SAMSUNG

GSM TELEPHONE
SGH-P900

SERVICE Manual

GSM TELEPHONE

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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 disassembing 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 easilly 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 General Specification

		GSM 900	DCS1800	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	GPRS	270.833 Kbps 3.692 us	270.833 Kbps 3.692 us	270.833 Kbps 3.692 us
	EDGE	812.5 Kbps 3.692 us	812.5 Kbps 3.692 us	812.5 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	GPRS	0.3 GMSK	0.3 GMSK	0.3 GMSK
	EDGE	8 PSK	8 PSK	8 PSK
MS Power	GPRS	33 dBm~5 dBm	30 dBm~0 dBm	30 dBm~0 dBm
	EDGE	27~5 dBm	26~0 dBm	26~0 dBm
Power Level	GPRS	5 pcl~19 pcl	0 pcl~15 pcl	0 pcl~15 pcl
	EDGE	8~19(class E2)	2~15(class E2)	2~15(class E2)
Sensitivity		-102 dBm	-100 dBm	-102 dBm
TDMA Mux		8	8	8
Cell Radius		35 Km	2 Km	2 Km

2-2. GMSK TX power Level

TX Power control level	GSM900
5	33±2 dBm
6	31±3 dBm
7	29±3 dBm
8	27±3 dBm
9	25±3 dBm
10	23±3 dBm
11	21±3 dBm
12	19±3 dBm
13	17±3 dBm
14	15±3 dBm
15	13±3 dBm
16	11±5 dBm
17	9±5 dBm
18	7±5 dBm
19	5±5 dBm

TX Power control level	DCS1800
0	30±2 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

TX Power control level	PCS1900
0	30±2 dBm
1	28±3 dBm
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

2-3. EDGE TX Power Level

TX Power control level	GSM850
8	27±3 dBm
9	25±3 dBm
10	23±3 dBm
11	21±3 dBm
12	19±3 dBm
13	17±3 dBm
14	15±3 dBm
15	13±3 dBm
16	11±5 dBm
17	9±5 dBm
18	7±5 dBm
19	5±5 dBm

TX Power control level	DCS1800
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

TX Power control level	PCS1900
2	26±3 dBm
3	24±3 dBm
4	22±3 dBm
5	20±3 dBm
6	18±3 dBm
7	16±3 dBm
8	14±3 dBm
9	12±4 dBm
10	10±4 dBm
11	8±4 dBm
12	6±4 dBm
13	4±4 dBm
14	2±5 dBm
15	0±5 dBm

3. Product Function

Main Function

-Digital Multimedia Broadcasting(DMB)
-Camera and camcorder
-Music player
-Bluetooth
-Phone to TV
-Web browser
-File viewer
-Java
-Multimedia Message Service(MMS)
-E-mail

4. Array course control

Test Jig (GH80-03307A)

Test Cable (GH39-00127A)

RF Test Cable (GH39-00397A)

4-1. Downloading Binary Files (1)

•Swift Model firmware is composed of 2 files

–*.s3 : Main source binary.

–*.cts : Default Contents Files

•Downloading program There are two kinds of Downloader – single downloader, multi downloader

–S/W for downloading firmware (binary images) to the Swift Model

–No need to install the S/W. Just unzip the compressed file or copy it.

–Totally 8 mobiles can be downloaded at the same time (in case of multi downloader)

•Prerequisite

Downloader (Single or Multi downloader)

The firmware

Data Cable

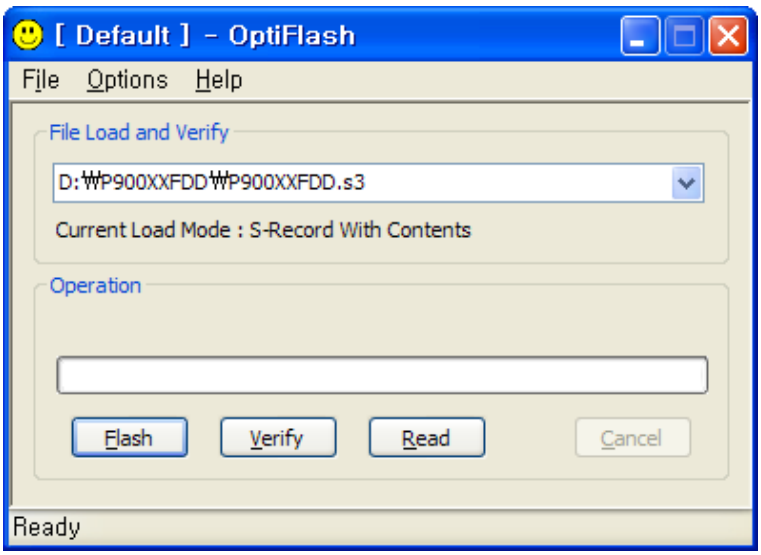
4-2. Single Downloader

•HowToDo

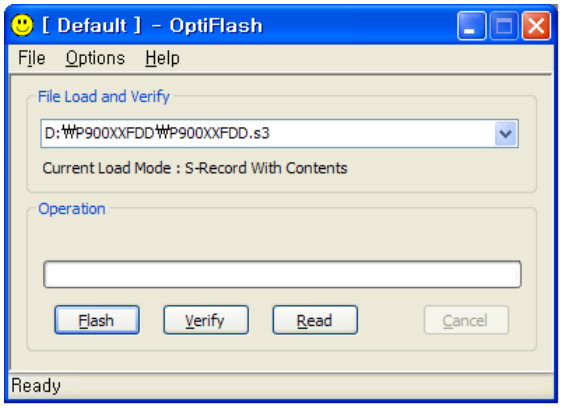
1. Prepare 2 files which are explained before this procedure.
2. Execute the downloading SW, Optiflash for SGH-P900
3. Press '*' and Press Power Button.
4. Press Options - Settings Menu.
5. Set 'Specify hardware platform'.
6. Set COM Port & Max. transfer speed.
7. Set default contents file settings & Select default contents file.
8. Select binary file.
9. Press 'OK'
10. Press 'Flash' button.

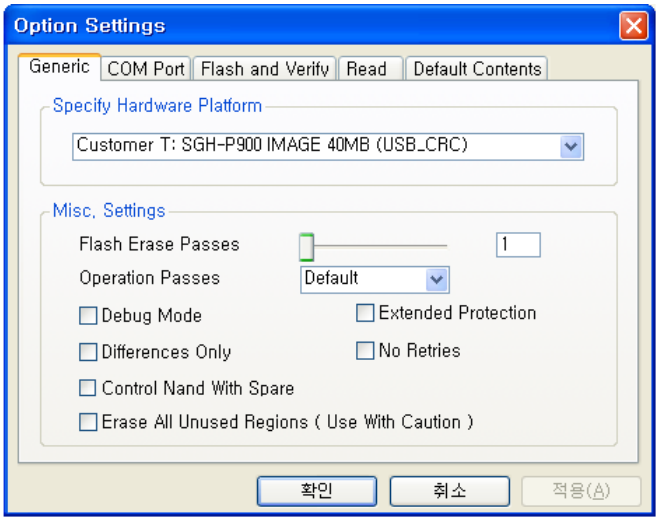
4-3. HOW TO USE Download

Upload the downloader by double-clicking the"Optiflash.exe"

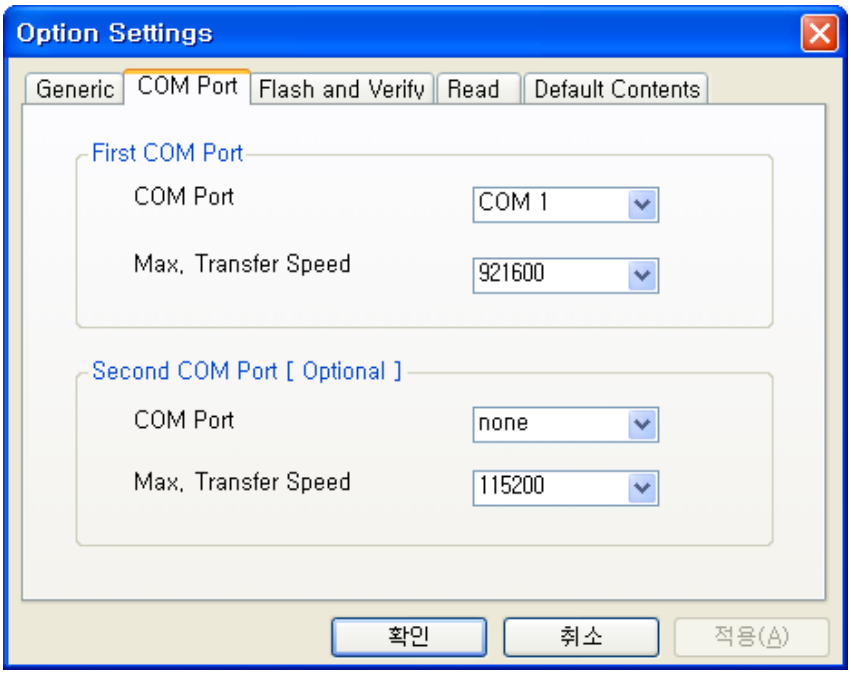


Select the"Options" -> "Settings" -> "Generic" -> "Specify hardware platform".
Choose hardware platform for the downloader file setting.
Set the everything else as the default values which are shown below
'Customer T: SGH-P900 IMAGE 40MB (USB_CRC)'



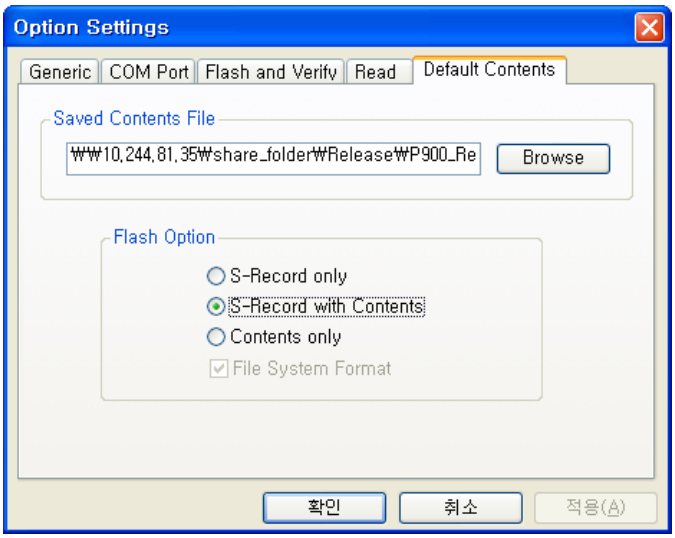


Select the COM port where the download cable is connected

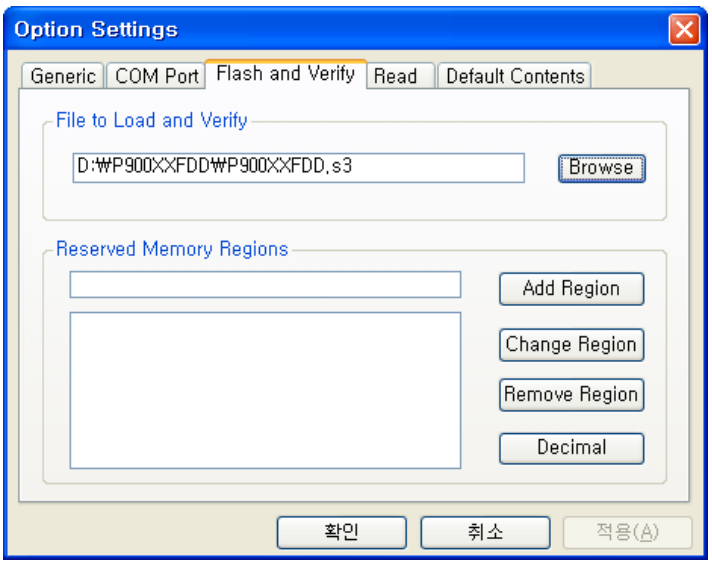


Up to eleven ports are supported. Additionally you can select the maximum transfer speed Optiflash will use to communicate with the phone. However, Optiflash will use a slower speed if either the PC's or the phone's serial hardware is incapable of handling the selected speed.

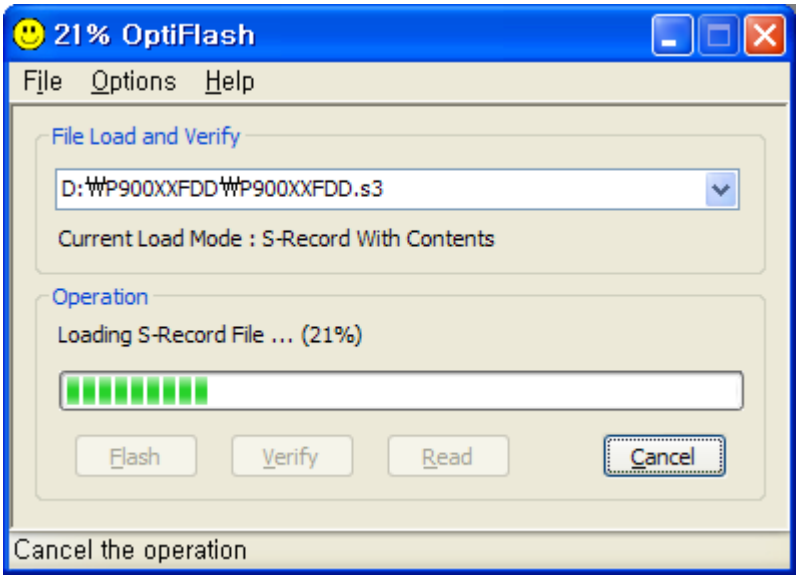
Select the “Default Contents” -> “Browse”
Set the directory path and choose
the default contents file, for example “P900_DC.cts”,
for the downloader default contents file save.
And Select “Flash Option” -> “S-Record with Contents”.



Select the“Flash&Verify” -> “Browse”
Set the directory path and choose
the latest s/w binary, for example “P900XXFDD.s3”,
for the downloader binary setting.



Click "OK" button then press "Flash".
Power on mobile phone with battery or charger.
Downloader will upload the binary file as below for the downloading.



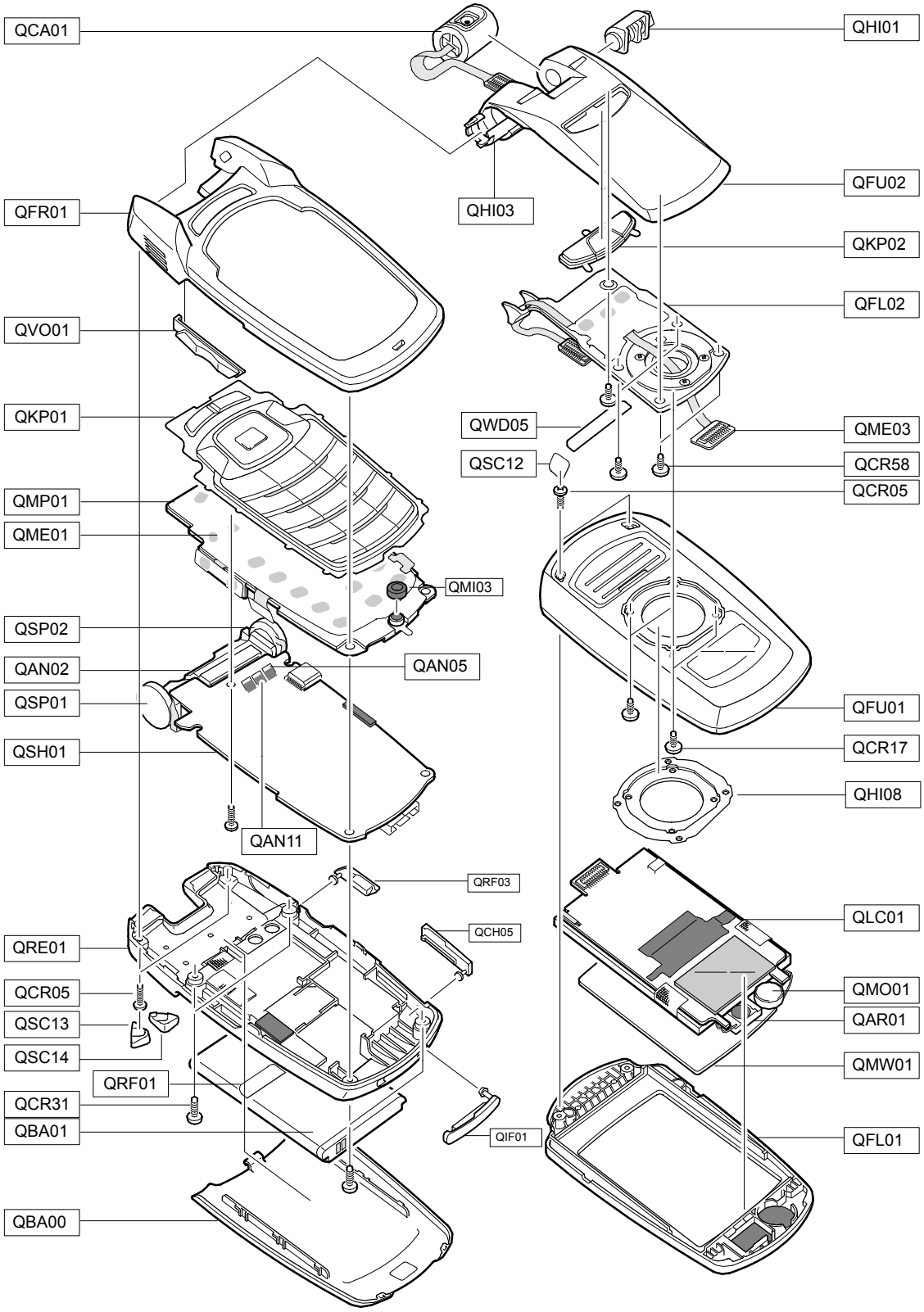
When downloading is finished successfully,
there is a "All is well" message.

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

Confirm the downloaded version name by key-string(***#5002#8376263#**)
Memory reset will be done by pressing the following key-strings.
Full Reset : "***2767*3855#**" will reboot the phone automatically.

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-SGHP900	GH42-00793A
QAN05		MEC-INTENNA CONTACT	GH75-08168A
QAN11		ASSY-CUSHION-CUSHION RUBBER IN	GH98-01077A
QAR01		AUDIO-RECEIVER	3009-001197
QBA00		ASSY-CASE-BATTERY	GH98-00727B
QBA01		INNER BATTERY PACK-1000MAH,BLA	GH43-02018A
QCA01		UNIT-CAMERA	GH59-02734A
QCH05		PMO-T FLASH COVER	GH72-26714B
QCR05		SCREW-MACHINE	6001-001478
QCR17		SCREW-MACHINE	6001-001460
QCR31		SCREW-MACHINE	6001-001795
QCR58		SCREW-MACHINE	6001-001870
QFL01		MEC-FOLDER LOWER SUB	GH75-08525A
QFU01		MEC-FOLDER UPPER SUB	GH75-08526B
QHI03		MEC-DUMMY HINGE	GH75-08536A
QIF01		PMO-INTERFACE COVER	GH72-26712B
QKP01		MEC-KEYPAD(XEG/ZKA)	GH75-08530A
QKP02		MEC-KEY FOLD(MP3)	GH75-09538A
QLC01		MEA-LCD MODULE KIT	GH97-05932A
QME01		UNIT-KEY FPCB	GH59-02723A
QME03		UNIT-CON TO CON ASSY	GH59-02722A
QMI03		RMO-MIC HOLDER	GH73-05839A
QMO01		MOTOR DC-SGHP900	GH31-00246A
QMP01		PBA MAIN-SGHP900	GH92-02508A
QMW01		AS-LCD WINDOW	GH81-02759A
QRE01		MEC-REAR COVER SUB	GH75-08537B
QRF01		MPR-TAPE RF PC SHEET	GH74-22378B
QRF03		PMO-EARJACK COVER	GH72-26713B
QSC12		RMO-CUSHION FOLDER SCREW	GH73-05837A
QSC13		PMO-CUSHION REAR SCREW R	GH72-30139B
QSC14		PMO-CUSHION REAR SCREW L	GH72-30140B
QSH01		MEC-SHILD COVER	GH75-08538A
QSP01		SPEAKER	3001-001865
QSP02		SPEAKER	3001-001866
QWD05		MEC-DECORATION ARM	GH75-09315A
QFR01		MEC-FRONT COVER SUB	GH75-08524B
	QVO01	MEC-SIDE KEY	GH75-08539A
QFU02		MEC-ARM UPPER	GH75-08527A
	QHI01	MEC-HINGE	GH75-08535A
QFL02		MEC-ARM LOWER	GH75-08529A
	QCR58	SCREW-MACHINE	6001-001870
	QHI08	MEC-HINGE SWING	GH75-08634A

Discription	SEC CODE
BAG PE	6902-000297
CBF INTERFACE-DATA LINK CABLE	GH39-00423A
ADAPTOR-SGHD500 BLK	GH44-00954A
S/W CD-SAMSUNG PC STUDIO 3.0	GH46-00243A
UNIT-EARPHONE	GH59-02320A
LABEL(P)-WATER SOAK	GH68-02026A
MANUAL USERS-EU GERMAN	GH68-09869A
MANUAL USERS-EU ENGLISH	GH68-09870A
LABEL(R)-MAIN(EU)	GH68-09871A
CUSHION-CASE TA2 MA2	GH69-03868A
BOX(P)-UNIT MAIN(EU)	GH69-03869A
RMO-CUSHION SHIELD RUBBER	GH73-06767A
MPR-BOHO VINYL LCD CONN	GH74-15350A
MPR-VINYL BOHO SUB WIN A	GH74-20286A
MPR-VINYL BOHO ARM B	GH74-20287A
MPR-VINYL BOHO M/WIN B	GH74-20290A
MPR-CUSHION SUB MIC	GH74-20528A
MPR-CUSHION IF GASKET	GH74-21355A

6. Disassembly and Assembly instructions

6-1. Disassembly

1

1) Extract two screw covers in the top portion.
2) Open Earphone cover, Memory card cover and IF connector cover.

※ **caution**

1) Be careful not to scratch.

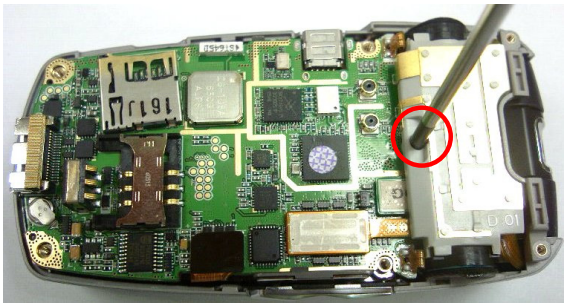
2

1) Unscrew six points like a picture below.
2) Disassemble a rear cover from lower part.

※ **caution**

1) Be careful not to scratch the outside.
2) Be careful not to deform the rear cover.

3

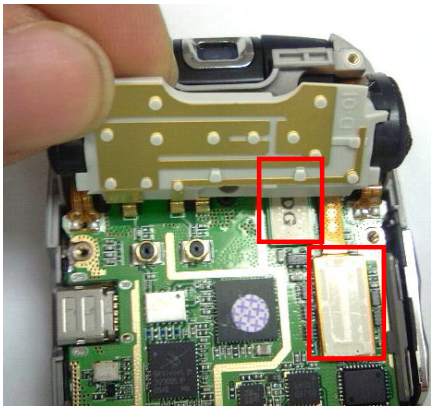


1) Unscrew the INTENNA part.

※ **caution**

1) Be careful not to scratch or deform the INTENNA.

4

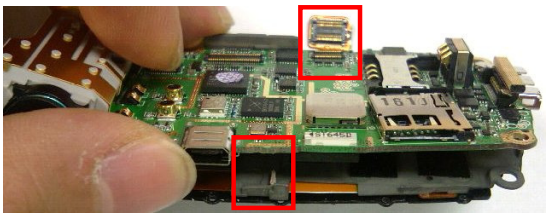


1) Lift up the INTENNA a little and unsnap the LCD connector and CAMERA connector.
2) Pull out those connectors from underside of INTENNA.

※ **caution**

1) Be careful not to damage the speaker, LCD, and CAMERA FPCB.
2) Be careful not to damage BGA parts.

5

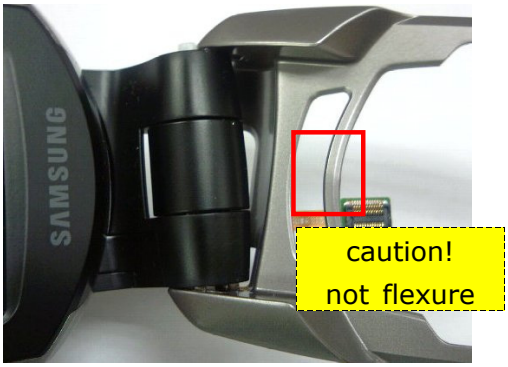


1) Unsnap KEY FPCB CONNECTOR.
2) Disassemble a PBA from shield-can. And do that from left side.

※ **caution**

1) Be careful not to crack the FPCB and damage the connector.
2) Be careful not to damage BGA parts

6

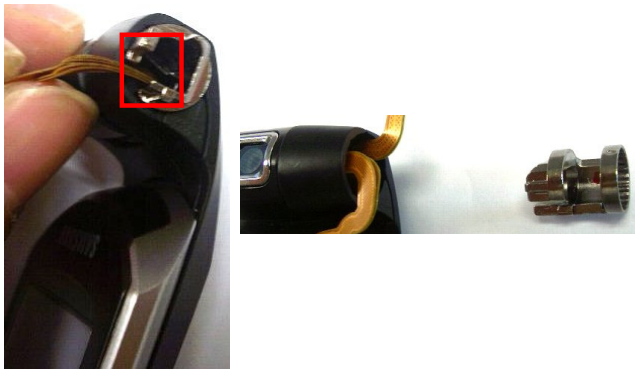


1) Separate FOLDER assembly from FRONT with pressing the FOLDER hinge.

※ **caution**

1) When separating, be careful not to bend the FRONT.
2) Be careful not to tear or crack the FPCB of LCD and CAMERA.
3) Be careful not to damage or scratch the molding.

7



1) Move FPCB to the open side of Hinge-dummy.
2) Pull out the Hinge-dummy.

※ **caution**

1) Be careful not to tear or crack the FPCB of LCD and CAMERA.

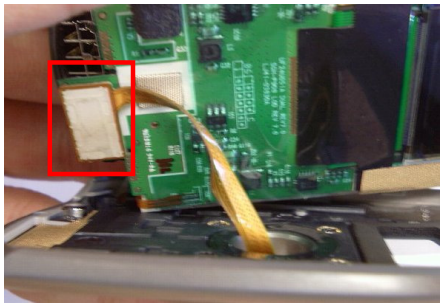
8

1) Rotate the LCD to anticlockwise and extract two screw covers.
2) Unscrew them.

※ **caution**

1) Be careful not to damage or scratch the molding.

9



1) Disassemble a LCD frame from .
   Do use a tool.
2) Unsnap a LCD connector.

※ **caution**

1) Be careful not to damage or crack the FPCB and connector.
2) Be careful not to damage or scratch the molding.

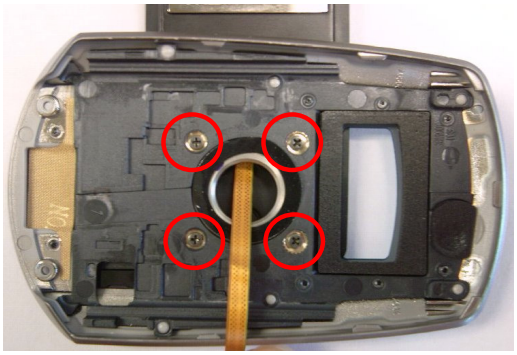
10

1) Take off the motor and receiver from FOLDER LOWER.

※ **caution**

1) When separating, be careful not to cut the wires of motor and receiver.

11

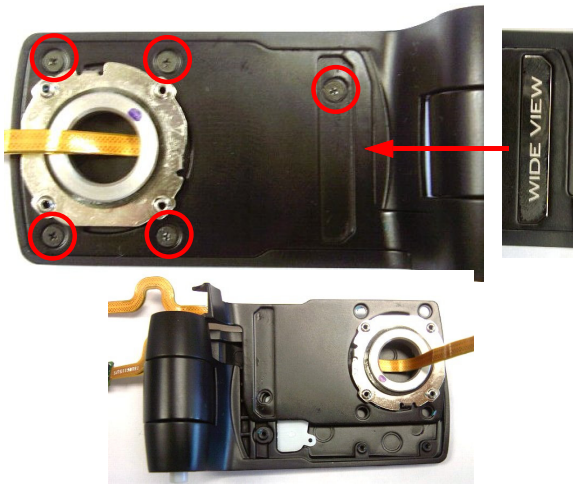


1) Unscrew 4 points like a picture .

※ **caution**

1) Be careful not to damage or scratch the molding.

12



1) Take off a WIDE VIEW sticker.
2) Unscrew 5 points like a picture below.
3) Disassemble ARM UPPER and ARM LOWER from each other.

※ **caution**

1) Be careful not to damage or scratch the molding.

13

1) Pull out a hinge using a nipper.
2) Separate a CAMERA from ARM UPPER.

※ **caution**

1) Be careful not to damage the hinge.
2) Be careful not to damage CAMERA FPCB.

6-2. Assembly

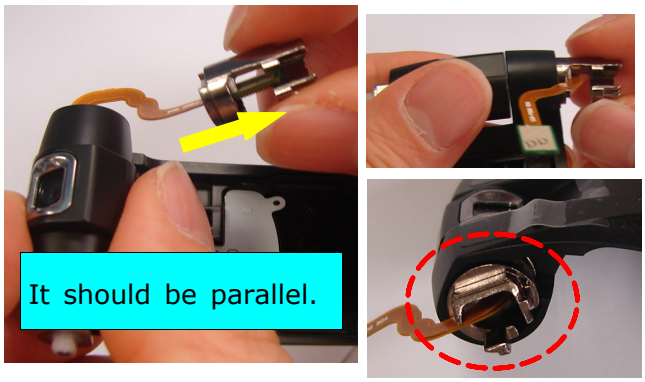
1

1) Insert a CAMERA to ARM UPPER.
2) Inert a hinge.

※ **caution**

1) Be careful not to damage the hinge.
2) Be careful not to damage CAMERA FPCB.

2

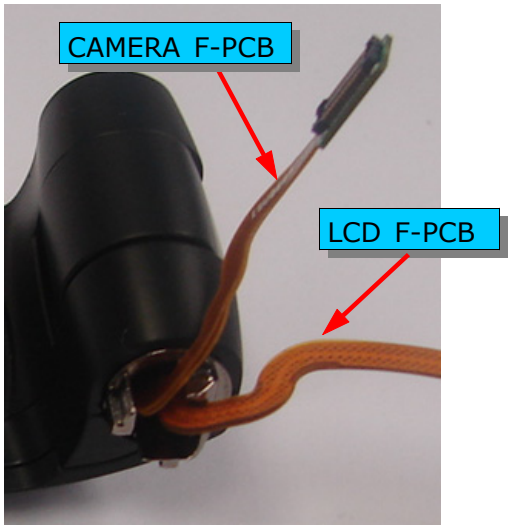


1) Insert a hinge-dummy to ARM UPPER . LCD connector should be parallel with hole of hinge-dummy.

※ **caution**

1) Be careful not to damage CAMERA FPCB.
2) Confirm the direction of hinge-dummy.

3

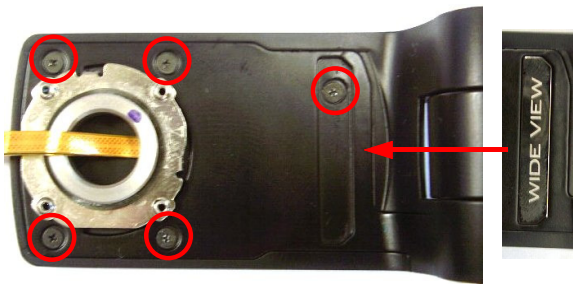


1) Assemble ARM UPPER and ARM LOWER.

※ **caution**

1) LCD FPCB should be located lower than CAMERA FPCB like a picture.

4

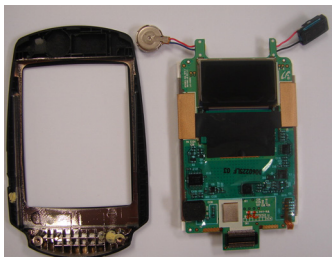


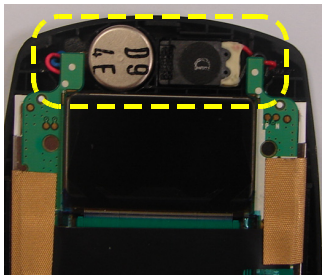
1) Screw 5 point like a picture .
2) Attach WIDE VIEW sticker.

※ **caution**

1) Be careful not to damage or scratch the molding.

5



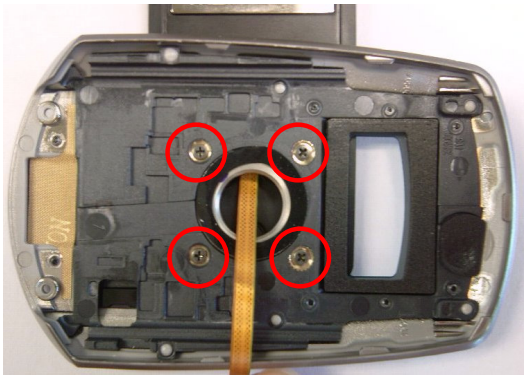


1) Put a motor and receiver in place.

※ **caution**

1) Arrange wires to be located under the LCD PBA branch.

6

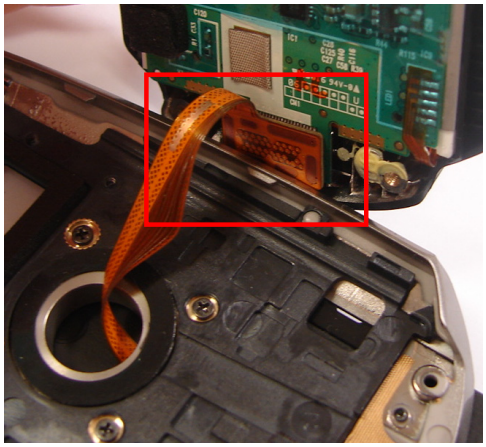


1) Assemble ARM and FOLDER UPPER and screw those 4 points. FOLDER UPPER should rotate to anticlockwise.

※ **caution**

1) Be careful not to damage or scratch the molding.

7



1) Snap a LCD CONNECTOR.

※ **caution**

1) Confirm the direction of LCD CONNECTOR.
2) When snapping, confirm the click sound.

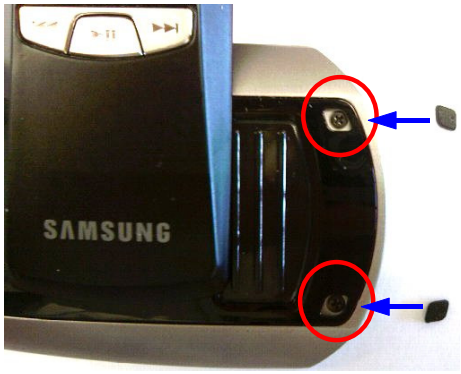
8

1) Assemble a LCD from upper side in order like .

※ **caution**

1) Be careful not to damage or scratch the molding.

9

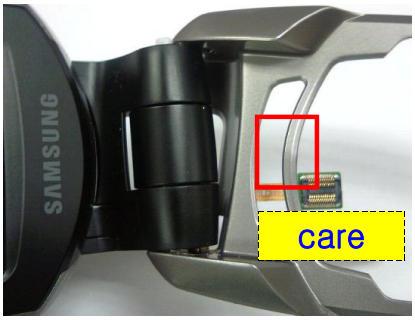


1) Screw 2 points like a picture .
2) Insert the screw cover.

※ **caution**

1) Be careful not to damage or scratch the molding.

10



1) Insert CAMERA and LCD FPCB into the hole of FRONT.
2) Assemble FRONT and FOLDER.

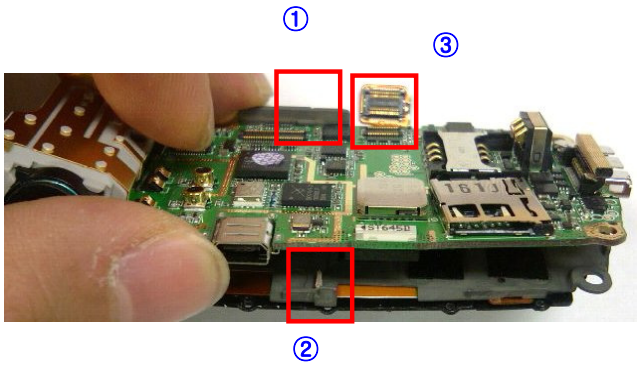
※ **caution**

1) Be careful not to damage or scratch the molding.
2) Be careful not to damage or tear FPCB.

11

1) Put KEYPAD in place.

12

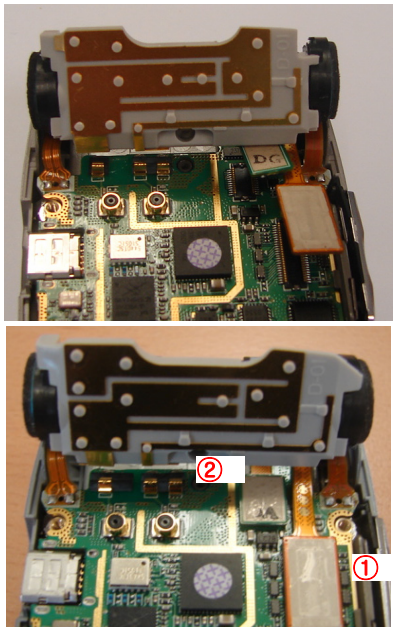


1) Assemble PBA with SHIELD-CAN and confirm the locking.
2) Snap the connector.

※ **caution**

1) Be careful not to damage the connector.

13

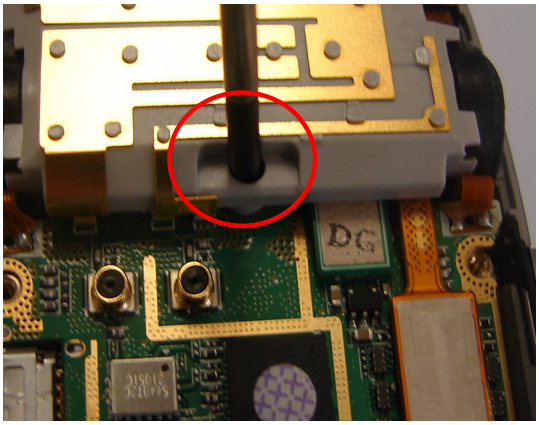


1) Put the FPCB of LCD and CAMERA between INTEANNA and PBA.
2) Snap the connector of LCD and CAMERA.

※ **caution**

1) Be careful not to damage or tear FPCB.
2) When snapping, confirm the click sound.

14



1) Screw INTENNA.

※ **caution**

1) Be careful not to damage or scratch INTENNA.

15

1) Screw 6 points like a picture.

※ **caution**

1) Be careful not to damage or scratch the molding.

16

1) Insert 2 screw covers in the top.

7. MAIN Electrical Parts List

SEC CODE	Design LOC	Discription	STATUS
0403-001411	ZD512	DIODE-ZENER	SA
0403-001427	ZD506	DIODE-ZENER	SA
0403-001547	D1	DIODE-ZENER	SA
0406-001167	ZD200	DIODE-TVS	SA
0406-001167	ZD504	DIODE-TVS	SA
0406-001167	ZD505	DIODE-TVS	SA
0406-001167	ZD507	DIODE-TVS	SA
0406-001167	ZD508	DIODE-TVS	SA
0406-001167	ZD509	DIODE-TVS	SA
0406-001167	ZD510	DIODE-TVS	SA
0406-001167	ZD511	DIODE-TVS	SA
0406-001190	ZD401	DIODE-TVS	SA
0505-001423	Q600	FET-SILICON	SA
0505-001518	Q602	FET-SILICON	SA
0801-002321	U607	IC-CMOS LOGIC	SA
0801-002321	U608	IC-CMOS LOGIC	SA
0801-002321	U609	IC-CMOS LOGIC	SA
0801-002529	U502	IC-CMOS LOGIC	SA
0801-002958	U104	IC-CMOS LOGIC	SA
0801-002958	U204	IC-CMOS LOGIC	SA
0801-003016	U604	IC-CMOS LOGIC	SA
0801-003022	U603	IC-CMOS LOGIC	SA
0801-003055	U618	IC-CMOS LOGIC	SA
0904-002027	UCP601	IC-DSP	SA
1001-001306	U406	IC-ANALOG MULTIPLEX	SA
1001-001351	U612	IC-ANALOG MULTIPLEX	SA
1001-001351	U620	IC-ANALOG MULTIPLEX	SA
1001-001351	U622	IC-ANALOG MULTIPLEX	SA
1001-001366	U605	IC-ANALOG SWITCH	SA
1001-001366	U606	IC-ANALOG SWITCH	SA
1105-001345	UME801	IC-DRAM	SA
1107-001565	U809	IC-FLASH MEMORY	SA
1108-000024	UME201	IC-MCP	SA
1108-000038	UME601	IC-MCP	SA
1109-001351	U616	IC-MEMORY CARD	SA
1201-002148	U602	IC-VIDEO AMP	SA
1201-002195	U405	IC-AUDIO AMP	SA

SEC CODE	Design LOC	Discription	STATUS
1201-002241	U404	IC-AUDIO AMP	SA
1201-002294	PAM101	IC-POWER AMP	SA
1203-002556	U611	IC-POSI.FIXED REG.	SA
1203-002557	U787	IC-POSI.FIXED REG.	SA
1203-003109	U501	IC-BATTERY	SA
1203-003428	U307	IC-DC/DC CONVERTER	SA
1203-003428	U703	IC-DC/DC CONVERTER	SA
1203-003432	Q100	IC-POSI.FIXED REG.	SA
1203-003434	U306	IC-DC/DC CONVERTER	SA
1203-003519	U308	IC-MULTI REG.	SNA
1203-003565	UCD300	IC-POWER SUPERVISOR	SA
1203-003621	U623	IC-POSI.FIXED REG.	SA
1203-003789	U203	IC-POWER SUPERVISOR	SA
1203-003815	U613	IC-POSI.FIXED REG.	SA
1203-003919	U615	IC-DC/DC CONVERTER	SA
1203-004150	U788	IC-POSI.FIXED REG.	SA
1204-002138	U401	IC-MELODY	SA
1204-002514	UCP801	IC-DMB	SA
1205-002272	U301	IC-TRANSCEIVER	SA
1205-002414	U402	IC-CODEC	SA
1205-002735	U700	IC-RECEIVER	SA
1205-002821	U106	IC-TRANSCEIVER	SA
1404-001165	TH300	THERMISTOR-NTC	SA
1405-001082	VR401	VARISTOR	SA
1405-001082	VR402	VARISTOR	SA
1405-001082	VR403	VARISTOR	SA
1405-001082	VR404	VARISTOR	SA
1405-001082	VR405	VARISTOR	SA
1405-001082	VR406	VARISTOR	SA
1405-001082	VR501	VARISTOR	SA
1405-001082	VR502	VARISTOR	SA
1405-001082	VR503	VARISTOR	SA
2007-000138	R103	R-CHIP	SA
2007-000140	R503	R-CHIP	SA
2007-000140	R705	R-CHIP	SA
2007-000141	R400	R-CHIP	SA
2007-000143	R212	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-000144	R627	R-CHIP	SA
2007-000145	R702	R-CHIP	SA
2007-000148	R665	R-CHIP	SA
2007-000151	R814	R-CHIP	SA
2007-000151	R815	R-CHIP	SA
2007-000157	R617	R-CHIP	SA
2007-000159	R704	R-CHIP	SA
2007-000160	R611	R-CHIP	SA
2007-000162	R205	R-CHIP	SA
2007-000162	R401	R-CHIP	SA
2007-000162	R601	R-CHIP	SA
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2007-000162	R616	R-CHIP	SA
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2007-000162	R636	R-CHIP	SA
2007-000162	R637	R-CHIP	SA
2007-000162	R657	R-CHIP	SA
2007-000162	R658	R-CHIP	SA
2007-000162	R659	R-CHIP	SA
2007-000162	R662	R-CHIP	SA
2007-000162	R666	R-CHIP	SA
2007-000162	R669	R-CHIP	SA
2007-000162	R670	R-CHIP	SA
2007-000162	R706	R-CHIP	SA
2007-000165	R610	R-CHIP	SA
2007-000165	R612	R-CHIP	SA
2007-000170	R207	R-CHIP	SA
2007-000170	R402	R-CHIP	SA
2007-000170	R604	R-CHIP	SA
2007-000170	R606	R-CHIP	SA
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2007-000170	R649	R-CHIP	SA
2007-000170	R703	R-CHIP	SA
2007-000171	R108	R-CHIP	SA
2007-000171	R114	R-CHIP	SA
2007-000171	R118	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2007-000171	R203	R-CHIP	SA
2007-000171	R405	R-CHIP	SA
2007-000171	R630	R-CHIP	SA
2007-000171	R663	R-CHIP	SA
2007-000171	R731	R-CHIP	SA
2007-000242	R701	R-CHIP	SA
2007-000242	R803	R-CHIP	SA
2007-000242	R804	R-CHIP	SA
2007-000242	R811	R-CHIP	SA
2007-000690	R633	R-CHIP	SA
2007-000758	R117	R-CHIP	SA
2007-000982	R101	R-CHIP	SA
2007-001119	R408	R-CHIP	SA
2007-001119	R423	R-CHIP	SA
2007-001292	R813	R-CHIP	SA
2007-001308	R626	R-CHIP	SA
2007-001317	R664	R-CHIP	SA
2007-003001	R413	R-CHIP	SA
2007-003001	R414	R-CHIP	SA
2007-003112	R406	R-CHIP	SA
2007-003112	R407	R-CHIP	SA
2007-003112	R700	R-CHIP	SA
2007-007009	R625	R-CHIP	SA
2007-007095	R104	R-CHIP	SA
2007-007107	R424	R-CHIP	SA
2007-007107	R437	R-CHIP	SA
2007-007134	R106	R-CHIP	SA
2007-007139	R640	R-CHIP	SA
2007-007142	R105	R-CHIP	SA
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2007-007142	R431	R-CHIP	SA
2007-007142	R436	R-CHIP	SA
2007-007311	R432	R-CHIP	SA
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2007-007311	R434	R-CHIP	SA
2007-007311	R435	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2007-007528	R412	R-CHIP	SA
2007-007528	R429	R-CHIP	SA
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2007-007528	R660	R-CHIP	SA
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2007-007589	R416	R-CHIP	SA
2007-007589	R418	R-CHIP	SA
2007-007590	R638	R-CHIP	SA
2007-008045	R113	R-CHIP	SA
2007-008045	R116	R-CHIP	SA
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2007-008052	R307	R-CHIP	SA
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2007-008052	R621	R-CHIP	SA
2007-008052	R622	R-CHIP	SA
2007-008055	R201	R-CHIP	SA
2007-008055	R202	R-CHIP	SA
2007-008055	R425	R-CHIP	SA
2007-008055	R427	R-CHIP	SA
2007-008055	R504	R-CHIP	SA
2007-008055	R608	R-CHIP	SA
2007-008055	R613	R-CHIP	SA
2007-008055	R614	R-CHIP	SA
2007-008055	R615	R-CHIP	SA
2007-008055	R619	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2007-008055	R623	R-CHIP	SA
2007-008055	R624	R-CHIP	SA
2007-008055	R631	R-CHIP	SA
2007-008055	R632	R-CHIP	SA
2007-008055	R641	R-CHIP	SA
2007-008055	R642	R-CHIP	SA
2007-008055	R643	R-CHIP	SA
2007-008055	R644	R-CHIP	SA
2007-008055	R645	R-CHIP	SA
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2007-008055	R656	R-CHIP	SA
2007-008055	R661	R-CHIP	SA
2007-008055	R667	R-CHIP	SA
2007-008056	R538	R-CHIP	SA
2007-008137	R409	R-CHIP	SA
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2007-008312	R628	R-CHIP	SA
2007-008419	R510	R-CHIP	SA
2007-008419	R511	R-CHIP	SA
2007-008419	R513	R-CHIP	SA
2007-008478	R303	R-CHIP	SA
2007-008483	R119	R-CHIP	SA
2007-008483	R200	R-CHIP	SA
2007-008483	R209	R-CHIP	SA
2007-008483	R210	R-CHIP	SA
2007-008483	R211	R-CHIP	SA
2007-008483	R302	R-CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2007-008483	R439	R-CHIP	SA
2007-008483	R445	R-CHIP	SA
2007-008483	R634	R-CHIP	SA
2007-008516	R112	R-CHIP	SA
2007-008516	R443	R-CHIP	SA
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2007-008516	R800	R-CHIP	SA
2007-008516	R801	R-CHIP	SA
2007-008531	R110	R-CHIP	SA
2007-008531	R816	R-CHIP	SA
2007-008542	R214	R-CHIP	SA
2007-008542	R215	R-CHIP	SA
2007-008542	R300	R-CHIP	SA
2007-008542	R309	R-CHIP	SA
2007-008542	R440	R-CHIP	SA
2007-008542	R520	R-CHIP	SA
2007-008542	R522	R-CHIP	SA
2007-008542	R524	R-CHIP	SA
2007-008542	R609	R-CHIP	SA
2007-008542	R655	R-CHIP	SA
2007-008542	R817	R-CHIP	SA
2007-008587	R115	R-CHIP	SA
2007-008588	R102	R-CHIP	SA
2007-008588	R301	R-CHIP	SA
2007-008588	R537	R-CHIP	SA
2007-008648	R600	R-CHIP	SA
2007-009111	R109	R-CHIP	SA
2007-009115	R304	R-CHIP	SA
2007-009115	R305	R-CHIP	SA
2007-009166	R306	R-CHIP	SA
2007-009167	R308	R-CHIP	SA
2007-009167	R809	R-CHIP	SA
2007-009167	R810	R-CHIP	SA
2007-009199	R107	R-CHIP	SA
2203-000233	C410	C-CER,CHIP	SA
2203-000233	C439	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-000233	C440	C-CER,CHIP	SA
2203-000233	C441	C-CER,CHIP	SA
2203-000233	C442	C-CER,CHIP	SA
2203-000233	C452	C-CER,CHIP	SA
2203-000233	C453	C-CER,CHIP	SA
2203-000233	C454	C-CER,CHIP	SA
2203-000233	C455	C-CER,CHIP	SA
2203-000233	C703	C-CER,CHIP	SA
2203-000233	C721	C-CER,CHIP	SA
2203-000254	C125	C-CER,CHIP	SA
2203-000254	C126	C-CER,CHIP	SA
2203-000254	C336	C-CER,CHIP	SA
2203-000254	C406	C-CER,CHIP	SA
2203-000254	C407	C-CER,CHIP	SA
2203-000254	C601	C-CER,CHIP	SA
2203-000254	C614	C-CER,CHIP	SA
2203-000254	C618	C-CER,CHIP	SA
2203-000254	C620	C-CER,CHIP	SA
2203-000254	C802	C-CER,CHIP	SA
2203-000254	C803	C-CER,CHIP	SA
2203-000254	C814	C-CER,CHIP	SA
2203-000254	C815	C-CER,CHIP	SA
2203-000311	C129	C-CER,CHIP	SA
2203-000311	C638	C-CER,CHIP	SA
2203-000425	C711	C-CER,CHIP	SA
2203-000425	C717	C-CER,CHIP	SA
2203-000438	C615	C-CER,CHIP	SA
2203-000438	C619	C-CER,CHIP	SA
2203-000438	C722	C-CER,CHIP	SA
2203-000438	C822	C-CER,CHIP	SA
2203-000550	C631	C-CER,CHIP	SA
2203-000585	C112	C-CER,CHIP	SA
2203-000585	C634	C-CER,CHIP	SA
2203-000627	C637	C-CER,CHIP	SNA
2203-000627	C639	C-CER,CHIP	SNA
2203-000628	C708	C-CER,CHIP	SA
2203-000725	C124	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-000812	C635	C-CER,CHIP	SA
2203-000854	C123	C-CER,CHIP	SA
2203-000854	C418	C-CER,CHIP	SA
2203-000854	C421	C-CER,CHIP	SA
2203-000995	C633	C-CER,CHIP	SA
2203-001124	C111	C-CER,CHIP	SA
2203-001383	C713	C-CER,CHIP	SA
2203-001383	C715	C-CER,CHIP	SA
2203-001405	C408	C-CER,CHIP	SA
2203-001437	C121	C-CER,CHIP	SA
2203-002709	C464	C-CER,CHIP	SNA
2203-003019	C115	C-CER,CHIP	SNA
2203-005055	C152	C-CER,CHIP	SA
2203-005061	C649	C-CER,CHIP	SA
2203-005344	C323	C-CER,CHIP	SA
2203-005344	C447	C-CER,CHIP	SA
2203-005344	C449	C-CER,CHIP	SA
2203-005344	C451	C-CER,CHIP	SA
2203-005344	C457	C-CER,CHIP	SA
2203-005344	C461	C-CER,CHIP	SA
2203-005481	C413	C-CER,CHIP	SA
2203-005682	C103	C-CER,CHIP	SA
2203-005682	C144	C-CER,CHIP	SA
2203-005682	C306	C-CER,CHIP	SA
2203-005682	C307	C-CER,CHIP	SA
2203-005682	C308	C-CER,CHIP	SA
2203-005682	C428	C-CER,CHIP	SA
2203-005682	C429	C-CER,CHIP	SA
2203-005682	C435	C-CER,CHIP	SA
2203-005682	C436	C-CER,CHIP	SA
2203-005682	C444	C-CER,CHIP	SA
2203-005682	C456	C-CER,CHIP	SA
2203-005683	C430	C-CER,CHIP	SA
2203-005729	C100	C-CER,CHIP	SA
2203-005729	C710	C-CER,CHIP	SA
2203-005731	C211	C-CER,CHIP	SA
2203-005731	C212	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-005736	C319	C-CER,CHIP	SA
2203-005736	C818	C-CER,CHIP	SA
2203-005806	C143	C-CER,CHIP	SA
2203-005806	C414	C-CER,CHIP	SA
2203-006047	C705	C-CER,CHIP	SA
2203-006047	C706	C-CER,CHIP	SA
2203-006048	C202	C-CER,CHIP	SA
2203-006048	C203	C-CER,CHIP	SA
2203-006048	C214	C-CER,CHIP	SA
2203-006048	C400	C-CER,CHIP	SA
2203-006048	C401	C-CER,CHIP	SA
2203-006048	C403	C-CER,CHIP	SA
2203-006048	C404	C-CER,CHIP	SA
2203-006048	C405	C-CER,CHIP	SA
2203-006048	C409	C-CER,CHIP	SA
2203-006048	C411	C-CER,CHIP	SA
2203-006048	C416	C-CER,CHIP	SA
2203-006048	C427	C-CER,CHIP	SA
2203-006048	C432	C-CER,CHIP	SA
2203-006048	C504	C-CER,CHIP	SA
2203-006048	C600	C-CER,CHIP	SA
2203-006048	C602	C-CER,CHIP	SA
2203-006048	C604	C-CER,CHIP	SA
2203-006048	C607	C-CER,CHIP	SA
2203-006048	C608	C-CER,CHIP	SA
2203-006048	C612	C-CER,CHIP	SA
2203-006048	C613	C-CER,CHIP	SA
2203-006048	C616	C-CER,CHIP	SA
2203-006048	C617	C-CER,CHIP	SA
2203-006048	C621	C-CER,CHIP	SA
2203-006048	C622	C-CER,CHIP	SA
2203-006048	C626	C-CER,CHIP	SA
2203-006048	C627	C-CER,CHIP	SA
2203-006048	C636	C-CER,CHIP	SA
2203-006048	C644	C-CER,CHIP	SA
2203-006048	C707	C-CER,CHIP	SA
2203-006048	C729	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006048	C801	C-CER,CHIP	SA
2203-006048	C805	C-CER,CHIP	SA
2203-006048	C806	C-CER,CHIP	SA
2203-006048	C807	C-CER,CHIP	SA
2203-006048	C809	C-CER,CHIP	SA
2203-006048	C810	C-CER,CHIP	SA
2203-006048	C811	C-CER,CHIP	SA
2203-006048	C812	C-CER,CHIP	SA
2203-006048	C816	C-CER,CHIP	SA
2203-006048	C821	C-CER,CHIP	SA
2203-006048	C823	C-CER,CHIP	SA
2203-006048	C824	C-CER,CHIP	SA
2203-006048	C827	C-CER,CHIP	SA
2203-006048	C828	C-CER,CHIP	SA
2203-006121	C304	C-CER,CHIP	SA
2203-006123	C131	C-CER,CHIP	SA
2203-006194	C104	C-CER,CHIP	SA
2203-006194	C108	C-CER,CHIP	SA
2203-006194	C109	C-CER,CHIP	SA
2203-006194	C110	C-CER,CHIP	SA
2203-006194	C116	C-CER,CHIP	SA
2203-006194	C119	C-CER,CHIP	SA
2203-006194	C120	C-CER,CHIP	SA
2203-006194	C122	C-CER,CHIP	SA
2203-006194	C134	C-CER,CHIP	SA
2203-006194	C135	C-CER,CHIP	SA
2203-006194	C136	C-CER,CHIP	SA
2203-006194	C140	C-CER,CHIP	SA
2203-006194	C147	C-CER,CHIP	SA
2203-006194	C205	C-CER,CHIP	SA
2203-006194	C207	C-CER,CHIP	SA
2203-006194	C210	C-CER,CHIP	SA
2203-006194	C300	C-CER,CHIP	SA
2203-006194	C301	C-CER,CHIP	SA
2203-006194	C325	C-CER,CHIP	SA
2203-006194	C606	C-CER,CHIP	SA
2203-006208	C728	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006257	C424	C-CER,CHIP	SA
2203-006257	C506	C-CER,CHIP	SA
2203-006257	C723	C-CER,CHIP	SA
2203-006257	C819	C-CER,CHIP	SA
2203-006257	C820	C-CER,CHIP	SA
2203-006260	C402	C-CER,CHIP	SA
2203-006260	C459	C-CER,CHIP	SA
2203-006260	C460	C-CER,CHIP	SA
2203-006305	C102	C-CER,CHIP	SA
2203-006305	C142	C-CER,CHIP	SA
2203-006324	C309	C-CER,CHIP	SA
2203-006348	C425	C-CER,CHIP	SA
2203-006348	C426	C-CER,CHIP	SA
2203-006348	C702	C-CER,CHIP	SA
2203-006348	C720	C-CER,CHIP	SA
2203-006348	C724	C-CER,CHIP	SA
2203-006348	C725	C-CER,CHIP	SA
2203-006348	C727	C-CER,CHIP	SA
2203-006361	C127	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	C113	C-CER,CHIP	SA
2203-006423	C114	C-CER,CHIP	SA
2203-006423	C139	C-CER,CHIP	SA
2203-006423	C204	C-CER,CHIP	SA
2203-006423	C206	C-CER,CHIP	SA
2203-006423	C208	C-CER,CHIP	SA
2203-006423	C209	C-CER,CHIP	SA
2203-006423	C216	C-CER,CHIP	SA
2203-006423	C302	C-CER,CHIP	SA
2203-006423	C303	C-CER,CHIP	SA
2203-006423	C305	C-CER,CHIP	SA
2203-006423	C321	C-CER,CHIP	SA
2203-006423	C322	C-CER,CHIP	SA
2203-006423	C326	C-CER,CHIP	SA
2203-006423	C412	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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2203-006423	C645	C-CER,CHIP	SA
2203-006423	C646	C-CER,CHIP	SA
2203-006423	C817	C-CER,CHIP	SA
2203-006562	C101	C-CER,CHIP	SA
2203-006562	C145	C-CER,CHIP	SA
2203-006562	C146	C-CER,CHIP	SA
2203-006562	C148	C-CER,CHIP	SA
2203-006562	C149	C-CER,CHIP	SA
2203-006562	C150	C-CER,CHIP	SA
2203-006562	C151	C-CER,CHIP	SA
2203-006562	C201	C-CER,CHIP	SA
2203-006562	C215	C-CER,CHIP	SA
2203-006562	C310	C-CER,CHIP	SA
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2203-006562	C316	C-CER,CHIP	SA
2203-006562	C317	C-CER,CHIP	SA
2203-006562	C318	C-CER,CHIP	SA
2203-006562	C327	C-CER,CHIP	SA
2203-006562	C332	C-CER,CHIP	SA
2203-006562	C333	C-CER,CHIP	SA
2203-006562	C335	C-CER,CHIP	SA
2203-006562	C417	C-CER,CHIP	SA
2203-006562	C422	C-CER,CHIP	SA
2203-006562	C431	C-CER,CHIP	SA
2203-006562	C433	C-CER,CHIP	SA
2203-006562	C437	C-CER,CHIP	SA
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2203-006562	C450	C-CER,CHIP	SA
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2203-006562	C462	C-CER,CHIP	SA
2203-006562	C500	C-CER,CHIP	SA
2203-006562	C501	C-CER,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
2203-006562	C502	C-CER,CHIP	SA
2203-006562	C647	C-CER,CHIP	SA
2203-006562	C648	C-CER,CHIP	SA
2203-006562	C700	C-CER,CHIP	SA
2203-006562	C701	C-CER,CHIP	SA
2203-006562	C718	C-CER,CHIP	SA
2203-006562	C800	C-CER,CHIP	SA
2203-006562	C825	C-CER,CHIP	SA
2203-006562	C826	C-CER,CHIP	SA
2203-006648	C324	C-CER,CHIP	SA
2203-006674	C623	C-CER,CHIP	SNA
2203-006708	C726	C-CER,CHIP	SA
2203-006824	C141	C-CER,CHIP	SA
2203-006824	C200	C-CER,CHIP	SA
2203-006824	C213	C-CER,CHIP	SA
2203-006824	C320	C-CER,CHIP	SA
2203-006824	C328	C-CER,CHIP	SA
2203-006824	C329	C-CER,CHIP	SA
2203-006824	C334	C-CER,CHIP	SA
2203-006824	C419	C-CER,CHIP	SA
2203-006824	C420	C-CER,CHIP	SA
2203-006824	C434	C-CER,CHIP	SA
2203-006824	C438	C-CER,CHIP	SA
2203-006824	C609	C-CER,CHIP	SA
2203-006824	C611	C-CER,CHIP	SA
2203-006824	C629	C-CER,CHIP	SA
2203-006824	C642	C-CER,CHIP	SA
2203-006825	C330	C-CER,CHIP	SA
2203-006825	C331	C-CER,CHIP	SA
2203-006825	C603	C-CER,CHIP	SA
2203-006825	C605	C-CER,CHIP	SA
2203-006825	C610	C-CER,CHIP	SA
2203-006825	C632	C-CER,CHIP	SA
2203-006847	C128	C-CER,CHIP	SA
2203-006847	C130	C-CER,CHIP	SA
2404-001225	TA701	C-TA,CHIP	SA
2404-001225	TA702	C-TA,CHIP	SA

SEC CODE	Design LOC	Discription	STATUS
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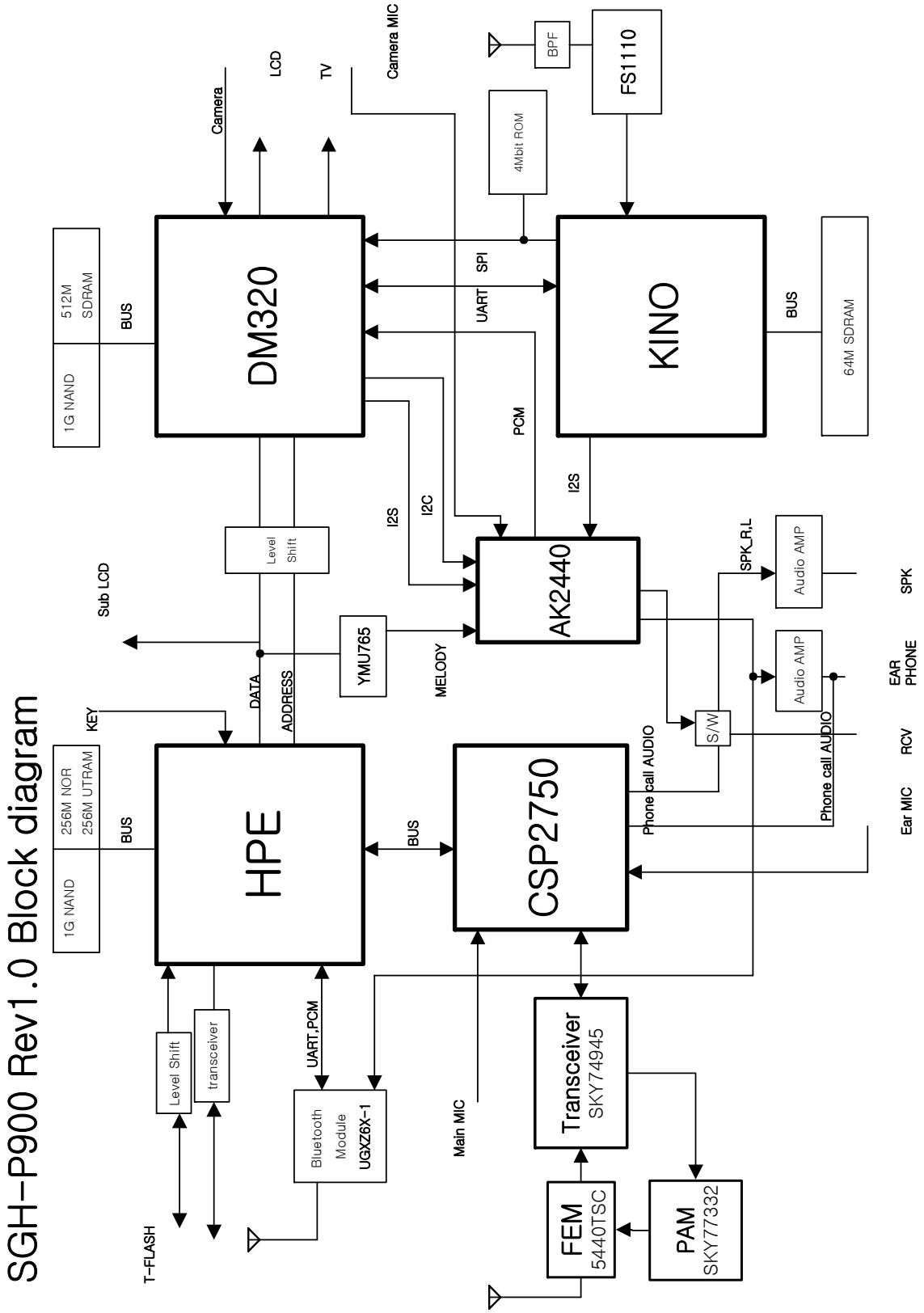
2404-001225	TA802	C-TA,CHIP	SA
2404-001225	TA803	C-TA,CHIP	SA
2404-001240	TA703	C-TA,CHIP	SA
2404-001306	TA603	C-TA,CHIP	SA
2404-001352	TA401	C-TA,CHIP	SA
2404-001377	TA402	C-TA,CHIP	SA
2404-001381	TA403	C-TA,CHIP	SA
2404-001381	TA501	C-TA,CHIP	SA
2404-001381	TA502	C-TA,CHIP	SA
2404-001381	TA503	C-TA,CHIP	SA
2404-001381	TA601	C-TA,CHIP	SA
2404-001381	TA602	C-TA,CHIP	SA
2404-001406	TA604	C-TA,CHIP	SA
2703-001239	L704	INDUCTOR-SMD	SA
2703-001722	L109	INDUCTOR-SMD	SA
2703-001752	L103	INDUCTOR-SMD	SA
2703-002314	L403	INDUCTOR-SMD	SA
2703-002314	L404	INDUCTOR-SMD	SA
2703-002314	L405	INDUCTOR-SMD	SA
2703-002314	L406	INDUCTOR-SMD	SA
2703-002597	L108	INDUCTOR-SMD	SA
2703-002649	L703	INDUCTOR-SMD	SNA
2703-002710	L106	INDUCTOR-SMD	SA
2703-002710	L107	INDUCTOR-SMD	SA
2703-002775	L300	INDUCTOR-SMD	SA
2703-002775	L301	INDUCTOR-SMD	SA
2703-002782	L603	INDUCTOR-SMD	SA
2703-002870	L105	INDUCTOR-SMD	SA
2703-002919	L705	INDUCTOR-SMD	SA
2801-004340	OSC601	CRYSTAL-SMD	SA
2801-004373	OSC200	CRYSTAL-SMD	SA
2801-004440	OSC700	CRYSTAL-SMD	SA
2806-001363	VCO800	OSCILLATOR-VCXO	SA
2809-001295	TCX101	OSCILLATOR-VCTCXO	SA
2901-001308	F508	FILTER-EMI SMD	SA
2901-001308	F509	FILTER-EMI SMD	SA

SEC CODE	Design LOC	Discription	STATUS
2901-001308	F510	FILTER-EMI SMD	SA
2901-001308	F511	FILTER-EMI SMD	SA
2901-001308	F512	FILTER-EMI SMD	SA
2901-001348	F513	FILTER-EMI/ESD	SA
2904-001655	F700	FILTER-SAW	SA
2904-001655	F701	FILTER-SAW	SA
2911-000021	DUF100	DUPLEXER-FEM	SA
3301-001342	L200	BEAD-SMD	SA
3301-001342	L600	BEAD-SMD	SA
3301-001534	F401	BEAD-SMD	SA
3301-001534	L302	BEAD-SMD	SA
3301-001659	L400	BEAD-SMD	SA
3301-001659	L401	BEAD-SMD	SA
3301-001659	L402	BEAD-SMD	SA
3301-001659	L601	BEAD-SMD	SA
3301-001659	L602	BEAD-SMD	SA
3301-001659	L800	BEAD-SMD	SA
3301-001659	L801	BEAD-SMD	SA
3301-001659	L802	BEAD-SMD	SA
3705-001358	RFS100	CONNECTOR-COAXIAL	SA
3705-001358	RFS703	CONNECTOR-COAXIAL	SA
3709-001344	CD201	CONNECTOR-CARD EDGE	SA
3709-001384	SIM300	CONNECTOR-CARD EDGE	SA
3710-001611	IFC501	CONNECTOR-INTERFACE	SA
3711-005571	BTC501	CONNECTOR-BATTERY	SA
3711-005618	HDC503	HEADER-BOARD TO BOARD	SA
3711-005643	HDC502	HEADER-BOARD TO BOARD	SA
3711-005818	HDC501	HEADER-BOARD TO BOARD	SA
3722-002181	EAR401	JACK-EAR PHONE	SA
4202-001115	BT_ANT101	ANTENNA-CHIP	SA
4302-001158	BAT70	BATTERY-LI(2ND)	SA
4709-001416	U102	BLUETOOTH MODULE	SA
GH09-00038A	UCP201	IC MICOM	SA
GH71-06338A	ANT100	NPR-BRACKET ANT CONTACT	SA
GH71-06338A	ANT700	NPR-BRACKET ANT CONTACT	SA
GH71-06338A	ANT701	NPR-BRACKET ANT CONTACT	SA

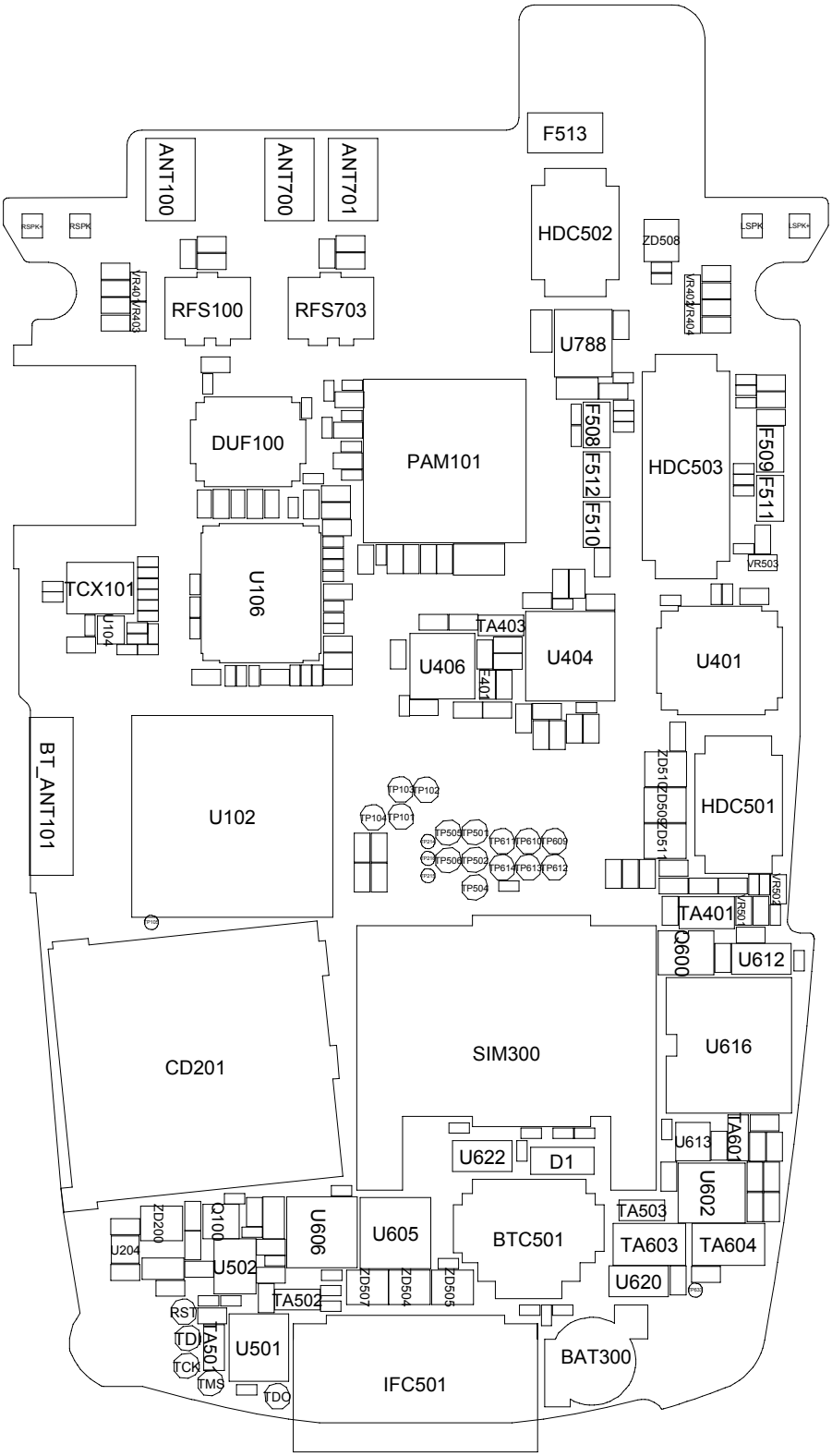
8. Block Diagrams

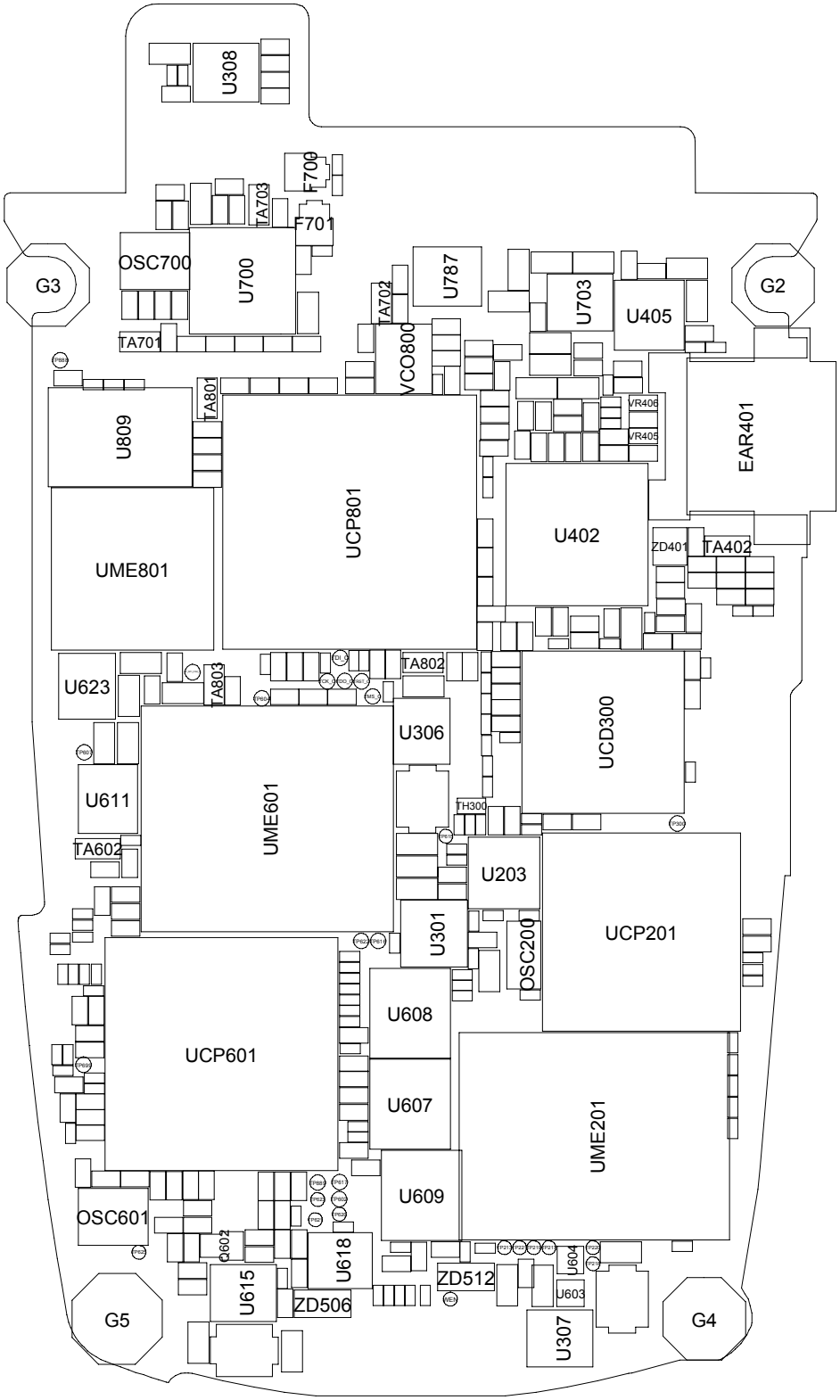
8-1. RF Solution Block Diagram



9. PCB Diagrams

9-1 Main

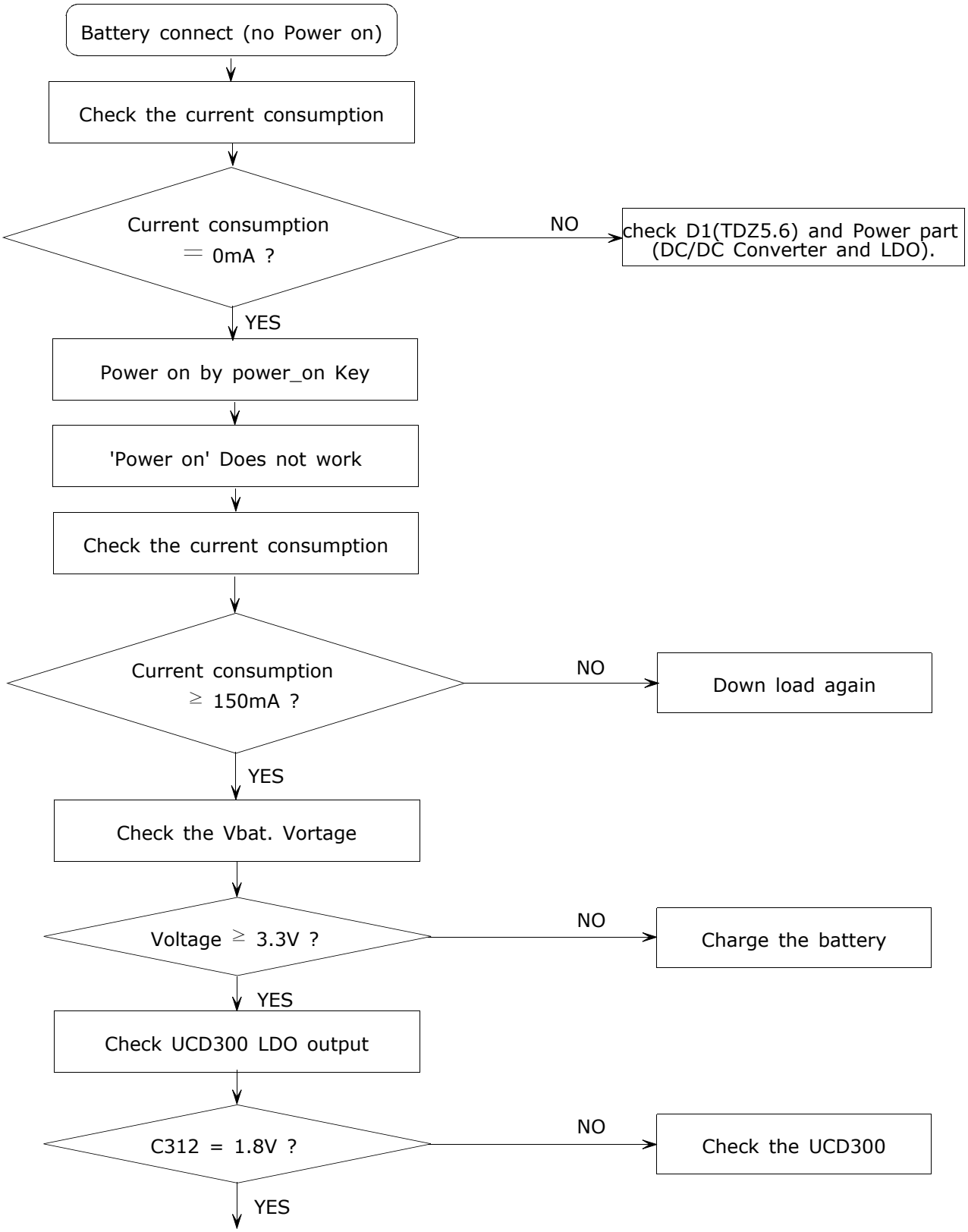


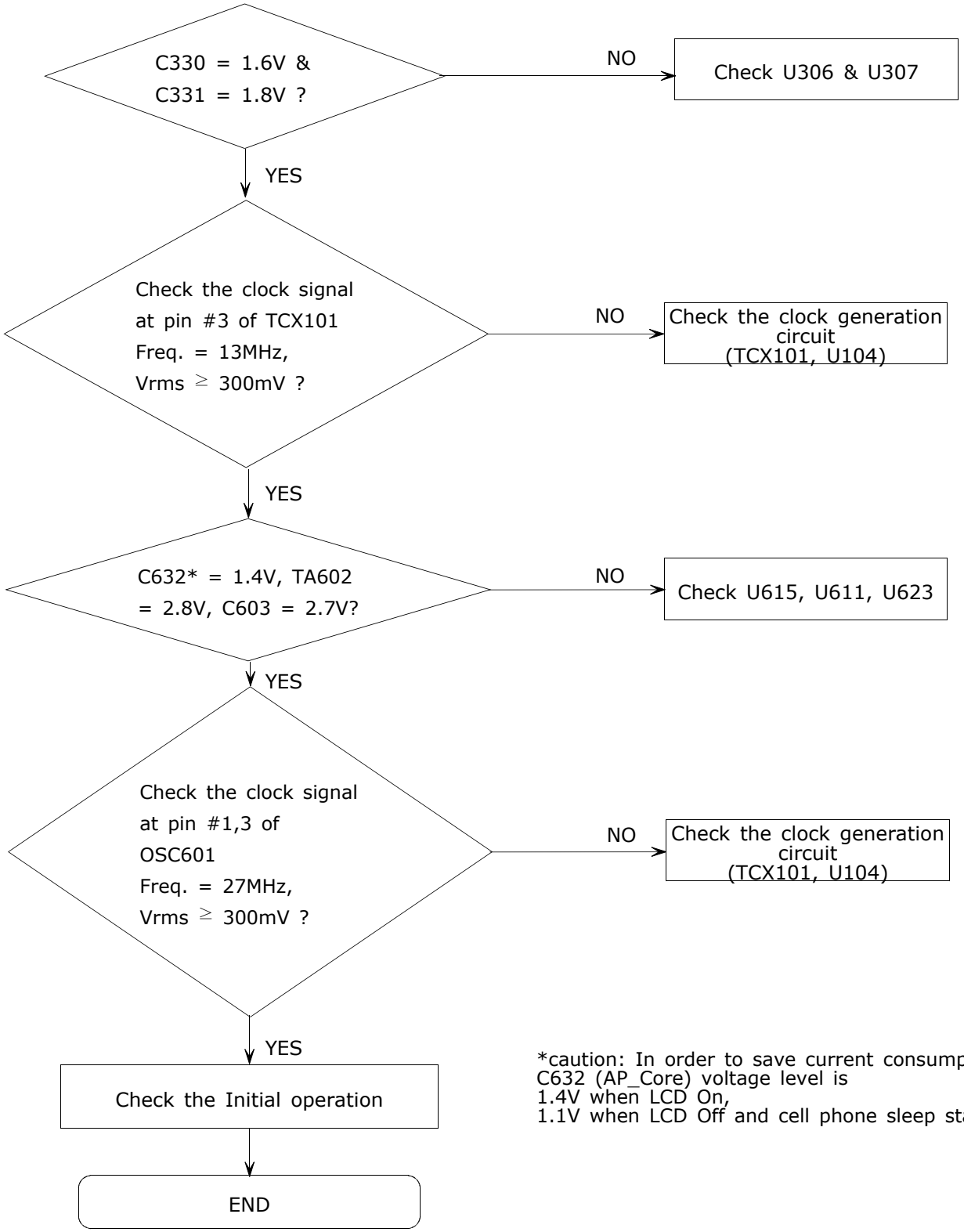


10. Flow Chart of Troubleshooting

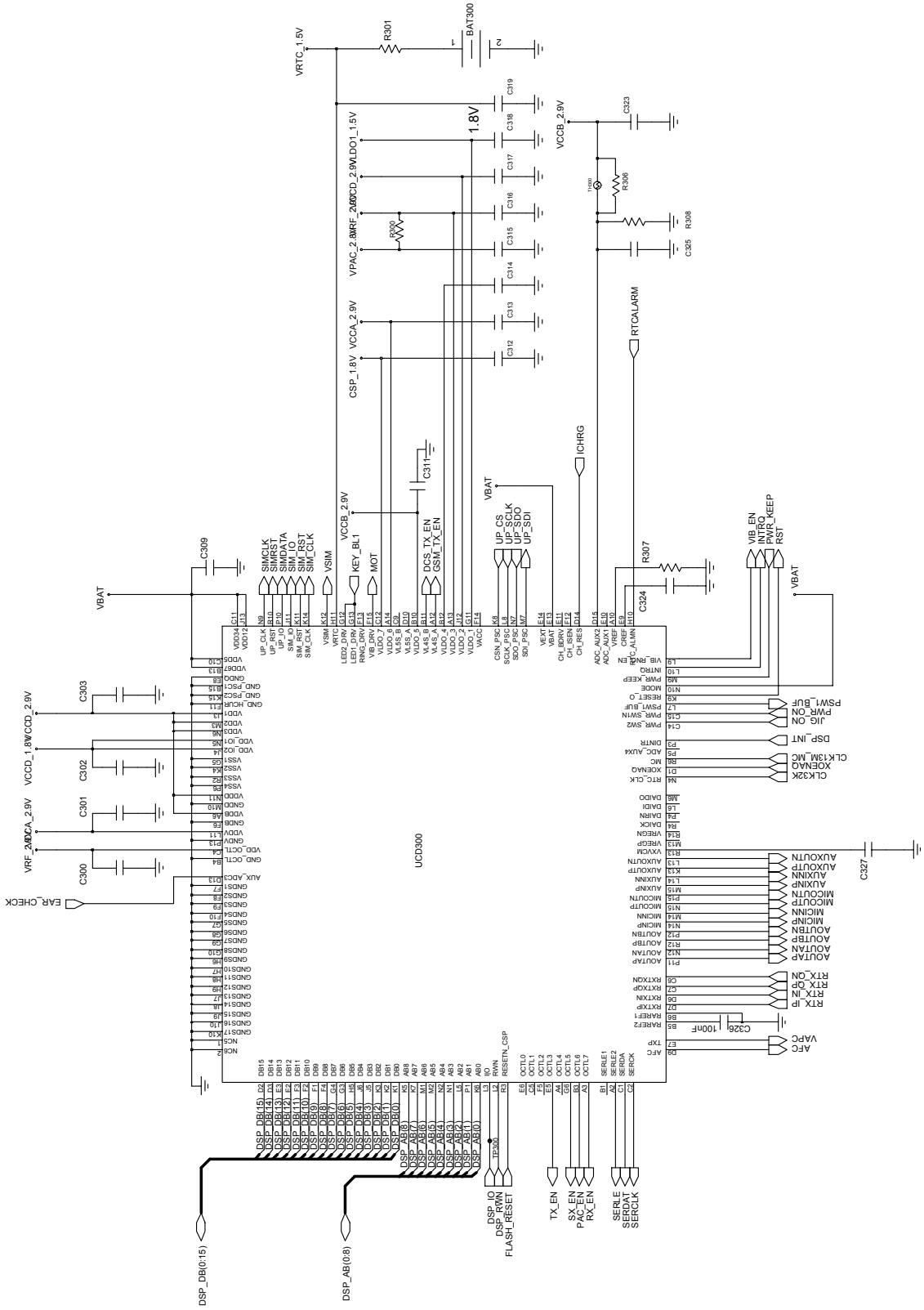
10-1.Baseband

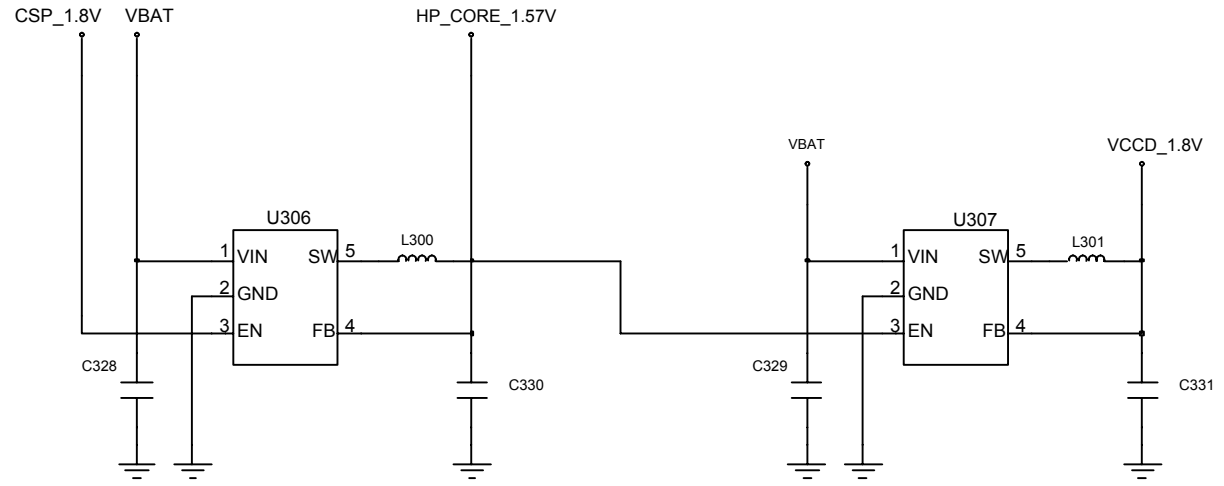
10-1-1. Power ON

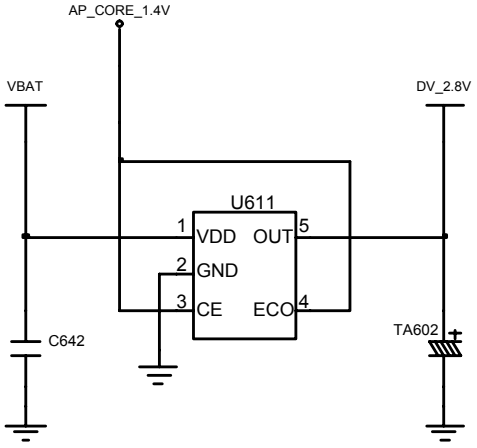


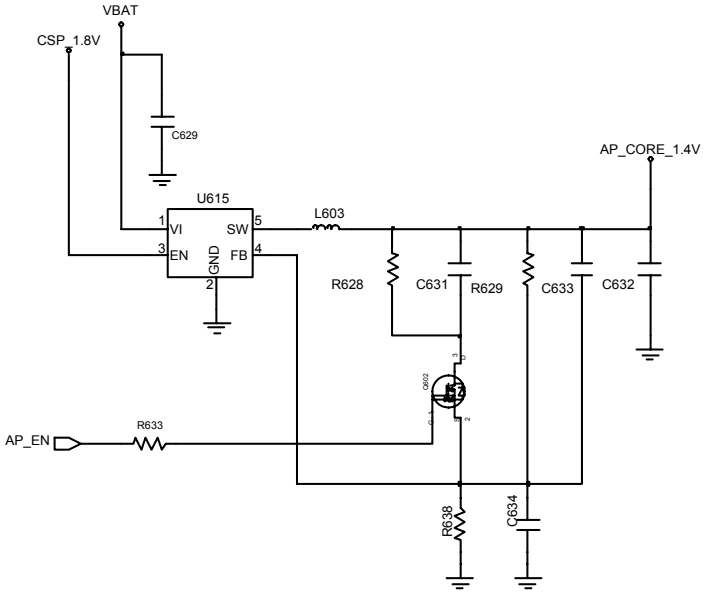


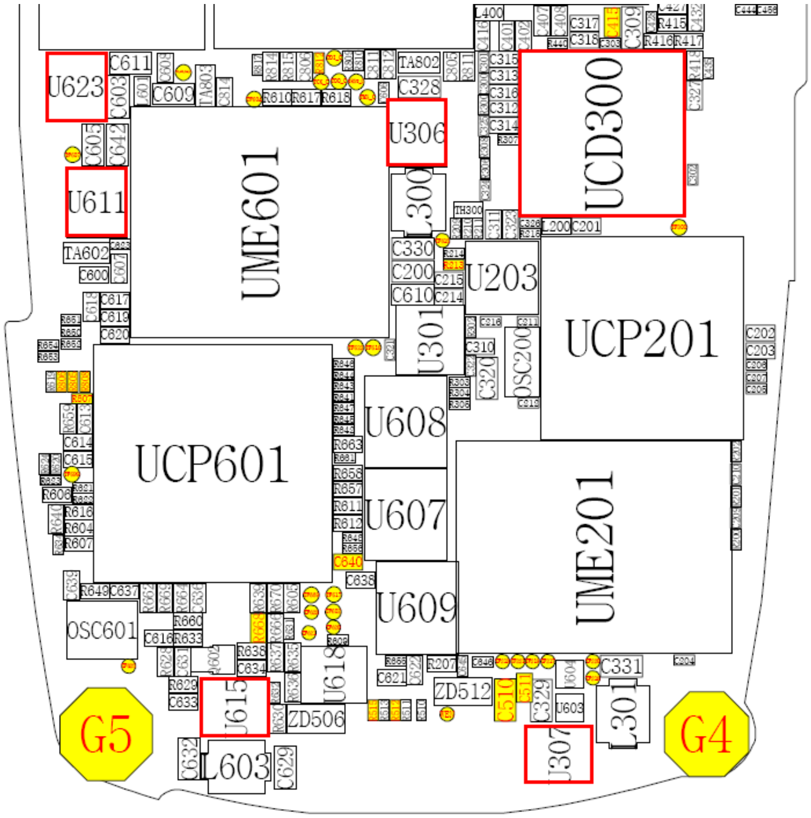
*caution: In order to save current consumption,
C632 (AP_Core) voltage level is
1.4V when LCD On,
1.1V when LCD Off and cell phone sleep status.

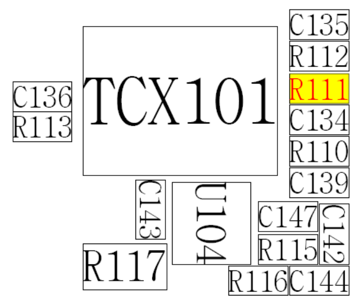


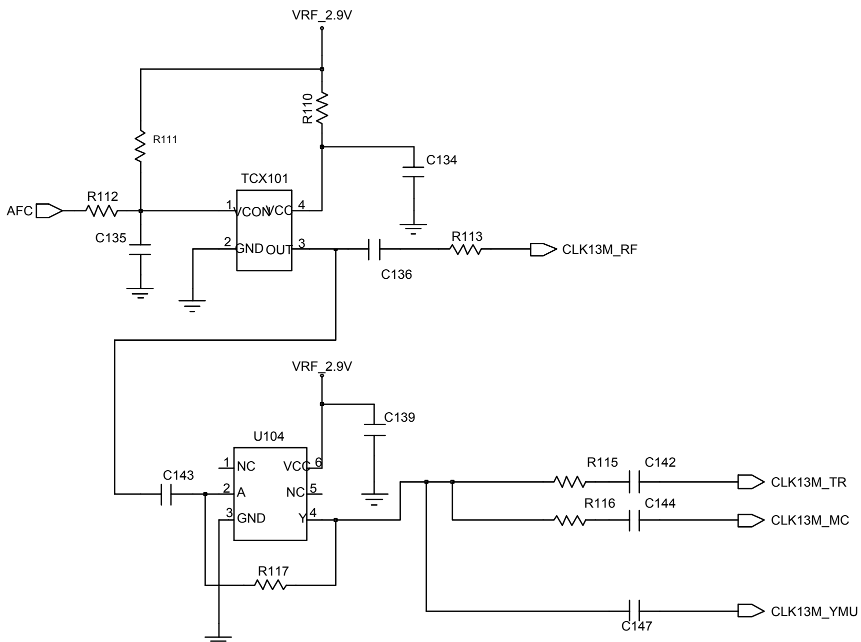


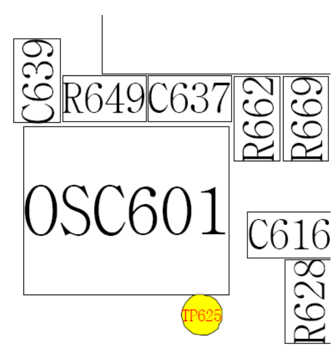




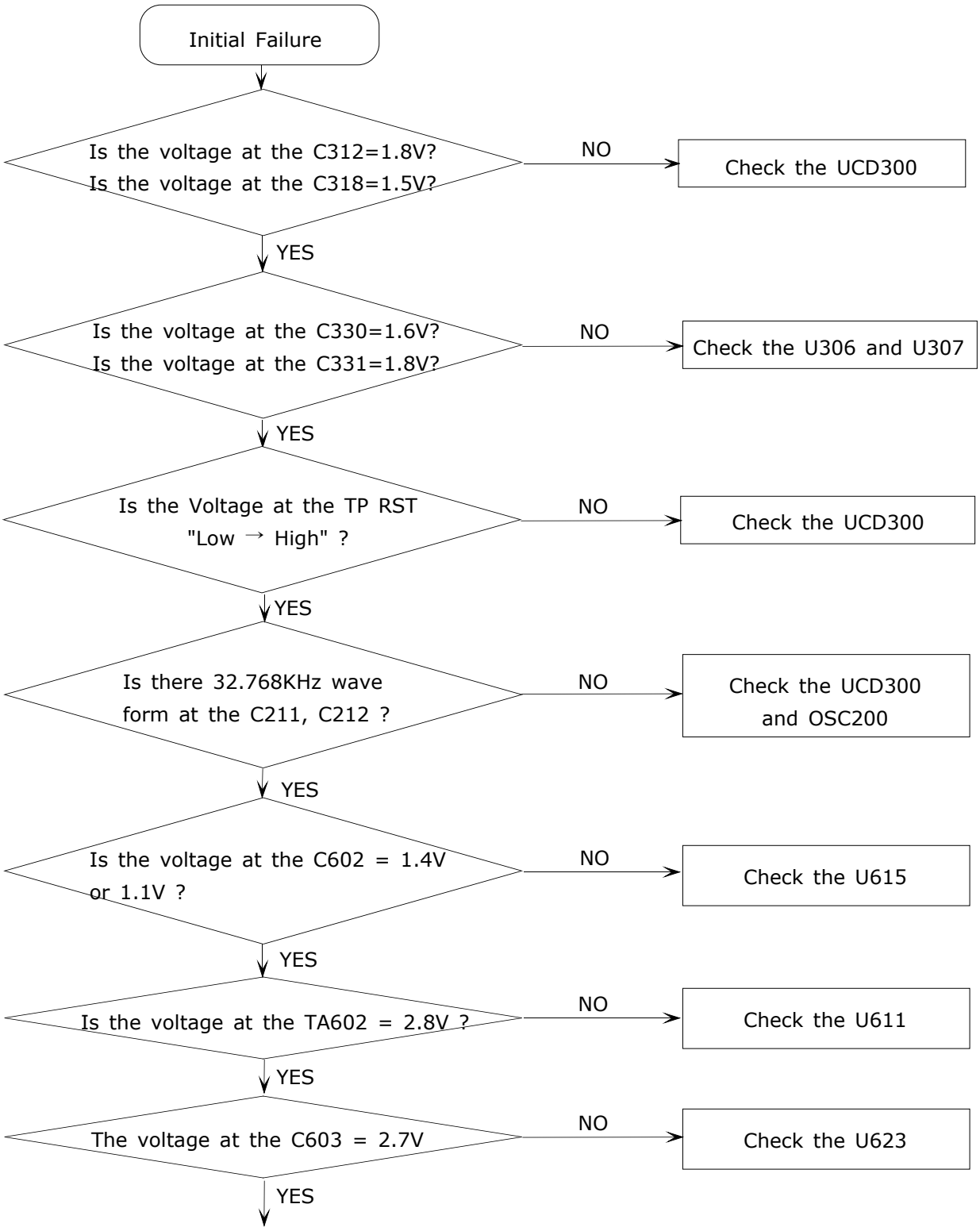


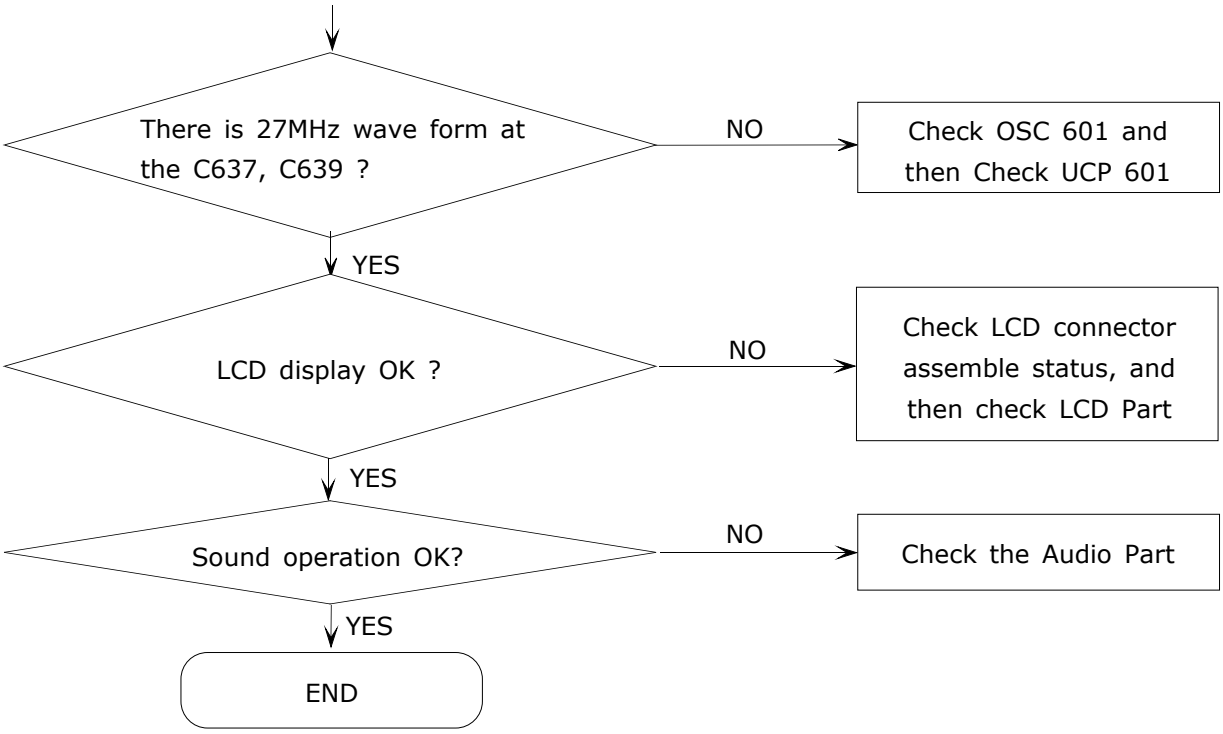


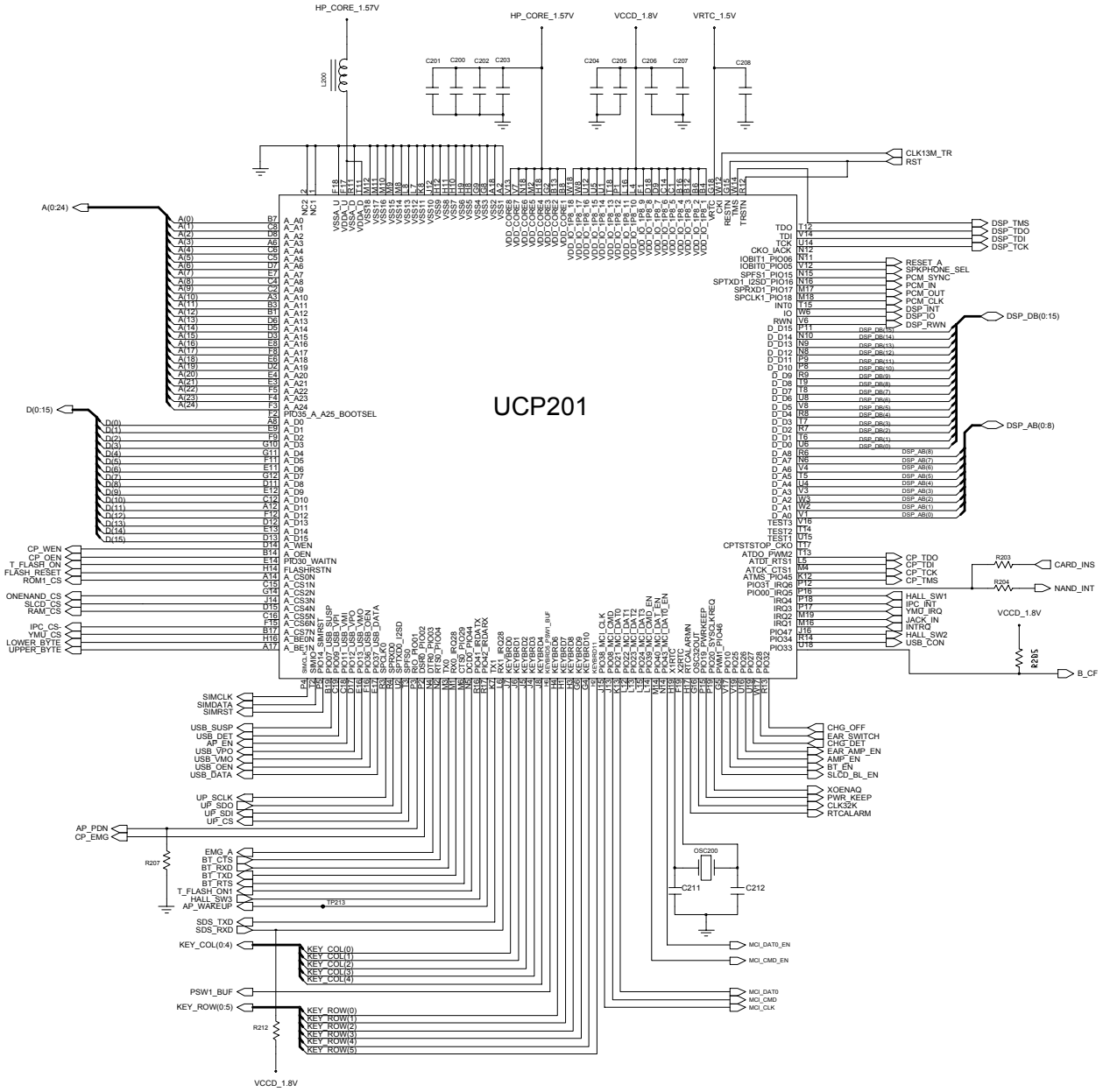


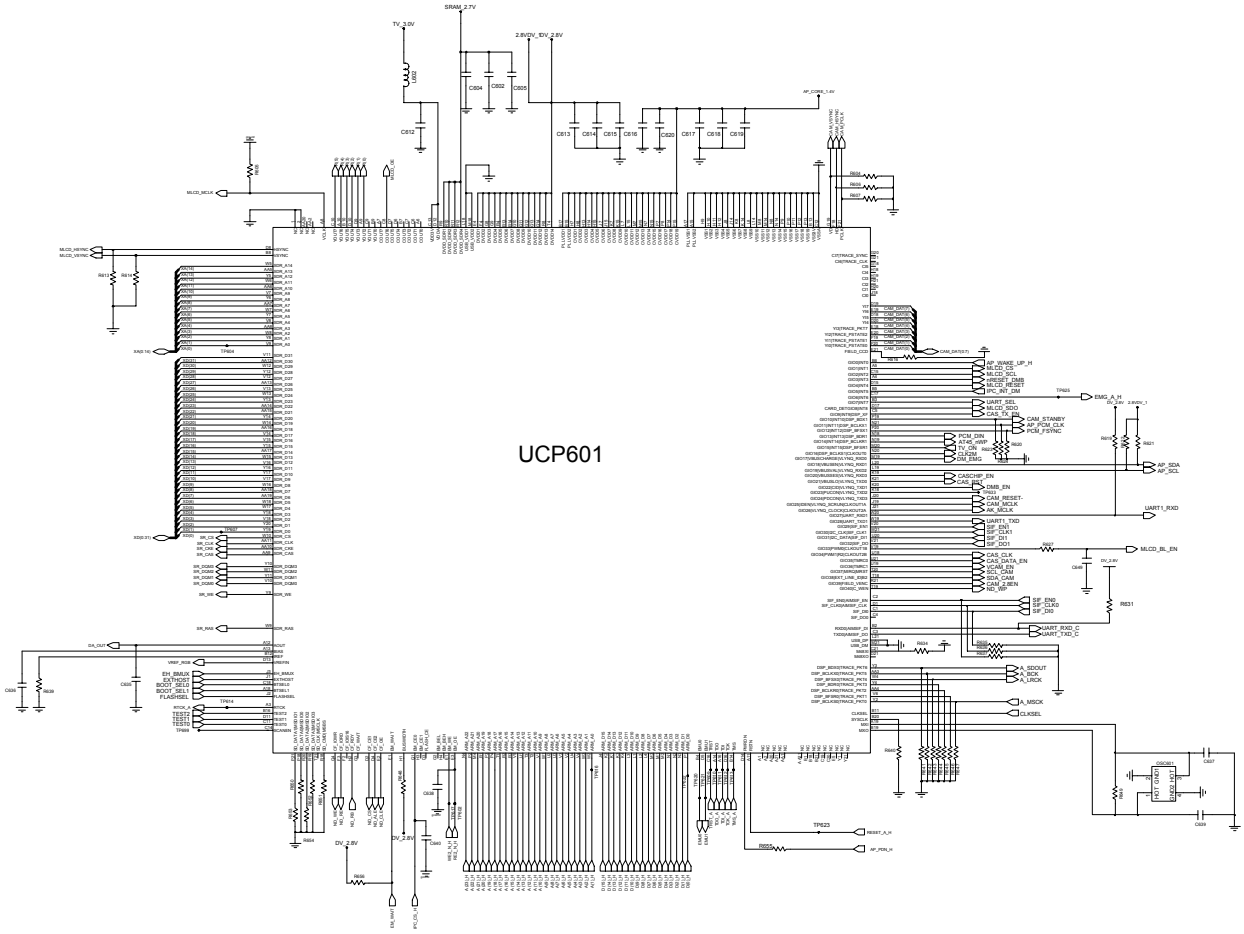


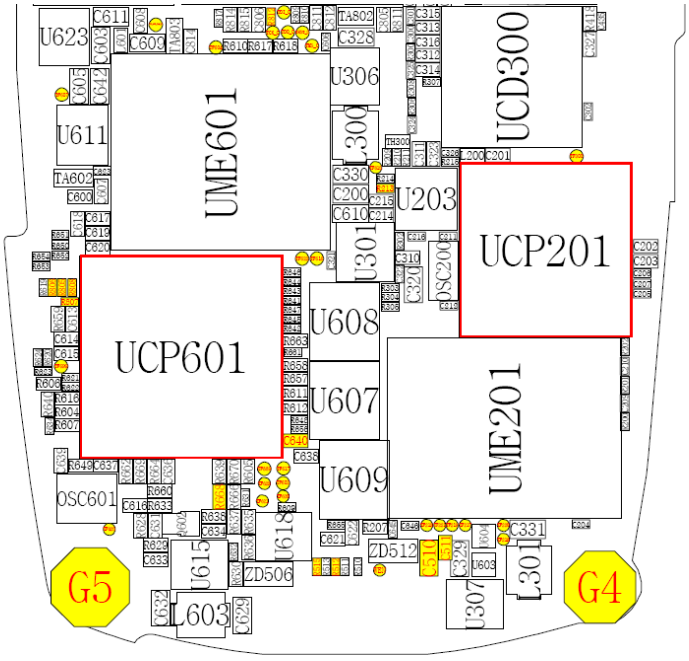
10-1-2. Initial



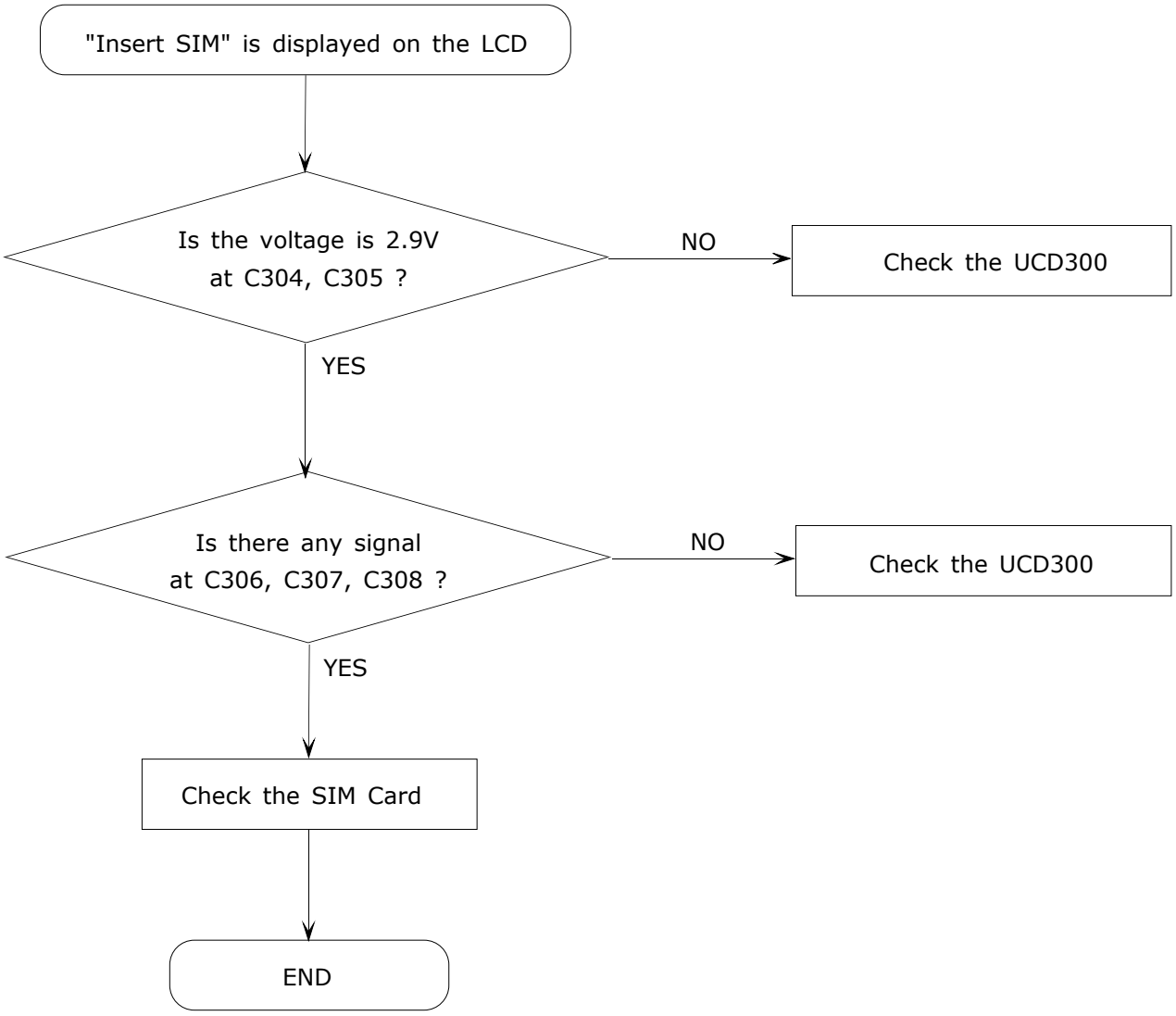


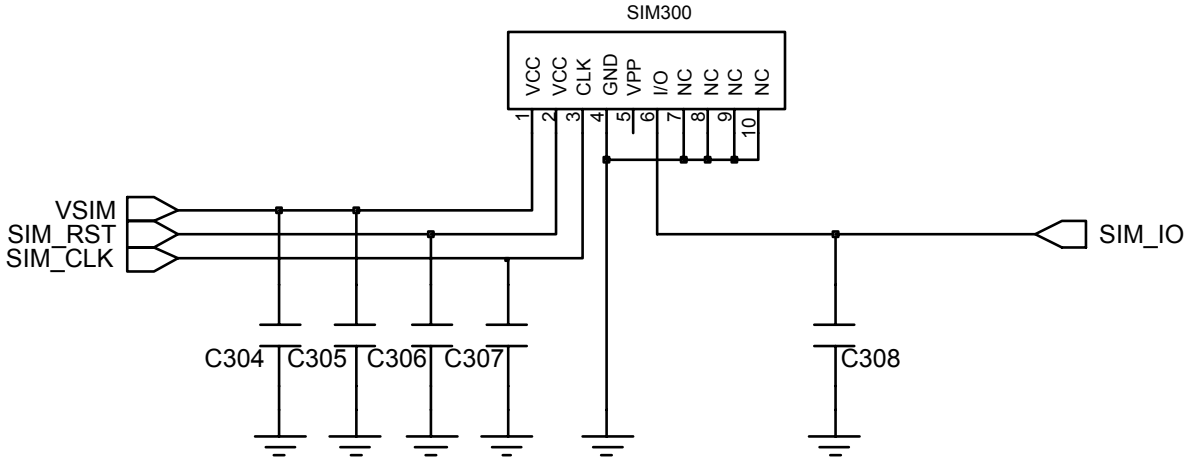


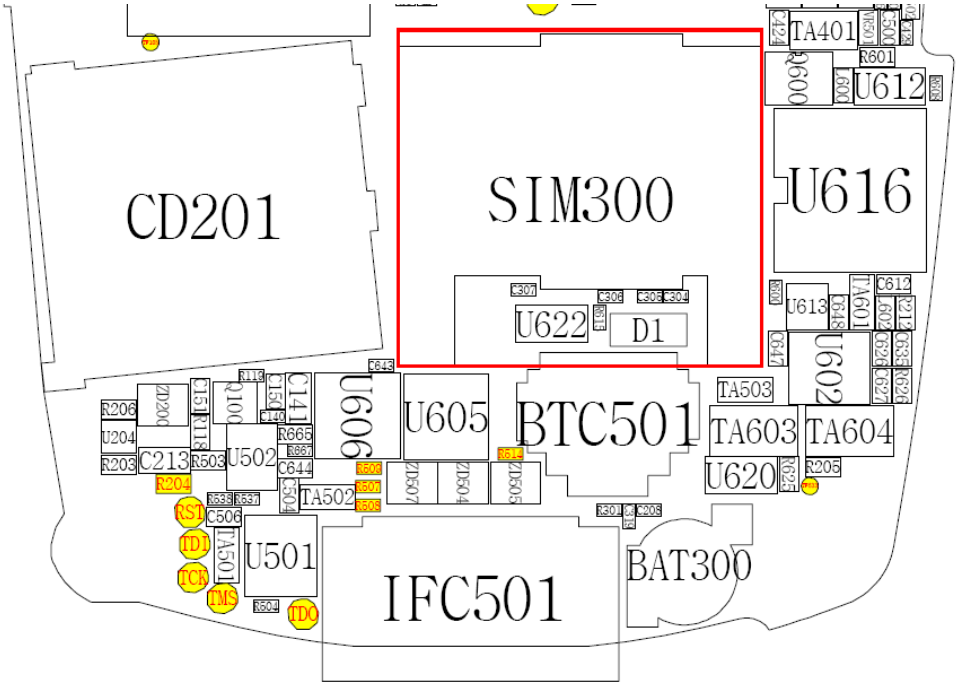




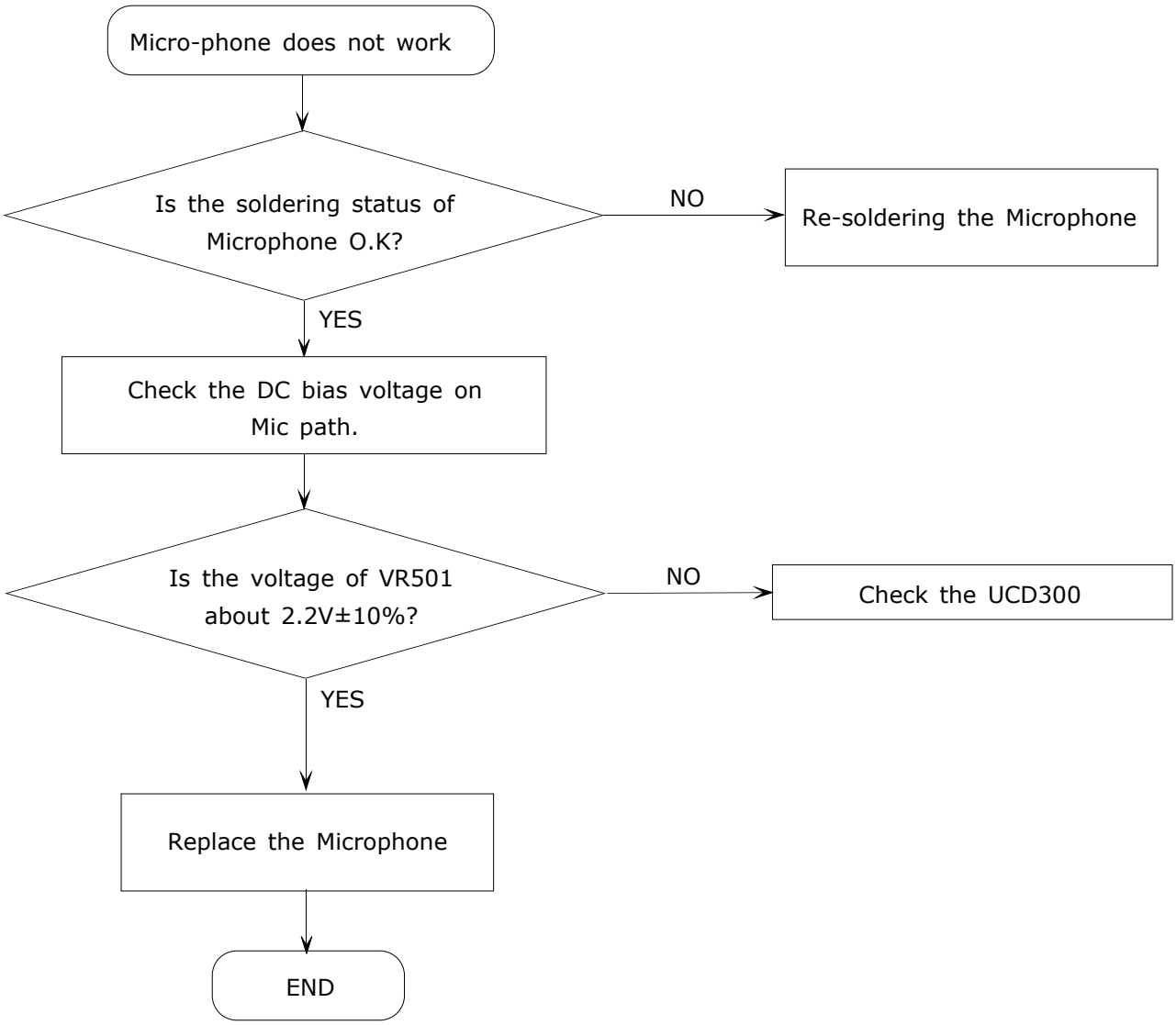
10-1-3. Sim Part

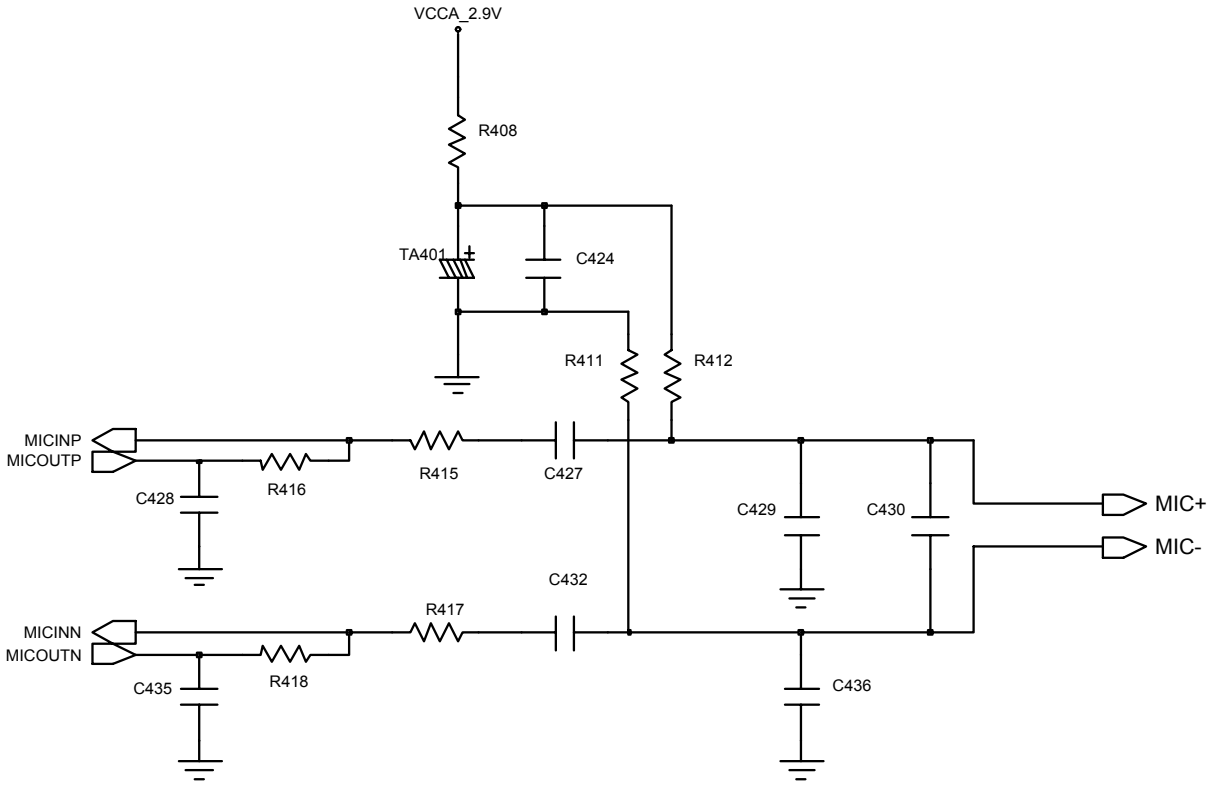


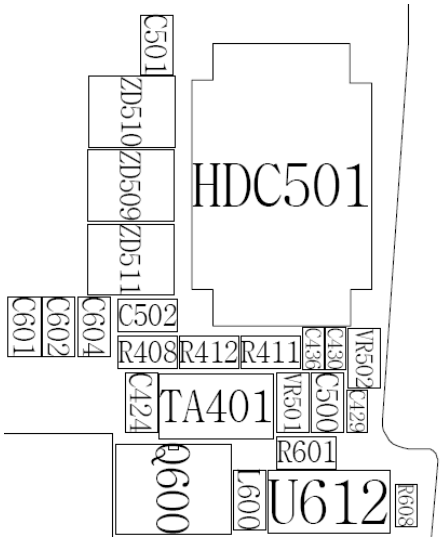




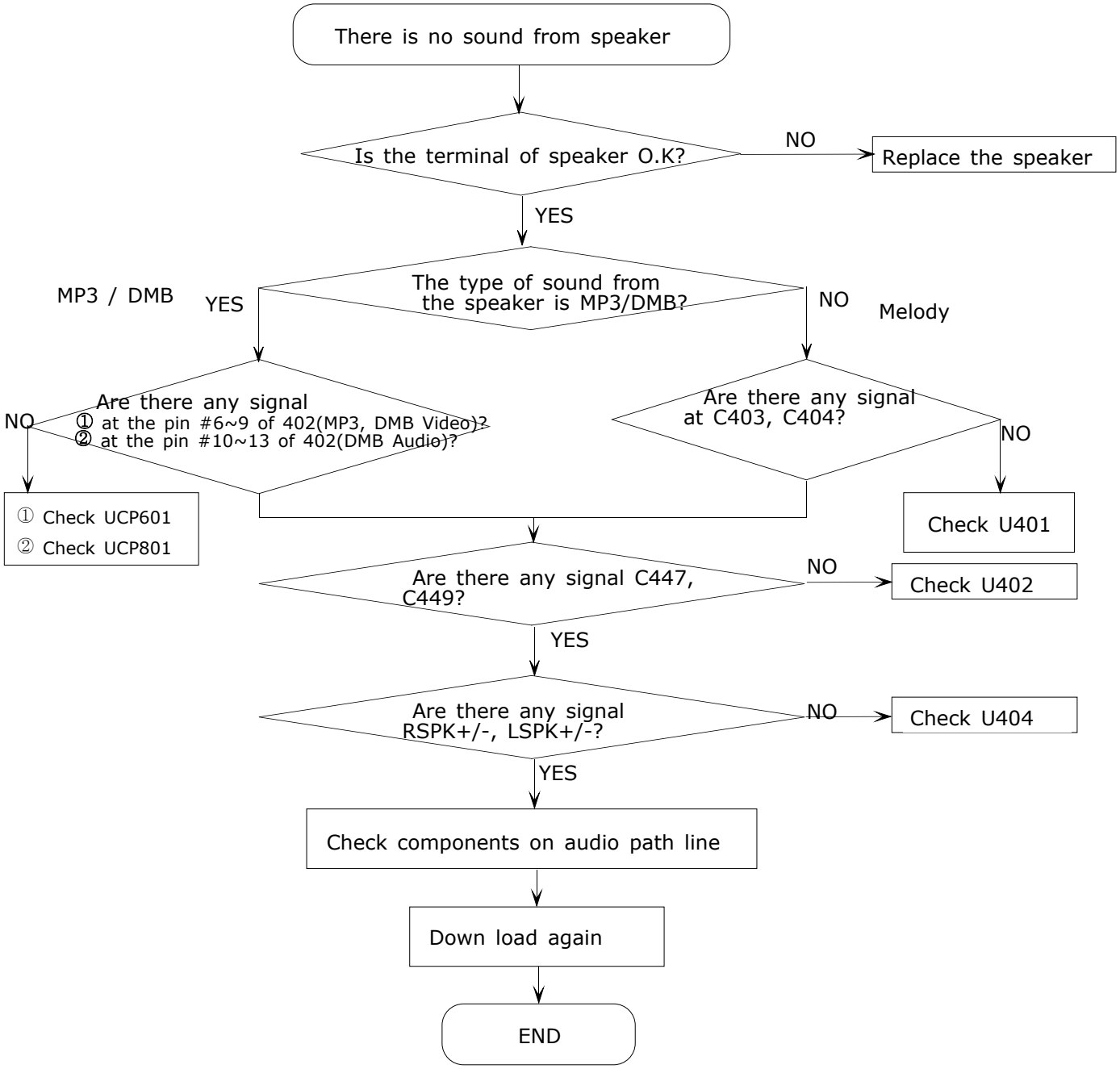
10-1-4. Microphone Part

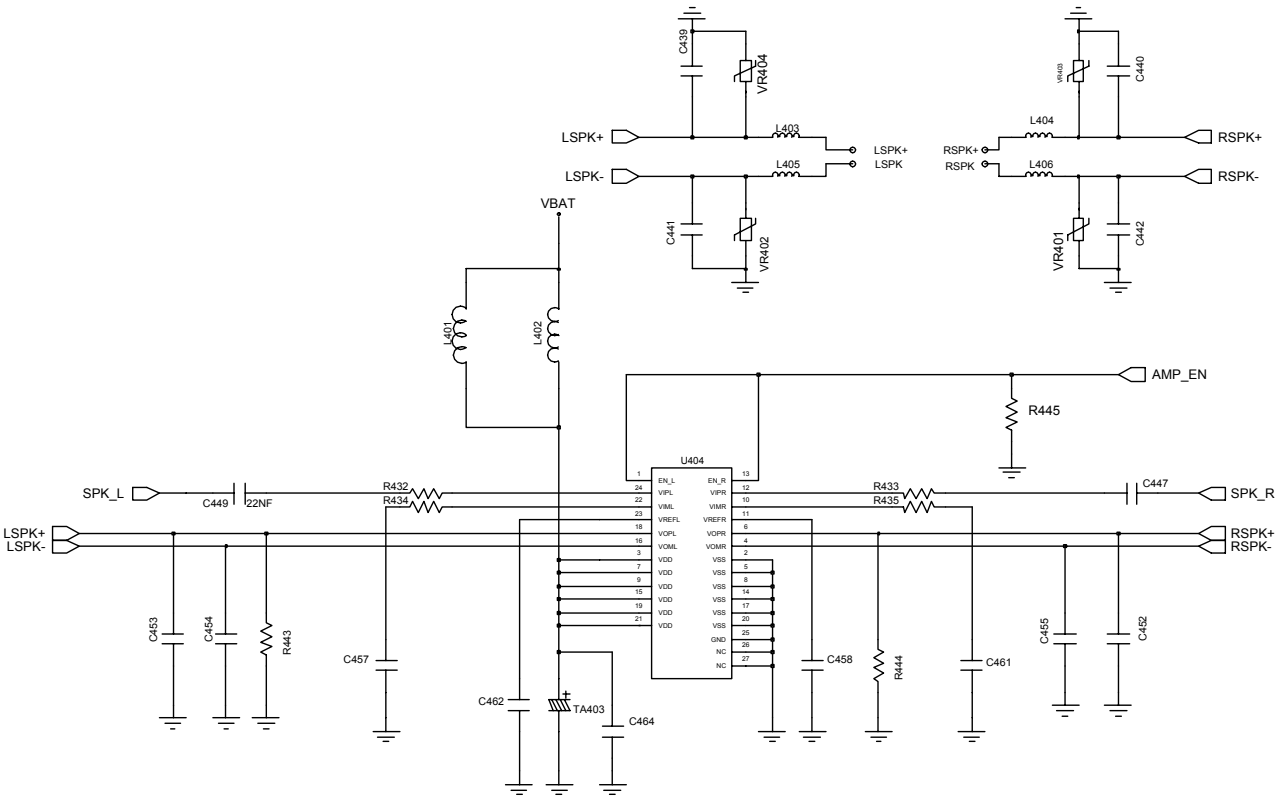


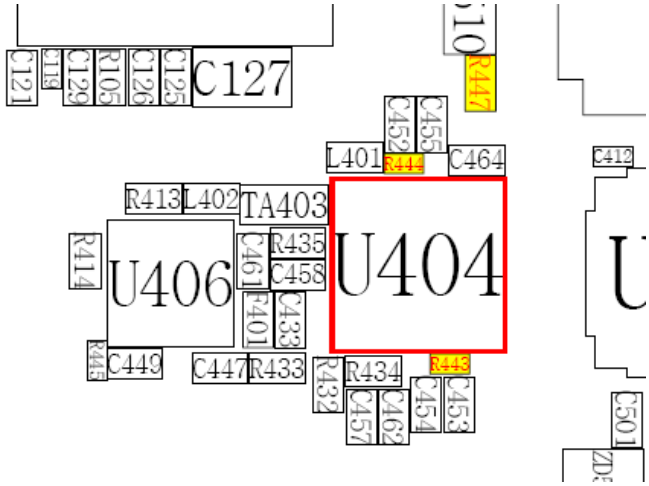


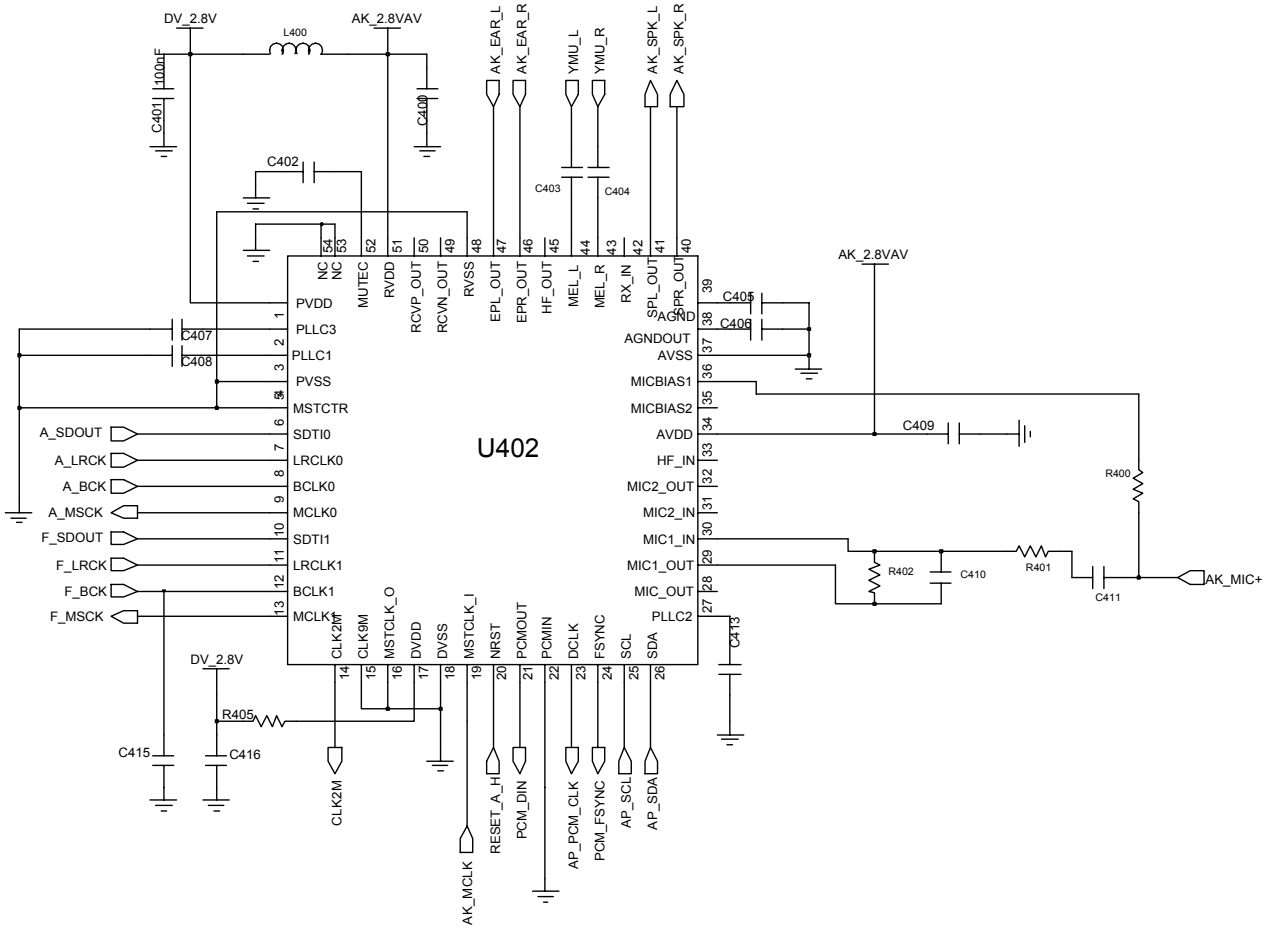


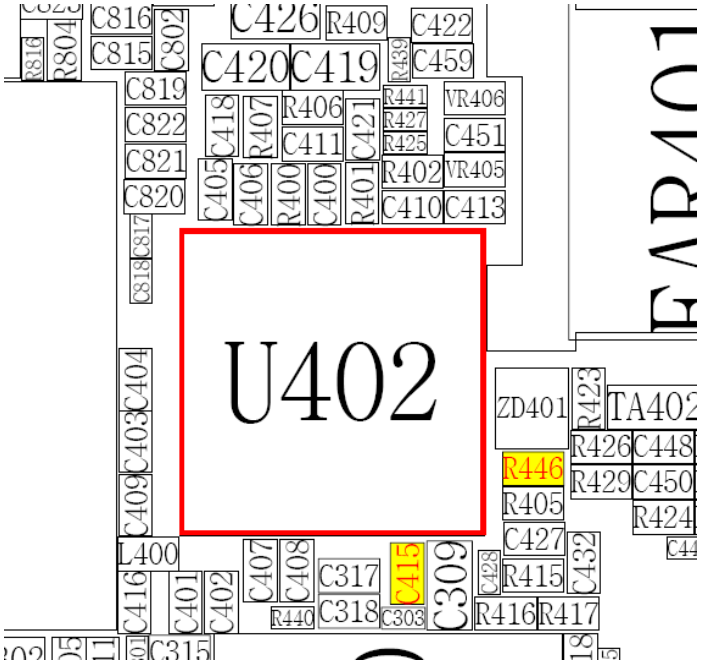
10-1-5. Speaker Part



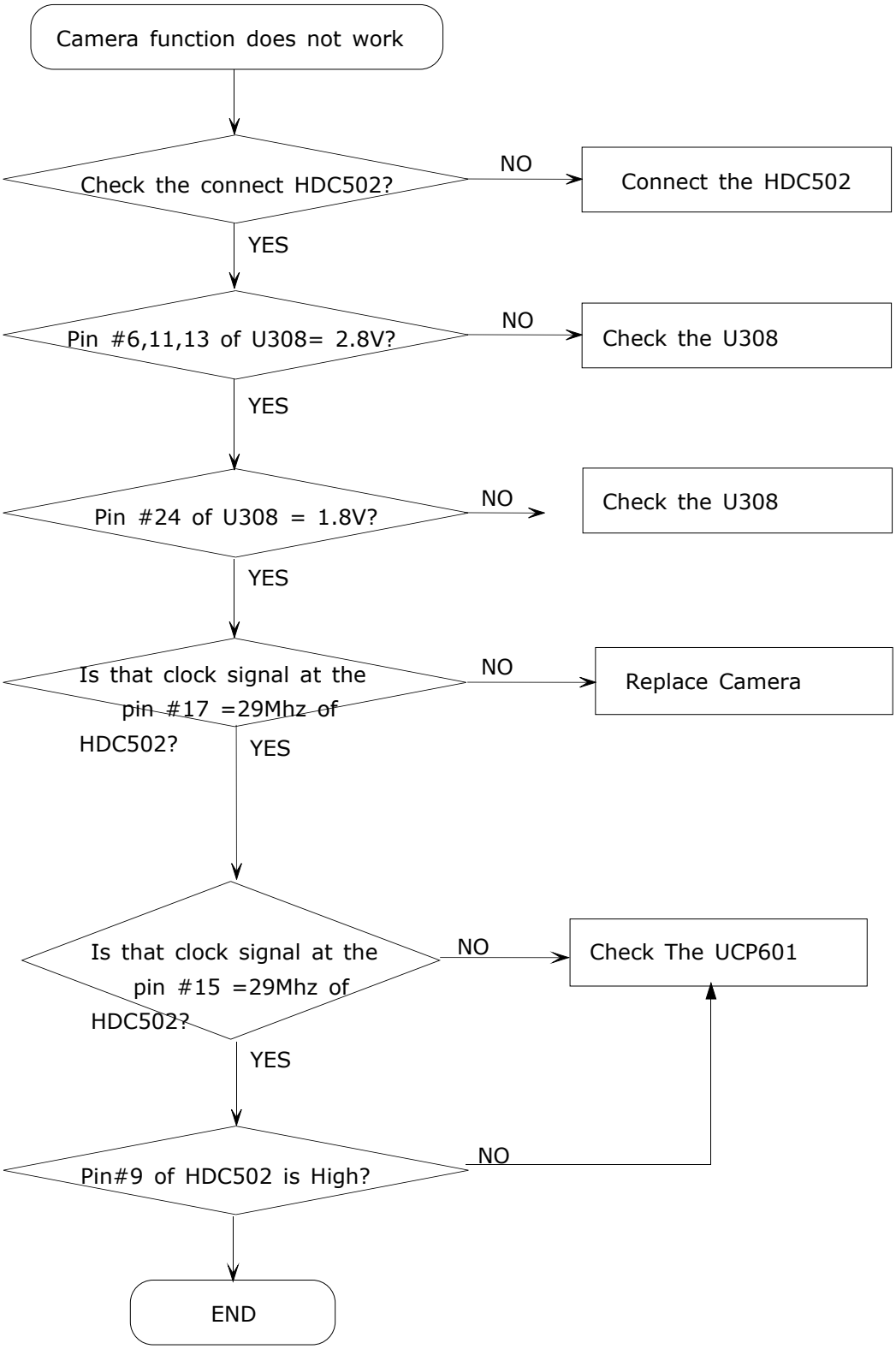


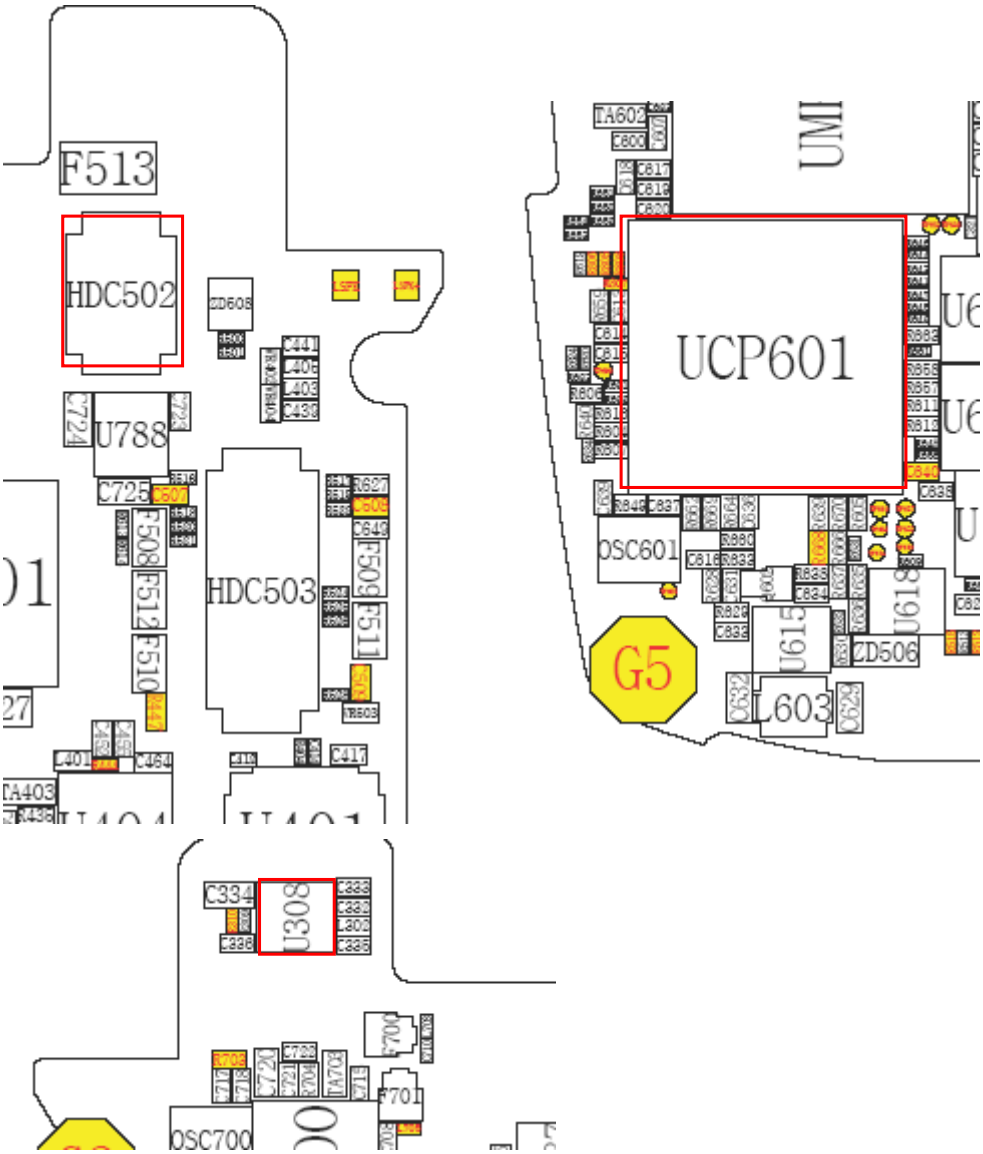


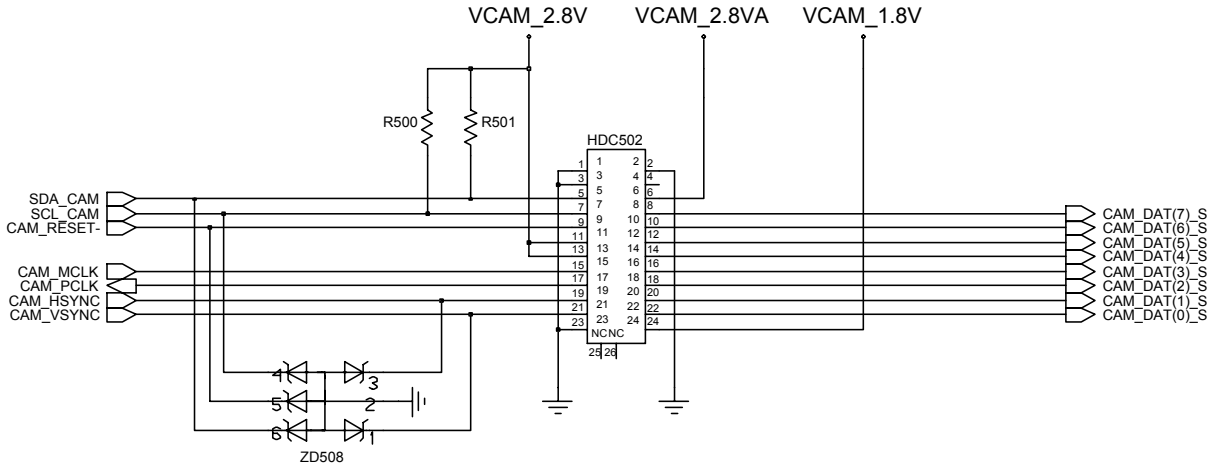




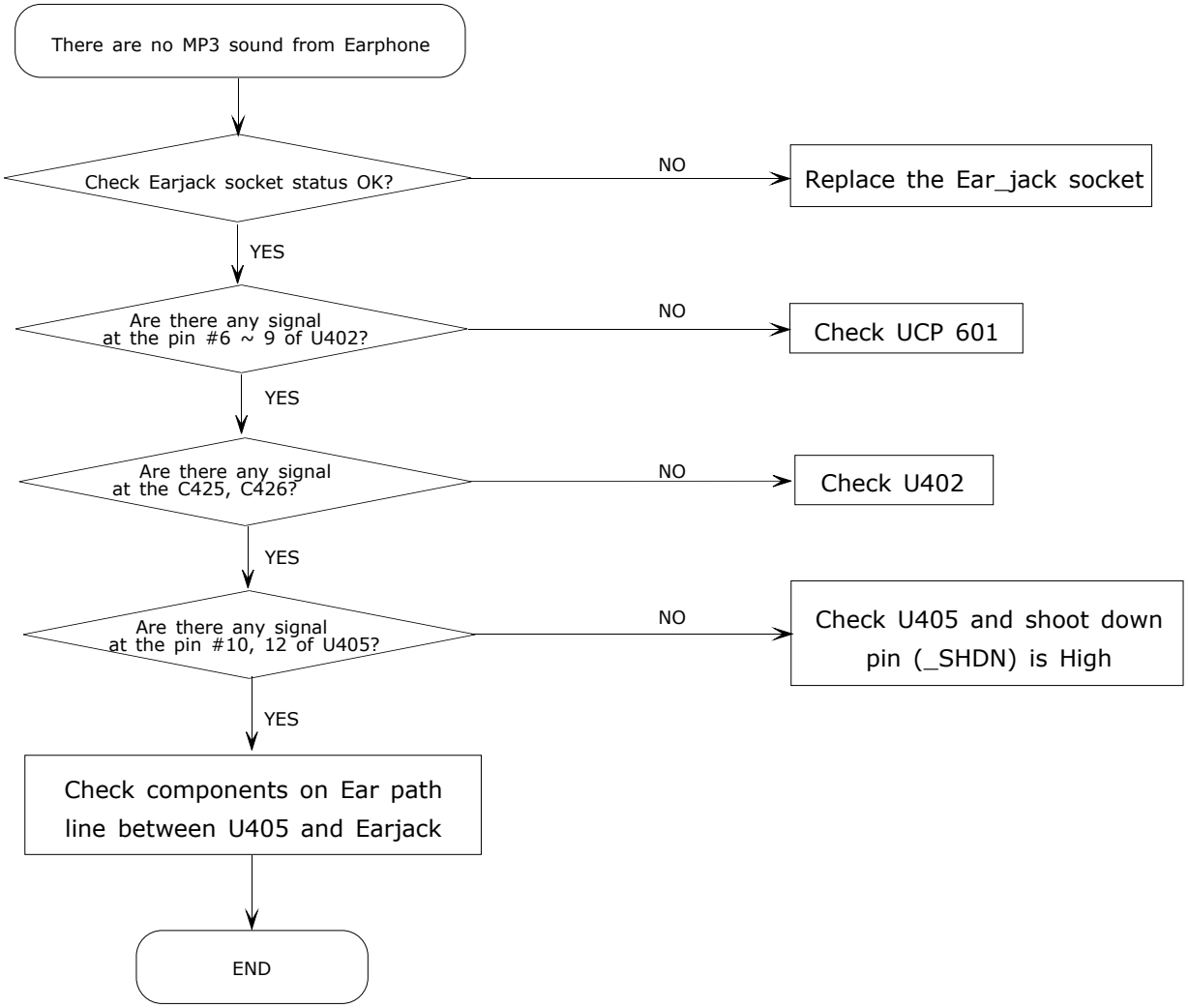
10-1-6. Camera Part

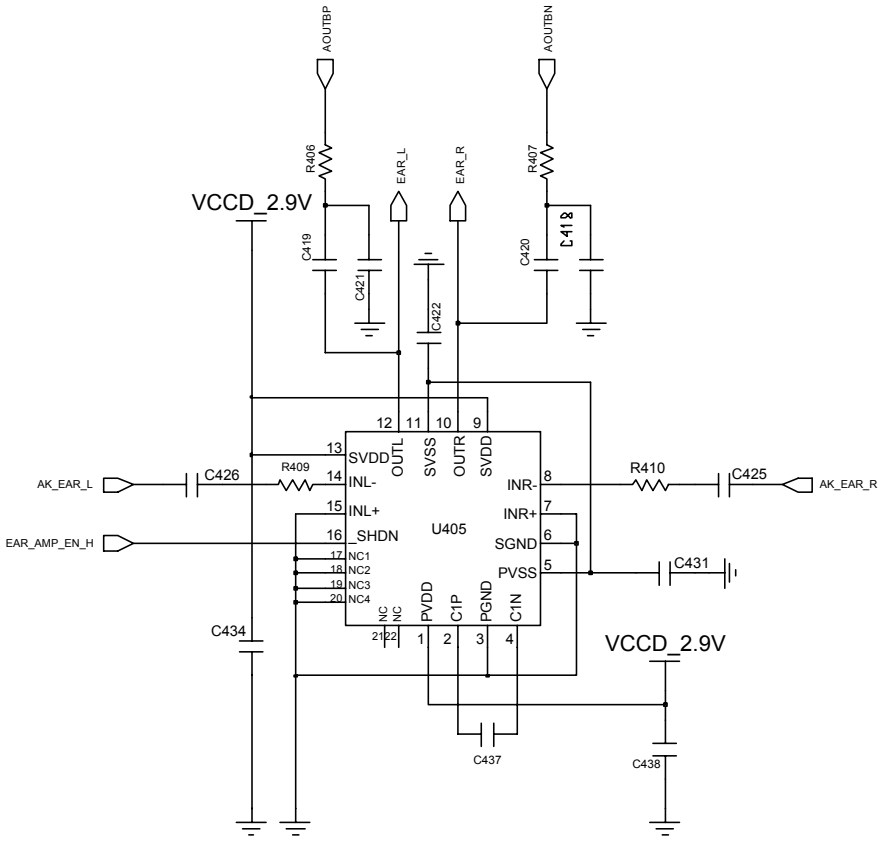


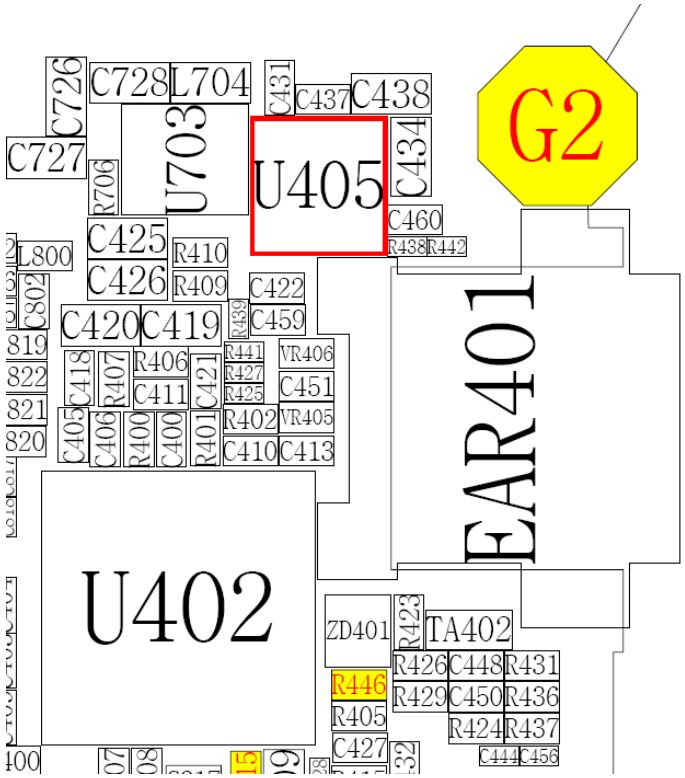




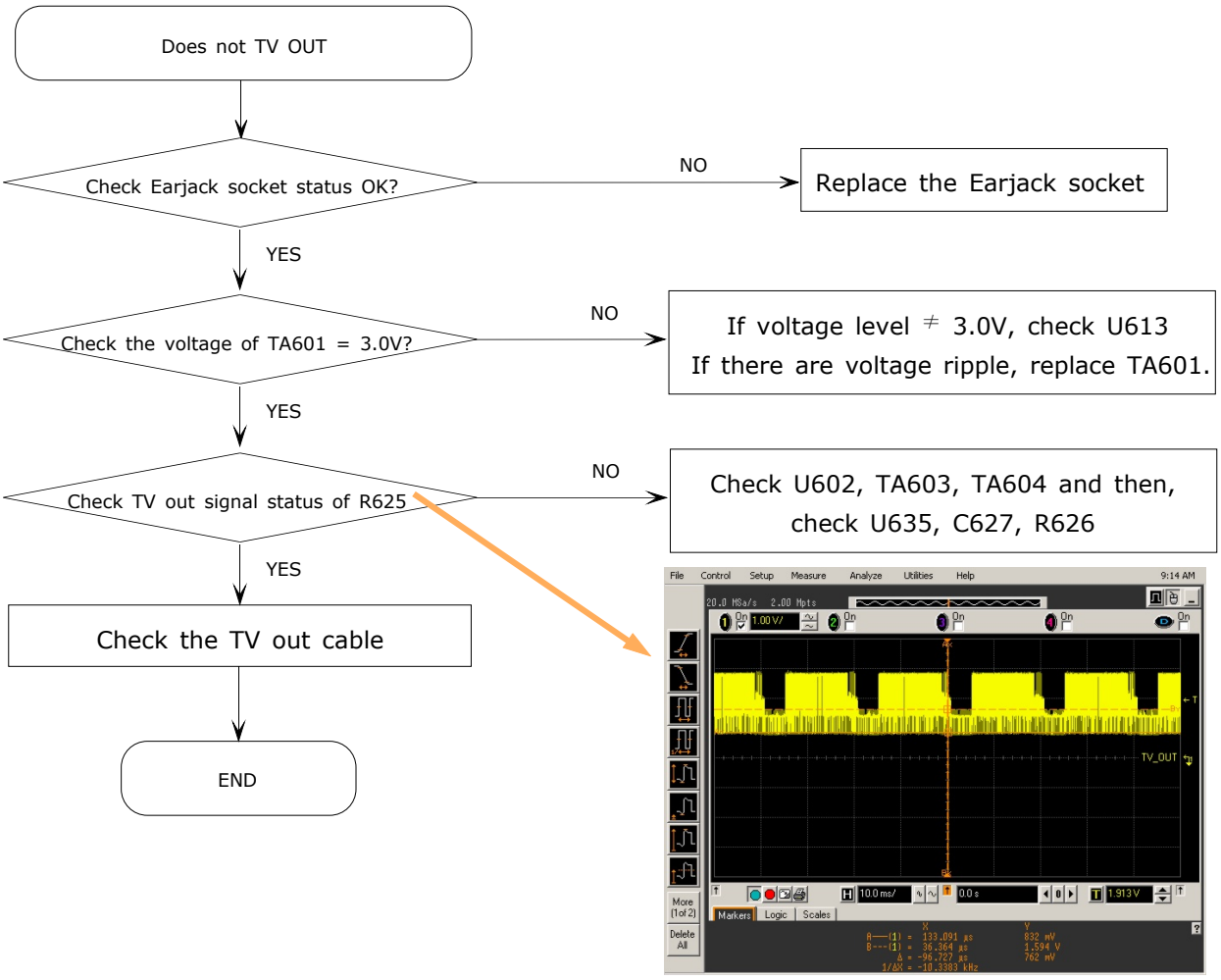
10-1-7. Mp3 play Part

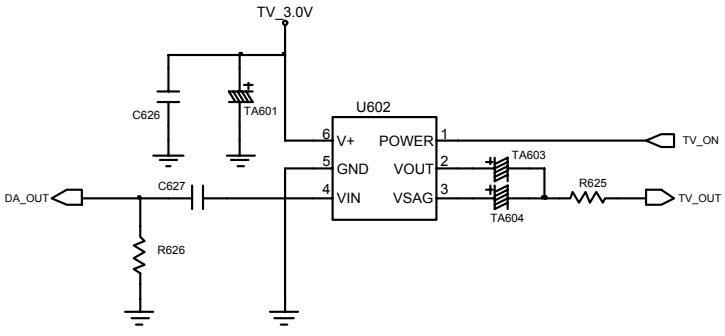


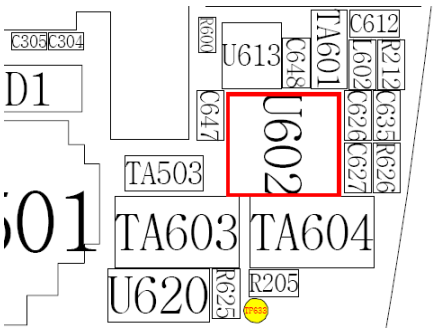




10-1-8. TV OUT

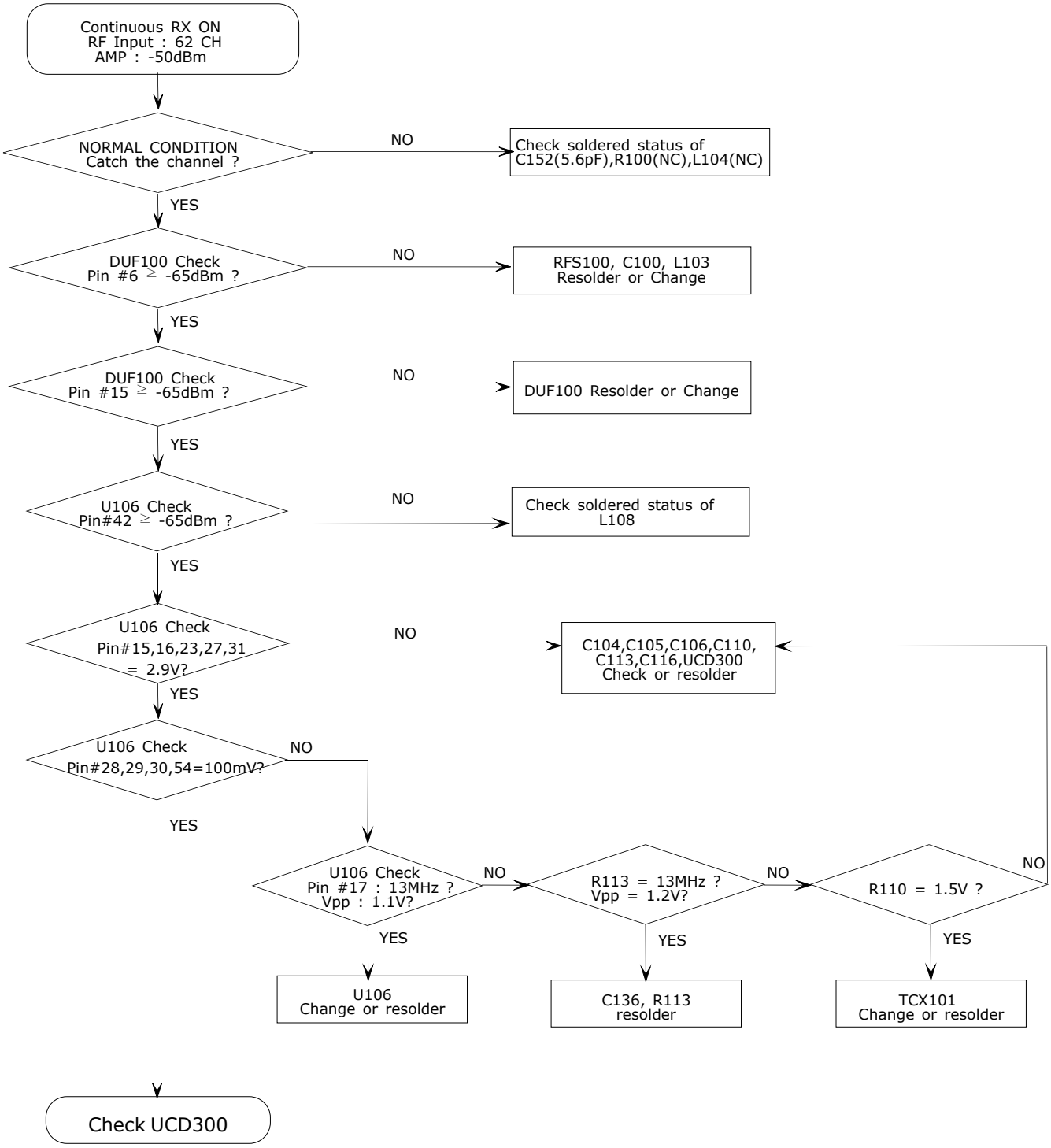




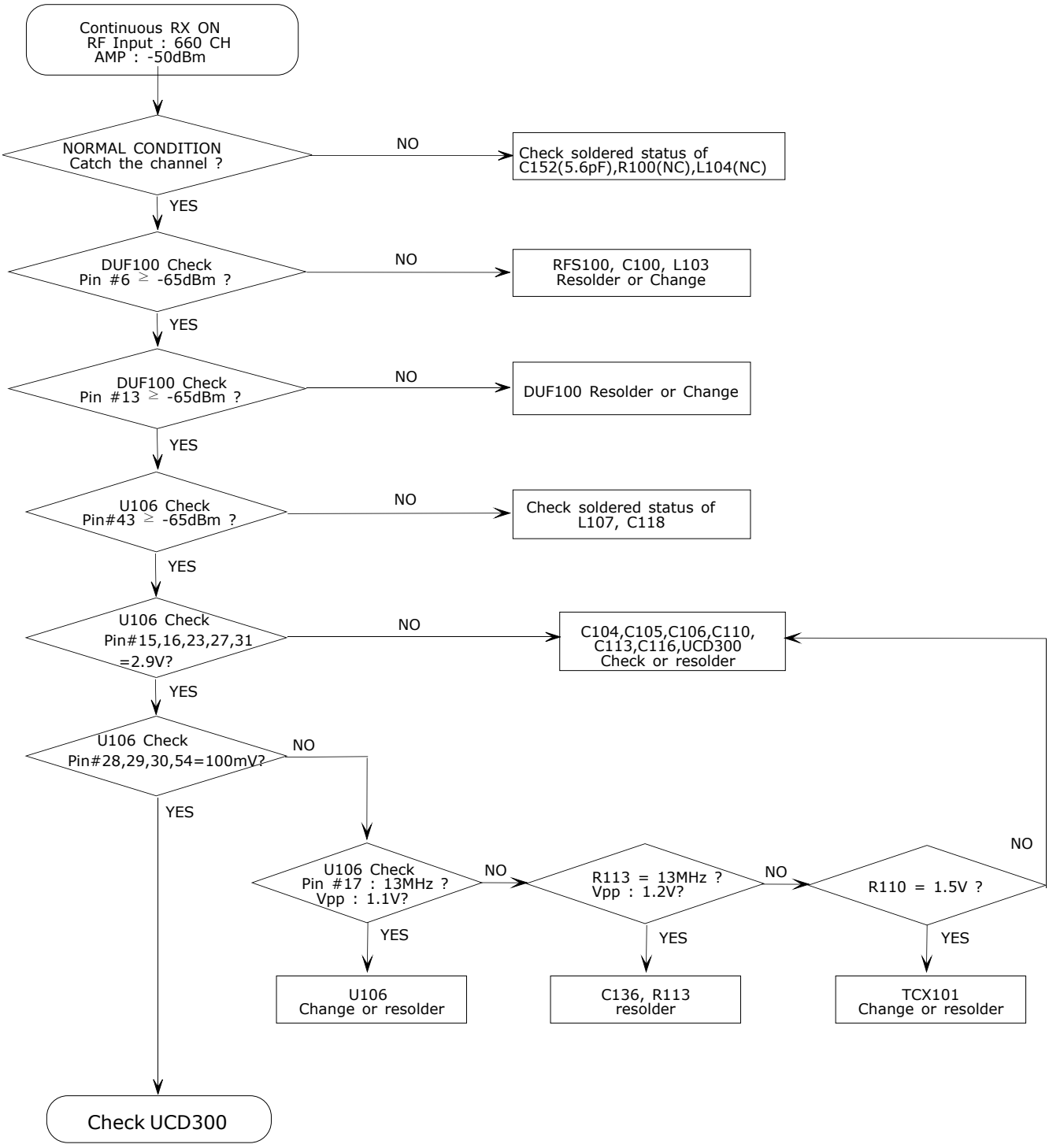


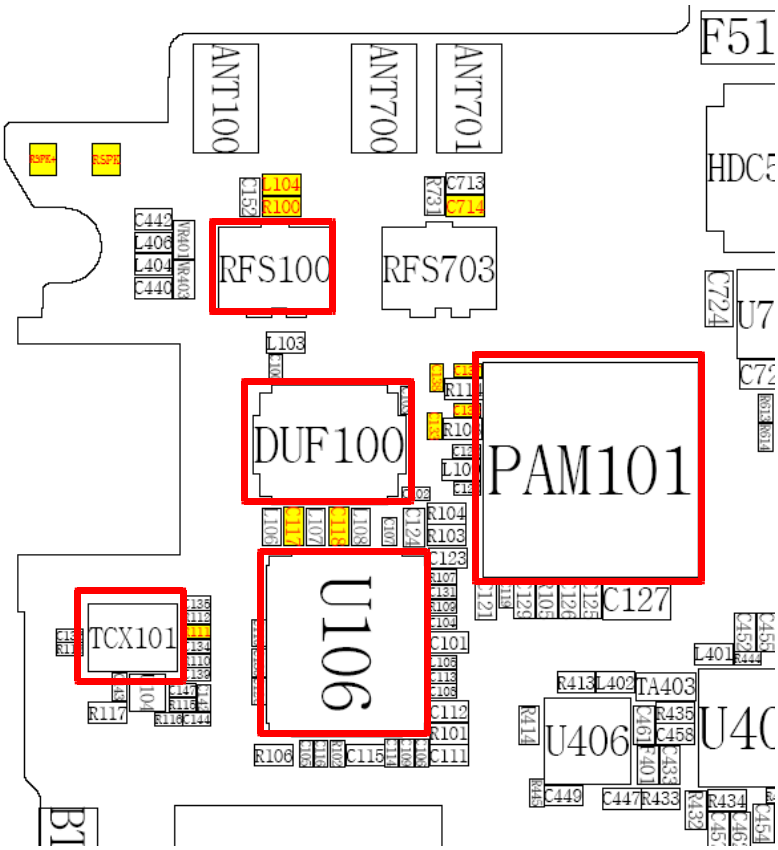
10-2.RF

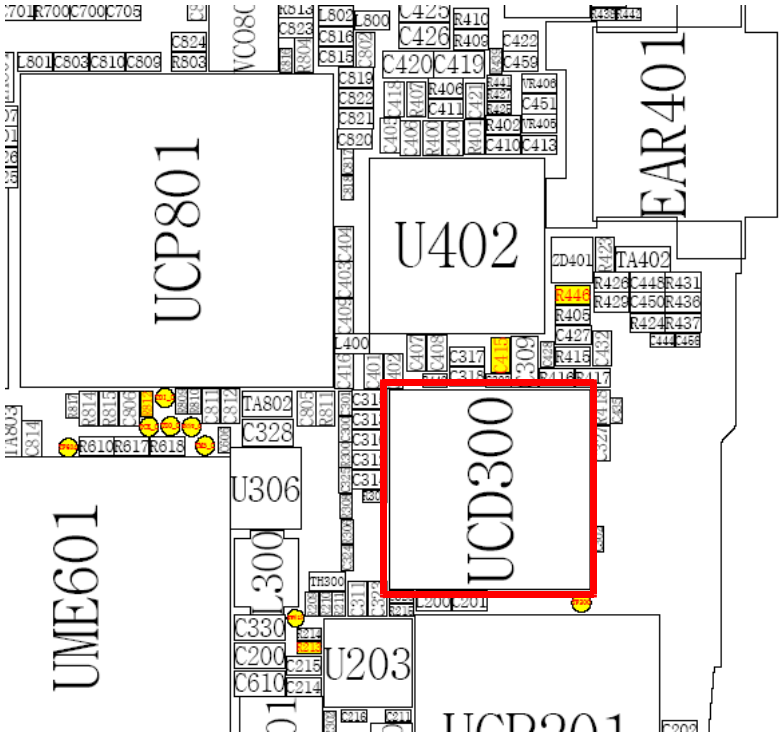
10-2-1. EGSM RX



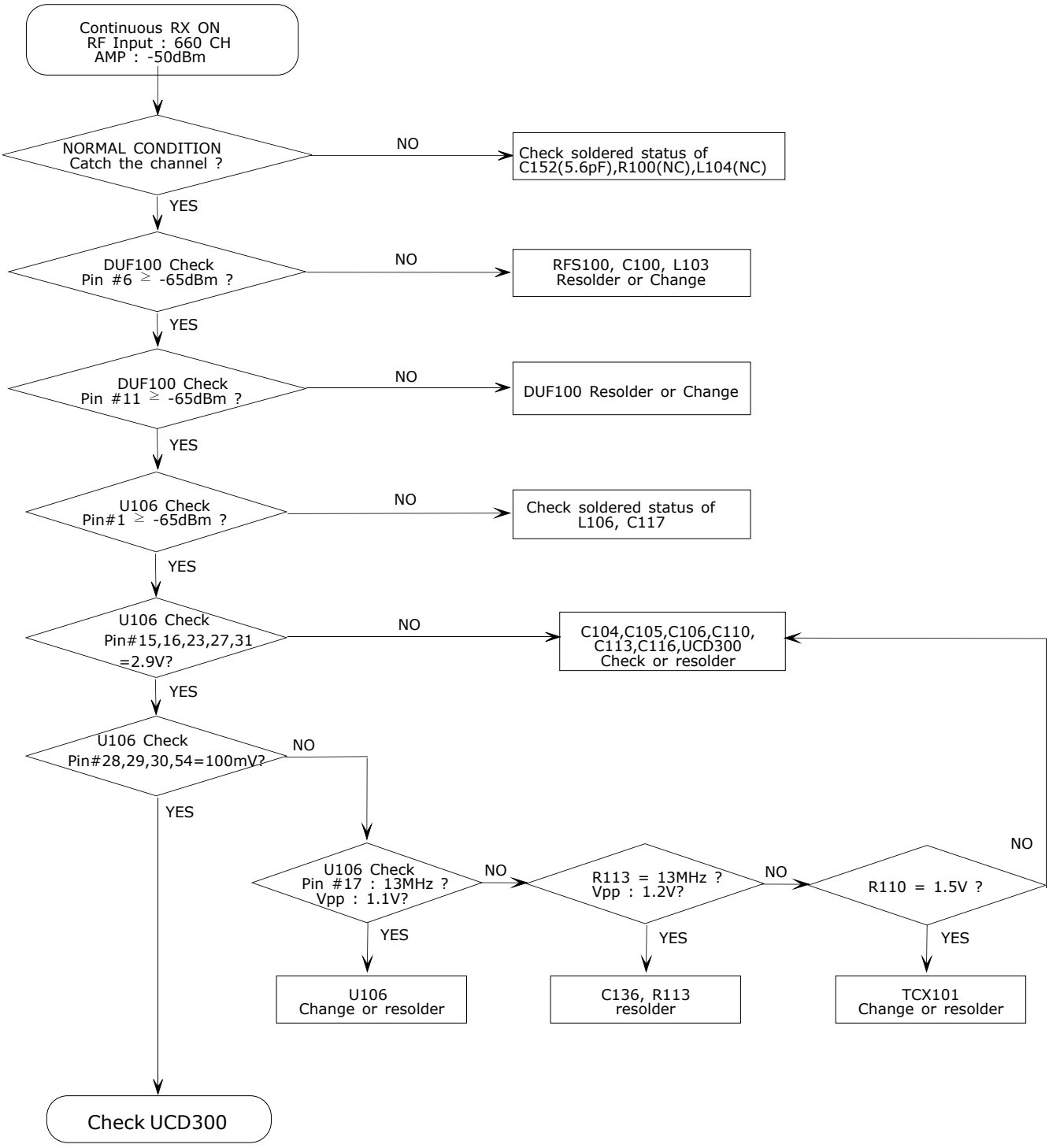
10-2-2. DCS RX







10-2-3. PCS RX



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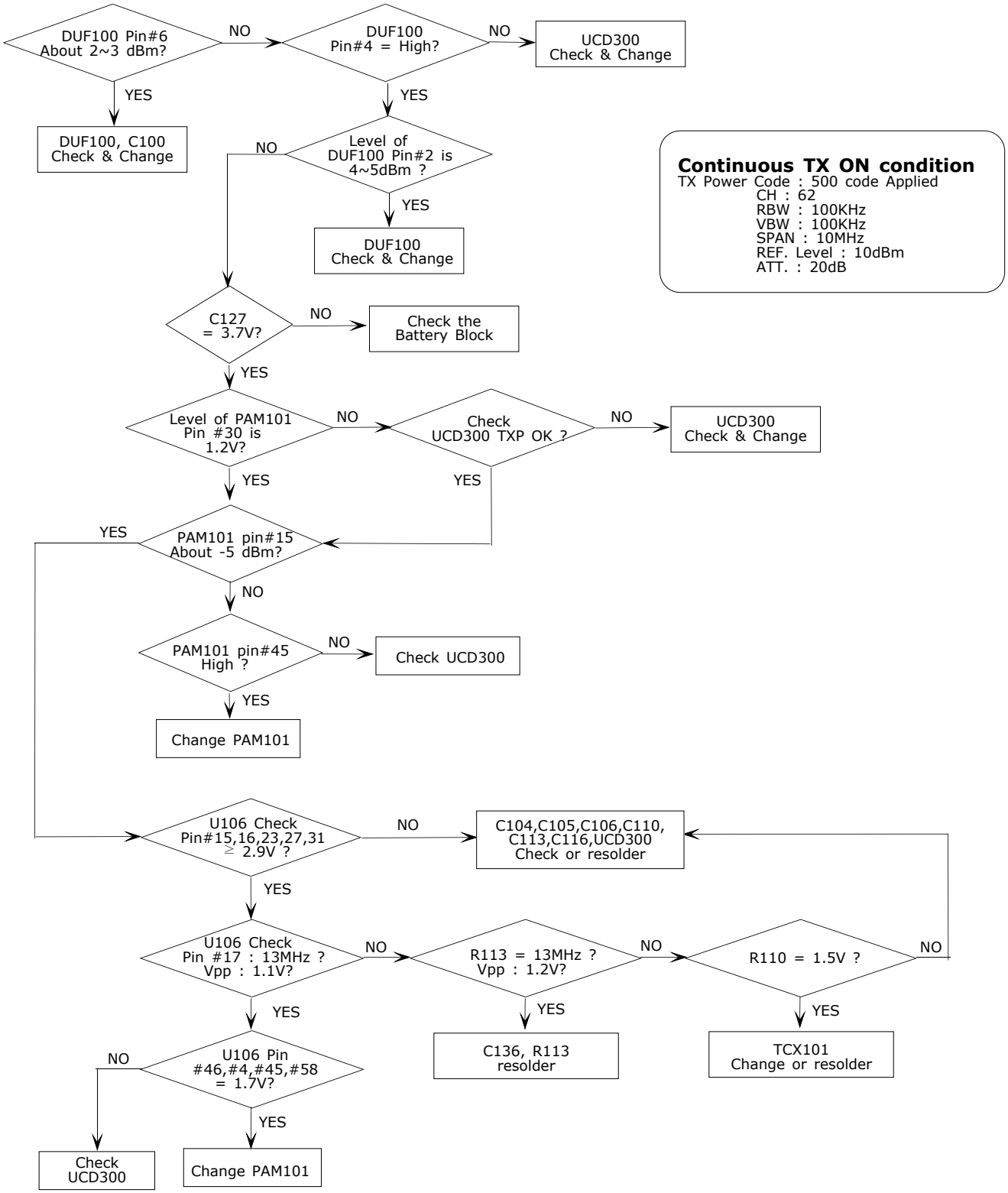
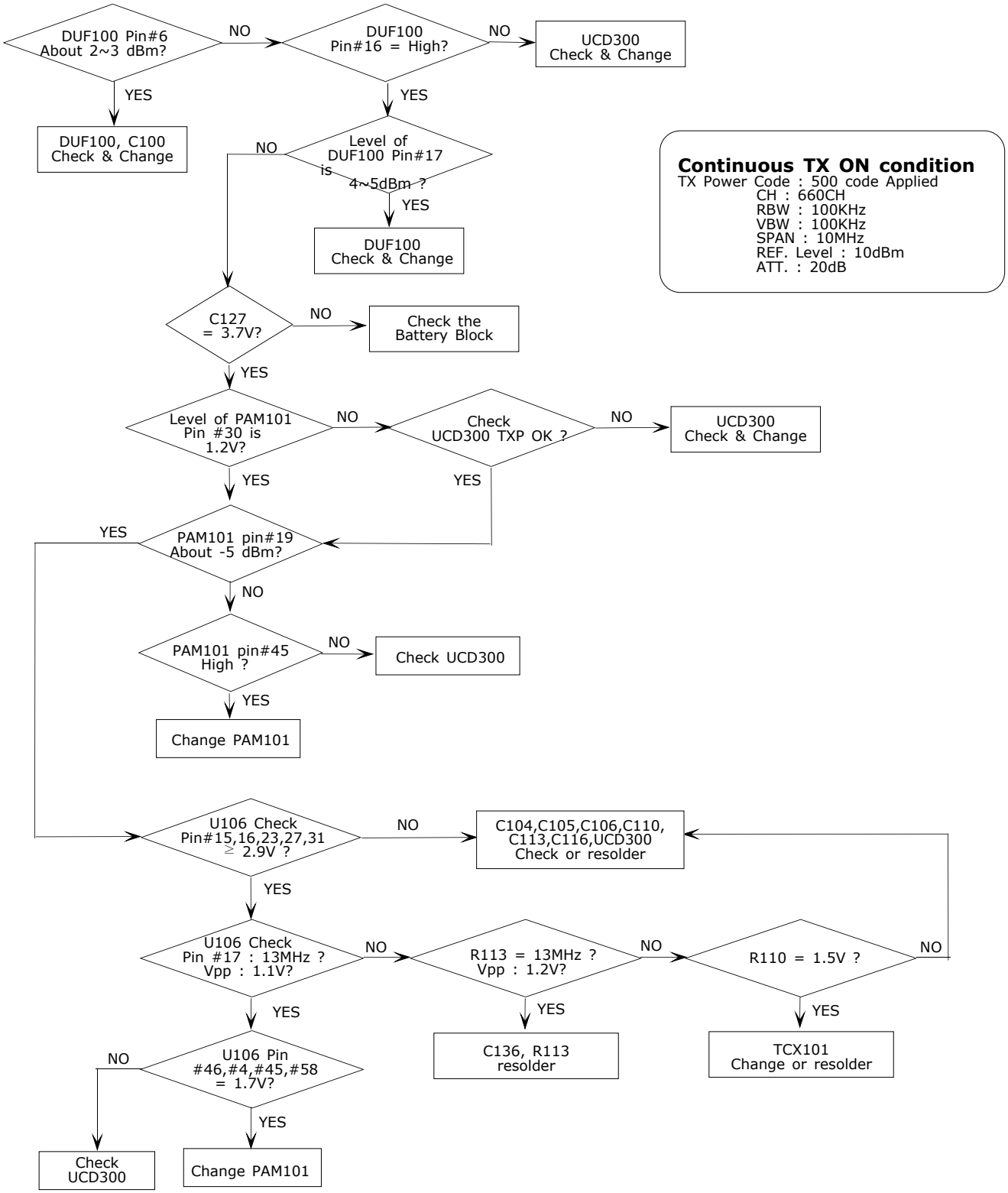
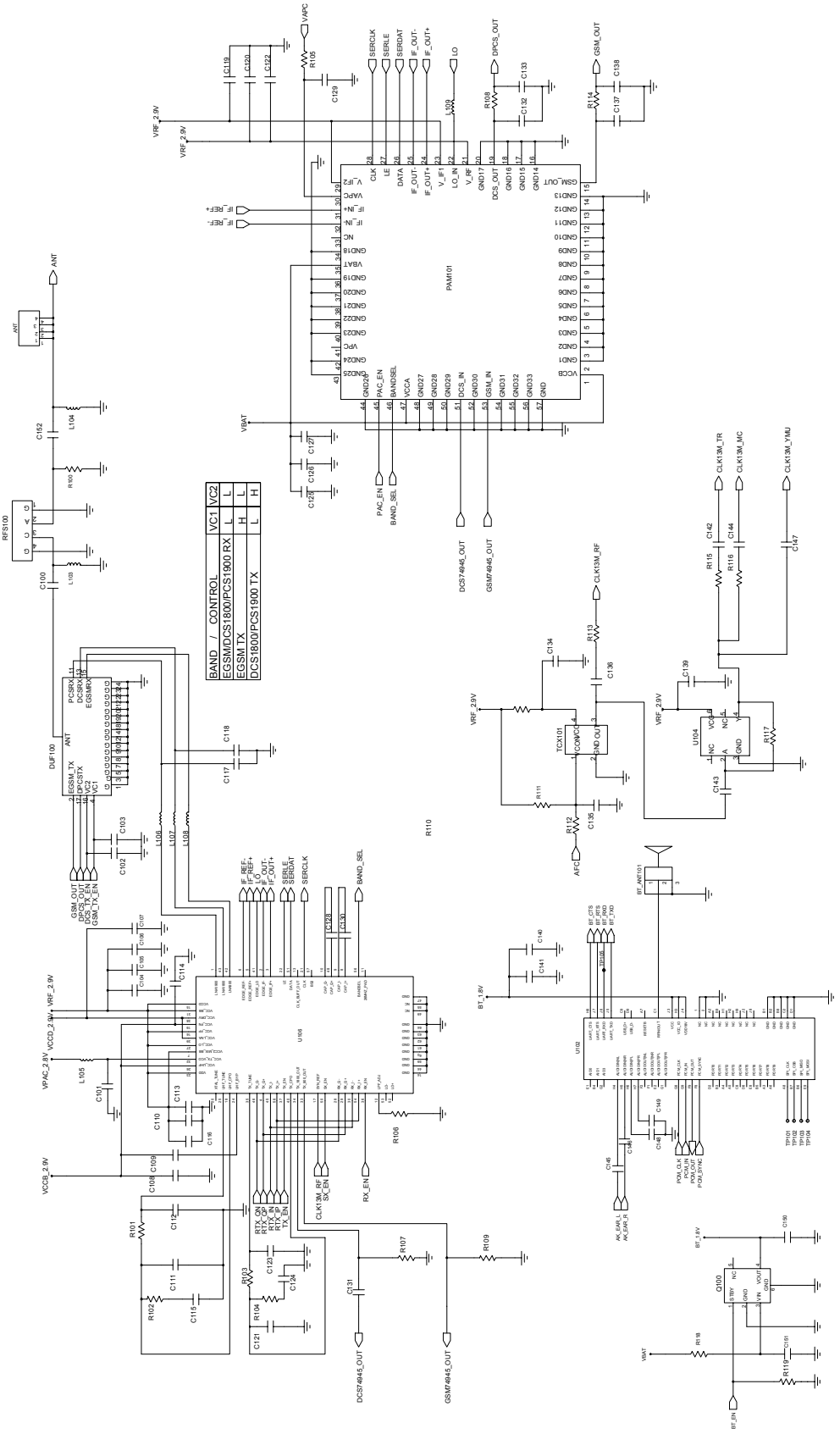


10-2-5. DCS & PCS TX





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

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Code No.: GH68-08897A
2006. 05. Rev.1.0