

Z720i Service Manual



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1. Overview

1.1 General



- ▶ **Z720i** is based on the **CDMA NMT-450** technology. This technology using the 1.25MHz spread-spectrum of 450MHz band, this CDMA NMT-450 cellular phone provides greatly enhanced voice quality and more reliable encoding function.
- ▶ **The IFR3500** is a key circuit element in the Rx signal path of CDMA450. The CDMA receive path is designed to accept a differential IF signal with CDMA spread spectrum modulation extending $\pm 630\text{KHz}$ from the IF center frequency. **The RFT3100** interfaces with the **MSM5100** and circuits in the analog transmit chain of the CDMA450 phone. The **RFT3100** up converts to the IF frequency and puts out a controlled amplitude differential Tx IF signal. The **RFT3100 & IFR3500** are controlled by means of a three-line Serial Bus Interface(SBI) which is driven by **MSM5100**.
- ▶ **LCD Module** consists of Main LCD(128x160Dots, 1.8" 65K Color CSTN) and SUB LCD(96x64Dots B/W CSTN LCD)
- ▶ **300K CMOS Camera Module** supported 30 photo save at QVGA mode (320x240), Linear 4X Digital Zoom
- ▶ **16 POLY CMX Melody**
- ▶ **PC Sync(USB)**

1.2 Standards & Specification

1.2.1 Standards

- ▶ Air interface standard : IS-2000
- ▶ Vocoder : IS-96A, IS-127, IS-733
- ▶ Data Service : IS-707A
- ▶ RF specification : IS-98D
- ▶ OTASP : IS-638A
- ▶ SMS : IS-637

1.2.2 Specification

- ▶ POWER SUPPLY Adapter
 - 1) INPUT : CTA-10A, 100-24V(AC) 50/60Hz 0.3A
 - 2) OUTPUT : DC 5.5V, 2000mA
 - 3) CHARGER: inner-charger
- ▶ BATTERY
 - TYPE : Ni-ion, 1000mAh(553450)
- ▶ POWER CONSUMPTION
 - 1) NORMAL(Stand-by) : CDMA Mode : 100 mA (During call waiting),
700 mA $\pm$ 10% (While busy, LCD On ,based
on Max Pwr(+23 dBm))
 - 2) Waiting Time : About 120hours
 - * Field Conditions Applied
 - * Slot Cycle Index : 2
 - * Power Consumed in Sleep Mode: less than 1 mA
 - 3) Talk time : Up to 2 hours(@ sct Pwr -100 dBm)



1.2 Standards & Specification

1.2.2 Specification

- ▶ Freq. Range : Rx :462.5 ~ 467.475 MHz, Tx :452.5 ~ 457.475 MHz
- ▶ Bandwidth : 1.25MHz
- ▶ Channel Frequency
 - 160ch Rx : 463.975MHz, Tx : 453.975MHz
 - 210ch Rx : 465.225MHz, Tx : 455.225MHz
 - 260ch Rx : 466.475MHz, Tx : 456.475MHz
- ▶ TX maximum output power : 0.2W (23dBm) above
- ▶ TX minimum output power : -50dBm below
- ▶ RX Sensitivity : -104dBm below (at FER = 0.5%)
- ▶ Single tone Desensitization : -101dBm below (at FER = 1%)
- ▶ Rx conducted spurious
 - Emission
 - TX Band : -61dBm/1MHz below
 - RX Band : -81dBm/1MHz below
 - Out of Band : -47dBm/30kHz below.
- ▶ Tx conducted spurious
 - Emission
 - In Band : -42 dBc/30kHz(fc +/-885kHz)
-54 dBc/30kHz(fc +/-1.98MHz)
 - Out Band 1~6:less than -47 dBm/30kHz
- ▶ Static Time Offset : $\pm 1\mu s$ below
- ▶ Traffic Rho : 0.944 above



1.3 Features

	Specipication		Specipication
Mode	CDMA450	Hinge Type	Folder Type
Chip Set	MSM 5100	Weight(g)	100 g
Memory	128Mb Flash + 32Mb RAM	ANT	Fixed Antenna
LCD Module	M : 1.8", 65 K CSTN,128X160	Key Button	26 KEY
	S : B/W CSTN, 96 X 64	Battery	1000 mAh Li-Ion
Camera	300K CMOS	Ear-Jack	
Melody	16 Poly CMX	Flash	Yes
SPICOM	Speaker : 12.6 ϕ 500mW	SIZE	88 X 47 X 23.8 mm
	Earpiece : 121dB $\pm$ 2dB @ 1KHz		
	Vibrator : RPM : MAX 12,000 $\pm$ 2,000		

2. H/W Part

2.1 H/W Description

1) RX PART

► DUPLEXER (Rx: D465AK(FIL210) Tx: D455AK(FIL250))

- The duplexer is made up of a **TX_Filter** and **RX_Filter**. It is composed of an antenna port, a transmitter port and a receiver port. The TX-Filter is configured with a **SAW bandpass filter**. This prevents harmonic spurious emission and leakage from entering into adjacent channels. The RX-filter is also configured with a **SAW bandpass filter**. It suppresses the malfunction of LNA while sufficiently rejecting strong neighboring interferes. Thus the choice of BPF is governed by both the out-of-band rejection and the in-band loss, with the latter being the more critical parameter. prevents image spurious by transmit carrier signal. The special matching circuit is adopted to increase the isolation between the transmitter and the receiver. Since large in-band interferers accompany the received signal even after the duplexer and this large in-band interferes make cross modulation with the leakage from the transmitter, the isolation between the transmitter and the receiver is very important.

► ITM1010 (U210)

- **ITM1010** is composed of low noise amplifiers (**LNA**) and **down-conversion mixer**. The LNA figures a sufficiently high **IP3** to avoid corruption of the signal by intermodulation products. The IP3 of LNA affects single tone de-sensitization performance. The LNA is operated ON and OFF by LNA Range signal which come to MSM directly. LNA-ON gain has about **17dB** and LNA-OFF gain has about **-7dB**. The image rejection BPF is configured with a SAW bandpass filter which is the same filter as the RX-Filter in the duplexer section. Since the image frequency of the received signal is downconverted to the same IF bands, it is very important to suppress the image. The **down-conversion mixer** is included in **ITM1010** chip. It makes **85.38 MHz IF signal** mix RF signal with Local signal.

► Rx SAW Filter (FIL220)

- It suppresses the malfunction of LNA while sufficiently **rejecting strong neighboring interferes**

► IFR3500 (U650)

- **IFR3500** receive path is designed to accept a differential IF signal. **Rx AGC amplifies** controlled by varying the DC voltage on the Vcontrol input pin attenuates the received CDMA IF signal to provide a constant-amplitude signal to the I/Q down converter. The AGC's **90dB dynamic range** is available over the full power supply range of the device.

► Rx IF SAW Filter (FIL230)

- The IF Filter attenuates the noise of signal that has been down-converted in the mixer. It is used to extract signals corresponding to one channel bandwidth.

2) TX PART

► RFT3100(U700)

- The **RFT3100** interface with the **MSM5100** and circuits in the analog transmit chain of the CDMA450 phone. The **RFT3100** up converts to the IF frequency and puts out a controlled amplitude differential Tx IF signal. The **RFT3100** is controlled by means of a three-line Serial Bus Interface(**SBI**) which is driven by **MSM5100**. The **RFT3100** includes a programmable **Tx PLL** for synthesizing the Tx IF frequency. A temperature-compensated **Tx AGC amplifier** with **85dB** gain range is included in the **RFT3100**. The transmit output power level is directly controlled by varying the gain of this **Tx AGC amplifier**.

► Power Amp(U250)

- This is a part to amplify TX power for the last time. It has a direct effect on variable range of -54 dBm ~ +23.5 dBm for ANT output part. Accordingly, During the call, it consumes most of current supplied and so, it should ensure high efficiency.

► Tx Saw Filter (FIL270)

- This is a part to reduce out-band noise and Before PAM amplifies the RF Signal, attenuate in-band noise

3) LOGIC Parts

► MSM5100

- MSM5100 is the ASIC Chip for Baseband Digital Signal Processing of the handset. It implies the integrated CODEC and supports Integrated Universal Serial Bus(USB) interface. And it has internal Vocoder supporting 13Kbps QCELP and 8Kbps EVRC. Besides it uses ARM7TDMI embedded microprocessor subsystem.

► MEMORY

- SHARP's Product consisted of 128M Flash Memory and 32M Smart combo RAM used to save MSM Boot Code and NV Data

► LCD MODULE

- As Dual CSTN-LCD Module combined Main LCD and Sub LCD, and it has Flash LED and 300K CMOS Camera Module, Main LCD display 65k color 128 X 160 Dots. Sub LCD display B/W color 96 X 64 Dots.
 - * MAIN : 1.8", 65 K CSTN,128X160
 - * SUB : B/W CSTN, 96 X 64

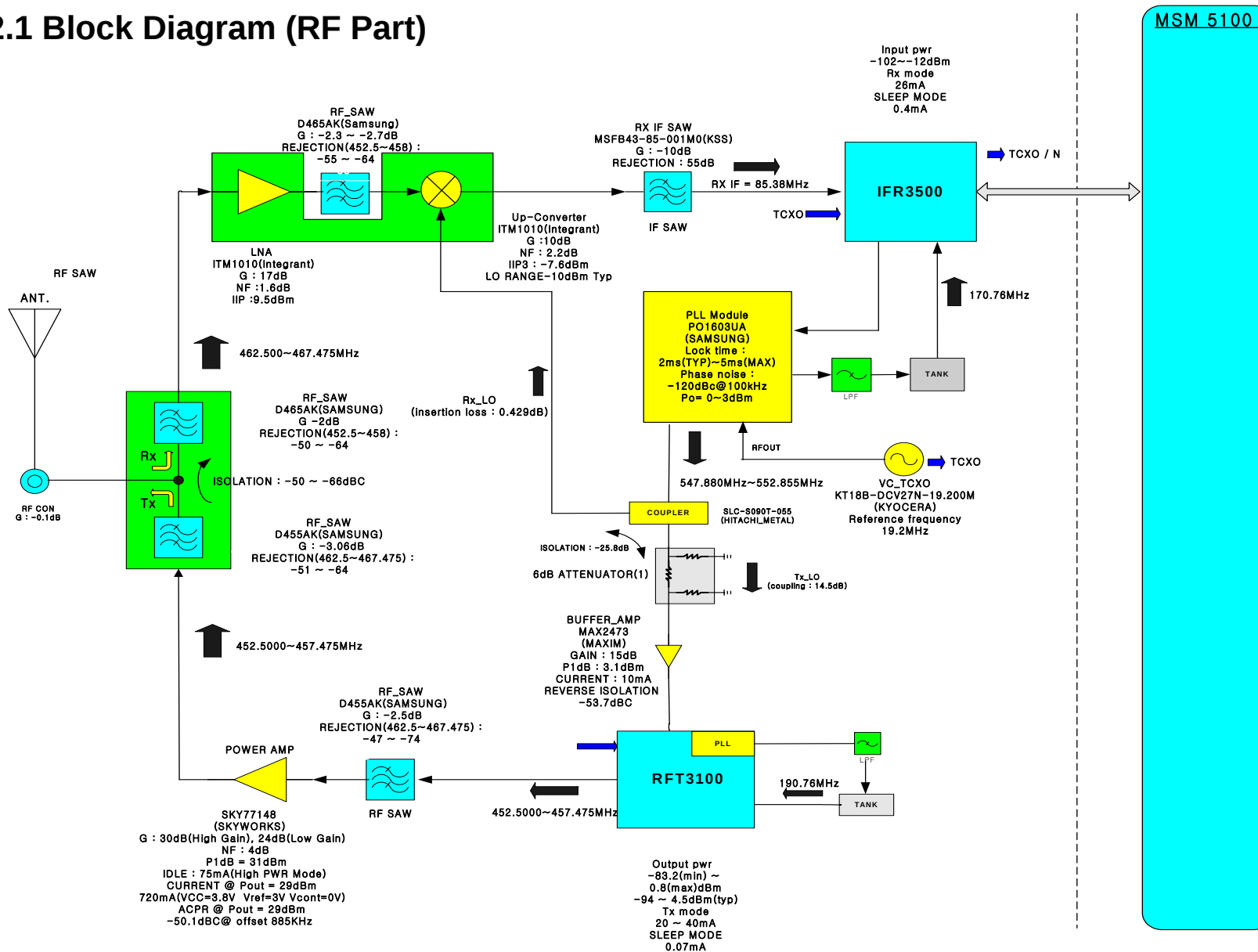
► SPICOM

- SPICOM is combined Receiver, Speaker and Vibrator
 - # Speaker
 - * SPL(Sensitivity) : 87dB $\pm$ 2dB, fo : 800Hz $\pm$ 20% @1V, Nominal input Power : 500mW, Impedance : 8 ohm
 - # Receiver
 - * SPL(Sensitivity) : 121dB $\pm$ 2dB @ 1KHz, RIP : 50mW, Impedance : 8ohm
 - # Vibrator
 - * RPM : MAX 12,000 $\pm$ 2,000 Operating Voltage : DC 2.6V ~ 3.6V

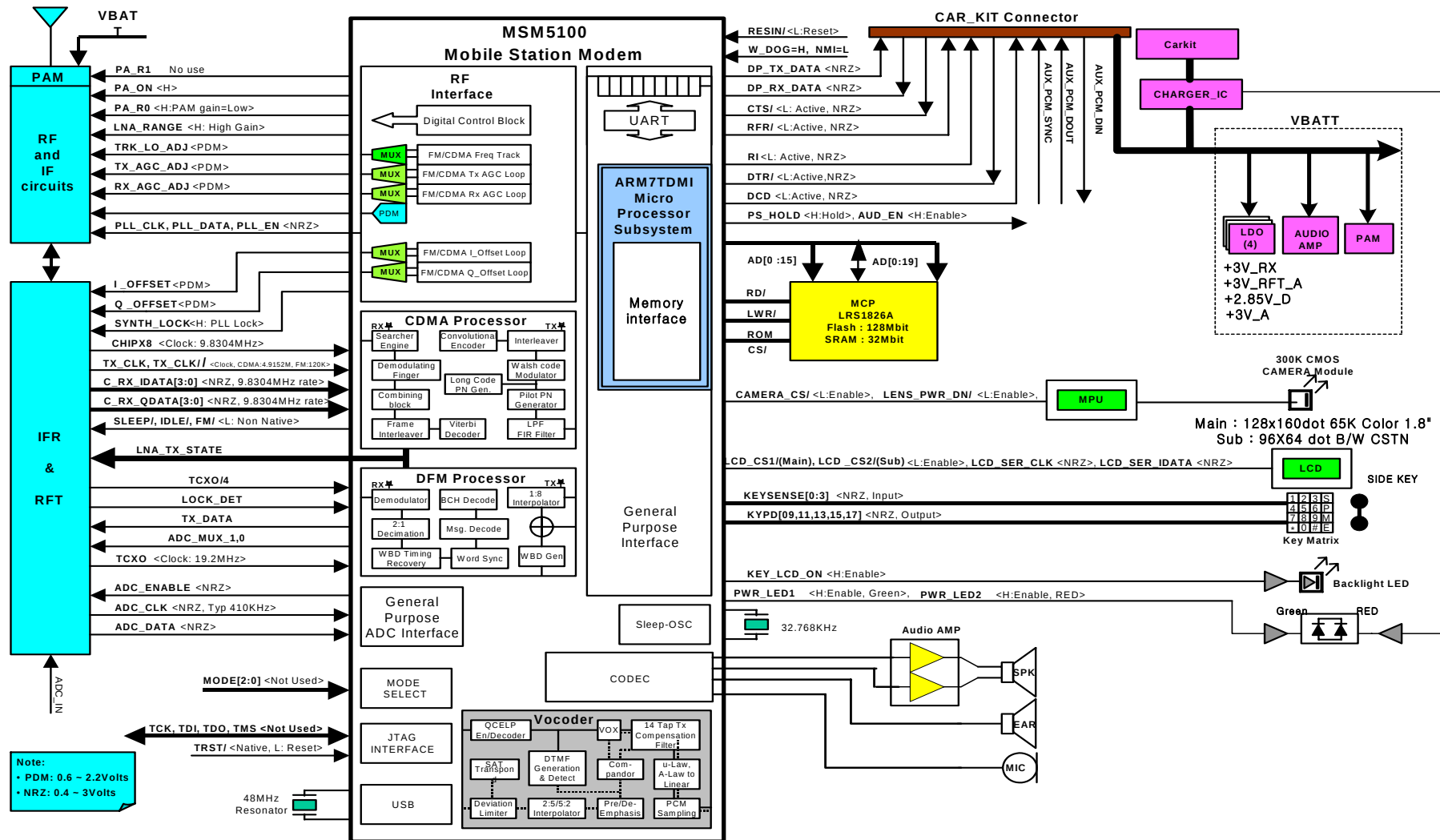
► **CAMERA Module**

- HX-550C adopts 300K CMOS camera module that supports 30 supported 30 photo save at QVGA mode (320x240), Linear 4X Digital Zoom photo

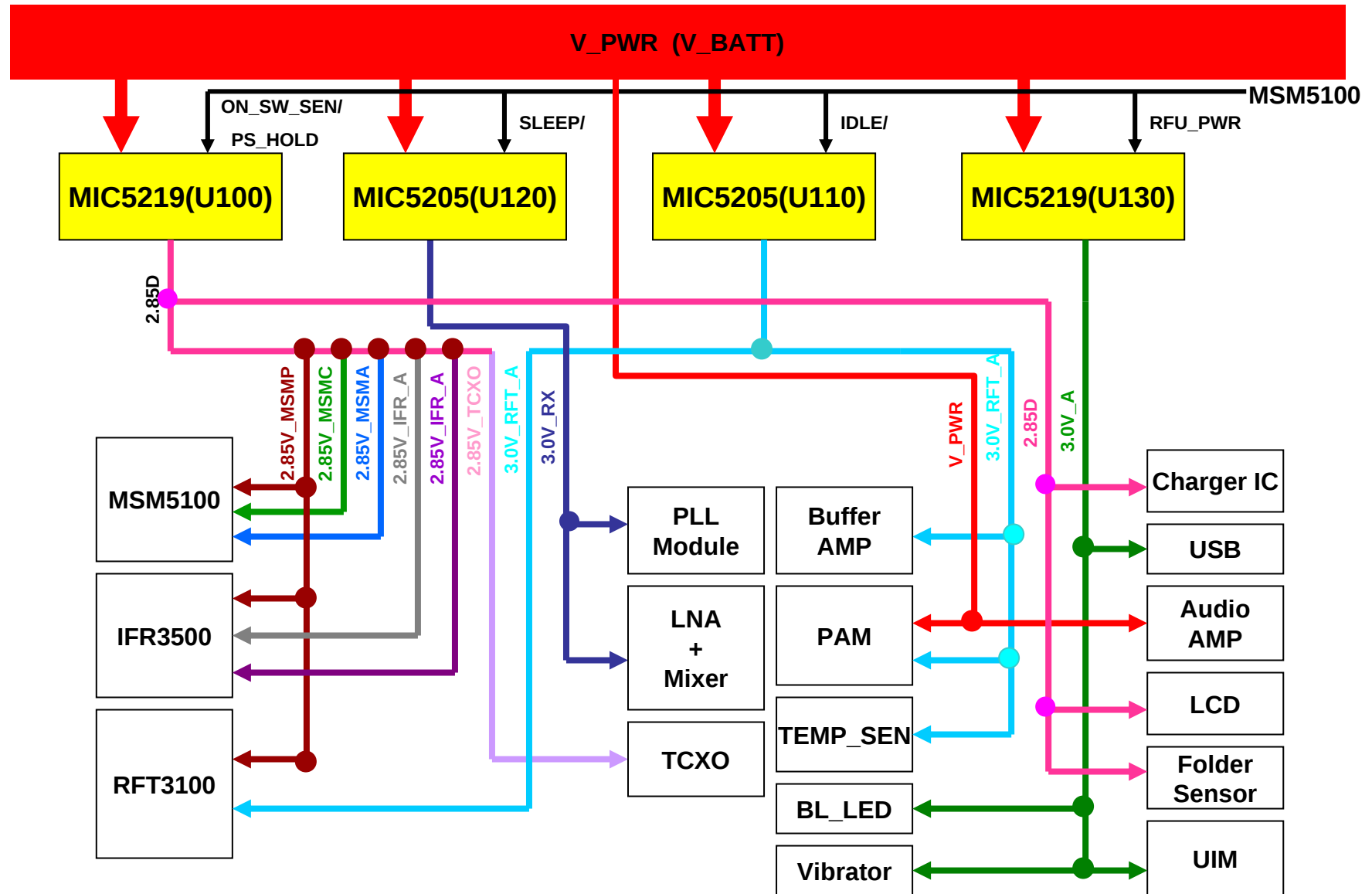
2.2.1 Block Diagram (RF Part)



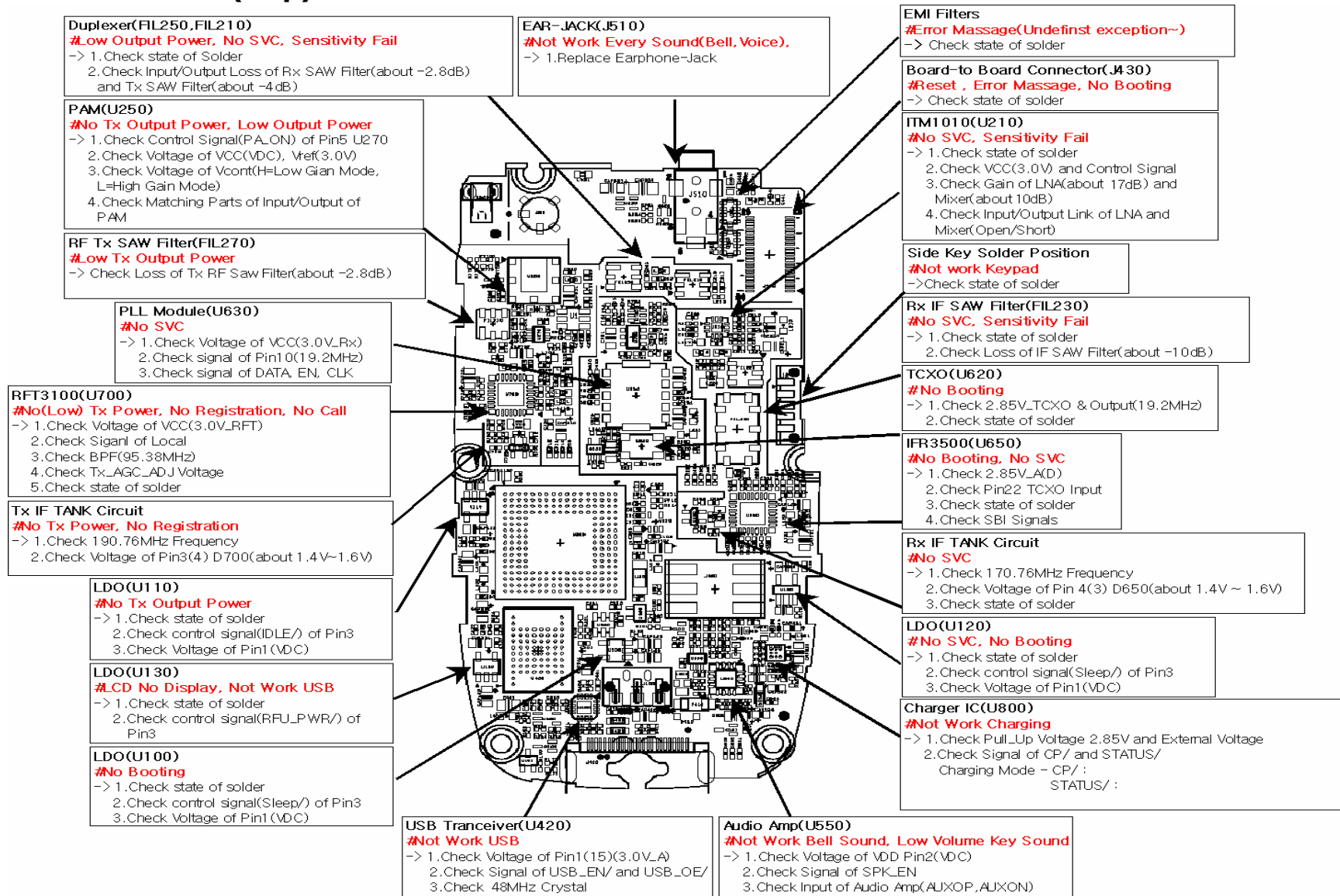
2.2.2 Block Diagram (LOGIC Part)



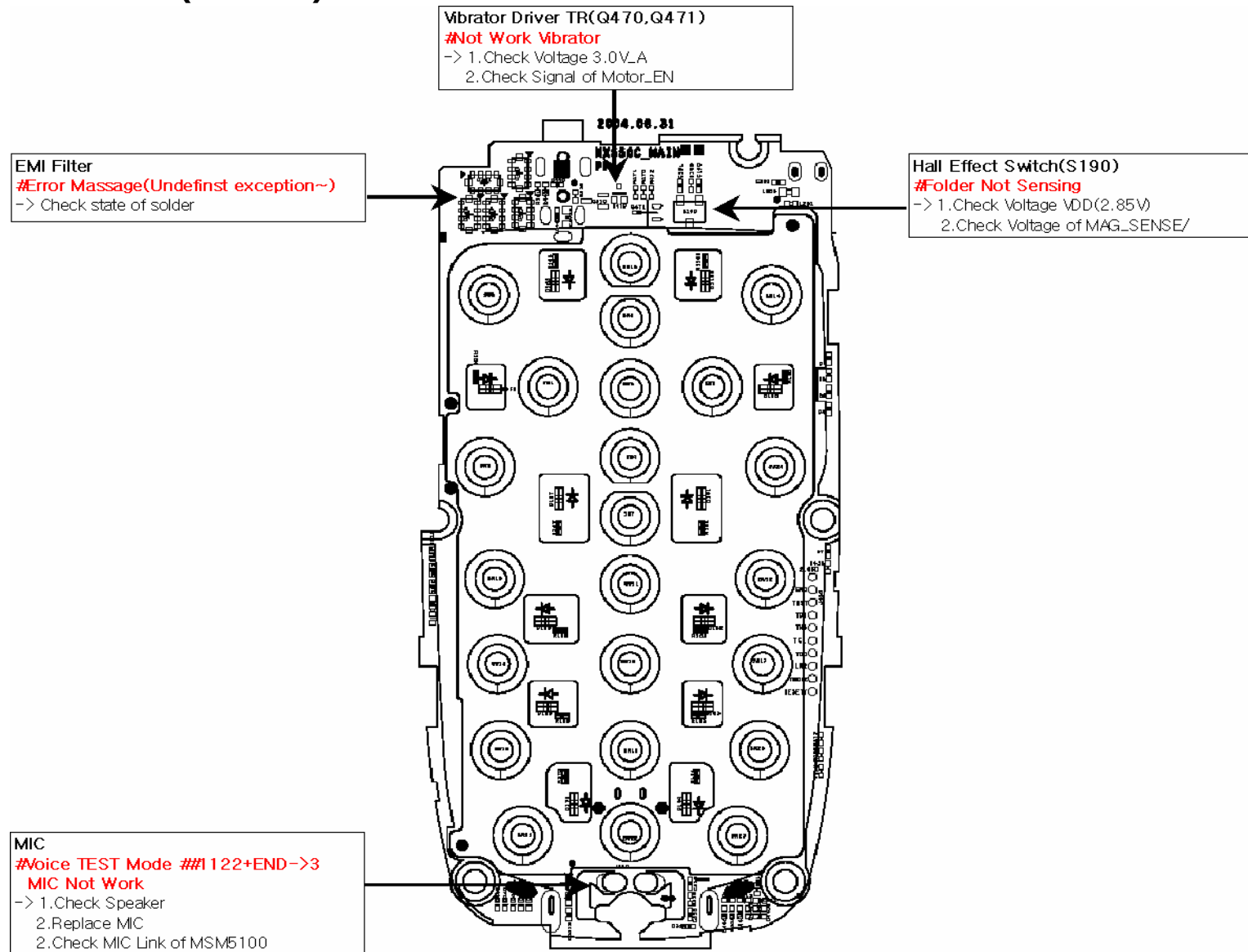
2.2.3 Block Diagram (POWER PART)



2.3 One Point Fix (Top)

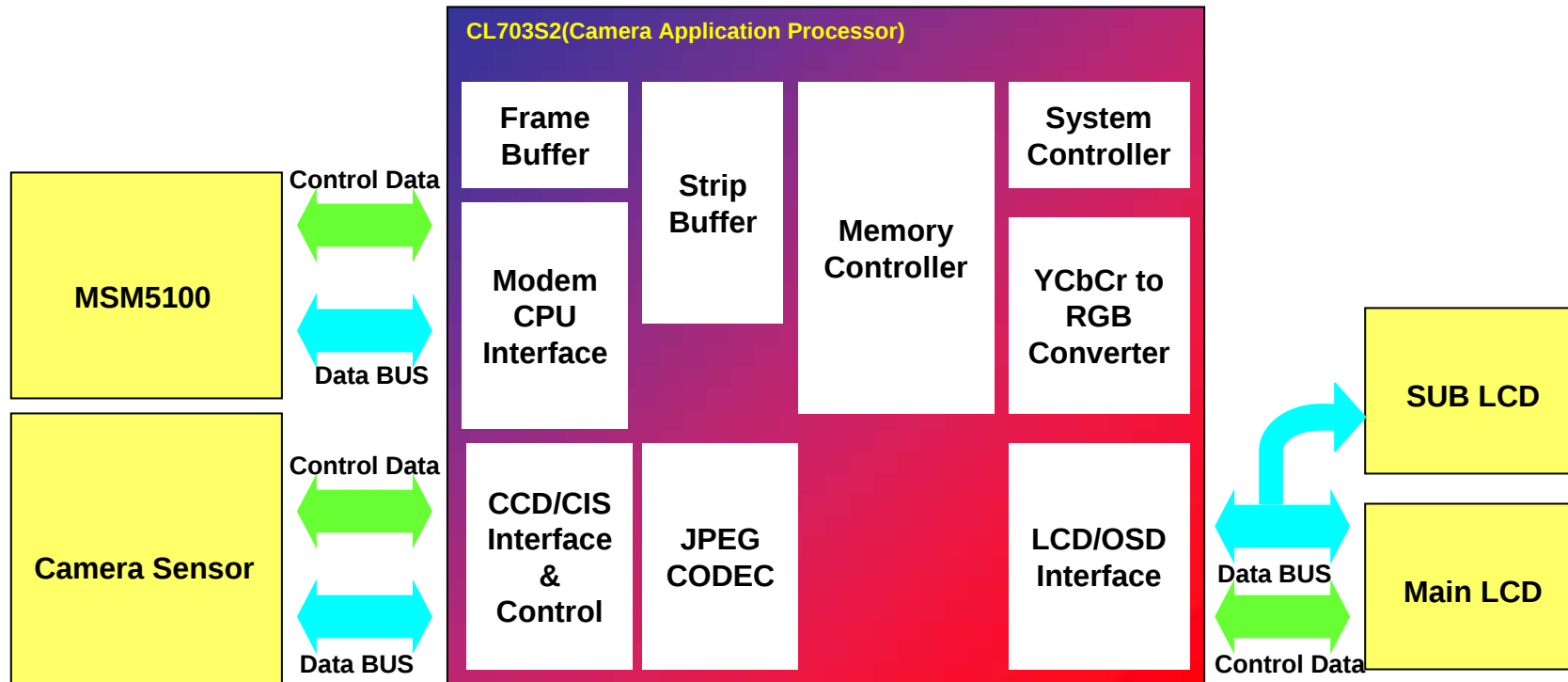


2.3 One Point Fix (Bottom)



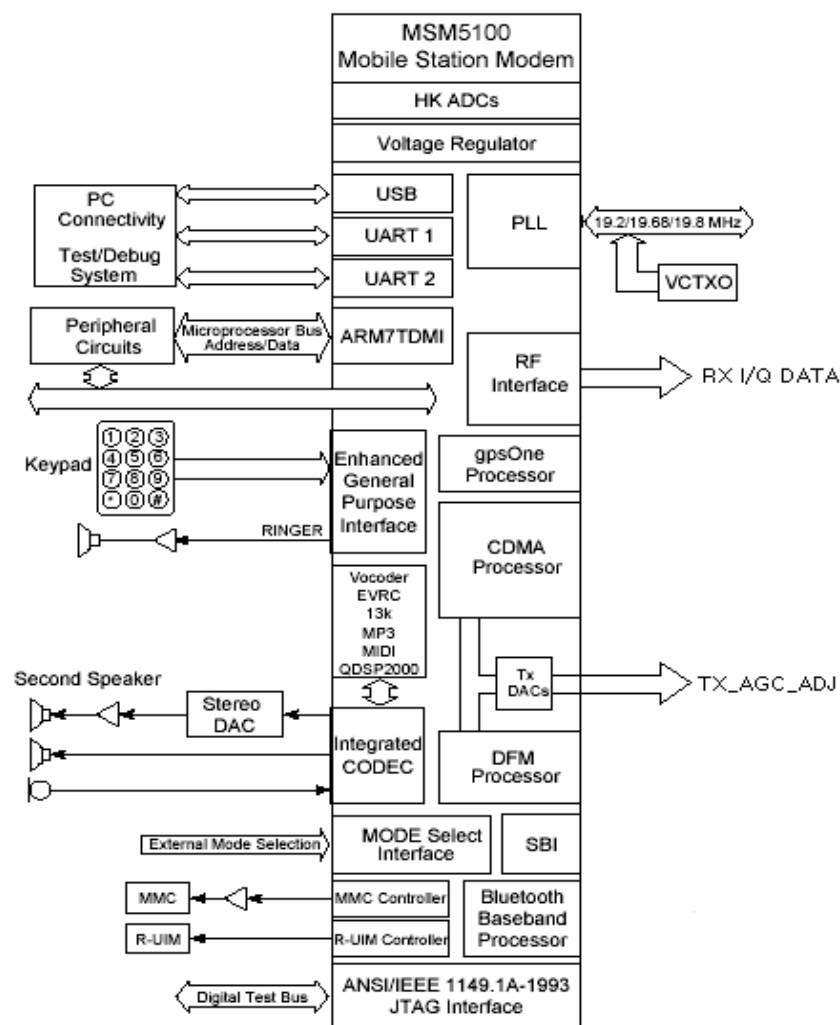
2.4 New Function

■ Camera Function Block Diagram



2.5 New Parts Introduction

■ MSM5100

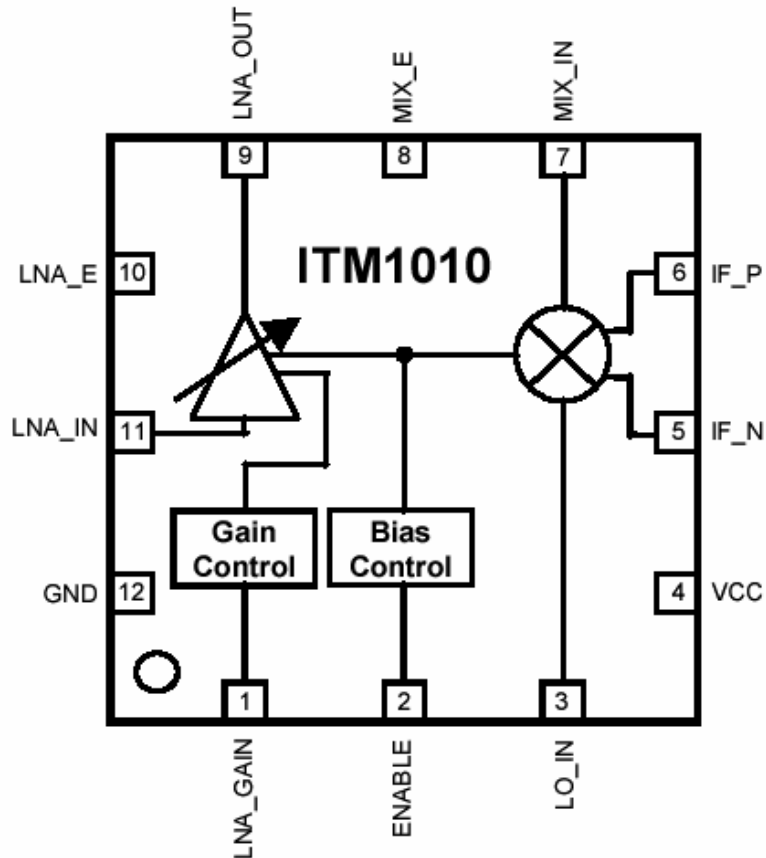


MSM5100 Device Features

- Integrated Universal Serial Bus(USB) interface
- Integrated gpsOne Processor for direct interface to RF chipset
- Integrated R-UIM Controller for direct interface to R-UIM card
- Supported IS-2000 1x MC RTT Feature
- TCXO : 19.2MHz
- Qtunes MP3 player software
- Supports peak rates of 153.6kbps on forward link and reverse link simultaneously

2.5 New Parts Introduction

■ ITM1010

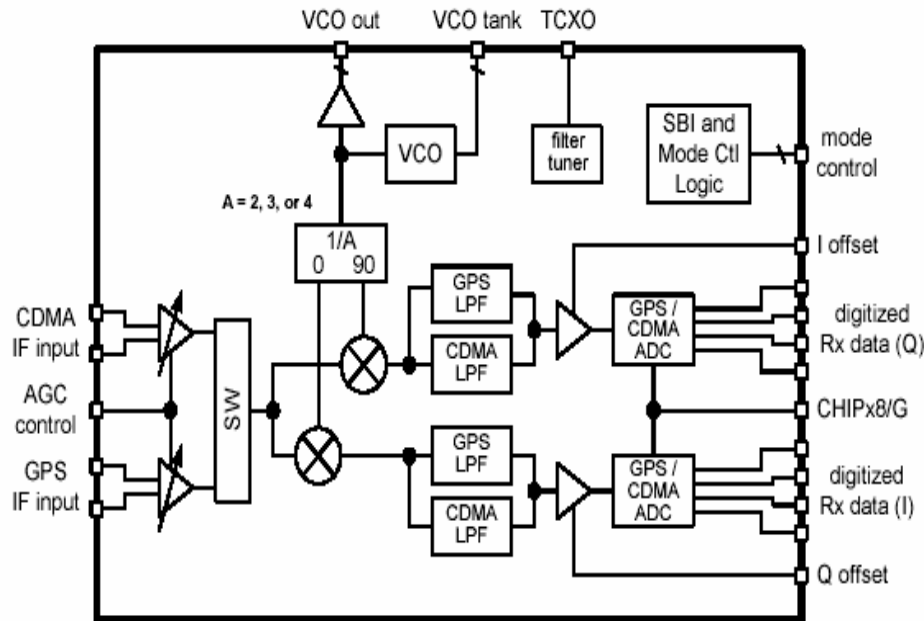


ITM1010 Device Features

- 2.5mm X 2.5mm CDMA receiver Chip
- Operating frequency :
 - CDMA Cellular : 869 ~ 894 MHz
 - CDMA450 : 460 ~ 470 MHz
- High linearity and high gain
- Two step LNA gain control
- Integrated LNA and down-converter

2.5 New Parts Introduction

■ IFR3500



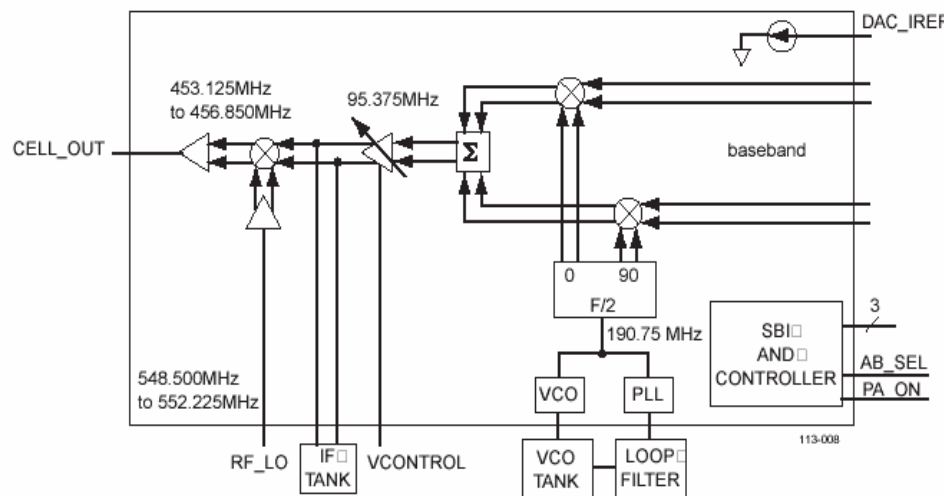
IFR3500 Device Features

- Including IF AGC AMP, quadrature down – conversion to analog baseband
- Provides receiver functions for two different operation mode : CDMA and GPS
- Removing all FM circuit, TCXO divider/output buffer circuit
- Making the IF LO frequency divider programmable (2,3,4, or 6)

2.5 New Parts Introduction

■ RFT3100

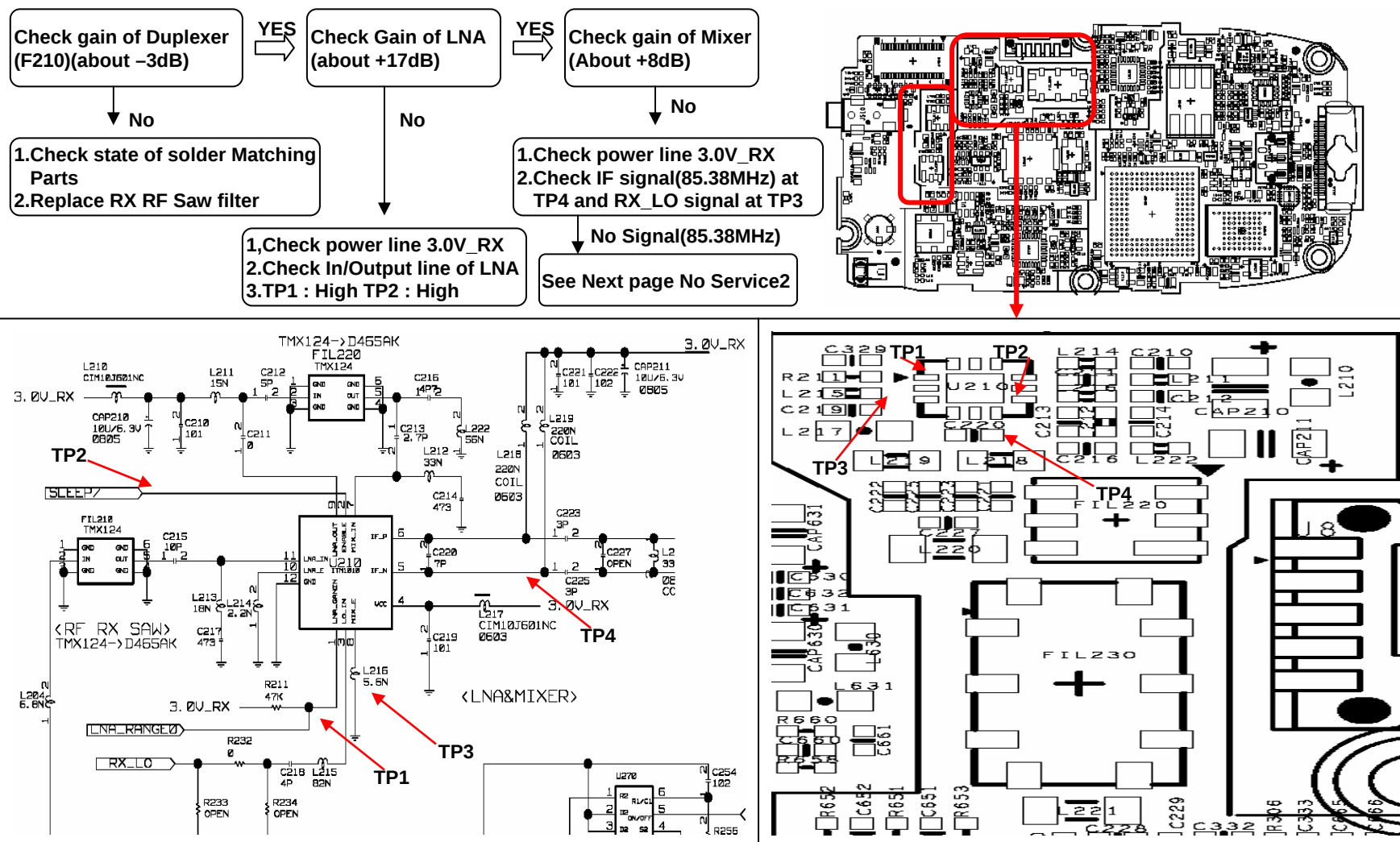
RFT3100 Device Features



- Connects directly with MSM5100 utilizing an analog baseband interface
- Including IF mixer for upconverting analog baseband to IF, programmable PLL for generating TX IF frequency
- Including two Cellular and two PCS driver AMP and TX power control through an 85dB VGA

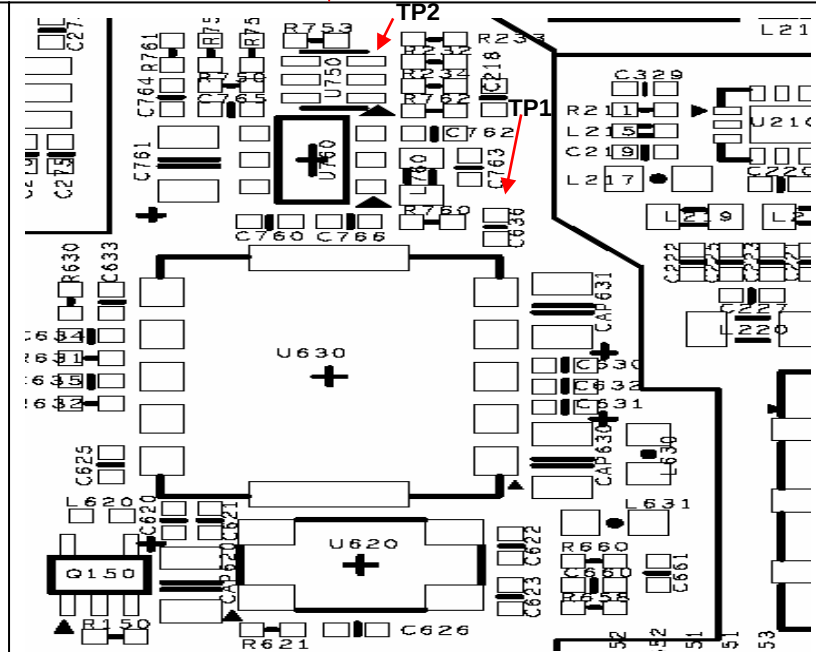
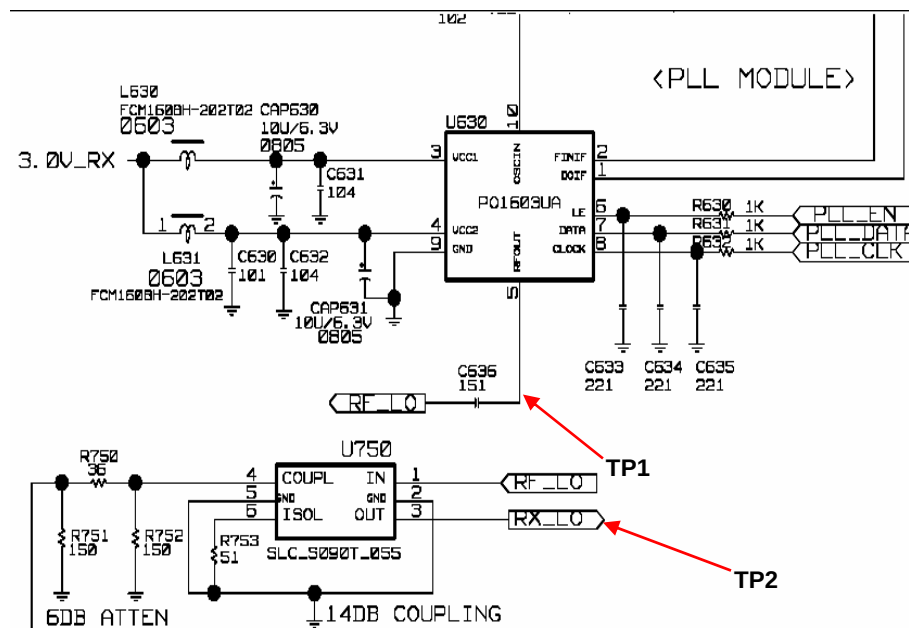
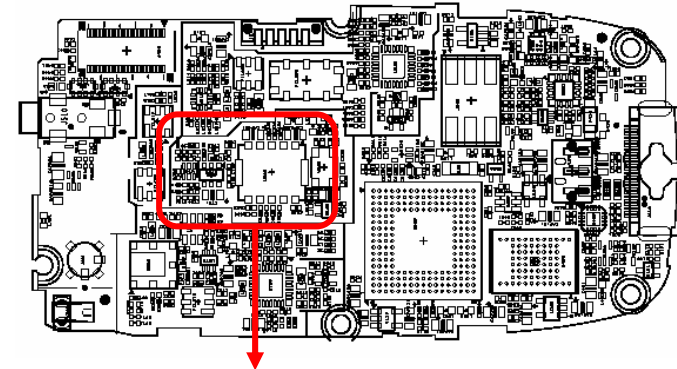
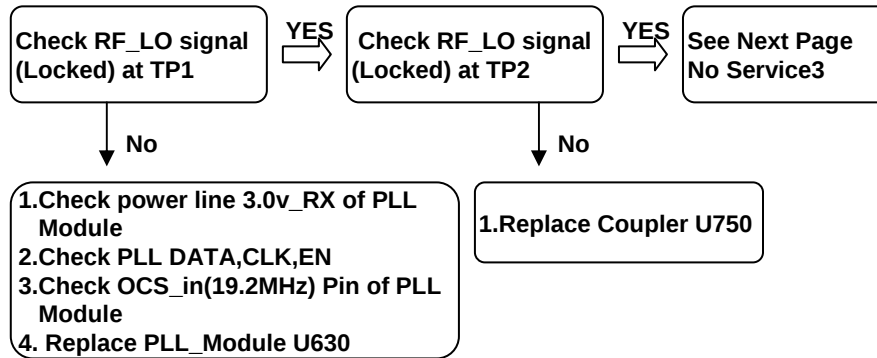
2.6 Trouble Shooting Guide

■ No Service 1



2.6 Trouble Shooting Guide

■ No Service 2



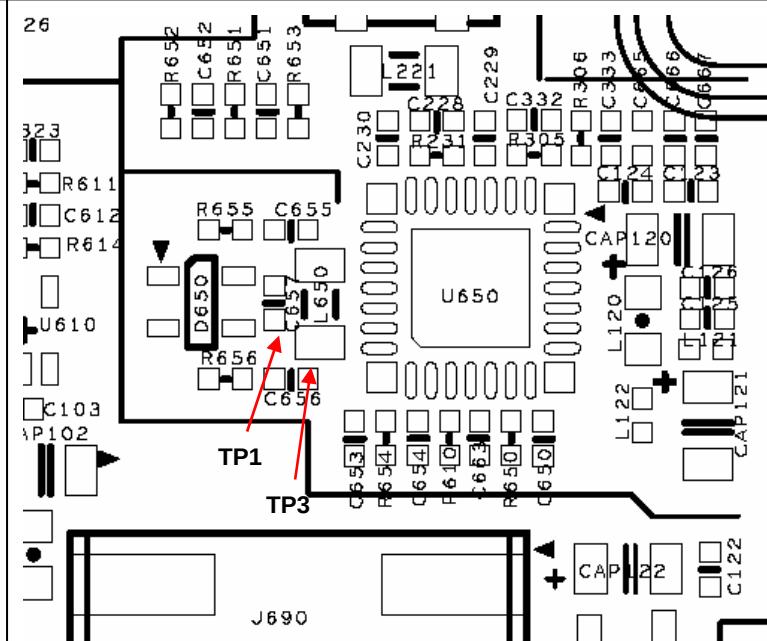
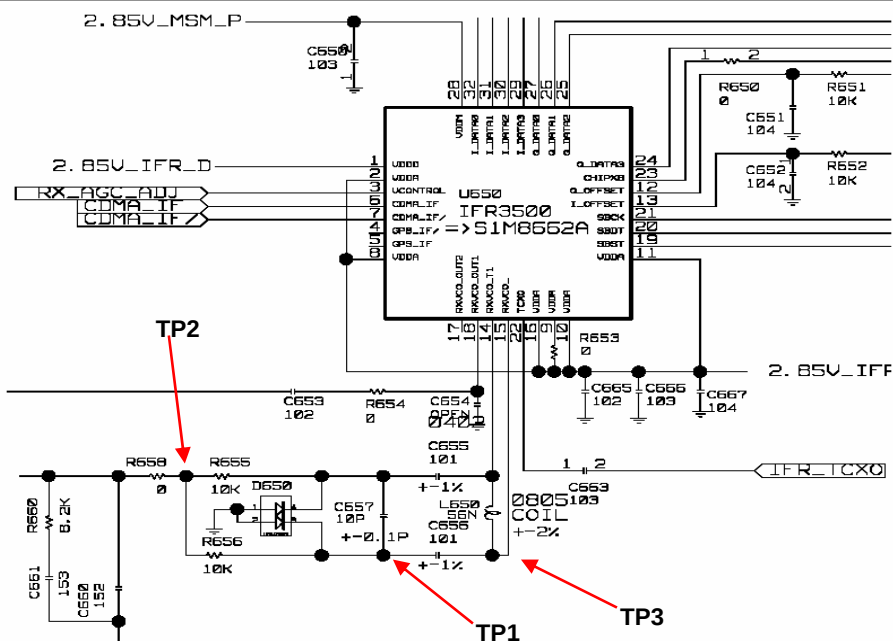
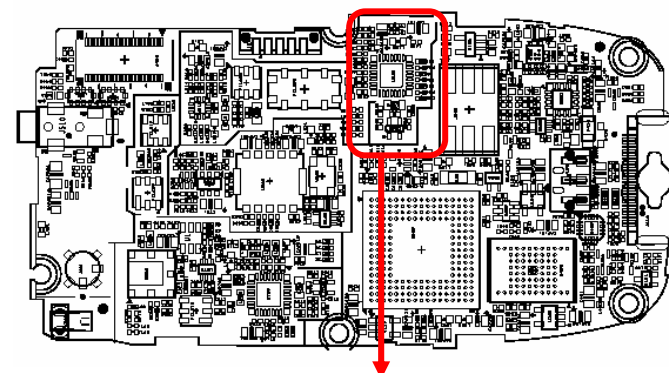
2.6 Trouble Shooting Guide

■ No Service 3

Check RX_IF_TANK 170.76MHz at TP1

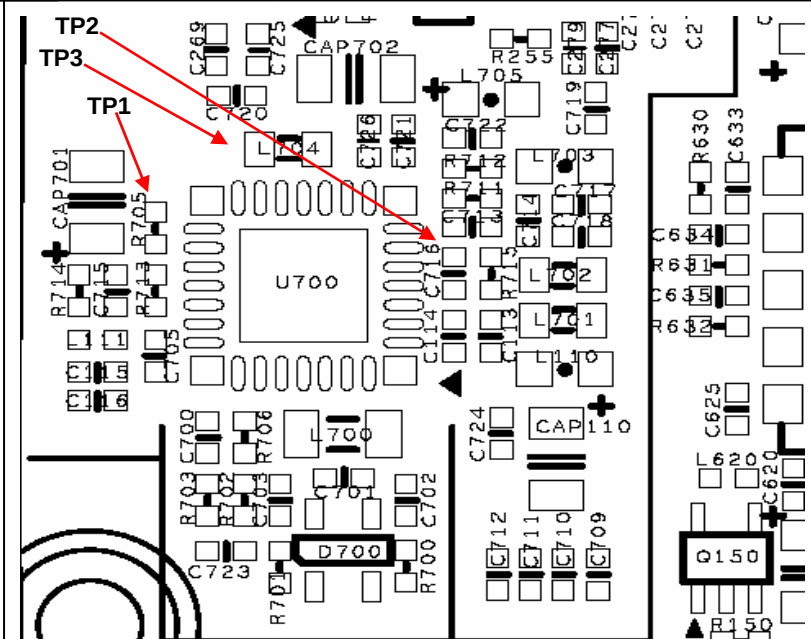
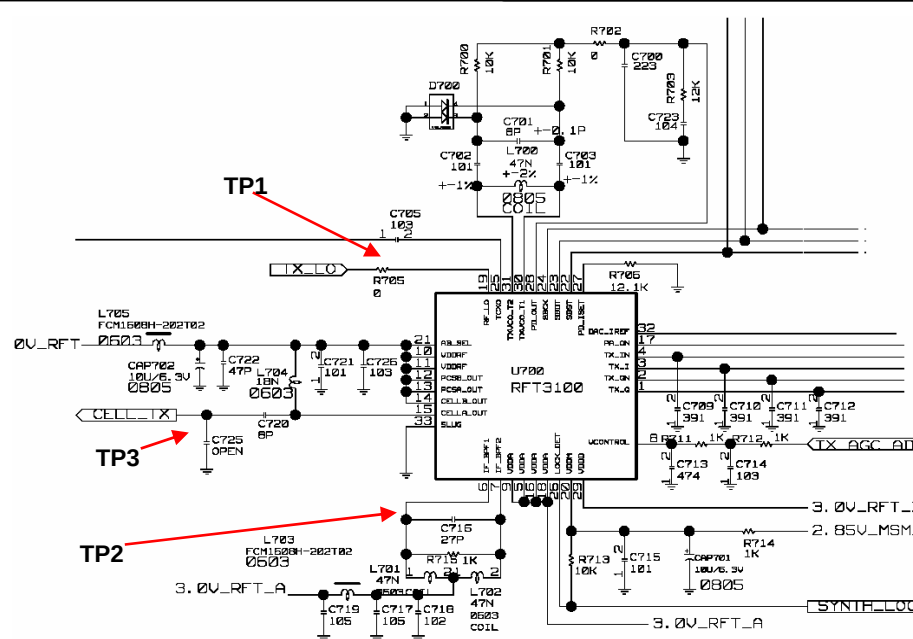
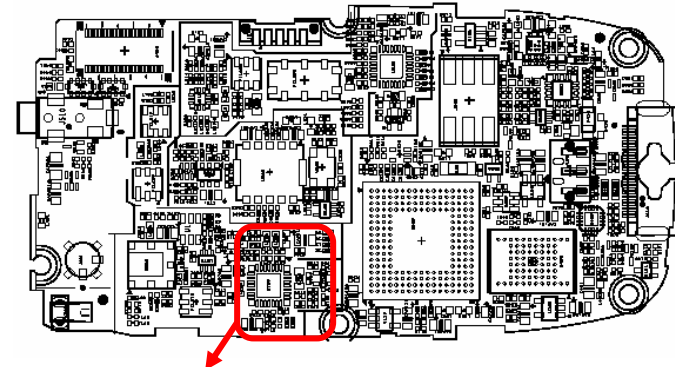
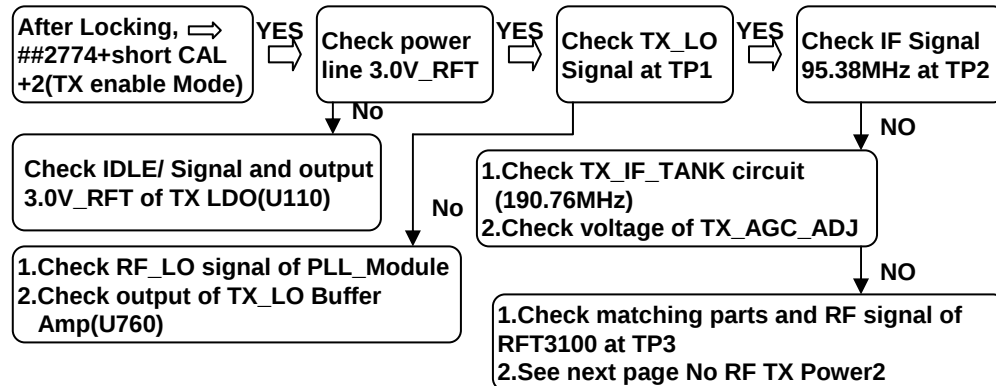
No

1. Check Voltage of TP2 (about 1.4V~1.6V)
2. Check state of Solder RX_IF_TANK Circuit
3. Check Voltage of TP3 (about 2.8V)
4. Replace IFR3500



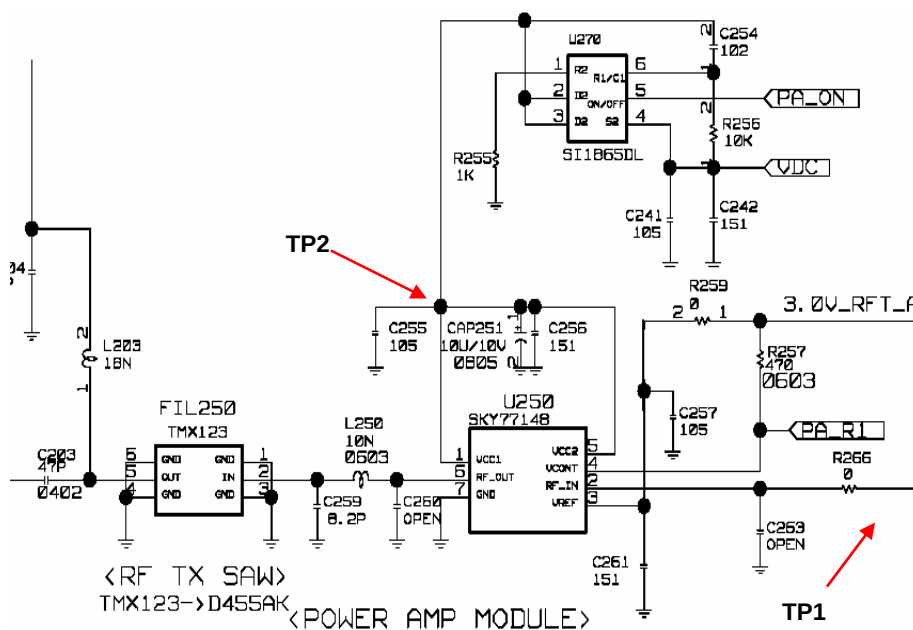
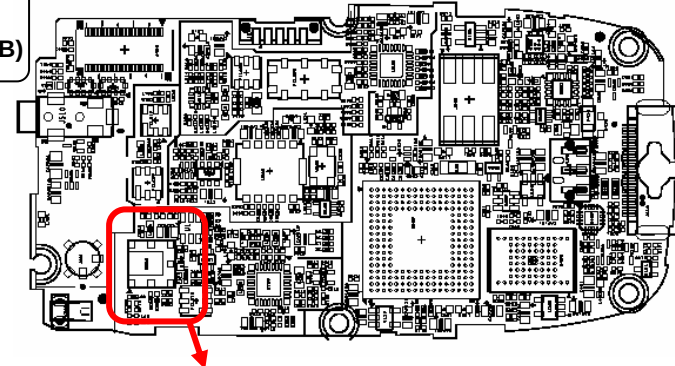
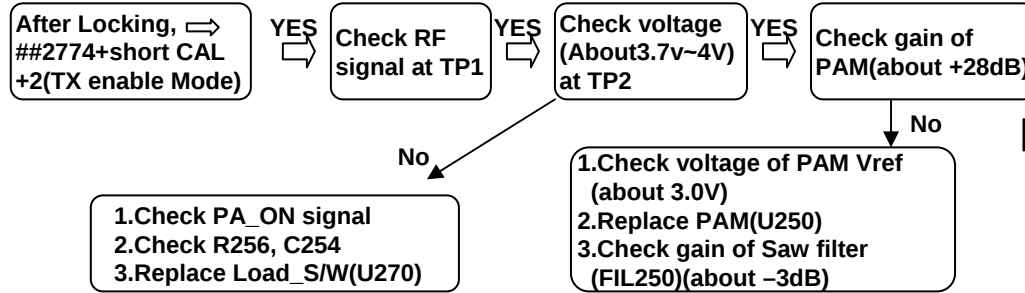
2.6 Trouble Shooting Guide

■ No RF TX Power1



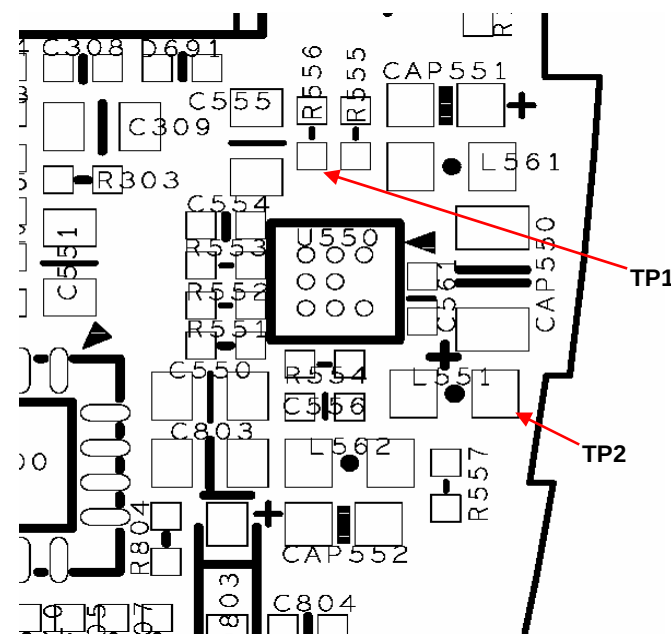
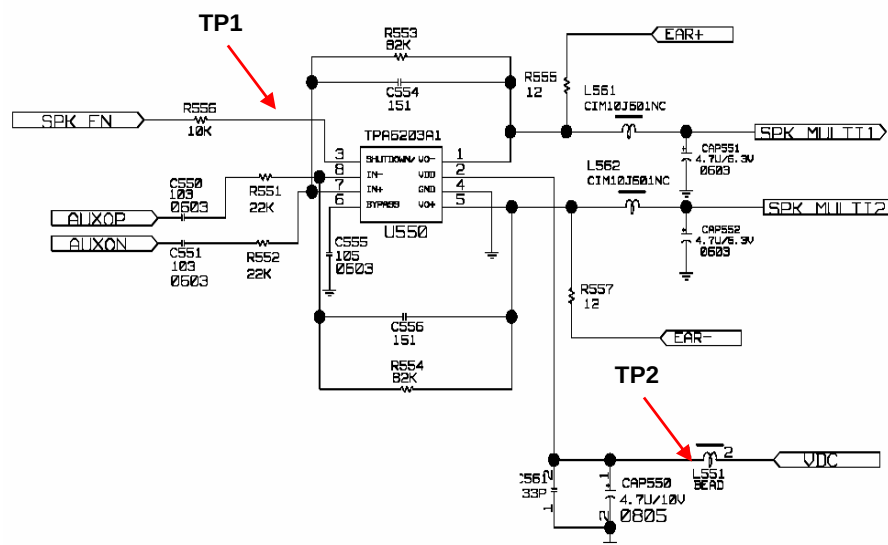
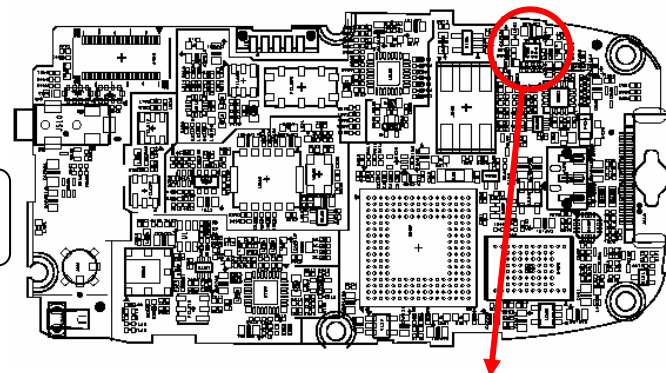
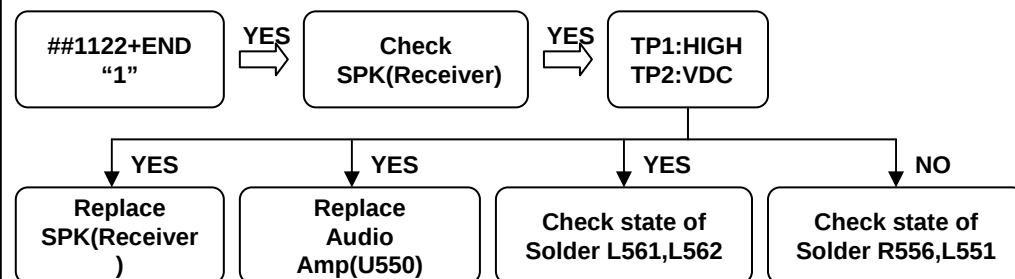
2.6 Trouble Shooting Guide

■ No RF TX Power2



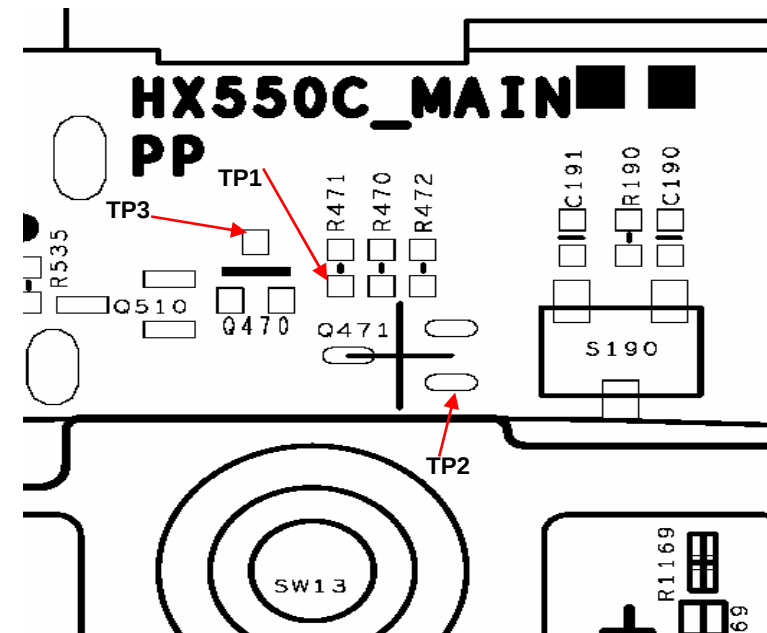
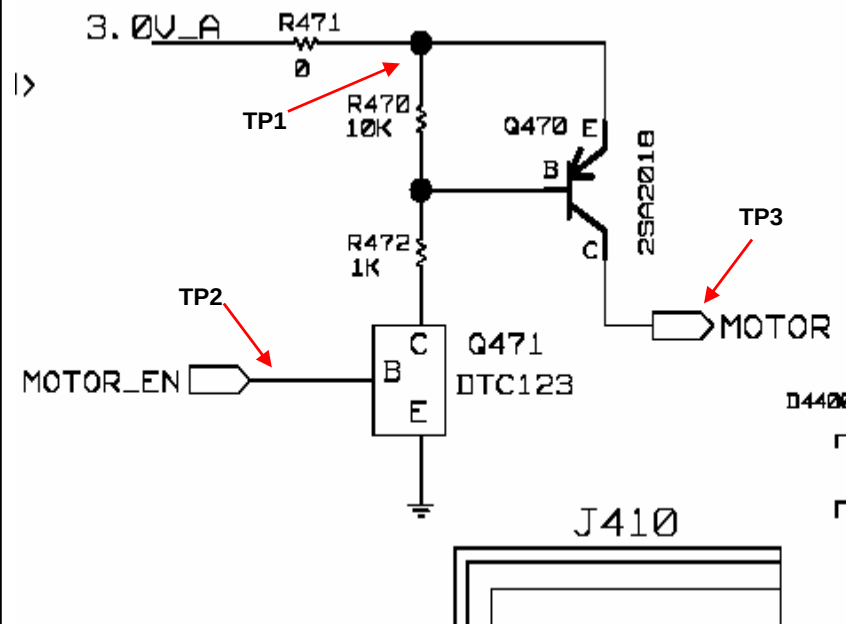
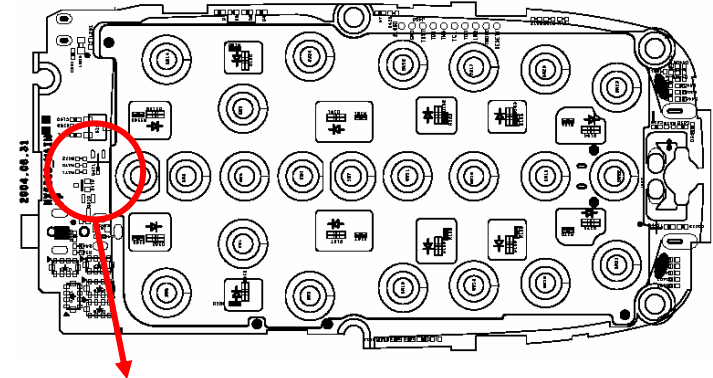
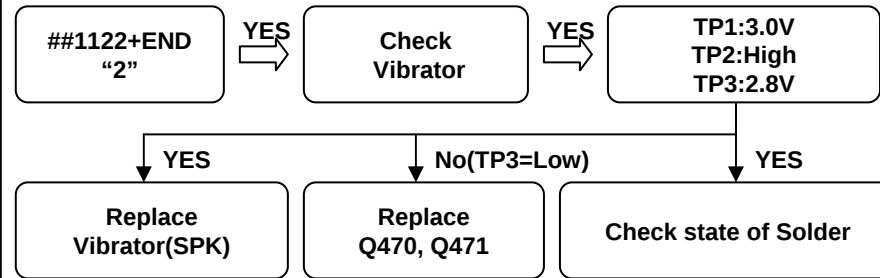
2.6 Trouble Shooting Guide

■ Not work Bell Sound



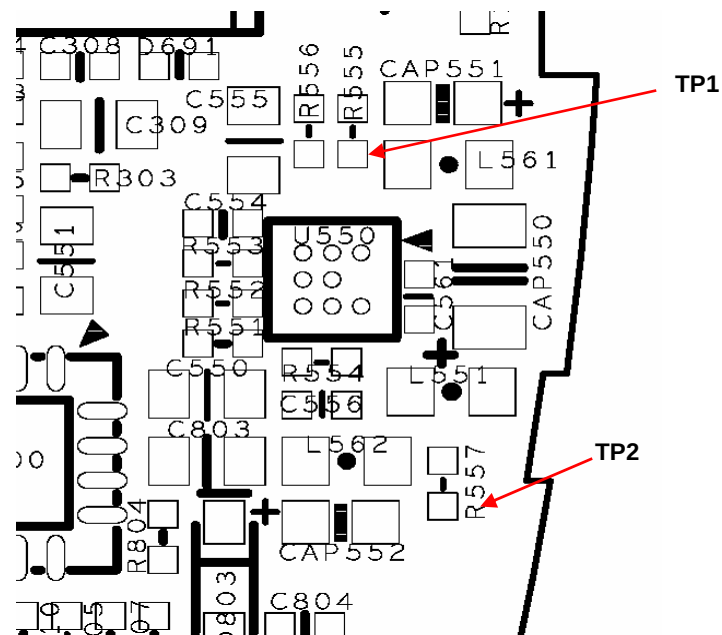
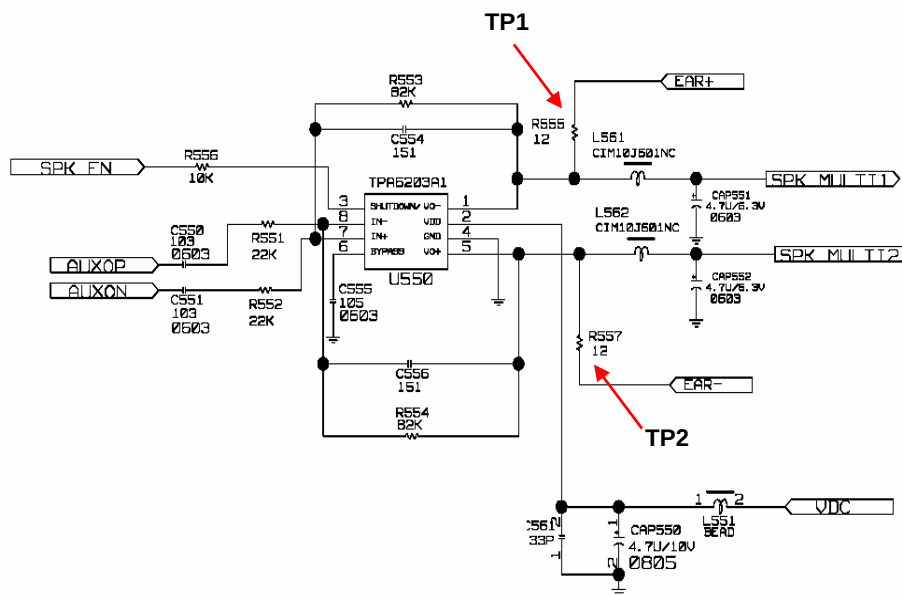
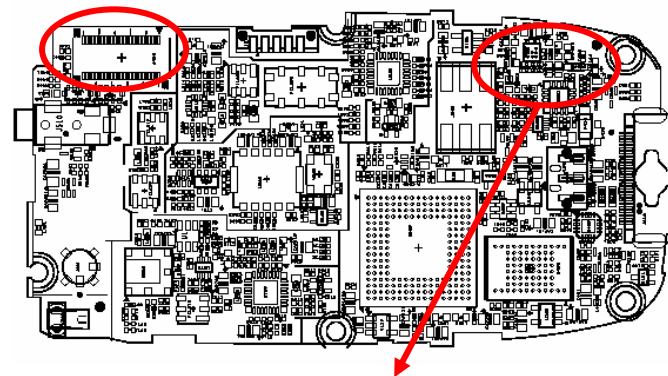
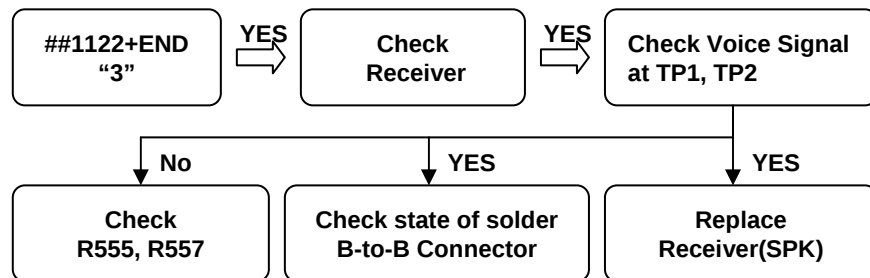
2.6 Trouble Shooting Guide

■ Not work Vibrator



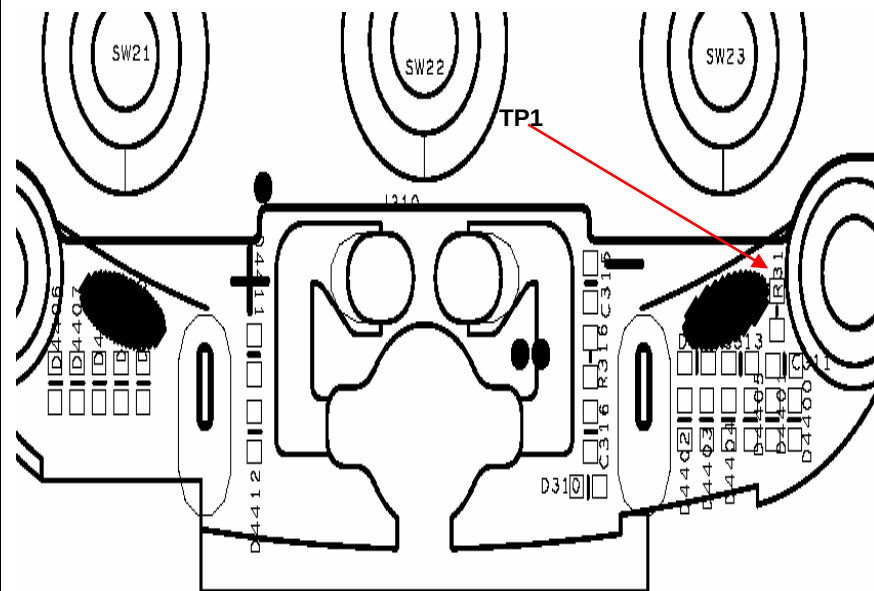
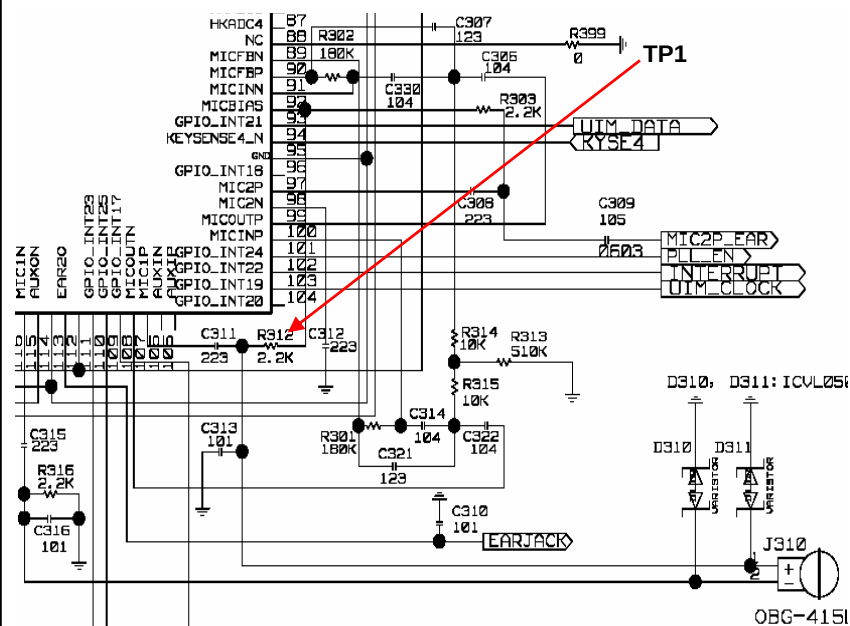
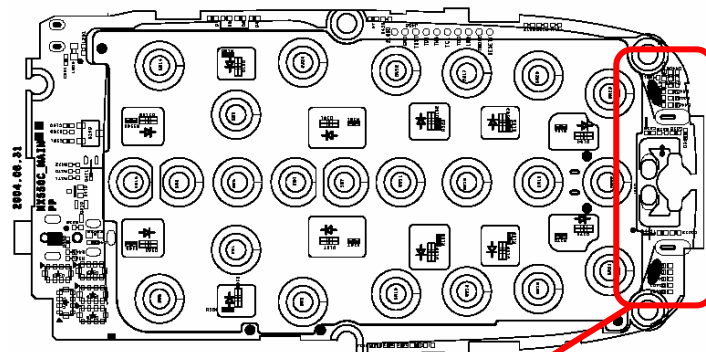
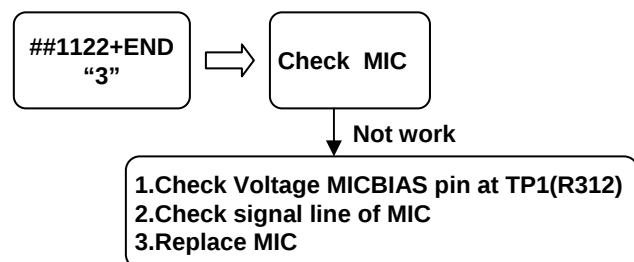
2.6 Trouble Shooting Guide

■ Not work RX Voice



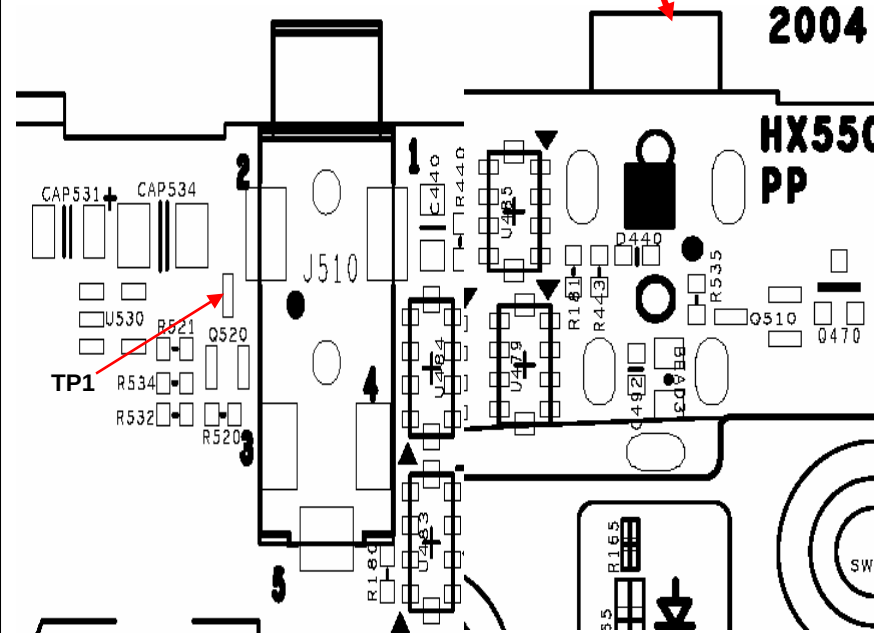
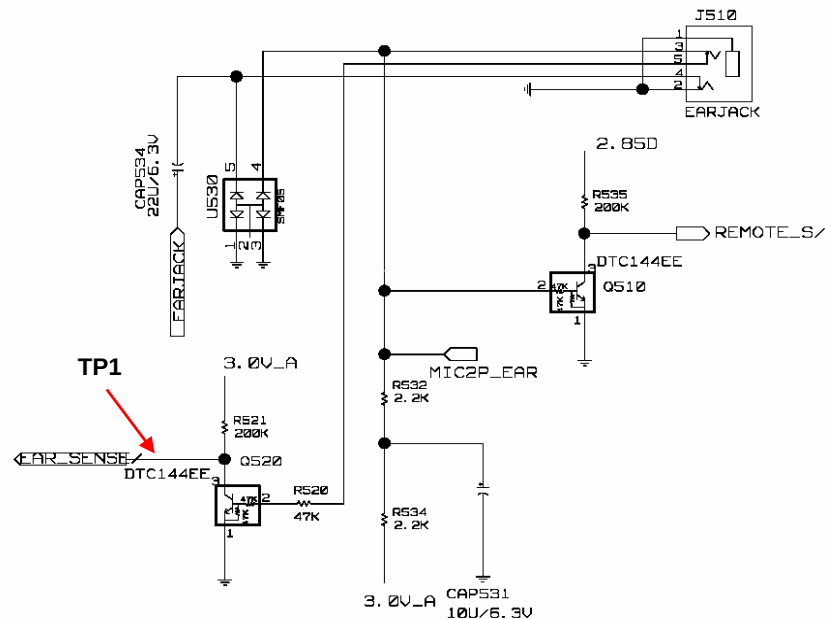
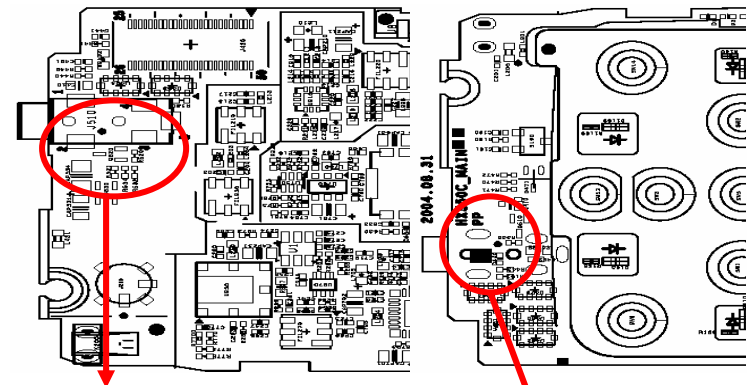
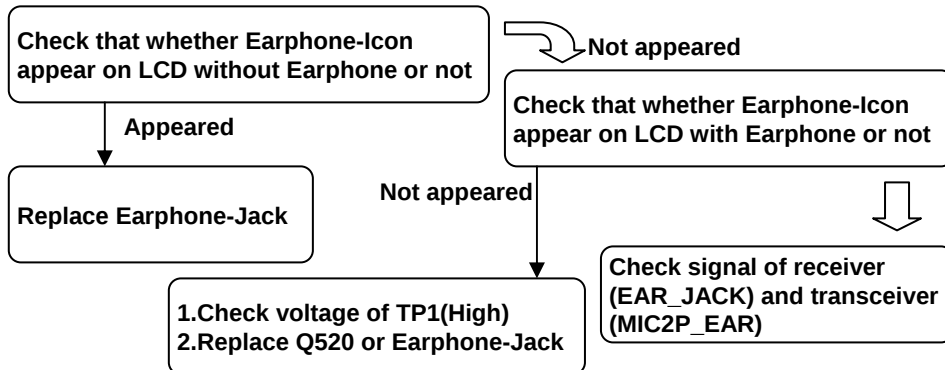
2.6 Trouble Shooting Guide

■ Not work TX voice



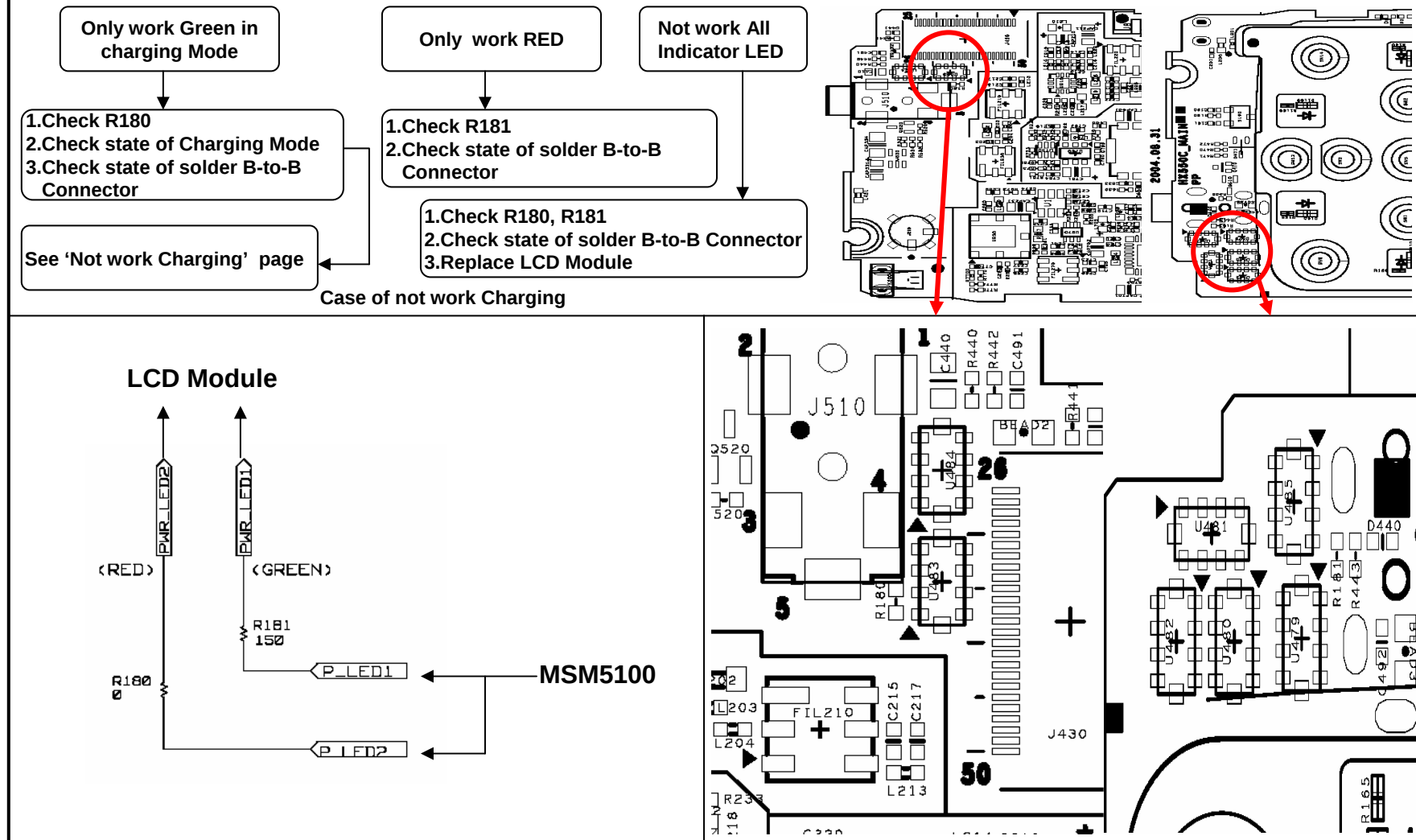
2.6 Trouble Shooting Guide

■ Not work Earphone-jack / Not work RX/TX Voice with earphone



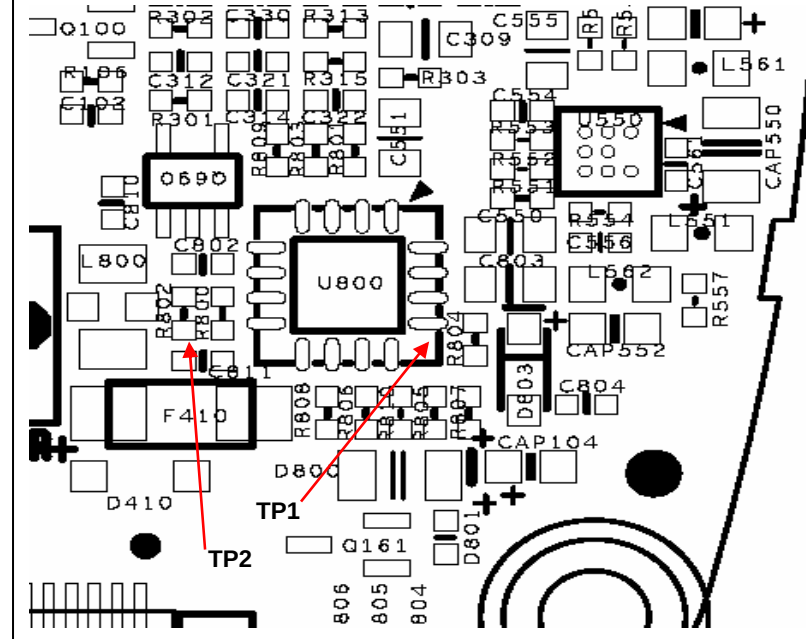
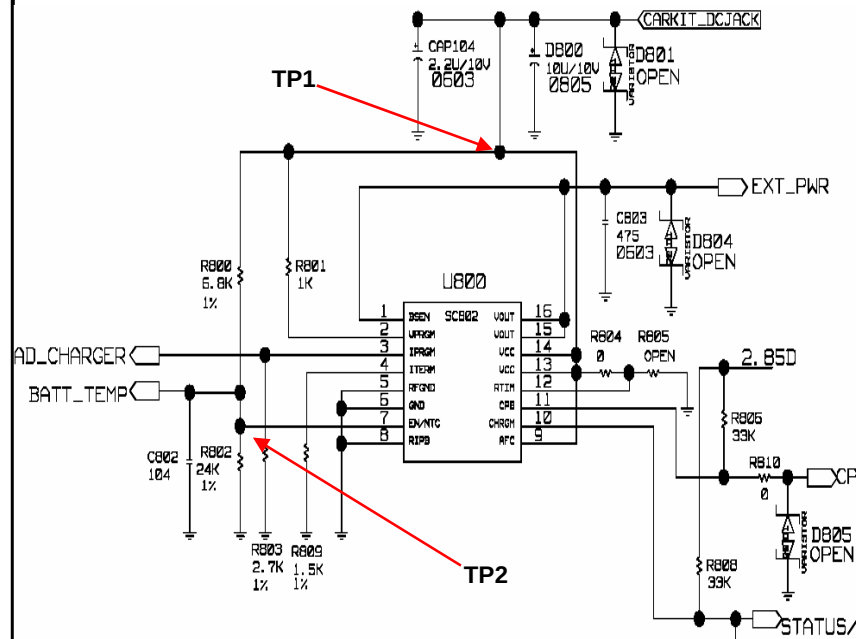
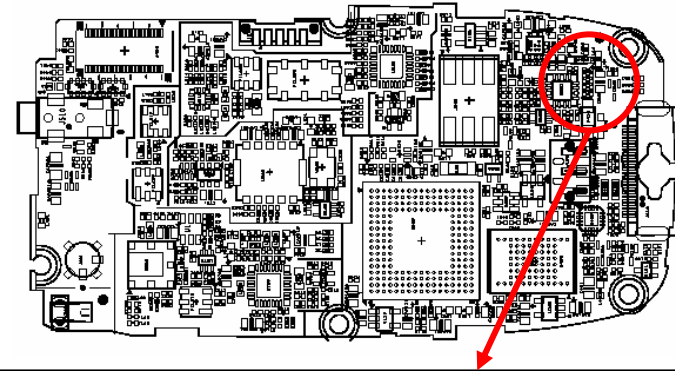
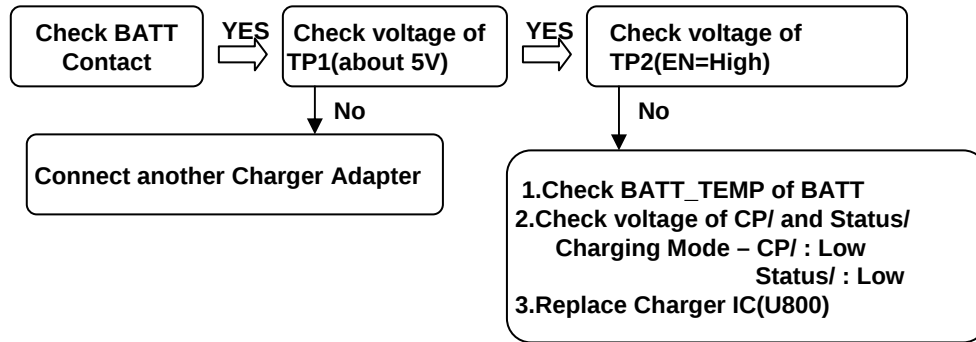
2.6 Trouble Shooting Guide

■ Not work Indicator LED



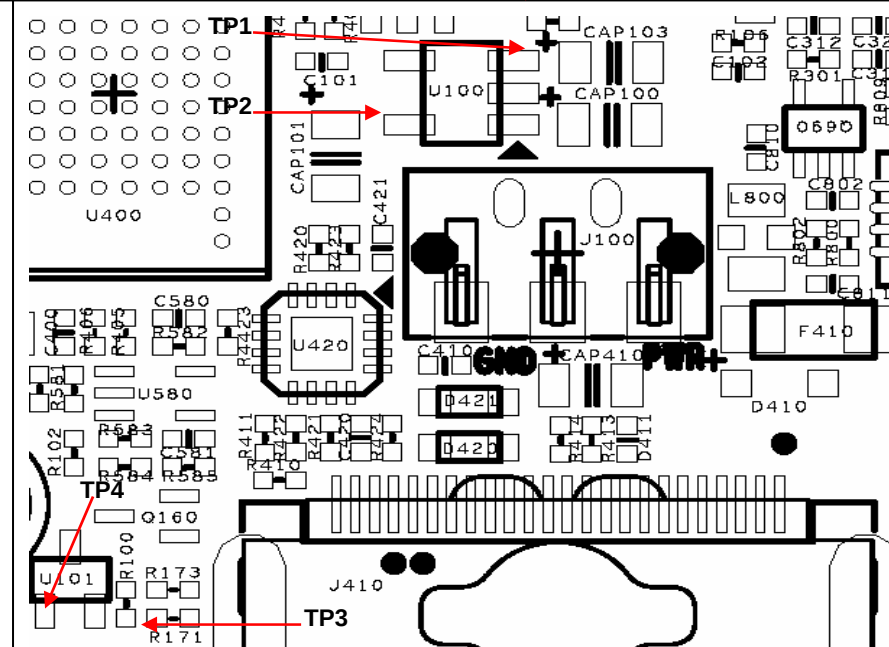
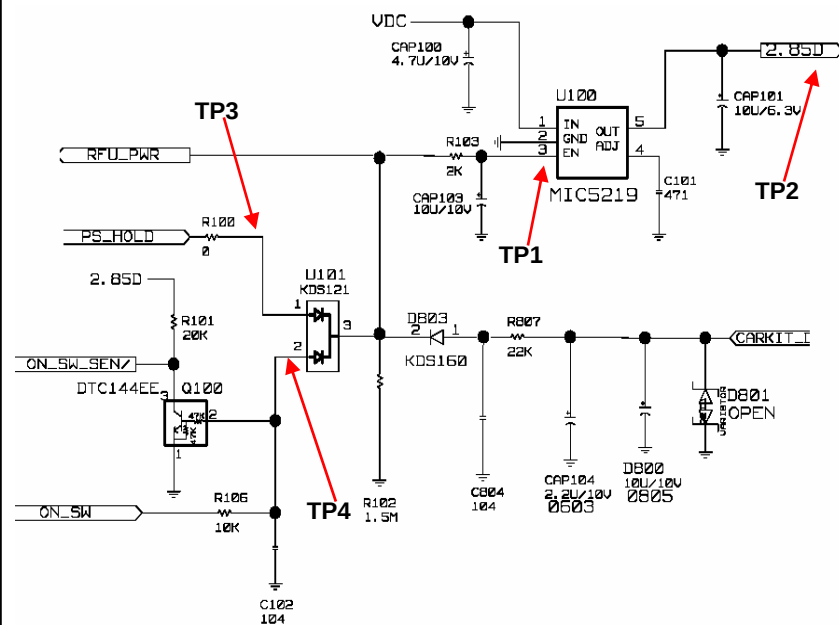
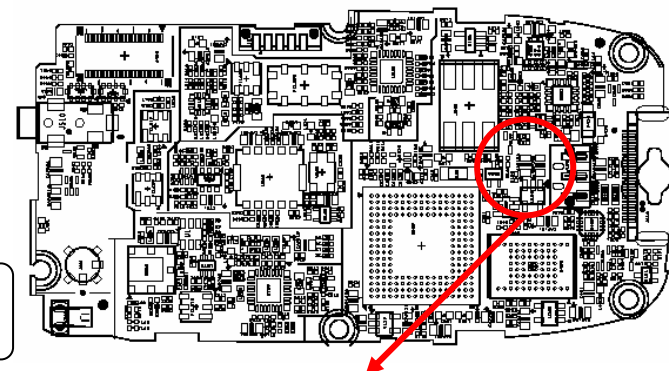
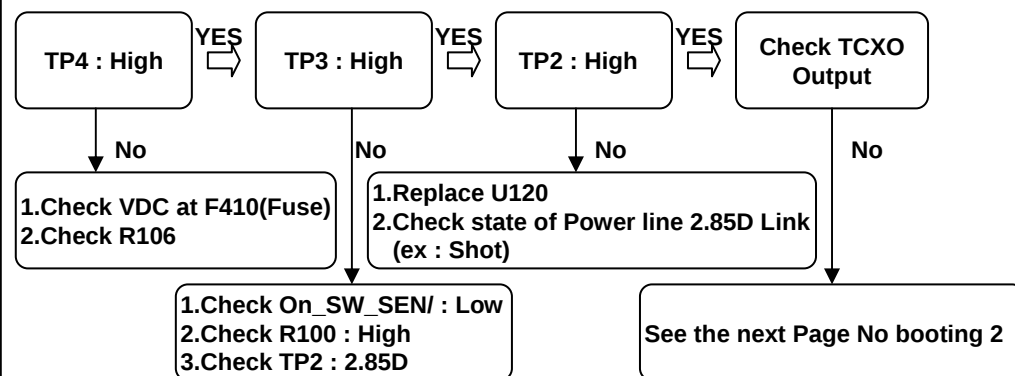
2.6 Trouble Shooting Guide

■ Not work Charging



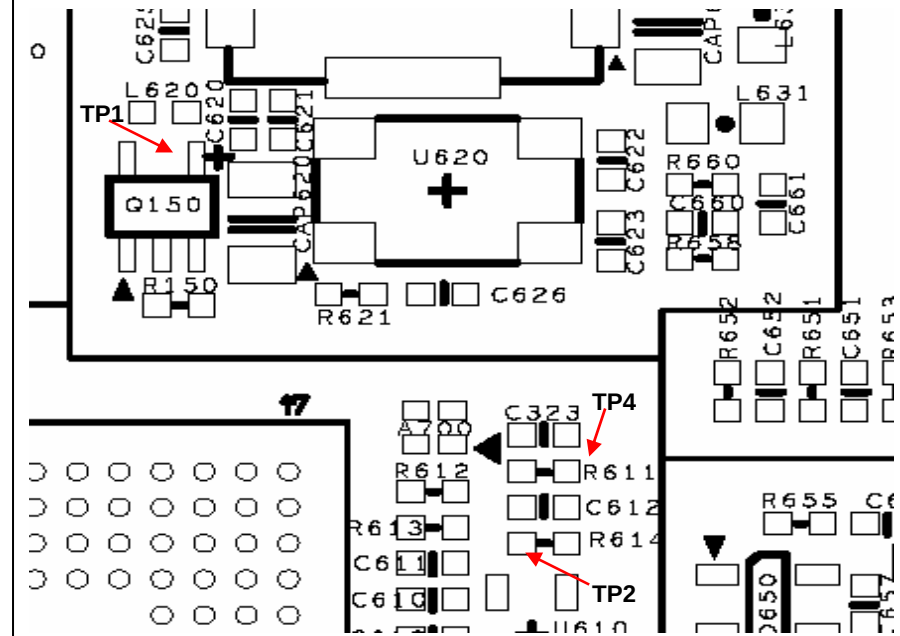
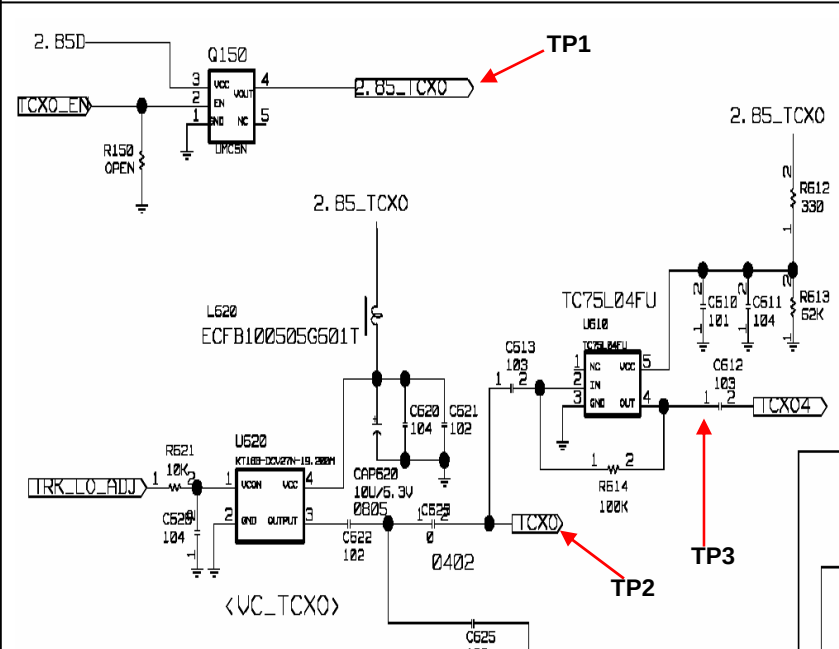
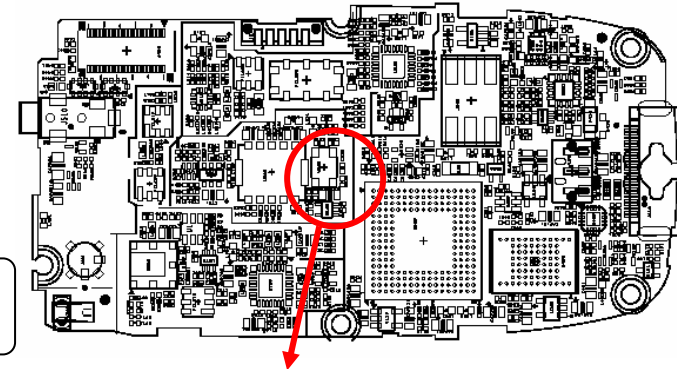
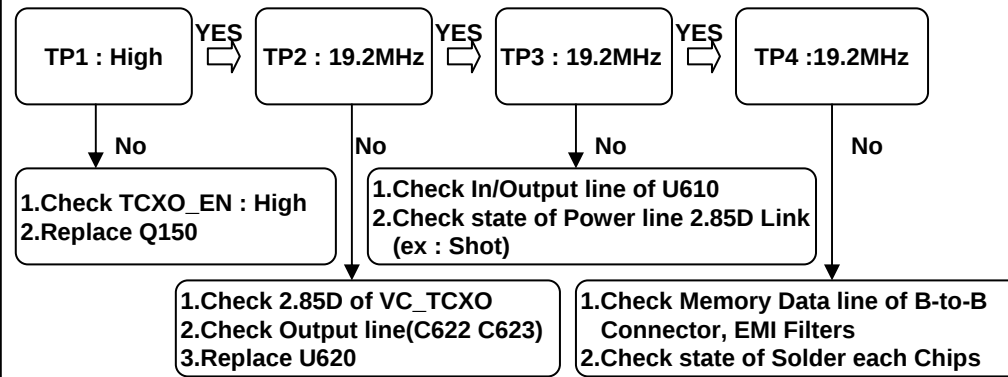
2.6 Trouble Shooting Guide

■ No Booting 1



2.6 Trouble Shooting Guide

■ No Booting 2



2.6 Trouble Shooting Guide

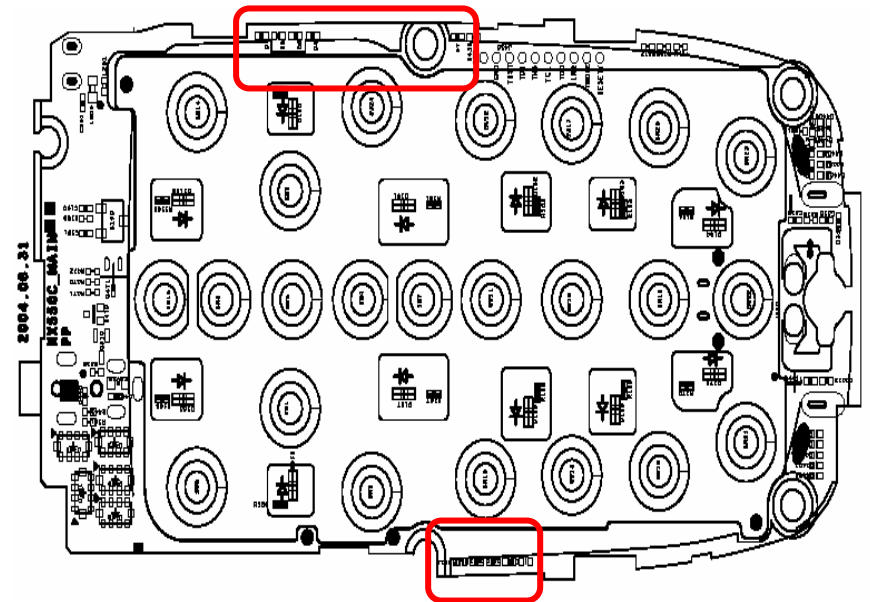
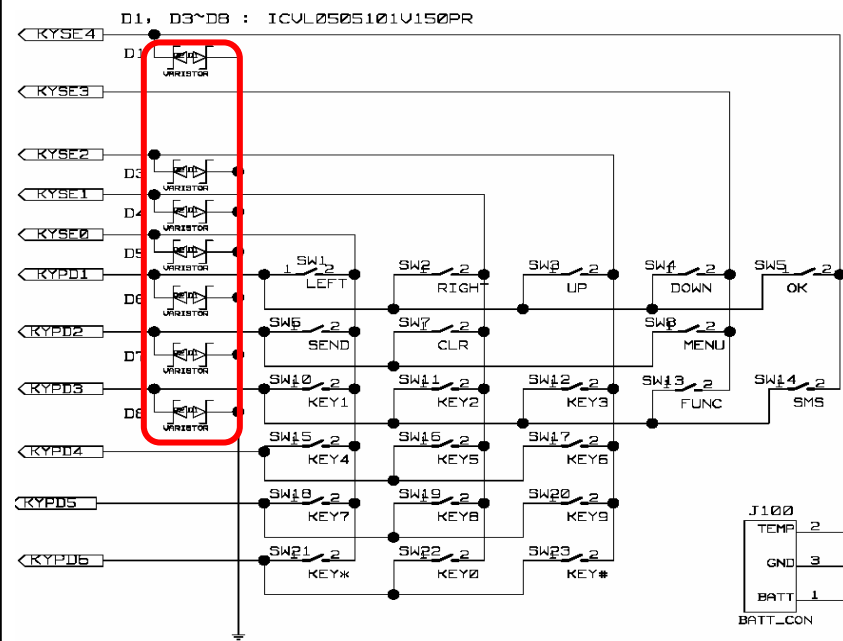
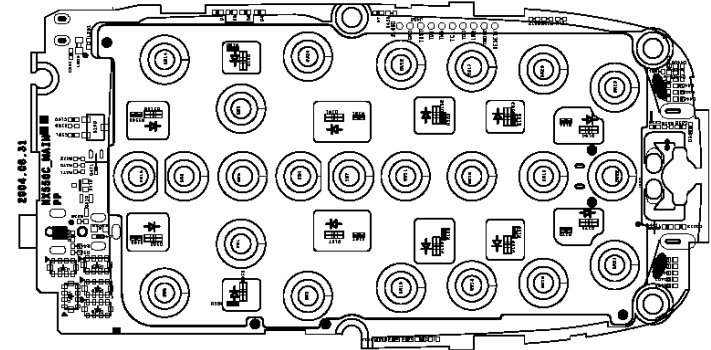
■ Not work Key Button

If some key is pushed, All of keys are not work. For the first, Check that whether some key is pushed or not

Check impurities in Dom-key

Check all of Varistors D1~D8

Check state of solder Side-Key



2.6 Trouble Shooting Guide

■ Not work Folder Sensing

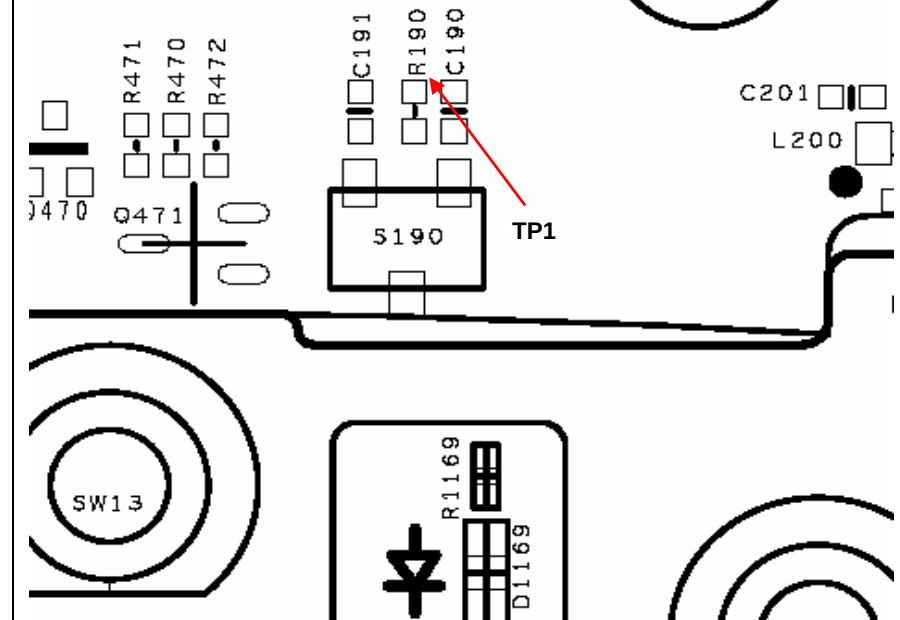
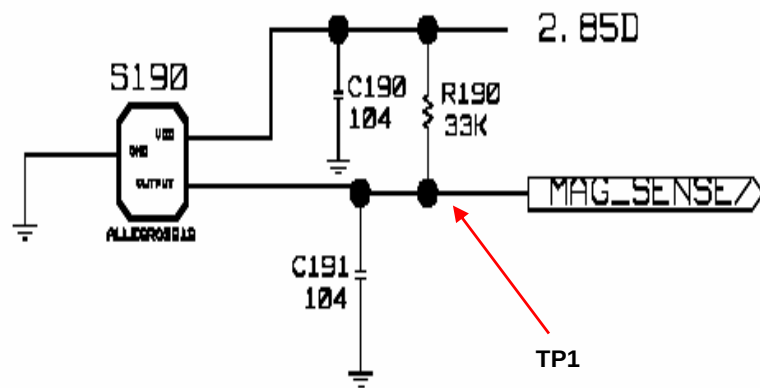
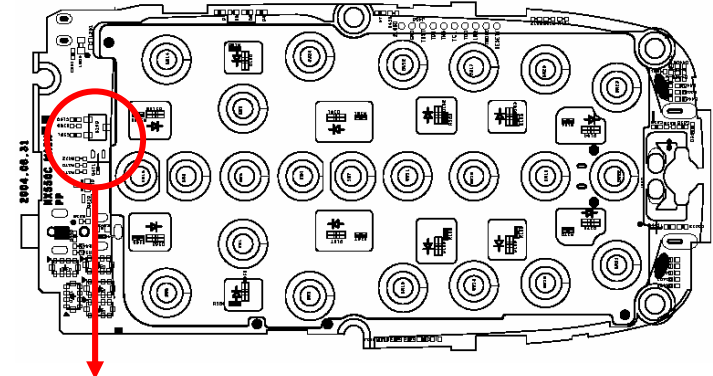
Folder open TP1 : about 2.12V
Folder Close TP1 : about 0V

YES

Check Magnet of A-Cover

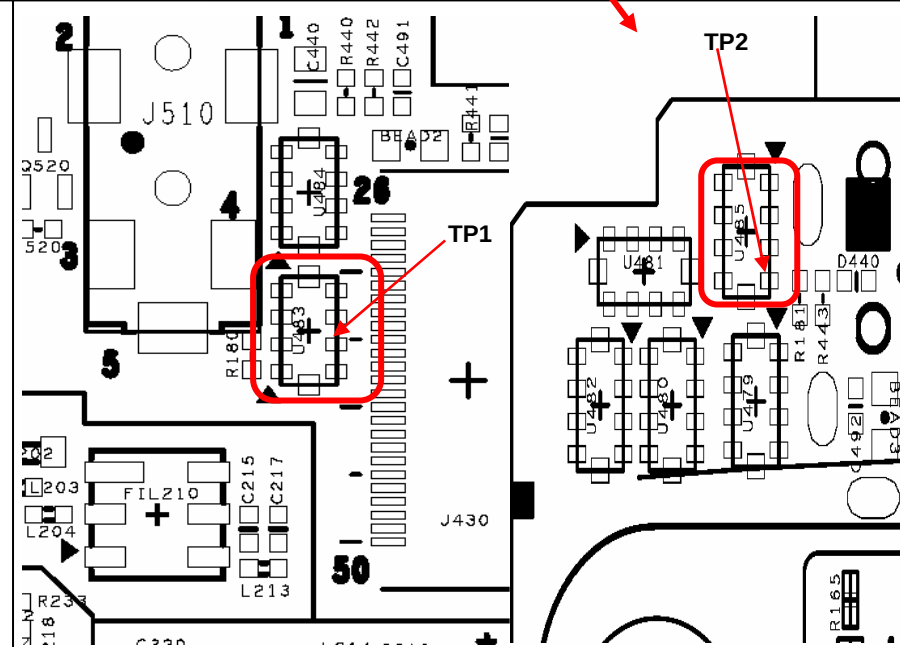
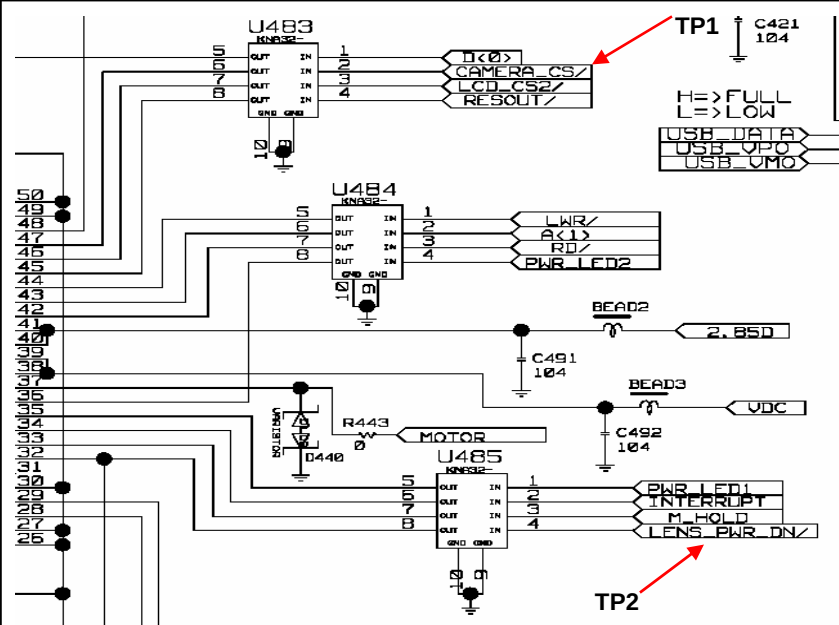
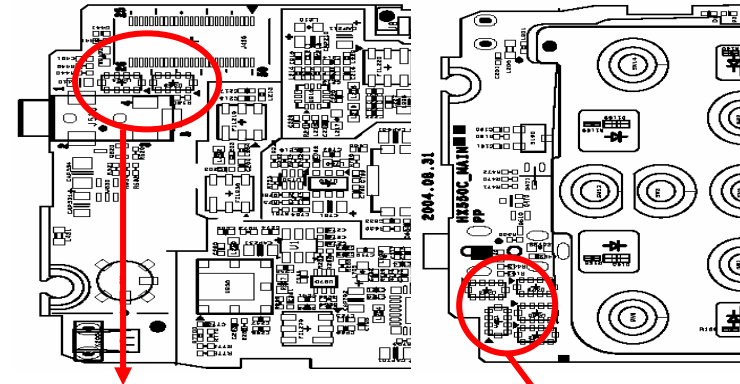
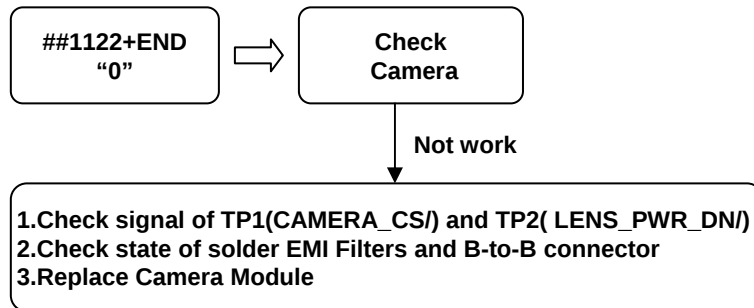
No

1. Replace Sensor S190
2. Check Pull-up resistor R190

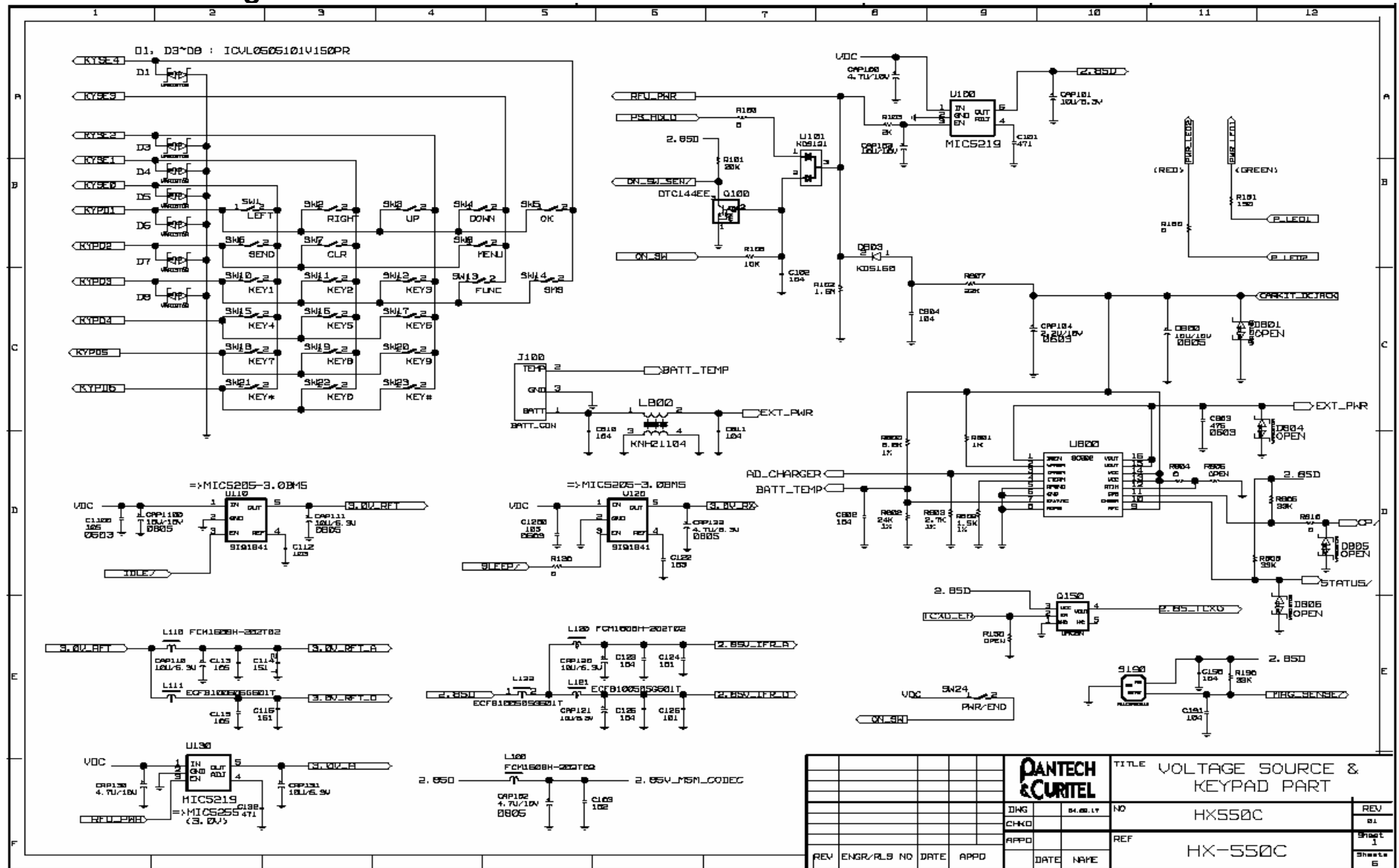


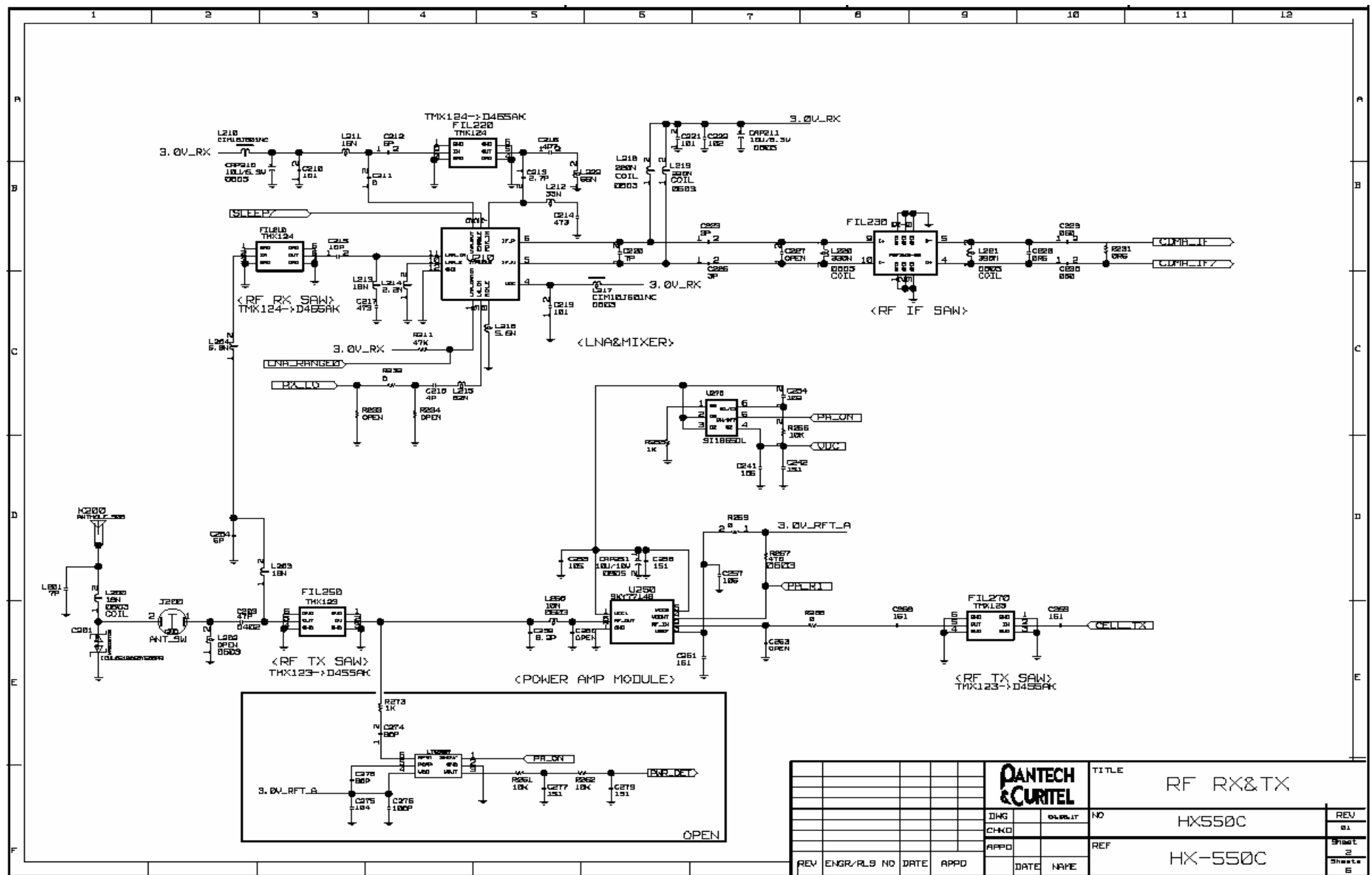
2.6 Trouble Shooting Guide

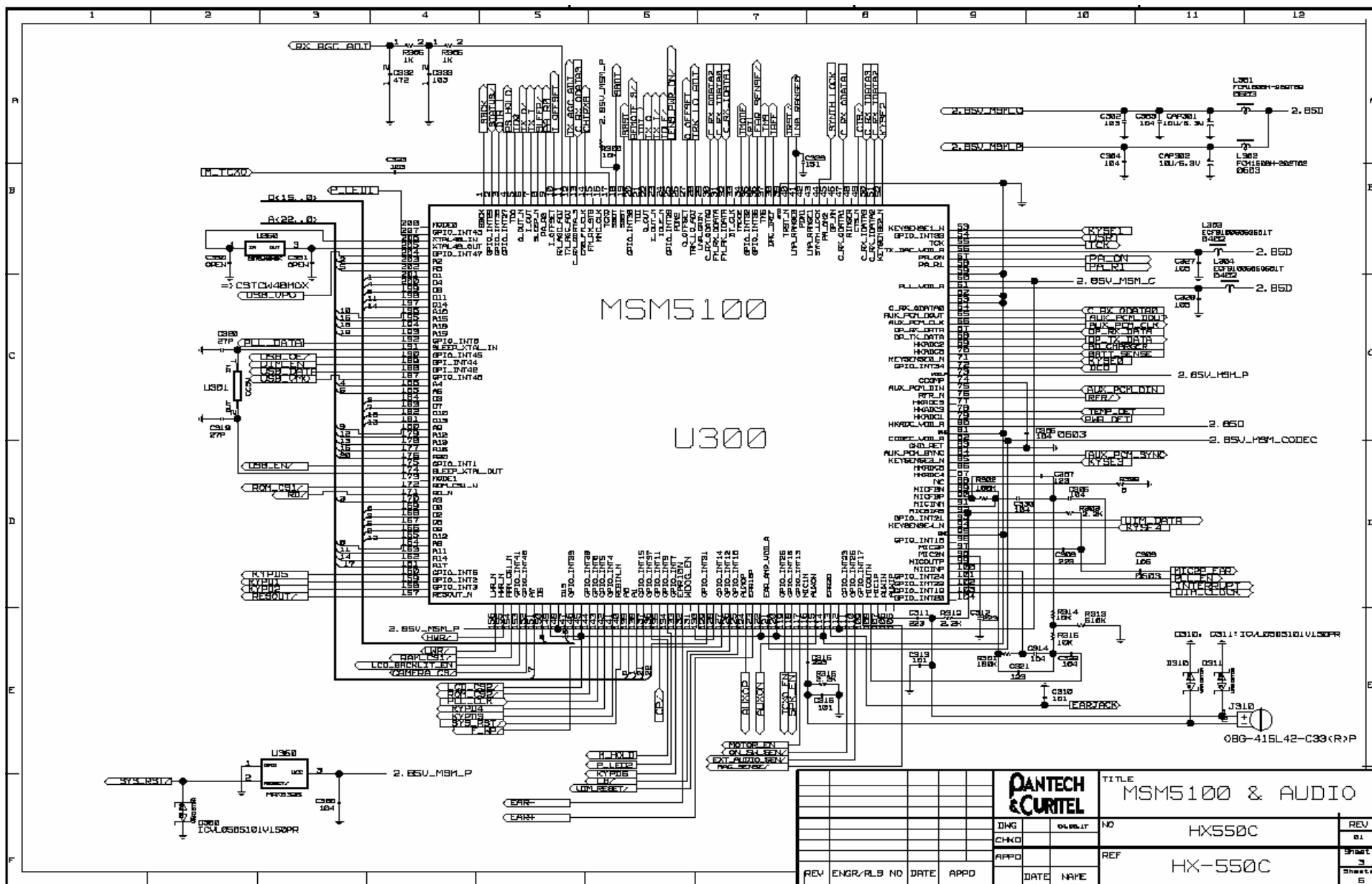
■ Not work Camera

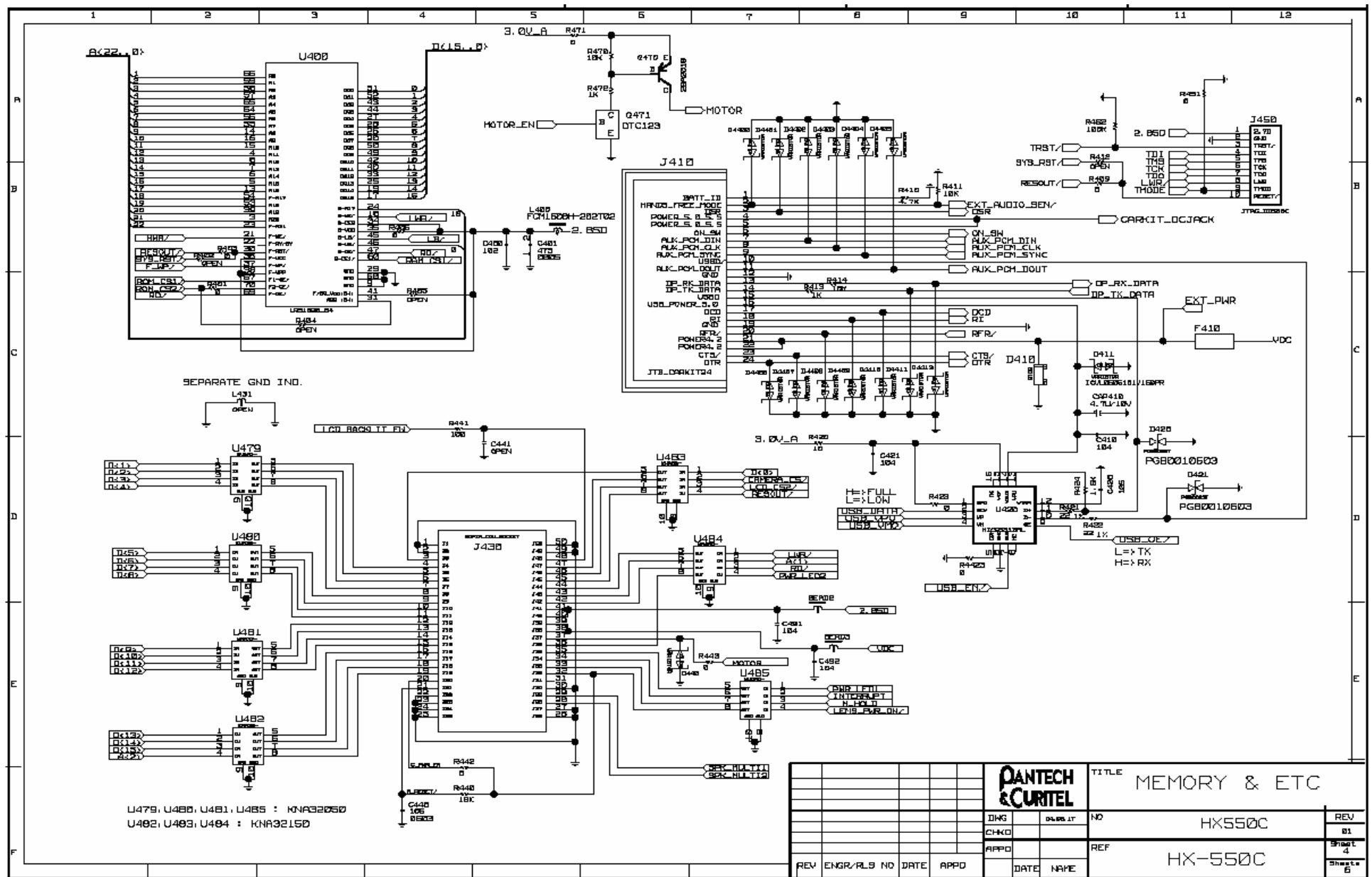


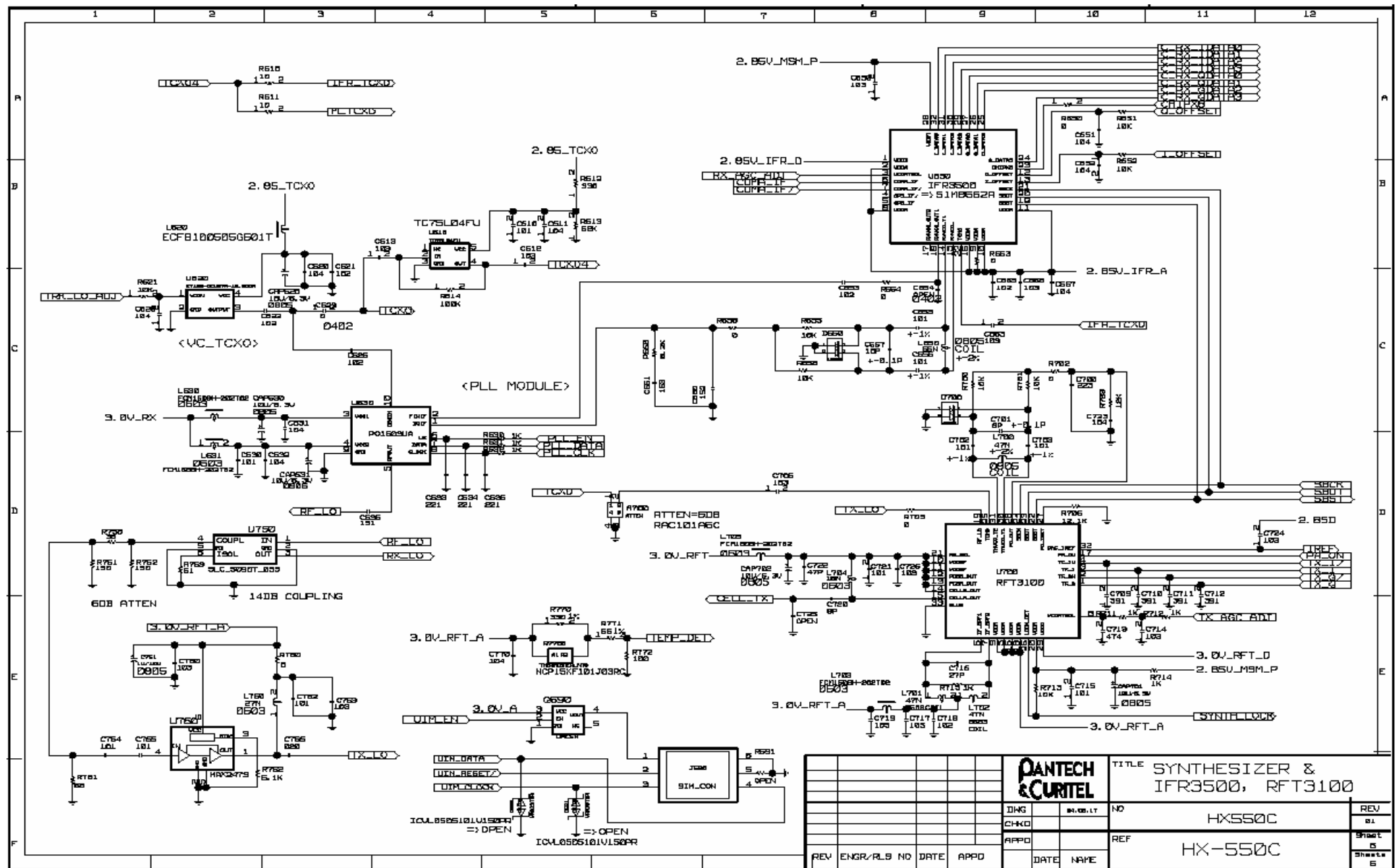
2.7 Circuit Diagram











3. S/W Part

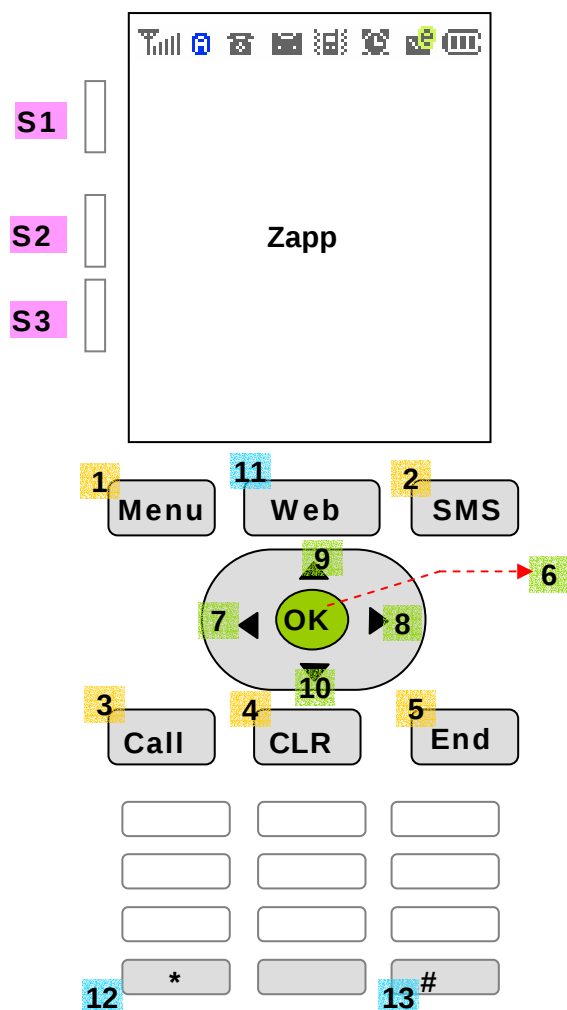
* 3.1 UI Menu Tree

Z720i Menu Tree			2004-08-17
Level 1	Level 2	Level 3	Level 4
1. WEB	1. Mobile Explorer		
	2. Zapp Me		
2. Entertainment	1. Camera	1. Screen Shot	
		2. Album	
		3. Camera Setting	
		4. Help	
	2. Game		
	3. Stored Image Box		
	4. Stored Melody Box		
	5. Memory State	Image/Melody/Photo/Total/Available	
3. Display	1. Main Display	Background / Clock Mode	
	2. Sub Display	Digital CLK / Analog CLK / Character & CLK / Greetings & CLK	
	3. Greeting	Main Greeting/Sub Greeting	
	4. LCD Contrast	Main Screen/Sub Screen	
	5. Backlight	10s/ 20s/ 30s /always on	
4. Sound	1. Receive Mode	Bell / Slide Bell / Vibrator /Mute / Bell Aft. Vib / Bell And Vib	
	2. Bell/Melody	1. Melody 1~30	
		2. Download Melody	
	3. Volume	Key tone / Bell / Alarm / Ear Volume / Connect / Release / Fade /1 minute /Power	
	4. Group Bell	Family / Friend / Office / Other	
5. Phone Book	1. Find	By Address/By Name/By Group	
	2. Store	Search Address	
	3. Call Log	Dialed Call/ Answered Call/ Missed Call	
	4. Call Time	Last Call/Sent Calls/Received Calls/All calls	
	5. My Own Number		

6. eDiary	1. Wake-up Call	1. View Wake-up Call			
		2. Set Wake-up Call			
	2. Alarm	1. View Alarm			
		2. Set Alarm			
	3. Scheduler				
	4. Calculator				
	5. Stopwatch				
6. World Time					
7. Bio-rhythm					
7. Voice Service	1. Answering Machine	1. InBox	1. Play		
			2. Delete All		
		2. Setting	1. Mode Set	Not Use/ Use	
			2. Record Greeting	1. Record / 2. Play	
	3. Answer Times		Immediately/ 4 s /8 s /12 s /16 s		
	4. Speaker On/Off		On/Off		
2. Voice Memo	1. Record/2. Play/3. Delete All				
8. Settings	1. Auto Answer	Not Use / 1 Ring/ 3 Rings			
	2. Voice Privacy	Standard Mode / Enhanced Mode			
	3. Language	Romanian / Hungarian / English			
	4. Call Waiting	Active / Cancel			
	5. Call Forward	1. Uncondition	Active / Cancel		
		2. No Answer	Active / Cancel		
		3. Busy	Active / Cancel		
		4. Busy/No Answer	Active / Cancel		
	6. Data Service	1. Receive Mode	Inactive/ Data / Fax		
		2. RM Speed	230400/115200/19200 bps		
		3. Data Port	RS-232 / USB		
	7. Time Format	12 Time Format /24 Time Format			
8. Answer Mode	Folder Open / Press Key				
0. Security	1. Privacy	Phonebook/Call Log/Message/Schedule/Photo			
	2. Lock Phone	After Pwr On / After 20s / Not Use			
	3. Change Code	New Code ? / Verify Password			
	4. Restrict	1. Incoming Call			
		2. Outgoing Call	Release/Restrict		
		3. Overseas Call	Release/Restrict		
	5. Clear Memory	Phone Book/ Schedule/ Call Log			
	6. Reset Phone	Yes / No			
7. Version	Version Info / SW VERSION				

SMS Menu			
Level 1	Level 2	Level 3	Level 4
SMS	1. New MSG		
	2. Received MSG	1. Text MSG	
		2. Voice MSG	
	3. Sent MSG		
	4. Setting	1. Direct View	Release/ Set
		2. Bell Type	Bell/ Mute/ Vibrator
		3. Notice Method	One time / Every 10 min / No notice
		4. Erase All	1. Received MSG / 2. Sent MSG
		5. Save Edit MSG	Prompt / Do Not Save
		6. Acknowledge	Activate/ Deactivate
Call Menu			
Level 1	Level 2	Level 3	Level 4
1. Find			
2. Send Phone #			
3. Keypad Mute			
4. Mute			
5. My Own Number			
6. Voice Privacy	Standard Mode / Enhanced Mode		

* 3.2 Keypad



No	key	print	contents	Description
1	MENU	MENU	menu	Move to menu
2	SMS	✉	SMS	Move to SMS
3	CALL		call / call list	Move to Last call
4	CLR	CLR	cancel/delete	cancel/delete
5	END		close	close/Power
6	Center	OK	OK	confirm /save/OK
7	Left	📖	Phone Book	Move to Phone Book
8	Right	📞	Voice Service	Move to Voice Service
9	Up	pop	Pop menu	Move to Pop menu
10	Down	📅	Schedule	Move to to Schedule
11	WEB	WEB	Mobile Explorer	Move to Mobile Explorer
12	*	*	Long Key_ Etiquette set	Vibrate mode
13	#	#	Long Key_ Key Lock	Lock

No	Idle state	Call Alerting	Calling	When close
S1	Camera Long Key_ Preview			
S2	Key-tone vol. up	Bell up	Receiver vol. up	
S3	Key-tone vol. down	Bell down	Receiver vol. down	Flash on

3.3 Annunciator Icon

► Annunciator



RSSI 0
RSSI 1
RSSI 2
RSSI 3
RSSI 4
RSSI 5



RSSI 0 (Roaming)
RSSI 1 (Roaming)
RSSI 2 (Roaming)
RSSI 3 (Roaming)
RSSI 4 (Roaming)
RSSI 5 (Roaming)



Battery Level 0
Battery Level 1
Battery Level 2
Battery Level 3
Battery Level 4



No Service



In Call



Incoming Call Alert



Etiquette Mode



Bell Mode



Slide Bell Mode



Vibrator Mode



Mute Mode



Bell & Vibrator Mode



Bell after Vibrator Mode



SMS



Alarm



Answering Machine Mode



Speaker Phone Mode



Ear Phone In



Hands Free Mode



Data Call



Voice Privacy(Enhanced mode)

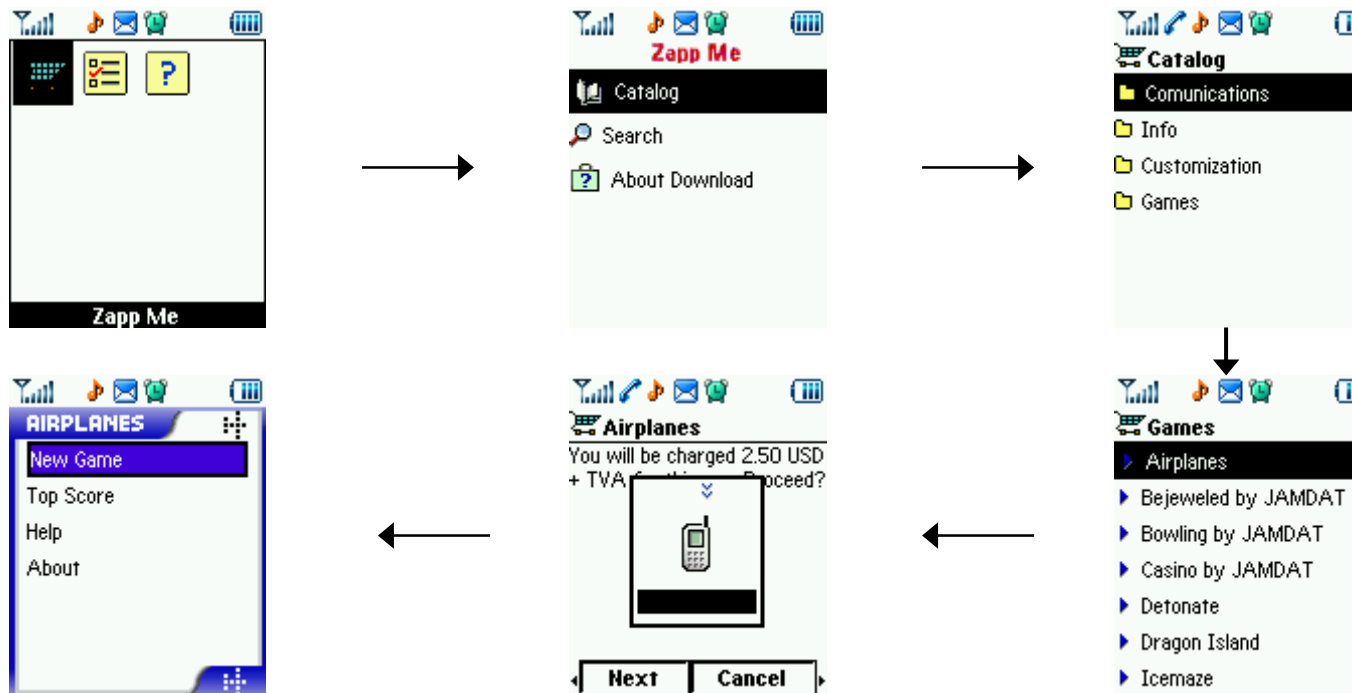
3.4 Zapp Me

This feature allows you to download pictures, music or games and the other user programs from **Zapp Me** and store them into your phone.

– Zapp Me Main

Please select “WEB Direct-Button” or “MENU 1.WEB Menu” for connecting to Zapp Me.

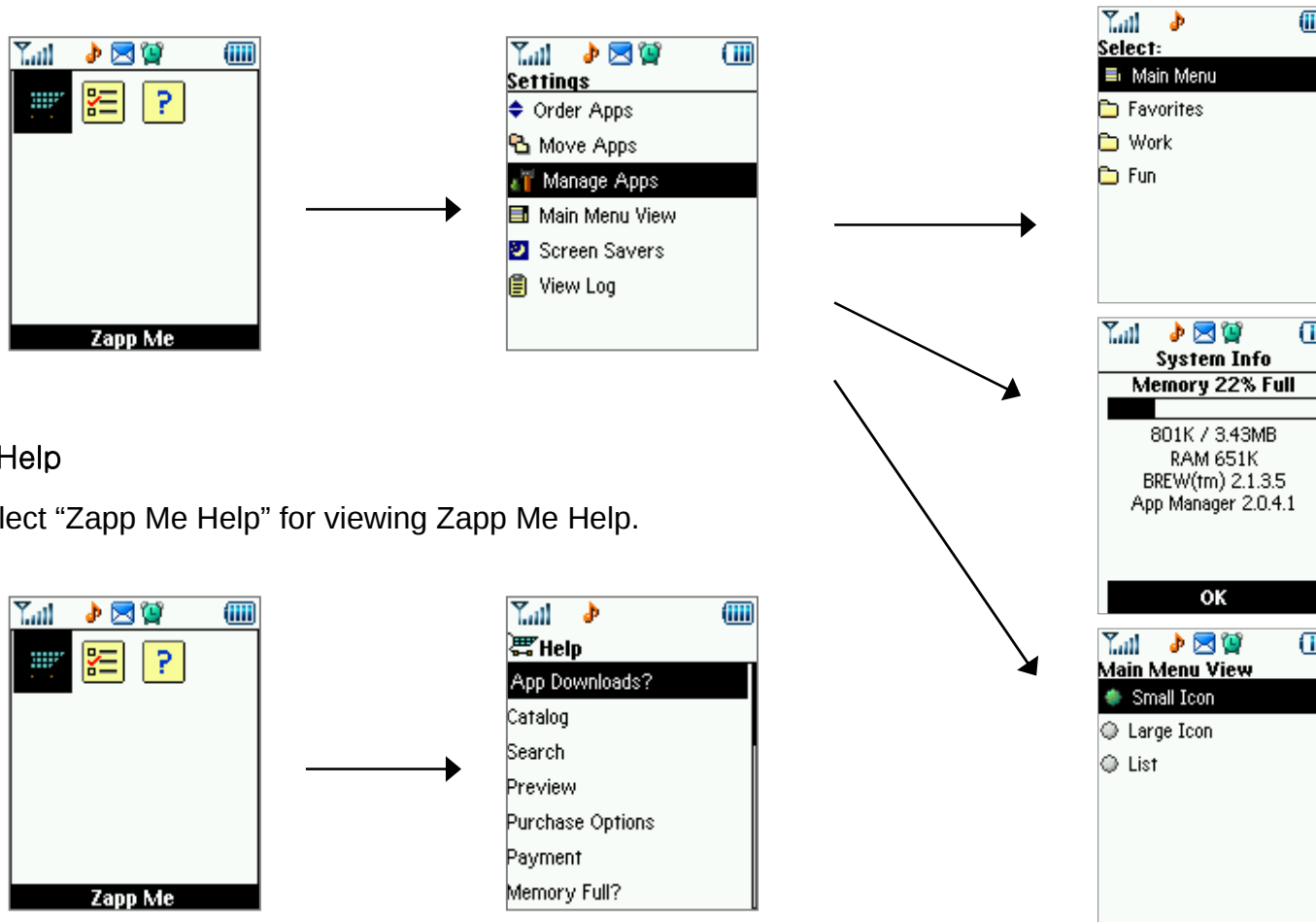
Then, you can view as follow screens and download application you want to use by being charged.



- Zapp Me Settings

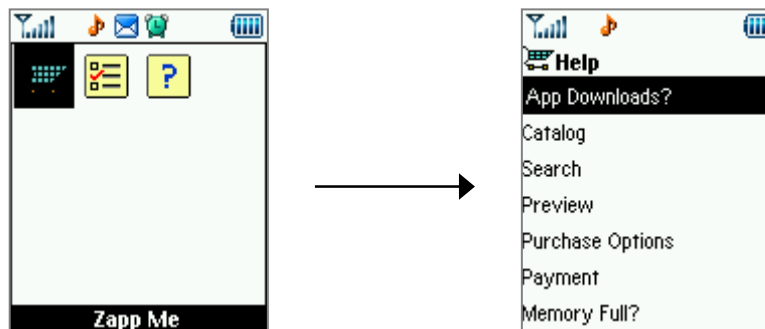
Please select "Zapp Me Settings" for viewing or changing Zapp Me settings.

Then, you can view as follow screens and change your Zapp Me Settings you want to use.



- Zapp Me Help

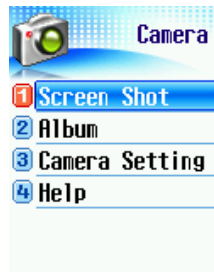
Please select "Zapp Me Help" for viewing Zapp Me Help.



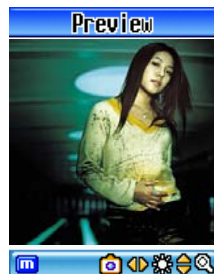
3.5. Camera

–. When folder opened

If you enter into "Camera mode". Menu → 2 → 1 or "Camera Key"



If you enter into "Camera Preview mode". Menu → 2 → 1 → 1 or "Camera Long Key"



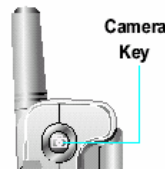
–. When folder closed (Self Camera)

If you like to take a picture at folder closed state, press "Camera Long Key".

Then a subject was displayed on External LCD(SUB LCD).

Focus the camera on the subject, and then press "Camera Key".

The picture will be saved with auto.



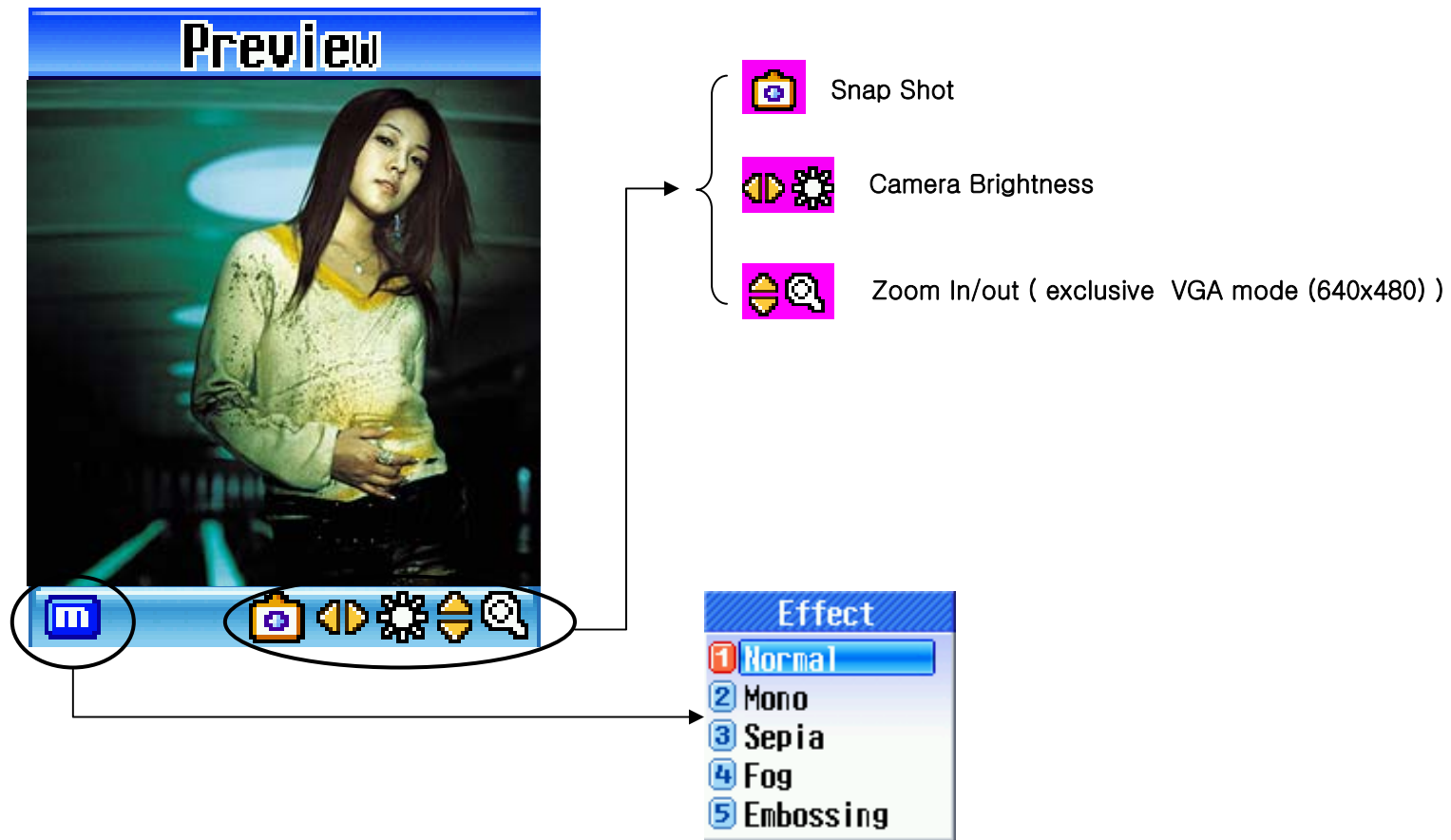
External LCD (SUB LCD)



3.5.1 Screen Shot

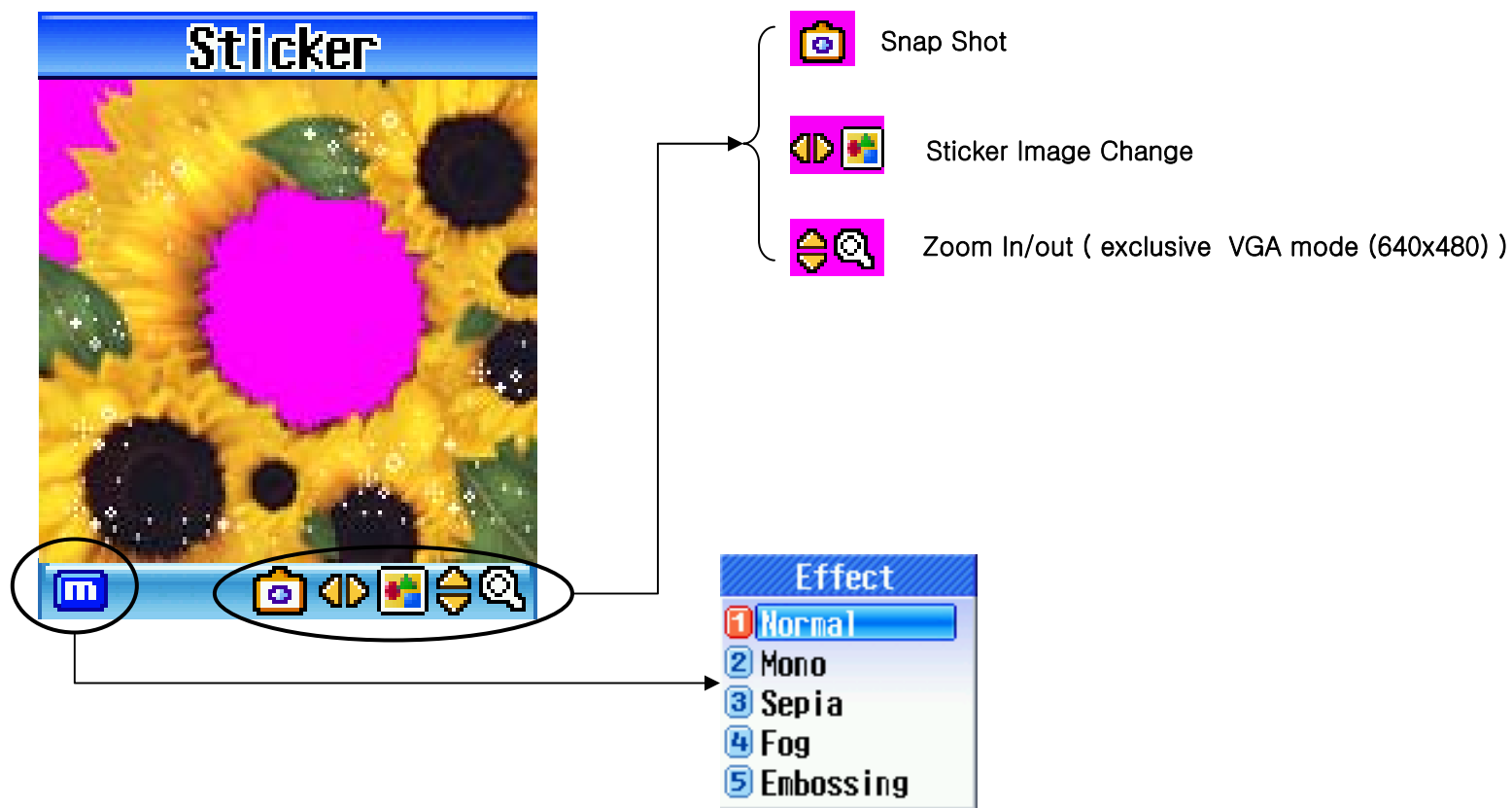
Photo Shot (Menu → 2 → 1 → 1 → 1 or "Camera Long Key")

- Enter the Photo Shot Menu by pressing Menu + 2. Entertainment + 1. Camera + 1. Screen Shot + 1. Photo Shot or Camera Long key



Sticker Shot (Menu → 2 → 1 → 1 → 2 or “Camera Key” → 1 → 2)

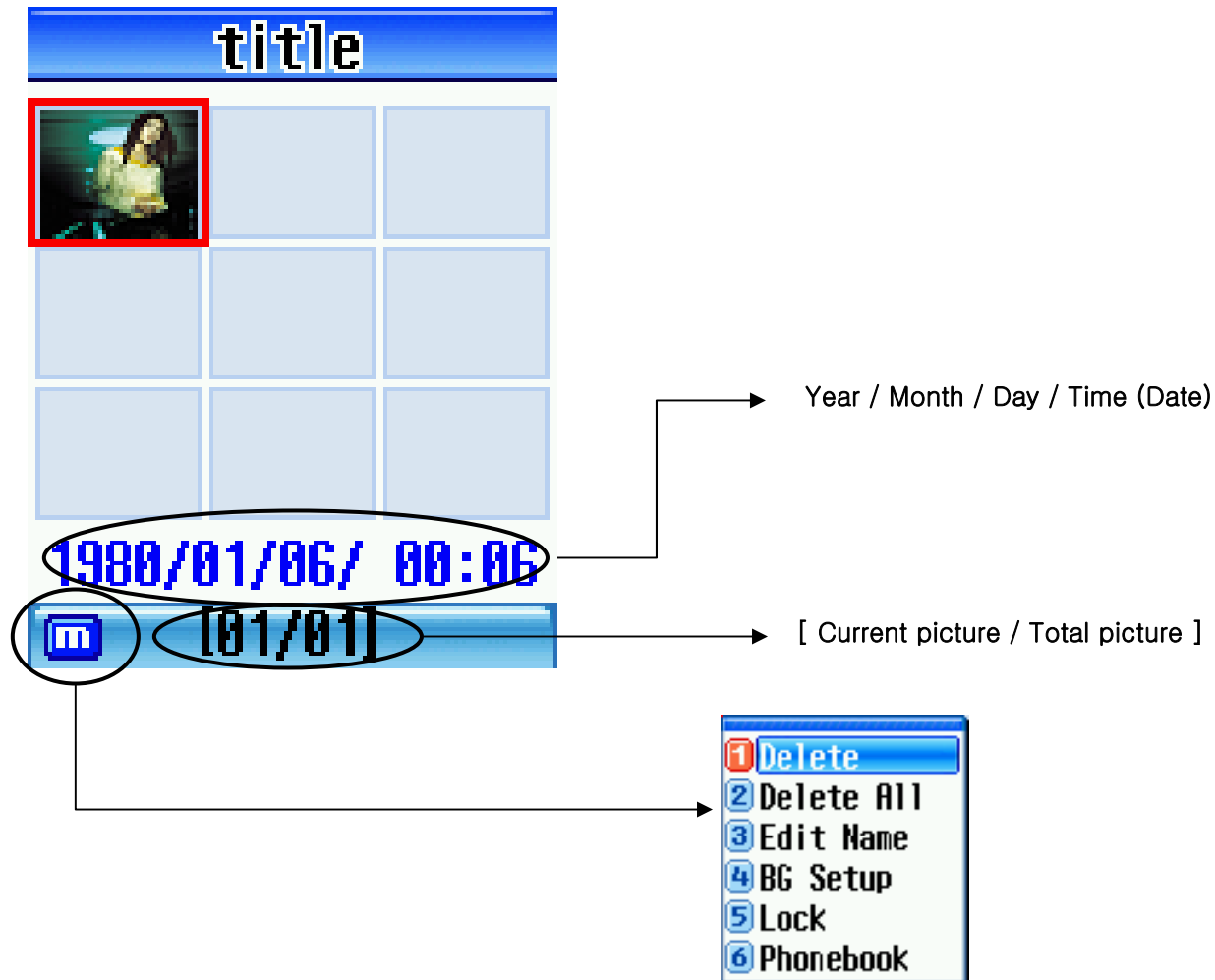
- Enter the Photo Shot Menu by pressing Menu + 2. Entertainment + 1. Camera + 1. Screen Shot + 2. Sticker Shot



※ You can Change and select Sticker image pressing by Left/Right key

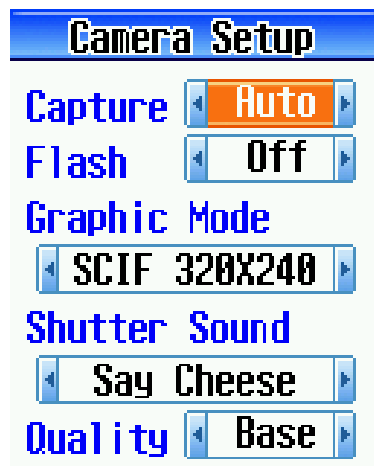
3.5.2 Album (Menu -> 2 -> 1 -> 2 or "Camera Key" -> 2)

- Enter the Photo Shot Menu by pressing Menu + 2. Entertainment + 1. Camera + 2. Album



3.5.3 Camera Configuration Setting (Menu -> 2 -> 1 -> 3 or "Camera Key" -> 3)

- Enter the Camera Setting Menu by pressing Menu + 2. Entertainment + 1. Camera + 3. Camera Setting



* It's default setting

Capture (White Balance)	Flash	Graphic Mode	Shutter Sound	Quality
Auto	On	VGA(640x480)	Say Cheese	Base
Day	Off	SCIF(320x240)	E-effect	High
Night		SQCIF(160x120)	M-effect	Best

3.5.4 Preview State Menu (Help) (Menu -> 2 -> 1 -> 4 or "Camera Key" -> 4)

LCD



Key-pad



- ① Rotate : Switch 0° or 180°
- ② Flash : Control Flash On/Off
- ③ Effect : Control camera effect Normal/Mono/Sepia/Fog/Embossing
- ④ Zoom : Control Zoom In/Out
- ⑤ Brightness : Control Brightness
- ⑥ Shutter : Shutter key
- ⑦ Preview Change : Control Using the internal LCD or the external LCD

– 3.6 Voice Memo

There are three different voice recording functions – Answering machine, Idle voice memo, Call memo– for Voice memo service

1. Answering machine is used for recording caller's voice memo when user can't receive a call.

Figure1 shows how to set the answering machine.

- ① Select Menu->7->1->2->1
- ② Select "Use" and push OK button
- ③ If you didn't record greeting message, select "Yes" and record greeting message
- ④ After setting is complete, you can see answering machine icon on the idle screen

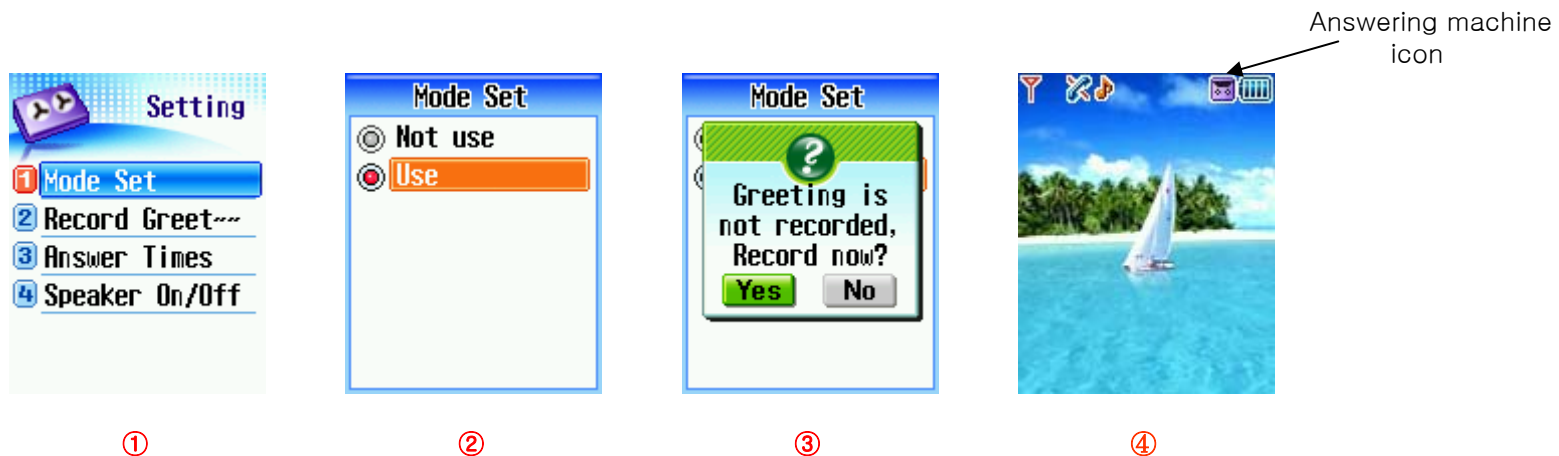


Figure1. How to set the answering machine

Figure2 shows how to listen the recorded answering machine memo.

- ① After recording answering machine memo, you can see this screen. If you want to see answered memo list, push "SMS" key or select Menu->7->1->1->1.
- ② Answer List shows the answering machine memo list with two different icons, each represents "new" and "already listen". If you want to listen a memo, push "Menu" key and select "Play".

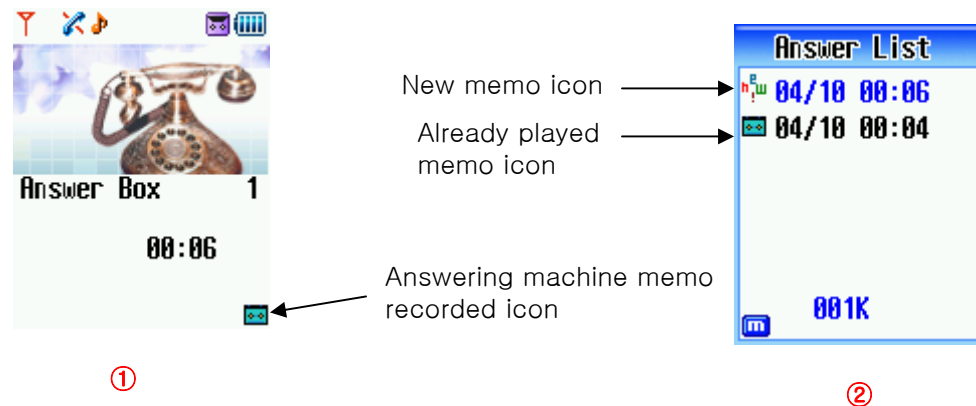


Figure2. How to listen the recorded answering machine memo

2. Idle voice memo function is simply record user's voice by select Menu->7->2->1.
To listen recorded memo, select Menu->7->2->2.
 3. Call record function is used during a call for recording conversation.
To record call conversation, push "Camera" Key and hold (long key) during a call.
To listen recorded memo, select Menu->7->2->2.
- Figure3 shows two different voice memo icon.

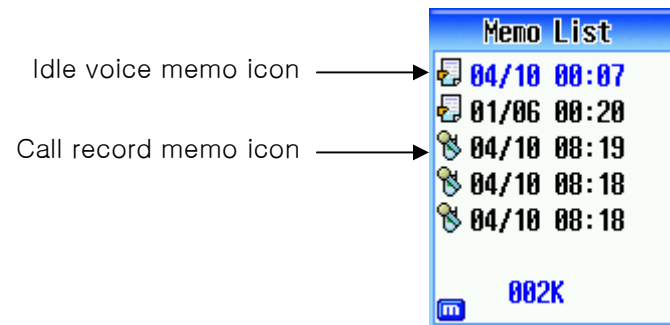


Figure3. Two different voice memo icons in voice memo list (Menu->7->2->2)

3.7 Memory Status/ Photo, Image Information

3.5.1 Memory Information

Common(about 3MB)	Photo, Downloaded sound, Downloaded image
Voice Memo	Voice Recording : 30 ea(or total 10 min.)
	Greeting : 1 ea(30 sec.)
SMS	Received txt msg : 30 ea
	Sent msg : 23 ea
Phonebook	2000 ea(500 records * 4 numbers) + 500 e-mail
Schedule/Alarm	Schedule : 70 ea
	D-Day : 27 ea
	Alarm : 5 ea
	Morning Call : 2 ea

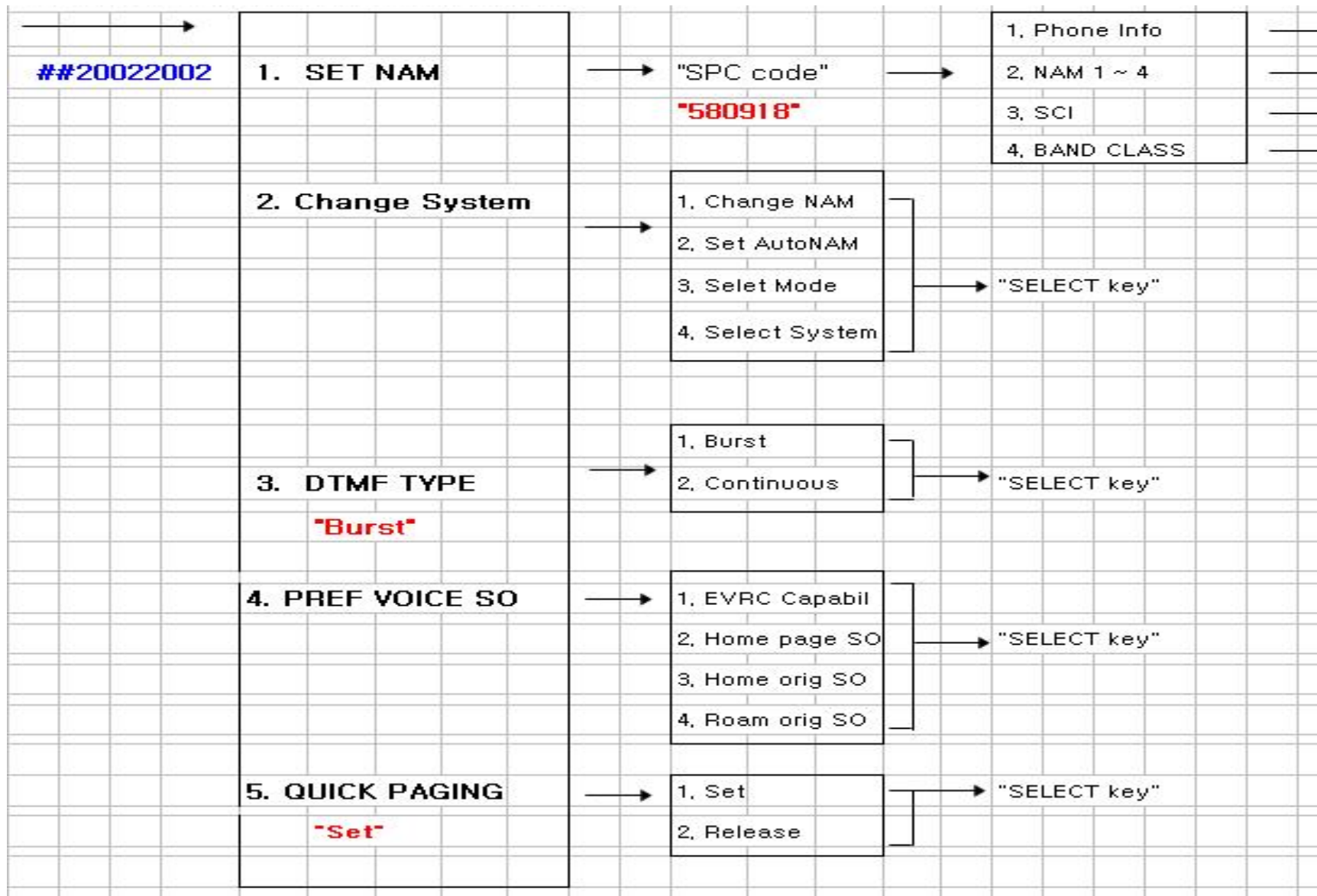
3.5.2 Photo / Media 정보

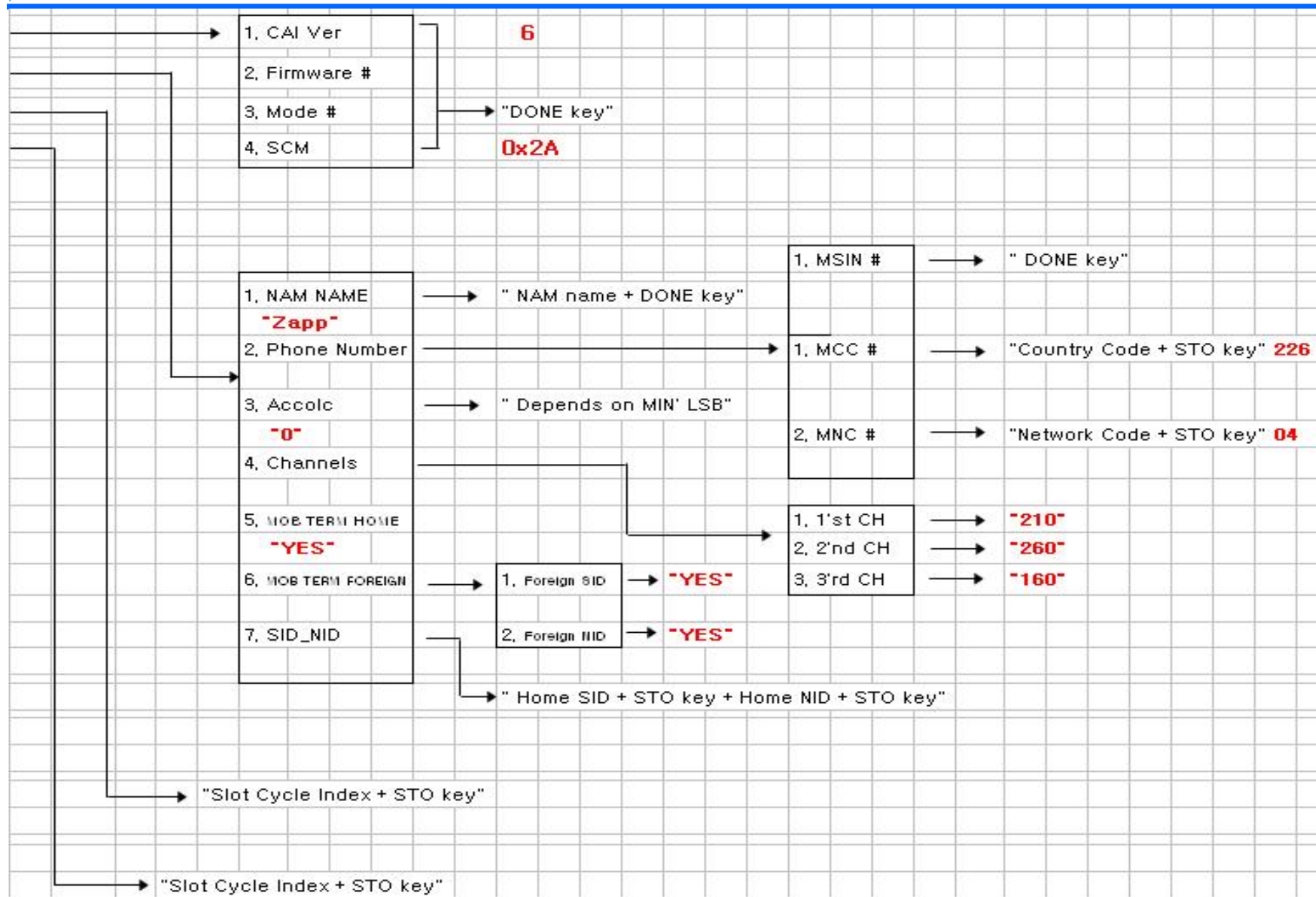
Resolution	Quality	Size	index	Remark
160x120	Best	10KB	Photo 0 ~ 99	This test was examined with a complicated target.
	High	8KB		
	Base	7KB		
320x240	Best	18KB		
	High	15KB		
	Base	12KB		
640x480	Best	42KB		
	High	35KB		
	Base	28KB		
Image	Common	5KB	Media 0 ~ 99	Common size.
Sound	Common	20KB		

3.8 Test Code

Z720i Test Code			
No	Test code (Curitel)	Menu	Function & Sub Menu
1	##357193214789563214569877415963	ESN clear	esn = 0x0
2	##83766625**	rebuild NV	verno_maj = 0xff
3	##321456987*	SPC	display security code
4	##27732726	ui_sw_test_menu	1. VERSION VIEW, 2. DEBUG SCREEN, 3. VIEW BATT, 4. VIEW THERM, 5. VIEW LNA STATE, 6. TEST CALL, 7. BMP TEST, 8. DATA SERVICE, 9. BREW ADS
5	##27752345	ui_sw_test_edit_menu	1. CHANGE CHANNEL, 2. CHANGE DIPSW, 3. TX CYCLE TEST, 4. TX POWER TEST, 5. OVER TX PWR
6	##20022002	nam_prog_sec_code	1. SET NAM, 2. CHANGE SYSTEM, 3. DTMF TYPE, 4. PREF VOICE SO, 5. QUICK PAGING
7	##2240	ui_gotest_menu	1. RX_CAGC_DATA, 2. TX_CAGC_DATA
8	##1122	BELL_TEST_S	1. BELL, 2. MOTOR, 3. VOICE ECHO, 4. W, 5. R, 6. G, 7.BLUE, 8.BLACK, 9.FLASH, 0.CAMERA, *.LED, #.AUTO
9	##1144	KEYTONE_TEST_S	1. off, 2. 0.2s(DEF), 3. 0.5s, 4. 1s, 5. 1.5s, 6. 2s
10	##2774	rfdma_menu	1. RX_AGC_ADJ, 2. TX_AGC_HL_ADJ, 3.TX_AGC_LO_ADJ, 4. CDMA_PWR_LIMIT, 5. TX_CHAN_PWR
11	##36**	change DM/CAIT	DM(38.4K) / CAIT(115.2K)
12	##1133	reset phone	initializing...
13	**0481	CMUX 1	ds_atcop_cmux_val = 1
14	**0482	CMUX 2	ds_atcop_cmux_val = 2
15	**0490	RX MODE : RESET	ds_rx_mode = 0
16	**0491	RX MODE : DATA	ds_rx_mode = 1
17	**0492	RX MODE : FAX	ds_rx_mode = 2
18	**1004	DM MODE ENABLE	ds_enter_dm_mode()
19	**1005	DS MODE ENABLE	ds_exit_dm_mode()
20	**1010	USB MODE ENABLE	usb mode...
21	##369	run time device map	1. Com Port 2. Data Speed, 3. PC-Link(DM) Speed,

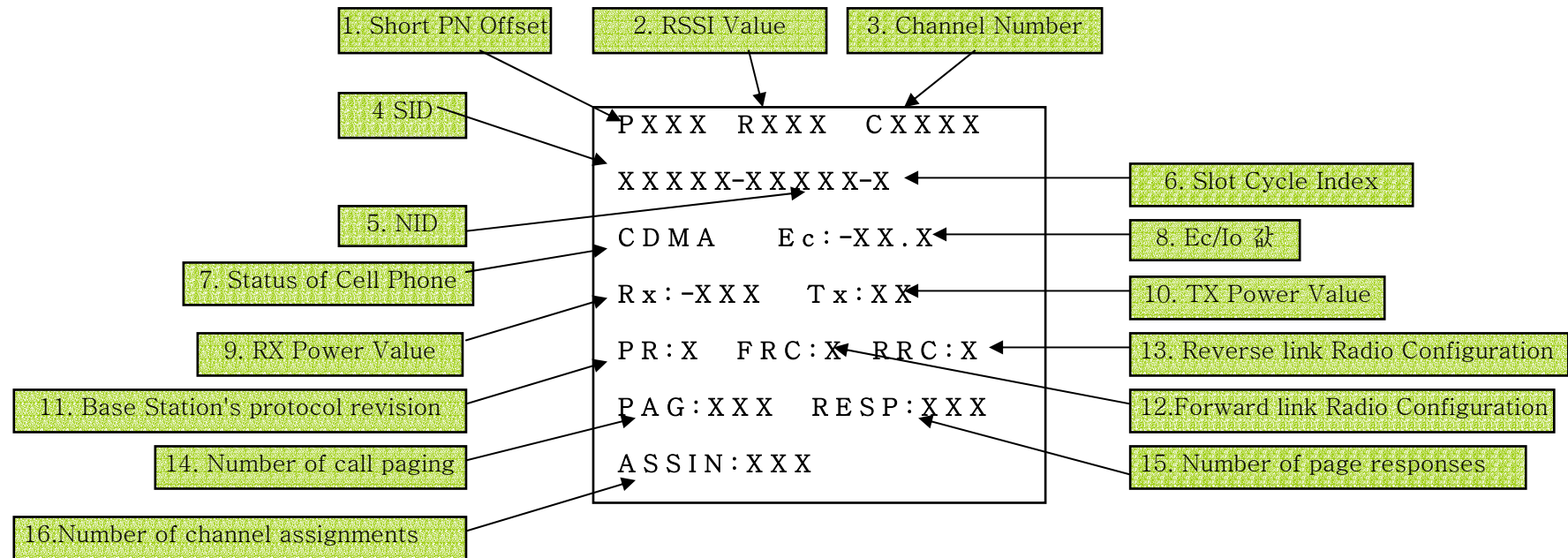
* ex.) Nam Setting Test Code ##20022002





3.9 Z720i Debug Screen

- Press ##27732726 + [End] + 2 in the state of Idle/Call , then displayed screen like the picture below.



The Definition of parameters on Debug Screen

1. P X X X → Short PN Offset

The s short PN code is used by multiple base stations using the same frequency band by using different timing offsets in the code cycle.

2. R X X X → RSSI (Receive Signal Strength Indication)

Received Signal Strength Indication) is signal that indicates the strength of the incoming (received) signal in a receiver.

3. C X X X → Channel Number

4. X X X X → SID (System Identification)

A digital identification uniquely associated with a cellular system.

5. X X X X → NID (Network Identification)

Network Identification is used for distinguishing MSC(Mobile Switching Center) .

6. X → Slot Cycle Index

Slot cycle index in use for this sleep period. On the CDMA Paging Channel , time is divided into "slots". To conserve power, phones that are currently idle only "wake up" and listen for messages on the Paging Channel during their assigned slots. The slot cycle index determines how often the phone's slot comes around. If the slot cycle index is 0, the phone wakes up every 1.28 seconds. If it's one, it wakes up every 2.56 seconds. If it's two, it's every 5.12 seconds, and so on. The larger the setting, the more power is conserved, but the longer it takes to page the phone for an incoming call.

As per IS-95:

0	=	1.28 seconds (16 x 80ms),
1	=	2.56 seconds (32 x 80ms), ...
7	=	163.84 seconds (2048 x 80ms)

7. CDMA – The states of a cell phone and Tx Vocoder

The states of a cell phone – CDMA, SYNC, PAGE, TRAF, EXIT

The states of Tx Vocoder – EV8K, Q13K

8. E_c/I_o – Value of E_c/I_o

E_c (Average energy accumulated over one PN chip period)

I_o (The total received power spectral density, including signal and interference,
as measured at the mobile station antenna connector)

The ratio in dB between the energy accumulated over one PN chip period(E_c) to the total transmit power Spectral density.

9. Rx : – X X . X → Rx Power(dBm)

10. Tx : X X . X → Tx Power (dBm)

11. P R : X → Base Station's Protocol Revision

12. F R C : X 13. R R C : X → Forward link Radio Configuration, Reverse link Radio Configuration

The term Radio Configuration identifies a set of forward and reverse traffic channel transmission formats.

At the physical layer these are characterized by the transmission rates, modulation characteristics, spreading rate, etc.

14. P A G : X X X -> Number of call pagers.

15. R E S P : X X X -> Number of page responses

16. A S S I N : X X X -> Number of channel assignments

4. Part List

4.1 ASS'Y Handset

[illegible]

4. Part List

4.3 ASS'Y MAIN BTM

REV	SEQ	LEVEL	PART NUMBER	CO CODE	PART DESCRIPTION	NEW CODE	IT	Q'TY	UM	LOCATION NO	OPE	MAKER NAME	MARK PRODUCTOR	RMRKS
	1	4	53100000174		MAIN PCB		4	1	EA			DAEDUCK		
	2	4	52199000024		EMI FILTER + TVS		4	1	EA	U482		AVX/KYOCERA	KNA32150	
	3	4	52199000023		EMI FILTER + TVS		4	4	EA	U479 U480 U481 U485		AVX/KYOCERA	KNA32050	
	4	4	53501000052		KEYPAD LED (BLUE)		4	12	EA	D160 D161 D162 D163 D164 D165 D166 D167 D168 D169 D170 D1169		LUXPIA	LBH1000-E	
	5	4	50501000030		VARISTOR (0402, 5.6V ,100PF)		4	26	EA	D3 D4 D5 D6 D7 D8 D310 D311 D440 D510 D511 D512 D513 D4400 D4401 D4402 D4403 D4404 D4405 D4406 D4407 D4408 D4409 D4410 D4411 D4412		ICT	ICV L0505101V 150PR	
	6	4	50501000053		VARISTOR (0402, 5PF)		4	1	EA	C201		ICT	ICV L0518050Y 500PR	
	7	4	54299000012		HALL IC		4	1	EA	S190		ALLEGRO	A3212ELH	
	8	4	50300000002		TR		4	1	EA	Q470		ROHM	2SA2018	
	9	4	50300000099		TR		4	1	EA	Q510		ROHM	DTC144EE	
	10	4	50300000025		TR		4	1	EA	Q471		ROHM	DTC123JUA	
	11	4	50200007003		CAP CER CP C0G 7P J 50V 0402		4	1	EA	L201		MURATA	GRP15 C0G 070 J 50	
	12	4	50200010100		CAP CER CP C0G 100P J 50V 0402		4	2	EA	C313 C316		MURATA	GRP15 C0G 101 J 50	
	13	4	50200022304		CAP CER CP X7R 0.022U K 16V 0402		4	2	EA	C311 C315		MURATA	GRP15 X7R 223 K 16	
	14	4	50200010400		CAP CER CP Y5V 0.1U Z 16V 0402		4	3	EA	C190 C191 C492		MURATA	GRP15 Y5V 104 Z 16	
	15	4	50001000014		BEAD		4	1	EA	BEAD3		SAMSUNG	CIM10J601NC	
	16	4	50101018002		INDUCTOR 18NH G 0603 (COIL)		4	1	EA	L200				
	17	4			RES 0402 - OPEN		4	1	EA	R412 R451		ROHM	MCR01 MZS J 000	
	18	4	50000000000		RES CP 0Ω J 1/16W 0402		4	3	EA	R409 R443 R471		ROHM	MCR01 MZS J 000	
	19	4	50000015100		RES CP 150Ω F 1/16W 0402		4	13	EA	R160 R161 R162 R163 R164 R165 R166 R167 R168 R169 R170 R181 R1169		ROHM		
	20	4	50000001300		RES CP 1KΩ F 1/16W 0402		4	1	EA	R472		ROHM	MCR01 MZS F 102	
	21	4	50000022200		RES CP 2.2KΩ F 1/16W 0402		4	2	EA	R312 R316		ROHM	MCR01 MZS F 222	
	22	4	50000001401		RES CP 10KΩ F 1/16W 0402		4	1	EA	R470		ROHM	MCR01 MZS F 103	
	23	4	50000033300		RES CP 33KΩ F 1/16W 0402		4	1	EA	R190		ROHM		
	24	4	50000001501		RES CP 100KΩ F 1/16W 0402		4	1	EA	R452		ROHM	MCR01 MZS F 104	
	25	4	50000002500		RES CP 200KΩ F 1/16W 0402		4	1	EA	R535		ROHM	MCR01 MZS F 204	

4. Part List

4.4 ASS'Y MAIN TOP

REV	SEQ	LEVEL	PART NUMBER	CO CODE	PART DESCRIPTION	NEW CODE	IT	Q'TY	UM	LOCATION NO	OPE	MAKER NAME	MARK PRODUCTOR	RMRKS
	1	4	54201000112		VOLTAGE REGULATOR (300mA)		4	1	EA	U100		MICREL	MIC5219-2.85BM5	
	2	4	54201000198		VOLTAGE REGULATOR		4	1	EA	U130		MICREL	MIC5255-3.0BM5	
	3	4	50499000002		DIODE		4	1	EA	U101		KEC	KDS121RTK	
	4	4	54201000029		VOLTAGE REGULATOR (150mA)		4	2	EA	U110 U120		MICREL	MIC5205-3.0BM5	
	5	4	54205000026		LNA/MIXERS		4	1	EA	U210		INTEGRANT	ITM1010	
	6	4	52301000024		PLL MODULE		4	1	EA	U630		SAMSUNG	PO1603UA	
	7	4	54300000015		MSM5100		4	1	EA	U300		QUALCOMM	MSM5100	
	8	4	52202000001		CRYSTAL OSCILLATOR (32.768KHz)		4	1	EA	U301		M-CRYSTAL	CC5V	
	9	4	52203000015		48MNz RESONATOR		4	1	EA	U350		MURATA	CSTCW48M0X12058-R	
	10	4	54201000161		RESET IC		4	1	EA	U360		micro chips	TCM809RV LB713	
	11	4	54100000015		MEMORY		4	1	EA	U400		SHARP	LRS1826	
	12	4	50301000030		USB TRANSLATOR		4	1	EA	U420		MICREL	MIC2551BML	
	13	4	50501000014		PROTECTION PRODUCT		4	1	EA	U530		SEMTECH	SMF05	
	14	4	50300000080		OP AMP		4	1	EA	U580		TOSHIBA	TC75S51FU	
	15	4	52300000046		PAM		4	1	EA	U250		SKYWORKS	SKY77148	
	16	4	52200000033		VCTCXO (19.2MHz)		4	1	EA	U620		KINSEKI	VC-TCXO-208C3-19.2	
	17	4	54301000021		IFR3500		4	1	EA	U650		QUALCOMM	IFR3500	
	18	4	54301000013		RFT3100		4	1	EA	U700		QUALCOMM	RFT3100	
	19	4	50300000158		INVERTOR		4	1	EA	U610		TOSHIBA	TC7SL04FU	
	20	4	50301000029		LOAD SWITCH		4	1	EA	U270		VISHAY	SI1865DL-T1	
	21	4	55400000037		CHARGER IC		4	1	EA	U800		SEMTECH	SC802	
	22	4	54201000079		VCO BUFFER AMP		4	1	EA	U760		MAXIM	MAX2473	
	23	4	52500000004		COUPLER		4	1	EA	U750		HITACHI	SLC-S090T-055	
	24	4	54205000021		AUDIO AMP		4	1	EA	U550		TI	TPA6203A1	
	25	4			OPEN		4	1	EA	U1		LINEAR TECH	LTC5507	

4. Part List

4.4 ASS'Y MAIN TOP

REV	SEQ	LEVEL	PART NUMBER	CO CODE	PART DESCRIPTION	NEW CODE	IT	Q'TY	UM	LOCATION NO	OPE	MAKER NAME	MARK PRODUCTOR	RMRKS
	26	4	52199000024		EMI FILTER + TVS		4	2	EA	U483 U484		AVX/KYOCERA	KNA32150	
	27	4	52100000127		CEL_RX RF FILTER		4	2	EA	FIL210 FIL220		SAMSUNG	D465AK	
	28	4	52101000048		CEL_RX_IF FILTER		4	1	EA	FIL230		KINSEKI	MSFB43-85-001M0	
	29	4	52100000126		CEL_TX_RF FILTER		4	2	EA	FIL250 FIL270		SAMSUNG	D455AK	
	30	4	50002000006		POLY SWITCH		4	1	EA	F410		LITTLEFUSE	1206L150WRT	
	31	4			VARISTOR - OPEN		4	6	EA	D690 D691 D801 D804 D805 D806				
	32	4	50501000030		VARISTOR (0402, 5.6V ,100PF)		4	4	EA	D1 D360 D411 C441		ICT	ICV L0505101V 150PR	
	33	4	50499000000		DIODE		4	1	EA	D803		KEC	KDS160	
	34	4	50501000034		ESD SUPPRESSOR		4	2	EA	D420 D421		LITTLEFUSE	PGB0010603	
	35	4	50499000036		VARICAP DIODE		4	2	EA	D650 D700		TOSHIBA	1SV 306	
	36	4	50499000094		TVS DIODE		4	1	EA	D410		SEMTECH	SD15C	
	37	4	50300000099		TR		4	4	EA	Q100 Q160 Q161 Q520		ROHM	DTC144EE	
	38	4	50300000061		TR		4	2	EA	Q150 Q690		ROHM	UMC5N	
	39	4	53499000043		ANT SWITCH		4	1	EA	J200		IMS	ISO2795	
	40	4	53499000114		CARKIT		4	1	EA	J410				
	41	4	53401000062		50 PIN CONNECTOR SOCKET		4	1	EA	J430		NAIS	AXK750145	
	42	4	53403000011		EARJACK		4	1	EA	J510		POWERNET	4065-2.5G-DB2	
	43	4	53401000078		SIM CONNECTOR		4	1	EA	J690		POWERNET	6096-06-G	
	44	4	53499000158		BAT_TERM		4	1	EA	J100		KAE	2002-9003-003	
	45	4	50099000001		ATTENUATOR(6dB)		4	1	EA	A700		KAMAYA	RAC101A6CTH	
	46	4	5020202R210		TANTAL CAP 22U/10V 0603		4	1	EA	CAP104		PARTSNIC	TJM1C225JSSR	
	47	4	5020204R712		TANTAL CAP 4.7U/6.3V 0603		4	2	EA	CAP551 CAP552		PARTSNIC		
	48	4	50202001000		TANTAL CAP 1U/16V 0805		4	1	EA	C761		PARTSNIC	TPM1C105PSSR	
	49	4	5020204R707		TANTAL CAP 4.7U/10V 0805		4	6	EA	CAP100 CAP102 CAP122 CAP130 CAP410 CAP550		PARTSNIC	TPM1A475PSSR	

4. Part List

4.4 ASS'Y MAIN TOP

REV	SEQ	LEVEL	PART NUMBER	CO CODE	PART DESCRIPTION	NEW CODE	IT	QTY	UM	LOCATION NO	OPE	MAKER NAME	MARK PRODUCTOR	RMRKS
	50	4	50202010002		TANTAL CAP 10U/6.3V 0805		4	16	EA	CAP101 CAP110 CAP111 CAP120 CAP121 CAP131 CAP210 CAP211 CAP301 CAP302 CAP531 CAP620 CAP630 CAP631 CAP701 CAP702		PARTSNIC	TPM0J106PSSR	
	51	4	50202010028		TANTAL CAP 10U/10V 0805		4	4	EA	CAP103 CAP251 CAP1100 D800		SAMSUNG	TCSCS1A106MPAR	
	52	4	50202022010		A_TATAL CAP 22U / 6.3V 2012		4	1	EA	CAP534		VISHAY	292D226X06R3P2T	
	53	4			CAP-OPEN-0402		4	13	EA	C227 C260 C263 C274 C275 C276 C277 C278 C279 C350 C351 C654 C725				
	54	4	5020000R500		CAP CER CP COG 0.5P C 50V 0402		4	2	EA	C228 R231		MURATA	GRP15 C0G 0R5 C 50	
	55	4	50200002000		CAP CER CP COG 2P C 50V 0402		4	1	EA	C766		MURATA	GRP15 C0G 020 C 50	
	56	4	50200002R700		CAP CER CP COG 2.7P D 50V 0402		4	1	EA	C213		MURATA	GRP15 C0G 2R7 C 50	
	57	4	50200003000		CAP CER CP COG 3P C 50V 0402		4	2	EA	C223 C225		MURATA	GRP15 C0G 030 C 50	
	58	4	50200004001		CAP CER CP COG 4P C 50V 0402		4	1	EA	C218		MURATA	GRP15 C0G 040 C 50	
	59	4	50200004R700		CAP CER CP COG 4.7P C 50V 0402		4	1	EA	C216		MURATA	GRP15 C0G 4R7 C 50	
	60	4	50200005000		CAP CER CP COG 5P C 50V 0402		4	1	EA	C212		MURATA	GRP15 C0G 4R7 C 50	
	61	4	50200006001		CAP CER CP COG 6P D 50V 0402		4	3	EA	C204 C229 C230		MURATA	GRP15 C0G 060 D 50	
	62	4	50200007003		CAP CER CP COG 7P D 50V 0402		4	1	EA	C220		MURATA	GRP15 C0G 060 D 50	
	63	4	50200008002		CAP CER CP COG 8P D 50V 0402		4	2	EA	C701 C720		MURATA	GRP15 C0G 080 D 50	
	64	4	50200008R200		CAP CER CP COG 8.2P D 50V 0402		4	1	EA	C259		MURATA	GRP15 C0G 8R2 D 50	
	65	4	50200010001		CAP CER CP COG 10P D 50V 0402		4	2	EA	C215 C657		MURATA	GRP15 C0G 100 D 50	
	66	4	50200027000		CAP CER CP C0G 27P J 50V 0402		4	4	EA	C319 C320 C581 C716		MURATA	GRP15 C0G 270 J 50	
	67	4	50200033000		CAP CER CP C0G 33P J 50V 0402		4	1	EA	C561		MURATA		
	68	4	50200047001		CAP CER CP C0G 47P J 50V 0402		4	2	EA	C203 C722		MURATA	GRP15 C0G 470 J 50	
	69	4	50200010100		CAP CER CP C0G 100P J 50V 0402		4	17	EA	C124 C126 C210 C219 C221 C310 C610 C630 C655 C656 C702 C703 C715 C721 C762 C764 C765		MURATA	GRP15 C0G 101 J 50	

4. Part List

4.4 ASS'Y MAIN TOP

REV	SEQ	LEVEL	PART NUMBER	CO CODE	PART DESCRIPTION	NEW CODE	IT	QTY	UM	LOCATION NO	OPE	MAKER NAME	MARK PRODUCTOR	RMRKS
	70	4	50200015100		CAP CER CP COG 150P J 50V 0402		4	11	EA	C114 C116 C242 C256 C261 C268 C269 C329 C554 C556 C636		MURATA	GRP15 C0G 151 J 50	
	71	4	50200022104		CAP CER CP X7R 220P K 50V 0402		4	3	EA	C633 C634 C635		MURATA	GRP15 X7R 391 K 50	
	72	4	50200039100		CAP CER CP X7R 390P K 50V 0402		4	4	EA	C709 C710 C711 C712		MURATA	GRP15 X7R 391 K 50	
	73	4	50200047103		CAP CER CP X7R 470P K 50V 0402		4	2	EA	C101 C132		MURATA	GRP15 X7R 471 K 50	
	74	4	50200010203		CAP CER CP X7R 1000P K 50V 0402		4	10	EA	C103 C222 C254 C400 C621 C622 C625 C653 C665 C718		MURATA	GRP15 X7R 102 K 50	
	75	4	50200015201		CAP CER CP X7R 1500P K 50V 0402		4	1	EA	C660				
	76	4	50200047200		CAP CER CP X7R 4700P K 25V 0402		4	1	EA	C332		MURATA	GRP15 X7R 472 K 25	
	77	4	50200010300		CAP CER CP X7R 0.01U K 16V 0402		4	16	EA	C112 C122 C302 C323 C333 C612 C613 C650 C663 C666 C705 C714 C724 C726 C760 C763		MURATA	GRP15 X7R 103 K 16	
	78	4	50200012303		CAP CER CP X7R 0.012U K 16V 0402		4	2	EA	C307 C321		MURATA	0402 2R 123 K 7B200	
	79	4	50200015302		CAP CER CP X7R 0.015U K 16V 0402		4	1	EA	C661				
	80	4	50200022304		CAP CER CP X7R 0.022U K 16V 0402		4	3	EA	C308 C312 C700		MURATA	GRP15 X7R 223 K 16	
	81	4	50200047300		CAP CER CP X7R 0.047U K 16V 0402		4	2	EA	C214 C217		MURATA	GRP15 X7R 473 K 16	
	82	4	50200010400		CAP CER CP Y5V 0.1U Z 16V 0402		4	28	EA	C102 C123 C125 C303 C304 C306 C314 C322 C330 C360 C410 C421 C491 C580 C611 C620 C626 C631 C632 C651 C652 C667 C723 C770 C802 C804 C810 C811		MURATA	GRP15 Y5V 104 Z 16	
	83	4	50200047405		CAP CER CP X7R 0.47U K 25V 0402		4	1	EA	C713		MURATA	GRM18 Y5V 474 Z 10	
	84	4	50200010523		CAP CER CP Y5V 1U Z 6.3V 0402		4	10	EA	C113 C115 C241 C255 C257 C327 C328 C420 C717 C719		MURATA	GRP15 Y5V 105 Z 6.3	
	85	4	50200010303		CAP CER CP X7R 0.01U K 50V 0603		4	2	EA	C550 C551		MURATA	GRM18 X7R 103 K 50	
	86	4	50200010404		CAP CER CP X7R 0.1U K 25V 0603		4	1	EA	C305		MURATA	GRM18 X7R 104 K 25	

4. Part List

4.4 ASS'Y MAIN TOP

REV	SEQ	LEVEL	PART NUMBER	CO CODE	PART DESCRIPTION	NEW CODE	IT	Q'TY	UM	LOCATION NO	OPE	MAKER NAME	MARK PRODUCTOR	RMRKS
	87	4	50200010501		CAP CER CP Y5V 1U Z 10V 0603		4	5	EA	C309 C440 C555 C1100 C1200		MURATA	GRM18 Y5V 105 Z 10	
	88	4	50200047505		CAP CER CP R6 4.7U K 6.3V 0603		4	1	EA	C803		MURATA	GRM219R6QJ475KE11D	
	89	4	50200047504		CAP CER CP R6 4.7U K 10V 0805		4	1	EA	C401		MURATA		
	90	4	52500000025		EMI FILTER		4	1	EA	L800		AVX/KYOCERA	KNH21104	
	91	4	50001000038		FERRITE BEAD 601 K 0402		4	6	EA	L111 L121 L122 L303 L304 L620		SAMSUNG	CIM05J601NC	
	92	4	50001000014		FERRITE BEAD 601 0603		4	5	EA	L210 L217 BEAD2 L561 L562		SAMSUNG	CIM10J601NC	
	93	4	50001000036		FERRITE BEAD 202 0603		4	11	EA	L100 L110 L120 L301 L302 L400 L551 L630 L631 L703 L705		TAL TECH	FCM1608H-202T02	
	94	4			INDUCTOR OPEN 0603		4	2	EA	L202 L431		PILKOR	1005G C2T 2N2S QS	
	95	4	5010002N205		INDUCTOR 22NH 0402		4	1	EA	L214		PILKOR	1005G C2T 2N2S QS	
	96	4	5010005N613		INDUCTOR 5.6NH 0402		4	1	EA	L216		PILKOR		
	97	4	5010006N800		INDUCTOR 6.8NH 0402		4	1	EA	L204		PILKOR		
	98	4	50100015000		INDUCTOR 15NH 0402		4	1	EA	L211		PILKOR		
	99	4	50100018010		INDUCTOR 18NH 0402		4	2	EA	L203 L213		PILKOR		
	100	4	50100033005		INDUCTOR 33NH 0402		4	1	EA	L212		PILKOR		
	101	4	50100056009		INDUCTOR 56NH 0402		4	1	EA	L222		PILKOR		
	102	4	50100082000		INDUCTOR 82NH 0402		4	1	EA	L215		PILKOR		
	103	4	50100010001		INDUCTOR 10NH 0603		4	1	EA	L250		PILKOR		
	104	4	50100018008		INDUCTOR 18NH 0603		4	1	EA	L704		PILKOR		
	105	4	50100027001		INDUCTOR 27NH 0603		4	1	EA	L760		PILKOR		
	106	4	50101047007		INDUCTOR 47NH J 0603 (COIL)		4	2	EA	L701 L702				
	107	4	50101022100		INDUCTOR 220NH J 0603 (COIL)		4	2	EA	L218 L219				
	108	4	50101047008		INDUCTOR 47NH G 0805 (COIL)		4	1	EA	L700				
	109	4	50101056017		INDUCTOR 56NH G 0805 (COIL)		4	1	EA	L650				
	110	4	50101033100		INDUCTOR 330NH J 0805 (COIL)		4	1	EA	L220				

4. Part List

4.4 ASS'Y MAIN TOP

REV	SEQ	LEVEL	PART NUMBER	CO CODE	PART DESCRIPTION	NEW CODE	IT	Q'TY	UM	LOCATION NO	OPE	MAKER NAME	MARK PRODUCTOR	RMRKS
	111	4	50101039100		INDUCTOR 390NH J 0805 (<i>COIL</i>)		4	1	EA	L221				
	112	4			RES-OPEN		4	11	EA	R150 R233 R234 R261 R262 R273 R402 R404 R405 R691 R805				
	113	4	50000000000		RES CP 0Ω J 1/16W 0402		4	25	EA	R100 R120 R173 R180 R232 R259 R266 R399 R401 R403 R406 R423 R442 R650 R653 R654 R658 R702 R705 R760 R804 R810 R4423 C211 C623		ROHM	MCR01 MZS J 000	
	114	4	50500000006		THERMISTOR (100Ω 0402)		4	1	EA	R7700		MURATA	NCP15XF101J03RC	
	115	4	50000001100		RES CP 10Ω F 1/16W 0402		4	3	EA	R420 R610 R611		ROHM	MCR01 MZS F 100	
	116	4	50000012000		RES CP 12Ω F 1/16W 0402		4	2	EA	R555 R557		ROHM	MCR01 MZS F 100	
	117	4	50000022000		RES CP 22Ω F (<i>1.0%</i>) 1/16W 0402		4	2	EA	R421 R422		ROHM	MCR01 MZS F 220	
	118	4	50000036000		RES CP 36Ω F 1/16W 0402		4	1	EA	R750		ROHM		
	119	4	50000051000		RES CP 51Ω F 1/16W 0402		4	1	EA	R753		ROHM		
	120	4	50000056000		RES CP 56Ω F (<i>1.0%</i>) 1/16W 0402		4	1	EA	R771		ROHM	MCR01 MZS F 220	
	121	4	50000068000		RES CP 68Ω F 1/16W 0402		4	1	EA	R761		ROHM		
	122	4	50000001200		RES CP 100Ω F 1/16W 0402		4	2	EA	R441 R772		ROHM	MCR01 MZS F 101	
	123	4	50000015100		RES CP 150Ω F 1/16W 0402		4	2	EA	R751 R752		ROHM		
	124	4	50000033101		RES CP 330Ω F 1/16W 0402 1%		4	2	EA	R612 R770		ROHM		
	125	4	50000001300		RES CP 1.0KΩ F 1/16W 0402		4	12	EA	R255 R305 R306 R413 R630 R631 R632 R711 R712 R714 R715 R801		ROHM	MCR01 MZS F 102	
	126	4	50000015300		RES CP 1.5KΩ F 1/16W 0402		4	2	EA	R424 R809		ROHM	MCR01 MZS F 152	
	127	4	50000002300		RES CER 2KΩ F 1/16W 0402		4	1	EA	R103		ROHM	MCR01 MZS F 202	
	128	4	50000022200		RES CP 2.2KΩ F 1/16W 0402		4	3	EA	R303 R532 R534		ROHM	MCR01 MZS F 222	
	129	4	50000027200		RES CP 2.7KΩ F 1/16W 0402 1%		4	1	EA	R803		ROHM		
	130	4	50000047200		RES CER 4.7KΩ F 1/16W 0402		4	1	EA	R410		ROHM	MCR01 MZS F 472	

4. Part List

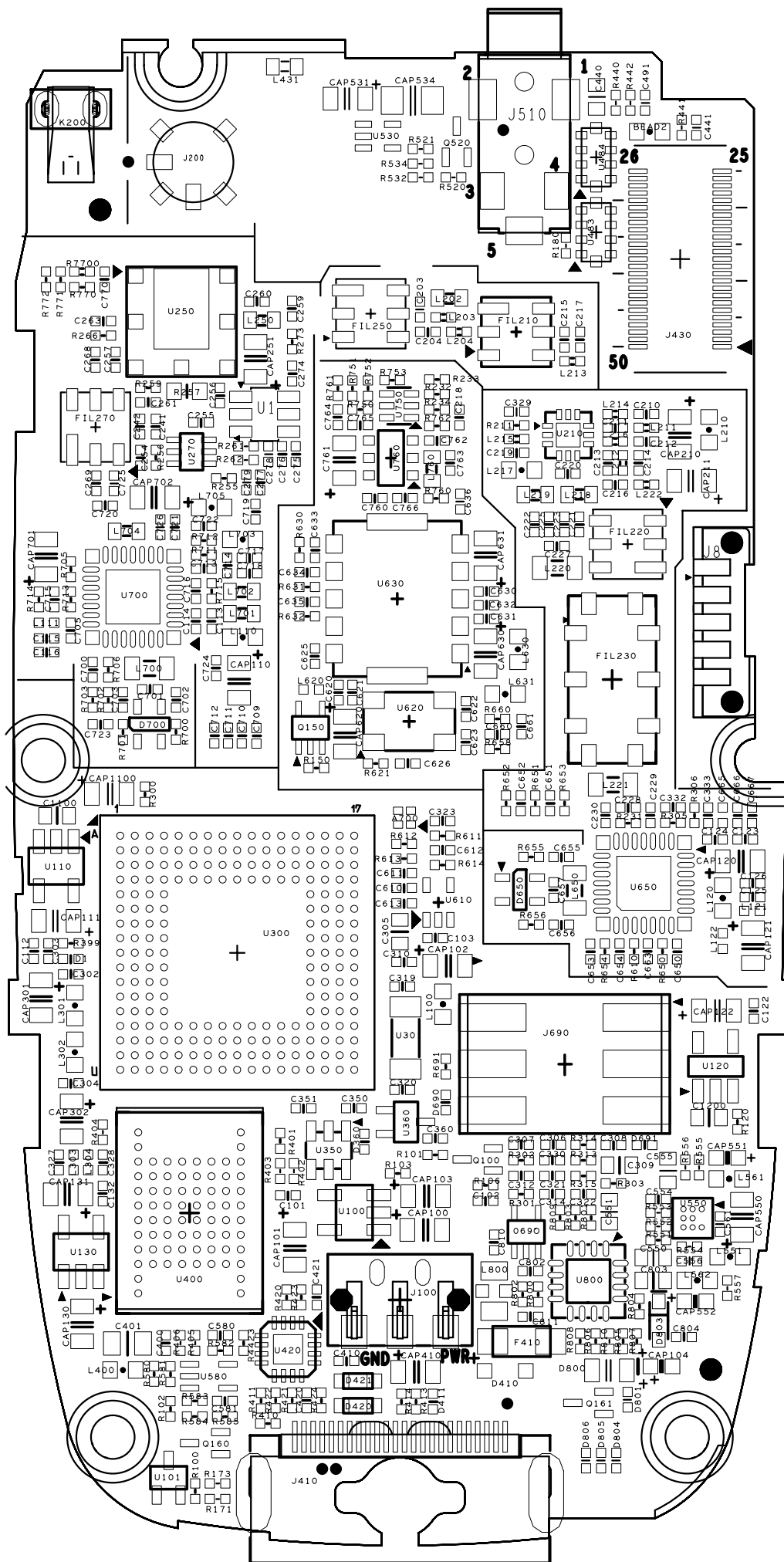
4.4 ASS'Y MAIN TOP

REV	SEQ	LEVEL	PART NUMBER	CO CODE	PART DESCRIPTION	NEW CODE	IT	Q'TY	UM	LOCATION NO	OPE	MAKER NAME	MARK PRODUCTOR	RMRKS
	131	4	50000051201		RES CER 5.1KΩ F 1/16W 0402		4	1	EA	R762		ROHM		
	132	4	50000068200		RES CER 6.8KΩ F 1/16W 0402		4	1	EA	R800				
	133	4	50000082200		RES CER 8.2KΩ F 1/16W 0402		4	1	EA	R660				
	134	4	50000001401		RES CP 10KΩ F 1/16W 0402		4	16	EA	R106 R256 R300 R314 R315 R411 R414 R556 R621 R651 R652 R655 R656 R700 R701 R713		ROHM	MCR01 MZS F 103	
	135	4	50000012301		RES CP 12KΩ F 1/16W 0402		4	1	EA	R703				
	136	4	50000121200		RES CP 12.1kΩ F 1/16W 0402 1%		4	1	EA	R706		ROHM		
	137	4	50000018302		RES CP 18KΩ F 1/16W 0402		4	2	EA	R440 R584		ROHM	MCR01 MZS F 183	
	138	4	50000002400		RES CP 20KΩ F 1/16W 0402		4	2	EA	R101 R583		ROHM	MCR01 MZS F 203	
	139	4	50000022300		RES CP 22KΩ F 1/16W 0402		4	3	EA	R551 R552 R807		ROHM		
	140	4	50000024300		RES CP 24KΩ F 1/16W 0402 1%		4	1	EA	R802				
	141	4	50000033300		RES CP 33KΩ F 1/16W 0402 1%		4	2	EA	R806 R808				
	142	4	50000039300		RES CP 39KΩ F 1/16W 0402		4	1	EA	R582		ROHM	MCR01 MZS F 393	
	143	4	50000047300		RES CP 47KΩ F 1/16W 0402		4	2	EA	R211 R520		ROHM	MCR01 MZS F 473	
	144	4	50000051300		RES CP 51KΩ F 1/16W 0402		4	1	EA	R171		ROHM		
	145	4	50000062300		RES CP 62KΩ F 1/16W 0402		4	1	EA	R613		ROHM	MCR01 MZS F 623	
	146	4	50000082300		RES CP 82KΩ F 1/16W 0402		4	2	EA	R553 R554		ROHM	MCR01 MZS F 823	
	147	4	50000001500		RES CP 100KΩ F 1/16W 0402		4	1	EA	R614		ROHM	MCR01 MZS F 104	
	148	4	50000015401		RES CP 150KΩ F 1/16W 0402		4	1	EA	R585		ROHM	MCR01 MZS F 154	
	149	4	50000018400		RES CP 180KΩ F 1/16W 0402		4	2	EA	R301 R302		ROHM	MCR01 MZS F 184	
	150	4	50000002500		RES CP 200KΩ F 1/16W 0402		4	2	EA	R521 R581		ROHM	MCR01 MZS F 204	
	151	4	50000051400		RES CP 510KΩ F 1/16W 0402		4	2	EA	R313 R580		ROHM	MCR01 MZS F 514	
	152	4	50000015601		RES CP 1.5MΩ F 1/16W 0402		4	1	EA	R102		ROHM		
	153	4	50000047107		RES CP 470Ω J 0603		4	1	EA	R257		ROHM		

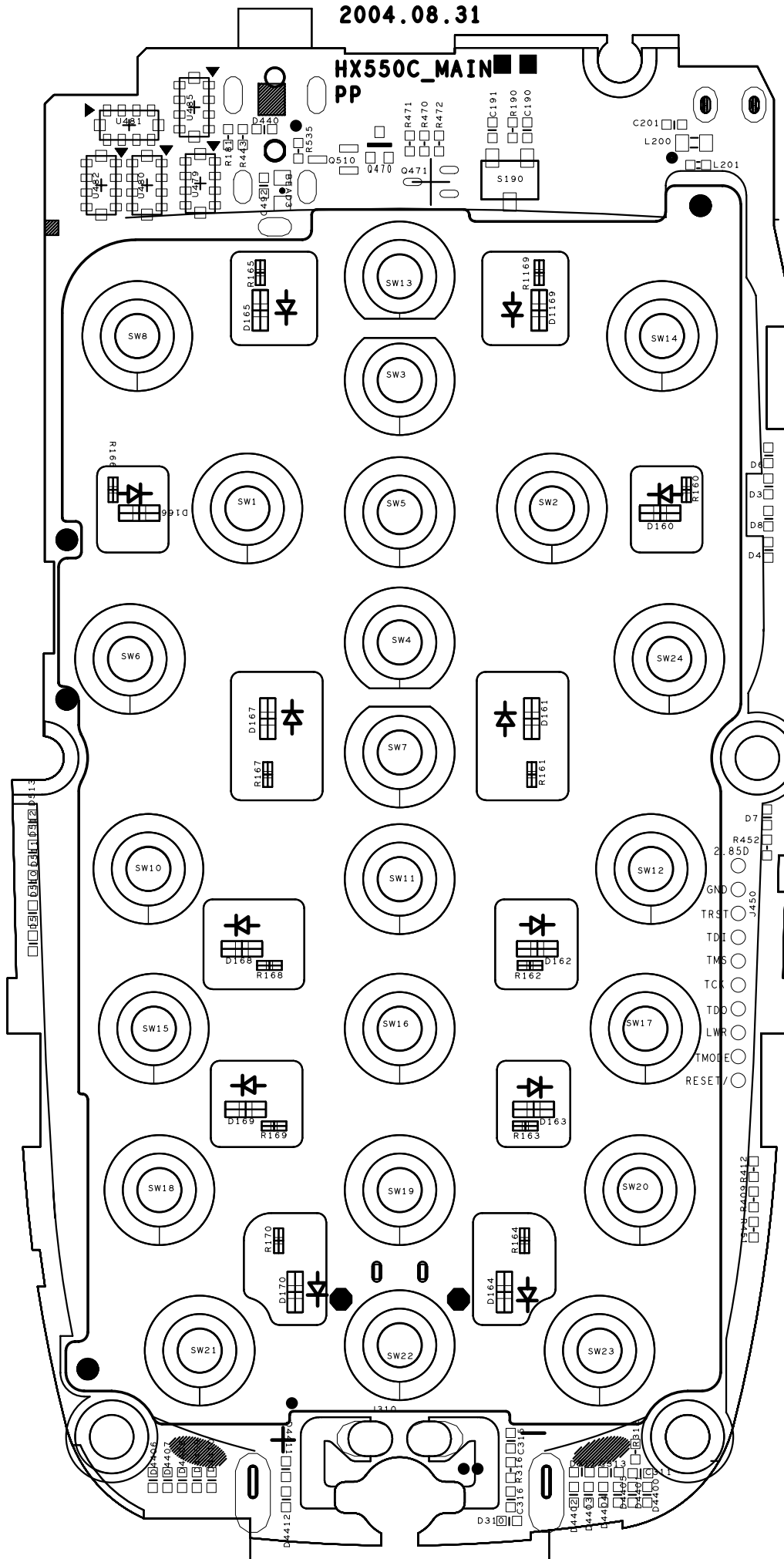
4. Part List

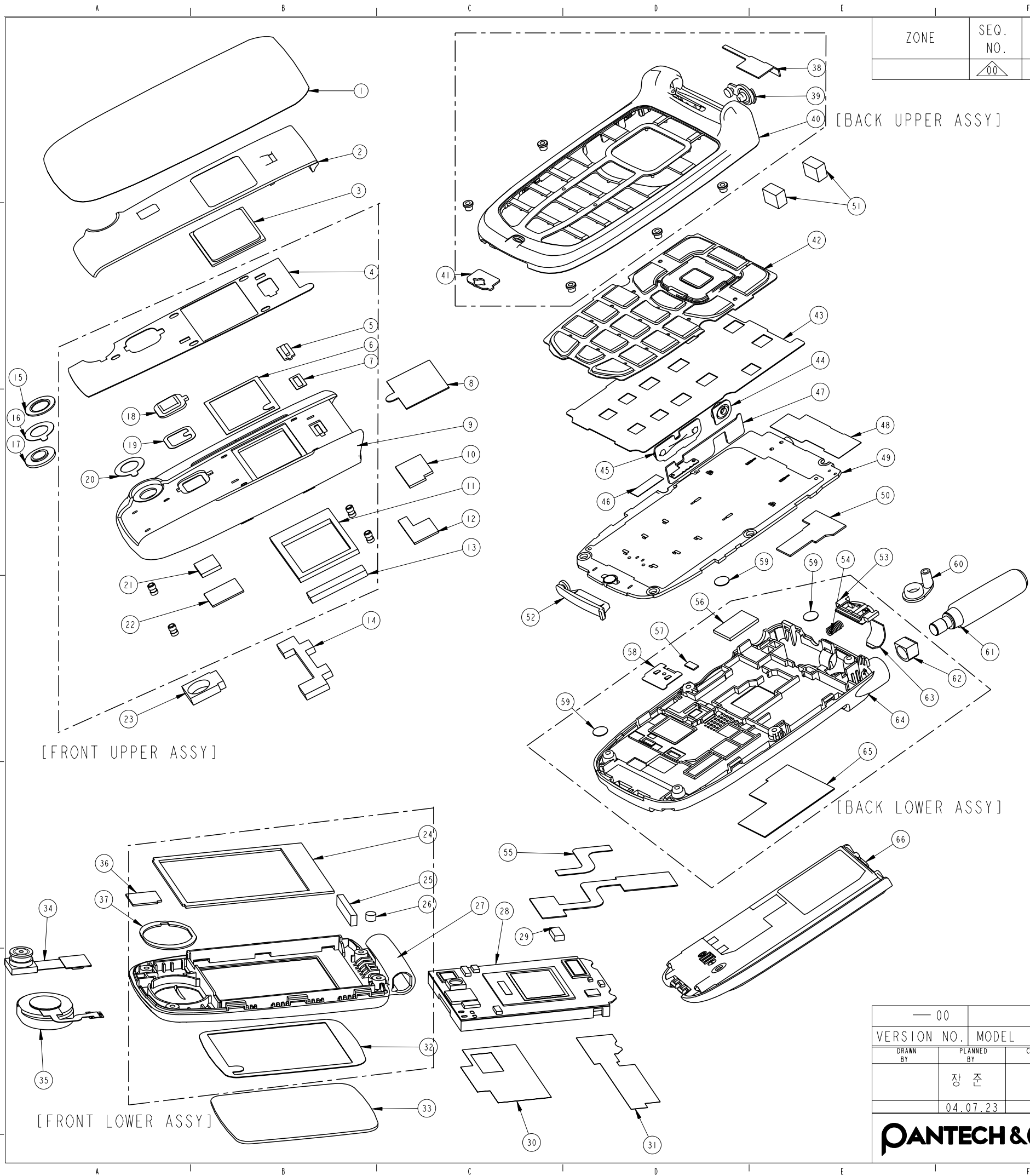
4.5 ASS'Y SUB MAIN PCB

[illegible]



HX550C_MAIN PP





ZONE	SEQ. NO.	REV. P/NO.	ECO NO.	DESCRIPTION	DATE	CHECKED
	00	A	TER-	INITIAL RELEASE	04.07.23	이덕운

66	ASS'Y BATT. STD HX550C	I	2H021624Z0A	
65	MSM CUSHION	I	5H37018500A	
64	BACK LOWER	I	5H120999Z0A	
63	SHIELD TAPE B/LOWER TOP	I	5H36069200A	
62	ANT. HOLDER	I	5H24014300A	
61	ANT-BAR	I	53301000035	
60	TEST RUBBER	I	5H330689Z0A	
59	FLOODING LABEL	3	5H54091000A	
58	CARD PLATE	I	5H26057900A	
57	PROTECTION CUSHION	I	5H37020000A	
56	FPCB MAIN CUSHION	I	5H37018400A	
55	FPCB EMI SHIELD TAPE SHORT	I	5H54133800A	
54	LOCKING SPRING SI	I	5H25005000A	
53	LOCKING KNOB	I	5H110930D0A	
52	CARKIT RUBBER	I	5H330687Z0A	
51	GASKET SHIELD FOAM B/UPPER	I	5H36061300A	
50	ABSORBER SHEET TAPE	I	5H54128600A	
49	PCB	I		
48	PCB ESD TAPE 1	I	5H54128400A	
47	PCB-FLEX,SIDEKEY FPCB	I	5310100012I	
46	PCB ESD TAPE 2	I	5H54128500A	
45	VOLUME BUTTON	I	5H121004Z0A	
44	PTT BUTTON	I	5H121003Z0A	
43	MAIN METAL DOME	I	5H26091600A	
42	KEYPAD RUBBER	I	5H330686Z0A	
41	MIC CUSHION	I	5H37018300A	
40	BACK UPPER	I	5H120998Z0A	
39	EAR RUBBER	I	5H330688Z0A	
38	SHIELD TAPE B/UPPER TOP	I	5H36069100A	
37	SPEAKER FELT	I	5H59016800A	
36	CAM. TAPE	I	5H54127900A	
35	SPEAKER	I		
34	CAMERA MODULE	I		
33	LCD MAIN WINDOW	I	5H170359Z0A	
32	MAIN WINDOW TAPE	I	5H54127800A	
31	LCD ESD TAPE 2	I	5H54128200A	
30	LCD ESD TAPE 1	I	5H54128100A	
29	GASKET SHIELD FOAM LCD TOP	I	5H36068300A	
28	LCD MODULE	I		
27	FRONT LOWER	I	5H120997Z0A	
26	MAGNETIC 3	I	5H24003800A	
25	GASKET SHIELD FOAM(F/LOWER)	I	5H36068200A	
24	LCD CUSHION	I	5H36061000A	
23	CAM CUSHION	I	5H36060900A	
22	LCD PROTECTION CUSHION	I	5H36068000A	
21	CAM. CONN. CUSHION	I	5H37018200A	
20	CAM. WINDOW TAPE	I	5H54127600A	
19	FLASH TAPE	I	5H54127300A	
18	FLASH LENS	I	5H12100210A	
17	CAMERA LENS	I	5H17036000A	
16	CAM. DECO TAPE	I	5H54127700A	
15	CAMERA DECO PLATE	I	5H261031Z0A	
14	SUB LCD CUSHION 2	I	5H36060800A	
13	GASKET SHIELD FOAM LCD	I	5H36061200A	
12	GASKET SHIELD FOAM F/UPPER	I	5H36068100A	
11	SUB LCD CUSHION 1	I	5H36060700A	
10	FPCB CUSHION	I	5H37018100A	
9	FRONT UPPER	I	5H120996Z0A	
8	PROTECTION TAPE(SUBWINDOW)	I		
7	LED LENS TAPE	I	5H54127400A	
6	SUB WINDOW TAPE	I	5H54127500A	
5	LED LENS	I	5H12100510A	
4	FRONT DECO PANEL TAPE	I	5H54127200A	
3	SUB LCD WINDOW	I	5H170361Z0A	
2	FRONT DECO PANEL,METAL	I	5H121006Q0A	
1	PROTECTION TAPE	I	5H54127100A	
NO	DESCRIPTION	Q'TY	DRAWING NO.	REMARKS

— 00							
VERSION NO.		MODEL		DESCRIPTION		REMARKS	
DRAWN BY	PLANNED BY	CHECKED BY	APPROVED BY	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm (INCHES) TOLERANCES ARE: LINEAR ANGLES ± ± RADII UNLESS NOTED: ±		ANGLE 3rd	TITLE
	장 준		이덕운			SCALE N/S	REV
		04.07.23	04.07.23	MDL HX-550C		SIZE A3	TOTAL ASSY
				REF NO.		DWG NO.	SHEET 1/1
						2H021648	

PANTECH & CURITEL

Thank You!!!