



CDMA Mobile Subscriber Unit AS740

SERVICE MANUAL

SINGLE BAND [CELLULAR] CDMA MOBILE PHONE

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1. Introduction

1.1. Purpose

This manual provides the information necessary to repair, calibration, description and download the features of this model.

1.2. Regulatory Information

A. Security

Toll fraud, the unauthorized use of telecommunications system by an unauthorized part (for example, persons other than your company's employees, agents, subcontractors, or person working on your company's behalf) can result in substantial additional charges for your telecommunications services. System users are responsible for the security of own system.

There are may be risks of toll fraud associated with your telecommunications system. System users are responsible for programming and configuring the equipment to prevent unauthorized use. The manufacturer does not warrant that this product is immune from the above case but will prevent unauthorized use of common carrier telecommunication service of facilities accessed through or connected to it. The manufacturer will not be responsible for any charges that result from such unauthorized use.

B. Incidence of Harm

If a telephone company determines that the equipment provided to customer is faulty and possibly causing harm or interruption in service to the telephone network, it should disconnect telephone service until repair can be done. A telephone company may temporarily disconnect service as long as repair is not done.

C. Changes in Service

A local telephone company may make changes in its communications facilities or procedure. If these changes could reasonably be expected to affect the use of the phones or compatibility with the net work, the telephone company is required to give advanced written notice to the user, allowing the user to take appropriate steps to maintain telephone service.

D. Maintenance Limitations

Maintenance limitations on the phones must be performed only by the manufacturer or its authorized agent. The user may not make any changes and/or repairs expect as specifically noted in this manual. Therefore, note that unauthorized alternations or repair may affect the regulatory status of the system and may void any remaining warranty.

E. Notice of Radiated Emissions

This model complies with rules regarding radiation and radio frequency emission as defined by local regulatory agencies. In accordance with these agencies, you may be required to provide information such as the following to the end user.

F. Pictures

The pictures in this manual are for illustrative purposes only; your actual hardware may look slightly different.

G. Interference and Attenuation

A phone may interfere with sensitive laboratory equipment, medical equipment, etc. Interference from

unsuppressed engines or electric motors may cause problems.

H. Electrostatic Sensitive Devices

ATTENTION

Boards, which contain Electrostatic Sensitive Device (ESD), are indicated by the  sign. Following information is ESD handling:

- Service personnel should ground themselves by using a wrist strap when exchange system boards.
- When repairs are made to a system board, they should spread the floor with anti-static mat which is also grounded.
- Use a suitable, grounded soldering iron.
- Keep sensitive parts in these protective packages until these are used.
- When returning system boards or parts like EEPROM to the factory, use the protective package as described.



AS740

Product Requirement SPEC.



OCT, 19, 2010

(RevA.0)



LG Electronics Inc.

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AS740 Product SPEC

1. Product Name

AS740 : US Cellular/US PCS + GPS
(EVDO Rev_0 / EVDO Rev_A)

2. Supporting Standard

Item	Feature	Comment
Supporting Standard	US Cellular / US PCS/GPS	
Frequency Range	US Cellular TX : 824.82 ~ 848.19 MHz US Cellular RX : 869.82~893.19 MHz US PCS TX : 1850~1910 MHz US PCS RX : 1930~1990 MHz GPS : 1575.42 MHz	

3. Functions of Major Semi-Conductors

Classification	Function
MSM7627	Terminal operation control and digital signal processing
Memory (H8BES0UU0MCR)	NAND Flash Memory (4G) + SDRAM (4G) Storing of terminal operation program
RTR6500	Converts Rx and Tx RF signal to baseband signal

AS740 Product SPEC

4. HW Features

Item	Feature	Comment
Form Factor	Horizontal Slide QWERTY	
Battery	1) Capacity Standard : Li-Ion polymer, 1500mAh	
	2) Packing Type : Soft Pack	
Size	Standard : 116 x 56.5 x 15.9	
Weight	161.1g	
Volume	TBD	
PCB	3-8 Staggered 10 Layers , 0.8t	
Stand by time	CDMA DCN/PCS Up to 450 hrs	@ SCI=2(pwr: -75dBm)
Charging time	200 min	@ Power Off/ 1500mAh
Talk time	CDMA Up to 400mins	@ Rx pwr -92dBm
LCD	3.2" WVGA (800x480 pixel) 260K TFT LCD	
Built-in Camera	3.2Mega Auto Focus Camera with Flash	3.2M AF / Digital Zoom : x4
Status Indicator	RGB indicator	
Keypad	Main Side Slide Qwerty Function Key : 6 Side Key : 3	Function Key: Back,Search Call,Home,Menu,End Side Key : Volume up/down,CAM
ANT	Main : Internal Fixed Type	
System connector	5 Pin	
Ear Phone Jack	4pole, 3.5Φ Ear Jack	
Memory	NAND Flash : 4Gbit SDRAM : 4Gbit	
Speech coding	FR, EFR, HR,AMR	
Data & Fax	Built in Data & Fax support	
Vibrator	Built in Vibrator	
Blue Tooth	V2.1 + EDR	
MIDI(for Buzzer Function)	SW decoded	
Music Player	MP3/AAC/AAC+	
Video Player	H.263, H.264, MPEG-4, DivX, WMV	
Camcorder	MPEG-4	
Voice Recording	Yes	
Speaker Phone mode Support	Yes	
Travel Adapter	Yes	
CDROM	Yes	
Stereo Headset	Yes	
Data Cable	Yes	
T-Flash (External Memory)	Yes	

5. SW Features

Item	Feature	Comment
RSSI	Yes	
Battery Charging	Yes	
Key Volume	No	
Audio Volume	Yes	
Time / Date Display	Yes	
Multi-Language	Yes	English, Spanish
Quick Access Mode	Camera	
PC Sync	No	
Speed Dial	No	
Profile	No	
CLIP / CLIR	No	
Phone Book	Given Name/Family Name/ Phone: Home/Mobile/Work/Work Fax/Home Fax/Pager/other/Custom Email: Home/Work/Other/Custom IM: AIM/Windows Live/Yahoo/Skype/QQ/Google Talk/ICQ/Jabber/Custom Postal address: Home/Work/Other/Custom Organization: Work/Other/Custom Notes Nickname Website	There is no limitation on the number of items. It depends on Available memory amount.
Last Dial Number	Yes	Last Dial Numbers, Last Received Numbers and Last Missed Numbers can store.
Last Received Number	Yes	Last Dial Numbers, Last Received Numbers and Last Missed Numbers can store .
Last Missed Number	Yes	Last Dial Numbers, Last Received Numbers and Last Missed Numbers can store.
Search by Number / Name	Name	
Group	Yes	There is no limitation on the number of items. It depends on available memory amount.
Fixed Dial Number	No	
Service Dial Number	No	
Own Number	No	
Voice Memo	Yes	Support voice recorder

AS740 Product SPEC

Call Reminder	No	
Network Selection	Automatic /Manual	
Mute	Yes	
Call Divert	No	
Call Barring	No	
Call Charge (AoC)	No	
Call Duration	No	
SMS (EMS)	There is no limitation on the number of items. It depends on available memory amount.	EMS does not support.
SMS Over GPRS	Yes	
EMS Melody / Picture	No	
Send / Receive / Save	No	
MMS MPEG4	Yes	
Send / Receive / Save	Yes	
Long Message	Yes	
Cell Broadcast	No	
Download	GOTA	
Game	No	
Calendar	Yes	
Memo	No	
World Clock	Yes	
Unit Convert	No	
Stop Watch	No	
Wall Paper	Yes	
WAP Browser	No	Support HTML Browser
Download Melody / Wallpaper	Yes	Android Market
SIM Lock	No	
SIM Toolkit	No	
MMS	Yes	
EONS	No	
CPHS	No	
Camera	Yes	3.2M AF
JAVA	No	
Voice Dial	Yes	
IrDa	No	
Bluetooth	Yes	Ver. 2.1+EDR (HSP,HFP,A2DP,AVRCP,OPP,FTP)
FM radio	No	
Hold / Retrieve	Yes	
Conference Call	Yes	Max. 3
DTMF	Yes	
Memo pad	No	
TTY	Yes	
AMR	Yes	

AS740 Product SPEC

SyncML	No	
IM	Yes	Google Talk
Email	Yes	

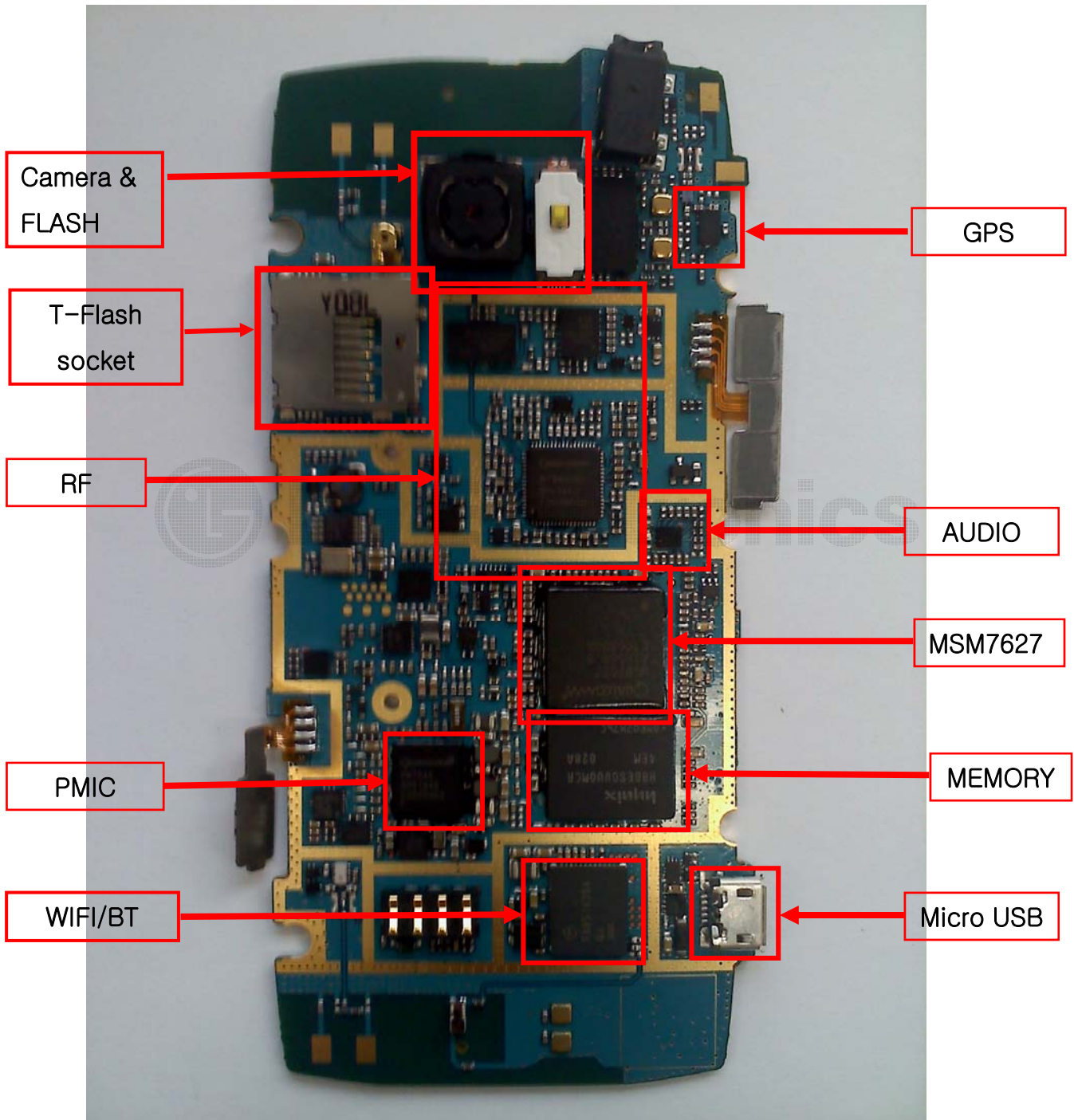
6. AS740 Figures



1. LG-AS740 Main Features

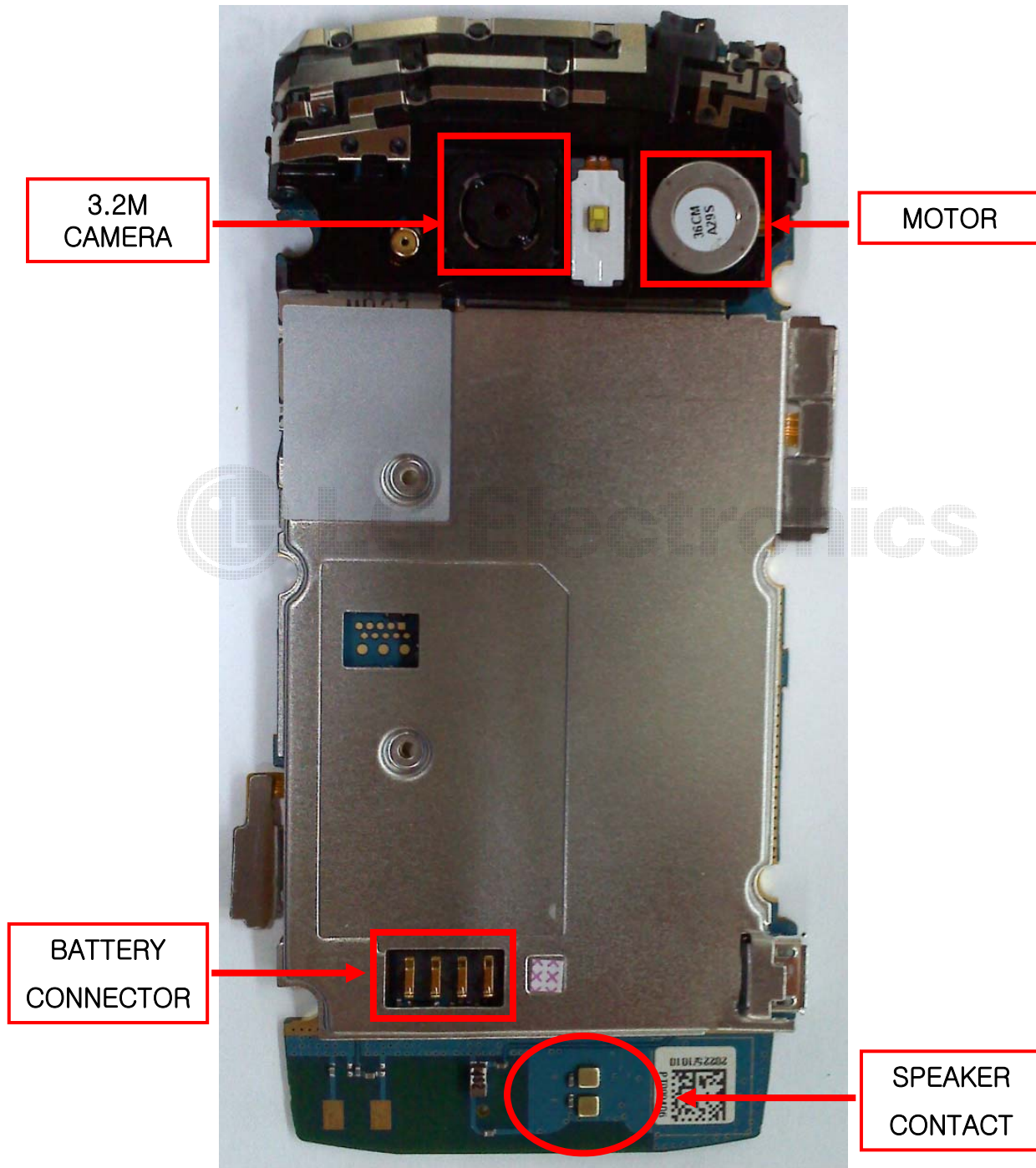
- Side Slide Qwerty type
- Main Chipset : MSM7627, Memory(4Gbits NAND Flash + 4Gbits DDR SDRAM)
- Display : 3.2", 480 x 800 pixels, 262K Colors, TFT
- CMX 4.0 compliant(72 Poly)
- OS : Android V2.1 Eclair
- Camera : Built-in Camera (3.0M AF pixels, CMOS Image sensor) with Flash
- PMIC : Power control, Charger controller, Battery Voice Safety Recording/Memo/Playback, Voice Recognition System
- E911(gpsOne), TTY/TDD
- Web Browser : Android Native Browser
- 3D Graphics GUI : Menu, Animations, Flash UI
- Support Micro-SD Card : External Memory
- Bluetooth 2.1 EDR
- WLAN 802.11 b/g/n

2. LG-AS740 Main Component



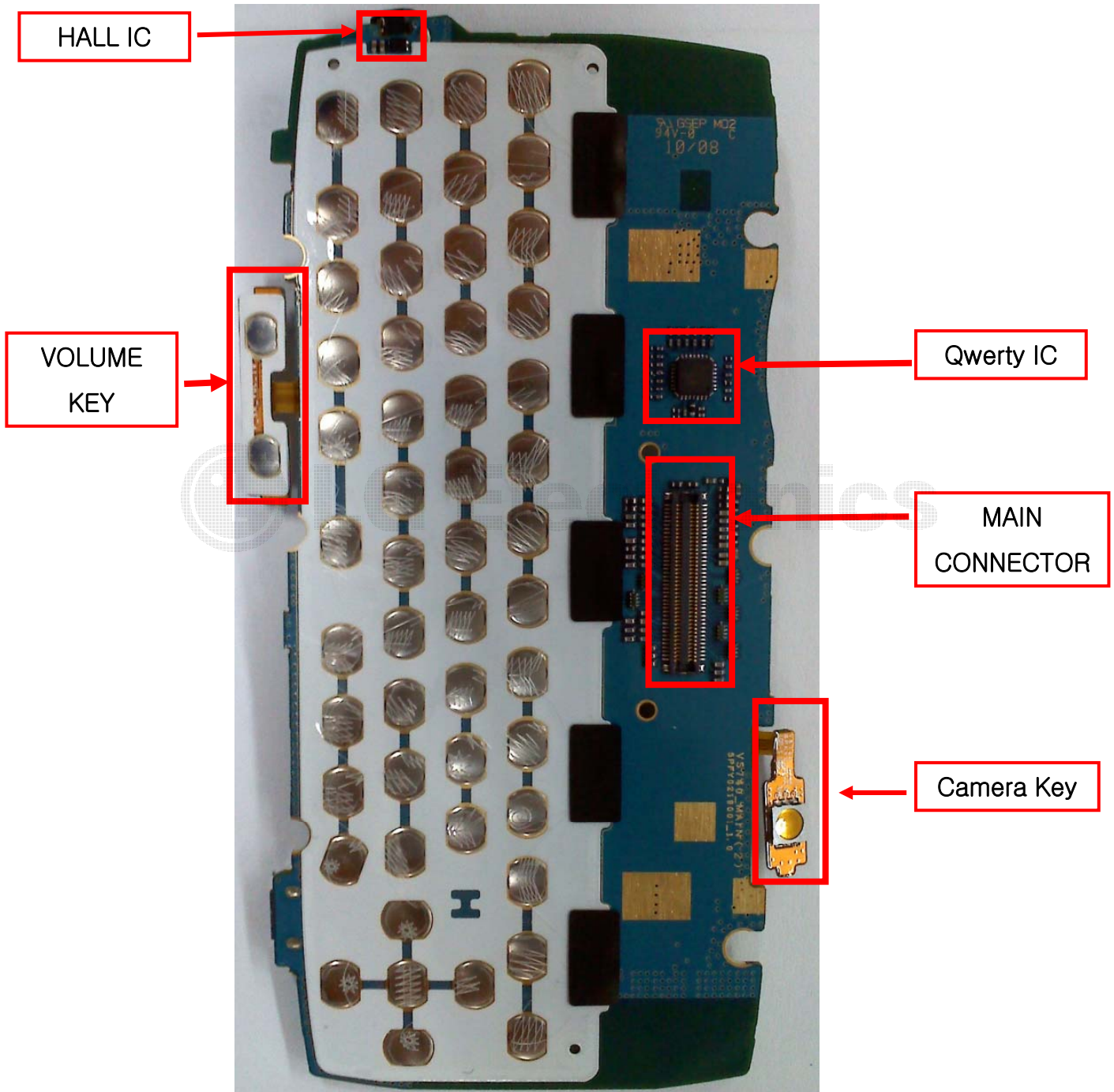
Main board, BOTTOM

2. LG-AS740 Main Component



Main board, Bottom

2. LG-AS740 Main Component



Main board, Top

3. BB Technical Description

3.1 Digital Baseband(DBB/MSM7627)

3.1.1 General Description

A. Features(MSM7627)

The basic MSM7627 system solution consists of the MSM7627, RTR6285™, RTR6500™, and PM7540™ ICs, plus AMSS™ system software with the SURF7627™ platform available for development. General features include:

- CDMA 1X and 1xEV-DO Rev. A
- WCDMA Rel '99 plus HSDPA and HSUPA
- GSM/GPRS/EDGE
- High-performance ARM1136JF-S™ application processor at up to 600 MHz; QDSP5000™ at 320 MHz
- High-performance ARM926EJ-S™ modem processor at up to 400 MHz; QDSP4000™ at 122.88 MHz
- Java® hardware acceleration for faster Java-based games and other applets
- Support for Bluetooth® 2.1 EDR via an external Bluetooth System-on-Chip (SoC)
- High-speed, serial mobile display digital interface (MDDI) that optimizes the interconnection cost between the MSM device and the LCD panel
- Receive diversity support for CDMA and WCDMA modes, thereby providing improved capacity and data throughput
- USB 2.0 compliant high-speed USB core with limited OTG capabilities
- Integrated high-speed USB PHY
- Integrated wideband stereo codec for digital audio applications
- Direct interface to digital camera module with video front-end (VFE) image processing
- GPS position location capabilities
- Vocoder support (EVRC, 13k QCELP®, 4GV™, GSM-HR, FR, EFR, AMR, and AMR-WB/+)
- Advanced 12 × 12 × 1.05 mm, 0.4 mm pitch, 560 NSP

3.2 Hardware Architecture

<TOTAL Block>

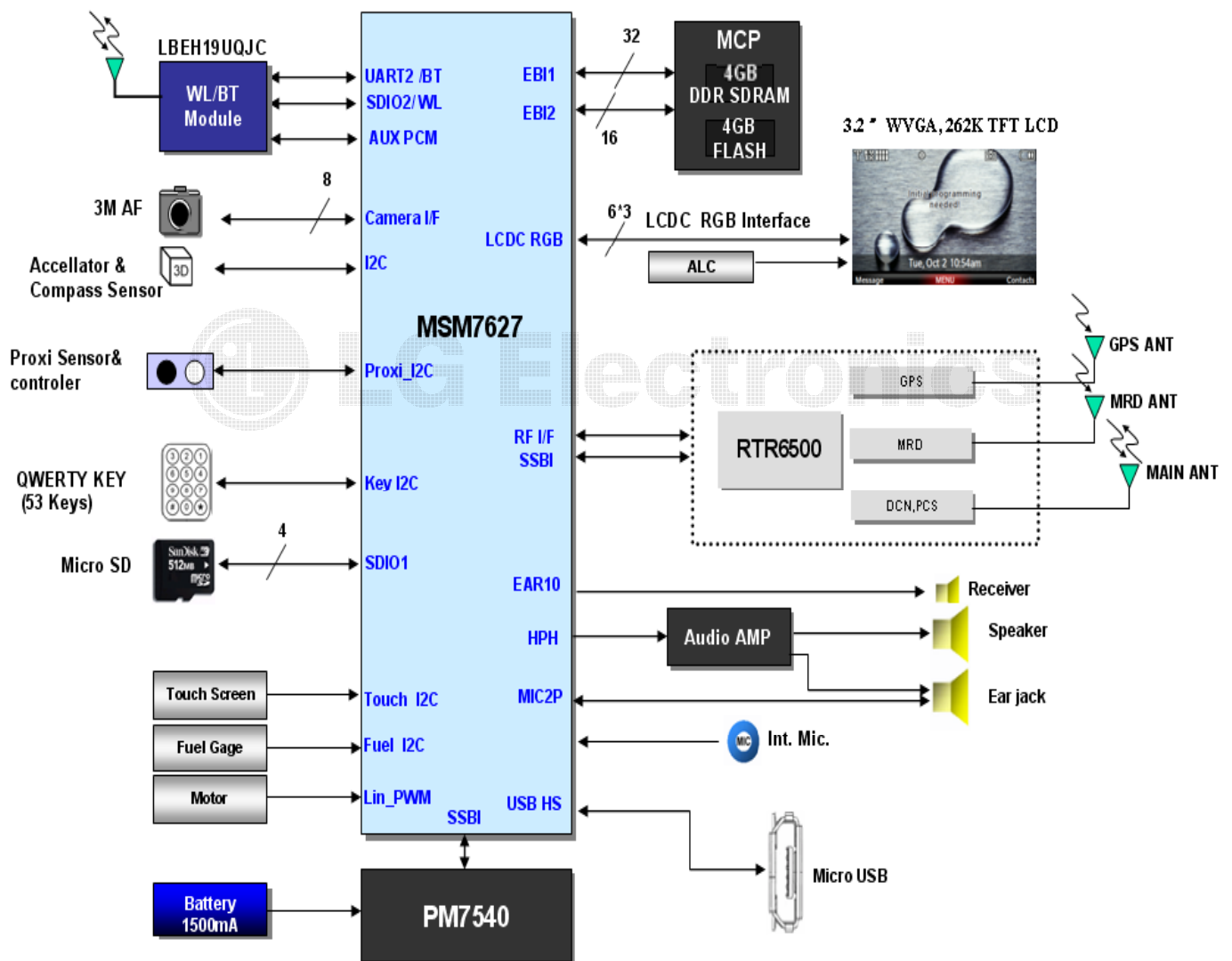


Figure. Simplified Block Diagram

3.2 Hardware Architecture

<Power Block>

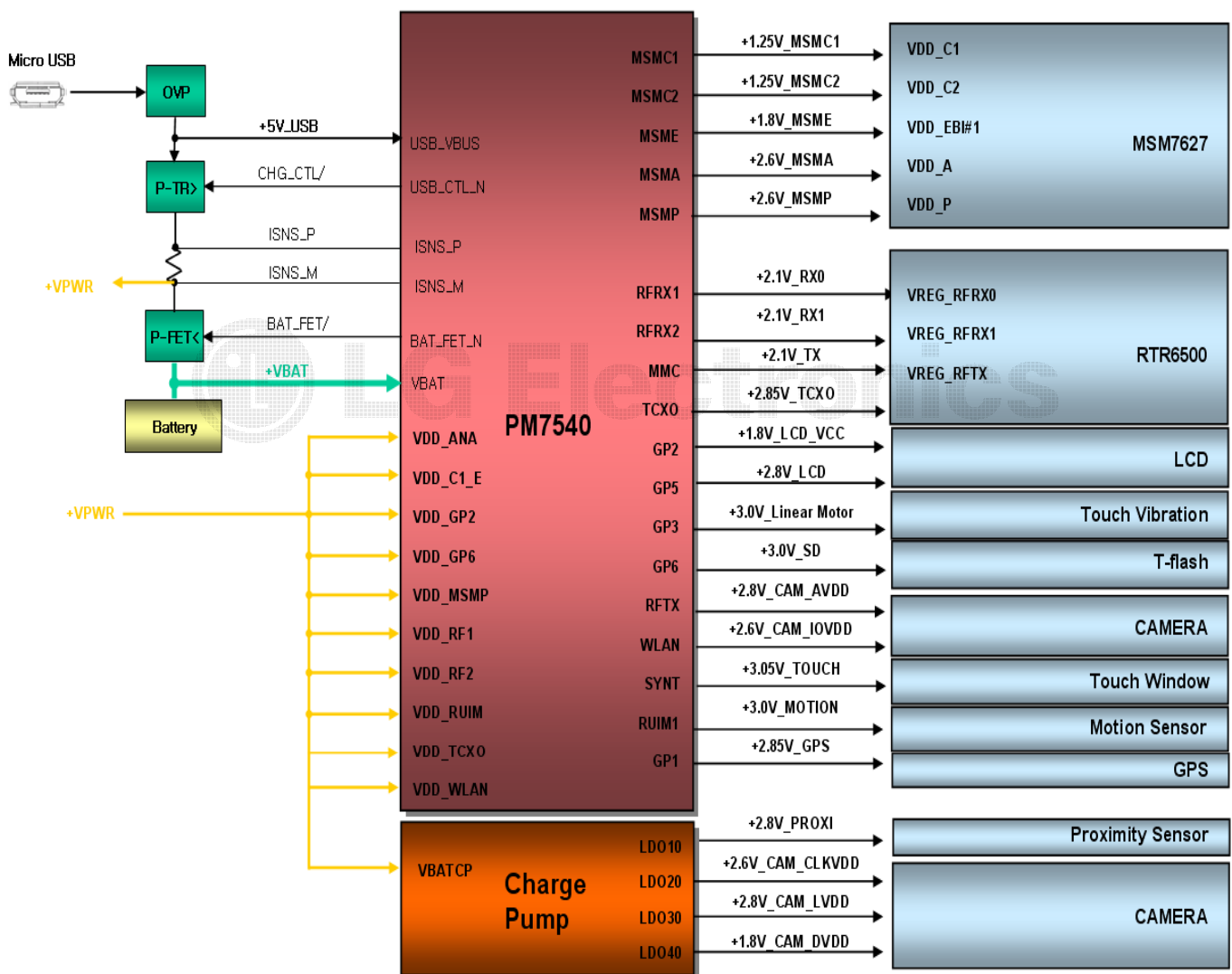


Figure. Simplified Block Diagram

3.2 Hardware Architecture

<LCD Block>

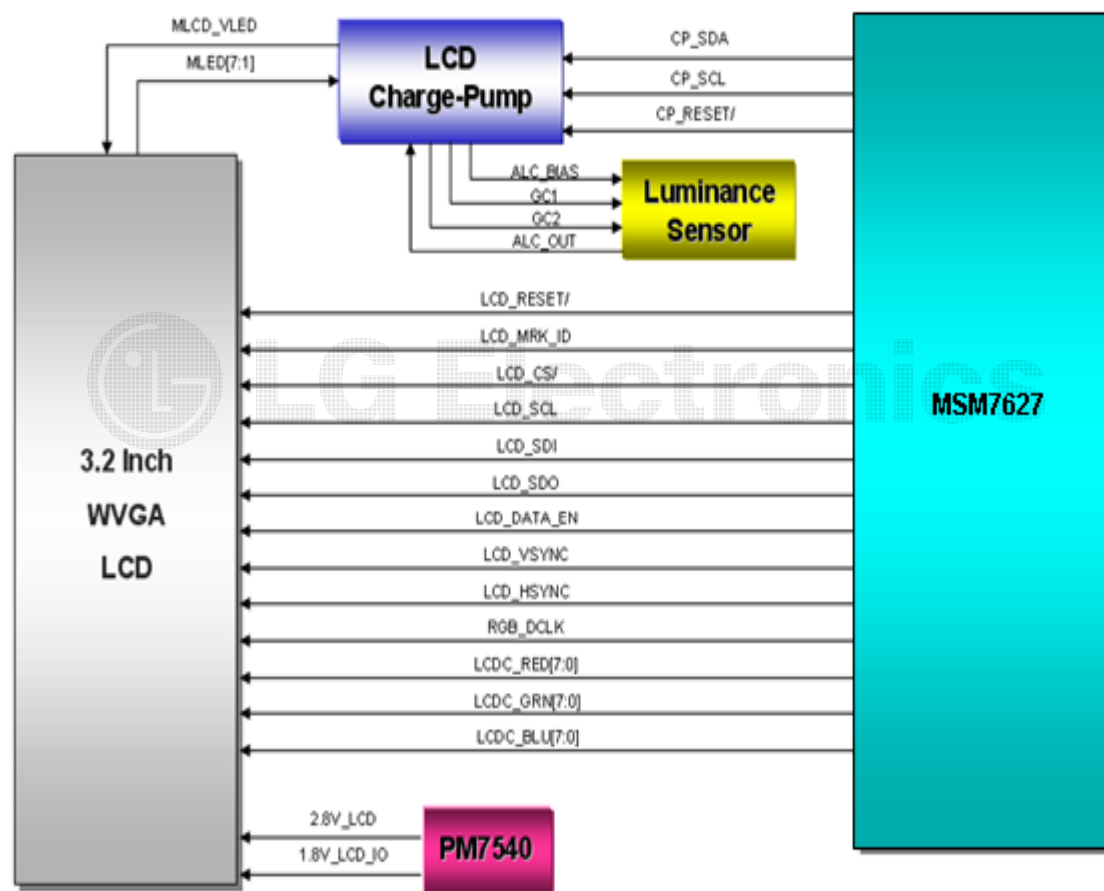


Figure. Simplified Block Diagram

3.2 Hardware Architecture

<Camera Interface>

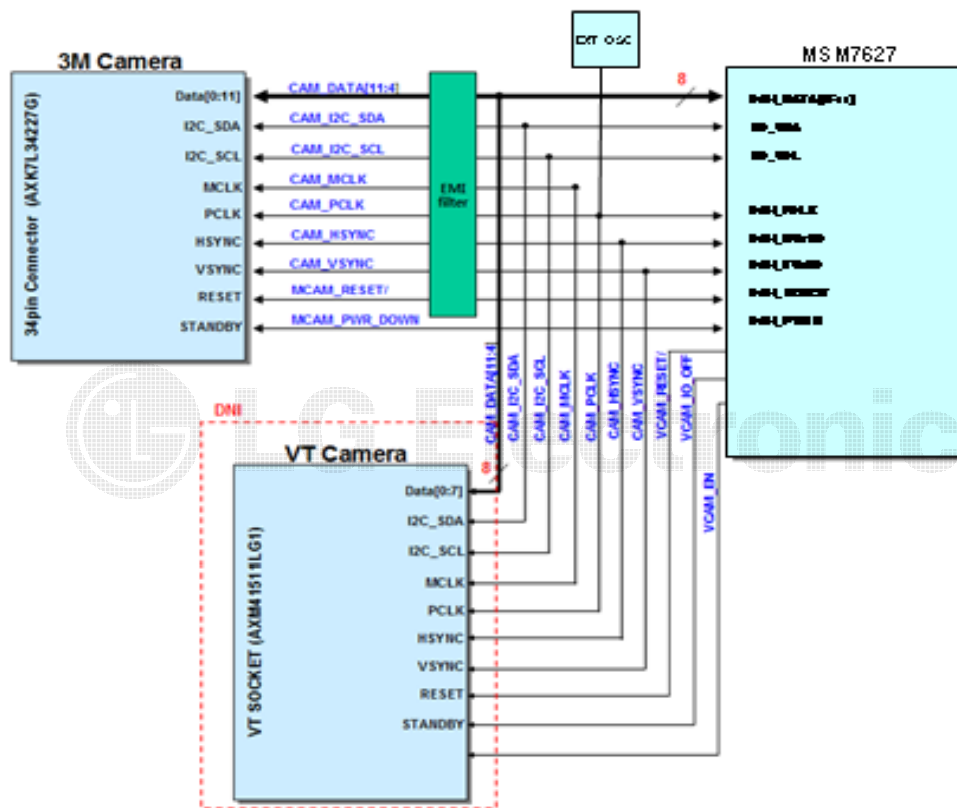


Figure. Simplified Block Diagram

3.2 Hardware Architecture

<External Memory>

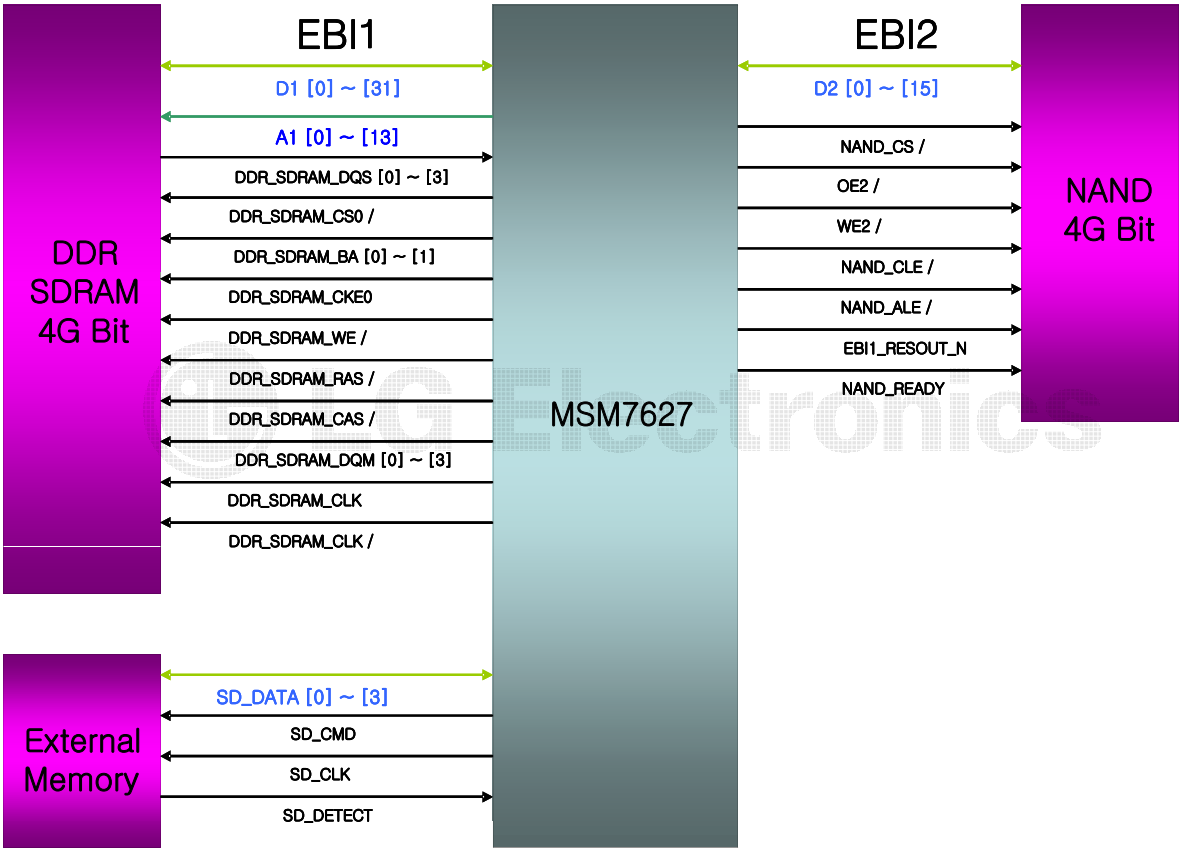


Figure. Simplified Block Diagram

3.2 Hardware Architecture

<Sensor & Motor>

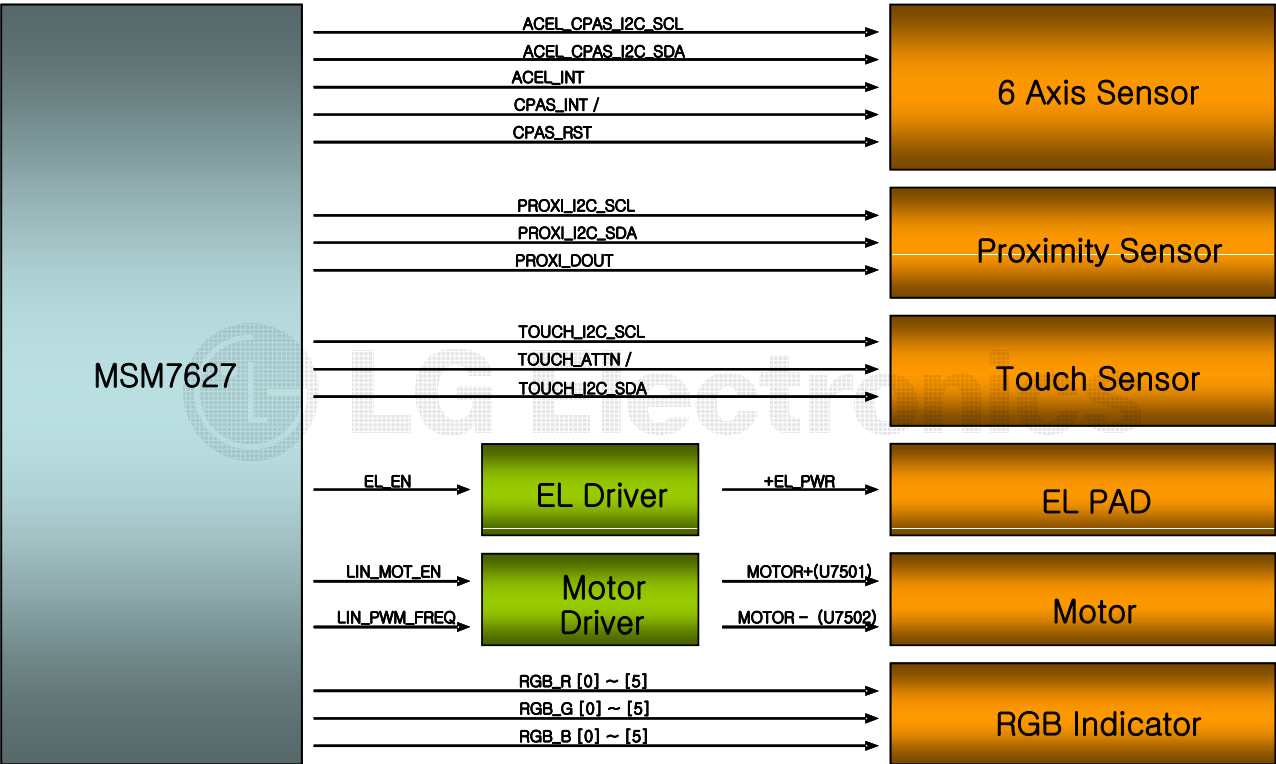


Figure. Simplified Block Diagram

3.2.1 Architecture and baseband processing features

- High-performance ARM1136JF-S 600 MHz application processor:
 - ARM® architecture v6
 - 32 kB instruction and 32 kB data cache
 - 256 kB ARM11™ L2 cache
 - 4 kB level-one tightly-coupled memory (TCM)
 - 8-stage pipeline, branch prediction with return stack
 - Supports the ARM and Thumb instruction sets, and Jazelle™ technology to enable direct execution of Java byte-codes
 - Low-interrupt latency
- Industry standard ARM926EJ-S 400 MHz embedded microprocessor subsystem
 - 16 kB instruction and 16 kB data cache
 - ARM version 5TEJ instructions
 - Higher-performance five-stage pipeline, Harvard cached architecture
 - Higher internal CPU clock rate with on-chip cache
 - Internal watchdog and sleep timers
- QDSP5000 320 MHz application digital signal processing (ADSP)
 - 512 kB L2 cache
- QDSP4000 122.88 MHz modem digital signal processing (MDSP)

3.3 Memory support features

- 256 kB internal memory (IMEM) for graphics, internal functions, DSP, etc.
- Dual-memory buses separating the high-speed memory subsystem (EBI1) from low-speed peripherals (EBI2) such as LCD panels
- Enhanced EBI1 memory support: 200 MHz bus clock for DDR SDRAM
- EBI2 support:
 - 1.8 or 2.6 V memory interface support
 - NAND/OneNAND™ flash memory interface
 - Boot from NAND/OneNAND
 - LCD and Universal Broadcast Modem™ (UBM™) support

3.4. Power Block

3.4.1. General

MSM7627 is covered by PM7540(Qualcomm PMIC),
PM7540 cover the power of MSM7627, memory, RF block(RTR6500), and TCXO.
Major power components are :

PM7540(U40000) : Phone main PMIC
BD6084(U4200) : LCD BLT Charge Pump
NUS3116(F4500) : main power path switch(battery charging circuit)
MAX14528(U4300) : OVP(Over voltage protection) IC

3.4.2 PM7540

The PM7540 device (Figure) integrates all wireless handset power management. The power management portion accepts power from all the most common sources – battery, external charger, adapter, coin cell back-up – and generates all the regulated voltages needed to power the appropriate handset electronics. It monitors and controls the power sources, detecting which sources are applied, verifying that they are within acceptable operational limits, and coordinates battery and coin cell recharging while maintaining the handset electronics supply voltages. Eight programmable output voltages are generated using low dropout voltage regulators, all derived from a common trimmed voltage reference.

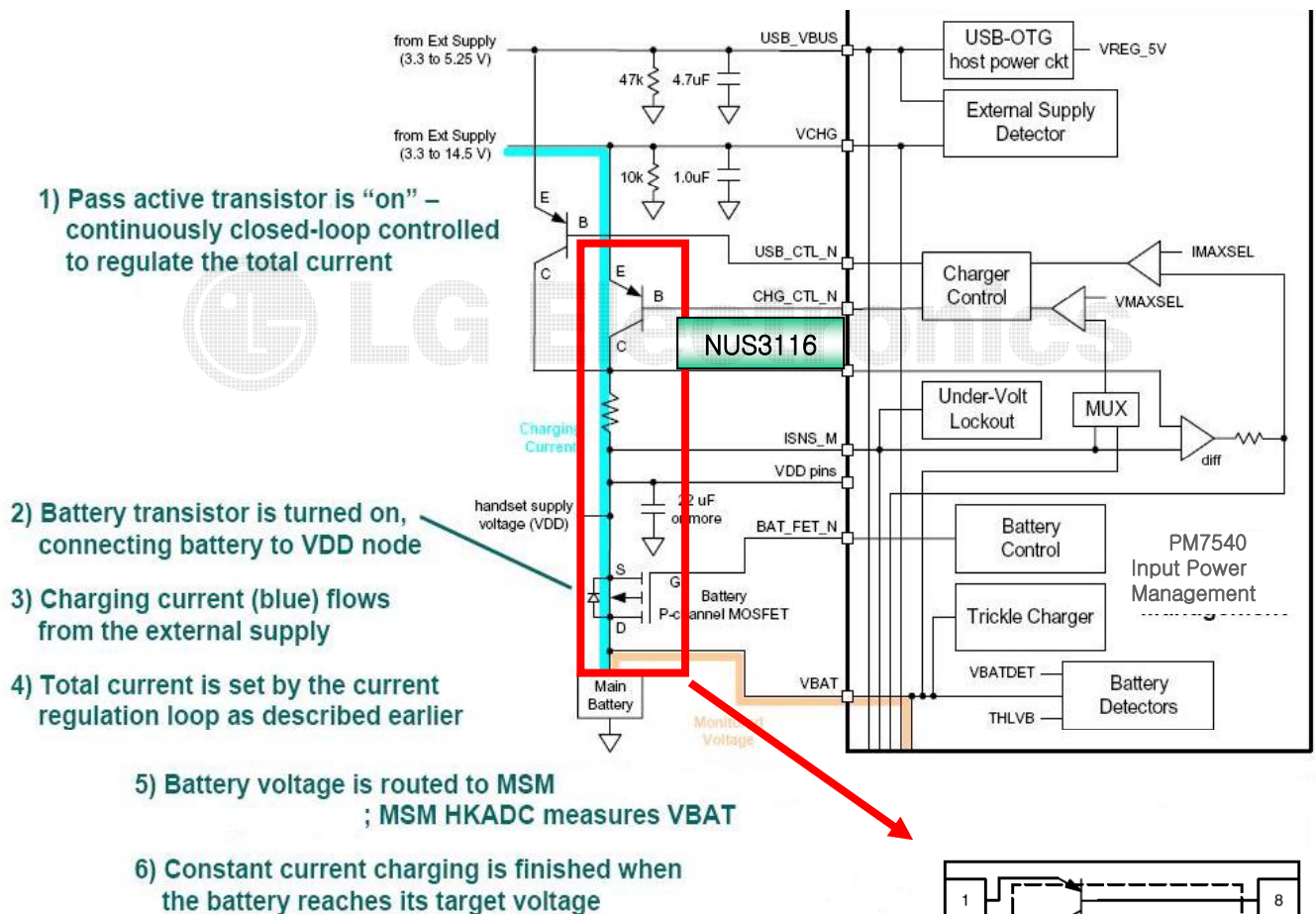
A dedicated controller manages the TCXO warm-up and signal buffering, and key parameters (under-voltage lockout and crystal oscillator signal presence) are monitored to protect against detrimental conditions.

MSM7627 device controls and statuses the PM7540 IC using Single Serial Bus Interface (SSBI) supplemented by an Interrupt Manager for time-critical information. Another dedicated IC Interface circuit monitors multiple trigger events and controls the power-on sequence.

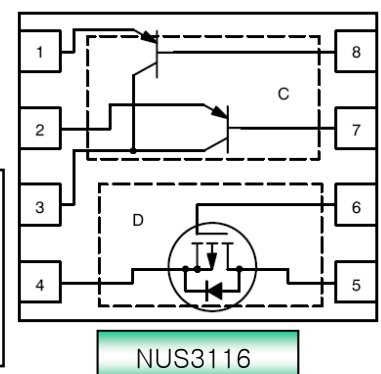


3.4.3. Charging control

A programmable charging block in PM7540 is used for battery charging. It is possible to set limits for the charging current. The external supply typically connects directly to pin (VCHG). The voltage on this pin (VCHG) is monitored by detection circuitry to ascertain whether a valid external supply is applied or not. For additional accuracy or to capture variations over time, this voltage is routed internally to the housekeeping ADC via the analog multiplexer. PM7540 circuits monitor voltages at VCHARGER and ICHARGE pins to determine which supply should be used and when to switch between the two supplies. These pins are connected to the Source (or emitter) and Drain (or collector) contacts of the pass transistor respectively.



PM7540 only include charging controller.
So it is necessary external charging path TR.
This is NUS3116.
This part also include battery side power path.



Constant Current Charging

The PM7540 IC supports constant current charging of the main battery by controlling the charger pass transistor and the battery transistor. The constant current charging continues until the battery reaches its target voltage, 4.2V.

Constant Voltage Charging

Constant voltage charging begins when the battery voltage reaches a target voltage, 4.2V. The end of constant voltage charging is commonly detected 10% of the full charging current.

- Charging Method : CC & CV (Constant Current & Constant Voltage)
- Maximum Charging Voltage : 4.2V
- Maximum Charging Current : 800mA
- Nominal Battery Capacity : 1500mAh
- Charging time : Max 3 Hours
- Full charge indication current (icon stop current) : 150mA
- Cut-off voltage : 3.50V

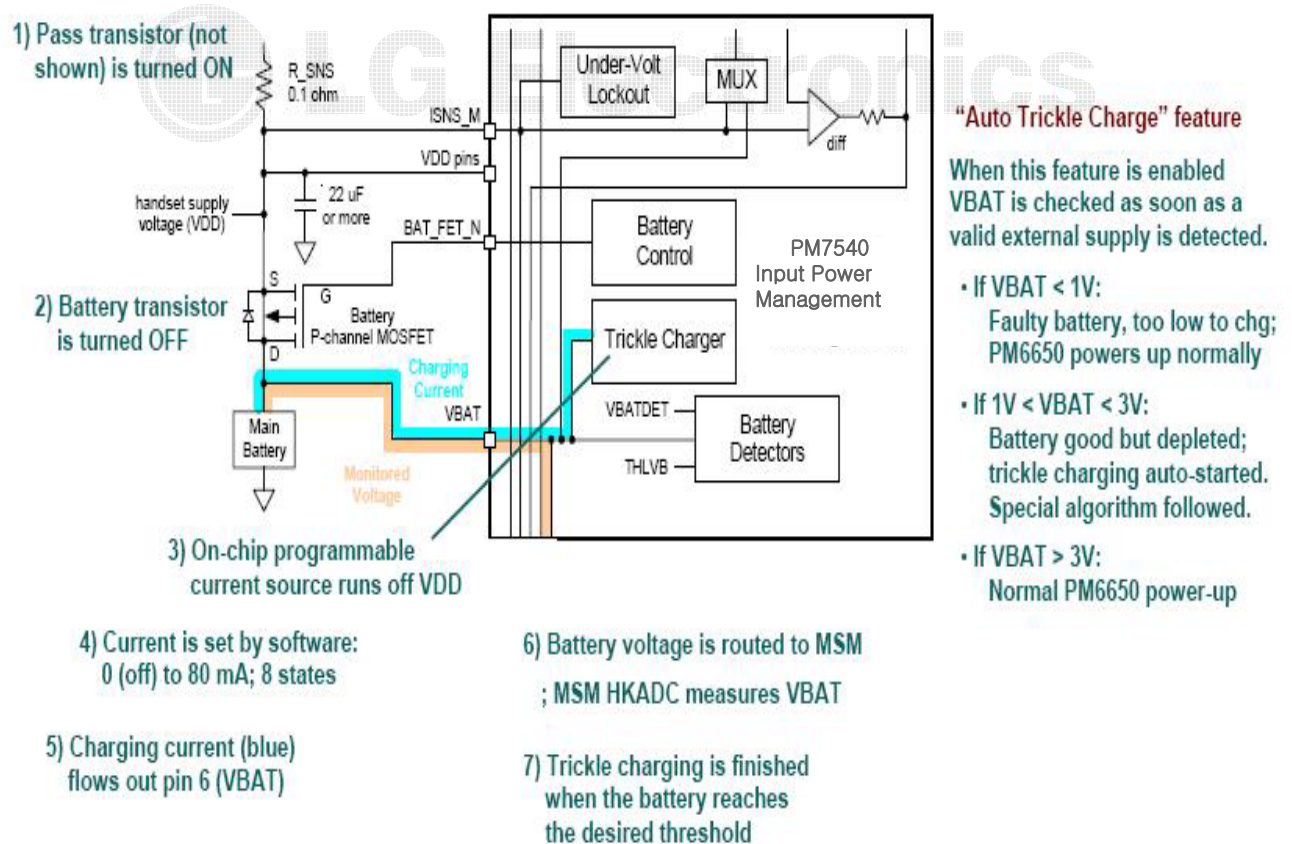
@ Battery icon display

Battery Bar	Specification	unit
BAR 6 --> 5 bar	90%	%
BAR 5 --> 4 bar	70%	
BAR 4 --> 3 bar	50%	
BAR 3 --> 2 bar	30%	
BAR 2 --> 1 bar	15%	
BAR 1 --> 0 bar	5%	
Red LED indicator	10%	
Cut off	0%	-

Trickle Charging

Trickle Charging of the main battery, enabled through SBI control and powered from V_{DD} , is provided by the PM7540 IC. The trickle charger is on-chip programmable current source that supplies current from V_{DD} to pin (VBAT). Trickle charging can be used for lithium-ion and nickel-based batteries, with its performance specified below (3.2V). The charging current is set to 80mA.

Parameter	Min	Typ	Max	Unit
Trickle Current	60	80	100	mA



3.5.2. HS-USB

The universal serial bus (USB) is an interconnection standard widely supported by the electronic industry. The USB2.0 spec defines data rates as low-speed (1.5 Mbps), full-speed (12Mbps) and hi-speed (480 Mbps). When two devices are connected via a USB interface, one of the devices must act as a host, and the other device must act as a peripheral. The host is responsible for initiating and controlling traffic on the bus. The USB specification requires personal computers (PCs) to act as hosts, and other devices such as printers, keyboards, mice, etc. to act as peripherals. The OTG supplement creates a new class of devices called OTG devices. OTG devices can act as either hosts or peripherals, depending upon how they are connected and/or used.

The MSM7627A device contains a new USB high-speed function that is based on an embedded UTMI+ core with a UTMI+ low pin interface (ULPI) compatible port. The MSM device's ULPI interface connects to an external ULPI PHY chip to complete the design. The ULPI core embedded in the MSM along with the PM7540 IC and a USB high-speed PHY IC provide support for the high-speed interface.

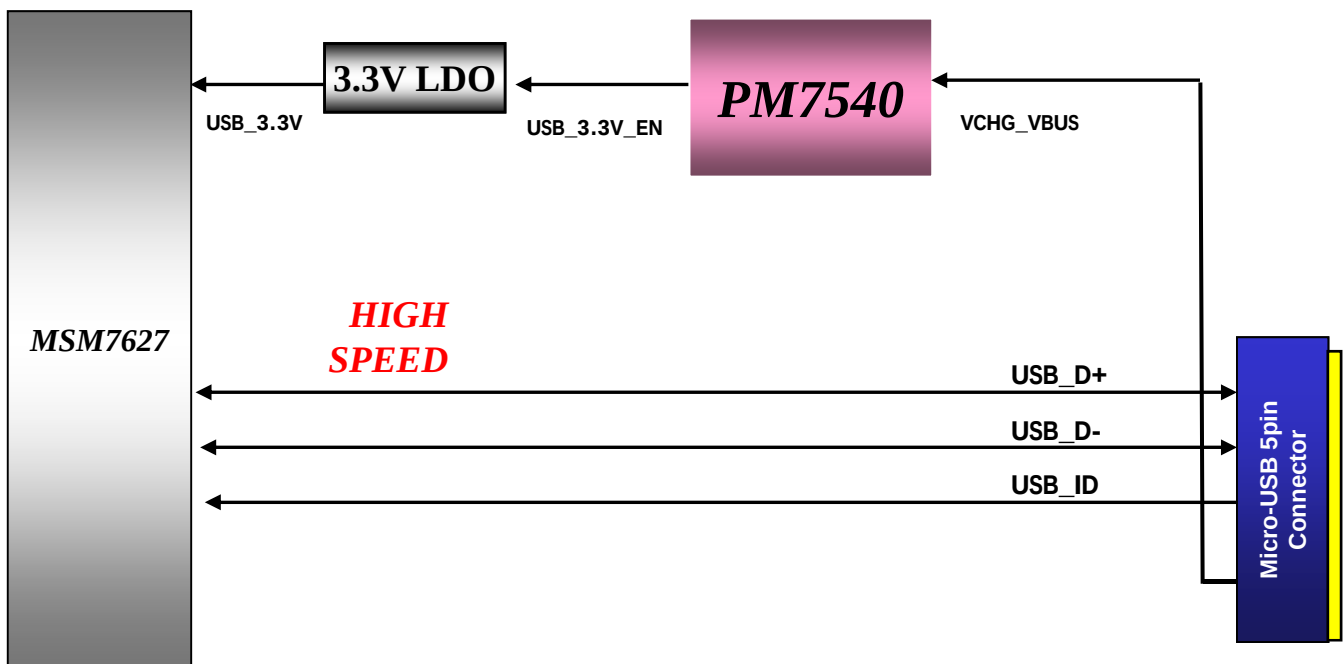


Figure. USB block(MSM7627, MAX14528)

3.5.3. KEY

3.5.3.1 Power key

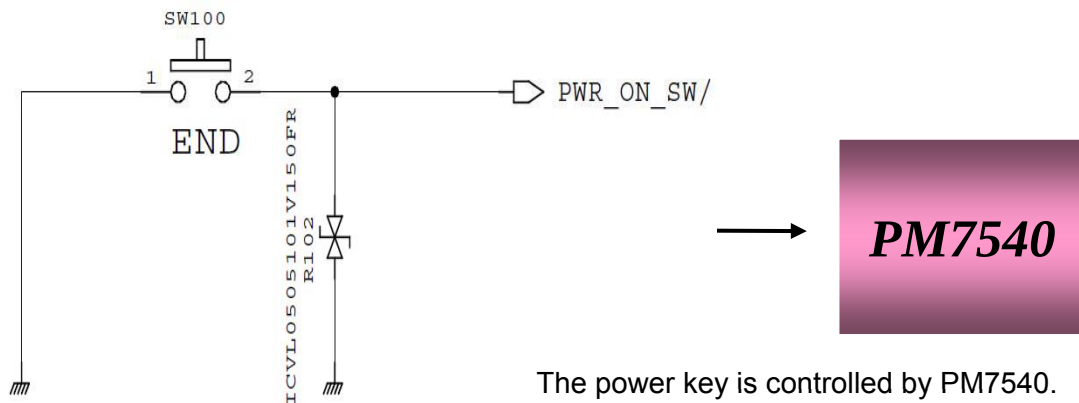
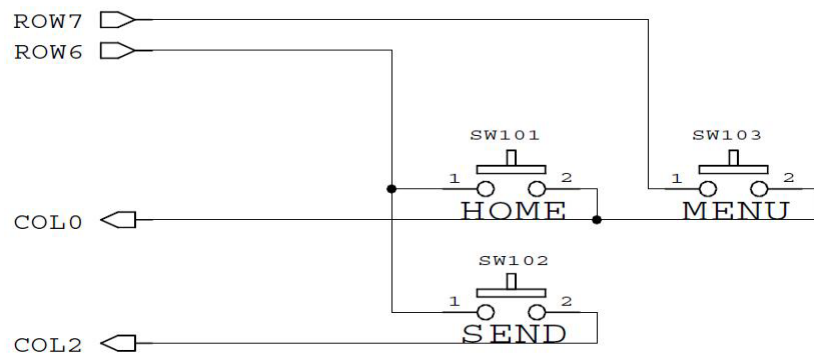


Figure. POWER KEY

3.5.3.2 key

<HOT KEY>



The HOT Keys (Home & menu & END) are controlled by Qwerty IC (U9100).

Figure. HOT KEY

3.5.3. KEY

3.5.3.3 Side & Cam Key

The Side& Cam key are controlled by qwerty key IC (U9100).

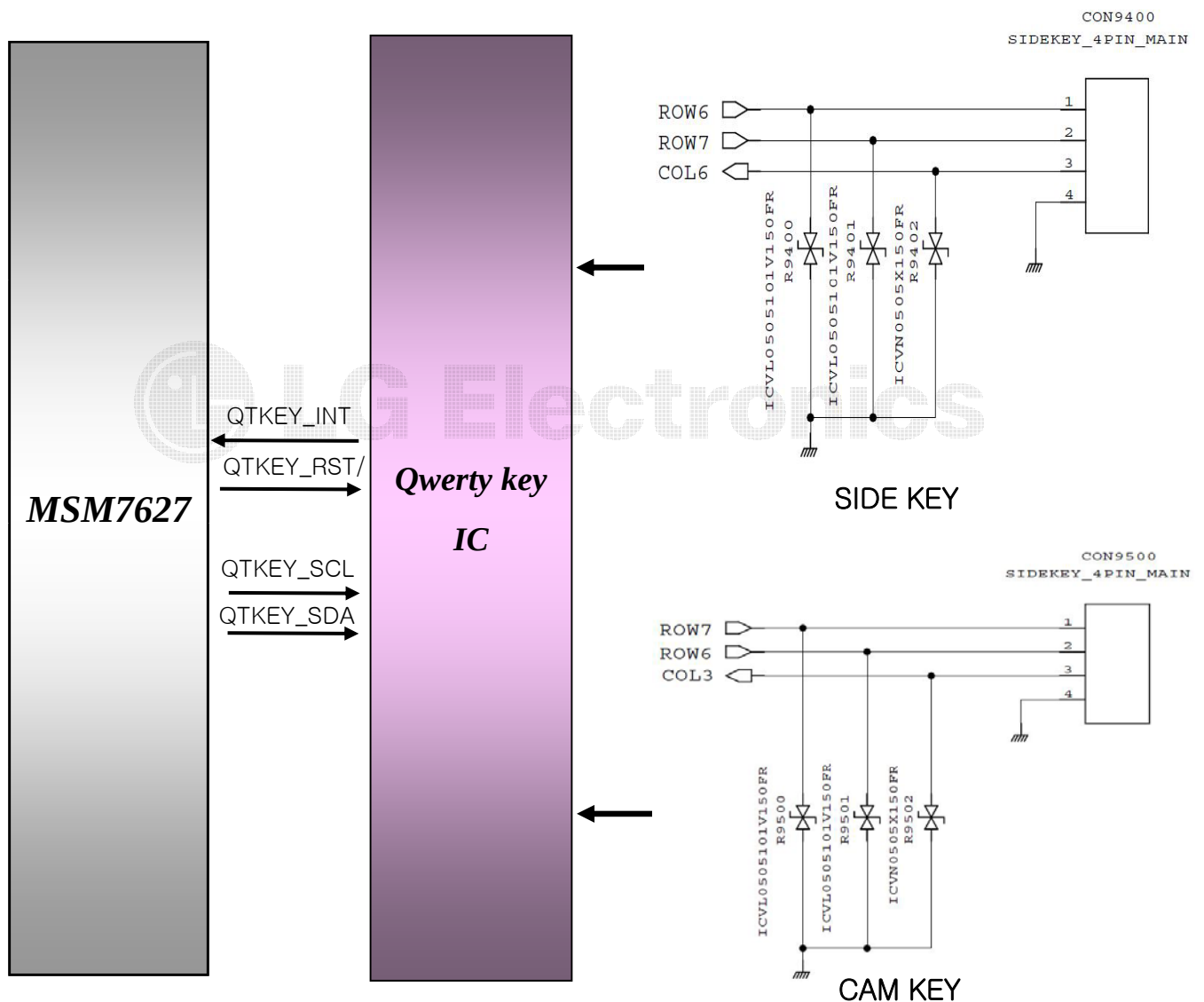


Figure. Side & Cam key

3.5.3.4 QWERTY KEY

[QWERTY_KEY] : 9100

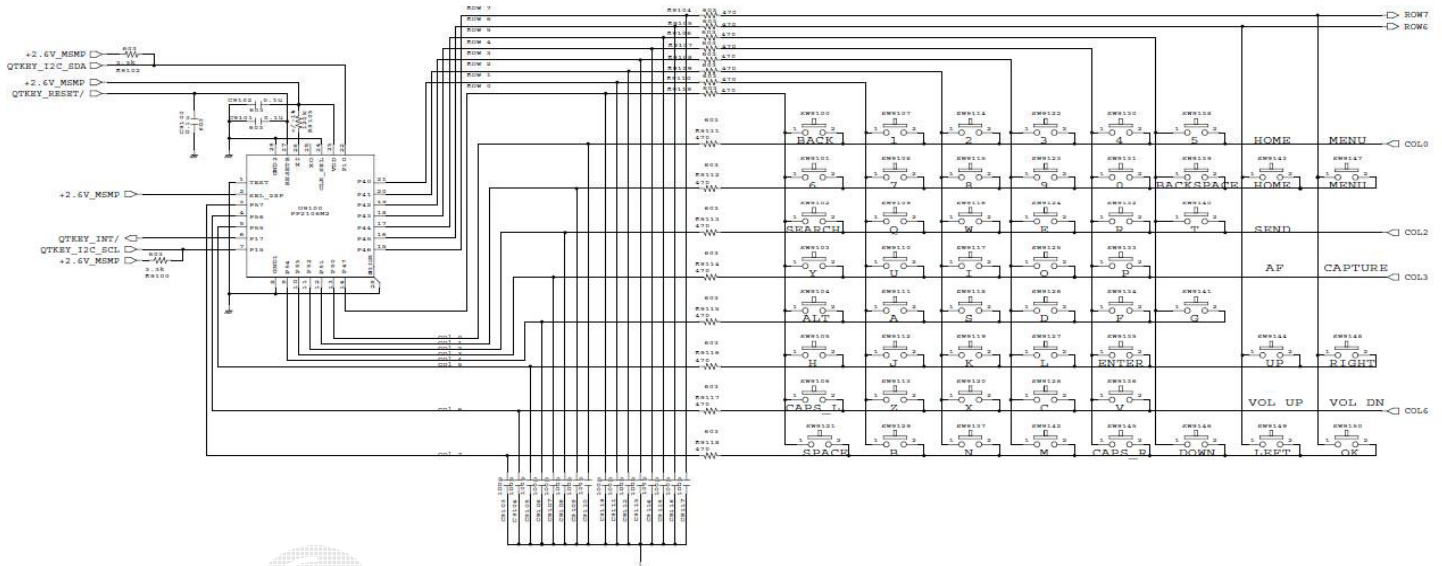


Figure. QWERTY KEY MATRIX

3.5.3.5 Qwerty KEY Backlight

There are 5 White side view LED on the main Keypad.

These LEDs are driven by MKPD_LED_DRV/ from PM7540.

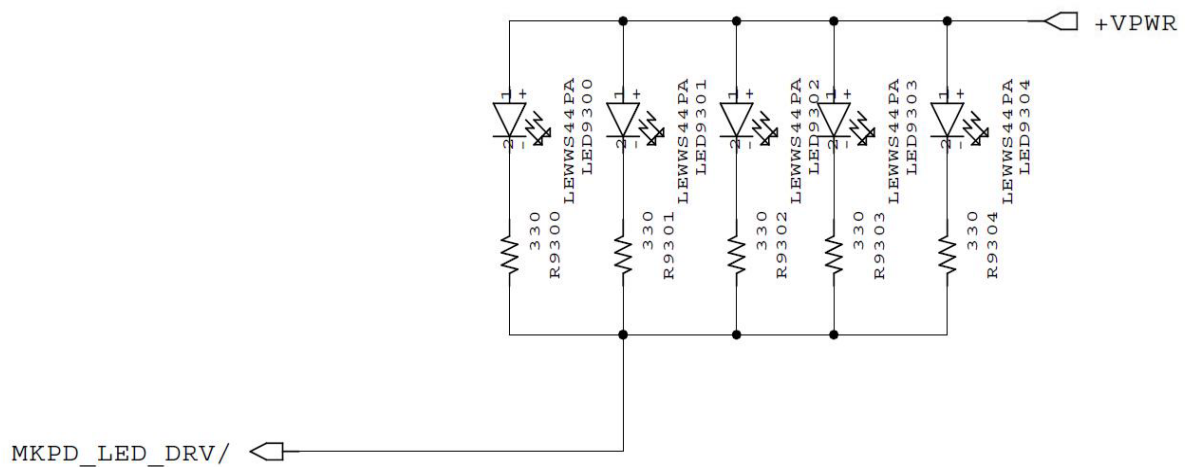


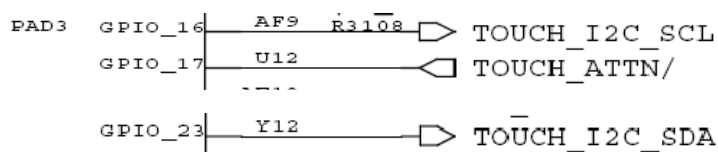
Figure. Backlight LED

3.5.4.Touch Windows Interface

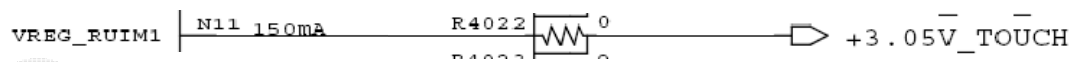
Touch screen is a capacitive sensor with an attached flexible PCB.

Touch panel has 4-I2C line, 1-interrupt line, 1-power line.

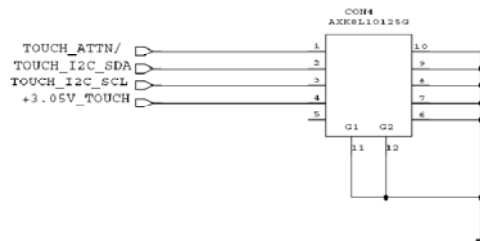
<MSM7627 Direct Signal >



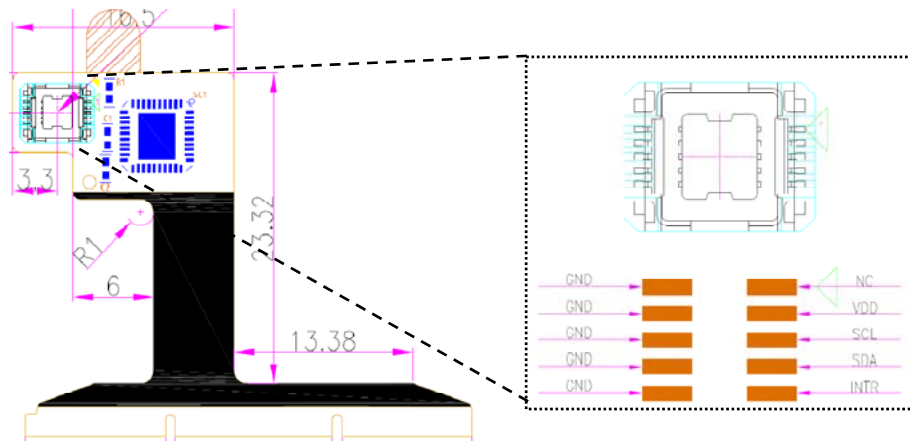
<PM7540 Direct Signal - Power>



< Main connector to LCD FPCB >



< Touch Sensor Module FPCB >



3.6. Audio and sound

3.6.1. Overview of Audio path

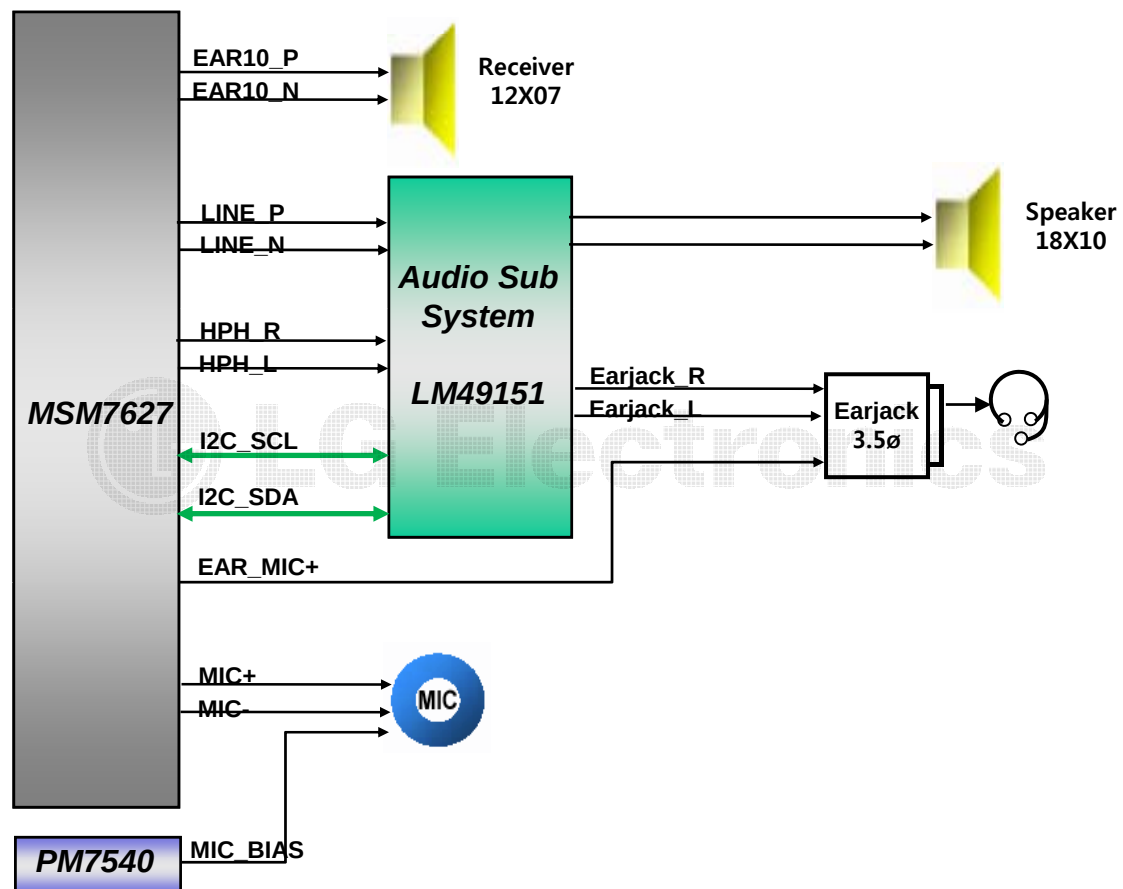


Figure. Block diagram of Audio path

3.6.2. Audio signal processing & interface

3.6.2.1 MSM7627 audio interface

The MSM7627 audio front-end comprises the stereo wideband codec, PCM interface, and additional DSP audio processing.

The stereo wideband codec allows the MSM7627 device to support stereo music/ringer melody applications in addition to the 8 kHz voice band applications on the forward link. In the audio transmit path, the device operates as 13-bit linear converter with software, selectable 8 kHz and 16 kHz sampling rate. In the audio receive path the device operates as a software-selectable 13-bit or 16-bit linear converter with software selectable 8 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 kHz, 44.1 kHz, or 48 kHz sampling rate. Through software, the Rx path can be configured as either a mono or stereo output.

New to the MSM7627 device is a transmit (Tx) ADC path that now supports stereo wideband sampling.

The integrated codec contains all of the required conversion and amplification stages for the audio front end. The codec operates as a 13-bit linear codec with the transmit (Tx) and receive (Rx) filters designed to meet ITU-T G.712 requirements. The codec includes a programmable side tone path for summing a portion of the Tx audio into the Rx path. An on-chip voltage/current reference is provided to generate the precise voltages and currents required by the codec. This circuit requires a single capacitor of 0.1 μ F to be connected between the CCOMP and GND pins. The on-chip voltage reference also provides a microphone bias voltage required for electret condenser microphones typically used in handset applications. The MICBIAS output pin is designed to provide 1.8 V DC while delivering as much as 1 mA of current. Audio decoder summing and headset switch detection are included.

The codec interface includes the amplification stages for both the microphone and earphone. On the transmit (Tx) path, the interface supports two differential microphone inputs, a differential auxiliary input, and a stereo line input. On the receive (Rx) path the interface supports one differential earphone output, a stereo single-ended headphone output, one differential auxiliary output, and stereo single-ended line outputs.

The codec is configured by the codec SBI registers. The codec interface is shown in Figure.

Also part of the audio front end is the PCM interface. The PCM interface allows for an external codec to be used instead of the internal codec. This interface can be used in I2S mode which will allow for an external stereo DAC to be used.

Finally, the audio front end includes additional DSP audio processing that does gains, filtering and other audio processing.

The audio processing is configured through QDSP5 command types and is not directly controlled by the microprocessor.

3. Technical Brief

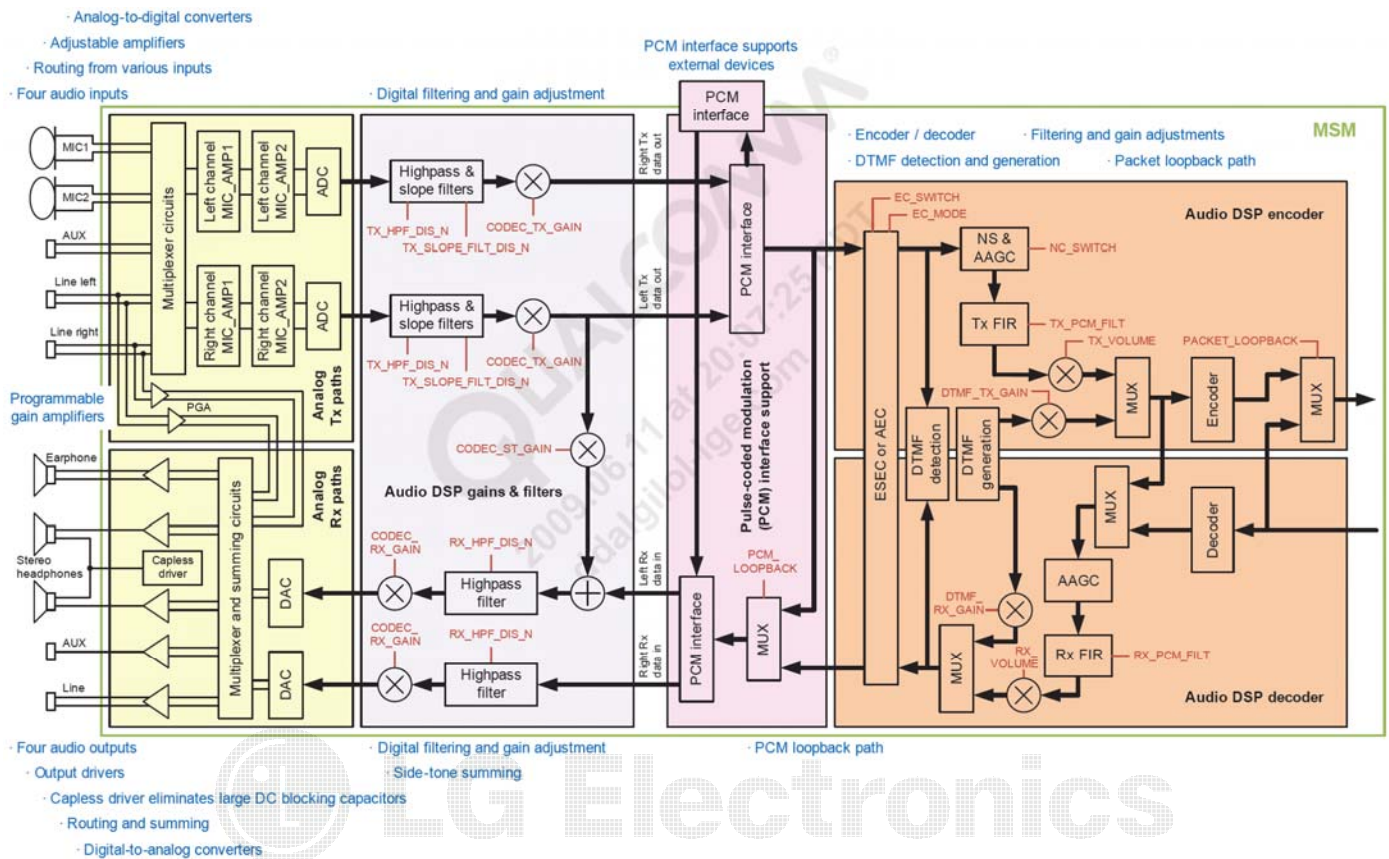


Figure. Detailed diagram of MSM7627 audio interface

3.6.2.2. LM49151 audio interface

The LM49151 is a fully integrated audio subsystem designed for portable handheld applications such as cellular phones. The LM49151 combines a 1.25W mono E2S class D amplifier, 125mW Class AB earpiece driver, 42mW/channel stereo ground referenced headphone drivers, volume control, input mixer/multiplexer, and speaker protection into a single device. The LM49151 features separate volume controls for the loudspeaker and headphone inputs.

Features

- E2S class D amplifier
- Ground referenced outputs — eliminates output coupling capacitors
- I2C programmable No Clip Function with Clip Control
- Voltage limiter speaker protection
- I2C volume and mode Control
- Ear Piece Amplifier
- Advanced click-and-pop suppression
- Low supply current
- Micro-power shutdown
- 20-bump micro SMD package

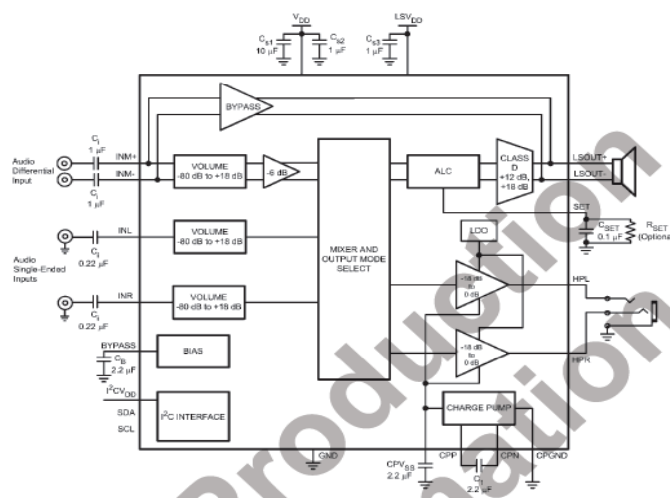
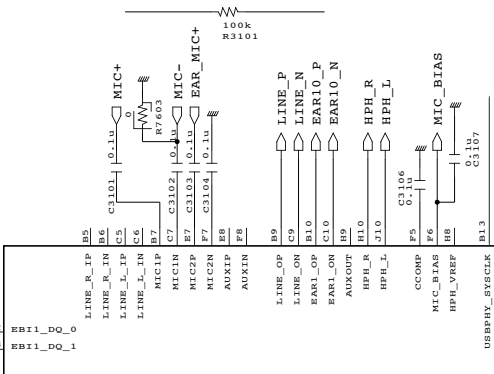
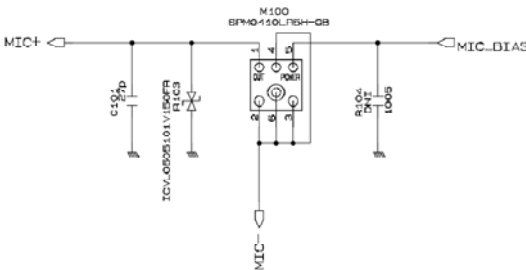


Figure. Audio Subsystem (LM49151)

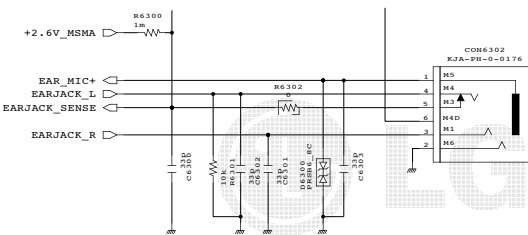
MSM7627 Block



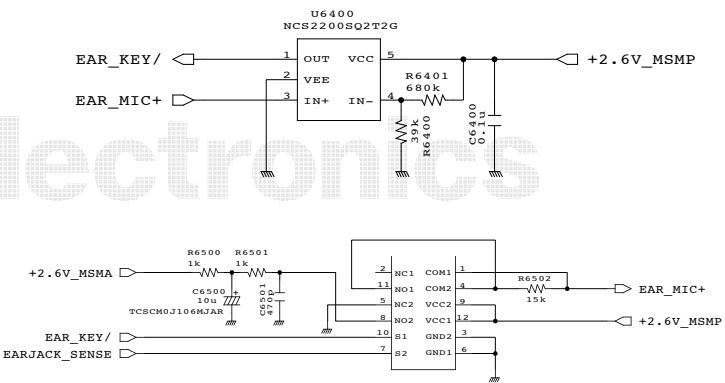
Handset main MIC Block



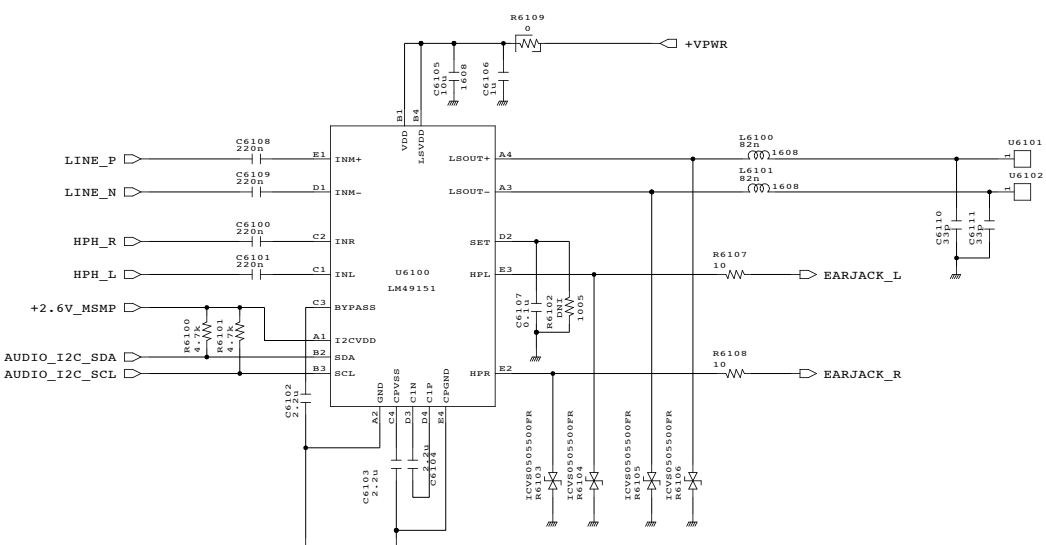
EarJack

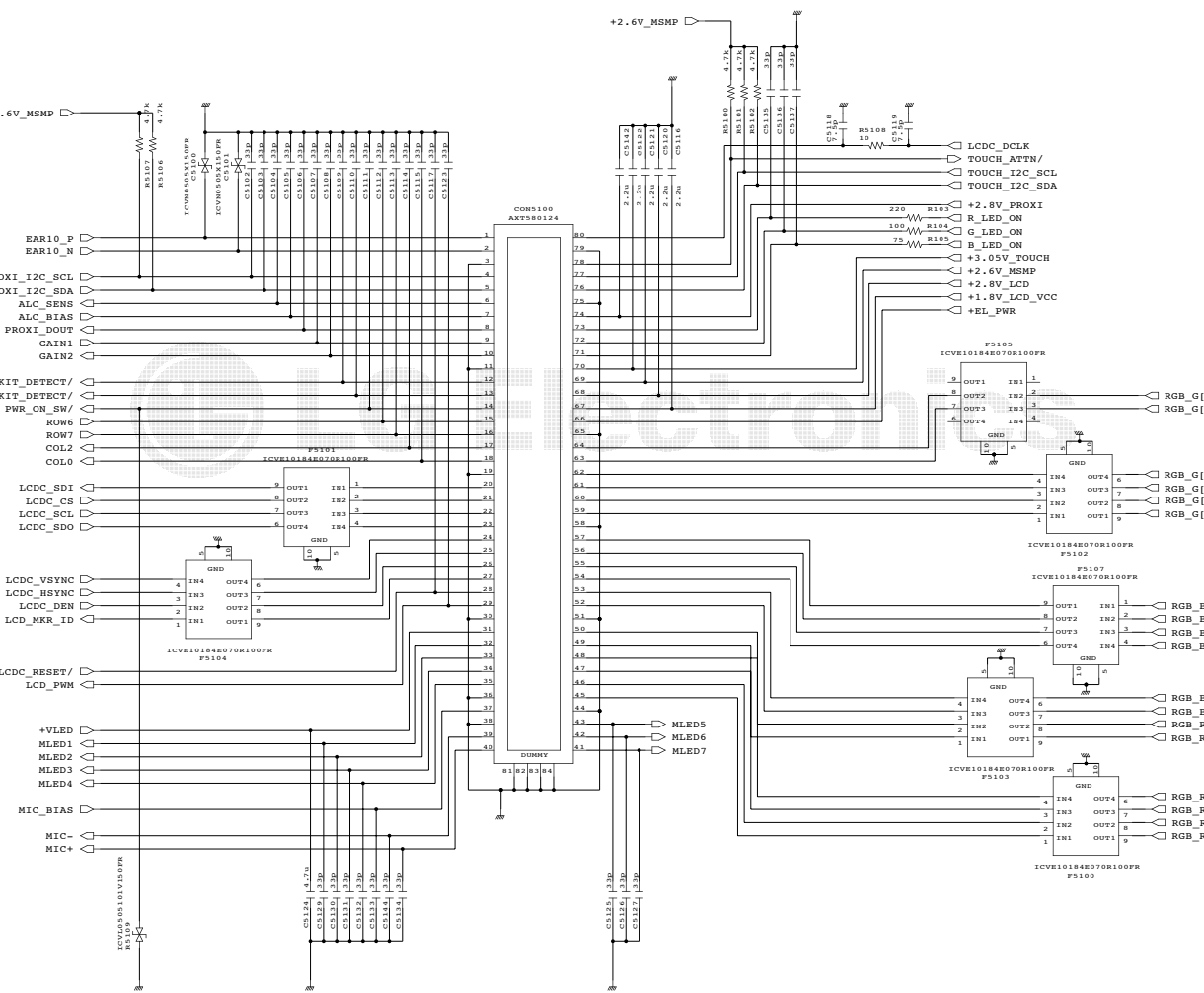


Ear Jack Key & Ear_Mic Bias



Audio Sub System





3.8. Proximity Sensor

When call connected, the object is moved nearer to the proximity sensor.

LCD backlight and Touch screen is disable operation automatically.

Optical proximity sensor is GP2AP002S00F in Main FPCB

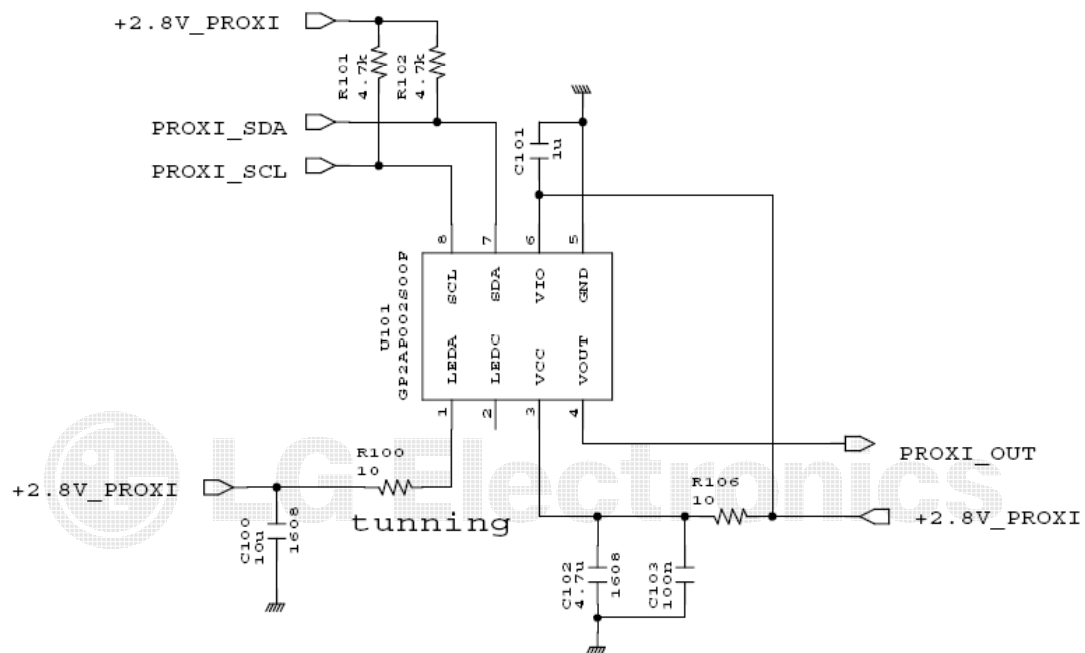


Figure. Proximity Sensor Schematic

3.9. Auto Luminance Sensor (ALC)

The auto luminance sensor control automatically LCD Backlight level.

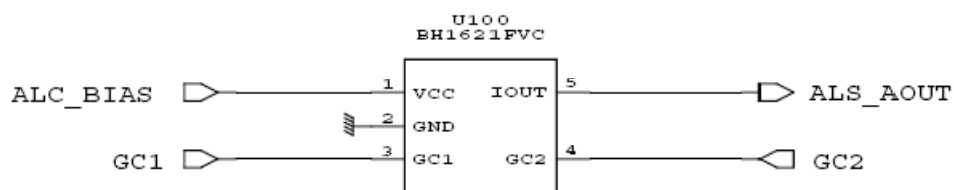


Figure. Auto Luminance Sensor Schematic

3.10. Motion Sensor (3-axis-accelerometer & 3-axis compass sensor)

According to tilt the cell phone, the screen is rotated automatically.

KR3DH (U7900) is a 3-axis accelerometer sensor and AK8973B (U7901) is a 3-axis compass sensor.

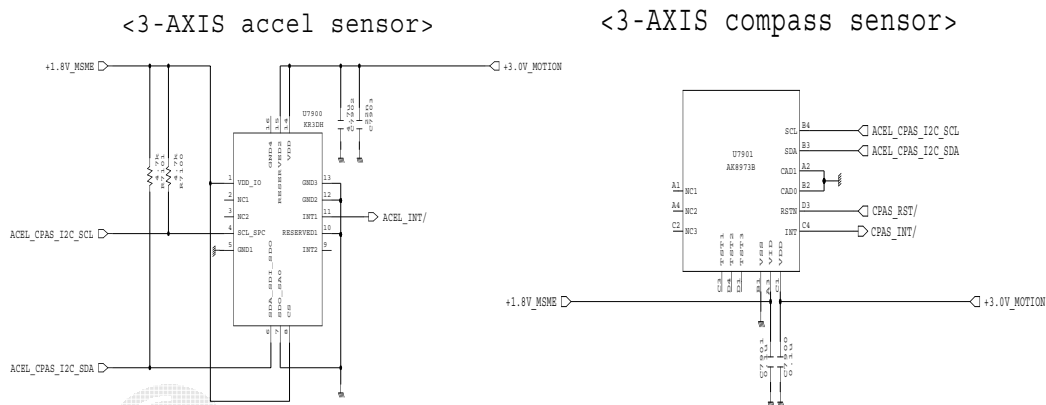


Figure. 6-axis Sensor (3-axis-accelerometer & 3-axis compass sensor) Schematic

3.11 Vibrator (Motor)

The strength of vibration is determined by the duty cycle of PWM (LIN_PWM_FREQ) and output voltage.

ISA1000 is Linear motor driver IC.

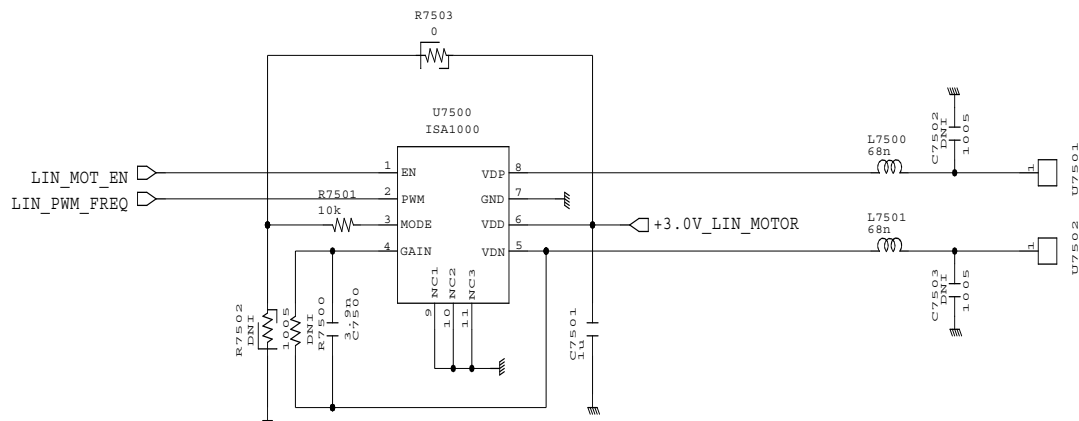


Figure. Vibrator (Motor) Schematic

3.12. CDMA RF Transmit/Receive Part

3.12.1 Overview

The TX and RX part employs the Direct-Conversion system. The TX and RX frequencies are respectively 824.04~848.97 and 869.04~893.97 for cellular and 1850~1910 and 1930~1990 for PCS. The block diagram is shown in [Figure 1-1]. CDMA RF signals received through the antenna are separated by the Diplexer.

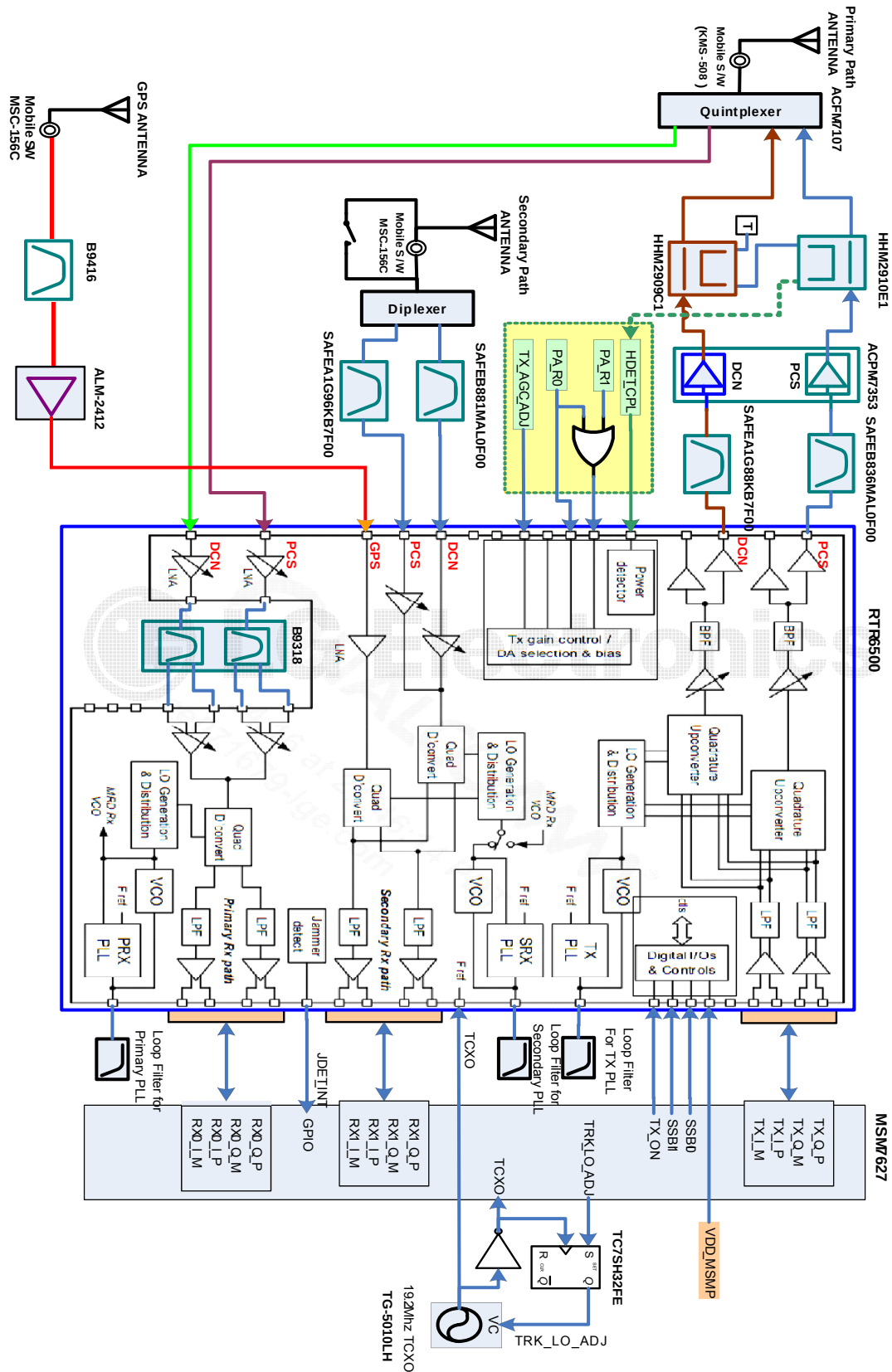
RF Signal fed into the low noise amplifier in RTR6500(LNA) through the duplexer. Then, they are fed into Mixer in RTR6500. In RTR6500, the RF signal is changed into baseband signal directly. Then, this signal is changed into digital signal by the analog to digital converter (ADC, A/D Converter), and the digital circuit part of the MSM7627 processes the data from ADC. The digital processing part is a demodulator.

In the case of transmission, RTR6500 receives OQPSK-modulated analog signal from the MSM7627.

The RTR6500 connects directly with MSM7627 using an analog baseband interface. In RTR6500, the baseband quadrature signals are upconverted to the Cellular or PCS frequency bands and amplified to provide signal drive capability to the power amp.

After that, the RF signal is amplified by the Power Amp in order to have enough power for radiation. Finally, the RF signal is sent out to the cell site via the antenna after going through the duplexer.

3. Technical Brief



RF Block Diagram of AS740

3.12.2 Description of RX Part Circuit

3.12.2-1 Quadplexer (U1004)

Quadplexer combines PCS and Cellular duplexer functions. The duplexer consists of the RX bandpass filter (BPF) and the TX BPF which has the function of separating TX and RX signals in the full duplex system for using the common antenna. The TX part BPF is used to suppress noises and spurious out of the TX frequency band. The RX BPF is used to receive only RX signal coming from the antenna, which is usually called preselector. It's main function is to limit the bandwidth of spectrum reaching the LNA and mixer, attenuate receiver spurious response and suppress local oscillator energy. As a result frequency sensitivity and selectivity of mobile phone increase.

The specification of AS740 Quadplexer is described below:

ACFM-7107 Electrical Specifications, Z ₀ =50 Ω, T _c ^{[1], [4]} as indicated (con't)											
Symbol	Parameter	Units	-30 C			+25 C			+85 C		
			Min	Typ [3]	Max	Min	Typ [3]	Max	Min	Typ [3]	Max
PCS Duplexer Performance											
Antenna-1 Port to PCS Receive Port											
S31	Insertion Loss in Rx Band (1930.5-1909.5 MHz)	dB			3.6			3.6			3.6
S31	Insertion Loss Ripple (p-p) in Rx Band	dB						1.5			
S31	Attenuation in Tx Band (1850.5-1909.5 MHz)	dB	50		50			50			
S31	Attenuation 0.03-1770 MHz	dB	20		20			20			
S31	Attenuation 2025-3500 MHz	dB	30		30			30			
S31	Attenuation 3500-3700 MHz	dB	27		27			27			
S31	Attenuation 3820-4000 MHz	dB	23		23			23			
S33	Return Loss of Rx Port in Rx Band (1930.5-1909.5 MHz)	dB	9		9			9			
S11	Return Loss of Antenna-1 Port in Rx Band (1930.5-1909.5 MHz)	dB	9		9			9			
PCS Transmit Port to Antenna-1 Port											
S12	Insertion Loss in Tx Band (1850.5-1909.5 MHz)	dB			3.1			3.1			3.1
S12	Insertion Loss Ripple (p-p) in Tx Band	dB						1.5			
S12	Attenuation in Rx Band (1930.5-1909.5 MHz)	dB	39		39			39			
S12	Attenuation 0.03-1570 MHz	dB	15		15			15			
S12	Attenuation in GPS Band (1574.4-1576.4 MHz)	dB	27		27			27			
S12	Attenuation 1580 - 1700 MHz	dB	25		25			25			
S12	Attenuation in Tx 2nd harmonic band (3701-3819 MHz)	dB	10		10			10			
S12	Attenuation in Tx 3rd harmonic band (5551.5-5728.5 MHz)	dB	8		8			8			
S22	Return Loss of Tx Port in Tx band (1850.5-1909.5 MHz)	dB	9.5		9.5			9.5			
S11	Return Loss of Antenna-1 port in Tx Band (1850.5-1909.5 MHz)	dB	9		9			9			
Isolation, PCS Transmit Port to PCS Receive Port											
S32	Isolation, Tx to Rx port in Rx Band (1930.5-1909.5 MHz)	dB	40		40			40			
S32	Isolation, Tx to Rx port in Tx Band (1850.5-1855 MHz)	dB	53		53			53			
	(1855-1909.5 MHz)	dB	54		54			54			
PCS Third Order Intermodulation Distortion											
IMD3	Third Order IM Distortion Products Tx Input Power = +27dBm	dBm						-108			

3.12.2-2 RTR6500 – LNA part (U1009)

The RTR6500 has cellular, and PCS LNA, respectively. The characteristics of Low Noise Amplifier (LNA) are low noise figure, high gain, high intercept point and high reverse isolation.

The frequency selectivity characteristic of mobile phone is mostly determined by LNA.

The specification of AS740 LNA is described below:

Parameter	Low gain		Middle gain		High gain		Units
	Cellular	PCS	Cellular	PCS	Cellular	PCS	
Gain	-19	-20	3	-3	14	15	dB
Noise Figure	20	20	4.5	6	1.3	1.1	dB
Input IP3	10	10	5	10	7	3	dBm

3.12.1-3 GPS LNA(U1003)

The characteristics of Low Noise Amplifier (LNA) are low noise figure, high gain, high intercept point and high reverse isolation. The frequency selectivity characteristic of mobile phone is mostly determined by LNA.

The specification of AS740 GPS LNA is described below

Parameter	GPS Band	Units
Gain	13.1	dB
Noise Figure	0.77	dB
1dB compression point	3.4	dBm
IIP3	+7	dBm

3.12.1-4 RX RF SAW FILTER(F1003)

The main function of RX RF SAW filter is to attenuate mobile phone spurious frequency, attenuate noise amplified by the LNA and suppress second harmonic originating in the LNA.

3.12.2-5 RTR6500 - Down-converter Mixers part (U1009)

The RTR6500 device performs signal down-conversion for Cellular, PCS and GPS tri-band applications. It contains all the circuitry (with the exception of external filters) needed to support conversion of received RF signals to Base-band signals. The three down-converting Mixers (Cellular, PCS and GPS), and a programmable PLL for generating RX LO frequency and an RX LO Buffer Amplifier and RX Voltage Controlled Oscillator. The GPS LNA & mixers offer the most advanced and integrated CDMA RX solution designed to meet cascaded Noise Figure (NF) and Third-order Intercept Point (IIP3) requirements of IS-98D and J-STD-018 specifications for Sensitivity, Two-Tone Inter-modulation, and Single-tone Desensitization.

Operation modes and band selection are specially controlled from the Mobile Station Modem MSM7627.

The specification of AS740 Mixers is described below:

Parameter	Low gain		High gain		Units
	Cellular	PCS	Cellular	PCS	
Noise Figure	25	27	7.9	12	dB
Input IP3	-5	-11	4	4	dBm
Input IP2	30	30	56	56	dBm

3.13.3 Description of Transmit Part Circuit

3.13.3-1 RTR6500 (U1009)

The RTR6500 Base-band to RF Transmit Processor performs all TX signal-processing functions required between digital Base-band and the Power Amplifier Modulator (PAM). The Base-band quadrature signals are up-converted to the Cellular or PCS frequency bands and amplified to provide signal drive capability to the PAM. The RTR6500 includes mixers for up-converting analog Base-band to RF, a programmable PLL for generating TX LO frequency a TX LO Buffer Amplifier and TX Voltage Controlled Oscillator, cellular and PCS driver amplifiers and TX power control through an 85 dB VGA. As added benefit, the single sideband up-conversion eliminates the need for a band pass filter normally required between the up-converter and driver amplifier.

I, I/, Q and Q/ signals proceed from the MSM7627 to RTR6500 are analog signal. In CDMA mode, These signals are modulated by Offset Quadrature Phase Shift Keying (OQPSK). I and Q are 90 deg. out of phase, and I and I/ are 180 deg. The mixers in RTR6500 converts baseband signals into RF signals. After passing through the upconverters, RF signal is inputted into the Power AMP.

● RTR6500 Cellular and PCS CDMA RF Specifications

Parameter	Condition	Min.	Type.	Max.	Units
Rated Output Power	Average CDMA Cellular		7		dBm
	Average CDMA PCS		9		dBm
Min Output Power	Average CDMA Cellular		-75		dBm
	Average CDMA PCS		-75		dBm
RX band noise power	CDMA Cellular		-136		dBm/Hz
	CDMA PCS		-133		
ACPR	Cellular: Fc±885kHz		-56		dBc/30kHz
	PCS : Fc±1.25MHz		-57		

3.13.3-2 Power Amplifier(U1008)

The Dual power amplifier that can be used in the PCS and CDMA mode has linear amplification capability and high efficiency. For higher efficiency, it is made up of one MMIC (Monolithic Microwave Integrated Circuit) for which RF input terminal and internal interface circuit are integrated onto one IC after going through the AlGaAs/GaAs HBT (heterojunction bipolar transistor) process. The module of power amplifier is made up of an output end interface circuit including this MMIC. The maximum power that can be inputted through the input terminal is +10dBm and conversion gain is about 26.5dB. RF transmit signals that have been amplified through the power amplifier are sent to the duplexer.

3.13.4 Description of Frequency Synthesizer Circuit

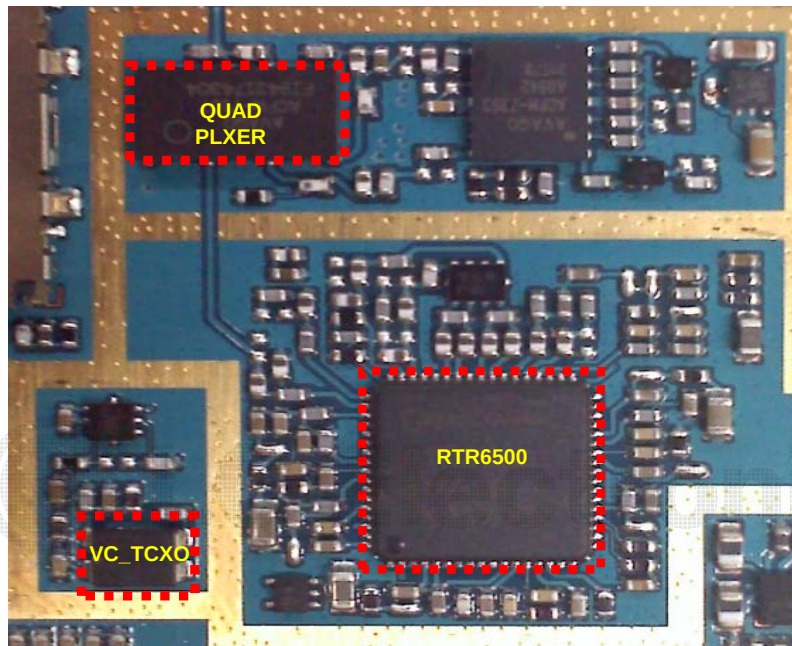
Voltage Control Temperature Compensation Crystal Oscillator (VCTCXO, U1011)

The temperature variation of mobile phone can be compensated by VCTCXO. The reference frequency of a mobile phone is 19.2 MHz. The receiver frequency tuning signals called TRK_LO_ADJ from MSM as 0.5 V~2.5 V DC via R and C filter in order to generate the reference frequency of 19.2 MHz and input it into the frequency synthesizer. Frequency stability depending on temperature is ± 2.0 ppm.

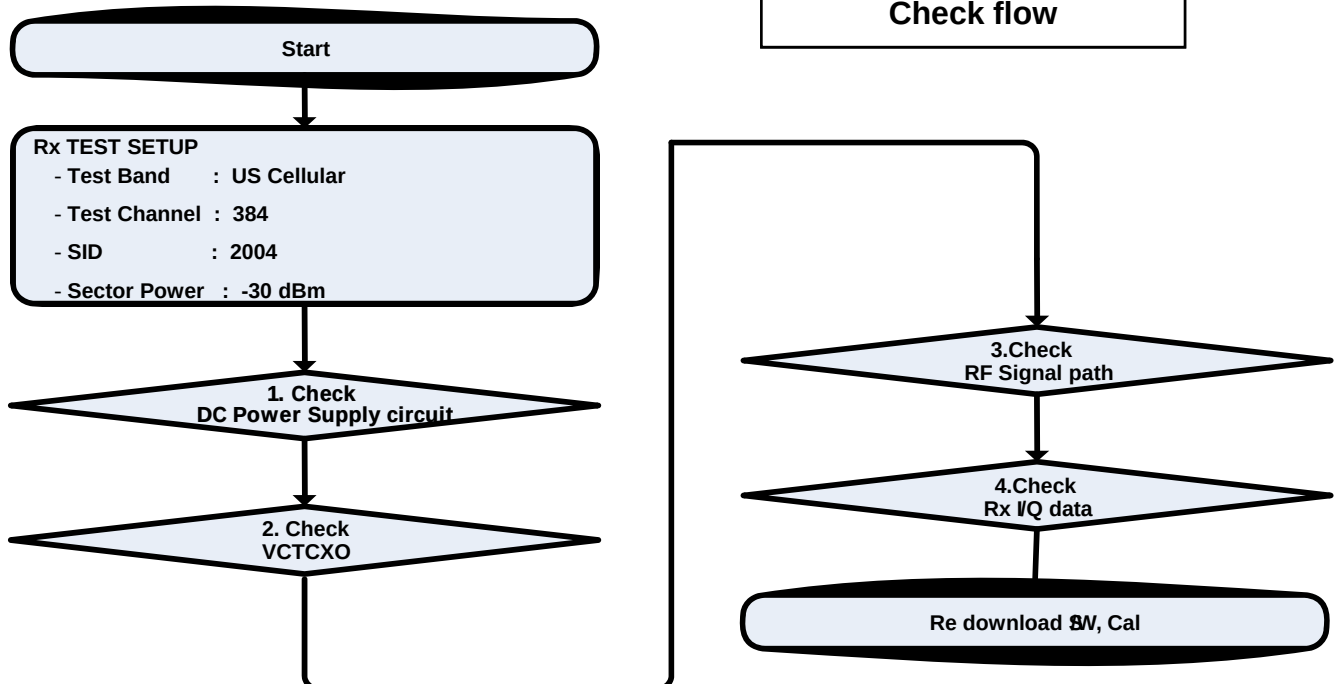
4.1 CDMA Rx Part Trouble

4.1.1 DCN Rx

Test Point

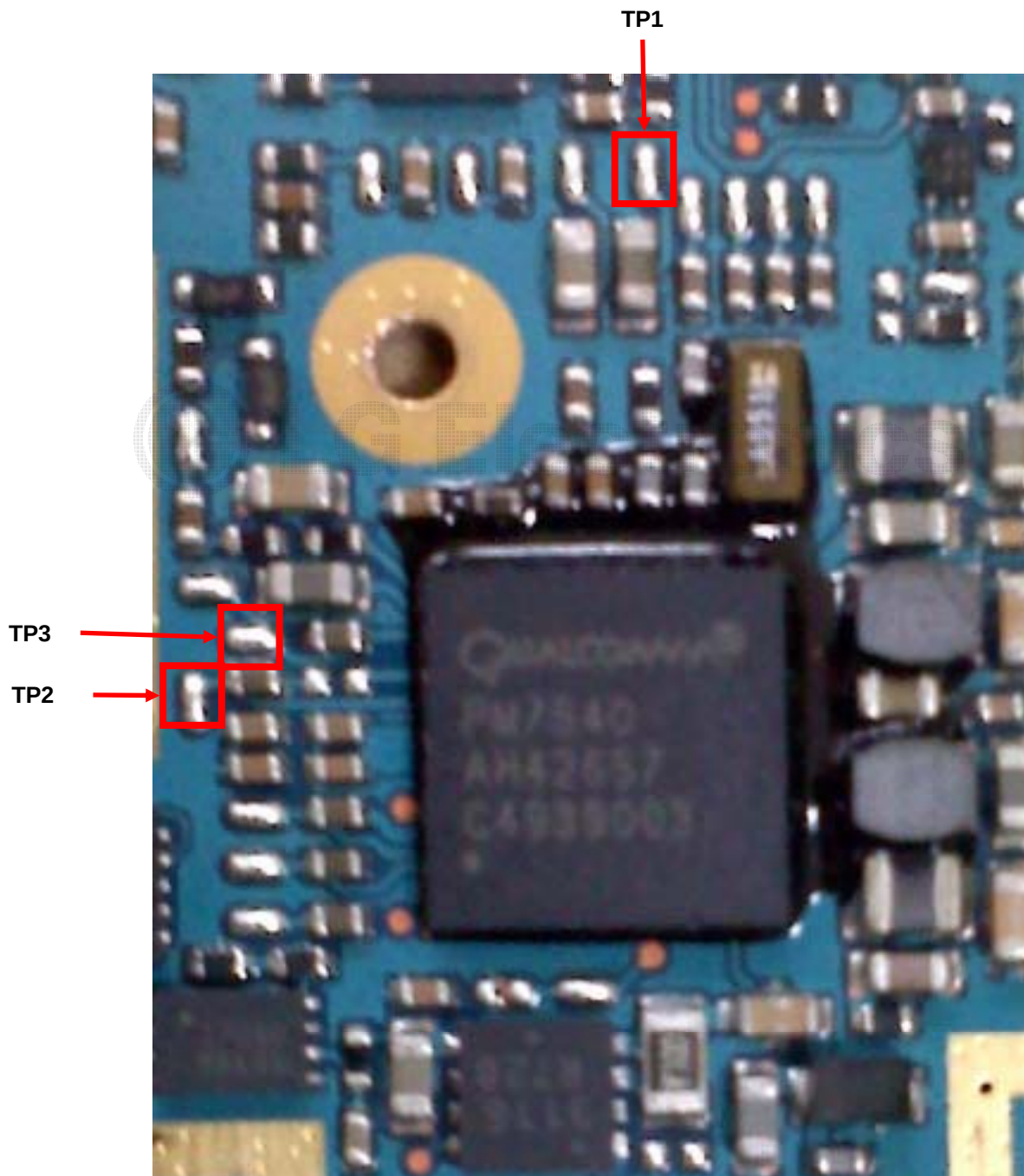


Check flow



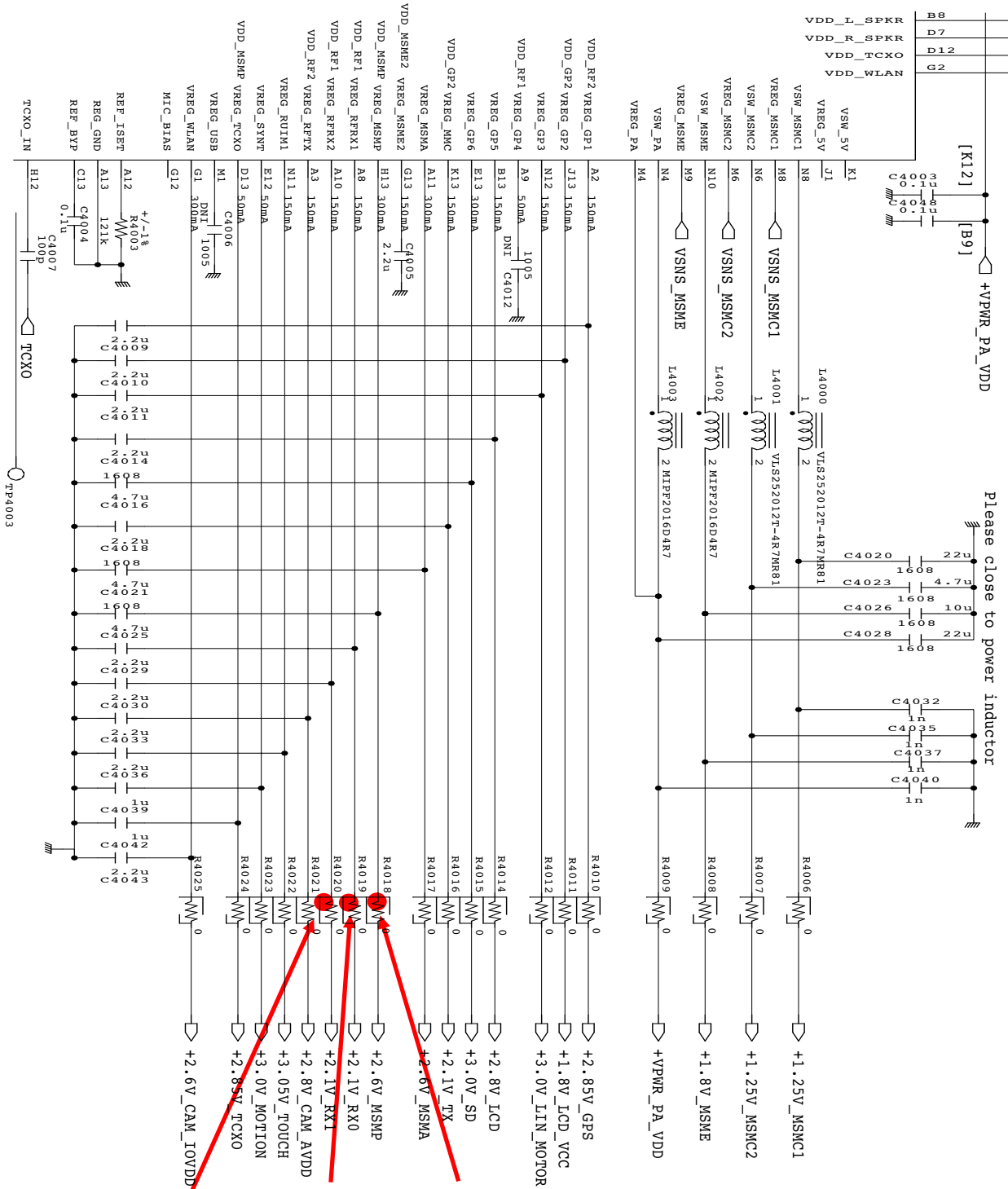
4.1.1.1 Checking DC Power supply circuit (PMIC)

Test Point



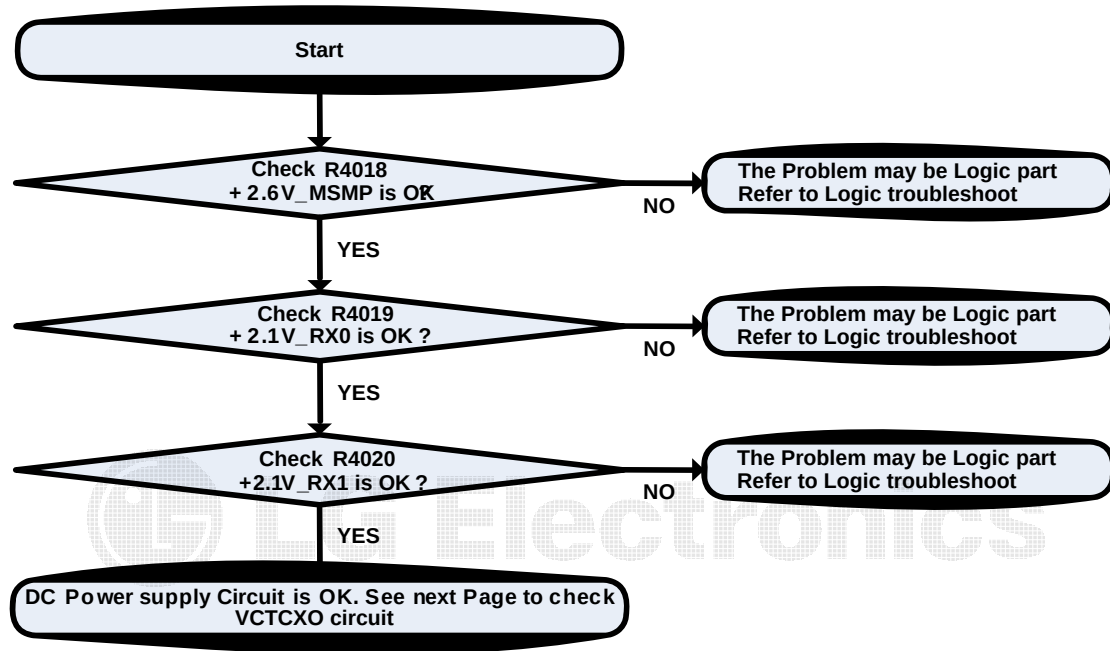
4. Troubleshooting

Circuit Diagram



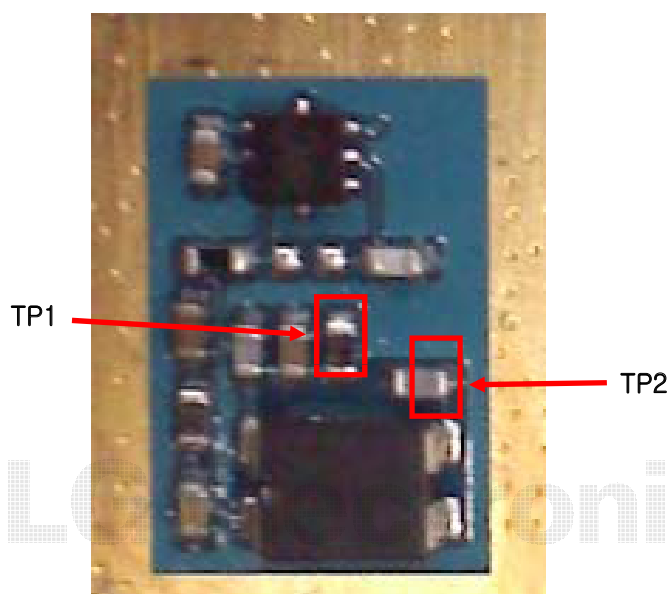
TP3 : R4020 TP2 : R4019 TP1 : R4018

Checking Flow

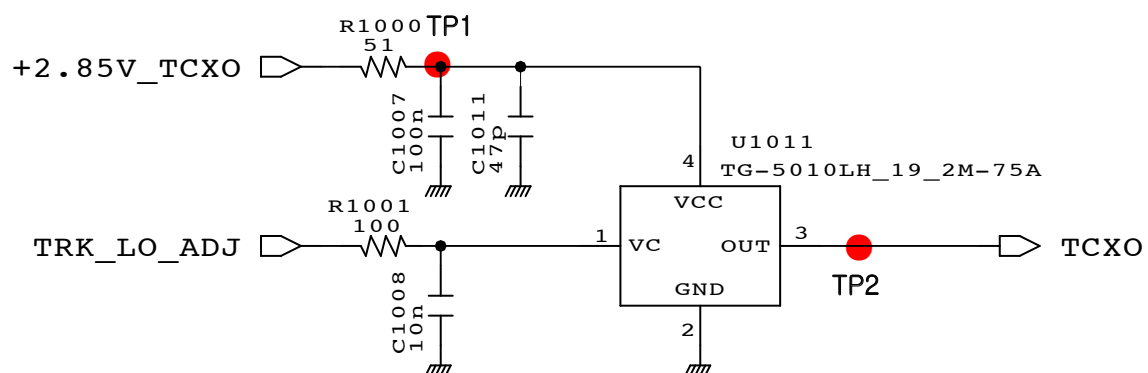


4.1.1.2 Checking VCTCXO circuit

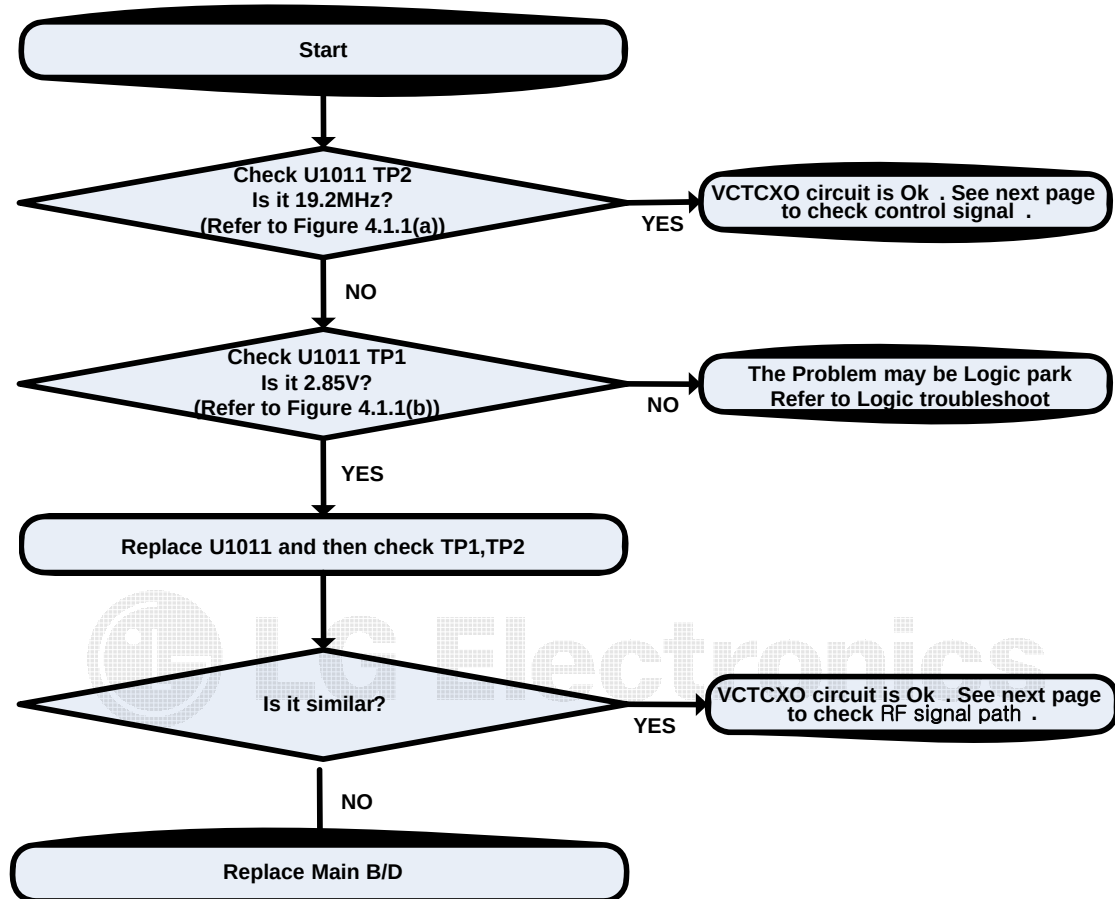
Test Point



Circuit Diagram



Checking Flow



Waveform

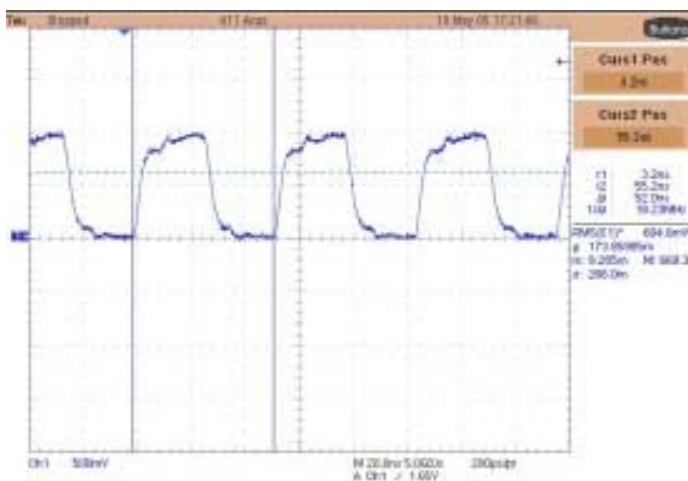


Figure 4.1.1 (a)

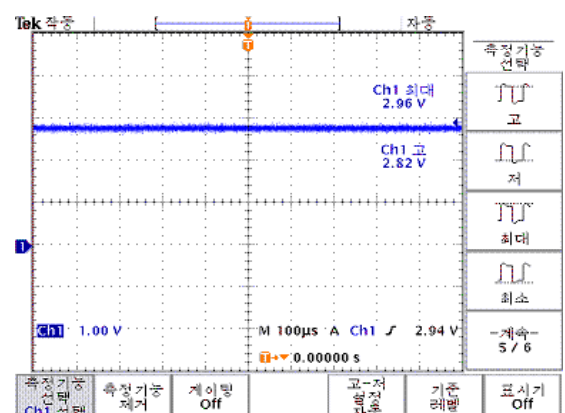
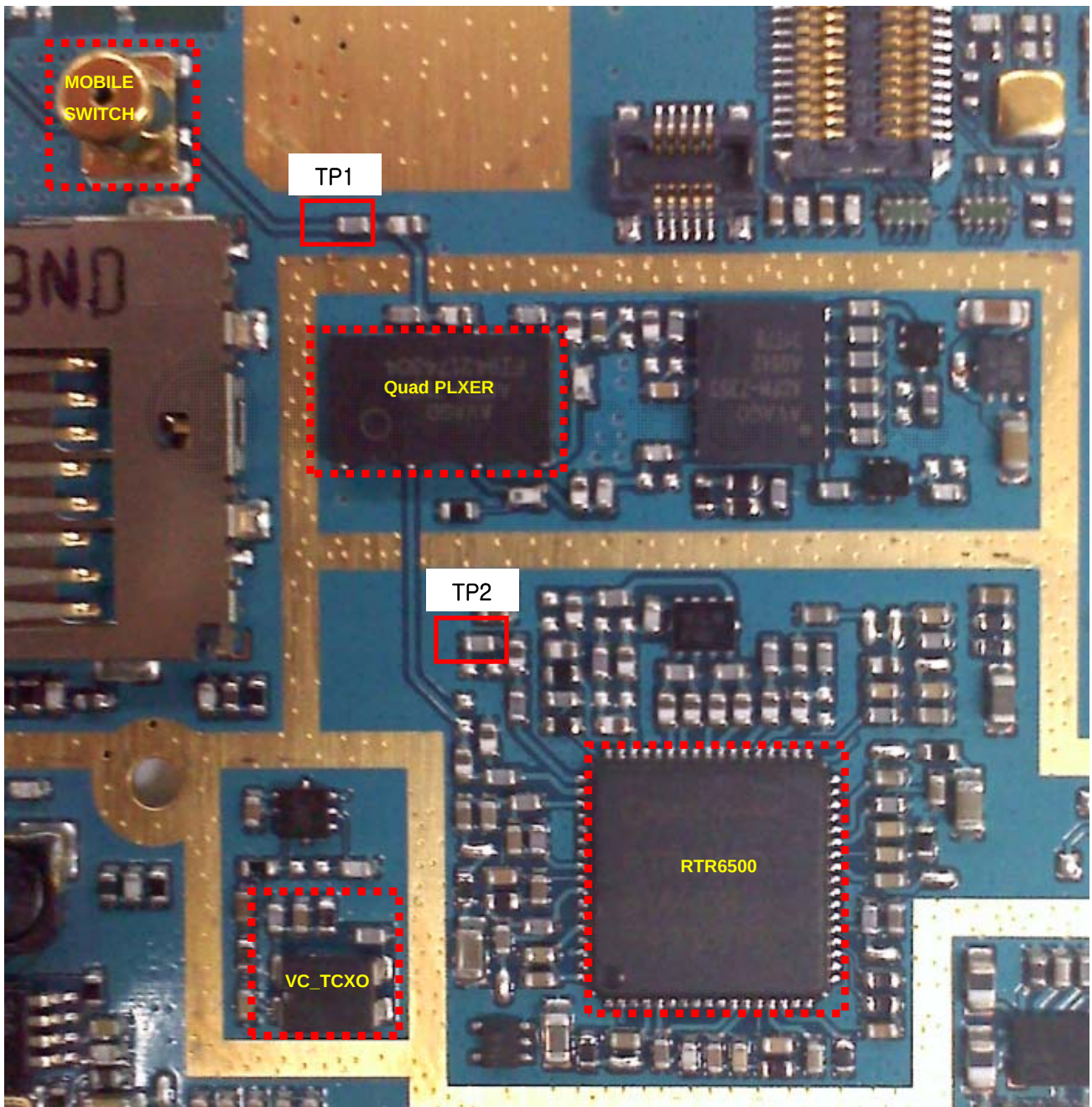


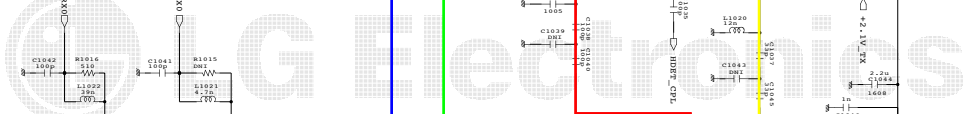
Figure 4.1.1 (b)

4.1.1.3 Checking RF signal path (Mobile S/W, Quadplexer)

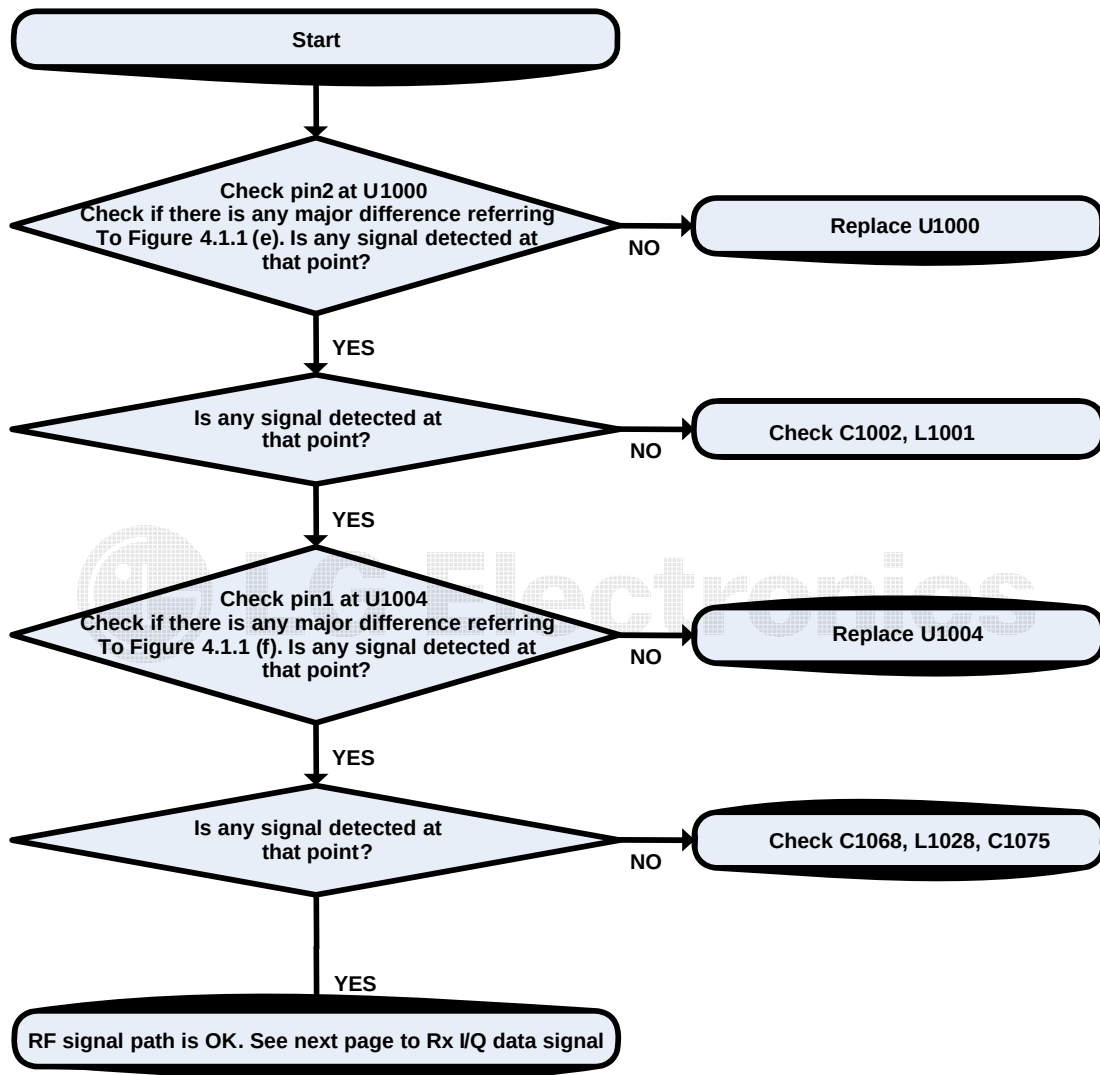
Test Point



Circuit Diagram

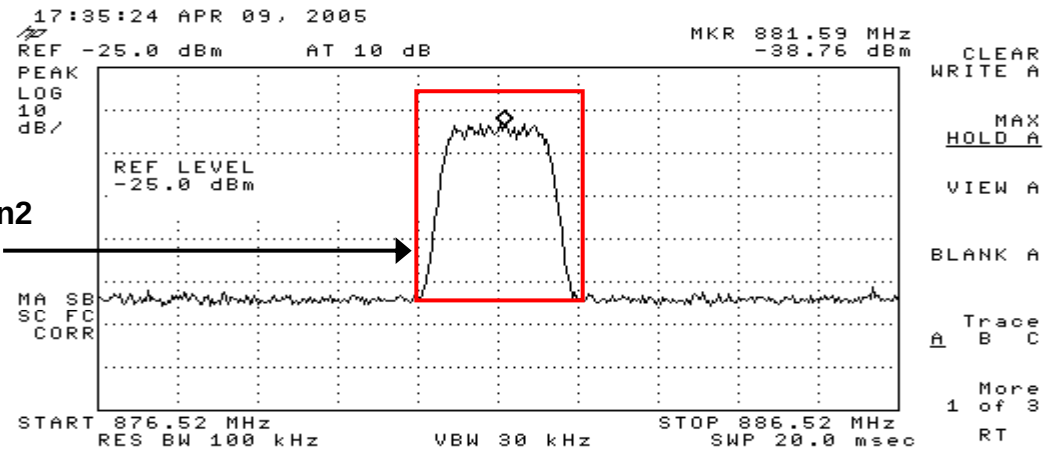


Checking Flow



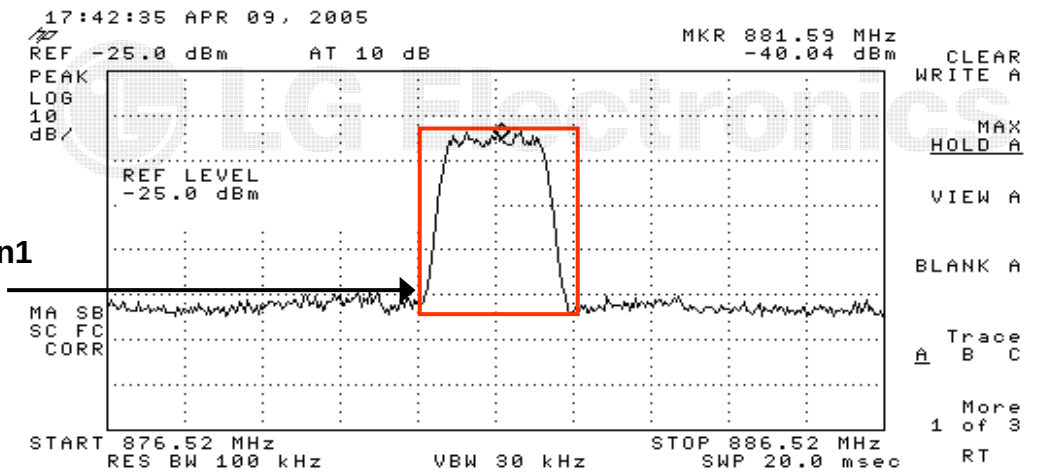
4. Troubleshooting

U1000 pin2



4.1.1 (e)

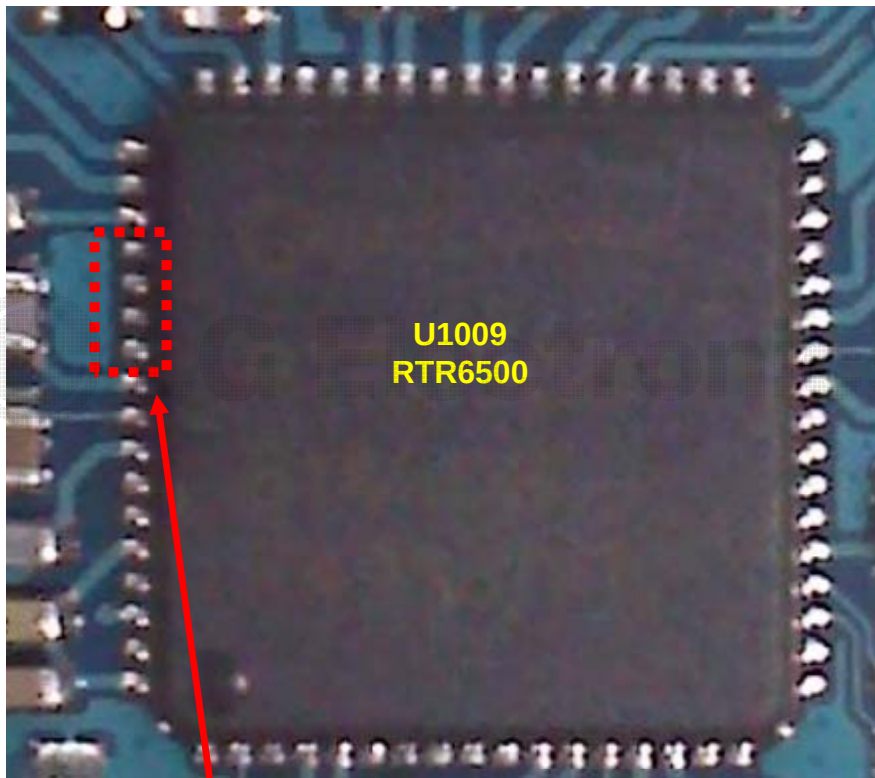
U1004 pin1



4.1.1 (f)

4.1.1.4 Checking Rx I/Q data

Test Point



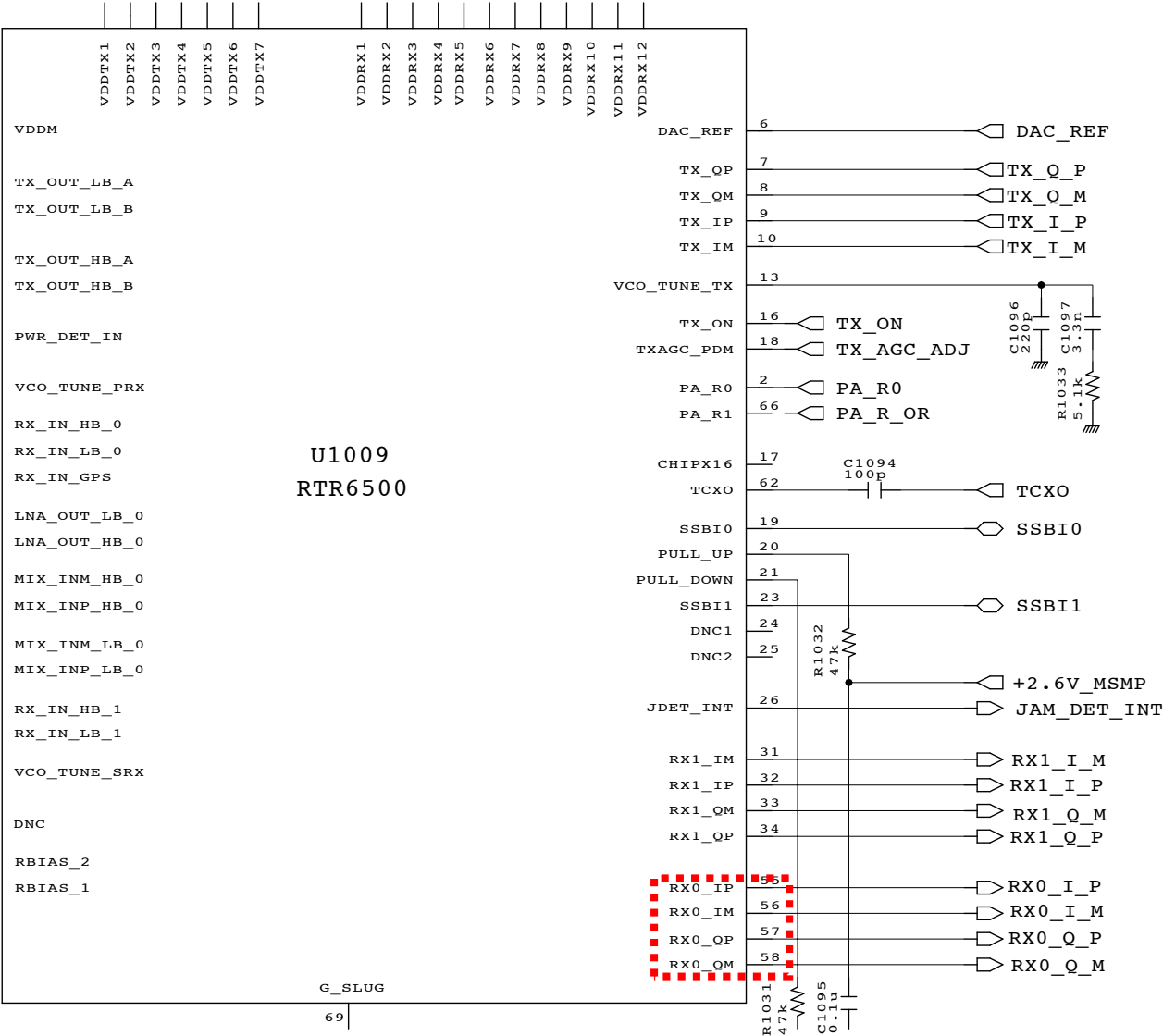
Pin 55 - RX0_I_P

Pin 56 - RX0_I_M

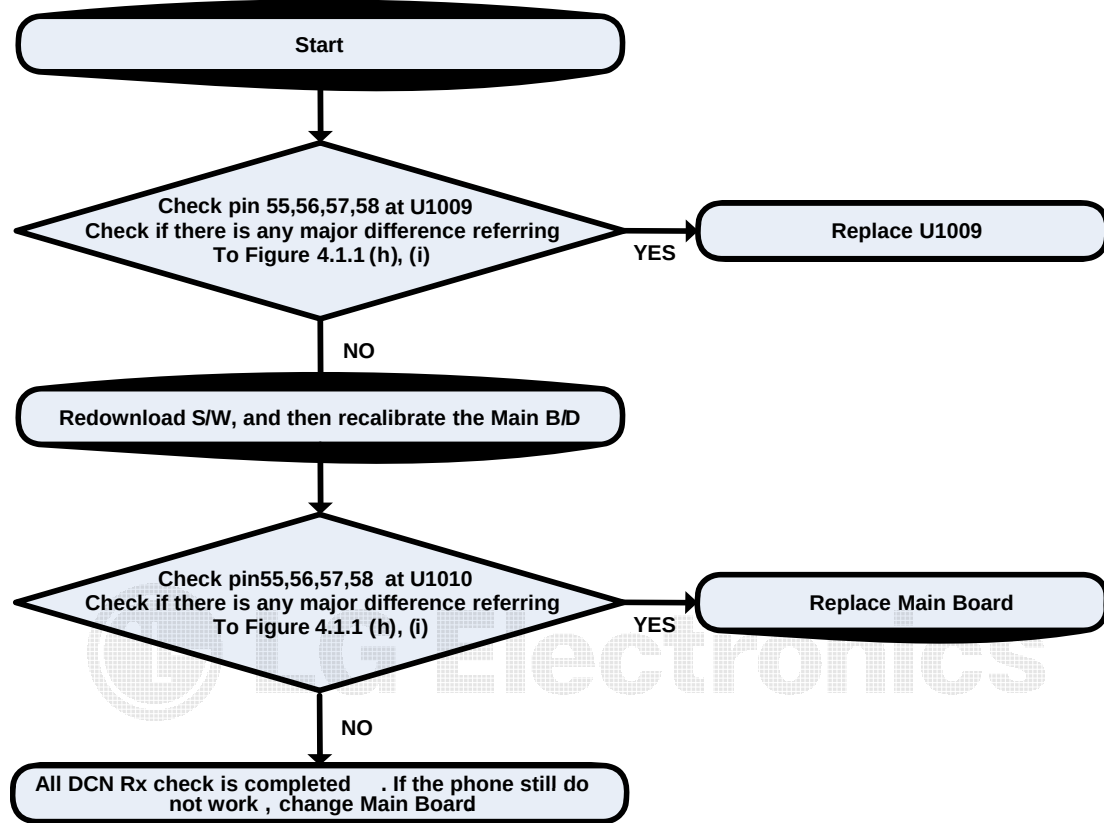
Pin 57 - RX0_Q_P

Pin 58 - RX0_Q_M

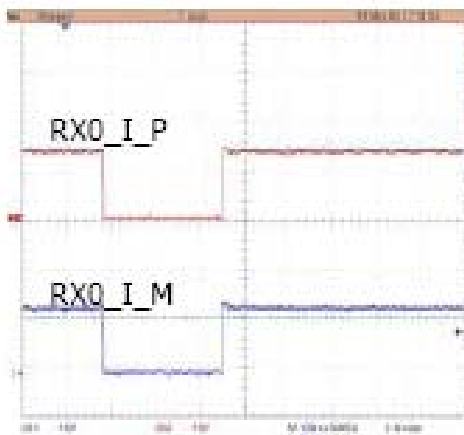
Circuit Diagram



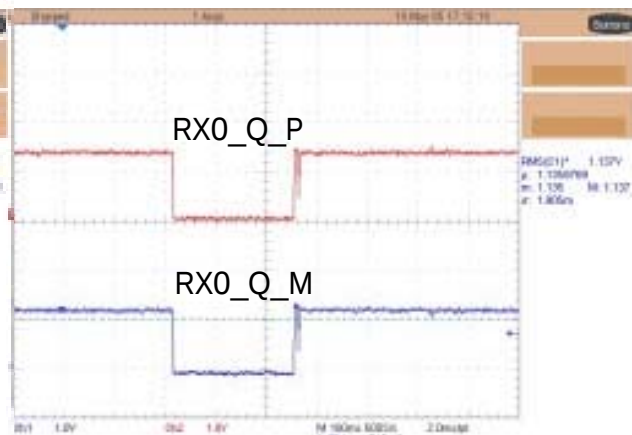
Checking Flow



Waveform



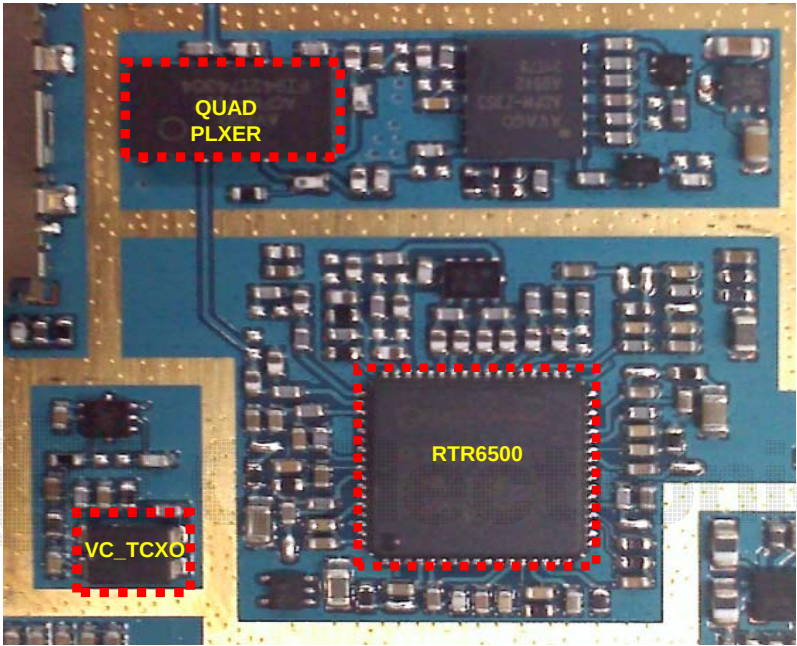
Graph 4.1.1(h)



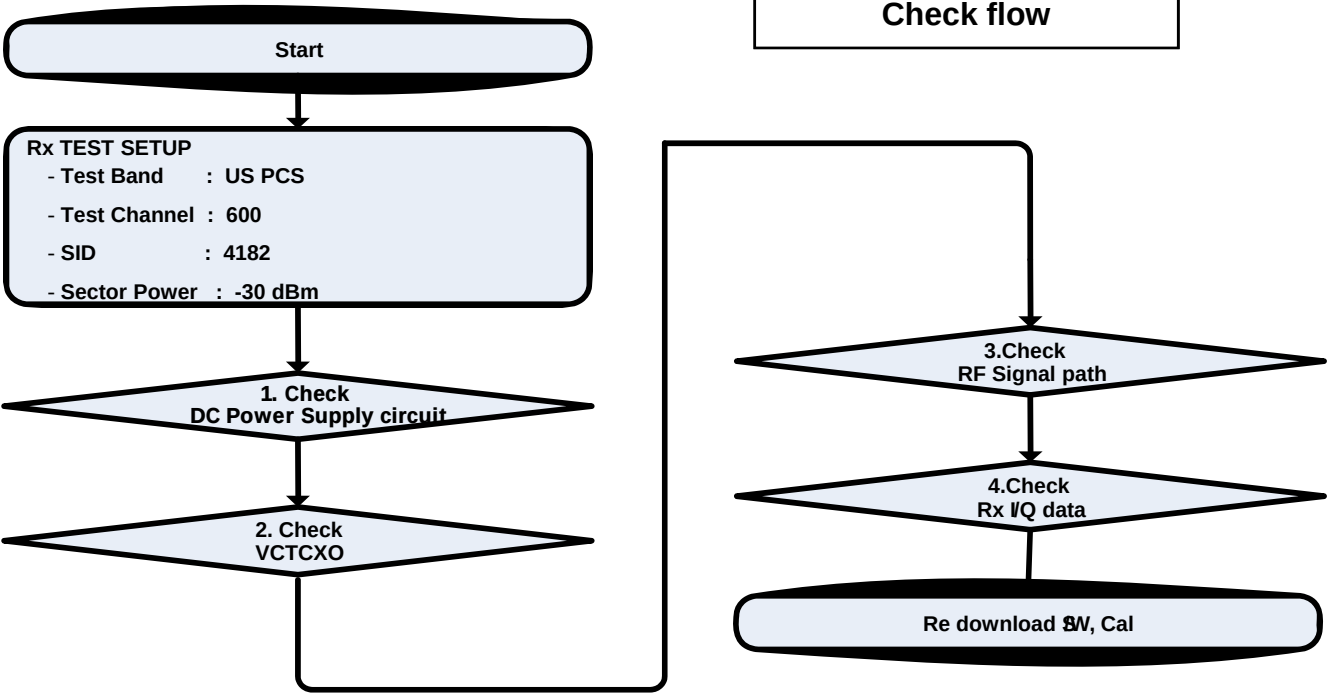
Graph 4.1.1(i)

4.1.2 PCS Rx

Test Point

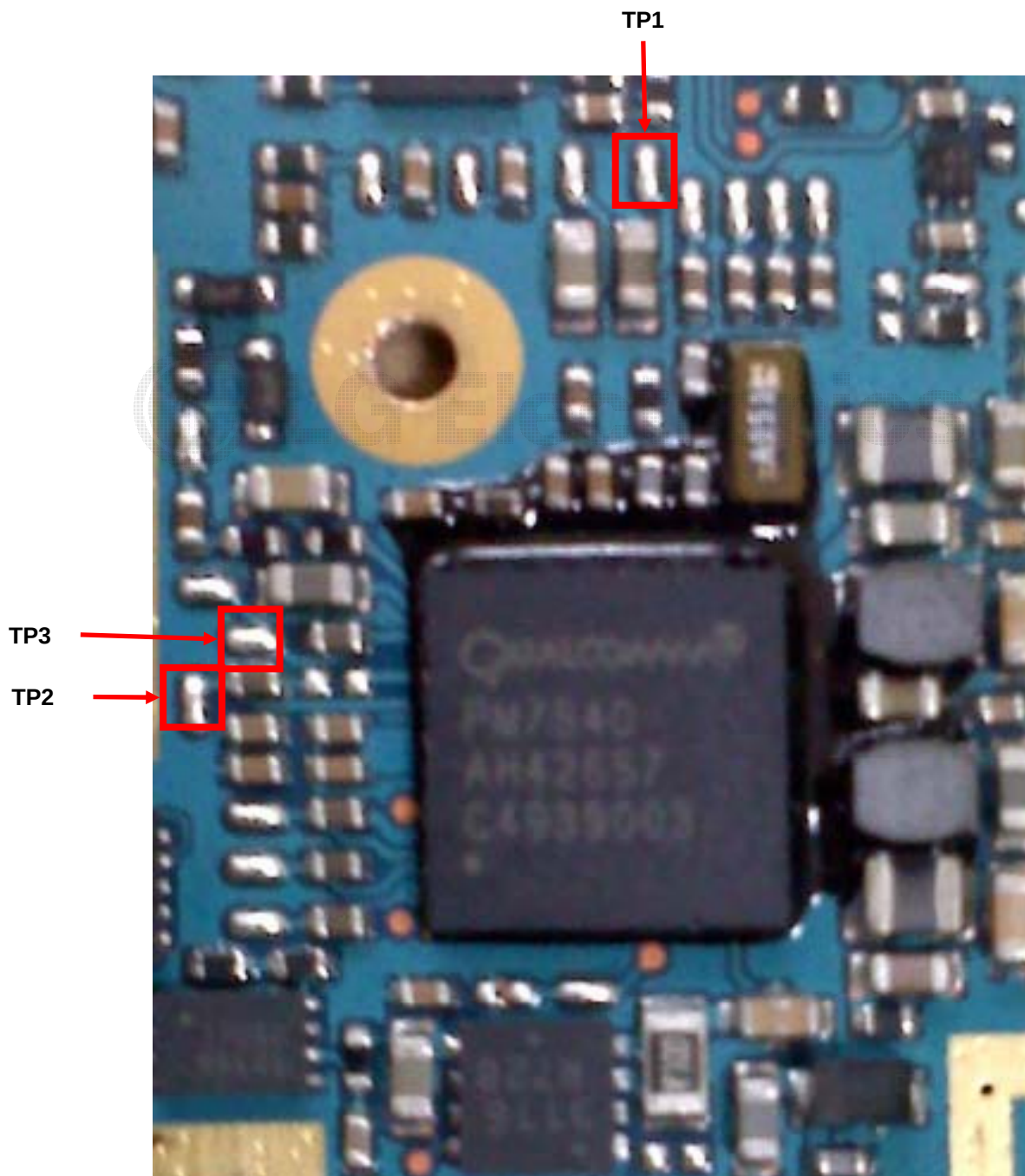


Check flow



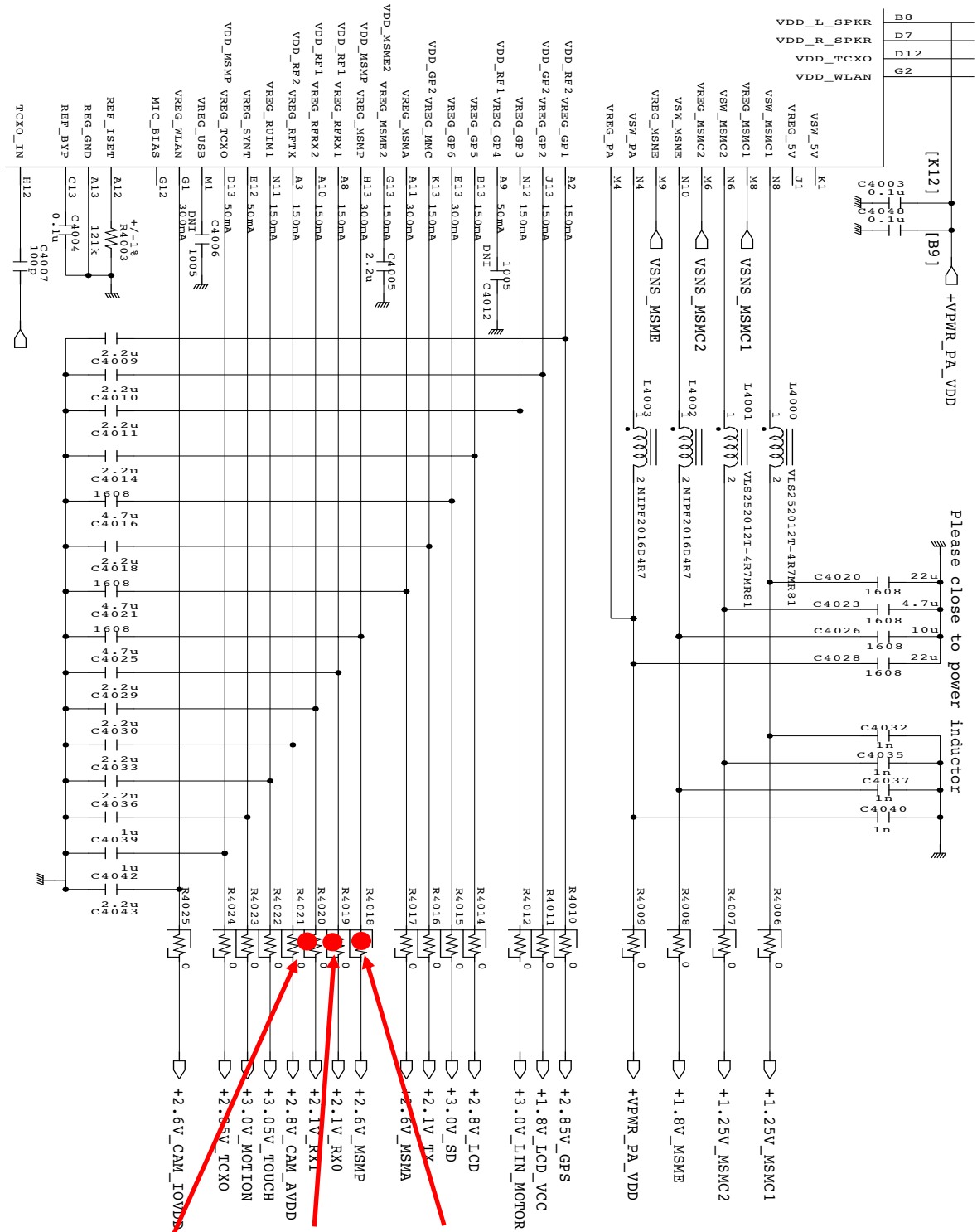
4.1.2.1 Checking DC Power supply circuit (PMIC)

Test Point

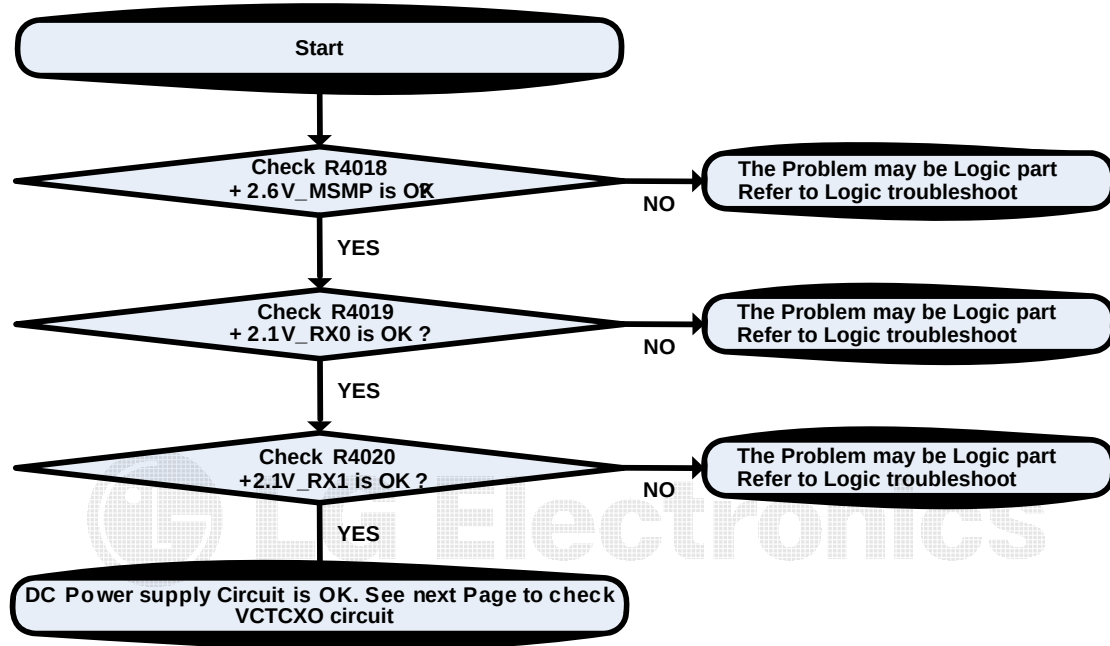


4. Troubleshooting

Circuit Diagram

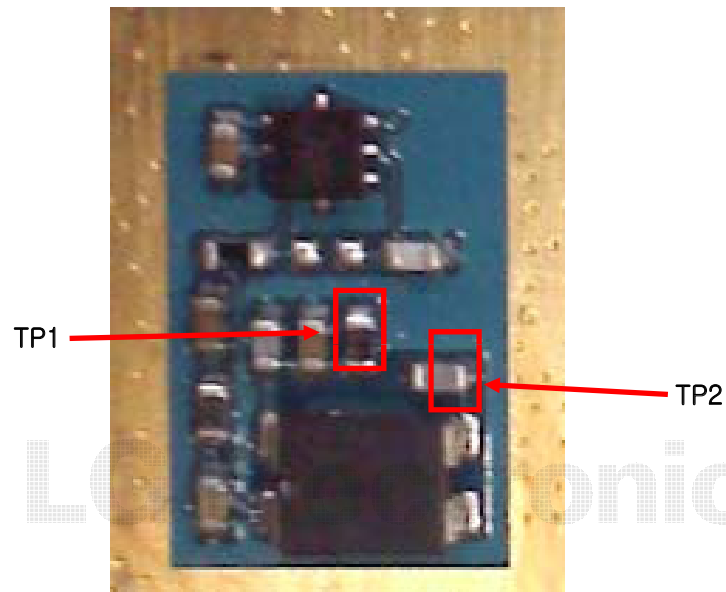


Checking Flow

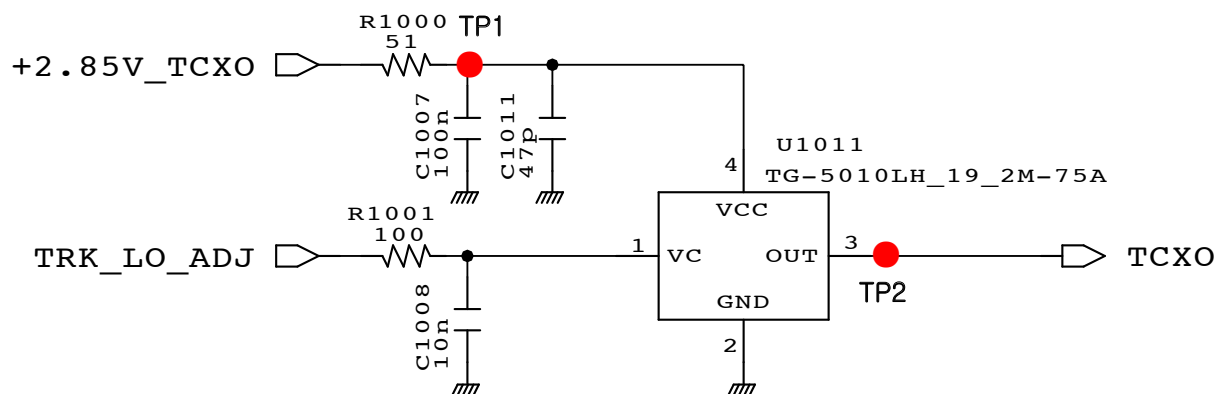


4.1.2.2 Checking VCTCXO circuit

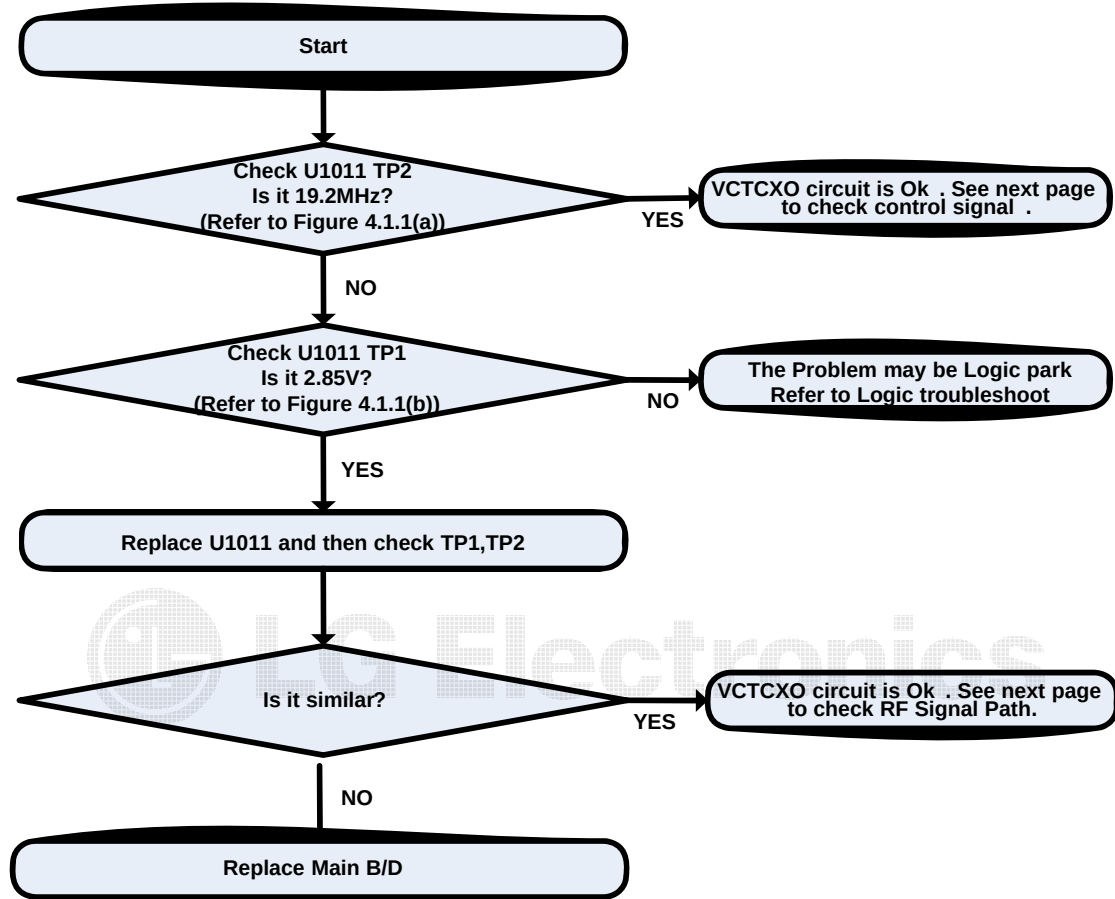
Test Point



Circuit Diagram



Checking Flow



Waveform

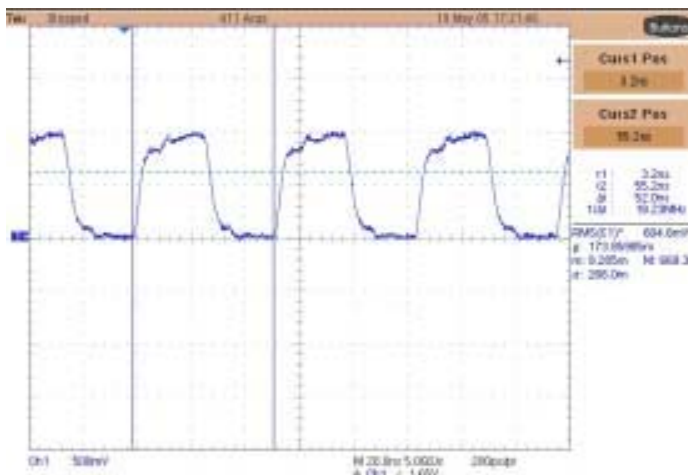


Figure 4.1.1 (a)

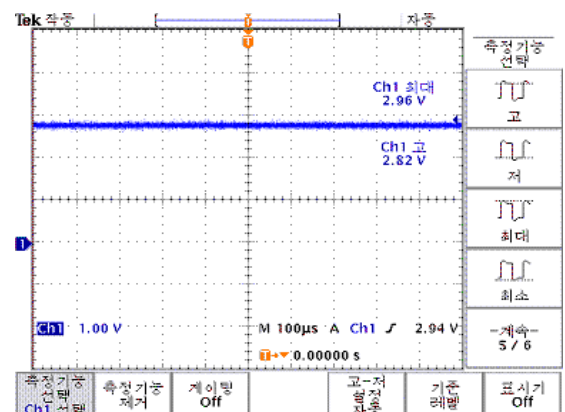
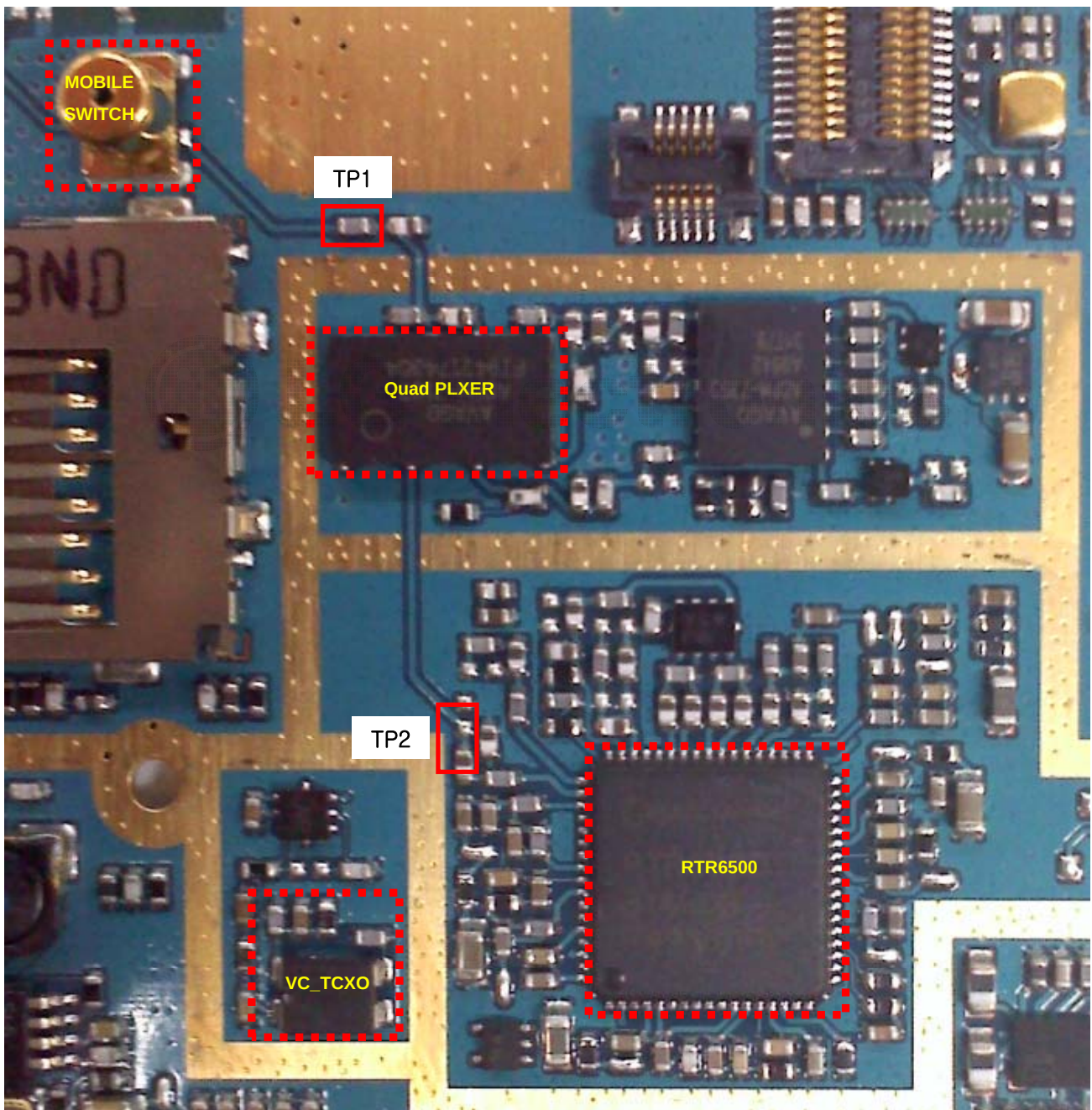


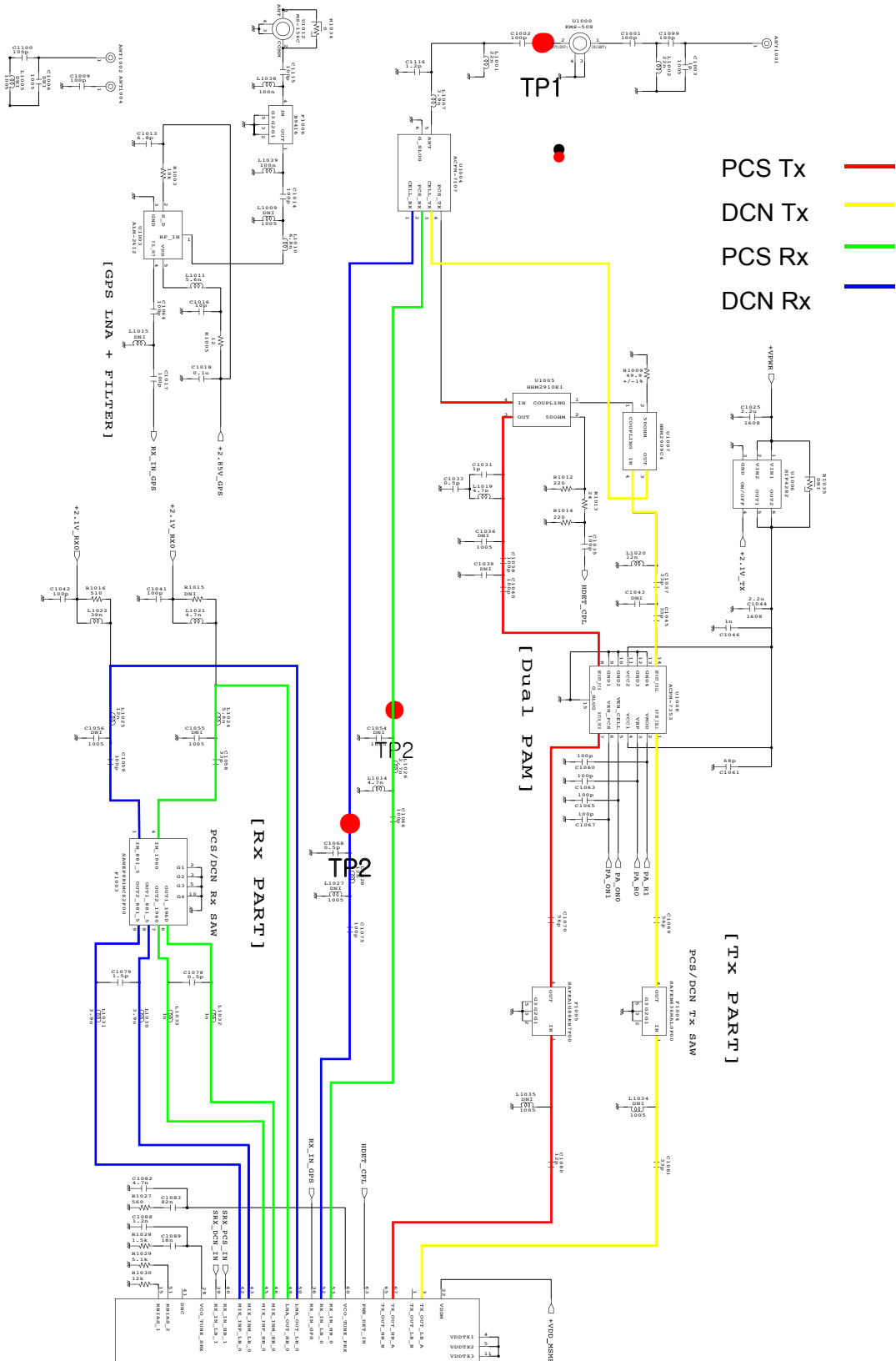
Figure 4.1.1 (b)

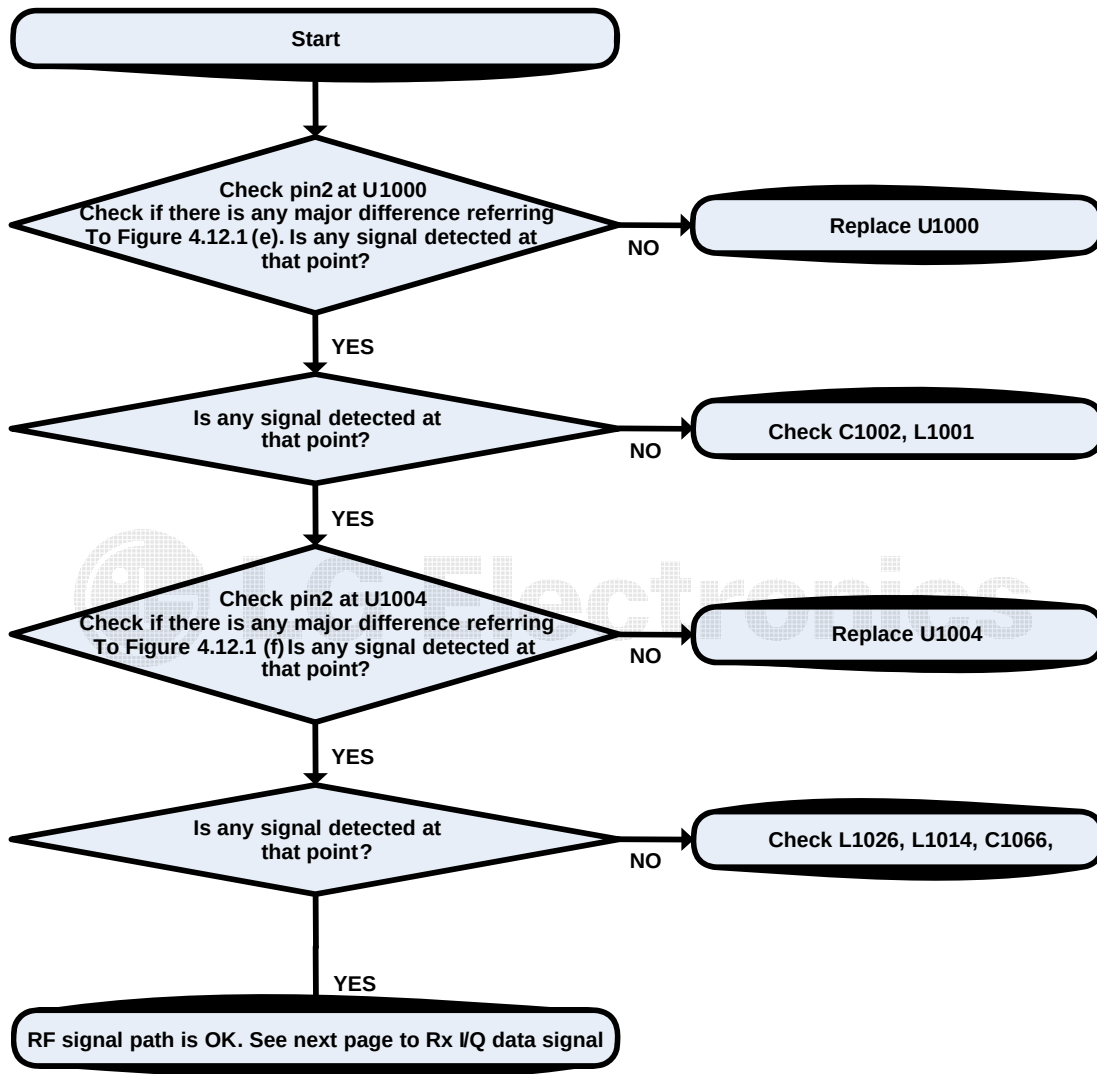
4.1.2.3 Checking RF signal path (Mobile S/W, Quintplexer)

Test Point

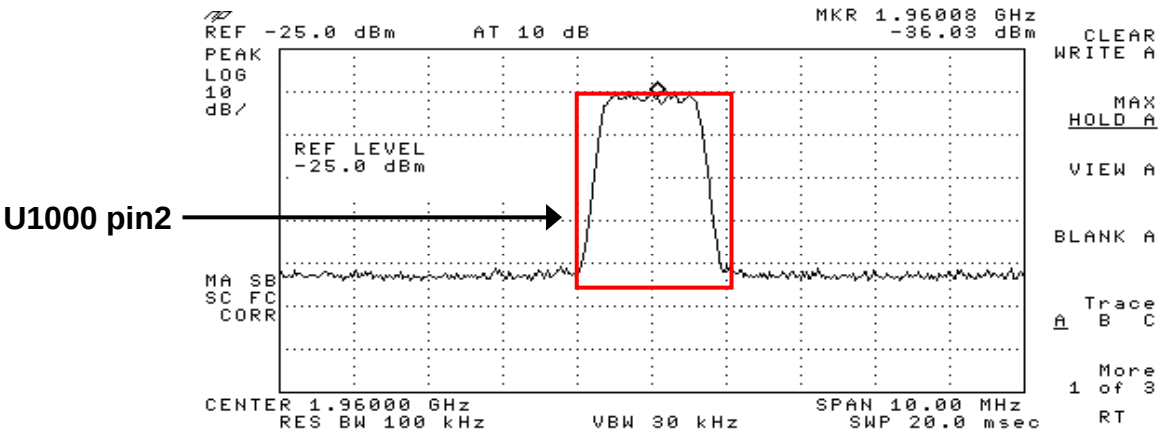


Circuit Diagram

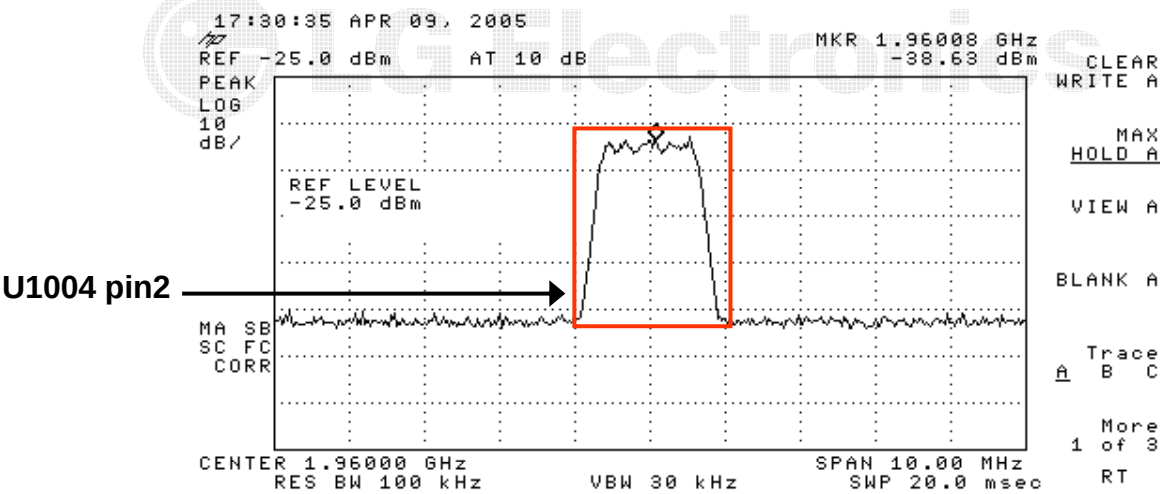


Checking Flow

4. Troubleshooting



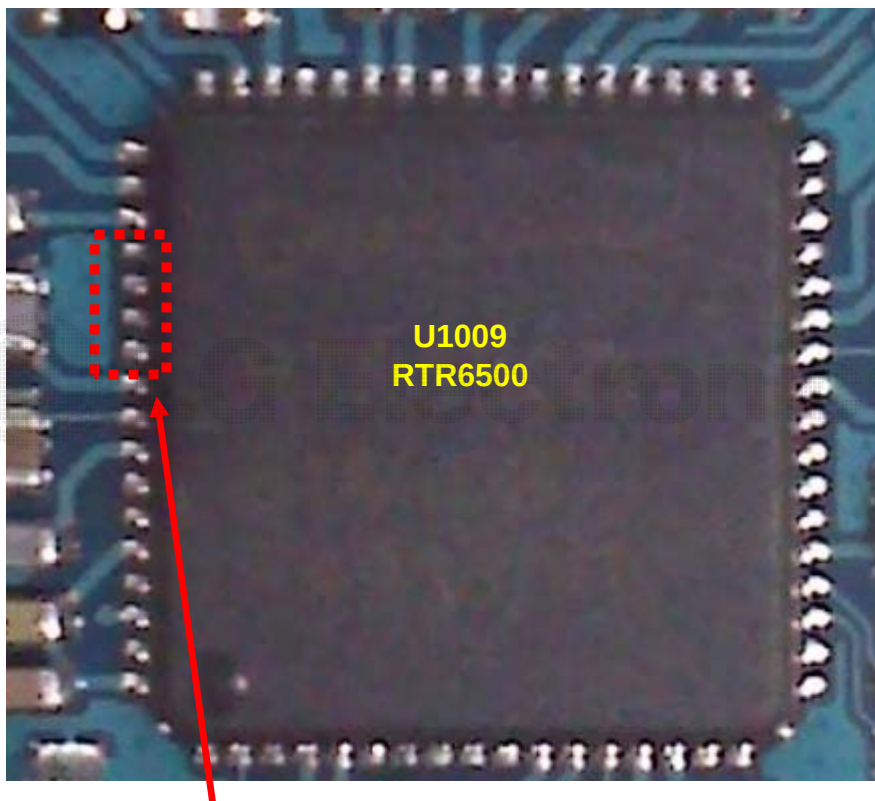
4.12.1 (e)



4.12.1 (f)

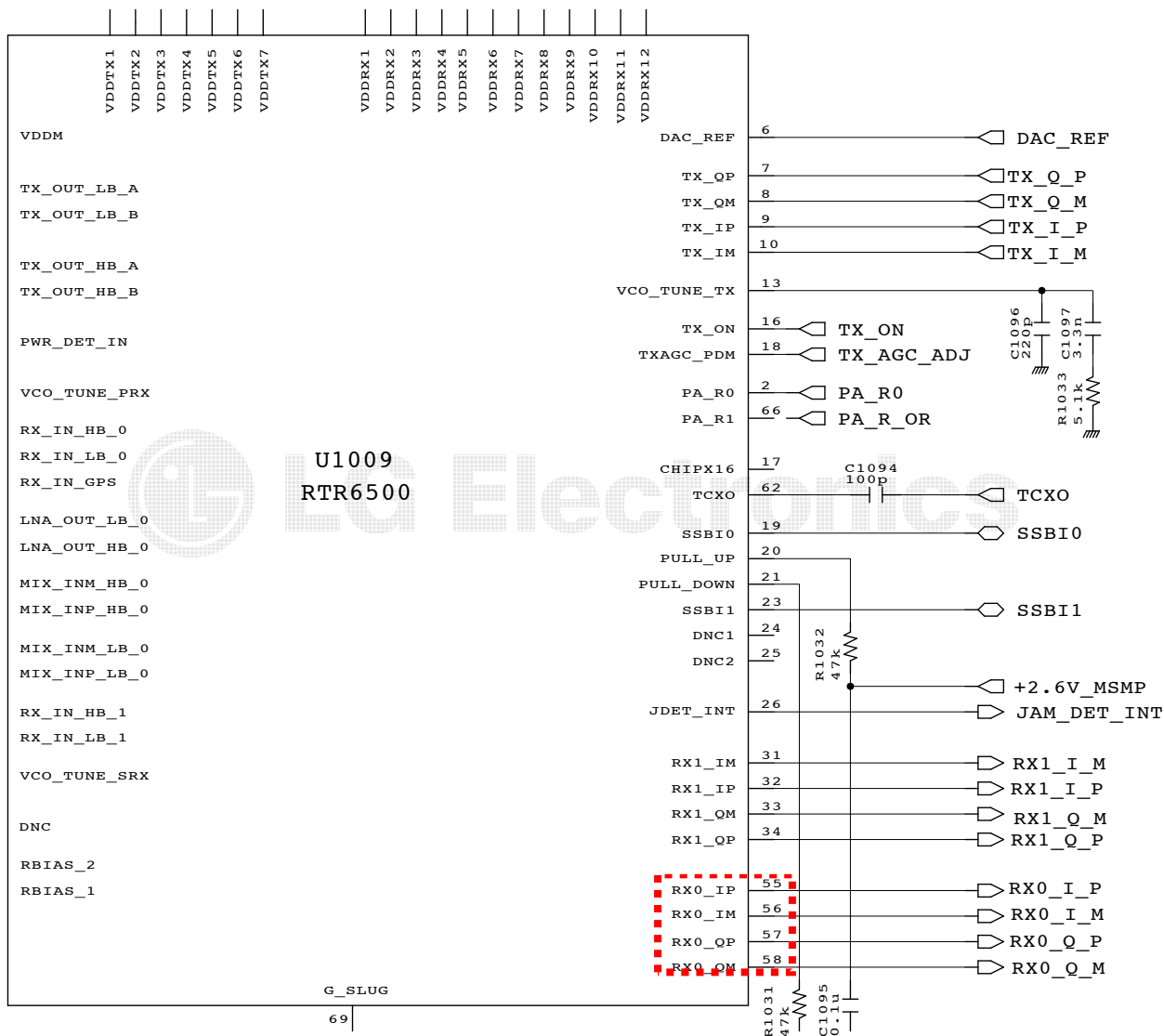
4.1.2.4 Checking Rx I/Q data

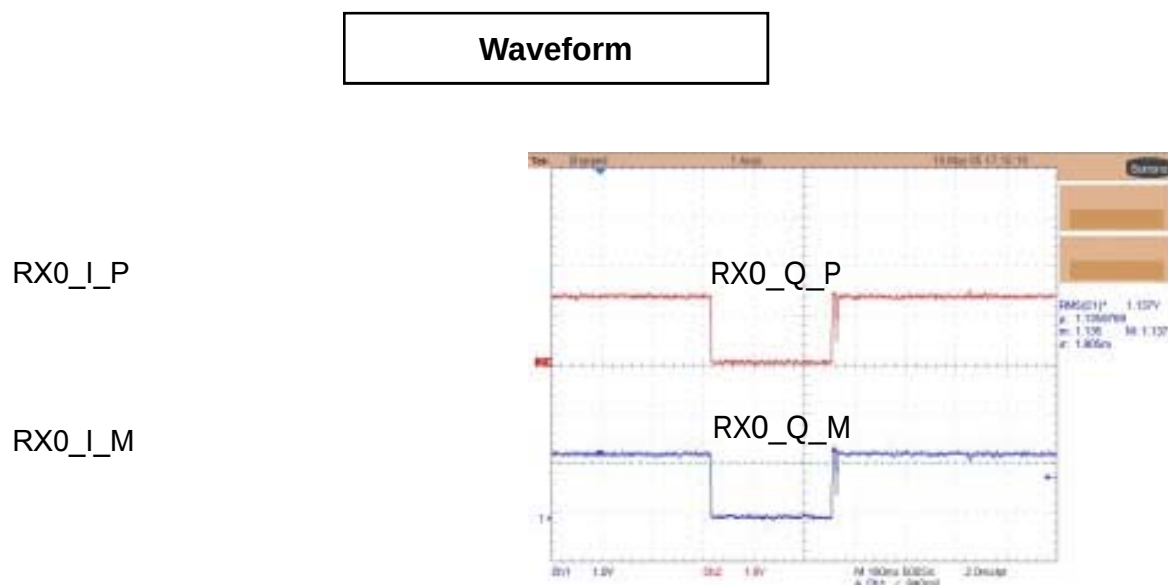
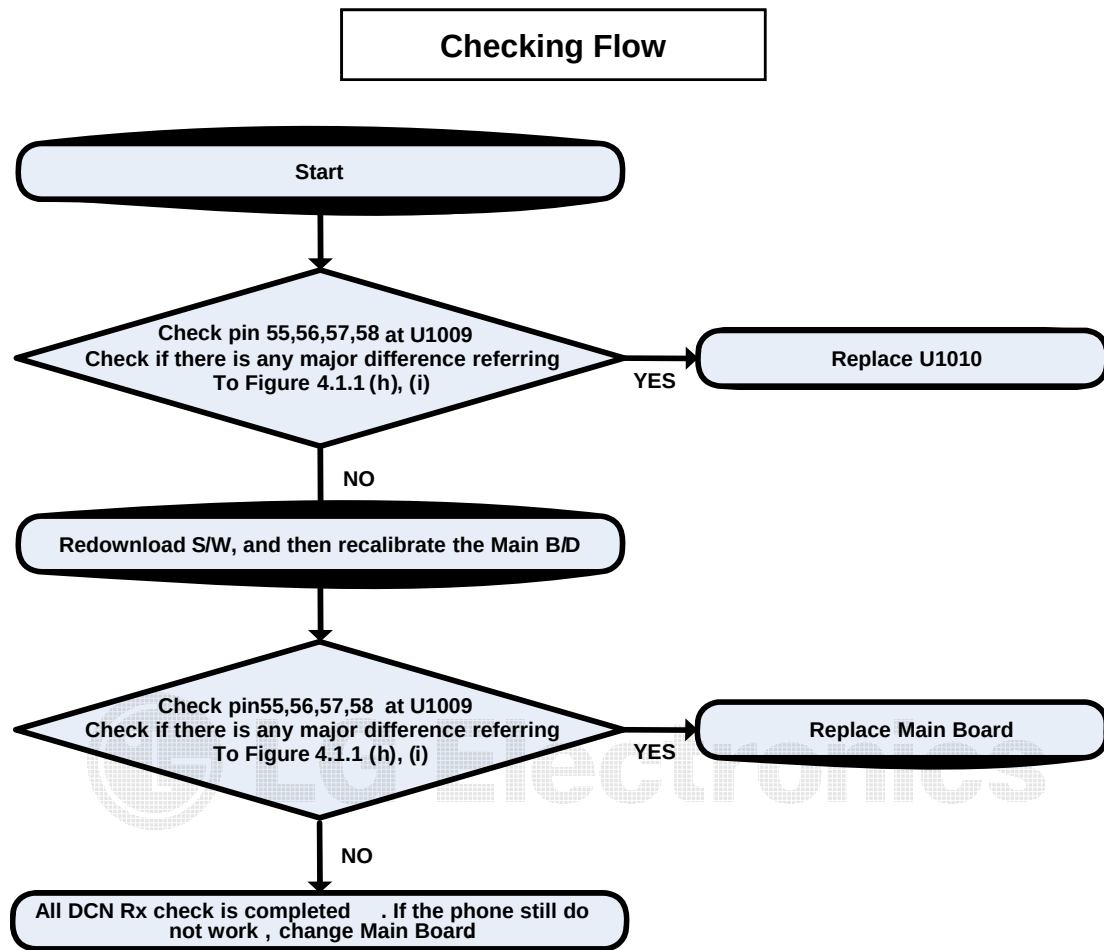
Test Point



Pin 55 - RX0_I_P
Pin 56 - RX0_I_M
Pin 57 - RX0_Q_P
Pin 58 - RX0_Q_M

Circuit Diagram





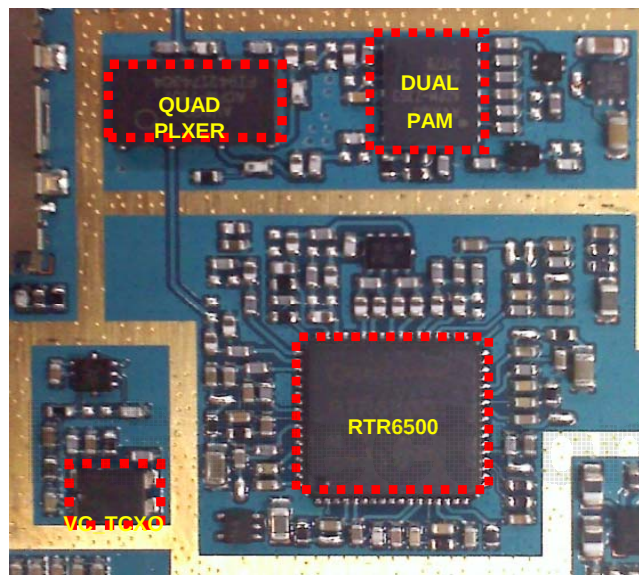
Graph 4.1.1(h)

Graph 4.1.1(i)

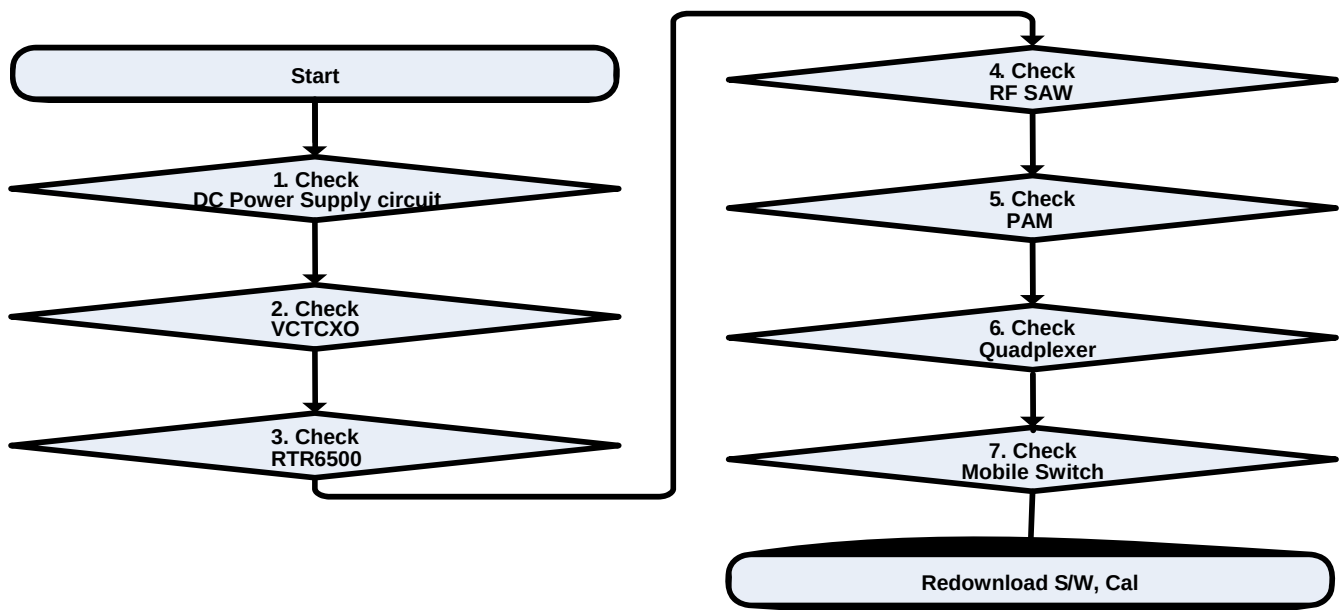
4.2 CDMA Tx Part Trouble

4.2.1 DCN Tx

Test Point

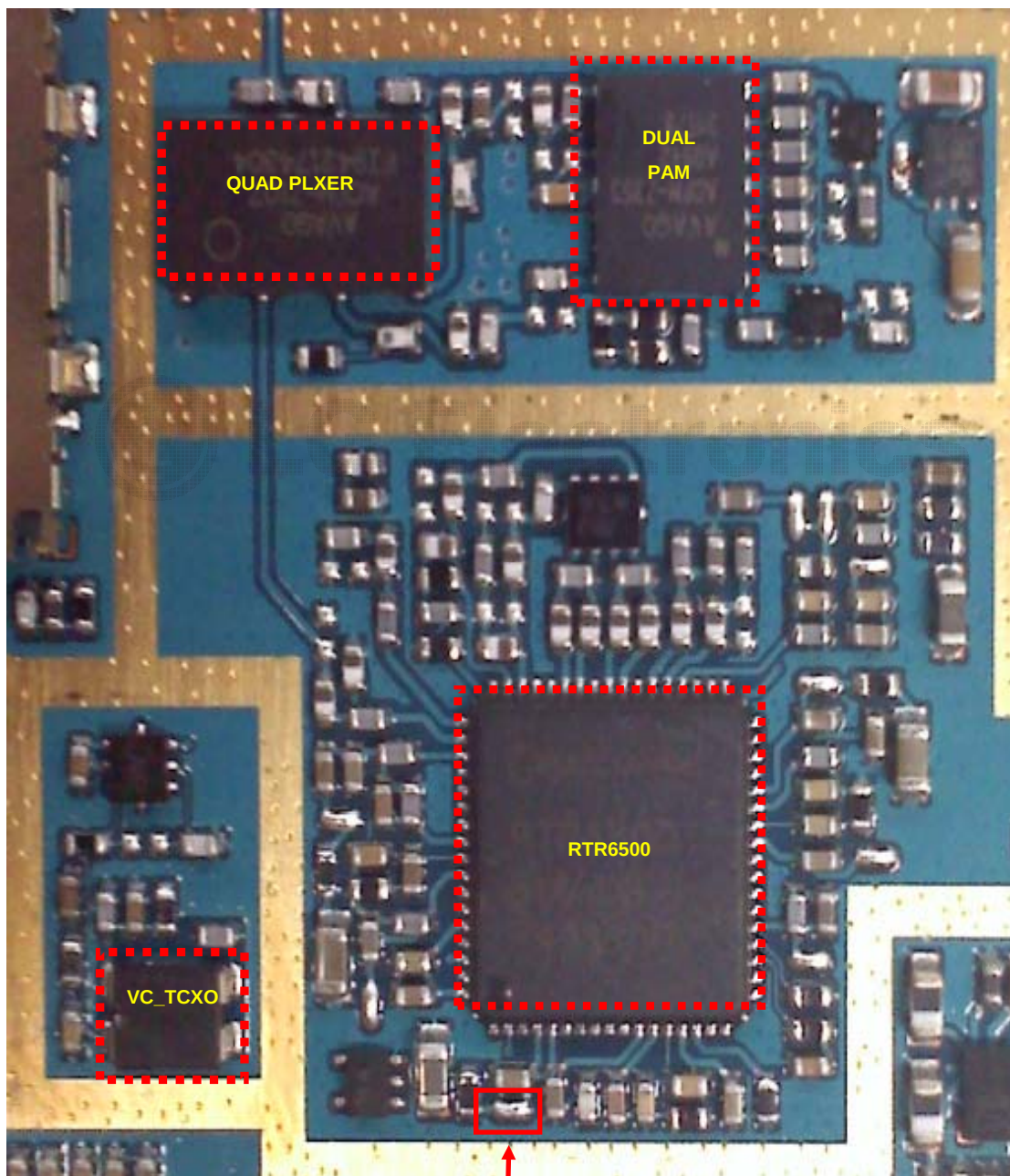


Checking Flow



4.2.1.1 Checking DC Power supply circuit (PMIC)

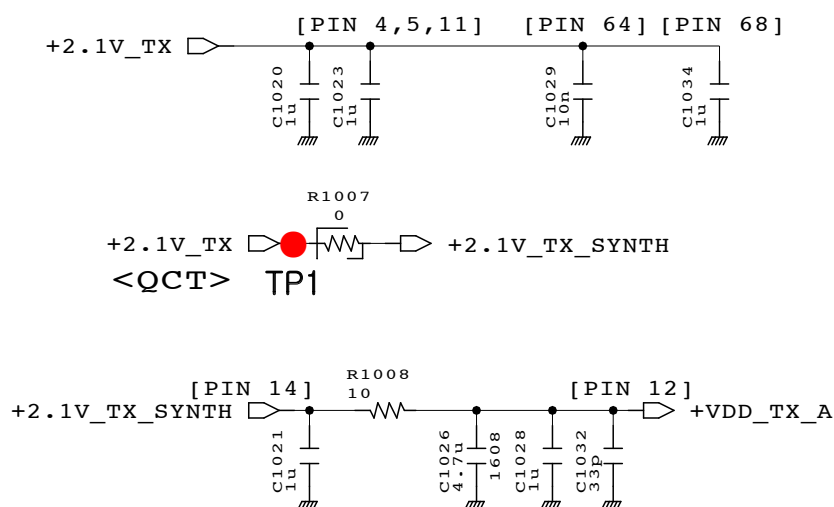
Test Point



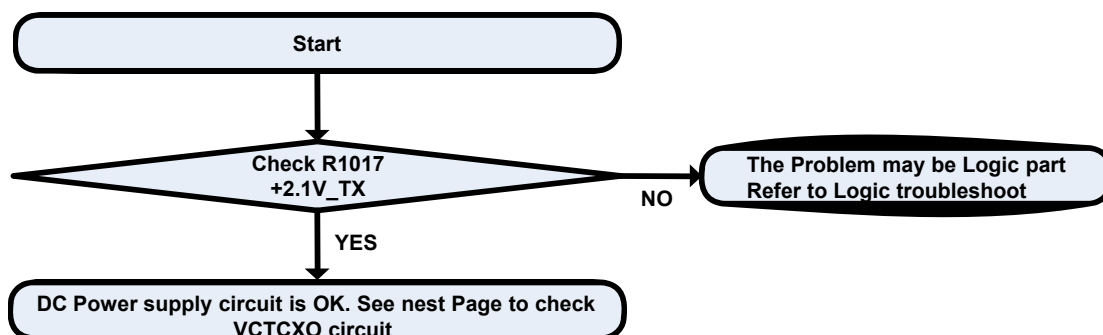
TP1

Circuit Diagram

TX POWER DST.

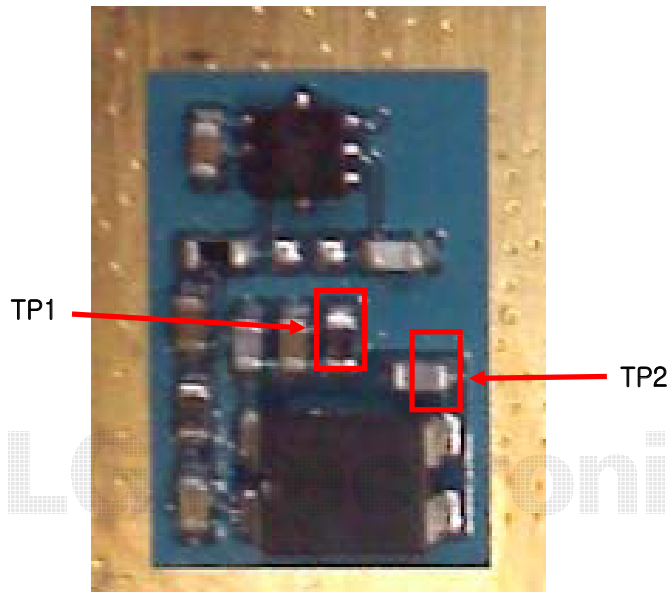


Checking Flow

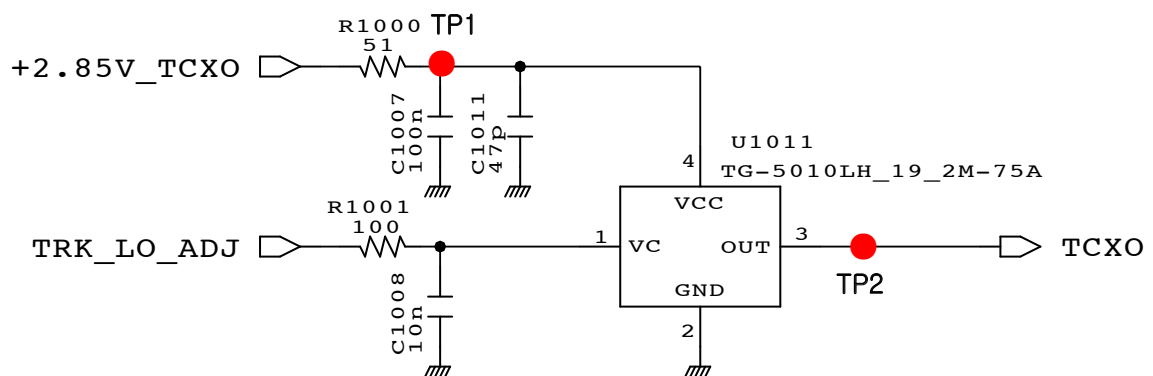


4.2.1.2 Checking VCTCXO circuit

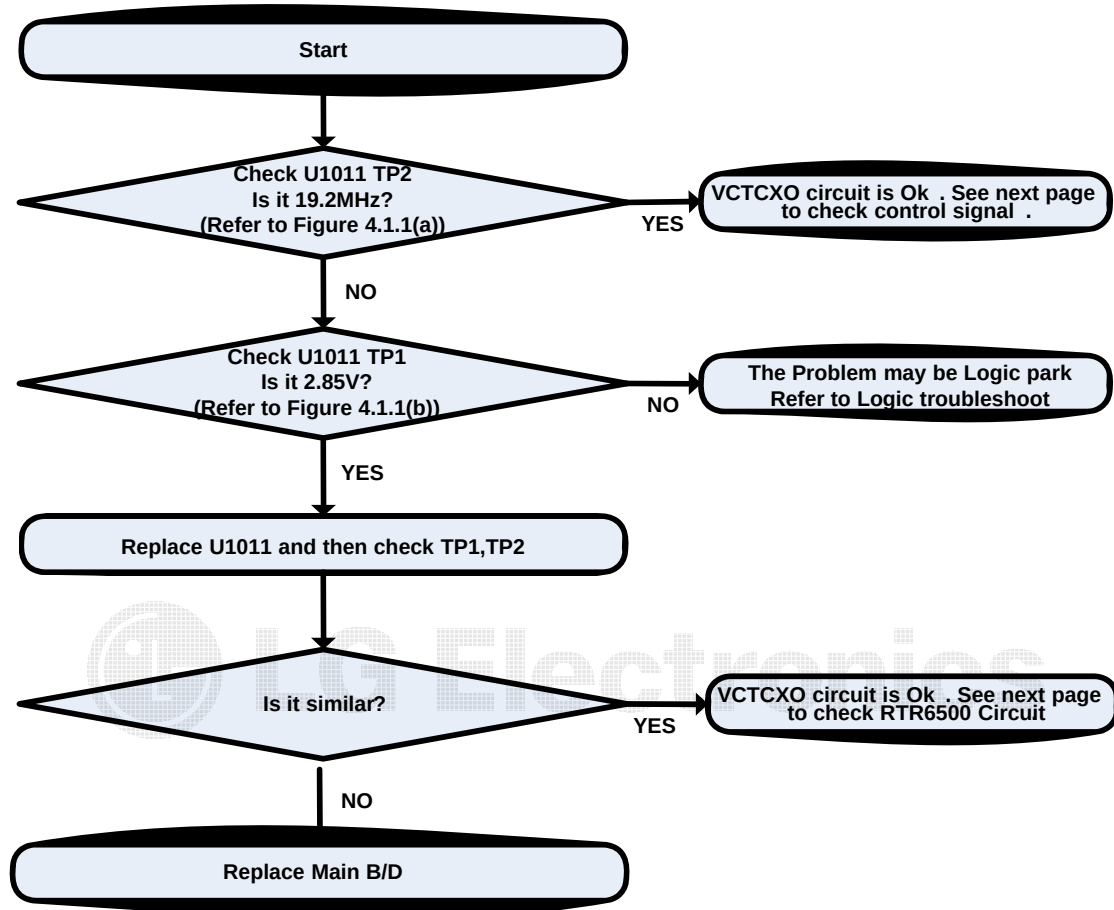
Test Point



Circuit Diagram



Checking Flow



Waveform

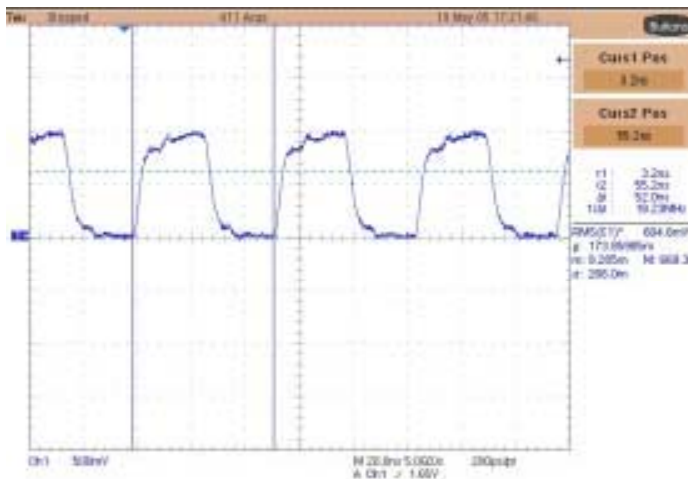


Figure 4.1.1 (a)

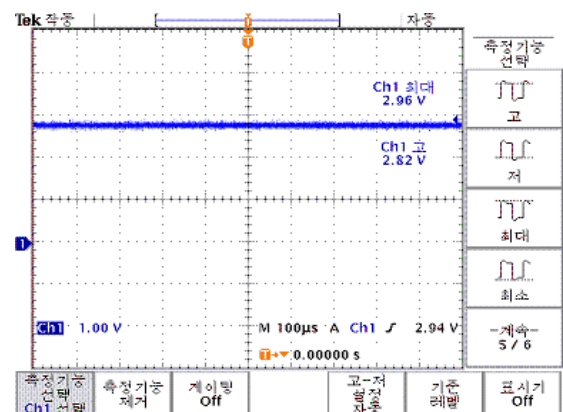
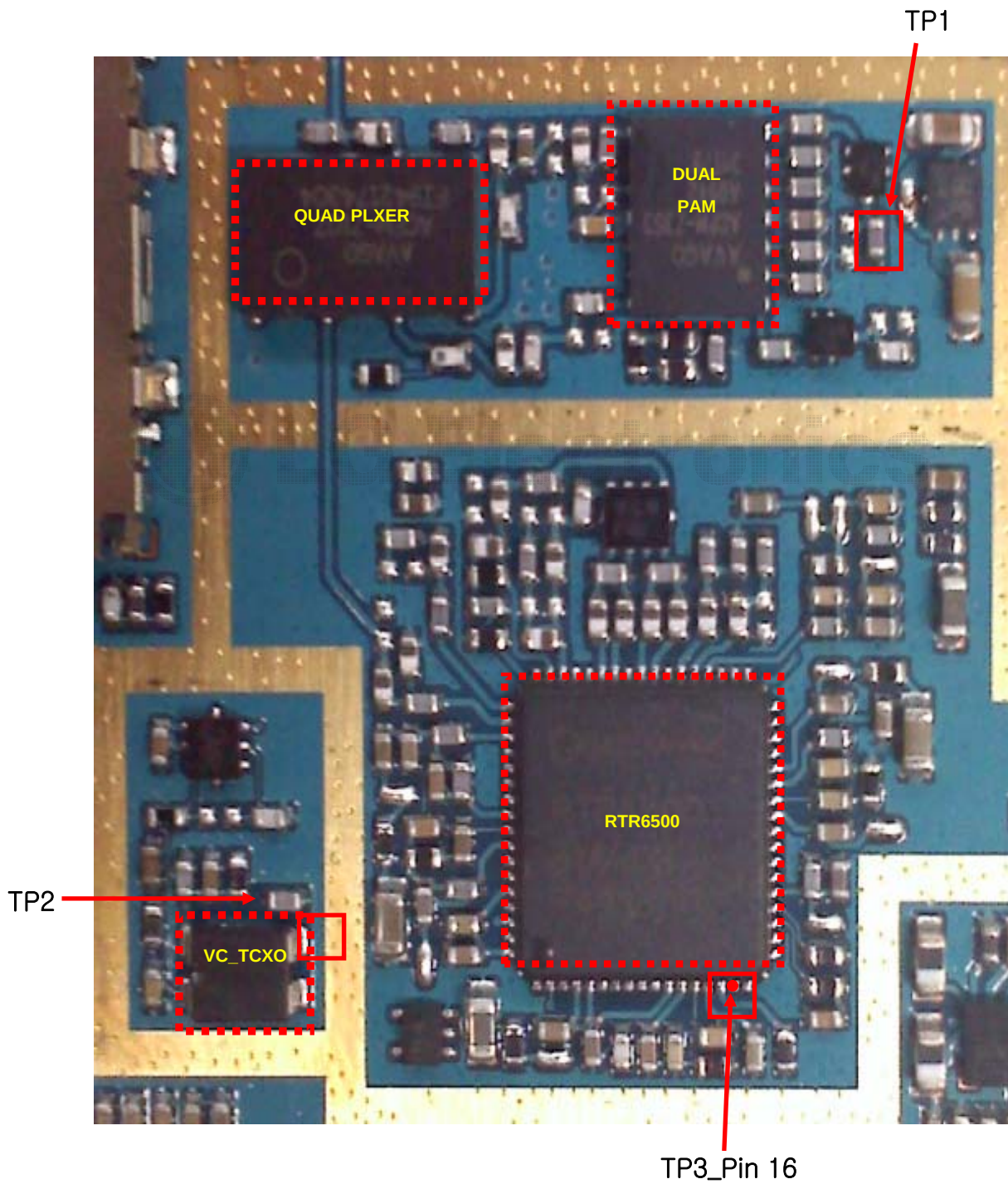


Figure 4.1.1 (b)

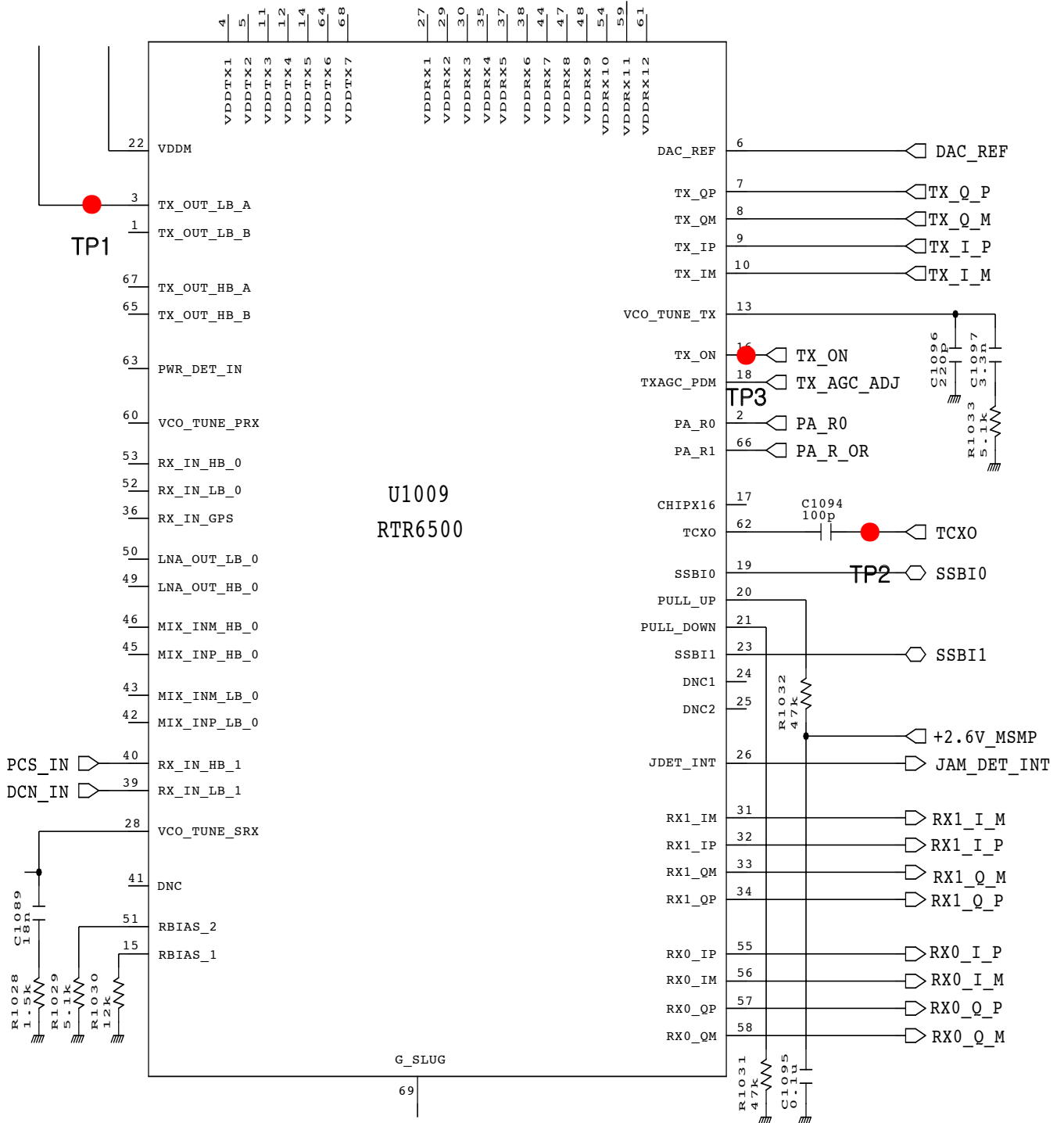
4.2.1.3 Checking RTR6500 circuit

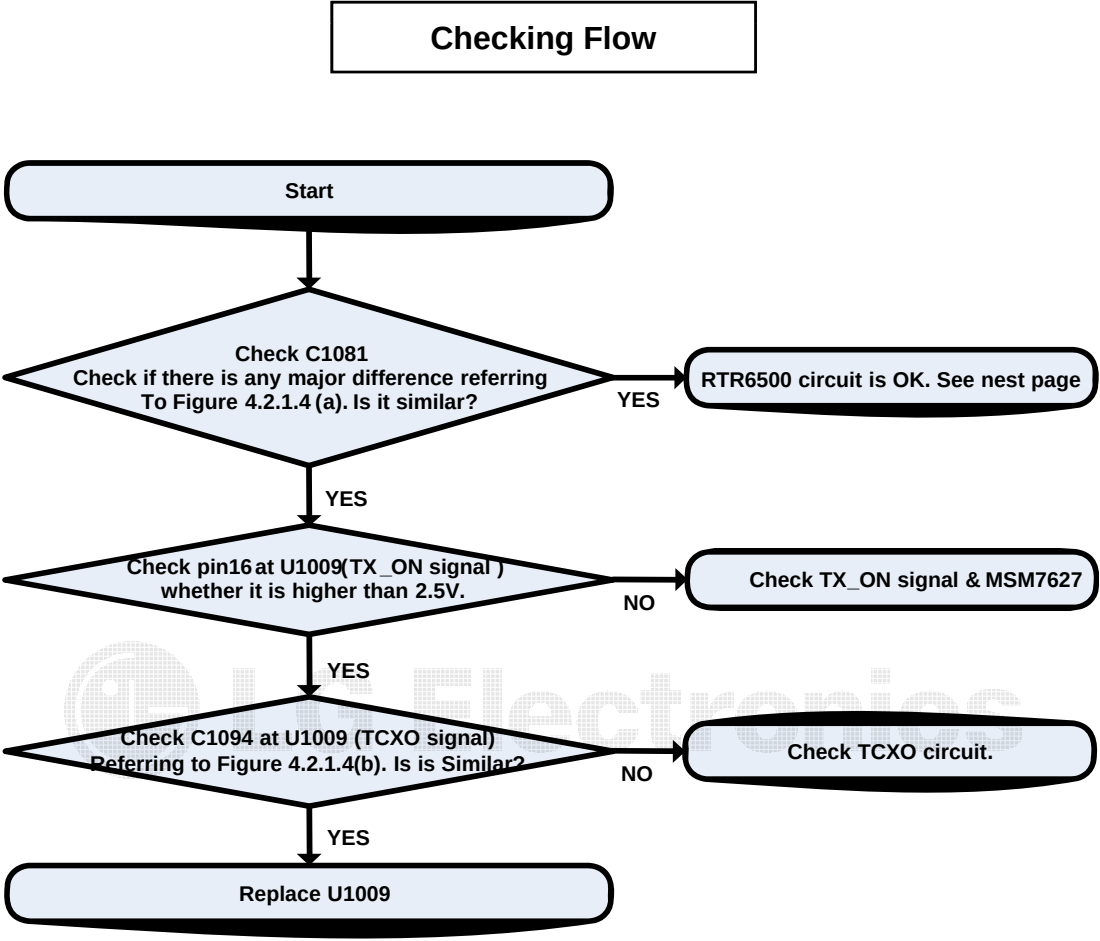
Test Point



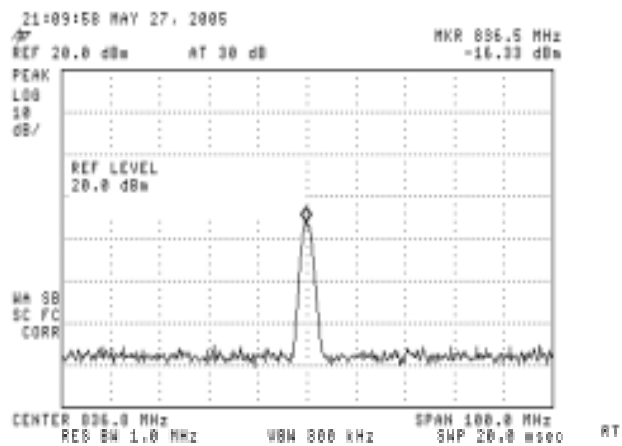
4. Troubleshooting

Circuit Diagram

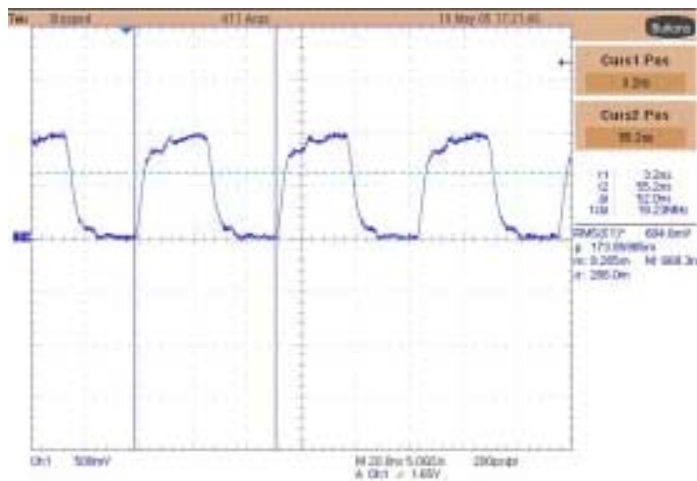




Waveform



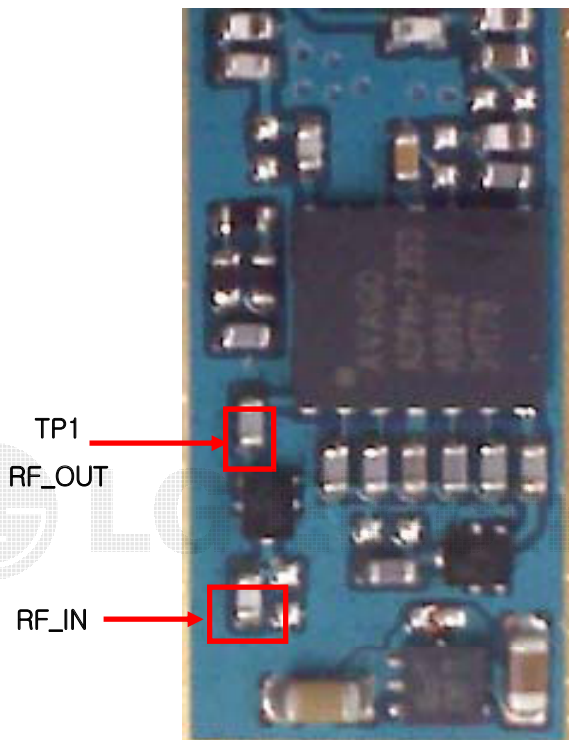
Graph 4.2.1.4(A)



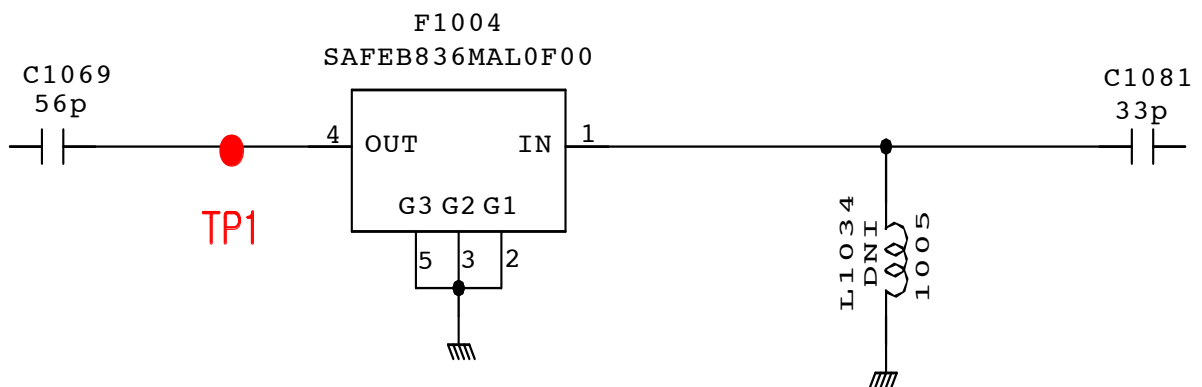
Graph 4.2.1.4(B)

4.2.1.4 Check DCN RF Tx SAW

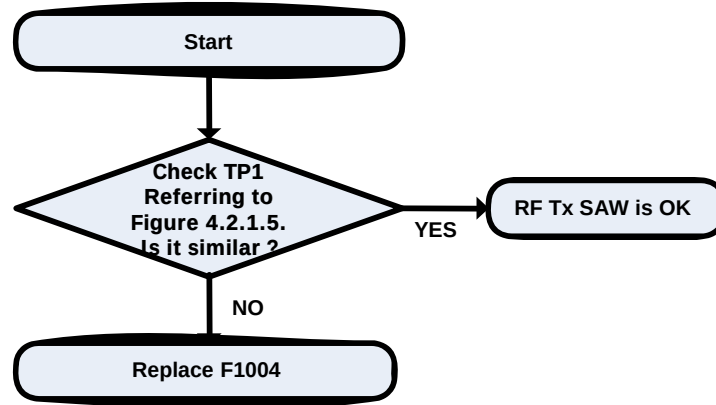
Test Point



Circuit Diagram



Checking Flow



Waveform

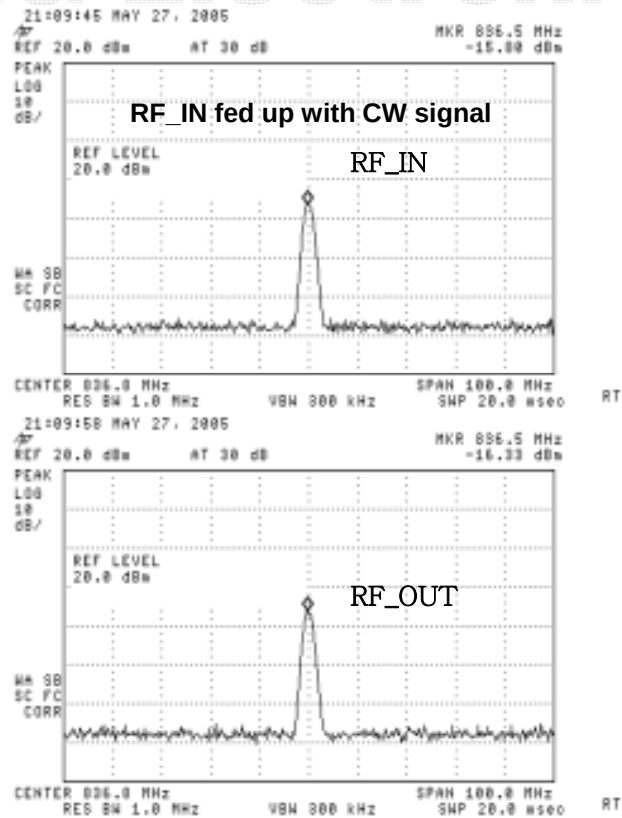
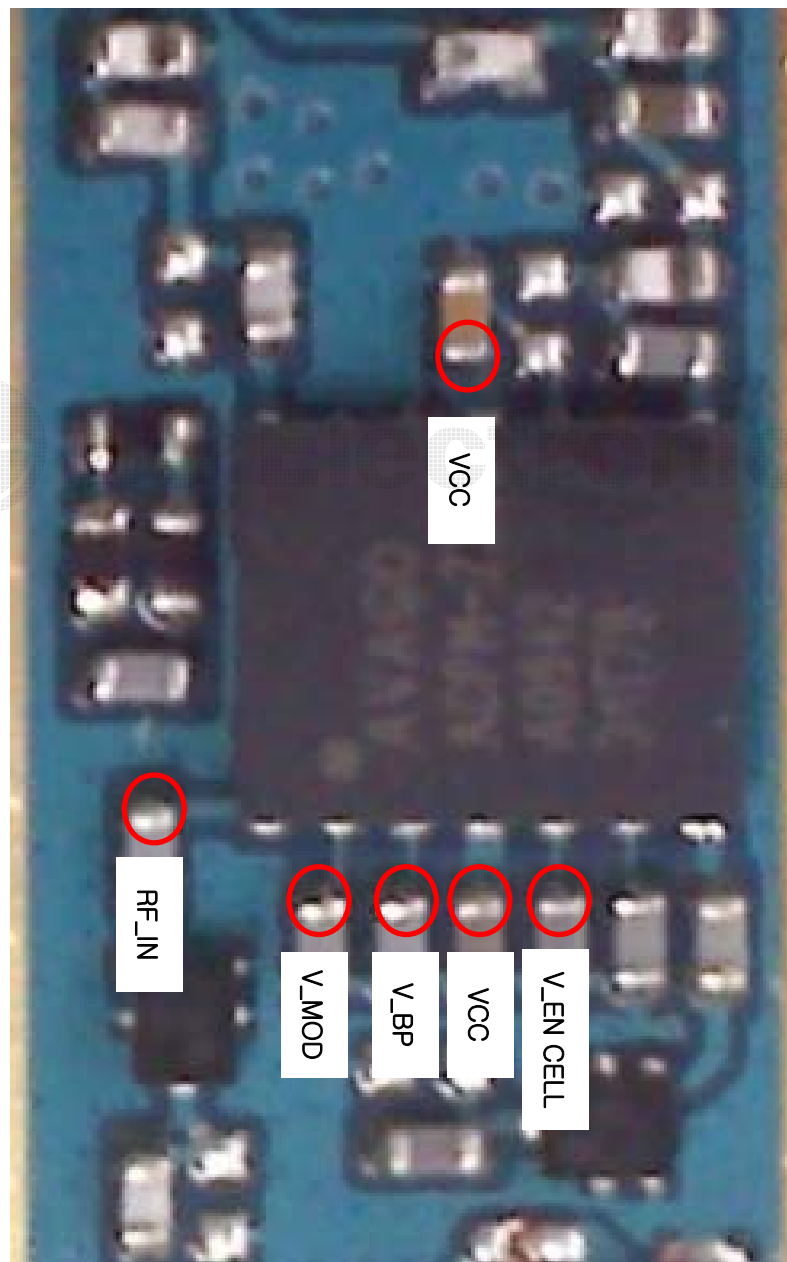


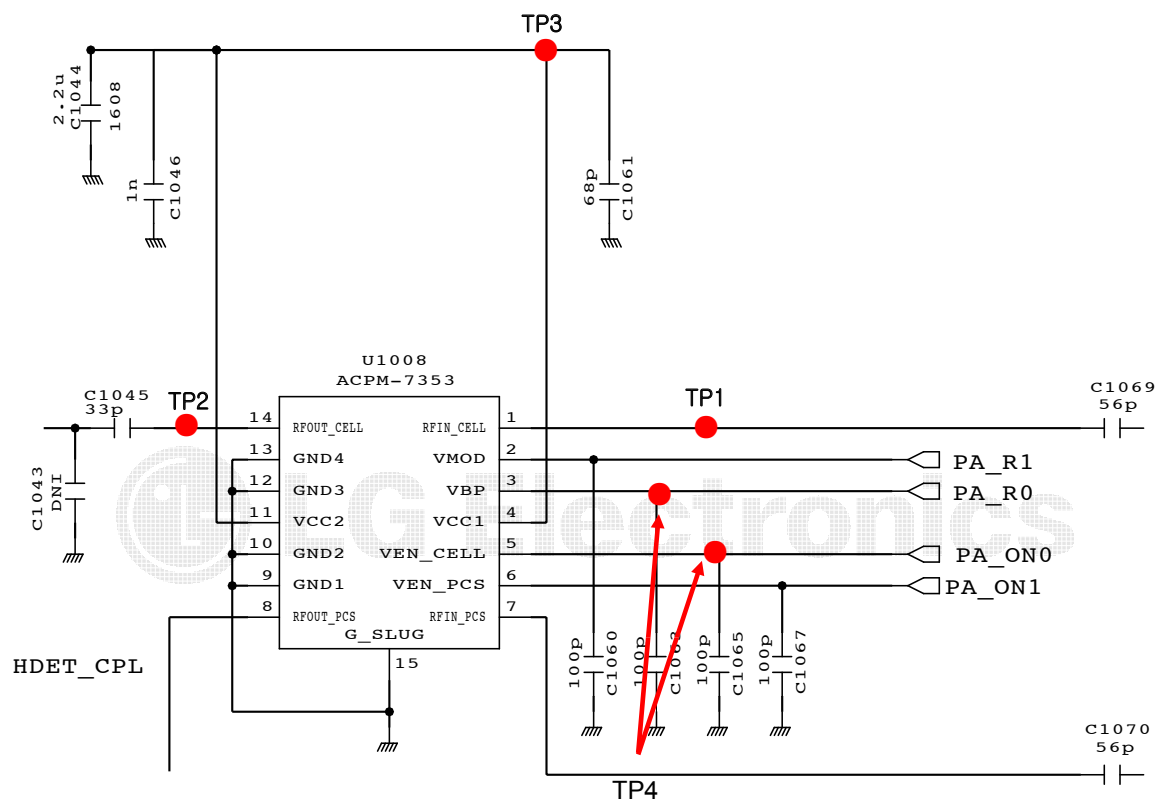
Figure 4.2.1.5

4.2.1.5 Check DCN PAM circuit

Test Point



Circuit Diagram



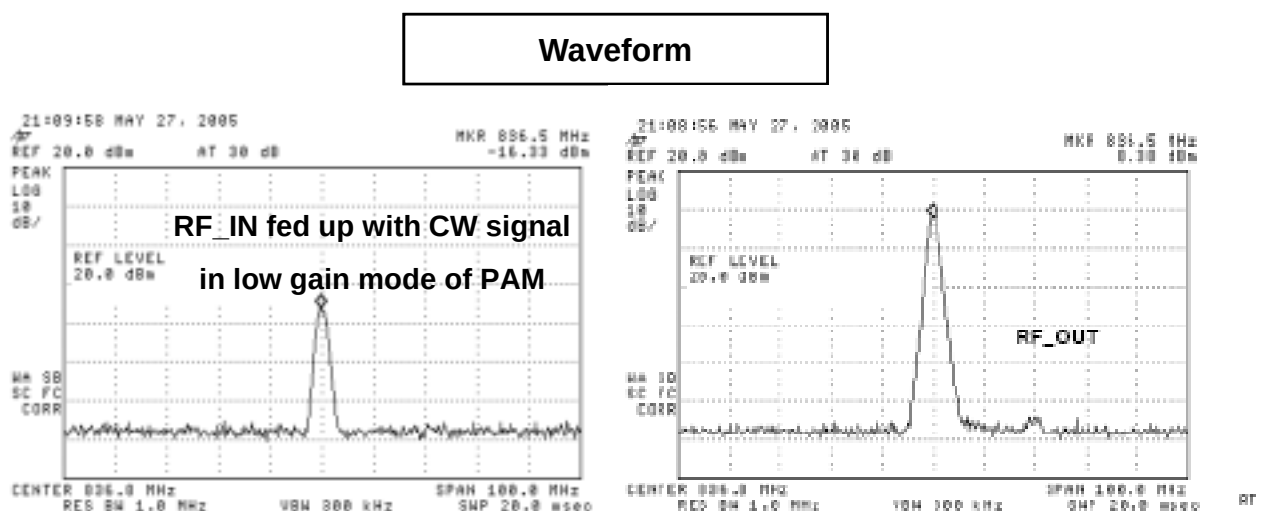
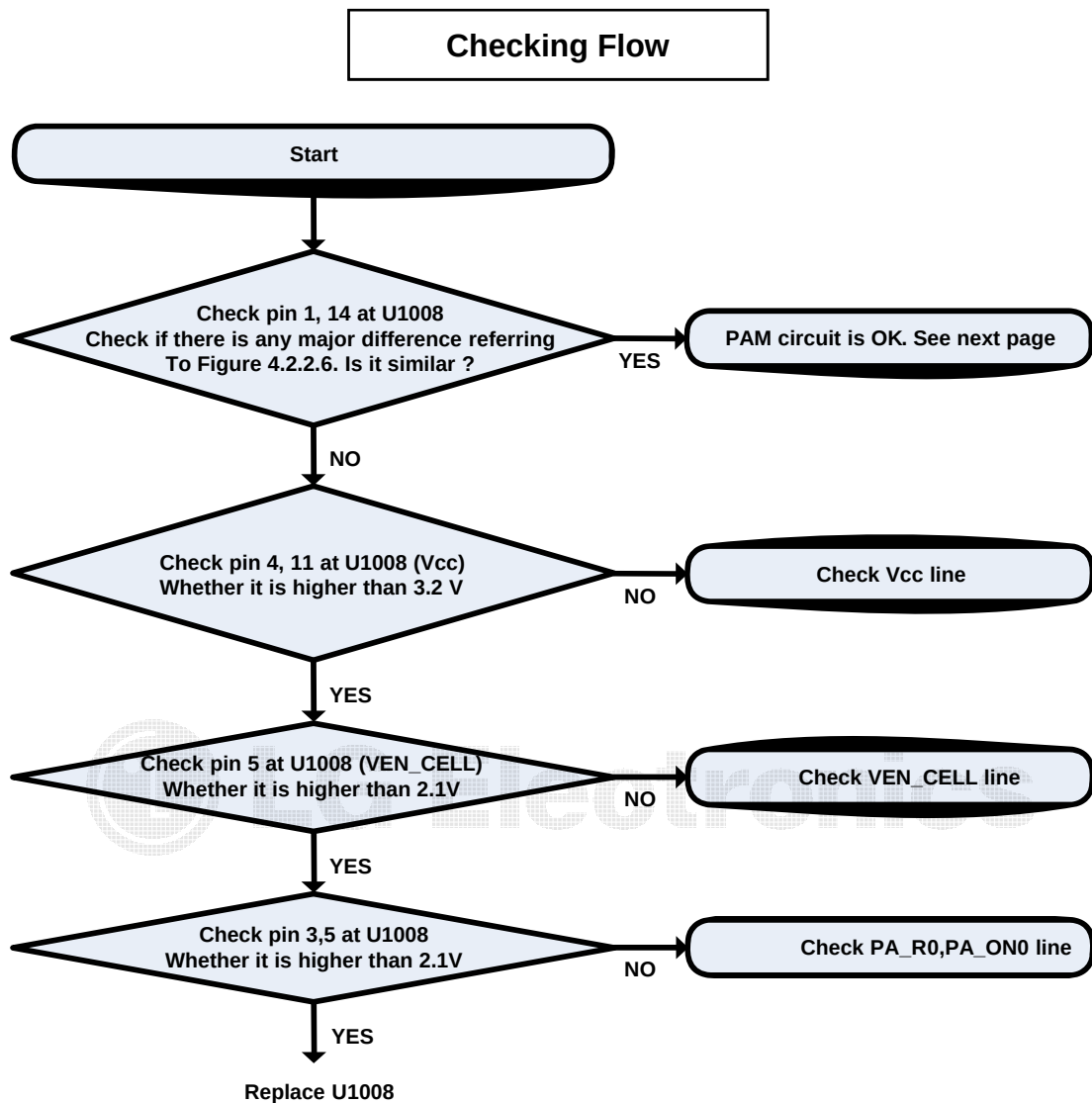
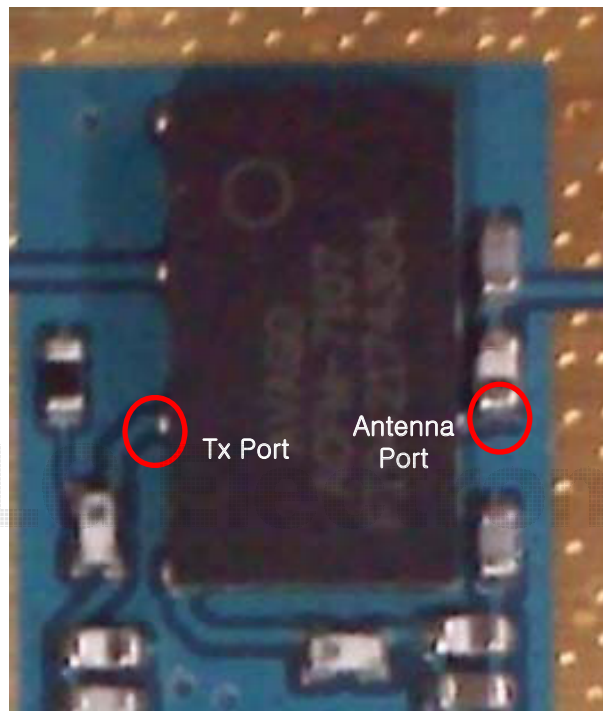


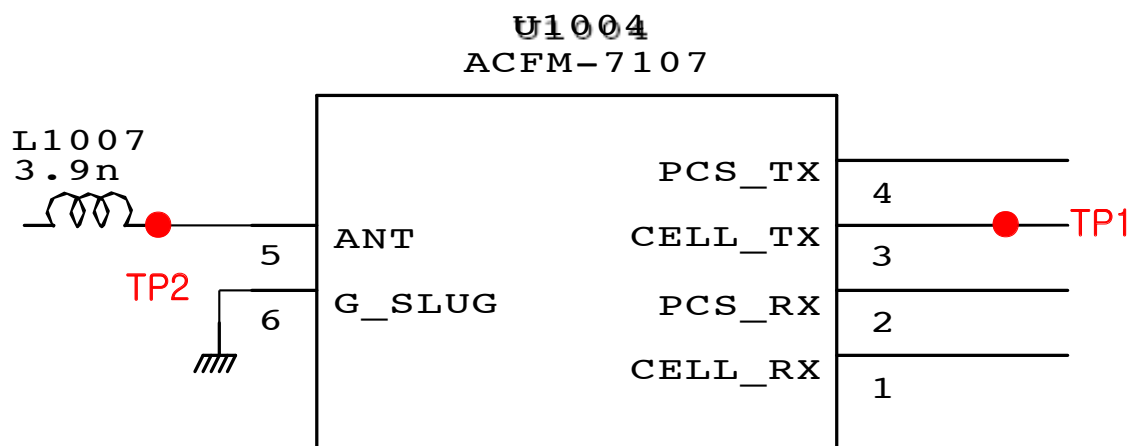
Figure 4.2.1.6

4.2.1.6 Check Quadplexer

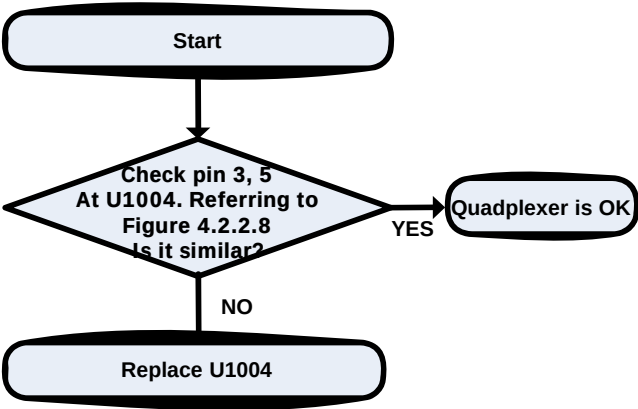
Test Point



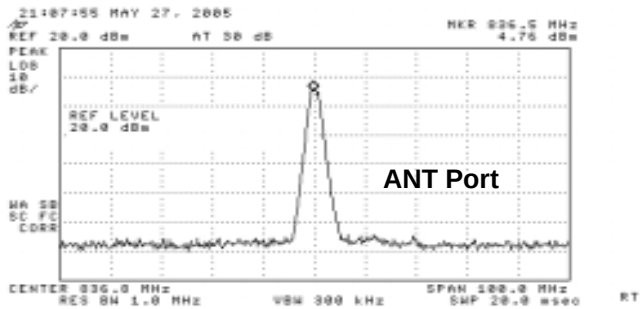
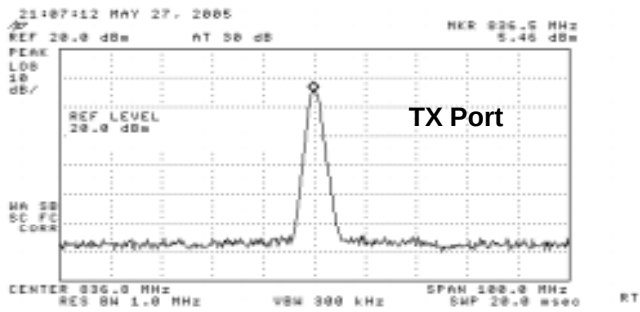
Circuit Diagram



Checking Flow

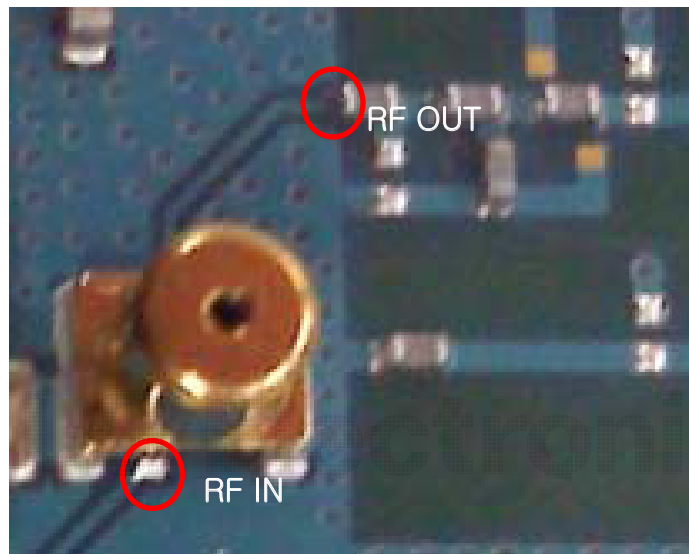


Waveform

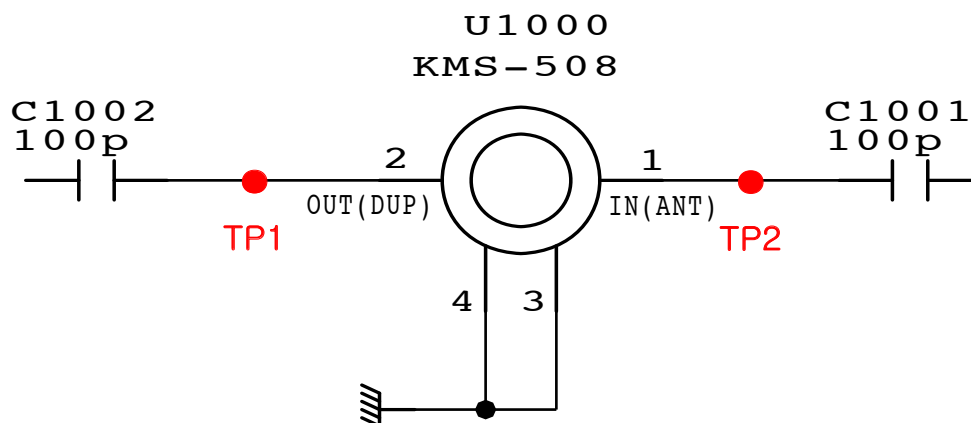


4.2.1.7 Check Mobile S/W

Test Point



Circuit Diagram



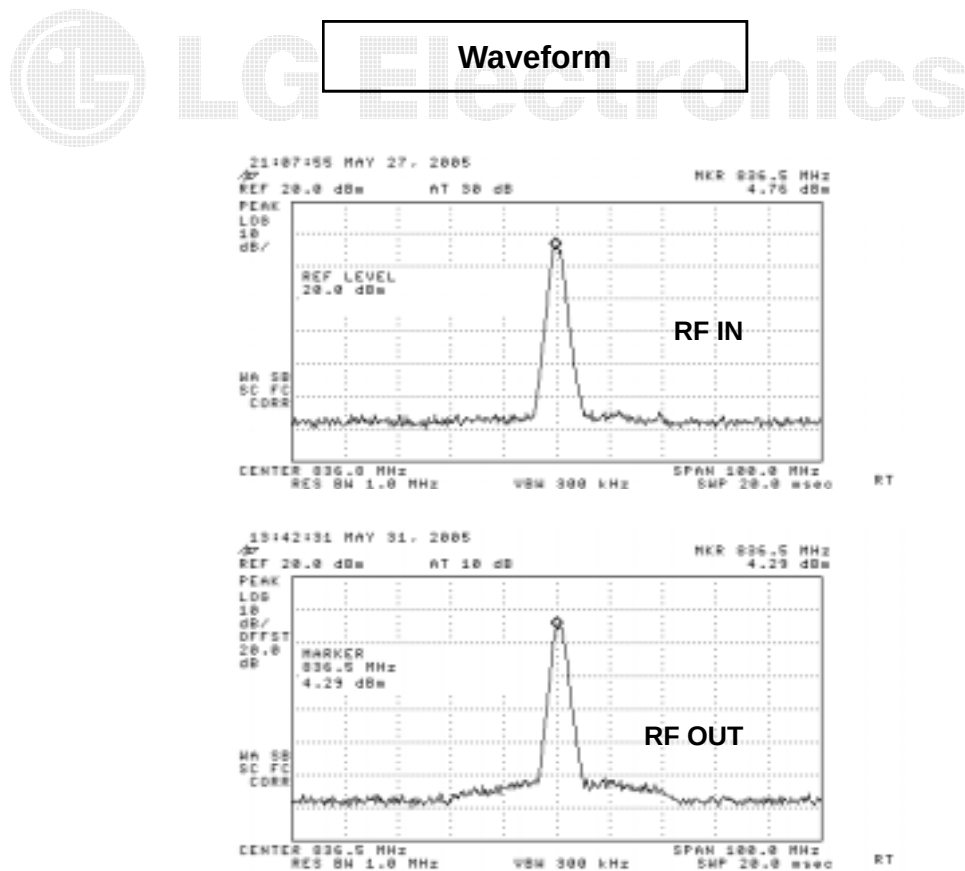
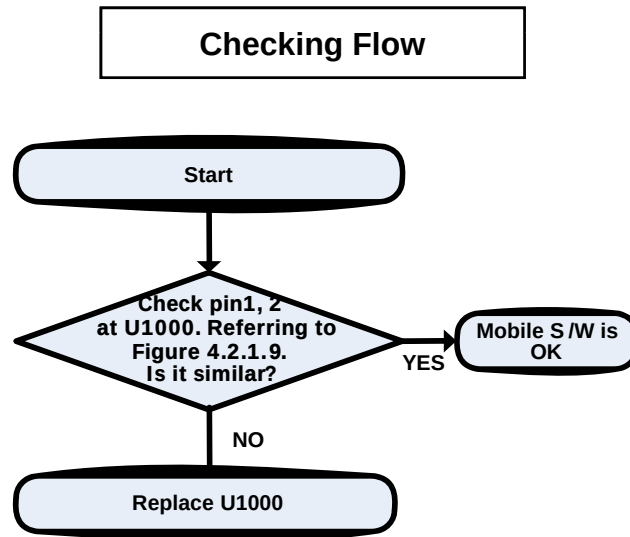
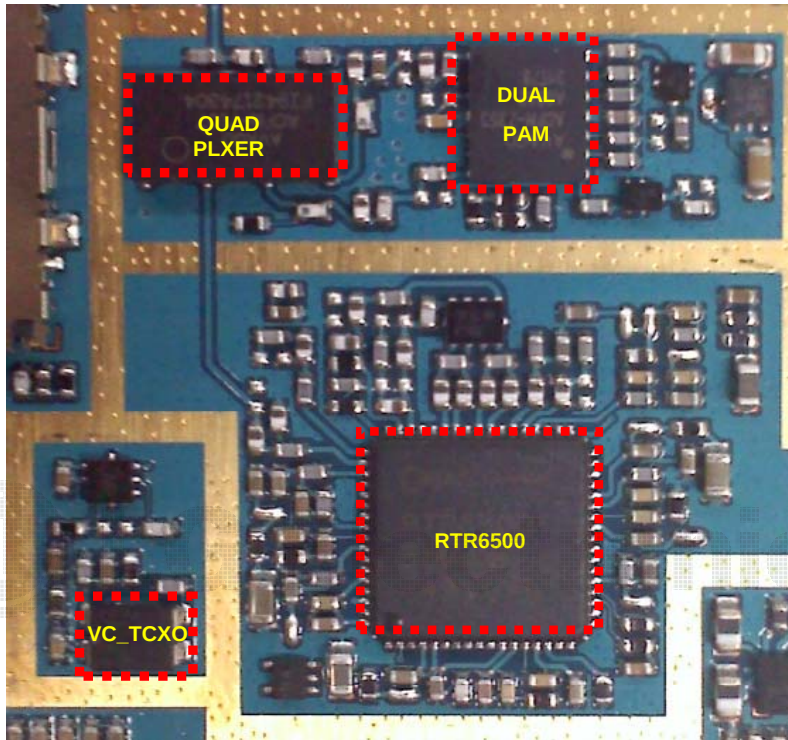


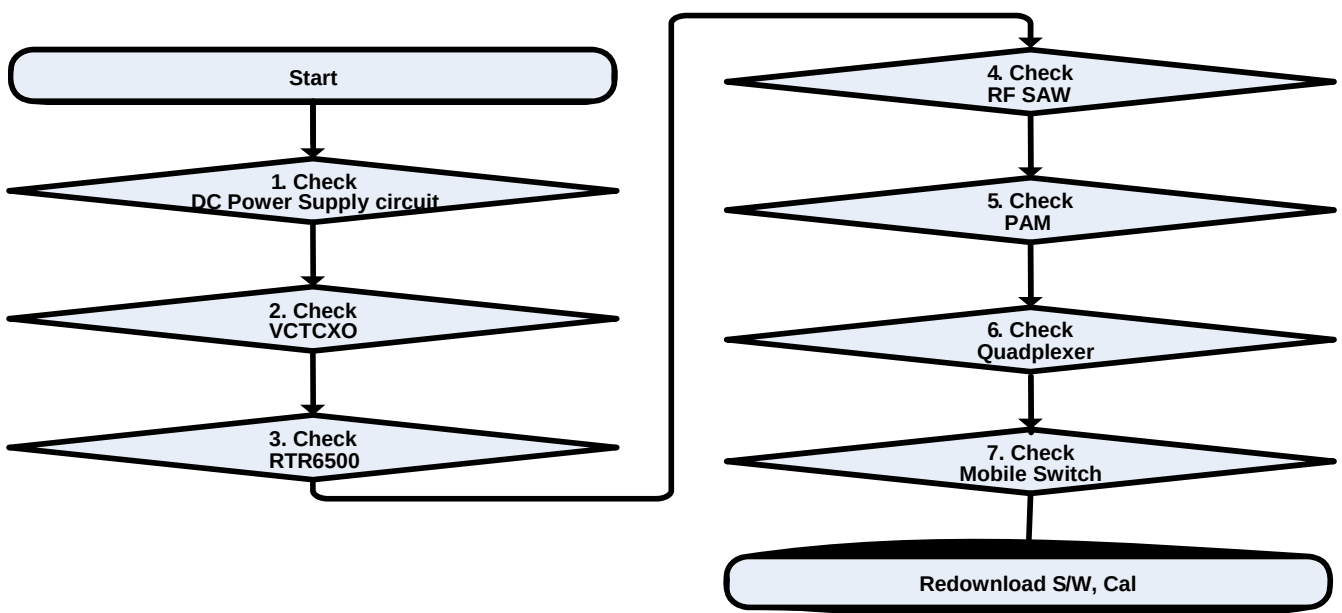
Figure 4.2.1.9

4.2.2 PCS Tx

Test Point

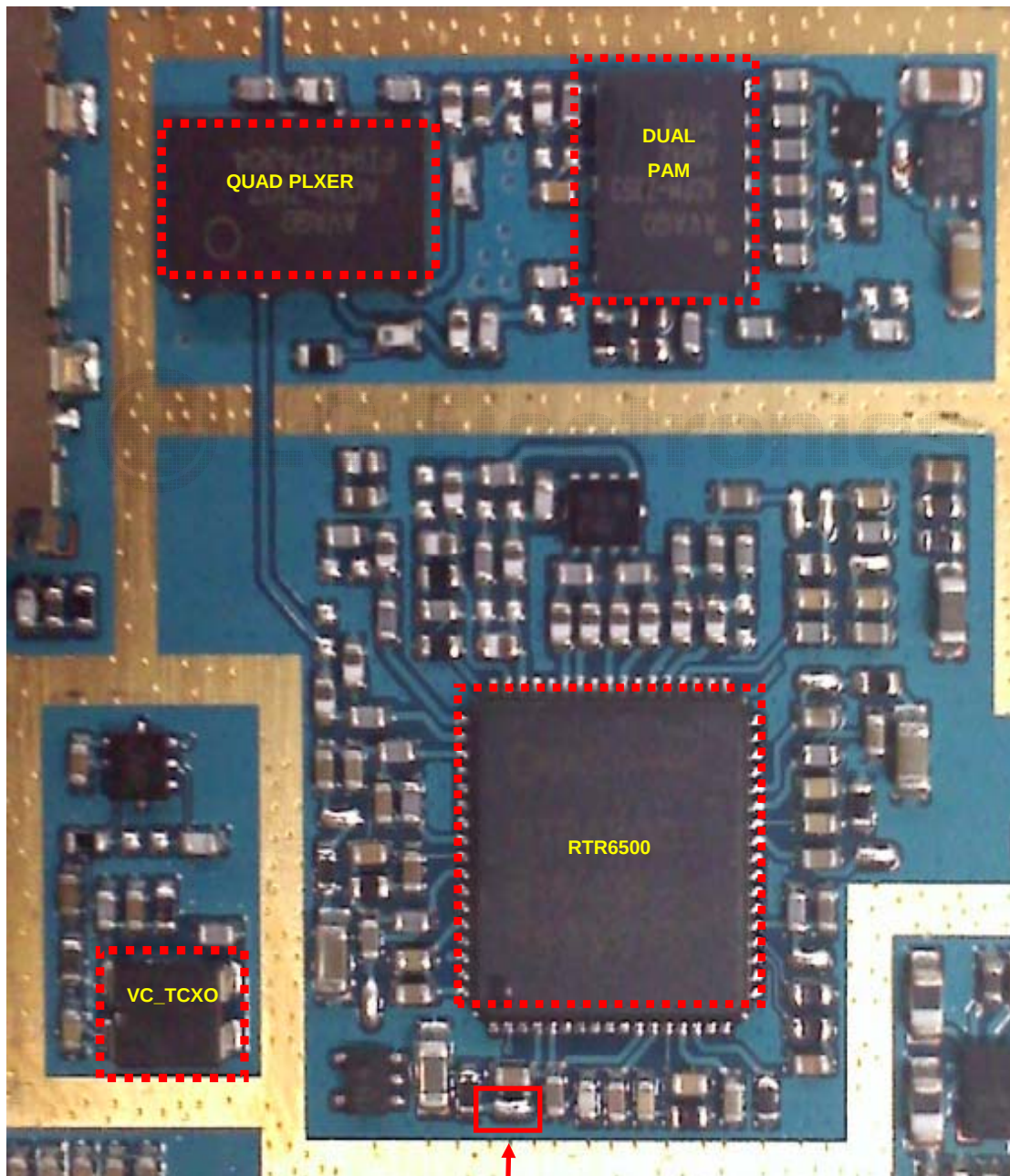


Checking Flow



4.2.2.1 Checking DC Power supply circuit (PMIC)

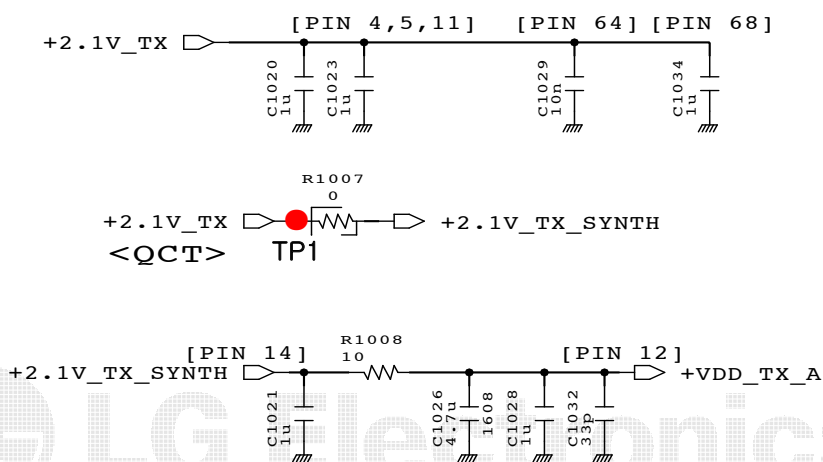
Test Point



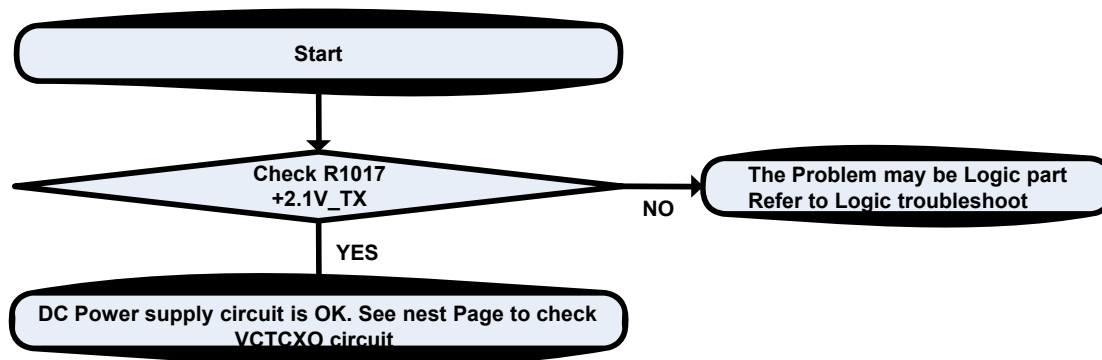
TP1

Circuit Diagram

TX POWER DST.

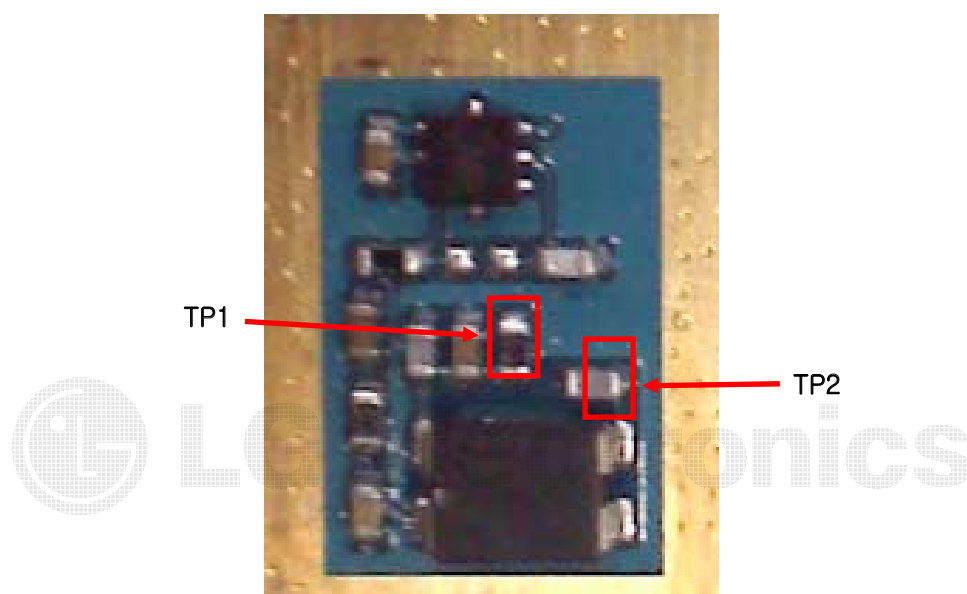


Checking Flow

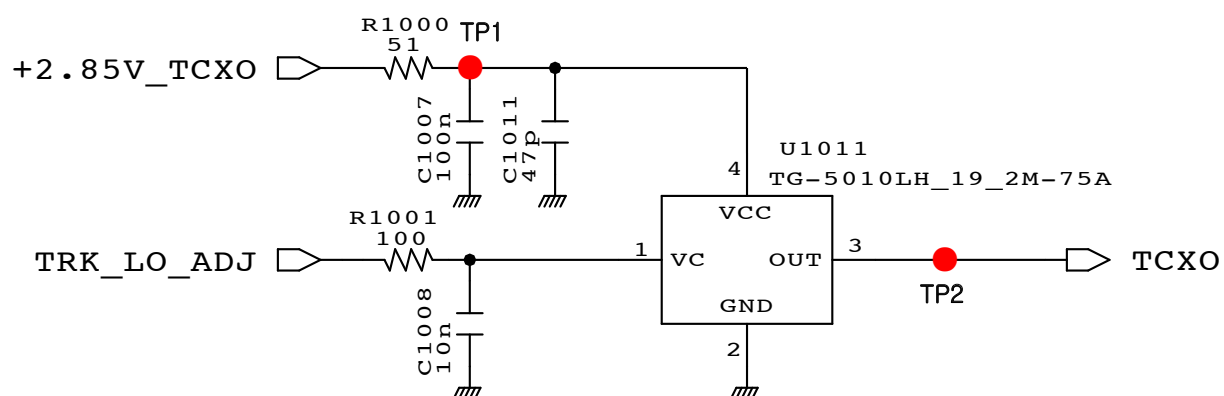


4.2.2.2 Checking VCTCXO circuit

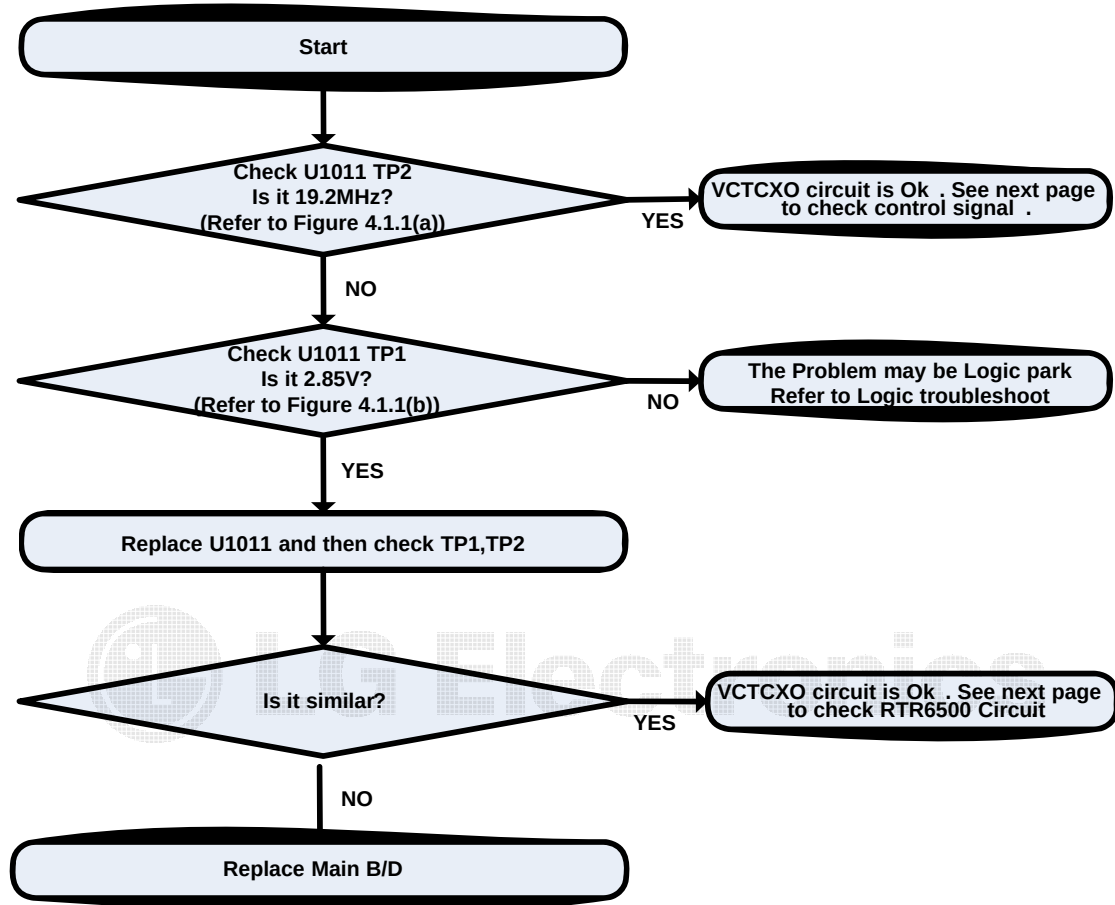
Test Point



Circuit Diagram



Checking Flow



Waveform

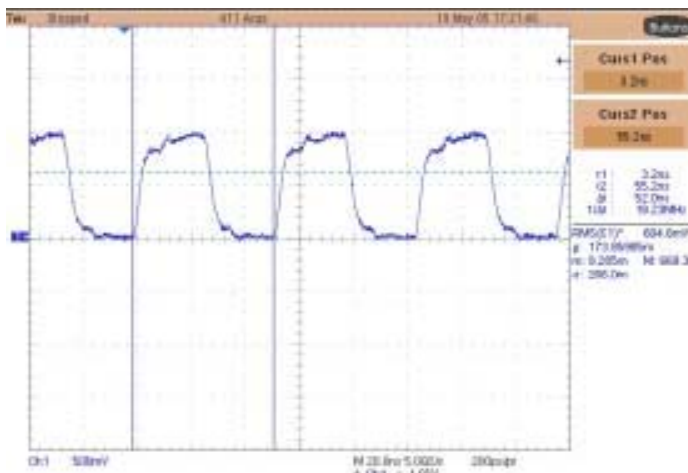


Figure 4.1.1 (a)

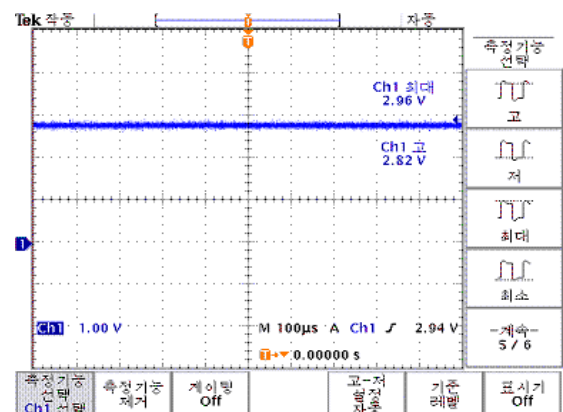
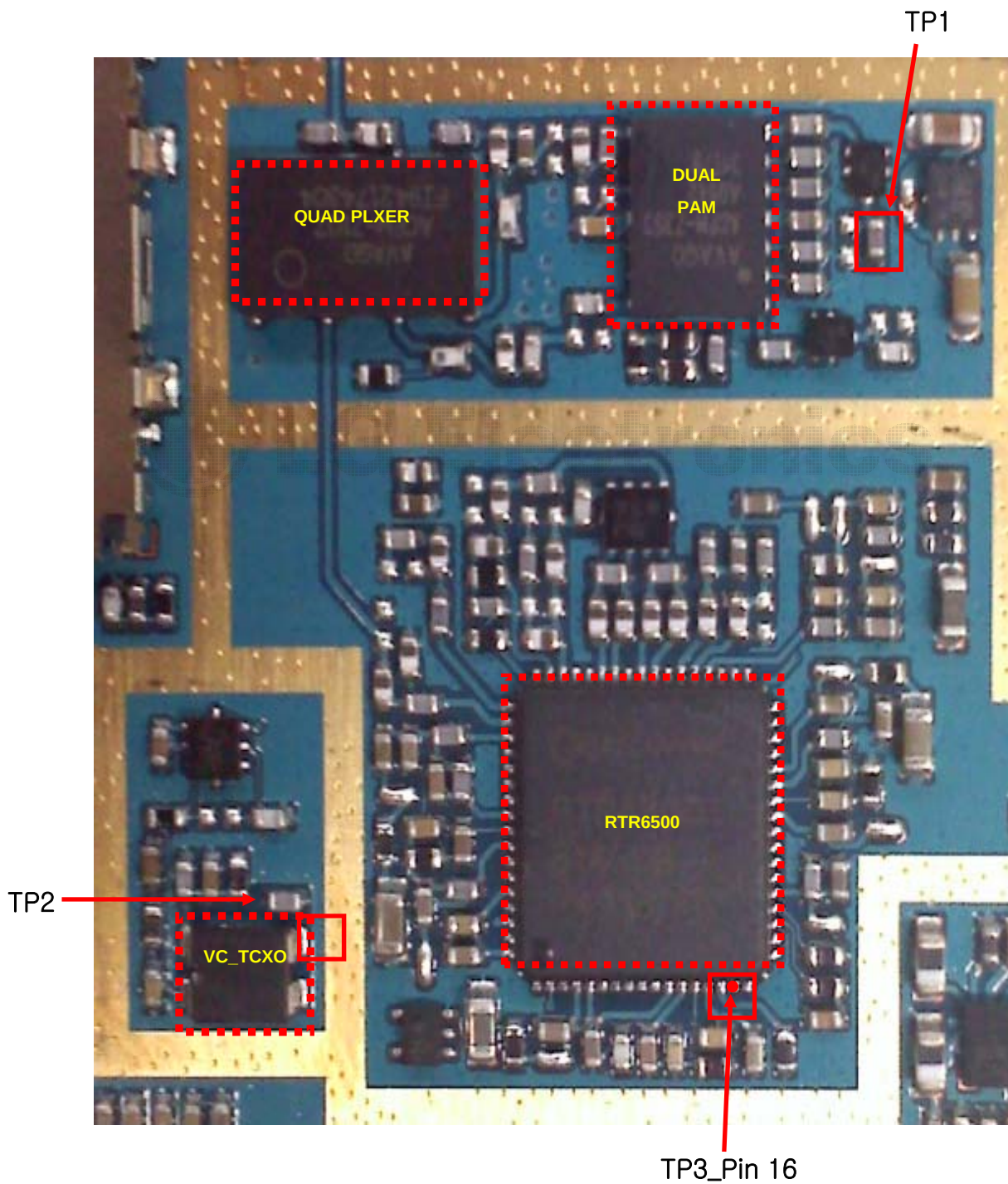


Figure 4.1.1 (b)

4.2.2.3 Checking RTR6500 circuit

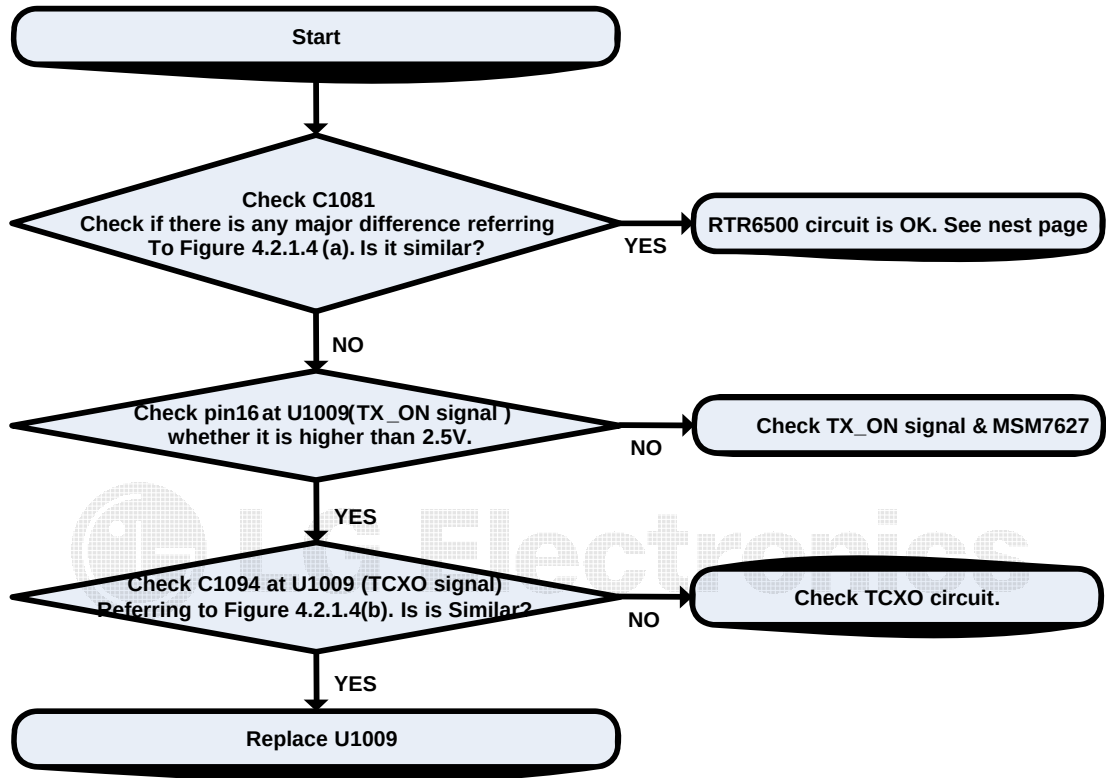
Test Point



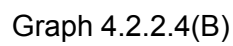
Circuit Diagram



Checking Flow

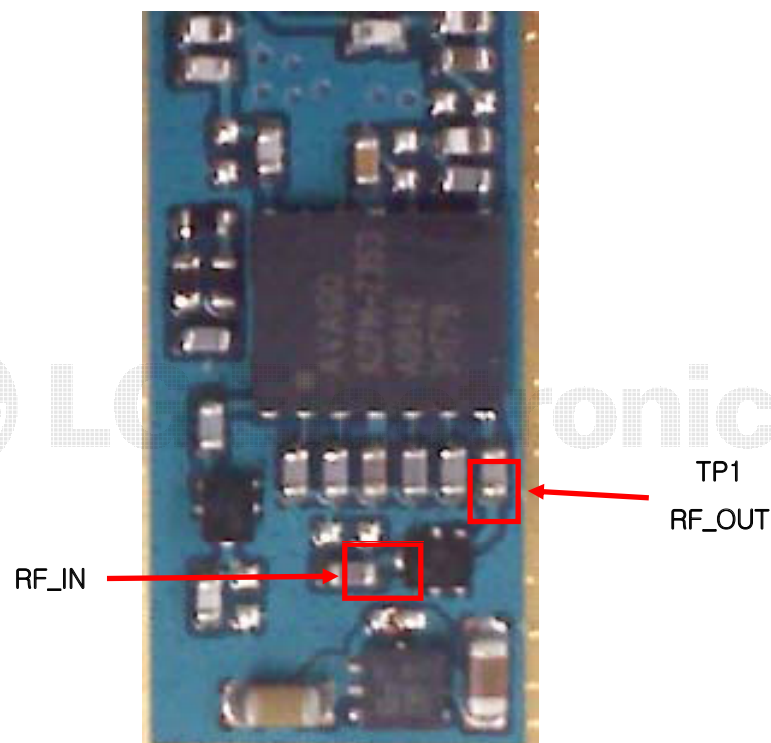


Waveform

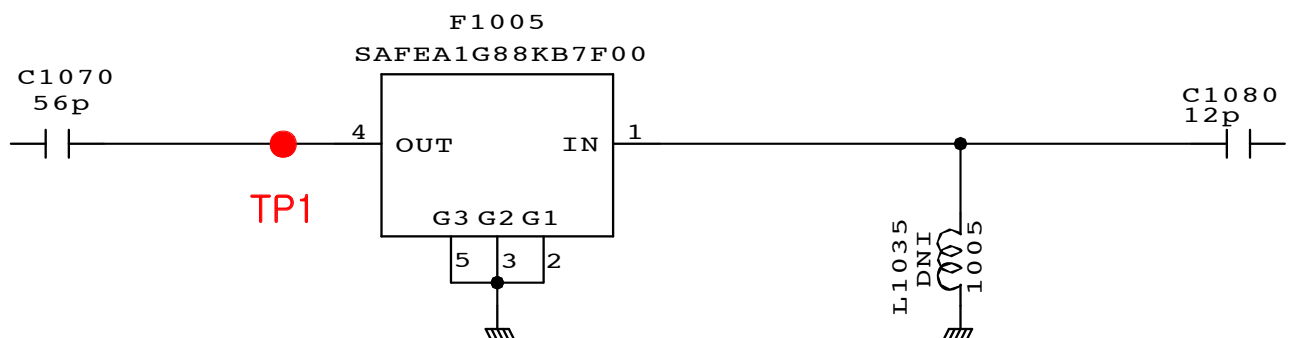


4.2.2.4 Check PCS RF Tx SAW

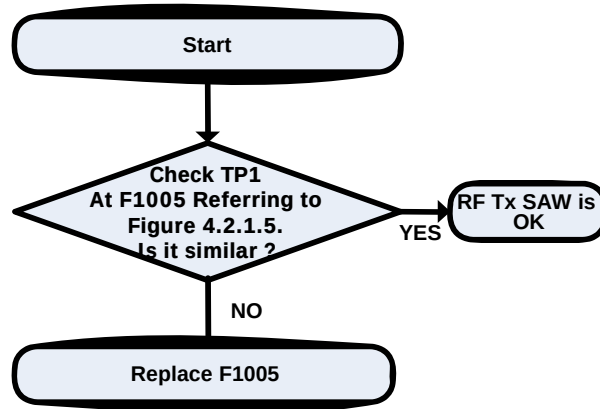
Test Point



Circuit Diagram



Checking Flow



Waveform

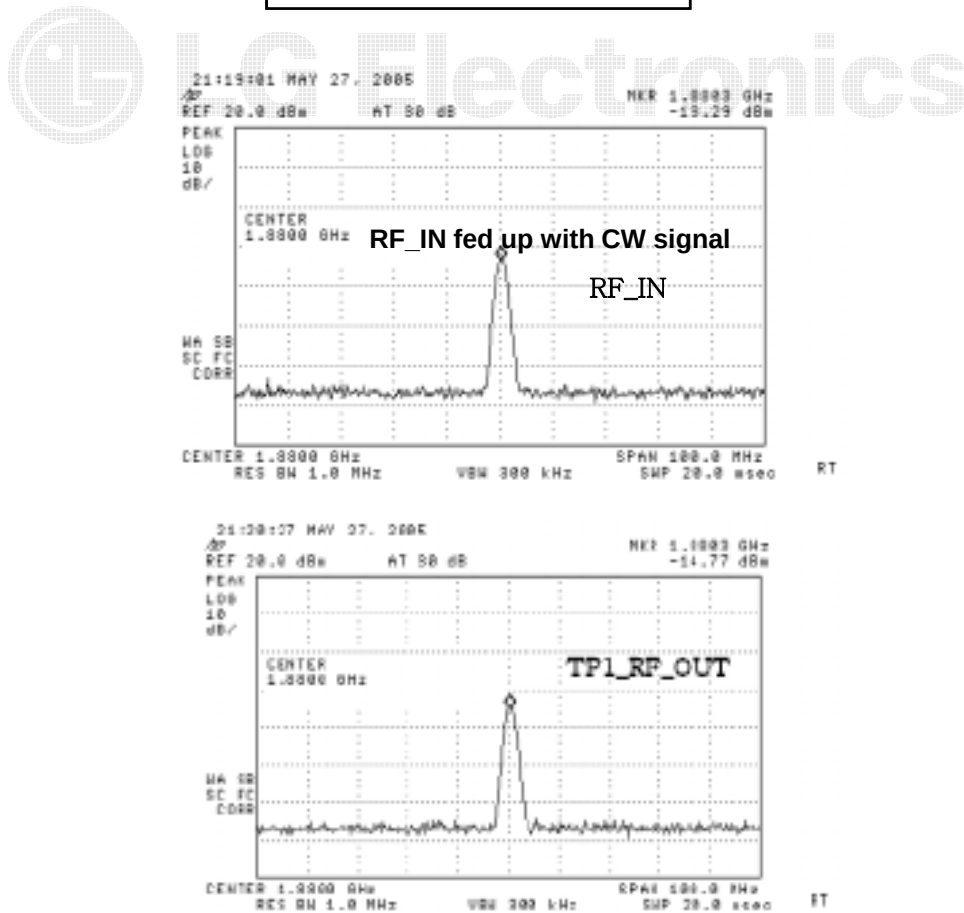
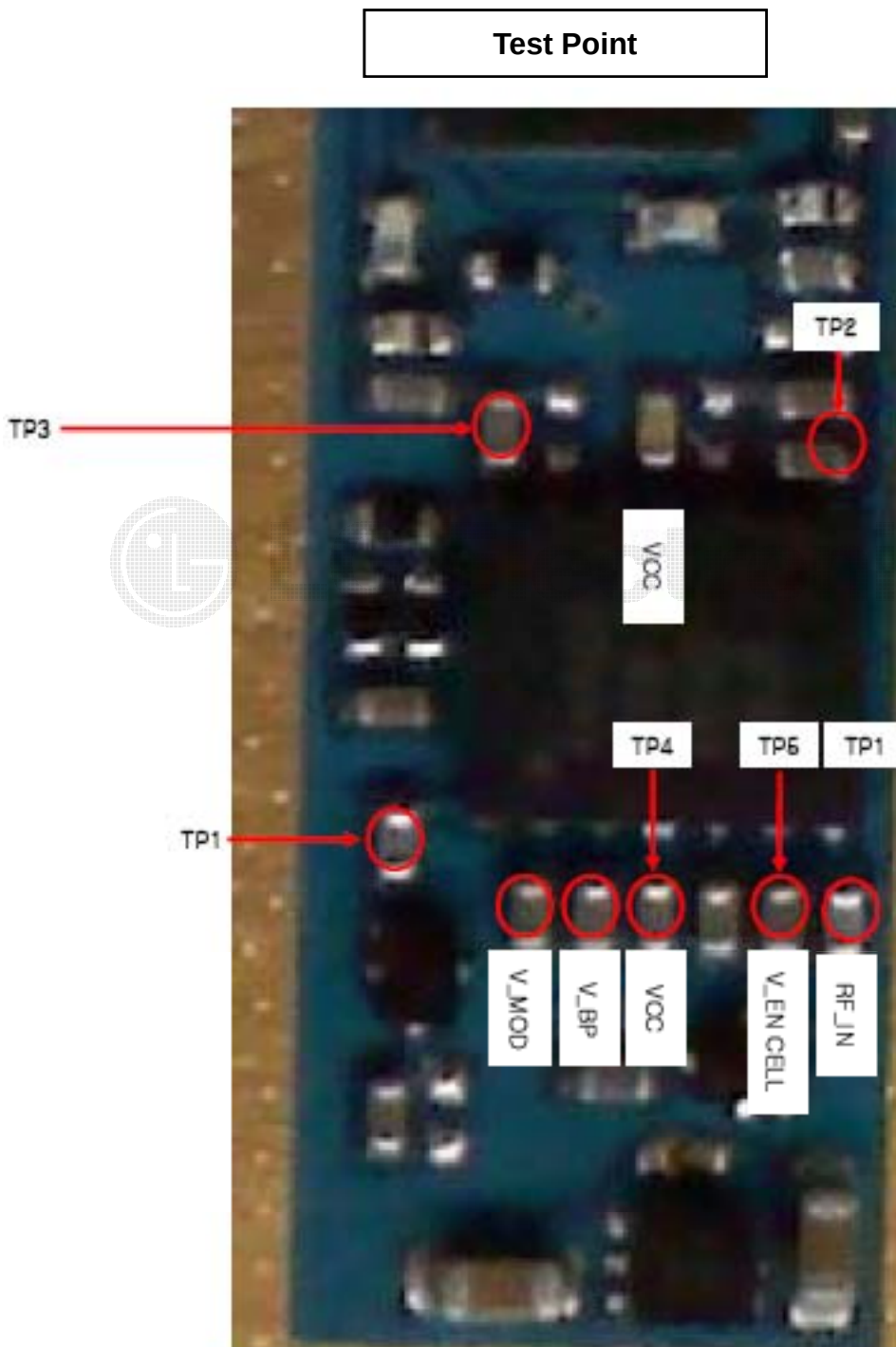
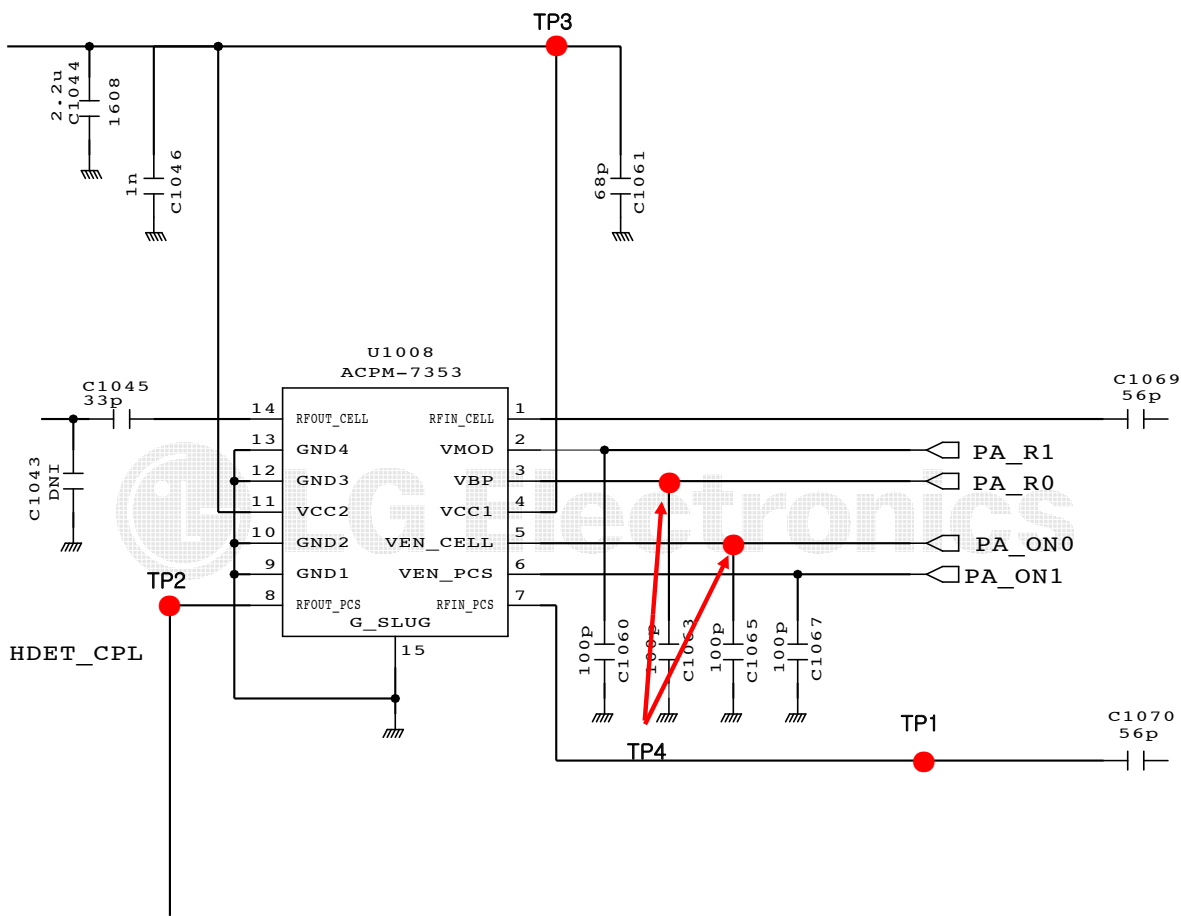


Figure 4.2.2.4

4.2.2.5 Check PCS PAM circuit



Circuit Diagram



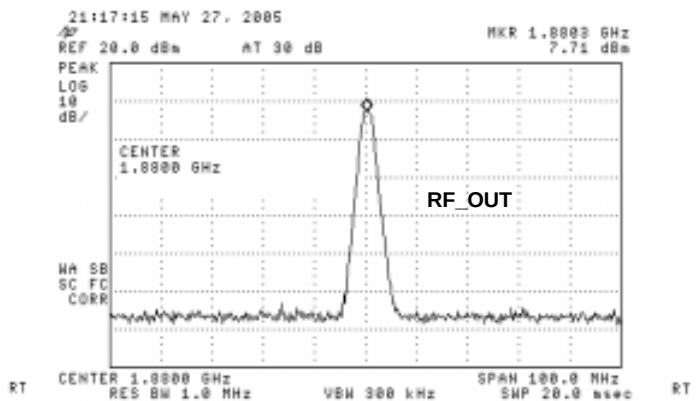
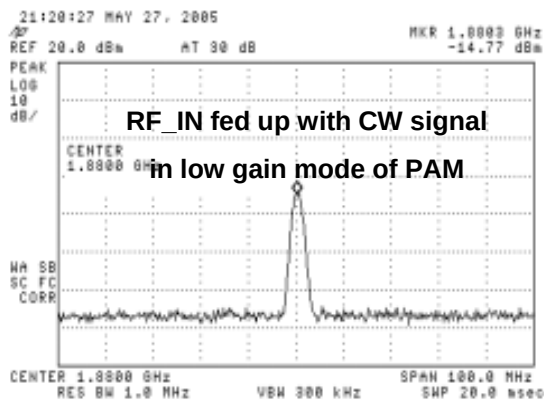
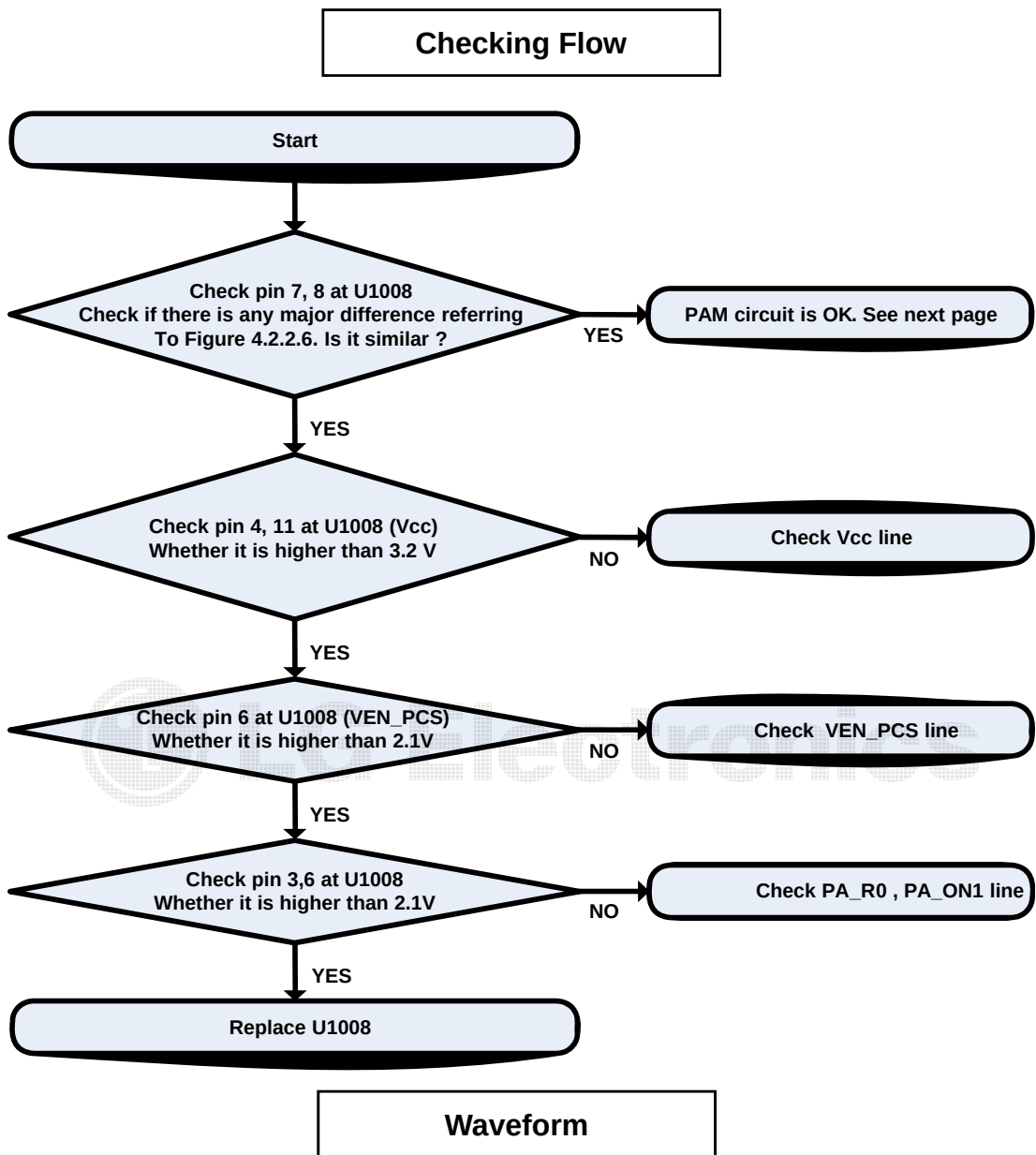
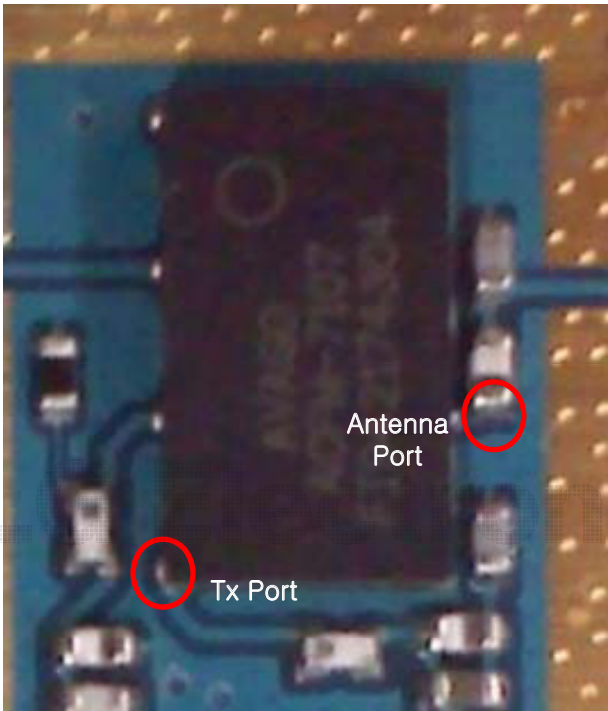


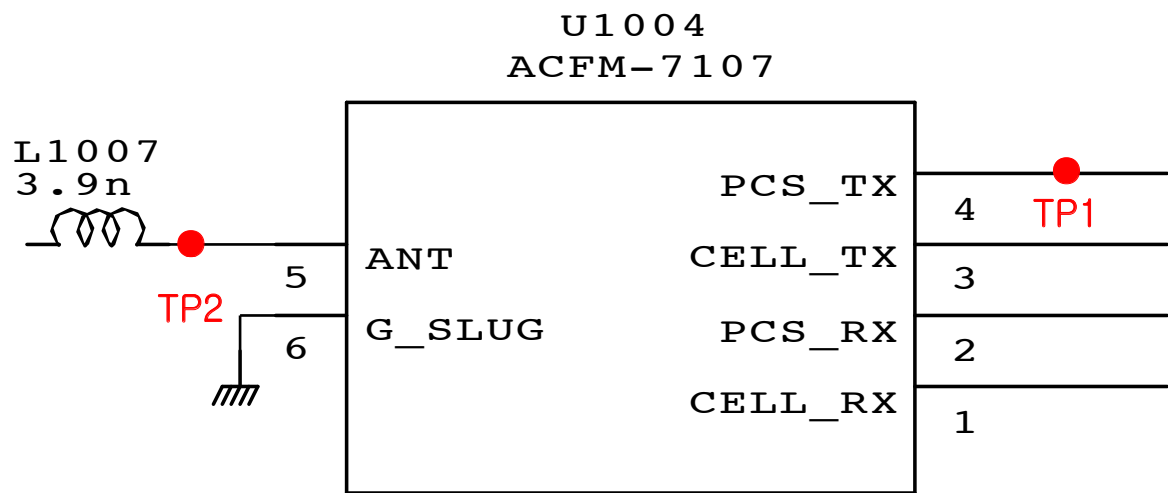
Figure 4.2.2.6

4.2.2.6 Check Quadplexer

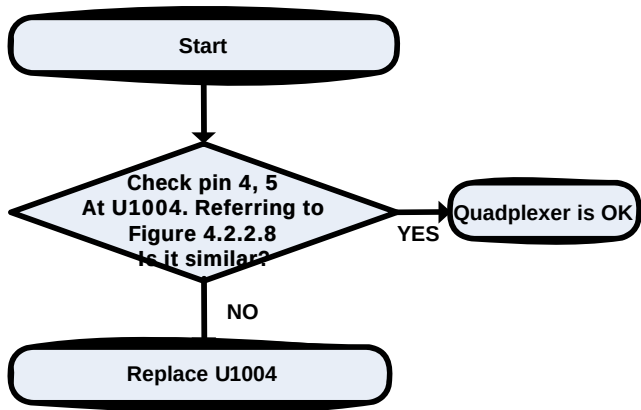
Test Point



Circuit Diagram



Checking Flow



Waveform

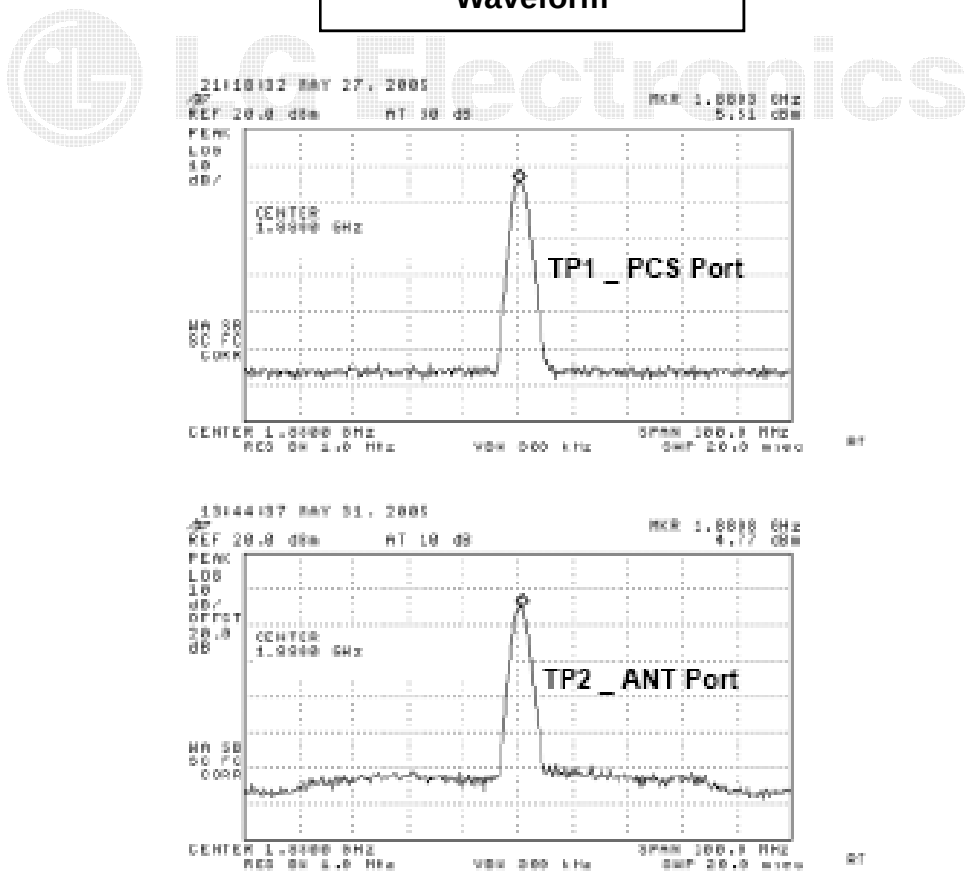
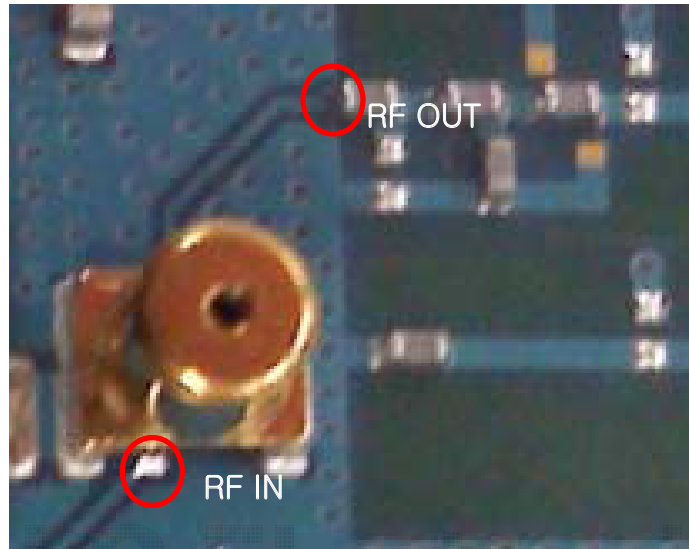


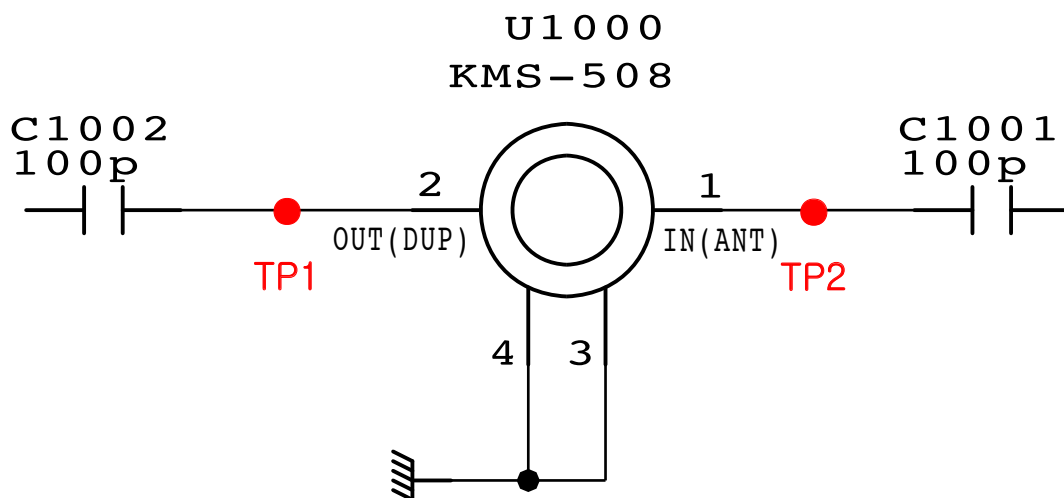
Figure 4.2.2.8

4.2.2.7 Check Mobile SW

Test Point



Circuit Diagram



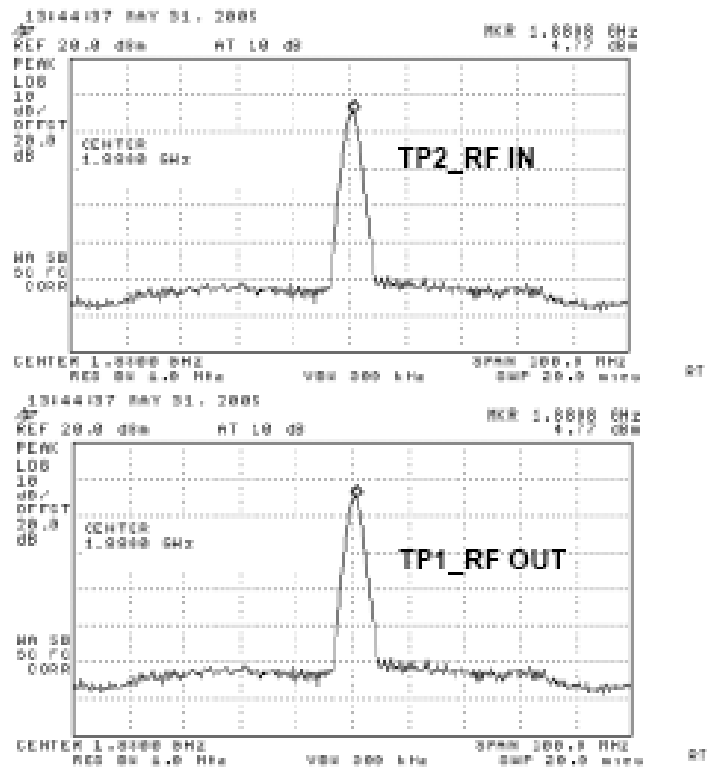
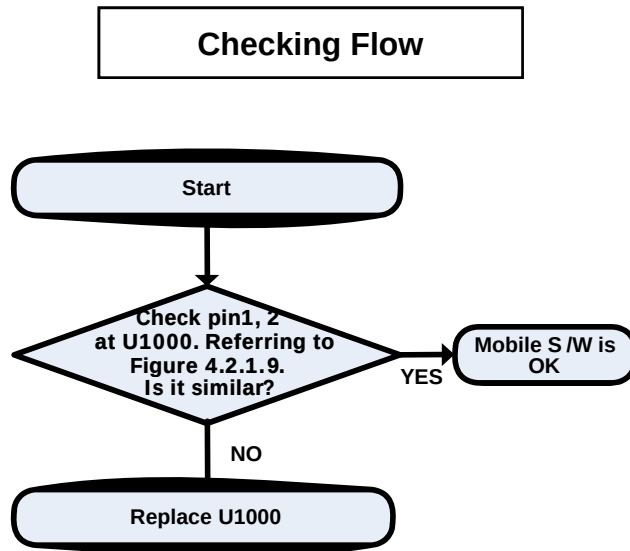
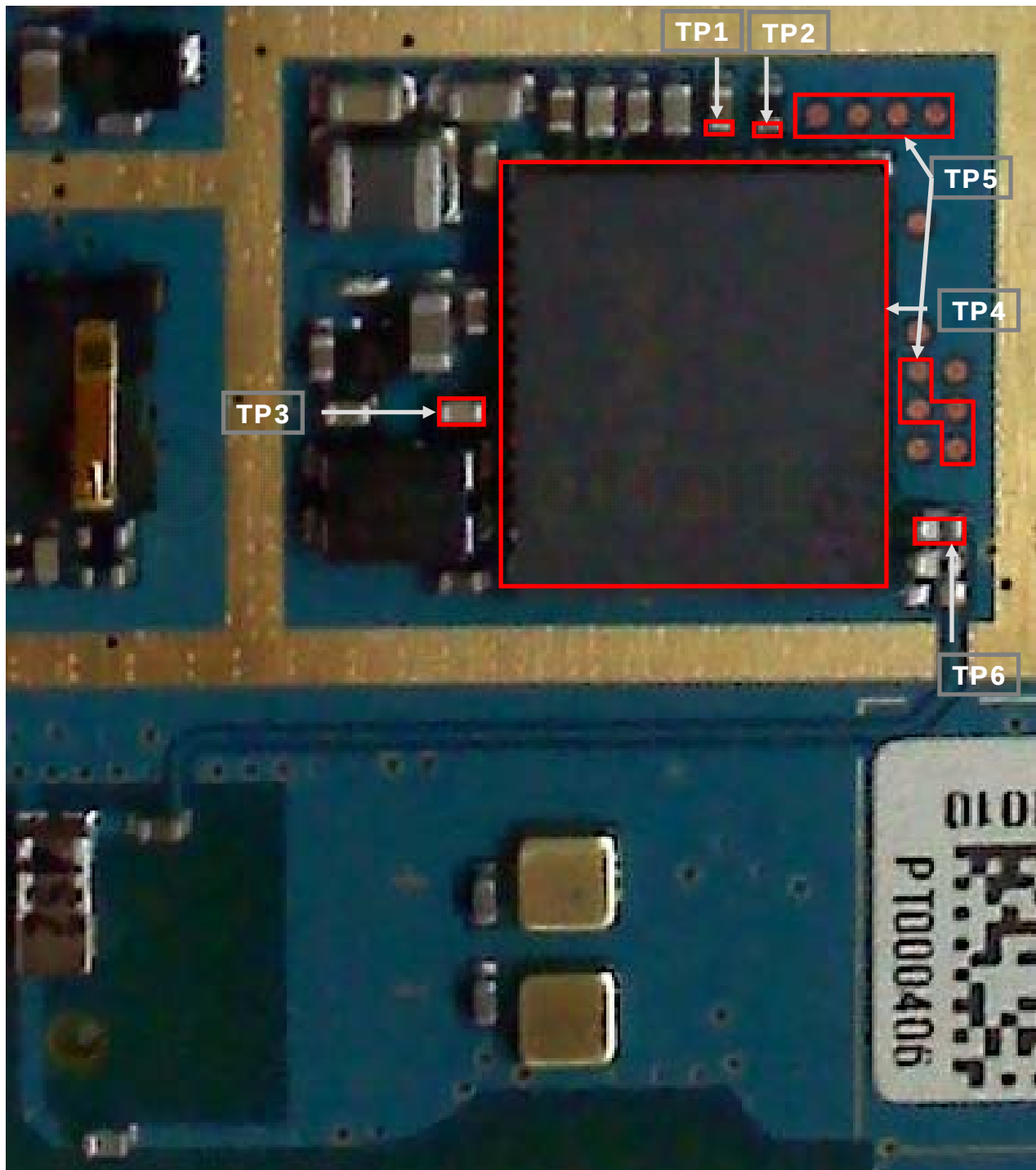


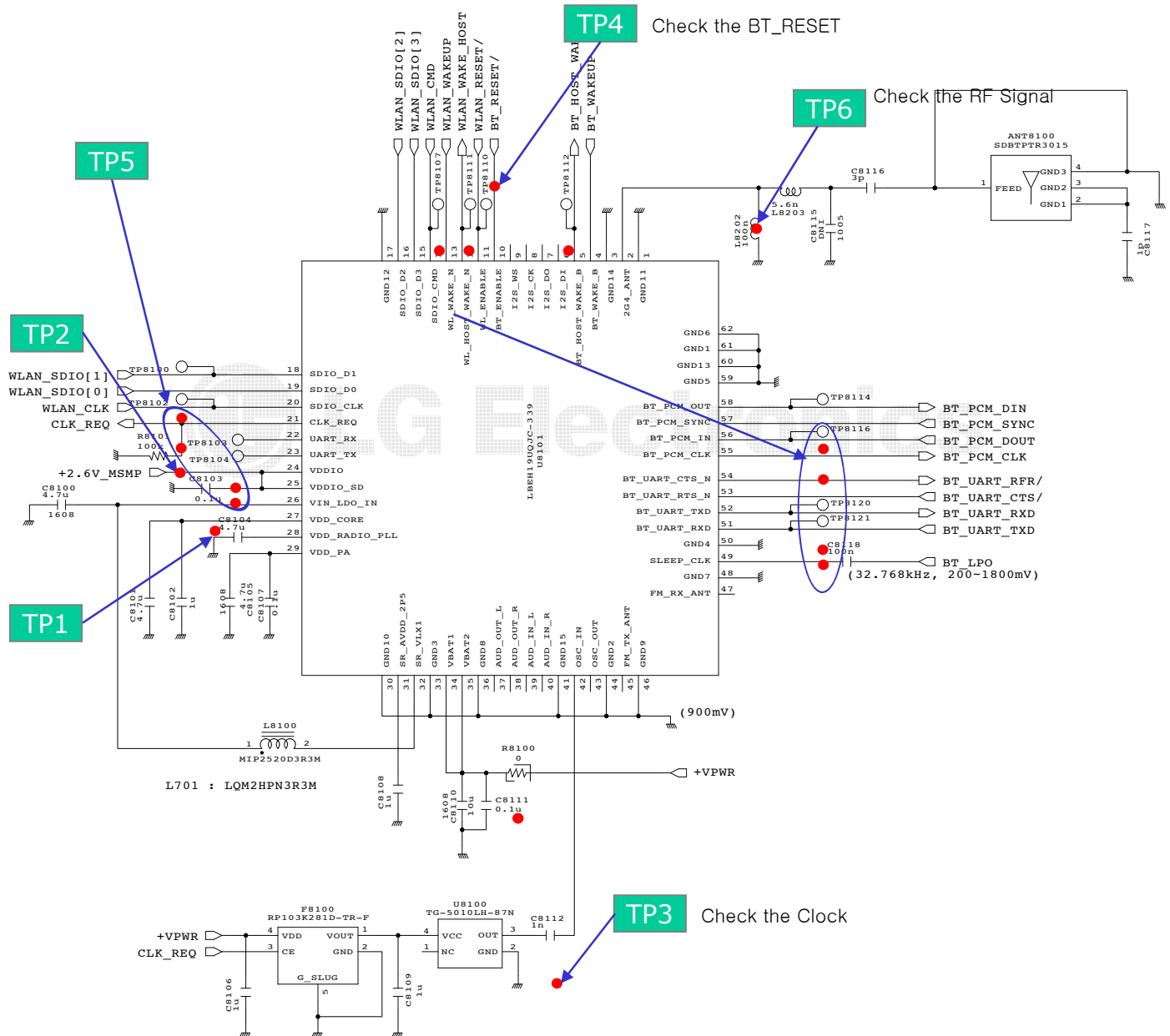
Figure 4.2.1.9

4.2.2.8 Check Bluetooth

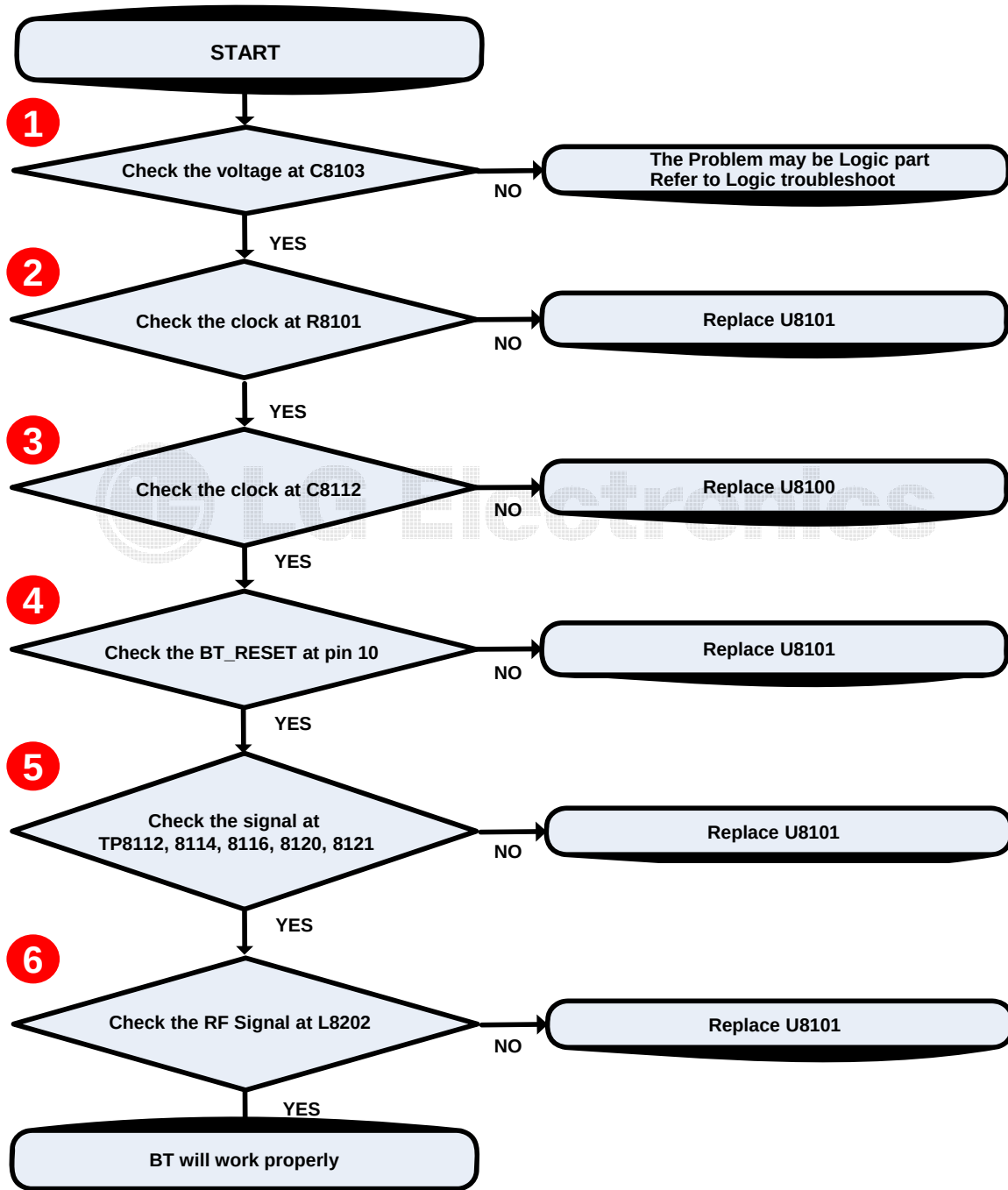
Test Point



Circuit Diagram

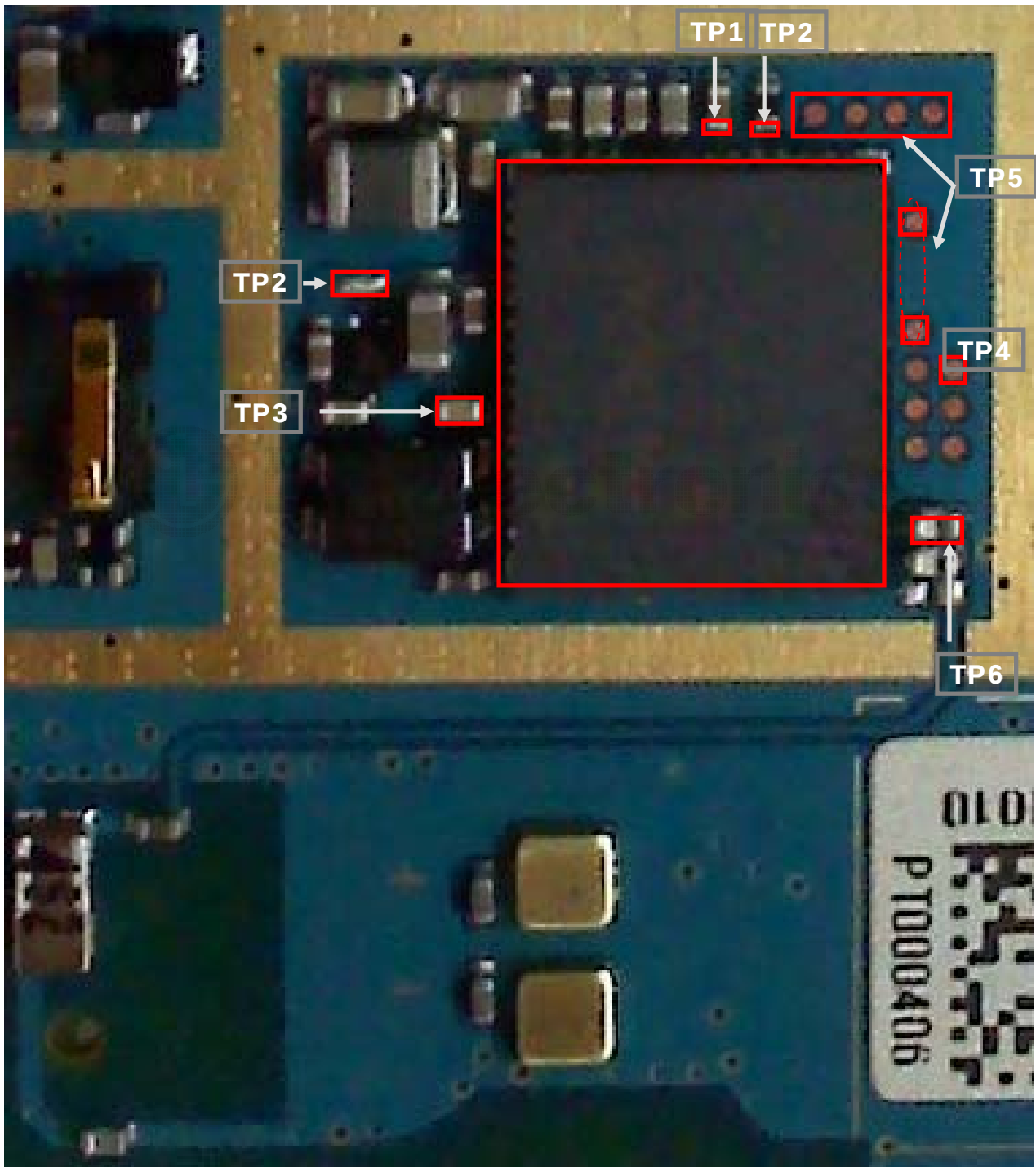


Checking Flow

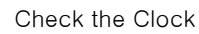


4.2.2.9 Check WIFI

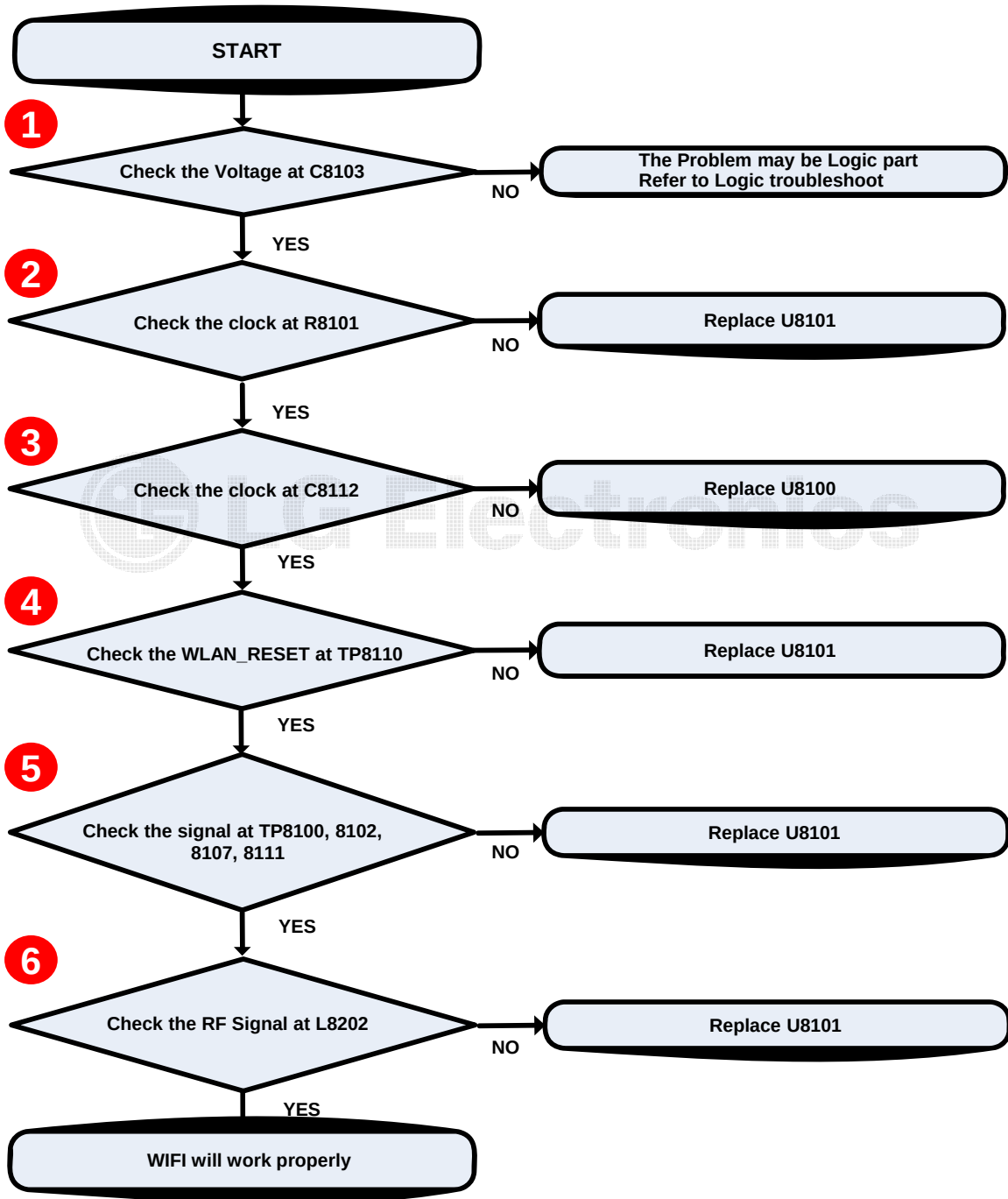
Test Point



Circuit Diagram



Checking Flow



4.3 Power Trouble

4.3.1 Power ON

Power On sequence of U740 is :

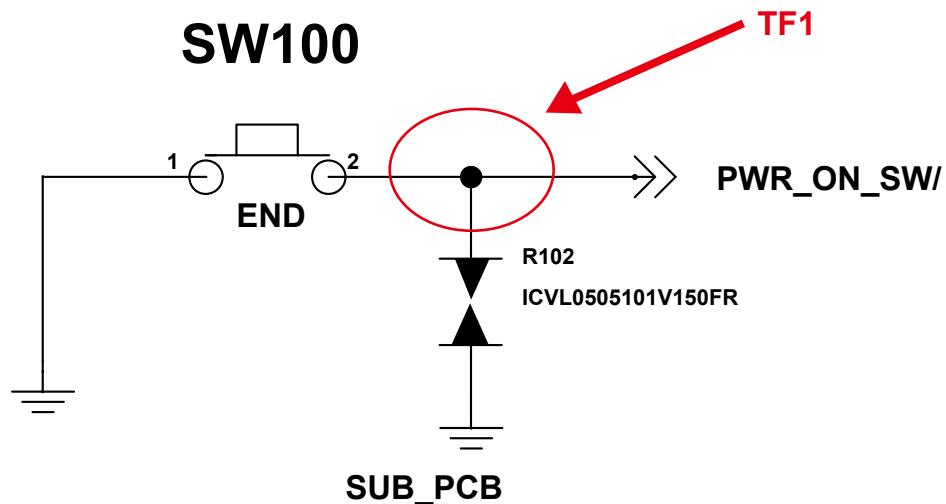
Power key press → PWR_ON_SW(SUB-PCB, R102) go to low → PM7540 Power Up → VREG_MSMC1_1.25V(R4006), VREG_MSMC2_1.25V(R4007), VREG_MSME_1.8V(R4008), VREG_MSMP_2.6V(R4018), VREG_MSMA_2.6V(R4017), VREG_TCXO_2.85V(R4024) → power ON → Phone booting and PS_HOLD(D4000) go to High

Test Point

TP 1

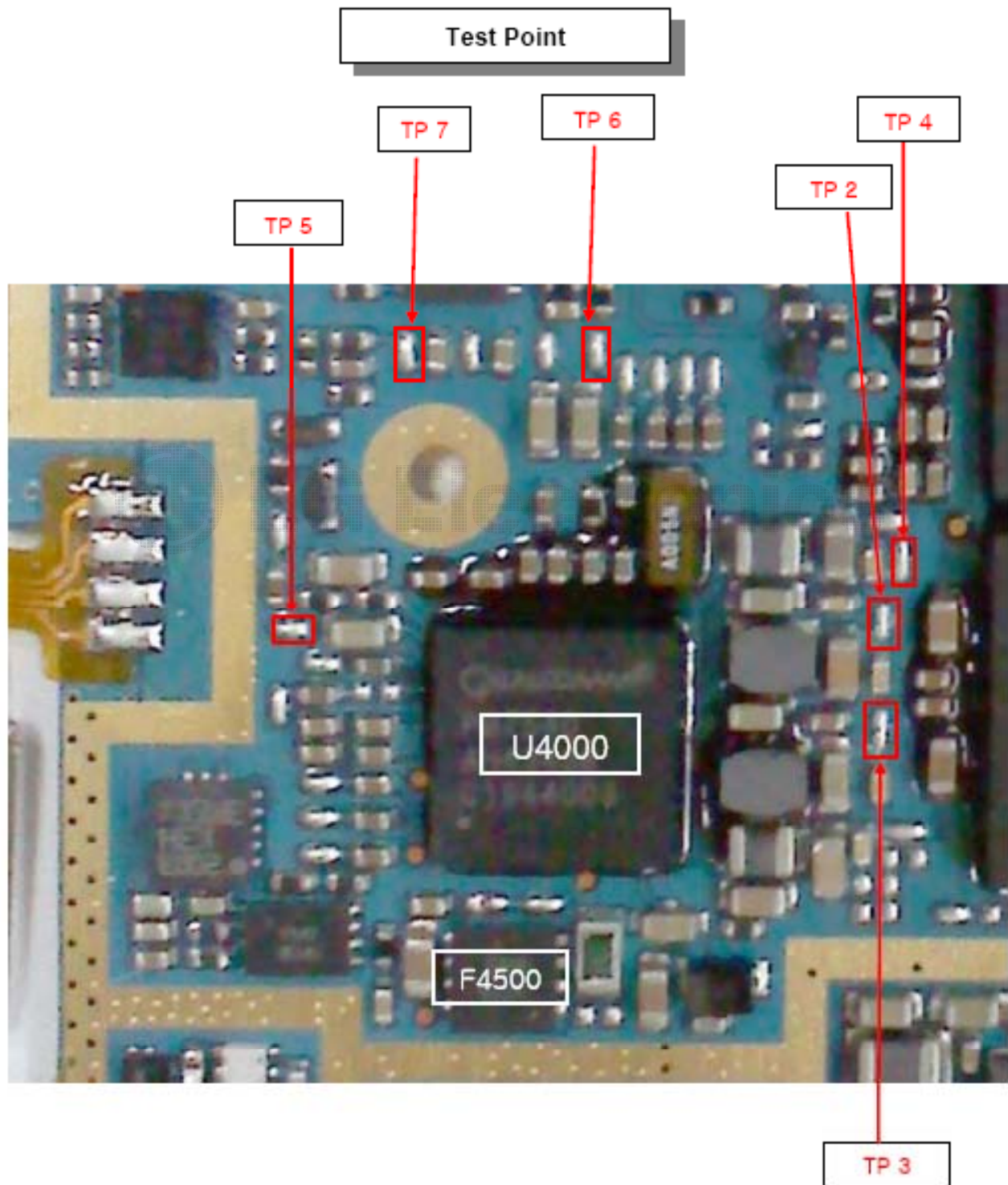


Circuit Diagram



4.3 Power Trouble

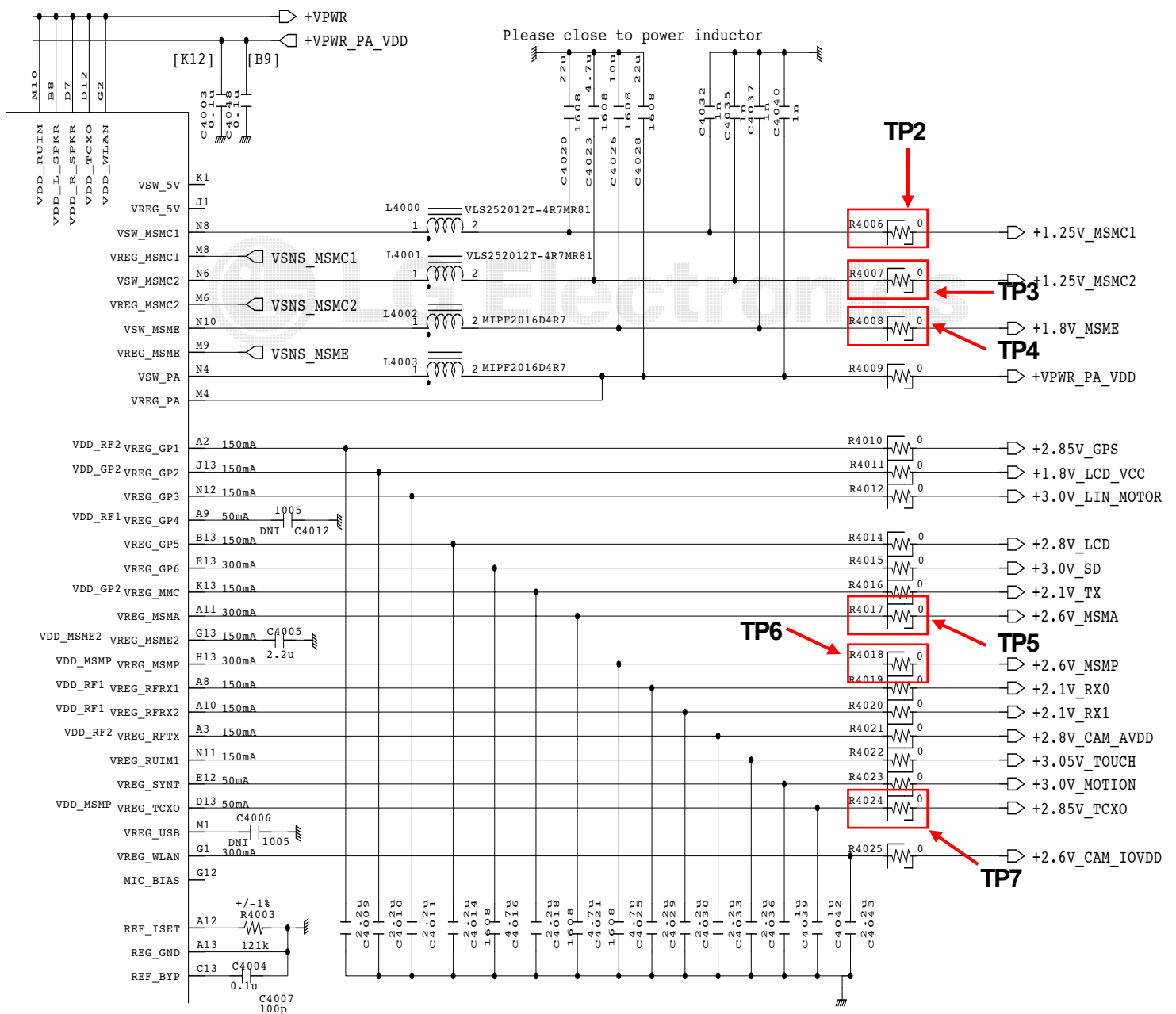
4.3.1 Power ON



4.3 Power Trouble

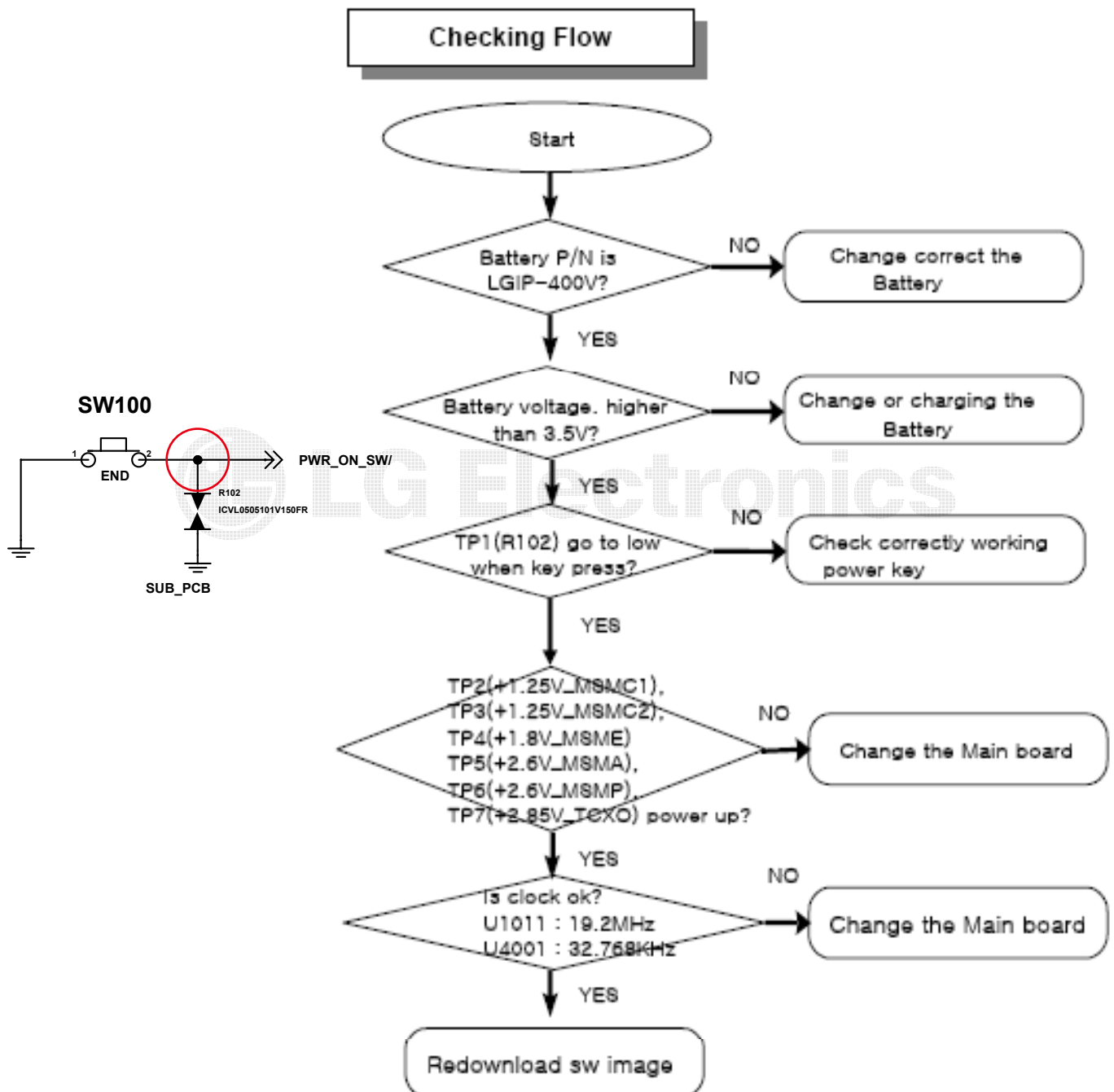
4.3.1 Power ON

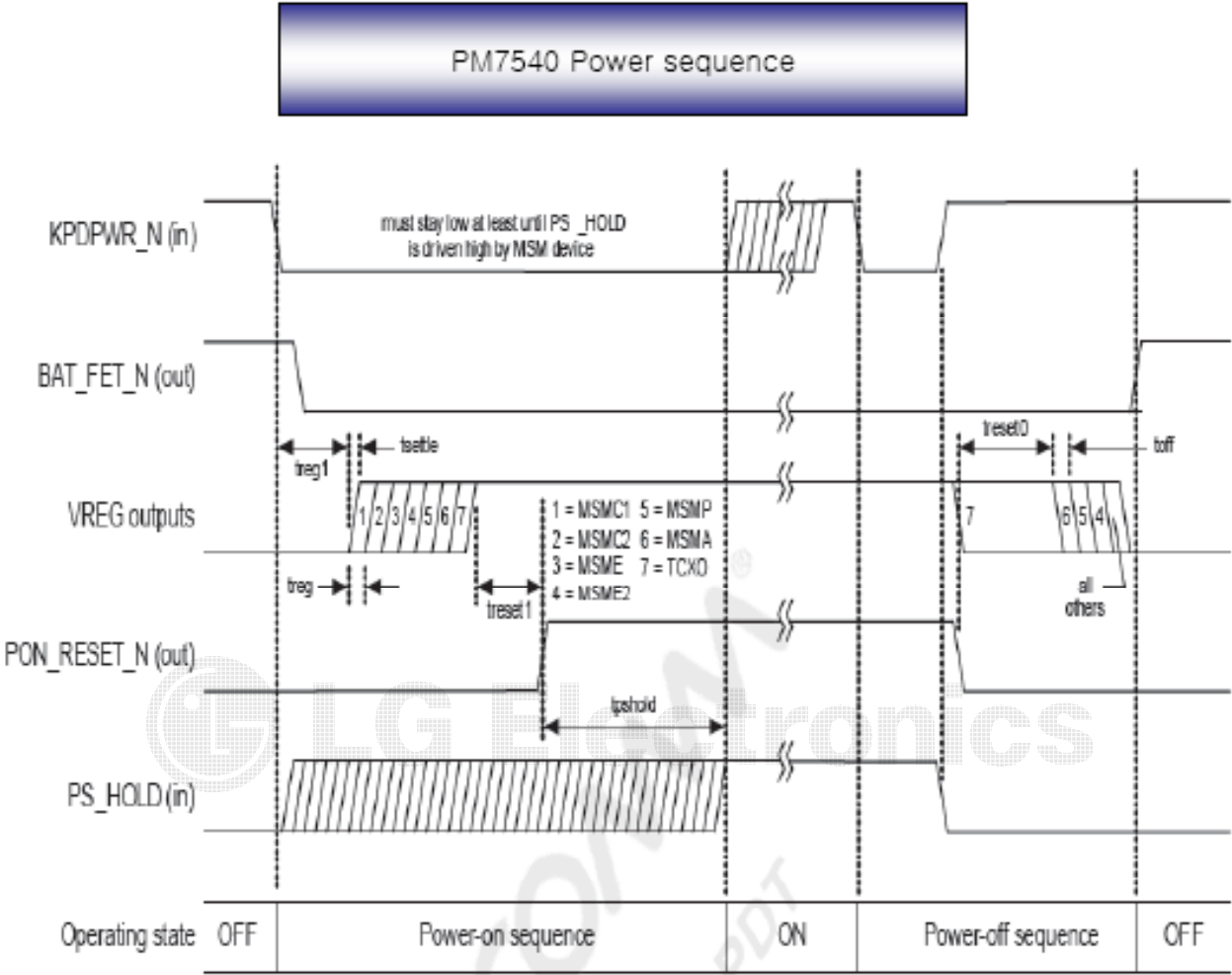
Circuit Diagram



4.3 Power Trouble

4.3.1 Power ON





4.3.2 Charger

Charging Procedure

- Connect TA or u-USB Cable
- Control the charging current by PM7540 IC
- Charging current flows into the battery

Troubleshooting Setup

- Connect TA and battery to the phone

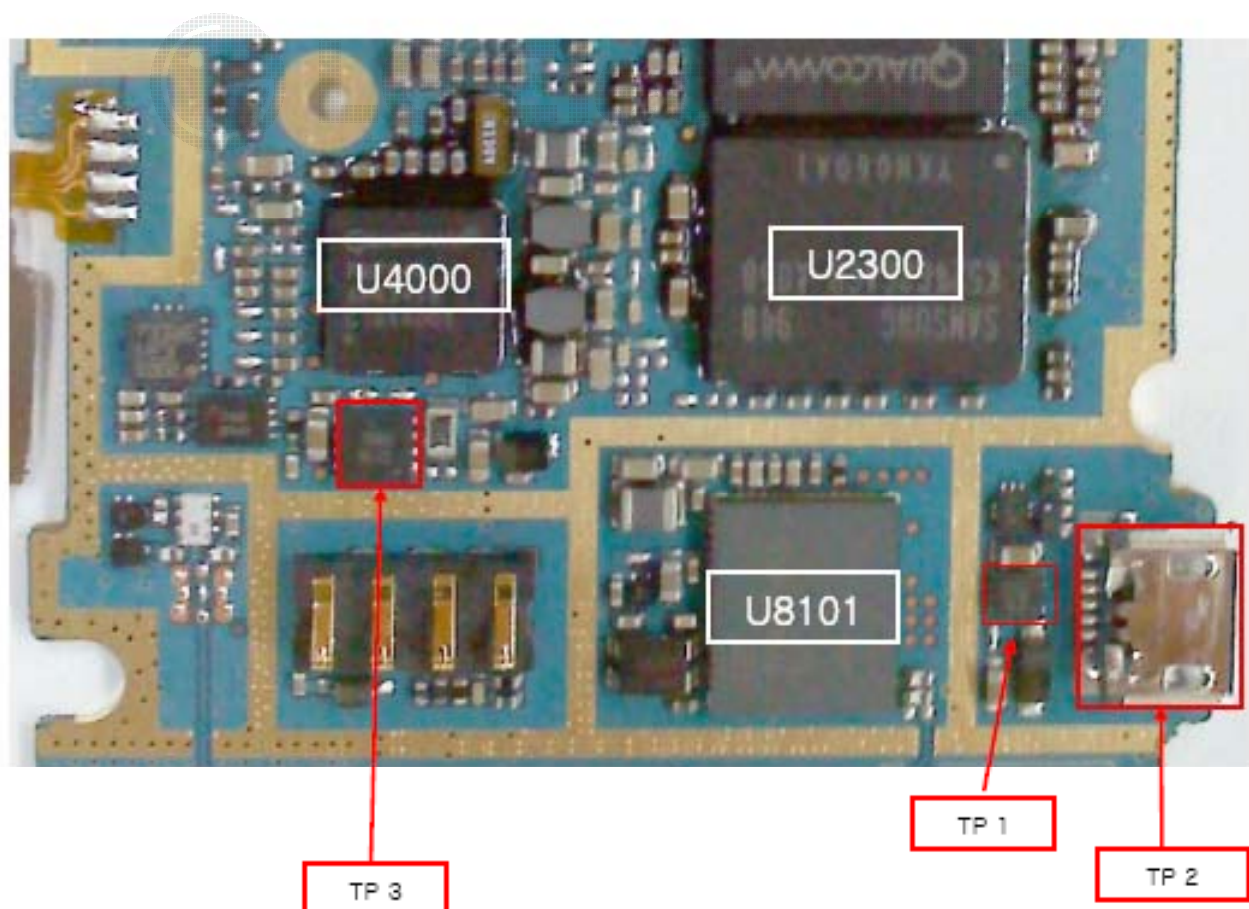
Check Point

- Connection of TA or USB Cable
- Charging current path(NU83116MTR2G)
- Battery

Troubleshooting Procedure

- Check the charger (TA or USB Cable) connector
- Check the OVP Circuit
- Check the charging current Path
- Check the battery

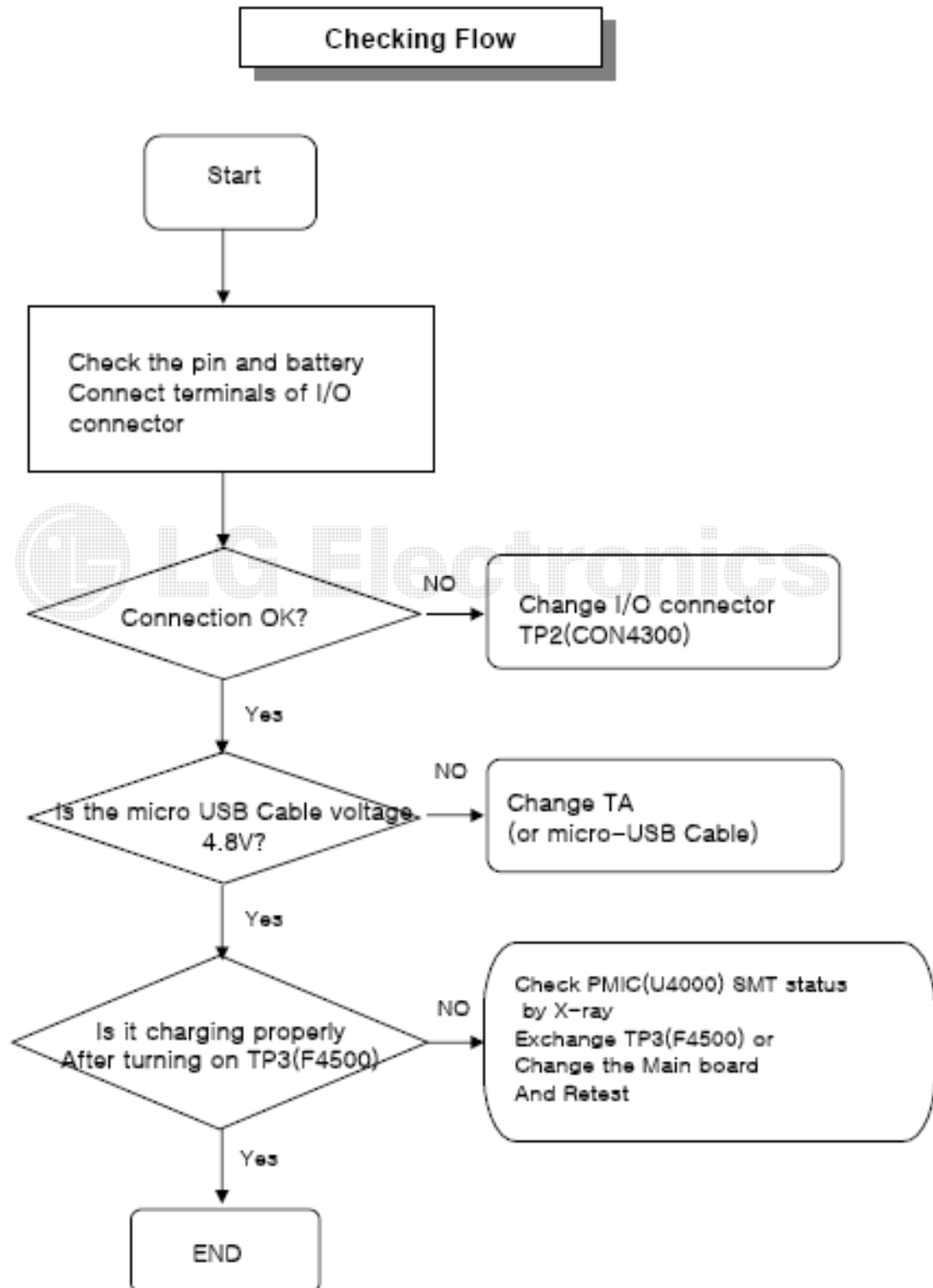
Test Point



Circuit Diagram



4.3.2 Charger



4.3.3 USB

Charging Procedure

- Connect TA or u-USB Cable
- Control the charging current by PM7540 IC
- Charging current flows into the battery

Troubleshooting Setup

- Connect TA and battery to the phone

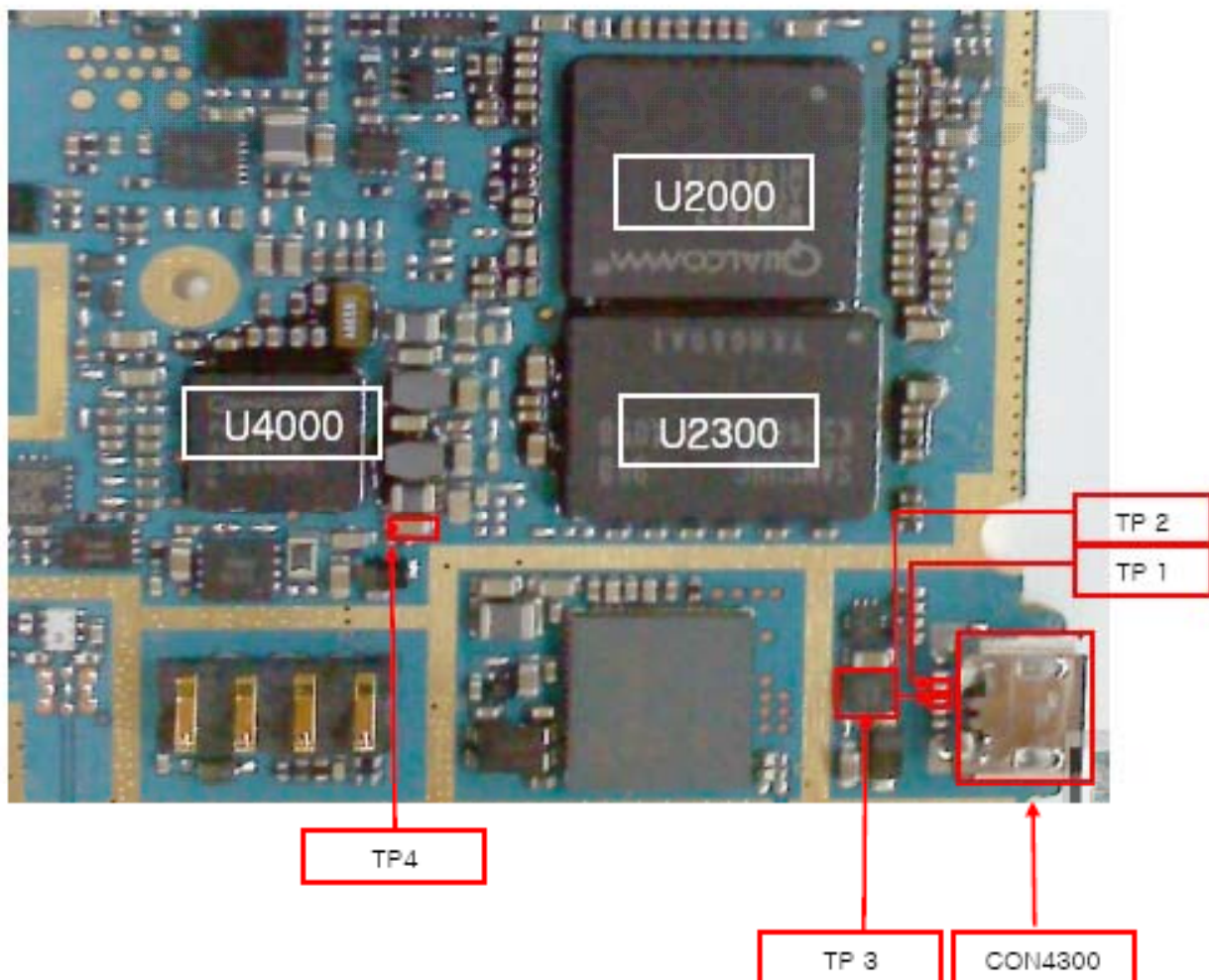
Check Point

- Connection of TA or USB Cable
- Charging current path(NUS3116MTR2G)
- Battery

Troubleshooting Procedure

- Check the charger (TA or USB Cable) connector
- Check the OVP Circuit
- Check the charging current Path
- Check the battery

Test Point



Circuit Diagram

[MICRO USB + OVP IC]:4300



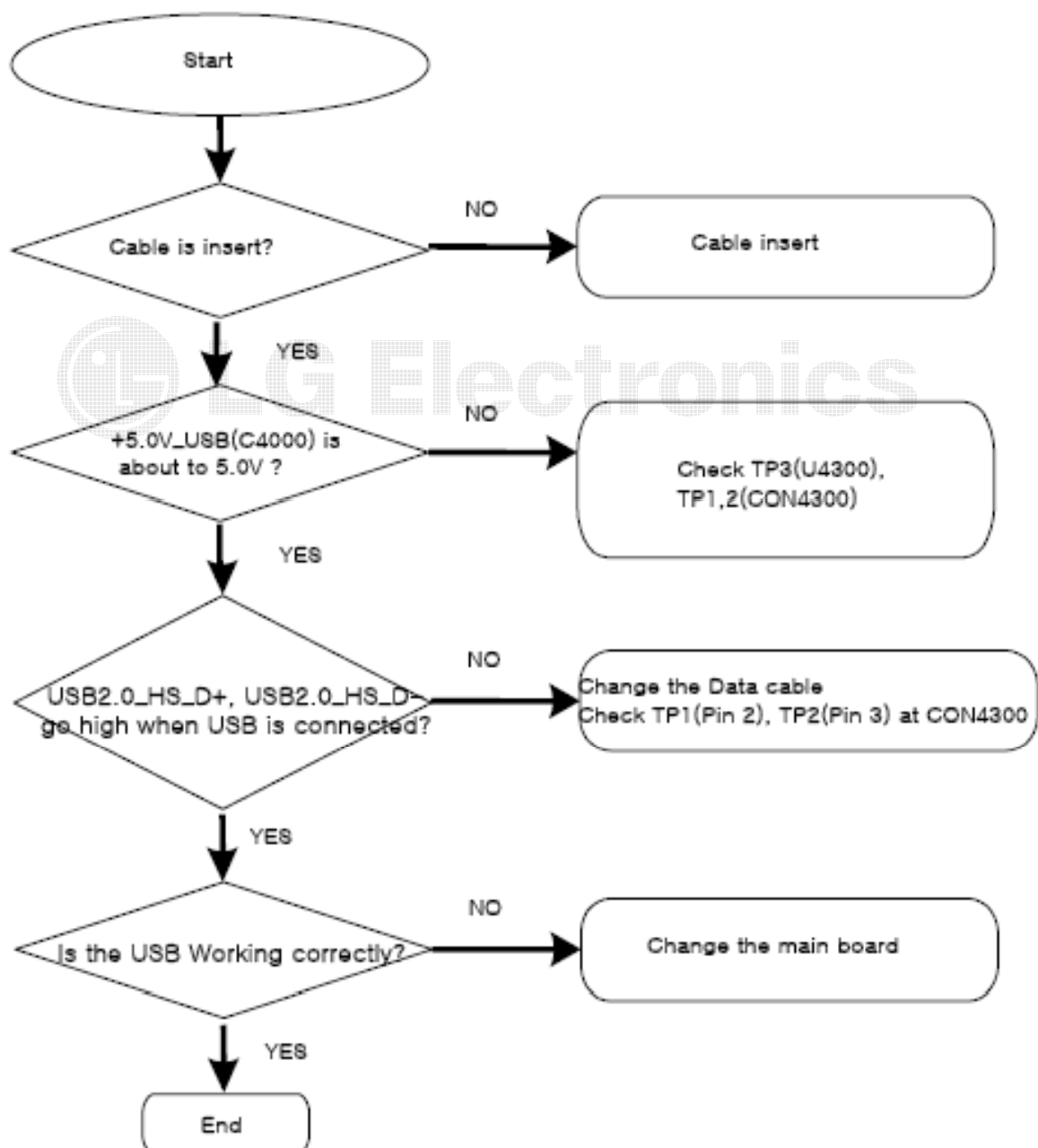
4.3.3 USB

Checking Flow

USB Initial sequence of LG-AS740 is :

USB connected to LG-AS740 → +5.0V_USB(C4000) go to 5V

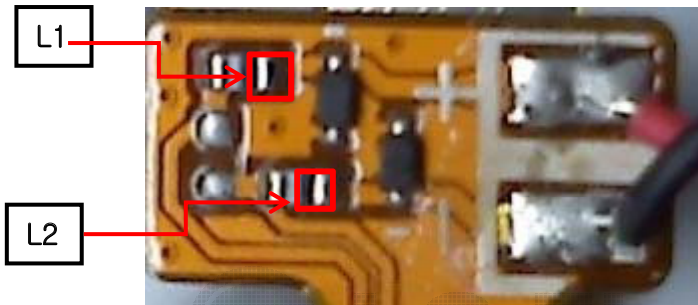
→ MSM7627 → USB work



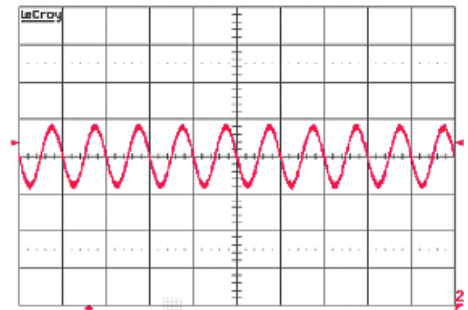
4.4 Audio trouble

4.4.1 overview of audio path

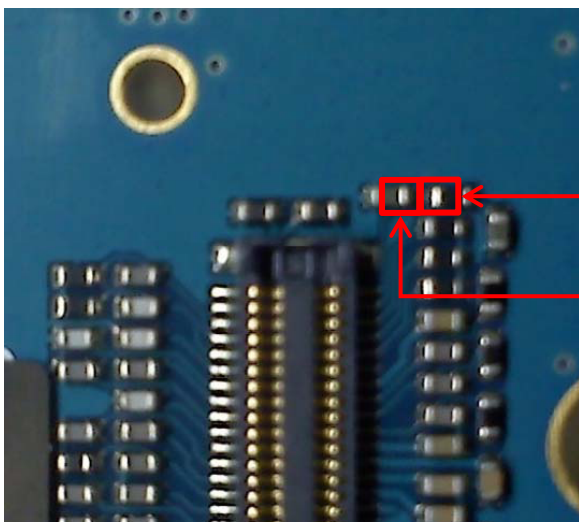
Test Point



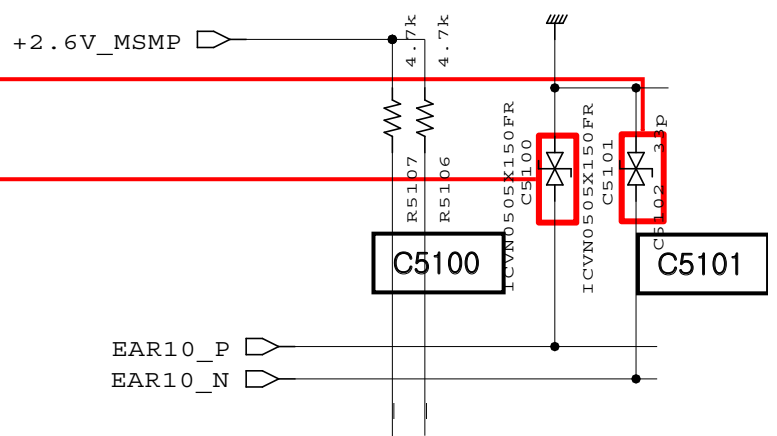
Main FPCB Bottom



L1, L2, C5100, C5101



Main PCB Top



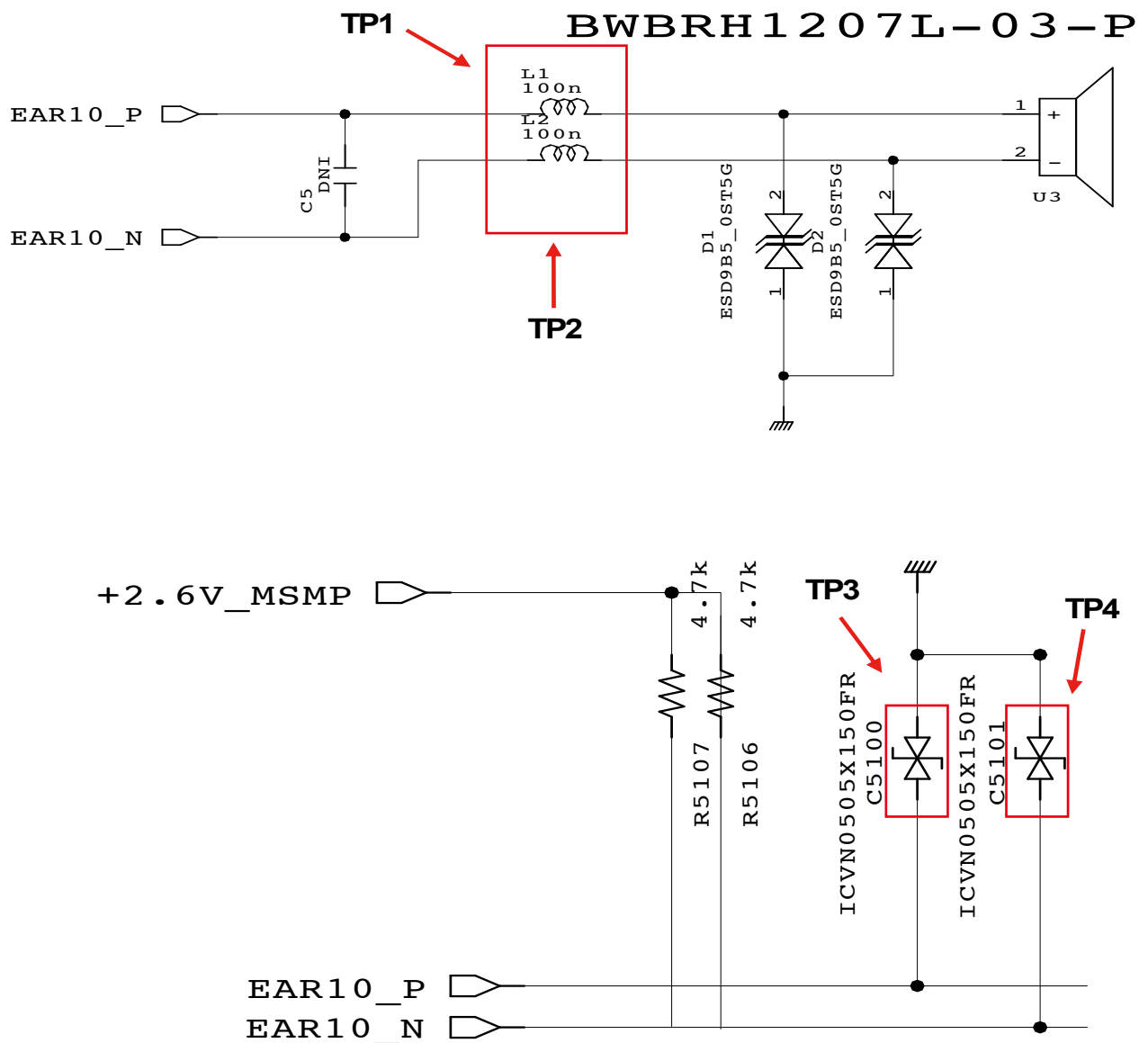
4.4. Audio trouble

4.4.1. overview of audio path

Voice Receiver path as below :

MSM7627 Ear10_N/Ear10_P → Main FPCB → Receiver

Circuit Diagram

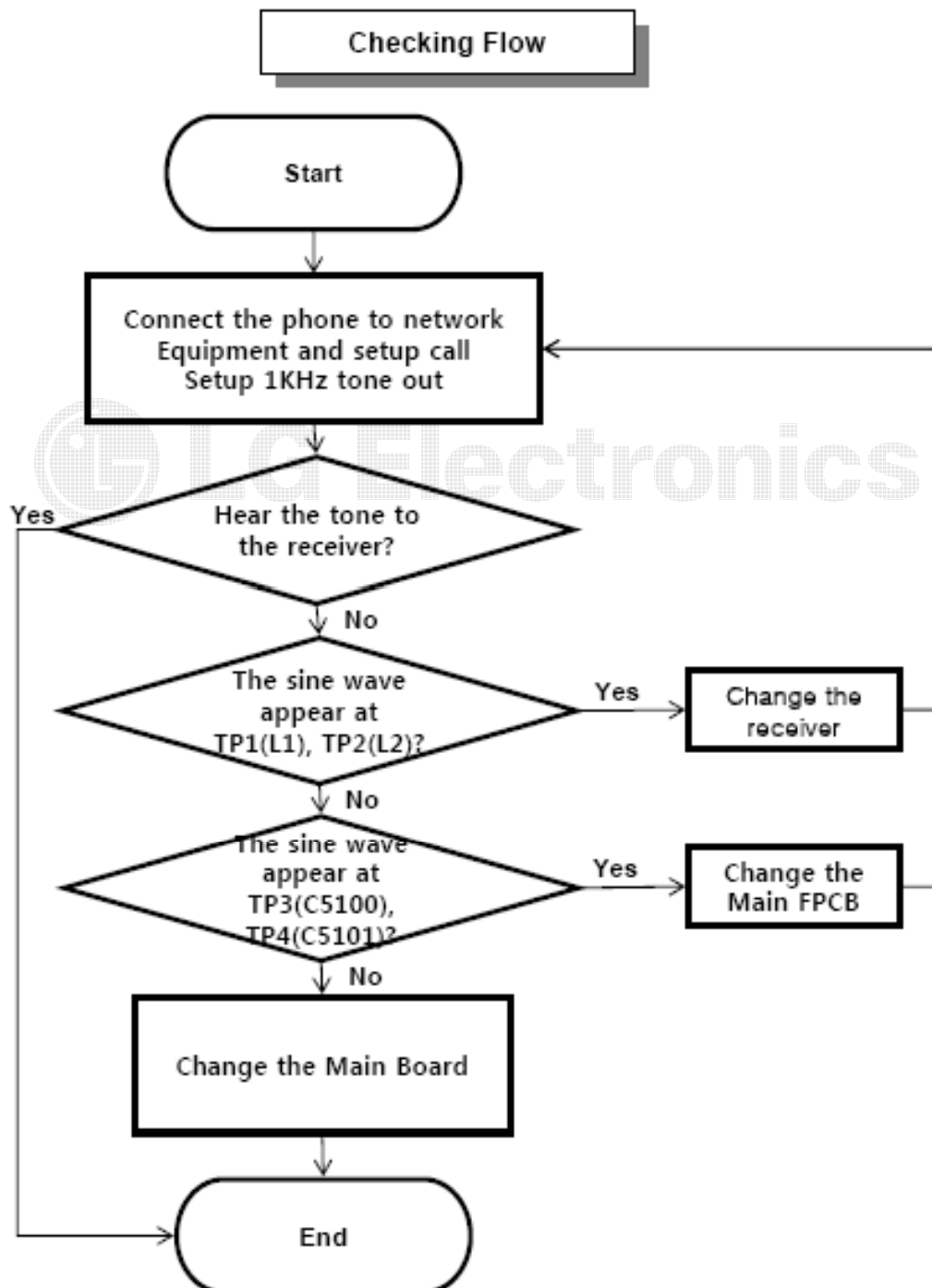


4.4. Audio trouble

4.4.1. overview of audio path

Voice Receiver path as below :

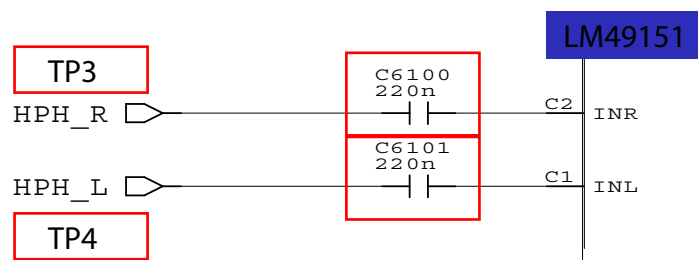
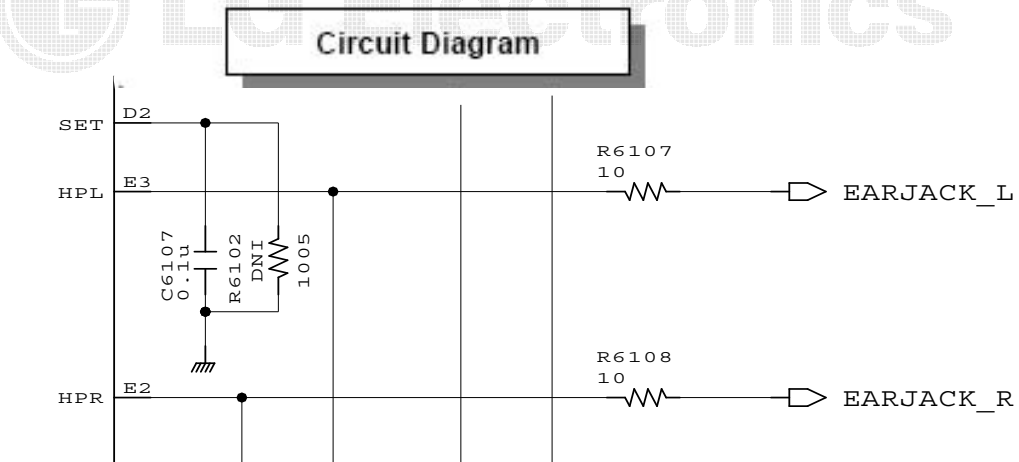
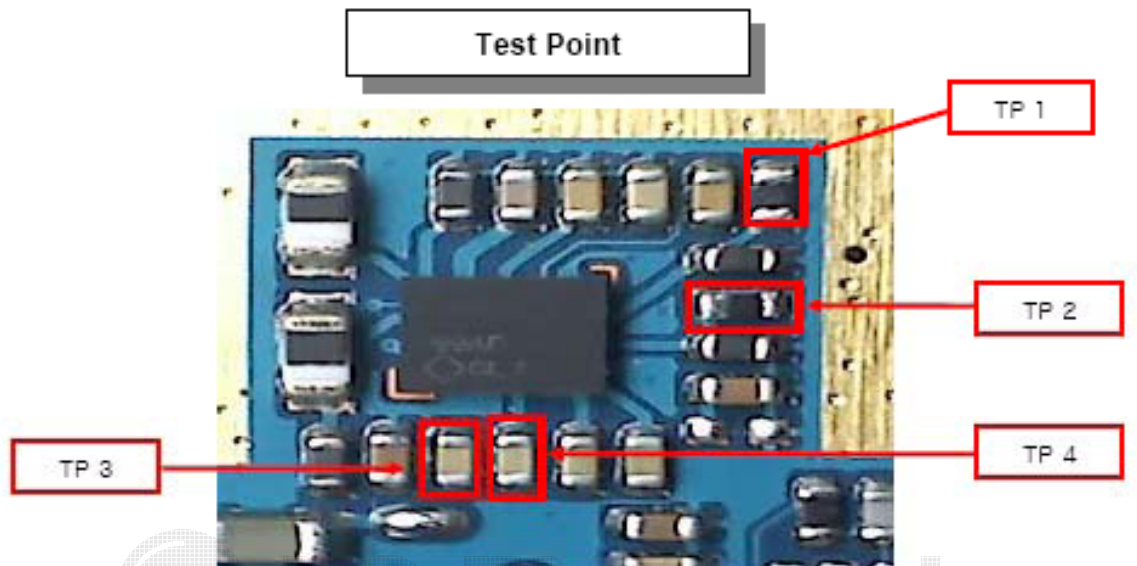
MSM7627 Ear10_N/Ear10_P → Main FPCB → Receiver



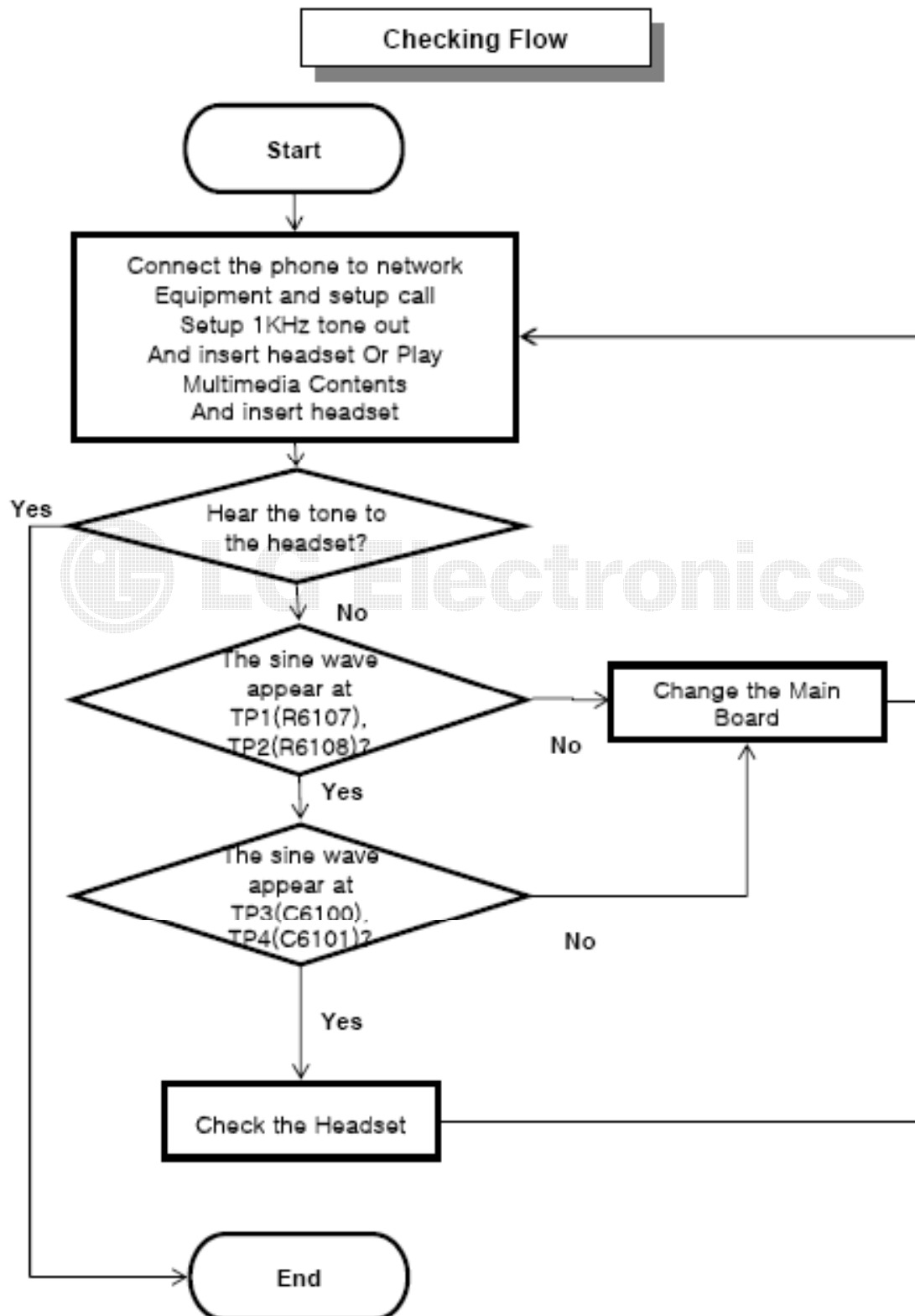
4.4.2 Headset path (voice & Multimedia play)

Voice path for Geaad_Set as below:

MSM7627 HPH_R/L → C6100,C6101 → U61000(Adio System) R6107,R6108
→ CON63012(Earjack)



4.4.2. Headset path (Voice & Multimedia play)



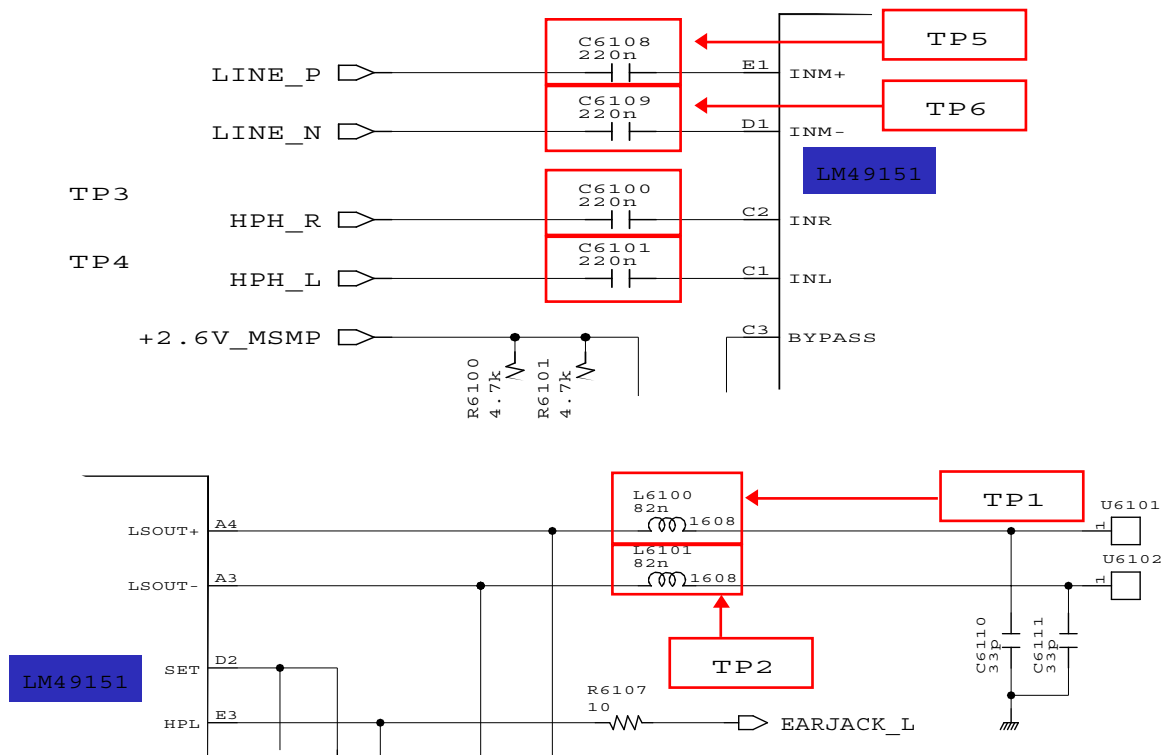
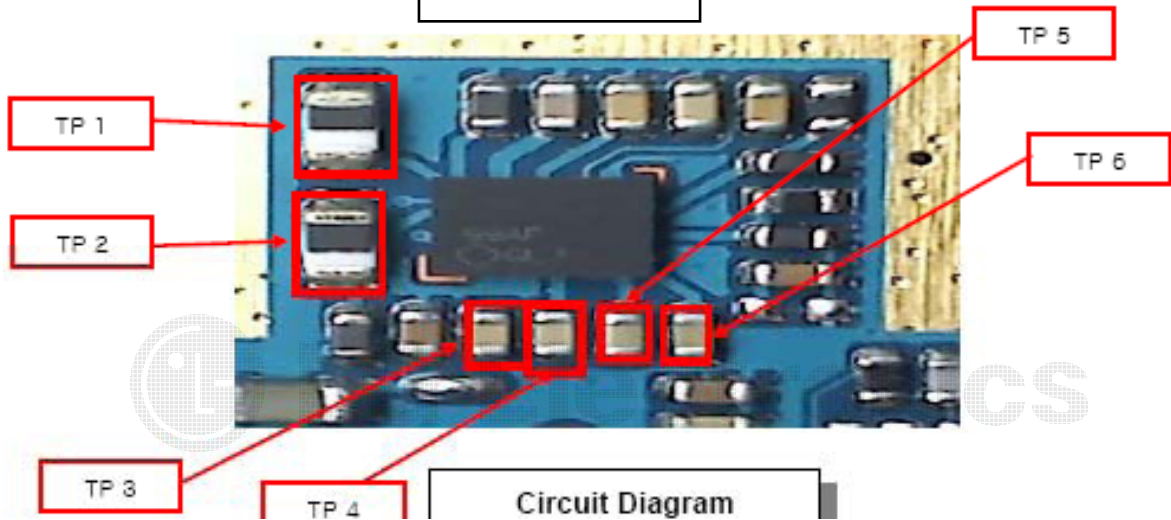
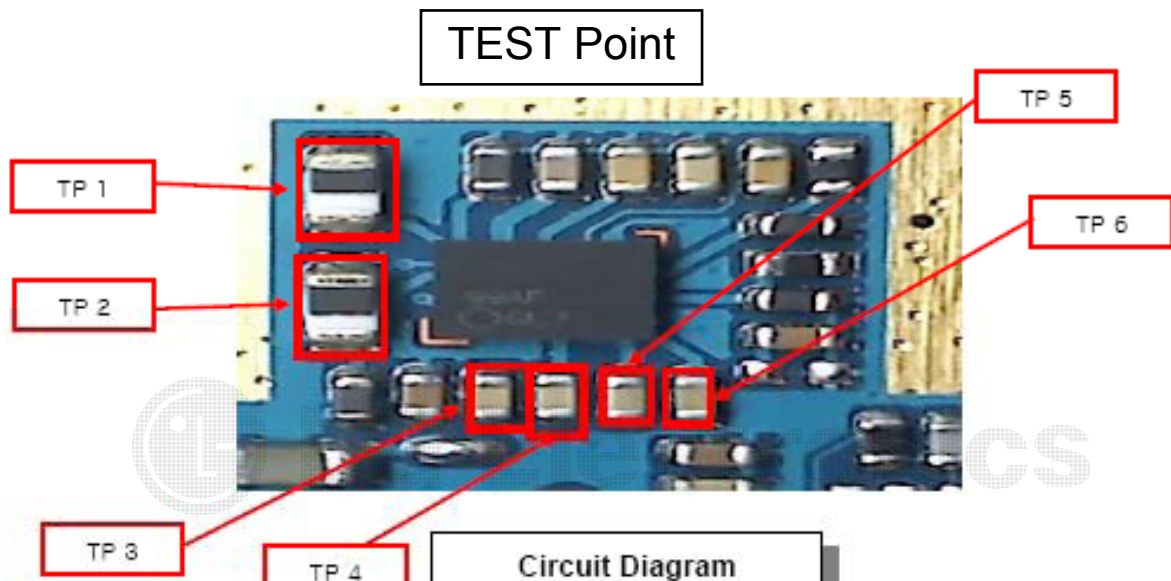
4.4.3. Loud speaker path (voice speaker phone, Multimedia play)

Loud speaker path as below:

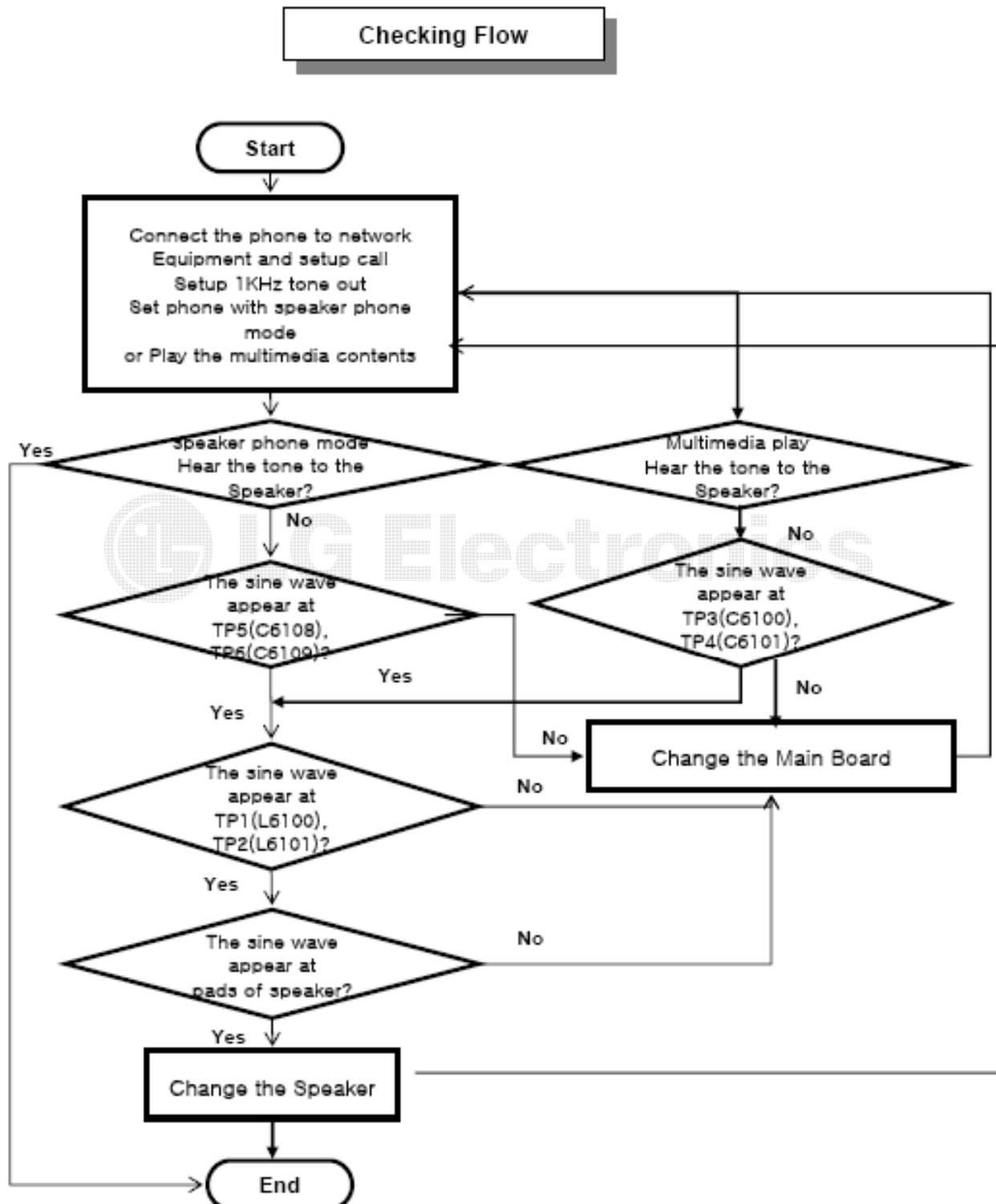
MSM7627 Line_OP/ON_HPH R/L → C6108,C6109(speaker phone),

C6100,C6101 **Multimedia play** → U7500(Audio Sub System) → L6100,L6101

→ U7002(Loud speaker)



4.4.3. Loud speaker path (voice speaker phone, Multimedia play)

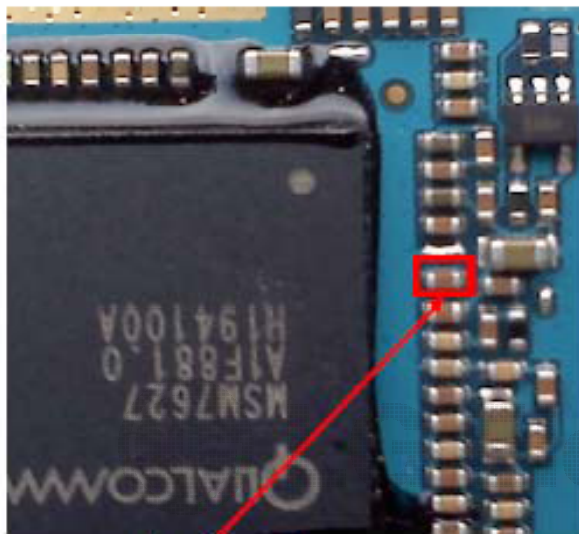


4.4.4. Microphone for main MIC

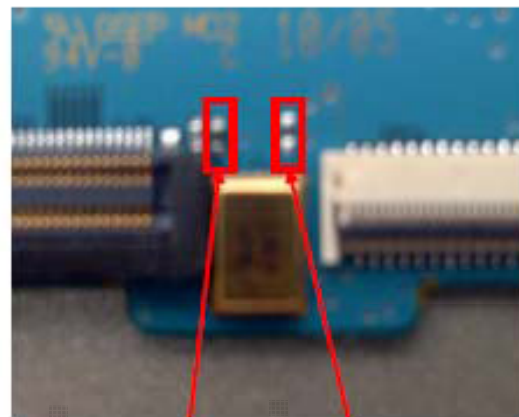
Main Microphone path as below:

MSM7627 (MIC1P, MIC1N) → C3101,C3102 → Main FPCB → MIC(at sub PCB)

Test Point



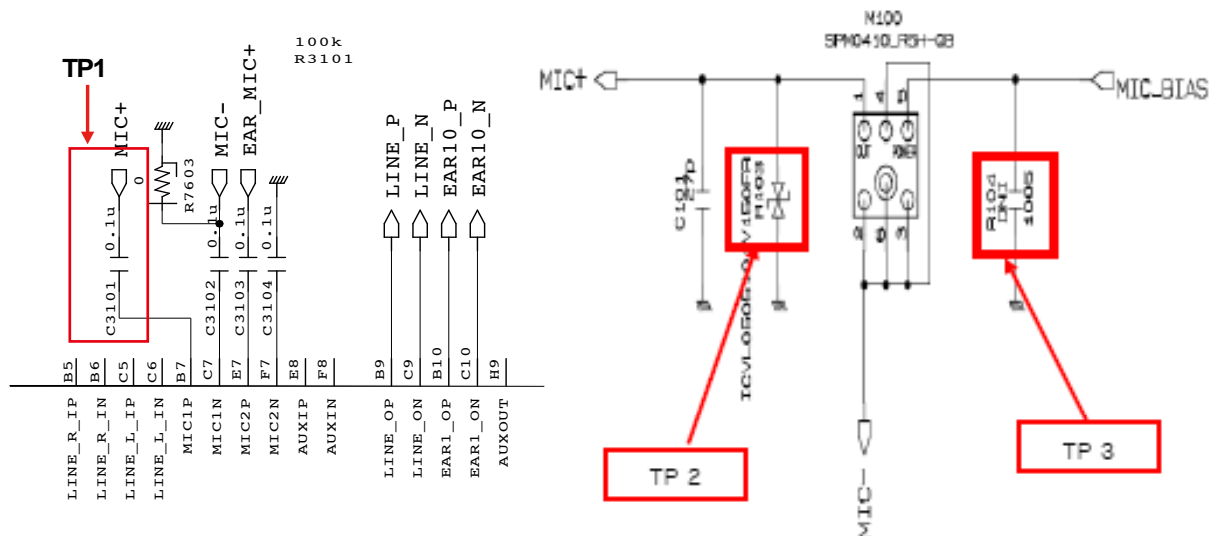
TP 1



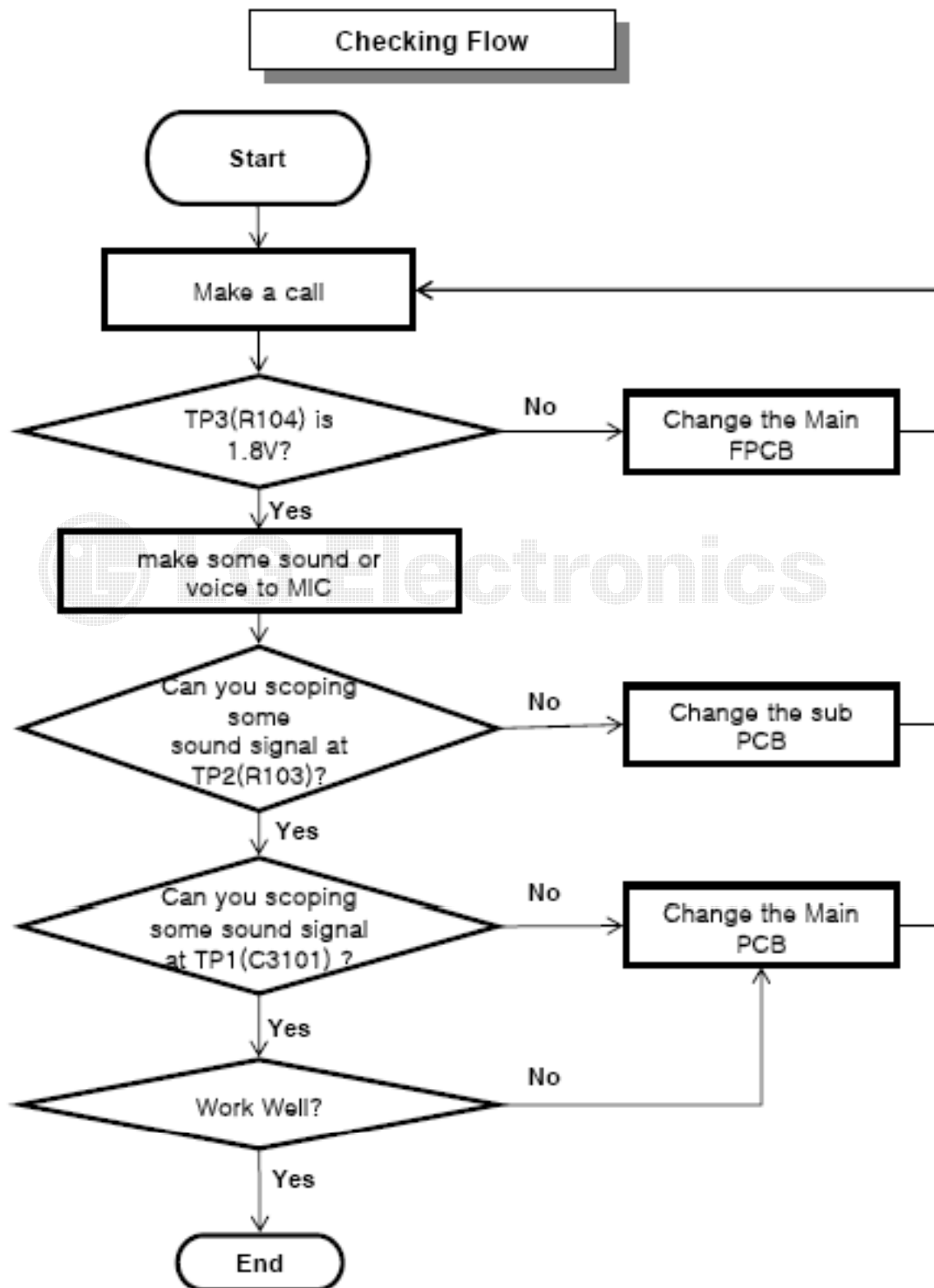
TP 2

TP 3

Circuit Diagram



4.4.4. Microphone for main MIC

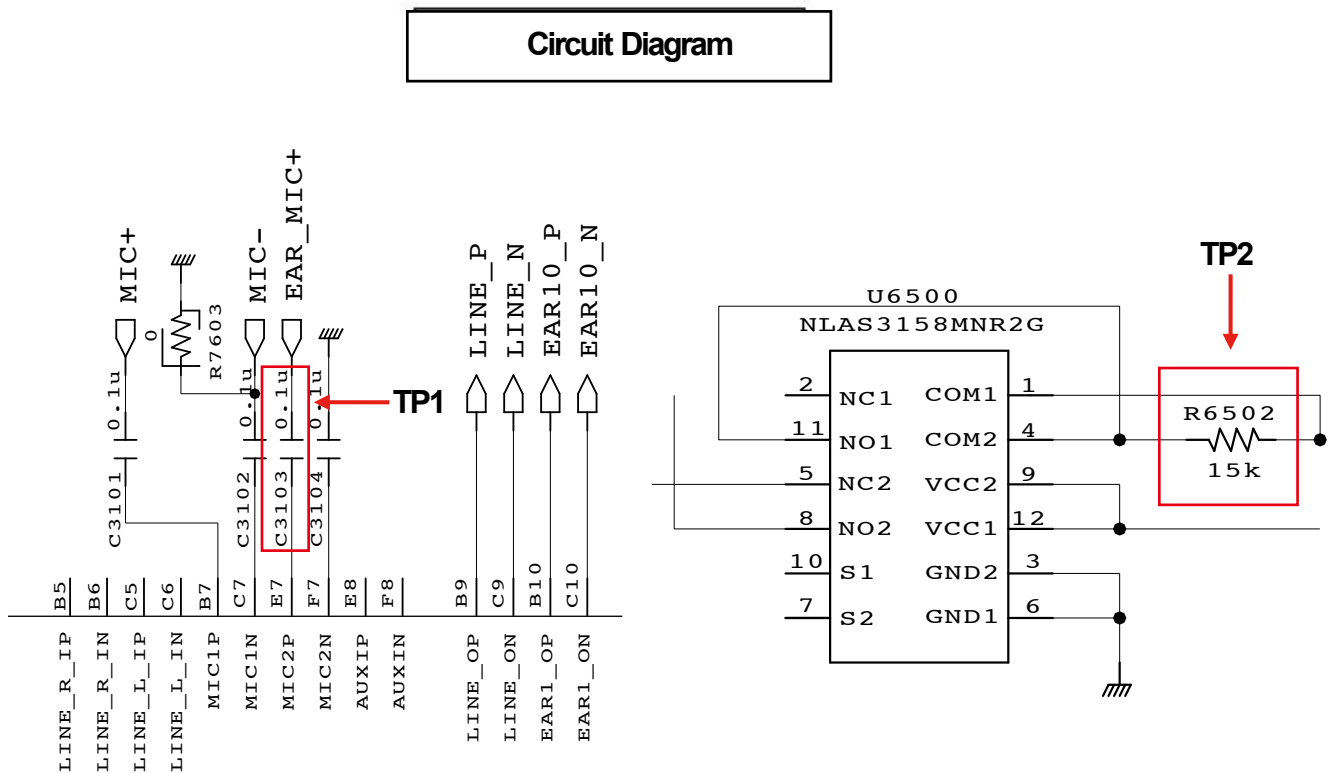
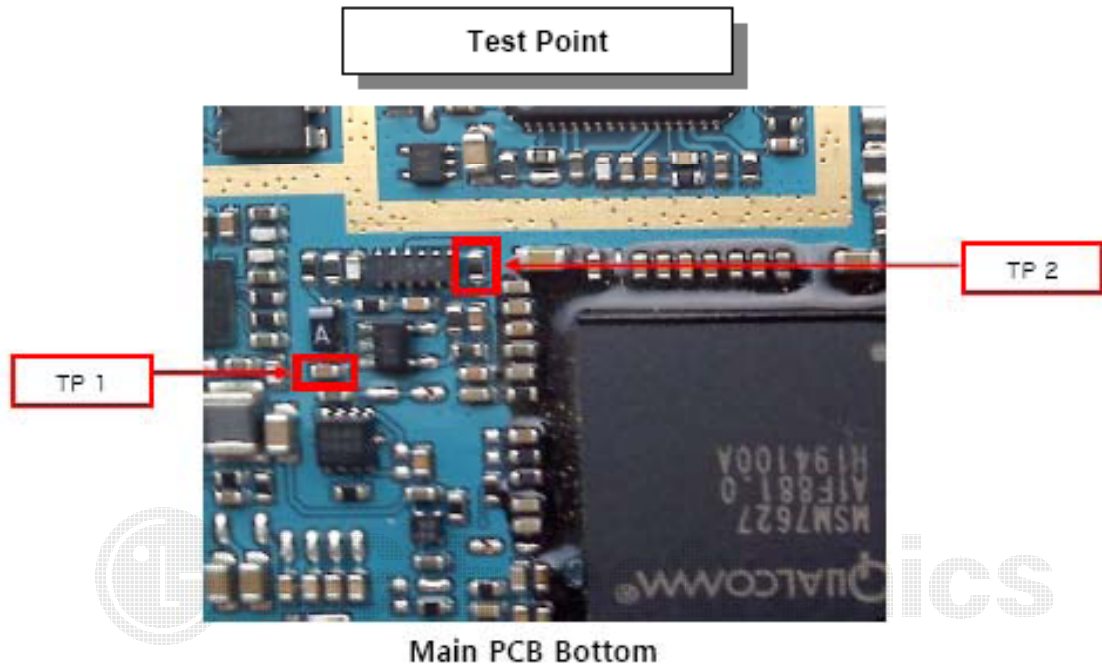


4. Trouble Shooting

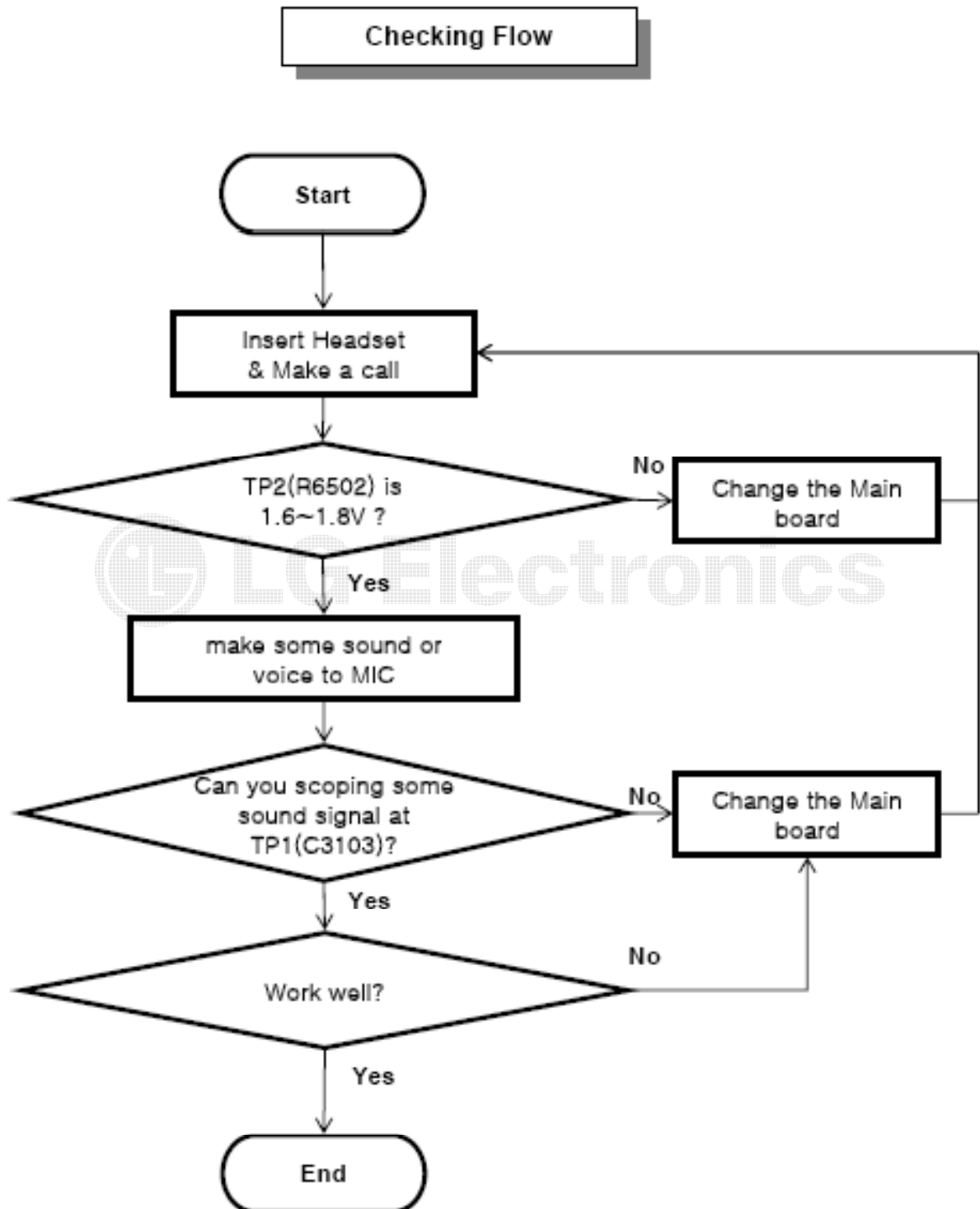
4.4.5. Microphone for headset

MIC for HeadSet path as below:

Insert Headset MIC BIAS raise to 1.6V~1.8V(EAR_MIC+) MIC signal → R6502 → C3103, MSM7627(MIC2P)



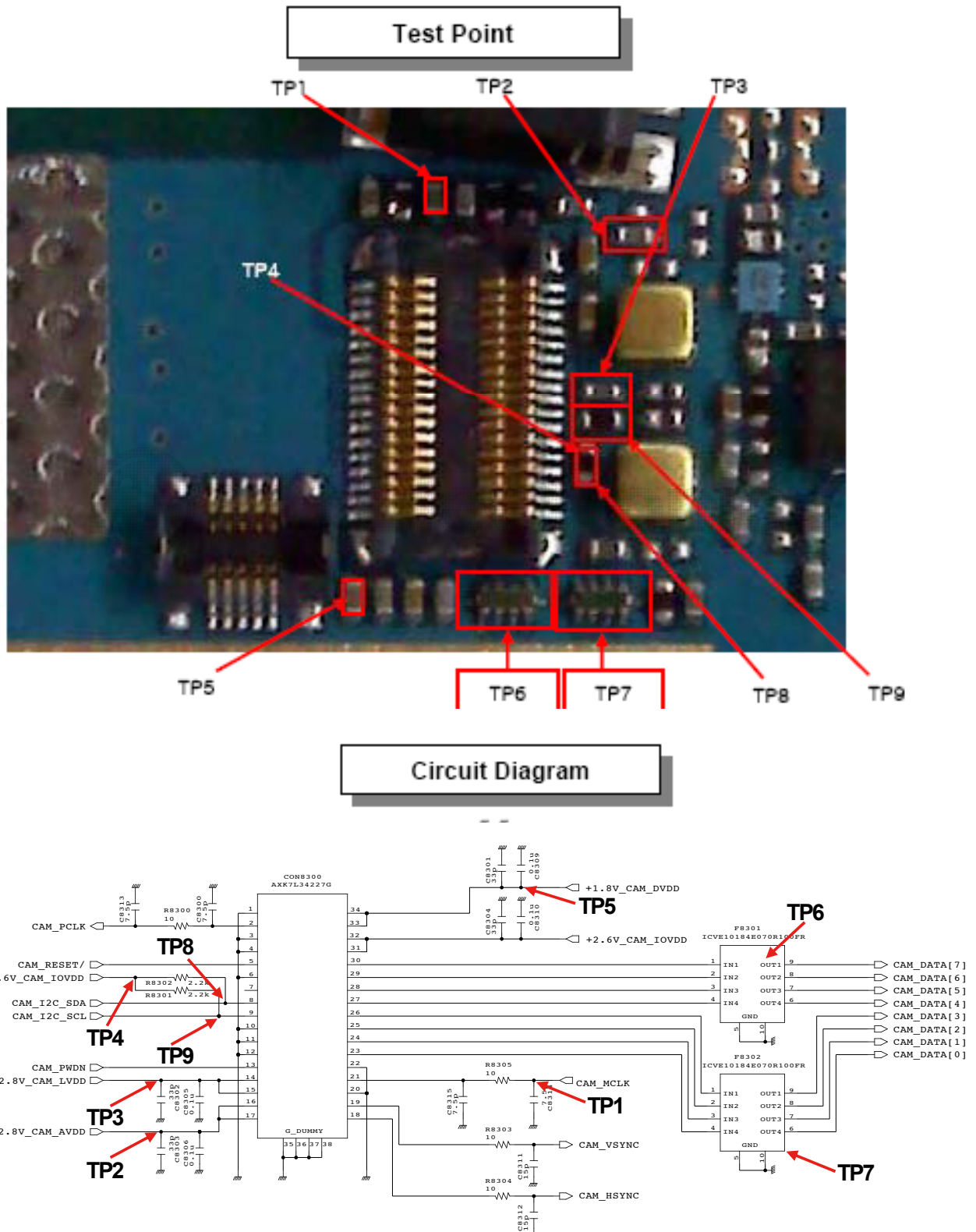
4.4.5. Microphone for headset

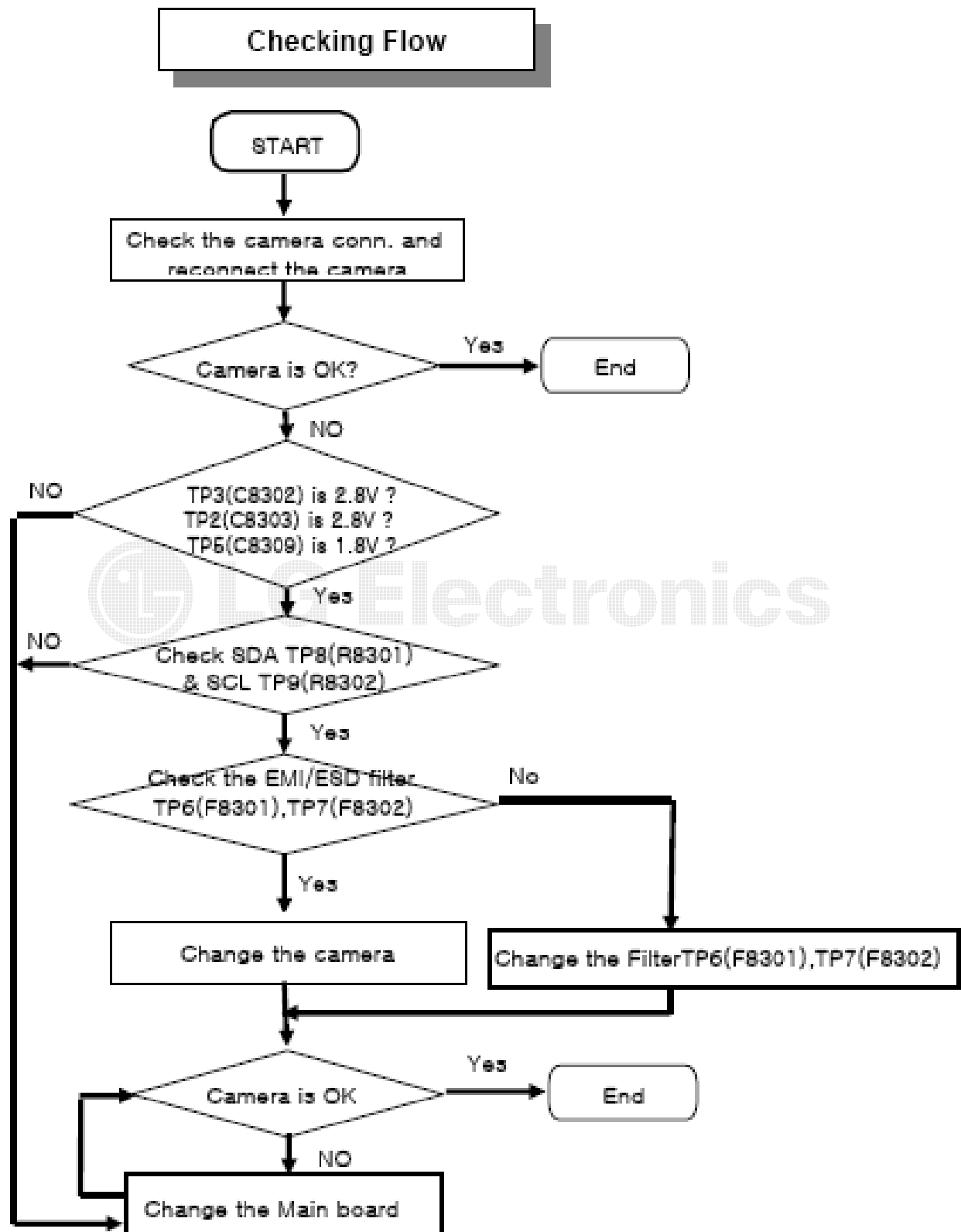


4. Trouble Shooting

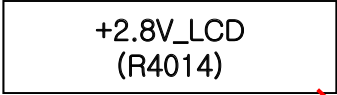
4.5. 3M Camera trouble

3M camera control signals are generated by MSM7627.





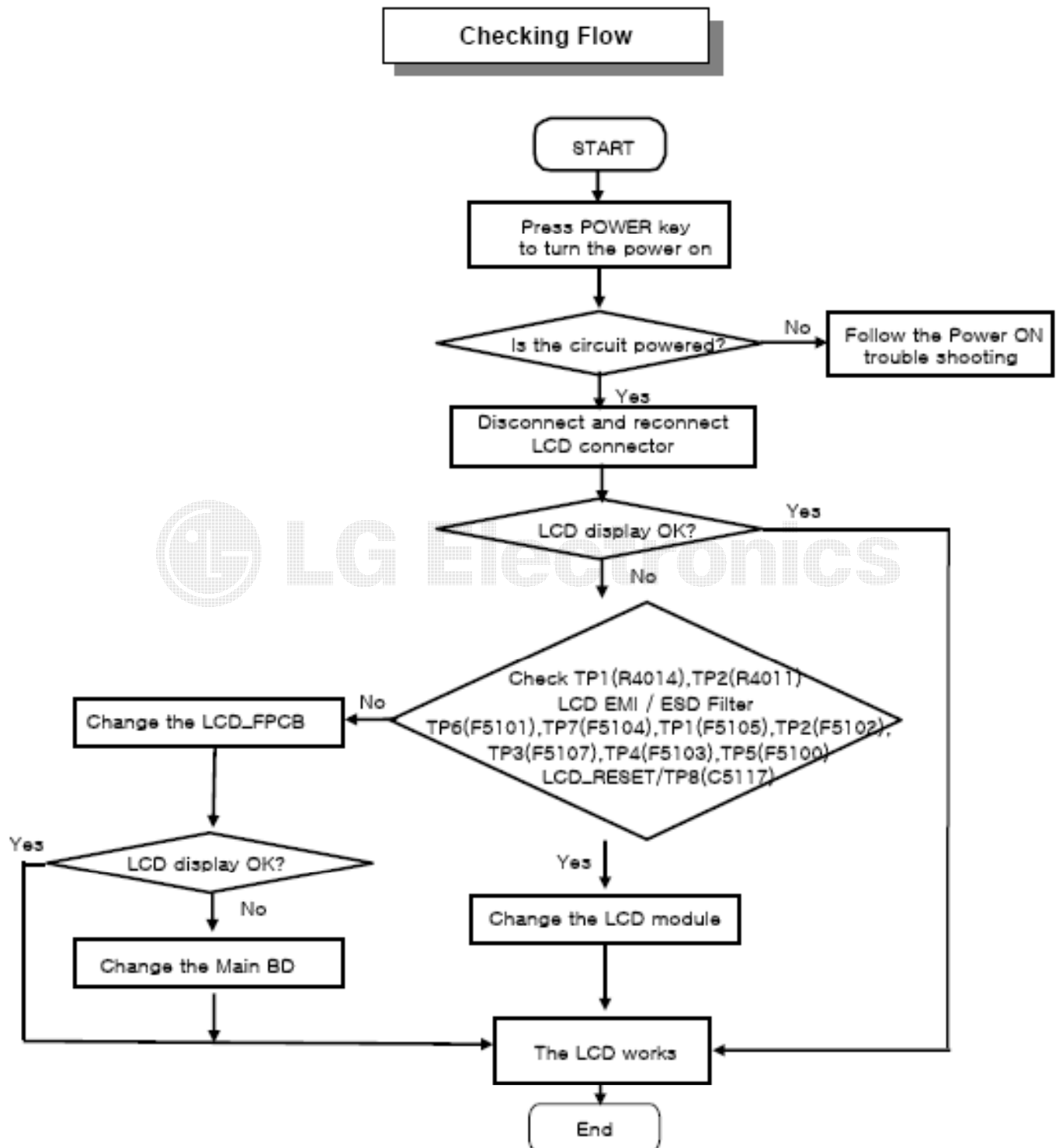
Test Point



Circuit Diagram



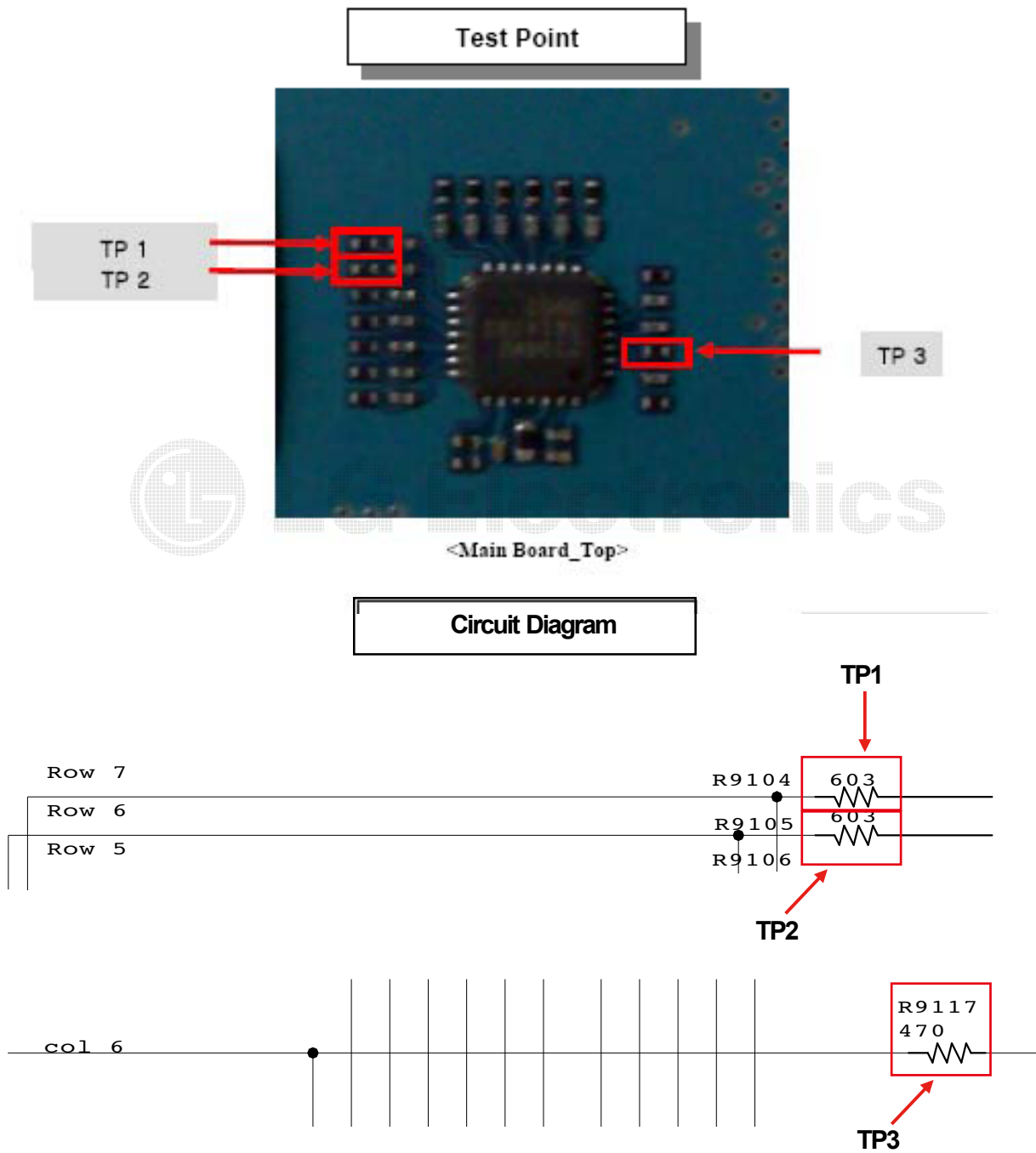
4. Trouble Shooting



4.7 Key Troubleshooting

4.7.1 Side Volume Key FPCB

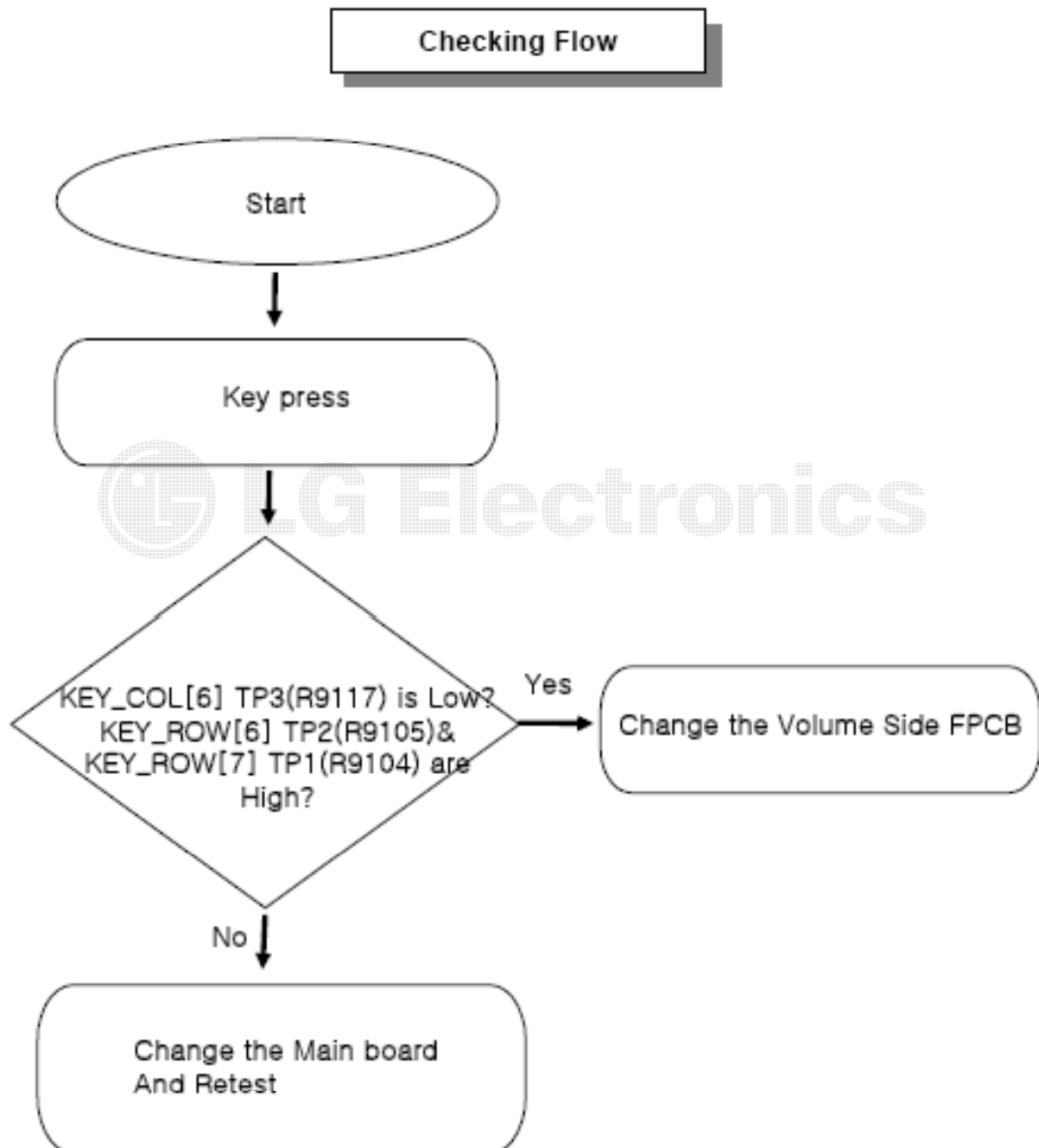
Volume Key consists of Volume up and Volume down.



4.7 Key Troubleshooting

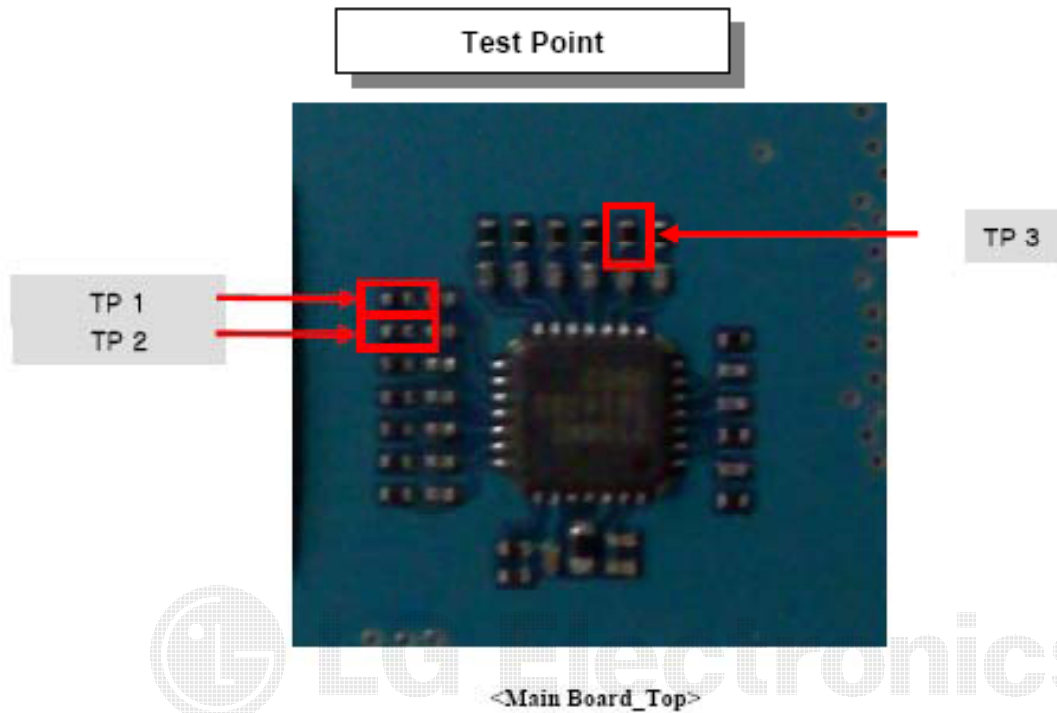
4.7.1 Side Volume Key FPCB

Volume Key consists of Volume up and Volume down.

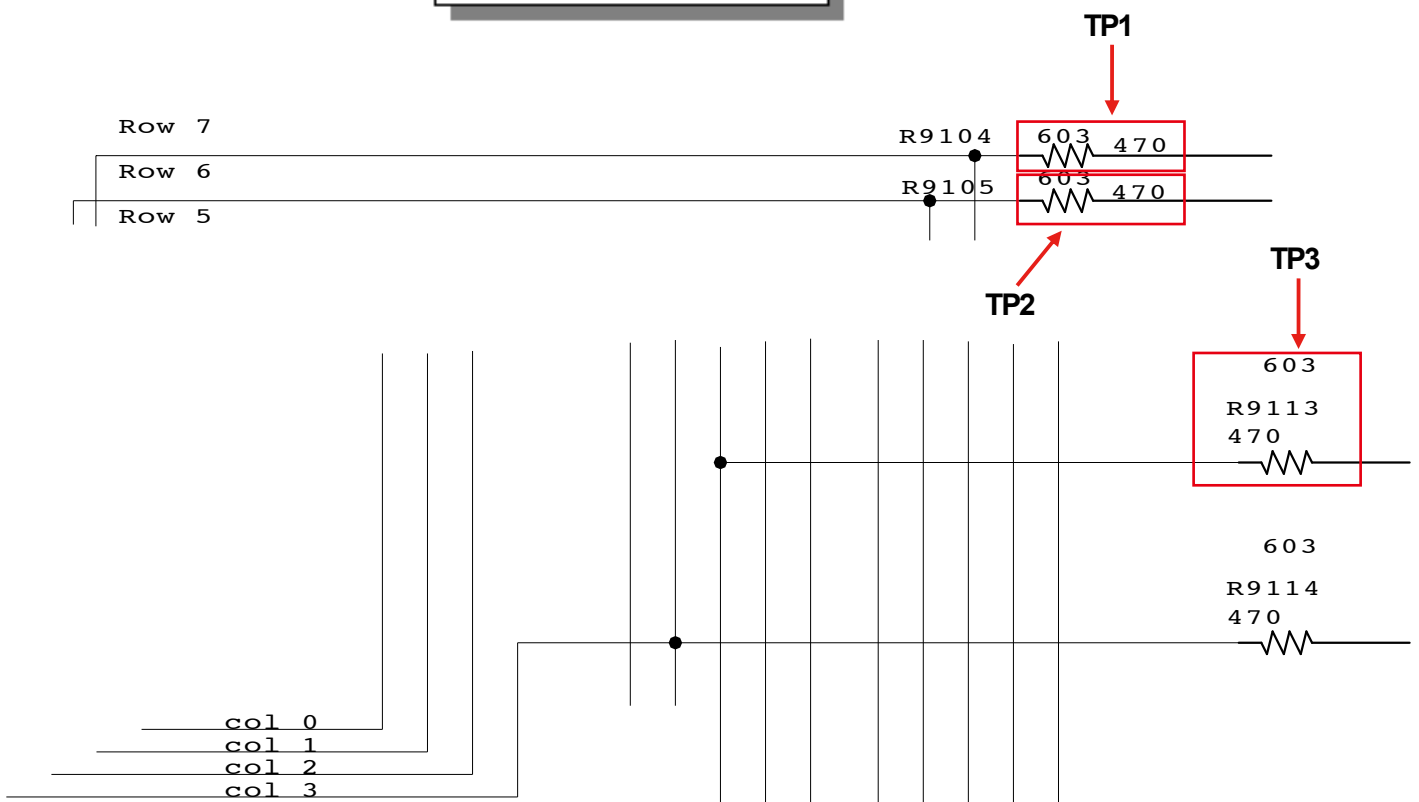


4.7.2 Side Cam Key FPCB

Camera Key is composed of Turn on, Auto Focus and Shutter.

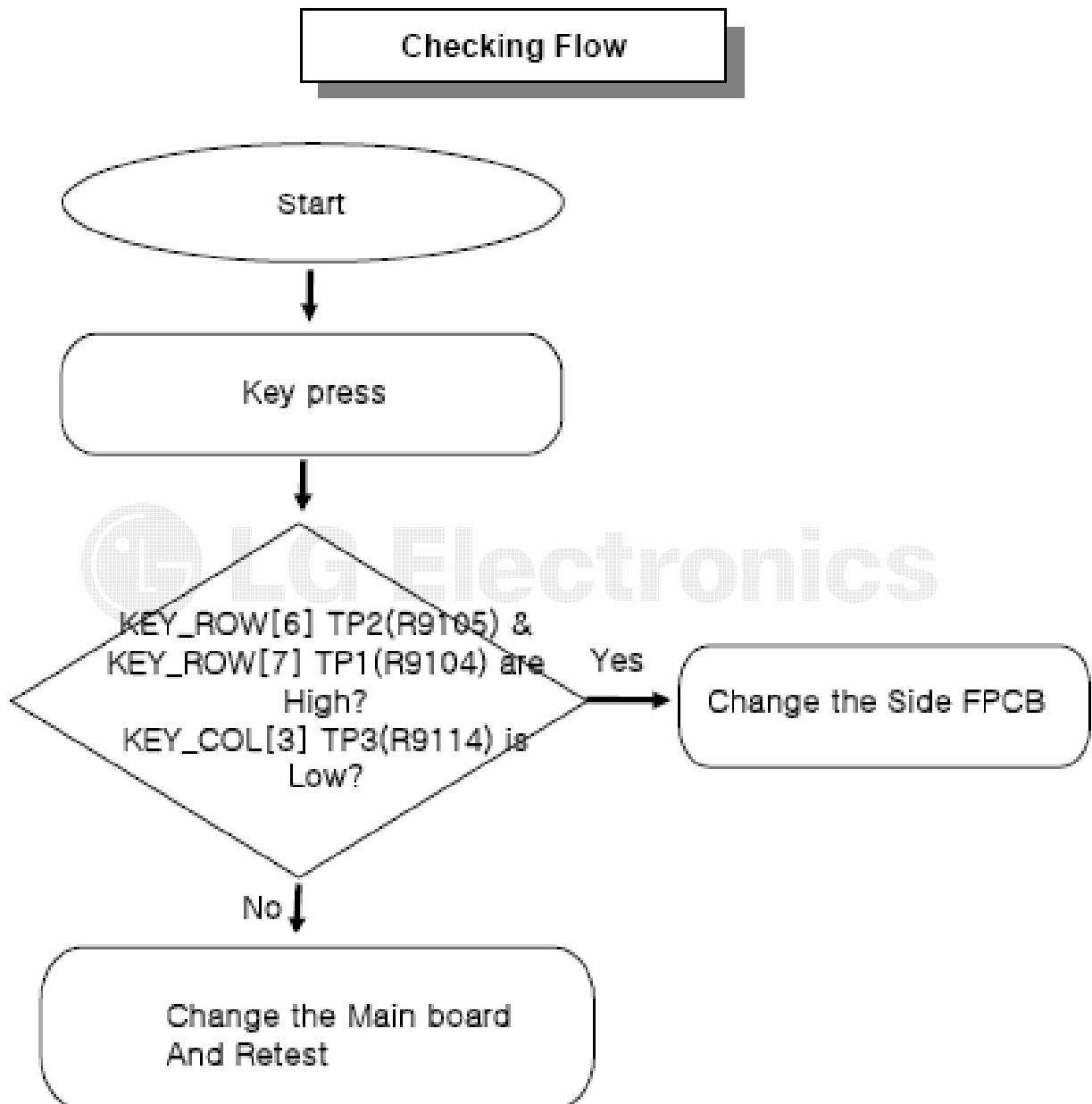


Circuit Diagram



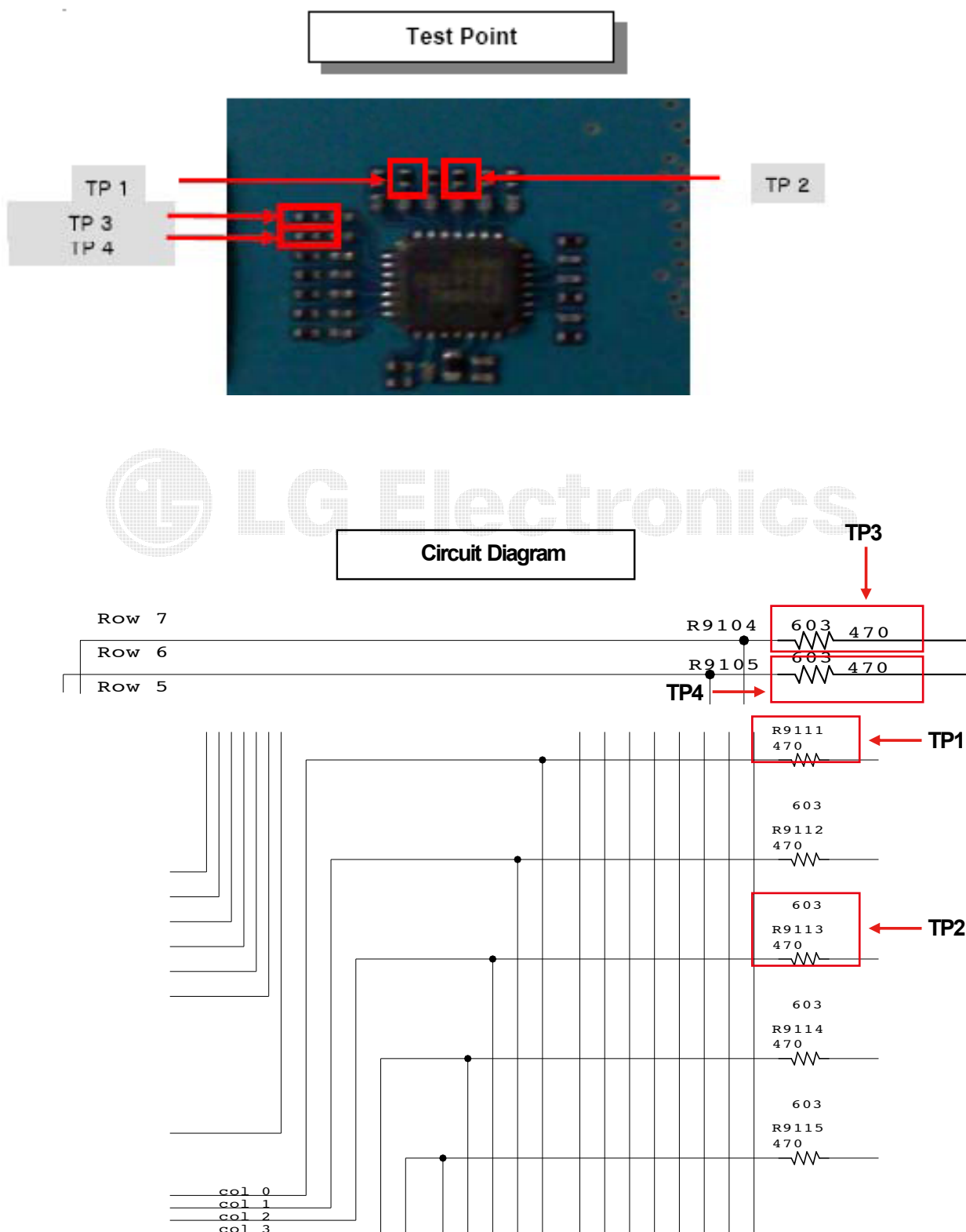
4.7.2 Side Cam Key FPCB

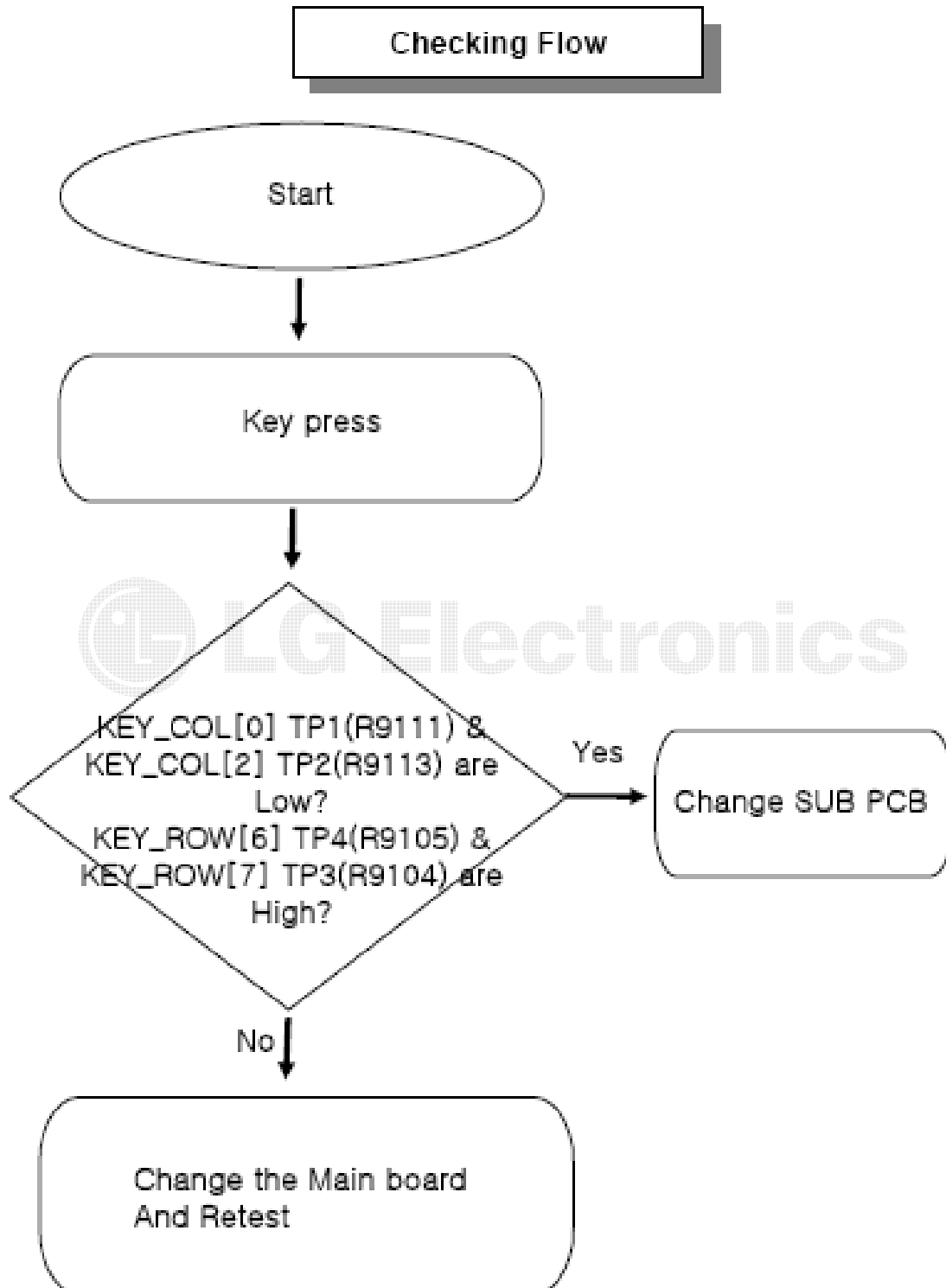
Camera Key is composed of Turn on, Auto Focus and Shutter.



4.7.3 Front 4 Key

Front 4 Key consists of Send, Home, Menu and End.



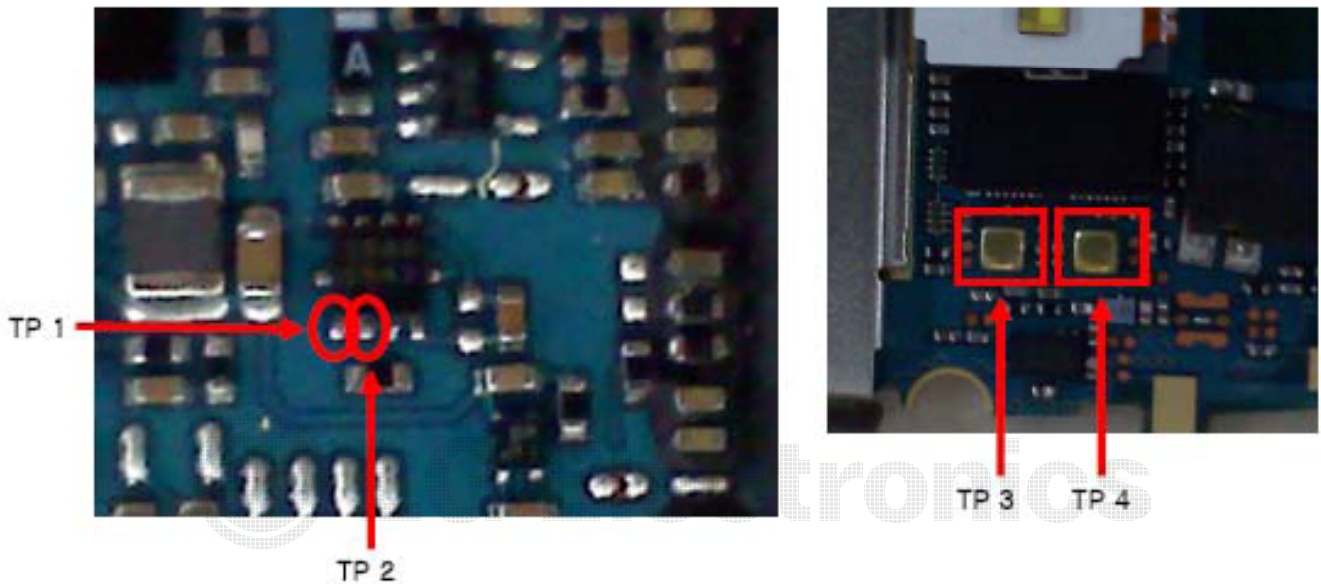


4.8 VIBRATOR Troubleshooting

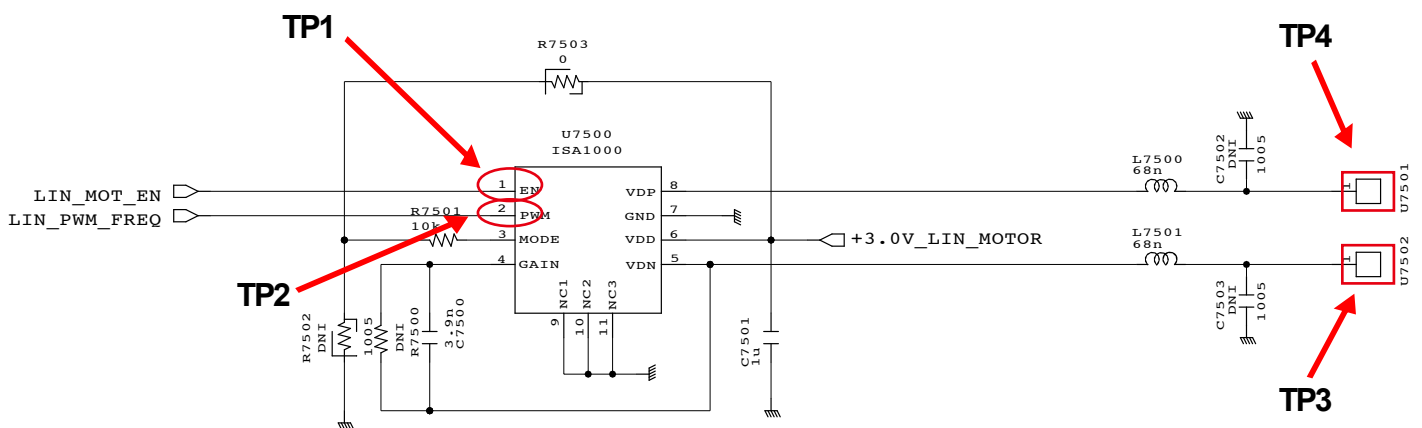
Linear Motor signal's path is MSM7627 → Linear Motor Driver IC → U7501 & U7502.

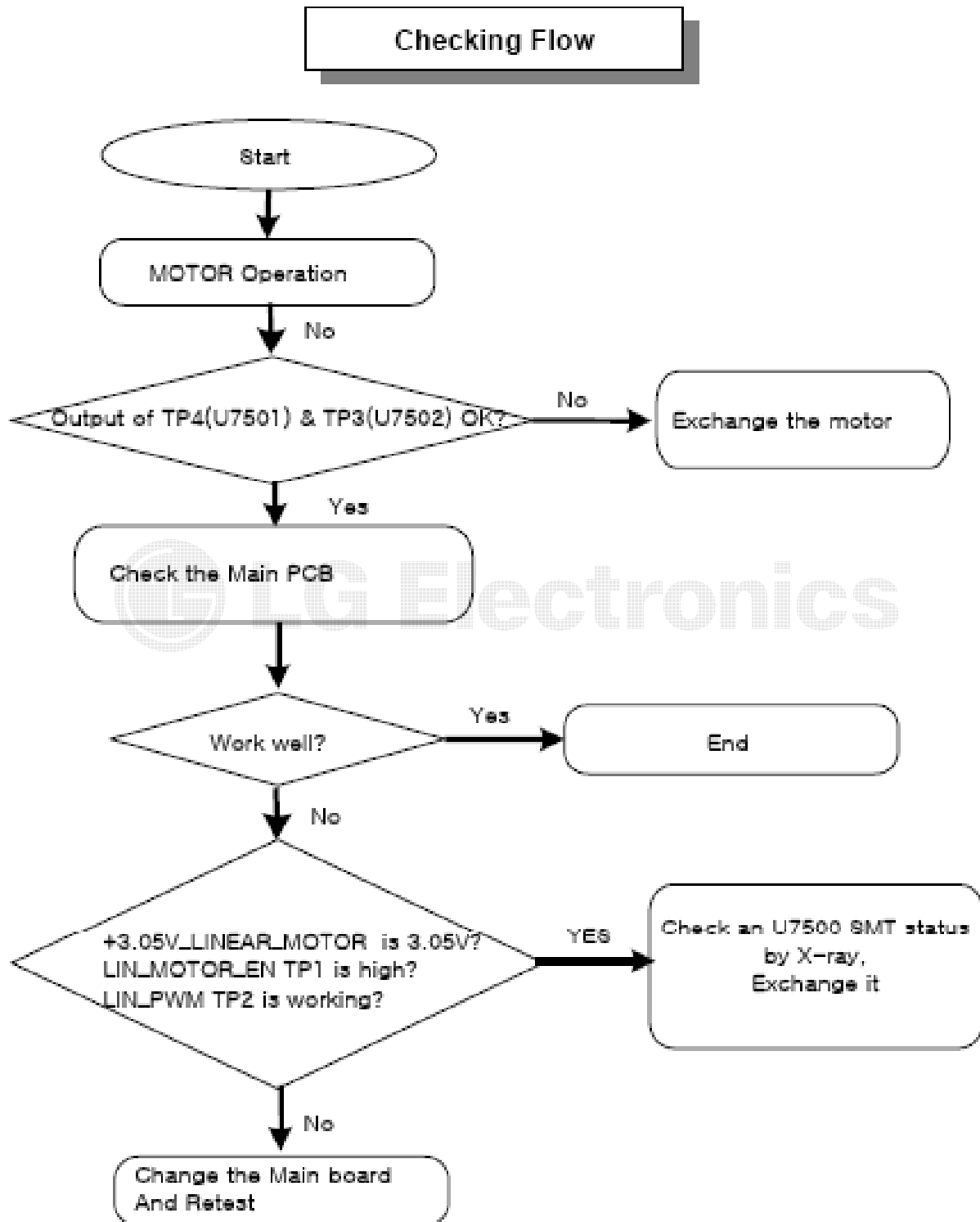
Linear Motor Driver IC uses the PWM pulse.

Test Point



Circuit Diagram





4. Trouble Shooting

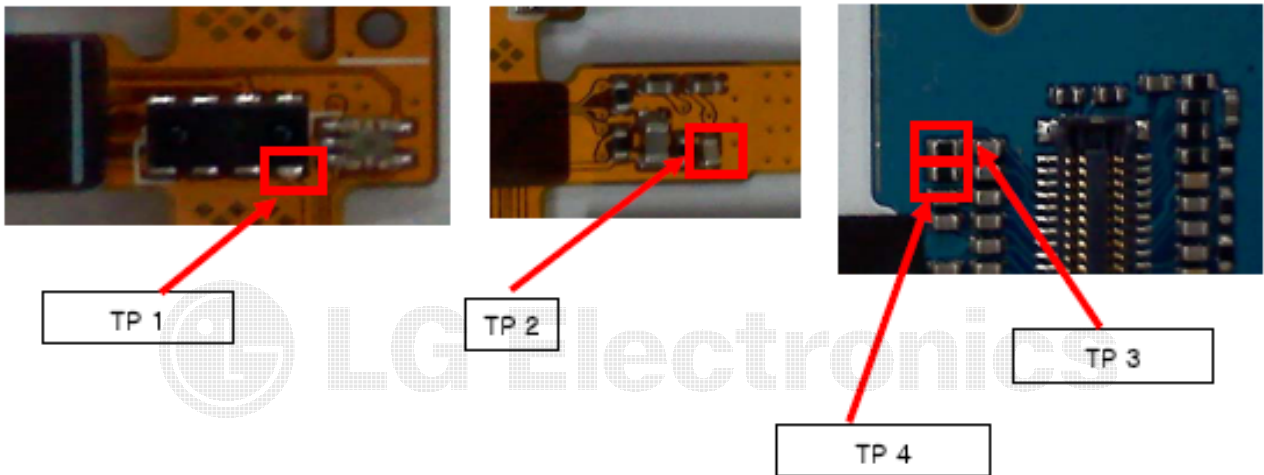
4.9. Proximity Sensor on/off trouble

Proximity Sensor is worked as below :

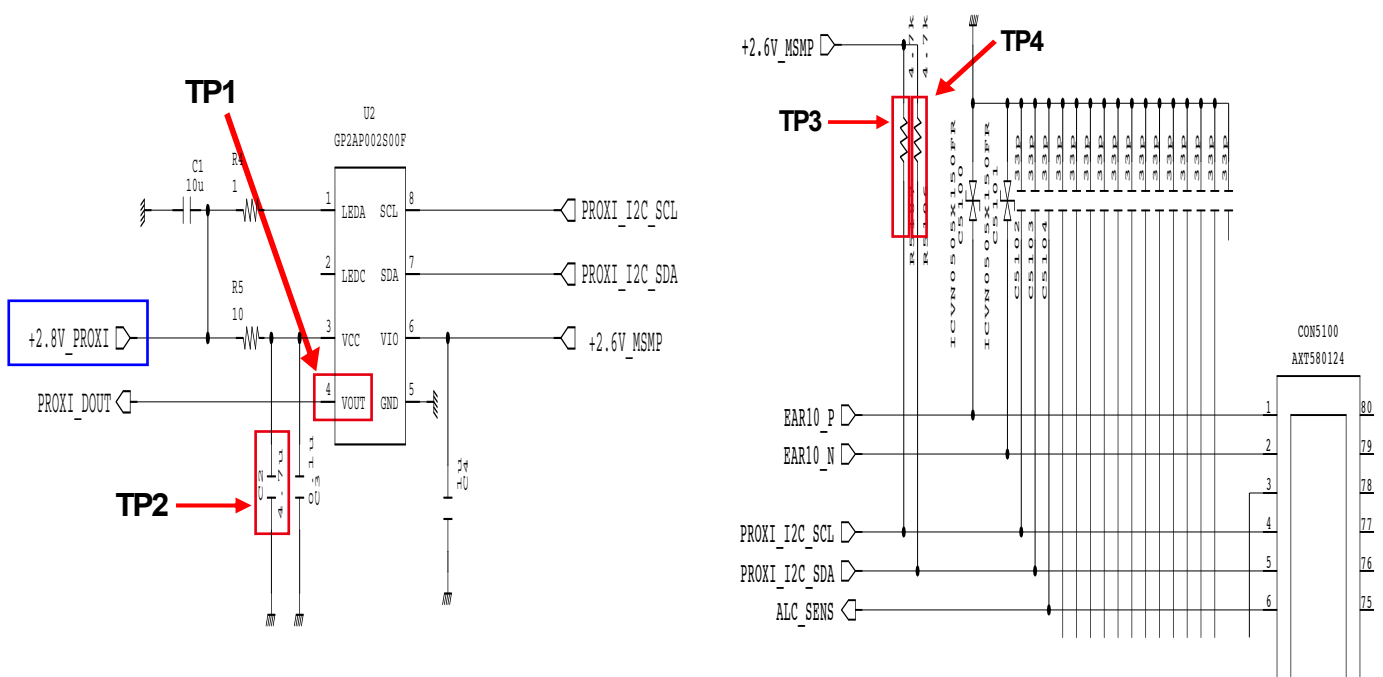
Send Key click → Phone number click → Call connected → Object moved at the sensor

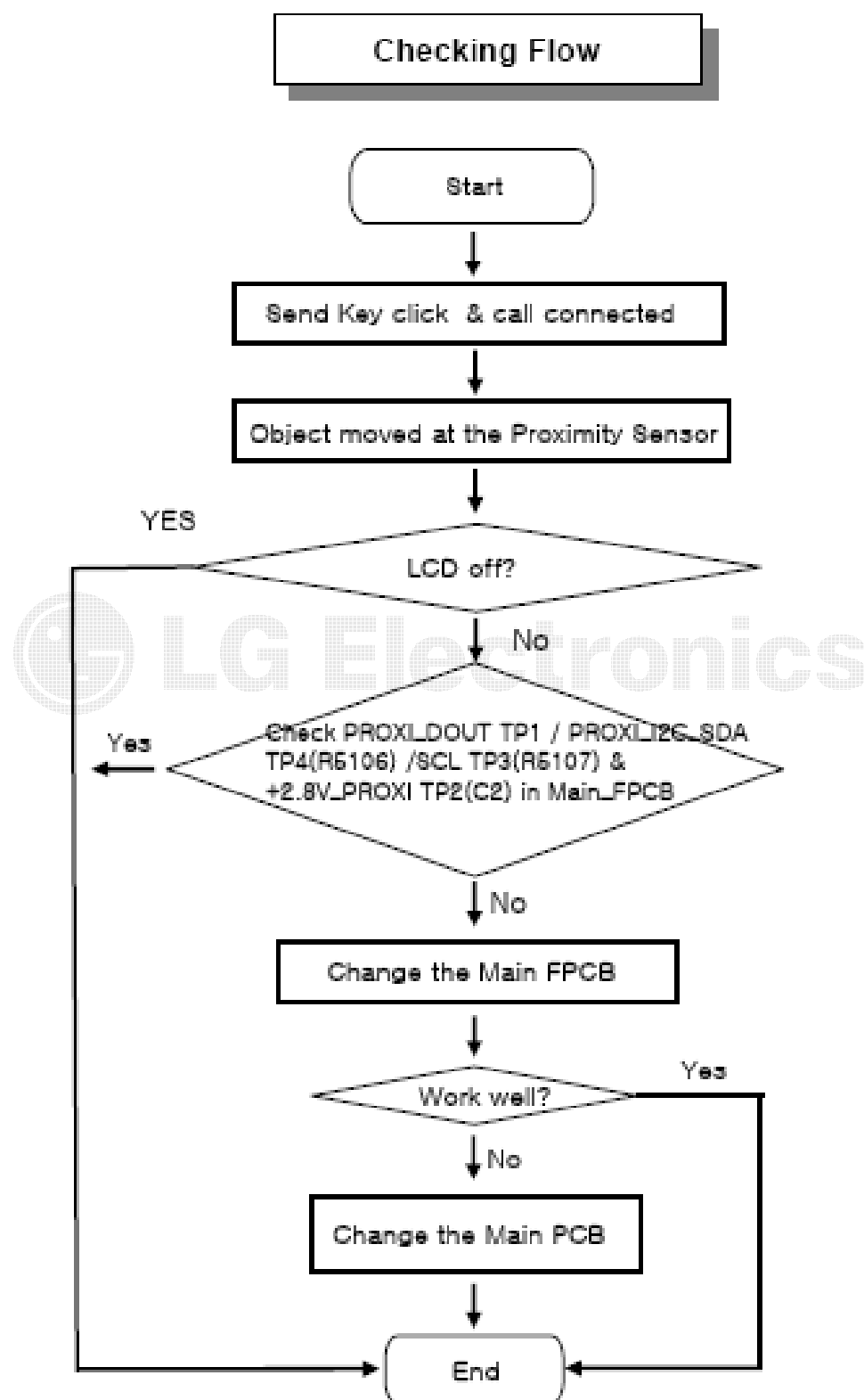
→ Control the screen's on/off operation automatically

Test Point



Circuit Diagram





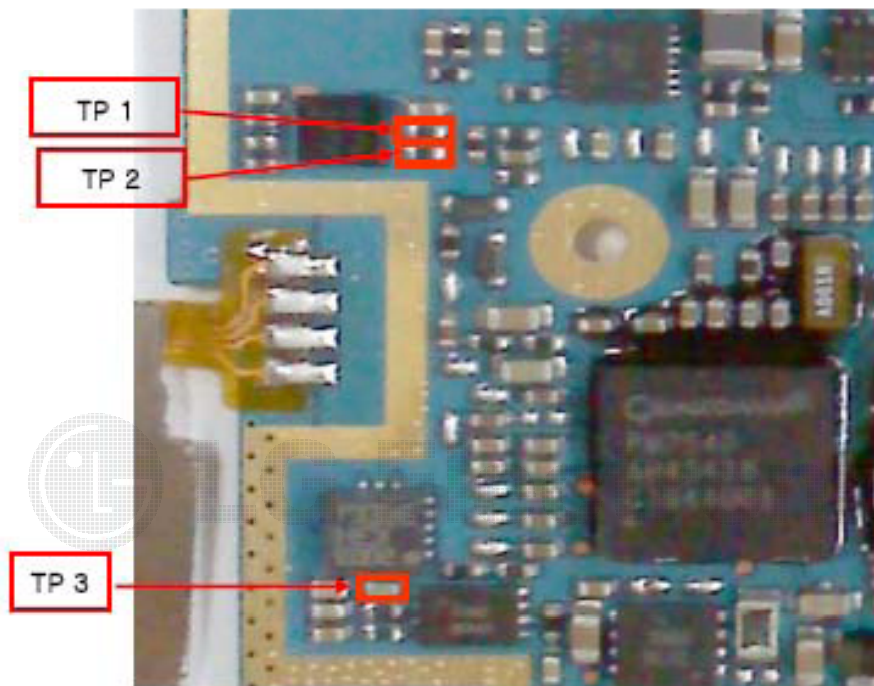
4. Trouble Shooting

4.10. Motion Sensor on/off trouble

Motion Sensor is worked as below :

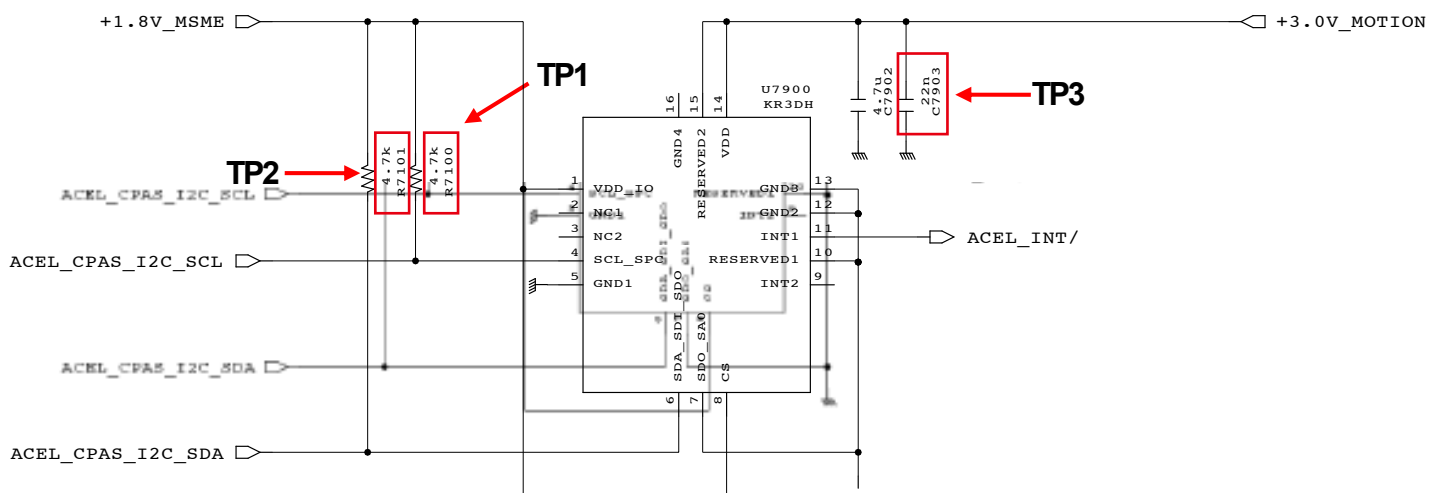
Accelerometer Sensor function On → Tilt the phone (90°) → The screen is had rotated automatically.

Test Point



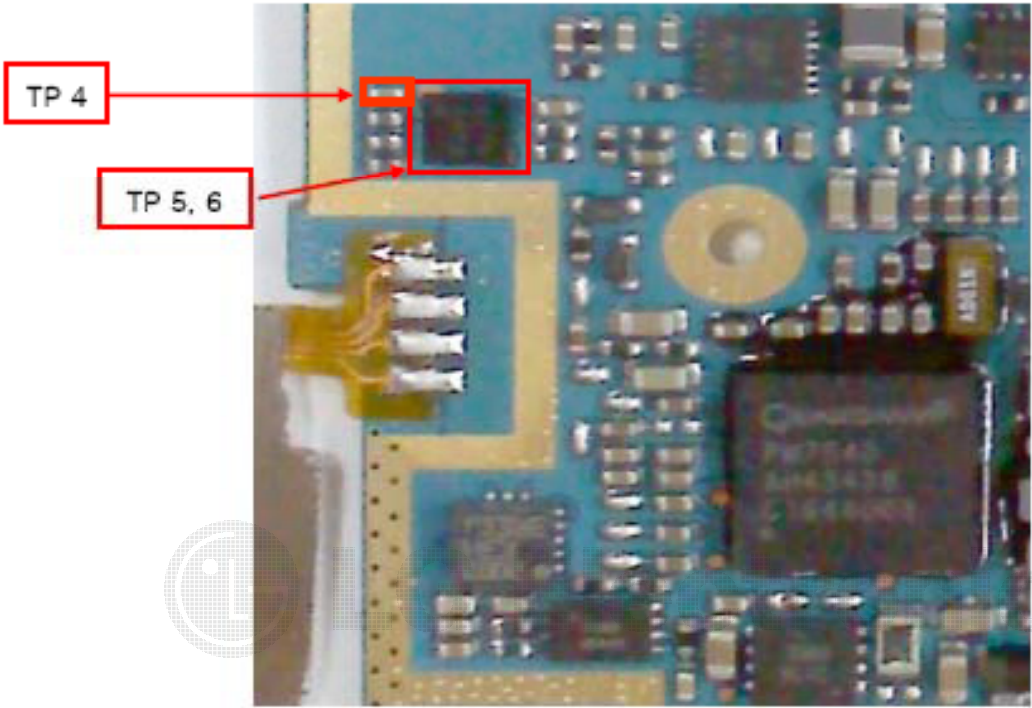
Circuit Diagram

<3-AXIS accel sensor>

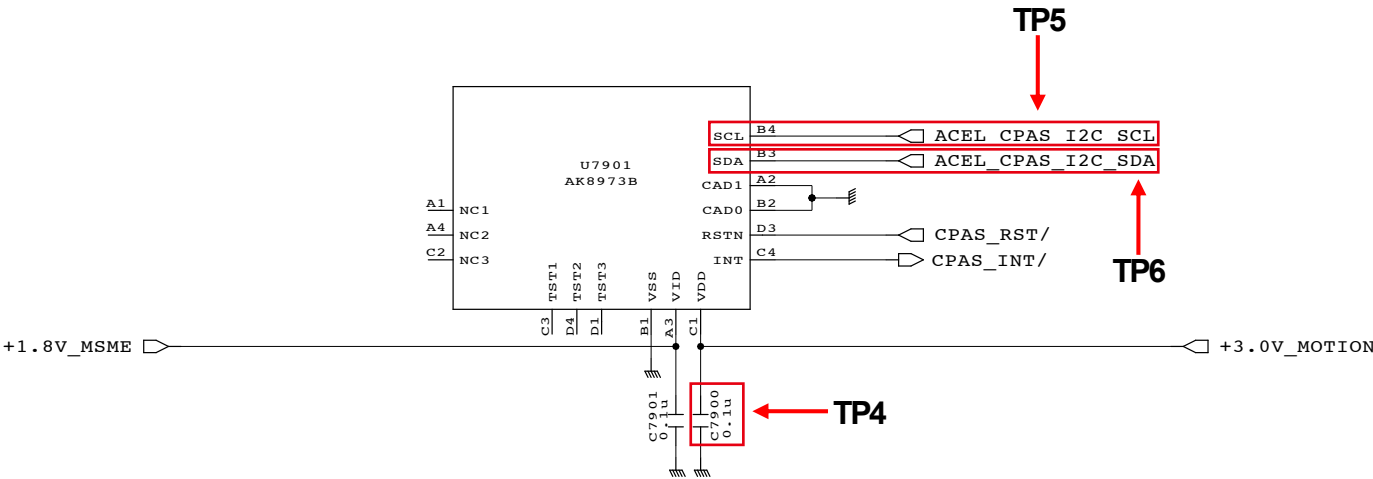


4. Trouble Shooting

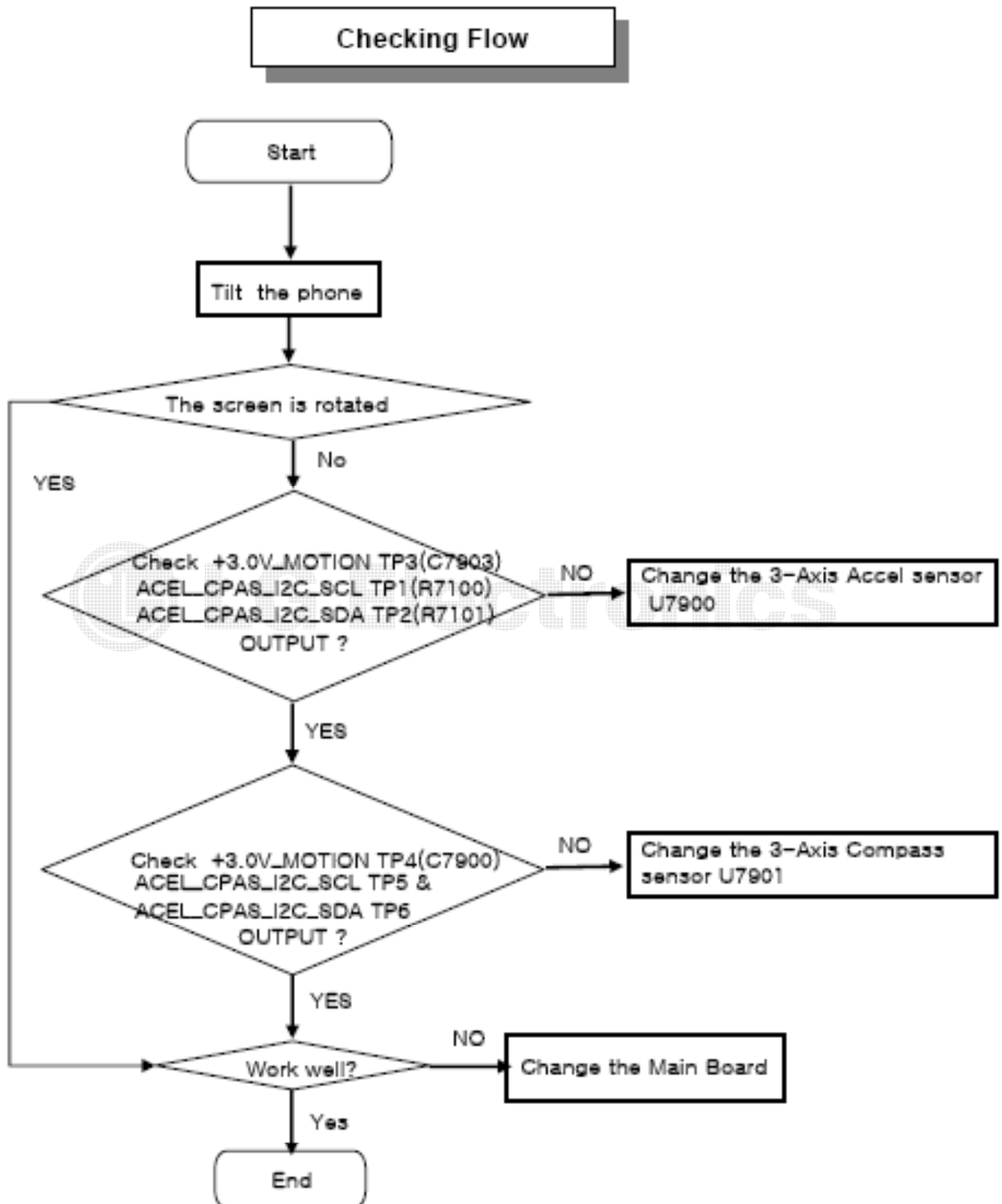
Test Point



Circuit Diagram

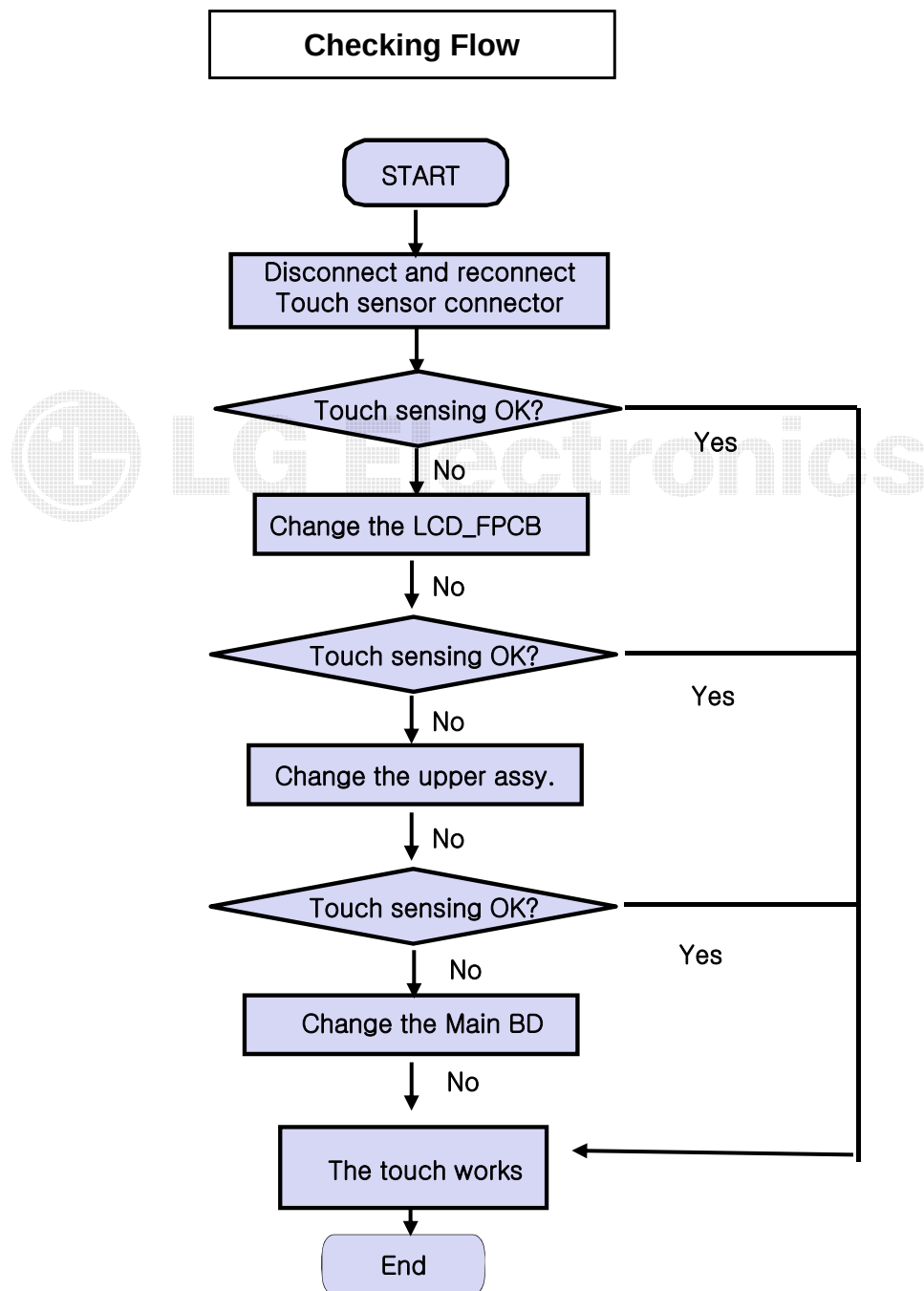


4. Trouble Shooting



4.11. Touch sensor trouble

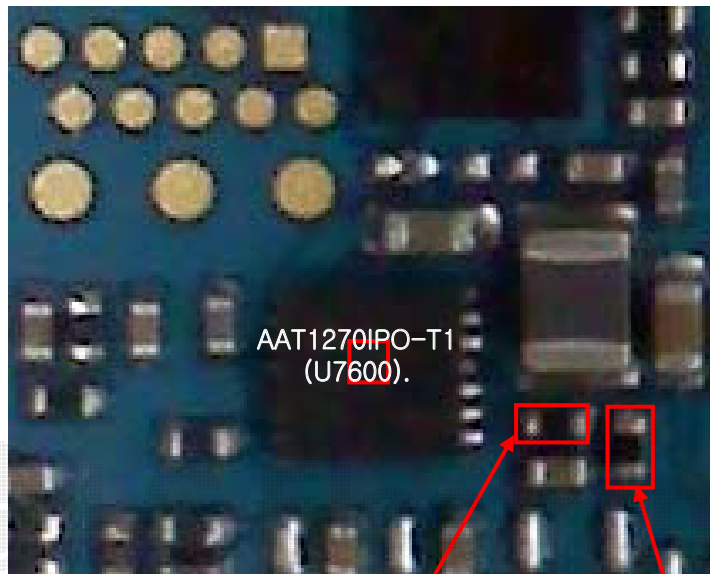
Touch control signals are generated by touch sensor MCS6000. Those signal's path are :
MCS6000 → LCD_FPCB → MSM7627



4.12. Camera Flash trouble

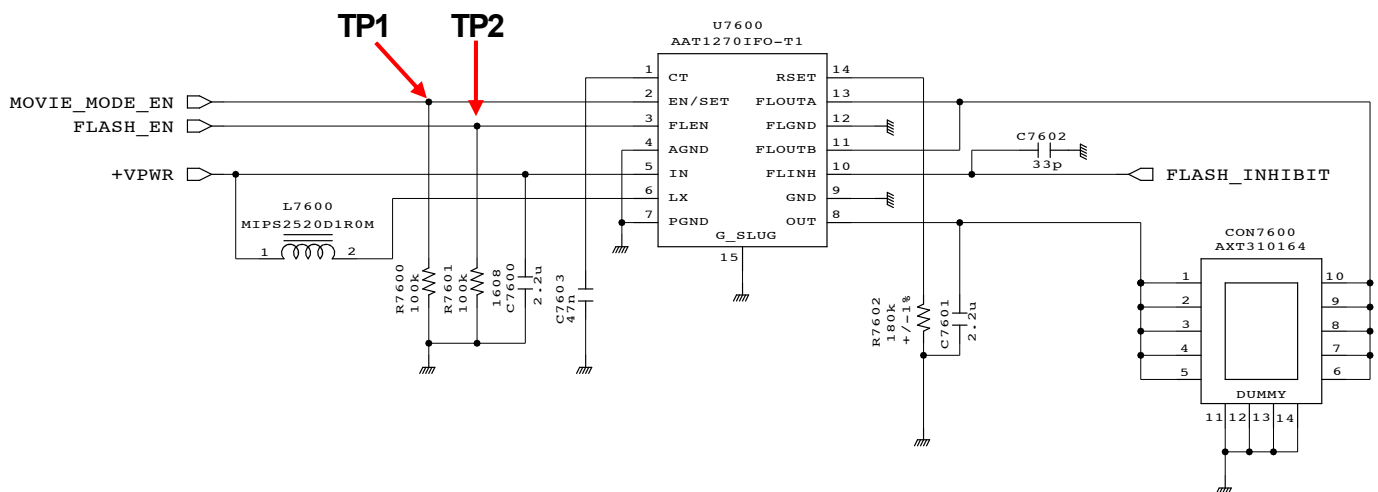
Camera flash control signals are generated by MSM7627.

Test Point

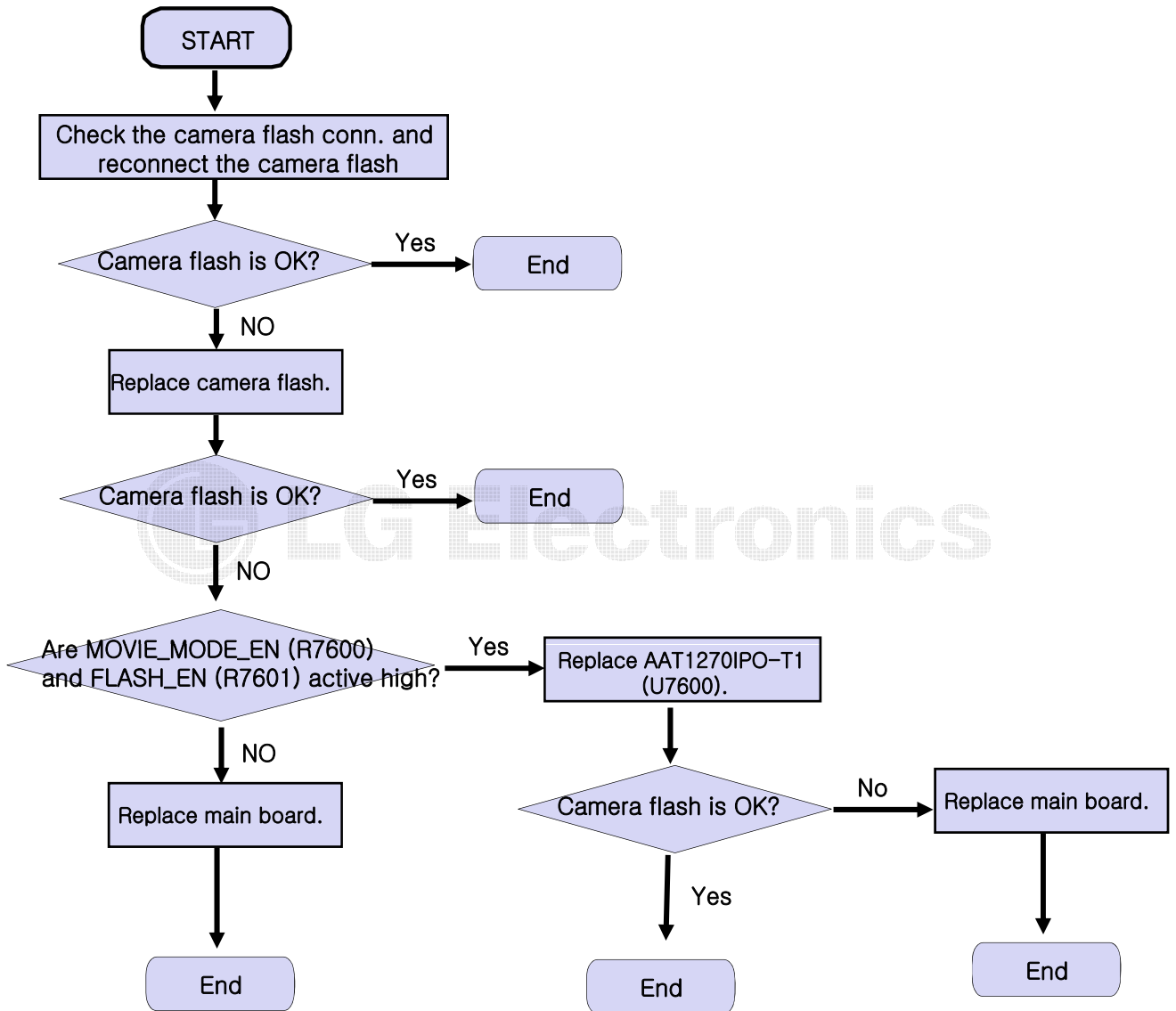


MOVIE_MODE_EN (R7600) FLASH_EN (R7601)

Circuit Diagram



Checking Flow



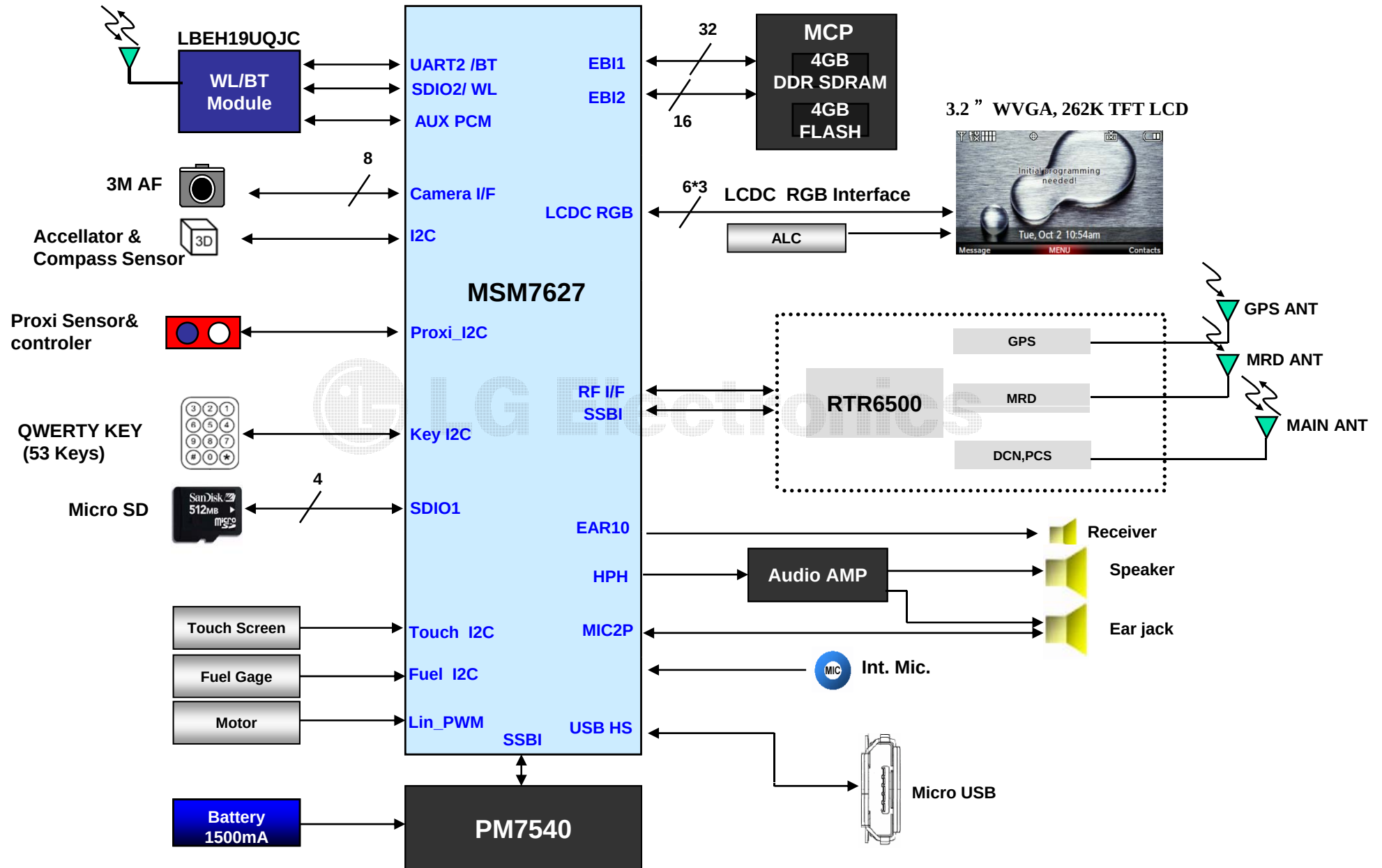
AS740 Rev 1.0

Block Diagram

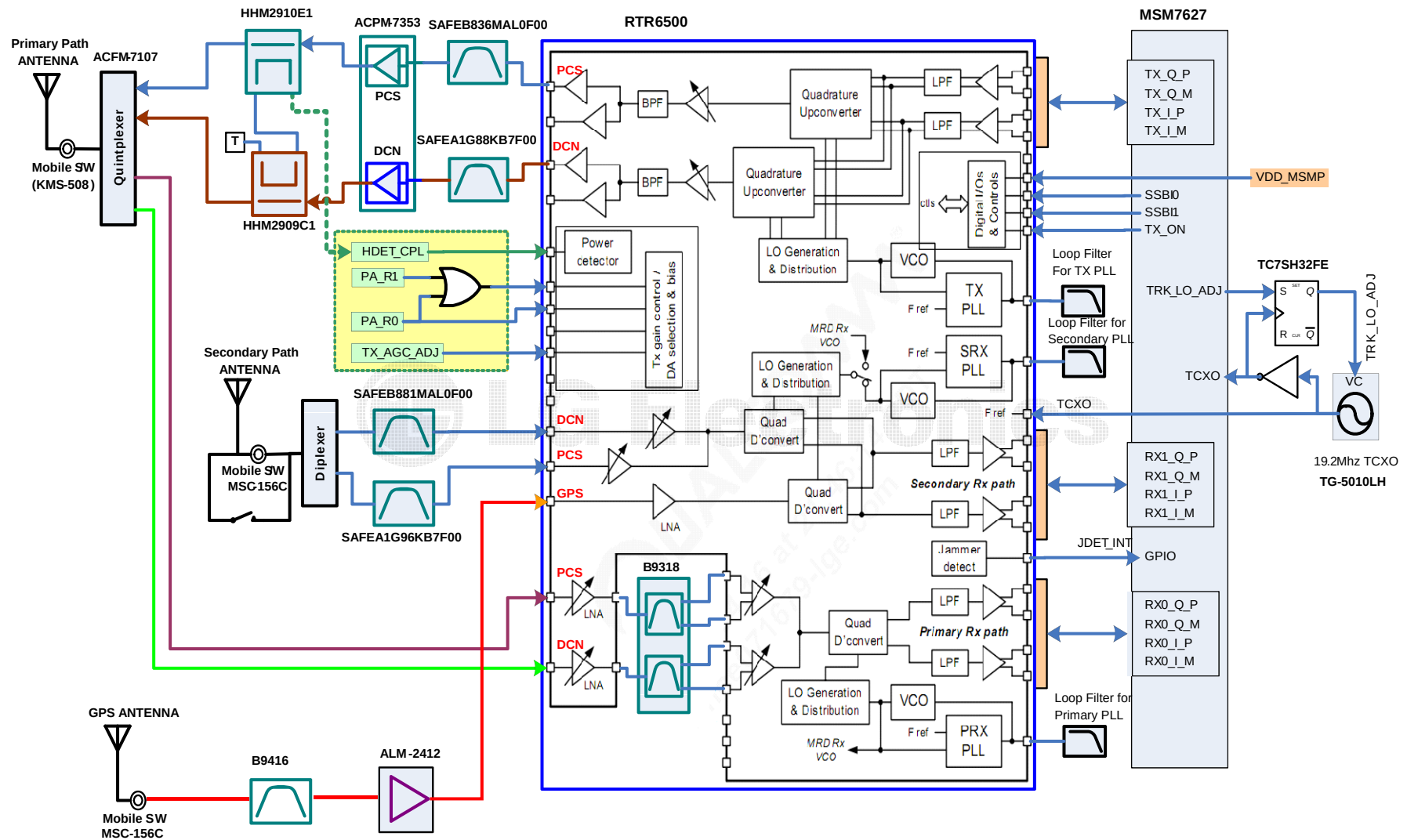


LG Electronics

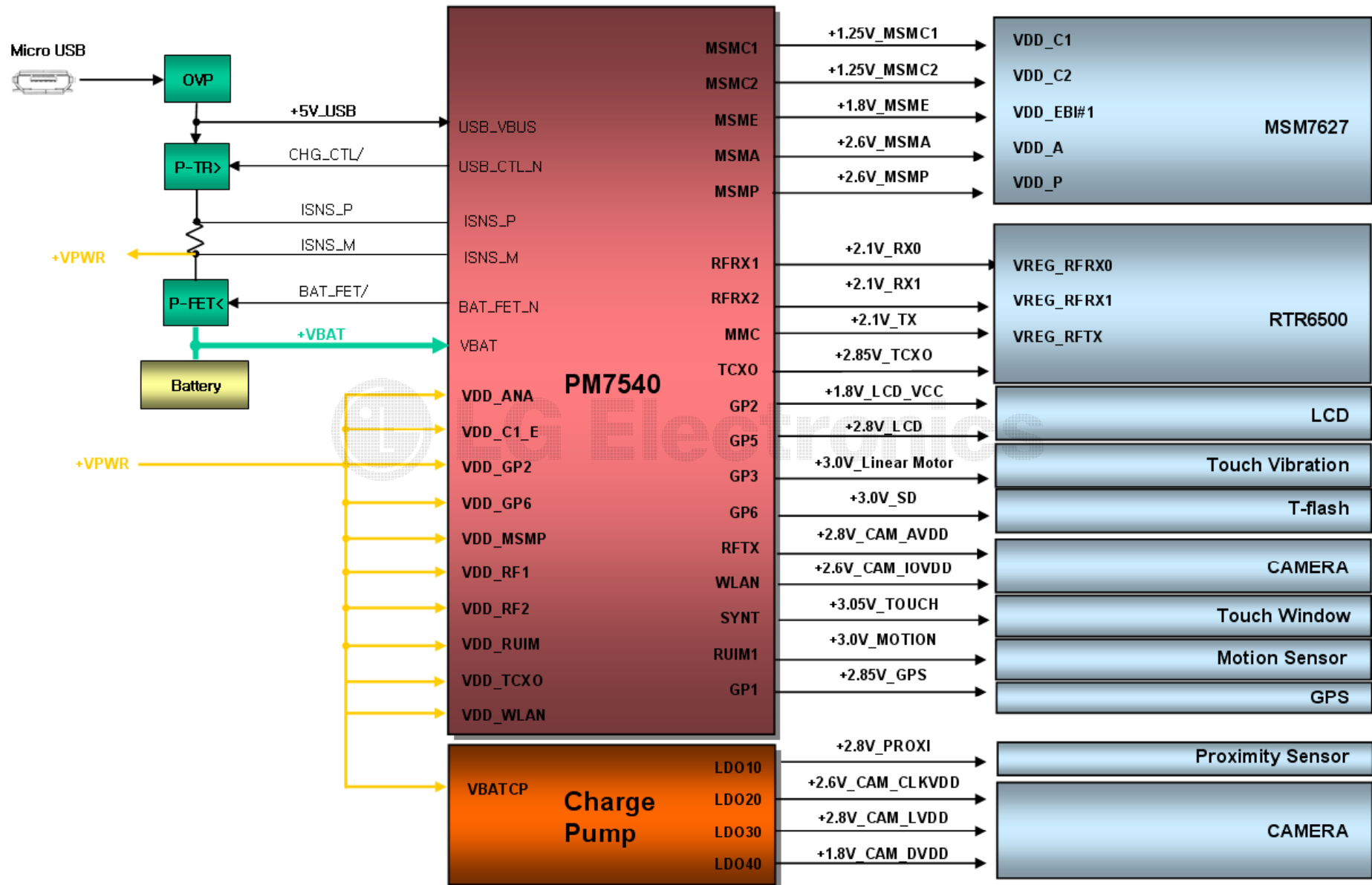
AS740 Block Diagram



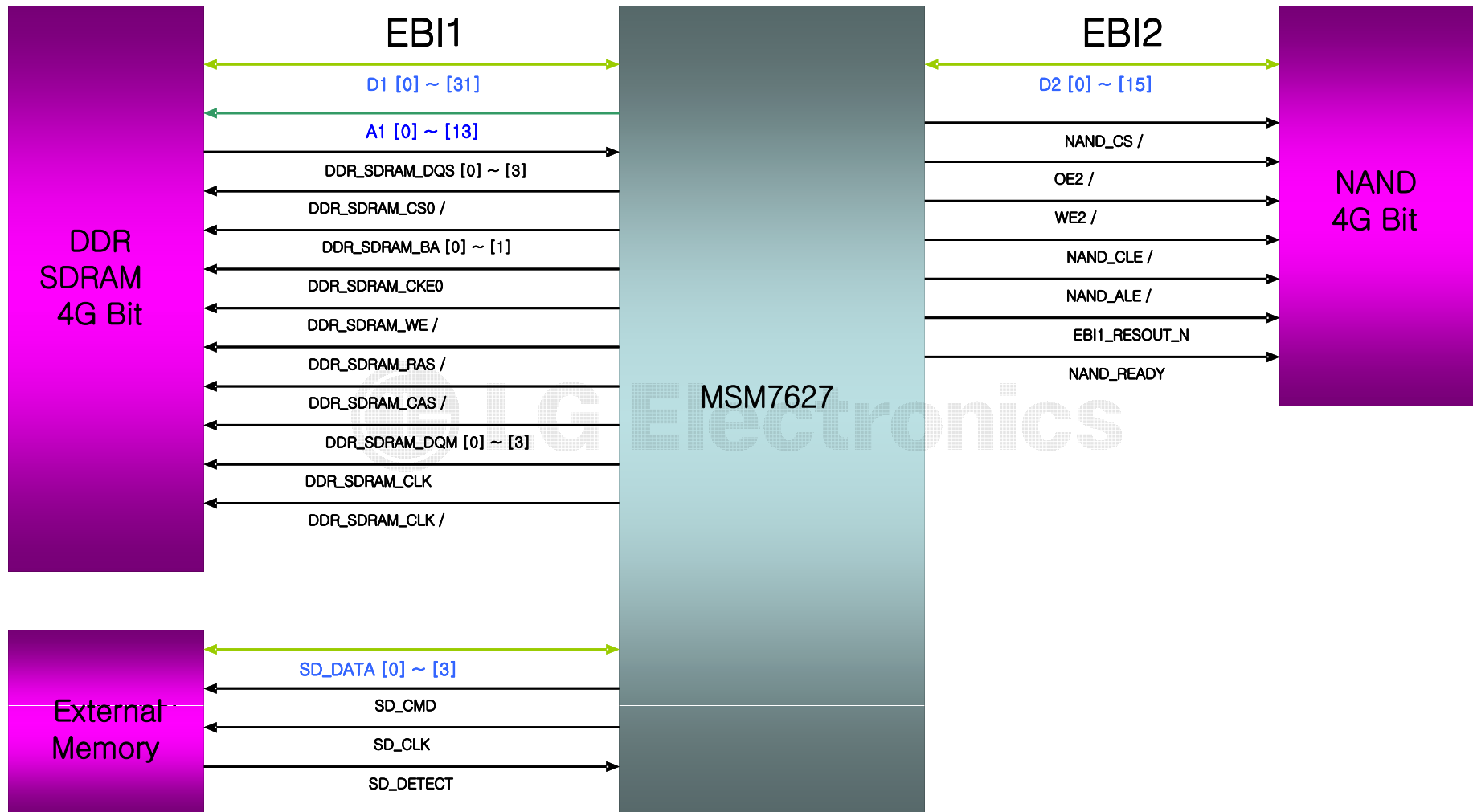
AS740 RF Block Diagram



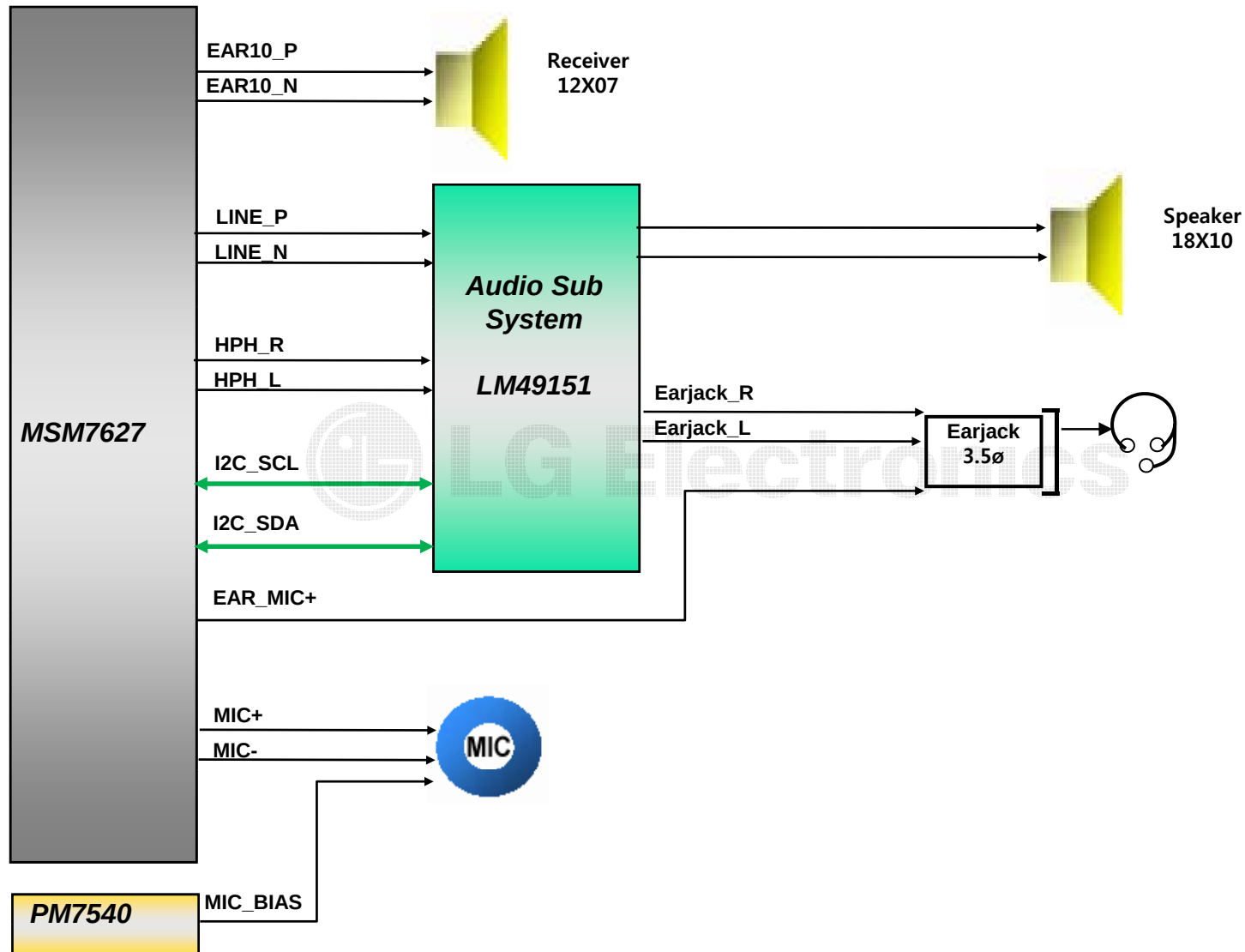
System HW Block Diagram ; PM7540 and Power Block



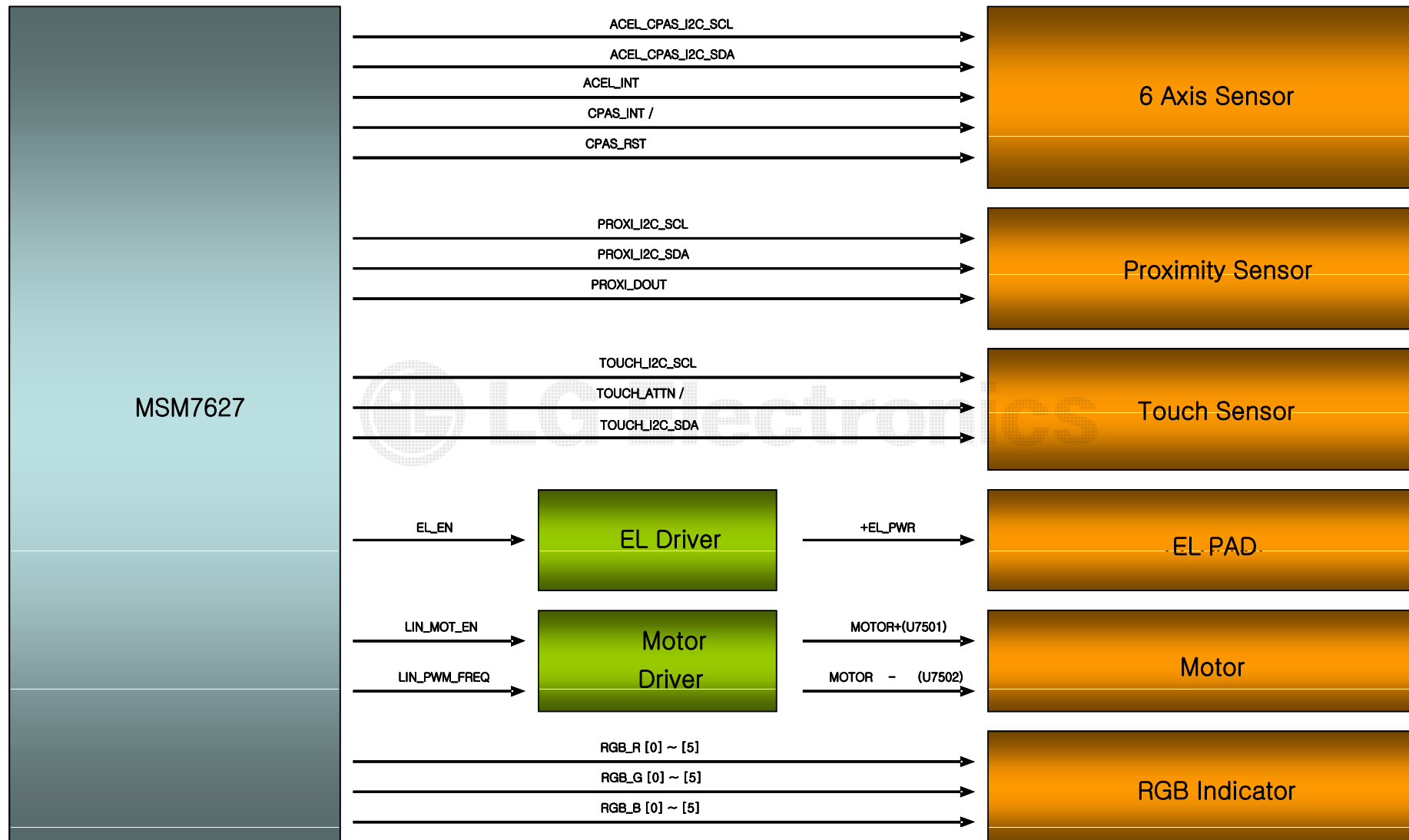
System HW Block Diagram ; MSM7627 and Memory



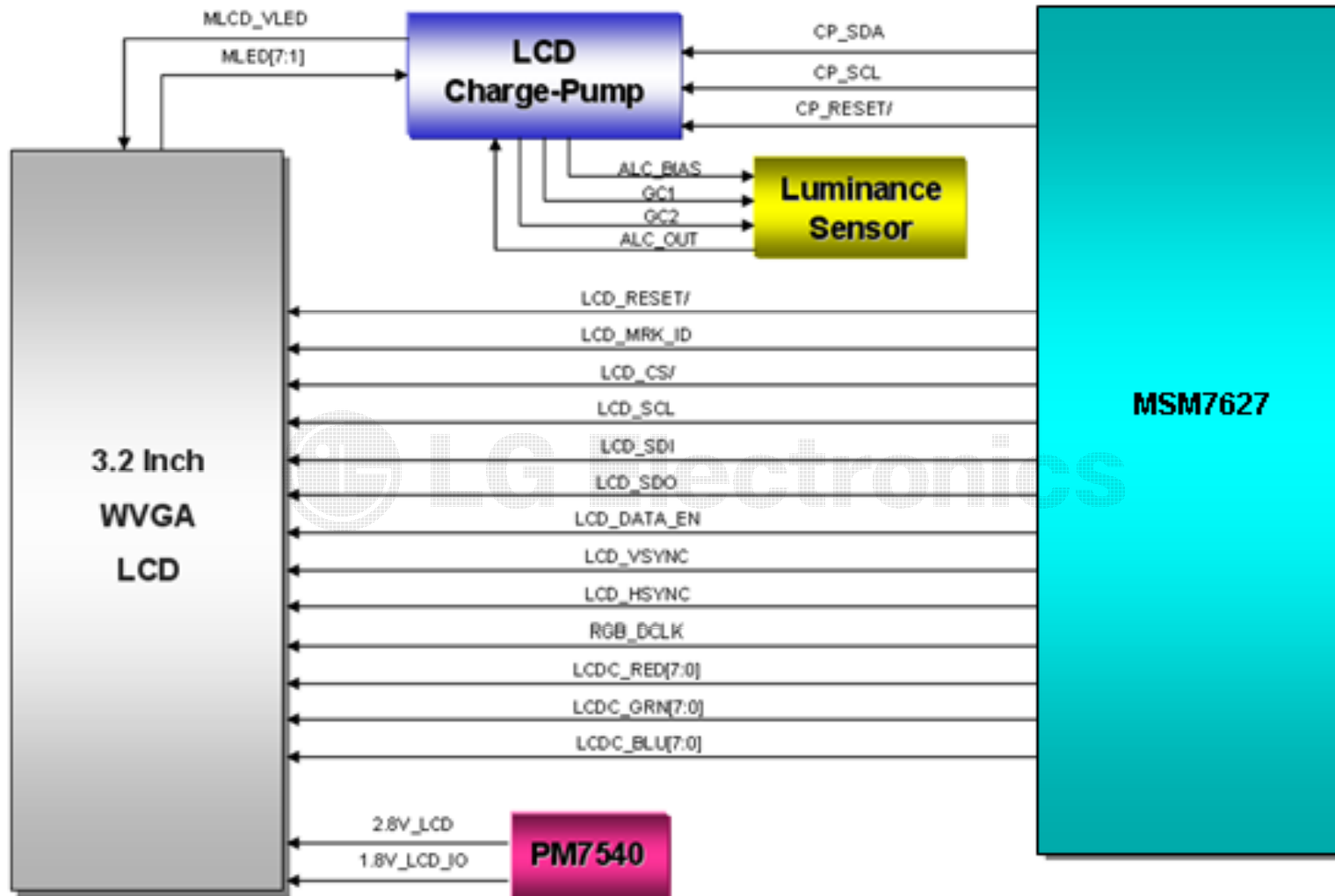
System HW Block Diagram ; Audio Sub System



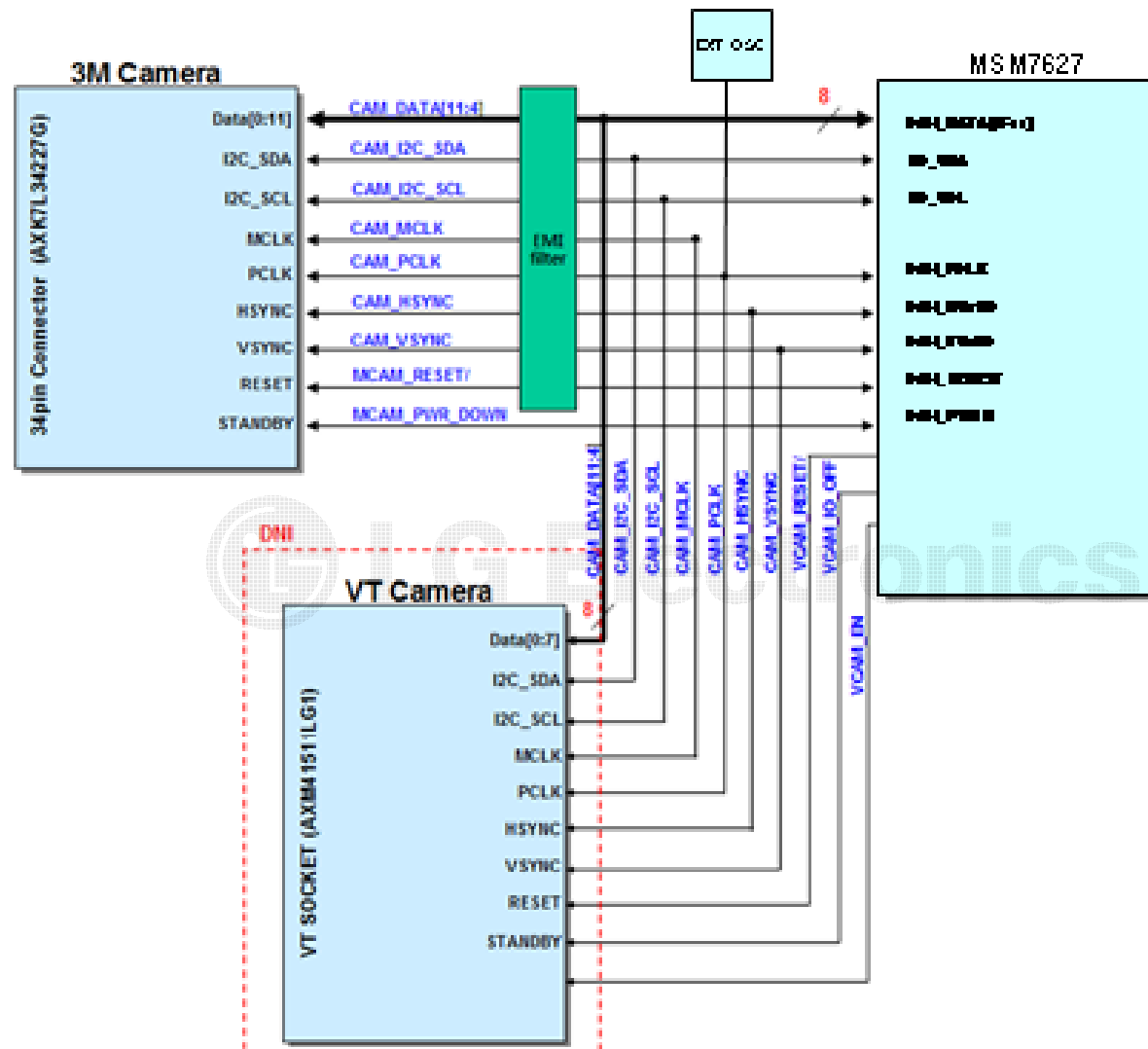
System HW Block Diagram ; Sensor



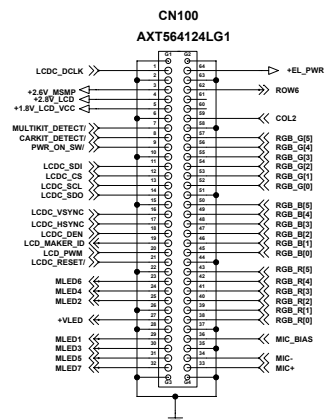
System HW Block Diagram ; Display



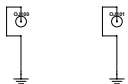
System HW Block Diagram ; Camera



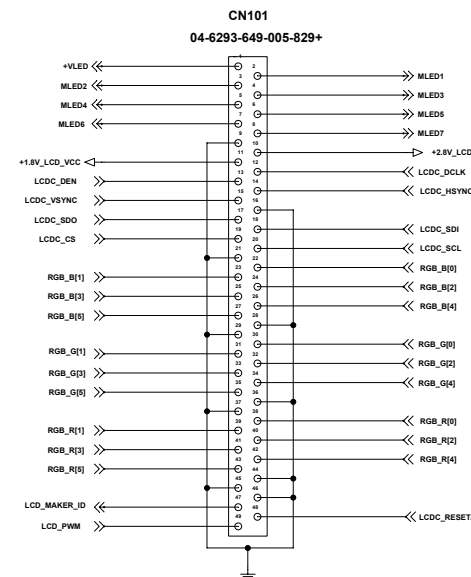
FPCB Connector 64pin



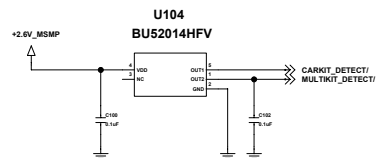
GND Hole



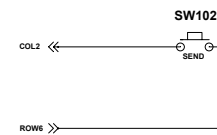
LCD Connector 49pin



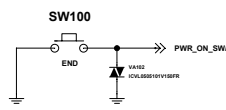
HALL SW



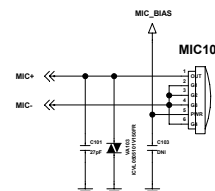
HOT KEY



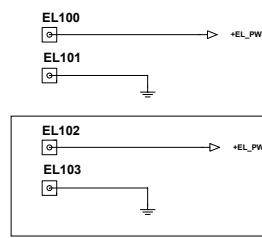
PWR/END KEY

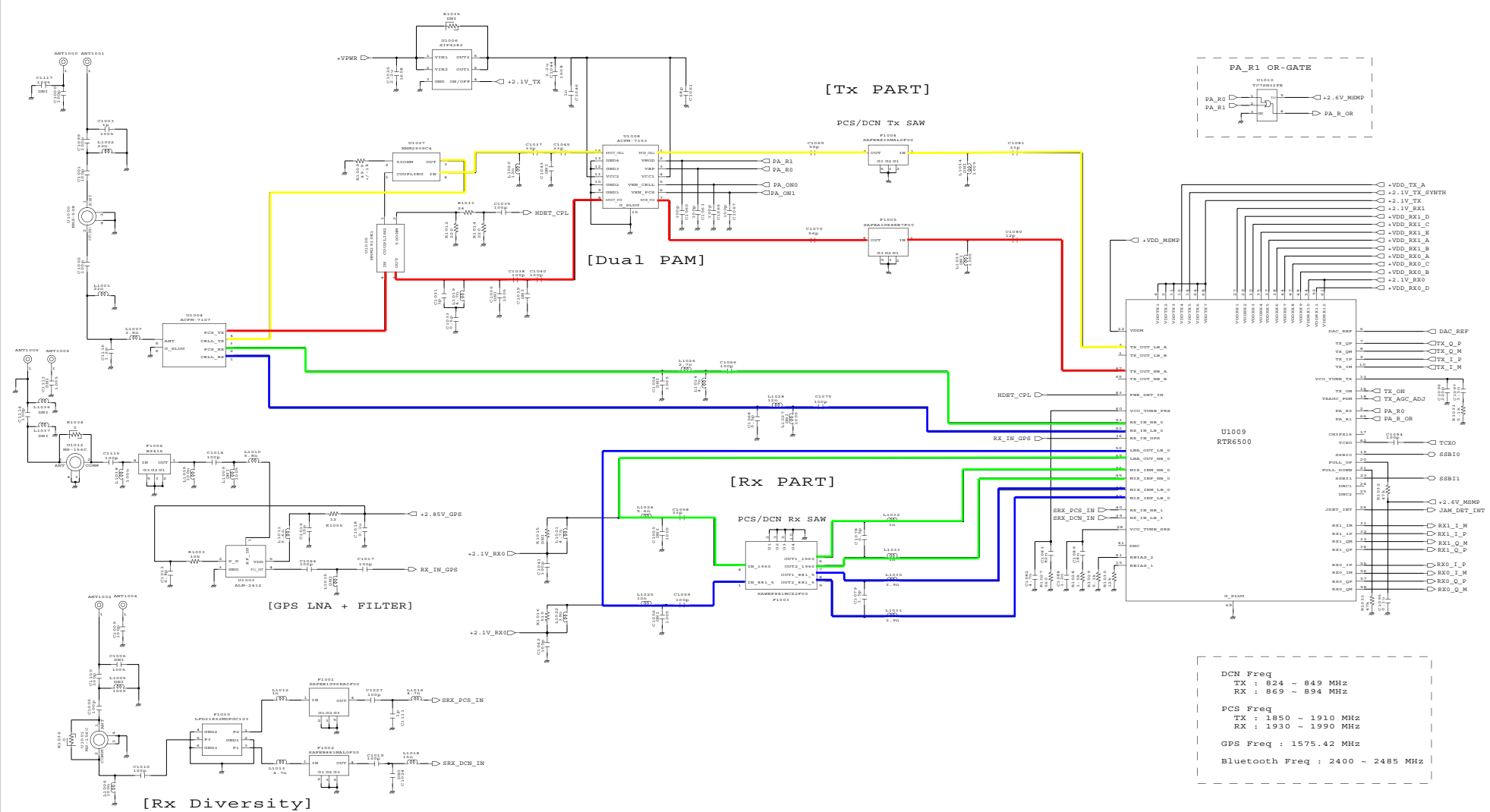


MIC

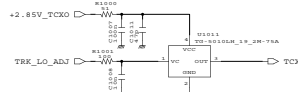


EL Pad

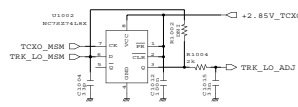




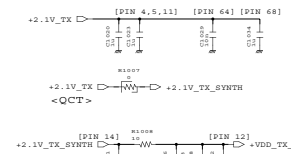
TCXO (19.2MHz)



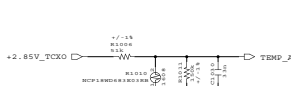
TRK LO D-F/F



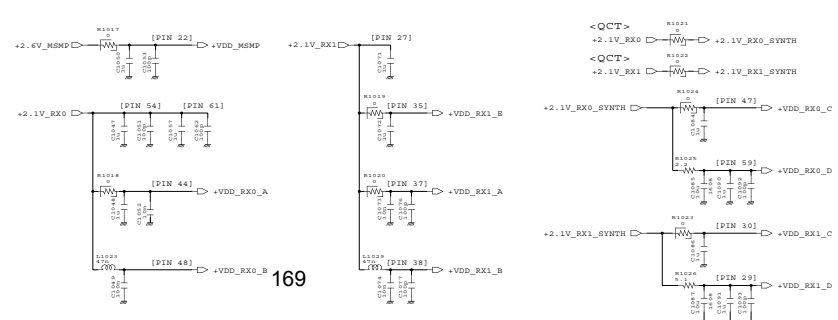
TX POWER DST.



TEMP DETECT

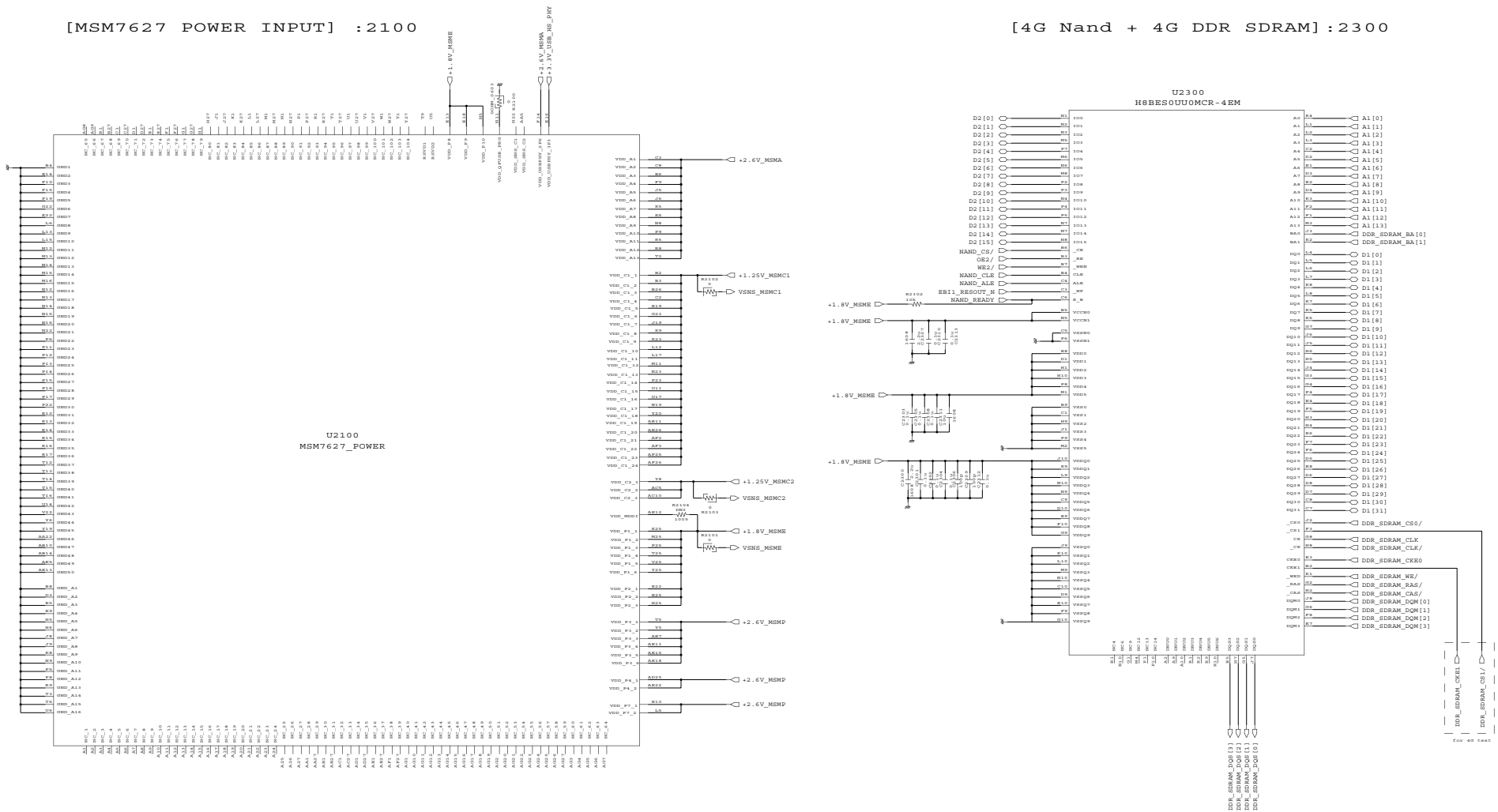


RX POWER DST.

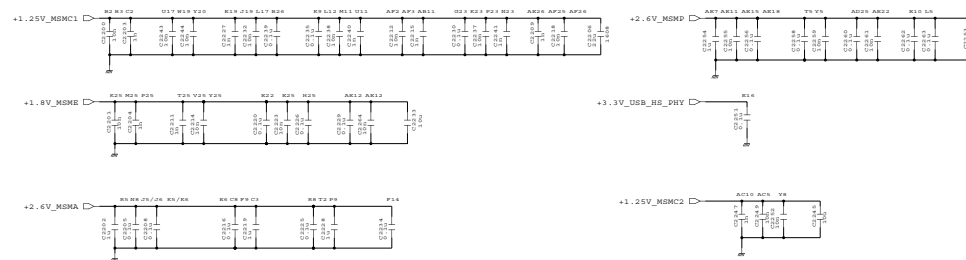


[MSM7627 POWER INPUT] :2100

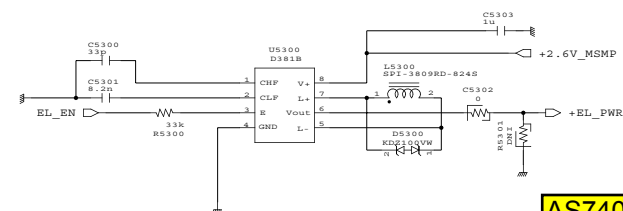
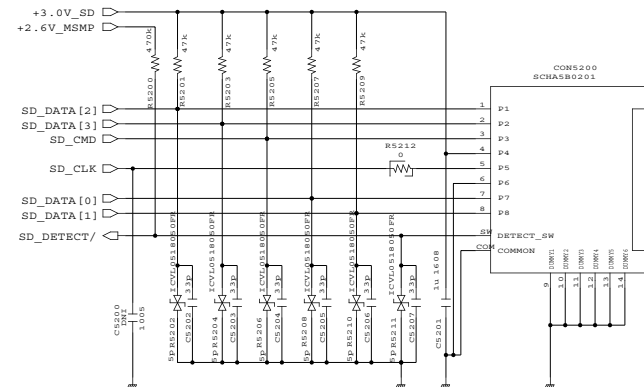
[4G Nand + 4G DDR SDRAM] :2300



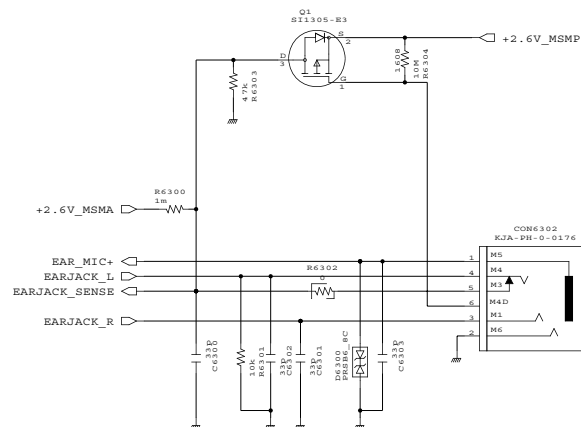
[Cap for MSM7627 Power]:2200



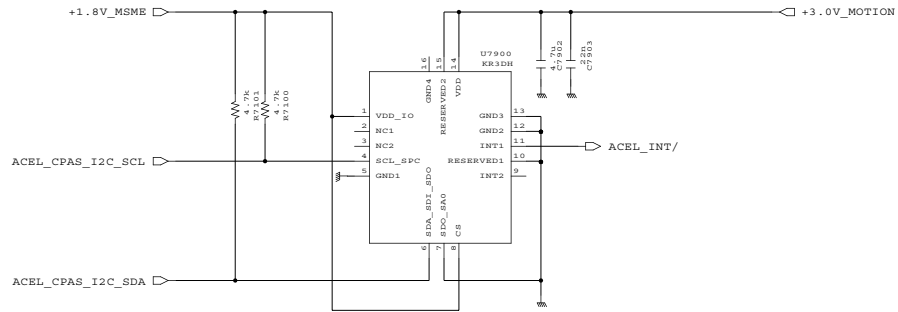

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[MICROSD SOCKET] : 5200
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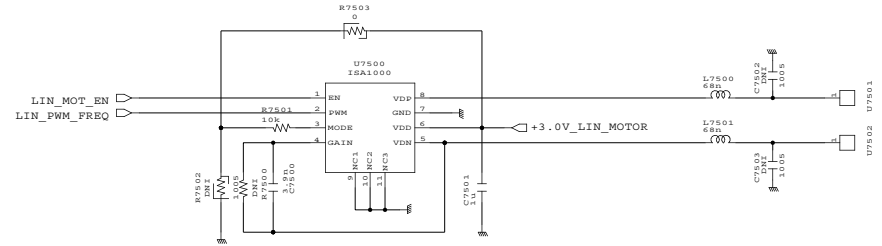
[EARJACK] : 6300

[illegible][illegible]

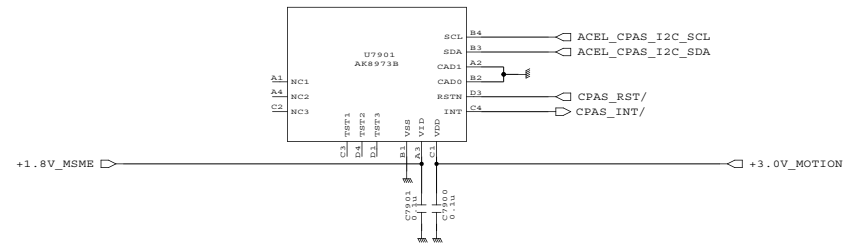
<3-AXIS accel sensor>



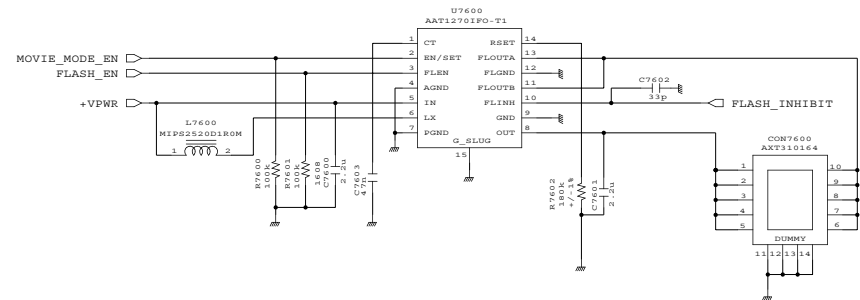
[Linear-Motor Driver] : 7500



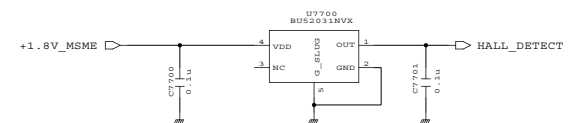
<3-AXIS compass sensor>



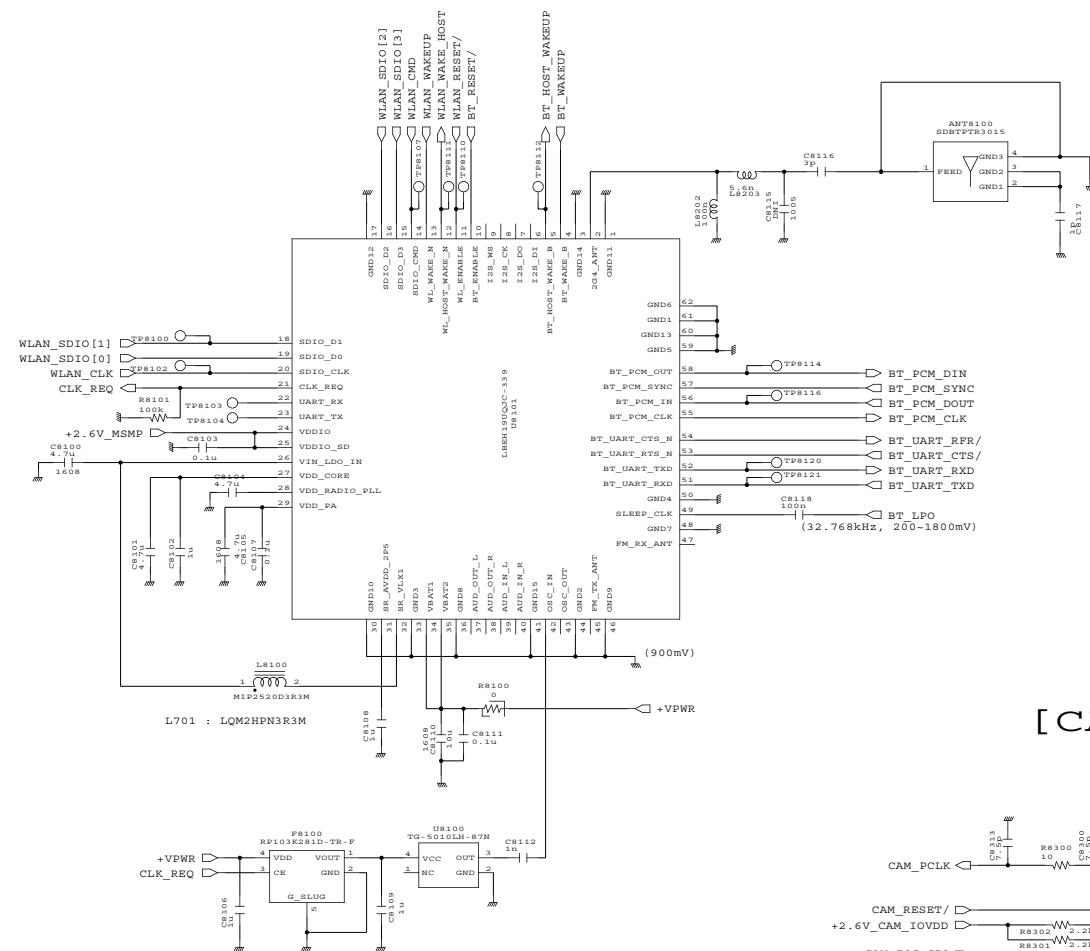
[FLASH LED DRIVER] : 7600



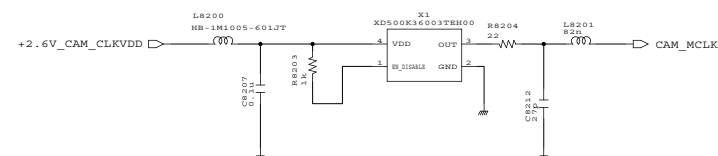
[Hall SW] : 7700



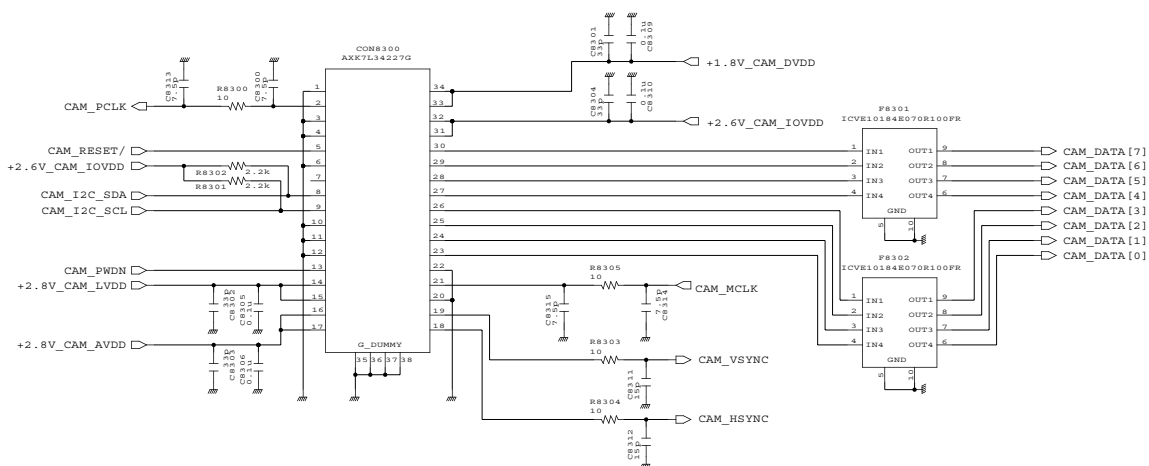
[WIFI 802.11 a/b/g/n + BT 2.1 EDR] : 8100



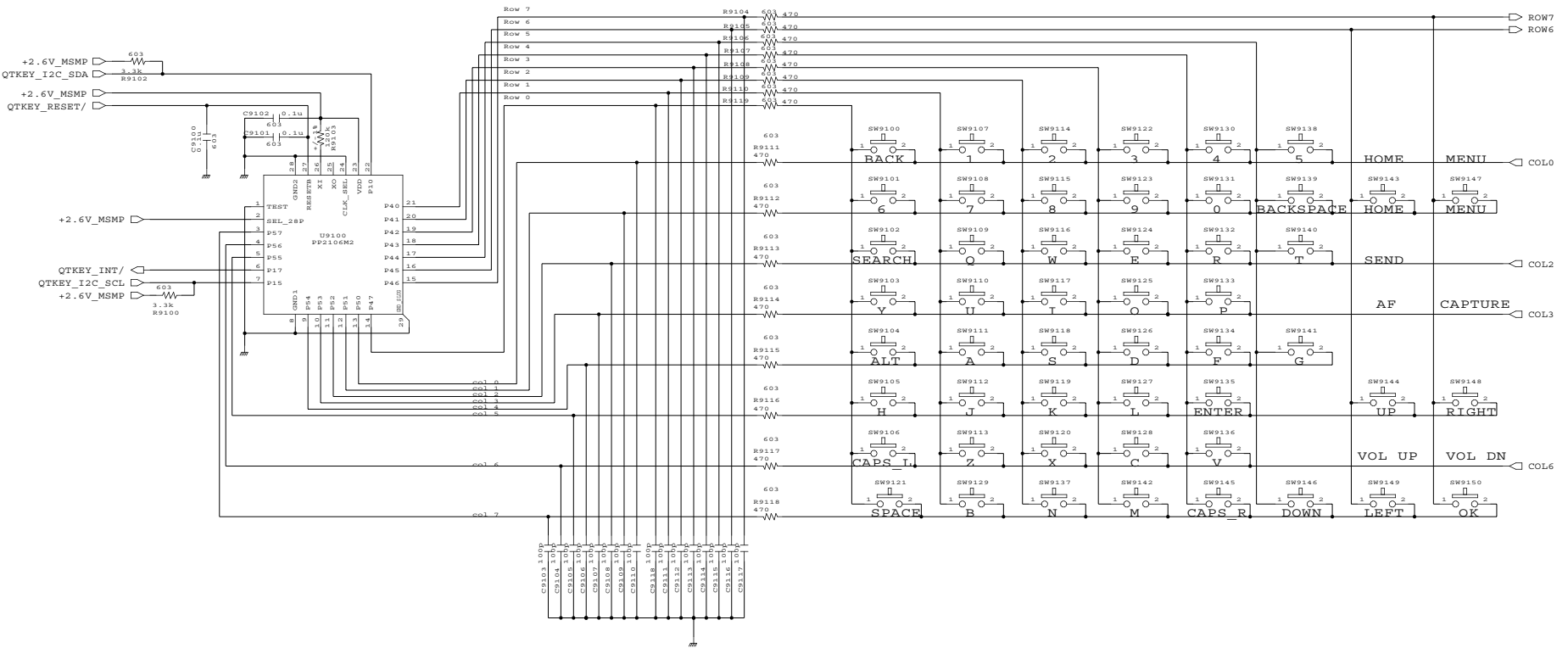
[CAMERA OSC] : 8200



[CAMERA CONNECTOR] : 8300



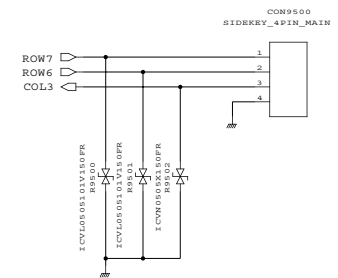
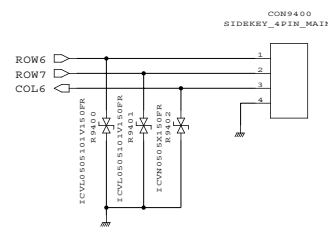
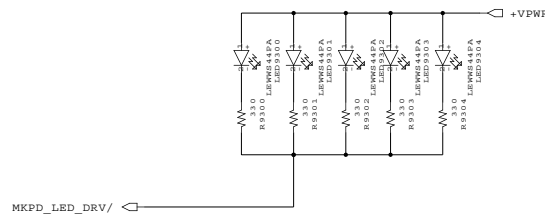
[QWERTY_KEY] : 9100



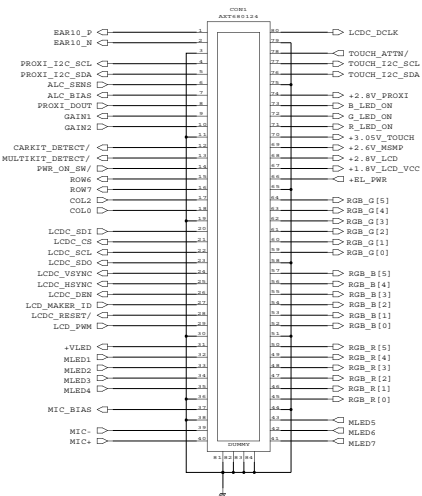
[QWERTY B/L] : 9300

[SIDEKEY PAD] : 9400

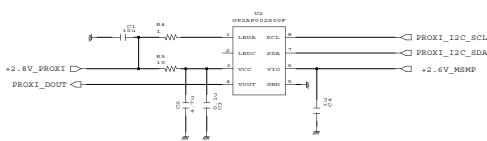
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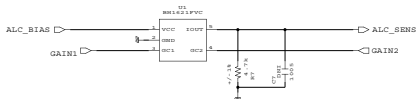
<Folder FPCB to Main Connector> [80pin]



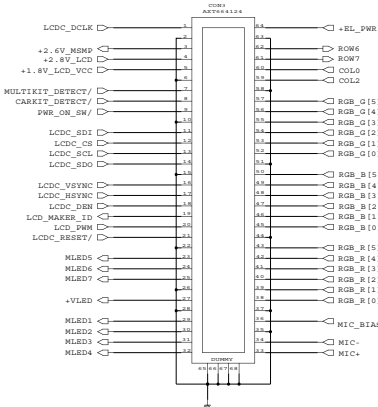
<PROXIMITY SENSOR>



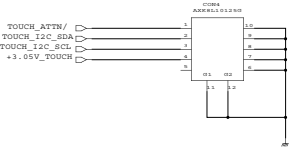
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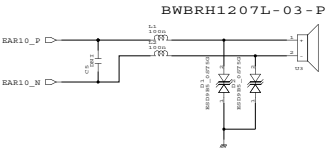
<SUB PCB Connector> [64pin]



<TOUCH CONNECTOR>



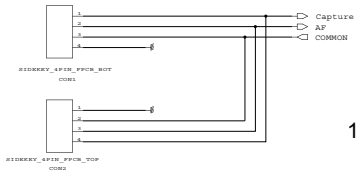
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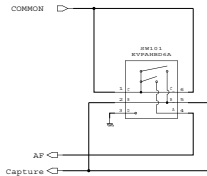
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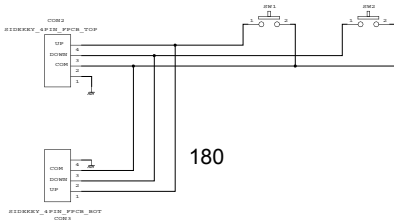
AF & CAPTURE

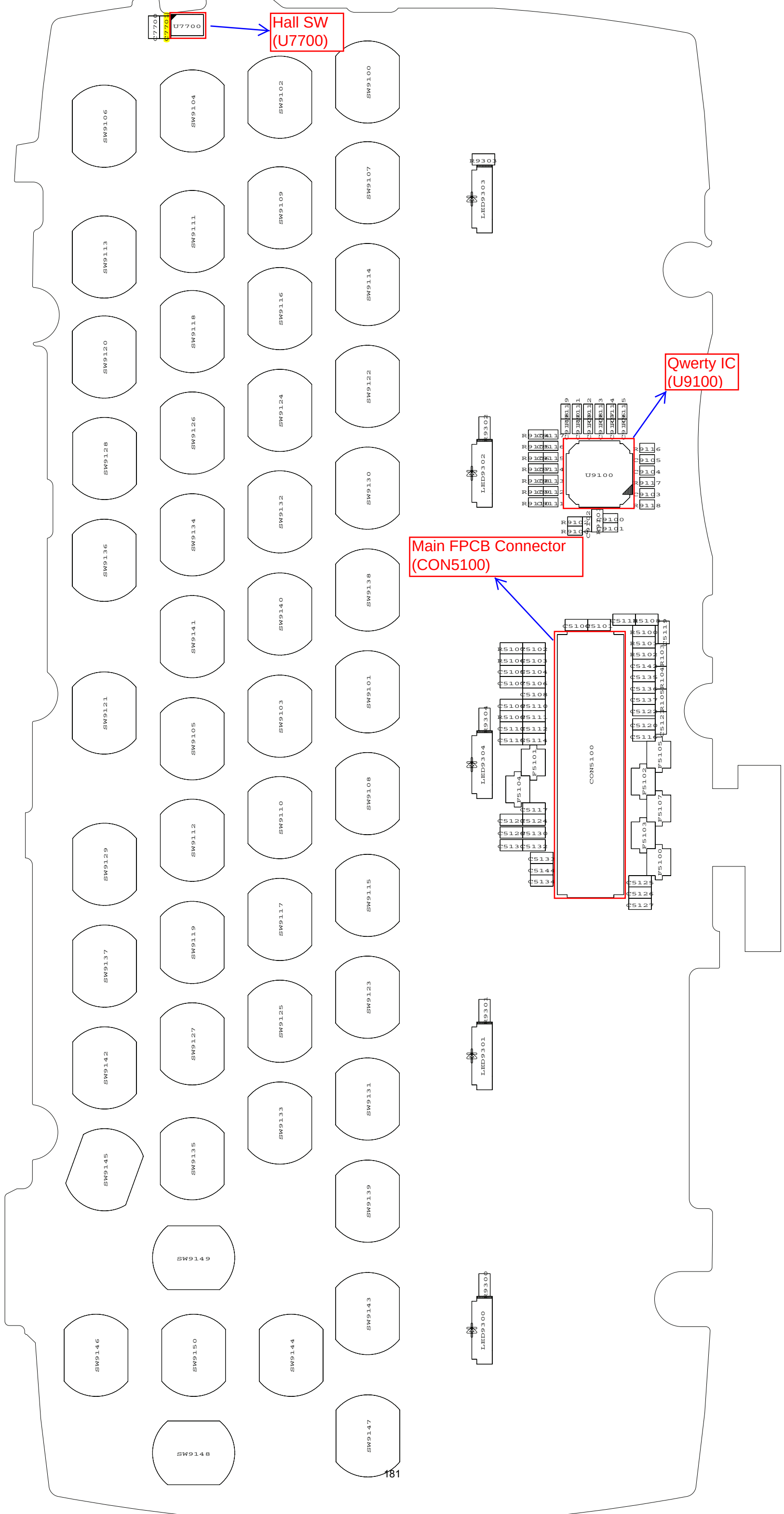


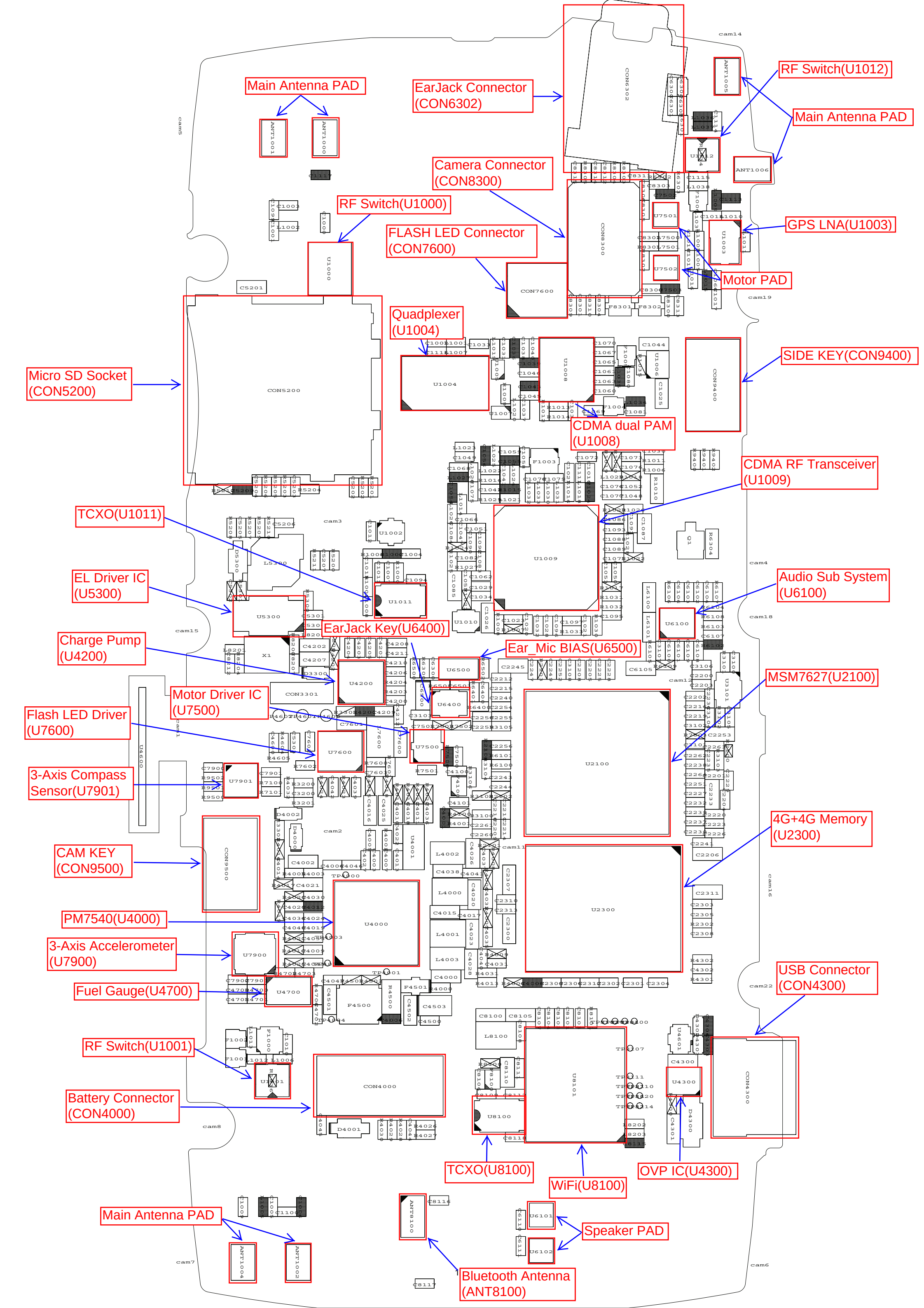
179

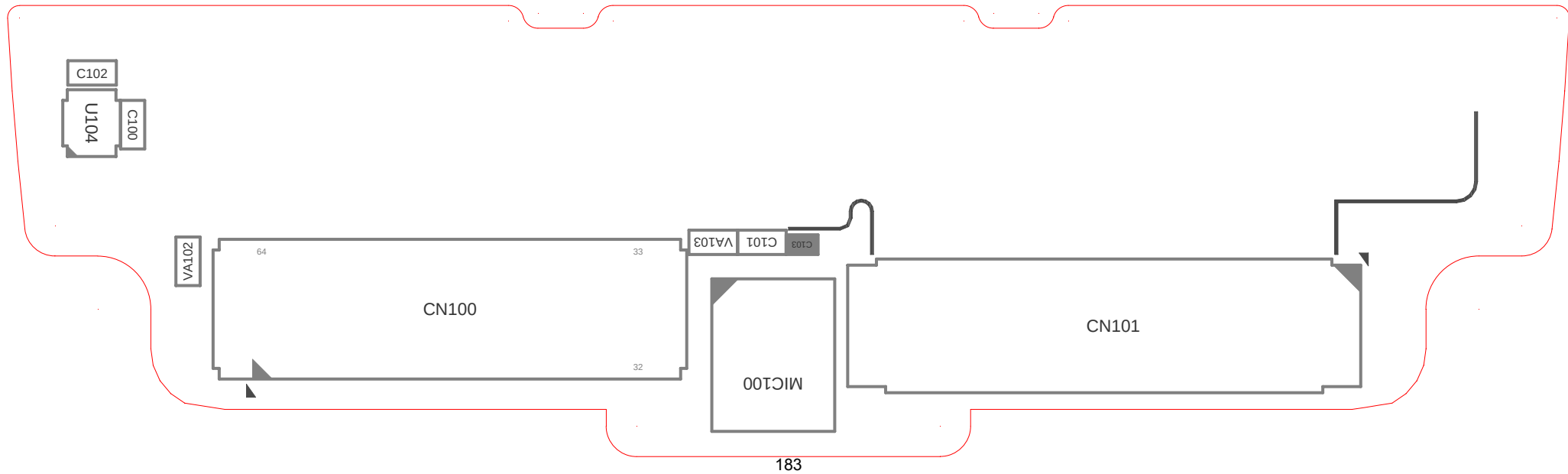


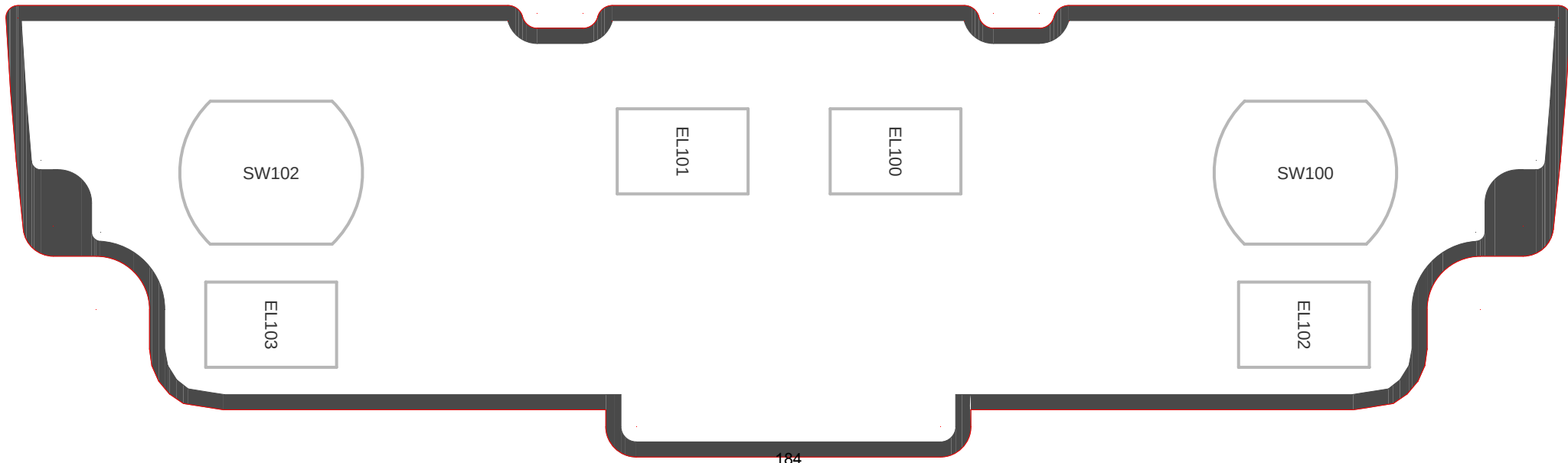
Volume sidekey

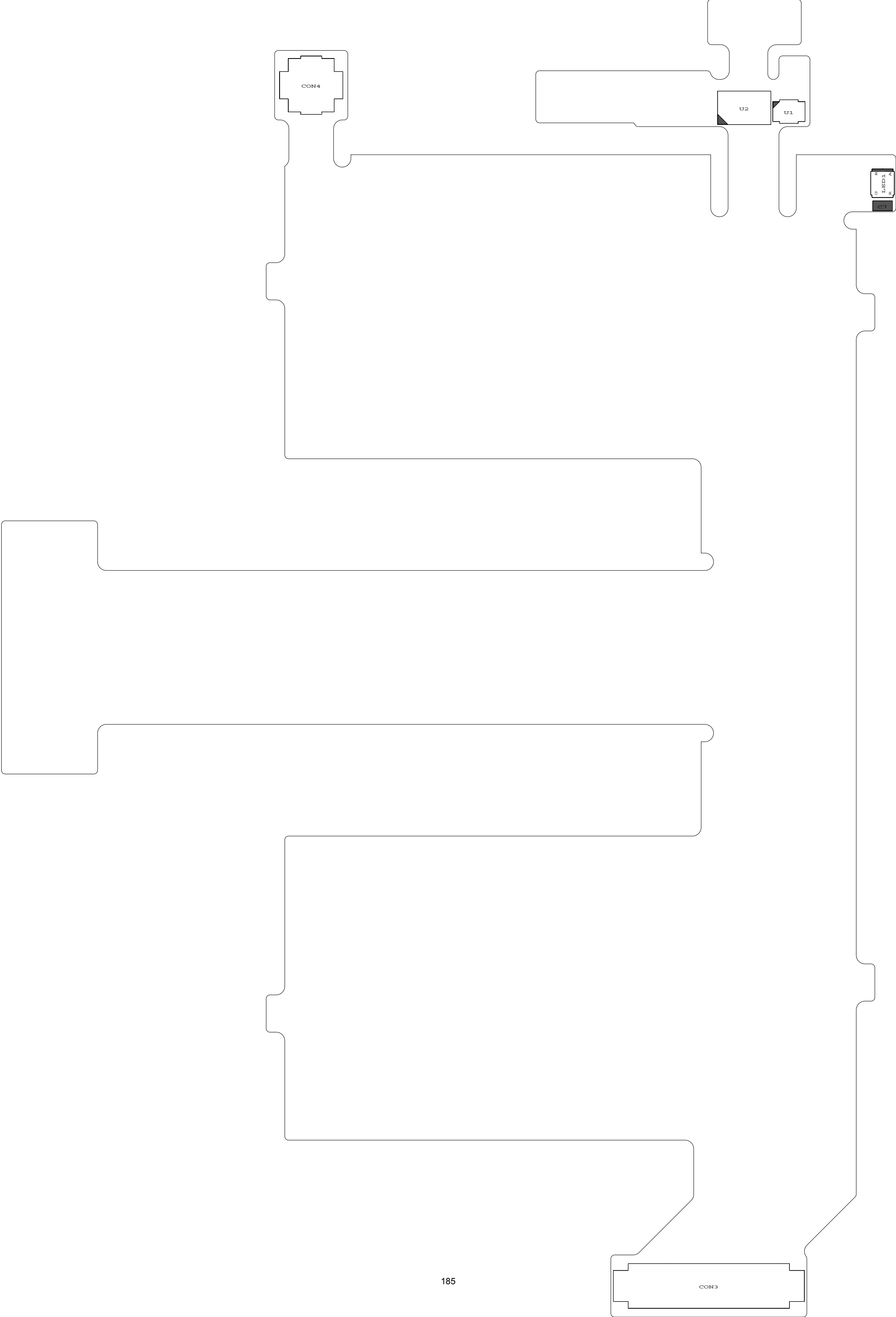


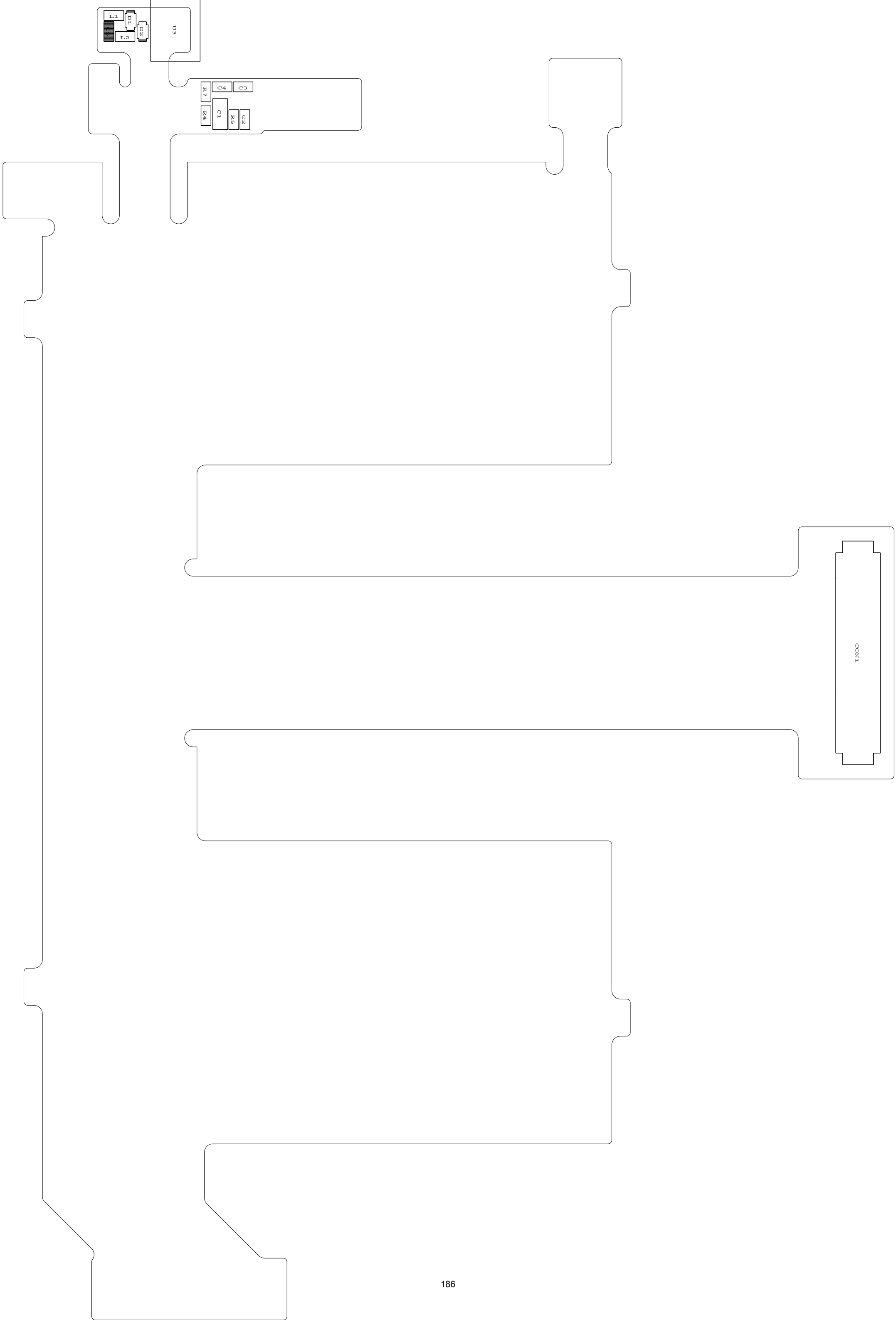












BGA Pin Map

1) MSM7627 (top view)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27		
A																												A	
B		VDD_C1	VDD_C1	GND	LINE_R_IN	LINE_R_IN	MIC1P	GND_A	LINE_OP	EAR1_OP	LCDC_PCLK	GPIO_113	USPHY_SYCLK	USPHY_DP	USPHY_ON	EBI2_ADR_12	GPIO_99	EBI2_ADR_9	EBI2_OE_N	EBI2_ADR_5	EBI2_DATA_15	EBI2_DATA_14	EBI2_DATA_3	EBI2_DATA_8	EBI2_ADR_8	VDD_C1		B	
C		VDD_C1	VDD_A	HKAIN2	LINE_L_IN	LINE_L_IN	MIC1N	VDD_A	LINE_ON	EAR1_ON	GPIO_131	GPIO_112	USPHY_ID	USPHY_VBUS	GPIO_125	EBI2_ADR_11	GPIO_98	EBI2_ADR_1	EBI2_UB_N	EBI2_ADR_2	EBI2_DATA_13	EBI2_DATA_11	EBI2_DATA_4	EBI2_DATA_10	EBI2_DATA_2	EBI2_DATA_6		C	
D		WPER	GND_A																						EBI2_DATA_1	EBI2_DATA_5		D	
E		TS_LR	TS_LL		GND_A	VDD_A	MIC2P	AUXIP	GND_A	VDD_P7	GPIO_118	GPIO_121	VDD_P8	GND	USPHY_REXT	VDD_USB_PHY_3P3	EBI2_ADR_15	VDD_P9	VDD_C1	EBI2_ADR_3	EBI2_DATA_12	VDD_P2	EBI2_DATA_0		VDD_P2	EBI2_DATA_0		E	
F		TS_UR	TS_UL		CCOMP	MIC_BIAS	MIC2N	AUXIN	VDD_A	GND	GPIO_120	GPIO_119	GPIO_111	VDD_USB_PHY_2P6	GND	GPIO_126	EBI2_ADR_13	EBI2_ADR_0	GND	EBI2_ADR_5	EBI2_ADR_7	EBI2_CS1_N	EBI2_CS0_N		EBI2_DATA_7	EBI2_CLK		F	
G		I_IM_CH0	I_IP_CH0		HKAIN0	HKAIN1																		GND	VDD_C1		EBI2_BUGV0_N	CPAD_103	G
H		Q_IM_CH0	Q_IP_CH0		GND_A	GND_A		HPH_VREF	AUXOUT	HPH_R	GPIO_114	GPIO_116	GPIO_127	GPIO_128	EBI2_ADR_10	GPIO_100	EBI2_ADR_4	GPIO_101	EBI2_WE_N	EBI2_CS7_N		RSVD	EBI2_CS4_N		VDD_P2	EBI1_DQS_3		H	
J		I_IM_CH1	I_IP_CH1		VDD_A	VDD_A		GND_A	GND_A	HPH_L	GPIO_115	GPIO_117	GPIO_130	GPIO_129	EBI2_ADR_14	EBI2_ADR_16	EBI2_CS5_N	EBI2_CS6_N	VDD_C1	EBI1_DQ29		EBI1_DQ27	EBI1_DQ28		EBI1_DM3	EBI1_DQ31		J	
K		Q_IM_CH1	Q_IP_CH1		VDD_A	VDD_A		GND_A	VDD_C1											EBI1_DQ26	EBI1_DQ30		GND	VDD_C1		VDD_P1	EBI1_DQ25		K
L		GPIO_50	GPIO_48		VDD_P7	GND		GPIO_49	GPIO_47		VDD_C1	GND	GPIO_132	GND	EBI2_LB_N	VDD_C1				EBI1_DQ23	EBI1_DQ21		EBI1_DQ24	EBI1_DQ22		EBI1_DQS_2	EBI1_DQ19		L
M		TRK_LO_ADJ	TX_AGC_ADJ		GPIO_64	GPIO_65		GPIO_66	GPIO_67		VDD_C1	GND	GND	GND	GND	GND	GPIO_102			EBI1_DQ20	EBI1_DM2		EBI1_DQ17	EBI1_DQ16		VDD_P1	EBI1_DQ18		M
N		PA_PWR_CTL	PA_PWR_CTL_M		VDD_P10	GSM_BIS_REF		VDD_A	GND_A		VDD_C1	GND	GND	GND	GND	GND	EBI1_CAS_N			EBI1_DQ14	EBI1_DQ13		GND	VDD_C1		EBI1_DM1	EBI1_DQ15		N
P		Q_OUT_N	Q_OUT_P		GND_A	GND		GND_A	VDD_A		GND	GND	GND	GND	GND	GND	GND			EBI1_DQ10	EBI1_DQS_1		GND	VDD_C1		VDD_P1	EBI1_DQ12		P
R		I_OUT_N	I_OUT_P		VDD_A	DAC_REF		VDD_A	GND_A		GPIO_94	GND	GND	GND	GND	GND	GND			EBI1_CKET	EBI1_DQ5		EBI1_DQ7	EBI1_DQ6		EBI1_DQ6	EBI1_DQ11		R
T		VDD_A	GND_A		VDD_P3	GND_A		TX_ON	RSVD		GPIO_108	GND	GND	GND	GND	GND	EBI1_ADR_4			EBI1_CKET	EBI1_RAS_N		EBI1_DQ3	EBI1_DQ4		VDD_P1	EBI1_DQ8		T
U		GPIO_59	TCXO		RSVD	GND_A		GPIO_58	GPIO_57		VDD_C1	GPIO_17	GPIO_29	GND	GPIO_42	GPIO_79	VDD_C1			EBI1_CS1_N	EBI1_CS0_N		EBI1_DQ0	EBI1_DQ1		EBI1_DQ2	EBI1_DQS_0		U
V		GPIO_60	GPIO_61		GPIO_69	GPIO_68		GPIO_65	GPIO_66											EBI1_BA_1	EBI1_ADR_0		GND	EBI1_ADR_11		VDD_P1	EBI1_DM_0		V
W		PA_RANGE0	GPIO_70		GPIO_71	PA_ON0		GPIO_63	GPIO_19	GPIO_106	MODE_3	GPIO_25	GPIO_26	GPIO_34	GPIO_41	GPIO_76	RESOUT_N	GPIO_96	VDD_C1	EBI1_CAL		EBI1_ADR_13	EBI1_ADR_2		EBI1_DCLK0	EBI1_DCLK		W	
Y		TDI	WDG_EN		VDD_P3	GND		VDD_C2	GPIO_54	GPIO_104	GPIO_97	GPIO_23	GPIO_28	GPIO_31	GPIO_37	GPIO_73	GPIO_80	GPIO_83	GND	VDD_C1		EBI1_ADR_3	EBI1_ADR_5		VDD_P1	EBI1_ADR_6		Y	
AA		TMS	TRST_N		RSVD	SLEEP_CLK																GND	EBI1_ADR_8		EBI1_ADR_7	EBI1_ADR_1		AA	
AB		TDO	TCK		RTCK	MODE_0	GPIO_54	GPIO_52	GPIO_57	GND	VDD_C1	GPIO_24	GPIO_27	GND	GPIO_36	GPIO_39	GPIO_72	GPIO_96	RESIN_N	GPIO_124	GPIO_13	GPIO_4	EBI1_WE_N		EBI1_ADR_9	EBI1_ADR_10		AB	
AC		GPIO_43	GPIO_44		VDD_C2	GPIO_45	GPIO_92	GPIO_90	MODE_1	VDD_C2	GPIO_21	GPIO_22	GPIO_30	GPIO_32	GPIO_36	GPIO_40	GPIO_74	GPIO_78	GPIO_82	GPIO_15	GPIO_7	GPIO_3	GPIO_9		EBI1_BA_0	EBI1_ADR_12		AC	
AD		GPIO_46	GPIO_51																						VDD_P4	EBI1_RESOUT_N		AD	
AE			GPIO_52	GPIO_53	GND	GPIO_93	VDD_P3	GPIO_98	MODE_2	GPIO_18	VDD_P3	VDD_MODE0	GND	GPIO_33	VDD_P3	GPIO_107	GPIO_76	VDD_P3	GPIO_122	GPIO_12	GPIO_8	VDD_P4	GPIO_9	GPIO_2	GPIO_1	VDD_C1		AE	
AF		VDD_C1	VDD_C1	GPIO_56	GPIO_110	GPIO_91	GPIO_89	GPIO_108	GPIO_16	GPIO_20	MODL_DATA_P	MODL_DATA_N	MODL_STB_P	MODL_STB_N	GPIO_38	GPIO_109	GPIO_77	GPIO_81	GPIO_123	GPIO_14	GPIO_11	GPIO_10	GPIO_6	GPIO_9	VDD_C1	VDD_C1		AF	
AG																												AG	

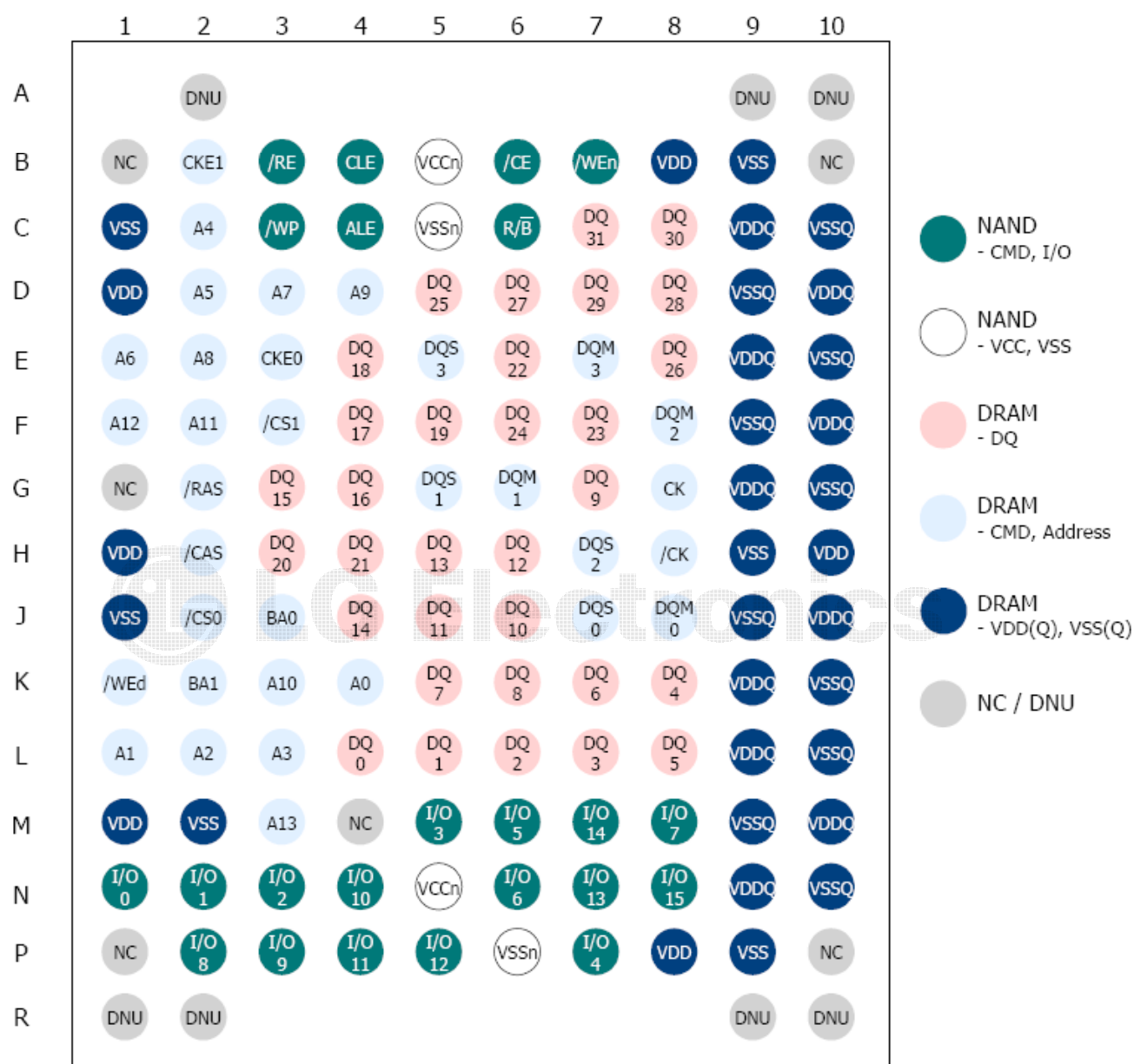
 : NC pin

2) PM7540 (top view)

	1	2	3	4	5	6	7	8	9	10	11	12	13	
A	MPP_6	VREG_GP1	VREG_RFTX	SPKR_OUT_R_P	SPKR_OUT_R_M	SPKR_OUT_L_M	SPKR_OUT_L_P	VREG_RFRX1	VREG_GP4	VREG_RFRX2	VREG_MSMA	REF_ISET	REF_GND	A
B	VIDEO_OUT	VIDEO_IN	MPP_17	SPKR_IN_R_P	SPKR_IN_R_M	SPKR_IN_L_M	SPKR_IN_L_P	VDD_L_SPKR	VDD_RF1	VDD_ANA	VCOIN	MPP_4	VREG_GP5	B
C	ISNS_P	ISNS_M										KPD_PWR_N	REF_BYP	C
D	USB_CTL_N	CHG_CTL_N		MPP_5	MPP_18	VDD_RF2	VDD_R_SPKR	MPP_3	TCXO_EN	MSM_INT_N		VDD_TCXO	VREG_TCXO	D
E	KPD_DRV_N	VCHG		BAT_FET_N	GND	GND	GND	GND	GND	PS_HOLD		VREG_SYNT	VREG_GP6	E
F	LCD_DRV_N	VBAT		MPP_19	GND	GND	GND	GND	GND	PON_RESET_N		VDD_GP6	VDD_MSME2	F
G	VREG_WLAN	VDD_WLAN		MPP_20	GND	GND	GND	GND	GND	TCXO_OUT		MIC_BIAS	VREG_MSME2	G
H	FLSH_DRV_N	USB_ID		USB_OE_N	GND	GND	GND	GND	GND	SBCK		TCXO_IN	VREG_MSMP	H
J	VREG_5V	MPP_21		USB_DAT	GND	GND	GND	GND	GND	SBST		VDD_MSMP	VREG_GP2	J
K	VSW_5V	MPP_22		USB_SE0	MPP_11	MPP_12	SLEEP_CLK	MPP_9	MPP_10	SBDT/SSBI		VDD_GP2	VREG_MMC	K
L	USB_VBUS	USB_D_P										MPP_7	V_BACKUP	L
M	VREG_USB	USB_D_M	MPP_13	VREG_PA	MPP_16	VREG_MSMC2	MPP_1	VREG_MSMC1	VREG_MSME	VDD_RUIM	MPP_8	AMUX_OUT	XTAL_IN	M
N	MPP_14	VIB_DRV_N	MPP_15	VSW_PA	MPP_2	VSW_MSMC2	VDD_C2_PA	VSW_MSMC1	VDD_C1_E	VSW_MSME	VREG_RUIM1	VREG_GP3	XTAL_OUT	N
	1	2	3	4	5	6	7	8	9	10	11	12	13	
		INPUT PWR MGT				GEN HK			IC I/F			Power		
		OUTPUT V REG				USER I/F			MPP			Ground		

Figure 2-1 PM7540 IC pin assignments (top view)

3) H8BES0UU0MCR (top view)



137 Ball FBGA Package (Top View)

1. Calibration & RF Auto Test Program (Tachyon)

1. Configuration of Tachyon

1.1 Configuration of directory

1.2 Description of basic folders

1.3 Description of configuration files

2. How to use Tachyon

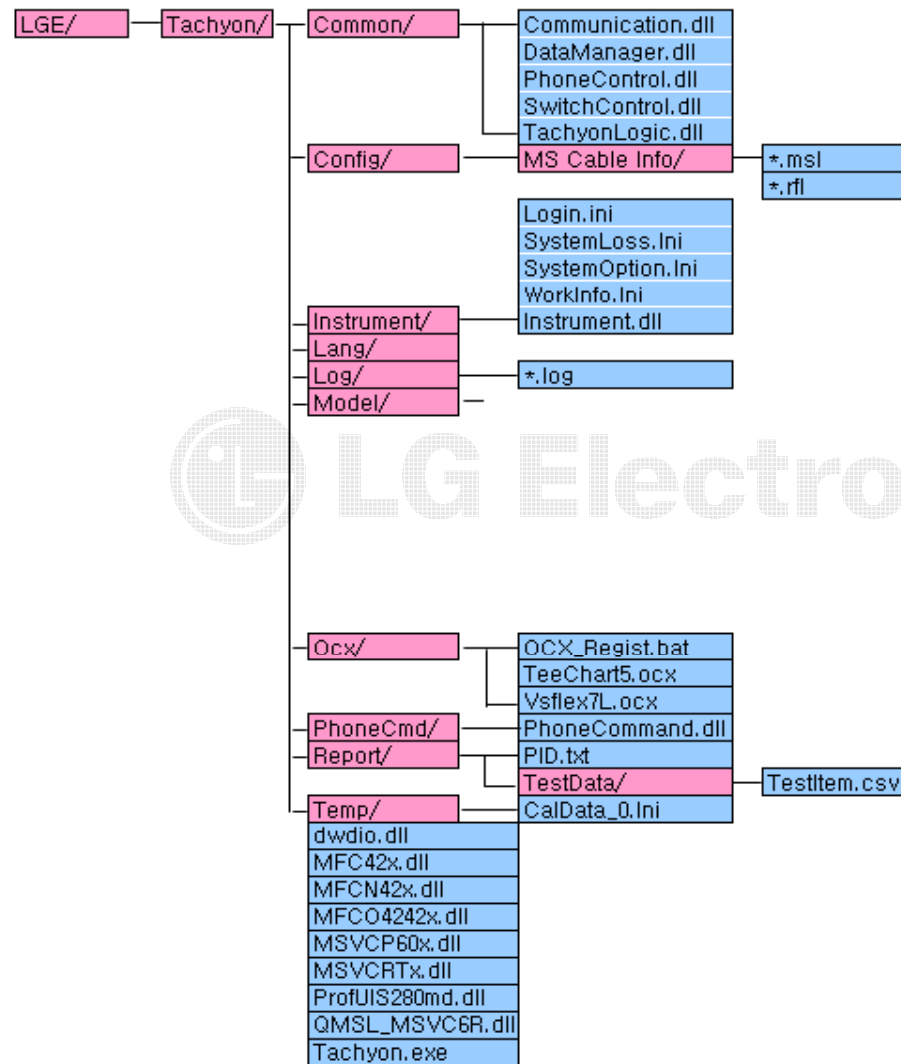
2.1 Set the Loss Value

2.2 Set the Tachyon Program

2.3 Start cal & auto

1. Configuration of Tachyon

1-1. Configuration of directory



1. Configuration of Tachyon



1-2. Description of basic folders

Folder	Description
Tachyon	Exe file and MFC dll, UI dll is present.
Common	Common dll files. (XML Data I/O , Auto Test Logic, Tachyon Logic Control, Communication)
Config	Envirement files. (Port configuration, Loss adjust)
Instrument	Tester control dll.
Model	Model files is present. (Model -> Solution (Qualcomm, EMP, ADI, INFINEON) -> MODEL NAME(LGGW620, LGSH470, ..) -> BUYER NAME(SKT, TEL, VIVO, ...)
OCX	Component files.
PhoneCmd	Phone communication file
Report	Report Files is present. (Cal data, test data)

1-3. Description of configuration files

File	Description
'MODEL NAME'_Calibration.XML	There are informations to calibrate. It consist of calibration items.
'MODEL NAME'_CallSetup.XML	There are informations to call.
'MODEL NAME'_NV.INI	It consists of default values. It is written when 'cal&auto' is begun.
'MODEL NAME'_Sequence.XML	It is described a testing procedures.

2. How to use Tachyon

2-1. Set the Loss Value

Follow the procedure before start calibration & auto test

A

B

No	Freq. (MHz)	Offset (dB)
1	800	-0.40
2	900	-0.40
3	1000	-0.68
4	1700	-0.68
5	1800	-0.68
6	1900	-0.68
7	2000	-0.68
8	2200	-0.68
9	2500	-0.68
10	2600	-0.68
11	2700	-0.68

C

A. Hecaton Path : C:\WLGewTachyon\Utilities\Hecaton.exe

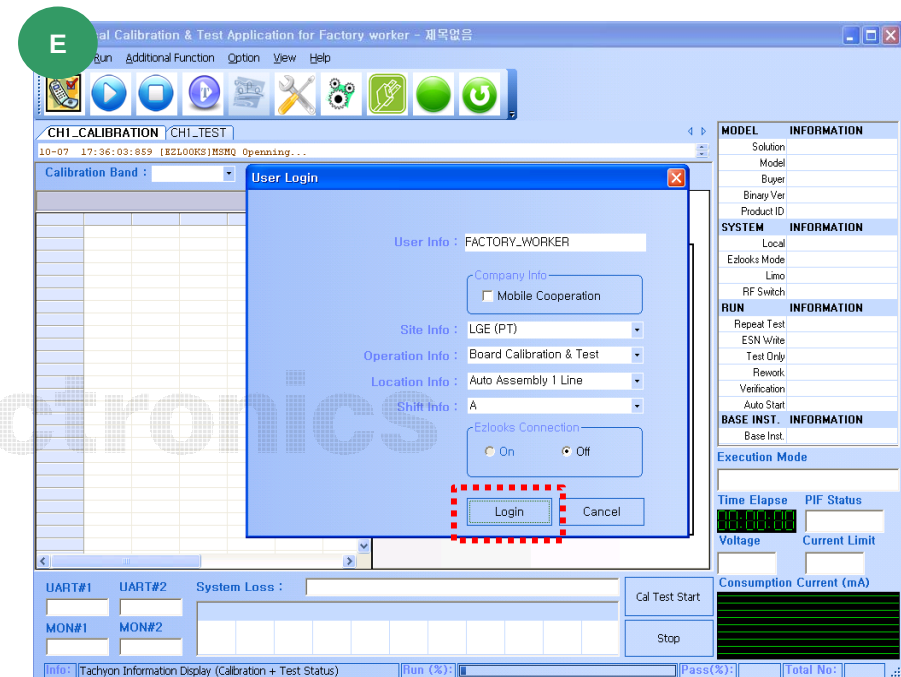
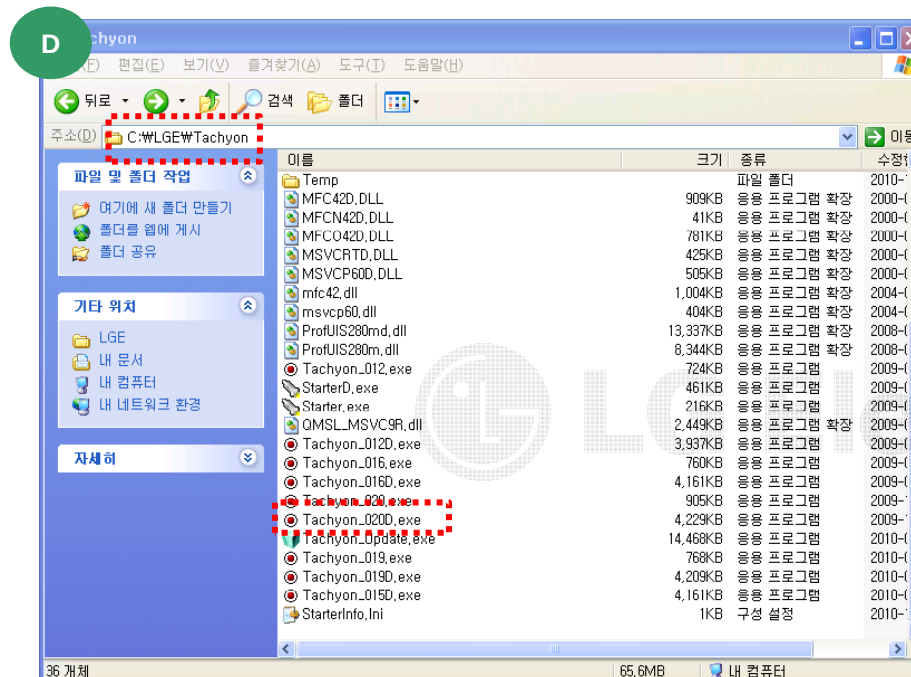
B. Hecaton Loss file selection

- C. 1. RF cable Loss file : C:\WLGewTachyon\Config\grf file selection
 2. MS cable Loss file : C:\WLGewTachyon\Config\gms file selection

2. How to use Tachyon

2-2. Set the Tachyon Program

Follow the procedure before start calibration & auto test



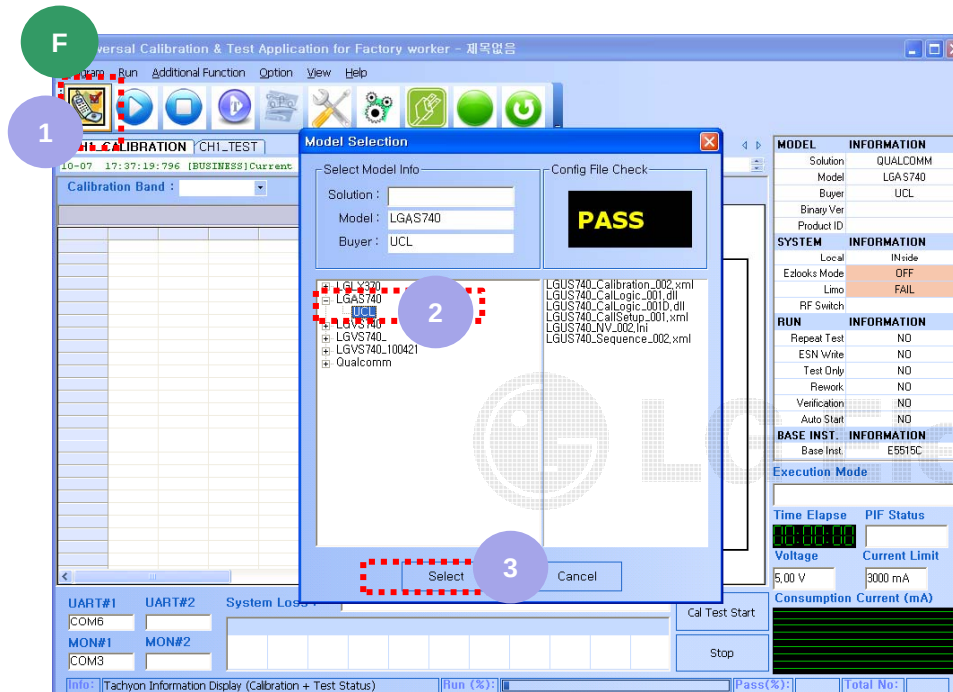
D. Tachyon Path : C:\WLGEWTachyon\Tachyon_020D.exe Selection

E. After select the Tachyon.exe file, you will see the figure F. select the Login

2. How to use Tachyon

2-2. Set the Tachyon Program

Follow the procedure before start calibration & auto test



F. 1. Click the icon



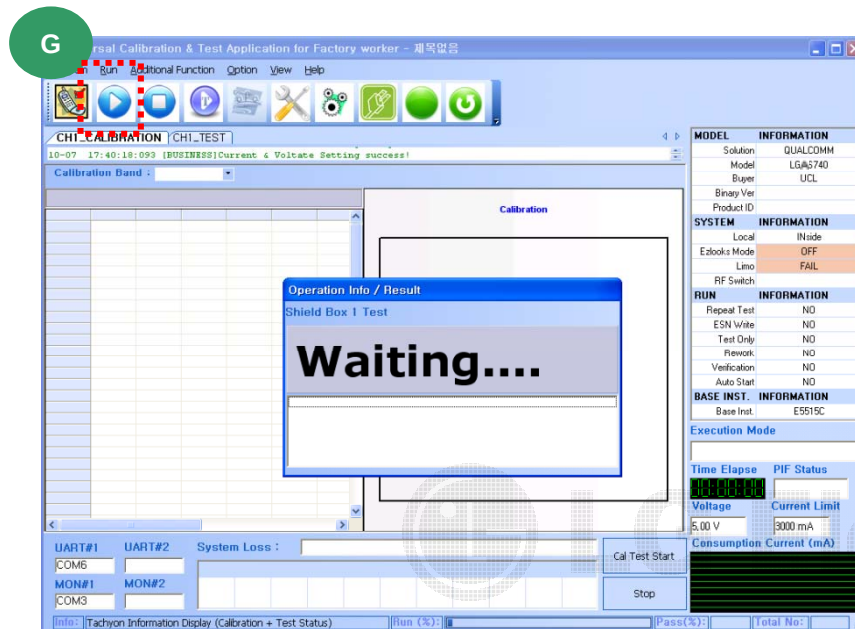
2. Select the model “AS740” (must be double clicked)

– then, you can see “Pass” in Config File Check.

3. Click the select button

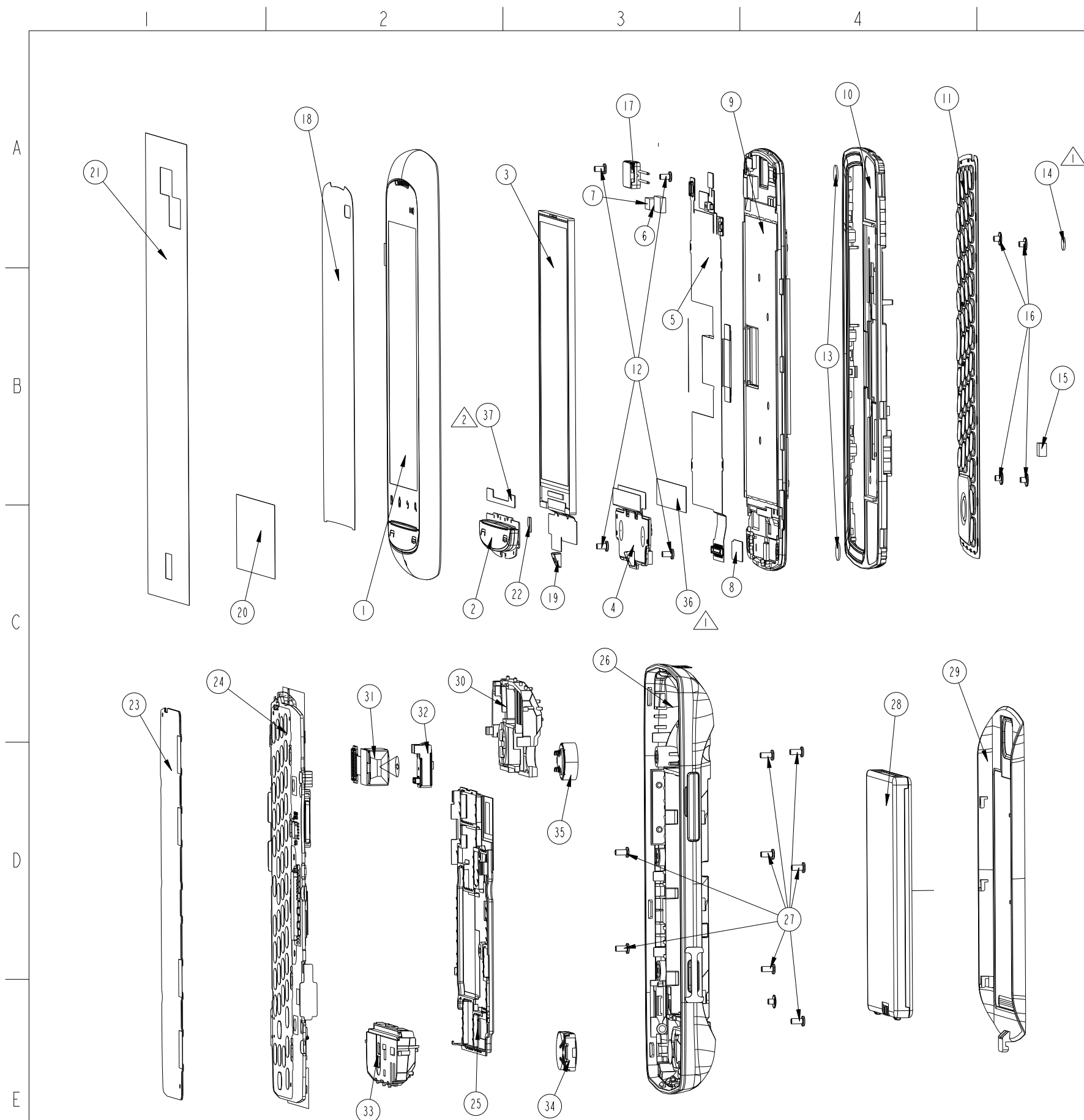
2. How to use Tachyon

2-3. Start cal & auto



G. Click the icon 

- Calibration & autotest will be executed in order
 - 1) Precede Action (consist of NV write & Test command send)
 - 2) Calibration
 - 3) Auto Test
 - 4) After Action (consist of Phone reset & Change UE to AMSS)



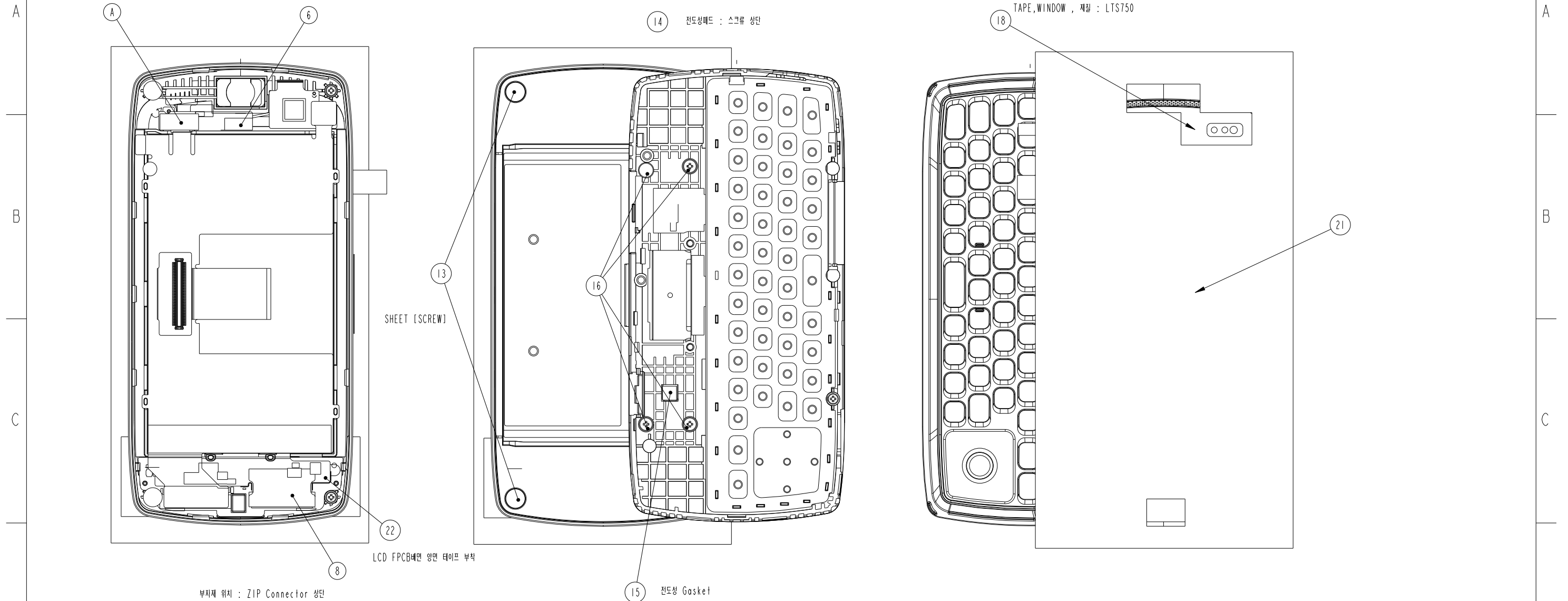
SCALE 4:5

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of hazardous substances such as Pb, Cd, Hg, Cr+6, PBB, PBDE, Ni, Br, Cl, PVC,
BFR, CFR and REACH SVHC, which are written in LGE's Guidance manual for management
of hazardous substances in product"

		Revision				
rev.		Contents		Engineer	Approver	Date
35	MOTOR	SJMY0008501		1		
34	SPEAKER	SUSY0028017		1		
33	MRD ANTENNA	SNMF0060601		1		
32	FLASH	SMZY0022101		1		
31	CAMERA	SVCY0016202		1		
30	MAIN ANTENNA	SNMF0063401		1		
29	COVER BATTERY	MCJA0107903		1		
28	BATTERY PACK	SBPP0027401		1		
27	SCREW MACHINE	GMZZ0017701		8		
26	COVER ASSY,REAR	ACGM0154801		1		
25	CAN ASSY,SHIELD	ACKA0031601		1		
24	PCB MAIN	SAFY0394101		1		
23	DOME ASSY,METAL	ADCA0111201		1		
22	TAPE,[PCB]	MTAZ0354101		1		
21	TAPE,PROTECTION	MTAB0380101		1		
20	TAPE [SUB,MENU]	MTAZ0340701		1		
19	HOLDER [MIC,RUBER]	MHGZ0037401		1		
18	TAPE,WINDOW	MTAB0452101		1		
17	RECEIVER	SURY0010115		1		
16	SCREW MACHINE	GMZZ0030301		4		
15	GASKET [HINGE]	MGAZ0100801		1		
14	PAD,[SCREW]	MCQ66472401		1		
13	SHEET [SCREW]	MSAZ0060201		2		
12	SCREW MACHINE	GMEY0010601		4		
11	KEYPAD ASSY,MAIN	AKAC0009503		1		
10	COVER ASSY,FRONT [SLIDE]	ACGK0155601		1		
9	COVER ASSY.LOWER [SLIDE]	ACGU0004503		1		
8	INSULATOR [CONNECTOR]	MIDZ0266801		1		
7	PAD [SENSOR]	MPBZ0365401		1		
6	PAD [GROUND]	MPBZ0319901		1		
5	PCB ASSY,FLEXIBLE	SACY0112001		1		
4	PCB ASSY,SUB	SAJY0053501		1		
3	LCD MODULE	SVLM0038501		1		
2	BUTTON [MENU]	MBJZ0050201		1		
1	COVER ASSY,UPPER [SLIDE]	ACGT0010102		1		
No	Part Name		Part Number	Q'ty	Remark	
Material						
Unit	Scale	Size	Sheet	Designed By	Model Name	US740_PHONE
mm	1:1	A3	1 / 2	이주현 Date : 2010.09.13	Drawing Name	
			Approved By		Drawing Number	AS740_SLIDE_ASSY
			강영택 Date : 2010.09.13		ACQ85332601	

Revision				
rev.	Contents	Engineer	Approver	Date
1.0	초 도 별 행	이주헌	강영택	20100913
1.1	형상변경 (14), 부지재 추가 (36) 1	이주헌	강영택	20100929
1.2	부지재 추가 (37) 2	이주헌	강영택	20101021



2	37	SHEET_LCD			MHK63294101		I	
	36	INSULATOR_(DRIVE_IC)			MEV63655701		I	
1	No	Part Name			Part Number		Q'ty	Remark
	Material							
	Unit	Scale	Size	Sheet	Designed By	Model Name	US740_PHONE	
	mm	1:1	A3	2 / 2	이주현 Date : 2010.09.13	Drawing Name	AS740_SLIDE_ASSY	
ment			 3rd Angle Projection		Approved By 강영택 Date : 2010.09.13	Drawing Number	ACQ085332601	

Main PCB Component List

Ref No	Part Name	Part Number	Spec	Maker No.
C1087	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP ,0.8 mm	GRM188R60J106ME47D
C1088	CAP,CERAMIC,CHIP	ECCH0000144	1.2 nF,50V,K,X7R,HD,1005,R/TP	MCH155C122K
C1089	CAP,CHIP,MAKER	ECZH0001102	18000 pF,16V ,K ,X7R ,HD ,1005 ,R/TP	C1005X7R1C183KT
C1090	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C1091	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C1092	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C1093	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C1094	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C1095	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C1096	CAP,CERAMIC,CHIP	ECCH0000133	220 pF,50V ,K ,X7R ,HD ,1005 ,R/TP	C1005X7R1H221KT
C1097	CAP,CERAMIC,CHIP	ECCH0000149	3.3 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN332KK
C1099	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C1100	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C1111	CAP,CHIP,MAKER	ECZH0000802	1 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H010CT
C1114	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C1115	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C1116	CAP,CERAMIC,CHIP	ECCH0000701	1.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H1R2CT
C2200	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2201	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2202	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C2203	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C2204	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C2205	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2206	CAP,CERAMIC,CHIP	ECCH0017501	22 uF,6.3V ,M ,X5R ,HD ,1608 ,R/TP	CL10A226MQ8NRNE
C2208	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2209	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C2211	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C2212	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2214	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2215	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C2216	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2218	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2219	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C2220	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2223	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2225	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2226	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2227	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C2228	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT

Ref No	Part Name	Part Number	Spec	Maker No.
C2229	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2230	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2232	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2233	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP ,0.8 mm	GRM188R60J106ME47D
C2234	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2235	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2237	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2238	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2239	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2240	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C2241	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C2243	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2244	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2245	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP ,0.8 mm	GRM188R60J106ME47D
C2247	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C2249	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2251	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2252	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2253	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP ,0.8 mm	GRM188R60J106ME47D
C2254	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C2255	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2256	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2258	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2259	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2260	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2261	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2262	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2263	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2264	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN103KK
C2300	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP	GRM39X5R225K16
C2301	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2302	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2303	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2304	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2305	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2306	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C2307	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP	GRM39X5R225K16
C2308	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2309	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT

Ref No	Part Name	Part Number	Spec	Maker No.
C2310	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2311	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP ,0.8 mm	GRM188R60J106ME47D
C2312	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C2313	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C3100	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C3101	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C3102	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C3103	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C3104	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C3105	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP	GRM36X5R104K10PT
C3106	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C3107	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C3108	CAP,CERAMIC,CHIP	ECCH0000147	2.2 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN222KK
C3200	CAP,CERAMIC,CHIP	ECCH0000161	33 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN333KK
C4000	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP	GRM39X5R225K16
C4002	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP	GRM39X5R225K16
C4003	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4004	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4005	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C4007	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H101JT
C4009	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C4010	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C4011	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C4013	CAP,CERAMIC,CHIP	ECCH0000113	18 pF,50V,J,NP0,TC,1005,R/TP	MCH155A180J
C4014	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C4015	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C4016	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C4017	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4018	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C4019	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4020	CAP,CERAMIC,CHIP	ECCH0017501	22 uF,6.3V ,M ,X5R ,HD ,1608 ,R/TP	CL10A226MQ8NRNE
C4021	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C4022	CAP,CERAMIC,CHIP	ECCH0000113	18 pF,50V,J,NP0,TC,1005,R/TP	MCH155A180J
C4023	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C4024	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4025	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C4026	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP	GRM188R60J106ME47D
C4027	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4028	CAP,CERAMIC,CHIP	ECCH0017501	22 uF,6.3V ,M ,X5R ,HD ,1608 ,R/TP	CL10A226MQ8NRNE

Ref No	Part Name	Part Number	Spec	Maker No.
C4029	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C4030	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C4032	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C4033	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C4034	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4035	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C4036	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C4037	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C4038	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C4039	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4040	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C4041	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C4042	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4043	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C4044	CAP,CHIP,MAKER	ECZH0001217	470 nF,6.3V ,K ,X5R ,TC ,1005 ,R/TP	GRM155R60J474KE19
C4045	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP	MCH155C270J
C4046	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4047	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4048	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4100	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4101	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4200	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4201	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4202	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C4203	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4204	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4205	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4206	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4207	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP ,0.8 mm	GRM188R60J106ME47D
C4208	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4209	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4210	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C4211	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C4212	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C4300	CAP,CHIP,MAKER	ECZH0003503	1 uF,25V ,K ,X5R ,HD ,1608 ,R/TP	GRM39X5R105K25PT
C4301	CAP,CHIP,MAKER	ECZH0003503	1 uF,25V ,K ,X5R ,HD ,1608 ,R/TP	GRM39X5R105K25PT
C4302	CAP,CERAMIC,CHIP	ECCH0000161	33 nF,16V,K,X7R,HD,1005,R/TP	MCH153CN333KK
C4500	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP	MCH155A470JK
C4501	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP	GRM39X5R225K16

Ref No	Part Name	Part Number	Spec	Maker No.
C4502	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP	GRM39X5R225K16
C4503	CAP,TANTAL,CHIP	ECTH0002002	33 uF,10V ,M ,L_ESR ,2012 ,R/TP	F981A336MSA
C4600	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4700	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C4701	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4702	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C5201	CAP,CHIP,MAKER	ECZH0003503	1 uF,25V ,K ,X5R ,HD ,1608 ,R/TP	GRM39X5R105K25PT
C5202	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5203	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5204	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5205	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5206	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5207	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5300	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5301	CAP,CHIP,MAKER	ECZH0001105	8.2 nF,16V ,K ,X7R ,HD ,1005 ,R/TP	C1005X7R1C822KT
C5302	PAD SHORT	SAFP0000501		0OHM_1005
C5303	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C6100	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A224KT
C6101	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A224KT
C6102	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C6103	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C6104	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C6105	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP	GRM188R60J106ME47D
C6106	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C6107	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C6108	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A224KT
C6109	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A224KT
C6110	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C6111	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C6300	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C6301	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C6302	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C6303	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C6400	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP	GRM36X5R104K10PT
C6500	CAP,TANTAL,CHIP	ECTH0003701	10 uF,6.3V ,M ,L_ESR ,1608 ,R/TP	TCSCM0J106MJAR
C6501	CAP,CHIP,MAKER	ECZH0001121	470 pF,50V ,K ,X7R ,HD ,1005 ,R/TP	C1005X7R1H471KT
C7500	CAP,CHIP,MAKER	ECZH0001120	3.9 nF,50V ,K ,X7R ,HD ,1005 ,R/TP	C1005X7R1H392KT
C7501	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C7600	CAP,CERAMIC,CHIP	ECCH0005602	2.2 uF,16V ,K ,X5R ,HD ,1608 ,R/TP	GRM39X5R225K16

Ref No	Part Name	Part Number	Spec	Maker No.
C7601	CAP,CHIP,MAKER	ECZH0001511	2.2 uF,10V ,Z ,Y5V ,HD ,1608 ,R/TP	C1608Y5V1A225ZT
C7602	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C7603	CAP,CERAMIC,CHIP	ECCH0002002	47000 pF,10V ,K ,B ,HD ,1005 ,R/TP	C1005JB1A473KT
C7900	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C7901	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C7902	CAP,CERAMIC,CHIP	ECCH0017601	4.7 uF,6.3V ,M ,X5R ,HD ,1005 ,R/TP	CL05A475MQ5NRNC
C7903	CAP,CERAMIC,CHIP	ECCH0000179	22 nF,16V ,K ,X5R ,HD ,1005 ,R/TP	GRM155R71C223KA01D
C8100	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C8101	CAP,CERAMIC,CHIP	ECCH0017601	4.7 uF,6.3V ,M ,X5R ,HD ,1005 ,R/TP	CL05A475MQ5NRNC
C8102	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C8103	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C8104	CAP,CERAMIC,CHIP	ECCH0017601	4.7 uF,6.3V ,M ,X5R ,HD ,1005 ,R/TP	CL05A475MQ5NRNC
C8105	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP	CV105X5R475M10AT
C8106	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C8107	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C8108	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C8109	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
C8110	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608 ,R/TP ,0.8 mm	GRM188R60J106ME47D
C8111	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C8112	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP	MCH155CN102KK
C8116	CAP,CERAMIC,CHIP	ECCH0000104	3 pF,50V,C,NP0,TC,1005,R/TP	MCH155A030C
C8117	CAP,CHIP,MAKER	ECZH0000802	1 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H010CT
C8118	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP ,.5 mm	C1005JB0J104KT
C8207	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C8212	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP	MCH155C270J
C8300	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP	GRM1555C1H7R5D
C8301	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C8302	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C8303	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C8304	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C8305	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C8306	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C8309	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C8310	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C8311	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP	MCH155C150J
C8312	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP	MCH155C150J
C8313	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP	GRM1555C1H7R5D
C8314	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP	GRM1555C1H7R5D
C8315	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP	GRM1555C1H7R5D

Ref No	Part Name	Part Number	Spec	Maker No.
CON4000	CONNECTOR,ETC	ENZY0022001	4 ,2.5 mm,ETC , ,	KQ02L5-4R
CON4300	CONNECTOR,I/O	ENRY0008801	5 , mm,ANGLE , , , , , 0.64MM	GU073-5P-SD-E1500
CON5200	CONN,SOCKET	ENSY0023301	8 ,ETC , , 0.7 mm,H=1.52,(15*15)	SCHA5B0201
CON6302	EARPHONE	ENJE0007601	,6 ,6.3x13x4.0t , , , [empty] ,4P ,ANGLE ,R/TP	KJA-PH-0-0176
CON7600	CONNECTOR	ENBY0033201	10 PIN,0.4 mm,ETC , , H=1.5, P4S Socket	AXT310124LG1
CON8300	CONNECTOR	ENBY0015601	34 PIN,0.4 mm,STRAIGHT ,AU ,0.9MM HEIGHT	AXK7L3422LG1
D3300	DIODE,SWITCHING	EDSY0011901	EMD2 ,30 V,1 A,R/TP	SDB310Q
D4000	DIODE,SWITCHING	EDSY0011901	EMD2 ,30 V,1 A,R/TP	SDB310Q
D4001	DIODE,TVS	EDTY0007401	SMD ,12 V,350 W,R/TP ,	SD12T1G
D4002	DIODE,SWITCHING	EDSY0011901	EMD2 ,30 V,1 A,R/TP	SDB310Q
D4300	DIODE,SWITCHING	EDSY0017701	SOD-123 ,40 V,1 A,R/TP	SDB1040
D4301	DIODE,TVS	EDTY0009601	SLP1006P2 ,5 V,100 W,R/TP	Rclamp0521P.TCT
D4302	DIODE,TVS	EDTY0009601	SLP1006P2 ,5 V,100 W,R/TP	Rclamp0521P.TCT
D5300	DIODE,ZENER	EDNY0010401	USC ,100 V,0.2 W,R/TP ,	KDZ100VW
D6300	DIODE,TVS	EDTY0008606	DFN-2 ,7.82 V,150 mW,R/TP ,PB-FREE	PRSB6.8C
F1000	FILTER,SEPERATOR	SFAY0013201	824~960 ,1710~2170duplexer DCN/USPCS	LFD21892MDPGC103
F1001	FILTER,SAW	SFSY0034501	1960 MHz,1.4*1.1*0.6 ,SMD	SAFEB1G96KA0F00
F1002	FILTER,SAW	SFSY0030002	881.5 MHz,1.4*1.1*0.6 ,SMD	SAFEB881MAL0F00
F1003	FILTER,SAW,DUAL	SFSB0002501	DCN+USPCS Rx , , ,881.5M, 1960M	SAWEP881MCZ2F00
F1004	FILTER,SAW	SFSY0029901	836.5 MHz,1.4*1.1*0.6 ,SMD	SAFEB836MAL0F00
F1005	FILTER,SAW	SFSY0034701	1880 MHz,1.4*1.1*0.5 ,SMD	SAFEA1G88KB7F00
F1006	FILTER,SAW	SFSY0033403	1575.42 MHz,1.4*1.1*0.4 ,SMD	B9416
F4100	IC	EUSY0353801	PLP1010-4 ,4 PIN,R/TP Voltage Regulator	RP103K331D
F4500	IC	EUSY0332901	WDFN ,8 PIN,R/TP	NUS3116MTR2G
F4501	FILTER,EMI/POWER	SFEY0015301	SMD ,Pb-free_Bais , , ,Filter,LCR	NFM18PC104R1C3
F8100	IC	EUSY0355701	PLP1010-4 ,4 PIN,R/TP ,150mA 2.8V Single LDO	RP103K281D-TR-F
F8301	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filte	ICVE10184E070R100FR
F8302	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filter	ICVE10184E070R100FR
L1001	INDUCTOR,CHIP	ELCH0004711	22 nH,J ,1005 ,R/TP ,	1005GC2T22NJ00
L1002	INDUCTOR,CHIP	ELCH0004711	22 nH,J ,1005 ,R/TP ,	1005GC2T22NJ00
L1006	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,	1005GC2TR10J00
L1007	INDUCTOR,CHIP	ELCH0004712	3.9 nH,S ,1005 ,R/TP ,	1005GC2T3N9S00
L1010	INDUCTOR,CHIP	ELCH0004713	6.8 nH,J ,1005 ,R/TP ,	1005GC2T6N8J00
L1011	INDUCTOR,CHIP	ELCH0004718	5.6 nH,S ,1005 ,R/TP ,	1005GC2T5N6S00
L1012	INDUCTOR,CHIP	ELCH0004703	1 nH,S ,1005 ,R/TP ,	1005GC2T1N0S00
L1013	INDUCTOR,CHIP	ELCH0004704	4.7 nH,S ,1005 ,R/TP ,	1005GC2T4N7S00
L1014	INDUCTOR,CHIP	ELCH0004704	4.7 nH,S ,1005 ,R/TP ,	1005GC2T4N7S00
L1016	INDUCTOR,CHIP	ELCH0004704	4.7 nH,S ,1005 ,R/TP ,	1005GC2T4N7S00
L1018	INDUCTOR,CHIP	ELCH0004710	15 nH,J ,1005 ,R/TP ,	1005GC2T15NJ00

Ref No	Part Name	Part Number	Spec	Maker No.
L1019	INDUCTOR,CHIP	ELCH0004704	4.7 nH,S ,1005 ,R/TP ,	1005GC2T4N7S00
L1020	INDUCTOR,CHIP	ELCH0004701	12 nH,J ,1005 ,R/TP ,	1005GC2T12NJ00
L1021	INDUCTOR,CHIP	ELCH0004704	4.7 nH,S ,1005 ,R/TP ,	1005GC2T4N7S00
L1022	INDUCTOR,CHIP	ELCH0004716	39 nH,J ,1005 ,R/TP ,	1005GC2T39NJ00
L1023	INDUCTOR,CHIP	ELCH0001421	47 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHL47NJ
L1024	INDUCTOR,CHIP	ELCH0004718	5.6 nH,S ,1005 ,R/TP ,	1005GC2T5N6S00
L1025	INDUCTOR,CHIP	ELCH0004701	12 nH,J ,1005 ,R/TP ,	1005GC2T12NJ00
L1026	INDUCTOR,CHIP	ELCH0004708	2.7 nH,S ,1005 ,R/TP ,	1005GC2T2N7S00
L1028	INDUCTOR,CHIP	ELCH0004701	12 nH,J ,1005 ,R/TP ,	1005GC2T12NJ00
L1029	INDUCTOR,CHIP	ELCH0001421	47 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHL47NJ
L1030	INDUCTOR,CHIP	ELCH0004712	3.9 nH,S ,1005 ,R/TP ,	1005GC2T3N9S00
L1031	INDUCTOR,CHIP	ELCH0004712	3.9 nH,S ,1005 ,R/TP ,	1005GC2T3N9S00
L1032	INDUCTOR,CHIP	ELCH0004703	1 nH,S ,1005 ,R/TP ,	1005GC2T1N0S00
L1033	INDUCTOR,CHIP	ELCH0004703	1 nH,S ,1005 ,R/TP ,	1005GC2T1N0S00
L1038	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,	1005GC2TR10J00
L1039	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,	1005GC2TR10J00
L4000	INDUCTOR,SMD,POWER	ELCP0008019	4.7 uH,M ,2.5X2.0X1.2 ,R/TP	VLS252010ET- 4R7M
L4001	INDUCTOR,SMD,POWER	ELCP0008019	4.7 uH,M ,2.5X2.0X1.2 ,R/TP	VLS252010ET- 4R7M
L4002	INDUCTOR,SMD,POWER	ELCP0008004	4.7 uH,M ,1 ,R/TP	MIP2016D4R7M
L4003	INDUCTOR,SMD,POWER	ELCP0008004	4.7 uH,M ,1 ,R/TP	MIP2016D4R7M
L5300	INDUCTOR,SMD,POWER	ELCP0006814	820 uH,N	SPI-3809RD-824S
L6100	INDUCTOR,CHIP	ELCH0004202	82 nH,J ,1608 ,R/TP ,	LL1608-FS82NJ
L6101	INDUCTOR,CHIP	ELCH0004202	82 nH,J ,1608 ,R/TP ,	LL1608-FS82NJ
L7500	INDUCTOR,CHIP	ELCH0001431	68 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHL68NJ
L7501	INDUCTOR,CHIP	ELCH0001431	68 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHL68NJ
L7600	INDUCTOR,SMD,POWER	ELCP0008008	1 uH,M ,2.0x2.5x1.0 ,R/TP	MIPS2520D1R0M
L8100	INDUCTOR,SMD,POWER	ELCP0008003	3.3 uH,M ,2.5*2.0*1.0 ,R/TP ,Chip power	MIP2520D3R3M
L8200	FILTER,BEAD,CHIP	SFBH0000903	600 ohm,1005 ,	HB-1M1005-601JT
L8201	INDUCTOR,CHIP	ELCH0001425	82 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHL82NJ
L8202	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,	1005GC2TR10J00
L8203	INDUCTOR,CHIP	ELCH0004718	5.6 nH,S ,1005 ,R/TP ,	1005GC2T5N6S00
R1000	RES,CHIP,MAKER	ERHZ0000490	51 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ510
R1001	RES,CHIP,MAKER	ERHZ0000201	100 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1000
R1003	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R1004	RES,CHIP,MAKER	ERHZ0000236	2000 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2001
R1005	RES,CHIP,MAKER	ERHZ0000410	12 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ120
R1006	RES,CHIP,MAKER	ERHZ0000295	51 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF5102
R1007	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R1008	RES,CHIP,MAKER	ERHZ0000206	10 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF10R0

Ref No	Part Name	Part Number	Spec	Maker No.
R1009	RES,CHIP,MAKER	ERHZ0000291	49.9 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF49R9
R1010	THERMISTOR	SETY0001401	NTC ,68 Kohm,SMD ,	NCP18WD683E03RB
R1011	RES,CHIP,MAKER	ERHZ0000222	150 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1503
R1012	RES,CHIP,MAKER	ERHZ0000242	220 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2200
R1013	RES,CHIP,MAKER	ERHZ0000325	24 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF24R0
R1014	RES,CHIP,MAKER	ERHZ0000242	220 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2200
R1016	RES,CHIP,MAKER	ERHZ0000293	510 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF5100
R1017	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R1018	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R1019	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R1020	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R1021	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R1022	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R1023	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R1024	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R1025	RES,CHIP,MAKER	ERHZ0000456	2.2 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ2R2
R1026	RES,CHIP,MAKER	ERHZ0003801	5.1 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ5R1
R1027	RES,CHIP,MAKER	ERHZ0000298	560 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF5600
R1028	RES,CHIP,MAKER	ERHZ0000220	1500 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1501
R1029	RES,CHIP,MAKER	ERHZ0000294	5100 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF5101
R1030	RES,CHIP,MAKER	ERHZ0000212	12 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1202
R1031	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ473
R1032	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ473
R1033	RES,CHIP,MAKER	ERHZ0000294	5100 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF5101
R1034	PCB ASSY,MAIN,PAD SHORT	SAFP0000401		0OHM_0603
R1035	PCB ASSY,MAIN,PAD OPEN	SAFO0000501	0OHM_1005_DNI	0OHM_1005_DNI
R1036	PCB ASSY,MAIN,PAD SHORT	SAFP0000401		0OHM_0603
R2100	PCB ASSY,MAIN,PAD SHORT	SAFP0000401		0OHM_0603
R2101	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R2102	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R2103	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R2302	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R3100	RES,CHIP,MAKER	ERHZ0000291	49.9 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF49R9
R3101	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1003
R3102	RES,CHIP,MAKER	ERHZ0000490	51 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ510
R3103	RES,CHIP	ERHY0024201	6040 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZP5F6041
R3104	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R3105	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R3106	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ104

Ref No	Part Name	Part Number	Spec	Maker No.
R3108	PCB ASSY,MAIN,PAD OPEN	SAFO0000501	0OHM_1005_DNI	0OHM_1005_DNI
R3200	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1003
R3201	RES,CHIP,MAKER	ERHZ0000315	75 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF7502
R3301	PCB ASSY,MAIN,PAD OPEN	SAFO0000501	0OHM_1005_DNI	0OHM_1005_DNI
R3302	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R4000	RES,CHIP,MAKER	ERHZ0000203	10 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1002
R4001	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ473
R4002	RES,CHIP,MAKER	ERHZ0000490	51 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ510
R4003	RES,CHIP,MAKER	ERHZ00004201	121000 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1213
R4004	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4005	RES,CHIP,MAKER	ERHZ0000295	51 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF5102
R4006	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4007	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4008	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4009	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4010	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4011	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4012	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4014	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4015	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4016	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4017	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4018	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4019	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4020	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4021	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4022	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4023	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4024	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4025	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4026	RES,CHIP,MAKER	ERHZ0000286	4700 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4701
R4027	VARISTOR	SEVY0003601	5.6 V ,SMD ,100pF, 1005	ICVL0505101V150FR
R4028	RES,CHIP,MAKER	ERHZ0000288	470 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4703
R4029	RES,CHIP,MAKER	ERHZ0000318	80.6 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF8062
R4030	VARISTOR	SEVY0003601	5.6 V ,SMD ,100pF, 1005	ICVL0505101V150FR
R4032	RES,CHIP	ERHY0003201	1000 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1001
R4100	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4200	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4202	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005

Ref No	Part Name	Part Number	Spec	Maker No.
R4203	RES,CHIP,MAKER	ERHZ0000286	4700 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4701
R4204	RES,CHIP,MAKER	ERHZ0000286	4700 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4701
R4300	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4301	RES,CHIP,MAKER	ERHZ0000238	200 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2003
R4302	VARISTOR	SEVY0004301	18 V ,SMD ,10pF, 1005	ICVL0518100Y500FR
R4500	RES,CHIP,MAKER	ERHZ0003901	0.1 ohm,1/4W ,F ,2012 ,R/TP	MCR10EZHFLR100
R4501	PCB ASSY,MAIN,PAD OPEN	SAFO0000501	0OHM_1005_DNI	0OHM_1005_DNI
R4502	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R4604	RES,CHIP,MAKER	ERHZ0000439	200 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ204
R4605	RES,CHIP,MAKER	ERHZ0000461	300 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ304
R4700	RES,CHIP,MAKER	ERHZ0000219	150 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1500
R4701	RES,CHIP,MAKER	ERHZ0000219	150 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1500
R4702	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
R4703	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
R4704	RES,CHIP,MAKER	ERHZ0000316	750 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF7503
R5200	RES,CHIP,MAKER	ERHZ0000288	470 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4703
R5201	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ473
R5202	VARISTOR	SEVY0005101	18 V ,SMD ,5pF, 1005	ICVL0518050FR
R5203	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ473
R5204	VARISTOR	SEVY0005101	18 V ,SMD ,5pF, 1005	ICVL0518050FR
R5205	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ473
R5206	VARISTOR	SEVY0005101	18 V ,SMD ,5pF, 1005	ICVL0518050FR
R5207	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ473
R5208	VARISTOR	SEVY0005101	18 V ,SMD ,5pF, 1005	ICVL0518050FR
R5209	RES,CHIP,MAKER	ERHZ0000486	47 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ473
R5210	VARISTOR	SEVY0005101	18 V ,SMD ,5pF, 1005	ICVL0518050FR
R5211	VARISTOR	SEVY0005101	18 V ,SMD ,5pF, 1005	ICVL0518050FR
R5212	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R5300	RES,CHIP,MAKER	ERHZ0000268	33 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF3302
R5301	PCB ASSY,MAIN,PAD OPEN	SAFO0000501	0OHM_1005_DNI	0OHM_1005_DNI
R6100	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
R6101	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
R6103	VARISTOR	SEVY0005402	5.6 V ,SMD ,1005 Siez , 50pF	ICVS0505500FR
R6104	VARISTOR	SEVY0005402	5.6 V ,SMD ,1005 Siez , 50pF	ICVS0505500FR
R6105	VARISTOR	SEVY0005402	5.6 V ,SMD ,1005 Siez , 50pF	ICVS0505500FR
R6106	VARISTOR	SEVY0005402	5.6 V ,SMD ,1005 Siez , 50pF	ICVS0505500FR
R6107	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ100
R6108	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ100
R6109	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005

Ref No	Part Name	Part Number	Spec	Maker No.
Q1	FET	EQFP0004501	P-CHANNEL MOSFET -8V +-8-0.92A	SI1305-E3
R6303	RES,CHIP,MAKER	ERHZ0000287	47KOHM 1% 1/16W 1005 R/TP	MCR01MZP5F4702
R6304	RES,CHIP,MAKER	ERHY0000505	1M ohm,1/16W,J,1608,R/TP	MCR03EZHJ105
R6400	RES,CHIP,MAKER	ERHZ0000279	39 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF3902
R6401	RES,CHIP,MAKER	ERHZ0000537	680000 ohm,1/16W ,F ,1005 ,R/TP	RC1005F684CS
R6500	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ102
R6501	RES,CHIP,MAKER	ERHZ0000404	1 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ102
R6502	RES,CHIP,MAKER	ERHZ0000422	15 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ153
R7100	RES,CHIP,MAKER	ERHZ0000286	4700 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4701
R7101	RES,CHIP,MAKER	ERHZ0000286	4700 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4701
R7501	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ103
R7502	PCB ASSY,MAIN,PAD OPEN	SAFO0000501	0OHM_1005_DNI	0OHM_1005_DNI
R7503	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R7600	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ104
R7601	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ104
R7602	RES,CHIP,MAKER	ERHZ0000231	180 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1803
R7603	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R8100	PCB ASSY,MAIN,PAD SHORT	SAFP0000501		0OHM_1005
R8101	RES,CHIP,MAKER	ERHZ0000406	100 Kohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ104
R8203	RES,CHIP	ERHY0003201	1000 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1001
R8204	RES,CHIP,MAKER	ERHZ0000249	22 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF22R0
R8300	RES,CHIP,MAKER	ERHZ0000206	10 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF10R0
R8301	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ222
R8302	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ222
R8303	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ100
R8304	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ100
R8305	RES,CHIP,MAKER	ERHZ0000206	10 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF10R0
R9400	VARISTOR	SEVY0003601	5.6 V ,SMD ,100pF, 1005	ICVL0505101V150FR
R9401	VARISTOR	SEVY0003601	5.6 V ,SMD ,100pF, 1005	ICVL0505101V150FR
R9402	VARISTOR	SEVY0004101	5.6 V ,SMD ,360pF, 1005	ICVN0505X150FR
R9500	VARISTOR	SEVY0003601	5.6 V ,SMD ,100pF, 1005	ICVL0505101V150FR
R9501	VARISTOR	SEVY0003601	5.6 V ,SMD ,100pF, 1005	ICVL0505101V150FR
R9502	VARISTOR	SEVY0004101	5.6 V ,SMD ,360pF, 1005	ICVN0505X150FR
U1000	CONN,RF SWITCH	ENWY0003701	,SMD ,0.4 dB,	KMS-508
U1002	IC	EUSY0306201	Micro pak ,8 PIN,R/TP ,D Flip Flip	NC7SZ74L8X
U1003	MODULE,ETC	SMZY0021701	GPS LNA Module integrated Filter, 3.3x2.1x1.1	ALM-2412
U1004	MODULE,ETC	SMZY0022401	Quadplexer, FBAR, DCN/US-PCS, 7*4size ,;	ACFM-7107
U1005	COUPLER,RF DIRECTIONAL	SCDY0004701	-20.5 dB,0.25 dB,34 dB,1.0*0.5*0.4 ,SMD	HHM2910E1
U1006	TR,FET,P-CHANNEL	EQFP0009001	SC75-6 ,0.6 W, V,1 A,R/TP ,	SIP4282

Ref No	Part Name	Part Number	Spec	Maker No.
U1007	COUPLER,RF	SCDY0004801	19.4 dB,0.28 dB,32 dB,1.0*0.5*0.4 ,SMD	HHM2909C4
U1008	PAM	SMPY0017301	dBm, %, A, dBc, dB,4x5 ,SMD	ACPM-7353
U1009	IC	EUSY0343601	, PIN,R/TP ,Rx Tx 1chip ,; ,IC,Tx/Rx	RTR6500
U1010	IC	EUSY0295701	SON5-P-0.50 ,5 PIN,R/TP ,OR GATE(max 0.6T)	TC7SH32FE
U1011	VCTCXO	EXSK0007802	19.2 MHz,1.5 PPM,10 pF,SMD	TG-5010LH(19.2M)-75A
U2100	IC	EUSY0392301	560 NSP ,10 ,R/TP	MSM7627
U2300	IC	EUSY0395604	NAND/4G SDRAM/4G(2G*2/ 32bit)	H8BES0UU0MCR-4EM
U3101	IC	EUSY0216301	SC70 ,5 PIN,R/TP ,Single 2-Input NAND Gate	NC7SV00P5X_NL
U4000	IC	EUSY0342201	CSP ,137 PIN,R/TP ,PMIC, for MSM7xx	PM7540
U4001	X-TAL	EXXY0018701	32.768 KHz,20 PPM,12.5 pF,70 Kohm,SMD	FC-135(12.5PF, ±20PPM)
U4200	IC	EUSY0383103	CSP ,35 ,R/TP ,8CH,PWM,ALC,4LDO	BD6084GUL
U4300	IC	EUSY0374601	TDFN ,8 ,R/TP ,Programmable OVP ,; ,IC,Charger	MAX14528
U4601	IC	EUSY0362701	uQFN10 ,10 ,R/TP	NLAS7222C
U4700	IC	EUSY0242303	DFN ,8 ,R/TP ,Fuel gauge ,; ,IC,CMOS	MAX17040G
U5300	IC	EUSY0250101	MSOP ,8 PIN,R/TP ,AC_182Vpp EL DRIV	D381B
U6100	IC	EUSY0390501	WLCSP ,20 ,R/TP ,; ,; ,IC,Audio Sub System	LM49151TLX
U6101	PLATE	MPFZ0049001	PRESS, BeCu, , , , ,	MPFZ0049001
U6102	PLATE	MPFZ0049001	PRESS, BeCu, , , , ,	MPFZ0049001
U6400	IC	EUSY0250501	SC70 ,5 PIN,R/TP ,Comparator	NCS2200SQ2T2G
U6500	IC	EUSY0254201	DFN ,12 PIN,R/TP ,Dual SPDT Analog Switch	NLAS3158MNR2G
U7500	IC	EUSY0238306	DFN ,8 PIN,R/TP ,heptic Driver	ISA1000
U7501	PLATE	MPFZ0048901	PRESS, BeCu, , , , ,	MPFZ0048901
U7502	PLATE	MPFZ0048901	PRESS, BeCu, , , , ,	MPFZ0048901
U7600	IC	EUSY0264502	DFN ,14 PIN,R/TP ,700mA Boost converter	AAT1270IFO-T1
U7900	IC	EUSY0408701	LGA ,16 ,R/TP ,Sensor ,; ,IC,A/D Converter	KR3DH
U7901	IC	EUSY0385501	,15 ,R/TP ,2.5*2.5, BGA ,; ,IC,PMIC	AK8973B
U8100	TCXO	EXST0001901	26 MHz,2.5 PPM,10 pF,SMD	TG-5010LH-87N
U8101	MODULE,ETC	SMZY0025101	WiFi(11bgn)+BT+FM Module 9.0x7.8x1.3,62Pin,	LBEH19UQJC-339
X1	OSCILLATOR	EXSY0025601	36 MHz,50 PPM,15 pF,SMD ,3.2*2.5*1.0 ,36M OSC	XE500L36003TEH
C5100	VARISTOR	SEVY0004101	5.6 V ,SMD ,360pF, 1005	ICVN0505X150FR
C5101	VARISTOR	SEVY0004101	5.6 V ,SMD ,360pF, 1005	ICVN0505X150FR
C5102	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5103	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5104	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5105	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5106	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5107	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5108	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5109	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT

Ref No	Part Name	Part Number	Spec	Maker No.
C5110	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5111	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5112	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5113	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5114	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5115	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5116	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C5117	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5118	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP	GRM1555C1H7R5D
C5119	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP	GRM1555C1H7R5D
C5120	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C5121	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C5122	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C5123	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5124	CAP,CERAMIC,CHIP	ECCH0017601	4.7 uF,6.3V ,M ,X5R ,HD ,1005 ,R/TP	CL05A475MQ5NRNC
C5125	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5126	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5127	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5129	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5130	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5131	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5132	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5133	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5134	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5135	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5136	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5137	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C5142	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP	CL05A225MQ5NNNC
C5144	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP	C1005C0G1H330JT
C7700	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C7701	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C9100	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP	C0603X5R0J104KT
C9101	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP	C0603X5R0J104KT
C9102	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP	C0603X5R0J104KT
C9103	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9104	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9105	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9106	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9107	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT

Ref No	Part Name	Part Number	Spec	Maker No.
C9108	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9109	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9110	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9111	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9112	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9113	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9114	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9115	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9116	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9117	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
C9118	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,X7R ,TC ,0603 ,R/TP	C0603C0G1H101JT
CON5100	CONNECTOR	ENBY0042501	80 PIN,0.4 mm,ETC	AXT580124
F5100	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filter	ICVE10184E070R100FR
F5101	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filter	ICVE10184E070R100FR
F5102	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filter	ICVE10184E070R100FR
F5103	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filter	ICVE10184E070R100FR
F5104	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filter	ICVE10184E070R100FR
F5105	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filter	ICVE10184E070R100FR
F5107	FILTER,EMI/POWER	SFEY0011701	SMD ,SMD ,18 V,4ch. EMI_ESD Filter	ICVE10184E070R100FR
LED9300	DIODE,LED,CHIP	EDLH0013701	WHITE ,ETC ,R/TP ,SIDEVIEW	LEWWS44PA
LED9301	DIODE,LED,CHIP	EDLH0013701	WHITE ,ETC ,R/TP ,SIDEVIEW	LEWWS44PA
LED9302	DIODE,LED,CHIP	EDLH0013701	WHITE ,ETC ,R/TP ,SIDEVIEW	LEWWS44PA
LED9303	DIODE,LED,CHIP	EDLH0013701	WHITE ,ETC ,R/TP ,SIDEVIEW	LEWWS44PA
LED9304	DIODE,LED,CHIP	EDLH0013701	WHITE ,ETC ,R/TP ,SIDEVIEW	LEWWS44PA
R103	RES,CHIP,MAKER	ERHZ0000242	220 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF2200
R104	RES,CHIP,MAKER	ERHZ0000201	100 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1000
R105	RES,CHIP,MAKER	ERHZ0000352	75 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZPF75R0
R5100	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
R5101	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
R5102	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
R5106	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
R5107	RES,CHIP,MAKER	ERHZ0000485	4700 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ472
R5108	RES,CHIP,MAKER	ERHZ0000206	10 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF10R0
R5109	VARISTOR	SEVY0003601	5.6 V ,SMD ,100pF, 1005	ICVL0505101V150FR
R9100	RES,CHIP	ERHY0009522	3.3 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ332
R9102	RES,CHIP	ERHY0009522	3.3 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP	MCR006MZPJ332
R9103	RES,CHIP,MAKER	ERHZ0000213	120 Kohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF1203
R9104	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9105	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700

Ref No	Part Name	Part Number	Spec	Maker No.
R9106	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9107	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9108	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9109	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9110	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9111	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9112	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9113	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9114	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9115	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9116	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9117	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9118	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9119	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP	MCR006YZPF4700
R9300	RES,CHIP,MAKER	ERHZ0000464	330 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ331
R9301	RES,CHIP,MAKER	ERHZ0000464	330 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ331
R9302	RES,CHIP,MAKER	ERHZ0000464	330 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ331
R9303	RES,CHIP,MAKER	ERHZ0000464	330 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ331
R9304	RES,CHIP,MAKER	ERHZ0000464	330 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ331
SPFY00	PCB,MAIN	SPFY0219001	FR-4 ,0.8 mm,LX-BUMP 10 ,MAIN ,,,,,,,,,,	SPFY0219001
U7700	IC	EUSY0362601	SSON004 ,4 ,R/TP ,Hall IC ,; ,IC,CMOS	BU52031NVX
U9100	IC	EUSY0300004	QFN ,28 ,R/TP ,Keycoder ic, 28pin, 64keys ,; ,IC	PP2106M2
WSYY00	SOFTWARE	WSYY1353001	VS740ZV6, 01, 2010/04/29-04:10:00:000	

Sub PCB Component List

Ref No	Part Name	Part Number	Spec	Maker No.
C101	CAP,CERAMIC,CHIP	ECCH0000117	27 pF,50V,J,NP0,TC,1005,R/TP	CL05C270JB5NNNC
C100,102	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
CN100	CONNECTOR	ENBY0042101	64 PIN, mm,STRAIGHT	AXT564124LG1
CN101	CONNECTOR	ENQY0014601	49 PIN,0.3 mm,ANGLE	04-6293-649-005-829+
MIC100	MICROPHONE	SUMY0010610	UNIT ,-42 dB,4.72*3.76*1.25 ,mems	SPM0410LR5H-QB
VA103	VARISTOR	SEVY0003601	5.6 V, ,SMD ,100pF, 1005	ICVL0505101V150FR
VA102	VARISTOR	SEVY0004101	5.6 V, ,SMD ,360pF, 1005	ICVN0505X150FR
U104	Sensor, Magnetic	EUSY0418401	HVSOF5 ,5 ,R/TP ,HVSOF5, 1.6x1.2, Hall IC	BU52014HFV
EAX010 100	PCB,Sub	SPJY0087801	R-4,0.5 mm,BUILD-UP 4	SPJY0087801

FPCB Component List

Ref No	Part Name	Part Number	Spec	Maker No.
C1	CAP,CERAMIC,CHIP	ECCH0005604	10000000 pF,6.3V ,M ,X5R ,TC ,1608	GRM188R60J106ME47D
C2	CAP,CERAMIC,CHIP	ECCH0017601	4.7 uF,6.3V ,M ,X5R ,HD ,1005 ,R/TP	CL05A475MQ5NRNC
C3	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP	GRM36X7R104K10PT
C4	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP	C1005X5R1A105KT
CON1	CONNECTOR	ENBY0042801	80 PIN,0.4 mm,ETC , , , , ,0.40MM	AXT680124
D1	DIODE,TVS	EDTY0010101	SOD-923 ,5 V,300 mW,R/TP	ESD9B5.0ST5G
D2	DIODE,TVS	EDTY0010101	SOD-923 ,5 V,300 mW,R/TP	ESD9B5.0ST5G
L1	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHLR10J
L2	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE	LL1005-FHLR10J
R4	RES,CHIP,MAKER	ERHZ0003801	5.1 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ5R1
R5	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP	MCR01MZSJ100
R7	RES,CHIP,MAKER	ERHZ0000286	4700 ohm,1/16W ,F ,1005 ,R/TP	MCR01MZSF4701
CON3	CONNECTOR	ENBY0042201	64 PIN, mm,STRAIGHT	AXT664124
CON4	CONNECTOR	ENBY0018501	10 PIN, .4 mm,STRAIGHT H=0.9,HEADER	AXK8L10125G
LED1	DIODE,LED,7-SEG	EDLS0002001	R/G/B ,3 DIGIT,R/TP ,1.6x1.6x0.35t	19-237/R6GBB6C-B01/2T
U1	IC	EUSY0388201	WSOF6 ,5 ,R/TP ,1.6*1.6 , , ,IC,PMIC	BH1621FVC
U2	IC	EUSY0376201	,8 ,R/TP , , , ,IC,PMIC	GP2AP002S00F