

SAMSUNG

GSM TELEPHONE

SGH-i320

SERVICE *Manual*

GSM TELEPHONE



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11. Reference data

1. Safety Precautions

1-1. Repair Precaution

- Repair in Shield Box, during detailed tuning.
Take specially care of tuning or test,
because specipicty of cellular phone is sensitive for surrounding interference(RF noise).
- Be careful to use a kind of magnetic object or tool,
because performance of parts is damaged by the influence of manetic force.
- Surely use a standard screwdriver when you disassemble this product,
otherwise screw will be worn away.
- Use a thicken twisted wire when you measure level.
A thicken twisted wire has low resistance, therefore error of measurement is few.
- Repair after separate Test Pack and Set because for short danger (for example an
overcurrent and furious flames of parts etc) when you repair board in condition of
connecting Test Pack and tuning on.
- Take specially care of soldering, because Land of PCB is small and weak in heat.
- Surely tune on/off while using AC power plug, because a repair of battery charger is
dangerous when tuning ON/OFF PBA and Connector after disassembling charger.
- Don't use as you pleases after change other material than replacement registered on SEC
System.
Otherwise engineer in charge isn't charged with problem that you don't keep this rules.

1-2. ESD(Electrostatically Sensitive Devices) Precaution

Several semiconductor may be damaged easily by static electricity. Such parts are called by ESD(Electrostatically Sensitive Devices), for example IC,BGA chip etc. Read Precaution below. You can prevent from ESD damage by static electricity.

- Remove static electricity remained your body before you touch semiconductor or parts with semiconductor. There are ways that you touch an earthed place or wear static electricity prevention string on wrist.
- Use earthed soldering steel when you connect or disconnect ESD.
- Use soldering removing tool to break static electricity. , otherwise ESD will be damaged by static electricity.
- Don't unpack until you set up ESD on product. Because most of ESD are packed by box and aluminum plate to have conductive power,they are prevented from static electricity.
- You must maintain electric contact between ESD and place due to be set up until ESD is connected completely to the proper place or a circuit board.

2. Specification

2-1. GSM/WCDMA General Specification

	EGSM 900 Phase 2	DCS1800 Phase 1	PCS1900
Freq. Band[MHz] Uplink/Downlink	880~915 925~960	1710~1785 1805~1880	1850~1910 1930~1990
ARFCN range	0~124 & 975~1023	512~885	512~810
Tx/Rx spacing	45 MHz	95 MHz	80 MHz
Mod. Bit rate/ Bit Period	270.833 kbps 3.692 us	270.833 kbps 3.692 us	270.833 kbps 3.692 us
Time Slot Period/Frame Period	576.9 us 4.615 ms	576.9 us 4.615 ms	576.9 us 4.615 ms
Modulation	0.3 GMSK	0.3 GMSK	0.3 GMSK
MS Power	33 dBm~5 dBm	30 dBm~0 dBm	30 dBm~0 dBm
Power Class	5 pcl ~ 19 pcl	0 pcl ~ 15 pcl	0 pcl ~ 15 pcl
Sensitivity	-102 dBm	-100 dBm	-100 dBm
TDMA Mux	8	8	8
Cell Radius	35 Km	2 Km	-

2-2. GSM TX power class

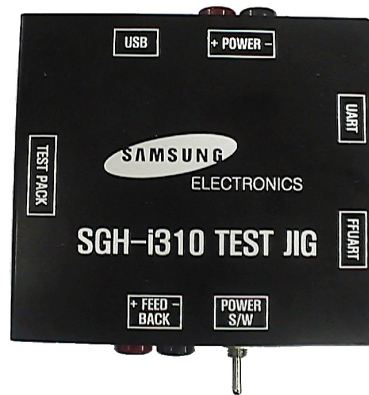
TX Power control level	EGSM900	TX Power control level	DCS1800	TX Power control level	PCS1900
5	33±2 dBm	0	30±3 dBm	0	30±3 dBm
6	31±2 dBm	1	28±3 dBm	1	28±3 dBm
7	29±2 dBm	2	26±3 dBm	2	26±3 dBm
8	27±2 dBm	3	24±3 dBm	3	24±3 dBm
9	25±2 dBm	4	22±3 dBm	4	22±3 dBm
10	23±2 dBm	5	20±3 dBm	5	20±3 dBm
11	21±2 dBm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

3. Product Function

Main Function

- Camera and camcorder
- Image editor
- MP3 player
- Phonebook
- Name card
- Multimedia Message Service (MMS)
- E-mail
- Voice recorder
- Bluetooth
- Get personal with photo caller ID
- Web browser
- Java
- Calendar

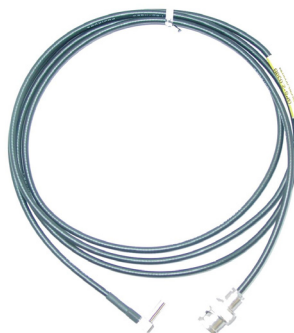
4. Array course control



Test Jig (GH80-03311A)



Test Cable (GH39-00582A)



RF Test Cable (GH39-00397A)

Software Downloading

4-1. Downloading Binary Files

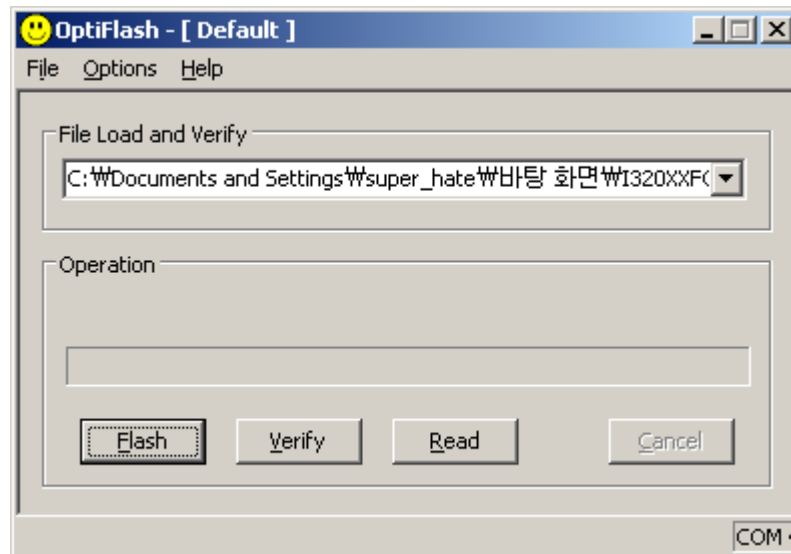
- binary file for downloading I320.
 - I320XXYY.s3 : Main source code binary.

4-2. Pre-requisite for Downloading

- Downloader Program([OptiFlash.exe](#))
- I320 Mobile Phone
- Data Cable
- Binary file

4-3. S/W Downloader Program

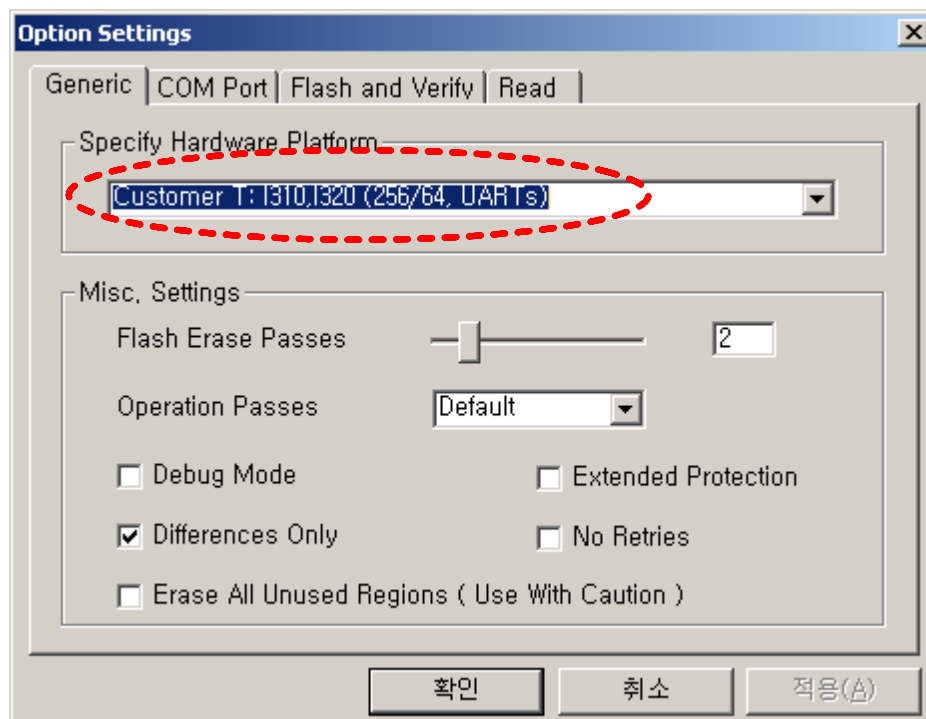
1. Load the binary download program by executing the "**OptiFlash.exe**"



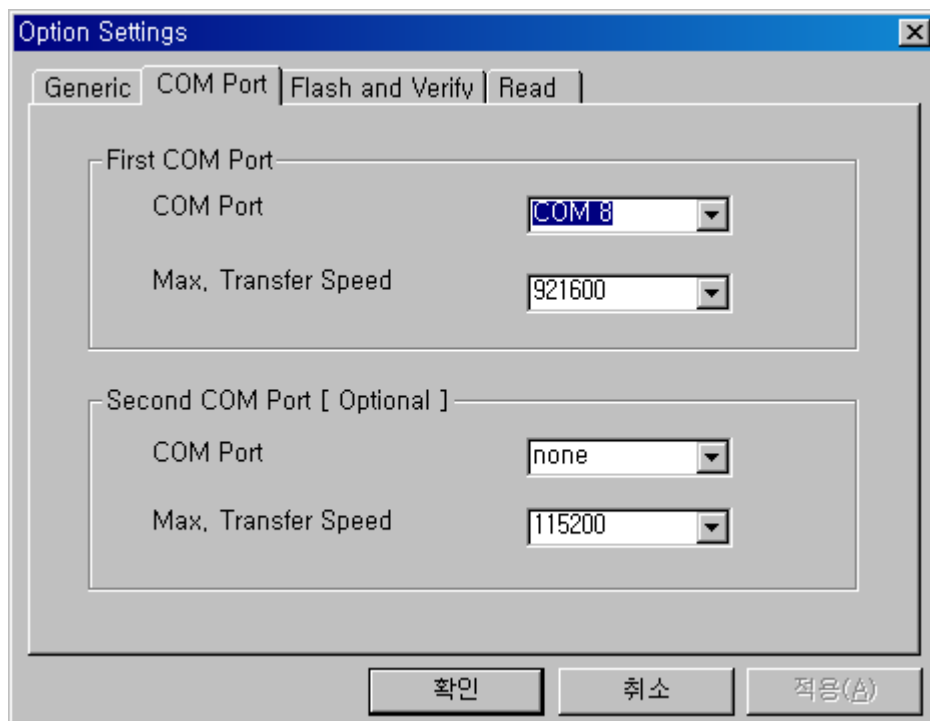
2. Select the "**Options**" -> "**Settings**" -> "**Generic**" -> "**Specify hardware platform**".

Choose hardware platform for the downloader file setting.

Set the everything else as the default values which are shown below



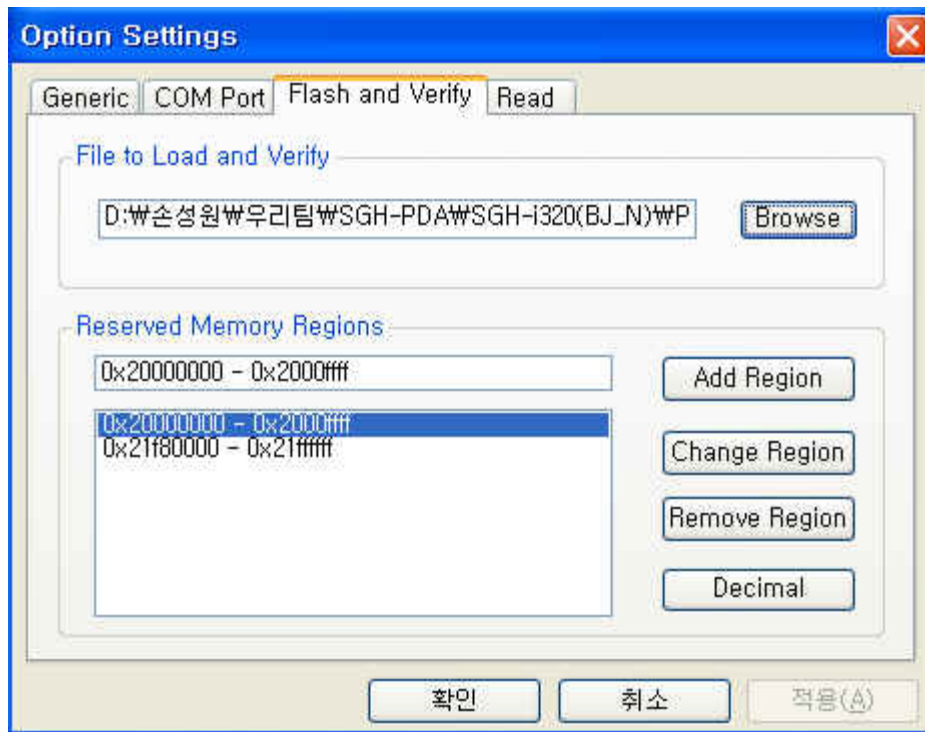
3. Select the **COM port** when the download cable is connected



Up to twelve ports are supported. Additionally you can select the maximum transfer speed OptiFlash will use to communicate with the phone. However, OptiFlash will use a slower speed if either the PC's or the phone's serial hardware is incapable of handling the selected speed

4. Select the "Flash&Verify" -> "Browse"

Set the directory path and choose the latest s/w binary, for example "I320XXYY.s3", for the downloader binary setting.



Make sure that not to change the reserved memory regions.

In case of I320 the reserved regions are :

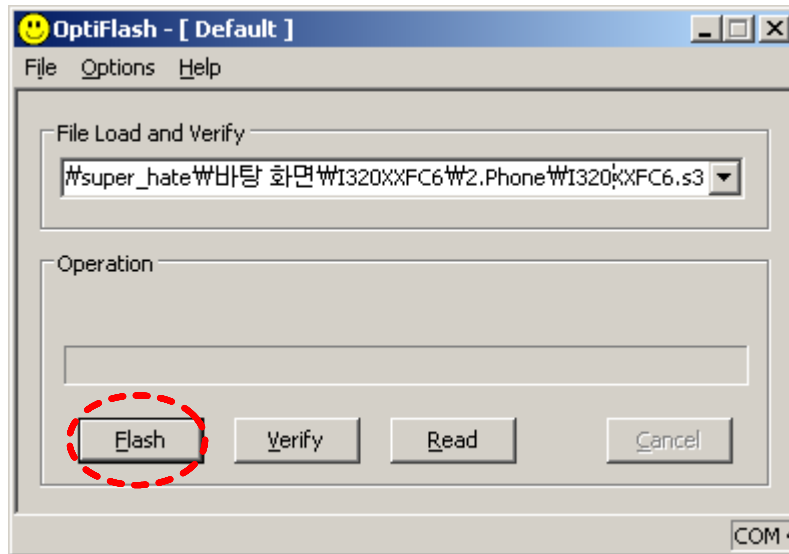
-0x20000000 – 0x2000ffff

-0x21fe0000– 0x21ffffff

5. Click "OK" button then press "Flash"

(Before pressing 'Flash' button, push the button '*' and 'END' at the same time. Then press 'Flash'.)

Downloader will upload the binary file as below for the downloading. 🎵



6. When downloading is finished successfully, there is a "All is well" message. 🎵

7. After finishing downloading, Certain memory resets should be done to guarantee the normal performance. 🎵

8. Confirm the downloaded version name and etc. : 🎵

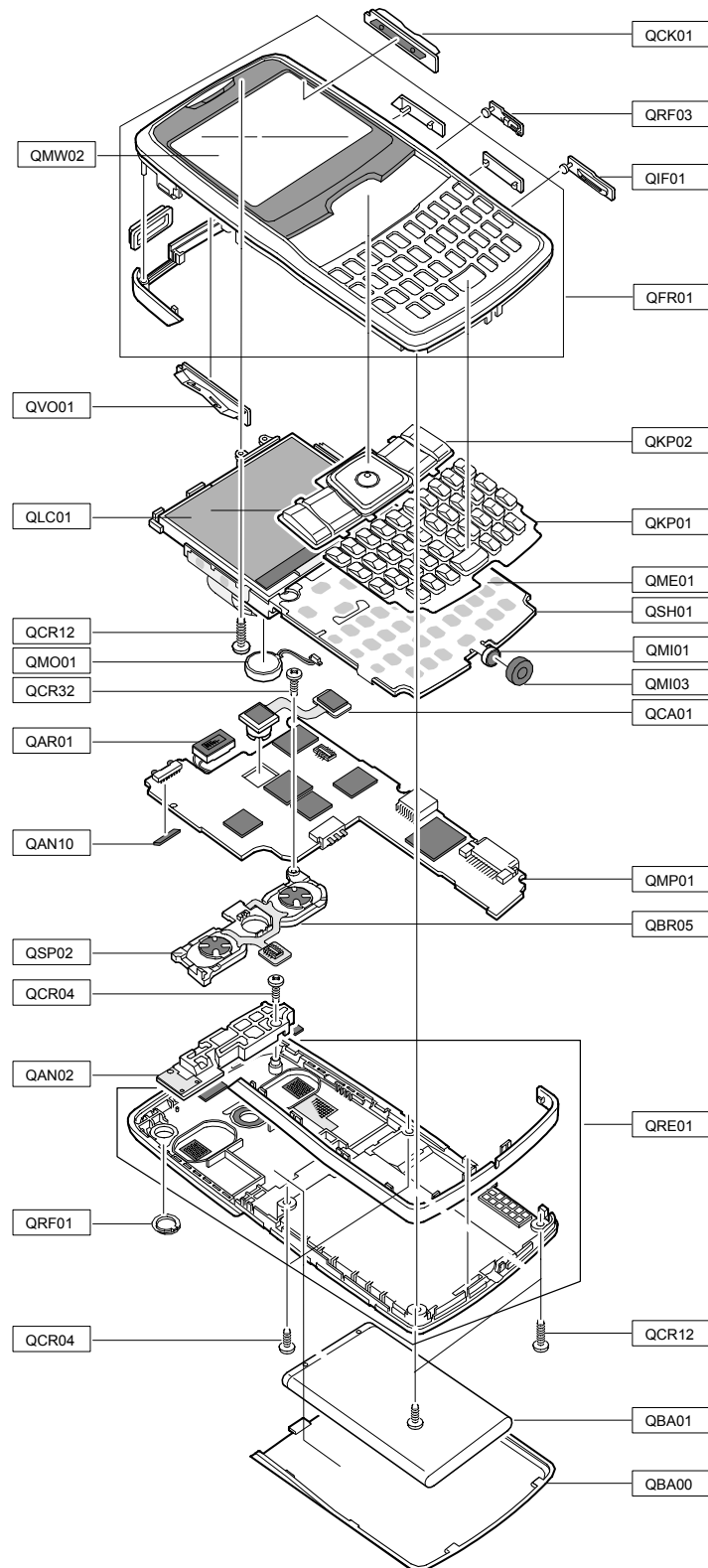
***#1234#** 🎵

Full Reset : 🎵

***2767*2878#**

5. Exploded View and Parts List

5-1. Cellular phone Exploded View



5-2. Cellular phone Parts list

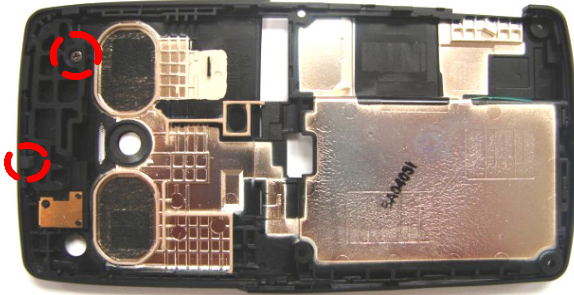
Design LOC	Discription	SEC CODE
QAN02	INTENNA-SGHI320	GH42-00812A
QAN10	ASSY-CUSHION-ANT CONTACT RUBBE	GH98-01218A
QAR01	AUDIO-RECEIVER	3009-001162
QBA00	PMO-COVER BATT	GH72-28172A
QBA01	INNER BATTERY PACK-1000MAH,BLA	GH43-02424A
QBR05	ASSY-BRACKET-SPK SHIELD FRAME	GH98-01310A
QCA01	UNIT-CAMERA	GH59-02955A
QCK01	MEC-Q CA KEY	GH75-08945A
QCR04	SCREW-MACHINE	6001-001479
QCR12	SCREW-MACHINE	6001-001530
QCR32	SCREW-MACHINE	6001-001700
QKP01	MEC-KEYPAD MAIN(OPEN/BLK	GH75-08942A
QKP02	ASSY-KEY-KEYPAD SUB	GH98-00984A
QLC01	LCD-SGHI320	GH07-00838A
QMI03	RMO-CUSHION MIC	GH73-06180A
QMO01	MOTOR DC-SGHI320	GH31-00237A
QMP01	PBA MAIN-SGHI320	GH92-02504A
QMW02	PMO-COVER MAIN WINDOW	GH72-28151A
QRE01	MEC-COVER REAR	GH75-08944A
QRF01	PMO-COVER MOBILE	GH72-28171A
QSH01	ASSY-BRACKET-SHIELD BRAKET MAI	GH98-00749A
QSP02	UNIT-SPK FPCB ASSY	GH59-02867A
QVO01	MEC-VOLUME KEY	GH75-08946A
QME01	UNIT-KEY FPCB	GH59-02846A
	QMI01 AS-MIC	GH81-04513A
QFR01	MEC-COVER FRONT	GH75-08941A
	QIF01 PMO-COVER IF	GH72-28148A
	QRF03 PMO-COVER EAR	GH72-28147A

Discription	SEC CODE
BAG PE	6902-000634
CBF INTERFACE-DATA LINK CABLE	GH39-00564A
CHARGER-SGHE880 TC,EU,BLACK	GH44-00998A
CHARGER-SGHI320,BTH	GH44-01238A
S/W CD-SGH-I320 MS COMPANION C	GH46-00233A
S/W CD-USER MANUAL	GH46-00235A
UNIT-EARPHONE	GH59-02166A
LABEL(P)-IMEI	GH68-01335D
LABEL(P)-WATER SOAK	GH68-02026A
LABEL(R)-WATER SOAK T_MOBILE	GH68-05914A
MANUAL USERS-QSG FRENCH	GH68-09802A
LABEL(R)-MAIN(EU)	GH68-09839C
BOX(P)-UNIT MAIN(XET)	GH69-03861C
CUSHION-CASE TA2 MA2	GH69-03864A
PMO-COVER FRONT	GH72-28143A
RMO-CUSHION BGA A	GH73-06184A
RMO-CUSHION BGA B	GH73-06185A
RMO-CUSHION BGA D	GH73-06187A
RMO-CUSHION BGA E	GH73-06188A
RMO-CUSHION PCB	GH73-07056A
MPR-DUMMY SHORT TAPE F	GH74-11815A
MPR-CUSHION MAIN KEY CON	GH74-20153A
MPR-CUSHION MAIN LCD CON	GH74-20154A
MPR-CUSHION CAMERA CONN	GH74-20156A
MPR-CUSHION SPK CONN	GH74-20157A
MPR-CUSHION CAMERA	GH74-22450A
MPR-VINYL BOHO MAIN WINDOW A	GH74-22788A
MPR-VINYL BOHO MAIN WINDOW B	GH74-22789A
MPR-VINYL BOHO KEYPAD	GH74-22790A
MPR-SHEET MIC FPCB	GH74-23937A
MPR-TAPE IF COVER	GH74-23939A
MPR-VINYL BOHO MAIN WINDOW	GH74-23940A
MPR-VINYL BOHO BATT COVER	GH74-24694A

6. Disassembly and Assembly instructions

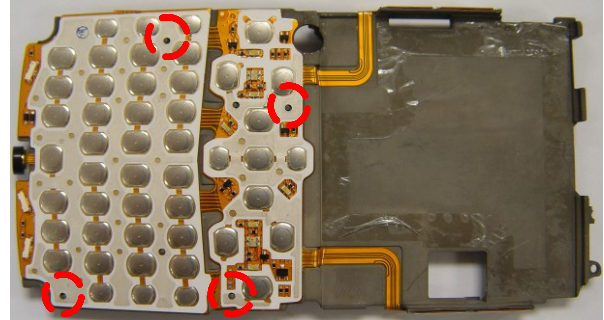
6-1. Disassembly

1



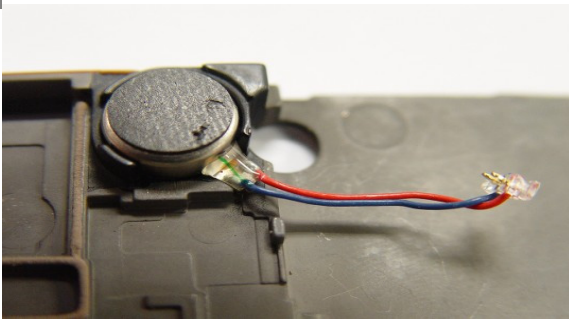
1) Put the antenna in the right position caring about that the hook is properly lock it. Then screw the antenna.

2



1) Place and stick the KEY FPCB properly with checking out that four poles in the red circles are in the middle of holes of the KEY FPCB.

3



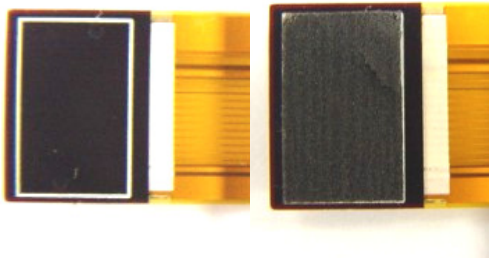
1) Remove the cover of the tape on the bottom of the motor, stick the motor on the frame. Press the motor slightly to stick the motor firmly.

4



1) Remove the cover on the tape stuck on the frame insert the LCD connector through the hole in the frame. Place and stick the bottom right corner of the LCD to the red guide line in the blue circle.

5



1) Remove the cover of the tape on the bottom of the motor, stick the motor on the frame. Press the motor slightly to stick the motor firmly.

6



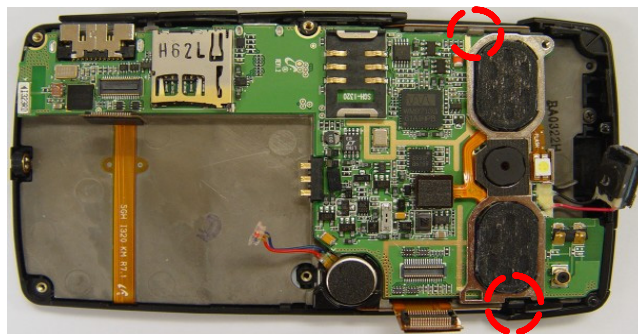
1) Remove the cover of the tape on the bottom of the motor, stick the motor on the frame. Press the motor slightly to stick the motor firmly.

5



1) Pull out the receiver and the motor connector first. the LCD connector and the key connector later.

6



1) Push out two red circled hooks slightly to lift the PBA.

7



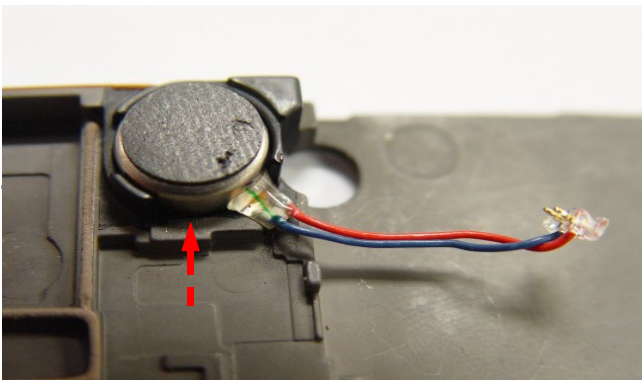
1) Get rid of the screw in the A red circle. You can lift the shield frame with pushing out three hooks slightly.

8



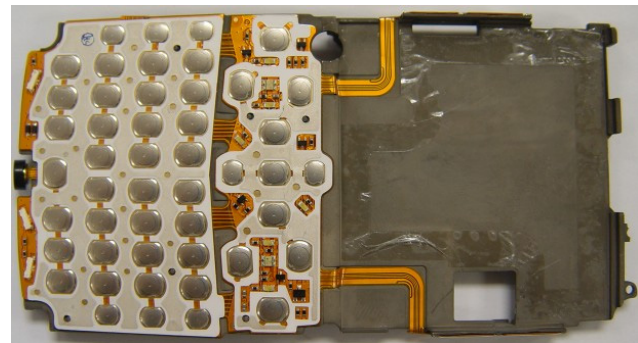
1) Remove the sponge on the LCD connector first, then you can detach the LCD from the frame.

9



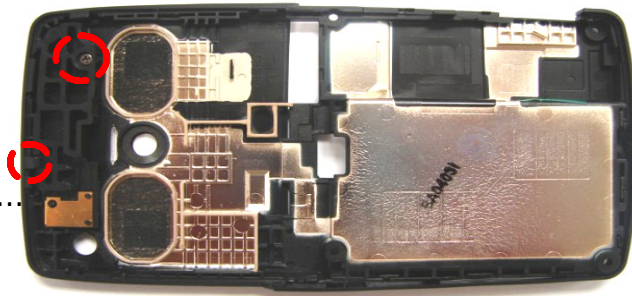
1) Insert tweezers between the bottom of the motor and the frame to the direction that the red arrow directs.

10



1) Take off the KEY FPCB with care not to damage KEY FPCB.

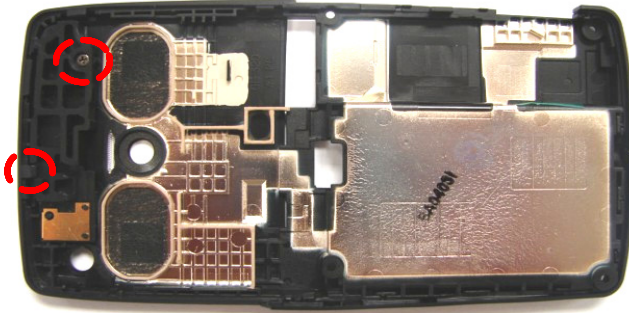
11



1) Remove two screws in the red circles and take out the antenna with care not to damage the hook..

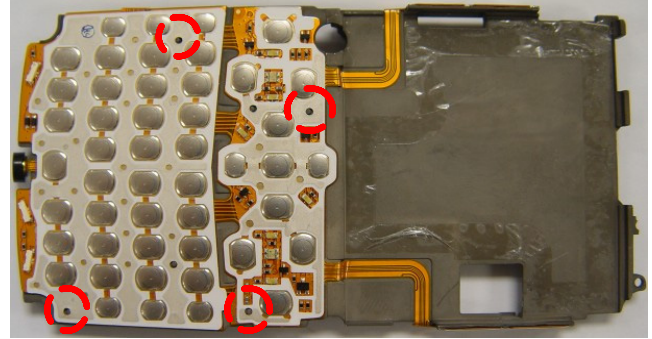
6-2. Assembly

1



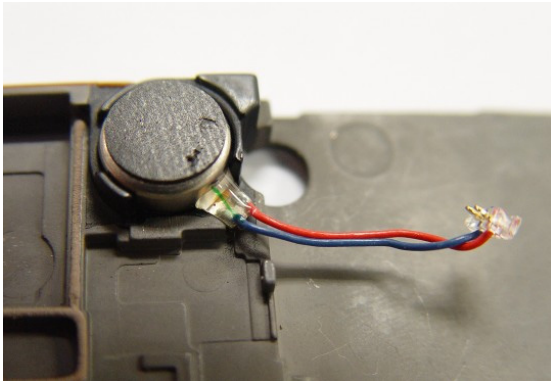
1) Get rid of 4 screws in the red circled corners. Be careful not to damage the rear cover.

2



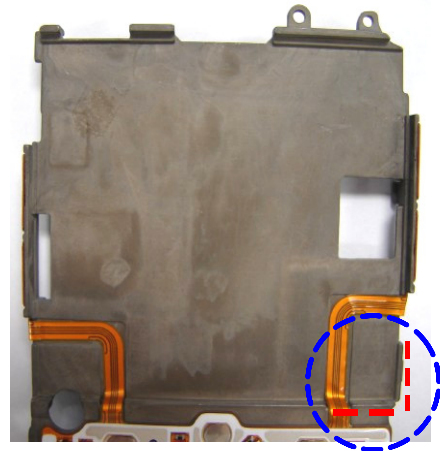
1) Lift the rear cover slightly and unlock the hook on the left side(the upper part of ear jack cover) of the rear cover. Be careful not to damage the rear cover or the hook.

3

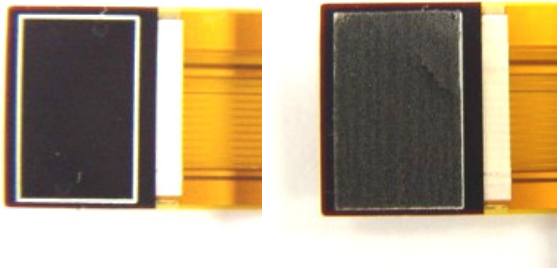
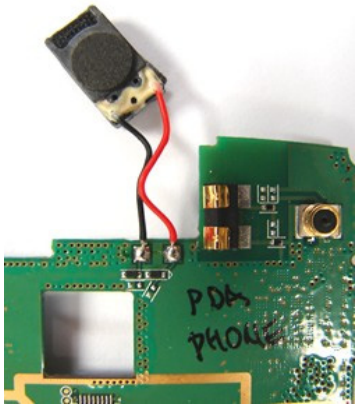
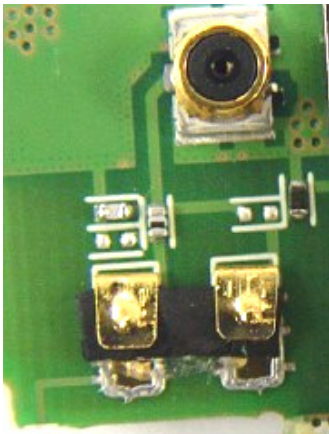
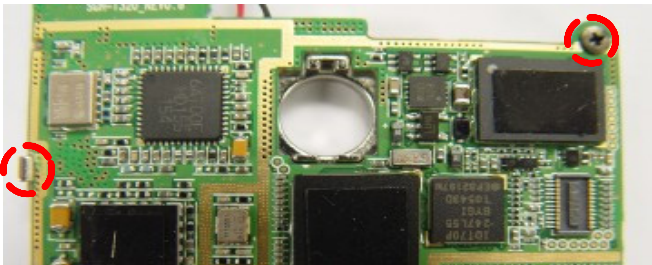


1) Remove the cover of the tape on the bottom of the motor, stick the motor on the frame. Press the motor slightly to stick the motor firmly.

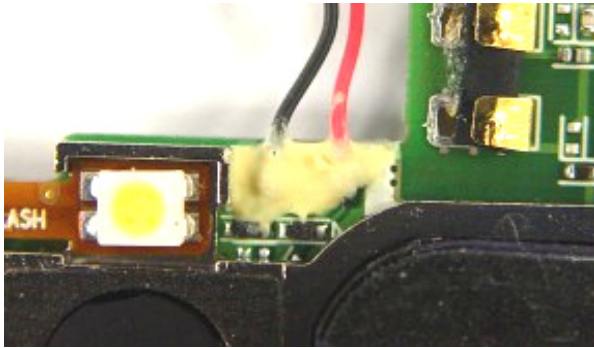
4



1) Remove the cover on the tape stuck on the frame insert the LCD connector through the hole in the frame. Place and stick the bottom right corner of the LCD to the red guide line in the blue circle.

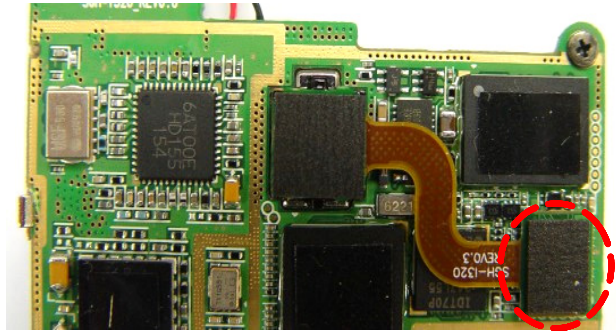
5 	6 
1) Stick the sponge in the guideline on the LCD connector with care.	1) Place the key pad properly minding guide poles on the front cover.
7 	8 
1) Place the frame on the right position and lock three hooks in the red circle. Screw the frame in the red A circle.	1) Solder the receiver on the PCB minding silk marks of soldering pads on the PCB. Be careful not to cause a short-circuit when you solder.
9  ...	10 
1) Insert a rubber into the antenna contact with care not to damage antenna contact with a pair of tweezers.	1) Put together the speaker assembly and screw in the right red circle. Then put the speaker connector on the connector on the PBA.

11



1) Put some adhesive on the soldered motor wire. Be careful not to get an adhesives on the antenna contact or the flash LED near the motor wire.

12



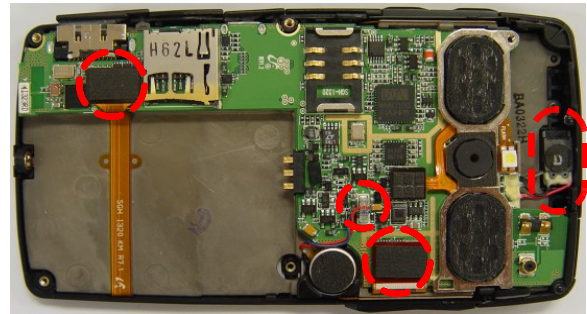
1) Put the camera connector on the connector on the PBA firmly.

13



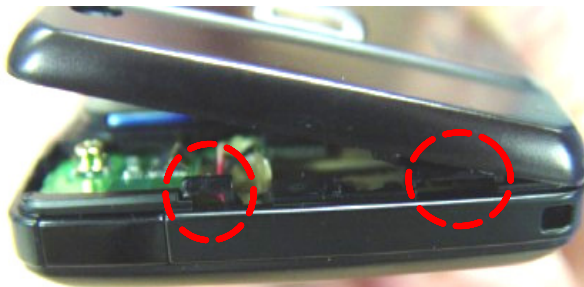
1) Place the PBA pushing out two hooks in the red circles slightly.

14



1) Put on the receiver into the hole of the front cover, the receiver connector, the motor connector, the LCD connector, and the key connector on the right positions firmly.

15



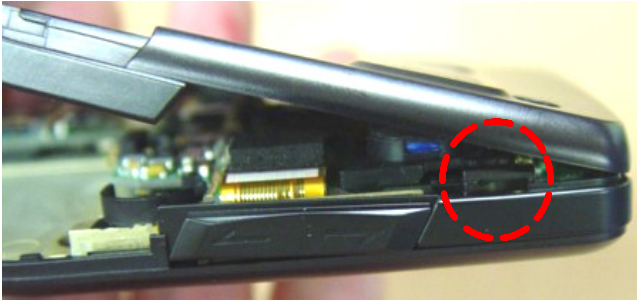
1) Put side keys on the right directions, then lock two hooks on the top of the rear cover. After locking two hooks, press the rear cover slightly to assemble two covers.

16



1) Press the rear cover part around the red circle area slightly to lock the left hook on the rear cover.

17



1) Press the rear cover part around the red circle area slightly to lock the right hook on the rear cover.

18



1) Screw four positions in the red circles.

7. MAIN Electrical Parts List

SEC CODE	Design LOC	Discription	STATUS
4202-001131	ANT1001	ANTENNA-CHIP	SA
GH71-06419A	ANT1800	NPR-ANTENNA CONTACT	SA
GH71-06419A	ANT900	NPR-ANTENNA CONTACT	SA
4302-001158	BAT701	BATTERY-LI(2ND)	SA
3711-006003	BTC301	CONNECTOR-BATTERY	SA
2203-006423	C1001	C-CER,CHIP	SA
2203-006824	C1003	C-CER,CHIP	SA
2203-006048	C1004	C-CER,CHIP	SA
2203-006048	C1005	C-CER,CHIP	SA
2203-006423	C101	C-CER,CHIP	SA
2203-006257	C1012	C-CER,CHIP	SA
2203-006562	C1013	C-CER,CHIP	SA
2203-000254	C1014	C-CER,CHIP	SA
2203-006423	C102	C-CER,CHIP	SA
2203-000438	C1027	C-CER,CHIP	SA
2203-006305	C1028	C-CER,CHIP	SA
2203-006423	C103	C-CER,CHIP	SA
2203-006423	C1031	C-CER,CHIP	SA
2203-000386	C1034	C-CER,CHIP	SA
2203-006121	C1036	C-CER,CHIP	SA
2203-000425	C1038	C-CER,CHIP	SA
2203-006423	C104	C-CER,CHIP	SA
2203-006423	C105	C-CER,CHIP	SA
2203-006423	C106	C-CER,CHIP	SA
2203-006423	C107	C-CER,CHIP	SA
2203-006423	C108	C-CER,CHIP	SA
2203-006423	C109	C-CER,CHIP	SA
2203-006423	C110	C-CER,CHIP	SA
2203-006423	C111	C-CER,CHIP	SA
2203-006423	C112	C-CER,CHIP	SA
2203-006423	C113	C-CER,CHIP	SA
2203-006423	C114	C-CER,CHIP	SA
2203-006423	C115	C-CER,CHIP	SA
2203-006423	C117	C-CER,CHIP	SA
2203-006423	C118	C-CER,CHIP	SA
2203-006423	C119	C-CER,CHIP	SA
2203-006423	C120	C-CER,CHIP	SA
2203-006423	C121	C-CER,CHIP	SA
2203-006423	C122	C-CER,CHIP	SA
2203-006423	C123	C-CER,CHIP	SA
2203-006423	C124	C-CER,CHIP	SA
2203-006423	C125	C-CER,CHIP	SA
2203-006423	C126	C-CER,CHIP	SA
2203-006423	C127	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006423	C128	C-CER,CHIP	SA
2203-006423	C129	C-CER,CHIP	SA
2203-006423	C130	C-CER,CHIP	SA
2203-006423	C131	C-CER,CHIP	SA
2203-006423	C132	C-CER,CHIP	SA
2203-006423	C133	C-CER,CHIP	SA
2203-006423	C134	C-CER,CHIP	SA
2203-006348	C135	C-CER,CHIP	SA
2203-006562	C137	C-CER,CHIP	SA
2203-006423	C139	C-CER,CHIP	SA
2203-006423	C140	C-CER,CHIP	SA
2203-006423	C141	C-CER,CHIP	SA
2203-006423	C142	C-CER,CHIP	SA
2203-006423	C143	C-CER,CHIP	SA
2203-006048	C144	C-CER,CHIP	SA
2203-006423	C145	C-CER,CHIP	SA
2203-006423	C146	C-CER,CHIP	SA
2203-005806	C147	C-CER,CHIP	SA
2203-005806	C148	C-CER,CHIP	SA
2203-006423	C149	C-CER,CHIP	SA
2203-005806	C150	C-CER,CHIP	SA
2203-005806	C151	C-CER,CHIP	SA
2203-005806	C152	C-CER,CHIP	SA
2203-005806	C153	C-CER,CHIP	SA
2203-006423	C154	C-CER,CHIP	SA
2203-005806	C155	C-CER,CHIP	SA
2203-006423	C156	C-CER,CHIP	SA
2203-005806	C157	C-CER,CHIP	SA
2203-006423	C158	C-CER,CHIP	SA
2203-006423	C159	C-CER,CHIP	SA
2203-000995	C160	C-CER,CHIP	SA
2203-000995	C161	C-CER,CHIP	SA
2203-006423	C162	C-CER,CHIP	SA
2203-006423	C165	C-CER,CHIP	SA
2203-006423	C166	C-CER,CHIP	SA
2203-006423	C201	C-CER,CHIP	SA
2203-006562	C202	C-CER,CHIP	SA
2203-006121	C203	C-CER,CHIP	SA
2203-006423	C204	C-CER,CHIP	SA
2203-006423	C205	C-CER,CHIP	SA
2203-006423	C206	C-CER,CHIP	SA
2203-006423	C209	C-CER,CHIP	SA
2203-006423	C210	C-CER,CHIP	SA
2203-006423	C211	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006423	C212	C-CER,CHIP	SA
2203-006423	C213	C-CER,CHIP	SA
2203-006423	C214	C-CER,CHIP	SA
2203-006423	C215	C-CER,CHIP	SA
2203-006423	C216	C-CER,CHIP	SA
2203-006423	C217	C-CER,CHIP	SA
2203-006423	C218	C-CER,CHIP	SA
2203-006423	C219	C-CER,CHIP	SA
2203-006423	C220	C-CER,CHIP	SA
2203-006423	C221	C-CER,CHIP	SA
2203-006423	C222	C-CER,CHIP	SA
2203-006423	C223	C-CER,CHIP	SA
2203-006423	C224	C-CER,CHIP	SA
2203-006423	C225	C-CER,CHIP	SA
2203-006423	C226	C-CER,CHIP	SA
2203-006562	C227	C-CER,CHIP	SA
2203-006562	C228	C-CER,CHIP	SA
2203-006825	C301	C-CER,CHIP	SA
2203-000940	C302	C-CER,CHIP	SA
2203-006423	C303	C-CER,CHIP	SA
2203-006423	C304	C-CER,CHIP	SA
2203-006562	C305	C-CER,CHIP	SA
2203-006562	C306	C-CER,CHIP	SA
2203-006121	C307	C-CER,CHIP	SA
2203-006120	C308	C-CER,CHIP	SA
2203-000550	C309	C-CER,CHIP	SA
2203-006121	C310	C-CER,CHIP	SA
2203-006423	C311	C-CER,CHIP	SA
2203-006423	C312	C-CER,CHIP	SA
2203-006048	C401	C-CER,CHIP	SA
2203-006423	C402	C-CER,CHIP	SA
2203-006423	C404	C-CER,CHIP	SA
2203-006423	C405	C-CER,CHIP	SA
2203-006423	C407	C-CER,CHIP	SA
2203-006048	C409	C-CER,CHIP	SA
2203-006048	C410	C-CER,CHIP	SA
2203-006423	C411	C-CER,CHIP	SA
2203-006121	C413	C-CER,CHIP	SA
2203-006423	C414	C-CER,CHIP	SA
2203-006562	C415	C-CER,CHIP	SA
2203-005659	C416	C-CER,CHIP	SA
2203-000995	C417	C-CER,CHIP	SA
2203-006562	C418	C-CER,CHIP	SA
2203-006626	C419	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-005659	C421	C-CER,CHIP	SA
2203-006423	C422	C-CER,CHIP	SA
2203-006423	C423	C-CER,CHIP	SA
2203-006423	C424	C-CER,CHIP	SA
2203-000995	C425	C-CER,CHIP	SA
2203-006562	C426	C-CER,CHIP	SA
2203-006423	C427	C-CER,CHIP	SA
2203-006048	C428	C-CER,CHIP	SA
2203-006585	C430	C-CER,CHIP	SA
2203-006585	C431	C-CER,CHIP	SA
2203-006585	C432	C-CER,CHIP	SA
2203-006585	C433	C-CER,CHIP	SA
2203-006562	C434	C-CER,CHIP	SA
2203-006423	C435	C-CER,CHIP	SA
2203-000812	C436	C-CER,CHIP	SA
2203-006562	C437	C-CER,CHIP	SA
2203-002443	C438	C-CER,CHIP	SA
2203-002443	C439	C-CER,CHIP	SA
2203-000438	C440	C-CER,CHIP	SA
2203-006423	C442	C-CER,CHIP	SA
2203-000438	C443	C-CER,CHIP	SA
2203-002443	C444	C-CER,CHIP	SA
2203-002443	C445	C-CER,CHIP	SA
2203-006562	C448	C-CER,CHIP	SA
2203-000812	C451	C-CER,CHIP	SA
2203-006562	C452	C-CER,CHIP	SA
2203-000438	C453	C-CER,CHIP	SA
2203-000438	C454	C-CER,CHIP	SA
2203-001405	C456	C-CER,CHIP	SA
2203-006260	C458	C-CER,CHIP	SA
2203-006260	C459	C-CER,CHIP	SA
2203-005682	C501	C-CER,CHIP	SA
2203-005682	C502	C-CER,CHIP	SA
2203-005682	C503	C-CER,CHIP	SA
2203-005682	C504	C-CER,CHIP	SA
2203-005682	C505	C-CER,CHIP	SA
2203-005682	C506	C-CER,CHIP	SA
2203-000233	C507	C-CER,CHIP	SA
2203-000812	C508	C-CER,CHIP	SA
2203-000812	C509	C-CER,CHIP	SA
2203-005682	C510	C-CER,CHIP	SA
2203-005682	C511	C-CER,CHIP	SA
2203-005736	C512	C-CER,CHIP	SA
2203-005806	C513	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006457	C514	C-CER,CHIP	SA
2203-000311	C515	C-CER,CHIP	SA
2203-006423	C516	C-CER,CHIP	SA
2203-006324	C517	C-CER,CHIP	SA
2203-006562	C518	C-CER,CHIP	SA
2203-006183	C519	C-CER,CHIP	SA
2203-000854	C520	C-CER,CHIP	SA
2203-000854	C521	C-CER,CHIP	SA
2203-005682	C522	C-CER,CHIP	SA
2203-005682	C523	C-CER,CHIP	SA
2203-005682	C525	C-CER,CHIP	SA
2203-005682	C526	C-CER,CHIP	SA
2203-005682	C527	C-CER,CHIP	SA
2203-005682	C528	C-CER,CHIP	SA
2203-005682	C529	C-CER,CHIP	SA
2203-000854	C530	C-CER,CHIP	SA
2203-005682	C531	C-CER,CHIP	SA
2203-005682	C532	C-CER,CHIP	SA
2203-005682	C533	C-CER,CHIP	SA
2203-005682	C534	C-CER,CHIP	SA
2203-005682	C535	C-CER,CHIP	SA
2203-005682	C536	C-CER,CHIP	SA
2203-005682	C537	C-CER,CHIP	SA
2203-005682	C538	C-CER,CHIP	SA
2203-002687	C539	C-CER,CHIP	SA
2203-000854	C601	C-CER,CHIP	SA
2203-000854	C602	C-CER,CHIP	SA
2203-006048	C603	C-CER,CHIP	SA
2203-000854	C605	C-CER,CHIP	SA
2203-000438	C608	C-CER,CHIP	SA
2203-006048	C619	C-CER,CHIP	SA
2203-000254	C701	C-CER,CHIP	SA
2203-001072	C702	C-CER,CHIP	SA
2203-006423	C703	C-CER,CHIP	SA
2203-006423	C704	C-CER,CHIP	SA
2203-006048	C705	C-CER,CHIP	SA
2203-000812	C706	C-CER,CHIP	SA
2203-006825	C707	C-CER,CHIP	SA
2203-006324	C709	C-CER,CHIP	SA
2203-006825	C710	C-CER,CHIP	SA
2203-006562	C712	C-CER,CHIP	SA
2203-006562	C713	C-CER,CHIP	SA
2203-006562	C714	C-CER,CHIP	SA
2203-006562	C716	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-005736	C717	C-CER,CHIP	SA
2203-006257	C718	C-CER,CHIP	SA
2203-001405	C719	C-CER,CHIP	SA
2203-005736	C720	C-CER,CHIP	SA
2203-005736	C721	C-CER,CHIP	SA
2203-005736	C722	C-CER,CHIP	SA
2203-006423	C723	C-CER,CHIP	SA
2203-000254	C724	C-CER,CHIP	SA
2203-006423	C725	C-CER,CHIP	SA
2203-006562	C726	C-CER,CHIP	SA
2203-000812	C731	C-CER,CHIP	SA
2203-006257	C732	C-CER,CHIP	SA
2203-000812	C733	C-CER,CHIP	SA
2203-005171	C735	C-CER,CHIP	SA
2203-006562	C736	C-CER,CHIP	SA
2203-006423	C801	C-CER,CHIP	SA
2203-006423	C802	C-CER,CHIP	SA
2203-006423	C803	C-CER,CHIP	SA
2203-006423	C804	C-CER,CHIP	SA
2203-006423	C805	C-CER,CHIP	SA
2203-006423	C806	C-CER,CHIP	SA
2203-006423	C807	C-CER,CHIP	SA
2203-006423	C808	C-CER,CHIP	SA
2203-006194	C809	C-CER,CHIP	SA
2203-006194	C810	C-CER,CHIP	SA
2203-006194	C811	C-CER,CHIP	SA
2203-006194	C812	C-CER,CHIP	SA
2203-006194	C813	C-CER,CHIP	SA
2203-006194	C814	C-CER,CHIP	SA
2203-006194	C815	C-CER,CHIP	SA
2203-001405	C816	C-CER,CHIP	SA
2203-000278	C817	C-CER,CHIP	SA
2203-000278	C818	C-CER,CHIP	SA
2203-000254	C819	C-CER,CHIP	SA
2203-006423	C821	C-CER,CHIP	SA
2203-006194	C822	C-CER,CHIP	SA
2203-006423	C823	C-CER,CHIP	SA
2203-006048	C903	C-CER,CHIP	SA
2203-000438	C904	C-CER,CHIP	SA
2203-000254	C905	C-CER,CHIP	SA
2203-000254	C907	C-CER,CHIP	SA
2203-000254	C908	C-CER,CHIP	SA
2203-006048	C910	C-CER,CHIP	SA
2203-000278	C911	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-001412	C912	C-CER,CHIP	SA
2203-006638	C913	C-CER,CHIP	SA
2203-000836	C914	C-CER,CHIP	SA
2203-006562	C915	C-CER,CHIP	SA
2203-000995	C916	C-CER,CHIP	SA
2203-006562	C917	C-CER,CHIP	SA
2203-005138	C918	C-CER,CHIP	SA
2203-005138	C919	C-CER,CHIP	SA
2203-002677	C920	C-CER,CHIP	SA
2203-006562	C921	C-CER,CHIP	SA
2203-002668	C922	C-CER,CHIP	SA
2203-005682	C923	C-CER,CHIP	SA
2203-006847	C924	C-CER,CHIP	SA
2203-005054	C925	C-CER,CHIP	SA
2203-005054	C926	C-CER,CHIP	SA
2203-006562	C927	C-CER,CHIP	SA
2203-000254	C928	C-CER,CHIP	SA
2203-000654	C929	C-CER,CHIP	SA
2203-000489	C930	C-CER,CHIP	SA
2203-000628	C932	C-CER,CHIP	SA
2203-000940	C933	C-CER,CHIP	SA
2203-005446	C935	C-CER,CHIP	SA
2203-000438	C936	C-CER,CHIP	SA
2203-000654	C937	C-CER,CHIP	SA
2203-002759	C938	C-CER,CHIP	SA
2203-000995	C939	C-CER,CHIP	SA
2203-000254	C940	C-CER,CHIP	SA
2203-000254	C943	C-CER,CHIP	SA
2203-006562	C944	C-CER,CHIP	SA
2203-000138	C945	C-CER,CHIP	SA
2203-006562	C946	C-CER,CHIP	SA
2203-000233	C947	C-CER,CHIP	SA
2203-000628	C948	C-CER,CHIP	SA
2203-000812	C949	C-CER,CHIP	SA
2203-000812	C950	C-CER,CHIP	SA
2203-000812	C951	C-CER,CHIP	SA
2203-002677	C953	C-CER,CHIP	SA
3709-001344	CD601	CONNECTOR-CARD EDGE	SA
4709-001415	CPL1001	BALUN	SA
0407-000115	D601	DIODE-ARRAY	SA
0401-001110	D602	DIODE-SWITCHING	SA
0401-001110	D603	DIODE-SWITCHING	SA
3722-002010	EAR401	JACK-EAR PHONE	SA
3301-001342	F301	BEAD-SMD	SA

SEC CODE	Design LOC	Discription	STATUS
3301-001844	F401	BEAD-SMD	SA
3301-001844	F402	BEAD-SMD	SA
3301-001844	F403	BEAD-SMD	SA
3301-001844	F404	BEAD-SMD	SA
2901-001308	F501	FILTER-EMI SMD	SA
2901-001308	F502	FILTER-EMI SMD	SA
2901-001308	F503	FILTER-EMI SMD	SA
2901-001308	F504	FILTER-EMI SMD	SA
2911-000010	F901	DUPLEXER-FEM	SA
3711-005793	HDC501	HEADER-BOARD TO BOARD	SA
3711-005578	HDC502	HEADER-BOARD TO BOARD	SA
3711-005954	HDC503	HEADER-BOARD TO BOARD	SA
3711-006119	HDC601	HEADER-BOARD TO BOARD	SA
3710-002324	IFC601	SOCKET-INTERFACE	SA
0604-001304	IRD101	PHOTO-IRDA	SA
2703-001242	L101	INDUCTOR-SMD	SA
2703-002734	L302	INDUCTOR-SMD	SA
2703-002768	L303	INDUCTOR-SMD	SA
2703-001876	L401	INDUCTOR-SMD	SA
2703-000403	L501	INDUCTOR-SMD	SA
2703-002734	L701	INDUCTOR-SMD	SA
2703-002734	L702	INDUCTOR-SMD	SA
2703-002314	L901	INDUCTOR-SMD	SA
2703-002367	L903	INDUCTOR-SMD	SA
2703-002367	L904	INDUCTOR-SMD	SA
2703-001749	L905	INDUCTOR-SMD	SA
2703-001749	L906	INDUCTOR-SMD	SA
2703-002612	L907	INDUCTOR-SMD	SA
2703-002170	L909	INDUCTOR-SMD	SA
2703-001750	L911	INDUCTOR-SMD	SA
2703-001750	L912	INDUCTOR-SMD	SA
2801-004189	OSC1002	CRYSTAL-SMD	SA
2801-004466	OSC101	CRYSTAL-SMD	SA
2801-004189	OSC102	CRYSTAL-SMD	SA
2804-001591	OSC401	OSCILLATOR-CLOCK	SA
2801-004466	OSC801	CRYSTAL-SMD	SA
1201-002267	PAM901	IC-POWER AMP	SA
2007-008542	R1006	R-CHIP	SA
2007-008542	R1008	R-CHIP	SA
2007-008542	R1009	R-CHIP	SA
2007-001290	R101	R-CHIP	SA
2007-000171	R1014	R-CHIP	SA
2007-000171	R102	R-CHIP	SA
2007-001290	R103	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-008055	R104	R-CHIP	SA
2007-008516	R105	R-CHIP	SA
2007-008419	R106	R-CHIP	SA
2007-008516	R107	R-CHIP	SA
2007-008419	R108	R-CHIP	SA
2007-008516	R109	R-CHIP	SA
2007-008478	R110	R-CHIP	SA
2007-008478	R111	R-CHIP	SA
2007-008516	R112	R-CHIP	SA
2007-008419	R113	R-CHIP	SA
2007-008419	R115	R-CHIP	SA
2007-008516	R116	R-CHIP	SA
2007-008419	R117	R-CHIP	SA
2007-008516	R118	R-CHIP	SA
2007-008516	R119	R-CHIP	SA
2007-008516	R120	R-CHIP	SA
2007-008419	R121	R-CHIP	SA
2007-008516	R122	R-CHIP	SA
2007-008516	R123	R-CHIP	SA
2007-008516	R124	R-CHIP	SA
2007-008516	R125	R-CHIP	SA
2007-008516	R126	R-CHIP	SA
2007-008419	R127	R-CHIP	SA
2007-008516	R128	R-CHIP	SA
2007-008516	R129	R-CHIP	SA
2007-000148	R130	R-CHIP	SA
2007-008516	R131	R-CHIP	SA
2007-008055	R132	R-CHIP	SA
2007-000171	R133	R-CHIP	SA
2007-008516	R134	R-CHIP	SA
2007-008516	R135	R-CHIP	SA
2007-008516	R136	R-CHIP	SA
2007-008516	R137	R-CHIP	SA
2007-008516	R138	R-CHIP	SA
2007-000171	R139	R-CHIP	SA
2007-000143	R140	R-CHIP	SA
2007-008055	R141	R-CHIP	SA
2007-008516	R145	R-CHIP	SA
2007-000171	R146	R-CHIP	SA
2007-000171	R149	R-CHIP	SA
2007-008055	R202	R-CHIP	SA
2007-000171	R204	R-CHIP	SA
2007-000171	R205	R-CHIP	SA
2007-000171	R206	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-008055	R207	R-CHIP	SA
2007-008055	R208	R-CHIP	SA
2007-008055	R212	R-CHIP	SA
2007-008055	R213	R-CHIP	SA
2007-008055	R214	R-CHIP	SA
2007-008055	R215	R-CHIP	SA
2007-008055	R216	R-CHIP	SA
2007-000171	R218	R-CHIP	SA
2007-008542	R219	R-CHIP	SA
2007-008516	R301	R-CHIP	SA
2007-000566	R302	R-CHIP	SA
2007-000566	R303	R-CHIP	SA
2007-008542	R305	R-CHIP	SA
2007-008354	R306	R-CHIP	SA
2007-000168	R307	R-CHIP	SA
2007-008055	R310	R-CHIP	SA
2007-008516	R311	R-CHIP	SA
2007-000172	R312	R-CHIP	SA
2007-007009	R313	R-CHIP	SA
2007-003029	R315	R-CHIP	SA
2007-008516	R401	R-CHIP	SA
2007-008542	R402	R-CHIP	SA
2007-008542	R403	R-CHIP	SA
2007-000171	R404	R-CHIP	SA
2007-000171	R405	R-CHIP	SA
2007-008542	R406	R-CHIP	SA
2007-007142	R407	R-CHIP	SA
2007-007132	R408	R-CHIP	SA
2007-007308	R410	R-CHIP	SA
2007-007142	R411	R-CHIP	SA
2007-007308	R412	R-CHIP	SA
2007-007132	R413	R-CHIP	SA
2007-000148	R415	R-CHIP	SA
2007-007132	R416	R-CHIP	SA
2007-007132	R417	R-CHIP	SA
2007-007132	R418	R-CHIP	SA
2007-007132	R419	R-CHIP	SA
2007-008516	R424	R-CHIP	SA
2007-008542	R425	R-CHIP	SA
2007-007001	R426	R-CHIP	SA
2007-007528	R427	R-CHIP	SA
2007-000139	R429	R-CHIP	SA
2007-000139	R430	R-CHIP	SA
2007-007528	R431	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-000143	R432	R-CHIP	SA
2007-003001	R434	R-CHIP	SA
2007-008419	R435	R-CHIP	SA
2007-000171	R436	R-CHIP	SA
2007-008055	R437	R-CHIP	SA
2007-003001	R438	R-CHIP	SA
2007-008483	R440	R-CHIP	SA
2007-008542	R444	R-CHIP	SA
2007-000148	R445	R-CHIP	SA
2007-000148	R446	R-CHIP	SA
2007-008419	R501	R-CHIP	SA
2007-008531	R502	R-CHIP	SA
2007-008516	R503	R-CHIP	SA
2007-003112	R505	R-CHIP	SA
2007-008542	R506	R-CHIP	SA
2007-008542	R507	R-CHIP	SA
2007-008542	R508	R-CHIP	SA
2007-000171	R509	R-CHIP	SA
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2007-000163	R603	R-CHIP	SA
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2007-008542	R820	R-CHIP	SA
2007-008542	R823	R-CHIP	SA
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2007-000148	R903	R-CHIP	SA
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2007-000138	R907	R-CHIP	SA
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2007-000141	R910	R-CHIP	SA
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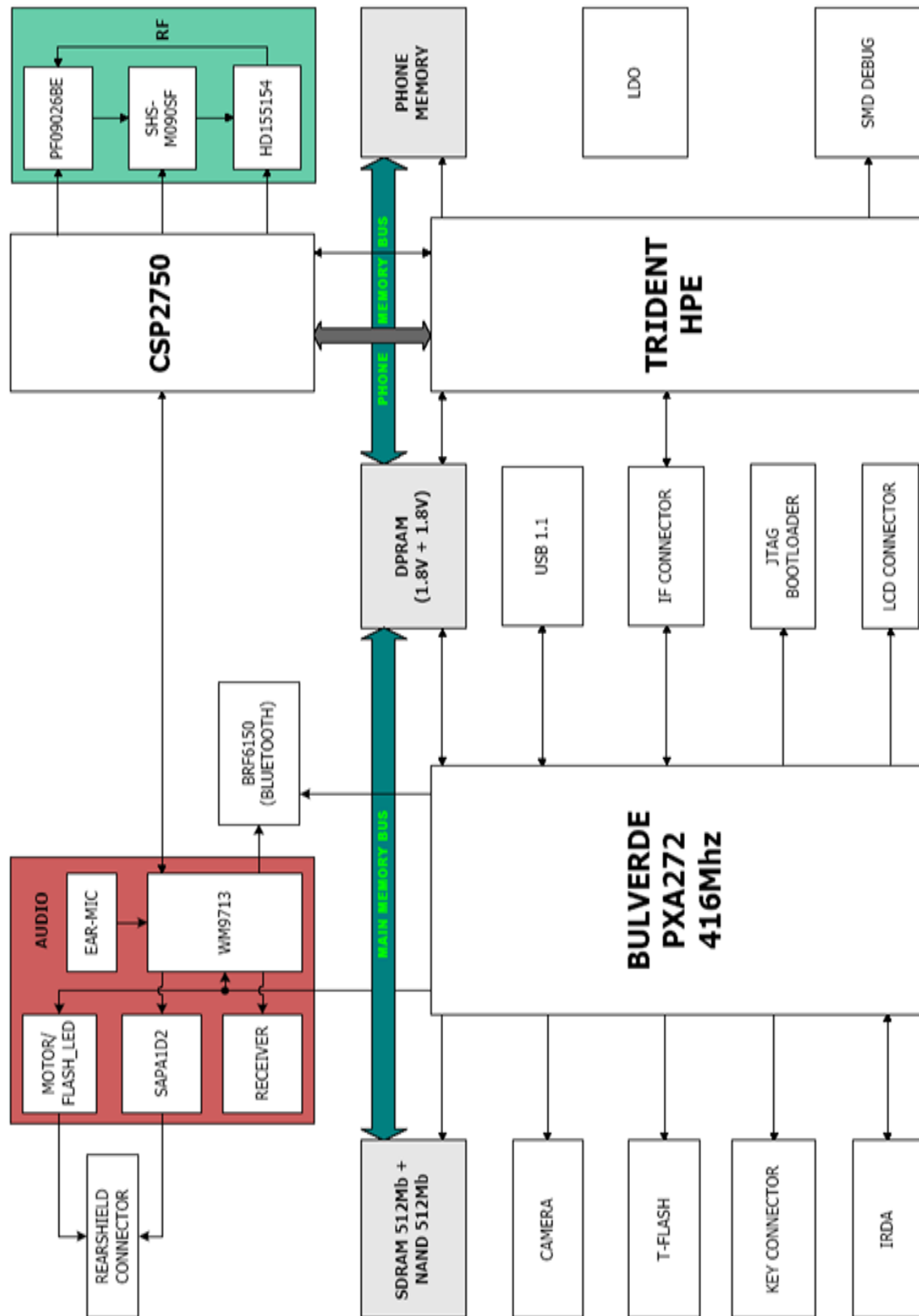
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3705-001358	RFS901	CONNECTOR-COAXIAL	SA
3709-001391	SIM701	CONNECTOR-CARD EDGE	SA
3710-002081	SLC601	SOCKET-BOARD TO BOARD	SA
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2404-001395	TA102	C-TA,CHIP	SA
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2404-001381	TA306	C-TA,CHIP	SA
2404-001381	TA307	C-TA,CHIP	SA
2404-001381	TA308	C-TA,CHIP	SA
2404-001406	TA309	C-TA,CHIP	SA
2404-001381	TA311	C-TA,CHIP	SA
2404-001381	TA312	C-TA,CHIP	SA
2404-001422	TA313	C-TA,CHIP	SA
2404-001422	TA314	C-TA,CHIP	SA
2404-001381	TA315	C-TA,CHIP	SA
2404-001381	TA316	C-TA,CHIP	SA
2404-001381	TA317	C-TA,CHIP	SA
2404-001381	TA401	C-TA,CHIP	SA
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2404-001381	TA403	C-TA,CHIP	SA
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2404-001381	TA405	C-TA,CHIP	SA
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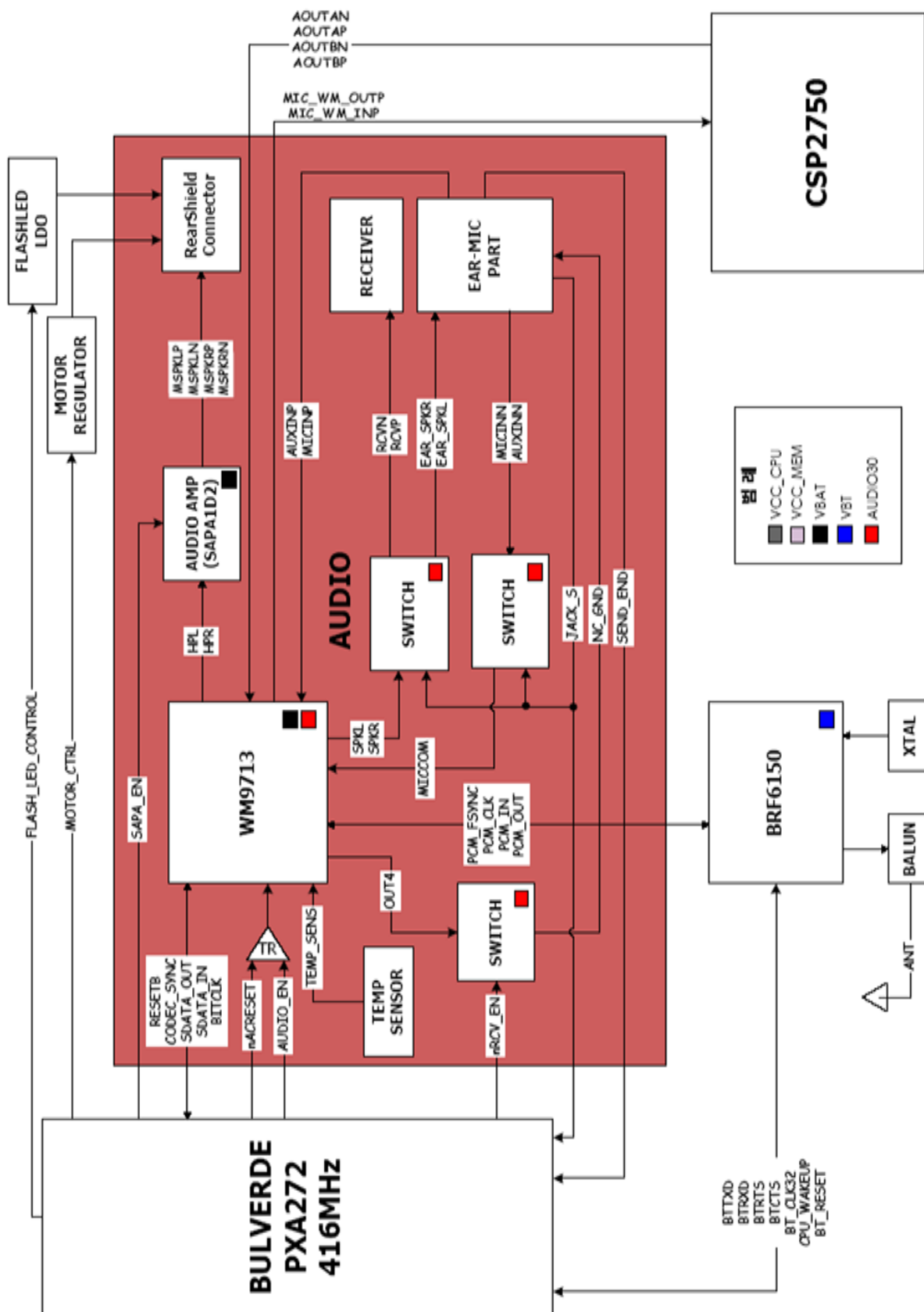
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2404-001374	TA601	C-TA,CHIP	SA
2404-001381	TA602	C-TA,CHIP	SA
2404-001381	TA603	C-TA,CHIP	SA
2404-001381	TA604	C-TA,CHIP	SA
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2404-001352	TA901	C-TA,CHIP	SA
2404-001406	TA902	C-TA,CHIP	SA
2404-001406	TA903	C-TA,CHIP	SA
2809-001302	TCX901	OSCILLATOR-VCTCXO	SA
0501-002202	TR101	TR-SMALL SIGNAL	SA
0505-001217	TR301	FET-GAAS	SA
0505-001524	TR302	FET-SILICON	SA
0504-000167	TR401	TR-DIGITAL	SA
0501-000225	TR402	TR-SMALL SIGNAL	SA
0504-000168	TR702	TR-DIGITAL	SA
1205-002696	U1001	IC-DATA COMM./GEN.	SA
1203-001720	U1002	IC-POSI.FIXED REG.	SA
0801-000796	U101	IC-CMOS LOGIC	SA
0801-003016	U102	IC-CMOS LOGIC	SA
0801-003016	U103	IC-CMOS LOGIC	SA
0801-002294	U104	IC-CMOS LOGIC	SA
1203-002895	U105	IC-RESET	SA
0801-002896	U106	IC-CMOS LOGIC	SA
1203-002690	U201	IC-POSI.FIXED REG.	SA
0801-002975	U202	IC-CMOS LOGIC	SA
1203-001720	U301	IC-POSI.FIXED REG.	SA
1203-001720	U302	IC-POSI.FIXED REG.	SA
1203-003643	U303	IC-MULTI REG.	SA
0801-000794	U304	IC-CMOS LOGIC	SA
1203-003428	U305	IC-DC/DC CONVERTER	SA
1203-003253	U306	IC-BATTERY	SA
1203-002155	U307	IC-DC/DC CONVERTER	SA
1203-001720	U308	IC-POSI.FIXED REG.	SA
1203-002999	U310	IC-VOL. DETECTOR	SA
1201-002241	U401	IC-AUDIO AMP	SA
1203-001720	U402	IC-POSI.FIXED REG.	SA
1209-001658	U403	IC-SENSOR	SA
1001-001152	U407	IC-ANALOG MULTIPLEX	SA
1001-001152	U408	IC-ANALOG MULTIPLEX	SA

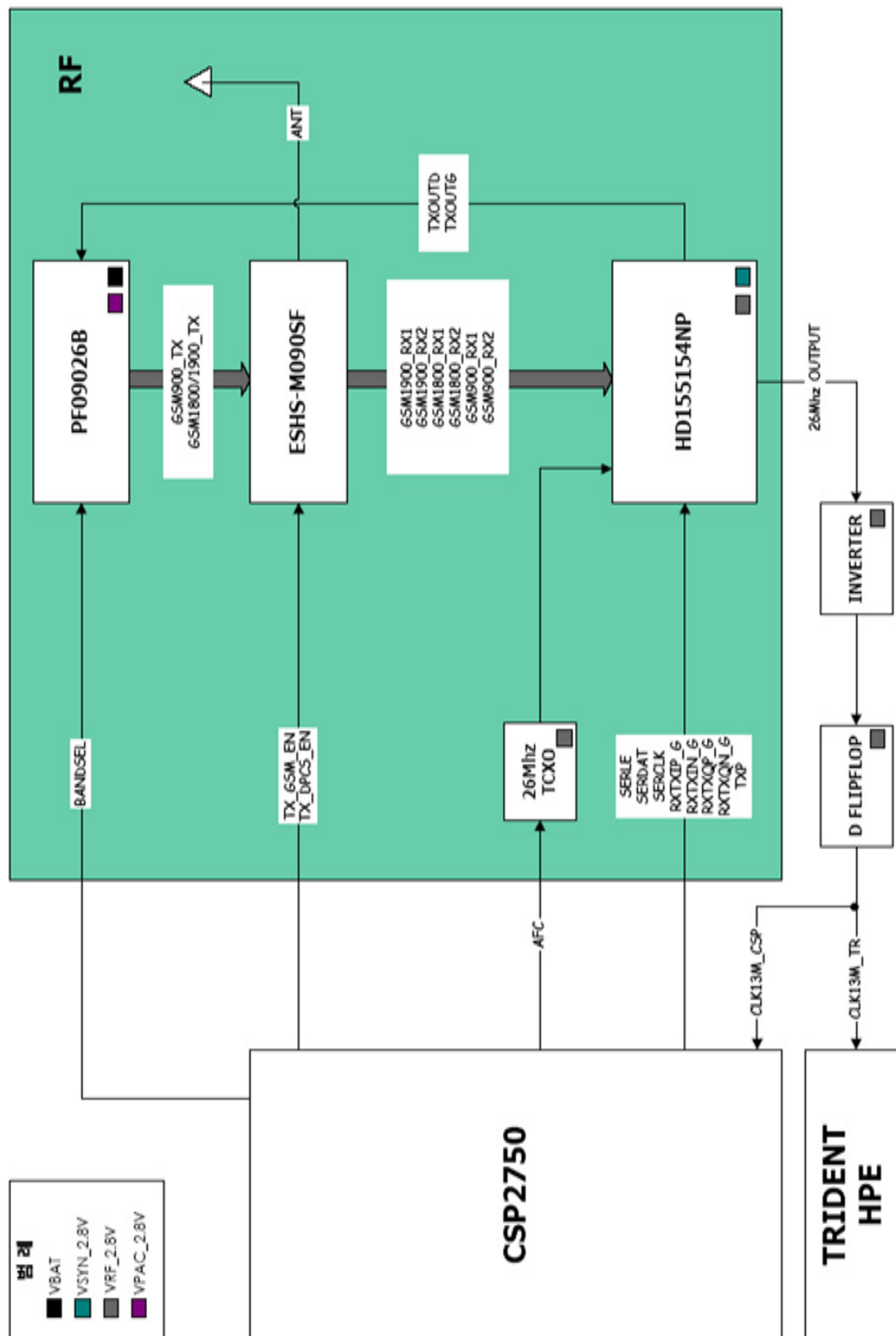
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1203-003474	U502	IC-SWITCH REG.	SA
1203-003531	U602	IC-POSI.FIXED REG.	SA
1203-003768	U604	IC-POSI.FIXED REG.	SA
1203-002250	U605	IC-VOL. DETECTOR	SA
0407-001038	U606	DIODE-ARRAY	SA
1203-003428	U702	IC-DC/DC CONVERTER	SA
1203-003434	U703	IC-DC/DC CONVERTER	SA
0801-003016	U801	IC-CMOS LOGIC	SA
0801-002958	U901	IC-CMOS LOGIC	SA
0801-002993	U902	IC-CMOS LOGIC	SA
1205-002652	U903	IC-TRANSCEIVER	SA
1205-002720	UCD401	IC-CODEC	SA
1203-003565	UCD701	IC-POWER SUPERVISOR	SA
0902-001900	UCP101	IC-MICROPROCESSOR	SA
GH09-00038A	UCP801	IC MICOM	SA
1106-001519	UME201	IC-SRAM	SA
1108-000054	UME202	IC-MCP	SA
1108-000036	UME801	IC-MCP	SA
1405-001093	VR601	VARISTOR	SA
1405-001093	VR602	VARISTOR	SA
1404-001165	VR701	THERMISTOR-NTC	SA
0403-001547	ZD301	DIODE-ZENER	SA
0406-001210	ZD401	DIODE-TVS	SA
0406-001167	ZD402	DIODE-TVS	SA
0406-001210	ZD403	DIODE-TVS	SA
0406-001210	ZD404	DIODE-TVS	SA
0403-001446	ZD501	DIODE-ZENER	SA
0406-001210	ZD502	DIODE-TVS	SA
0406-001210	ZD503	DIODE-TVS	SA
0406-001210	ZD505	DIODE-TVS	SA
0406-001210	ZD506	DIODE-TVS	SA
0406-001190	ZD601	DIODE-TVS	SA
0406-001167	ZD602	DIODE-TVS	SA
0406-001167	ZD603	DIODE-TVS	SA
0406-001167	ZD604	DIODE-TVS	SA
0406-001167	ZD605	DIODE-TVS	SA
0406-001210	ZD606	DIODE-TVS	SA
0406-001104	ZD608	DIODE-TVS	SA
0406-001201	ZD609	DIODE-TVS	SA
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0406-001201	ZD612	DIODE-TVS	SA

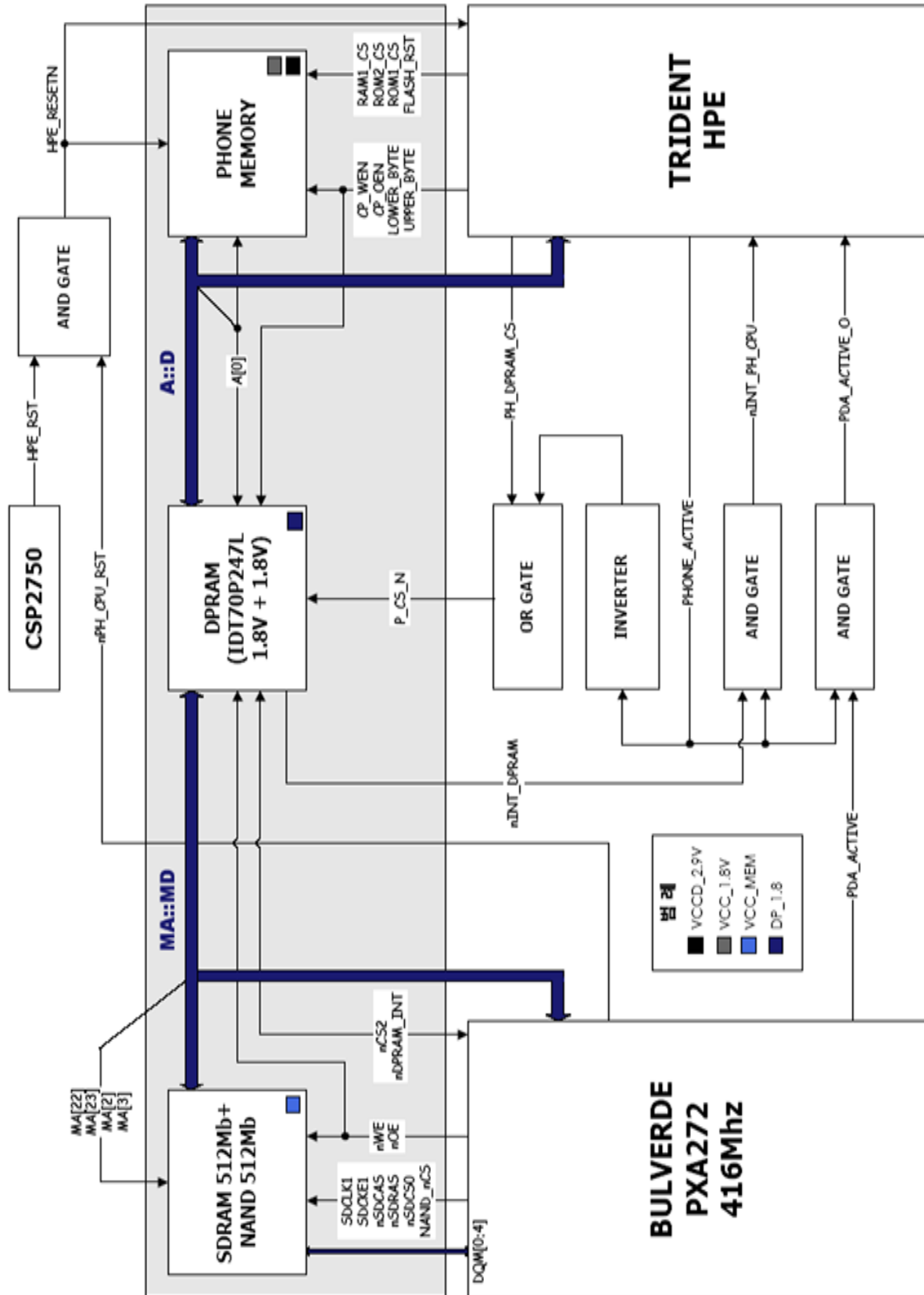
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0406-001201	ZD613	DIODE-TVS	SA
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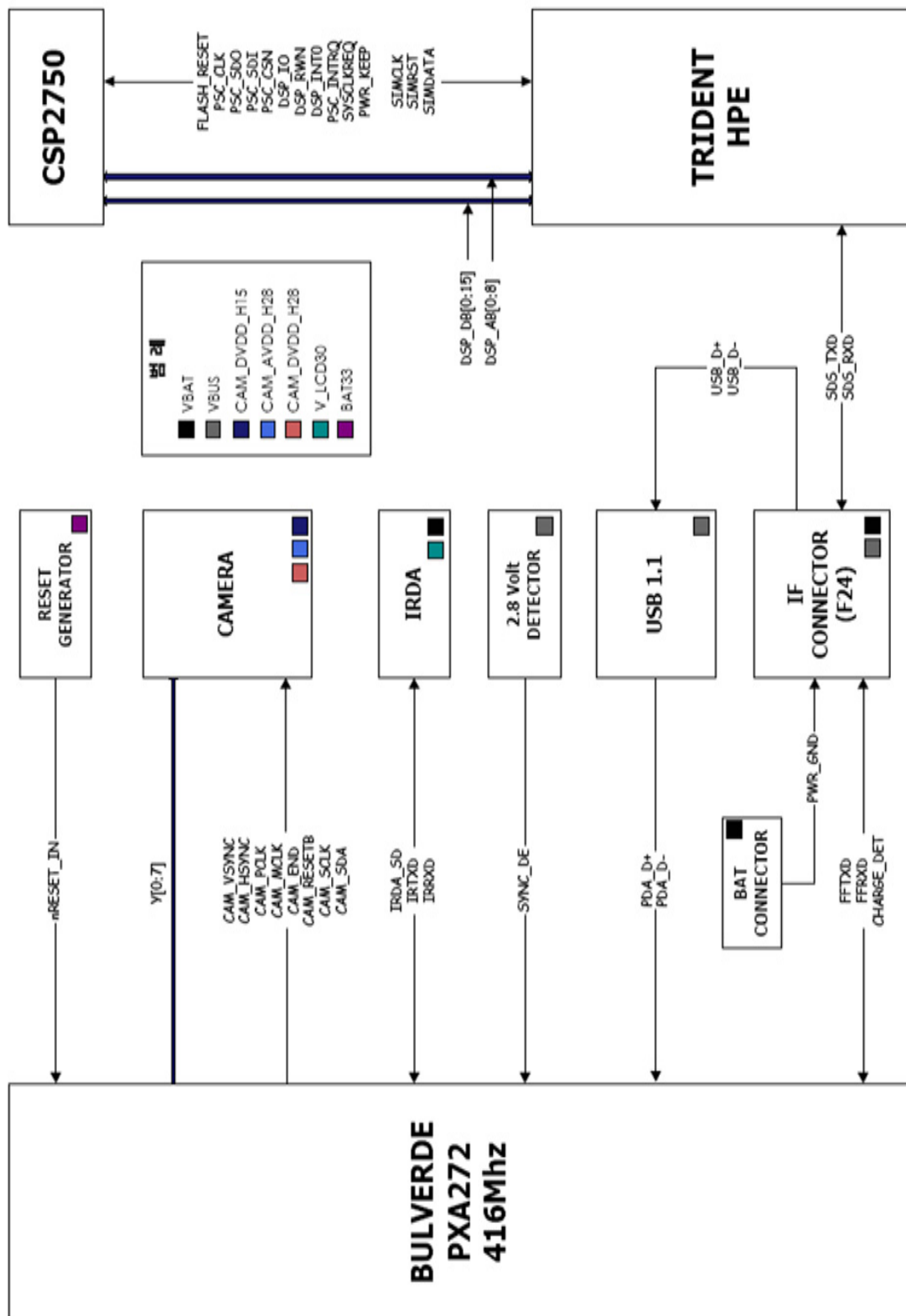
8. Block Diagrams

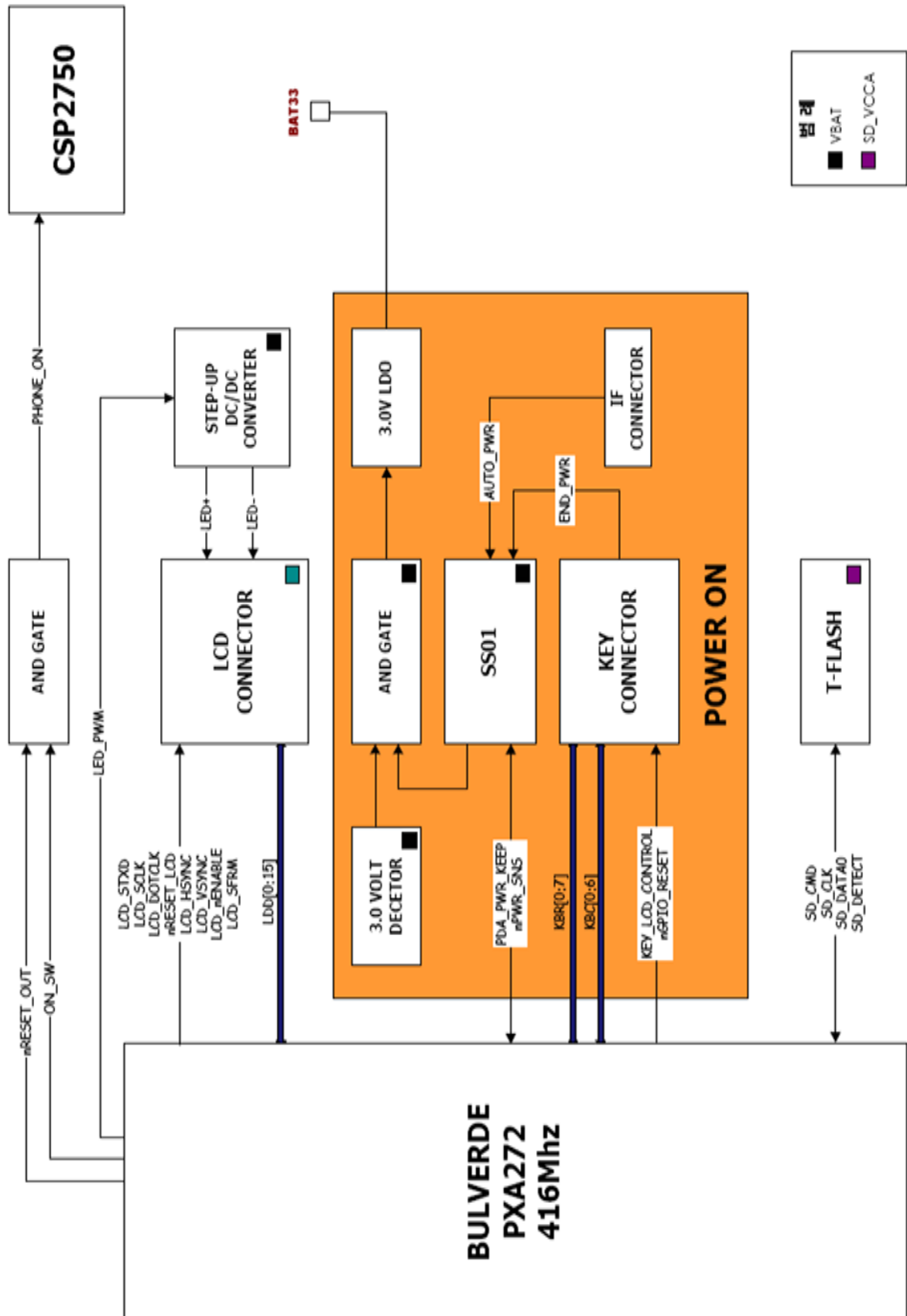


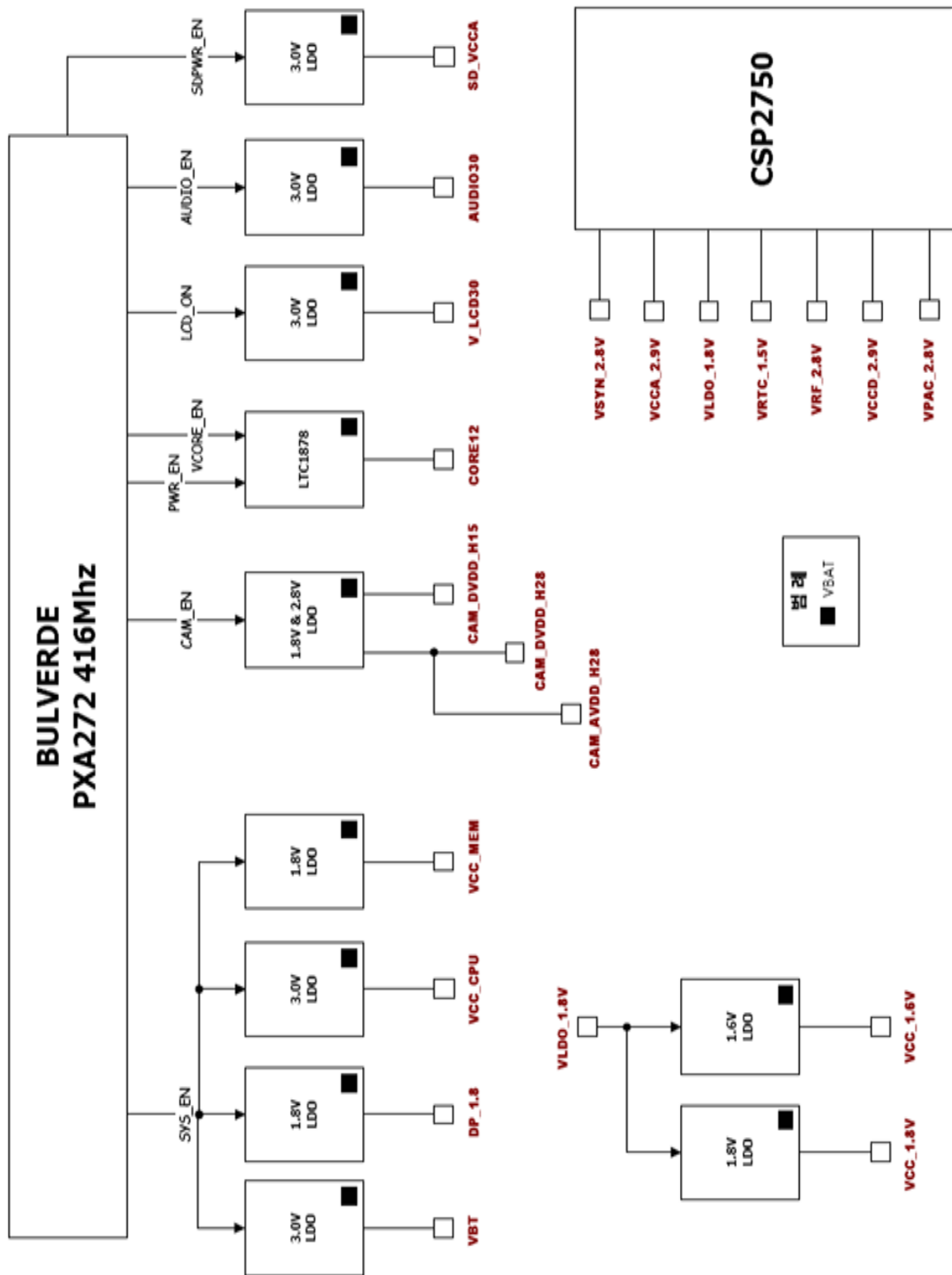




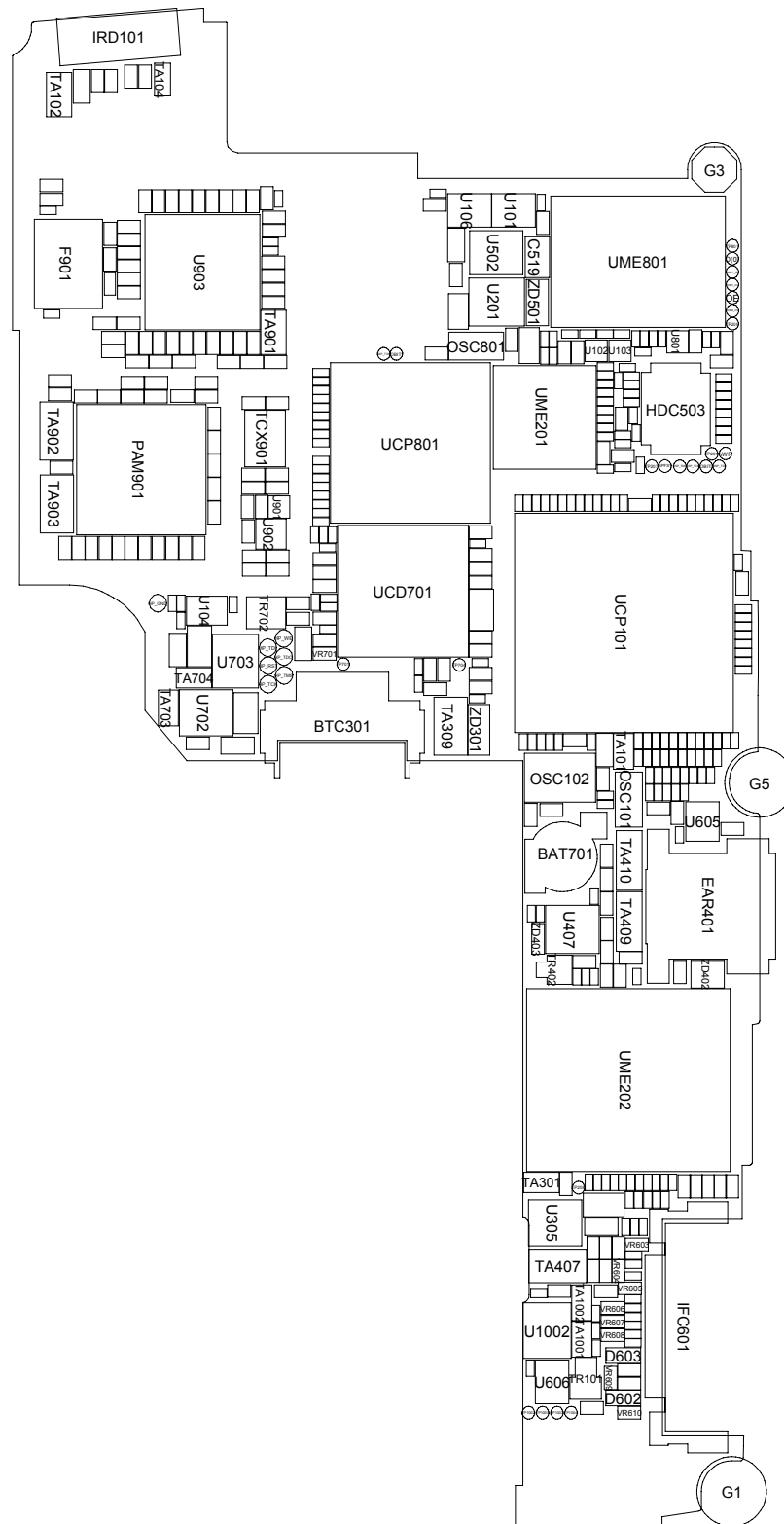


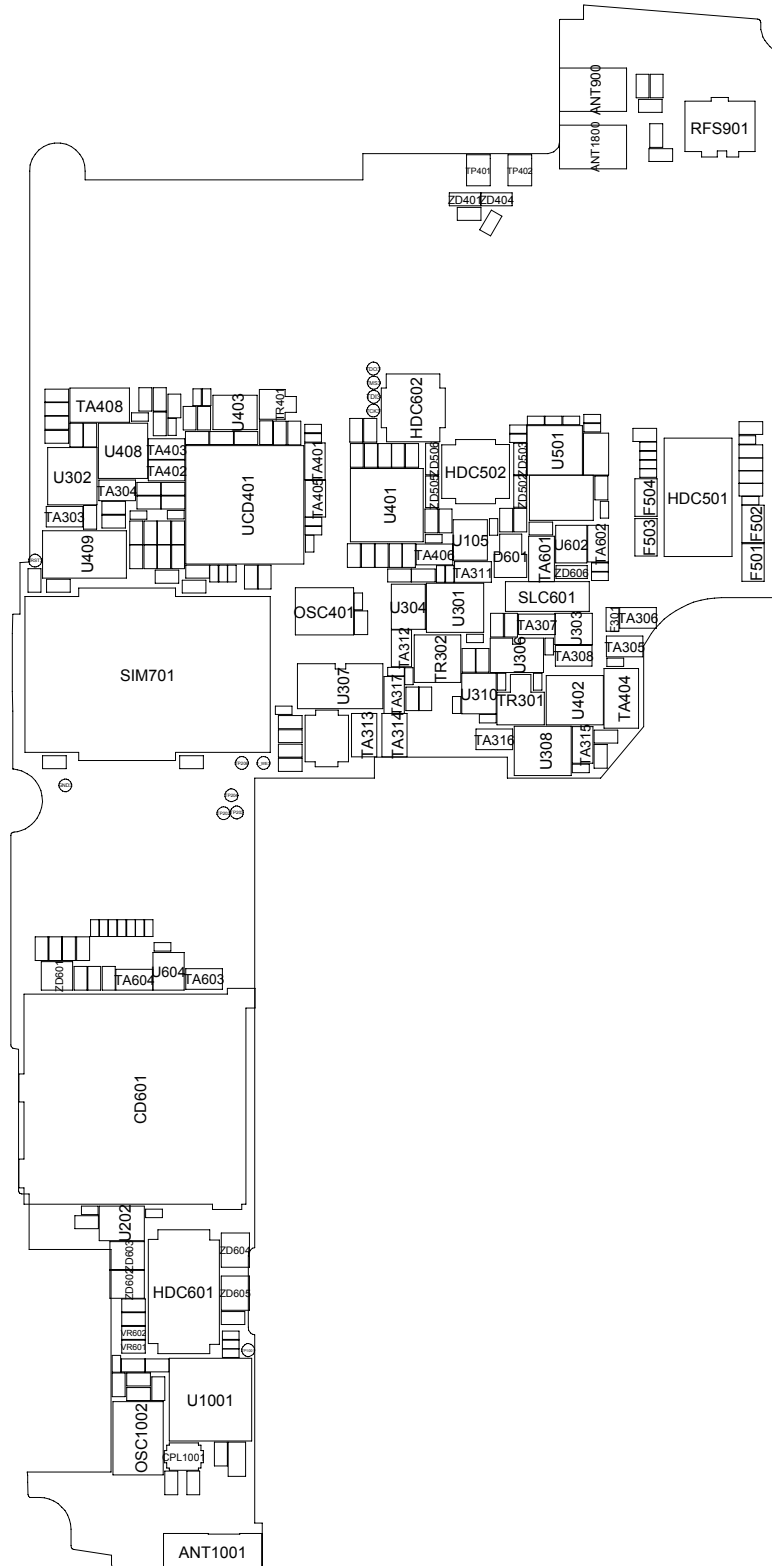






9. PCB Diagrams

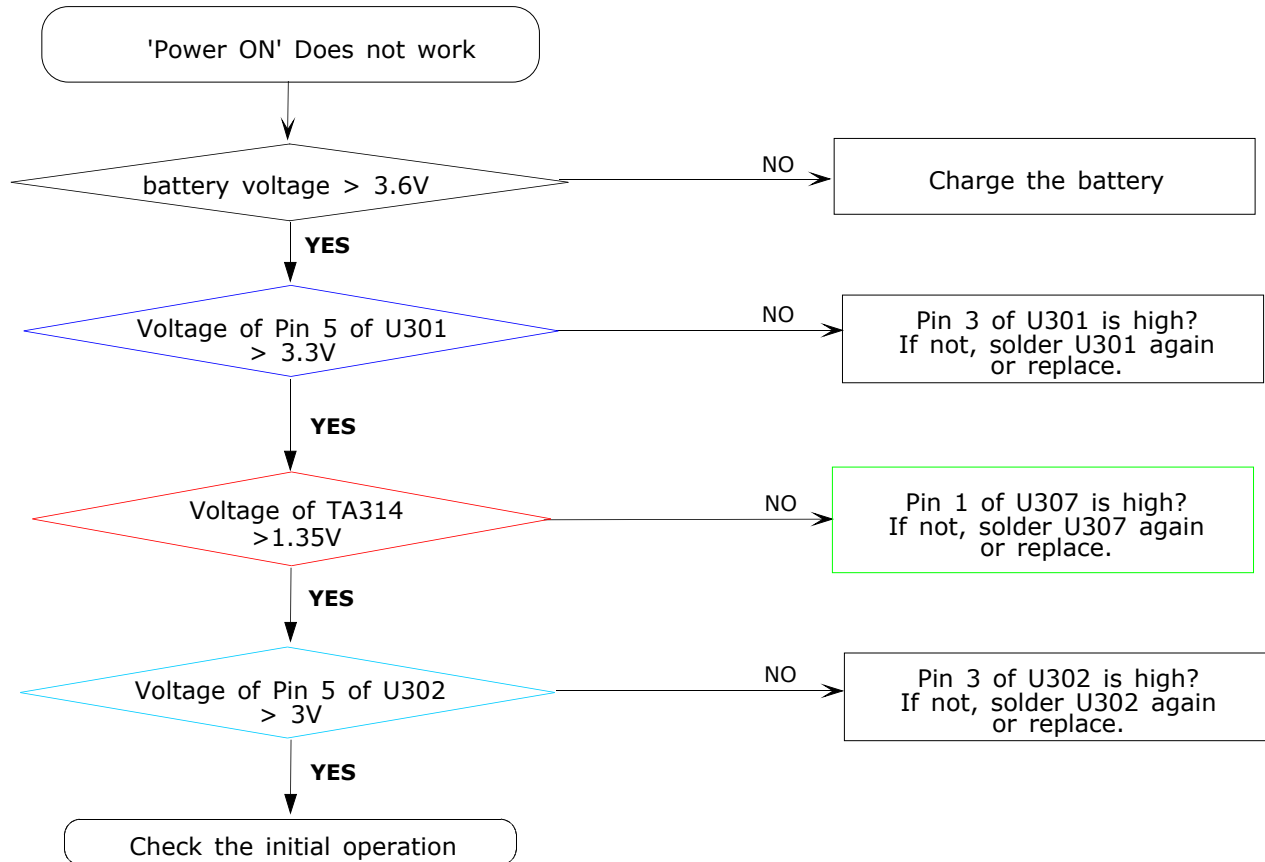


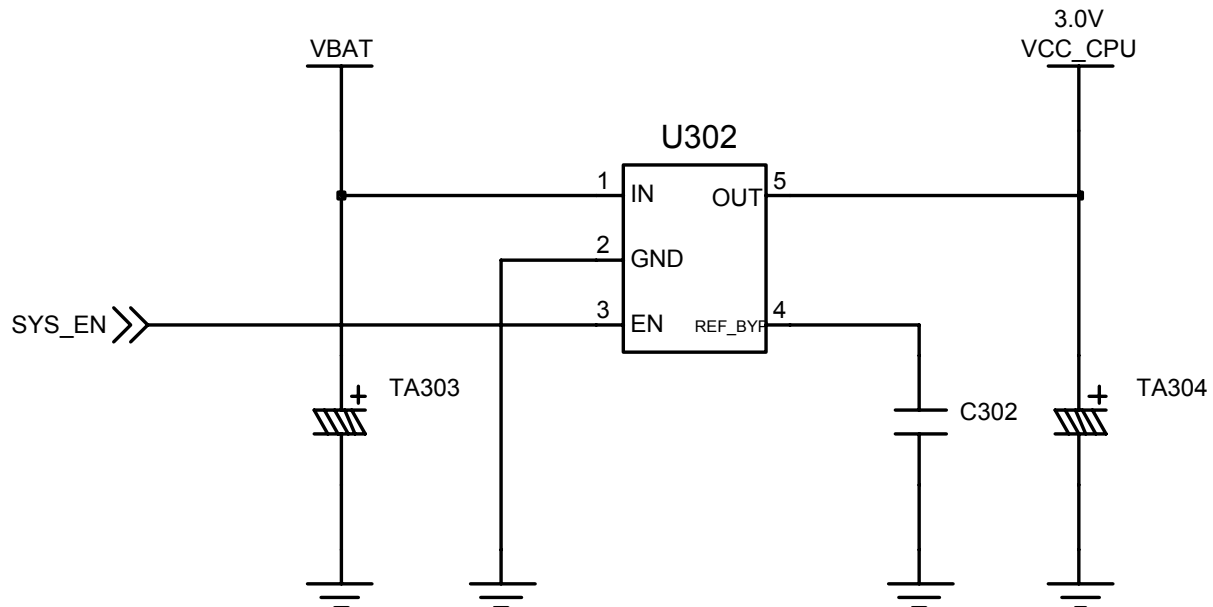


10. Flow Chart of Troubleshooting and Circuit Diagrams

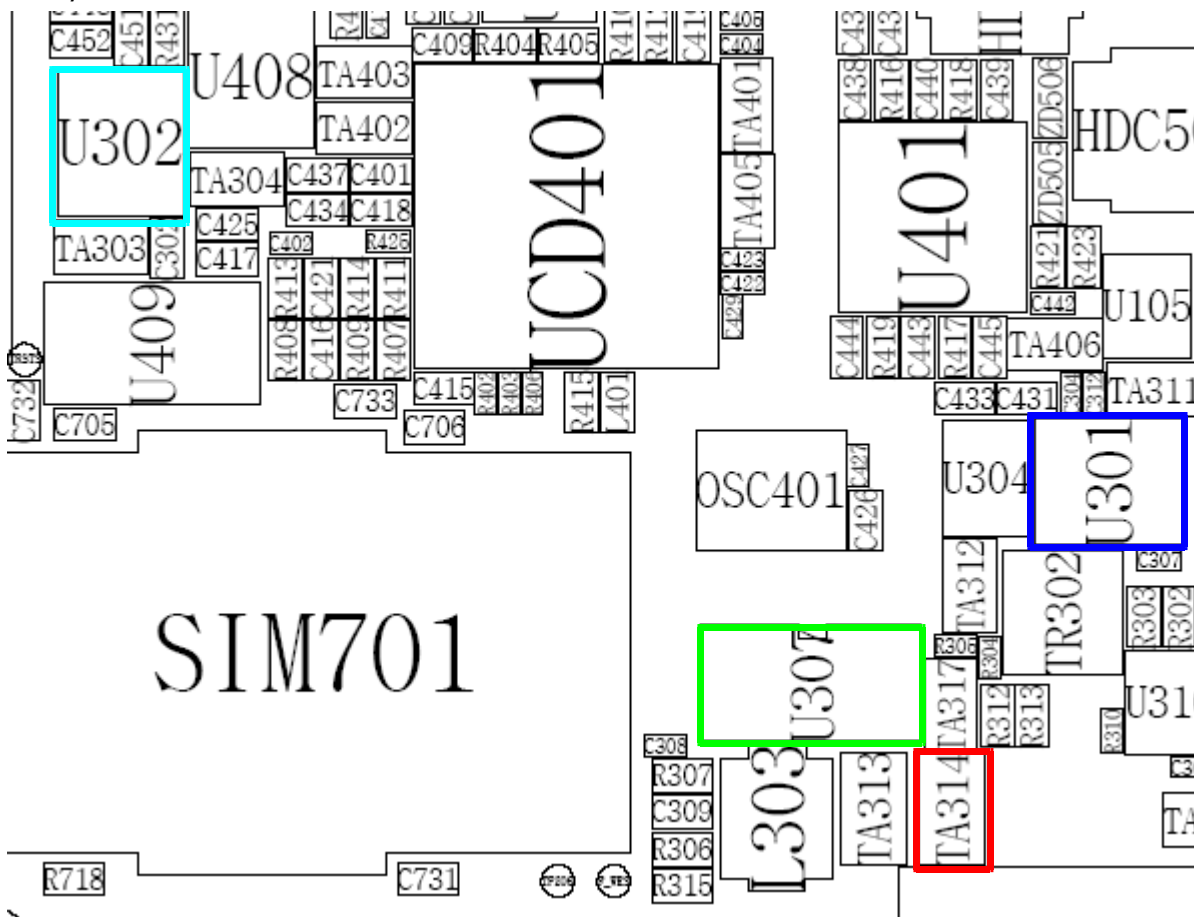
10-1.Baseband

10-1-1. Power ON

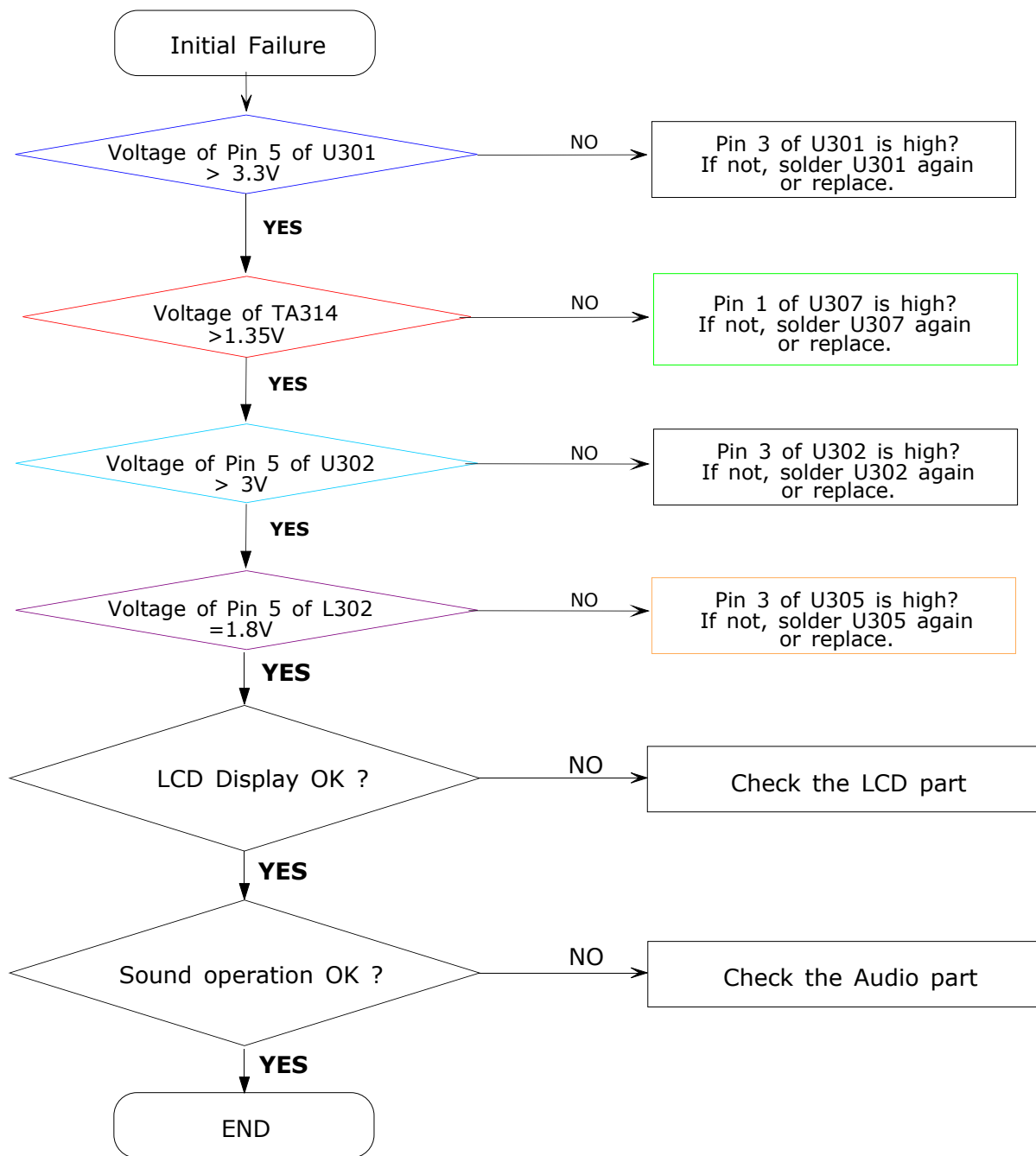


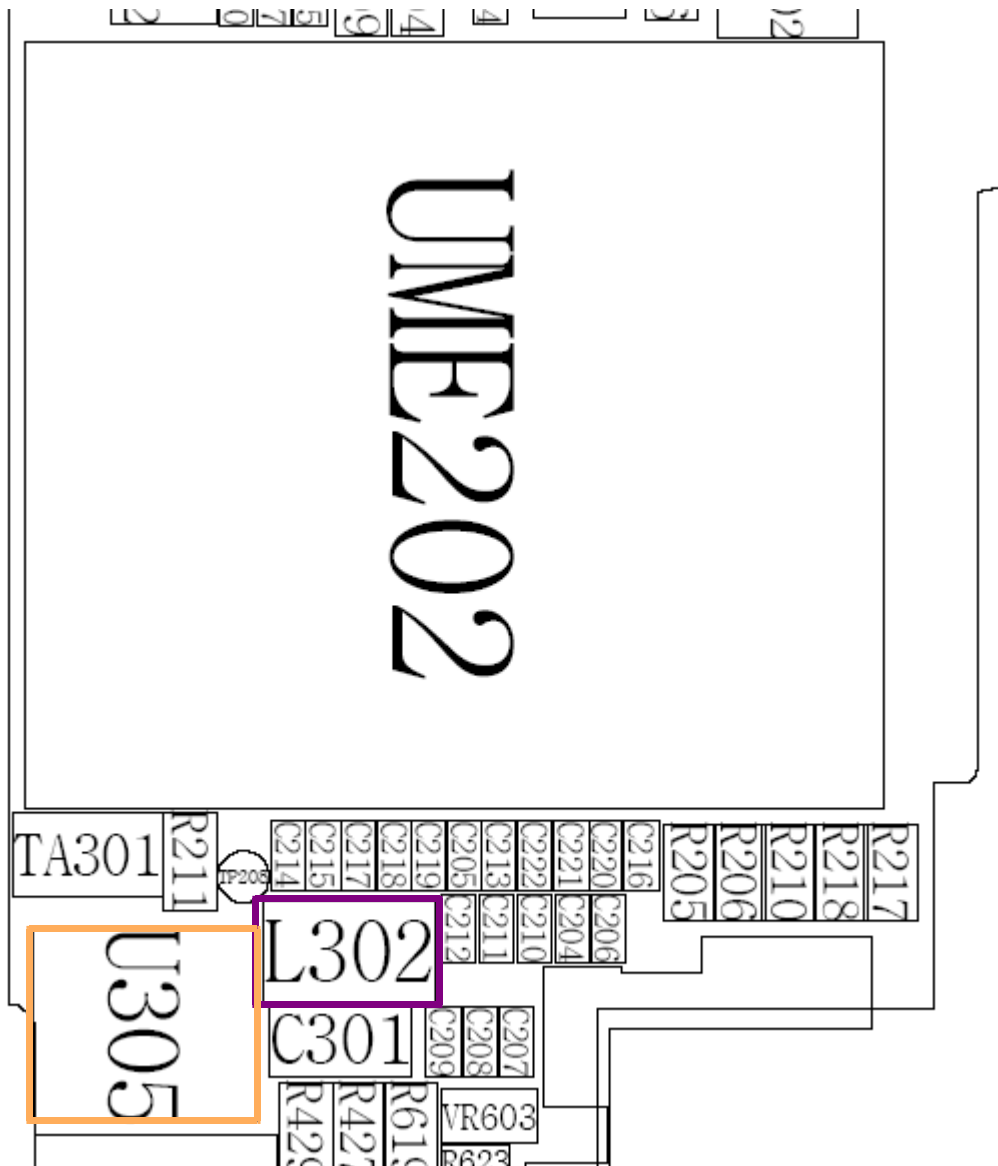


- Layout for Power on

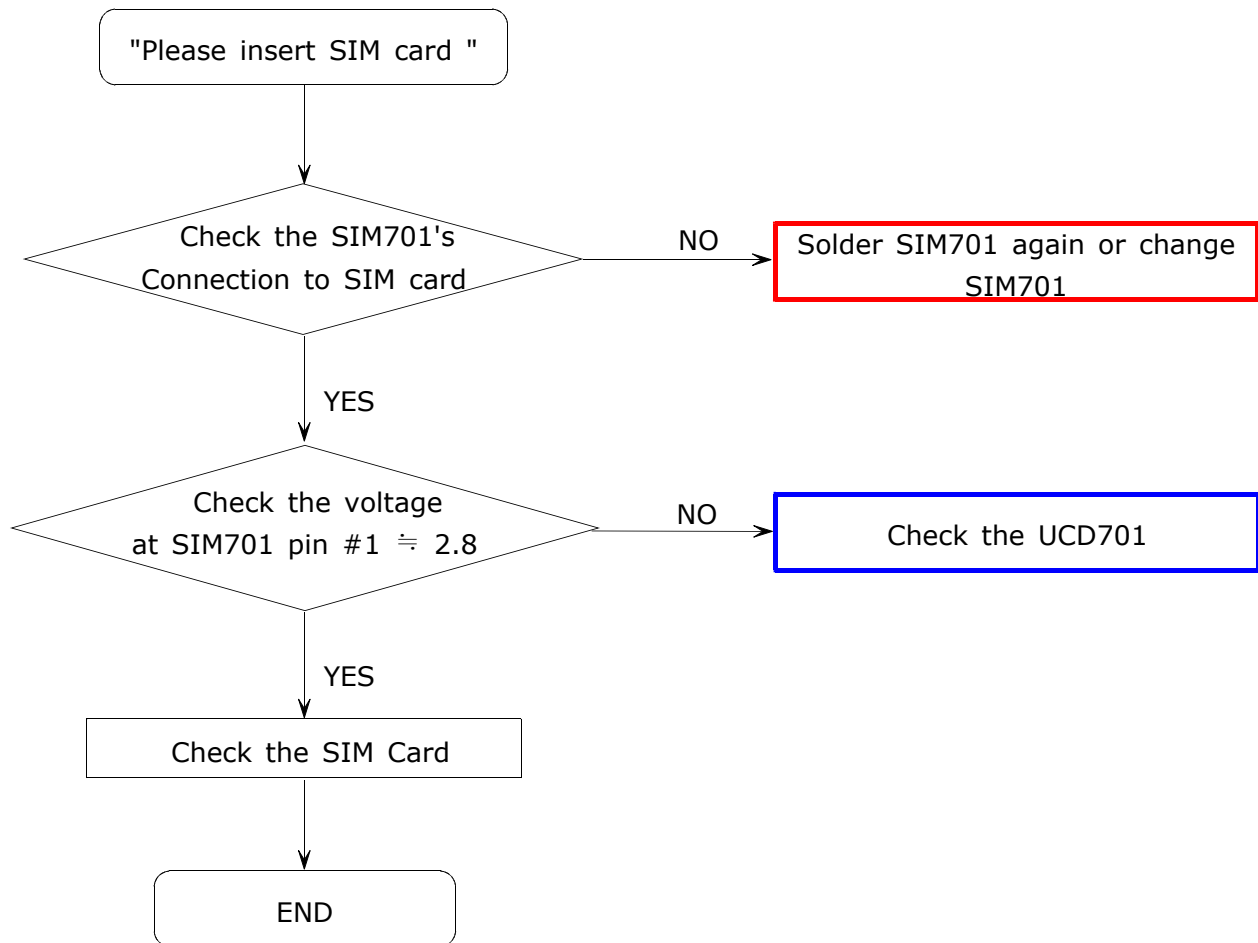


10-1-2. System Initial



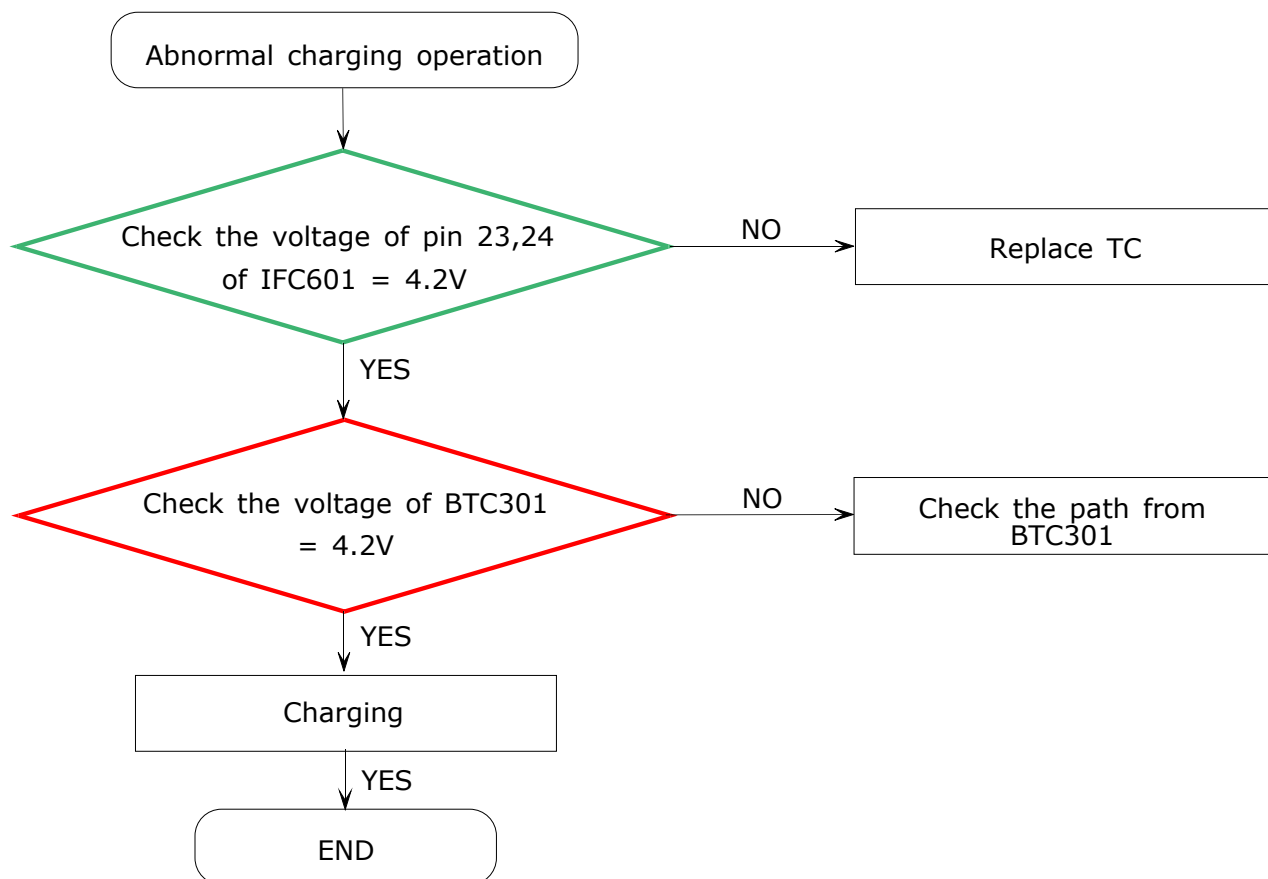


10-1-3. SIM Part

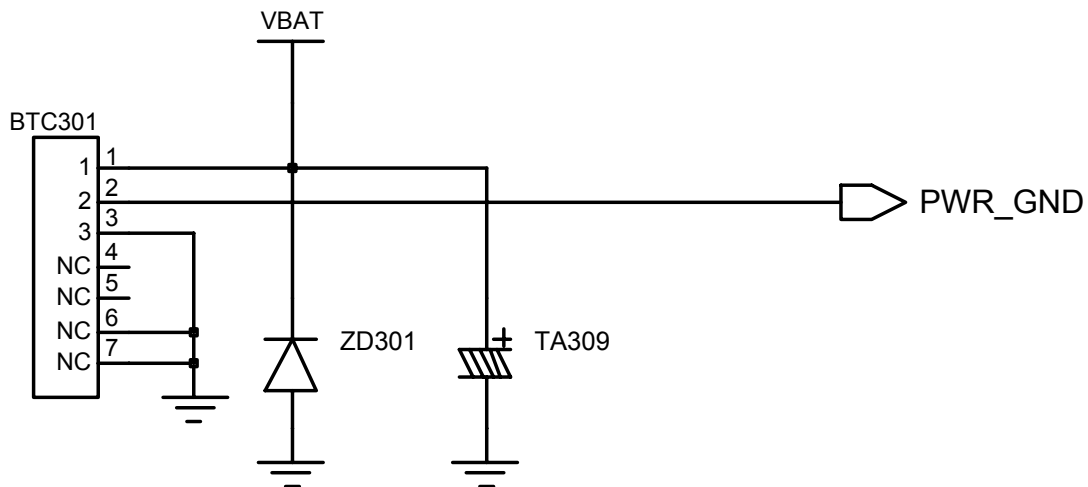
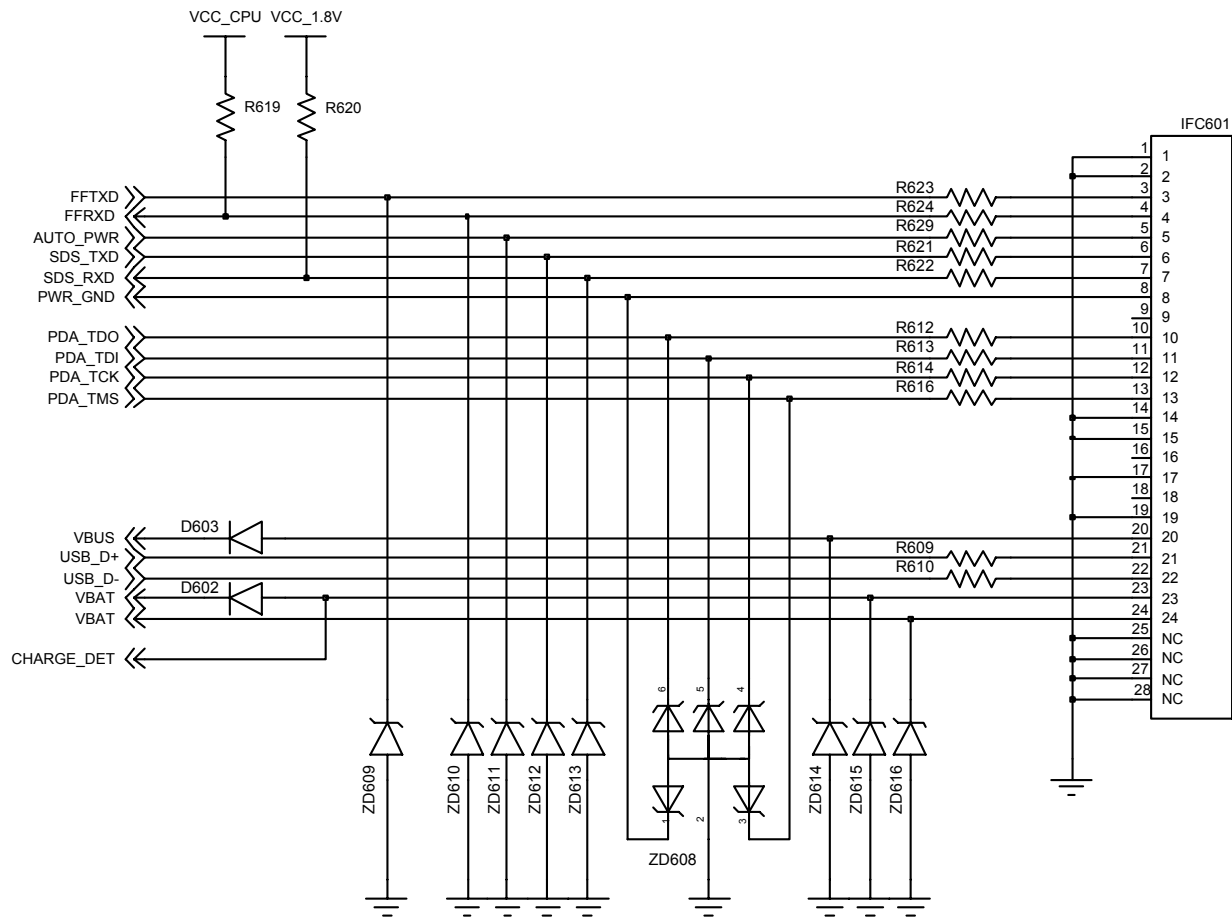


** Check SIM's signal
when you see SIM checking display

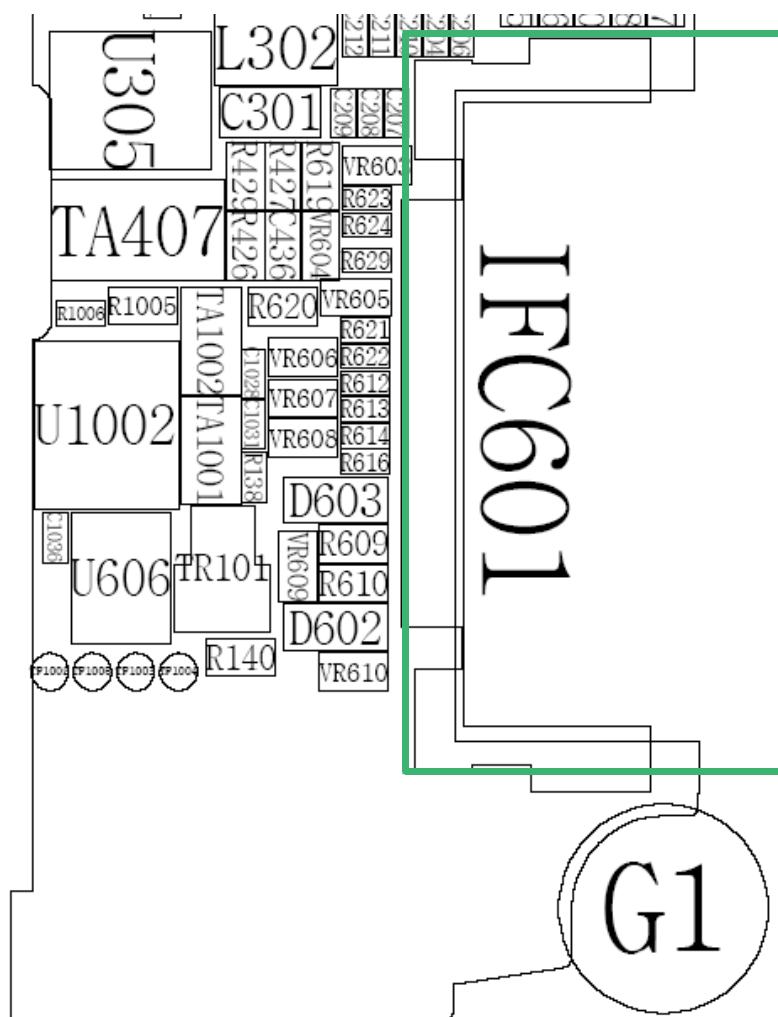
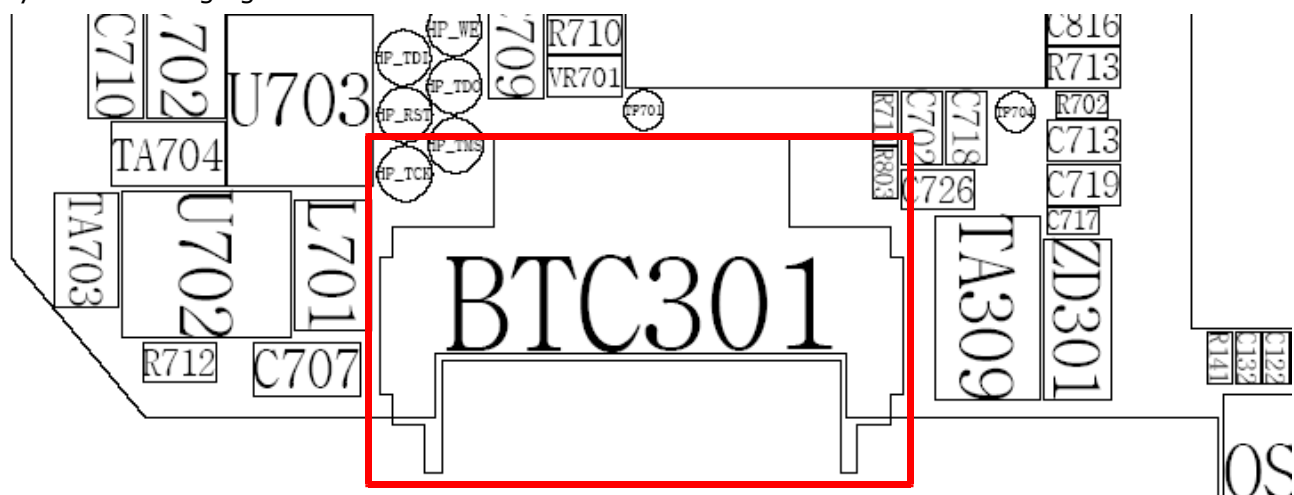
10-1-4. Charging Part

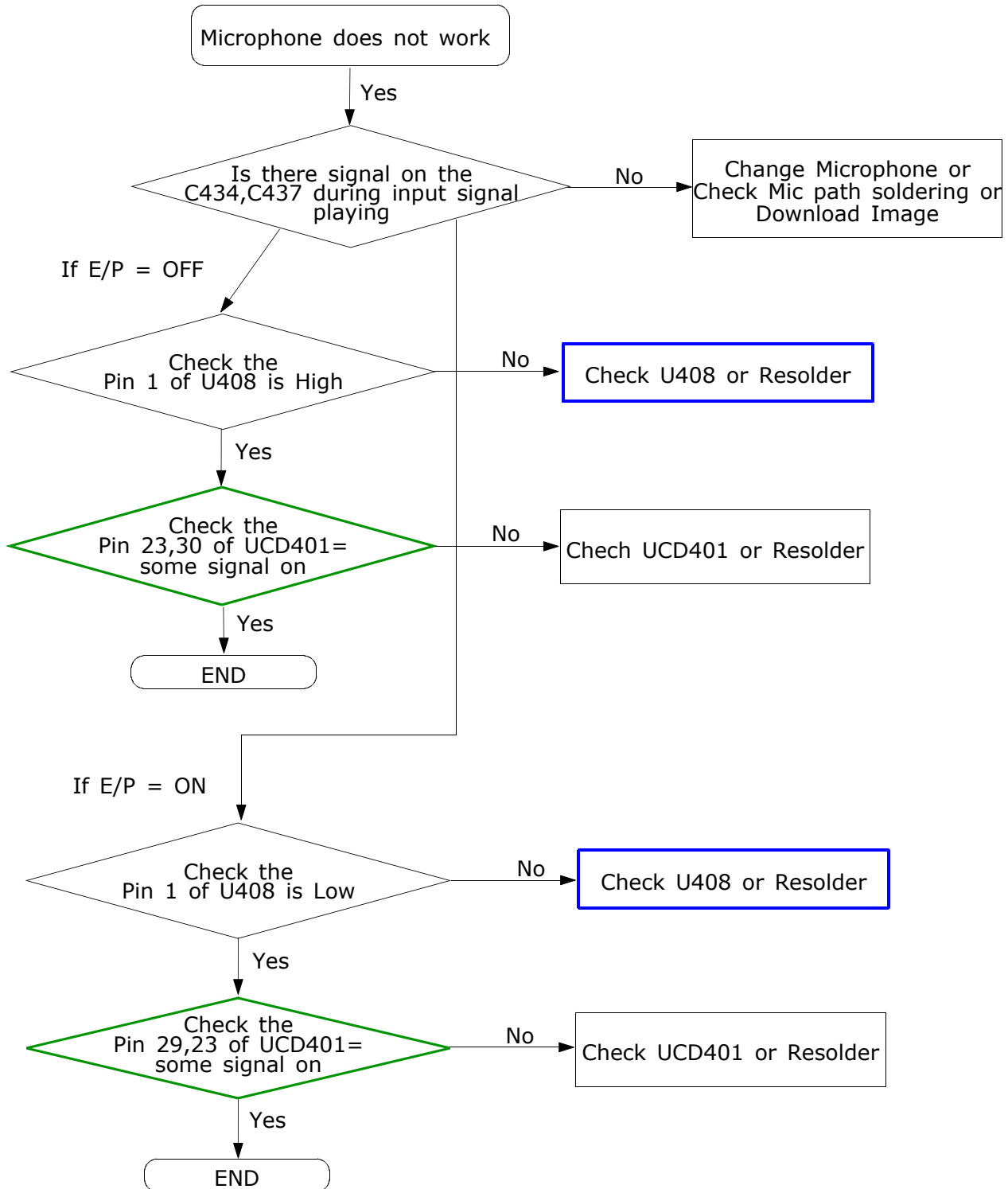


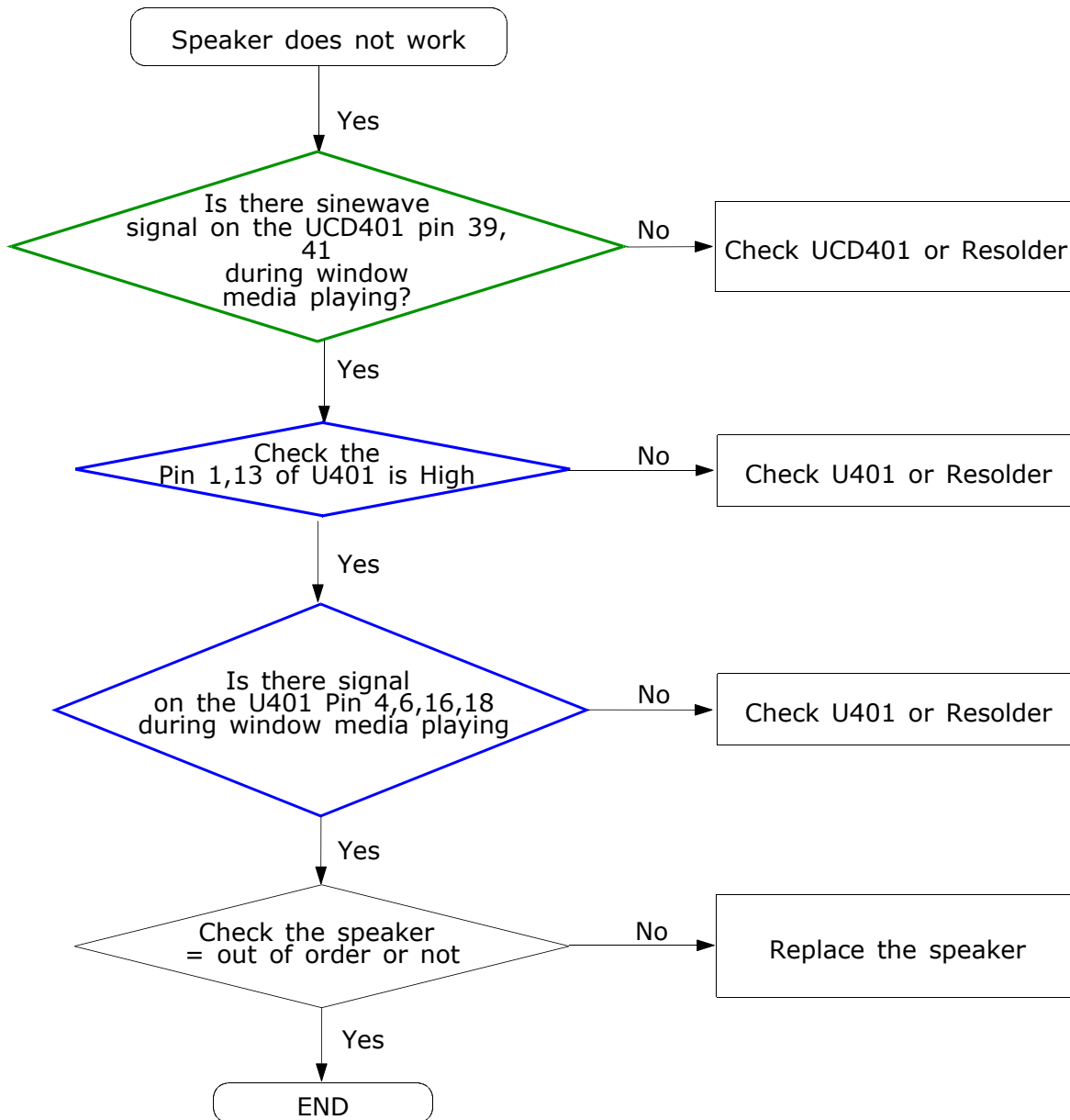
- Schematic for Charging



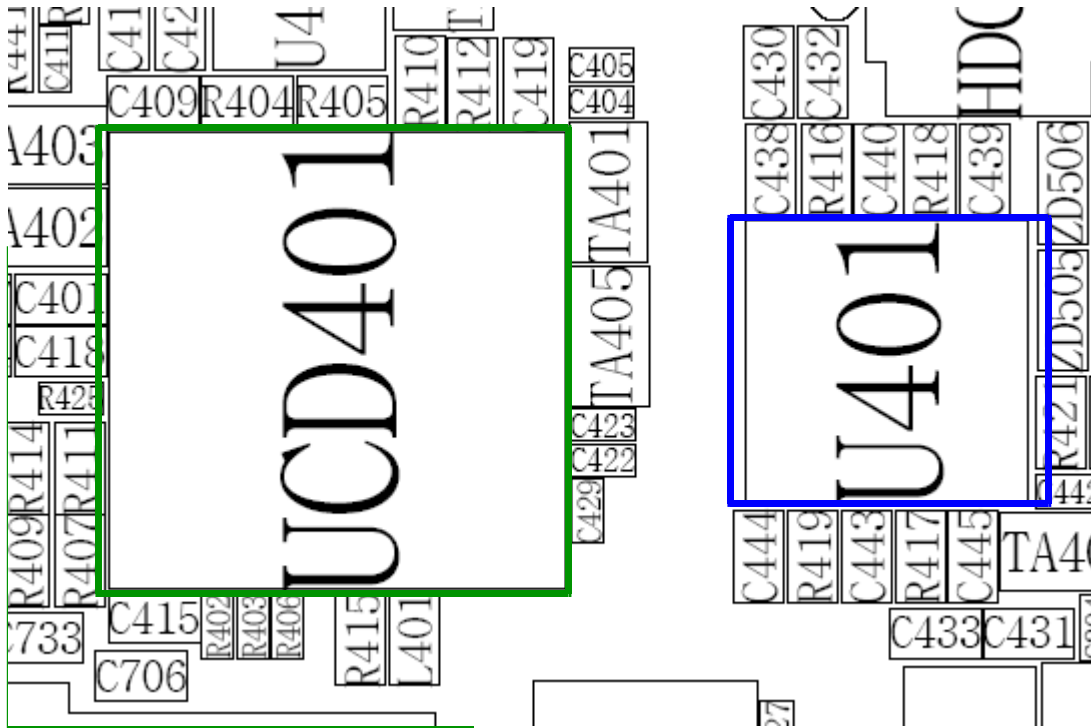
- Layout for charging

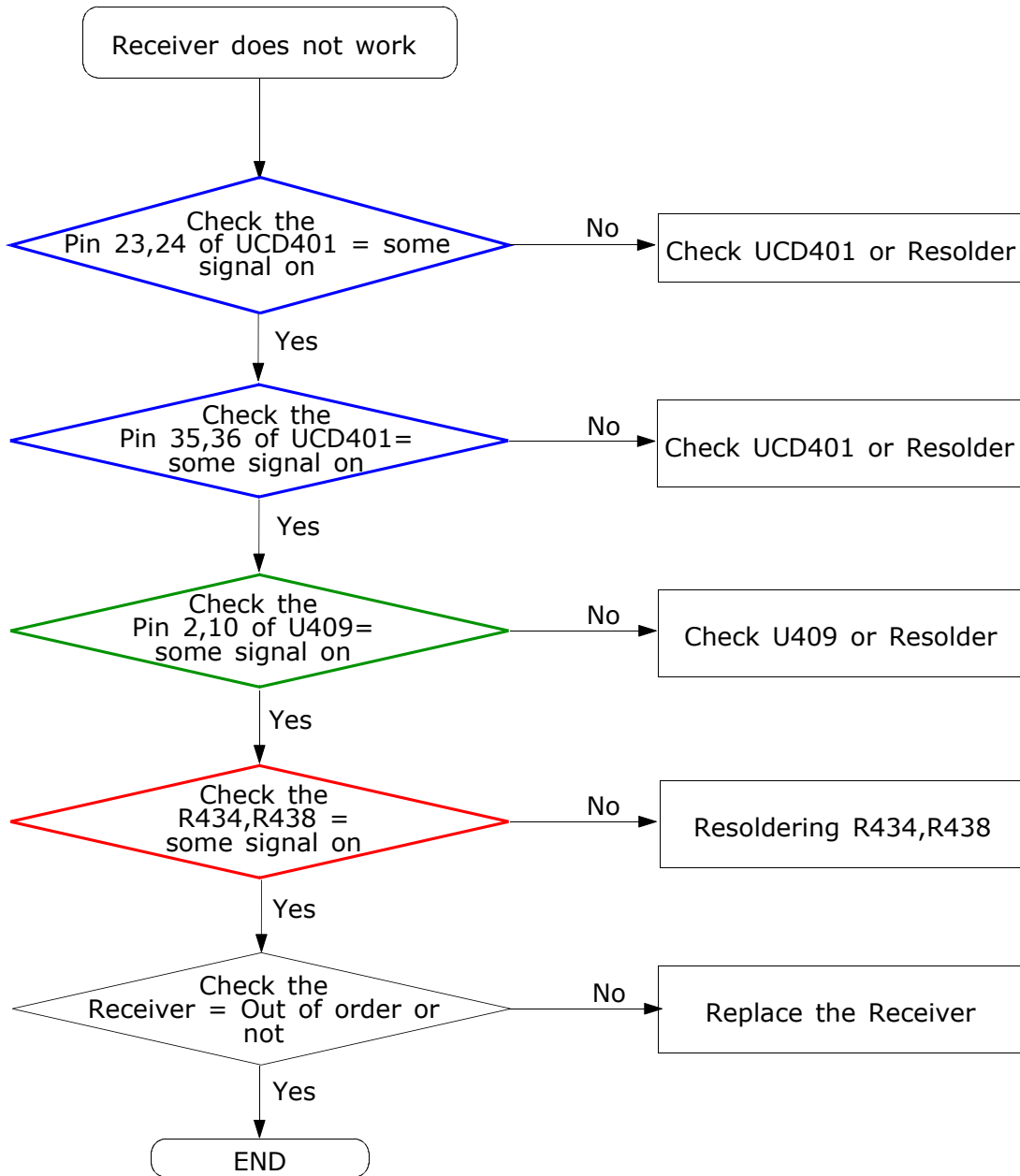


10-1-5. Microphone Part

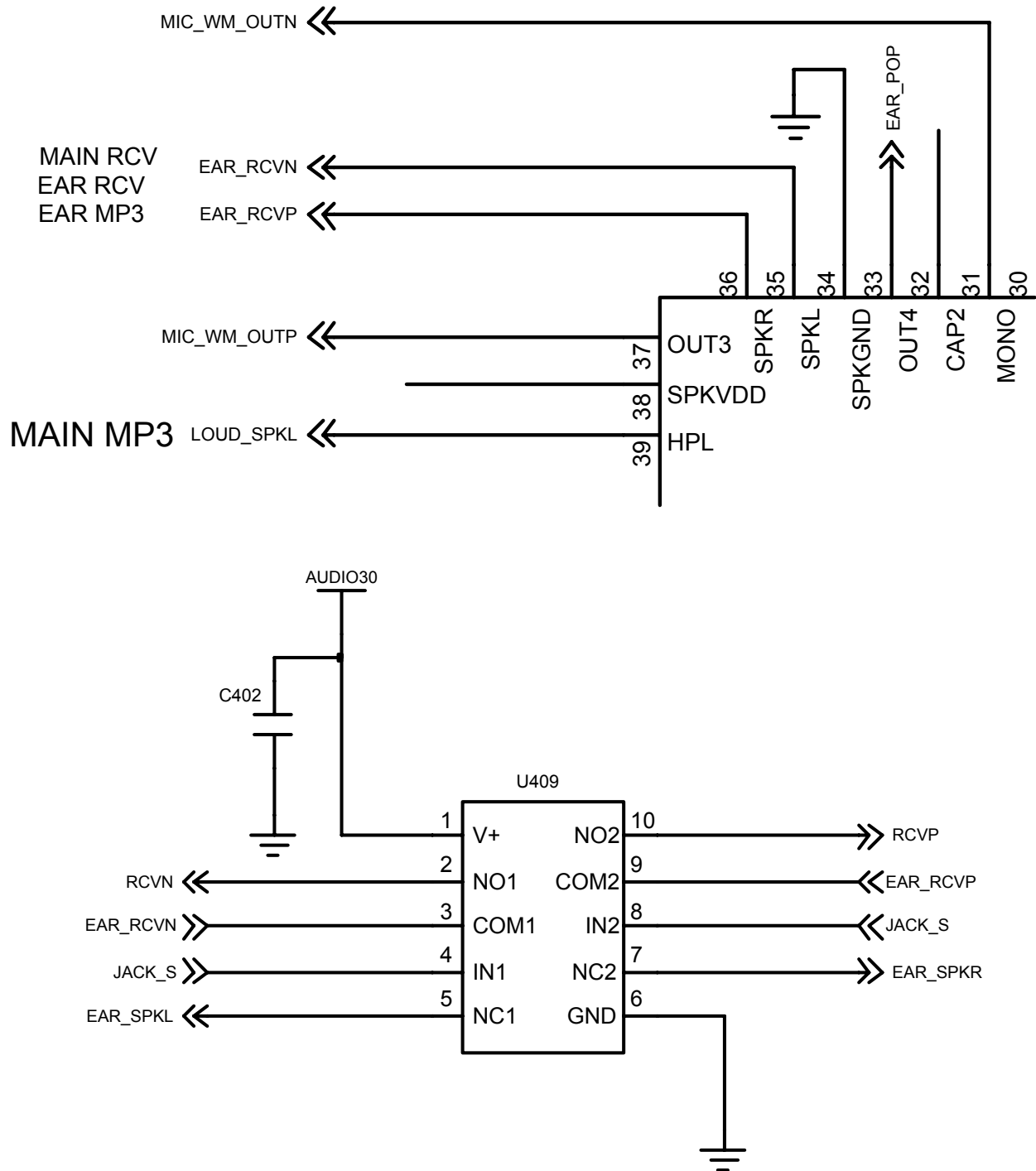
10-1-6. Speaker Part

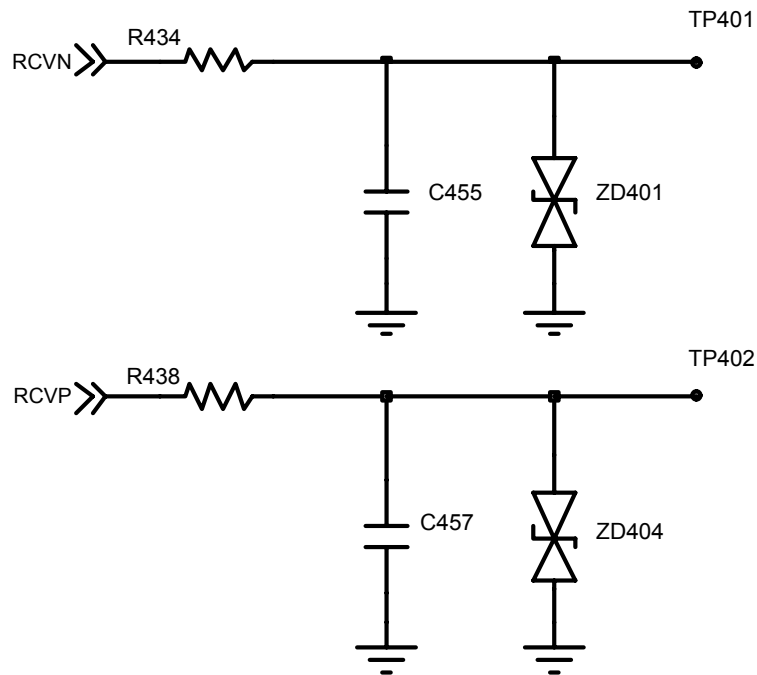
- Layout for Speaker Part



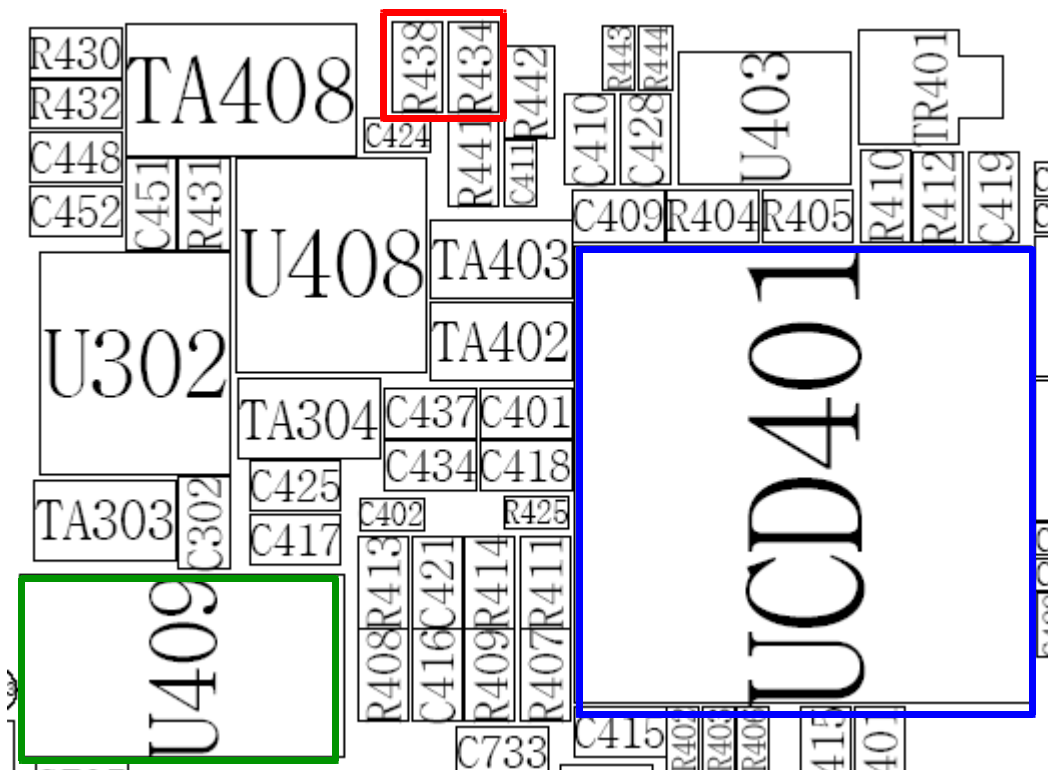
10-1-7. Receiver Part

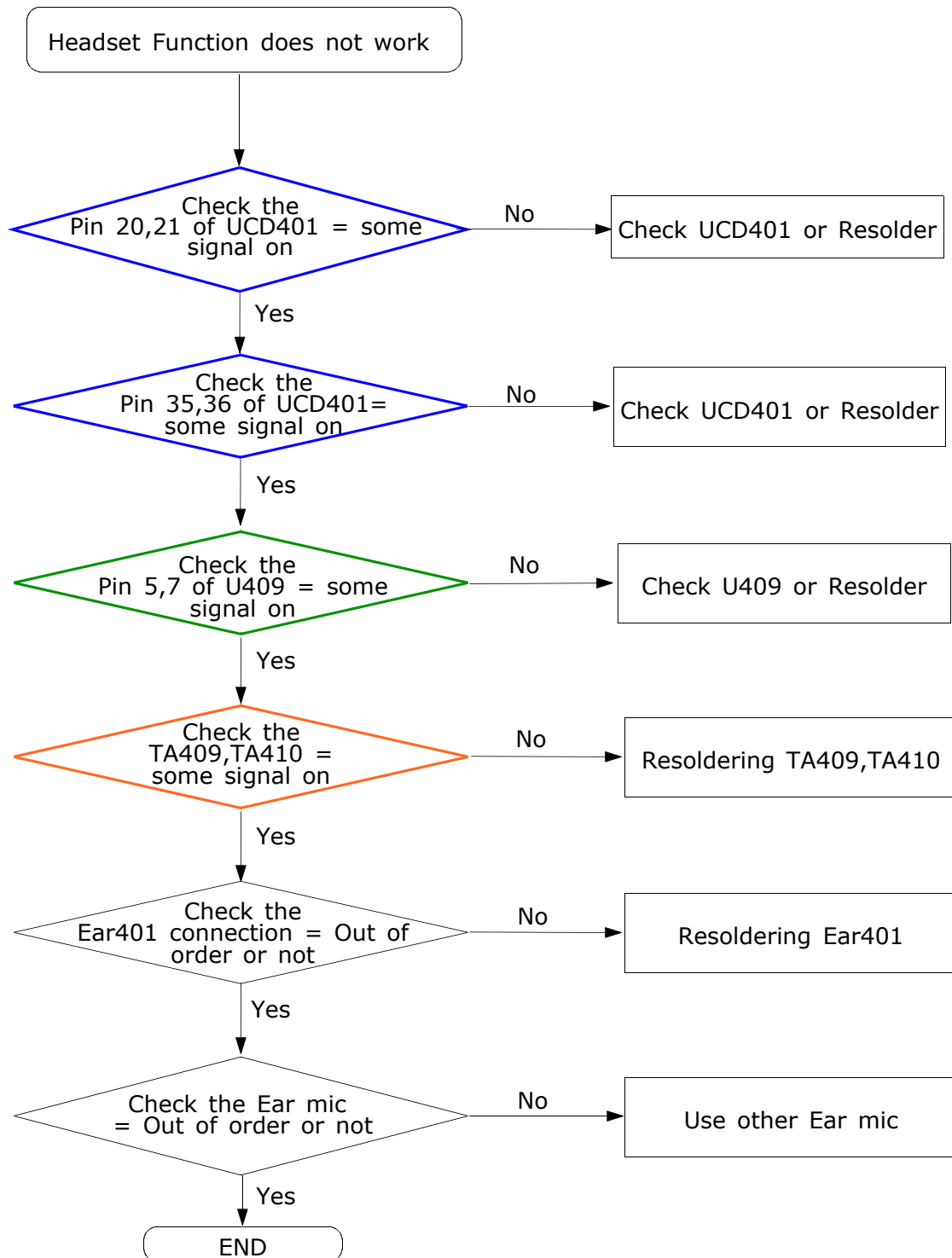
- Schematic for Receiver part

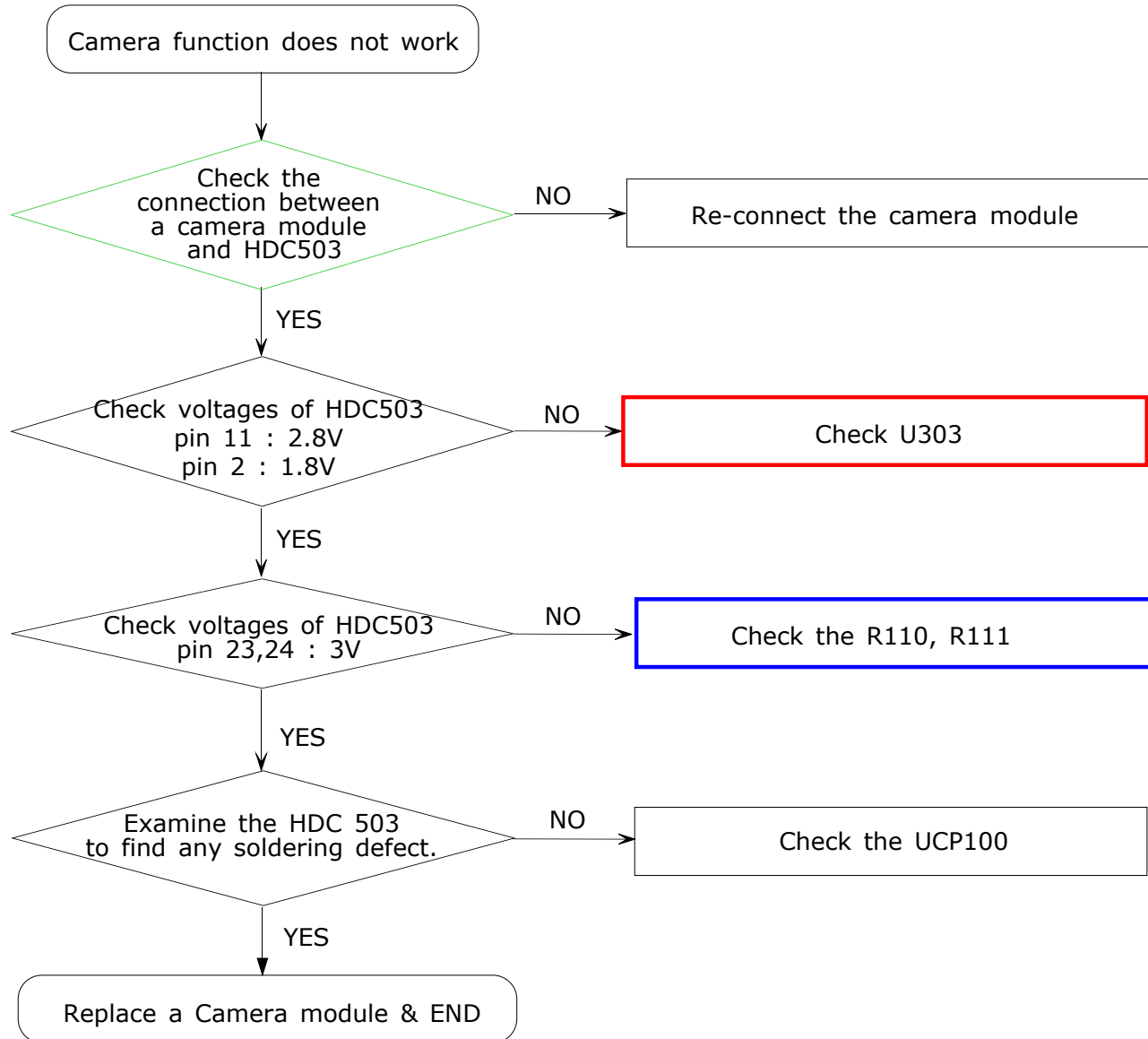




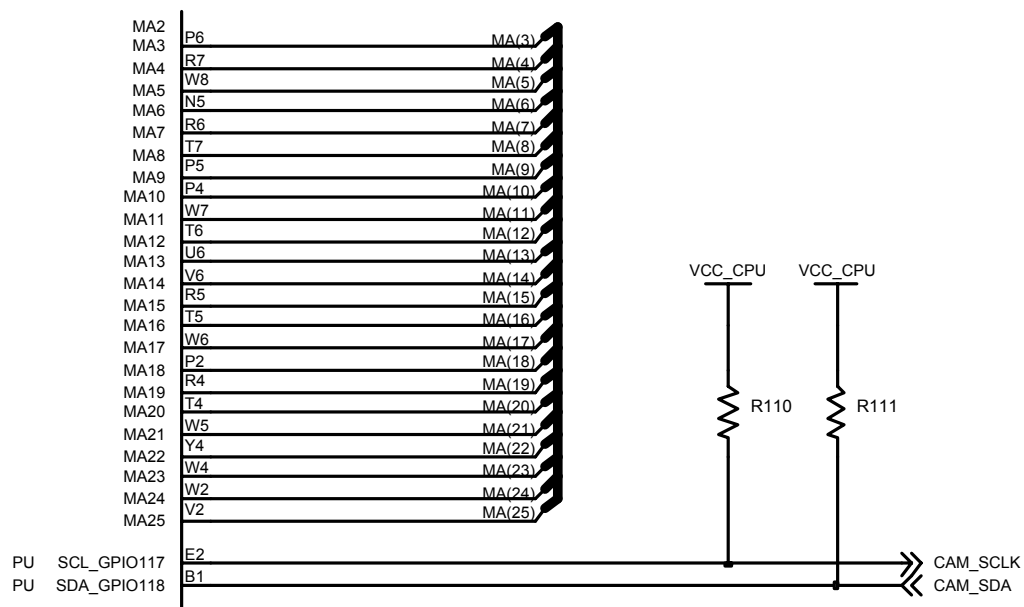
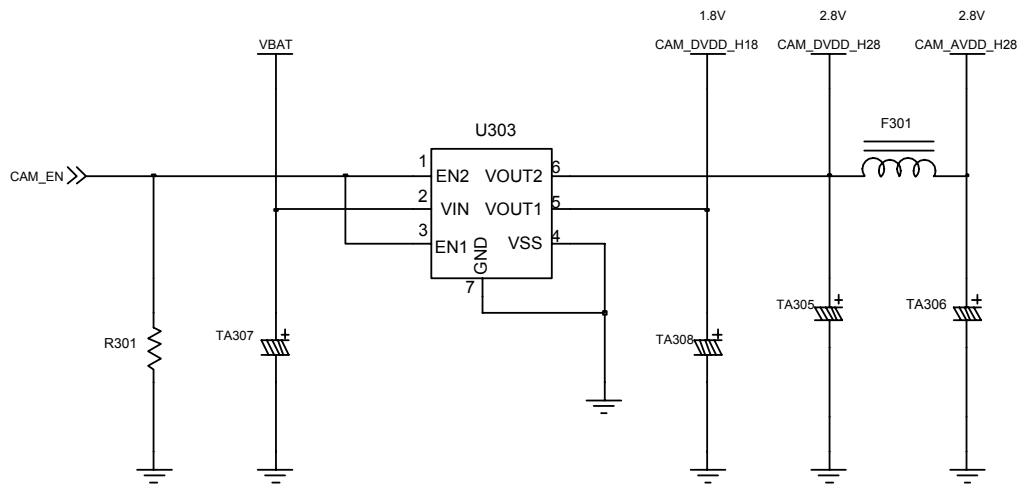
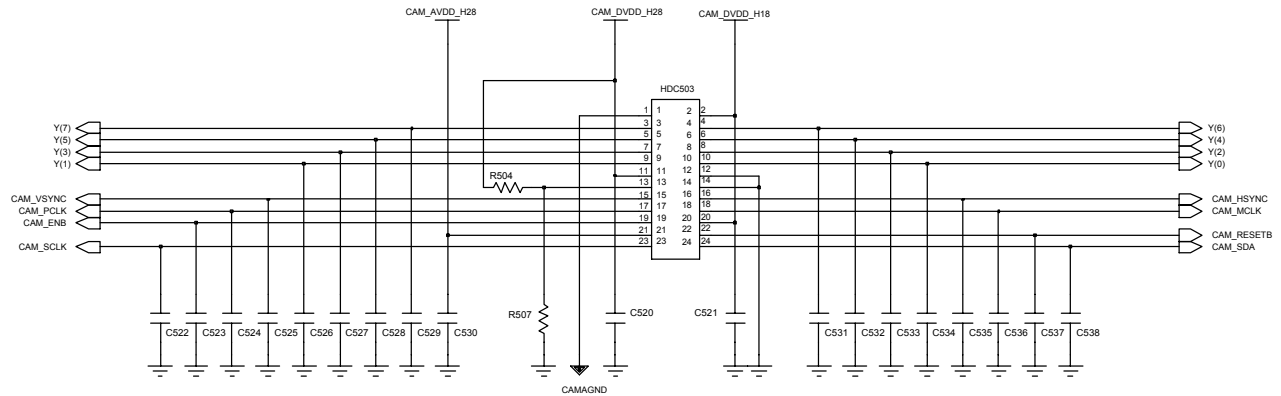
- Layout for Receiver Part



10-1-8. Headset Part

10-1-9. Camera Part (Mega and VGA)

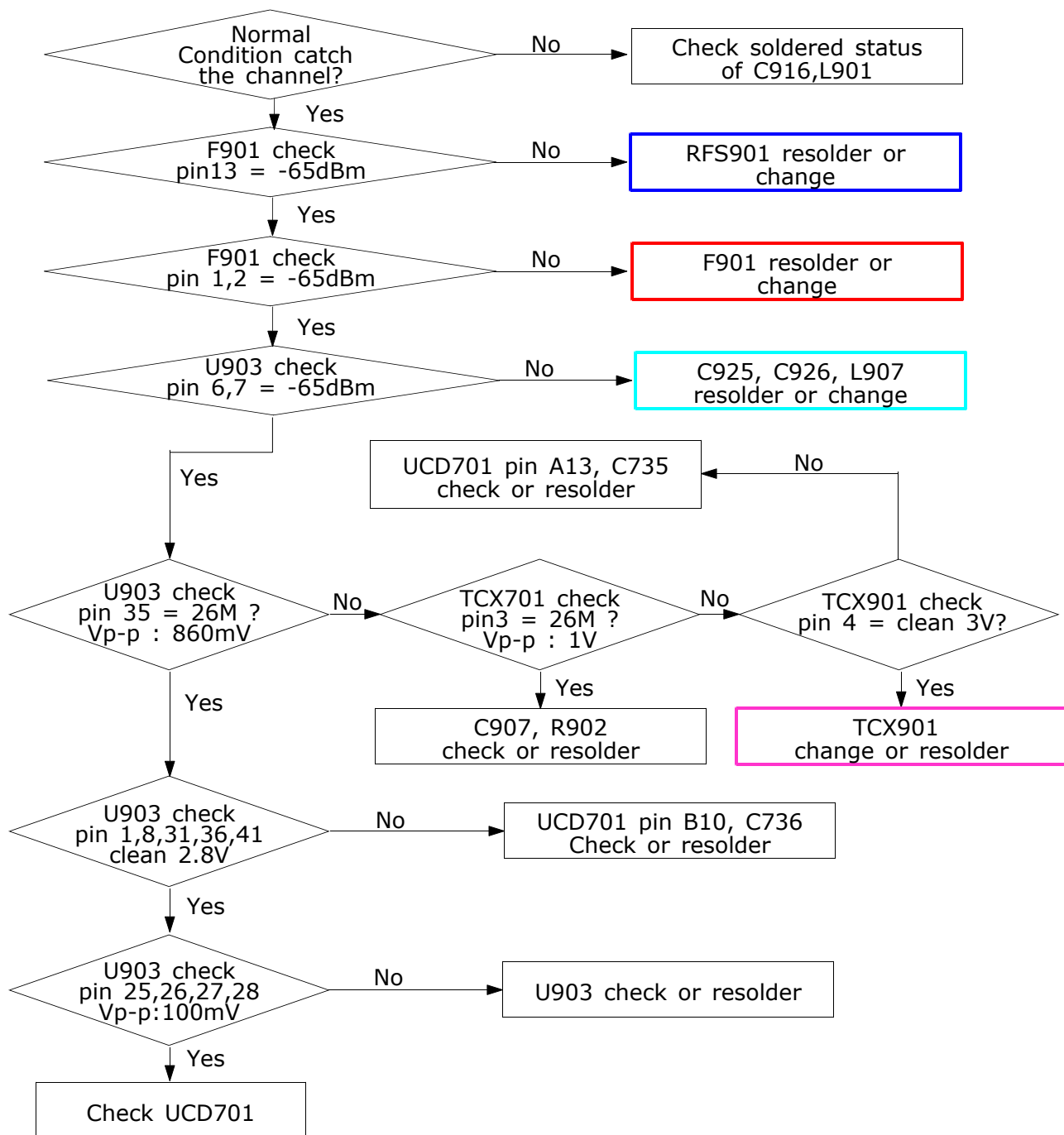
- Schematic for CAMERA



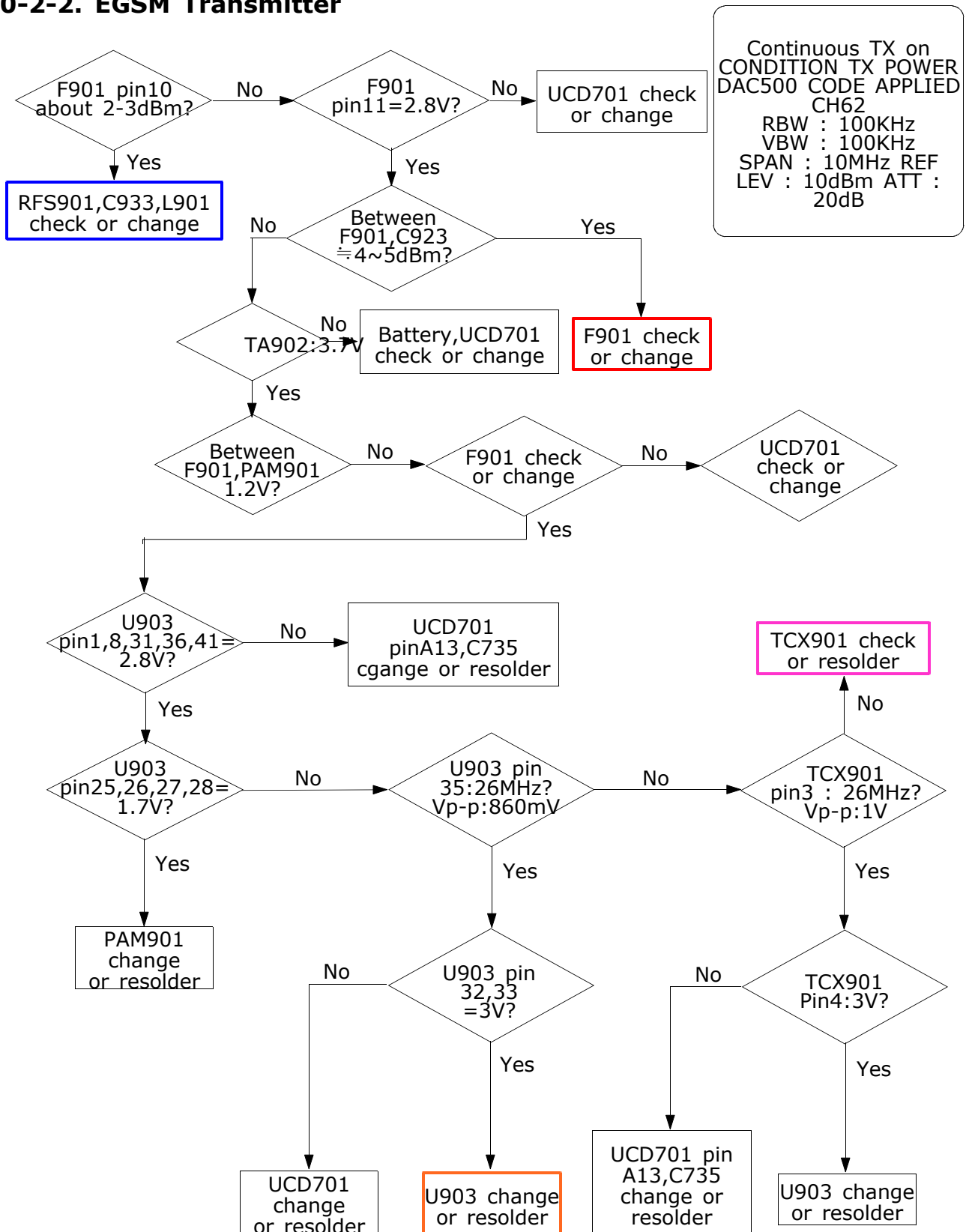
10-2.RF

10-2-1. EGSM Receiver

Continuous RX on
RFinput : 62CH AMP :
-50dBm

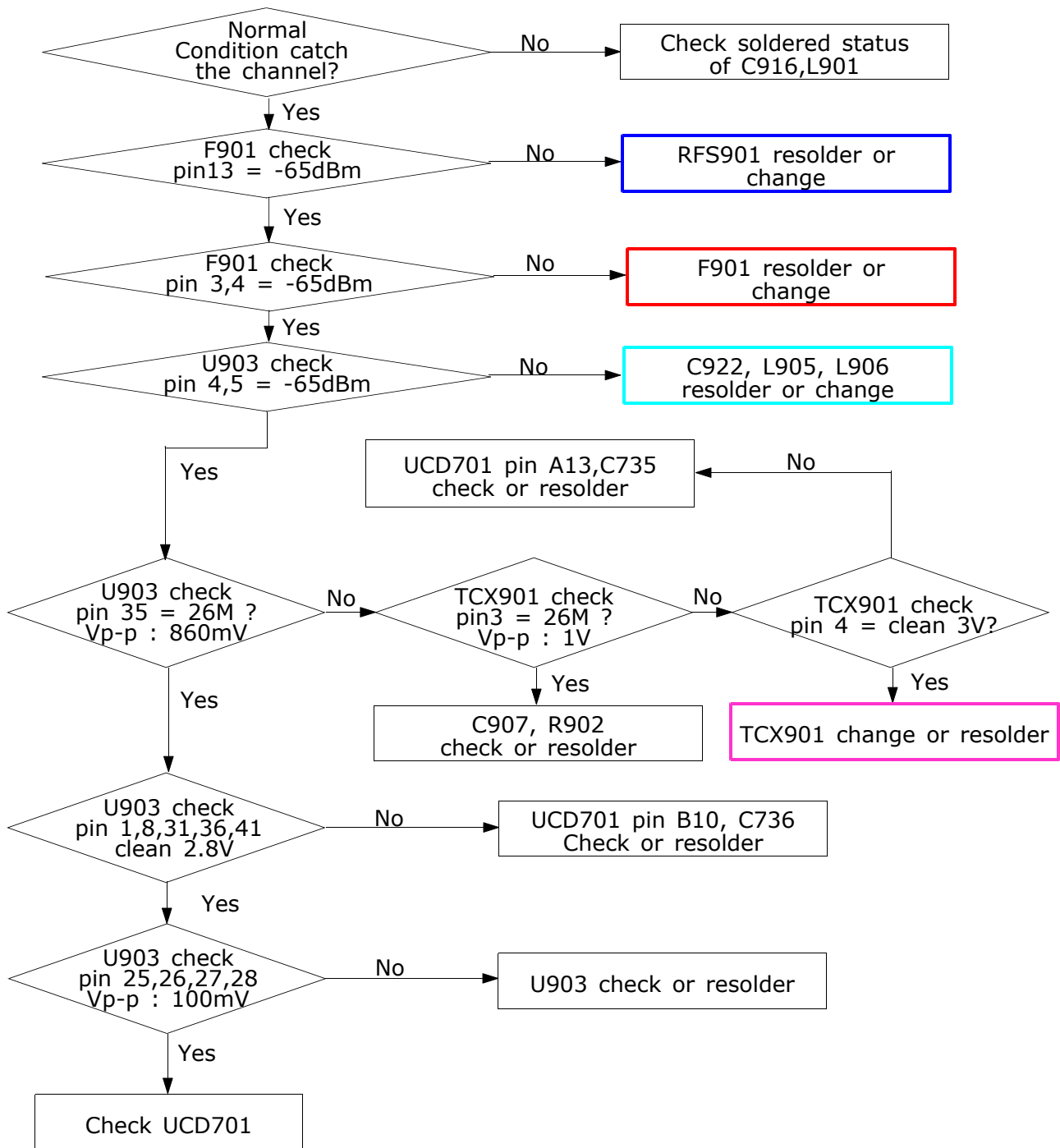


10-2-2. EGSM Transmitter



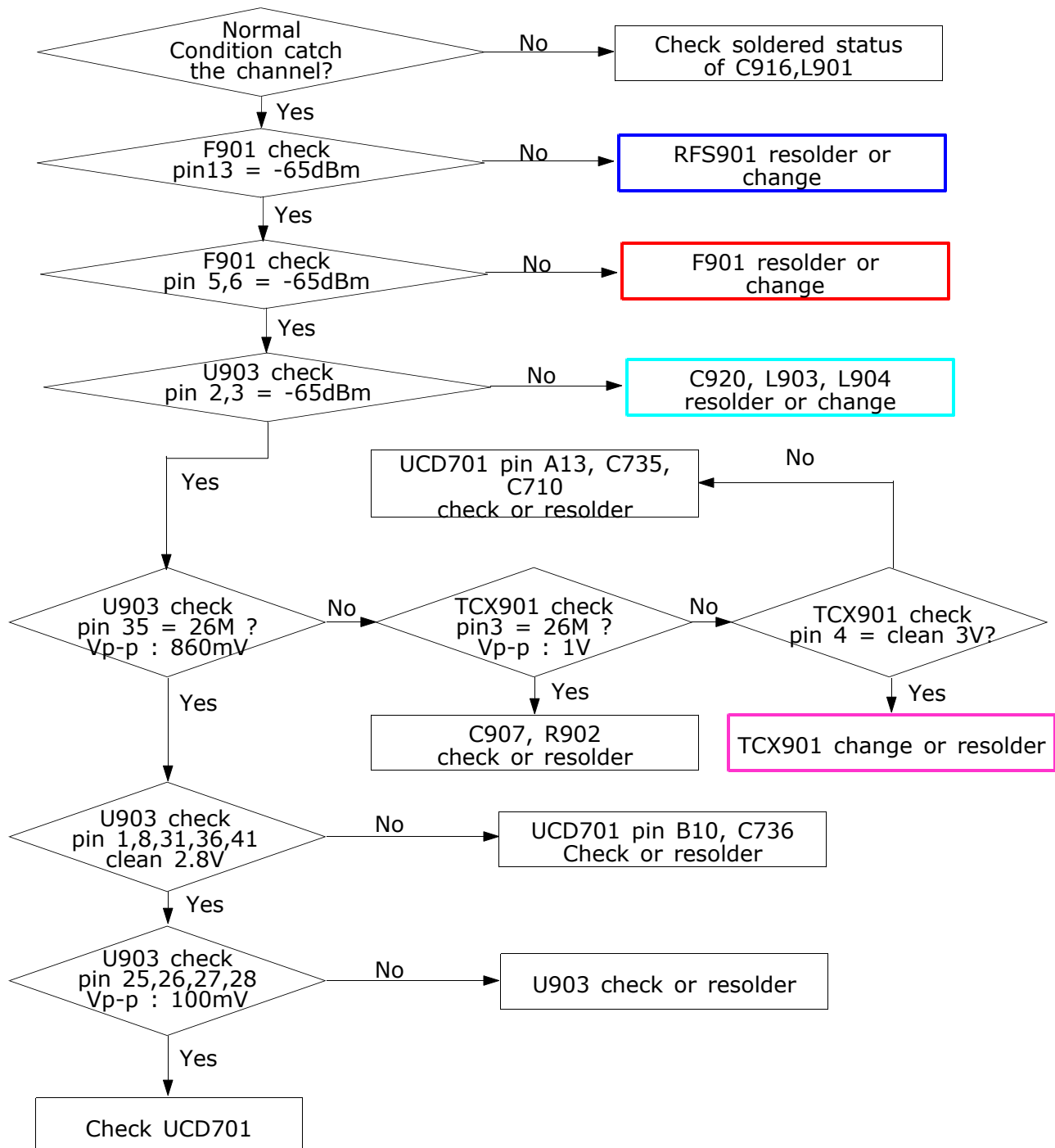
10-2-3. DCS Receiver

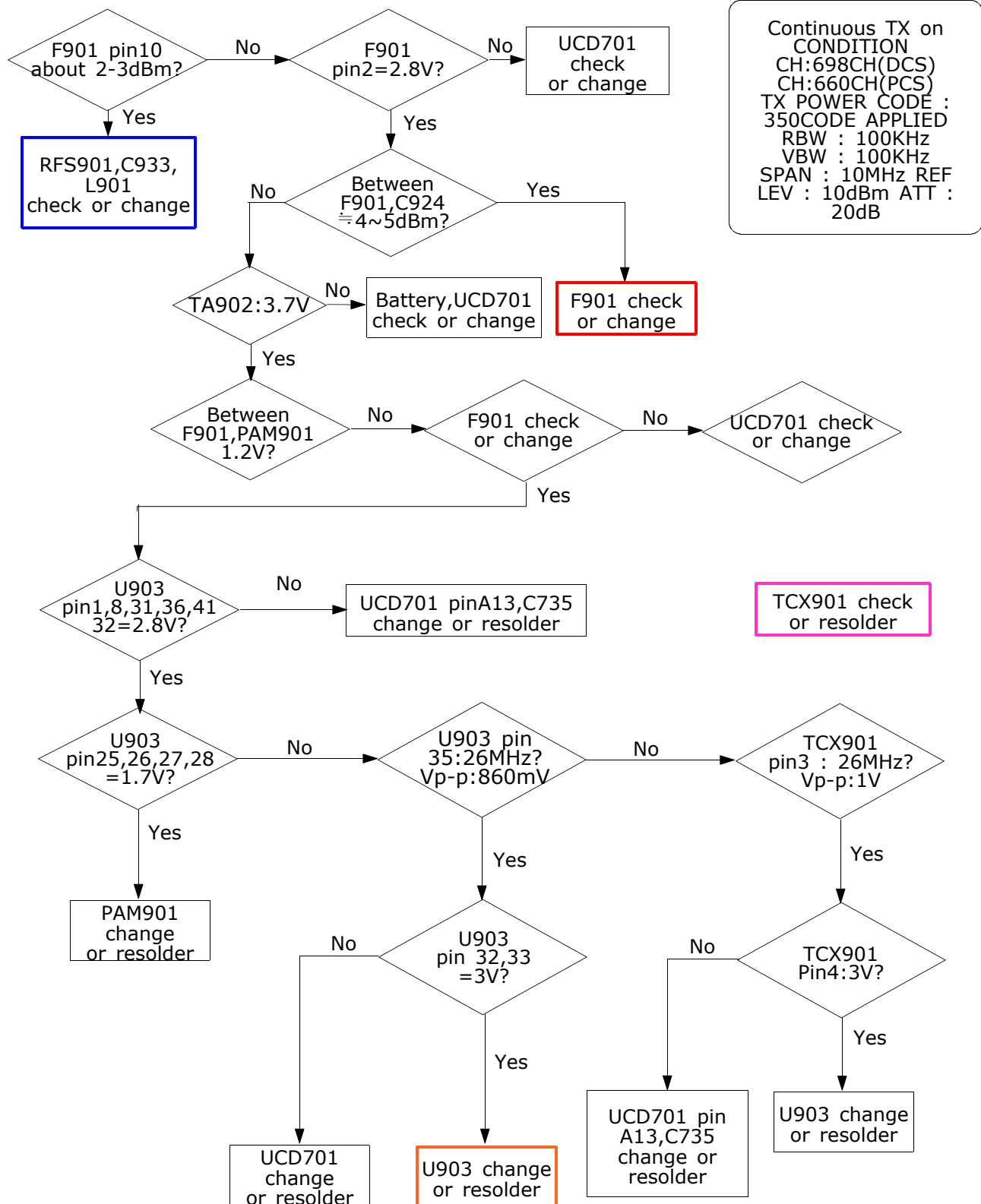
Continuous RX on
RFinut : 698CH AMP :
-50dBm



10-2-4. PCS Receiver

Continuous RX on
RFinput : 660CH AMP :
-50dBm

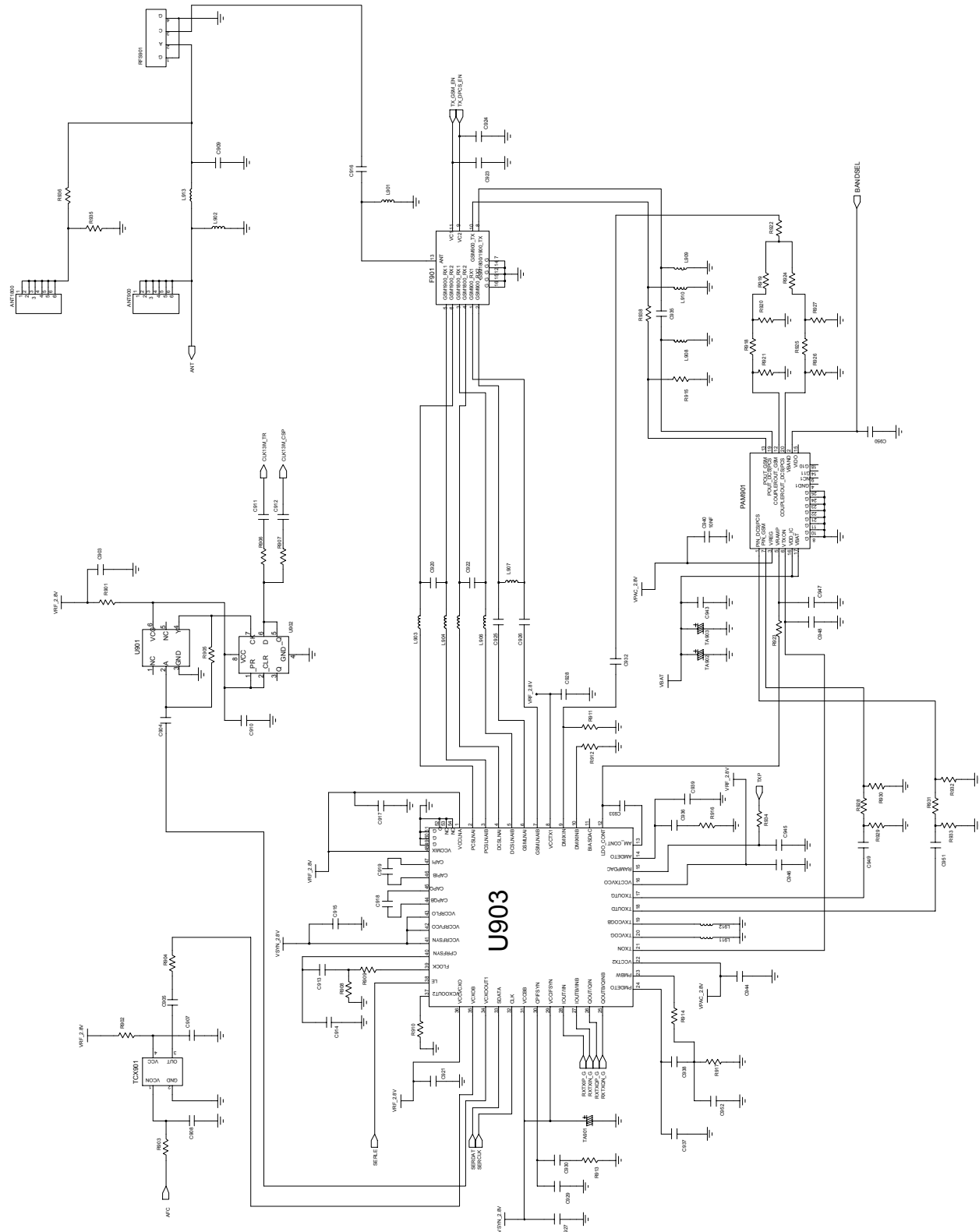


10-2-5. DCS, PCS Transmitter

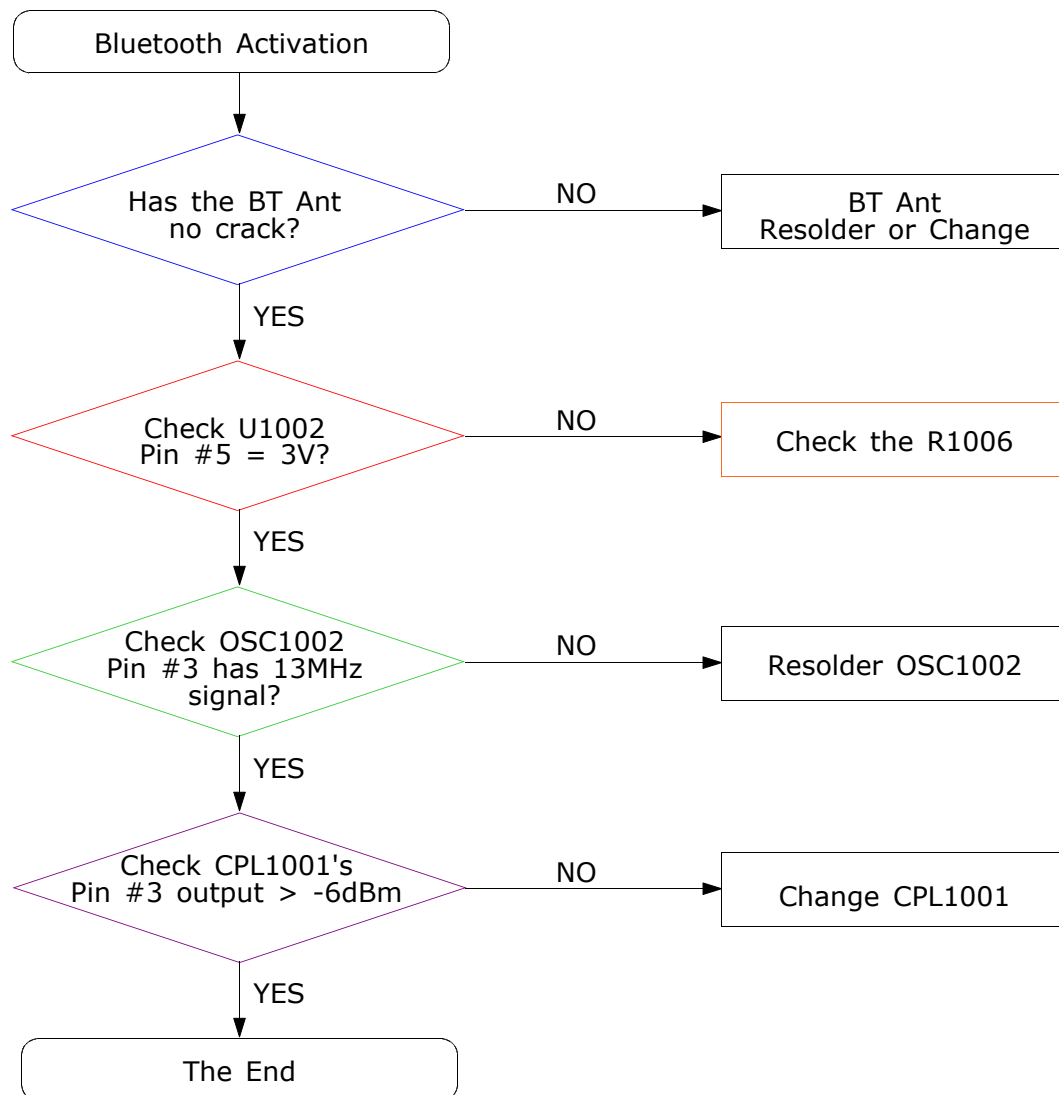
****If you check the tx chain,**

Check the not only RF Device but also resistor, inductor and capacitor.

-schematic for RF part



10-2-6. BLUETOOTH



11. Reference data

11-1. Reference Abbreviate

AAC: Advanced Audio Coding.

AVC : Advanced Video Coding.

BER : Bit Error Rate

BPSK: Binary Phase Shift Keying

CA : Conditional Access

CDM : Code Division Multiplexing

C/I : Carrier to Interference

DMB : Digital Multimedia Broadcasting

EN : European Standard

ES : Elementary Stream

ETSI: European Telecommunications Standards Institute

MPEG: Moving Picture Experts Group

PN : Pseudo-random Noise

PS : Pilot Symbol

QPSK: Quadrature Phase Shift Keying

RS : Reed-Solomon

SI : Service Information

TDM : Time Division Multiplexing

TS : Transport Stream

**SAMSUNG
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