

**SAMSUNG**

# CDMA Cellular Phone SCH-A105

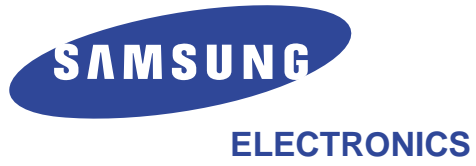
# **SERVICE** *Manual*

CDMA Cellular Phone



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# 1. General Description

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The SCH-A105 cellular phone functions as both analog cellular phone working in AMPS (Advanced Mobile Phone Service) mode and digital cellular phone working in CDMA (Code Division Multiple Access) mode. CDMA type digital mode applies DSSS (Direct Sequential Spread Spectrum) mode which first came to be used in the military.

The DSSS reduces channel cross talk and allow to use one frequency channel by multiple users in the same specific area, resulting in increase of channel capacity to about ten times compared to that of analog mode currently used.

Soft/Softer Handoff, Hard Handoff, and Dynamic RF Power Control technologies are combined into this phone to reduce the call drop while usage.

CDMA digital cellular network consists of MSO (Mobile Switching Office), BSC (Base Station Controller), BTS(Base Station Transmission System), and MS (Mobile Station). MS meets the specifications of the below:

- IS-95A : Mobile Station-Base Station Compatibility Standard for Dual-Mode Wideband Spread Spectrum Cellular System
- IS-96A : Speech Service Option 1 Standard for Dual-Mode Wideband Spread Spectrum Cellular System
- IS-98A : Standards for Dual-Mode Wideband Spread Spectrum Cellular Mobile Station
- IS-126 : Mobile Station Loopback Service Options Standard

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## 2. Specification

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### 2-1 General

Frequency Range	Digital Mode	Analog Mode
Transmitter	: 824.64 ~ 848.37 MHz	824 ~ 849 MHz
Receiver	: 869.64 ~ 894.37 MHz	869 ~ 894 MHz
Channel Spacing	: 1.23 MHz	30 kHz
Number of Channels	: 20 EA	832 CHs
Duplex Spacing	: 45 MHz	45 MHz
Frequency Stability	: $\pm 2.5$ ppm (-20°C ~ +50°C, -4°F ~ +122°F)	
Operating Temperature	: -20°C ~ +50°C (-4°F ~ +122°F)	
Operating Voltage		
HHP : 3.6V DC ( $\pm 10\%$ )		
Hands-free : 13.7V DC ( $\pm 10\%$ )		

Item	Size (mm)	Weight (g)
Including slim battery	80 x 42 x 22	93
Including standard battery	80 x 42 x 24	116

#### Operating Time (Digital Mode)

Item	Standby Time	Talk Time
Slim battery	up to 100 hours	up to 150 min
Standard battery	up to 170 hours	up to 250 min

## 2-2 Digital Mode

Waveform Quality	0.944 or more
Time Reference	±1uS or less
Rx Sensitivity and Dynamic Range	-104 dBm, FER=0.5 % or less -25 dBm, FER=0.5 % or less
Tx Output Power	280 mW (24.5 dBm)
Tx Frequency Deviation	±300 Hz or less
Occupied Band Width	1.32 MHz
Tx Conducted Spurious Emission	900 kHz : -42 dBc / 30 kHz below 1.98 MHz: -54 dBc / 30 kHz below
Minimum Tx Power Control	below -50 dBm
Open Loop Power Control	-25 dBm: -57.0 dBm ~ -38.5 dBm -65 dBm: -17.5 dBm ~ + 1.5 dBm -104 dBm: +18.0 dBm ~ +30.0 dBm
Standby Output Power	below -61 dBm
Closed Loop Tx Power Control Range	Test1: ±24 dB or less Test2: 0 mS ~ 2.5 mS Test3: ±24 dB or more Test4: ±24 dB or more Test5: ±24 dB or more

## 2-3 ANALOG MODE

### TRANSMITTER

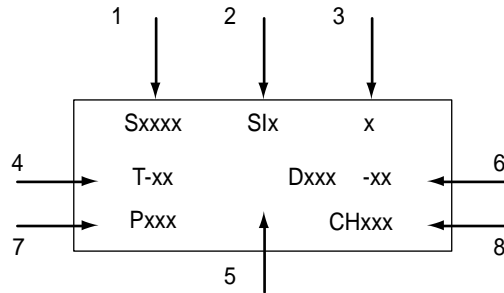
RF output power	0.6W (+2/-4dB)
Carrier ON/OFF conditions "ON" Condition "OFF" Condition	within $\pm 3$ dB of specification output (in 2mS) below -60dBm (in 2mS)
Compressor Compression Rate Attack Time Recovery Time Reference Input	2:1 3mS 13.5mS Input level for producing a nominal $\pm 2.9$ KHz peak frequency deviation of transmitted carrier
Preamphasis	6dB/OCT within 0.3 ~ 3KHz
Maximum Frequency Deviation F3 of G3 Supervisory Audio Tone Signaling Tone Wideband Data	$\pm 12$ KHz $\pm 2$ KHz ( $\pm 10\%$ ) $\pm 8$ KHz ( $\pm 10\%$ ) $\pm 8$ KHz ( $\pm 10\%$ )
Post Deviation Limiter Filter 3.0 ~ 5.9KHz 5.9 ~ 6.1KHz 6.1 ~ 15KHz Over 15KHz	above 40 LOG (F/3000) dB above 35 dB above 40 LOG (F/3000) dB above 28 dB
Spectrum Noise Suppression  For all modulation f0+20KHz ~ f0+45KHz  For modulation by voice and SAT f0 +45KHz  For modulation by WBD(without SAT) and ST (with SAT) f0+45KHz ~ f0+60KHz f0+60KHz ~ f0+90KHz f0+90KHz ~ 2f0	above 26 dB  above 63 +10 LOG (PY) dB  above 45 dB above 65 dB above 63 +10 LOG (PY) dB (where f0=carrier frequency PY=mean output power in watts)
Harmonic and conducted Spurious Emissions	below 43 + 10 LOG (PY) dB

RECEIVER

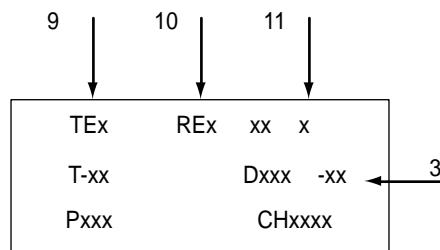
De-Emphasis	-6dB / OCT within 0.3 ~3KHz
Expander Expander Rate Attack Time Recovery Time Reference Input	1:2 within 3mS within 13.5mS output level to a 1000Hz tone from a carrier within $\pm 2.9$ KHz peak frequency deviation
Sensitivity	12dB SINAD / -116dBm
Intermodulation Spurious Response Attenuation	above 65dB
RSSI Range	above 60dB
Protection Against Spurious Response Interference	above 60dB
In Band Conducted Spurious Emission Transmit Band Receive Band Other Band	below -60dBm below -80dBm below -47dBm
Radiated Spurious Emission	
Frequency Range 25 ~ 70 MHz 70 ~ 130MHz 130 ~ 174 MHz 174 ~ 260 MHz 260 ~ 470 MHz 470 ~ 1GHz	Maximum Allowable EIRP -45dBm -41dBm -41 ~ -32dBm -32dBm -32 ~ -26dBm -21dBm

## 2-4 CDMA Debug Display Information (menu 8)

### IN IDLE MODE



### IN CONVERSATION MODE



- 1 : Sxxxxx : SID (System Identification) toggle  
Nxxxxx : NID (Network Identification) toggle
- 2 : Slx : Slot cycle index (lowest between the system and the phone will be used)
- 3 : Handset Status : 0 - Acquisition
  - 1 - Synchronization
  - 2 - Paging (Idle)
  - 3 - Traffic Initialization
  - 4 - Traffic Mode
  - 5 - Exit
- 4 : T-xx : Tx adjust, Value ranges from +63 ~ -63dB
- 5 : Dxxx : sector power in dBm
- 6 : -xx : Ec/Io
- 7 : Pxxx : PN offset
- 8 : CHxxxx : channel number
- 9 : TEx : Tx vocoder rate (8 is full rate, 1 is 1/8th rate)
  - E : EVRC
  - V : 13k or 8k
- 10 : REx : Rx vocoder rate (8 is full rate, 1 is 1/8th rate)
- 11 : xx : Walsh code used in traffic channel

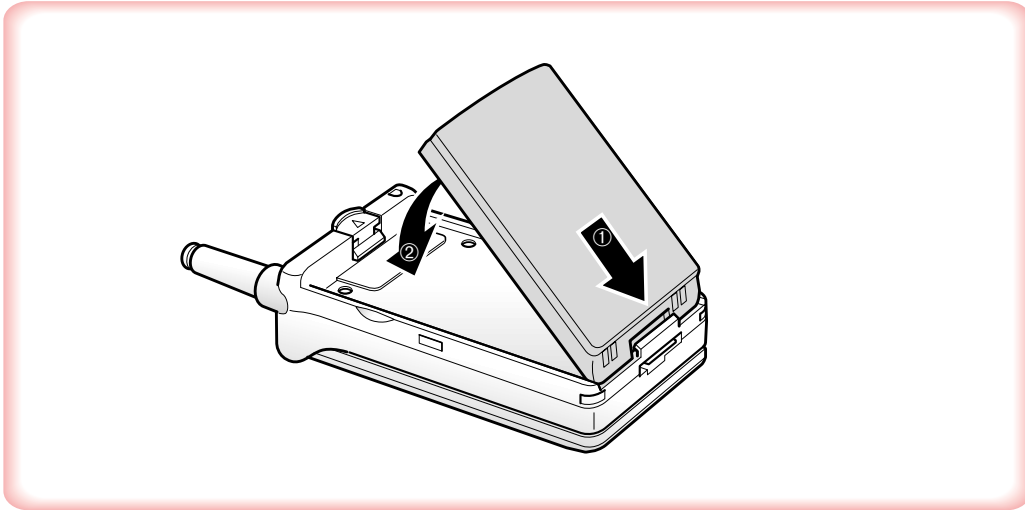


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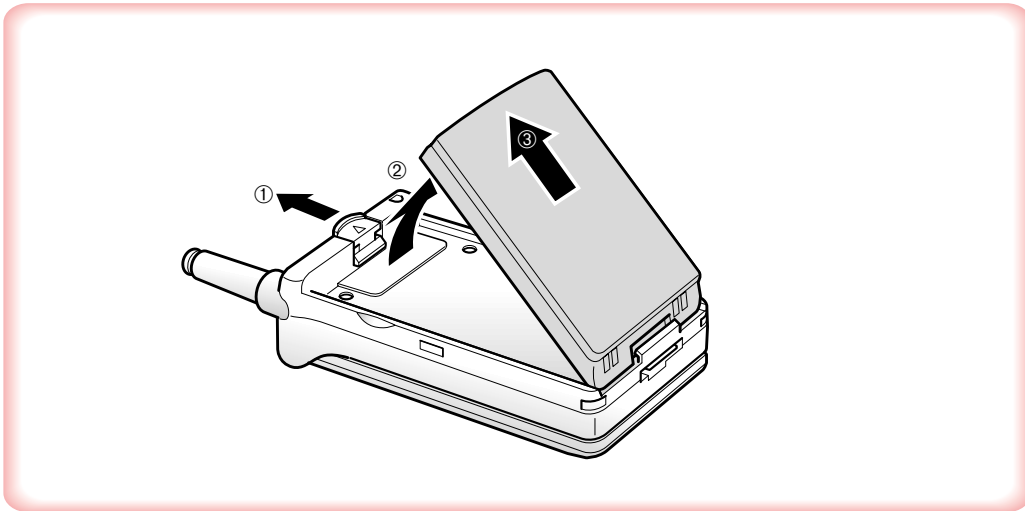
## 3. Installation

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### 3-1 Installing a Battery Pack



Insert the saw-toothed end on the bottom of the battery into the slots on the bottom of the phone (①), then slide the battery down (②).



Push up and hold the catch above the battery on the back of the phone (①) and lift the battery away. (② - ③)

### 3-2 For Desk Top Use

1. Choose a proper location to install the charger for Desk Top use.
2. Plug the power cord of the charger into an appropriate wall socket. When the power is connected correctly, the lamps turn on briefly.
3. To charge the battery pack, insert the battery pack into the rear slot of the charger. The lamp marked BAT on the front panel of the charger lights up red.
4. If you do not wish to use the phone while charging the battery, insert the phone with the battery pack attached into the front slot of the charger. The lamp marked PHONE on the front panel of the charger lights up red.

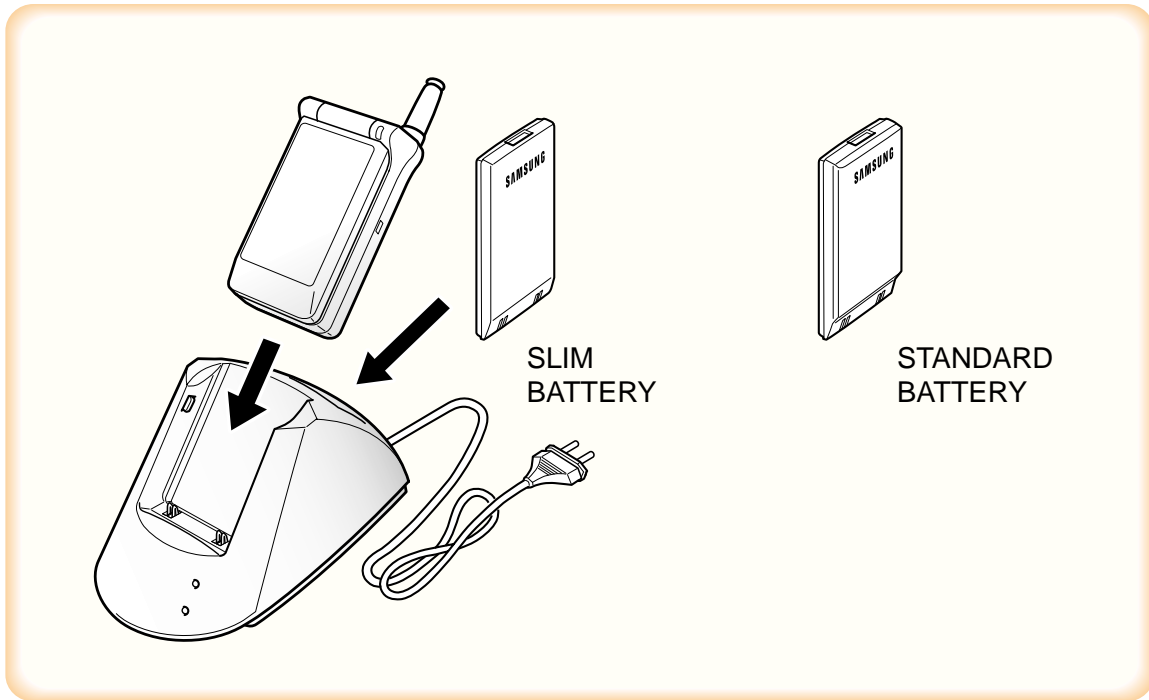


Figure 3-1 Charging the Phone and Battery

#### SPECIFICATIONS USING "DTCA10"

Battery Type	Slim Battery (Li-ion, 500 mAh)	Standard Battery (Li-ion, 1000 mAh)
Model Name	BTIA10AA BTIA10AD	BTSA10AA BTSA10AD
SEC Code	GH43-00173B GH43-00179B	GH43-00174B GH43-00180B
Charging Time	4 hours	4 hours

## 3-3 For Mobile Mount

### 3-3-1 Cradle

1. Choose a location where it is easy to reach and does not interfere with the driver's safe operation of the car.
2. Separate the two halves of the clamshell by removing the two large slotted screws. See the figure 3-2.
3. Drill holes and mount the lower half of the clamshell by using the screws.
4. Place the cradle onto the remaining half of the clamshell and assemble them by using the screws.
5. Reassemble the two halves of the clamshell together. Adjust the mounting angle and tighten the two slotted screws.

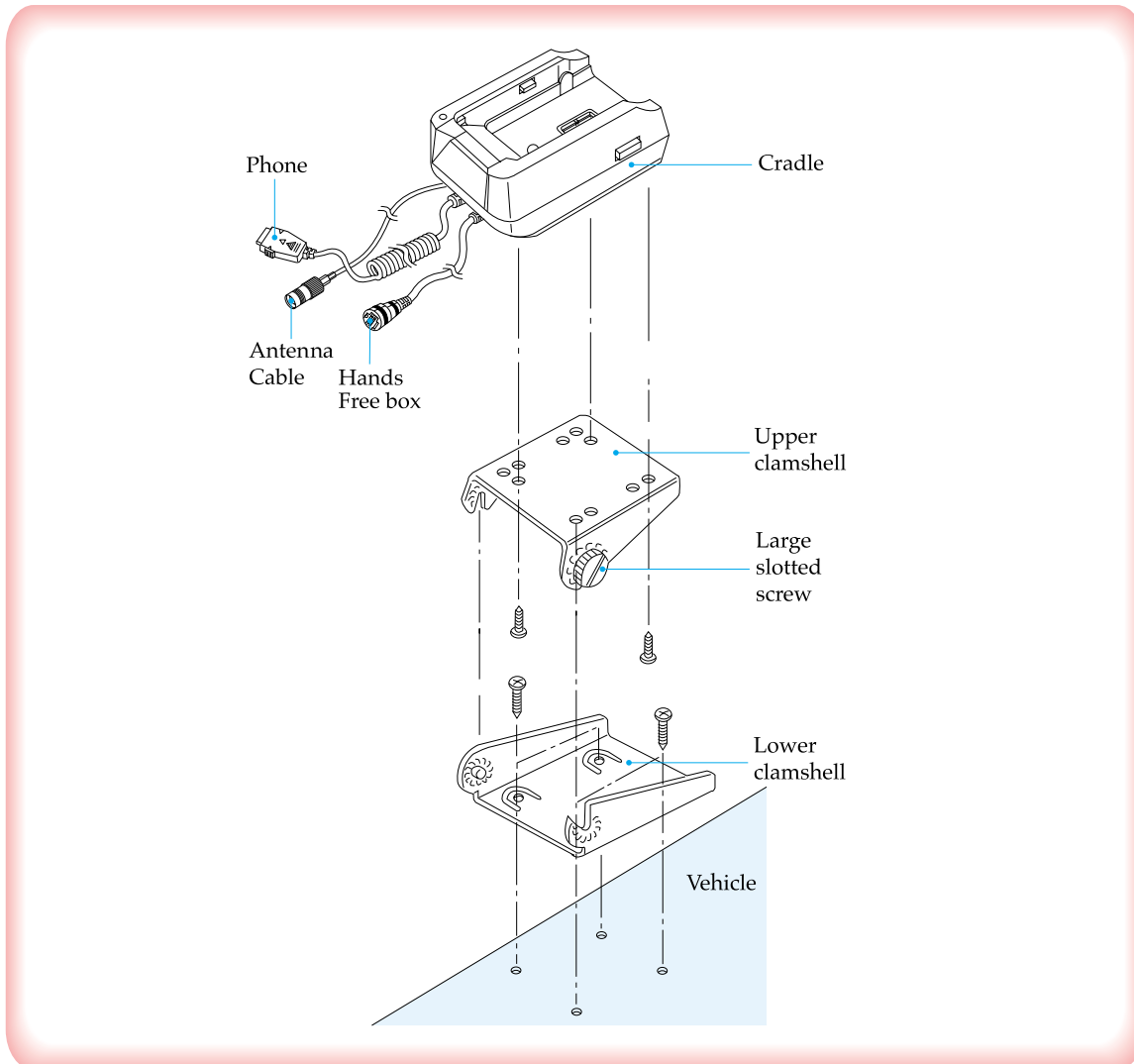


Figure 3-2 Cradle Installation

### 3-3-2 Hands-Free Box

1. Drill holes in a proper location for the hands-free box, attach the mounting bracket by using the screws. See the figure 3-3.
2. Install the hands-free box into the bracket.

### 3-3-3 Hands-Free Microphone

1. It is recommended to install the microphone where it is 30-45 cm (12-18inch) away from the driver. Choose the location where is least susceptible to interference caused by external noise sources, ie, adjacent windows, radio speakers, etc. Normal place is the sun visor.
2. Once the microphone has been correctly positioned, connect the microphone wire to the MIC jack on the hands-free box.

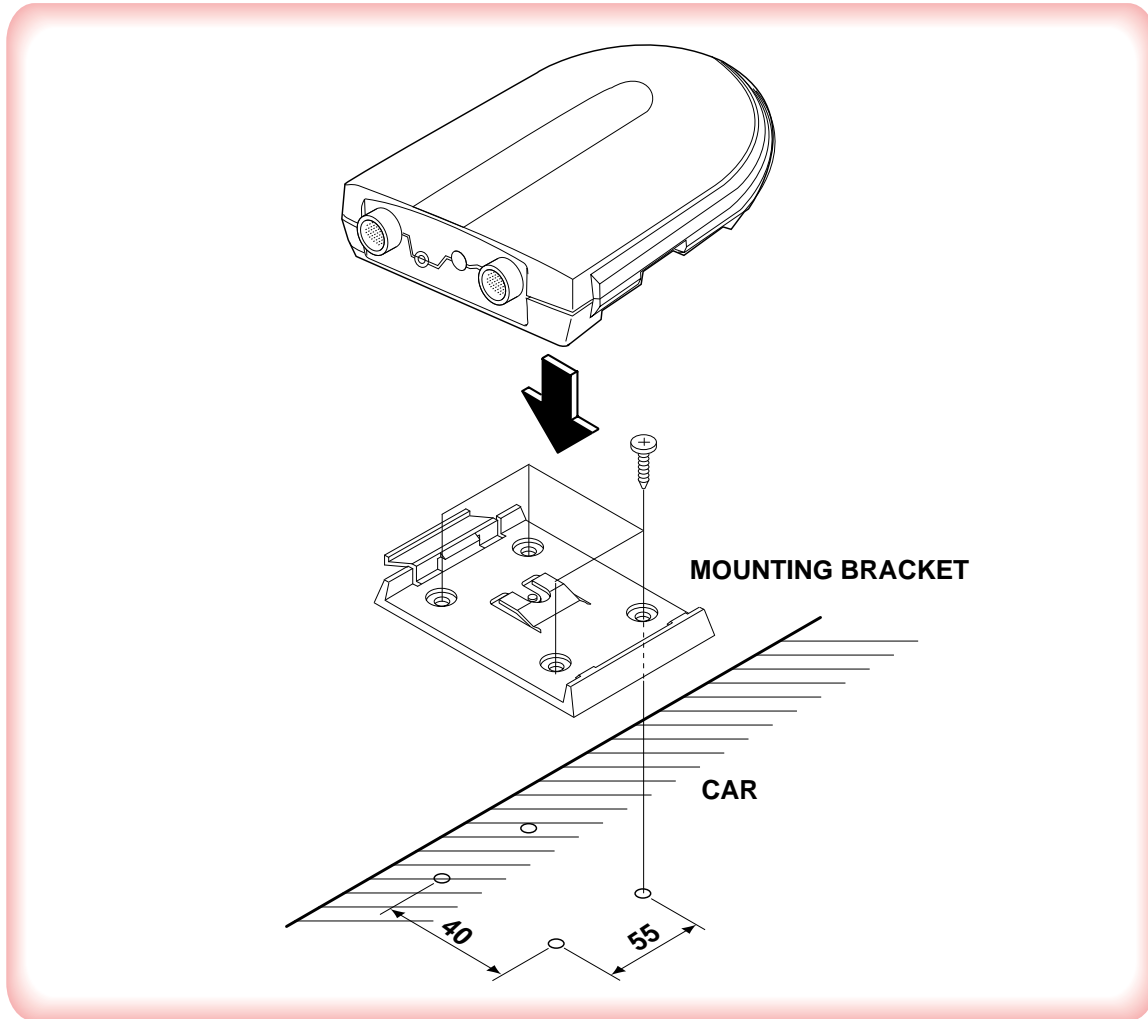


Figure 3-3 Hands-Free Box 1 Installation

### 3-3-4 Cables

1. Connect the cradle and the hands-free box with the data cable. See the figure 3-4.
2. Connect the antenna cable to the RF jack of the cradle.
3. Connect the power cable as follows:  
Connect the red wire to the battery (+) terminal, black wire to the vehicle chassis. Then connect the battery (-) terminal to the vehicle chassis. Connect the yellow wire to the switched side of the ignition switch, and then connect the white to the stereo mute wire from your vehicle stereo.
4. Connect the other end of the power cable to the PWR jack of the hands-free box.

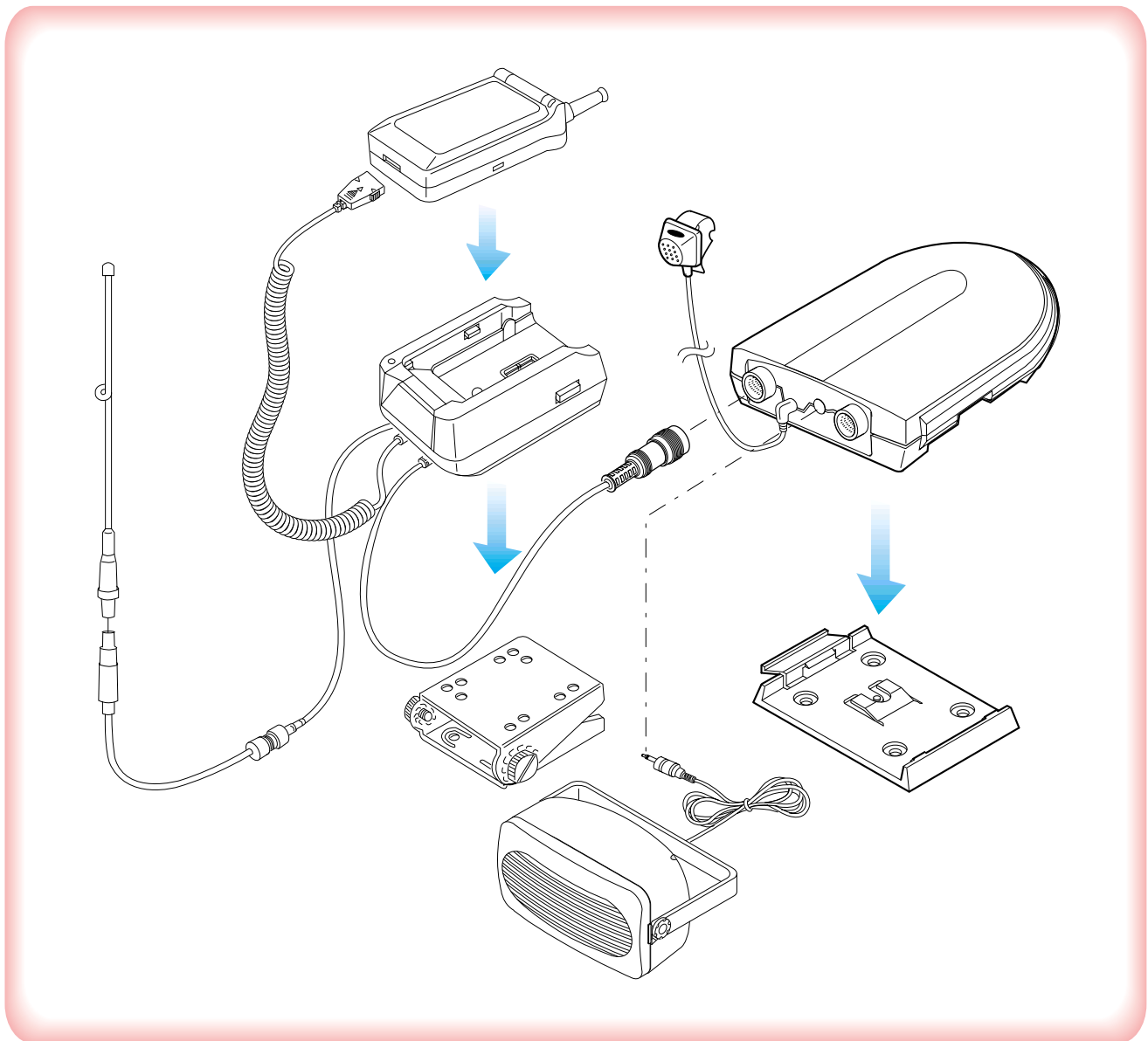
**Notes:**

It is recommended to connect the power cable directly to the battery to avoid power noise.

Make sure the connection, in the vehicle, between the battery (-) terminal and vehicle chassis is made correctly.

Make sure the fuse having a proper capacity is used on the power cable.

Make sure the cables do not pass over any sharp metal edge that may damage it.



## 4. NAM Programming

NAM features can be programmed as follows:

Notes:

- If you enter the NAM program mode, each item shows the currently stored data. Go to the next item by pressing OK/☑ .
- You can modify the data by entering a new data.
- If you enter a wrong digit, press CLR to delete the last digit. Press and hold CLR to delete all digits.
- To scroll items backwards or forwards, press the VOLUME button on the left side of the phone.

### 4-1 General Setup

LCD Display	Key in	Function
47×869#08#9 NAM program 1:General 2:Setup NAM1 3:Setup NAM2	47×869#08#9 1	-selects NAM programming -choose 'GENERAL'
ESN B0000000	Volume ▼	-Electronic Serial Number of the phone
CAI version 3	Volume ▼	-The version of Common Air Interface supported by the mobile
VOC8/13/EVRC SO_VOIC_13K	Volume ▼	-evrc, voice08k, voice13k
SCM 01101010	Volume ▼	-Station Class Mark displays the power class(bit0~1), transmission(bit2), slotted class(bit5), dual mode(bit6).
Lock Code 0000	(0000) 4-digit code OK/☑	-Lock code, current status is displayed to change, enter new code. -stores it
Slot Mode Yes	<or> OK/☑	-Slot mode. 'Yes' indicates the slot mode. changes the status. -stores it.
Slot Index 2	0-7 OK/☑	-Slot mode index. The higher, the longer sleeping time to change, enter new one. -stores it.
Pref NAM1... Digital pref	OK/☑	-Preferred system selection for NAM1 changes the system. -stores it.
Pref NAM2... Digital pref	OK/☑	-Preferred system selection for NAM2 changes the system. -stores it.

## 4-2 Setting Up NAM1

LCD Display	Key in	Function
NAM Program 1:General 2:Setup NAM1 3:Setup NAM2	2	-Choose 'Setup NAM1.'
Setup NAM1 1:Phone # 2:FM 3:CDMA	1	-Choose 'Phone #'
Phone # 3003003000	Phone number OK/☑	-CDMA current number is displayed. to change, enter new one -stores it.
Mobile ID # 3003003000	Phone number OK/☑	-CDMA current number is displayed. to change, enter new one -stores it.
Setup NAM1 1:Phone # 2:FM 3:CDMA	2	-Choose 'FM'
FM Home SID 20	ID number OK/☑	System ID for home, current status is displayed. - to change, enter new one. - store it.
FM 1st Chn 334	Channel number OK/☑	Current 1st paging channel. - to change, enter new one. - store it.
FM Acq SID1 20	ID number OK/☑	Acquisition system ID 1, Current status is displayed. - to change, enter new one. - store it.
FM Acq SID2 0	ID number OK/☑	Acquisition system ID 2, Current status is displayed. - to change, enter new one. - store it.
FM Acq SID3 0	ID number OK/☑	Acquisition system ID 3, Current status is displayed. - to change, enter new one. - store it.

LCD Display	Key in	Function
FM Acq SID4 0	ID number OK/☑	Acquisition system ID 4, Current status is displayed. - to change, enter new one. - store it.
FM Acq SID5 0	ID number OK/☑	Acquisition system ID 5, Current status is displayed. - to change, enter new one. - store it.
FM Acq SID6 0	ID number OK/☑	Acquisition system ID 6, Current status is displayed. - to change, enter new one. - store it.
FM LockSID 1 0	ID number OK/☑	Lock system ID 1, current status is displayed. - to change, enter new one. - store it.
FM LockSID 2 0	ID number OK/☑	Lock system ID 2, current status is displayed. - to change, enter new one. - store it.
FM LockSID 3 0	ID number OK/☑	Lock system ID 3, current status is displayed. - to change, enter new one. - store it.
FM LockSID 4 0	ID number OK/☑	Lock system ID 4, current status is displayed. - to change, enter new one. - store it.
FM LockSID 5 0	ID number OK/☑	Lock system ID 5, current status is displayed. - to change, enter new one. - store it.
FM LockSID 6 0	ID number OK/☑	Lock system ID 6, current status is displayed. - to change, enter new one. - store it.
FM LockSID1 0	ID number OK/☑	Lock system ID 6, current status is displayed. - to change, enter new one. - store it.
Auto Reg Yes	* or # OK/☑	FM Registration, current status is displayed. - changes the status 'YES' to enable, 'NO' to disable - store it.



LCD Display	Key in	Function
FM pref. B pref	* or # OK/☑	Preferred system selection, current status is displayed. - changes the status 'YES' to enable, 'NO' to disable - store it.
FM ACCOLC 0	* or # OK/☑	Current Access Overload Class. - change the status. - store it.
Setup NAM1 1:Phone # 2:FM 3:CDMA	3	- Choose 'CDMA'
IMSI_MCC 000	number OK/☑	-IMSI Mobile Country Code, current code is displayed. to change, enter new one. -stores it.
IMSI_MNC 00	number OK/☑	-IMSI Mobile Network Code, current code is displayed. to change, enter new one. -stores it.
CDMA pref.. B pref	<or> OK/☑	-Preferred system selection, current system is displayed. changes the system. -stores it.
CDMA ACCOLC. 0	class number OK/☑	CDMA Access Overload Class, current status is displayed. -to change, enter new one. -stores it.
Pchn Sys A 283	channel number OK/☑	-Preferred channel currently used under system A to change, enter new one. -stores it.
Pchn Sys B 384	channel number OK/☑	-Preferred channel currently used under system B to change, enter new one. -stores it.
Schn Sys A 691	channel number OK/☑	-Second channel currently used under system A to change, enter new one. -stores it.
Schn Sys B 777	channel number OK/☑	-Second channel currently used under system B to change, enter new one. -stores it.

LCD Display	Key in	Function
CD Acq SID 1 20	ID number 1~ 6 OK/☑	-1st Acquisition system ID, current status is displayed. to change, enter new one. -stores it.
CD Acq SID 2 0	ID number 1~ 6 OK/☑	-2nd Acquisition system ID, current status is displayed. to change, enter new one. -stores it.
CD Acq SID 3 0	ID number 1~ 6 OK/☑	-3rd Acquisition system ID, current status is displayed. to change, enter new one. -stores it.
CD Acq SID 4 0	ID number 1~ 6 OK/☑	-4th Acquisition system ID, current status is displayed. to change, enter new one. -stores it.
CD Acq SID 5 0	ID number 1~ 6 OK/☑	-5th Acquisition system ID, current status is displayed. to change, enter new one. -stores it.
CD Acq SID 6 0	ID number 1~ 6 OK/☑	-6th Acquisition system ID, current status is displayed. to change, enter new one. -stores it.
CD lockSID 1 0	ID number OK/☑	-1st lock system ID,current status is displayed. to change, enter new one. -stores it.
CD lockSID 2 0	ID number OK/☑	-2nd lock system ID,current status is displayed. to change, enter new one. -stores it.
CD lockSID 3 0	ID number OK/☑	-3rd lock system ID,current status is displayed. to change, enter new one. -stores it.
CD lockSID 4 0	ID number OK/☑	-4th lock system ID,current status is displayed. to change, enter new one. -stores it.
CD lockSID 5 0	ID number OK/☑	-5th lock system ID,current status is displayed. to change, enter new one. -stores it.
CD lockSID 6 0	ID number OK/☑	-6th lock system ID,current status is displayed. to change, enter new one. -stores it.
CDMA Home SID Yes	<or> OK/☑	-CDMA Home system ID, current status is displayed changes the status. -stores it.

LCD Display	Key in	Function
CDMA fSID Yes	<or> OK/☑	-CDMA foreign SID, current status is displayed. changes the system. -stores it.
CDMA fNID Yes	<or> OK/☑	-CDMA foreign NID, current status is displayed. changes the system. -stores it.
SID #1 20	number OK/☑	-first SID written in the list, current status is displayed. to change, enter new one. -stores it.
NID #1 65535	number OK/☑	-first NID written in the list, current status is displayed. to change, enter new one. -stores it.
SID #2 20	number OK/☑	-2nd SID written in the list, current status is displayed. to change, enter new one. -stores it.
NID #2 65535	number OK/☑	-2nd NID written in the list, current status is displayed. to change, enter new one. -stores it.
SID #3 20	number OK/☑	-3rd SID written in the list, current status is displayed. to change, enter new one. -stores it.
NID #3 65535	number OK/☑	-3rd NID written in the list, current status is displayed. to change, enter new one. -stores it.
SID #4 20	number OK/☑	-4th SID written in the list, current status is displayed. to change, enter new one. -stores it.
NID #4 65535	number OK/☑	-4th NID written in the list, current status is displayed. to change, enter new one. -stores it.

### 4-3 Setting Up NAM 2

LCD Display	Key in	Function
NAM Program 1:General 2:Setup NAM1 3:Setup NAM2	3	-Choose 'Setup NAM2'
The NAM2 setup program is the same as 'NAM1'		

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## 5. Product Support Tools

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### 5-1 General

#### IMPORTANT INFORMATION

##### Purpose

The Product Support Tool (PST) offers you the ability to interface with the SAMSUNG CDMA telephone using a PC. With this tool you can program the phones network system requirements and functionality, swap phone data, and download software upgrades. This document supports UniPST version 1.xx.

**NOTE: This software must be executed in the Windows95/98 mode.**

#### EQUIPMENT REQUIRED

Make sure you have the following equipment setup:

1. Minimum PC configuration: 586 CPU, 16MB RAM, Windows95/98, 5MB of disk space free for software upgrade.
2. PST Software with appropriate cable (DM Cable for SAMSUNG CDMA phone).
3. Serial Port (16550 Serial Interface Card).
4. Power Supply (3.8 V) or Battery

#### INSTALLATION

##### Software

1. Insert the PST floppy disk into drive (A:\).
2. Create an appropriate directory on the C:\ drive for PST software, Execute Setup.exe file, The installation program creates folder and task bar on the windows95/98 start bar.

##### SAMSUNG CDMA Phone

The serial port should be configured to COM1 or COM2.

Use the following procedure to connect the phone, cable, and PC .

Plug the female end of the DM Cable into the 16550 card.

Pull the black rubber connector away from the socket at the base of the phone.

Plug the special connector on the cable into the socket at the base of the phone.

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## 5-2. PST (Product Support Tool)

### 5-2-1 Getting Started

#### MAIN MENU SCREEN

1. At the Windows95/98, Double Click “UniPst.exe”.
2. The Main Menu Screen will be displayed.  
The Main Menu Screen shows the basic tasks that are available.

**CAUTION: DO NOT attempt to program phone with a low battery.**

#### PST SETUP

UniPst supports SAMSUNG CDMA portable telephone. You can select serial port COM1 or COM2.

### 5-2-2 Operation Procedure

#### Service Programming

The Service Programming screens enable you to set and change the service activation parameters of the phones. These items can be changed individually or as a group via the “Edit Items” Property Sheet of the PST. There are several pages on the Service Programming Property Sheet (See below Figure).

#### **Read Data from File**

Click “open” icon to select the name of a file whose extension is “mmc”. The values will be read from the named file, and will initialize the parameter values seen on the Service programming screen

#### **Read Data from Phone**

Click Read from the Phone icon to upload the current programmable parameters of the phone. The values are read from the phone, so the phone must have the power ON and be properly connected to the PST.

**NOTE: To actually view the data you need to go to the Edit Items screens.**

#### **Edit Items**

Click this icon to edit Number Assignment Module (NAM) items or UI items.

There are two types of screens:

1. Parameters associated with a particular Number Assignment Module (NAM)
2. UI items settings

#### **Phone Book**

Click this icon to edit Phone Book.

While you edit cell, you can use <Enter> and < UP , DOWN,LEFT,LIGHT Arrow> and <SPACE> key. If you want to edit phone number or name, you must move rectangle box to cell where you want to edit, Write it down. If <UP and DOWN Arrow> key is pressed, the cursor moves to next cell or previous cell.

### **Save Data to File**

Click this icon to save the current parameters to a file. Once you enter a filename, Click <OK> button to write all current parameters to that file. This way the same information can be downloaded into multiple phones.

### **Write to Phone**

Click this icon to write the selected parameter values to the phone. Writing the selected values to the phone may take up to a minute.

If there are dependencies in a field you can make all the changes in the proper fields and download the information all together.

If you intend to use this “Write to Phone” feature, it is recommended that you do a “Read Data from Phone” first, and then make the changes, so that nothing gets inadvertently overwritten.

**NOTE: DO NOT TOUCH THE PHONE WHILE WRITING IS IN PROGRESS.**

### **Software Download and Upgrade Screen**

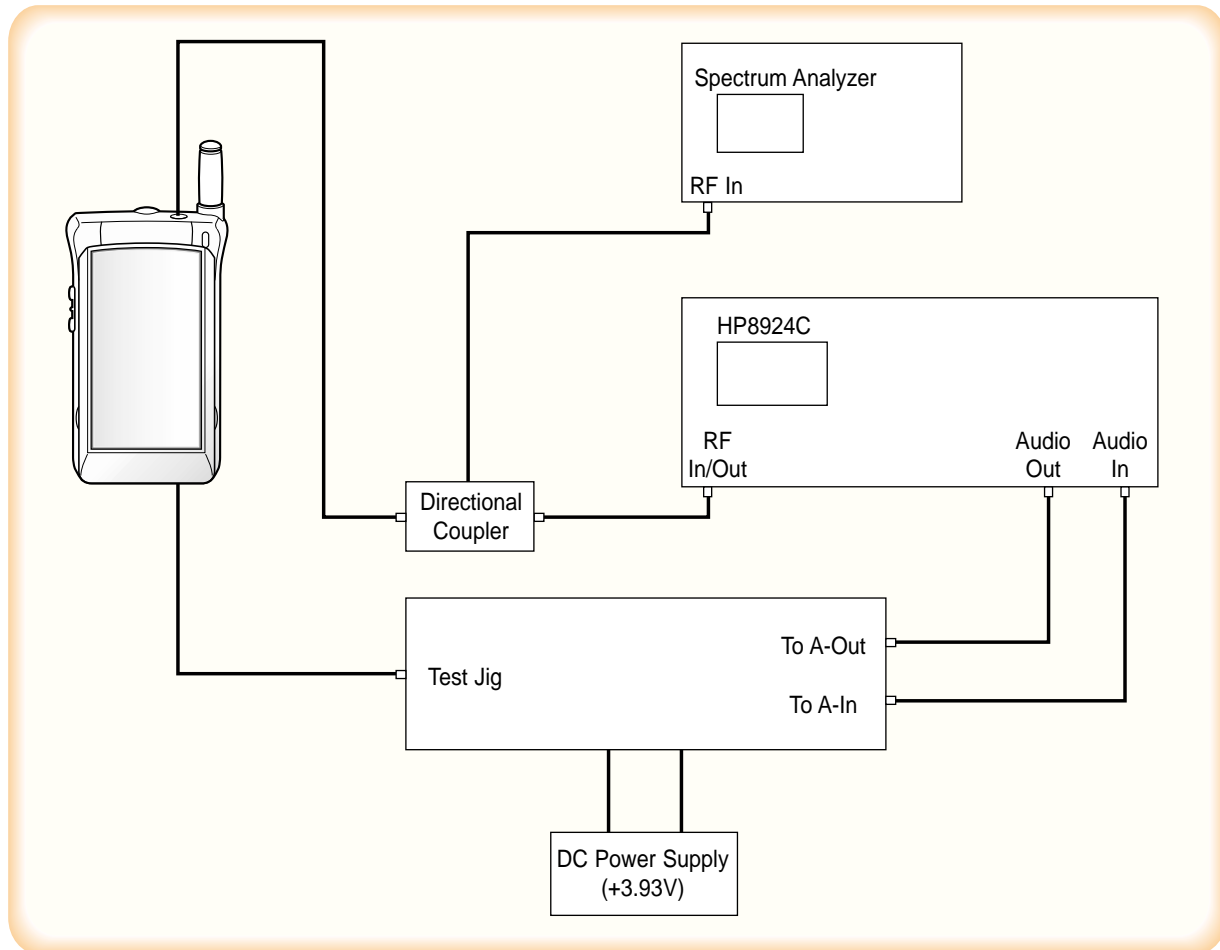
To begin a software upgrade or download, perform the following steps:

1. From the main menu screen choose DOWNLOAD MODE?  
Click open icon to choose a BIN file of the new software to be loaded. Choose the appropriate BIN file, then Click <Open> (see below figure).
2. Click Download? to begin downloading the file. You will notice various messages and a progress bar that informs the user what percentage of the downloading has already occurred.
3. Click Mode Select box, then Select SERVICE MODE? to return to the Service Mode Screen.

**NOTE: DO NOT POWER OFF WHILE THE PHONE IS BEING DOWNLOADED!**

## 5-3 TEST PROCEDURE

### 5-3-1 Configuration of Test



\* CAUTION : Because there is the loss (0.33V at Max Power) of the test jig and Data cable, you'd better input 3.93V to the DC Power Supply to use 3.6V (Battery normal voltage) at Cellular phone

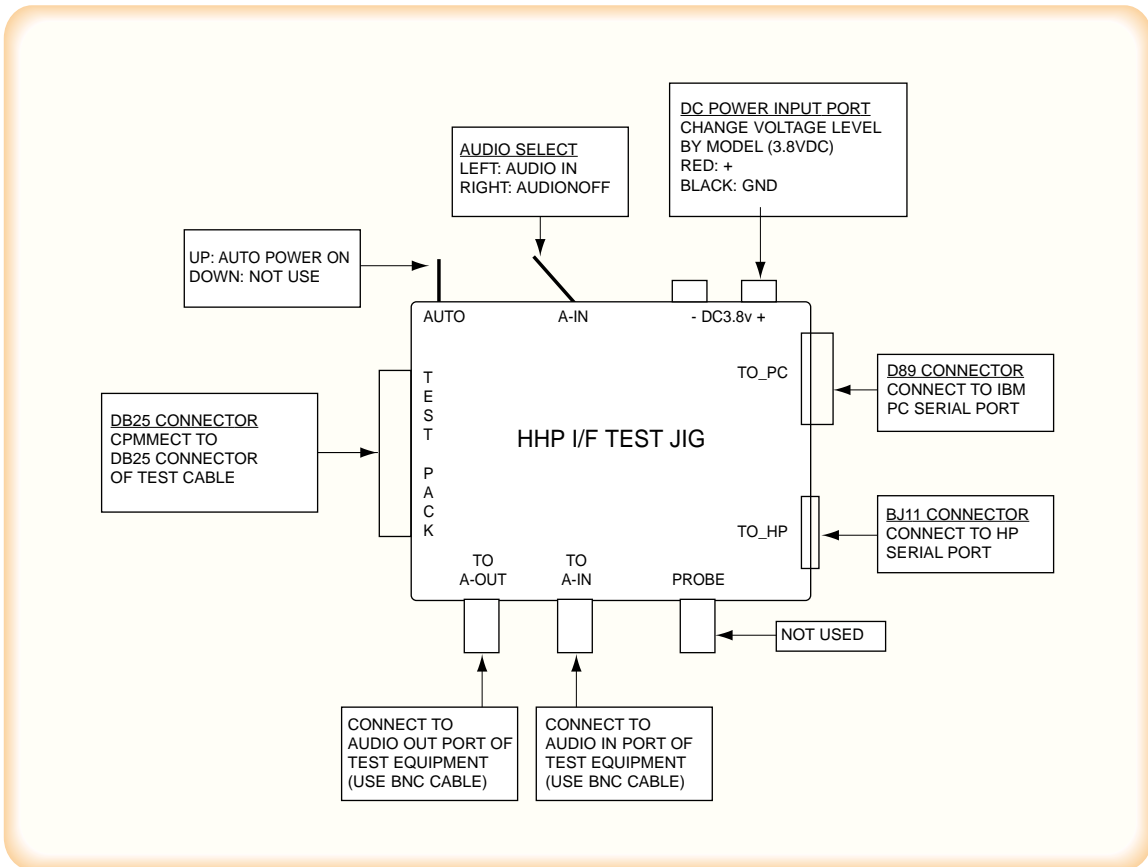
#### Items needed to purchase from SAMSUNG

ITEMS	PARTS #	REMARK
RF Cable	GH39-00026A	Including 1. Power Cable(Black,Red) 2. 9-pin RS232 data Cable
Test cable	GH39-00028A	
DM Cable	GH39-30525A	
Test JIG	GH80-00001A	
(RF Interface Pack Ass'y)		

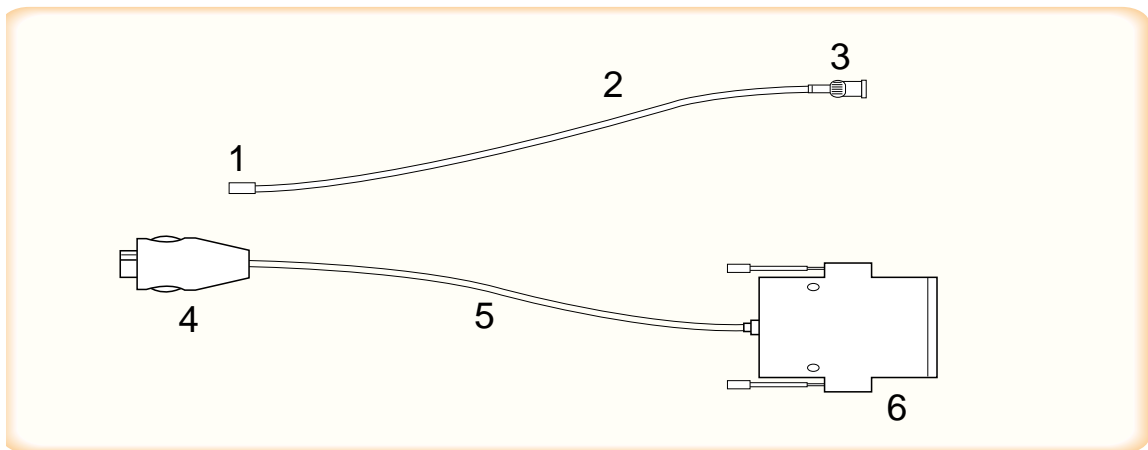
### 5-3-2 List of Equipment

- DC Power Supply
- Test Jig
- Test Cable
- CDMA Mobile Station Test Set                      HP8924C, HP83236A, CMD-80, etc
- Spectrum Analyzer(include CDMA Test Mode)    HP8596E

#### TEST JIG



#### TEST CABLE



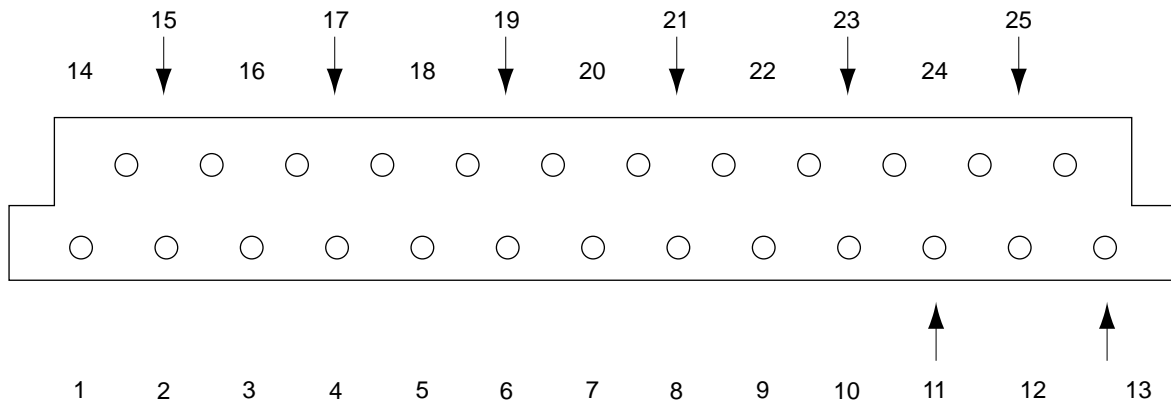


**TEST CABLE CONNECTIONS**

1	MHC 172
2	RF CABLE (1.4 dB Loss)
3	BNC CONNECTOR (RF)
4	PLUG CONNECT TO SCH-A105
5	DATA CABLE
6	Dsub 25PIN CONNECTOR (DATA)

**Dsub 25 PIN CONNECTOR PIN DESCRIPTION (TEST CABLE 1, BACK SIDE)**

DATA DESCRIPTION	Dsub CONN. PIN NO.	DATA DESCRIPTION	Dsub CONN. PIN NO.
V_F	12,21	DP_RX_DATA	8
DGND	2,4,6,13,19	HP_PWR	9
BATT	15,16,22	RI	10
C_F	3,20	CD	11
TX_AUDIO	5	RTS	14
DP_TX_DATA	7	CTS	17
RX_AUDIO	1	DTR	18



## 5-4. CONVERSION TABLE OF FREQUENCY vs CHANNEL

TYPE	CHANNEL	CONVERSION EQUATION	REMARK
TX FREQUENCY	$1 \leq N \leq 799$ $990 \leq N \leq 1023$	$F = 0.03 \times N + 825.00$ $F = 0.03 \times (N - 1023) + 825.00$	N ; CH NUMBER F ; FREQUENCY
RX FREQUENCY	$1 \leq N \leq 799$ $990 \leq N \leq 1023$	$F = 0.03 \times N + 870.00$ $F = 0.03 \times (N - 1023) + 870.00$	

### Change to Test Mode

A. To change the phone's state from Normal Mode to Test Mode, You should enter the following keys.  
“ \* 7 5 9 # 8 1 3 5 8 0 “

B. The command “0 1” is Suspend.

C. To finish the Test Mode, You should enter the command “0 2”.

\* **Note:** Make sure to change to “Digital only” or “Analog only” mode in NAM1, EST MODE. (Refer to 4. NAM Programming)

### Channel Selection and Tx Power Output Level Control

#### 1. Digital Mode (CDMA)

A. Enter to Test Mode ( \* 7 5 9 # 8 1 3 5 8 0 ).

B. “0 1” : Suspend.

C. “0 9 0 3 6 3 #” : Set to '0363' channel.

D. “0 7” : Carrier On.

E. “3 4” : Spread spectrum to 1.23MHz band width.

F. “7 1 2 7 5 #” : Output RF power level setting.  
“275” means AGC level and AGC level range is from 0 to 511.

#### 2. Analog Mode ( FM )

A. Enter to Test Mode ( \* 7 5 9 # 8 1 3 5 8 0 ).

B. “0 1” : Suspend.

C. “4 6” : Vocoder initial to Analog mode.

D. “0 9 0 3 8 3 #” : Set to '0383' channel.

E. “0 7” : Carrier On.

F. “7 2 2 7 5 #” : Output RF power level setting.  
“275” means AGC level and AGC level range is from 0 to 511.

G. “1 0 2” : RF Power level control, 2(0~7) means power level .

## 5-5 TEST COMMAND TABLE

Command No.	Signal. Name	Description
1	SUSPEND	enter to test menu
2	RESTART	escape from test menu
3	SAVE_VAL	Save values in e2prom only in auto test
4	GET_MODE	Get mode CDMAFM AUTO TEST
5	SET_MODE	Set mode CDMAFM AUTO TEST
6	WRITE_NV	Write the EEPROM item
7	CARRIERON	turn on the carrier
8	CARRIEROFF	turn off the carrier
9	LOADSYN	load the synthesizer for locking
10	PWRLEVEL	change RF power level
11	RXMUTE	mute rx audio
12	RXUNMUTE	unmute rx audio
13	RXMUTE	mute tx audio
14	TXUNMUTE	unmute tx audio
15	VOC_ESEC	Echo Cancellor
-		
16	STON	turn on ST
17	STOFF	turn off ST
-		
18	LCD_CONTRAST	index up key JOJ_98.11.23(contrast)
19	INDEX_DECR	index dn key JOJ_98.07.07
20	LNA_GAIN_WR	
22	SNDNAM	Send NAM Information
23	SNDVERSION	Send Software Version
24	SNDESN	Send ESN
25	BACKLIGHT_ON	Backlight on
26	BACKLIGHT_OFF	Backlight off
27	LAMP_ON	LAMP on
28	LAMP_OFF	LAMP off
29	REBUILD	Rebuilding EEPROM
30	SPC	
-		
31	PLINE	Product life information
32	SATON	turn on SAT
33	SATOFF	turn off SAT
34	CDATA	continuously sen TX Control data
35	VOLUME_UP	Electric Volume Up
36	VOLUME_DOWN	Electric Volume Down

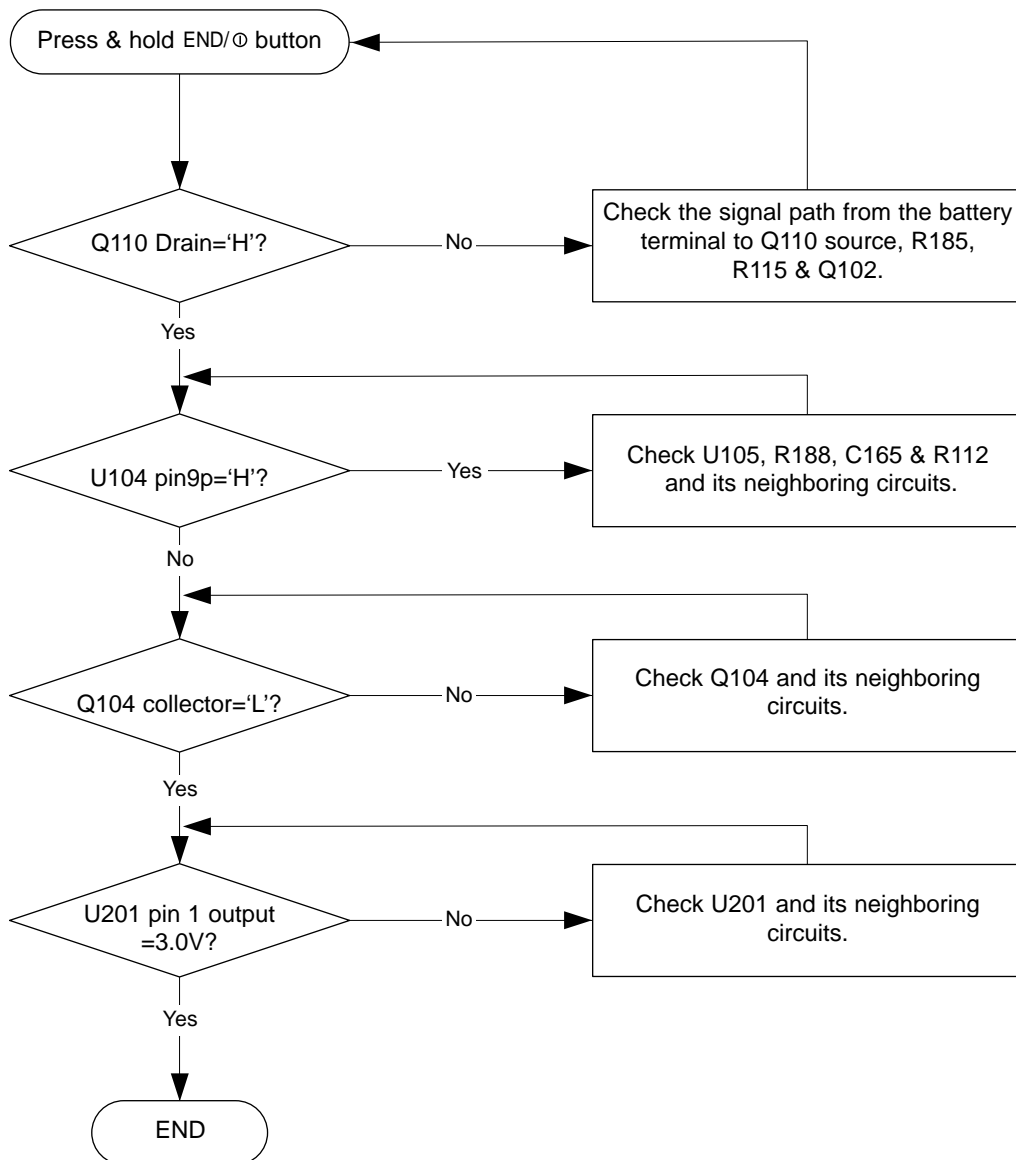
Command No.	Signal. Name	Description
38	VOC_ENC_OFFSET	Vocoder ENC offset
39	VOC_DEC_OFFSET	Vocoder DEC offset
40	VOC_CDMA_UNITY_GAIN	Vocoder CDMA unity gain
41	VOC_FM_HFRX_UPGAIN	Vocoder fm hfrx upgain
42	DTMFON	turn on DTMF
43	DTMFOFF	turn off DTMF
44	COMPANDORON	turn on compandor
45	COMPANDOROFF	turn off compandor
47	FM_AUD_GAIN	FM audio gain
48	VIBRATOR_ON	activate a vibrator
49	VIBRATOR_OFF	inactivate a vibrator
50	BATT_TYPE	Battery Type
51	BBA	BBASIC supplier
52	HW_VERSION	HW version hmk_96.12.09
53	CARRIER	Target Carrier option
54	VOC13K	Target Service option
55	EXT_AUDIO	External Audio Path OnOff
56	LOOP_BACK	Loop back on
-		
57	MIC_ON	mute MIC Path
58	MIC_OFF	unmute MIC Path
59	ALLPATH	tune on the all audio path
60	FM_TX_GAIN	
61	FM_RX_GAIN	
62	DTMF_VOL_TX	
63	TX_LIMITER	
64	FM_SAT_LEVEL	
65	FM_FREQ_SGAIN	
66	FM_ST_GAIN	
67	READ_BATT	Saved Low battery value read
68	VBATT1	set the low battery position in the standby
69	VBATT2	set the low battery position in the talking
70	WRITE_BATT	write a BATT
71	CDMA_TXADJ	sets tx_agc_adj for cdma mode
72	FM_TXADJ	sets tx_agc_adj for fm mode
-		
73	SET_PA_RO	set TX power AMP ctrl RO JOJ_98.06.29
74	OFF_PA_RO	off TX power AMP ctrl RO JOJ_98.06.29
-		
75	READ_RSSI	read a RSSI

Command No.	Signal. Name	Description
76	WRITE_RSSI	write a RSSI
77	READ_TEMP	read a TEMP
78	RXRAS_AUTO	adj RXRAS from 8924C JOJ_98.06.20
79	BUZZER_ON	Buzzer on
80	BUZZER_OFF	Buzzer off
81	VOC_PCMLPON	turn on to play a PCM LOOP BACK
82	VOC_PCMLPOFF	turn off to play a PCM LOOP BACK
83	DATASVC_ON	rsm_ifc data svc
84	DATASVC_OFF	rsm_ifc data svc
-		
85	SPEAKER_ON	turn on the speaker path
86	SPEAKER_OFF	turn off the speaker path
87	FM_LOOP_TEST	FM loop back
88	TRK_ADJ	TRK LOCAL ADJUST
89	CDTRK_ADJ	CDMA TRK LOCAL ADJUST
-		
90	EVRC_TEST	EVRC Check Mode kjg_980417_evrc
91	SVC_LED	SVC_LED control hjkim_990113
92	TXRAS_ADJ	TX RAS adj = TXRAS offset array
93	RXRAS_ADJ	RX RAS adj = RXRAS offset array
94	HW_CHANFLAT	
95	SW_CHANFLAT	
96	CH_FLATNESS	
97	FM_TX_PWR	setting the volume for power Level 2-7
99	TEMP	
100	MAX	

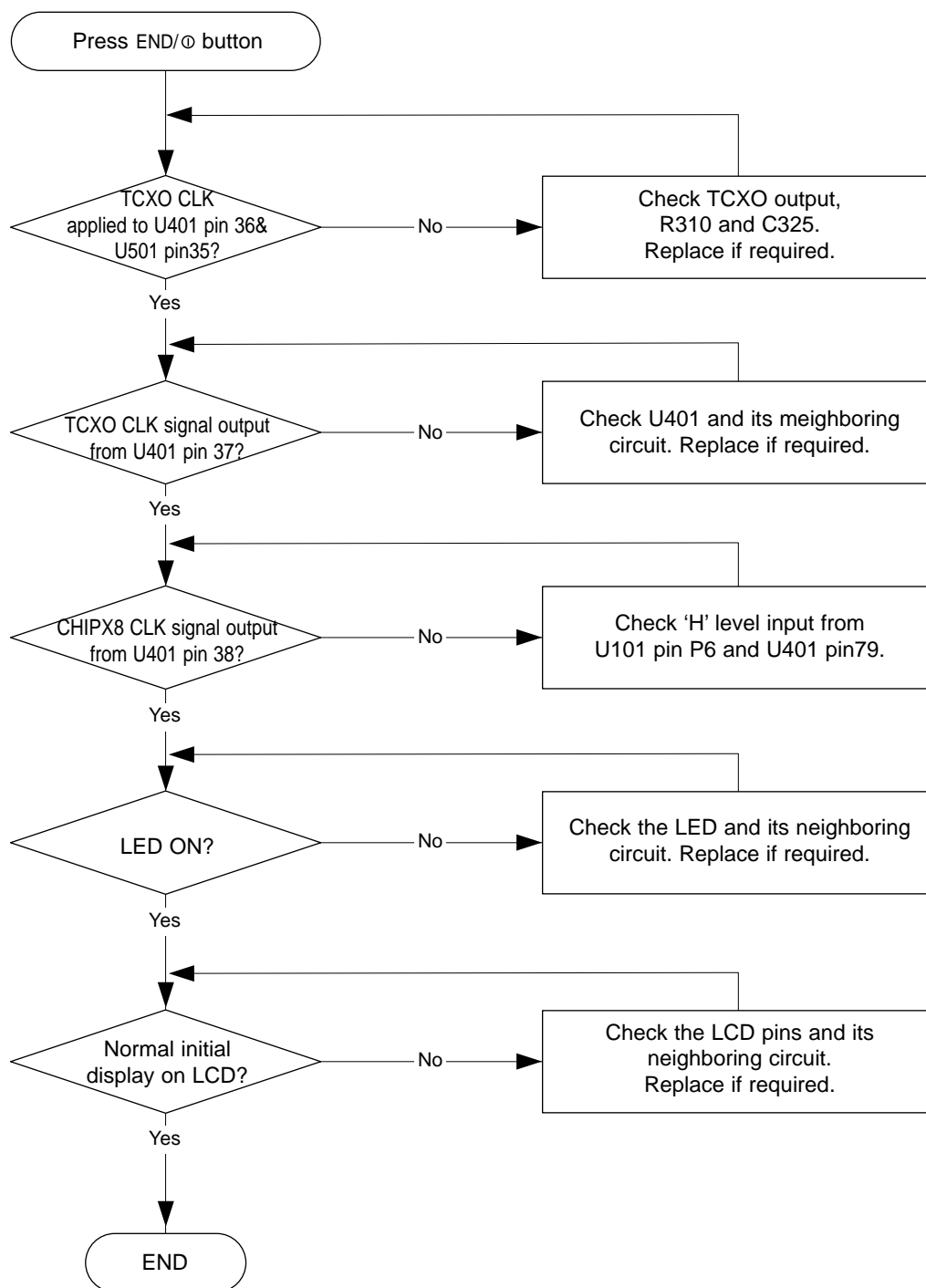
# 6. Troubleshooting

## 6-1 Logic Section

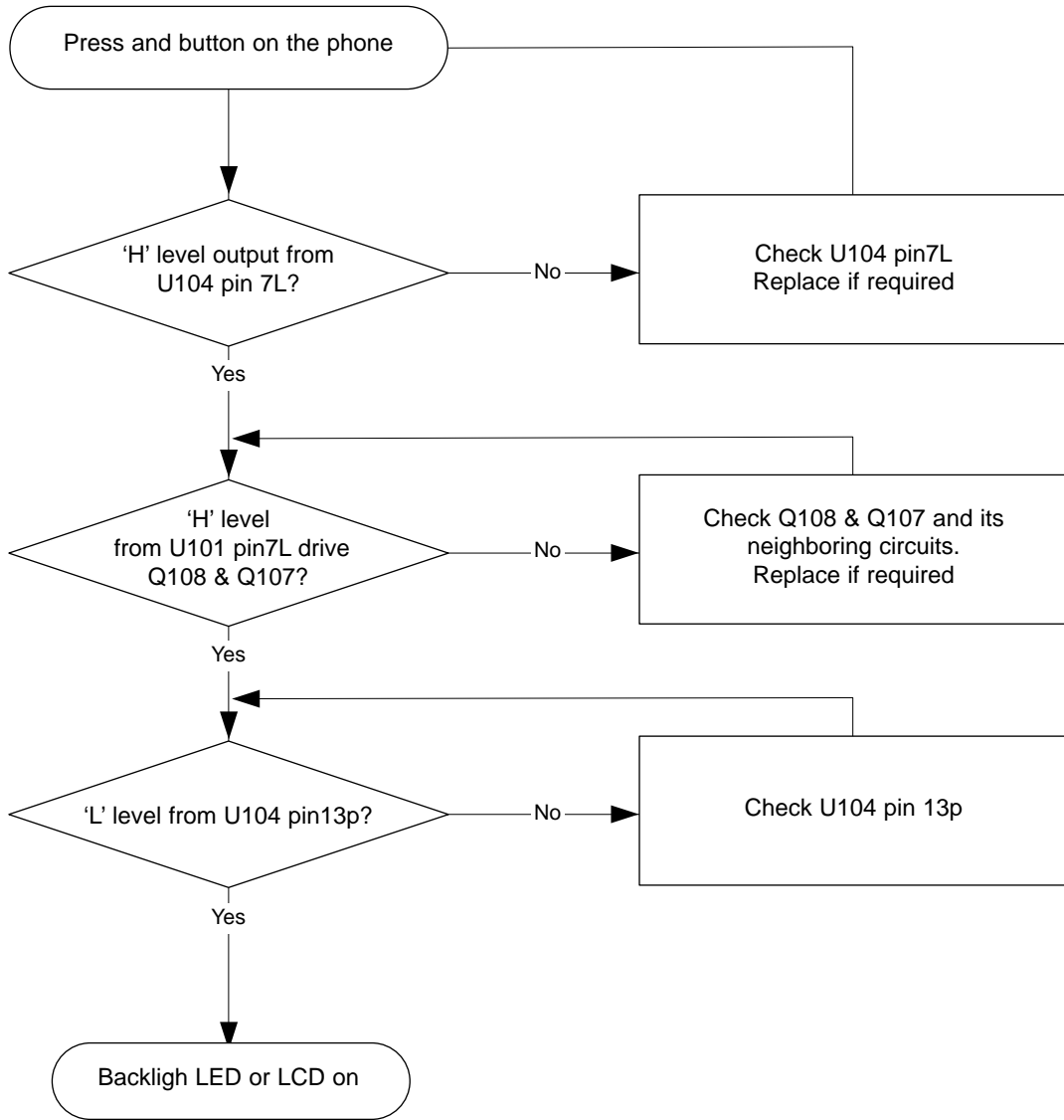
### 6-1-1 Power Failure



### 6-1-2 Abnormal Initial Operation (Normal +3.3V source)

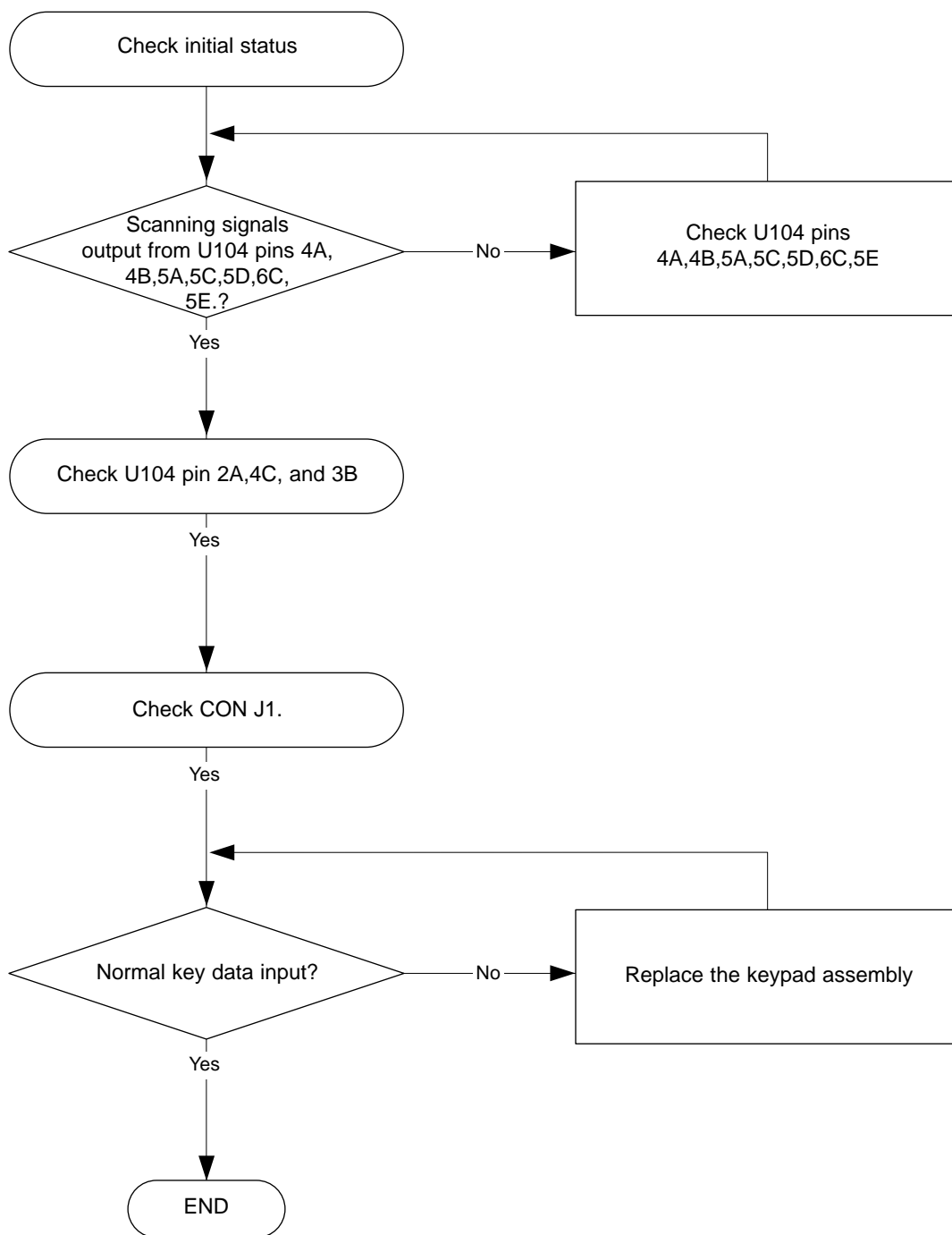


### 6-1-3 Abnormal Backlight,LCD or LED Operation

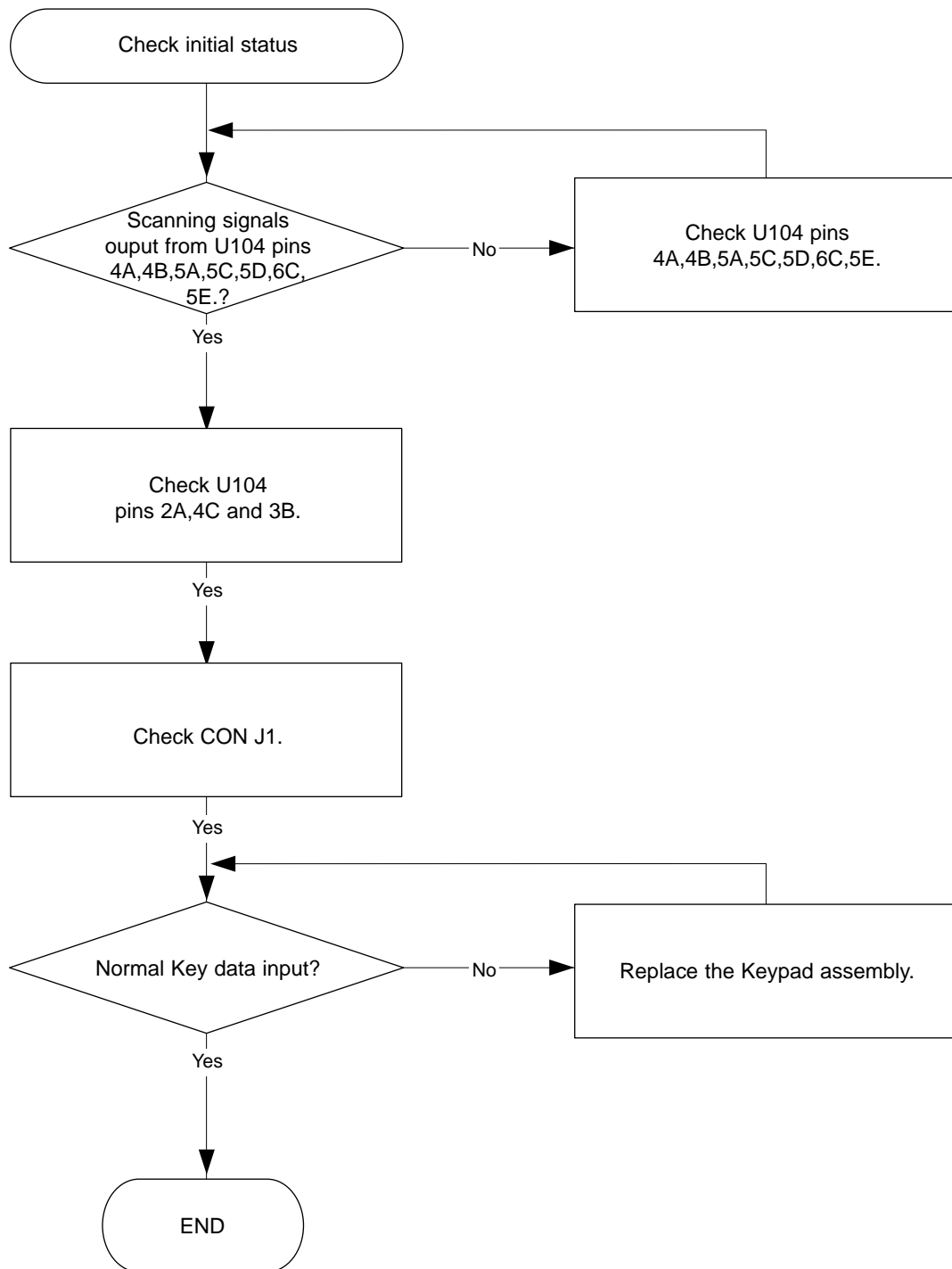




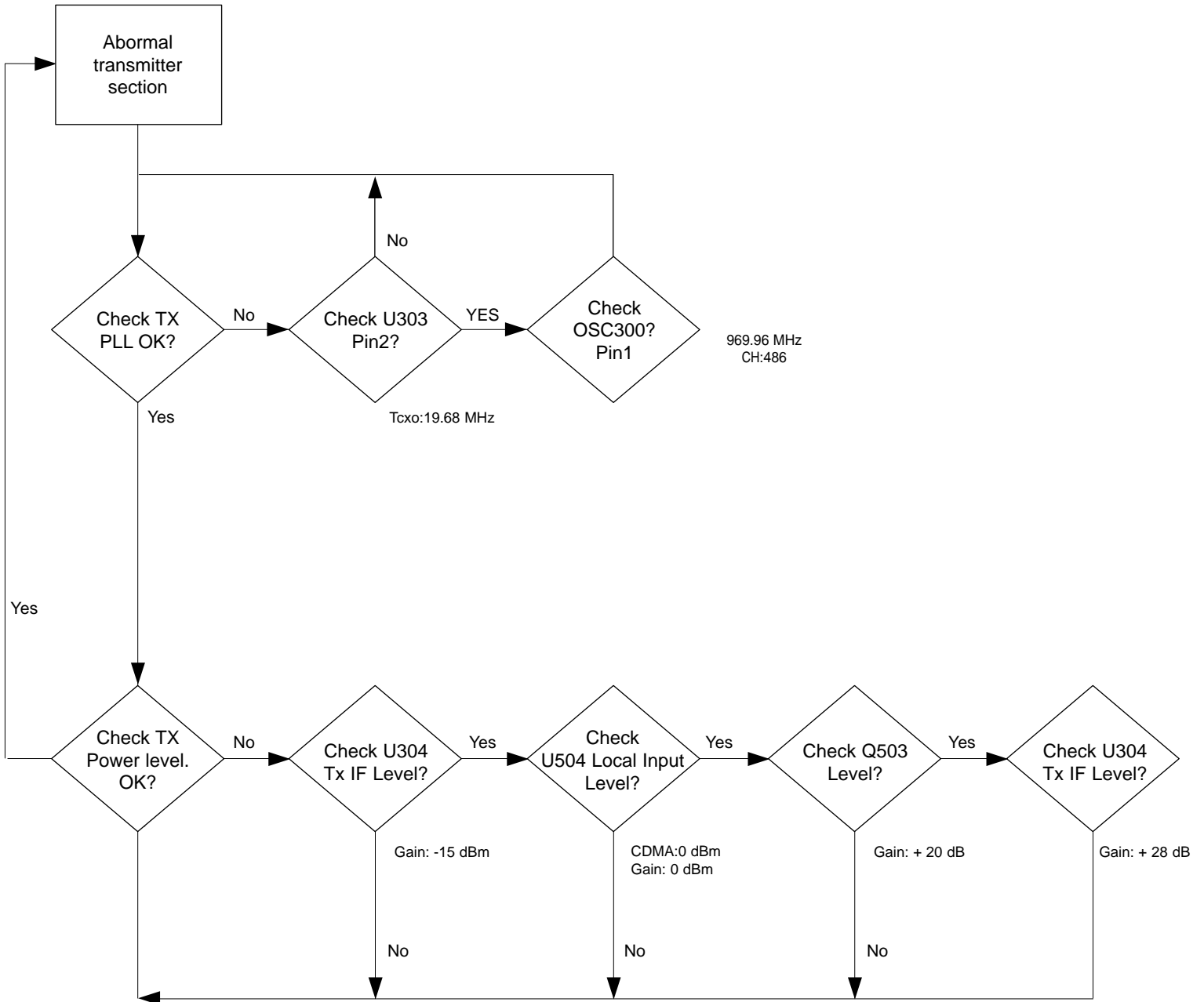
### 6-1-4 Abnormal Key Data Input



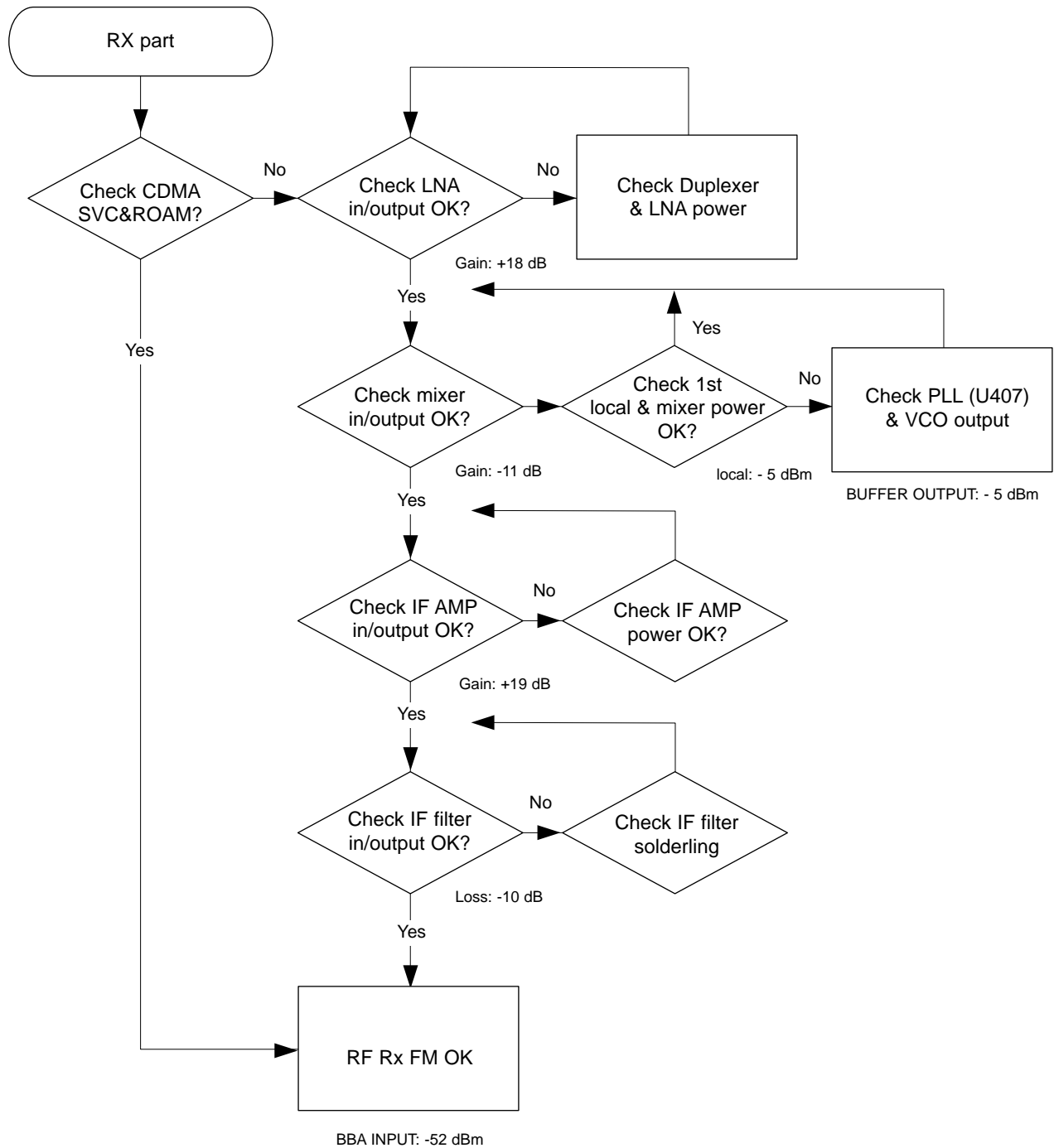
### 6-1-5 Abnormal Key Tone



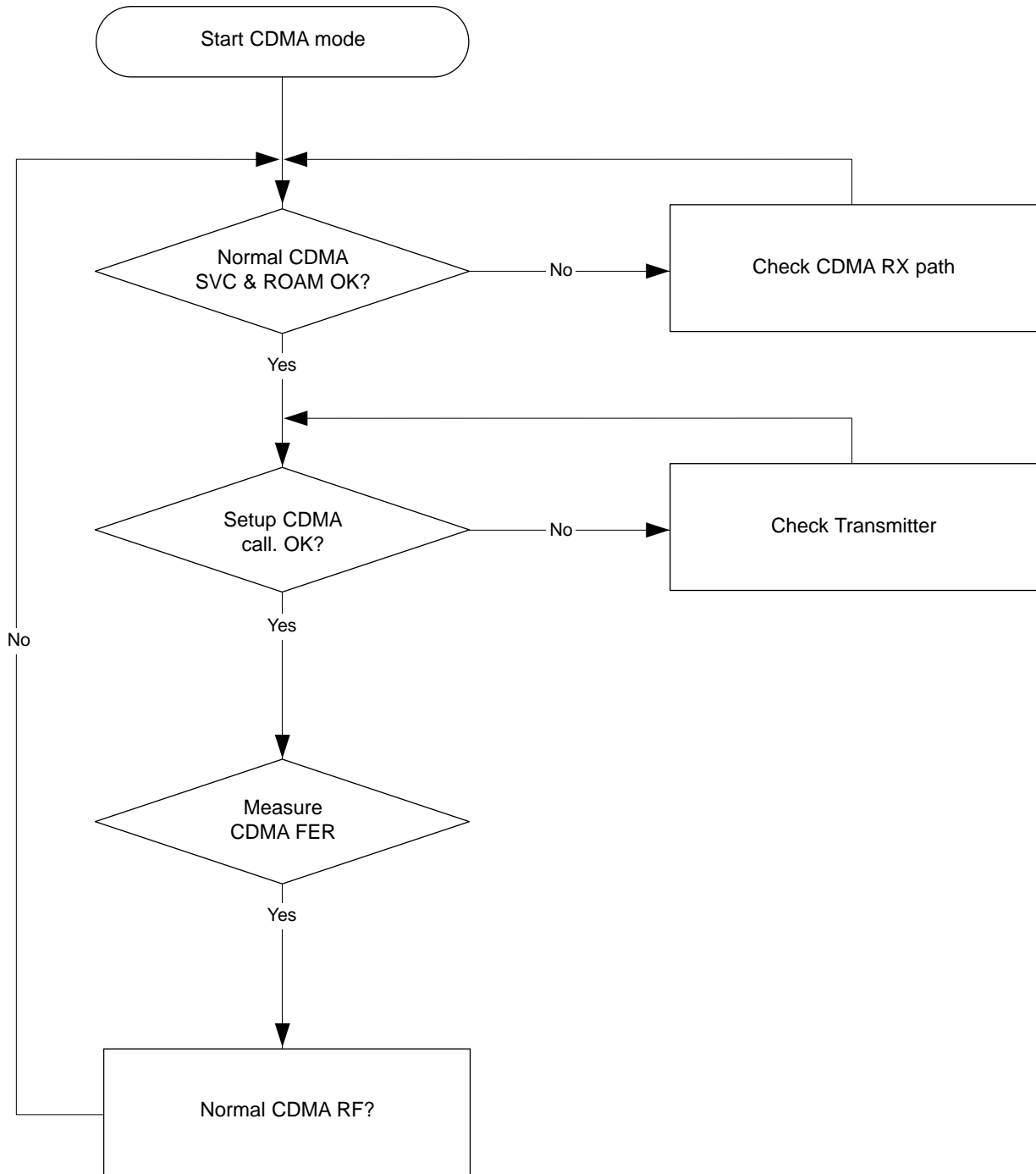
## 6-2 Transmitter Section



### 6-3 Receiver Section

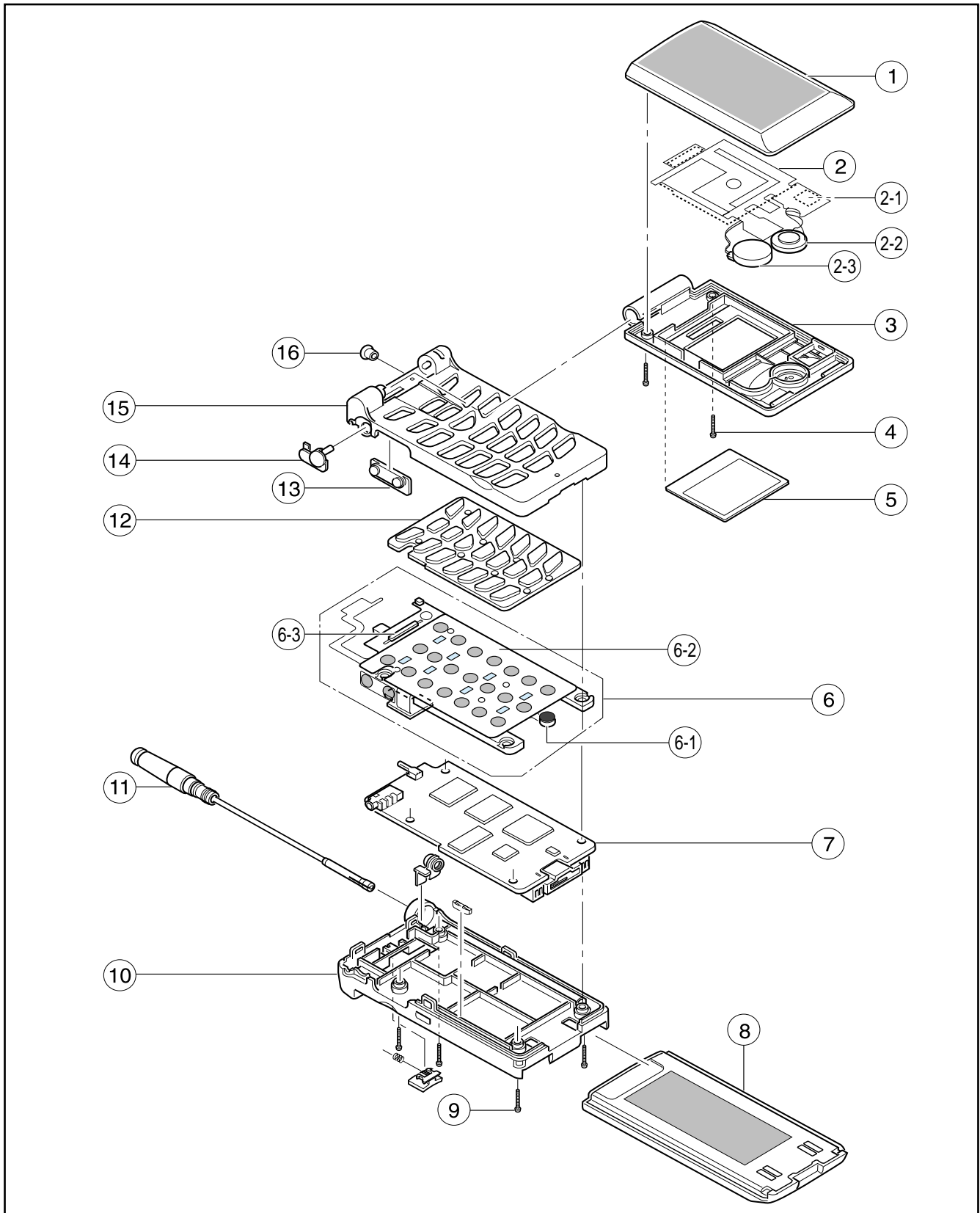


### 6-4 RF Section



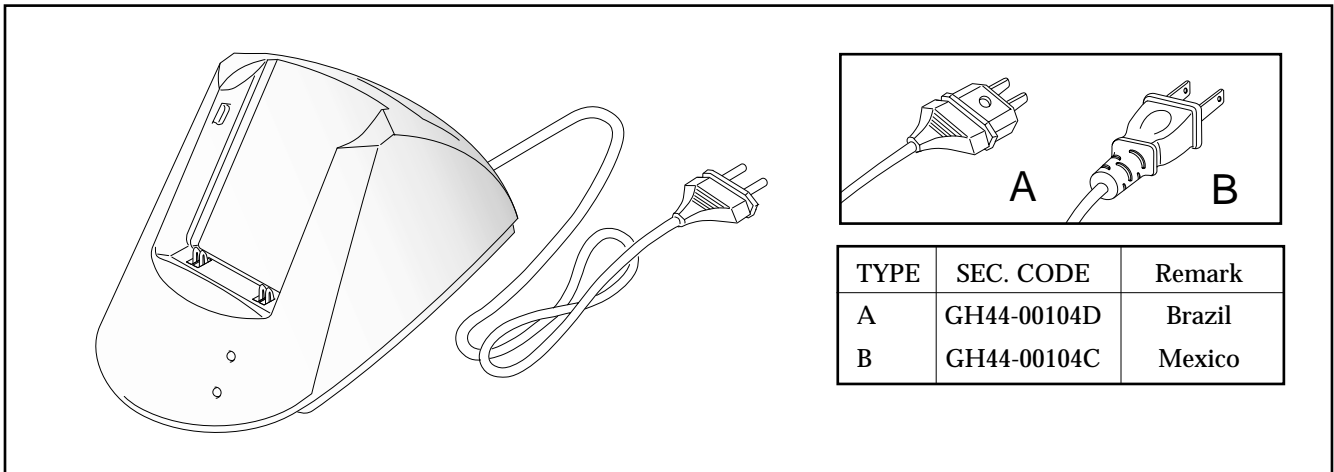
# 7. Exploded View and its Parts List

## 7-1 Cellular phone Exploded View

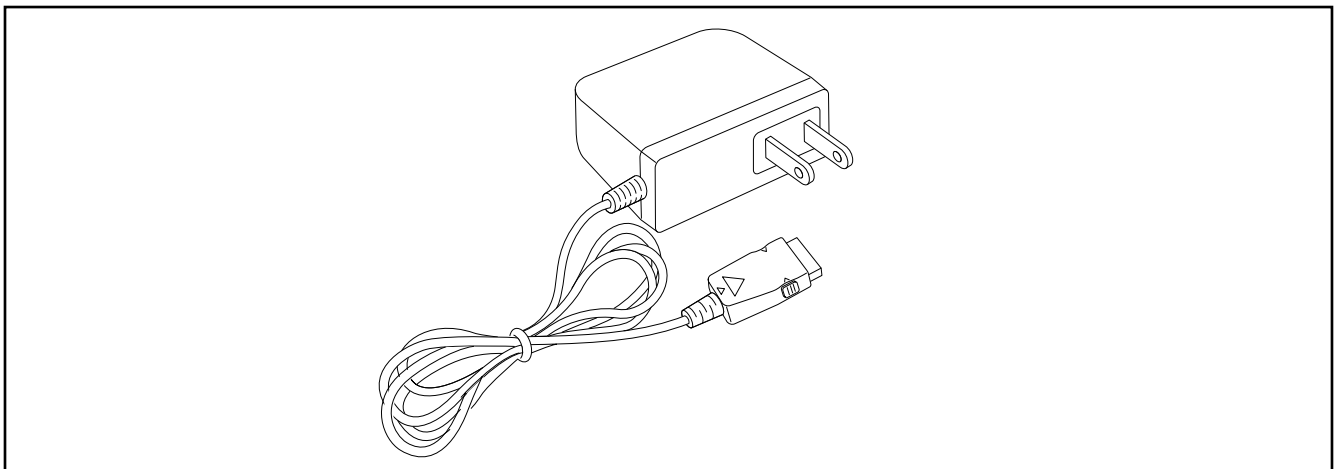


No	Description	SEC.CODE		REMARK
		Silver Gray	Champagne Gold	
1	SUA, FOLDER REAR	GH75-00148M	GH75-00148L	
2	LCD MODULE	GH96-00869A	GH96-00869A	
2-1	BUZZER	3002-001062	3002-001062	
2-2	SPEAKER	3001-001103	3001-001103	
2-3	VIBRATOR	3101-001169	3101-001169	
3	SUA, FOLDER FRONT COVER	GH97-01592B	GH97-01592A	
4	SCREW MACHINE	6001-000464	6001-000464	
5	LCD WINDOW	GH72-01045A	GH72-01045A	
6	KEY PCB	GH59-00085A	GH59-00085A	
6-1	MIC	3003-001034	3003-001034	
6-2	METAL DOME SHEET	GH74-00456A	GH74-00456A	
6-3	REED SWITCH	3409-001039	3409-001039	
7	MAIN PBA	GH92-00824A	GH92-00824A	
8	BATTERY	GH43-00179B	GH43-00173B	500 mAh
		GH43-00180B	GH43-00174B	1000 mAh
9	SCREW MACHINE	6001-001057	6001-001057	
10	SUA, REAR COVER	GH75-00149B	GH75-00149A	
11	ANTENNA	GH42-00015B	GH42-00015B	
12	KEY PAD	GH73-00085F	GH73-00085F	
13	VOLUME KEY	GH72-00300C	GH72-00300C	
14	EAR JACK COVER	GH72-00301A	GH72-00301A	
15	SUA, FRONT CASE	GH75-00525B	GH75-00525A	
16	RF JACK DUMMY	GH73-00083A	GH73-00083A	

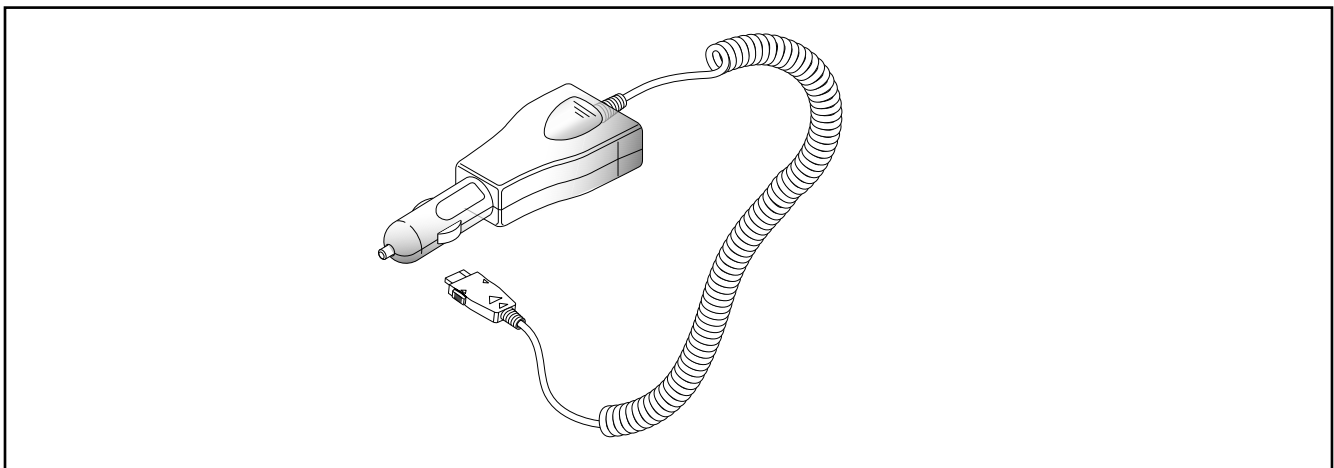
### 7-2 Desk-Top Rapid Charger Ass'y



### 7-3 Travel Charger Ass'y (TC010, GH44-00080B)

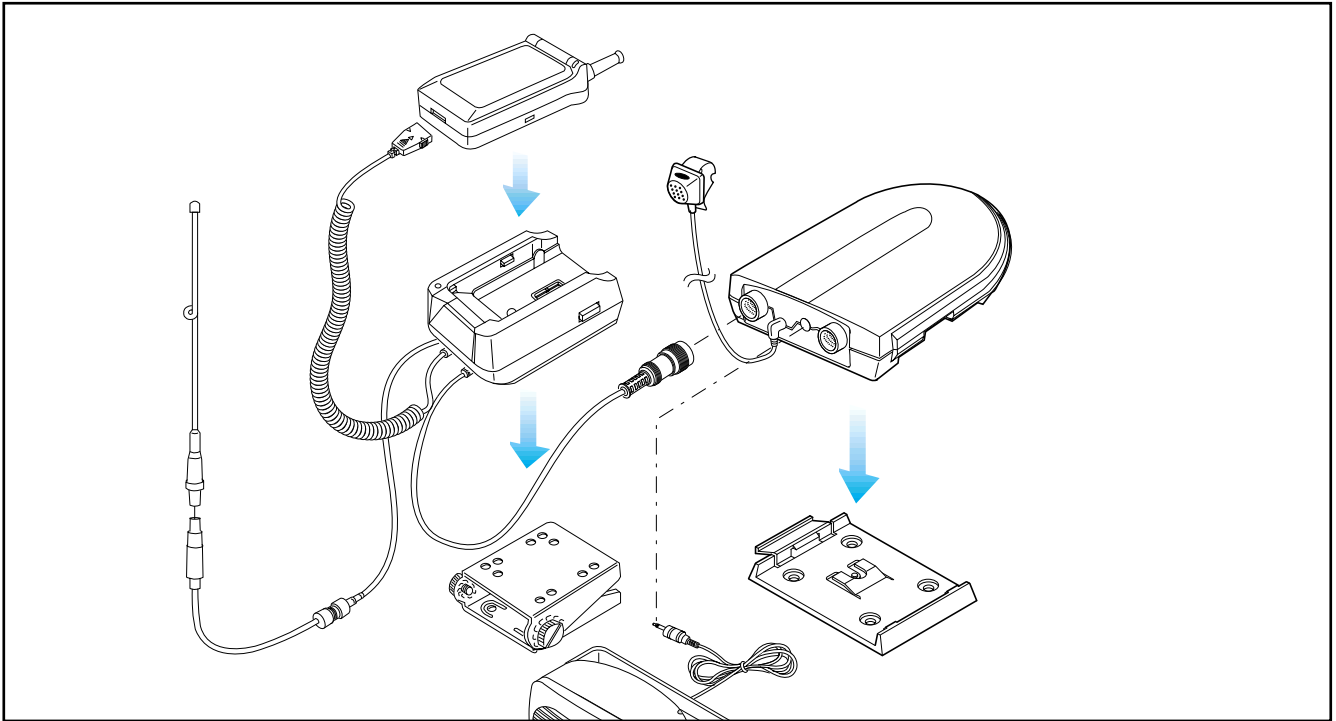


### 7-4 Cigarette Lighter Adaptor Ass'y (CLC020, GH44-00070A)

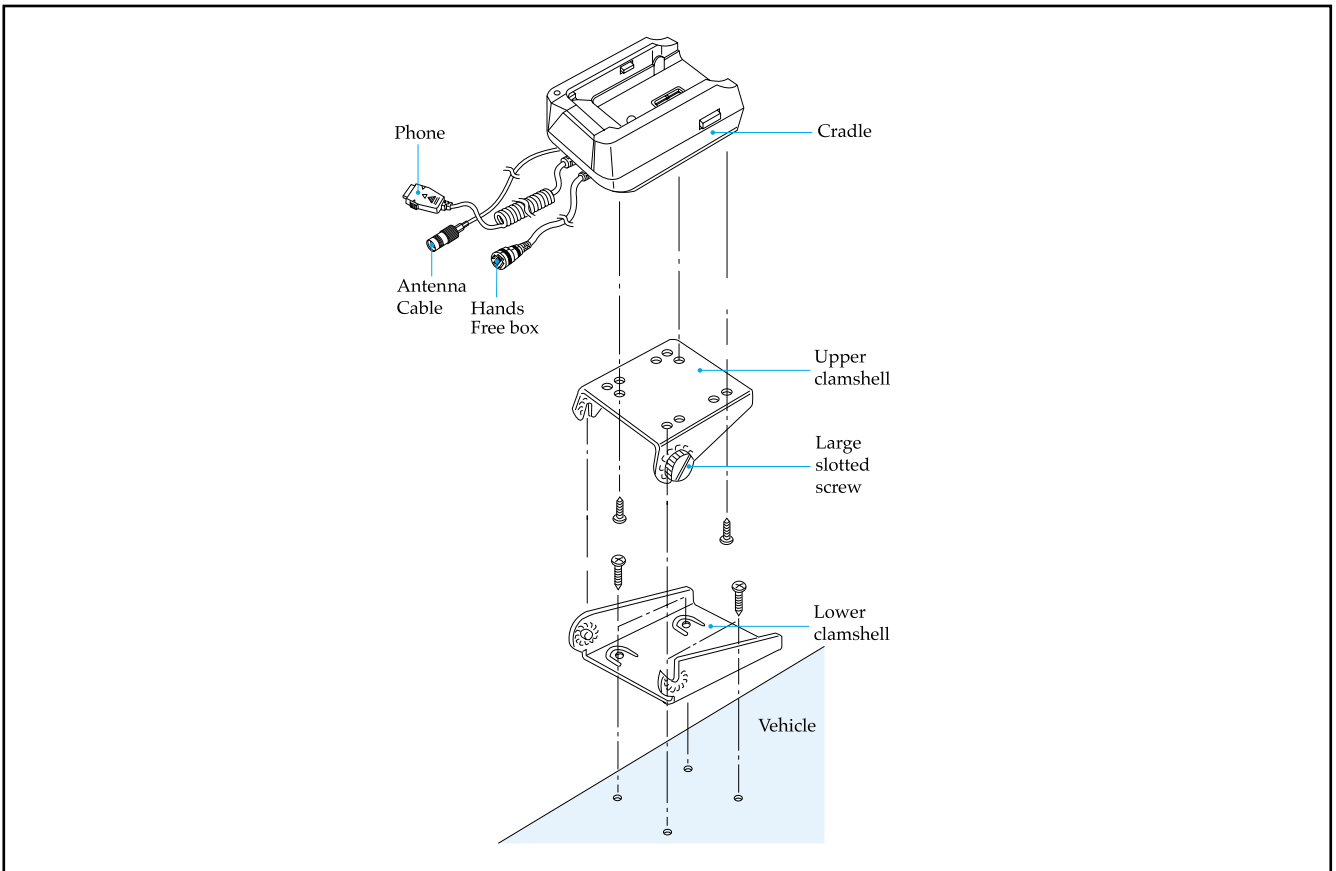




### 7-5 Hands Free Kit Ass'y



### 7-6 Cradle Exploded View



## 8. Electrical Parts List

Level	SEC CODE	Design LOC	ITEMS	DESCRIPTIONS
0	SCH-A105G/TCL			
1	3001-001103		SPEAKER	0.05W, 32ohm, 111dB, -
1	3003-001034		MIC-CONDENSOR	2V, 130UA-500UA, -44DB+3DB, 2.2KOHM
1	GH42-00015B		ANTENNA-SCHA100	SCH-A100, 824-849MHz, 0/-3DBD, 50OHM
1	GH43-00173B		BATTERY-500mA, L/GRY, ISR, MAIN	3.7V, 540mAh, -, 540mA, 4.2V
1	GH43-00174B		BATTERY-1000M, L/GRY, ISR, MAIN	3.6V, 915mAH, -, 965mAH, -
1	GH44-00104D		CHARGER-DTCA101	SCH-A101, AC/DC, -, 110-220VAC
1	GH82-00008A		A/SMATERIALASSY-SCHA100	SCH-A100, -, KOR, SVC PBAASS'Y, -, -,
2	3001-001103		SPEAKER	0.05W, 32ohm, 111dB, -
2	3002-001062	BUZZER	BUZZER-MAGNETIC	88dB, 3.6V, 90mA, 2.731KHz, TP
2	3003-001034		MIC-CONDENSOR	2V, 130UA-500UA, -44DB+3DB,
2	3101-001169	MOTOR	MOTOR-DC	8500rpm, -, 3V, 110mA
2	3409-001039	REEDSWITCH	SWITCH-REED	100VDC, 0.5A, 1000US, 1000US
2	6001-000464		SCREW-MACHINE	PH, +, M1.4, L4, BLACK, SM10C, -
2	6001-001057		SCREW-MACHINE	PH, +, M1.4, L6, ZPC(BLK), MSWR20,
2	GH39-00026A	RFCABLE	CBFSIGNAL-SCHA100	SCH-A100, -, RFTESTCABLE, 1800+20,
2	GH42-00015B	ANT	ANTENNA-SCHA100	SCH-A100, 824-849MHz, 0/-3DBD,
2	GH68-00370A		LABEL(R)-FRONTDUMMYSHEET	SCH-A100, PCSHEET, PI4.4, T0.3,
2	GH72-00300C		PMO-VOLUMEKEY	SCH-A100, PC, GRY, -, -
2	GH72-00301A		PMO-EARJACKCOVER	SCH-A100, PUR, L/GRY, -, -
2	GH72-01045A		PMO-LCDWINDOW(SVC)	SCH-A101, ACRYL, BLK, -, -
2	GH73-00083A		RMO-RFJACKDUMMY	SCH-A100, RUBBER, -, GRY, 50
2	GH73-00085F		RMO-KEYPAD	SCH-A100, RUBBER, -, -, -
2	GH74-00456A		MPR-METALDOMESHEET	SCH-A101, PETFILM+SUS301, T0.07, -, -
2	GH75-00148L		MEC-FOLDERREAR	SCH-A100, -, BEG
3	GH71-00049G		NPR-DECORATIONPANNEL	SCH-A100, AL, T0.6, GLD
3	GH72-00293A		PMO-REARFOLDER	SCH-A100, PC, BEG, -, -
3	GH74-00138A		MPR-DECO.PANNeltaPE	SCH-A100, TESA, T0.2, TRP, -
3	GH74-00151A		MPR-DECOPANNALBOHOTAPE	SCH-A100, VINYL, T0.2, -, -
2	GH75-00525A		MEC-SUA.FRONT	SCH-A101(ISRL), -, BEG
3	GH72-00286A		PMO-FRONTCOVER	SCH-A100, PC, BEG, -, -
3	GH72-00287A		PMO-LEDLENS	SCH-A100, ACRYL, TRP, -, -
3	GH72-00295A		PMO-HINGEDUMMY	SCH-A100, POM, BLK, -, -
3	GH73-00263A		RMO-FOLDHOLDER	SGH-A100, RUBBER, -, D/GRY, -

Level	SEC CODE	Design LOC	ITEMS	DESCRIPTIONS
2	GH97-00925D		MEAREAR-COVER	SCH-A101, -, ISRL, GRY, -, -, -
3	GH71-00050A		NPR-ANTENNABRAKET	SCH-A100, ZNGOLDPLT, -, AU
3	GH71-10639A		NPR-SHIELDSTRIP(A)	SCH-1100, C1720S-1/2H, T0.1, GOLD
3	GH75-00149A		MEC-SUA.REARCOVER	SCH-A100, -, GRY
4	GH68-00389A		LABEL(R)-DUPLEXDUMMY	SCH-A100, MAT, 22X11, T0.05, GRY
4	GH70-10633A		IPR-LOCKERSPRING	SCH-750, STS304, T0.3, -
4	GH72-00298A		PMO-REARCOVER	SCH-A100, PC, GRY, -, -
4	GH72-00299A		PMO-LOCKER	SCH-A100, PC, GRY, -, G5295
2	GH97-01591A		MEAETC-KEYFPCB	SCH-A101, -, ISRL, WHT, -, -, -
3	GH59-00085A	KEYPADASS'Y	UNIT-SCHA101KEYPAD	SCH-A101, KBSCHA101, KEYPADASS'Y, -
3	GH71-00207A		NPR-SOLDERFINGER	SCH-A120, C5210TS, T0.15, AU
3	GH72-00294A		PMO-SHIELDCOVER	SCH-A100, ABS, BLK, -, -
2	GH97-01592A		MEAETC-FOLDERFRONT	SCH-A101, -, ISRL, BEG, -, -, -
3	GH72-00297B		PMO-LCDWINDOW	SCH-6900, ACRYL(T1), -, -, -
3	GH74-00152A		MPR-WINDOWBOHOTAPE	SCH-A100, VINYL, T0.2, -, -
3	GH74-00566A		MPR-SPEAKNET	SCH-A101, HIMERON, PI12.6XT1.65, -, -
3	GH75-00146D		MEC-FOLDERFRONT	SCH-A100, -, BEG
4	GH72-00288D		PMO-FOLDERFRONT	SCH-A100(ISRL), PC, BEG, -, -
4	GH72-00289A		PMO-EARPIECE	SCH-A100, PC, GRY, -, -
4	GH74-00135A		MPR-LCDWINDOWTAPE	SCH-A100, TESA, T0.2, TRP, -
4	GH74-00137A		MPR-EARPIECETAPE	SCH-A100, TESA, T0.2, TRP, -
4	GH74-00600A		MPR-LCDSPONGE	SCH-A101, SRSPORON, T0.5, BLK, -
4	GH75-00414B		MEC-HINGEASS'Y	SCH-850, -, BLK
5	GH70-00020A		IPR-SPRINGHINGE	SCH-A100, STS304, PI4.5XPI0.65X8.2, -
5	GH72-00291A		PMO-SHAFTHINGE	SCH-A100, POM, BLK, -, -
5	GH72-00292A		PMO-CAMHINGE	SCH-A100, POM, BLK, -, -
5	GH72-00861A		PMO-HINGEHOUSING	SCH-850, PC, SIL, -, -
3	GH75-00164A		MEC-MAGNETICHOLDER	SCH-A100, SEC, BLK
4	GH70-40005A		ICT-MAGNETIC	SPH-7000, MAGNETIC, 3x15XT1.0, -
4	GH72-00296A		PMO-MAGNETICHOLDER	SCH-A100, PC, BLK, -, -
4	GH74-00150A		MPR-TAPEMAGNETICHOLDER	SCH-A100, TESA, T0.2, TRP, -
1	GH92-00824A		PBAMAIN-IFC2	IFC2, -, KORA, MAINPBA, -, -, -
2	0405-001035	D402	DIODE-VARACTOR	1SV279, 15V, 3nA, USC, TP
2	0405-001035	D403	DIODE-VARACTOR	1SV279, 15V, 3nA, USC, TP

Electrical Parts List

Level	SEC CODE	Design LOC	ITEMS	DESCRIPTIONS
2	0405-001035	D501	DIODE-VARACTOR	1SV279, 15V, 3nA, USC, TP
2	0405-001035	D502	DIODE-VARACTOR	1SV279, 15V, 3nA, USC, TP
2	0406-001051	ZD102	DIODE-TVS	SMS05C, 6V, 300W, SOT-23-6
2	0406-001051	ZD103	DIODE-TVS	SMS05C, 6V, 300W, SOT-23-6
2	0406-001084	ZD201	DIODE-TVS	SMF05, 6/-/V, 200W, -
2	0407-000115	D100	DIODE-ARRAY	DAN202U, 80V, 100mA, CA2-3, SC-70,
2	0407-000115	D202	DIODE-ARRAY	DAN202U, 80V, 100mA, CA2-3, SC-70,
2	0407-001006	D200	DIODE-ARRAY	DA221, 20V, 100mA, C2-3, EM3, TR
2	0407-001006	D201	DIODE-ARRAY	DA221, 20V, 100mA, C2-3, EM3, TR
2	0407-001006	D500	DIODE-ARRAY	DA221, 20V, 100mA, C2-3, EM3, TR
2	0409-001016	D401	DIODE-PIN	BAR63-02W, 50V, 100mA, SCD-80, TP
2	0501-000162	Q106	TR-SMALL SIGNAL	2SA1576, PNP, 200mW, SOT-323, TP, 180-
2	0501-000162	Q301	TR-SMALL SIGNAL	2SA1576, PNP, 200mW, SOT-323, TP, 180-
2	0501-000218	Q400	TR-SMALL SIGNAL	2SC4081, NPN, 200mW, UMT, TP, 180-3
2	0501-000225	Q102	TR-SMALL SIGNAL	2SC4617, NPN, 200mW, EM3, TP, 120-5
2	0501-000225	Q108	TR-SMALL SIGNAL	2SC4617, NPN, 200mW, EM3, TP, 120-5
2	0501-002096	Q503	TR-SMALL SIGNAL	BFP420, NPN, 160mW, SOT-343, TP, 50-
2	0501-002110	Q401	TR-SMALL SIGNAL	AT32033, NPN, 200mW, SOT-23, TP, 70
2	0501-002202	Q107	TR-SMALL SIGNAL	MMBT2222AWT1, NPN, 150mW, SOT-323
2	0501-002202	Q201	TR-SMALL SIGNAL	MMBT2222AWT1, NPN, 150mW, SOT-323
2	0504-000167	Q104	TR-DIGITAL	RN1102, NPN, 100mW, 10K/10K, SSM, TP
2	0504-000167	Q160	TR-DIGITAL	RN1102, NPN, 100mW, 10K/10K, SSM, TP
2	0504-000167	Q302	TR-DIGITAL	RN1102, NPN, 100mW, 10K/10K, SSM, TP
2	0504-000167	Q502	TR-DIGITAL	RN1102, NPN, 100mW, 10K/10K, SSM, TP
2	0504-000167	Q510	TR-DIGITAL	RN1102, NPN, 100mW, 10K/10K, SSM, TP
2	0504-000167	Q511	TR-DIGITAL	RN1102, NPN, 100mW, 10K/10K, SSM, TP
2	0504-000168	Q100	TR-DIGITAL	RN1104, NPN, 100mW, 47K/47K, SSM, TP
2	0504-000168	Q103	TR-DIGITAL	RN1104, NPN, 100mW, 47K/47K, SSM, TP
2	0504-000168	Q410	TR-DIGITAL	RN1104, NPN, 100mW, 47K/47K, SSM, TP
2	0504-000172	Q200	TR-DIGITAL	RN2104, PNP, 100mW, 47K/47K, SSM, TP
2	0504-000172	Q500	TR-DIGITAL	RN2104, PNP, 100mW, 47K/47K, SSM, TP
2	0505-001037	U502	FET-SIL ICON	-, P, -12V, +-2.5A, 0.1ohm, 1W, TSSO
2	0505-001119	Q402	FET-SIL ICON	2SK2685, P, 6V, 20mA, -, 100mW, CMPA
2	0505-001165	Q110	FET-SIL ICON	SI3443DV, P, -20V, +-3.5mA, 65mohm
2	0505-001165	Q501	FET-SIL ICON	SI3443DV, P, -20V, +-3.5mA, 65mohm

Level	SEC CODE	Design LOC	ITEMS	DESCRIPTIONS
2	1001-001048	U407	IC-ANALOG SWITCH	SW395TR, SPDP, SOT-26, 6P, -, DUAL,
2	1103-001184	U105	IC-EEPROM	24C256, 32Kx8Bit, dBGA, 8P, 92MIL, -,
2	1109-001133	U102	IC-ETC. MEMORY	84VD21194, 2MX8/1MX16Bit, BGA, 61P,
2	1201-001248	U300	IC-CASCODE AMP	0916, SOT-143, 4P, -, -, 2.7V, -, 6Vd
2	1201-001248	U301	IC-CASCODE AMP	0916, SOT-143, 4P, -, -, 2.7V, -, 6Vd
2	1201-001259	U500	IC-POWER AMP	23124, LCC, 8P, -, SINGLE, -, PLASTI
2	1201-001384	U400	IC-MMIC AMP	MD57-0001, SOT-26, 6P, 114MIL, SIN
2	1202-000192	U200	IC-VOLFAGECOMP.	75W393, -, 8P, -, DUAL, 36V, CMOS, PL
2	1203-001285	U403	IC-SWITCHVOL. REG.	5205, SOT-23, 5P, 150MIL, PLASTIC,
2	1203-001285	U404	IC-SWITCHVOL. REG.	5205, SOT-23, 5P, 150MIL, PLASTIC,
2	1203-001285	U503	IC-SWITCHVOL. REG.	5205, SOT-23, 5P, 150MIL, PLASTIC,
2	1203-001717	U201	IC-VOLTAGE REGULATOR	5210, MSOP, 8P, 117MIL, PLASTIC, 3.0V, -,
2	1203-001835	U101	IC-RESET	3470, SOT23, 5P, -, PLASTIC, 0.99/1.01V,
2	1204-001375	U202	IC-ENCODER/DECODER	ST5092TQFPTR, QFP, 44P, -, PLASTIC
2	1204-001504	U401	IC-IF CIRCUIT	IFR3000, TQFP, 48P, -, PLASTIC, 3.5V, -, -
2	1204-001505	U501	IC-IF CIRCUIT	IFT3000, TQFP, 48P, -, PLASTIC, 3.5V, -, -
2	1205-001535	U504	IC-MIXER	RF2628, MSOP, 8P, 190MIL, PLASTIC,
2	1205-001883	U104	IC-TRANSCEIVER	MSM3000, BGA, 196P, -, PLASTIC, 4.6V, -,
2	1209-001197	U302	IC-PLL	LMX2332LSLB, CSP, 20P, -, PLASTIC,
2	1404-001040	R502	THERMISTOR-NTC	10kohm, 5%, 3650K, -, TP
2	1404-001165	TH1	THERMISTOR-NTC	10kohm, 3%, 4100K, 30MW/C, TP
2	2007-000137	R143	R-CHIP	2kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000137	R330	R-CHIP	2kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000137	R405	R-CHIP	2kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000137	R526	R-CHIP	2kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000138	R101	R-CHIP	100ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000138	R103	R-CHIP	100ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000138	R106	R-CHIP	100ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000138	R108	R-CHIP	100ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000138	R111	R-CHIP	100ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000138	R144	R-CHIP	100ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000138	R302	R-CHIP	100ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000139	R416	R-CHIP	220ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000140	R110	R-CHIP	1kohm, 5%, 1/16W, DA, TP, 1005

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2	2007-000140	R117	R-CHIP	1kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000140	R126	R-CHIP	1kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000140	R127	R-CHIP	1kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000140	R135	R-CHIP	1kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000140	R146	R-CHIP	1kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000140	R210	R-CHIP	1kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000140	R213	R-CHIP	1kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000141	R204	R-CHIP	2.2kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000141	R309	R-CHIP	2.2kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000143	R124	R-CHIP	4.7kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000143	R187	R-CHIP	4.7kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000143	R206	R-CHIP	4.7kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000143	R529	R-CHIP	4.7kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000144	R281	R-CHIP	5.1kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000144	R310	R-CHIP	5.1kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000146	R105	R-CHIP	6.8kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000146	R128	R-CHIP	6.8kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000147	R532	R-CHIP	8.2kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R109	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R121	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R132	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R139	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R194	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R196	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R200	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R426	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R427	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R510	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R512	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R517	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000148	R582	R-CHIP	10kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000151	R134	R-CHIP	15kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000153	R100	R-CHIP	22kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000153	R123	R-CHIP	22kohm, 5%, 1/16W, DA, TP, 1005

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2	2007-000153	R125	R-CHIP	22kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000153	R129	R-CHIP	22kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000153	R145	R-CHIP	22kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000153	R147	R-CHIP	22kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000155	R185	R-CHIP	27kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000156	R504	R-CHIP	30kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000156	R506	R-CHIP	30kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000157	R102	R-CHIP	47kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000157	R107	R-CHIP	47kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000157	R520	R-CHIP	47kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000159	R211	R-CHIP	56kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R112	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R115	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R116	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R118	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R119	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R120	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R188	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R199	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R203	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R205	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R414	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R420	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R441	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R508	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R524	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R531	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000162	R533	R-CHIP	100kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000163	R201	R-CHIP	120kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000165	R202	R-CHIP	200kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000168	R485	R-CHIP	470kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000170	R209	R-CHIP	1Mohm, 5%, 1/16W, DA, TP, 1005
2	2007-000172	R301	R-CHIP	10ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000172	R305	R-CHIP	10ohm, 5%, 1/16W, DA, TP, 1005

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2	2007-000172	R307	R-CHIP	10ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000172	R311	R-CHIP	10ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000172	R407	R-CHIP	10ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000172	R423	R-CHIP	10ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000172	R522	R-CHIP	10ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000174	R417	R-CHIP	47ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000174	R525	R-CHIP	47ohm, 5%, 1/16W, DA, TP, 1005
2	2007-000242	R208	R-CHIP	1.5kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000242	R580	R-CHIP	1.5kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000242	R581	R-CHIP	1.5kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000775	R419	R-CHIP	33kohm, 5%, 1/16W, DA, TP, 1005
2	2007-000932	R104	R-CHIP	470ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001156	R175	R-CHIP	750ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001284	R415	R-CHIP	4.7ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001294	R149	R-CHIP	36ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001294	R150	R-CHIP	36ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001294	R151	R-CHIP	36ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001316	R507	R-CHIP	820ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001311	R537	R-CHIP	270ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001313	R130	R-CHIP	330ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001313	R131	R-CHIP	330ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001313	R138	R-CHIP	330ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001317	R314	R-CHIP	910ohm, 5%, 1/16W, DA, TP, 1005
2	2007-001319	R122	R-CHIP	1.2kohm, 5%, 1/16W, DA, TP, 1005
2	2007-001320	R501	R-CHIP	1.8kohm, 5%, 1/16W, DA, TP, 1005
2	2007-001320	R523	R-CHIP	1.8kohm, 5%, 1/16W, DA, TP, 1005
2	2007-001323	C251	R-CHIP	3kohm, 5%, 1/16W, DA, TP, 1005
2	2007-001325	R148	R-CHIP	3.3kohm, 5%, 1/16W, DA, TP, 1005
2	2007-001325	R207	R-CHIP	3.3kohm, 5%, 1/16W, DA, TP, 1005
2	2007-003006	R303	R-CHIP	16ohm, 5%, 1/16W, DA, TP, 1005
2	2007-003006	R304	R-CHIP	16ohm, 5%, 1/16W, DA, TP, 1005
2	2007-003010	R306	R-CHIP	20ohm, 5%, 1/16W, DA, TP, 1005
2	2007-003023	R514	R-CHIP	62kohm, 5%, 1/16W, DA, TP, 1005
2	2007-003112	R320	R-CHIP	27ohm, 5%, 1/16W, DA, TP, 1005



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2	2007-007014	R160	R-CHIP	51kohm, 5%, 1/16W, DA, TP, 1005
2	2007-007135	R515	R-CHIP	18kohm, 1%, 1/16W, DA, TP, 1005
2	2007-007142	R410	R-CHIP	10kohm, 1%, 1/16W, DA, TP, 1005
2	2007-007307	R408	R-CHIP	150ohm, 1%, 1/16W, DA, TP, 1005
2	2007-007311	R505	R-CHIP	22kohm, 1%, 1/16W, DA, TP, 1005
2	2007-007315	R516	R-CHIP	3.9kohm, 1%, 1/16W, DA, TP, 1005
2	2007-007319	R521	R-CHIP	390ohm, 1%, 1/16W, DA, TP, 1005
2	2007-007480	R500	R-CHIP	130kohm, 1%, 1/16W, DA, TP, 1005
2	2007-007489	R503	R-CHIP	150kohm, 1%, 1/16W, DA, TP, 1005
2	2007-007771	C219	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R113	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R162	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R198	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R300	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R308	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R312	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R313	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R450	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R518	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R519	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R536	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R540	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2007-007771	R541	R-CHIP	0ohm, 5%, 1/16W, DA, TP, 1005
2	2203-000233	C105	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C106	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C107	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C108	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C123	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C125	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C151	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C203	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C300	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C302	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C304	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C305	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005

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2	2203-000233	C306	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C310	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C312	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C313	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C314	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C319	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C327	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C332	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C333	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C334	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C434	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C436	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C437	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C454	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C491	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C510	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C523	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C529	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C530	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C531	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C545	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C552	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C571	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C572	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C580	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C581	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000233	C583	C-CERAMIC, CHIP	0.1nF, 5%, 50V, NP0, TP, 1005
2	2203-000254	C109	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C114	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C115	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C117	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C128	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C137	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C150	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -

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2	2203-000254	C187	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C205	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C206	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C209	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C301	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C303	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C311	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C320	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C321	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C324	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C325	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C326	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C329	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C414	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C416	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C429	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C433	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C440	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C441	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C444	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C445	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C451	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C459	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C462	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C463	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C464	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C467	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C490	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C500	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C501	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C502	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C503	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C505	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C506	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -

Electrical Parts List

Level	SEC CODE	Design LOC	ITEMS	DESCRIPTIONS
2	2203-000254	C509	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C516	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C519	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C522	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C532	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C540	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C541	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C546	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C549	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C570	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000254	C599	C-CERAMIC, CHIP	10nF, 10%, 16V, X7R, TP, 1005, -
2	2203-000278	C328	C-CERAMIC, CHIP	0.01nF, 0.5pF, 50V, NP0, TP, 1005
2	2203-000311	C447	C-CERAMIC, CHIP	0.12nF, 5%, 50V, NP0, TP, 1005
2	2203-000311	C456	C-CERAMIC, CHIP	0.12nF, 5%, 50V, NP0, TP, 1005
2	2203-000311	C507	C-CERAMIC, CHIP	0.12nF, 5%, 50V, NP0, TP, 1005
2	2203-000311	C514	C-CERAMIC, CHIP	0.12nF, 5%, 50V, NP0, TP, 1005
2	2203-000425	C424	C-CERAMIC, CHIP	0.018nF, 5%, 50V, NP0, TP, 1005
2	2203-000438	C110	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C112	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C116	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C120	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C129	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C130	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C131	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C132	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C133	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C135	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C136	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C138	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C139	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C140	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C307	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C408	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C409	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -

Level	SEC CODE	Design LOC	ITEMS	DESCRIPTIONS
2	2203-000438	C415	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C419	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C420	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C425	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C430	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C432	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C439	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C446	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C469	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C472	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C477	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C497	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C511	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C525	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C533	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C536	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C539	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C544	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C547	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000438	C548	C-CERAMIC, CHIP	1nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000466	C308	C-CERAMIC, CHIP	0.001nF, 0.25pF, 50V, NP0, TP, 1005
2	2203-000489	C513	C-CERAMIC, CHIP	2.2nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000489	C542	C-CERAMIC, CHIP	2.2nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000550	C411	C-CERAMIC, CHIP	0.02nF, 5%, 50V, NP0, TP, 1005
2	2203-000585	C207	C-CERAMIC, CHIP	220pF, 10%, 50V, X7R, TP, 1005, -
2	2203-000585	C322	C-CERAMIC, CHIP	220pF, 10%, 50V, X7R, TP, 1005, -
2	2203-000585	C465	C-CERAMIC, CHIP	220pF, 10%, 50V, X7R, TP, 1005, -
2	2203-000628	C495	C-CERAMIC, CHIP	0.022nF, 5%, 50V, NP0, TP, 1005
2	2203-000679	C111	C-CERAMIC, CHIP	0.027nF, 5%, 50V, NP0, TP, 1005
2	2203-000679	C113	C-CERAMIC, CHIP	0.027nF, 5%, 50V, NP0, TP, 1005
2	2203-000696	C309	C-CERAMIC, CHIP	0.002nF, 0.25pF, 50V, NP0, TP, 1005
2	2203-000714	C127	C-CERAMIC, CHIP	3.3nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000725	C316	C-CERAMIC, CHIP	3.9nF, 10%, 50V, X7R, TP, 1005, -
2	2203-000812	C404	C-CERAMIC, CHIP	0.033nF, 5%, 50V, NP0, TP, 1005

Electrical Parts List

Level	SEC CODE	Design LOC	ITEMS	DESCRIPTIONS
2	2203-000812	C468	C-CERAMIC, CHIP	0.033nF, 5%, 50V, NP0, TP, 1005
2	2203-000812	C551	C-CERAMIC, CHIP	0.033nF, 5%, 50V, NP0, TP, 1005
2	2203-000885	C330	C-CERAMIC, CHIP	4.7nF, 10%, 25V, X7R, TP, 1005, -
2	2203-000885	C410	C-CERAMIC, CHIP	4.7nF, 10%, 25V, X7R, TP, 1005, -
2	2203-000885	C458	C-CERAMIC, CHIP	4.7nF, 10%, 25V, X7R, TP, 1005, -
2	2203-000940	C103	C-CERAMIC, CHIP	470pF, 10%, 50V, X7R, TP, 1005, -
2	2203-000940	C104	C-CERAMIC, CHIP	470pF, 10%, 50V, X7R, TP, 1005, -
2	2203-000940	C119	C-CERAMIC, CHIP	470pF, 10%, 50V, X7R, TP, 1005, -
2	2203-000940	C400	C-CERAMIC, CHIP	470pF, 10%, 50V, X7R, TP, 1005, -
2	2203-000995	C121	C-CERAMIC, CHIP	0.047nF, 5%, 50V, NP0, TP, 1005
2	2203-000995	C407	C-CERAMIC, CHIP	0.047nF, 5%, 50V, NP0, TP, 1005
2	2203-001072	C273	C-CERAMIC, CHIP	0.056nF, 5%, 50V, NP0, TP, 1005
2	2203-001072	C315	C-CERAMIC, CHIP	0.056nF, 5%, 50V, NP0, TP, 1005
2	2203-001153	C600	C-CERAMIC, CHIP	0.068nF, 5%, 50V, NP0, TP, 1005
2	2203-001153	C601	C-CERAMIC, CHIP	0.068nF, 5%, 50V, NP0, TP, 1005
2	2203-001153	C602	C-CERAMIC, CHIP	0.068nF, 5%, 50V, NP0, TP, 1005
2	2203-001153	C603	C-CERAMIC, CHIP	0.068nF, 5%, 50V, NP0, TP, 1005
2	2203-001153	C604	C-CERAMIC, CHIP	0.068nF, 5%, 50V, NP0, TP, 1005
2	2203-001153	C605	C-CERAMIC, CHIP	0.068nF, 5%, 50V, NP0, TP, 1005
2	2203-001153	C606	C-CERAMIC, CHIP	0.068nF, 5%, 50V, NP0, TP, 1005
2	2203-001153	C607	C-CERAMIC, CHIP	0.068nF, 5%, 50V, NP0, TP, 1005
2	2203-001153	C608	C-CERAMIC, CHIP	0.068nF, 5%, 50V, NP0, TP, 1005
2	2203-001153	C609	C-CERAMIC, CHIP	0.068nF, 5%, 50V, NP0, TP, 1005
2	2203-001383	C428	C-CERAMIC, CHIP	0.0005nF, 0.25pF, 50V, NP0, TP, 1005
2	2203-001385	R530	C-CERAMIC, CHIP	0.0015nF, 0.25pF, 50V, NP0, TP, 1005
2	2203-001412	C418	C-CERAMIC, CHIP	0.03nF, 5%, 50V, NP0, TP, 1005
2	2203-001416	C331	C-CERAMIC, CHIP	33nF, 10%, 16V, Y5V, TP, 1005, 1.0mm
2	2203-001432	C118	C-CERAMIC, CHIP	47nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-001432	C167, C168	C-CERAMIC, CHIP	47nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-003054	C422	C-CERAMIC, CHIP	0.009nF, 0.25pF, 50V, NP0, TP, 1005
2	2203-000425	C470	C-CERAMIC, CHIP	0.018 nF, 5%, 50V, NP0, TP, 1005
2	2203-005055	C512	C-CERAMIC, CHIP	0.0056nF, 0.25pF, 50V, NP0, TP, 1005
2	2203-005061	C122	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C126	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C134	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C160	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005

Level	SEC CODE	Design LOC	ITEMS	DESCRIPTIONS
2	2203-005061	C161	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C165	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C166	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C208	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C210	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C212	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C217	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C218	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C252	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C253	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C317	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C401	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C403	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C474	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C475	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C484	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C528	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	C598	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005061	R282	C-CERAMIC, CHIP	100nF, +80-20%, 16V, Y5V, TP, 1005
2	2203-005393	C448	C-CERAMIC, CHIP	0.005nF, 0.1pF, 50V, NP0, TP, 1005
2	2404-001017	C124	C-TA, CHIP	1uF, 20%, 10V, GP, TP, 2012, 2, 0
2	2404-001017	C520	C-TA, CHIP	1uF, 20%, 10V, GP, TP, 2012, 2, 0
2	2404-001086	C335	C-TA, CHIP	4.7uF, 20%, 6.3V, GP, TP, 2012, -
2	2404-001092	C323	C-TA, CHIP	220nF, 20%, 20V, GP, TP, 2012, -
2	2404-001100	C200	C-TA, CHIP	33uF, 20%, 6.3V, GP, TP, 3719, -
2	2404-001100	C202	C-TA, CHIP	33uF, 20%, 6.3V, GP, TP, 3719, -
2	2404-001100	C213	C-TA, CHIP	33uF, 20%, 6.3V, GP, TP, 3719, -
2	2404-001100	C250	C-TA, CHIP	33uF, 20%, 6.3V, GP, TP, 3719, -
2	2404-001100	C534	C-TA, CHIP	33uF, 20%, 6.3V, GP, TP, 3719, -
2	2404-001105	C153	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C201	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C318	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C412	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C435	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012

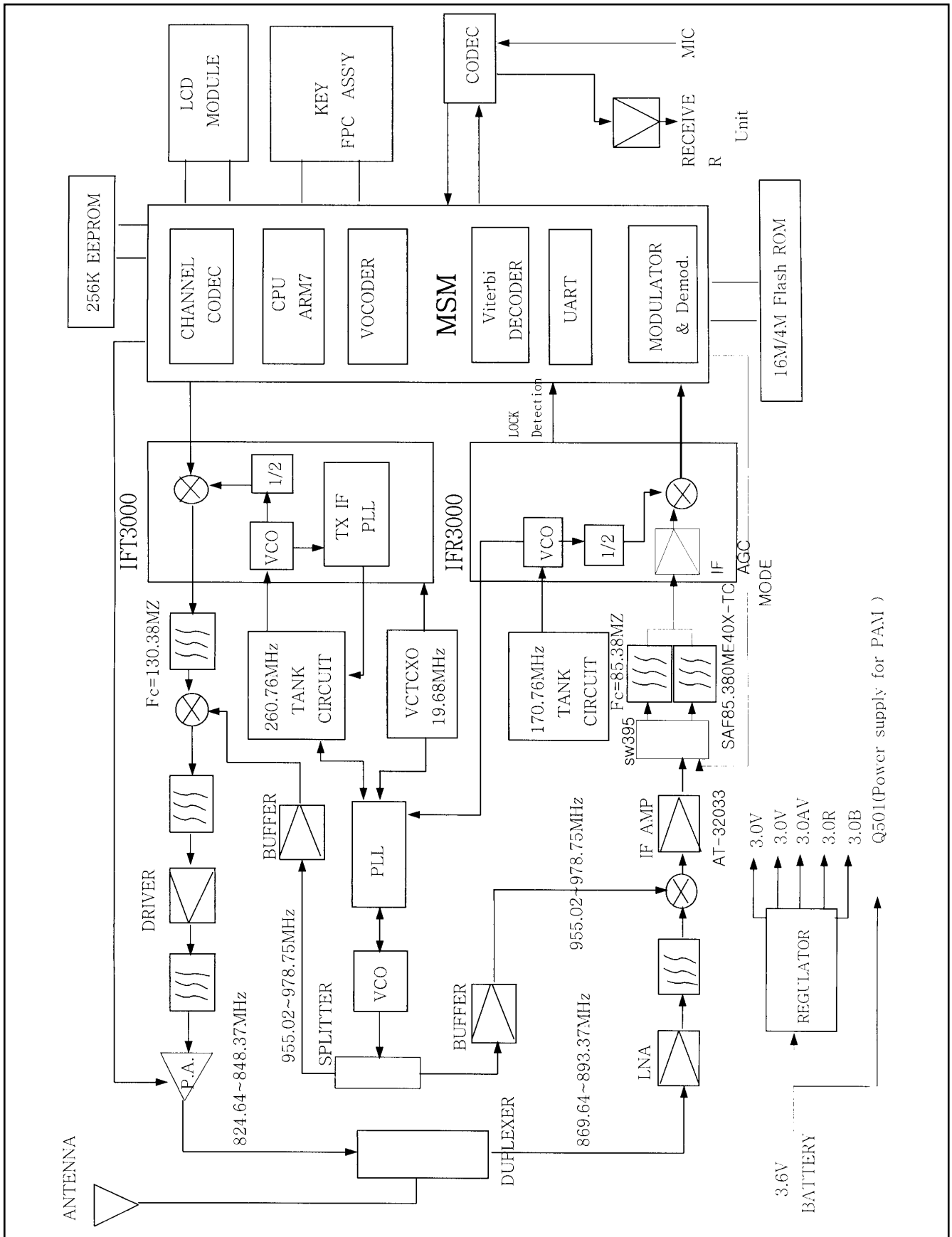
Electrical Parts List

Level	SEC CODE	Design LOC	ITEMS	DESCRIPTIONS
2	2404-001105	C438	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C443	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C460	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C504	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C508	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C524	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C538	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C543	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2404-001105	C573	C-TA, CHIP	10uF, 20%, 6.3V, GP, TP, 2012
2	2703-000144	L506	INDUCTOR-SMD	180nH, 10%, 1.25x2x0.85mm
2	2703-000175	L421	INDUCTOR-SMD	270nH, 10%, 0.8x1.6x0.8mm
2	2703-000214	L422	INDUCTOR-SMD	470nH, 10%, 1.25x2x1.25mm
2	2703-000295	L580	INDUCTOR-SMD	220nH, 10%, 0.8x1.6x0.8mm
2	2703-000295	L581	INDUCTOR-SMD	220nH, 10%, 0.8x1.6x0.8mm
2	2703-001126	L403	INDUCTOR-SMD	270nH, 5%, 2.29x1.73x1.52mm
2	2703-001126	L505	INDUCTOR-SMD	270nH, 5%, 2.29x1.73x1.52mm
2	2703-001172	L401	INDUCTOR-SMD	100nH, 5%, 1.6x0.8x0.8mm
2	2703-001178	L512	INDUCTOR-SMD	3.3nH, 0.3nH, 1x0.5x0.5mm
2	2703-001190	L504	INDUCTOR-SMD	15nH, 5%, 1.6x0.8x0.8mm
2	2703-001222	L420	INDUCTOR-SMD	150nH, 10%, 1.6x0.8x0.8mm
2	2703-001263	L490	INDUCTOR-SMD	4.7nH, 10%, 1x0.5x0.5mm
2	2703-001285	L402	INDUCTOR-SMD	39nH, 5%, 1.6x0.8x0.8mm
2	2703-001285	L550	INDUCTOR-SMD	39nH, 5%, 1.6x0.8x0.8mm
2	2703-001512	L501	INDUCTOR-SMD	27nH, 5%, 1.8x1.12x1.02mm
2	2703-001514	L413	INDUCTOR-SMD	68nH, 5%, 1.8x1.12x1.02mm
2	2703-001701	L405	INDUCTOR-SMD	6.8nH, 10%, 1.0x0.5x0.5mm
2	2703-001708	L301	INDUCTOR-SMD	5.6nH, 10%, 1.0x0.5x0.5mm
2	2703-001708	L305	INDUCTOR-SMD	5.6nH, 10%, 1.0x0.5x0.5mm
2	2703-001727	L452	INDUCTOR-SMD	22nH, 5%, 1x0.5x0.5mm
2	2703-001752	L407	INDUCTOR-SMD	39nH, 5%, 1.0x0.5x0.5mm
2	2703-001752	L423	INDUCTOR-SMD	39nH, 5%, 1.0x0.5x0.5mm
2	2703-001769	L450	INDUCTOR-SMD	220NH, 5%, 2.0X1.25X1.2mm
2	2703-001953	L404	INDUCTOR-SMD	6.8nH, 5%, 1.0x0.5x0.5mm
2	2703-001953	L409	INDUCTOR-SMD	6.8nH, 5%, 1.0x0.5x0.5mm



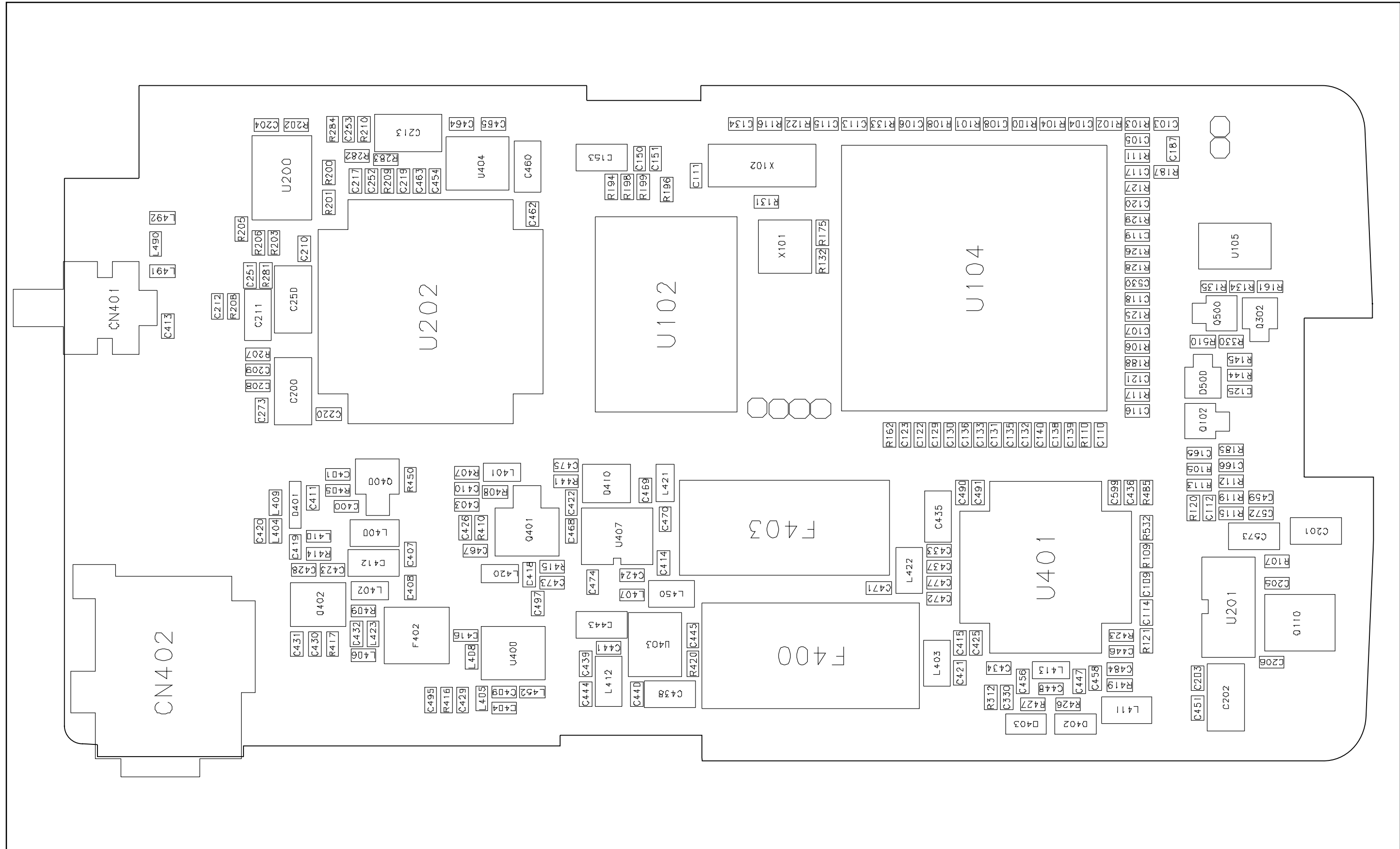
Level	SEC CODE	Design LOC	ITEMS	DESCRIPTIONS
2	2703-001956	L510	INDUCTOR-SMD	100nH, 5%, 1.6x0.8x0.8mm
2	2703-001969	L300	INDUCTOR-SMD	8.2nH, 10%, 1.0x0.5x0.5mm
2	2703-001969	L302	INDUCTOR-SMD	8.2nH, 10%, 1.0x0.5x0.5mm
2	2703-001969	L406	INDUCTOR-SMD	8.2nH, 10%, 1.0x0.5x0.5mm
2	2703-001969	L551	INDUCTOR-SMD	8.2nH, 10%, 1.0x0.5x0.5mm
2	2703-001970	L513	INDUCTOR-SMD	18nH, 5%, 1.0x0.5x0.5mm
2	2703-001938	L410	INDUCTOR-SMD	56nH, 5%, 1.0x0.5x0.5mm
2	2801-003747	X102	CRYSTAL-SMD	.032768MHz, 30PPM, 28-ACM, 9PF,
2	2802-001104	X101	RESONATOR-CERAMIC	27MHz, 0.5%, TP, 2.5X2X1.2
2	2806-001200	OSC300	OSCILLATOR-VCO	967MHz, -, 50, TP, 3V, 8.5MA
2	2809-001225	U303	OSCILLATOR-VCTCXO	19.68MHz, 2.5PPM, 10KOHM//10PF, TP,
2	2904-001074	F403	FILTER-SAW	85.380MHz, 13KHz, +-13KHz/1.5dB,
2	2904-001171	F502	FILTER-SAW	836.5MHz, 25MHz, +-12.5MHz/2dB, TP, +-
2	2904-001172	F500	FILTER-SAW	836.5MHz, 25MHz, +-12.5MHz/1.5, TP, +-
2	2904-001173	F402	FILTER-SAW	881.5MHz, 25MHz, +-12.5MHz/2dB, TP, +-
2	2904-001174	F501	FILTER-SAW	130.38MHz, 1.26MHz, +-0.63MHz/1dB, TP,
2	2904-001236	F400	FILTER-SAW	85.38MHz, -, 0.8, TP, 9.4dB, -
2	2909-001094	F401	FILTER-DUPLEXER	881.5MHz, 836.5MHz, 3.5/1.6dB, TP, 824-
2	3301-001105	L304	CORE-FERRITE	AB, 1.6x0.8x0.8mm, -, -
2	3301-001105	L306	CORE-FERRITE	AB, 1.6x0.8x0.8mm, -, -
2	3301-001105	L307	CORE-FERRITE	AB, 1.6x0.8x0.8mm, -, -
2	3301-001105	L400	CORE-FERRITE	AB, 1.6x0.8x0.8mm, -, -
2	3301-001105	L411	CORE-FERRITE	AB, 1.6x0.8x0.8mm, -, -
2	3301-001105	L412	CORE-FERRITE	AB, 1.6x0.8x0.8mm, -, -
2	3301-001105	L502	CORE-FERRITE	AB, 1.6x0.8x0.8mm, -, -
2	3301-001105	L507	CORE-FERRITE	AB, 1.6x0.8x0.8mm, -, -
2	3301-001120	L500	CORE-FERRITE BEAD	AB, 2.0x1.25x0.9mm, -, -
2	3705-001178	CN401	CONNECTOR-COAXIAL	SMC, JACK, 100Mohm, 50ohm, .5DB
2	3710-001447	J1	CONNECTOR-SOCKET	40P, 2R, 0.5mm, SMD-S, AUF
2	3710-001510	CN101	CONNECTOR-SOCKET	18P, 1R, 0.5MM, SMD-A, AUF
2	3722-001456	CN402	JACK-PHONE	2P, 2.6PI, AuF, BLK, -
2	4709-001080	L303	RF POWER SPLITTER	2WAY, 955-979MHz, 12dB, -, TP
2	GH41-00102A	PCB	PCB-SCH-A105	SCH-A105, FR-4, 0.7T, 118 x 90, -
1	GH96-01124A	EAR-MIC	ELAETC-EARPHONE	SCH-2000, SPRINT, USA, 20mW, 32ohm

# 9. Block Diagrams

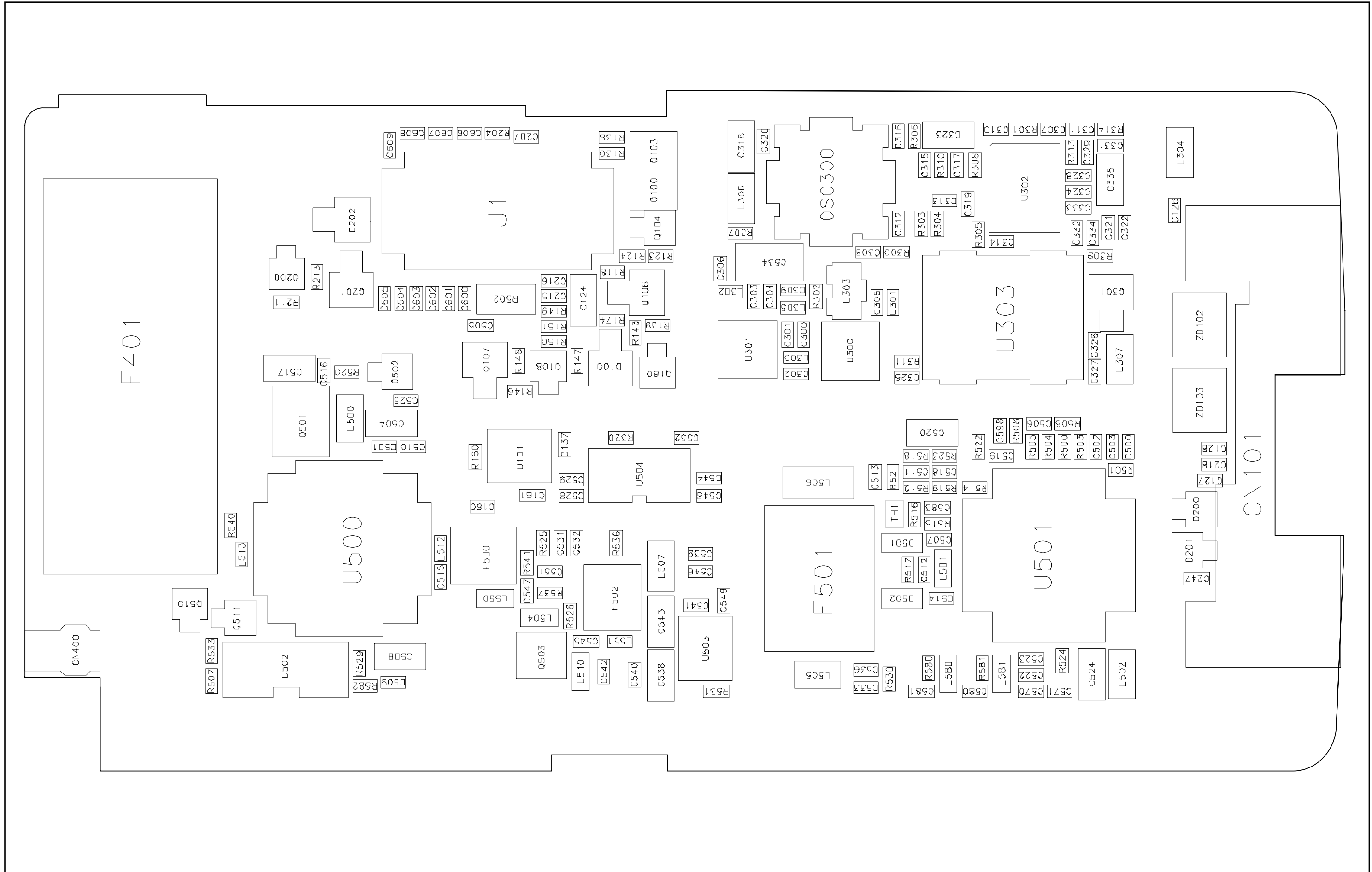


# 10. PCB Diagrams

## 10-1 Main PCB Top View

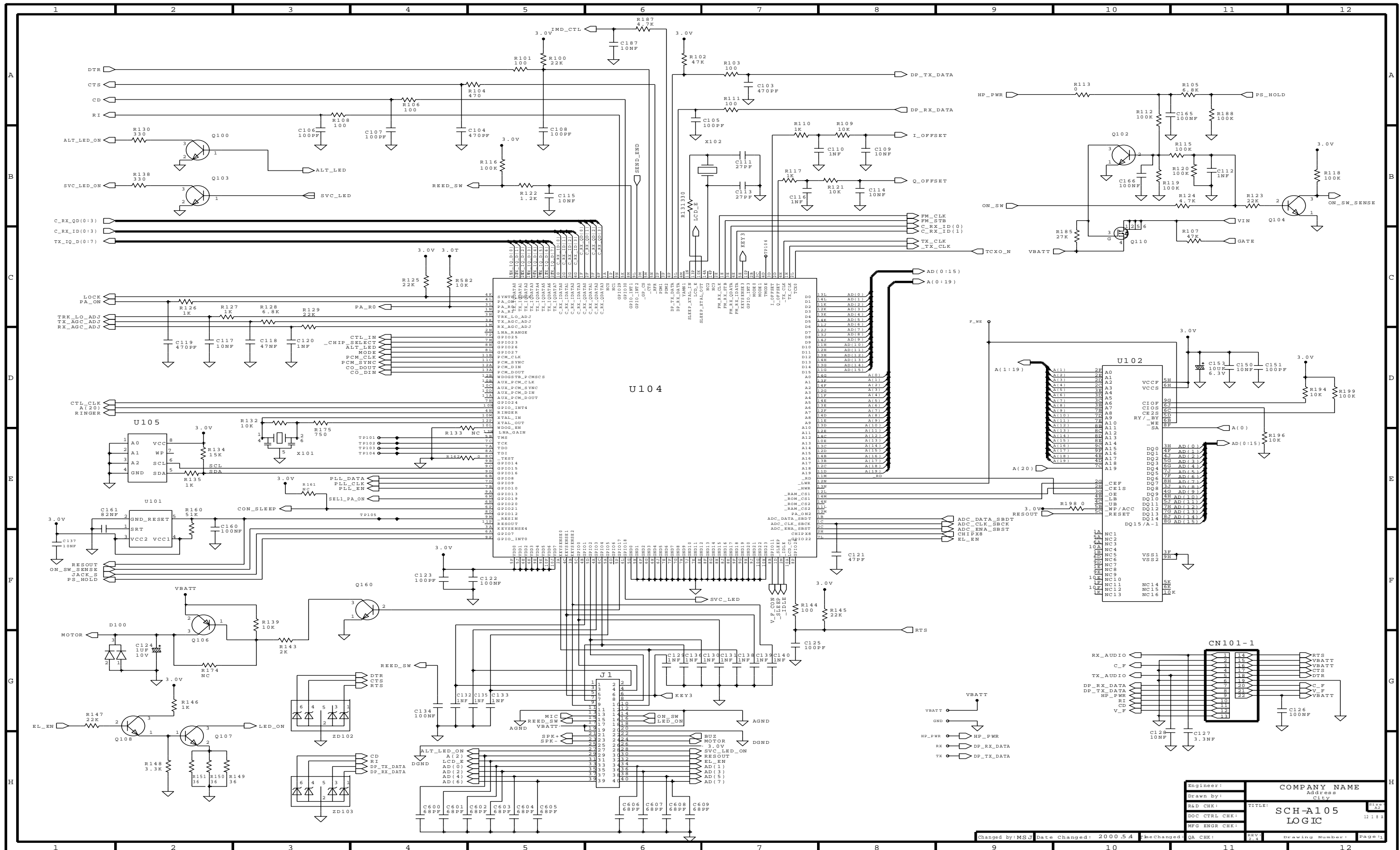


### 10-2 Main PCB Bottom View



# 11. Circuit Diagrams

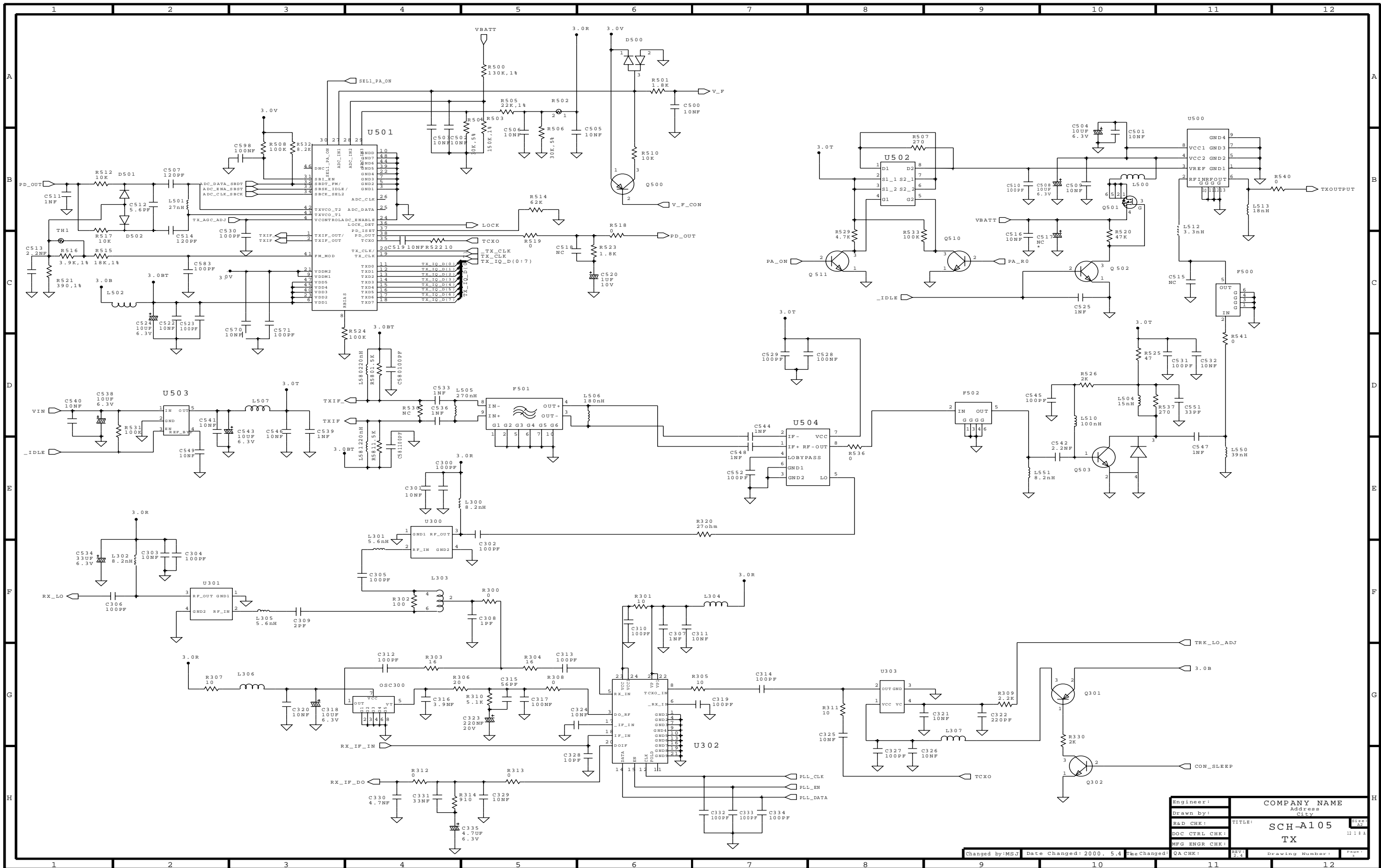
## 11-1 LOGIC Circuit Diagram



Engineer:	COMPANY NAME
Drawn by:	Address
R&D CHK:	City
DOC CTRL CHK:	TITLE: SCH-A105
MFG ENGR CHK:	LOGIC
	12 1 1 1

Changed by: MSJ Date Changed: 2000.5.4 Echanged QA CHK: REV: 2.4 Drawing Number: Page: 1

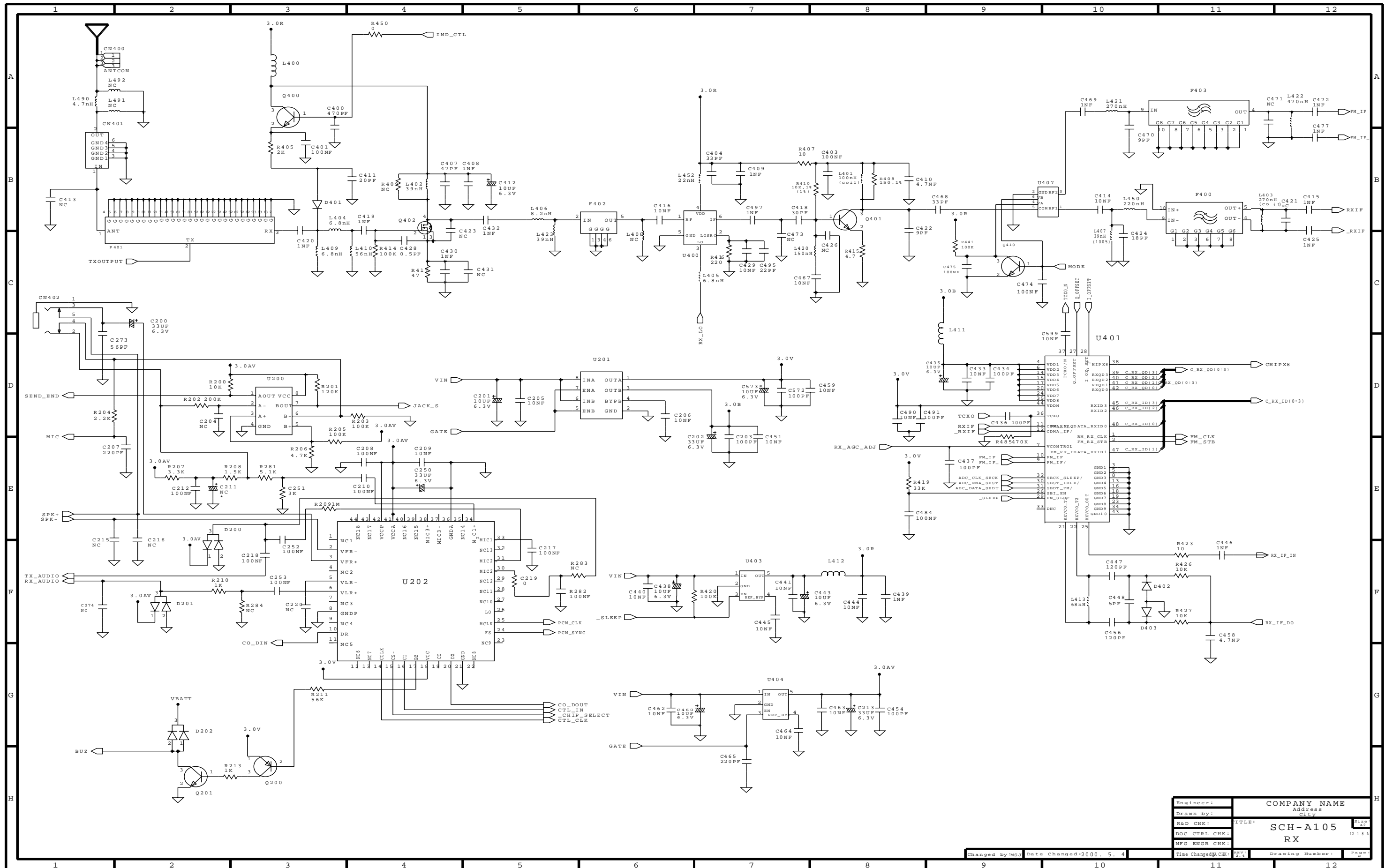
# 11-2 TX Circuit Diagram



Engineer:	COMPANY NAME		
Drawn by:	Address		
R&D CHK:	TITLE:	SCH-A105	REV:
DOC CTRL CHK:	TX		11/11
MFG ENGR CHK:			
QA CHK:	REV:	2.4	Drawing Number:

Changed by:MSJ Date Changed: 2000. 5.4 The Changed: QA CHK: REV: 2.4 Drawing Number: Page: 1

# 11-3 RX Circuit Diagram



Engineer:	COMPANY NAME		
Drawn by:	Address		
R&D CHK:	City		
DOC CTRL CHK:	TITLE:	SCH-A105	Size
MFG ENGR CHK:		RX	11/11
Time Changed/CHK:	REV:	4	Drawing Number:

Changed by: MSJ Date Changed: 2000. 5. 4