GSM PHONE
SERVICE MANUAL

1st version
(2004, 06, 09)

MODEL : BD38

Table Of Contents

1. Introduction

BD38 is a folder type mobile phone operated in the GSM Digital Cellular Mobile Radio System, which is the Pan-European mobile cellular standard. BD38 has the operation band of GSM 900 and DCS 1800. GSM Phase II features are fully supported and parts of the GSM Phase II+ features are also supported. About the SIM Toolkit, BD38 supports up to Class 3 including Class 1, 2. For speech communication, BD38 supports Full Rate(FR), Enhanced Full Rate(EFR) and Half Rate(HR). For easy text, eZi Text is implemented.

2. Specification

2.1 HW Features

Item	Description	Remark
Supporting standard	GSM 900/DCS 1800 Dual Band E-GSM Phase 2 and Phase 2+ SIM Toolkit : Class 1, 2	
Frequency range	E-GSM TX : 880 - 915 MHz E-GSM RX : 925 - 960 MHz DCS 1800 TX : 1710 - 1785 MHz DCS 1800 RX : 1805 - 1880 MHz	
Battery	Capacity Standard : Li-ion, 720 mAh	
Display	1. Full graphic type 2. Single LCD 3. Main LCD 65,000 color UFB STN LCD Pixels: 128x160	
Antenna	Intenna type	
PC synchronization	Applied	
Speech coding	FR, EFR, HR	
Data & Fax	Built-in	
Vibrator	Built-in	
Dual Speaker	Built-in	
Portable Handsfree (Ear-Phone)	Built-in	
Travel charger	Built-in	

2.2 SW Features

Function	Detail Item	Comments
Normal features	Last dialed number	20 entry
	Last received number	20 entry
	Last missed number	20 entry
	Scratch pad memory	1
Call	Call waiting Call multiparty Call Hold Call Retrieve Call Swap	Yes(network dependent) Yes(network dependent) Yes(network dependent) Yes(network dependent) Yes(network dependent)
Audio	Earpiece volume	5 level
	Mute on& Mute off	Yes
Cell broadcast	CB option	On / Off
	Read topics	SIM / Phone
	Languages	Same as number of language
Voice memo	Voice recording Play Delete All	30 sec (15 sec x 2 entry)
Supplementary services	Call barring	All outgoing calls All outgoing international calls All outgoing int. calls except to home country All incoming calls when roaming
	Call Forward	Always Busy No Reply Unreach
Short Message	Write message	Send/Store
	Output message	Send/Save/Extract Number/ Delete/Delete All
	Input message	Reply/Forward/Edit/Extract number/ Delete/Delete All
	Status report	Delete/Delete All
	Call voicemail	
		CB Option(On/Off)/Read Topics(SIM/Phone)/Languages

Function	Detail Item	Comments
	Memory Status	
	Message set	Status report Expiry period/SMS center Voice center/Alert
Multi-band	Support of multi-band & mode	GSM 900 EGSM DCS1800
Miscellaneous function	Development & test facility	
	Field test facility	
	Display software version	
Text input	Language	English
	eZi text	Predictive word input
Scheduler	View day	
	View Monthly	
	View Weekly	
	Make	Meet Birthday Anniversary Memo Call
	Delete	
	Find	
	Setup	
World time	Setting local time	
	Number of selectable cities	28 Cities
Calculator	Operator	Addition Subtraction Multiplication Division
Unit converter	Length conversion Weight conversion Volumes conversion Surface conversion User define	
Counter	Count Key	Numeric key 1 to 9

Function	Detail Item	Comments
Melody Composer	Compose	4 Poly
	Melody List	10
	Delete All	
	Volume	1~5
Bio Rhythm	My Rhythm	
	Friend Rhythm	
	Special day	
	Setup	My Birthday Friend's Birthday
Game	2EA	Mobile Soccer Magic Hunter

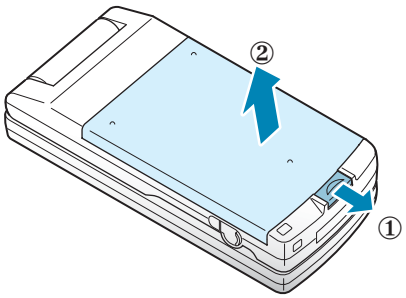
3. Disassembly Instruction

3.1 Before Disassembly

1. Remove the battery. To do so:

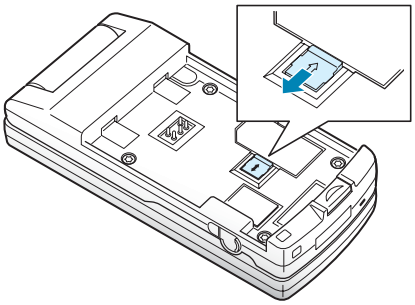
   ① Pull the battery lock below the battery.

   ② Lift the battery away.

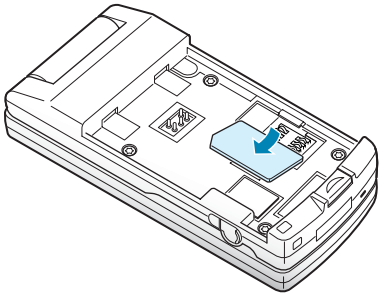


2. Remove the SIM card. To do so:

   ① Slide the metal lock in the direction of arrow.

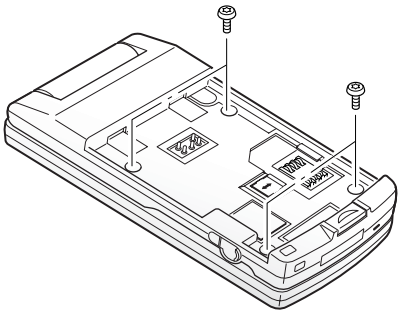


   ② Remove the SIM card as shown.

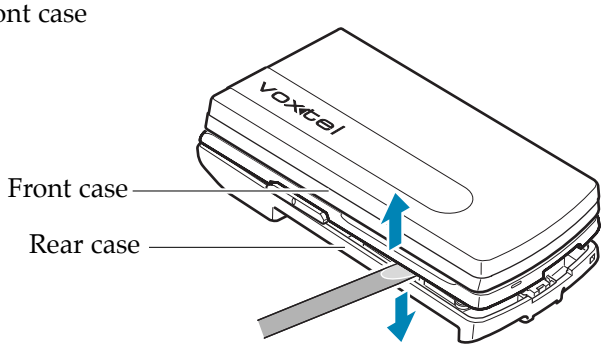


3.2 Main Frame

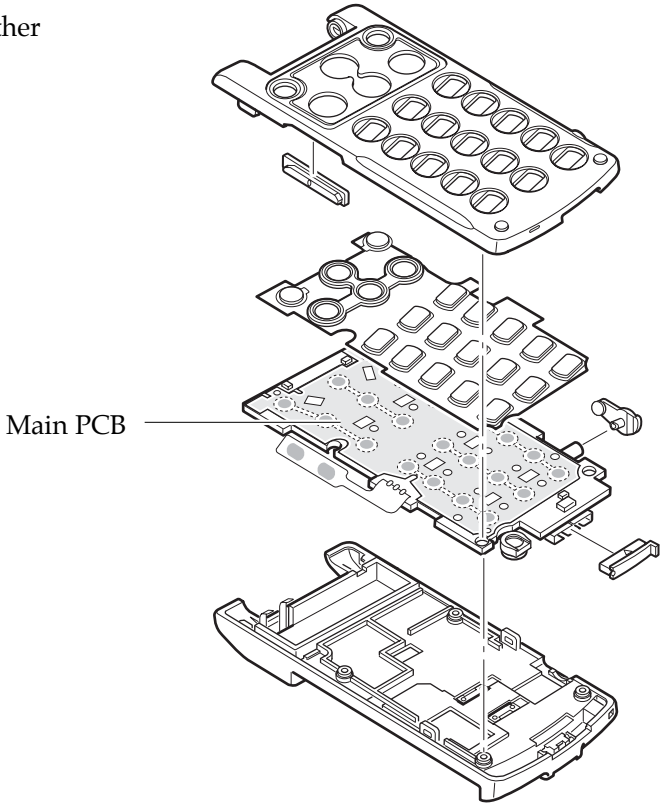
1. Remove the four screws on the back of the phone.



2. Insert a small ' - ' type driver between the front case and the Rear case, and lift up the front case.



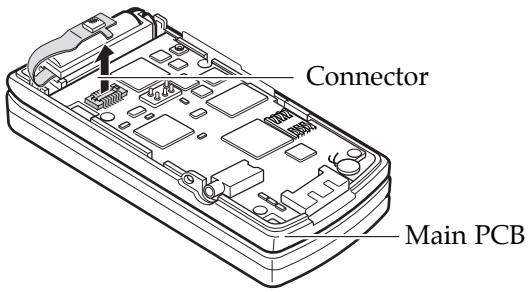
3. Now, you can replace the PCBs and the other components.



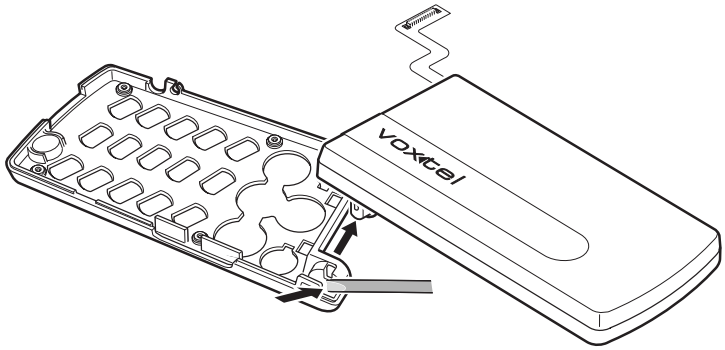
3.3 Folder

1. Remove the back case as described at Steps 1 and 2 under Main Frame Disassembly on page 3-2.

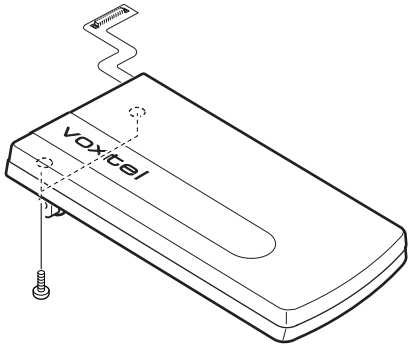
2. Unplug the connector from the main PCB as shown.



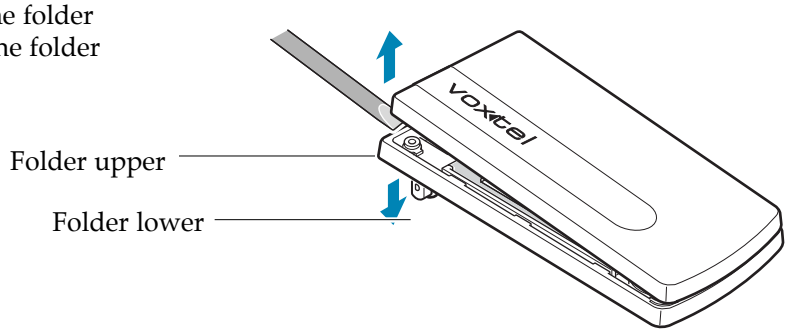
3. Unhook the folder from the main frame.



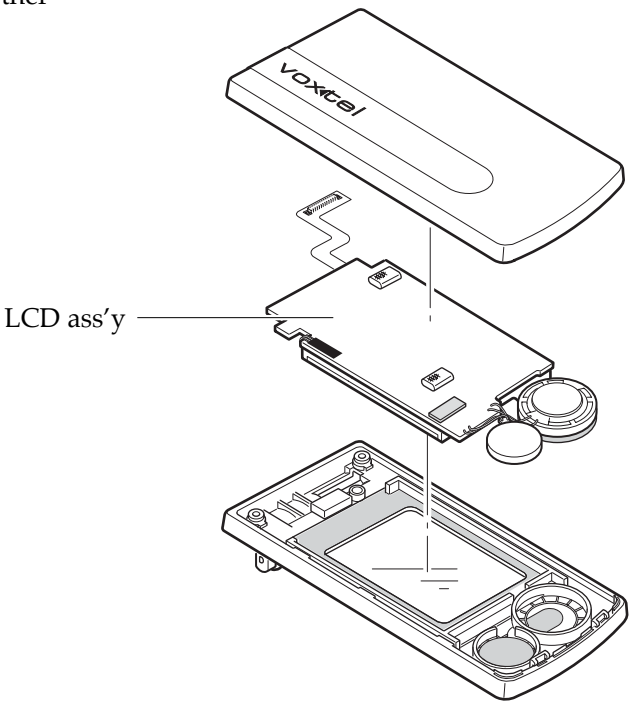
4. Remove the two screws from the folder.



5. Insert a small ' - ' type driver between the folder upper and the folder lower, and lift up the folder upper.



6. Now, you can remove the LCD ass'y and the other components.



4. Data Kit & Download Procedure

4.1 Data Kit

4.1.1 Download Equipment

1. Data kit
2. Desktop or Notebook PC
3. Download monitor program
4. BD38 mobile phone

4.1.2 Download Procedure

DOWNLOAD ENVIRONMENT

To download software of BD38, the following working environments should be prepared:

- BD38 data link kit, LC-100, is connected to COM1 or COM2 serial port of the desktop or notebook PC.
- BD38 data kit download monitor program is copied to the desktop PC or notebook PC.
- Target software is downloaded to the BD38 mobile phone.

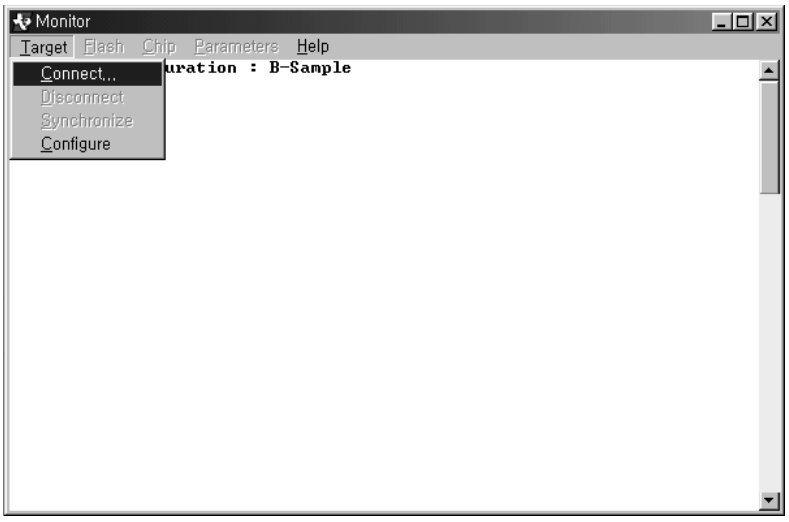
Warning

You MUST use the data link kit (LC-100) and UART download monitor program. Otherwise, downloading process won't work properly.

DOWNLOAD PROCEDURE

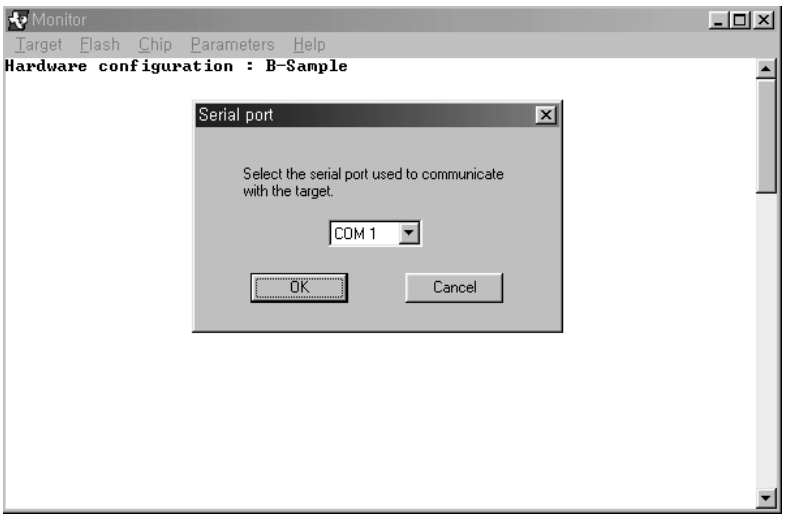
1. Unzip BD38 UART Download monitor program (monitor670.zip) in the PC.

2. Execute **monitor670.exe**. And then select **Target** menu. Then, choose **Connect** from the **Target** menu.



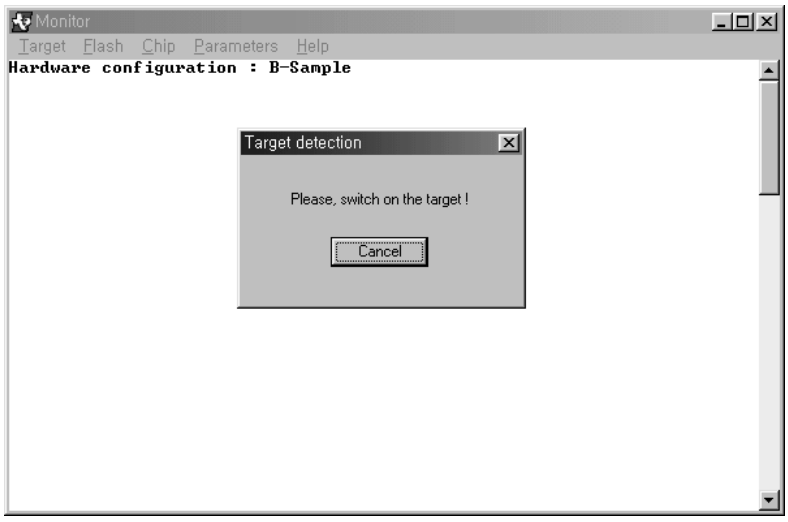
<Figure 1>

3. A table will be displayed as shown in <Figure 2>. Then press the arrow-button and choose a correct serial port. And press **OK** button.

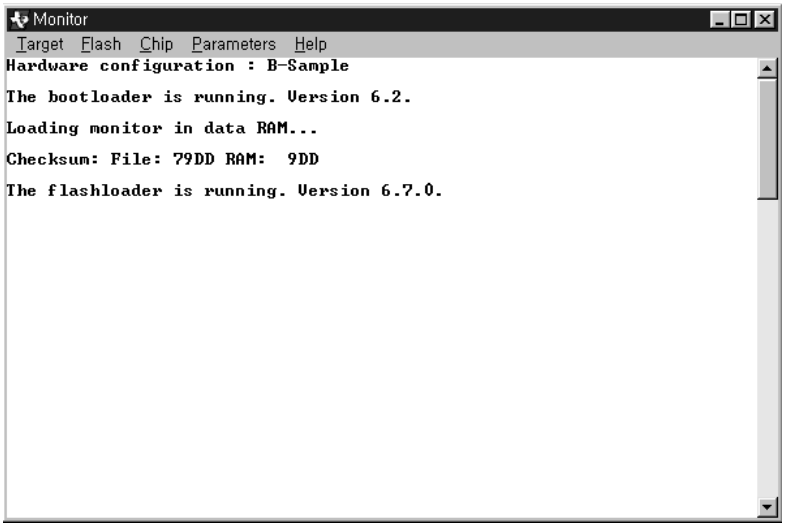


<Figure 2>

4. As the following window shown in <Figure 3> is displayed, connect BD38 phone to the data link kit, (LC-100) and power on BD38. If the connection is succeeded, the following screen will show the contents as shown in <Figure 4>.

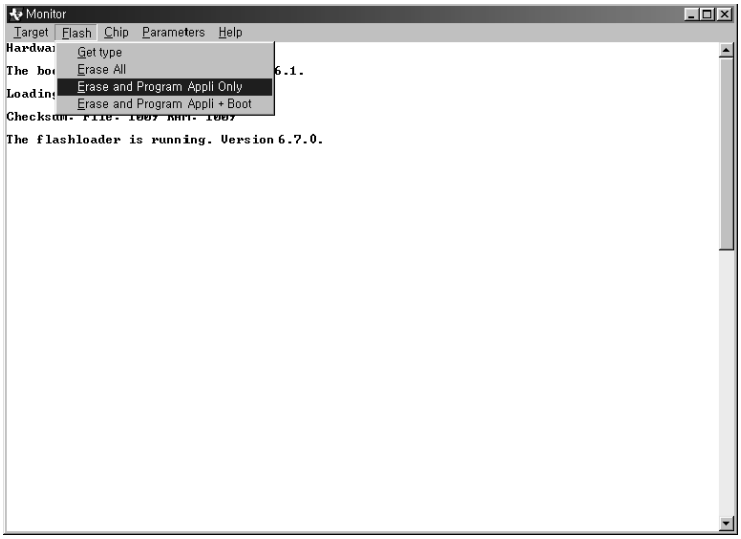


<Figure 3>



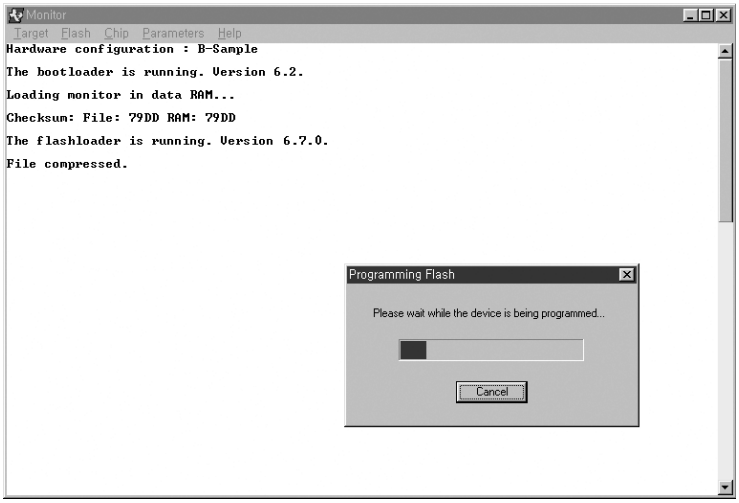
<Figure 4>

5. Click on **Flash** on the top menu and select **Erase and Program Appli only** item as shown in <Figure 5>.



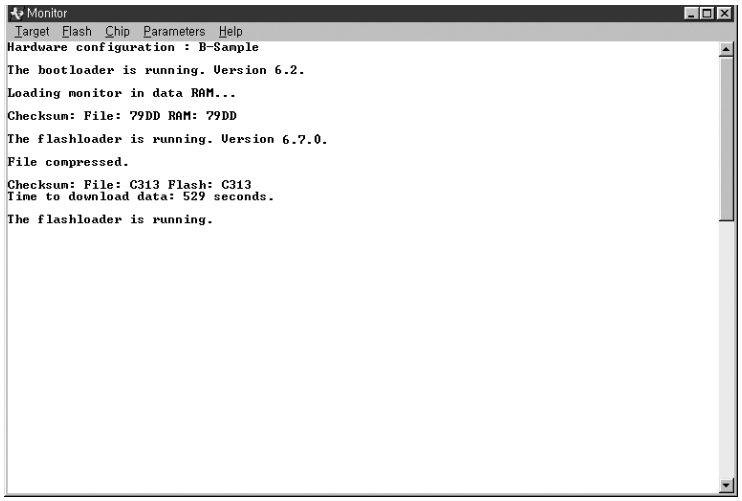
<Figure 5>

6. Choose the target SW that you want to download. And then you can see the following window in <Fingure 6>.



<Figure 6>

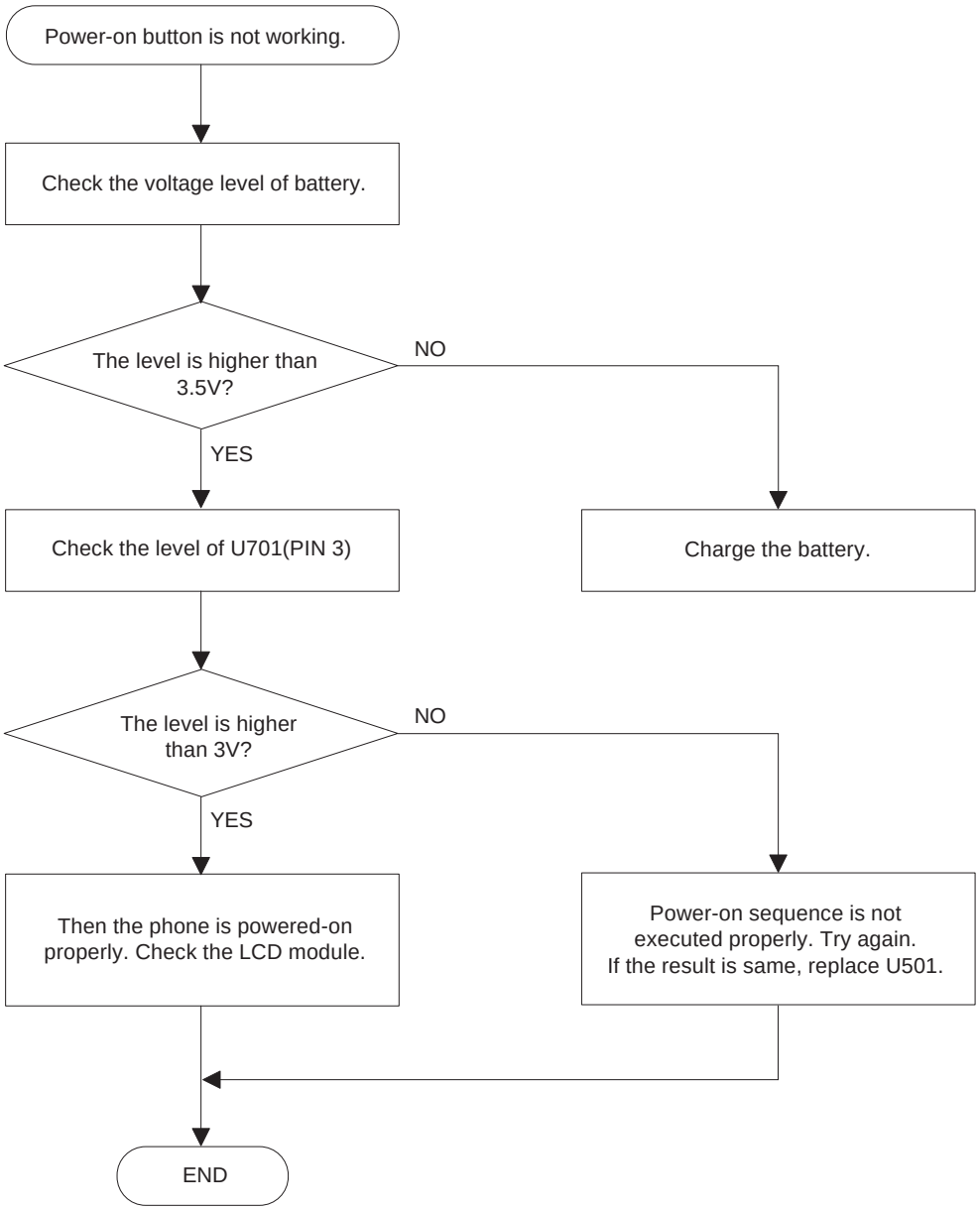
7. If the downloading procedure is succeeded, then the following window is shown.



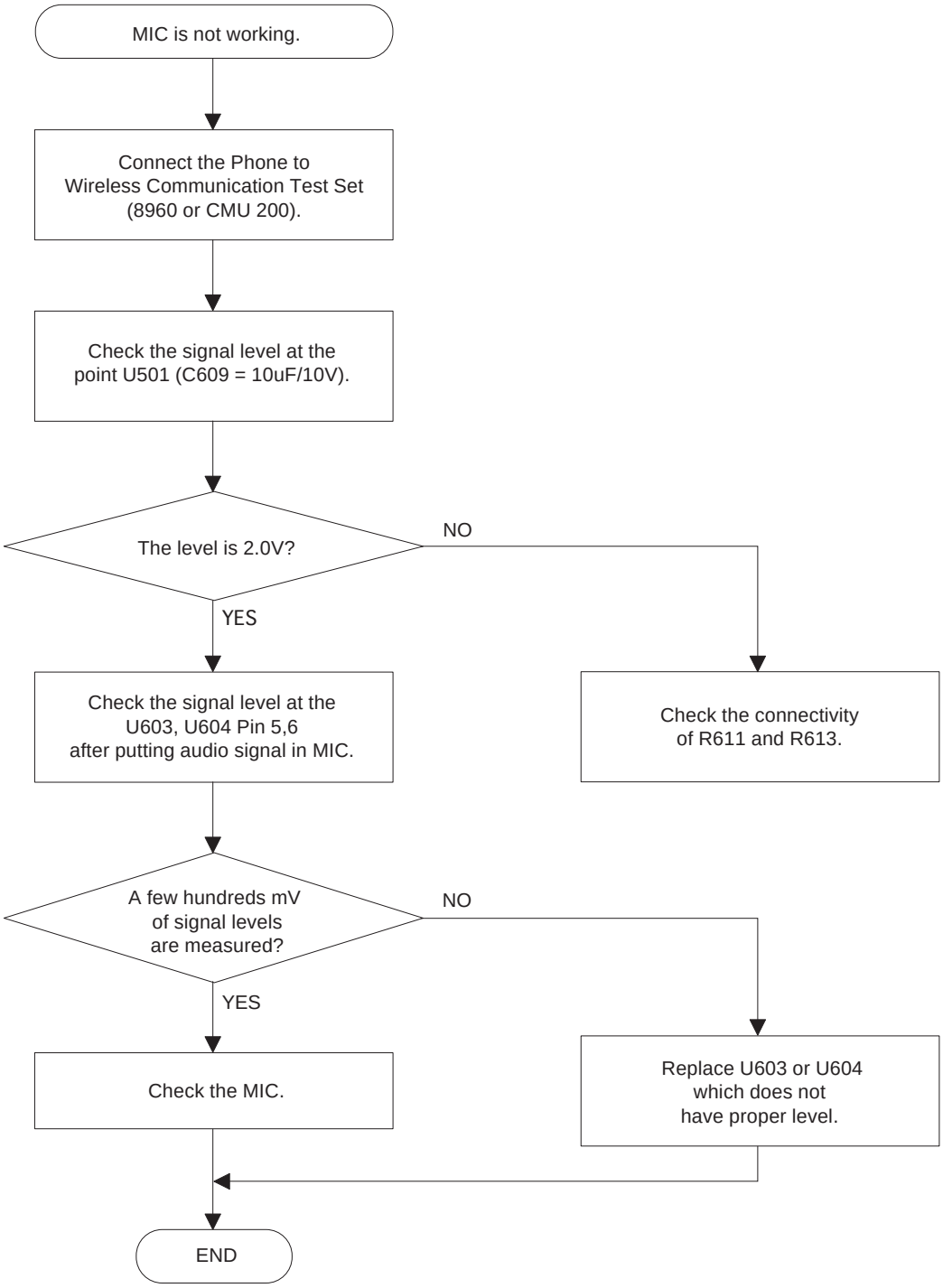
<Figure 7>

5. Troubleshooting

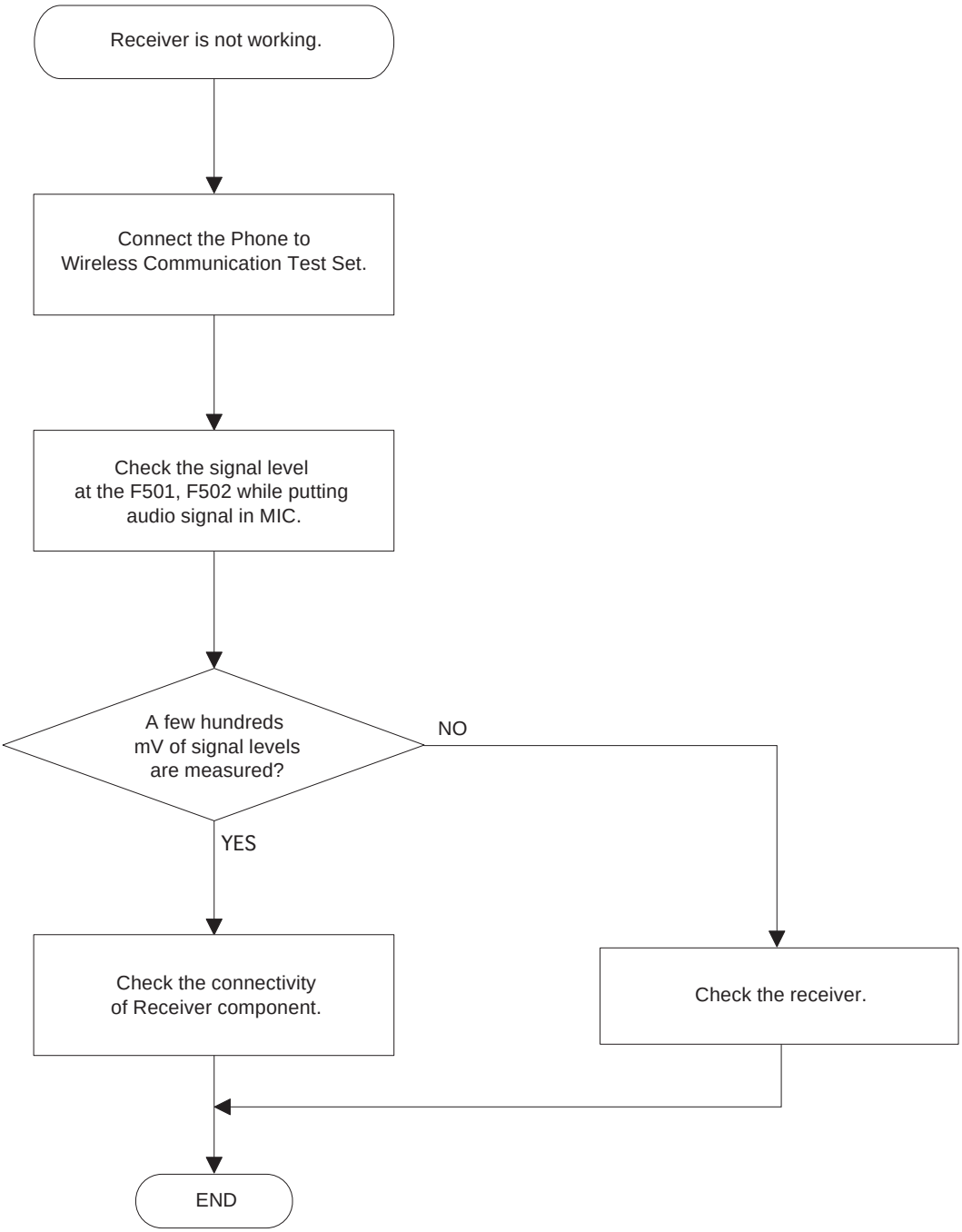
5.1 Power-On Trouble



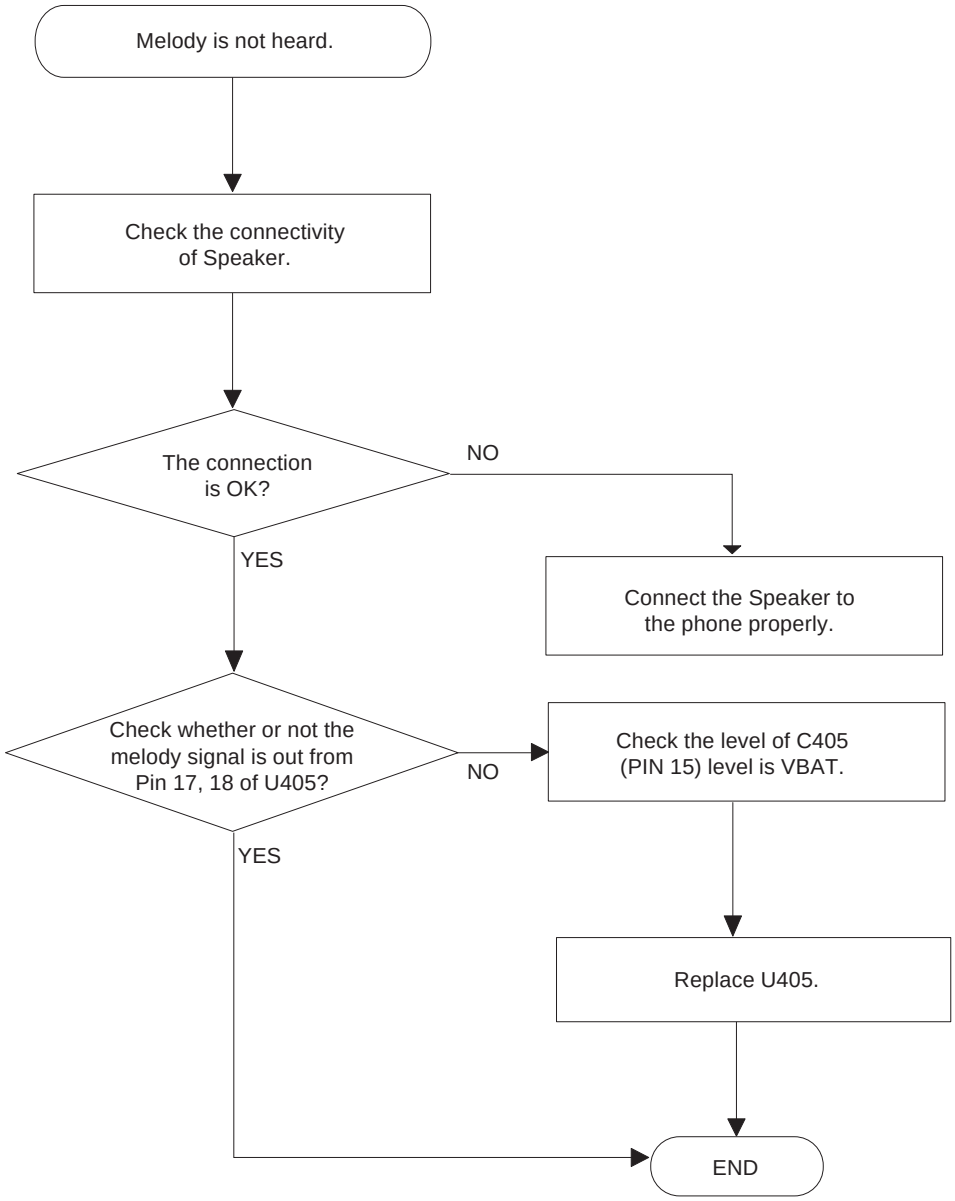
5.2 MIC Trouble



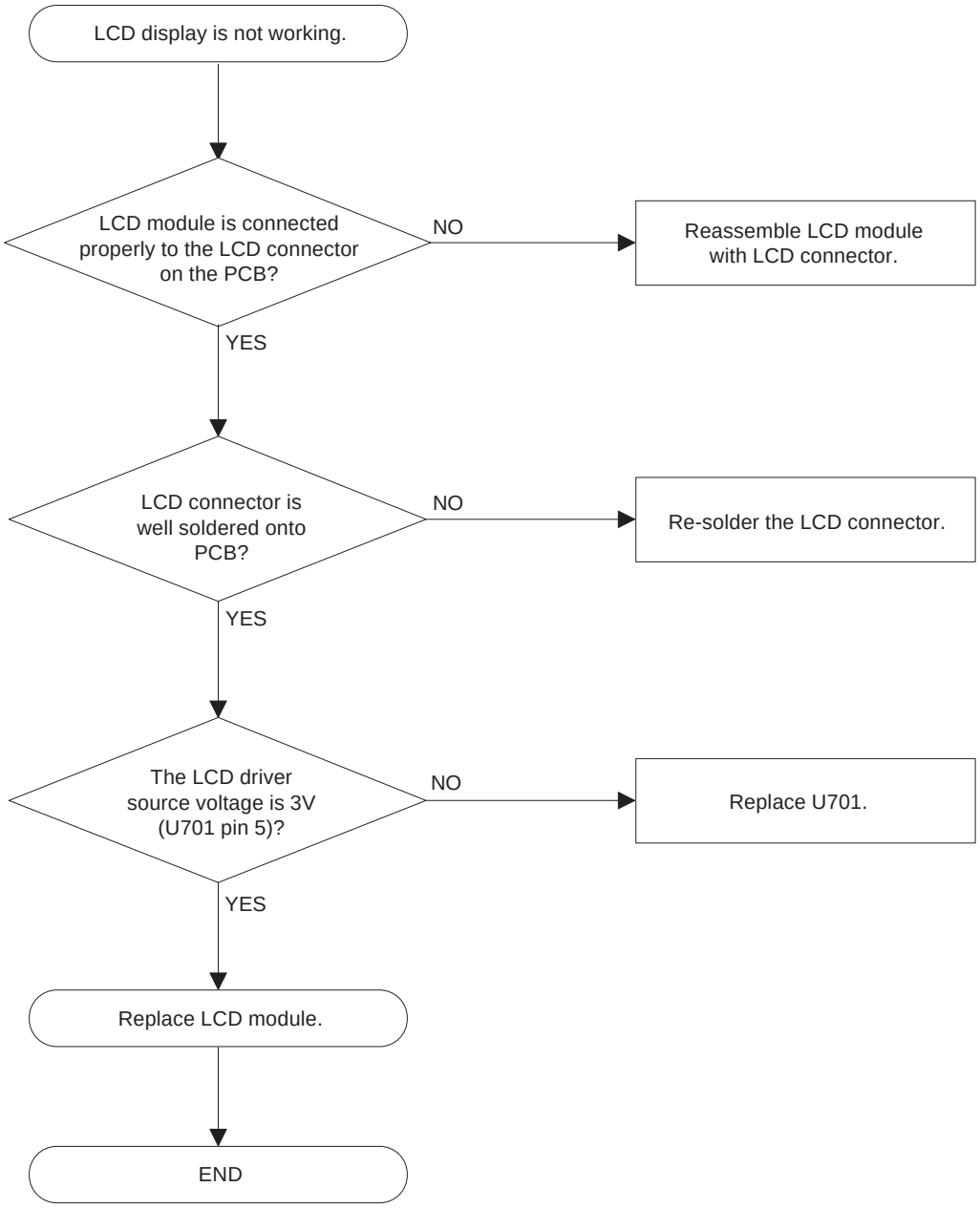
5.3 Receiver Trouble



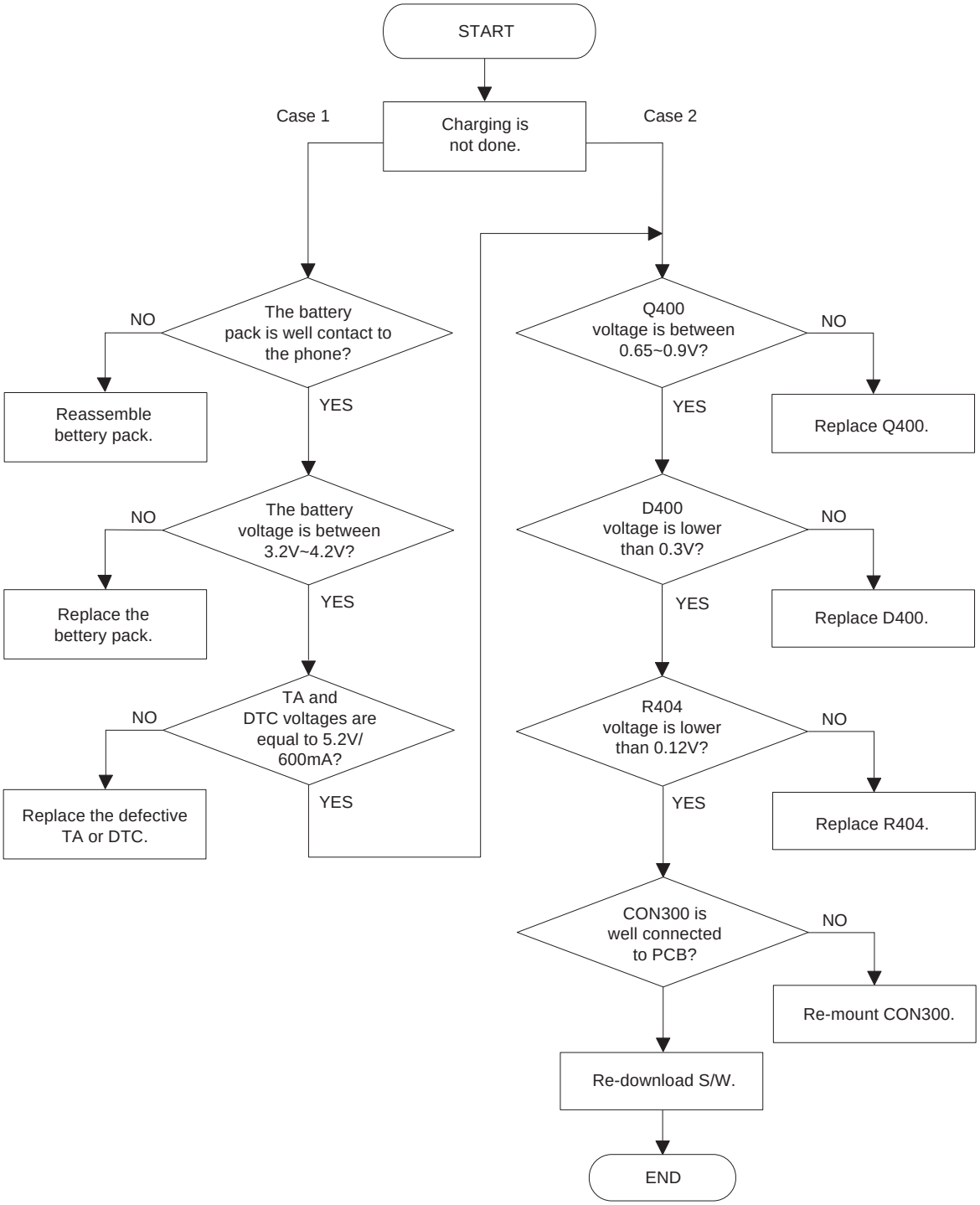
5.4 Melody Trouble



5.5 LCD Trouble

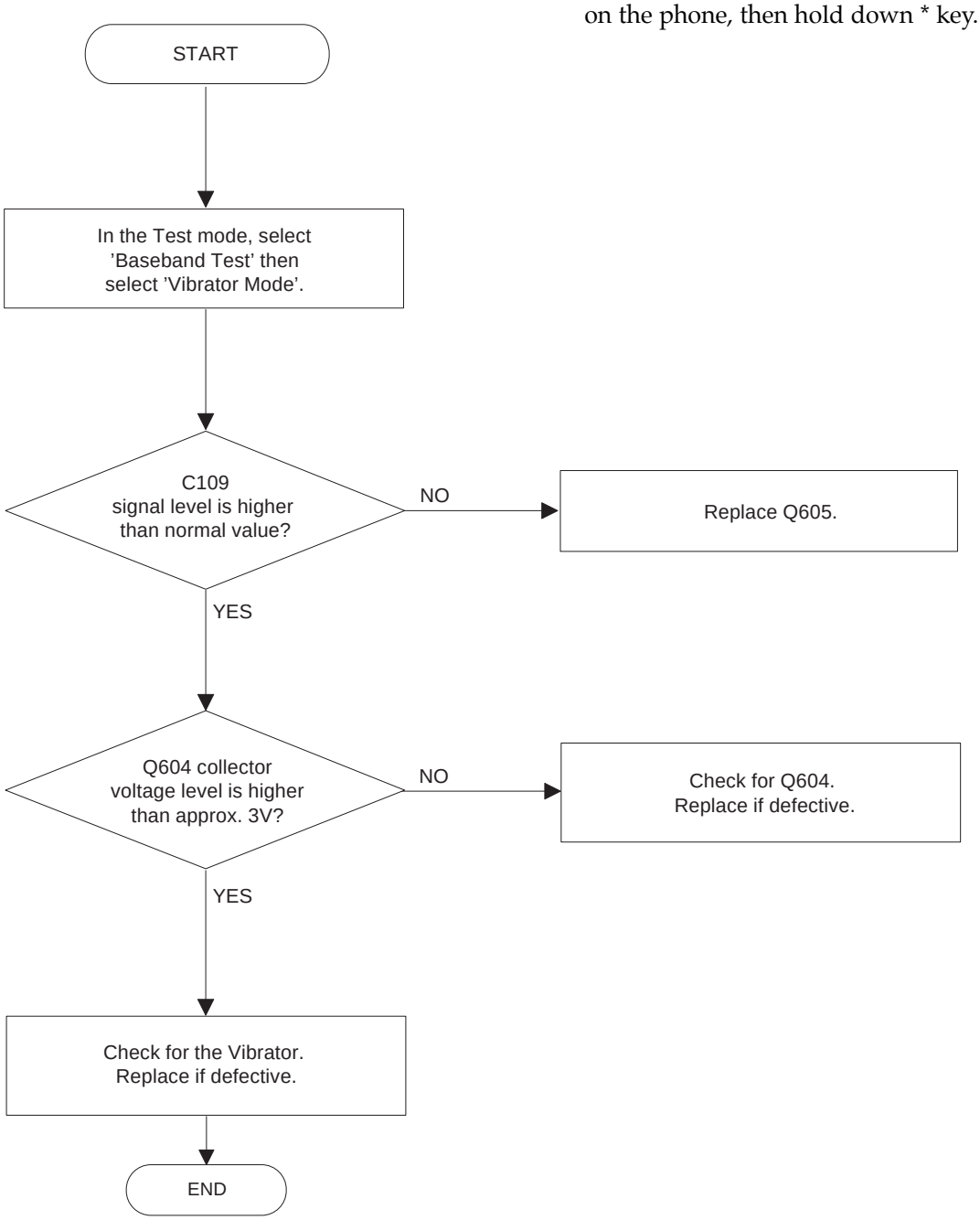


5.6 Charge Trouble

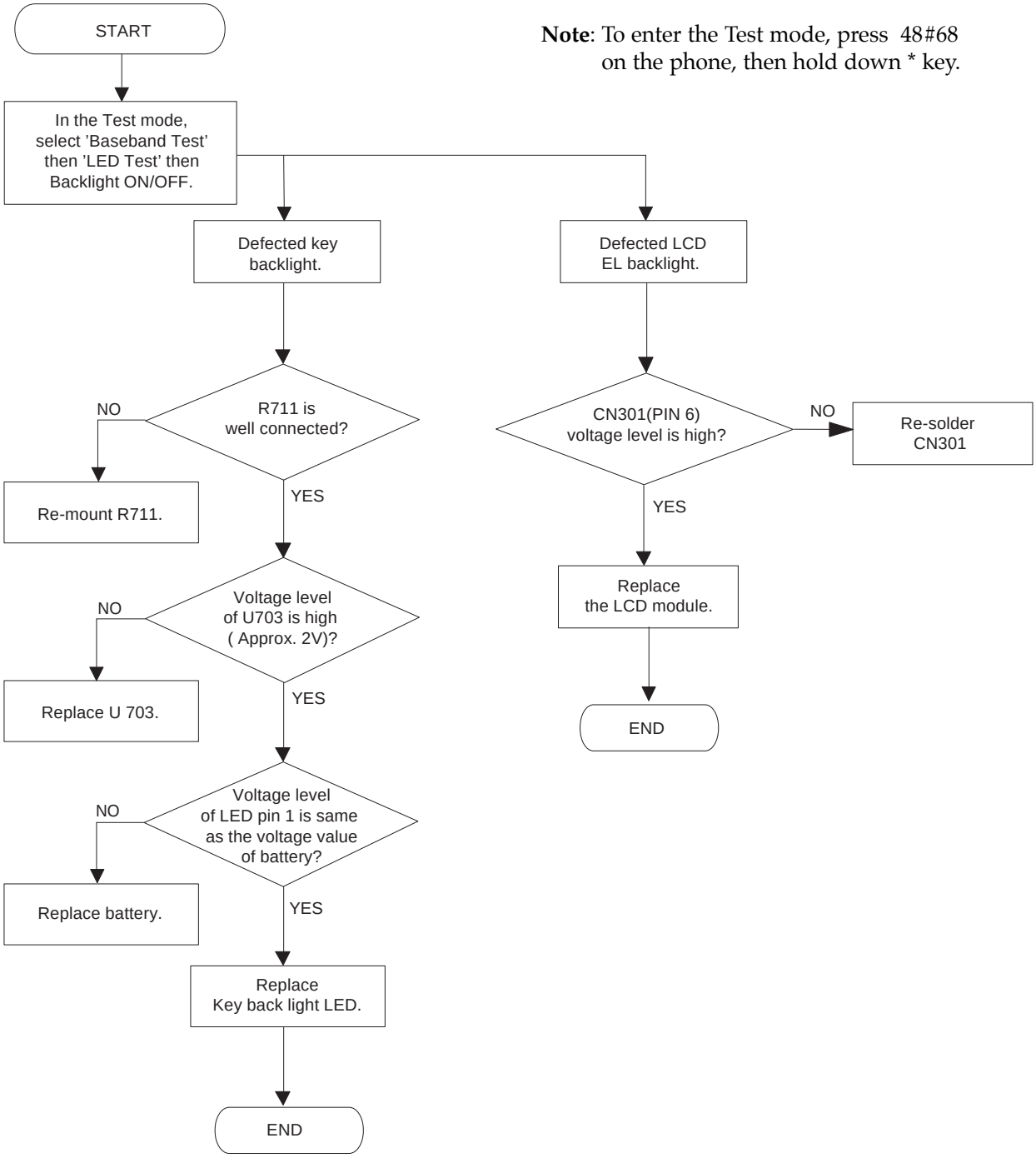


5.7 Vibrator Trouble

Note: To enter the Text mode, press 48#68 on the phone, then hold down * key.

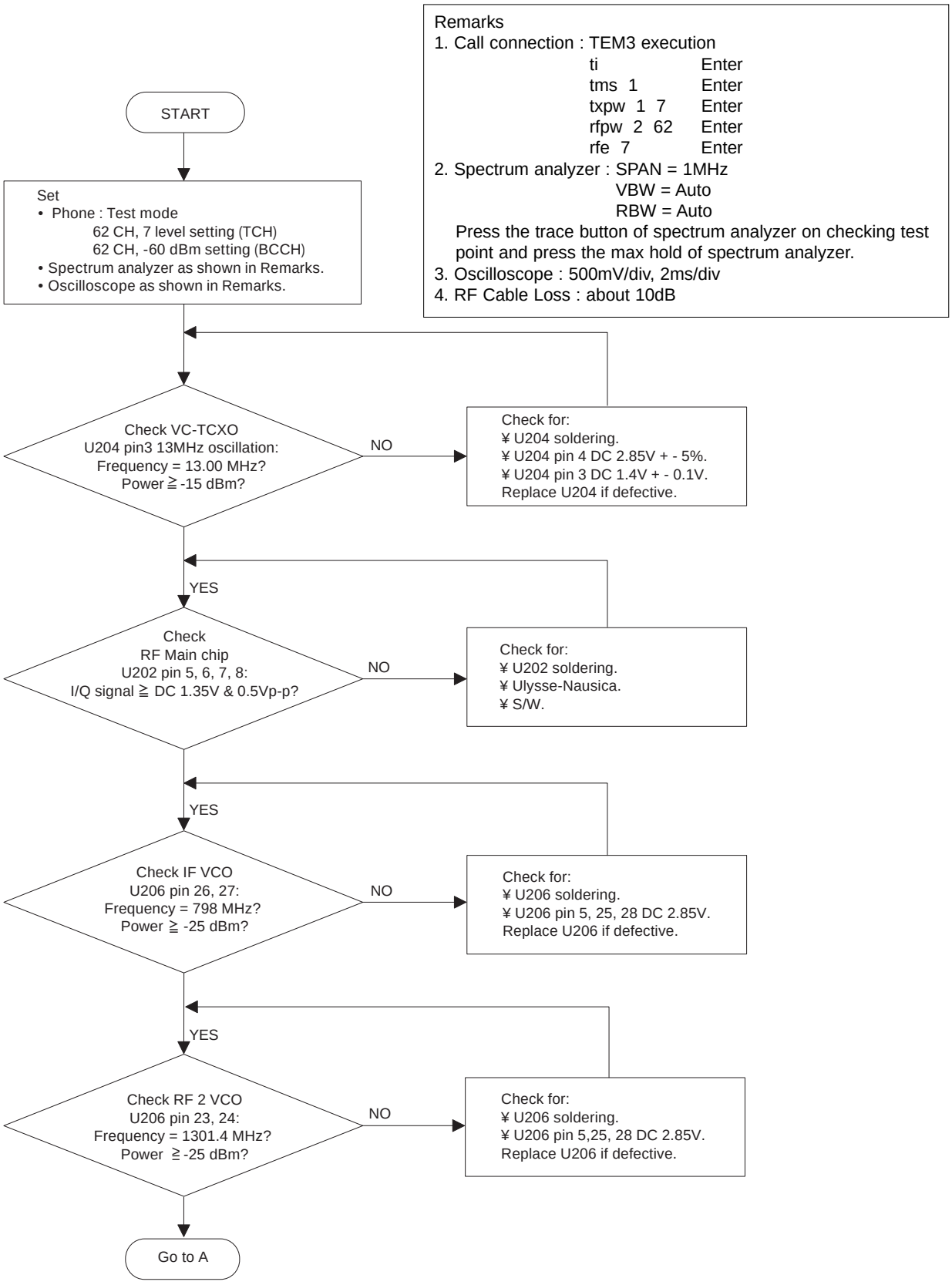


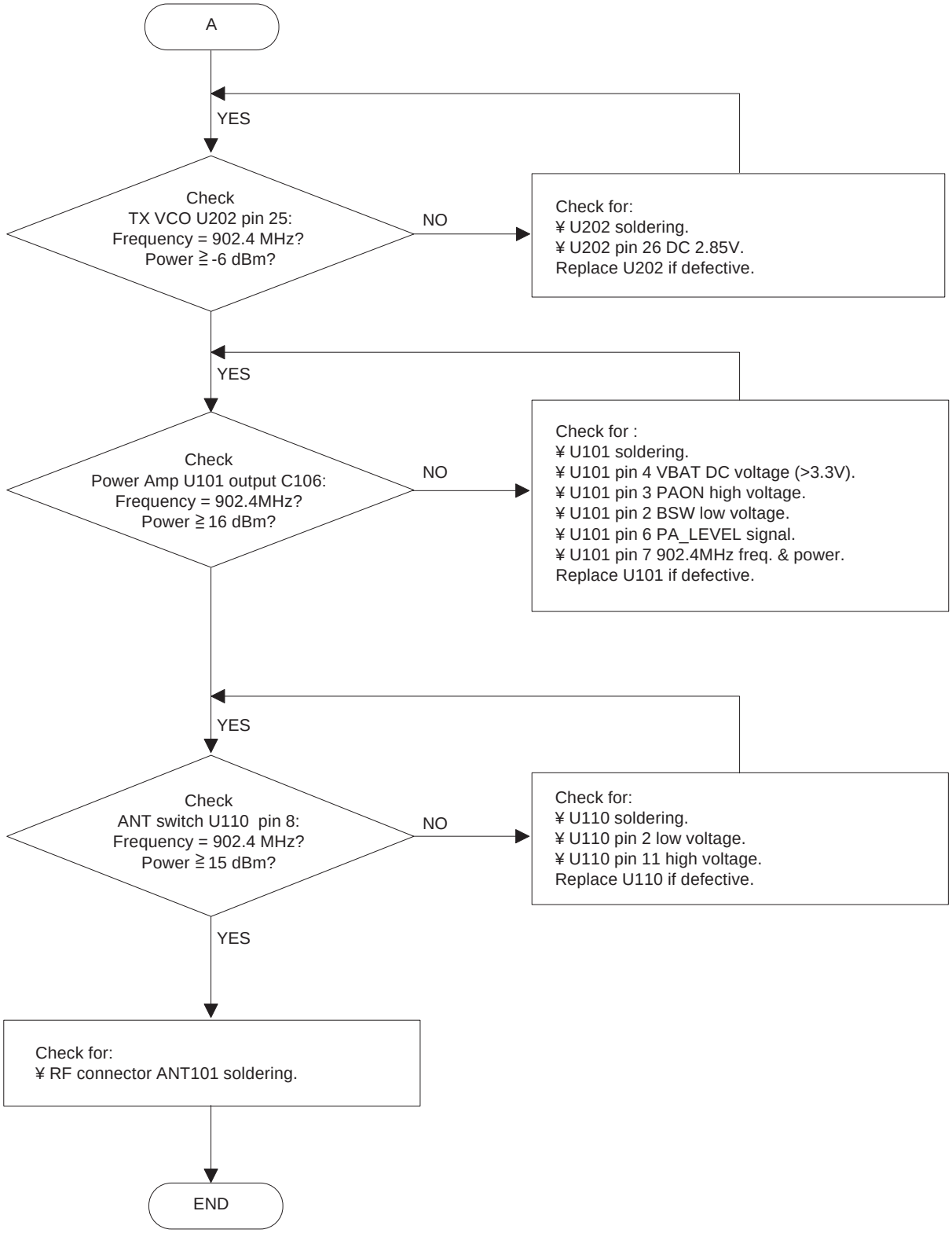
5.8 Backlight Trouble



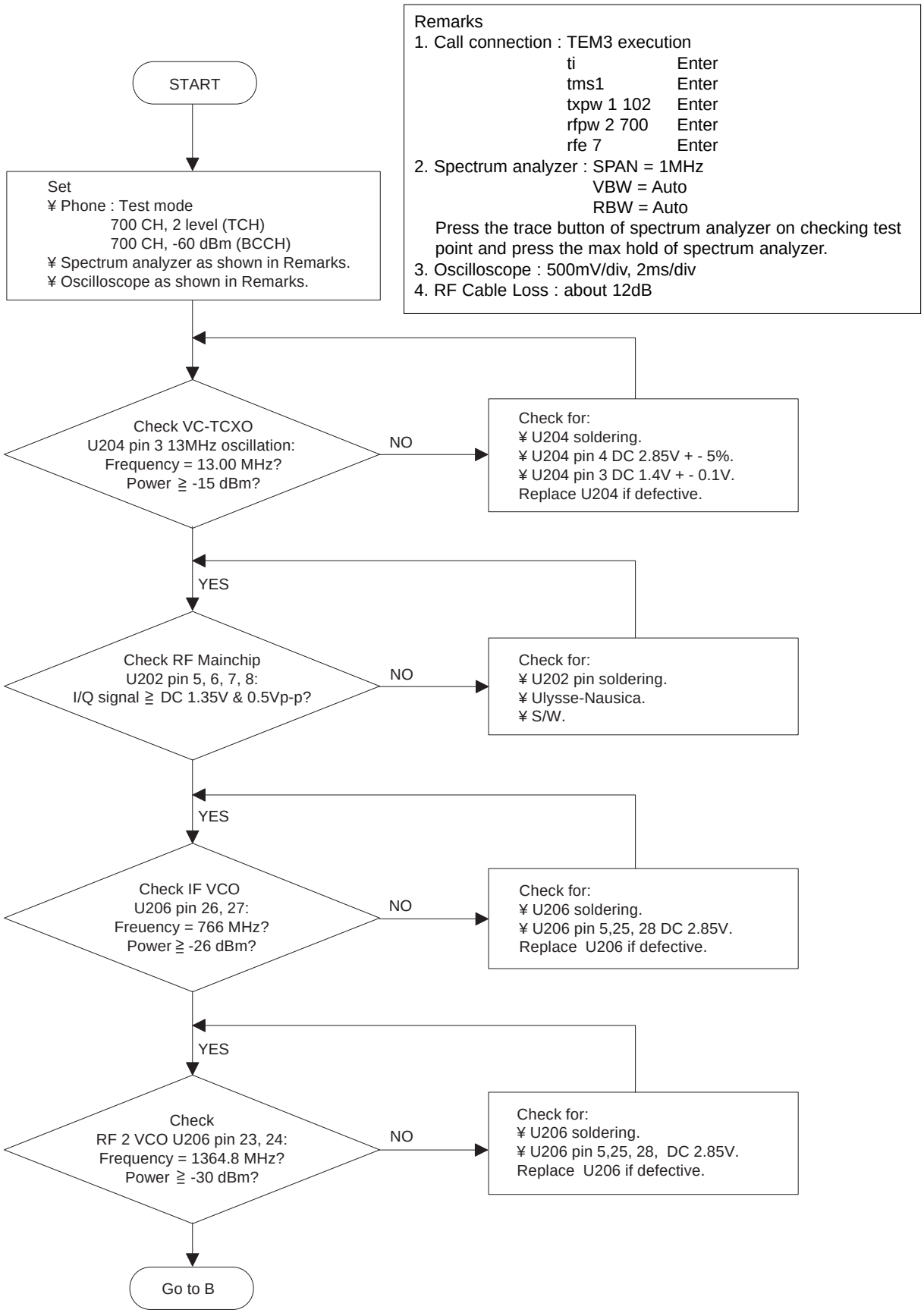
Note: To enter the Test mode, press 48#68 on the phone, then hold down * key.

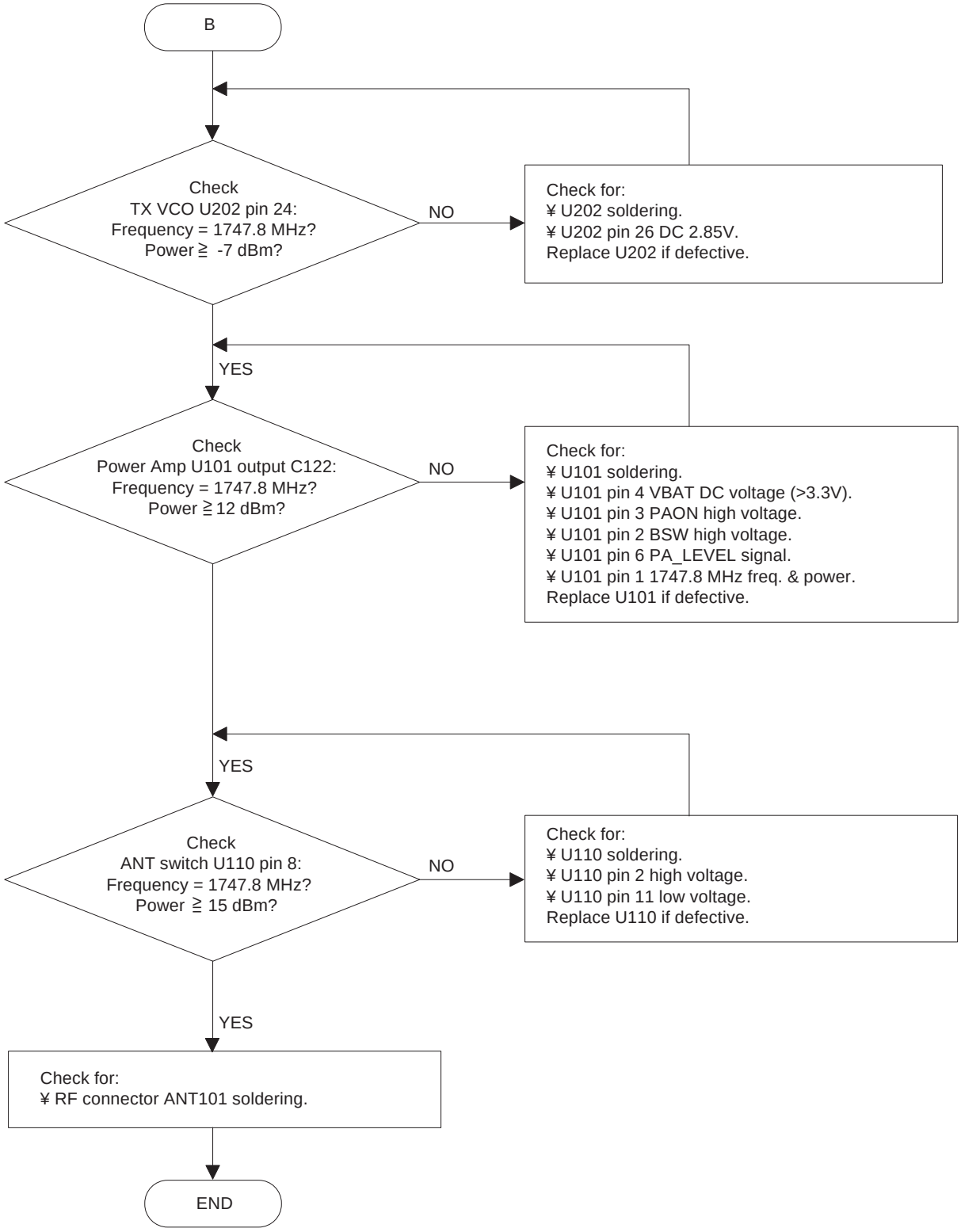
5.9 TX Power Trouble (E-GSM)



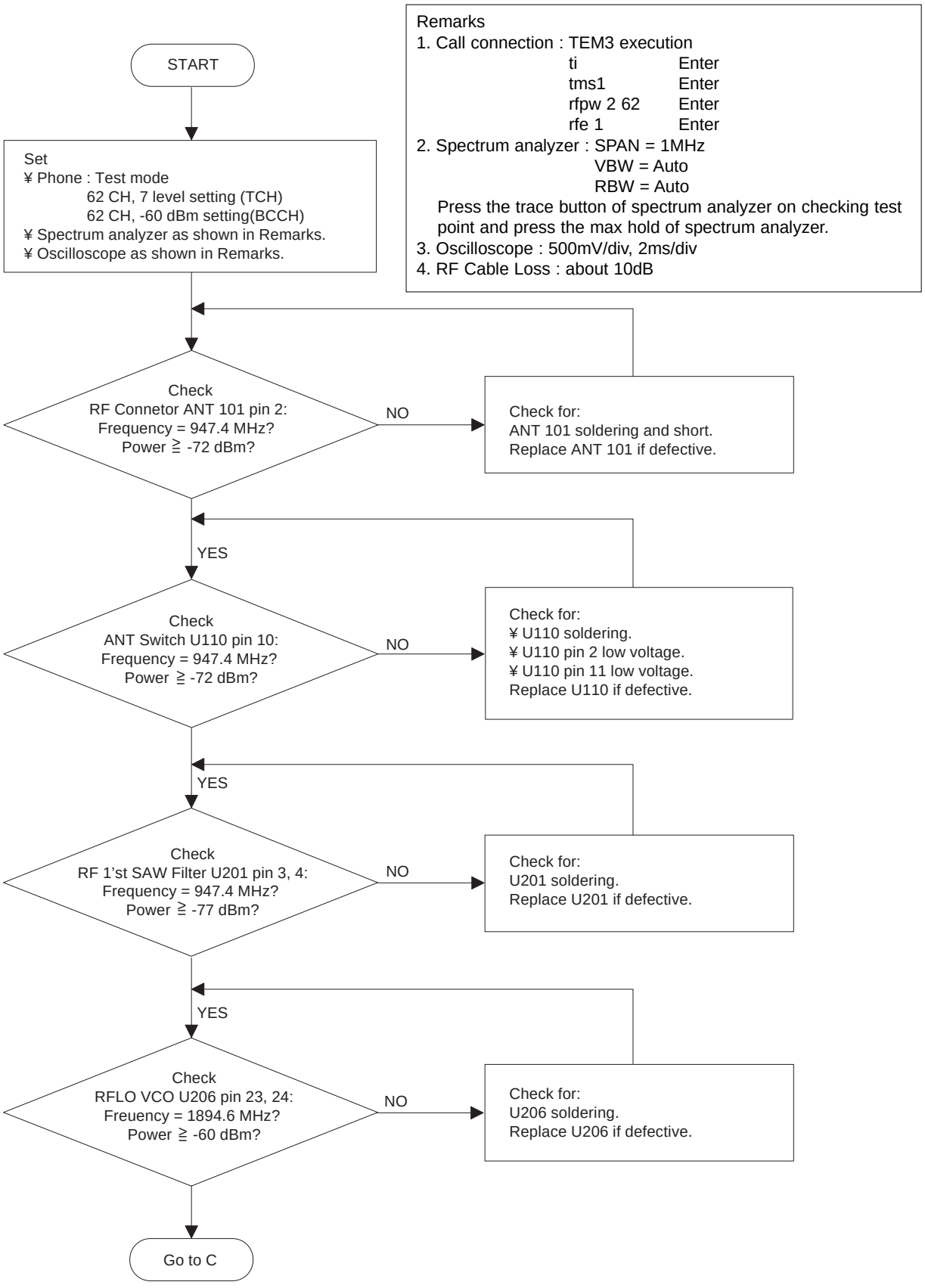

A
YES
Check
TX VCO U202 pin 25:
Frequency = 902.4 MHz?
Power ≧ -6 dBm?
NO
Check for:
¥ U202 soldering.
¥ U202 pin 26 DC 2.85V.
Replace U202 if defective.
YES
Check
Power Amp U101 output C106:
Frequency = 902.4MHz?
Power ≧ 16 dBm?
NO
Check for :
¥ U101 soldering.
¥ U101 pin 4 VBAT DC voltage (>3.3V).
¥ U101 pin 3 PAON high voltage.
¥ U101 pin 2 BSW low voltage.
¥ U101 pin 6 PA_LEVEL signal.
¥ U101 pin 7 902.4MHz freq. & power.
Replace U101 if defective.
YES
Check
ANT switch U110 pin 8:
Frequency = 902.4 MHz?
Power ≧ 15 dBm?
NO
Check for:
¥ U110 soldering.
¥ U110 pin 2 low voltage.
¥ U110 pin 11 high voltage.
Replace U110 if defective.
YES
Check for:
¥ RF connector ANT101 soldering.
END

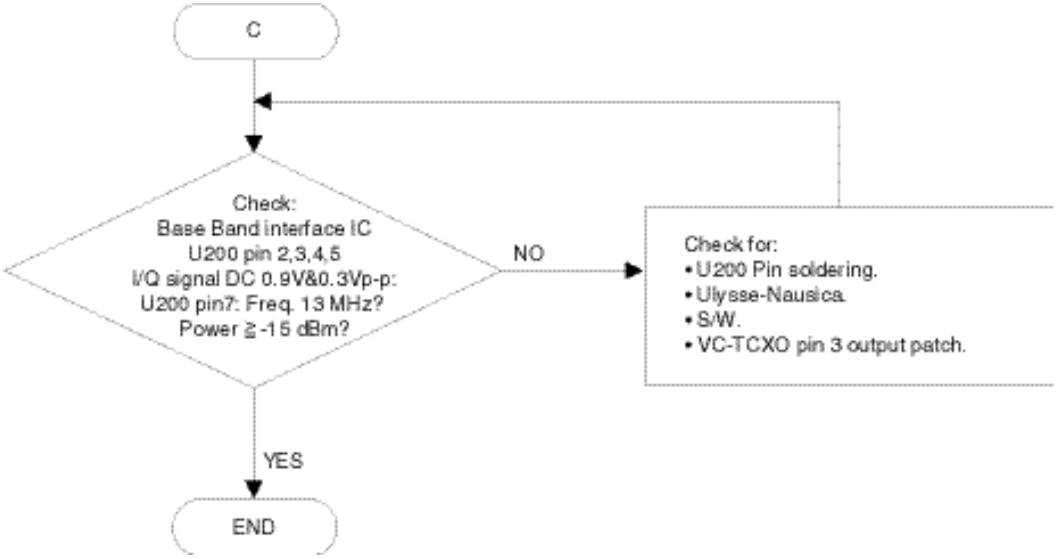
5.10 TX Power Trouble (DCS)



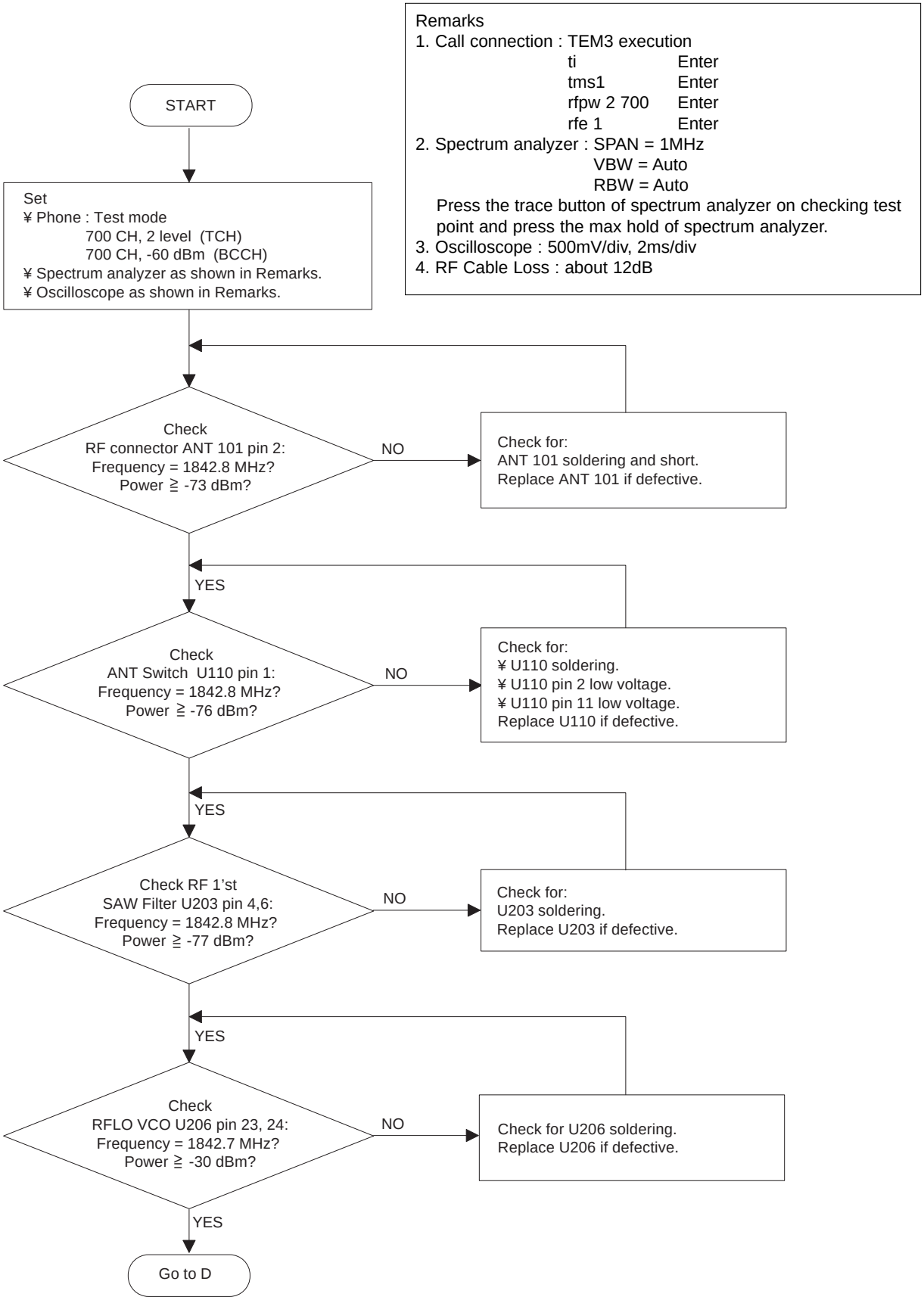

B
Check
TX VCO U202 pin 24:
Frequency = 1747.8 MHz?
Power ≧ -7 dBm?
NO
Check for:
¥ U202 soldering.
¥ U202 pin 26 DC 2.85V.
Replace U202 if defective.
YES
Check
Power Amp U101 output C122:
Frequency = 1747.8 MHz?
Power ≧ 12 dBm?
NO
Check for:
¥ U101 soldering.
¥ U101 pin 4 VBAT DC voltage (>3.3V).
¥ U101 pin 3 PAON high voltage.
¥ U101 pin 2 BSW high voltage.
¥ U101 pin 6 PA_LEVEL signal.
¥ U101 pin 1 1747.8 MHz freq. & power.
Replace U101 if defective.
YES
Check
ANT switch U110 pin 8:
Frequency = 1747.8 MHz?
Power ≧ 15 dBm?
NO
Check for:
¥ U110 soldering.
¥ U110 pin 2 high voltage.
¥ U110 pin 11 low voltage.
Replace U110 if defective.
YES
Check for:
¥ RF connector ANT101 soldering.
END

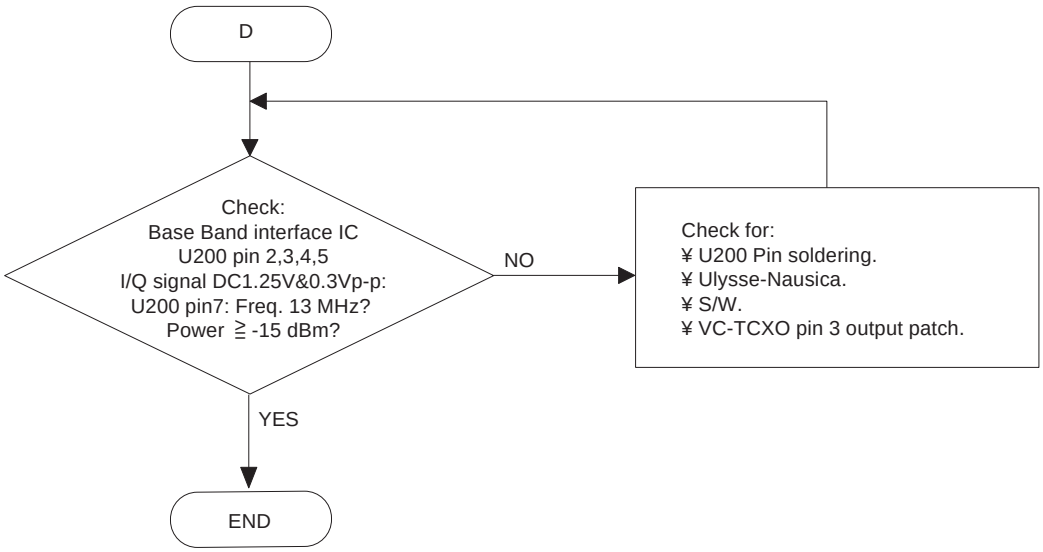
5.11 RX Sensitivity Trouble (E-GSM)




C
Check:
Base Band interface IC
U200 pin 2,3,4,5
I/Q signal DC 0.9V&0.3Vp-p:
U200 pin7: Freq. 13 MHz?
Power ≧ -15 dBm?
NO
Check for:
• U200 Pin soldering.
• Ulysse-Nausica.
• S/W.
• VC-TCXO pin 3 output patch.
YES
END

5.12 RX Sensitivity Trouble (DCS)

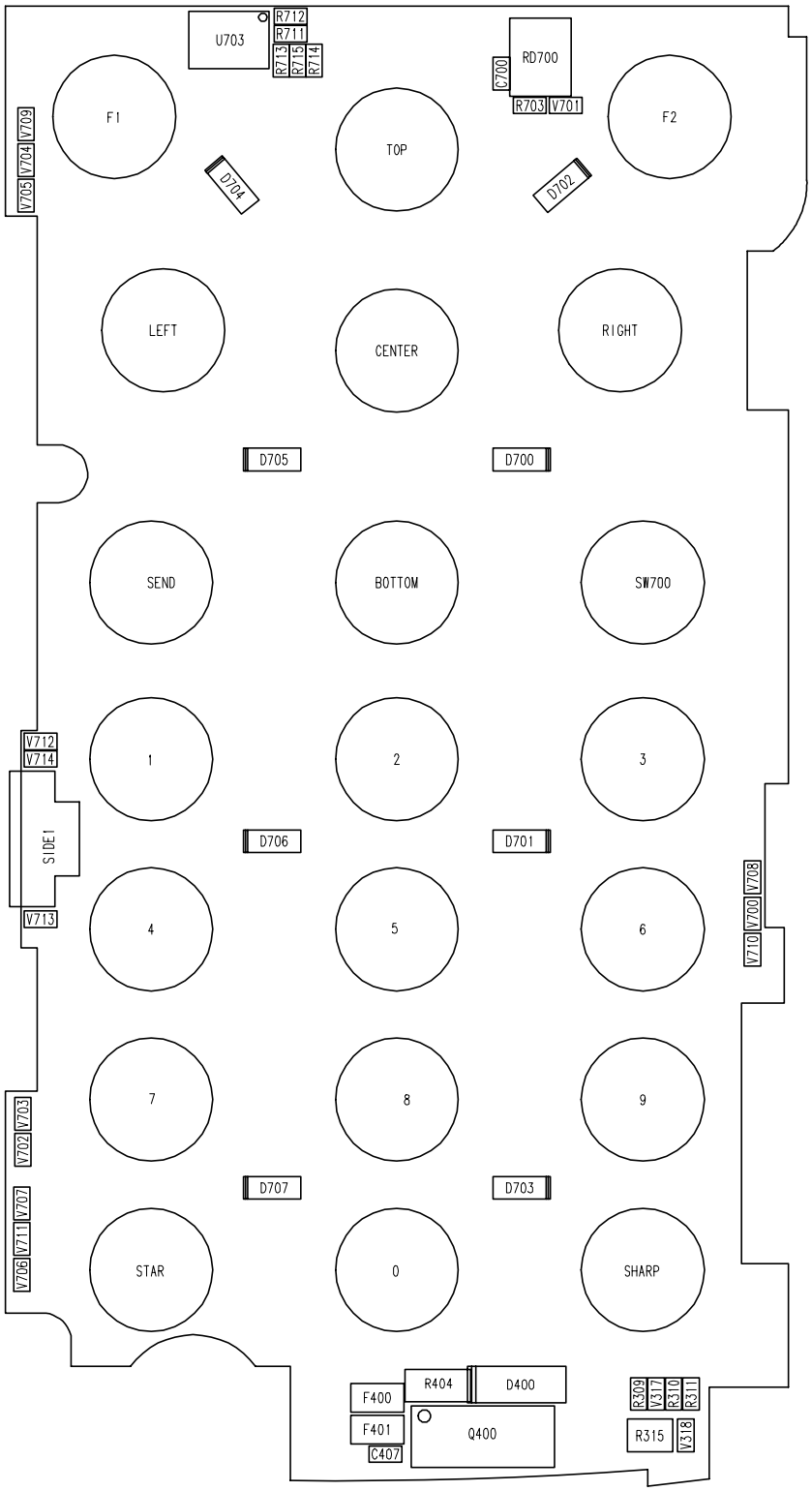



D
Check:
Base Band interface IC
U200 pin 2,3,4,5
I/Q signal DC1.25V&0.3Vp-p:
U200 pin7: Freq. 13 MHz?
Power ≧ -15 dBm?
NO
Check for:
¥ U200 Pin soldering.
¥ Ulysse-Nausica.
¥ S/W.
¥ VC-TCXO pin 3 output patch.
YES
END

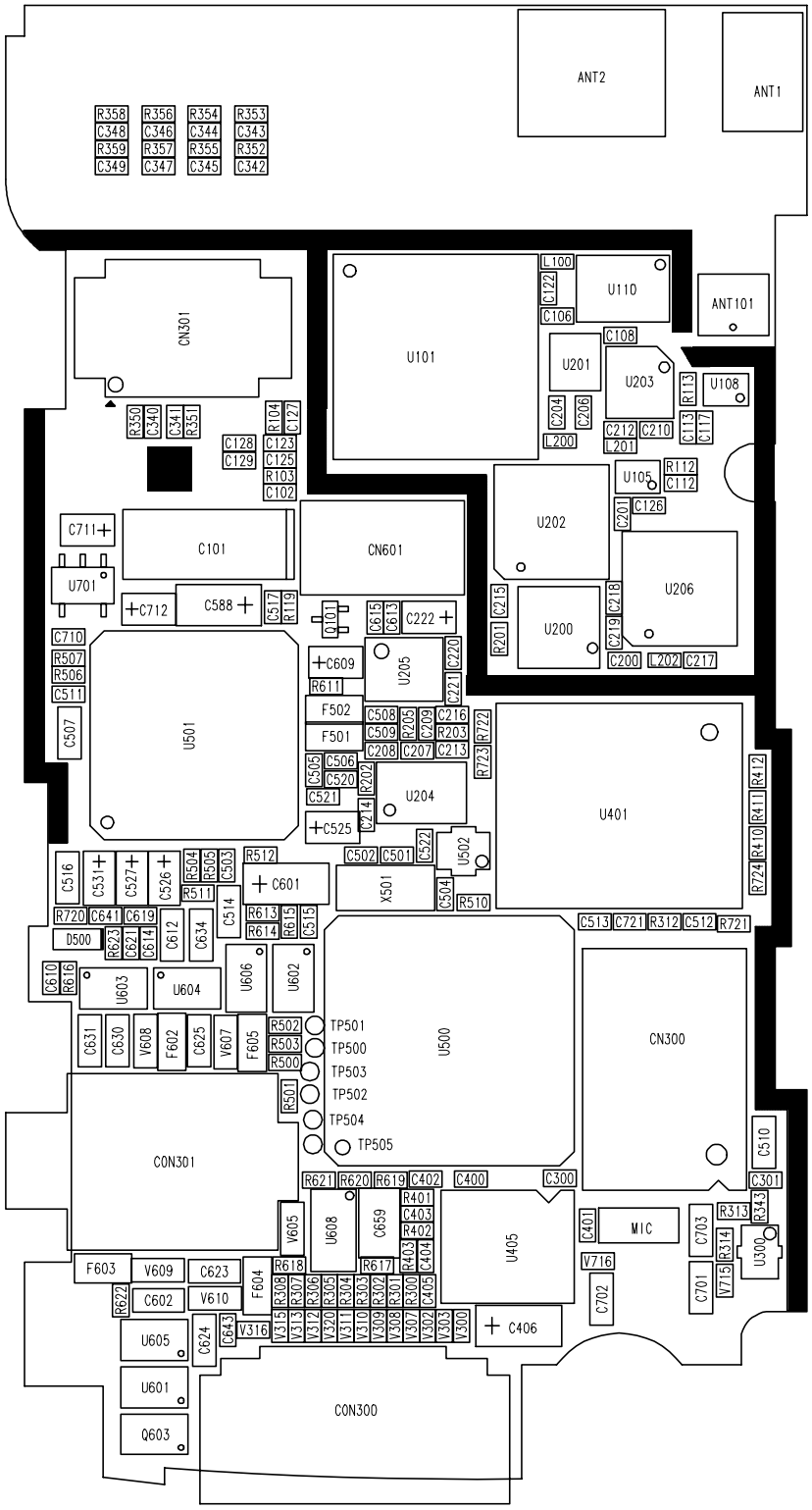
6. PCB Diagram

6.1 Main PCB

Top View



Bottom View


ANT2
ANT1
R358 C348 R359 C349
R356 C346 R357 C347
R354 C344 R355 C345
R353 C343 R352 C342
CN301
U101
L100 C122 C106
U110
ANT101
C108
U201
U203
R113 C113 C117
U108
C204 C206 L200
C212 C210 L201
R350 C340 C341 R351
C128 C129
R104 C127
C123 C125 R103 C102
U105
R112 C112
C126
C201
U202
C711
C101
CN601
U701
C712
C588
C517 R119
Q101
C615 C613
C222
C215 R201
U200
C218 C219
U206
C200 L202 C217
C710 R507 R506 C511
C507
U501
C609
R611
U205
C220 C221
F502 F501
C508 C509 C208
R205 C209 C207
C216 R203 C213
R722 R723
C505 C506 C520 C521
R202 C214
U204
C525
U401
R412 R411 R410 R724
C522
C502 C501
U502
X501
C504
R510
C516 C531 C527 C526
R504 R505 R503 R511
R512
C601
C514
R613 R614 R615 C515
R720 C641 C619 D500 R623 C621 C614 C612 C634
C513 C721 R312 C512 R721
C610 R616
U603
U604
U606
U602
C631 C630 V608 F602 C625 V607 F605
R502 R503 R500 R501
TP501 TP500 TP503 TP502 TP504 TP505
U500
CN300
CON301
R621 R620 R619 C402
C400
C300
C510
C301
R401 C403 R402 C404
V605
U608
C659
U405
C401
MIC
C703
R313 R343
R314
U300
V716
V715
C701
C702
F603 V609 C623
R622 C602 V610
F604
R618 R617
R308 R307 R306 R305 R304 R303 R302 R301 R300 C405
V315 V313 V312 V320 V311 V310 V309 V308 V307 V302 V303 V300
C643 V316
C624
C406
U605
U601
Q603
CON300

7. Electrical Parts List

7.1 Main Part List

REF. NO	DESCRIPTION	PART NUMBER
ANT 101	coaxial connectors with switch	MM8430-2600RA1
C101	TAN_CAP 470uF/6.3V	F750J477MUC
		592D477X_6R3U2T
C102	CAP CERAMIC CHIP 33pF	GRM36COG 330J 50PN
C106	CAP CERAMIC CHIP 47pF	GRM36COG 470J 50PN
C108	CAP CERAMIC CHIP 100pF	GRM36COG 101J 50PN
C112	CAP CERAMIC CHIP 47pF	GRM36COG 470J 50PN
C113	CAP CERAMIC CHIP 12pF	GRM36COG 120J 50PN
C117	CAP CERAMIC CHIP 10nF	GRM36X7R 103K 16PN
C122	CAP CERAMIC CHIP 39pF	GRM36COG 390J 50PN
C123	CAP CERAMIC CHIP 10nF	GRM36X7R 103K 16PN
C125	CAP CERAMIC CHIP 120pF	GRM36COG 121J 50PN
C126	CAP CERAMIC CHIP 150pF	GRM36COG 151J 50PN
C127	CAP CERAMIC CHIP 12pF	GRM36COG 120J 50PN
C128	CAP CERAMIC CHIP 100pF	GRM36COG 101J 50PN
C129	CAP CERAMIC CHIP 1pF	GRM36COG 010C 50PN
C200~C201	CAP CERAMIC CHIP 22nF	GRM36X7R 223K 16PN
C204	CAP CERAMIC CHIP 1.5pF	GRM36COG 1R5C 50PN
C206	CAP CERAMIC CHIP 1.5pF	GRM36COG 1R5C 50PN
C207	CAP CERAMIC CHIP 100nF (0.1uF)	GRM36Y5V 104Z 16PN
C208	CAP CERAMIC CHIP 22nF	GRM36X7R 223K 16PN
C209	CAP CERAMIC CHIP 100pF	GRM36COG 101J 50PN
C210	CAP CERAMIC CHIP 1.2pF	GRM36COG 1R2C 50PN
C212	CAP CERAMIC CHIP 1.2pF	GRM36COG 1R2C 50PN
C213~C214	CAP CERAMIC CHIP 10nF	GRM36X7R 103K 16PN
C215	CAP CERAMIC CHIP 22nF	GRM36X7R 223K 16PN
C216	CAP CERAMIC CHIP 100pF	GRM36COG 101J 50PN
C217~C219	CAP CERAMIC CHIP 22nF	GRM36X7R 223K 16PN
C220~C221	CAP CERAMIC CHIP 10nF	GRM36X7R 103K 16PN
C222	TAN_CAP 10uF/10V	F951A106MPAAQ2
	TAN_CAP 10uF/6.3V	TEPSLPOJ106M8R
C300	CAP CERAMIC CHIP 150pF	GRM36COG 151J 50PN
C301	CAP CERAMIC CHIP 15nF	GRM36X7R 153K 16PN
C340~C349	CAP CERAMIC CHIP 15pF	GRM36COG 150J 50PN
C400~C401	CAP CERAMIC CHIP 100nF (0.1uF)	GRM36Y5V 104Z 16PN

REF. NO	DESCRIPTION	PART NUMBER
C402	CAP CERAMIC CHIP 1nF (1000pF)	GRM36X7R 102K 50PN
C403	CAP CERAMIC CHIP 47nF	GRM36X7R 473K 10PN
C404	CAP CERAMIC CHIP 270pF	GRM36X7R 271K 50PN
C405	CAP CERAMIC CHIP 100nF (0.1uF)	GRM36Y5V 104Z 16PN
C406	TAN_CAP 33uF/10V	F951A336MAAAQ2
C407	CAP CERAMIC CHIP 22nF	GRM36X7R 223K 16PN
C501~C502	CAP CERAMIC CHIP 12pF	GRM36COG 120J 50PN
C503	CAP CERAMIC CHIP 15pF	GRM36COG 150J 50PN
C504	CAP CERAMIC CHIP 1nF (1000pF)	GRM36X7R 102K 50PN
C505~C506	CAP CERAMIC CHIP 15pF	GRM36COG 150J 50PN
C507	CAP CERAMIC CHIP 1uF (1608)	GRM39Y5V 105Z 10PT
C508~C509	CAP CERAMIC CHIP 15pF	GRM36COG 150J 50PN
C510	CAP CERAMIC CHIP 100nF (1608)	EMK107BJ104KA-T
C511~C513	CAP CERAMIC CHIP 100nF (0.1uF)	GRM36Y5V 104Z 16PN
C514	CAP CERAMIC CHIP 100nF (1608)	EMK107BJ104KA-T
C515	CAP CERAMIC CHIP 100nF (0.1uF)	GRM36Y5V 104Z 16PN
C516	CAP CERAMIC CHIP 220nF (1608)	LMK107BJ224KA-T
C517	CAP CERAMIC CHIP 100nF (0.1uF)	GRM36Y5V 104Z 16PN
C520	CAP CERAMIC CHIP 15pF	GRM36COG 150J 50PN
C521~522	CAP CERAMIC CHIP 100nF (0.1uF)	GRM36Y5V 104Z 16PN
C525~C527	TAN_CAP 10uF/10V	F951A106MPAAQ2
	TAN_CAP 10uF/6.3V	TEPSLPOJ106M8R
C531	TAN_CAP 10uF/10V	F951A106MPAAQ2
	TAN_CAP 10uF/6.3V	TEPSLPOJ106M8R
C588	TAN_CAP 47uF/6.3V	F950J476MAAAQ2
C601	TAN_CAP 47uF/4.0V	F950G476MAAAQ2
C602	CAP CERAMIC CHIP15pF (1608)	GRM39COG 150J 50PT
C609	TAN_CAP 10uF/10V	F951A106MPAAQ2
	TAN_CAP 47uF/6.3V	TEPSLPOJ106M8R
C610	CAP CERAMIC CHIP 15pF	GRM36COG 150J 50PN
C612	CAP CERAMIC CHIP 100nF (1608)	EMK107BJ104KA-T
C613	CAP CERAMIC CHIP 10nF	GRM36X7R 103K 16PN
C614	CAP CERAMIC CHIP 15pF	GRM36COG 150J 50PN
C615	CAP CERAMIC CHIP 10nF	GRM36X7R 103K 16PN
C619	CAP CERAMIC CHIP 15pF	GRM36COG 150J 50PN
C621	CAP CERAMIC CHIP 15pF	GRM36COG 150J 50PN
C623	CAP CERAMIC CHIP 9pF (1608)	GRM39COG 090D 50PT

REF. NO	DESCRIPTION	PART NUMBER
C624~C625	CAP CERAMIC CHIP 15pF (1608)	GRM39COG 150J 50PT
C630	CAP CERAMIC CHIP 9pF (1608)	GRM39COG 090D 50PT
C631	CAP CERAMIC CHIP 15pF (1608)	GRM39COG 150J 50PT
C634	CAP CERAMIC CHIP 100nF (1608)	EMK107BJ104KA-T
C641	CAP CERAMIC CHIP 15pF	GRM36COG 150J 50PN
C643	CAP CERAMIC CHIP 15pF	GRM36COG 150J 50PN
C659	CAP CERAMIC CHIP 2.2uF (2012)	GRM40Y5V 225Z 16PT
C700	CAP CERAMIC CHIP 100nF (0.1uF)	GRM36Y5V 104Z 16PN
C701~C703	CAP CERAMIC CHIP 15pF (1608)	GRM39COG 150J 50PT
C710	CAP CERAMIC CHIP 470pF	GRM36X7R 471K 50PN
C711~712	TAN_CAP 10uF/10V	F951A106MPAAQ2
	TAN_CAP 10uF/6.3V	TEPSLPOJ106M8R
C721	CAP CERAMIC CHIP 100pF	GRM36COG 101J 50PN
CN300	SIM CONNECTOR	AHK-006-000
CN301	B2B CONNECTOR, LCD, 30Pin Socket (1.5t)	AXK5F30335P
CN601	BATTERY CONNECTOR	AGK3434
CON300	SYSTEM I/O CONNECTOR, 18Pin	1005-0018-307
	(DTC CHARGE, no terminal)	
CON301	EAR_JACK	02-909BO-66BKY
D400	DIODE	CRS08(TE85L)
D500	DIODE	RB520S-30
D700~D707	KEY LED, DEEP BLUE, 0.4t	SLSNNBL 103TS
		AOT-603P-B02-V
		(λ=460~465mmcd)
F400~F401	FERRITE BEADS 1608	BLM11P300SPT
F501~F502	FERRITE BEADS 1608	BLM11HB102SD
F602~F605	FERRITE BEADS 1608	BLM11HB102SD
L100	CHIP INDUCTOR (1005) 8.2nH	Hk1005 8N2J
L200	CHIP INDUCTOR (1005) 23nH	0402CS-23NXJBW
L201	CHIP INDUCTOR (1005) 6.2nH	0402CS-6N2XJBW
L202	CHIP INDUCTOR (1005) 3.9nH	Hk1005 3N9S
Q101	TR	DTC114YETL
Q400	TR P-MOSFET	SI6459DQ-T1
Q603	TR N-MOSFET	SI 1902DL-T1
R103	RES. CHIP 11 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ113
R104	RES. CHIP 430 ohm +-5%(J) 1/10W 1005(0402)	MCR01MZSJ431
R112~R113	RES. CHIP 10 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ103
R119	RES. CHIP 10 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ103

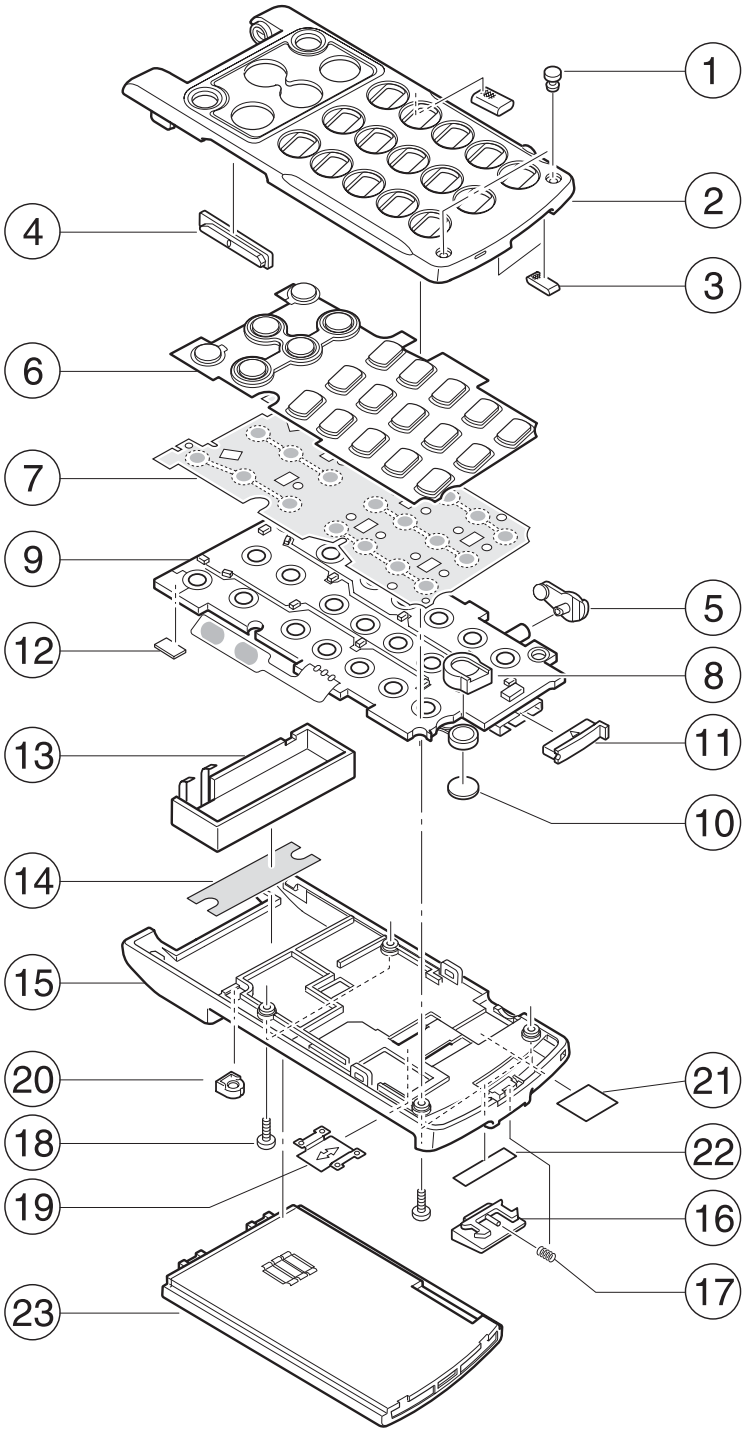
REF. NO	DESCRIPTION	PART NUMBER
R201~R202	RES. CHIP 10 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ103
R203	RES. CHIP 100 ohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ101
R205	RES. CHIP	NC
R300~R304	RES. CHIP 10 ohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ100
R305	RES. CHIP 1 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ102
R306~R311	RES. CHIP 10 ohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ100
R312	RES. CHIP 7.5 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ752
R313~R314	RES. CHIP	NC
R315	4-RESISTOR ARRAY	MNRO4-10K
R343	RES. CHIP 0 ohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ000
R350~R359	RES. CHIP 20 ohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ200
R401	RES. CHIP 10 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ103
R402	RES. CHIP 30 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ303
R403	RES. CHIP 51 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ513
R404	RES. CHIP 0.2 ohm +-1%	RLC20R20FTP
R410	RES. CHIP 10 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ103
R411	RES. CHIP	NC
R412	RES. CHIP 10 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ103
R500~R503	RES. CHIP 0 ohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ000
R504	RES. CHIP 10 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ103
R505	RES. CHIP 220 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ224
R506~R507	RES. CHIP 10 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ103
R510~R511	RES. CHIP 20 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ203
R512	RES. CHIP 120 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ124
R611	RES. CHIP 330 ohm +-5%(J) 1/10W 1005(0402)	MCR01MZSJ331
R613~R614	RES. CHIP 1 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ102
R615	RES. CHIP 330 ohm +-5%(J) 1/10W 1005(0402)	MCR01MZSJ331
R616	RES. CHIP 10 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ103
R617	RES. CHIP 270 Kohm +-1%(J) 1/16W 1005(0402)	MCR01MZSF2703
R618	RES. CHIP 100 Kohm +-1%(J) 1/16W 1005(0402)	MCR01MZSF1003
R619~R621	RES. CHIP 100 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ104
R622~R623	RES. CHIP 0 ohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ000
R703	RES. CHIP 47 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ473
R711	RES. CHIP 1 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ102
R712	RES. CHIP 100 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ104
R713~R715	RES. CHIP 47 ohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ470
R720	RES. CHIP 10 Kohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ103
R721~R724	RES. CHIP 0 ohm +-5%(J) 1/16W 1005(0402)	MCR01MZSJ000
RD700	HALL SWITCH	A3212ELH

REF. NO	DESCRIPTION	PART NUMBER
U101	POWER AMP MODULE	RF311O
U105	TR DUAL TYPE	EMD9
U108	TR DUAL TYPE	EMD9
U110	ANT SWITCH	LMGOO2SZ-5074
U200	BASE BAND INTERFACE IC	SI4201-BM
U201	RF SAW FILTER (GSM)	B7706
U202	RF MAIN CHIP	SI4200 DB-BM
U203	RF SAW FILTER (DCS)	B4167
U204	VCTCXO	TTS17V 13MHz
		SNP3152A 13MHz
U205	LDO 2.85V (LOW CURRENT)	MIC5245-2.85 BM5
U206	PLL IC	SI4133T-BM
U300	COMPARATOR	N. C
U401	MCP 64M FLASH MEMORY 32M SRAM (Pseduo)	AM49DL640BG
	MCP 64M FLASH MEMORY 16M SRAM	AM42DL640AG701
U405	MELODY IC	YMU762QE2
U500	BASE BAND CHIP 1 (HERC-ROM-20)	F741529AGHHR
U501	BASE BAND CHIP 2 (NAUSICA)	TWL3012BGGMR-3
U502	DECODER	NC7SZ19P6X
U601~U606	ANALOG SWITCH	DG9411DL-T1
U608	COMPARATOR DUAL	TC75W56FK(TE85L)
U701	LDO 3.0V (LOW CURRENT)	MIC5219-3.0 BM5
U703	TR, DUAL TYPE	IMX9T110
V300	VARISTOR 1005 SIZE (50pF)	AVLC5S02050
V302~V303	VARISTOR 1005 SIZE (50pF)	AVLC5S02050
V307~V313	VARISTOR 1005 SIZE (50pF)	AVLC5S02050
V315~V318	VARISTOR 1005 SIZE (50pF)	AVLC5S02050
V320	VARISTOR 1005 SIZE (50pF)	AVLC5S02050
V605	VARISTOR 1608 SIZE (75pF)	AVL18S03300LC75P
V607~V610	VARISTOR 1608 SIZE (75pF)	AVL18S03300LC75P
V700~V716	VARISTOR 1005 SIZE (50pF)	AVLC5S02050
X501	X-TAL 32.768KHz 30ppm 4.1*0.3*1.4t	CC5V-T1

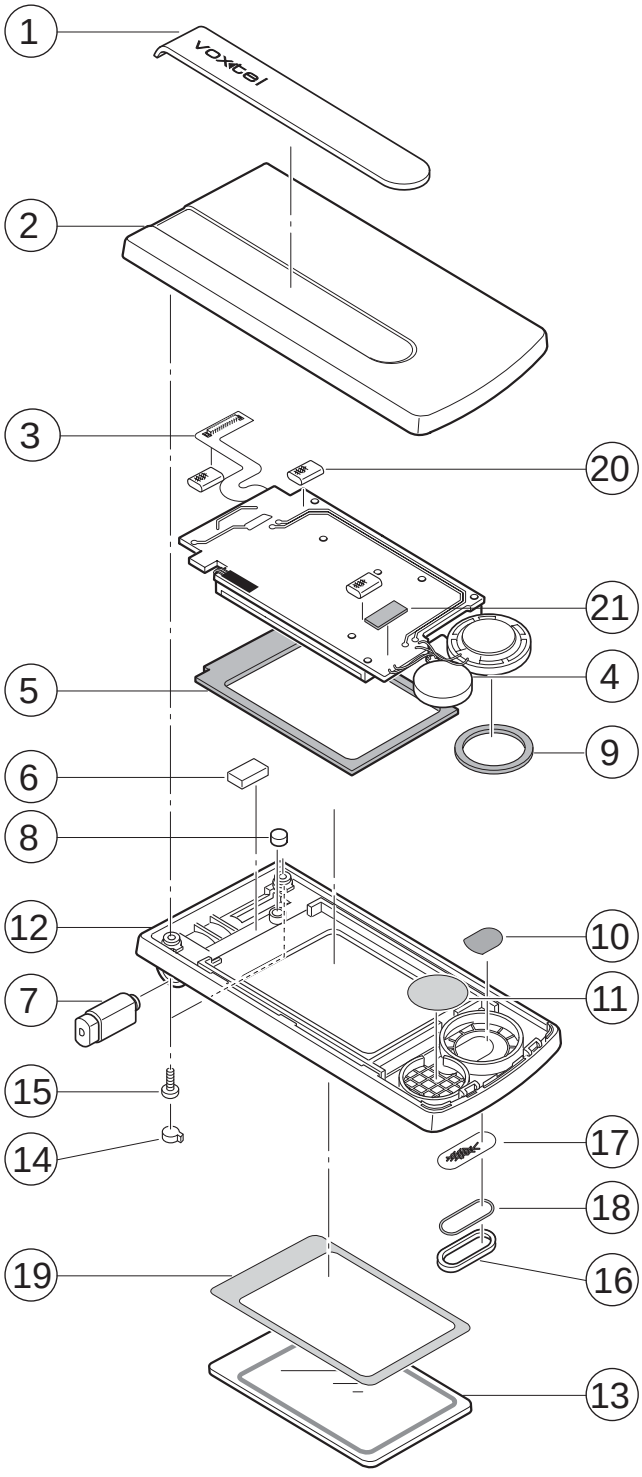
8. Exploded View and Parts List

8.1 Exploded View-Main

8.1.1 Main



8.1.2 Folder



8.2 Mechanical Parts List-Main

8.2.1 Main

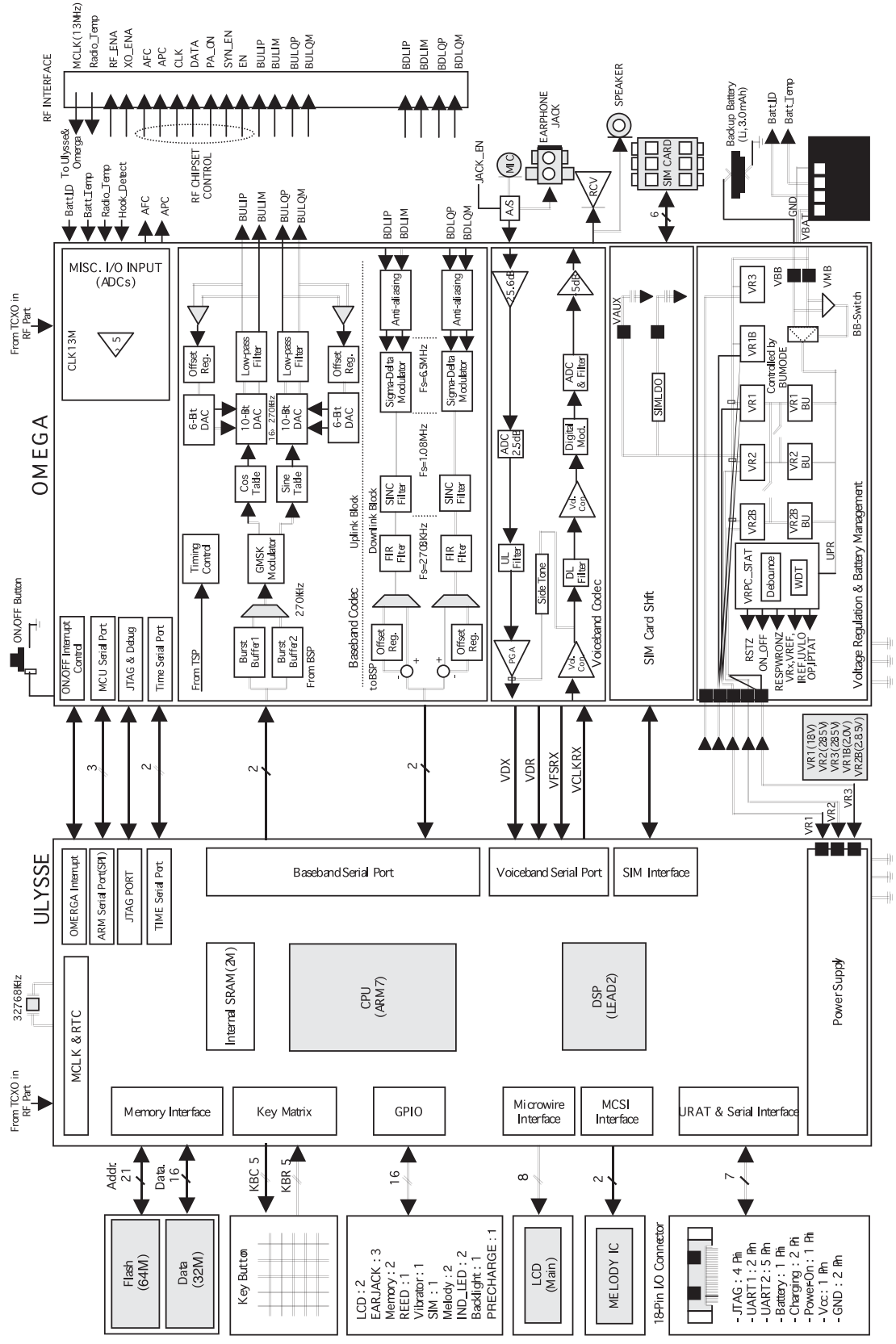
NO.	DESCRIPTION	CODE NO.	Q'TY	REMARKS
1	SUPPORT RUBBER	BH73-00044A	1	
2	FRONT COVER	BH72-00106A	1	
3	CONDUCTIVE CUSHION IO	BH74-00074A	2	
4	SIDE KEY	BH72-00114A	1	
5	RUBBER EARJACK	BH73-00047A	1	
6	KEY PAD	BH73-00045A	1	
7	METAL DOME	BH71-00052A	1	
8	RUBBER MIC	BH73-00048A	1	
9	MAIN PCB		1	
10	SPONGE MIC	BH74-00076A	2	
11	RUBBER IO	BH73-00049A	1	
12	CONDUCTIVE TAPE INTENA	BH75-00081A	1	
13	INTENA		1	
14	TAPE INTENA	BH75-00078A	1	
15	REAR COVER	BH72-00107A	1	
16	LOCKER MAIN	BH72-00110A	1	
17	LOCKER SPRING	BH71-00055A	1	
18	SCREW MAIN	BS61-121635A	4	
19	SIM COVER	BH71-00025A	1	
20	RUBBER RF	BH73-00046A	1	
21	TAPE EARJACK	BH75-00076A	1	
22	TAPE IO	BH75-00077A	2	
23	ASS'Y BATTERY PACK	BH85-00054A	1	

8.2.2 Folder

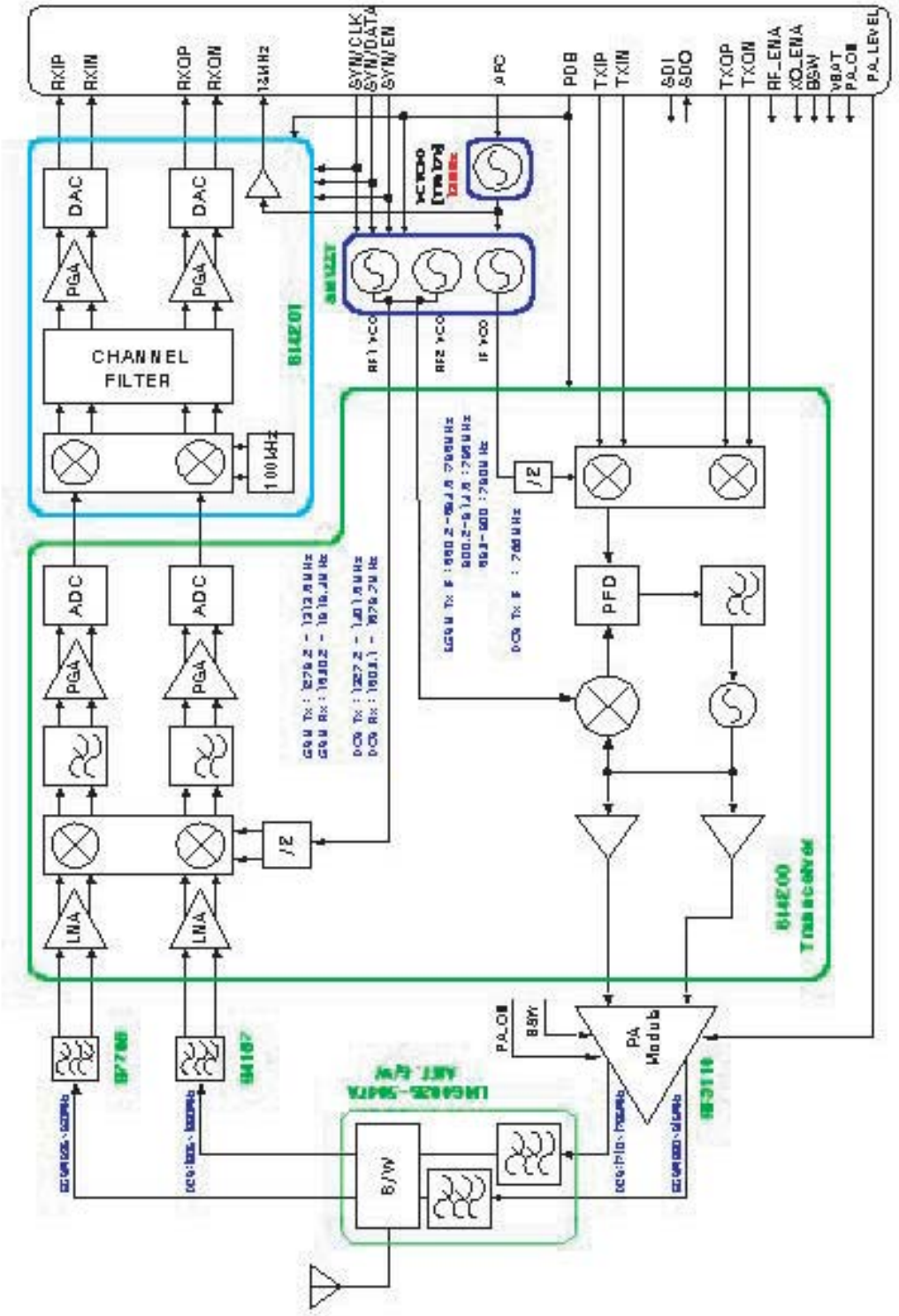
NO.	DESCRIPTION	CODE NO.	Q'TY	REMARKS
1	DECO UPPER	BH71-00085A	1	
2	FOLDER UPPER	BH72-00167A	1	
3	FOLDER FPCB	BH71-00057A	1	
4	ASS'Y LCD		1	
5	CUSHION MAIN LCD	BH74-00069A	1	
6	CUSHION CONNECTOR	BH74-00071A	1	
7	HINGE	BH71-00054A	1	
8	MAGNET	BH71-00006AA	1	
9	CUSHION SPEAKER	BH74-00070A	1	
10	FELT SPEAKER	BH75-00080A	1	
11	TAPE VIBRATOR	BH75-00074A	1	
12	FOLDER LOWER	BH72-00108A	1	
13	MAIN WINDOW	BH72-00115A	1	
14	COVER SCREW	BH73-00043A	2	
15	SCREW FOLDER	BS61-121635B	2	
16	DECO EAR	BH72-00111A	1	
17	SCREEN SPEAKER	BH71-00055A	1	
18	TAPE DECO EAR	BH75-00073A	1	
19	TAPE MAIN WINDOW	BH75-00072A	1	
20	SHIELD FORM FPCB	BH74-00075A	3	
21	TAPE PROTECTION PCB	BH75-00084A	1	

9. Block Diagram

9.1 BB Block Diagram

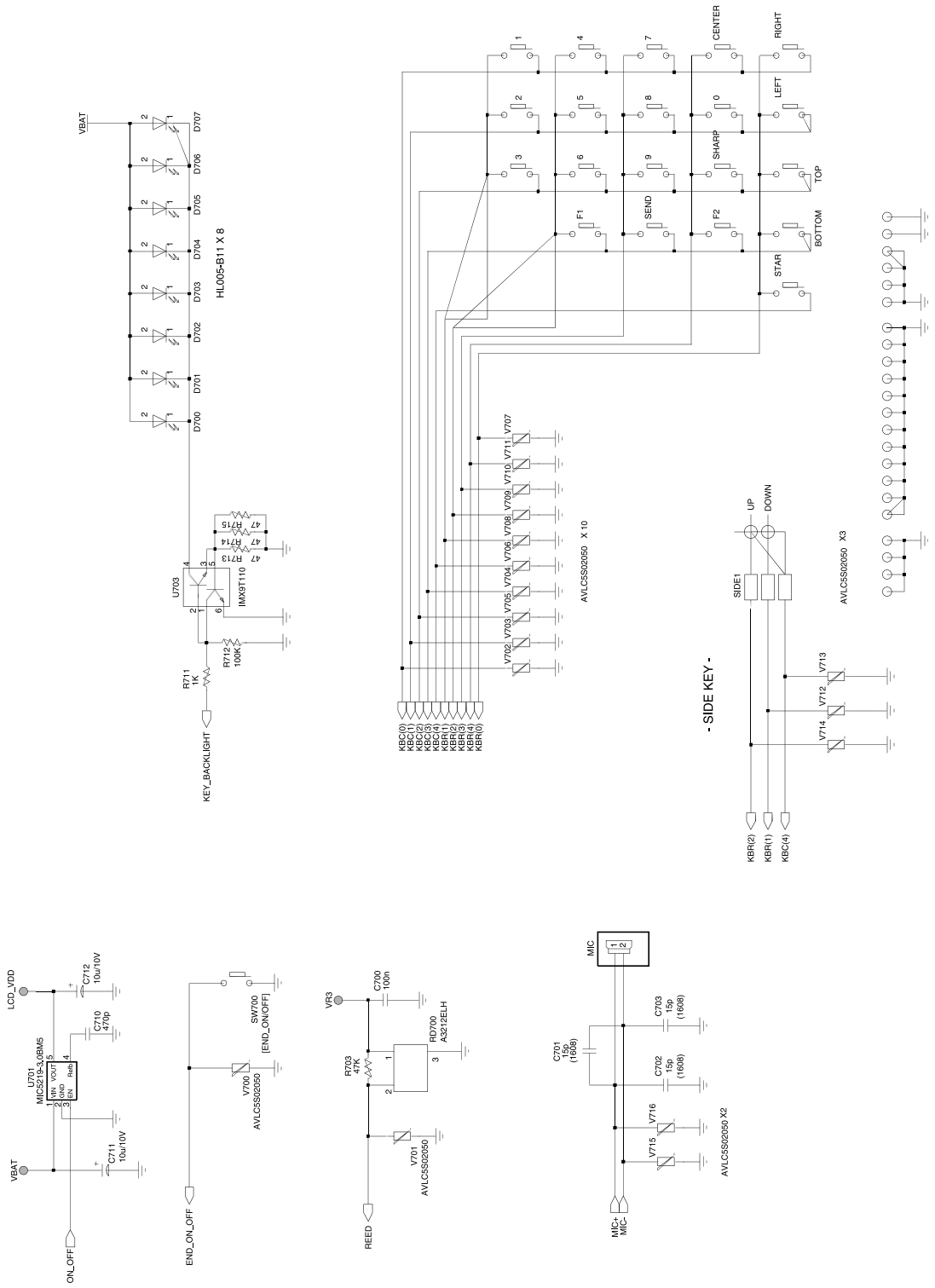


9.2 RF Block Diagram



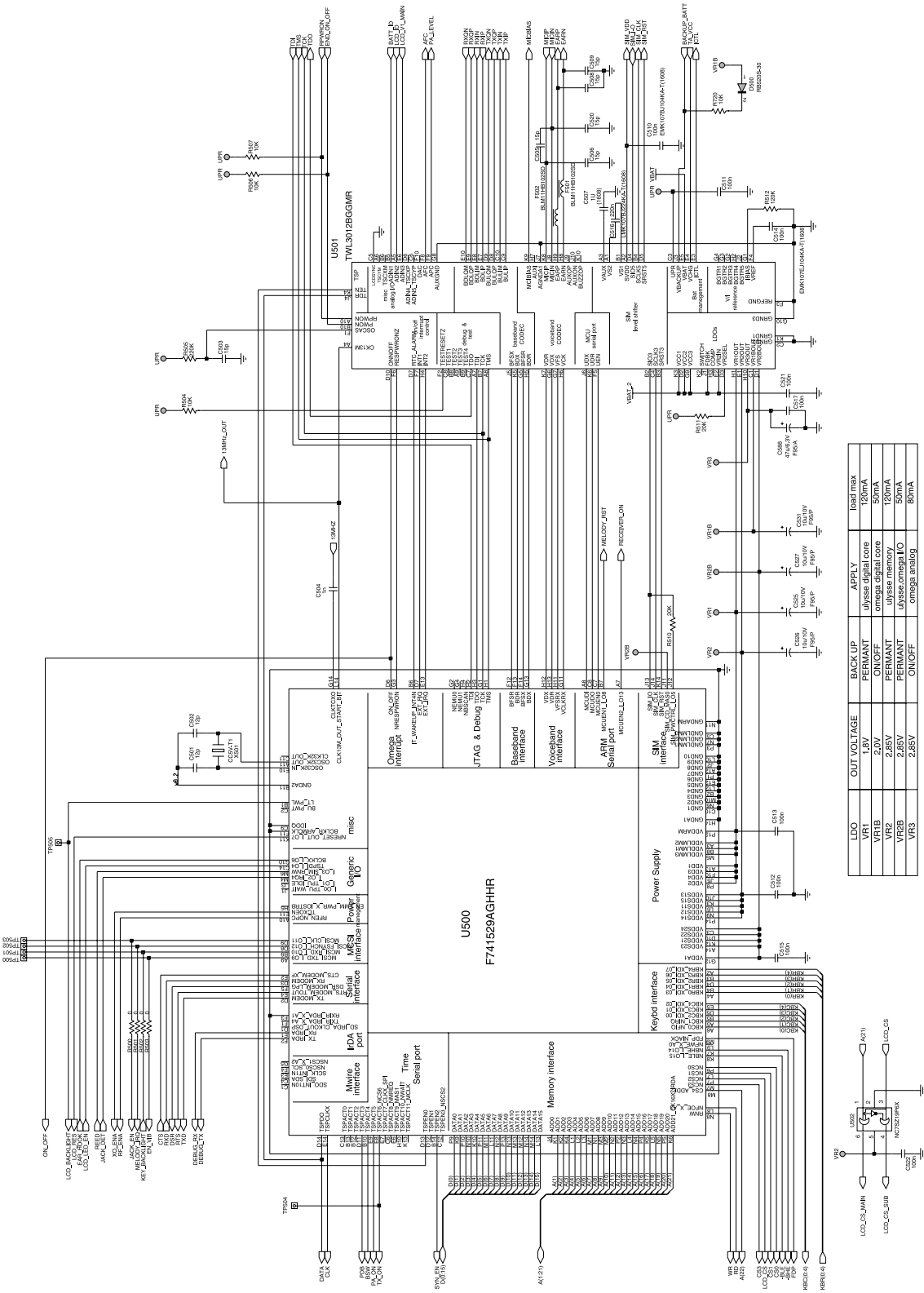
10. Schematic Diagram

10.1 Key Pad

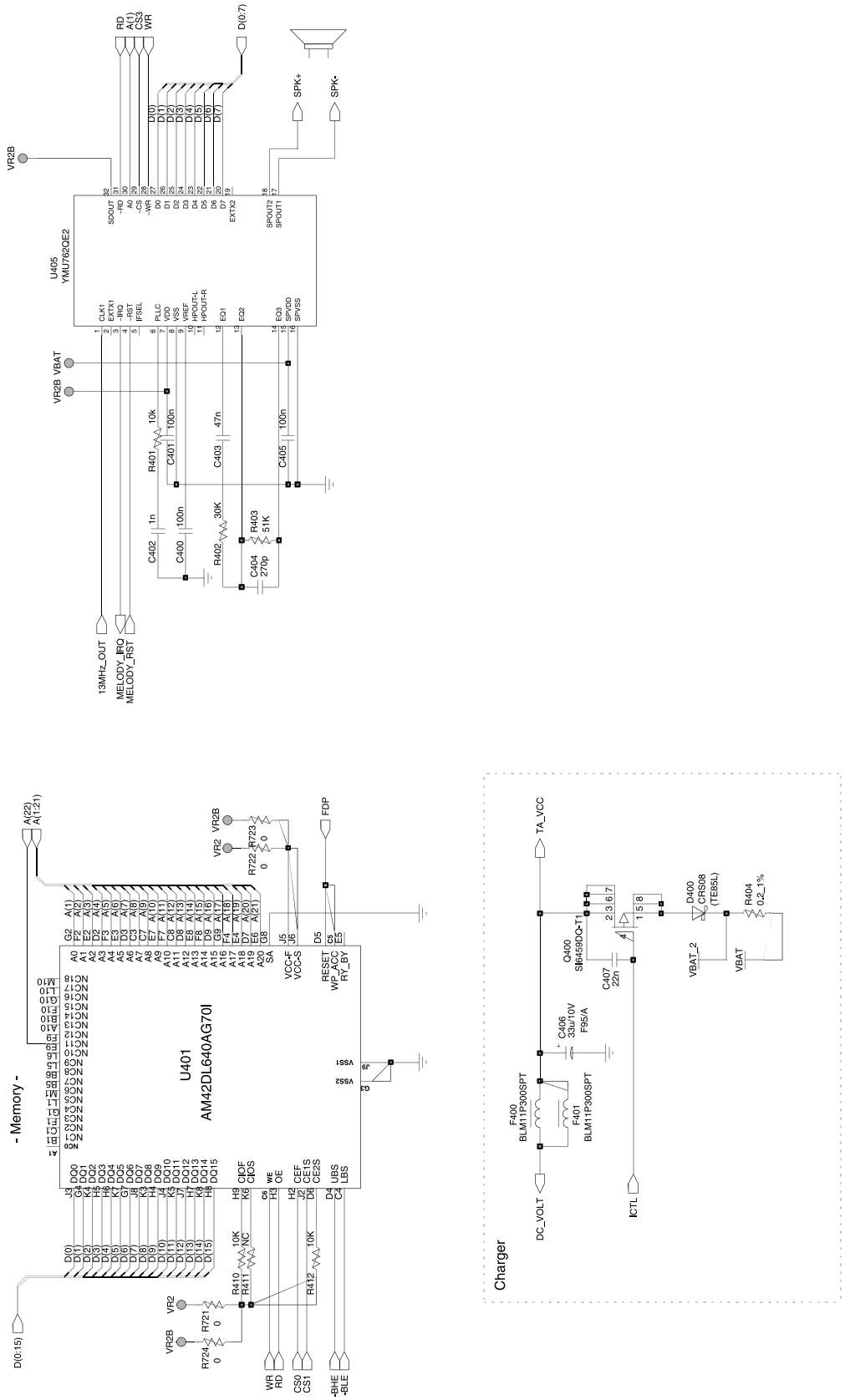


10.2 Main Board

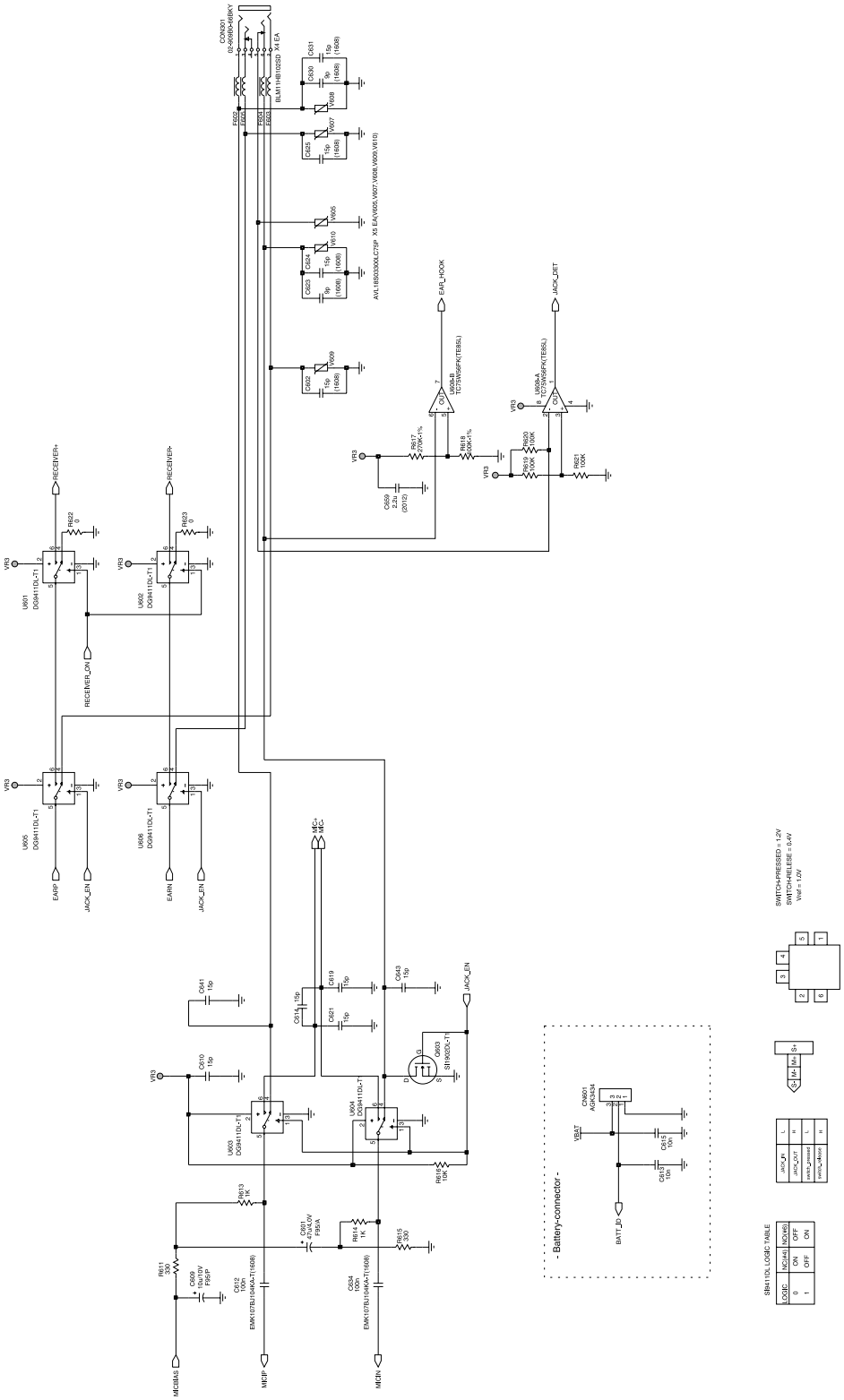
10.2.1 Chipset



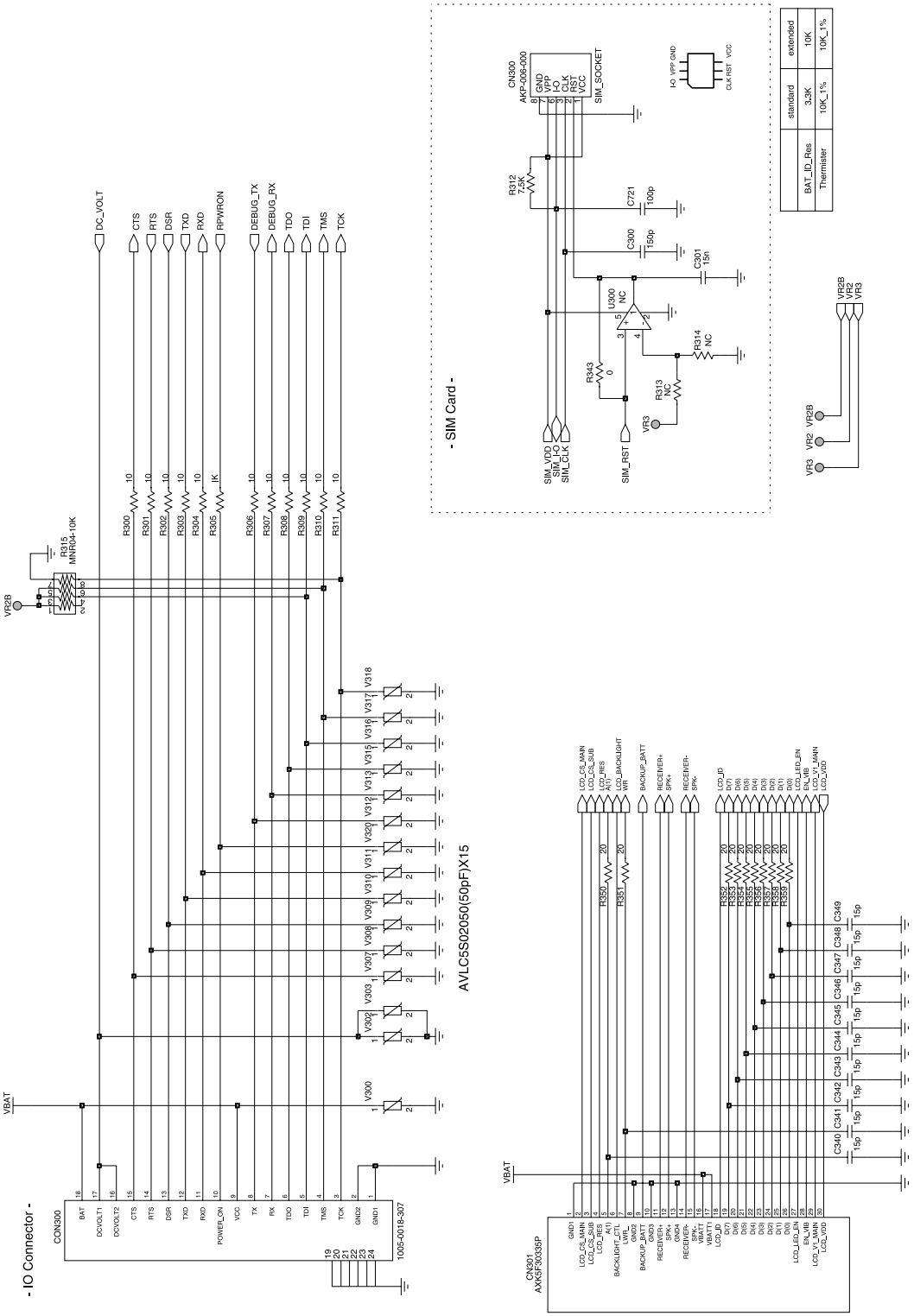
10.2.2 Memory & Melody



10.2.3 Audio & SIM

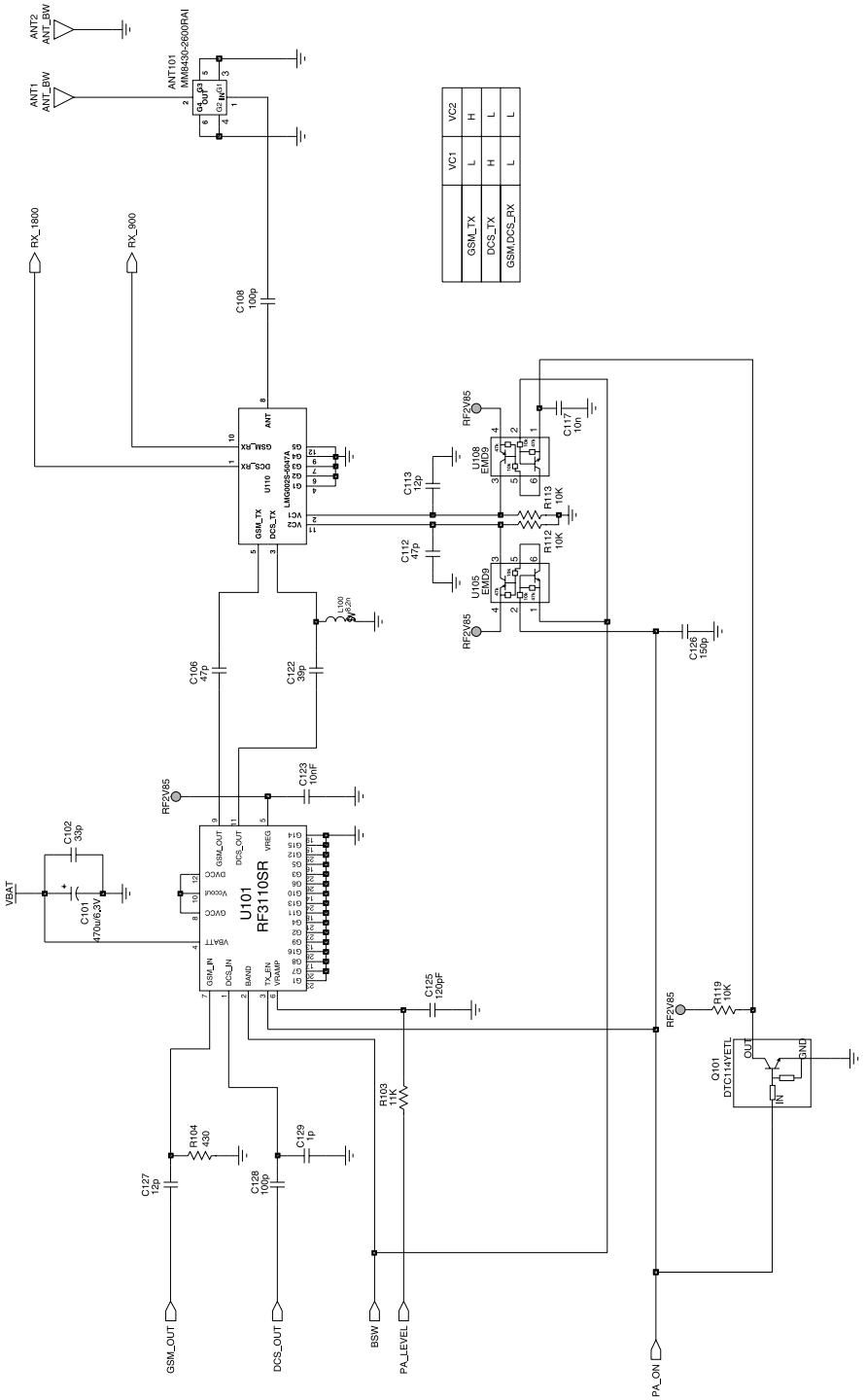


10.2.4 Connector



10.3 RF Top Schematic

10.3.1 RF PAM



10.3.2 RF Main IC