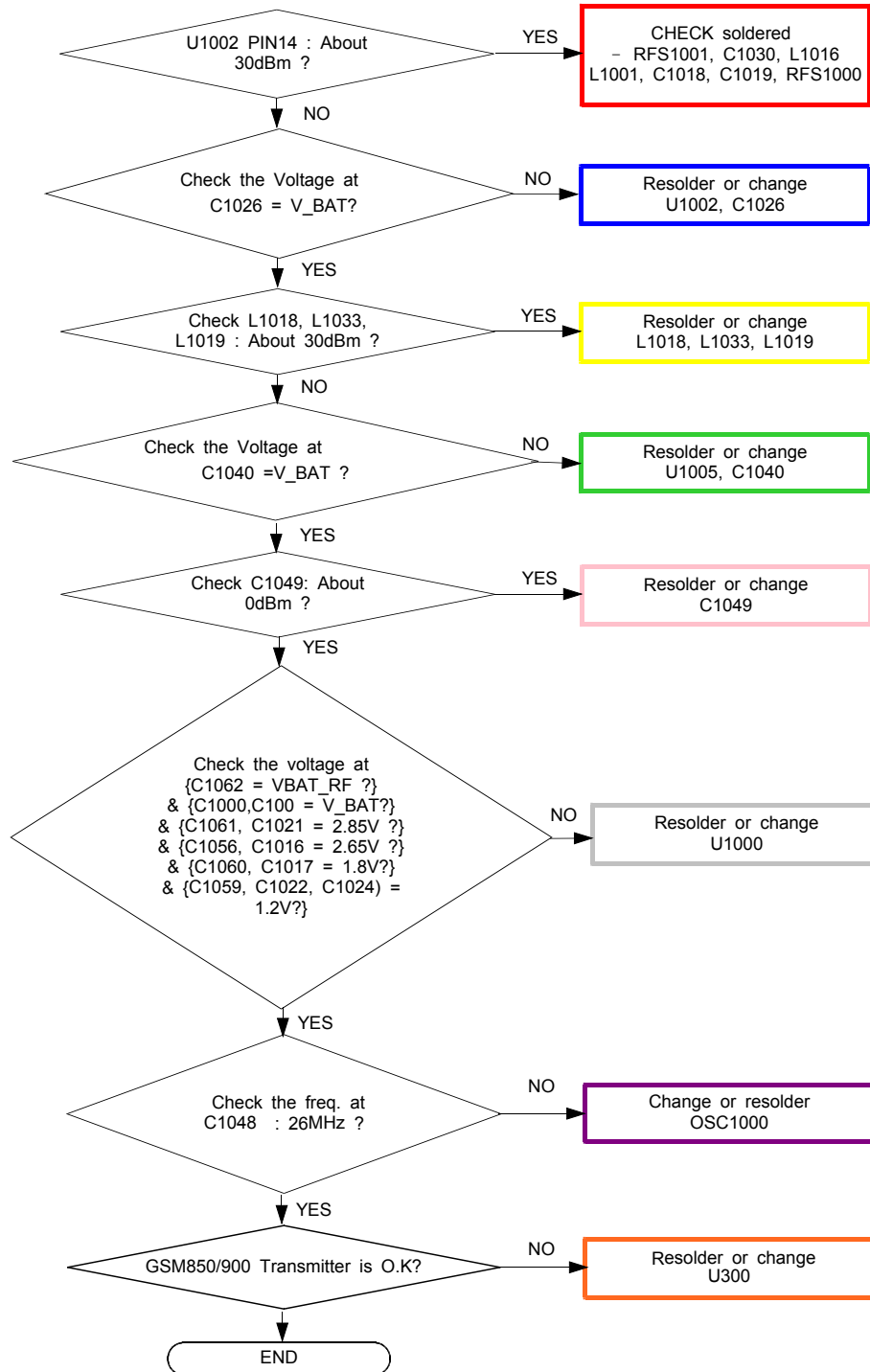


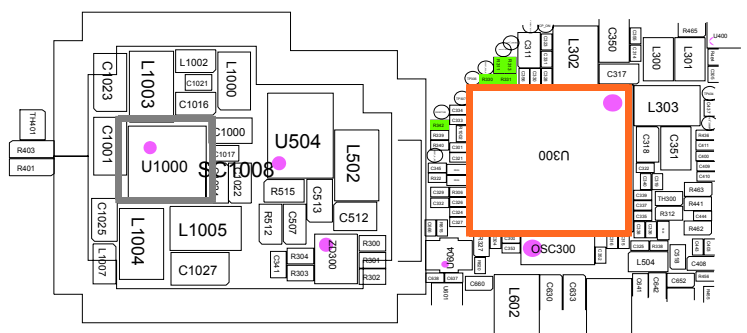
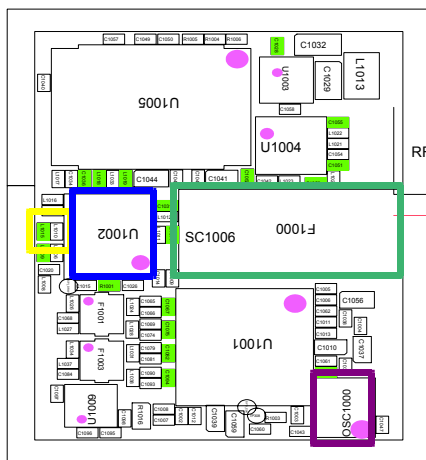
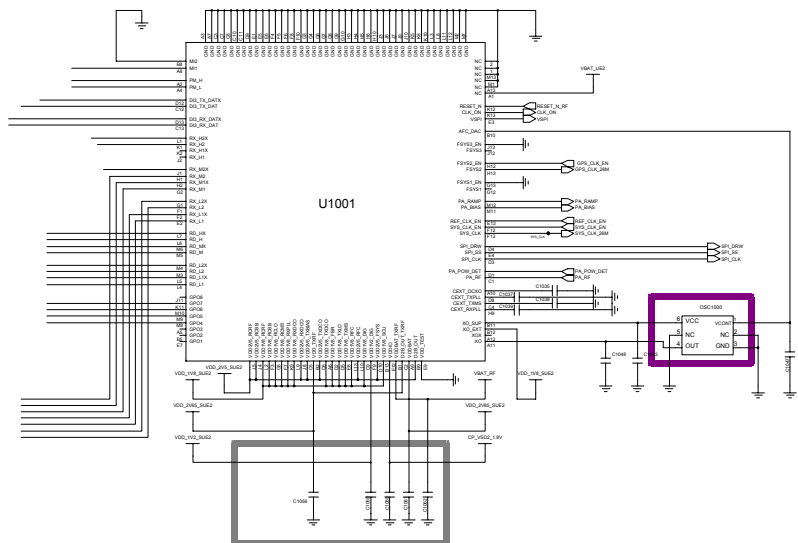
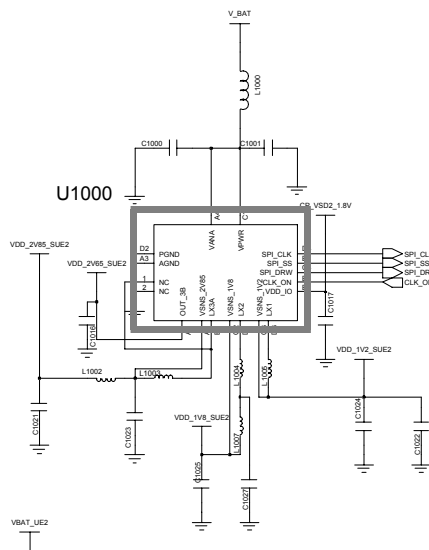
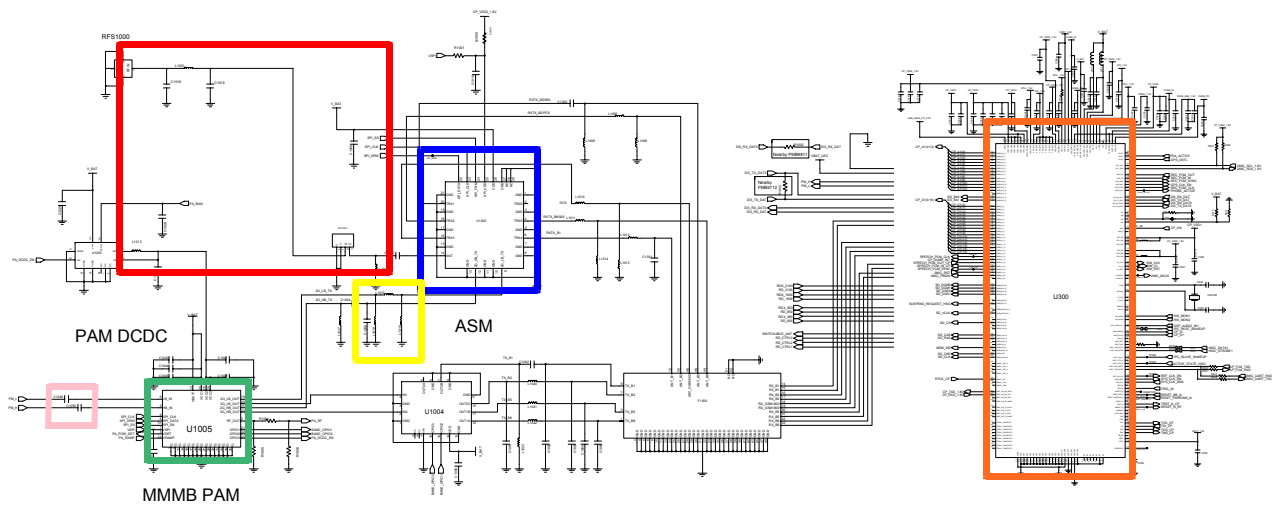
RFS1001



8-3-17. GSM850/GSM900 TX

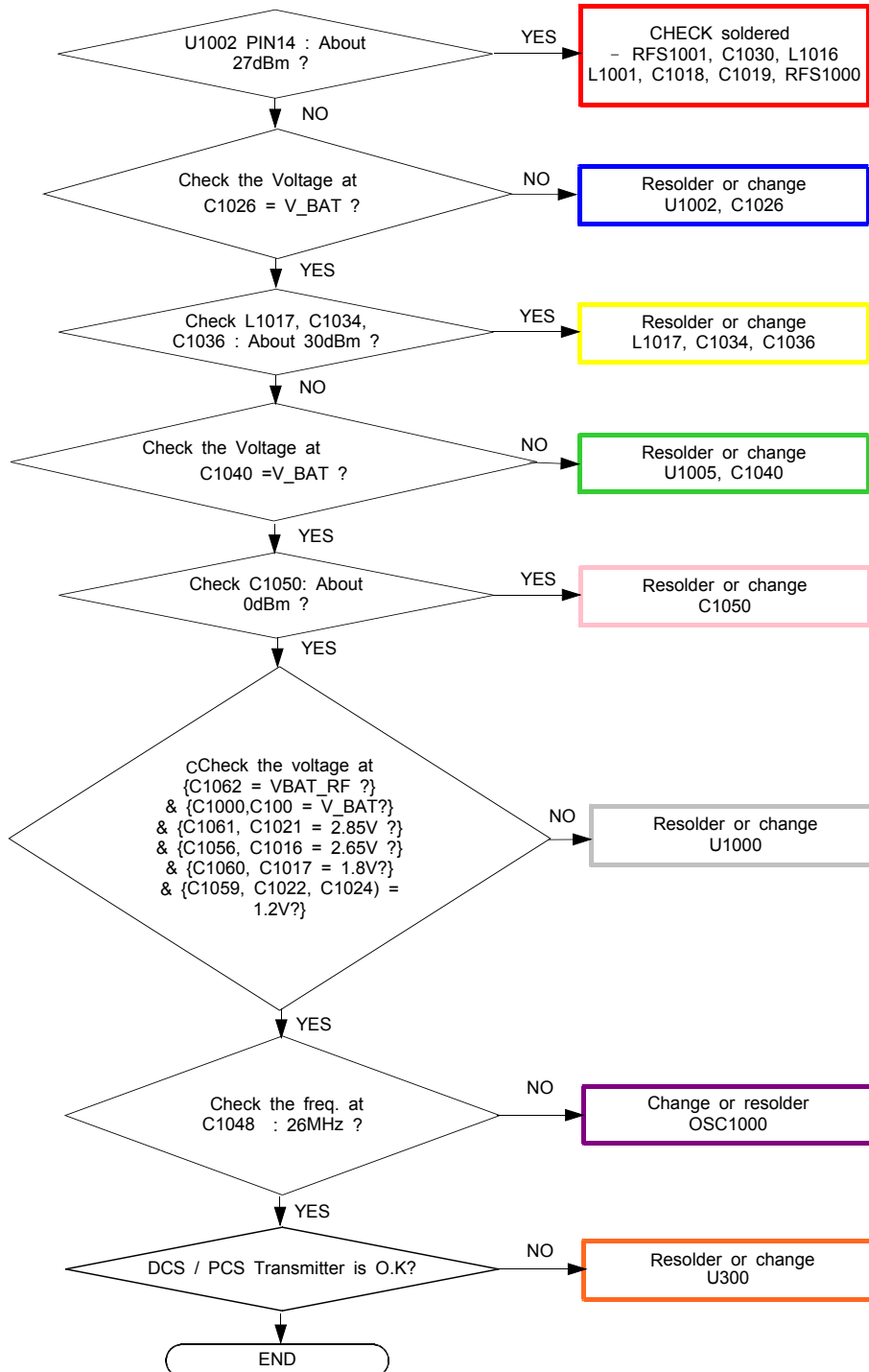
CONTINUOUS TX ON CONDITION
TX POWER DAC:14500 CODE
APPLIED
GSM850 CH : 190
GSM900 CH : 62
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB

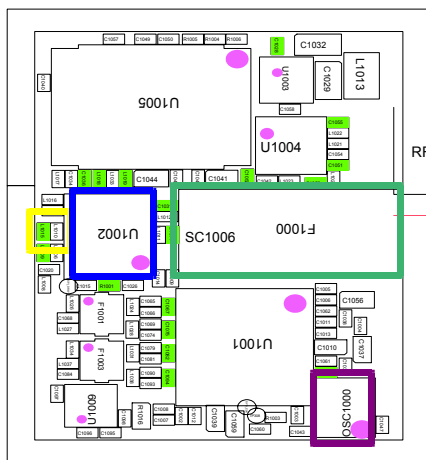
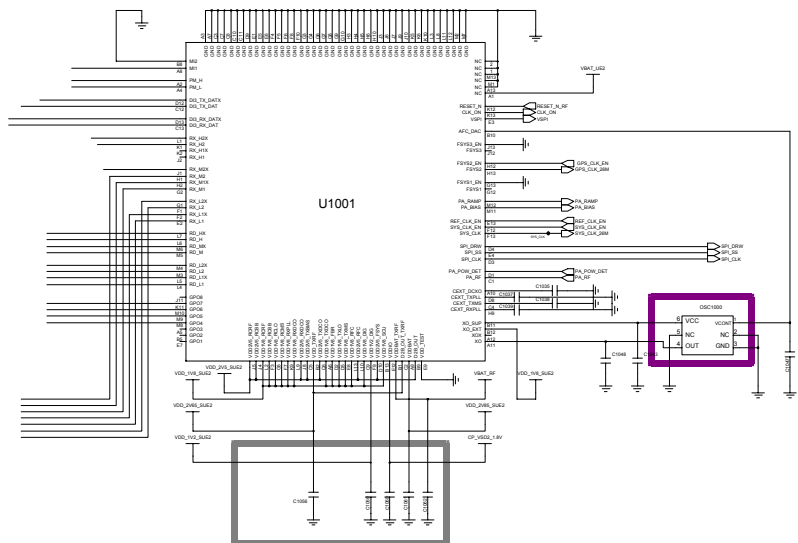
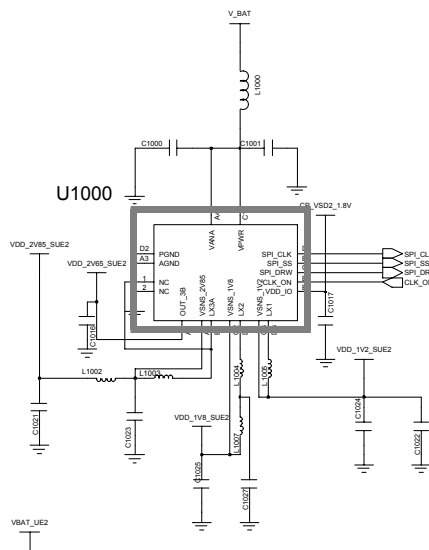
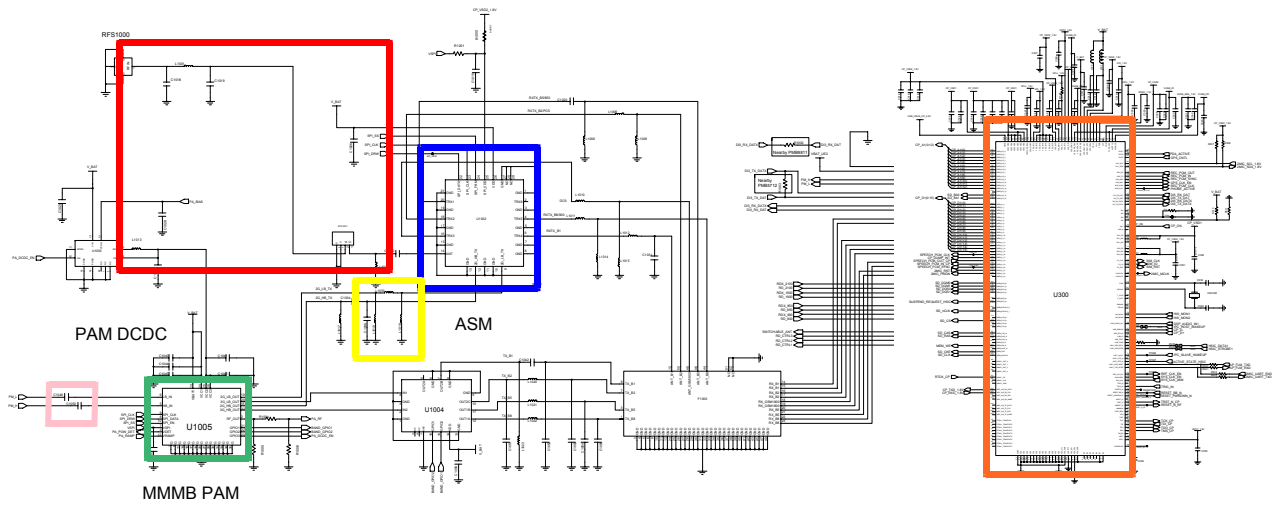




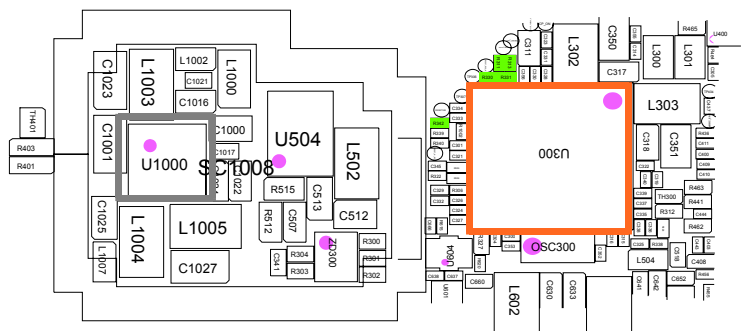
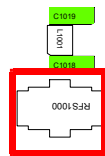
8-3-18. DCS/PCS TX

CONTINUOUS TX ON CONDITION
TX POWER DAC:14500 CODE
APPLIED
GSM850 CH : 190
GSM900 CH : 62
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB

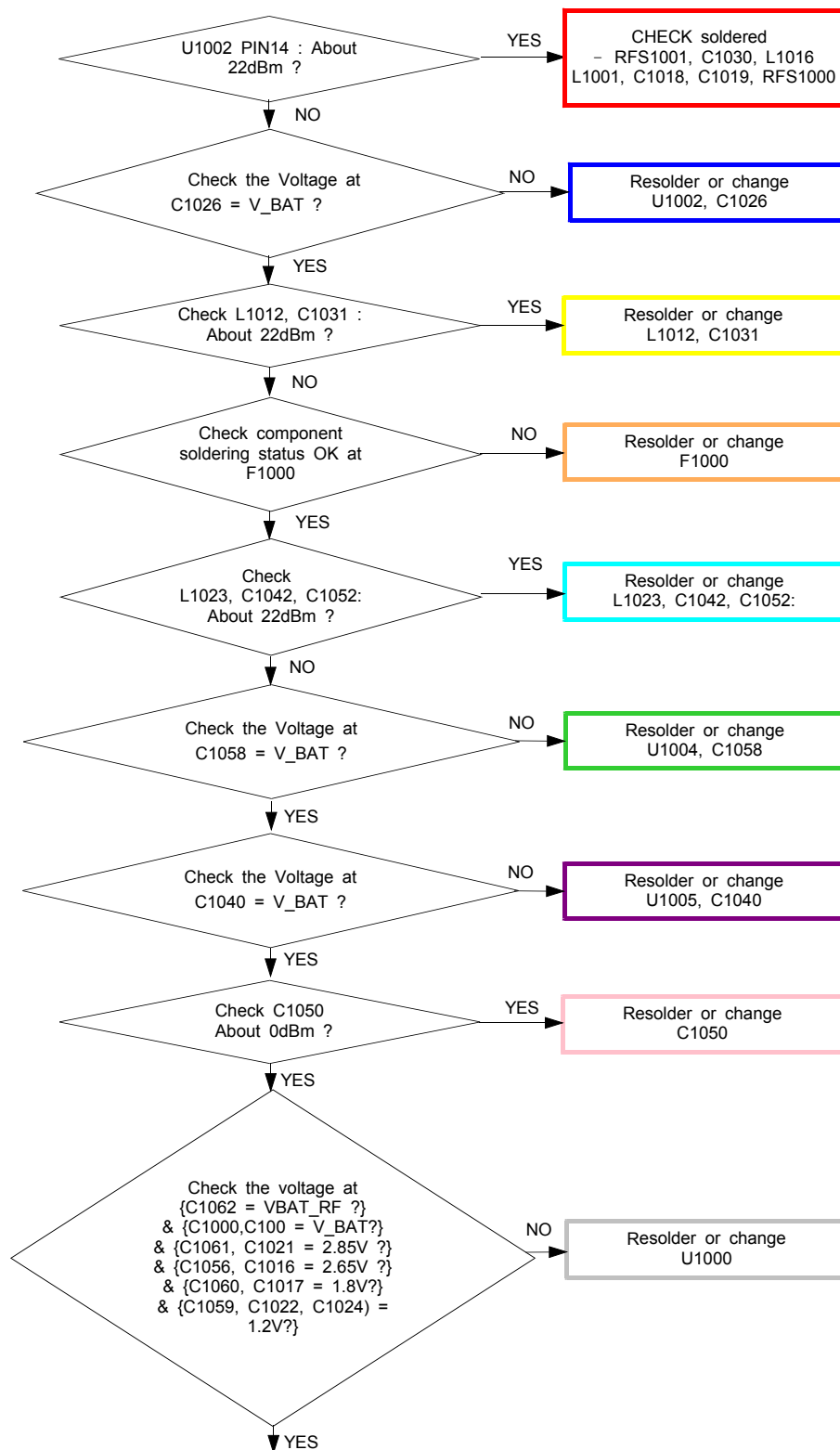




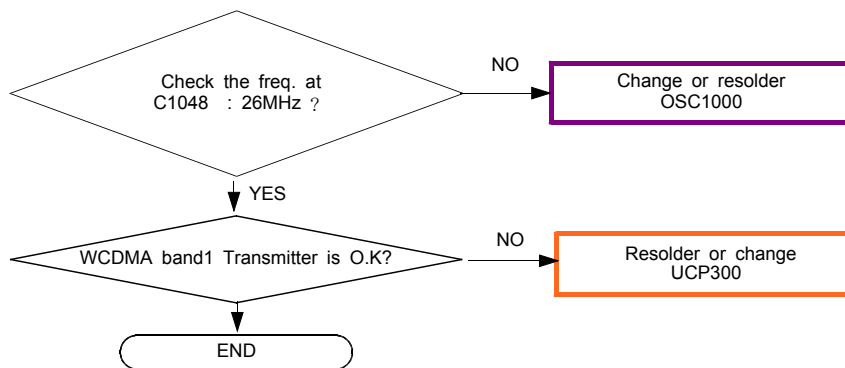
RFS1001

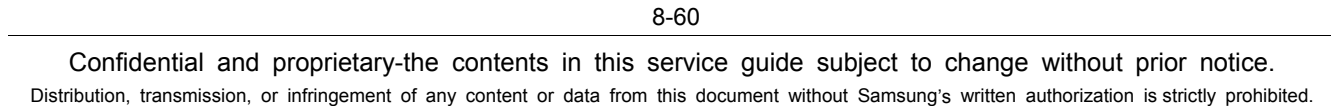
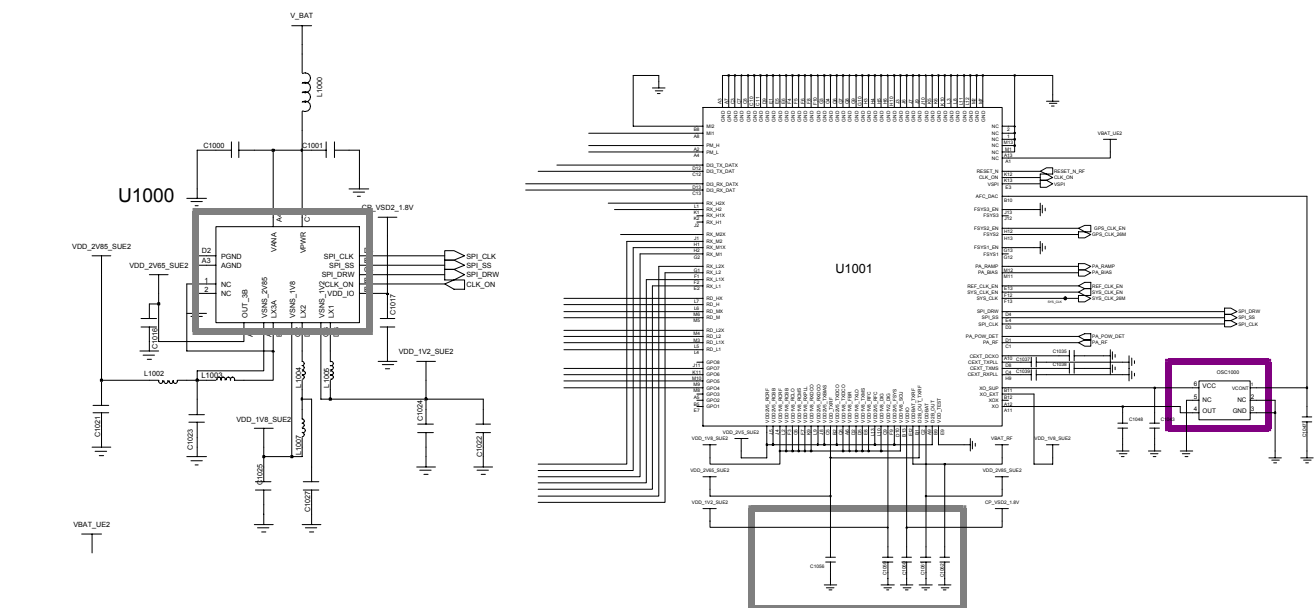


8-3-19. WCDMA BAND1 TX

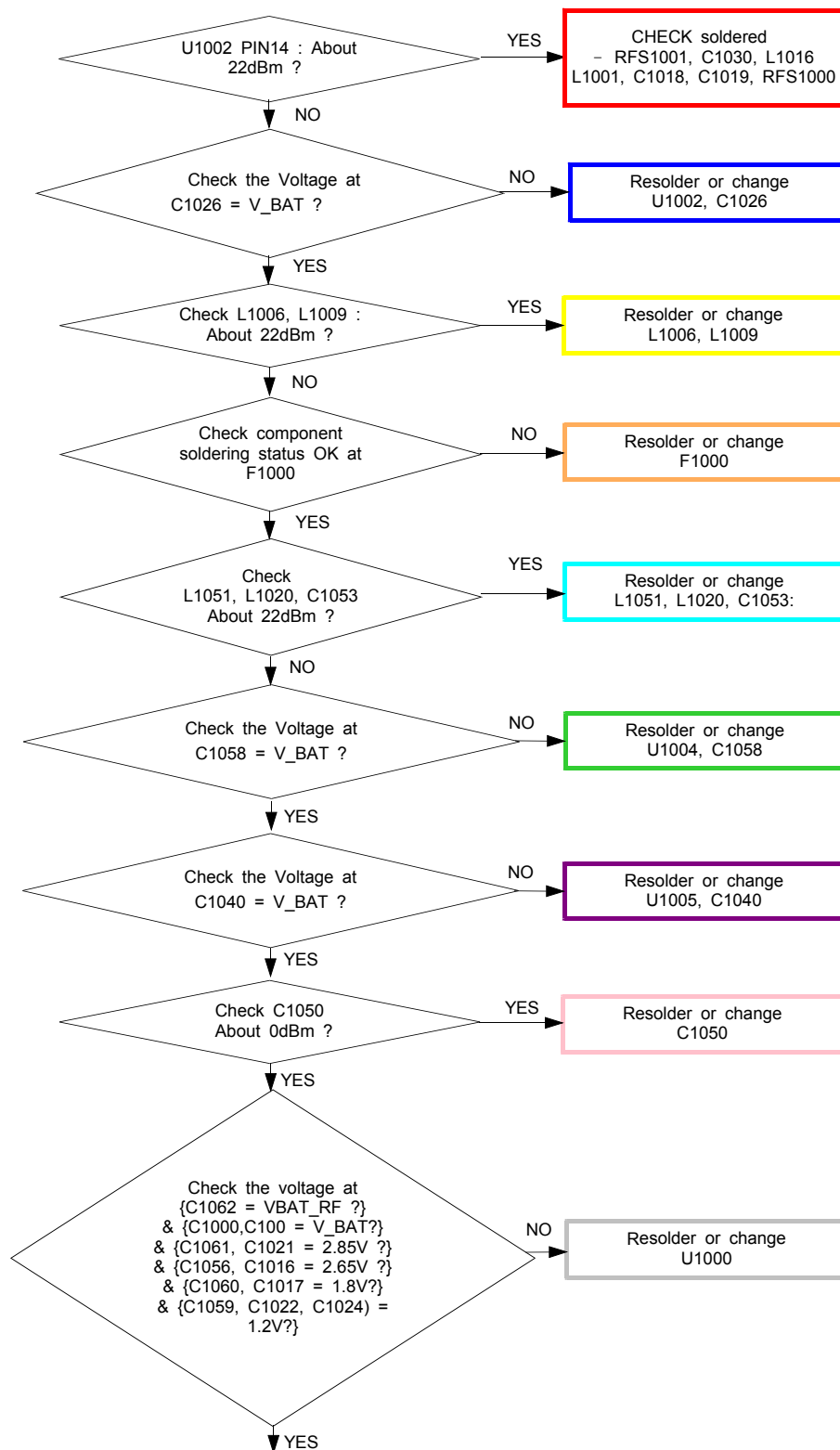


CONTINUOUS TX ON CONDITION
TX POWER DAC:14500 CODE
APPLIED
WCDMA Band1 CH : 10700
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB

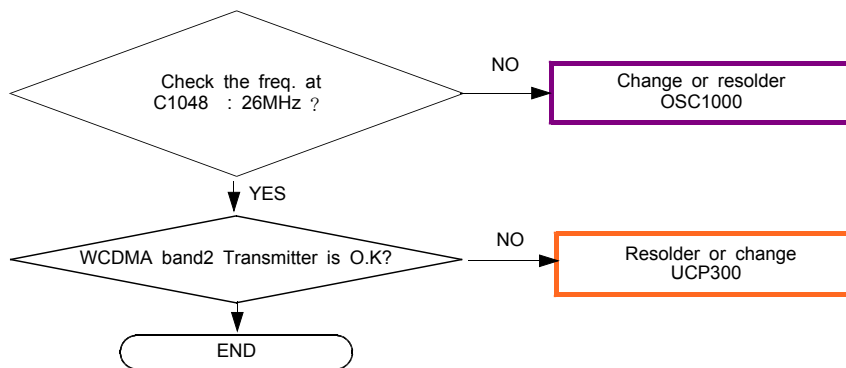


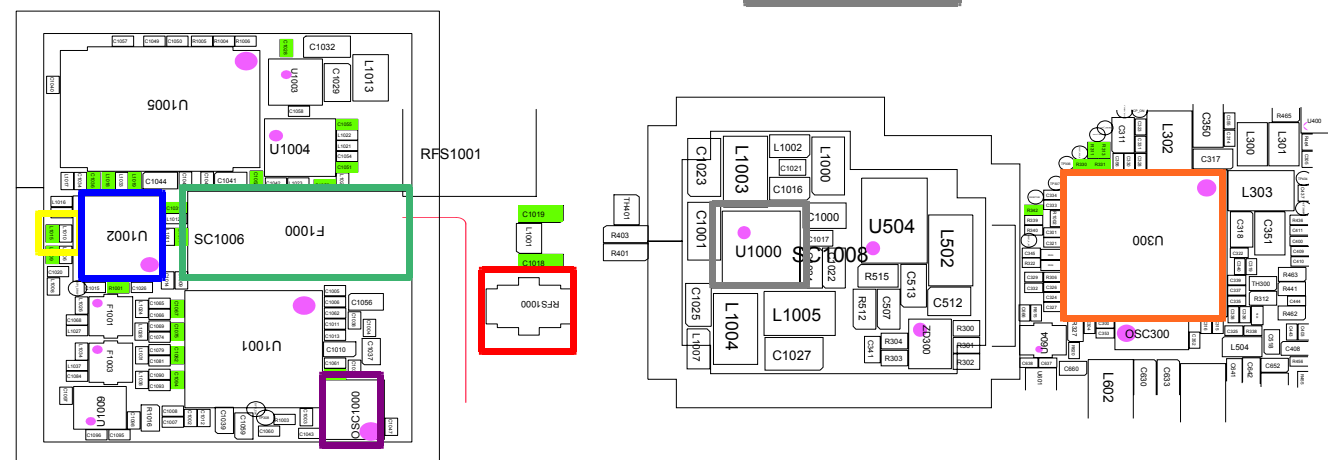
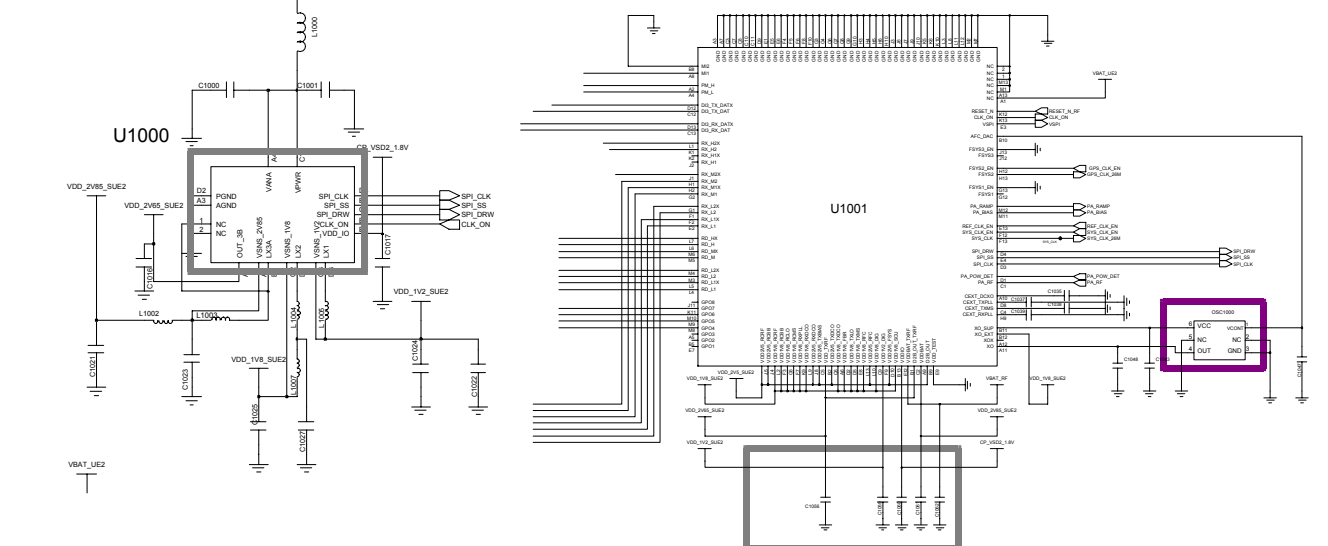
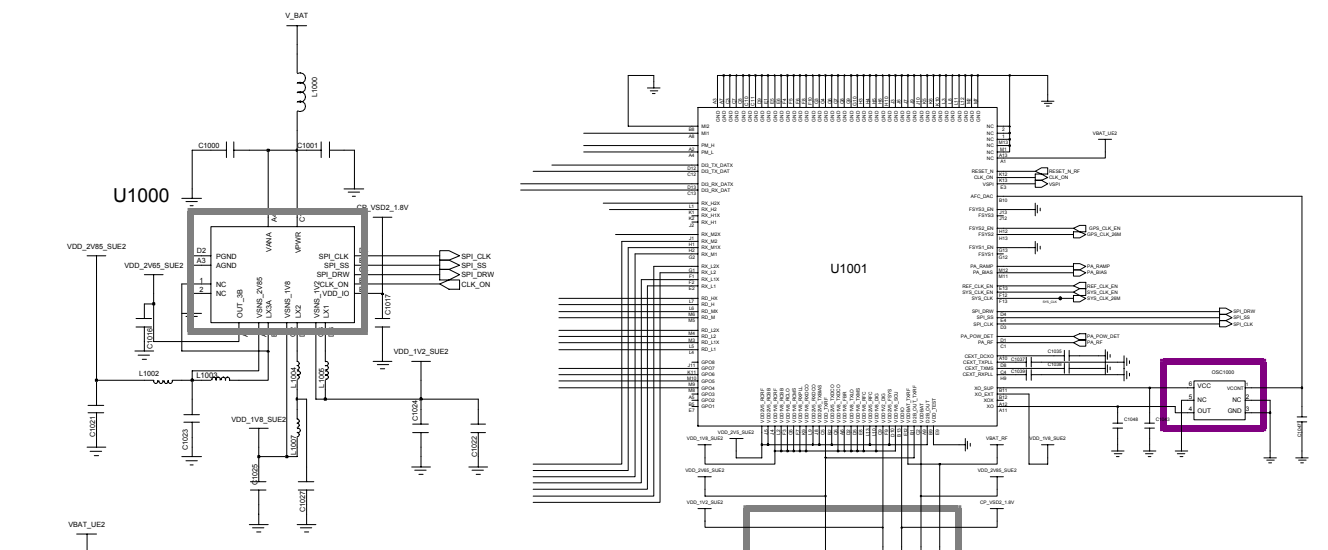
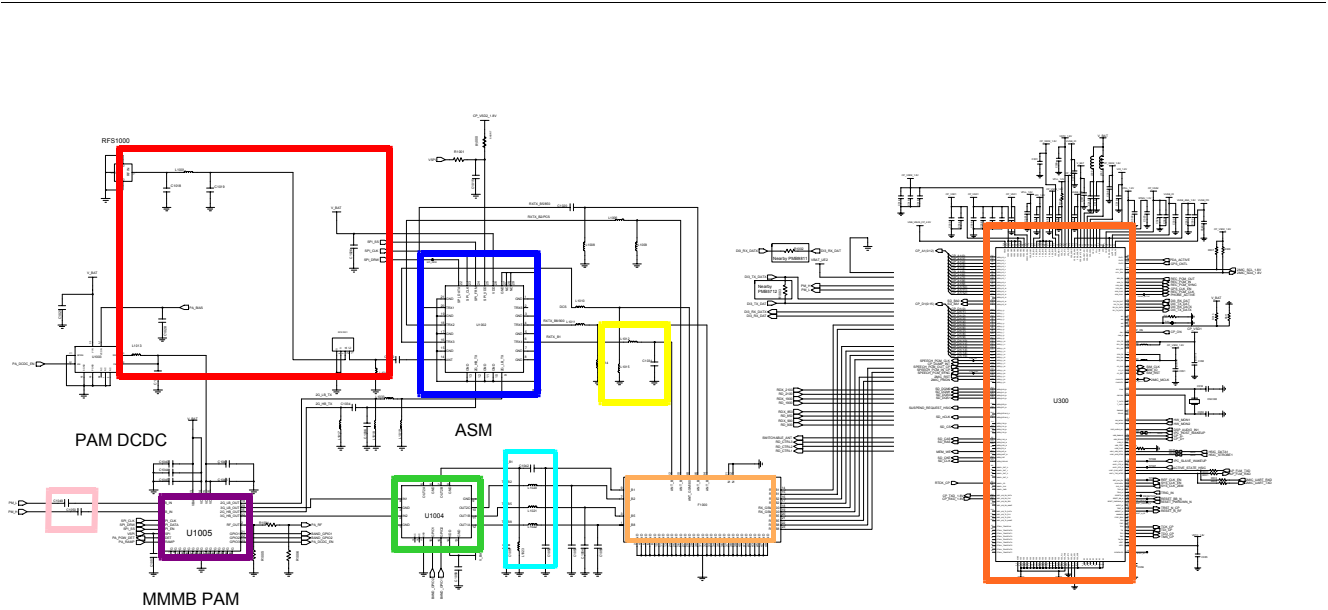


8-3-20. WCDMA BAND2 TX

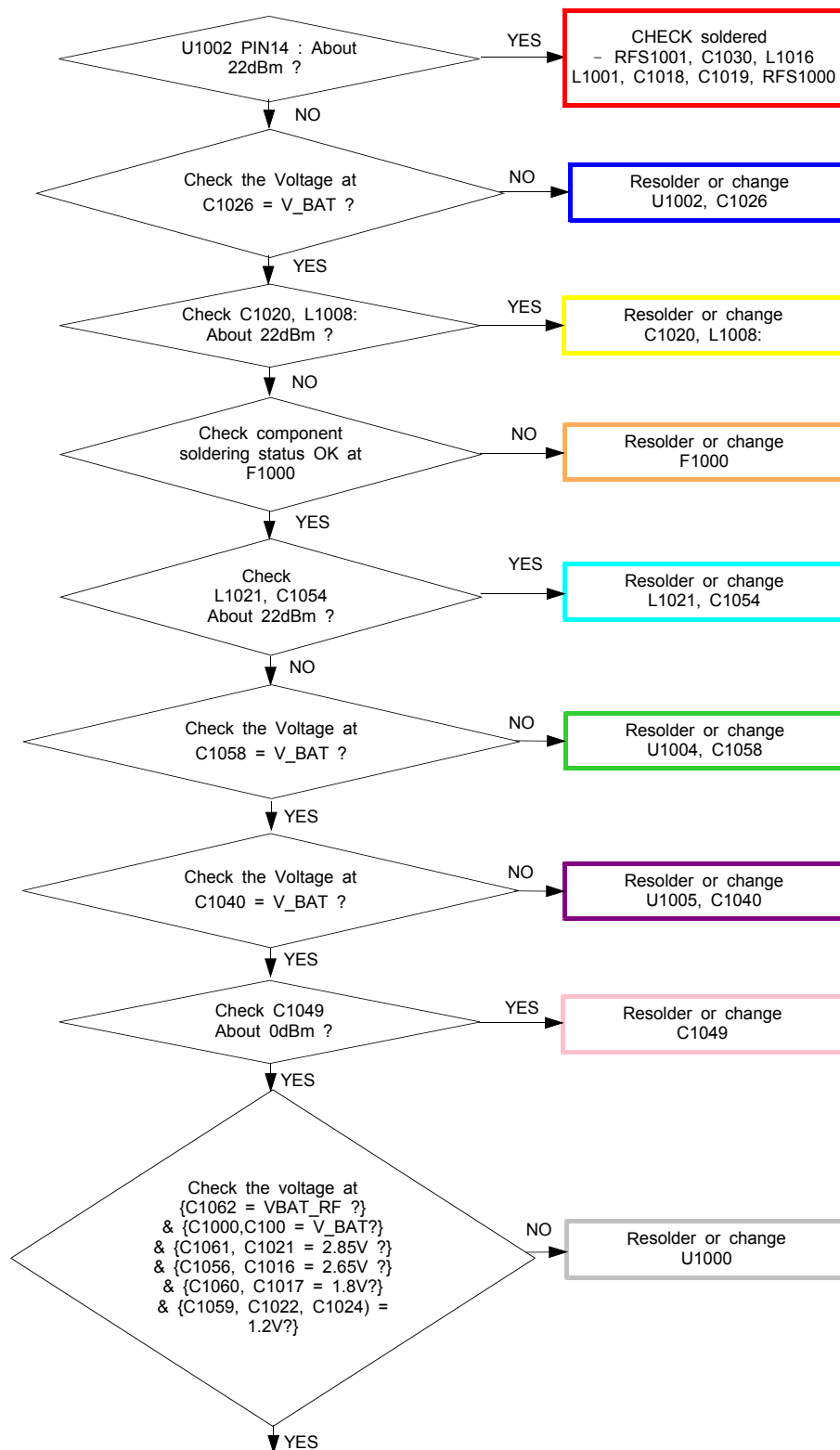


CONTINUOUS TX ON CONDITION
TX POWER DAC:14500 CODE
APPLIED
WCDMA Band2 CH : 9880
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB

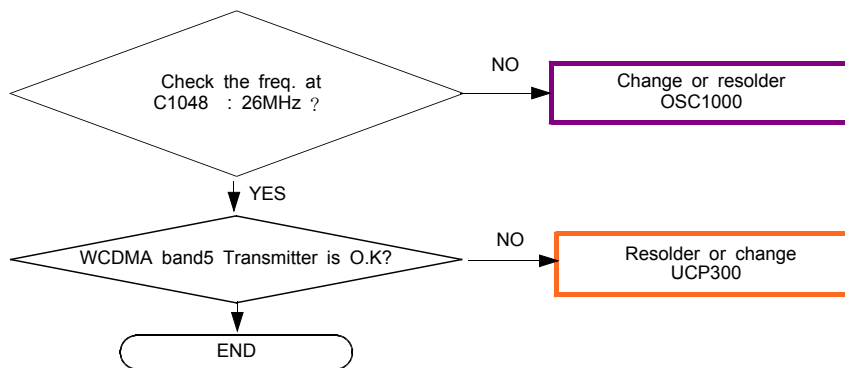


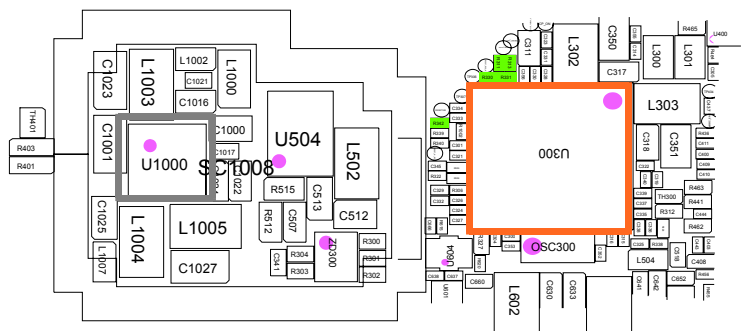
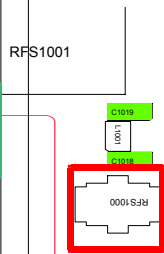
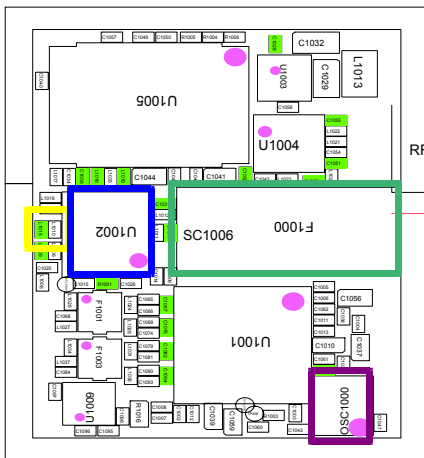
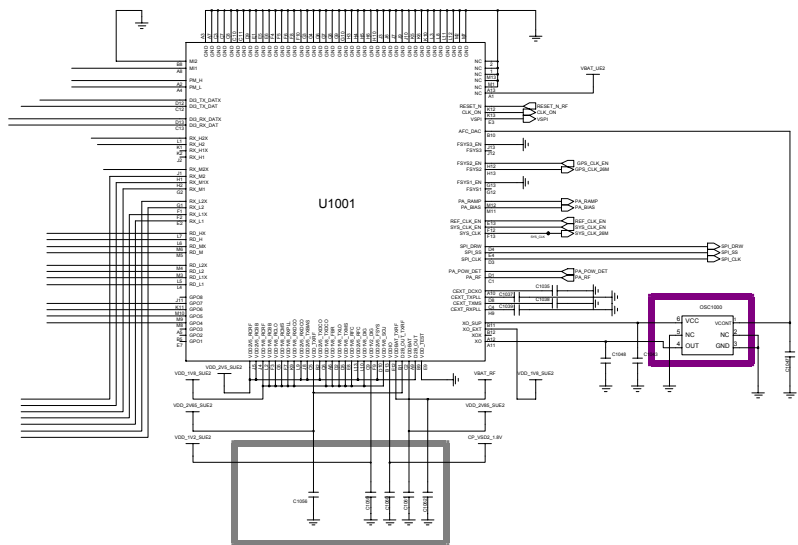
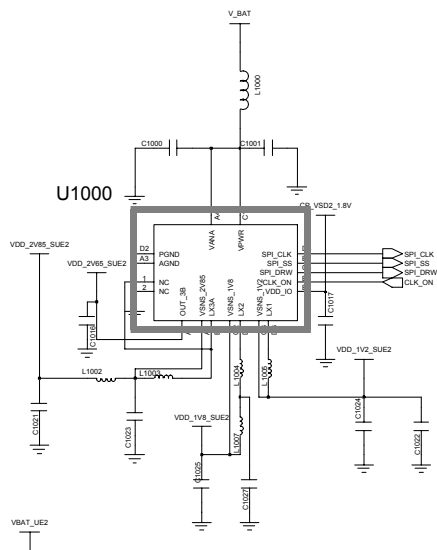
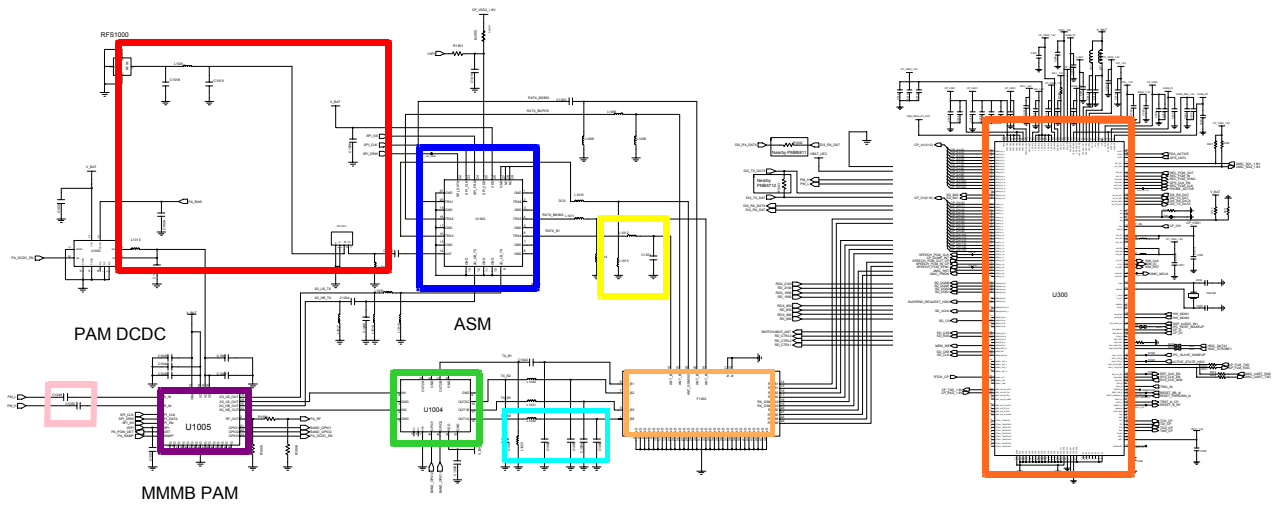


8-3-21. WCDMA BAND5 TX

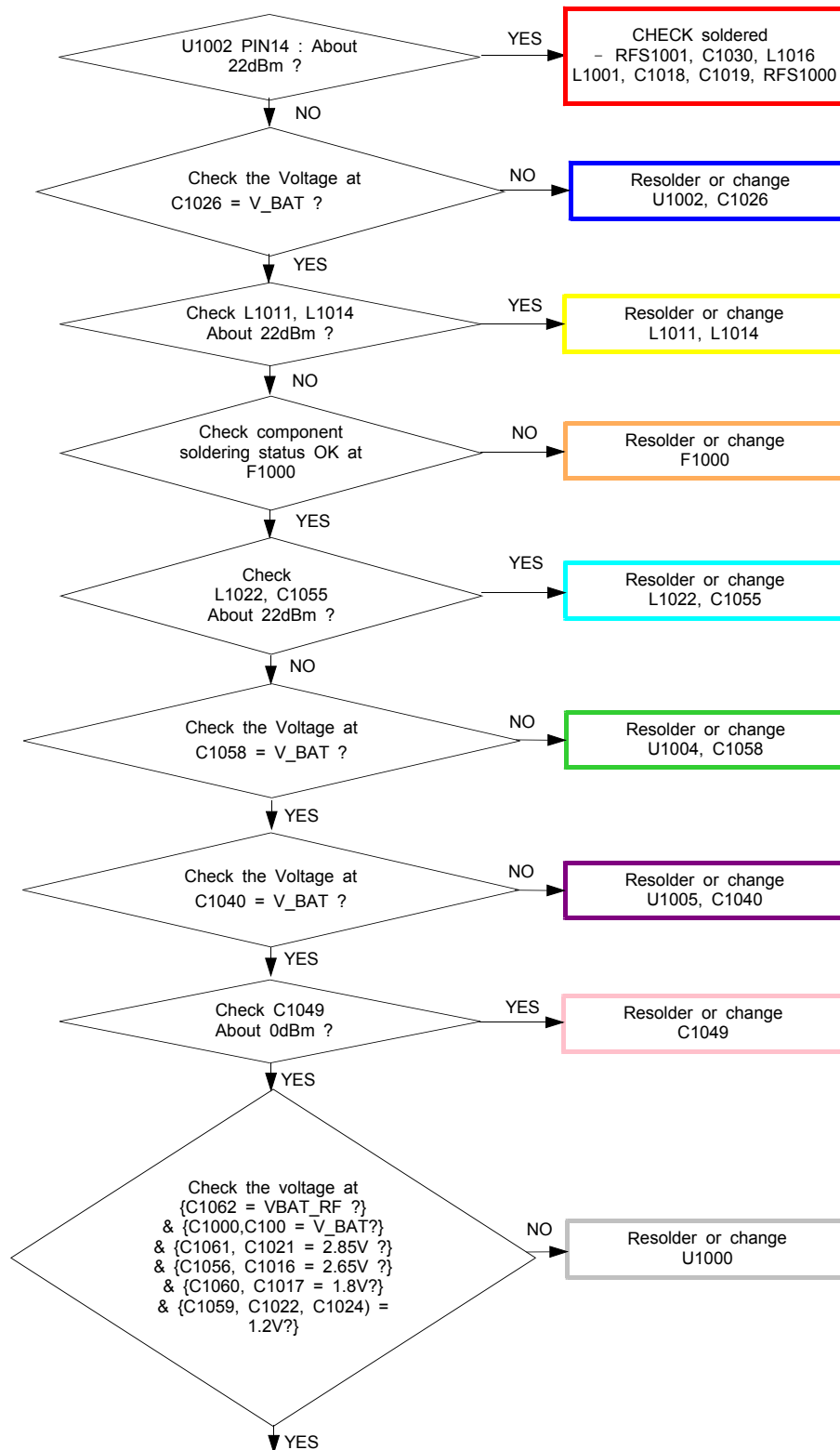


CONTINUOUS TX ON CONDITION
TX POWER DAC:14500 CODE
APPLIED
WCDMA Band5 CH : 4408
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB

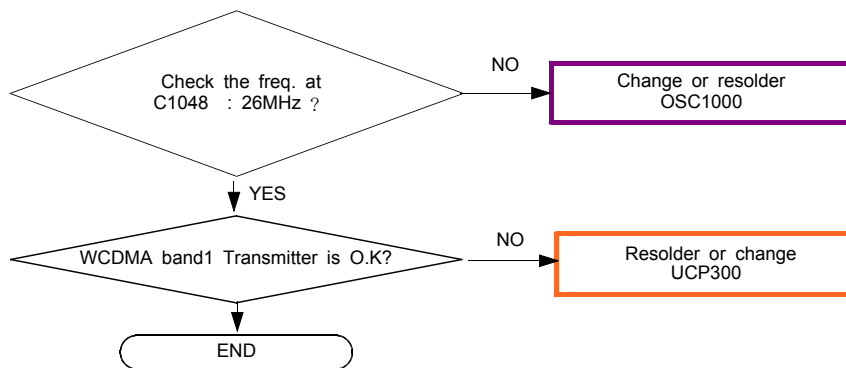


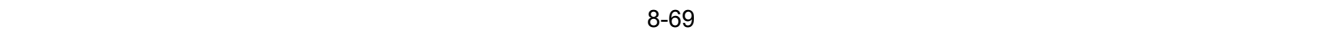
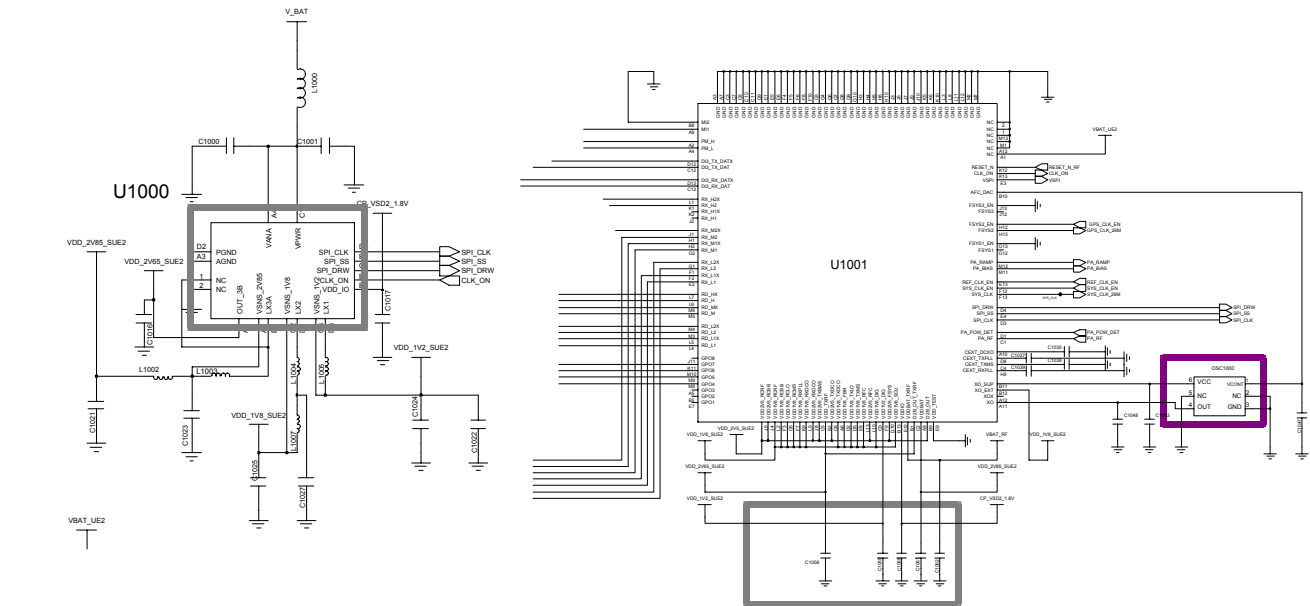


8-3-22. WCDMA BAND8 TX

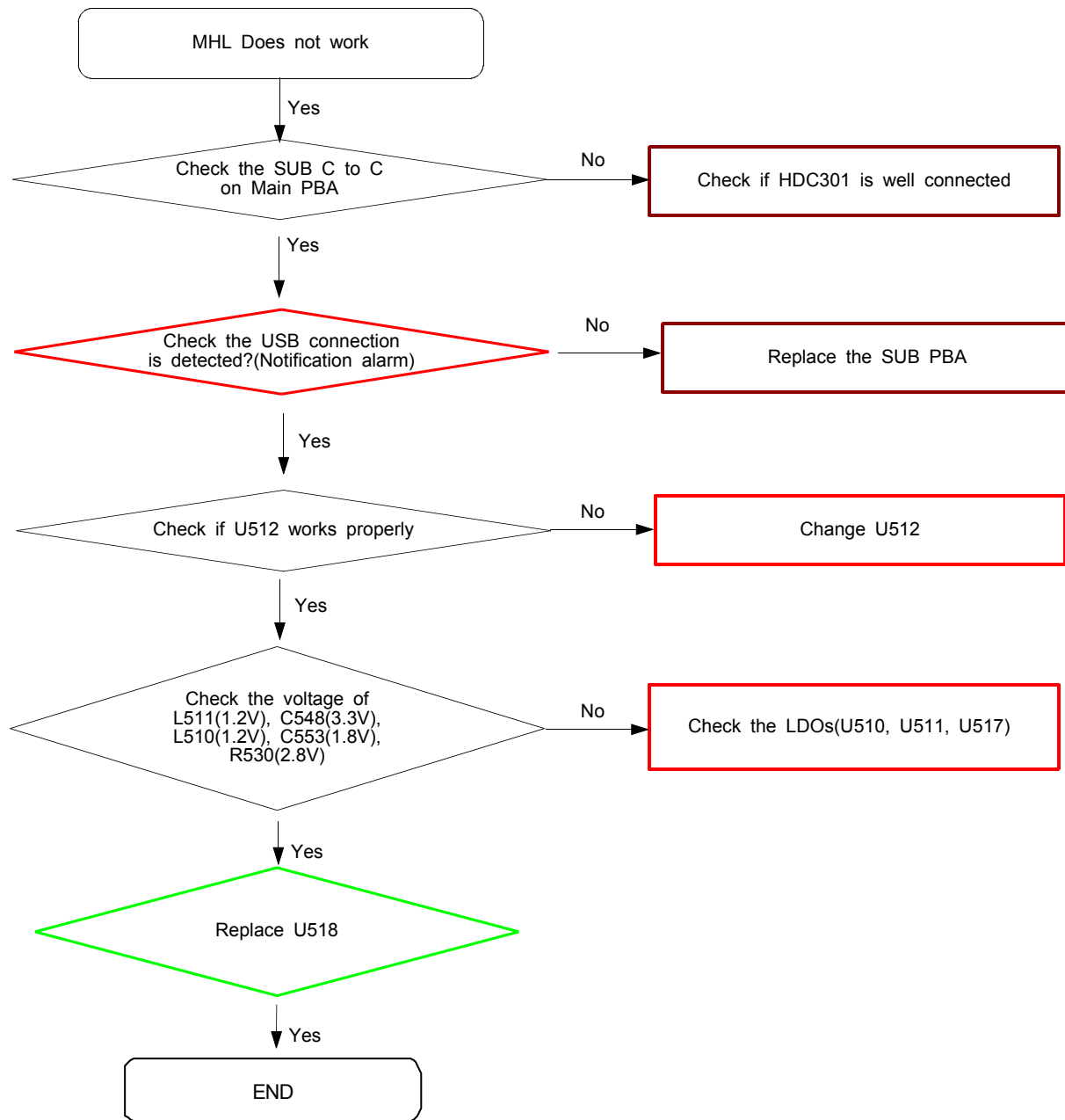


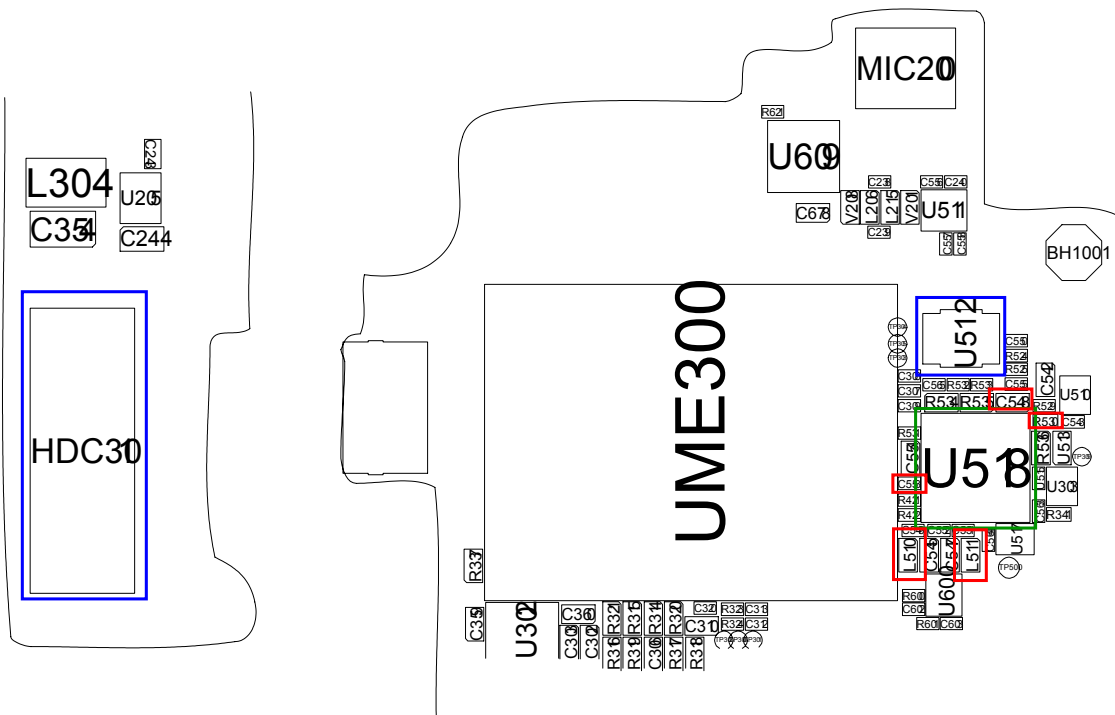
CONTINUOUS TX ON CONDITION
TX POWER DAC:14500 CODE
APPLIED
WCDMA Band2 CH : 3013
RBW : 100KHz
VBW : 100KHz
SPAN : 10MHz
REF LEV. : 10dBm
ATT. : 20dB



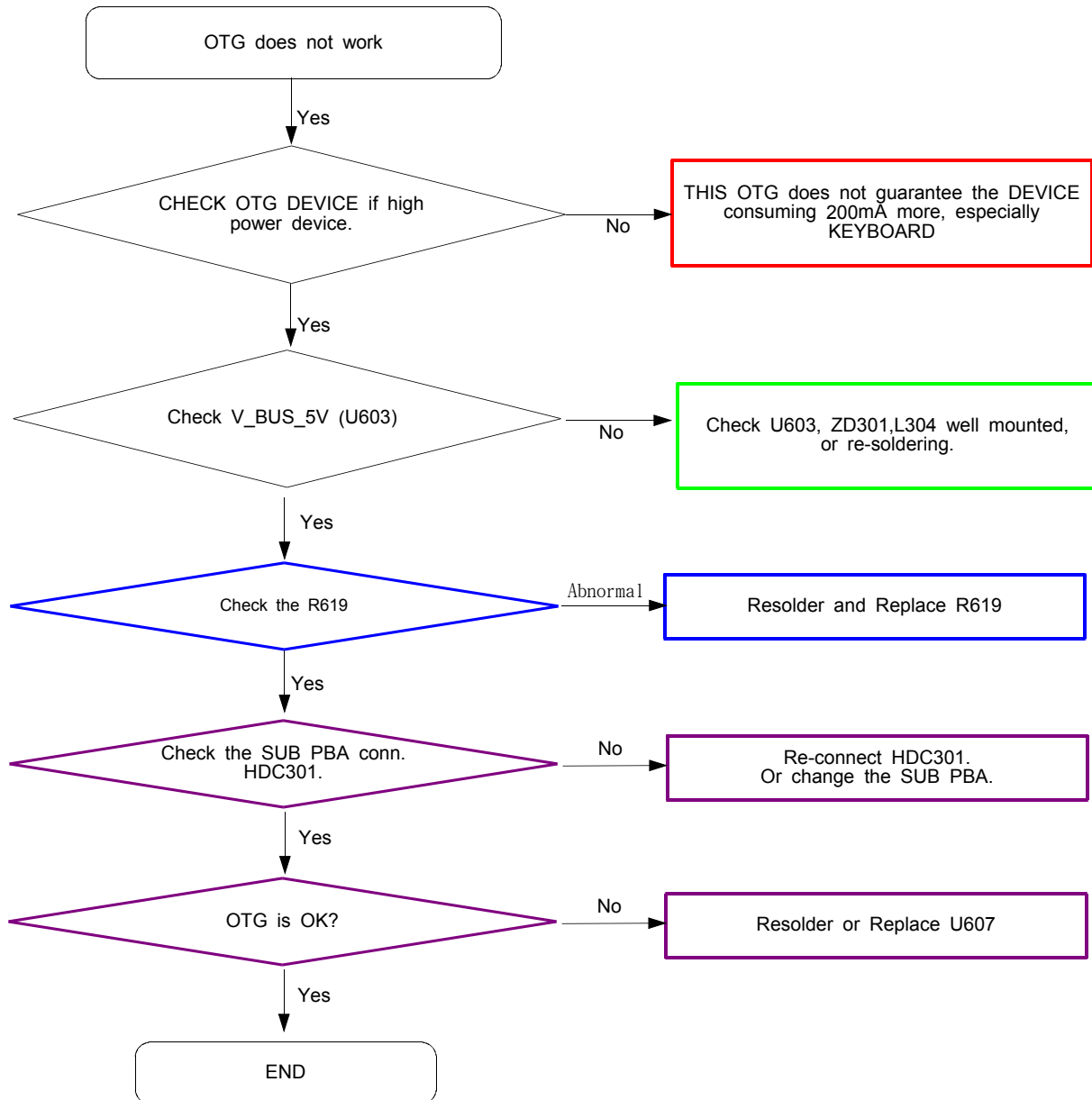


8-3-28. MHL





8-3-29. OTG



8-3-29. OTG

