

Service Manual



Service Manual

LG-C710h



Model : LG-C710h

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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.

1. Introduction

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 except 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.

2. Performance

2.1 Product Name

C710H : WCDMA900/2100+EGSM/GSM850/DCS/PCS
(HSDPA 7.2Mbps GPRS Class 12 / EDGE Class 12)

2.2 Supporting Standard

Item	Feature	Comment
Supporting Standard	WCDMA(FDD1,8)/EGSM/GSM850/DCS1800/PCS1900 with seamless handover Phase 2+(include AMR) SIM Toolkit: Class 1, 2, 3, C-E	
Frequency Range	WCDMA(FDD1) TX : 1920 – 1980 MHz WCDMA(FDD1) RX : 2110 – 2170 MHz WCDMA(FDD8) TX : 880 – 915 MHz WCDMA(FDD8) RX : 925 – 960 MHz EGSM TX: 880 – 915 MHz EGSM RX: 925 – 960 MHz GSM850 TX: 824 – 849 MHz GSM850 RX: 869 – 894 MHz DCS1800 TX : 1710 – 1785 MHz DCS1800 RX: 1805 – 1880 MHz PCS1900 TX: 1850 – 1910 MHz PCS1900 RX: 1930 – 1990 MHz	
Application Standard	JAVA 2.0	

2.3 Main Parts : GSM Solution

Item	Part Name	Comment
Digital Baseband	MSM7227 : Qualcomm	
Analog Baseband	PM7540 : Qualcomm	
RF Chip	RTR6285 : Qualcomm	

2. Performance

2.4 HW Features

Item		Feature	Comment
Form Factor		Side Slide Qwerty type	
Battery	1) Capacity Standard : Li-Ion polymer, 1500mAh		
	2) Packing Type : Soft Pack		
Size		Standard : 116 x 56.5 x 15.5mm	
Weight		167g With Battery	
Volume		TBD	
PCB		All Layer (10) , 0.8t	
Stand by time		2G Up to 400 hrs	@ Paging Period 5 (2G)
		3G Up to 400 hrs	@ DRX 7 (3G)
Charging time		3 hrs	@ Power Off / 1500mAh
Talk time		2G Up to 4 hrs	@ Power Level 5 (2G)
		3G Up to 5 hrs	@ Tx = 12dBm (3G)
RX sensitivity		WCDMA(FDD1) : -108 dBm WCDMA(FDD2) : -107.5 dBm WCDMA(FDD8) : -108 dBm EGSM : -107 dBm GSM850 : -107 dBm DCS 1800 : -107 dBm PCS 1900 : -107 dBm	
TX output power	WCDMA/ GSM/ GPRS	WCDMA : 22.5dBm/3.84MHz,+1/-3dBm EGSM : 32.5dBm GSM850 : 32.5 dBm DCS1800 : 29.5 dBm PCS 1900: 29.5 dBm	Class3(WCDMA) Class4 (EGSM) Class4 (GSM850) Class1 (PCS) Class1 (DCS)
	EDGE	GSM 900 : 27 dBm DCS 1800 : 26 dBm PCS 1900 : 26 dBm	E2 (GSM900) E2 (PCS) E2 (DCS)
GPRS compatibility		GPRS Class 12	
EDGE compatibility		EDGE Class 12	
SIM card type		Plug-In SIM 3V /1.8V	

2. Performance

Display	Main LCD TFT Main LCD(3.2', 480 x 800)	
Built-in Camera	5M CMOS Camera	
Status Indicator	Yes	
Keypad	Touch Screen tact Key : Send, Home, Menu, End Side Key : 3 Qwerty key,	Side Key : Camera Volume up/down
ANT	Main : Internal Fixed Type	
System connector	5 Pin	
Ear Phone Jack	3.5Phi	
PC synchronization	Yes	
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 72Poly	
Music Player	MP3/WMA/AAC/MIDI/EAAC+/HE AAC/OGG	
Video Player	MPEG4, H.264	
Camcorder	MPEG4 or H.263	
Voice Recording	Yes	
Speaker Phone mode Support	Yes	
Travel Adapter	Yes	
CDROM	Yes	
Stereo Headset	Yes	
Data Cable	Yes	
T-Flash (External Memory)	Yes	

2. Performance

2.5 SW Features

Item	Feature	Comment
RSSI	0 ~ 4 Levels	
Battery Charging	0 ~ 6 Levels	
Key Volume	0 ~ 7 Level	
Audio Volume	1 ~ 20 Level	
Time / Date Display	Yes	
Multi-Language	Yes	English/French/German/Spanish/Italian/Danish/Dutch/Korean
Quick Access Mode	Dialing/ Contact / Menu / Message / Camera	
PC Sync	Yes	
Speed Dial	No	Voice mail center -> 1 key
Profile	Yes	not same with feature phone setting
CLIP / CLIR	Yes	
Phone Book	Name / Number / Email / Chat Id/ Website/Postal addresses/Organizations/Groups/ BirthdayNotes / Ringtone	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 up to a total of 500.
Last Received Number	Yes	Last Dial Numbers, Last Received Numbers and Last Missed Numbers can store up to a total of 500.
Last Missed Number	Yes	Last Dial Numbers, Last Received Numbers and Last Missed Numbers can store up to a total of 500.
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	Yes	
Service Dial Number	No	
Own Number	Yes	Read only (add/edit/delete are not

2. Performance

		supported)
Voice Memo	Yes	
Call Reminder	No	
Network Selection	Automatic	
Mute	Yes	
Call Divert	Yes	
Call Barring	Yes	
Call Charge (AoC)	Yes	
Call Duration	Yes	
SMS (EMS)	There is no limitation on the number of items. It depends on available memory amount.	EMS does not support.
SMS Over GPRS	No	
EMS Melody / Picture	No	
Send / Receive / Save	No	
MMS MPEG4 Send / Receive / Save	Yes	
Long Message	MAX 459 characters	SMS 3pages
Cell Broadcast	Yes	
Download	Over the Web	
Game	Yes	
Calendar	Yes	
Memo	Yes	There is no limitation on the number of items. It depends on available memory amount.
World Clock	Yes	Dual Clock Widget application
Unit Convert	No	
Stop Watch	No	
Wall Paper	Yes	
WAP Browser	No	Support only web browser based on webkit. WAP stack and wml are not supported.
Download Melody / Wallpaper	Yes	Over web browser

2. Performance

SIM Lock	Yes	Operator Dependent
SIM Toolkit	Class 1, 2, 3, C	
MMS	Yes	Google MMS Client
EONS	Yes	
CPHS	Yes	V4.2
ENS	No	
Camera	Yes	5M AF / Digital Zoom : x4
JAVA	No	
Voice Dial	Yes	Nuance VSuite
IrDa	No	
Bluetooth	Yes	Ver. 2.1+EDR (HSP,HFP,A2DP,AVRCP)
FM radio	Yes	
GPRS	Yes	Class 12
EDGE	Yes	Class 12
Hold / Retrieve	Yes	
Conference Call	Yes	Max. 6
DTMF	Yes	
Memo pad	Yes	Memo Widget Application
TTY	Yes	
AMR	Yes	
SyncML	No	
IM	No	
Email	Yes	

2.6. HW SPEC.

1) GSM transceiver specification

Item	Specification
Phase Error	Rms : 5° Peak : 20°
Frequency Error	GSM : 0.1 ppm DCS/PCS : 0.1 ppm
EMC(Radiated Spurious Emission Disturbance)	GSM/DCS : < -28dBm
Transmitter Output power and Burst Timing	GSM : 5dBm – 33dBm ± 3dB DCS/PCS : 0dBm – 30dBm ± 3dB
Burst Timing	<3.69us
Spectrum due to modulation out to less than 1800kHz offset	200kHz : -36dBm 600kHz : -51dBm/-56dBm
Spectrum due to modulation out to larger than 1800kHz offset to the edge of the transmit band	GSM : 1800-3000kHz : < -63dBc(-46dBm) 3000kHz-6000kHz : < -65dBc(-46dBm) 6000kHz < : < -71dBc(-46dBm) DCS : 1800-3000kHz : < -65dBc(-51dBm) 6000kHz < : < -73dBc(-51dBm)
Spectrum due to switching transient	400kHz : -19dBm/-22dBm(5/0), -23dBm 600kHz : -21dBm/-24dBm(5/0), -26dBm
Reference Sensitivity – TCH/FS	Class II(RBER) : -105dBm(2.439%)
Usable receiver input level range	0.012(-15 - -40dBm)
Intermodulation rejection – Speech channels	± 800kHz, ± 1600kHz : -98dBm/-96dBm (2.439%)
AM Suppression – GSM : -31dBm – DCS : -29dBm	-98dBm/-96dBm (2.439%)
Timing Advance	± 0.5T

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2) WCDMA transmitter specification

Item	Specification
Transmit Frequency	Band1 : 1920 MHz ~ 1980 MHz Band8 : 880MHz~915MHz
Maximum Output Power	+24 dBm / 3.84 MHz, +1 / -3 dB
Frequency Error	within ± 0.1 PPM
Open Loop Power Control	Normal Conditions : within ± 9 dB, Extreme Conditions : within ± 12 dB
Minimum Transmit Power	< -50 dBm / 3.84 MHz
Occupied Bandwidth	< 5 MHz at 3.84 Mcps (99% of power)
Adjacent Channel Leakage Power Ratio (ACLR)	> 33 dB @ ± 5 MHz, > 43 dB @ ± 10 MHz
Spurious Emissions $ f-f_c > 12.5$ MHz	< -36 dBm / 1 kHz RW @ $9 \text{ kHz} \leq f < 150 \text{ kHz}$ < -36 dBm / 10 kHz RW @ $150 \text{ kHz} \leq f < 30 \text{ MHz}$ < -36 dBm / 100 kHz RW @ $30 \text{ MHz} \leq f < 1 \text{ GHz}$ < -30 dBm / 1 MHz RW @ $1 \text{ GHz} \leq f < 12.75 \text{ GHz}$ < -60 dBm / 3.84 MHz RW @ $869 \text{ MHz} \leq f \leq 894 \text{ MHz}$ < -60 dBm / 3.84 MHz RW @ $1930 \text{ MHz} \leq f \leq 1900 \text{ MHz}$ < -60 dBm / 3.84 MHz RW @ $2110 \text{ MHz} \leq f \leq 2155 \text{ MHz}$ < -67 dBm / 100 kHz RW @ $925 \text{ MHz} \leq f \leq 935 \text{ MHz}$ < -79 dBm / 100 kHz RW @ $935 \text{ MHz} < f \leq 960 \text{ GHz}$ < -71 dBm / 100 kHz RW @ $1805 \text{ MHz} \leq f \leq 1880 \text{ MHz}$ < -41 dBm / 300 kHz RW @ $1884.5 \text{ MHz} < f < 1919.6 \text{ MHz}$
Transmit Intermodulation	< -31 dBc @ 5 MHz & < -41 dBc @ 10 MHz when Interference CW Signal Level = -40 dBc
Error Vector Magnitude	< 17.5 %, when Pout $\geq$ -20 dBm
Peak Code Domain Error	< -15 dB at Pout $\geq$ -20 dBm

3) WCDMA receiver specification

Item	Specification
Receive Frequency	Band1 : 2110 ~ 2170 MHz Band8 : 925~960MHz
Reference Sensitivity Level	Band1 : BER < 0.001 when I _{or} = -106.7 dBm / 3.84 MHz Band8 : BER < 0.001 when I _{or} = -103.7 dBm / 3.84 MHz
Maximum Input Level	BER < 0.001 when I _{or} = -25 dBm / 3.84 MHz
Adjacent Channel Selectivity (ACS)	ACS > 33 dB where BER < 0.001 when I _{or} = -92.7 dBm / 3.84 MHz & I _{oac} = -52 dBm / 3.84 MHz @ ±5 MHz
Blocking Characteristic	BER < 0.001 when I _{or} = -103.7 dBm / 3.84 MHz & I _{blocking} = -56 dBm / 3.84 MHz @ F _{uw} (offset) = ±10 MHz or I _{blocking} = -44 dBm / 3.84 MHz @ F _{uw} (offset) = ±15 MHz
Spurious Response	BER < 0.001 when I _{or} = -103.7 dBm / 3.84 MHz & I _{blocking} = -44 dBm
Intermodulation	BER < 0.001 when I _{or} = -103.7 dBm / 3.84 MHz & I _{ouw1} = -46 dBm @ F _{uw1} (offset) = ±10 MHz & I _{ouw2} = -46 dBm / 3.84 MHz @ F _{uw2} (offset) = ±20 MHz
Spurious Emissions	< -57 dBm / 100 kHz BW @ 9 kHz ≤ f < 1 GHz < -47 dBm / 1 MHz BW @ 1 GHz ≤ f ≤ 12.75 GHz
Inner Loop Power Control In Uplink	Adjust output(TPC command) cmd 1dB 2dB 3dB +1 +0.5/1.5 +1/3 +1.5/4 0 -0.5/+0.5 -0.5/+0.5 -0.5/+0.5 -1 -0.5/-1.5 -1/-3 -1.5/-4 group(10equal command group) +1 +8/+12 +16/+24

2. Performance

4) HSDPA transmitter specification

Item	Specification				
Transmit Frequency	Band1 : 1920 MHz ~ 1980 MHz Band8 : 880MHz~915 MHz				
Maximum Output Power	Sub-Test 1=1/15, 2=12/15 21~25dBm / 3.84 MHz 3=13/15 4=15/8 20~25dBm / 3.84 MHz 5=15/7 6=15/0 19~25dBm / 3.84 MHz				
HS-DPCCH	Sub-test in table C.10.1.4	Power step	Power step slot boundary	Power step size, P [dB]	Transmitter power step tolerance [dB]
	5	1	Start of Ack/Nack	6	+/- 2.3
		2	Start of CQI	1	+/- 0.6
		3	Middle of CQI	0	+/- 0.6
Spectrum Emission Mask	Sub-Test : 1=1/15, 2=12/15, 3=13/15, 4=15/8, 5=15/7, 6=15/0				
	Frequency offset from carrier Δf		Minimum requirement		Measurement Bandwidth
	2.5 ~ 3.5 MHz		-35-15 $\times(\Delta f$ -2.5)dBc		30 kHz
	3.5 ~ 7.5 MHz		-35-1 $\times(\Delta f$ -3.5)dBc		1 MHz
	7.5 ~ 8.5 MHz		-35-10 $\times(\Delta f$ -7.5)dBc		1 MHz
	8.5 ~ 12.5 MHz		-49dBc		1 MHz
Adjacent Channel Leakage Power Ratio (ACLR)	Sub-Test : 1=1/15, 2=12/15, 3=13/15, 4=15/8, 5=15/7, 6=15/0 > 33 dB @ ± 5 MHz > 43 dB @ ± 10 MHz				
Error Vector Magnitude	< 17.5 %, when Pout $\geq$ -20 dBm				

5) HSDPA receiver specification

Item	Specification
Receive Frequency	Band1 : 2110 ~ 2170 MHz Band8 : 925 ~ 960Hz
Maximum Input Level (BLER or R), 16QAM Only	Sub-Test : 1=1/15, 2=12/15, 3=13/15, 4=15/8, 5=15/7, 6=15/0 BLER < 10% or R >= 700kbps

6) WLAN 802.11b transceiver specification

Item	Specification
Transmit Frequency	2400 MHz ~ 2483.5 MHz (CH1~CH13)
Tx Power Level	≤ 20dBm under (Europe), ≤ 30dBm under (USA)
Frequency Tolerance	within ±25 PPM
Chip clock Frequency Tolerance	within ±25 PPM
Spectrum Mask	≤ -30 @ $f_c - 22\text{MHz} < f < f_c - 11\text{MHz}$ and $f_c + 11\text{MHz} < f < f_c + 22\text{MHz}$ ≤ -50 @ $f < f_c - 22\text{MHz}$ and $f > f_c + 22\text{MHz}$
Power ramp on/off time	≤ 2us
Carrier Suppression	≤ -15dB
Modulation Accuracy (Peak EVM)	≤ 35%
Spurious Emissions	< -36 dBm @ 30MHz ~ 1GHz < -30 dBm above @ 1GHz ~ 12.75GHz < -47 dBm @ 1.8GHz ~ 1.9GHz < -47 dBm @ 5.15GHz ~ 5.3GHz
Rx Min input Sensitivity	≤ -76dBm(1Mbps,2Mbps,5.5Mbps,11Mbps) @ FER ≤ 8%
Rx Max input Sensitivity	≥ -10dBm(1Mbps,2Mbps,5.5Mbps,11Mbps) @ FER ≤ 8%
Rx Adjacent Channel Rejection	≥ 35dB @ FER ≤ 8%, interference input signal -70dBm@ $f_c \pm 25\text{MHz}$ (11Mbps)

2. PERFORMANCE

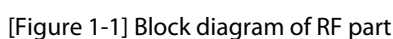
7) WLAN 802.11g transceiver specification

Item	Specification
Transmit Frequency	2400 MHz ~ 2483.5 MHz (CH1~CH13)
Tx Power Level	≤ 20dBm under (Europe), ≤ 30dBm under (USA)
Frequency Tolerance	within ±25 PPM
Chip clock Frequency Tolerance	within ±25 PPM
Spectrum Mask	≤ -20 @ ±11MHz offset (9Mhz ~ 11MHz) ≤ -28 @ ±20MHz offset (11MHz ~ 20Mhz) ≤ -40 @ ±30MHz offset (20MHz ~ 30Mhz)
Transmitter constellation error (rms EVM)	≤ -5dB
Spurious Emissions	< -36 dBm @ 30MHz ~ 1GHz < -30 dBm above @ 1GHz ~ 12.75GHz < -47 dBm @ 1.8GHz ~ 1.9GHz < -47 dBm @ 5.15GHz ~ 5.3GHz
Rx Min input Sensitivity	PER ≤ 10% -82dBm@6Mbps, -81dBm@9Mbps, -79dBm@12Mbps -77dBm@18Mbps, -74dBm@24Mbps, -70dBm@36Mbps -66dBm@48Mbps, -65dBm@54Mbps
Rx Max input Sensitivity	≥ -20dBm(6,9,12,18,24,36,48,54Mbps) @ PER ≤ 10%
Rx Adjacent Channel Rejection	PER ≤ 10%, ACR ≥ 16dB@6Mbps, ACR ≥ 15dB@9Mbps, ACR ≥ 13dB@12Mbps, ACR ≥ 11dB@18Mbps, ACR ≥ 8dB@24Mbps, ACR ≥ 4dB@36Mbps ACR ≥ 0dB@48Mbps, ACR ≥ -1dB@54Mbps ※ ACR shall be measured by setting the desired signal's strength 3 dB above the rate-dependent sensitivity specified in min input sensitivity

8) GPS receiver specification

Item	Specification
Receive Frequency	1574.42 MHz ~ 1576.42 MHz
Minimum Sensitivity	1 satellite ≥ -142dBm, 7 satellites ≥ -147dBm at coarse time aiding

The C710H supports UMTS-850, UMTS-1900, UMTS-2100, GSM-850, GSM-850, GSM-900, GSM-1800, and GSM-1900 based GSM/GPRS/EDGE/UMTS. All receivers and the UMTS transmitter use the radioOne1Zero-IF architecture to eliminate intermediate frequencies, directly converting signals between RF and baseband. The quad-band GSM transmitters use a baseband-to-IF up-conversion followed by an offset phase-locked loop that translates the GMSK-modulated or 8-PSK-modulated signal to RF.



3. TECHNICAL BRIEF

A generic, high-level functional block diagram of C710H is shown in Figure 1-1. One antenna collects base station forward link signals and radiates handset reverse link signals. The antenna connects with receive and transmit paths through a ASM(Antenna-Switch-Module).

The UMTS receive paths each include an LNA, an RF band-pass filter, and a down-converter that translate the signal directly from RF-to-baseband using radioOne ZIF techniques. The RFIC's Rx analog baseband outputs, for the receive chains, connect to the MSM IC. The UMTS and GSM Rx baseband outputs share the same inputs to the MSM IC.

For the transmit chains, the RTR6285 IC directly translates the Tx baseband signals (from the MSM device) to an RF signal using an internal LO generated by integrated on chip PLL and VCO. The RTR6285 IC outputs deliver fairly high-level RF signals that are first filtered by Tx SAWs and then amplified by their respective UMTS PAs. In the GSM receive path, the received RF signals are applied through their band-pass filters and down-converted directly to baseband in the RTR6285 transceiver IC. These baseband outputs are shared with the UMTS receiver and routed to the MSM IC for further signal processing.

The GSM/EDGE transmit path employs one stage of up-conversion and, in order to improve efficiency, is divided into phase and amplitude components to produce an open-loop Polar topology:

1. The on-chip quadrature up-converter translates the GMSK-modulated signal or 8-PSK modulated signal, to a constant envelope phase signal at RF;
2. The amplitude-modulated (AM) component is applied to the ramping control pin of Polar power amplifier from a DAC within the MSM C710H power supply voltages are managed and regulated by the PM7540 Power Management IC. This versatile device integrates all wireless handset power management, general housekeeping, and user interface support functions into a single mixed signal IC.

It monitors and controls the external power source and coordinates battery recharging while maintaining the handset supply voltages using low dropout, programmable regulators.

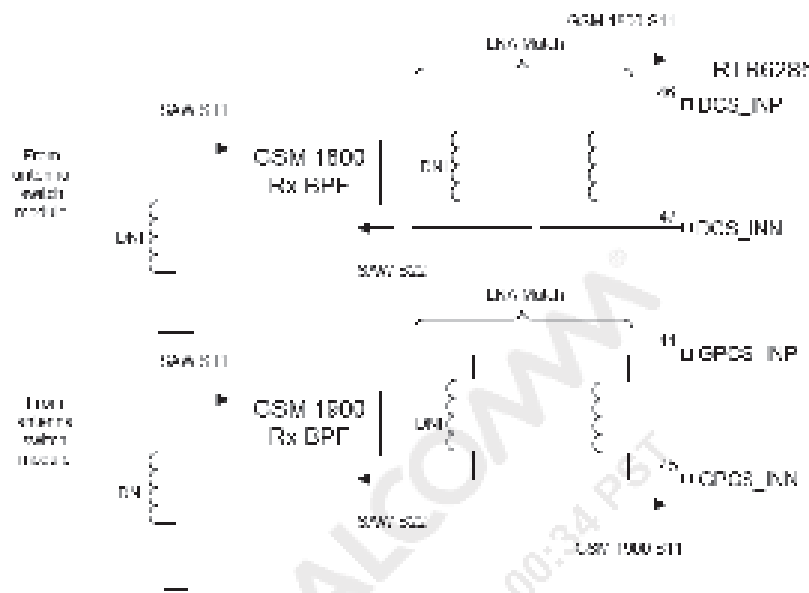
The device's general housekeeping functions include an ADC and analog multiplexer circuit for monitoring on-chip voltage sources, charging status, and current flow, as well as user-defined off-chip variables such as temperature, RF output power, and battery ID.

Various oscillator, clock, and counter circuits support IC and higher-level handset functions. Key parameters such as under-voltage lockout and crystal oscillator signal presence are monitored to protect against detrimental conditions.

3.2 GSM MODE

3.2.1 GSM RECEIVER

The GSM-850, GSM-900, GSM-1800, and GSM-1900 receiver inputs of RTR6285 are connected directly to the transceiver front-end Module. GSM-850, GSM-900, GSM-1800, and GSM-1900 receiver inputs use differential configurations to improve common-mode rejection and second-order non-linearity performance. For example Figure 1-2 shows receiver input topologies for DCS and PCS (GSM-850/900 have the same receiver input topologies). The balance between the complementary signals is critical and must be maintained from the RF filter outputs all the way into the IC pins.



[Figure 1-2] DCS and PCS Receiver Inputs Topologies

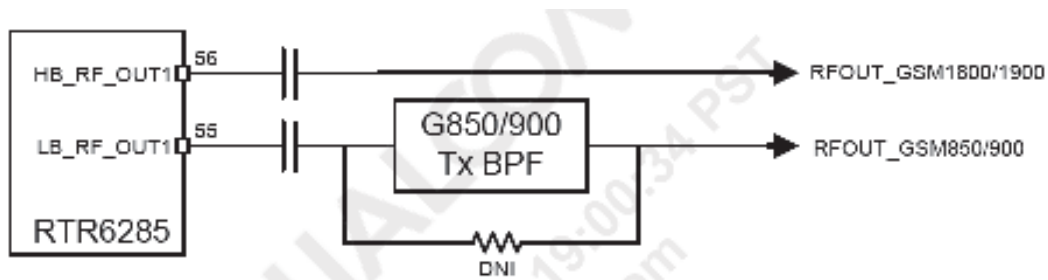
Since GSM-850, GSM-900, GSM-1800, and GSM-1900 signals are time-division duplex (the handset can only receive or transmit at one time), switches are used to separate Rx and Tx signals in place of frequency duplexers – this is accomplished in the switch module. The GSM-850, GSM-900, GSM-1800, and GSM-1900 receive signals are routed to the RTR6285 through band selection filters and matching networks that transform single-ended 50-Ω sources to differential impedances optimized for gain and noise figure. The RTR input uses a differential configuration to improve second-order intermodulation and common mode rejection performance. The RTR6285 input stages include MSM-controlled gain adjustments that maximize receiver dynamic range.

The amplifier outputs drive the RF ports of the quadrature RF-to-baseband down converters. The down converted baseband outputs are multiplexed and routed to low pass filters (one I and one Q) having pass band and stop band characteristics suitable for GMSK or 8-PSK processing. These filter circuits include DC offset corrections. The filter outputs are buffered and passed on to the MSM7227 IC for further processing as shown in Figure 1-4.

3. TECHNICAL BRIEF

3.2.2 GSM TRANSMITTER

The RTR6285 transmitter outputs(HB_RF_OUT1 and LB_RF_OUT1) include on-chip output matching inductors. 50ohm output impedance is achieved by adding a series capacitor at the output pins. The capacitor value may be optimized for specific applications and PCB characteristics based on pass-band symmetry about the band center frequency as shown in Figure 1-3.



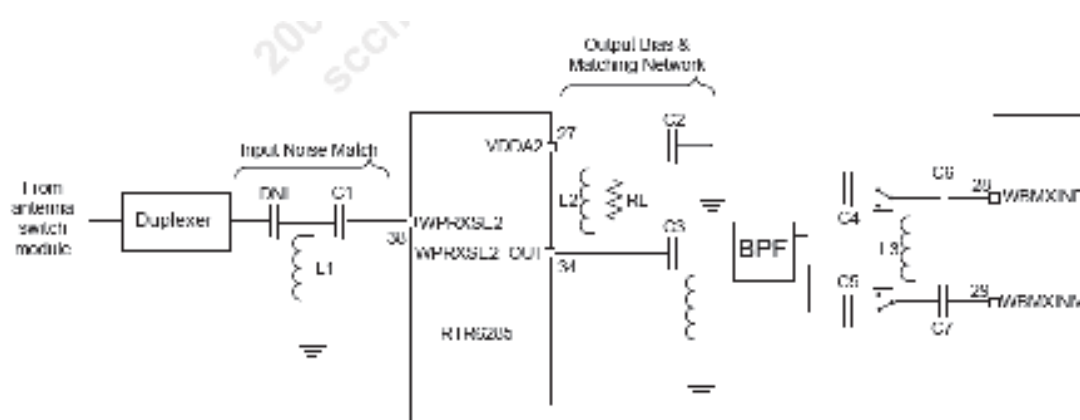
[Figure 1-3] GSM Transmitter Outputs Topologies

The RTR6285 IC is able to support GSM 850/900 and GSM 1800/1900 mode transmitting. This design guideline shows a tri-band GSM application. Both high-band and low band outputs are followed by resistive pads to ensure that the load presented to the outputs remains close to 50ohm.

3.3 UMTS MODE

3.3.1 UMTS RECEIVER

The UMTS duplexer receiver output is routed to LNA circuits within the RTR6285 device as shown in Figure 1-4. The UMTS Rx input is provided with an on-chip LNA that amplifies the signal before a second stage filter that provides differential downconverter as shown in Figure 1-5. This second stage input is configured differentially to optimize secondorder intermodulation and common mode rejection performance. The gain of the UMTS frontend amplifier and the UMTS second stage differential amplifier are adjustable, under MSM control, to extend the dynamic range of the receivers. The second stage UMTS Rx amplifiers drive the RF ports of the quadrature RF-to-baseband downconverters. The downconverted UMTS Rx baseband outputs are routed to lowpass filters having passband and stopband characteristics suitable for UMTS Rx processing. These filter circuits allow DC offset corrections, and their differential outputs are buffered to interface shared with GSM Rx to the MSM IC. The UMTS baseband outputs are turned off when the RTR6285 is downconverting GSM signals and on when the UMTS is operating.



[Figure 1-4] UMTS Receiver Inputs Topologies

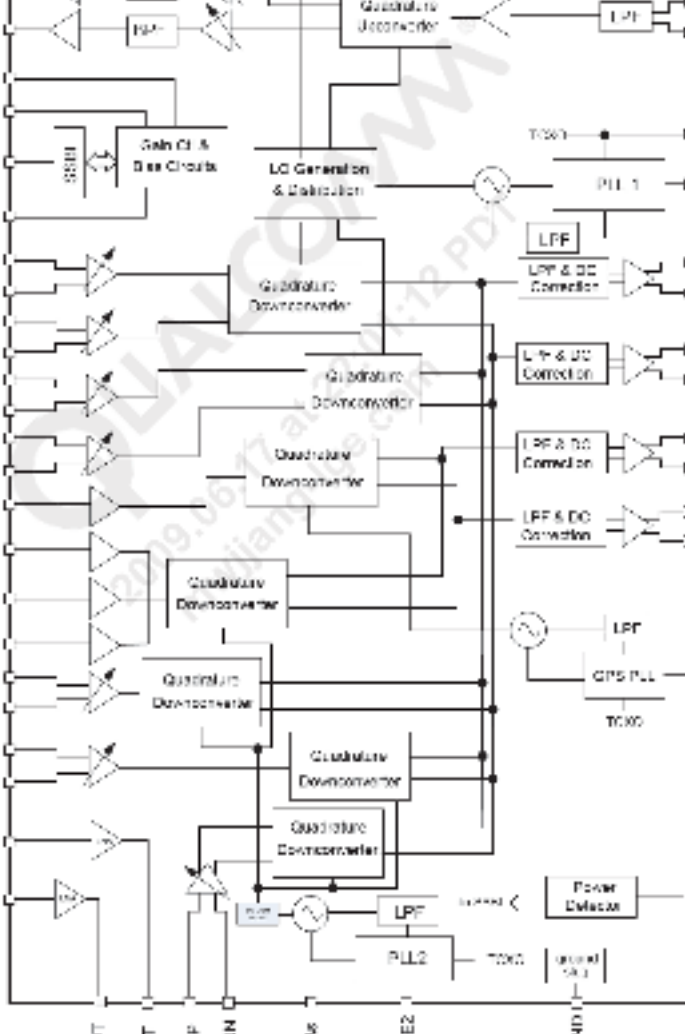
3. TECHNICAL BRIEF

3.3.2 UMTS TRANSMITTER

The UMTS Tx path begins with differential baseband signals (I and Q) from the MSM device. These analog input signals are amplified, filtered, and applied to the quadrature up-converter mixers. The up-converter output is amplified by multiple variable gain stages that provide transmit AGC control. The AGC output is filtered and applied to the driver amplifier; this output stage includes an integrated matching inductor that simplifies the external matching network to a single series capacitor to achieve the desired 50-Ω interface.

The RTR6285 UMTS output is routed to its power amplifier through a bandpass filter, and delivers fairly high-level signals that are filtered and applied to the PA. Transmit power is delivered from the duplexer to the antenna through the switch module. The transceiver LO synthesizer is contained within the RTR6285 IC with the exception of the off-chip loop filter components and the VC-TCXO. This provides a simplified design for multimode applications. The PLL circuits include a reference divider, phase detector, charge pump, feedback divider, and digital logic generator.

UMTS Tx. Using only PLL1, the LO generation and distribution circuits create the necessary LO signals for nine different frequency converters. The UMTS transmitter also employs the ZIF architecture to translate the signal directly from baseband to RF. This requires FLO to equal FRF, and the RTR6285 IC design achieves this without allowing FVCO to equal FRF. The RTR6285 IC is able to support UMTS 2100/1900/1800/1700 and 850 mode transmitting. This design guideline shows only UMTS 2100 applications.

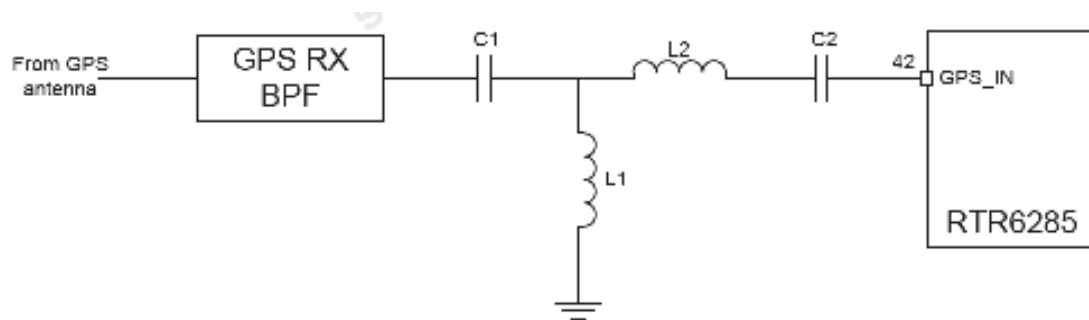


[Figure 1.5] RTR6285 IC Functional Block Diagram

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3.4 GPS RECEIVER

The GPS receiver input employs a single-ended connection realized by this pin. The GPS input is routed from the GPS antenna switch, through a band pass filter and then an impedance transformer circuit that optimally matches the impedance looking into the GPS LNA. The impedance transformer circuit topology is shown in Figure 1-6.



[Figure 1.6] GPS Input Network Topology

3.5 LO GENERATION and DISTRIBUTION CIRCUIT

The integrated LO generation and distribution circuits are driven by internal VCOs to support various modes to yield highly flexible quadrature LO outputs that drive all GSM/EDGE, UMTS band and GPS up-converters and down-converters; with the help of these LO generation and distribution circuits, true zero-IF architecture is employed in all GSM and UMTS band receivers and transmitters to translate the signal directly from RF-to-baseband and from baseband-to-RF. Two fully functional fraction-N synthesizers, including VCOs and loop filters, are integrated within the RTR6285 IC. In addition, the RTR6285 has a third synthesizer used for GPS operation. The first synthesizer (PLL1) in the RTR6285 creates the transceiver LOs that support the UMTS transmitter, and all four GSM band receivers and transmitters including: GSM850, GSM900, GSM1800, and GSM1900. The second synthesizer (PLL2) in the RTR6285 IC provides the LO for the UMTS primary receiver. For the RTR6285 IC only, the second synthesizer also provides the LO for the secondary UMTS receiver. The third synthesizer (PLL3), only in the RTR6285 IC, provides the LO for the GPS receiver. An external TCXO input signal is required to provide the synthesizer frequency reference to which the PLL is phase and frequency locked. The RTR6285 ICs integrate most of the PLL loop filter components on-chip except for three off-chip loop filter-series capacitors, which significantly reduces off-chip component requirement. With the integrated fractional-N PLL synthesizers, the RTR6285 ICs have the advantage of more flexible loop bandwidth control, fast lock time, and low-integrated phase error.

3. TECHNICAL BRIEF

3.6 OFF-CHIP RF COMPONENTS

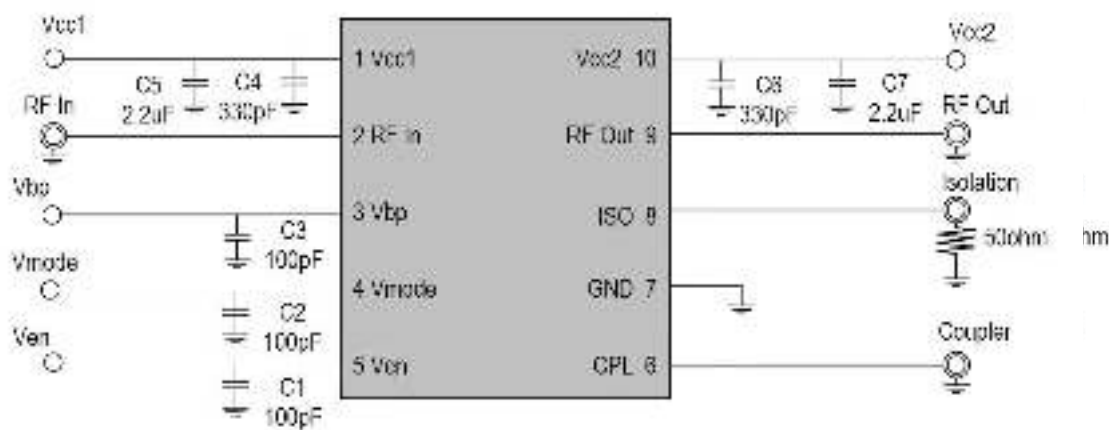
3.6.1. UMTS PAM

3.6.1.1 W2100 (U102, ACPM-5201)

The ACPM-5201 is a fully matched 10-pin surface mount module developed for UMTS Band1. This power amplifier module operates in the 1920-1980MHz bandwidth. The ACPM-5201 meets stringent UMTS linearity requirements up to 27.5dBm output power. The 3mmx3mm form factor package is self contained, incorporating 50ohm input and output matching networks

The ACPM-5201 features 5th generation of CoolPAM circuit technology which supports 3 power modes – bypass, mid and high power modes. The CoolPAM is stage bypass technology enhancing PAE (power added efficiency) at low and medium power range. Active bypass feature is added to 5th generation to enhance PAE further at low output range. This helps to extend talk time. A directional coupler is integrated into the module and both coupling and isolation ports are available externally, supporting daisy chain.

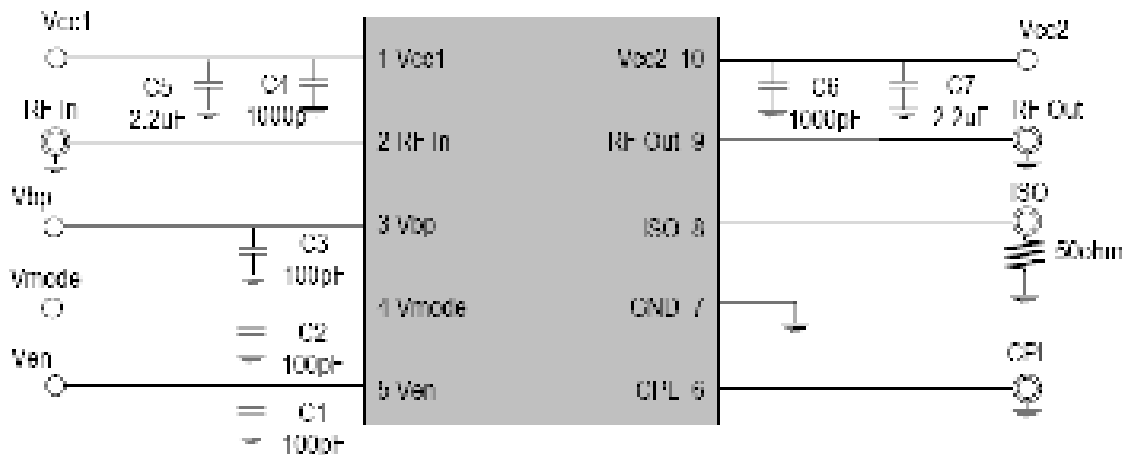
The power amplifier is manufactured on an advanced InGaP HBT (hetero-junction Bipolar Transistor) MMIC microwave monolithic integrated circuit) technology offering state-of-the-art reliability, temperature stability and ruggedness



[Figure 1.7] ACPM-5201 (W2100)

3.6.1.2 W1900 (U103, ACPM-5202)

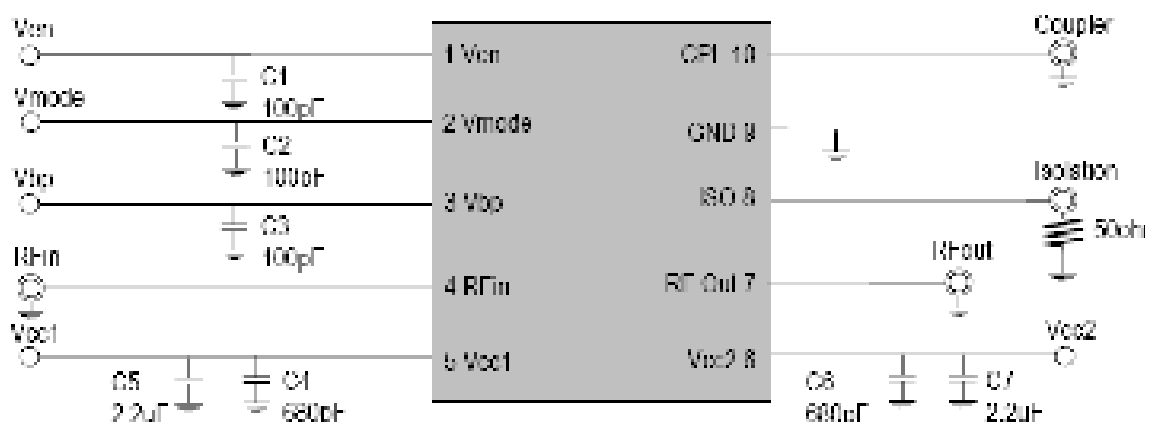
This power amplifier module operates in the 1850-1910MHz bandwidth. The ACPM-5202 meets stringent UMTS linearity requirements up to 28dBm output power (Rel99).



[Figure 1.8] ACPM-5202 (W1900)

3.6.1.3 W850 (U101, ACPM-5305)

This power amplifier module operates in the 824-849MHz bandwidth. The ACPM-5305 meets stringent UMTS linearity requirements up to 28dBm output power.



[Figure 1.9] ACPM-5305 (W850)

3. TECHNICAL BRIEF

3.6.2 19.2MHz VCTCXO (X200, KT3225L19200DCW28RA0)

The Voltage Controlled Temperature Compensated Crystal Oscillator (VCTCXO) provides the reference frequency for all RFIC synthesizers as well as clock generation functions within the MSM6285 IC. The oscillator frequency is controlled by the MSM6285 ICs.

TRK_LO_ADJ pulse density modulated signal in the same manner as the transmit gain control TX_AGC_ADJ. A two-pole RC low pass filter is recommended on this control line.

The PM7540 IC controls the handset power-up sequence, including a special VCTCXO warm-up interval before other circuits are turned on. This warm-up interval (as well as other TCXO controller functions) is enabled by the MSM TCXO_EN line. The PM7540 IC VREG_TCXO regulated output voltage is used to power the VCTCXO and is enabled before most other regulated outputs. Any GSM mode power control circuits within the MSM7227 IC require a reference voltage for proper operation and sufficient accuracy. Connecting the PM7540 IC REF_OUT directly to the MSM7227 IC GSM_PA_PWR_CTL_REF provides this reference. This sensitive analog signal needs a 0.1 μ F low frequency filter near to MSM side, and isolate from digital logic and clock traces with ground on both sides, plus ground above and below if routed on internal layers.

ELECTRICAL CHARACTERISTICS
(Ta=25 $\pm$ 1-2deg.C, Vcc=2.8V $\pm$ 1-5%)

ITEMS	MIN.	TYP.	MAX.	UNIT	CONDITIONS	REMARKS
> Nominal Frequency	---	19.20000	---	MHz	Vcc=0.4V $\pm$ 4%, Vcom=0.4 to 2.4V	
Output Voltage(Peak to Peak)	0.8	---	---	V	Load 40pF/50ohm	Ta=30 to +85deg.C, DC Flow
> Power Supply Current	---	---	1.0	mA		
> Frequency Tolerance	-1.5	---	+1.5	ppm	Power Frequency and after 21min reflow soldering	Ta=25 $\pm$ 2deg.C, Vcom=1.4V
Frequency Stability	2.0	---	+2.0	ppm	Ta= 30 to +95deg.C	ref: Ta=25deg.C
	-0.2	---	+0.2	ppm	Load 40pF $\pm$ 10%, 10ohm $\pm$ 10%	
	0.2	---	+0.2	ppm	Voltage 2.0V $\pm$ 5%	
Frequency Stability Slope	-0.15	---	+0.15	ppm/deg.C	Ta=10 to +60deg.C	
	0.3	---	+0.3	ppm/deg.C	Ta=10 to +10deg.C, +60 to +85deg.C	
Frequency Aging Rate	-0.7	---	+0.7	ppm/Y	Ta=25 $\pm$ 2deg.C	One Year
Voltage Control Range	12.0	---	7.0	ppm	Vcom=0.4V	ref: Vcom=1.4V
	7.5	---	12.0	ppm	Vcom=2.4V	
Start up Time	---	---	3.0	ms	90% Δ p-p	Ta=30 to +85deg.C
	---	---	3.0	ms	Within $\pm$ 0.5ppm	
Duty Cycle	40	---	60	%		
Harmonics	---	---	-5.0	dBc		Ta=30 to +85deg.C
SSB Carrier Noise	---	---	-85	dBc/Hz	@10Hz offset	Ta=25 $\pm$ 2deg.C
	---	---	-110	dBc/Hz	@100Hz offset	
	---	---	-130	dBc/Hz	@1KHz offset	
	---	---	-144	dBc/Hz	@10KHz offset	
	---	---	144	dBc/Hz	@100KHz offset	

3.6.3 ASM + GSM PAM (U104, SKY77544)

SKY77544 is a transmit and receive Front End Module (FEM) designed in a very low profile (0.9 mm), compact form factor for quad-band cellular handsets comprising GSM850/900, DCS1800, and PCS1900 operation — a complete transmit VCO-to-Antenna and Antenna-to-receive SAW filter solution. The FEM also supports Class 12 General Packet Radio Service (GPRS) multi-slot operation and EDGE Polar Modulation. WCDMA switch-through support is provided by three dedicated high-linearity ports.

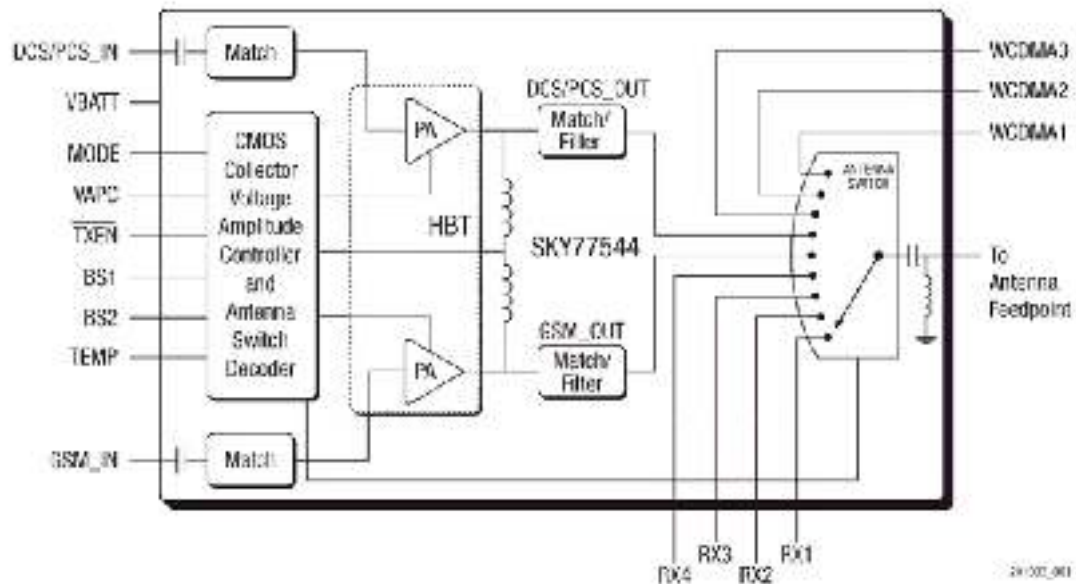
The module consists of a GSM850/900 PA and DCS1800/PCS1900 PA block, impedance-matching circuitry for 50 Ω input and output impedances, Tx harmonic filtering, high linearity low insertion loss switches, and a CMOS Power Amplifier Control (PAC) block. A custom silicon integrated circuit contains decoder circuitry to control the RF switch while providing a low current external control interface. An integrated temperature sensor provides an analog voltage based on the temperature of the module.

Fabricated in InGaP/GaAs, the Heterojunction Bipolar Transistor (HBT) PA blocks support the GSM850/900 bands and DCS1800/PCS1900 bands. Both PA blocks share common power supply pads to distribute current. The output of the PA block and the outputs to the seven receive pads connect to the antenna pad through a highly linear antenna switch. The WCDMA and Rx ports feature a 0 volts DC offset level, which eliminates any need for external blocking capacitors. The InGaP/GaAs die, switch die, Silicon (Si) controller die, and passive components are mounted on a multi-layer laminate substrate and the entire assembly is encapsulated with plastic overmold.

RF input and output ports of the SKY77544 are internally matched to a 50 Ω load to reduce the number of external components for a quad-band design. Extremely low leakage current of the FEM maximizes handset standby time. Band selection and control of transmit and receive RF signal flows are performed by use of four external control pads. See [Figure 1.10](#) shown on overleaf. Mode of operation Tx, Rx, Band (GSM850, GSM900, DCS, PCS, and UMTS) is controlled with 4 logic inputs: BS1, BS2, Mode, and TxEN. Proper timing of the TxEN input and the VAPC input ensures high isolation between the antenna and Tx-VCO while the VCO is being tuned prior to the transmit burst. The Enable input controls the initial turn-on of the PAC circuitry to minimize battery drain.

The integrated power amplifier control (PAC) function provides envelope amplitude control by reducing sensitivity to input drive, temperature, power supply, and process variation.

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[Figure 1.9] SKY77544 Block Diagram

Mode	Input Control Bits			
	TXEN	MODE	BS1	BS2
Standby	0	0	0	0
Tx LOW PWR	0	0	0	1
Tx HIGH PWR	0	0	1	1
TED	0	1	0	1
TED	0	1	1	1
Rel	1	0	0	0
Rel	1	0	0	1
Rel	1	0	1	1
Rel	1	0	1	0
WCDMA1	0	0	1	0
WCDMA2	0	1	0	0
WCDMA3	0	1	1	0

[Figure 1.10] SKY77544 Control Logic

3.6.4 GPS LNA (U105, RF2815)

The RF2815 is a GPS Low Noise Amplifier with an integrated SAW filter at the output. Low noise figure, along with high gain, achieved by the RF2815 makes it ideal for GPS receivers requiring high sensitivity. This module builds upon RFMD's leading edge pHEMT process and integrates input matching and low loss high rejection SAW filter at the output. This results in high performance and a reduced solution size. The ease of implementation simplifies the receiver design.

The RF2185 is packaged in a compact 3.3 mm x 2.1 mm x 1.0 mm package with low external component count required to achieve the best-in-class performance.

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3.7 Digital Baseband(DBB/MSM7227)

3.7.1 General Description

A. Features(MSM7227)

The basic MSM7227 system solution consists of the MSM7227, RTR6285™, and PM7540™ ICs, plus AMSS™ system software with the SURF7227™ platform available for development. General features include:

- 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 WCDMA mode, 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 (GSM-HR, FR, EFR, AMR, and AMR-WB/+)
- Advanced 12 × 12 × 1.05 mm, 0.4 mm pitch, 560 NSP

3.8 Hardware Architecture

<System HW Block>

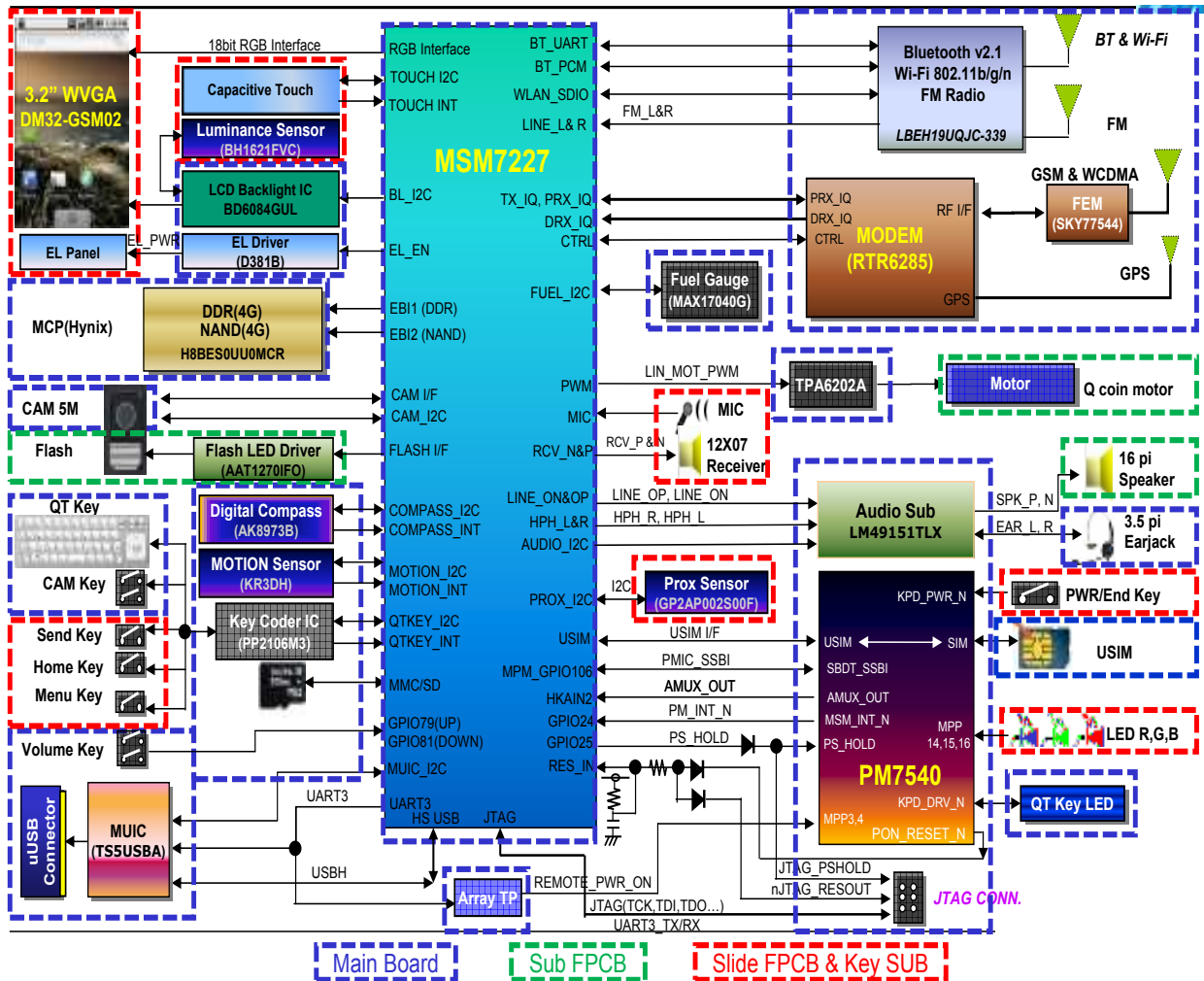


Figure. Simplified Block Diagram

<Power Block>

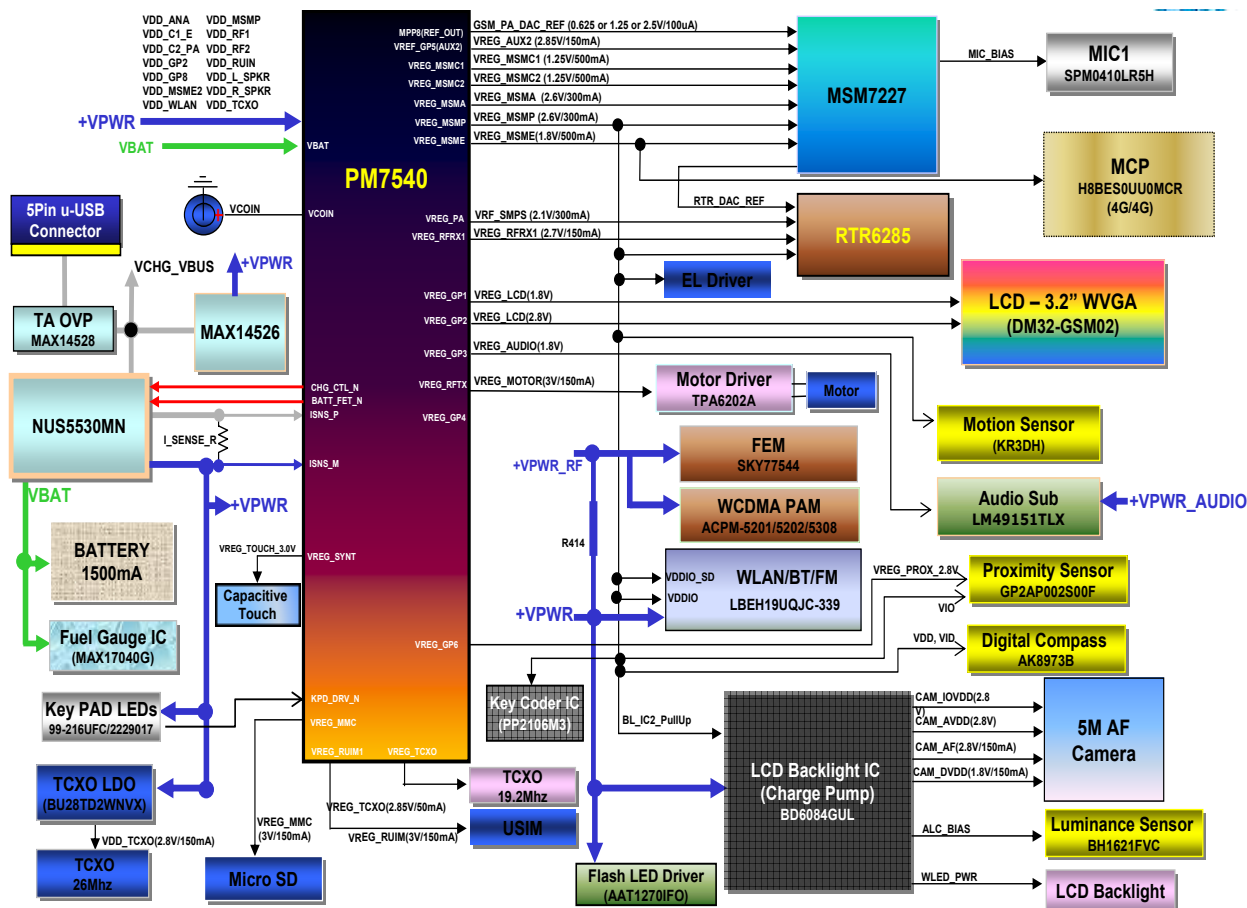


Figure. Simplified Block Diagram

<LCD Camera Interface >

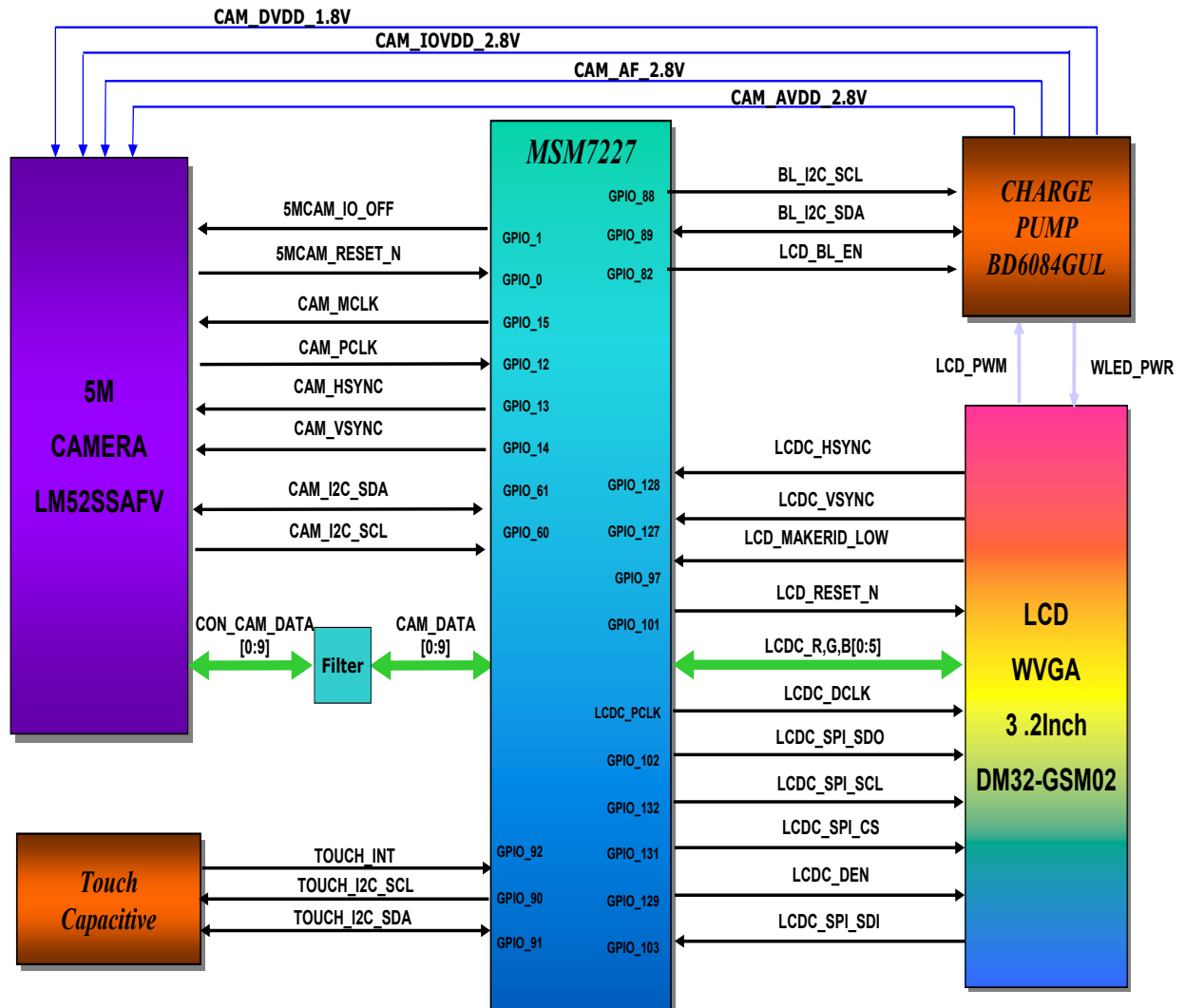
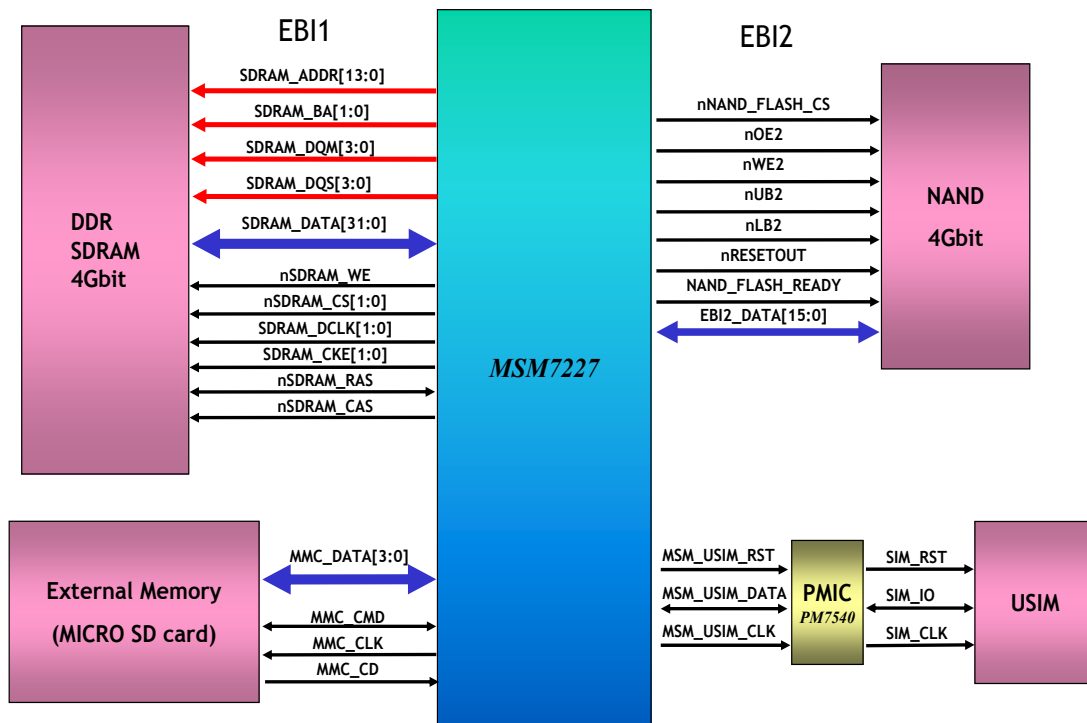


Figure. Simplified Block Diagram

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<External Memory & USIM >

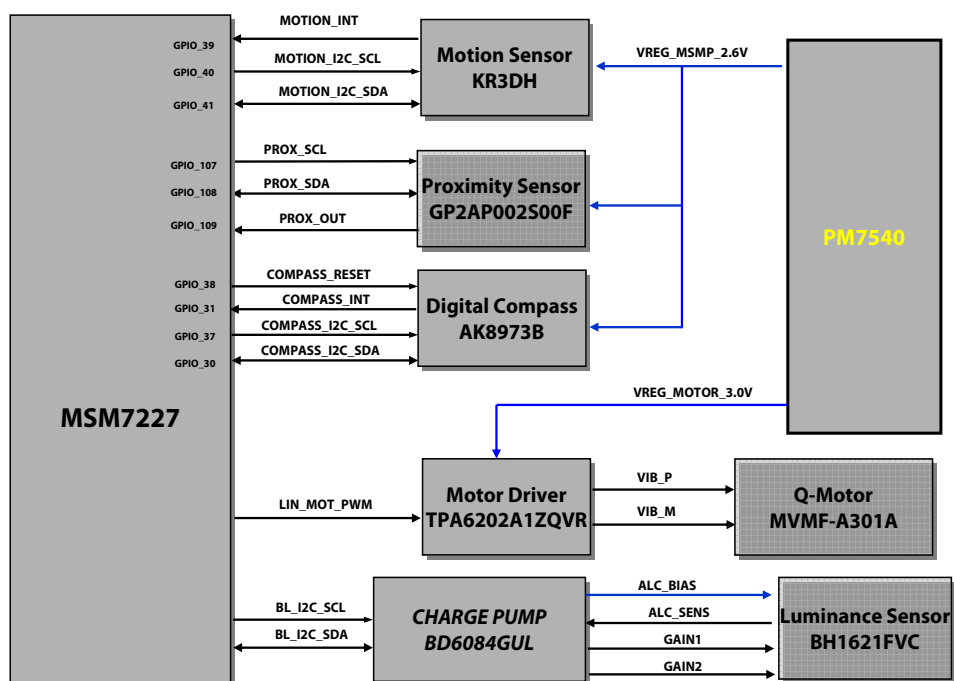
System HW Block Diagram



<SENSOR & MOTOR >

System HW Block Diagram

SENSORS & MOTOR



3.9 Subsystem (MSM7227)

3.9.1. ARM Microprocessor Subsystem

The MSM7227 device uses an embedded ARM1136JF-S, ARM926EJ-S microprocessor. This microprocessor, through the system software, controls most of the functionality for the MSM, including control of the external peripherals such as the keypad, LCD, SDRAM, and NAND Flash devices. Through a QUALCOMM proprietary single-wire SBI (SSBI) the ARM926EJ-S configures and controls the functionality of the RTR6285 and PM7540 devices.

3.9.2. WCDMA Subsystem

The WCDMA subsystem performs the data conversions and signal processing necessary to maintain the WCDMA air interface between the handset and the base station (and also the WCDMA network). The subsystem components include:

- Searcher engine
- Demodulating fingers
- Combining block
- Frame deinterleaver
- Viterbi decoder
- Reverse link subsystem
- Turbo decoder

On the forward link traffic channel, the WCDMA subsystem searches, demodulates, and decodes incoming pilot, sync, paging, and traffic channel information. It extracts low bit-rate packet data from the forward link traffic channel and sends the packet data to the vocoder for processing. On the reverse link, the WCDMA subsystem processes the packet data from the vocoder and modulates the reverse traffic channel.

3.9.3. GSM Subsystem

The GSM subsystem performs the data conversions and signal processing necessary to maintain the GSM air interface, including PA gain control for GPRS support. For GSM, the power profile ramps up before the burst and ramps down afterward. For GPRS, transmit bursts can occur in as many as four sequential slots and the PA must be ramped up and down smoothly between each slot, holding the desired output power level during each burst. GSM support includes:

- GSM release '99 (circuit switching)
- GPRS (packet switching)
- EDGE E2 power class for 8 PSK

3. TECHNICAL BRIEF

3.9.4. RF Interface

The RF interface communicates with the mobile station's external RF and analog baseband circuits. Signals to these circuits control signal gain in the Rx and Tx signal path and maintain The system's frequency reference.

3.9.5. Single-wire serial bus interface (SSBI)

The MSM7227 device's SSBI is designed specifically to be a quick, low pin count control protocol for QUALCOMM's RTR6285 and PM7540 ASICs. Using the SSBI, the RTR6285 and PM7540 devices can be configured for different operating modes and for minimum power consumption, extending battery life in Standby mode. The SBI also controls DC baseband offset errors.

3.9.6. Audio function

MSM7227 audio functions include the analog Rx and Tx paths (or stereo wideband codec), audio digital signal processing (DSP) that provides adjustable gains and filtering, PCM circuits for interfacing with external devices, and additional audio DSP that actually implements encoding and decoding. Other key features include:

- The wideband codec supports stereo music/ringer melody applications in addition to the 8 kHz voice band applications on the forward link.
- A PCM interface allows an external codec to be used instead of the internal codec; this supports inter-IC Sound (I2S) modes that allow an external stereo DAC or SADC to be used.
- Currently in AMSS baseline only I2S output mode is supported (SDAC-only, no SADC support).
- Audio decoder summing and headset switch detection are included.
- Audio DSP includes the Rx and Tx filters needed to meet ITU-T G.712 requirements.
- A programmable sidetone path provides for summing part of the Tx audio into the Rx path.
- Many codec parameters are configurable via SBI registers.
- The audio processing is configured through QDSP5 command types and is not directly controlled by the microprocessor.

3.9.7. Vocoder Subsystem

The MSM7227 device's QDSP4000 supports AMR, FR, EFR and HR. In addition, the QDSP4000 has modules to support the following audio functions: DTMF tone generation, DTMF tone detection, Tx/Rx volume controls, Tx/Rx automatic gain control (AGC), Rx Automatic Volume Control (AVC), EarSeal Echo Canceller (ESEC), Acoustic Echo Canceller (AEC), Noise Suppression (NS), and programmable, 13-tap, Type-I, FIR, Tx/Rx compensation filters. The MSM7227 device's integrated ARM9TDMI processor downloads the firmware into the QDSP4000 and configures QDSP4000 to support the desired functionality.

3.9.8. Mode Select and JTAG Interfaces

The mode pins to the MSM7227 device determine the overall operating mode of the ASIC. The options under the control of the mode inputs are Native mode, which is the normal subscriber unit operation, ETM mode, which enables the built-in trace mode, and test mode for factory testing. The MSM7227 device meets the intent of the ANSI/IEEE 1149.1A-1993 feature list. The JTAG interface can be used to test digital interconnects between devices within the mobile station during manufacture.

3.9.9. General-Purpose Input/Output Interface

The MSM7227 IC includes 133 general purpose input/output (GPIO) pins, and each can be configured as a digital input or digital output. Inputs can be set to have a pull-up, pull-down, keeper, or no-pull. Output drive strength is also programmable. Software assigns functions to the GPIOs and their configurations are set accordingly. Some of the GPIO pins have alternate functions supported on them. The alternate functions include USB interface, additional RAM, ROM, general-purpose chip selects, parallel LCD interface, and a UART interface. The function of these pins is documented in the various software releases.

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3.9.10. UART

The MSM7227 device employs three UARTs. UART1 has dedicated pins while UART2 and UART3 share multiplexed pins.

- UART1 for Bluetooth
- UART2 for USIM interface
- UART3 for data

.

3.9.11. USB

The MSM7227 IC supports one High Speed USB (HS-USB) USBH port with built-in PHY and one Full Speed USB-UICC port. The MSM7227 IC supports USB interfaces using two controllers:

- The primary controller is the HS-USB port with an integrated physical layer (PHY). This HS-USB port is also capable of supporting USB operations at low-speed and full-speed.
- The secondary controller is the FS USB-UICC port, which only supports host mode functionality.

3.10 Power Block

3.10.1. General

MSM7227, included RF, is fully covered by PM7540 (Qualcomm PMIC). PM7540 cover the power of MSM7227, MSM memory, RF block, Bluetooth, USIM and TCXO.

Major power components are :

PM7540 (U403) : Phone main PMIC

RT9393GQW (U601) : LCD BLT Charge Pump

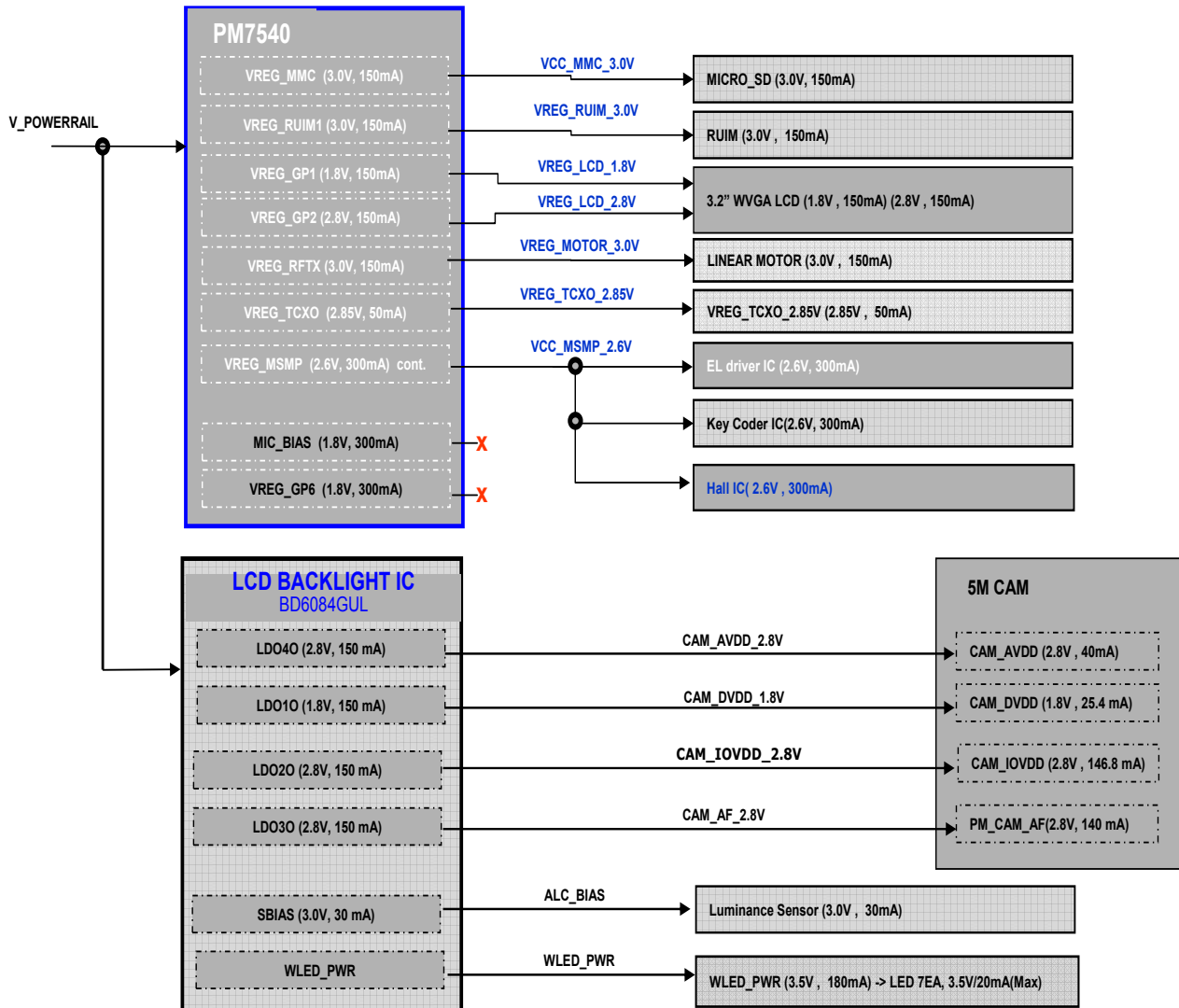
NUS5530 (Q400) : main power path switch(battery charging circuit)

MAX14528 (U402) : OVP(Over voltage protection) IC

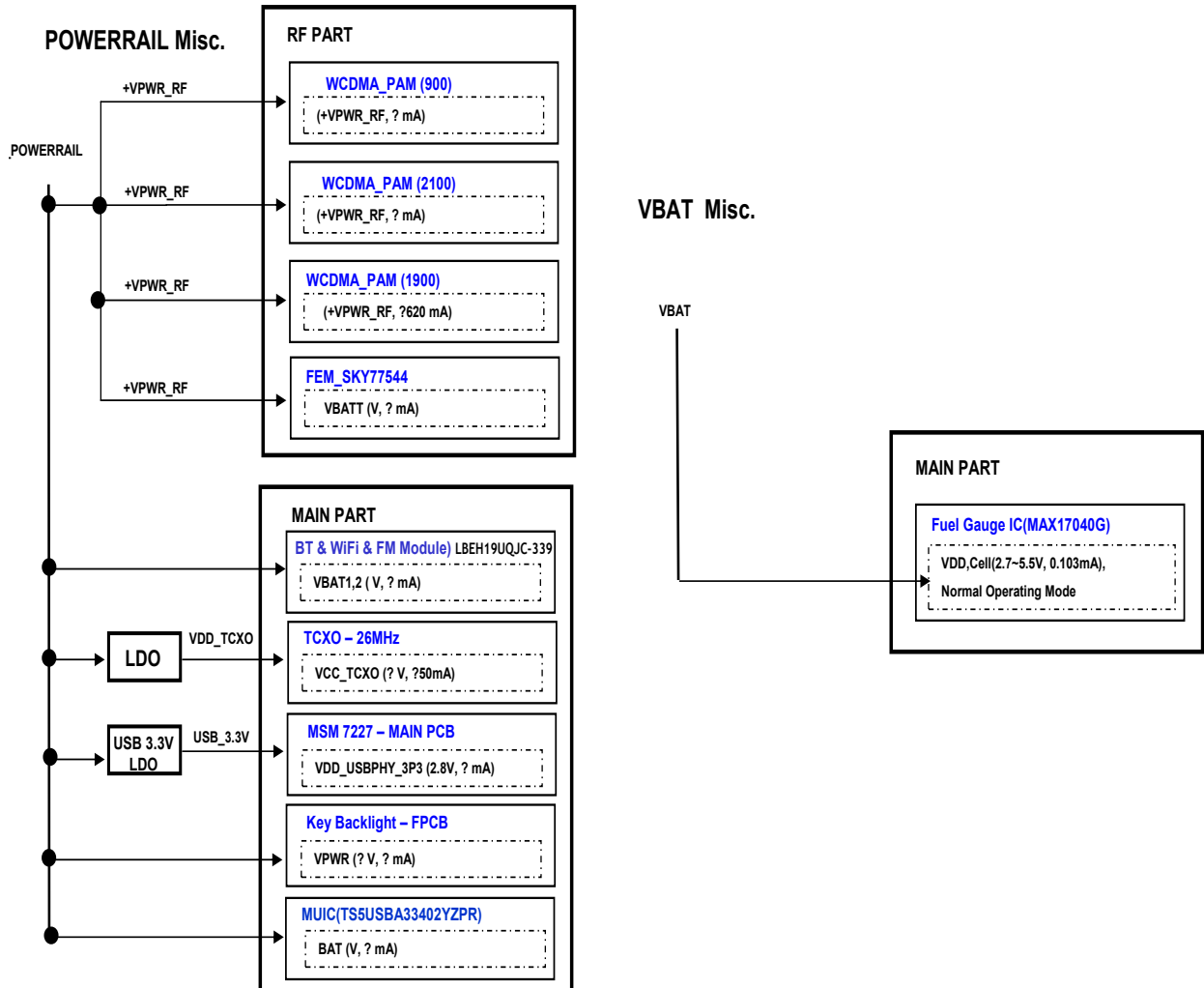
3.10.2 PM7540

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. MSM device controls and statuses the PM7540 IC using Single-wire SBI(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.

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3.10.3. 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.

3.10.3.1. Trickle Charging

Trickle Charging of the main battery, enabled through SBI control and powered from VDD, is provided by the PM7540 IC. The trickle charger is on-chip programmable current source that supplies current from VDD 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

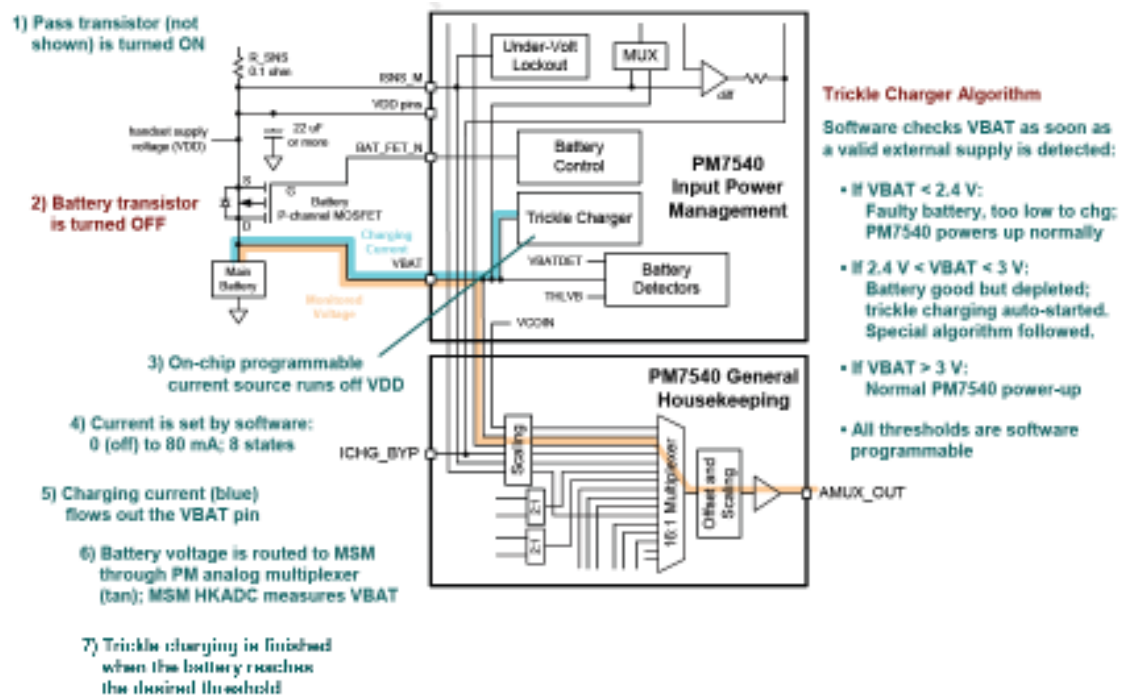


Figure. PM7540 Charging Flow (TC Charging)

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3.10.3.2. 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.

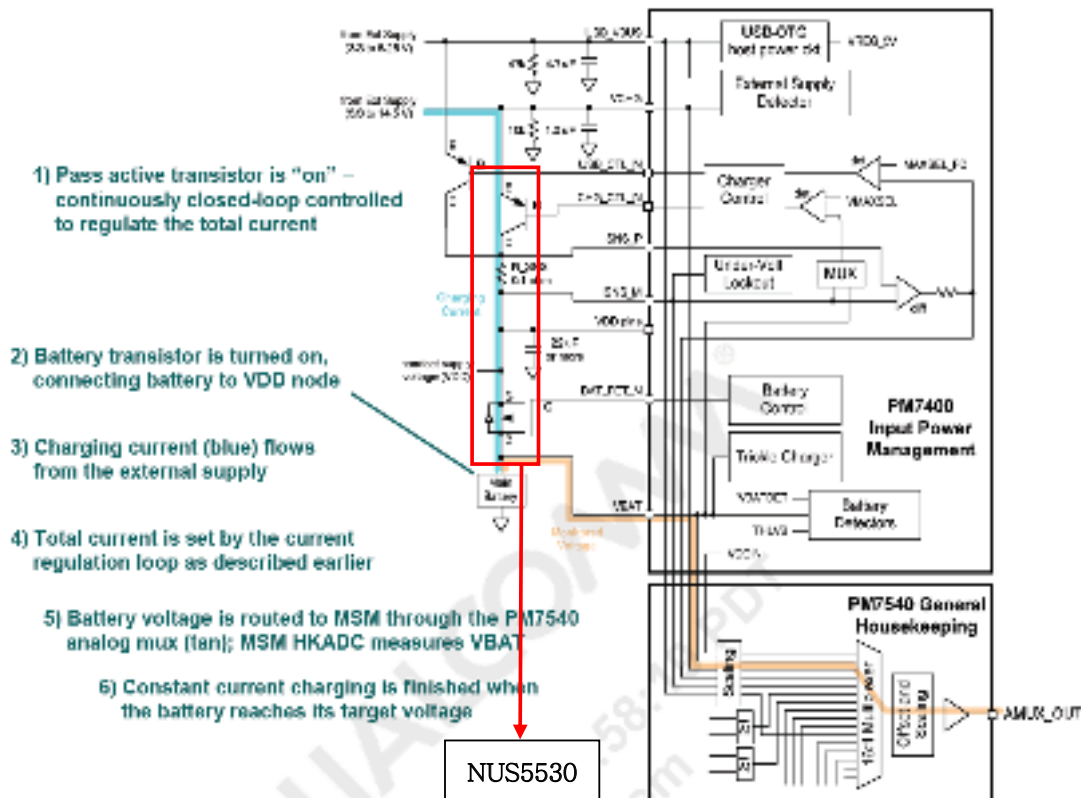


Figure. PM7540 Charging Flow (CC Charging)

3.10.3.3. 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.

3.10.3.4. C710hCharging Specification

- Charging Method : CC & CV (Constant Current & Constant Voltage)
- Maximum Charging Voltage : 4.2V
- Maximum Charging Current : 700mA
- Nominal Battery Capacity : 1500mAh
- Charging time : Max. 3h 30m
- Full charge indication current (icon stop current) : 50mA

3.10.3.5. C710h battery bar icon display

Table. C710h battery bar specification

Battery Bar Number	Specification	단위
BAR 6 (Full)	90% over	Remain %
BAR 6 --> 5	90% → 89%	
BAR 5 --> 4	70% → 69%	
BAR 4 --> 3	50% → 49%	
BAR 3 --> 2	30% → 29%	
BAR 2 --> 1	15% → 14%	
BAR 1 --> 0	5% → 4%	
Low Battery Pop-up	4% ~ 15% : One Time popup (No call)	
Critical Low Battery Pop-up	0% ~ 3% : Popup at level change (No call)	
POWER OFF	0%	

3. TECHNICAL BRIEF

3.11 External memory interface

3.11.1. MSM7227

The MSM7227 device was designed to provide two distinct memory interfaces. EBI1 was targeted for supporting DDR synchronous memory devices. EBI2 was targeted towards supporting slower asynchronous devices such as LCD, NAND flash, SRAM, NOR flash etc. To support the high-bandwidth, high-density, and low-latency requirements of the advanced on-chip applications, the MSM7227 IC has two high-speed, high-performance memory slave interfaces: the external bus interface 1 (EBI1) and the stack memory interface (SMI). To achieve higher bandwidth and better use of the memory device interface, the SMI accepts multiple commands for the external memory device. The SMI interface acts as a slave device to all of the bus masters within the MSM device. The masters arbitrate to gain access to the SMI, and upon obtaining the access, they issue commands to the SMI. The bus masters are connected to the SMI through an advanced extensible interface (AXI) bus bridge (or global interconnect block) and communicate over a 64-bit, non-blocking AXI bus protocol. The AXI bus bridge provides the arbitration logic for all of the bus masters.

- EBI1 Features
 - Support for only low-power memories at 1.8-V I/O power supply voltage
 - AXI bus frequencies up to 133 MHz
 - A 16-bit/32-bit static and dynamic memory interface
- DDR SDRAM interface features include:
 - Supports both 32-bit DDR SDRAM devices, up to 133-MHz bus speed
 - Supports auto precharge and manual precharge
 - Supports partial refresh
 - Separate CKE pin per chip-select to support partial operation mode
 - Idle power down to save idling power consumption
- EBI2 Features
 - Support for asynchronous FLASH and SRAM(16bit & 8bit).
 - Interface support for byte addressable 16bit devices(UB_N & LB_N signals).
 - 2Mbytes of memory per chip select.
 - Support for 8 bit/16bit wide NAND flash.
 - Support for parallel LCD interfaces, port mapped of memory mapped(8 or 16 bit)

3.11.2.C710H External memory Interface

- Multi Chip Package : DDR SDRAM and NAND Flash merged 1 package
- 4Gbit Mobile DDR SDRAM(64Mb x32) / 4Gbit NAND Flash

Interface Spec				
Part Name	Product Gr	Maker	Operation Voltage	Speed
H8BES0UU0MCR- 4EM	NAND	SEC	1.8V	42ns
	SDRAM		1.8V	200MHz

3. TECHNICAL BRIEF

3.12 H/W Sub System

3.12.1. RF Interface

3.12.1.1. RTR6285 (WCDMA_Tx, GSM_Tx/Rx)

MSM7227 controls RF part(RTR6285) using these signals.

- RTR6285_SSBI : SSBI I/F signals for control Sub-chipset
- RTR_TXON : Power AMP on RF part
- RTR_RX_I/Q_M/P, RTR_TX_I/Q_M/P : I/Q for T/Rx of RF
- RTR_DAC_REF : Reference input to the MSM Tx data DACs

3.12.1.2. the others

- TRK_LO_ADJ : TCXO(19.2M) Control
- PA_ON0/PA_RANGE0 : WCDMA(2100) TX Power Amp Enable
- ANT_SEL[0-3] : Ant Switch Module Mode Selection(WCDMA,GSM Tx/Rx,DCS-PCS Tx/Rx)
- GSM_PA_RAMP : Power Amp Gain Control of APC_IC

3.12.1.3. RF2815 (GPS LNA)

* GPS_LNA_EN : GPS LNA Enable Signal (GPS LNA Shutdown)

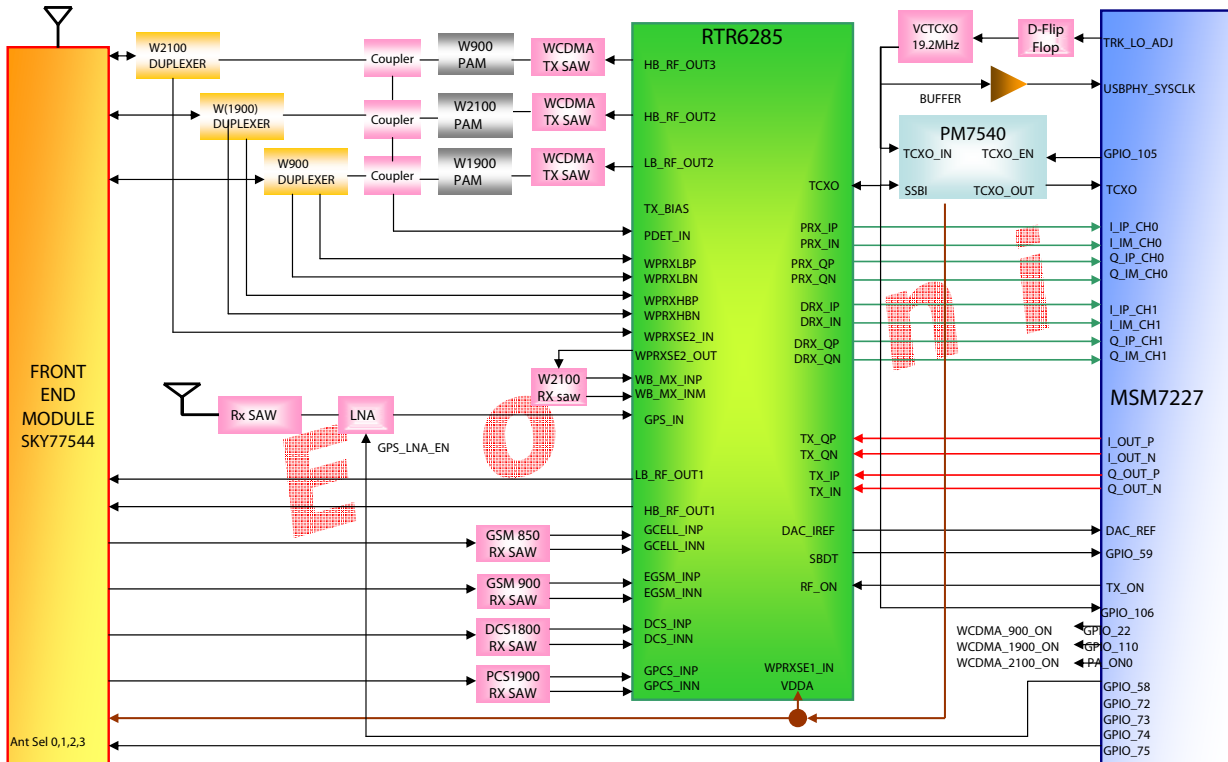


Figure. RF Interface Block Diagram

3.12.1.4. LBEH19UQJC-339 (BT / WiFi module)

1. WiFi

- * WLAN_CMD : WLAN SDIO Command Line.
- * WLAN_CLK : WLAN SDIO Clock Input.
- * WLAN_SDIO[3:0] : WLAN SDIO Data Line.
- * WLAN_RESET_N : Low asserting reset for WLAN core.
- * WLAN_HOST_WAKEUP : WL_HOST_WAKEUP signal output.

2. BT

- * BT_UART_RXD : Bluetooth UART Serial Input.
- * BT_UART_RTS : Bluetooth UART Request to Send. Active-low request.
- * BT_UART_CTS : Bluetooth UART Clear to Send. Active-low clear.
- * BT_UART_TXD : Bluetooth UART Serial Output.
- * BT_PCM_CLK : BT PCM clock, can be PCM-master (output) or PCM-slave (input).
- * BT_PCM_DIN : BT PCM data input.
- * BT_PCM_SYNC : BT PCM sync signal, can be PCM-master (output) or PCM-slave (input).
- * BT_PCM_OUT : BT PCM data output.
- * BT_WAKEUP : BT Wakeup Input.
- * BT_HOST_WAKEUP : BT Host Wakeup Output
- * BT_RESET_N : Low asserting reset for BT core.

3. Common

- * WLAN_REG_ON : If low the internal regulators will be disabled.
- * SLEEP_CLK : LPO clock (32.768kHz) input. Used for low-power mode timing.
- * CLK_IN : Crystal amplifier input or frequency reference input.
- * CLK_REQ : Crystal Circuit / Reference Clock Enable (active-high)

4. FM Radio

- * FM_ANT : FM RF input.
- * SLEEP_CLK : External reference oscillator input. (32.768KHz)
- * FM_R : Right audio line output – digital input data.
- * FM_L : Left audio line output – digital frame synchronization.

3. TECHNICAL BRIEF

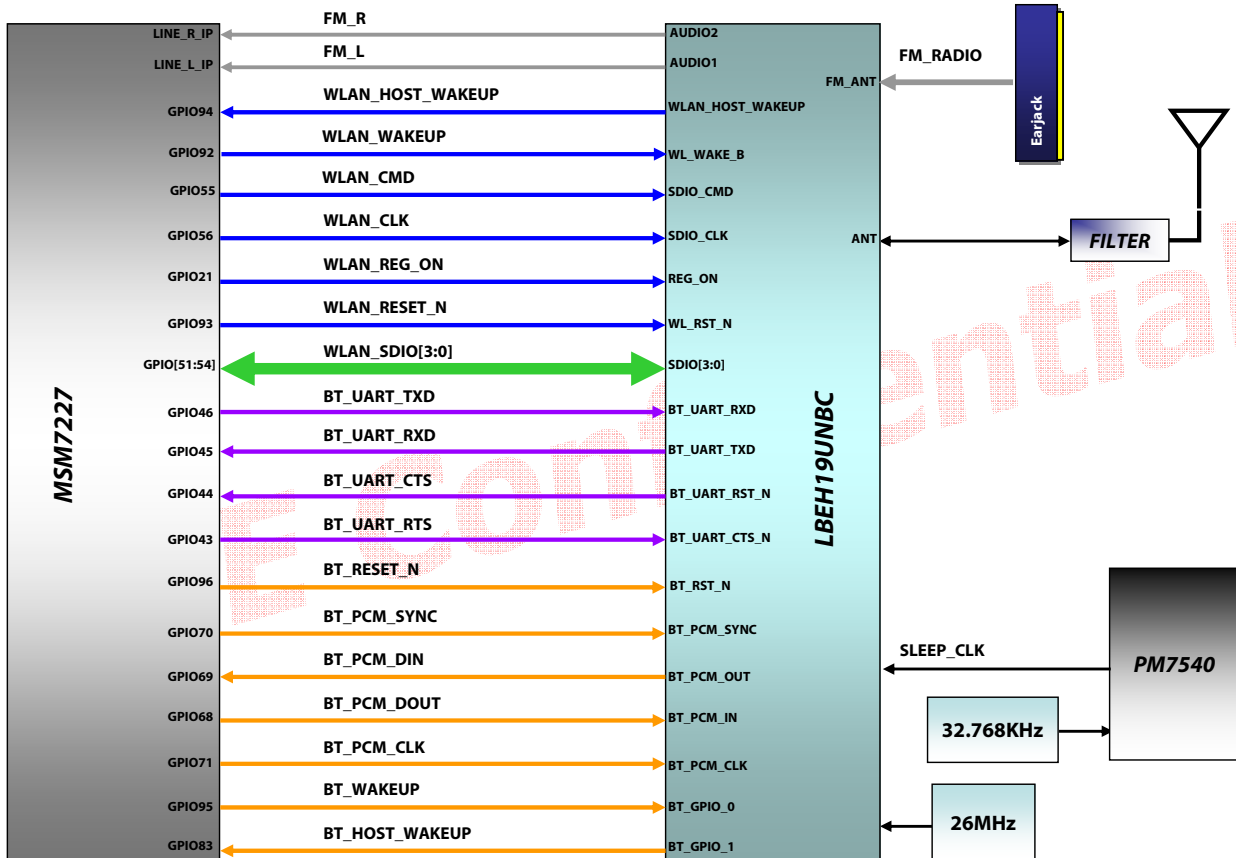


Figure. Wifi/BT/FM Interface Block Diagram

3.12.2 MSM Sub System

3.12.2.1. USIM Interface

SIM interface scheme is shown in Figure.

And, there control signals are followed

- USIM_CLK : USIM Clock
- USIM_Reset : USIM Reset
- USIM_Data : USIM Data T/Rx

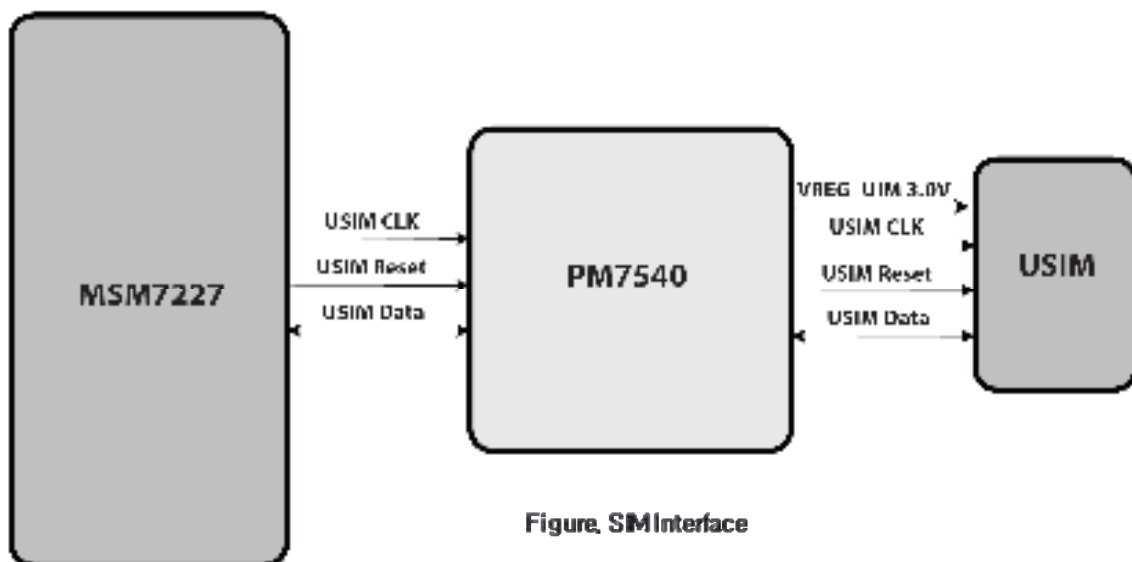


Figure. SIMInterface

3.12.2.2. UART Interface

UART signals are connected to MSM GPIO through IO connector with 115200 bps speed.

GPIO_Map	Name	Note
GPIO_86	UART3_RX	Data_Rx
GPIO_87	UART3_TX	Data_Tx

Table. UART Interface

3. TECHNICAL BRIEF

3.12.2.3. HS-USB

The High-Speed USB module contains an embedded UTMI+ core with a built-in transceiver eliminating the need for an external PHY. The HS-USB port is a standard 4-pin interface that connects directly to the USB connector (USBPHY_DP, USBPHY_DN, USBPHY_ID and USBPHY_VBUS). Two additional pins are required for PHY operations which include an external reference resistor pin (USBPHY_REXT) and a USB system clock pin which the USB PHY uses to lock its internal PLL (SYS_CLK)

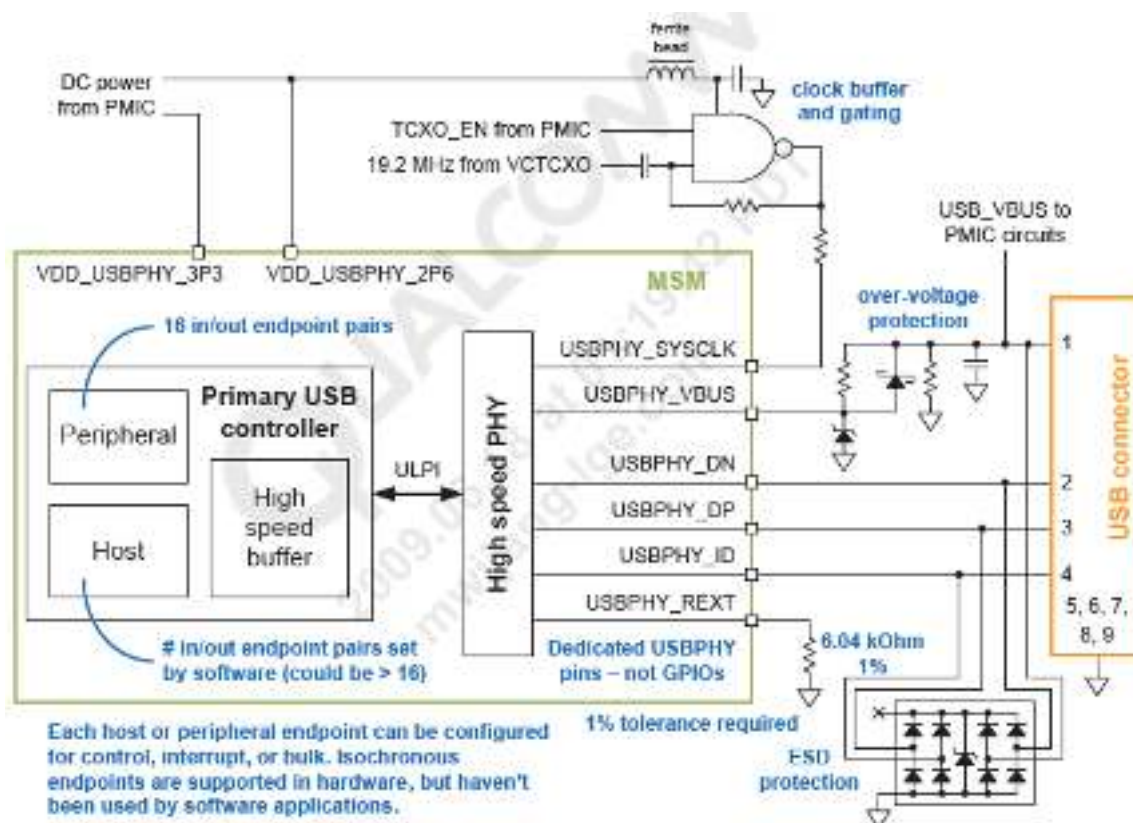


Figure. HS-USB connections and architecture

3.12.3 KEY

3.12.3.1 Side key

-. There are Camera key buttons that are controlled by Key Coder.

Refer to the circuit.

CAMERA KEY

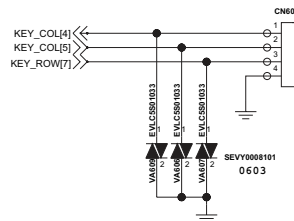


Figure. Side Camera key

-. There are Camera key buttons that are controlled by MSM7227.

Refer to the circuit.

VOLUME SIDEKEY

2010.01.20 updated

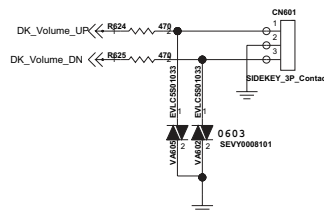


Figure. Side volume key

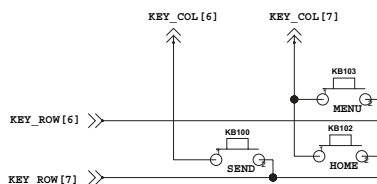
3.12.3.2 Front KEY

There are 3 Front buttons(SEND,HOME) that are controlled by Key Coder.

'Power Button' Key is connected to PMIC(PM7540:KPD_PWR_N)

Refer to the circuit.

HOT KEY



PWR/END KEY

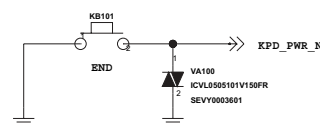


Figure. Front key

3. TECHNICAL BRIEF

3.12.3.3 QWERTY KEY

There are 51 QWERTY key that are controlled by Key Code.

Refer to the circuit.

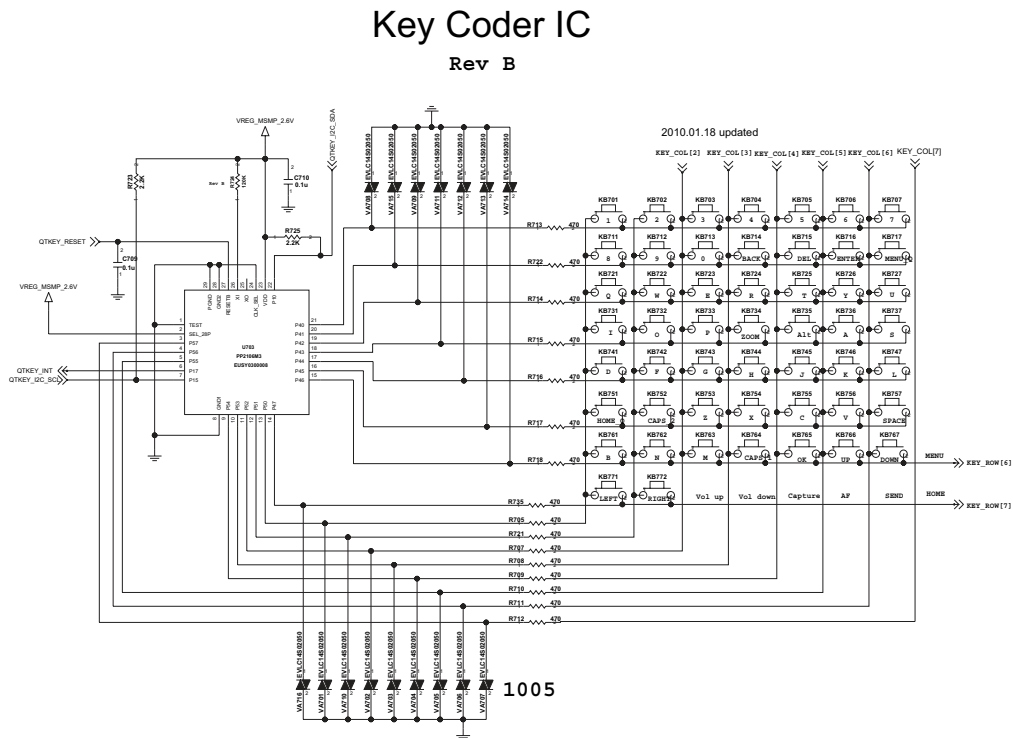


Figure. QWERTY key

3.12.3.4 KEY Backlight

There are 5 White side view LED, 2 white LED in key backlight circuit

Those LEDs are driven by KPD_DRV_N1/2 line from PM7540.

Refer to the circuit.

KEY BACKLIGHT LED

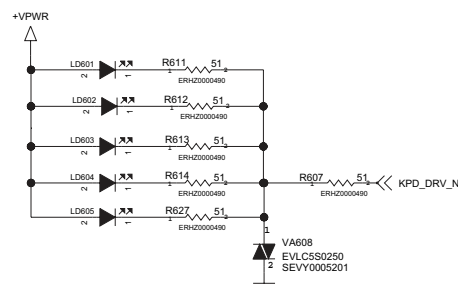


Figure. KEY Backlight

3.12.4.1 Touch Windows Interface

In C710, Capacitive panel is used for user input method..

Table 4. Recommended Operating conditions

Symbol	Parameter	Min.	Typ.	Max.	Unit
V _{DD}	DC supply voltage	2.5	3.0	3.6	V
V _{DD_ripple}	Tolerance of VDD ripple noise	-	-	200	mVp-p
I _{DD(ACTIVE)}	DC supply current (@V _{DD} =3.0V, F _{OSC} =24MHz, LED off)	4.0	4.8	5.6	mA
I _{DD(SLEEP)}	Sleep current (@V _{DD} =3.0V, CE=Low)			1	uA
I _{DD(LED)}	Maximum LED driving current per channel(P0, 1, 2, 3)		5	20	mA/ch
T _A	Industrial temperature range	-20		85	°C

*I_{DD(ACTIVE)} = 0.20mA/MHz * F_{OSC} (@V_{DD}=3.0V), where F_{OSC} can be up to 50Mhz.

**LED driving current depends on forward biasing voltage of LED(V_f) and power supply voltage(V_{DD}).

Table. Recommended operation conditions

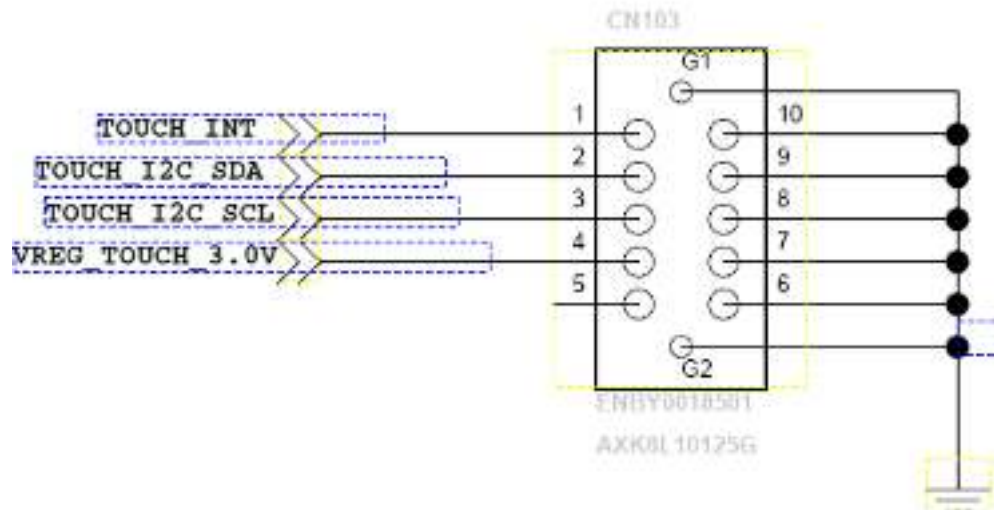


Figure. Touch screen circuit

3. TECHNICAL BRIEF

3.13. Audio and sound

3.13.1. Overview of Audio path

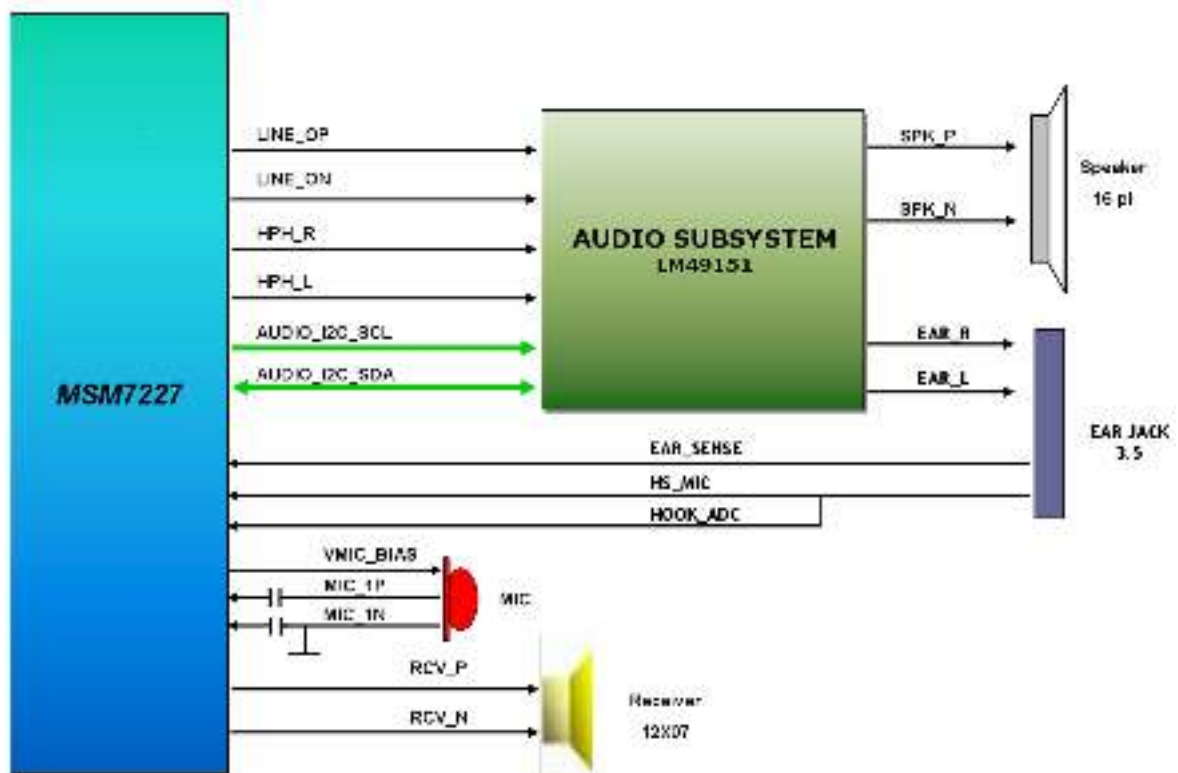


Figure. Block diagram of Audio & Sound path

3.13.2. Audio signal processing & interface

3.13.2.1 MSM7227 audio interface

The MSM7227A audio front end comprises the stereo wideband codec, PCM interface, and additional DSP audio processing. The stereo wideband codec allows the MSM7227 device to support stereo music/ringer melody applications in addition to the 8 kHz voice band applications on the forward link.

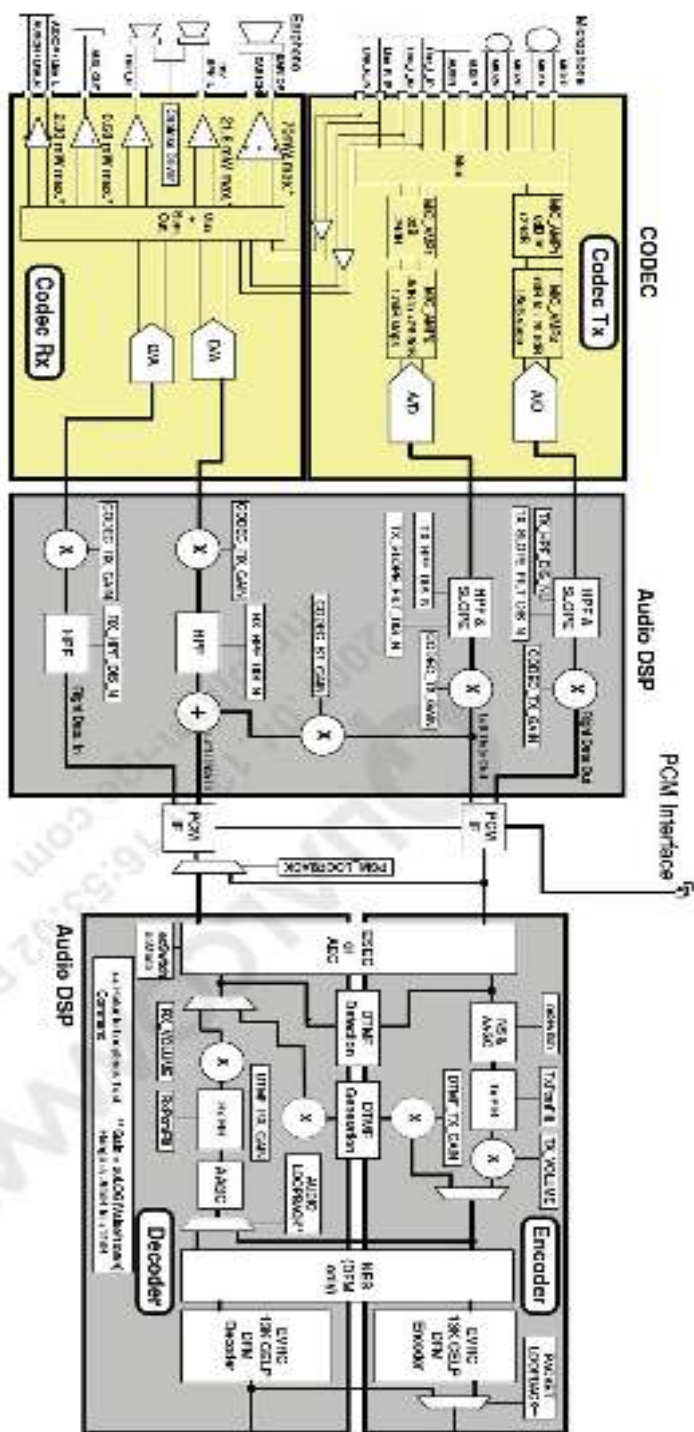
In the audio transmit path, the device operates as 13-bit linear converter with software, selectable 8 kHz and 16 kHz sampling rate. In the audio receive path, the device operates as a software-selectable 13-bit or 16-bit linear converter with software selectable 8 kHz, 16 kHz, 22.05 kHz, 24 kHz, 32 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 MSM7227 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 DSP audio processing is configured through the QDSP5000 command types and is not directly controlled by the microprocessor.



3.13.2.2 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 class D speaker amplifier features National's unique Automatic Level Control (ALC) that provides both a I2C programmable no-clip feature with Clip Controls and speaker protection. The E2S (Enhanced Emission Suppression) class D amplifier features a patented, ultra low EMI PWM architecture that significantly reduces RF emissions while preserving audio quality and efficiency while delivering 1.25W into an 8Ω load with <1% THD+N with a 5V supply. The 42mW/channel headphone drivers feature National's ground referenced architecture that creates a ground-referenced output from a single supply, eliminating the need for bulky and expensive DC-blocking capacitors, saving space and minimizing system cost. The LM49151 features separate volume controls for the loudspeaker and headphone inputs. Mode selection, shutdown control, and volume are controlled through an I2C compatible interface. The LM49151's superior click and pop suppression eliminates audible transients on power-up/down and during shutdown.

3. TECHNICAL BRIEF

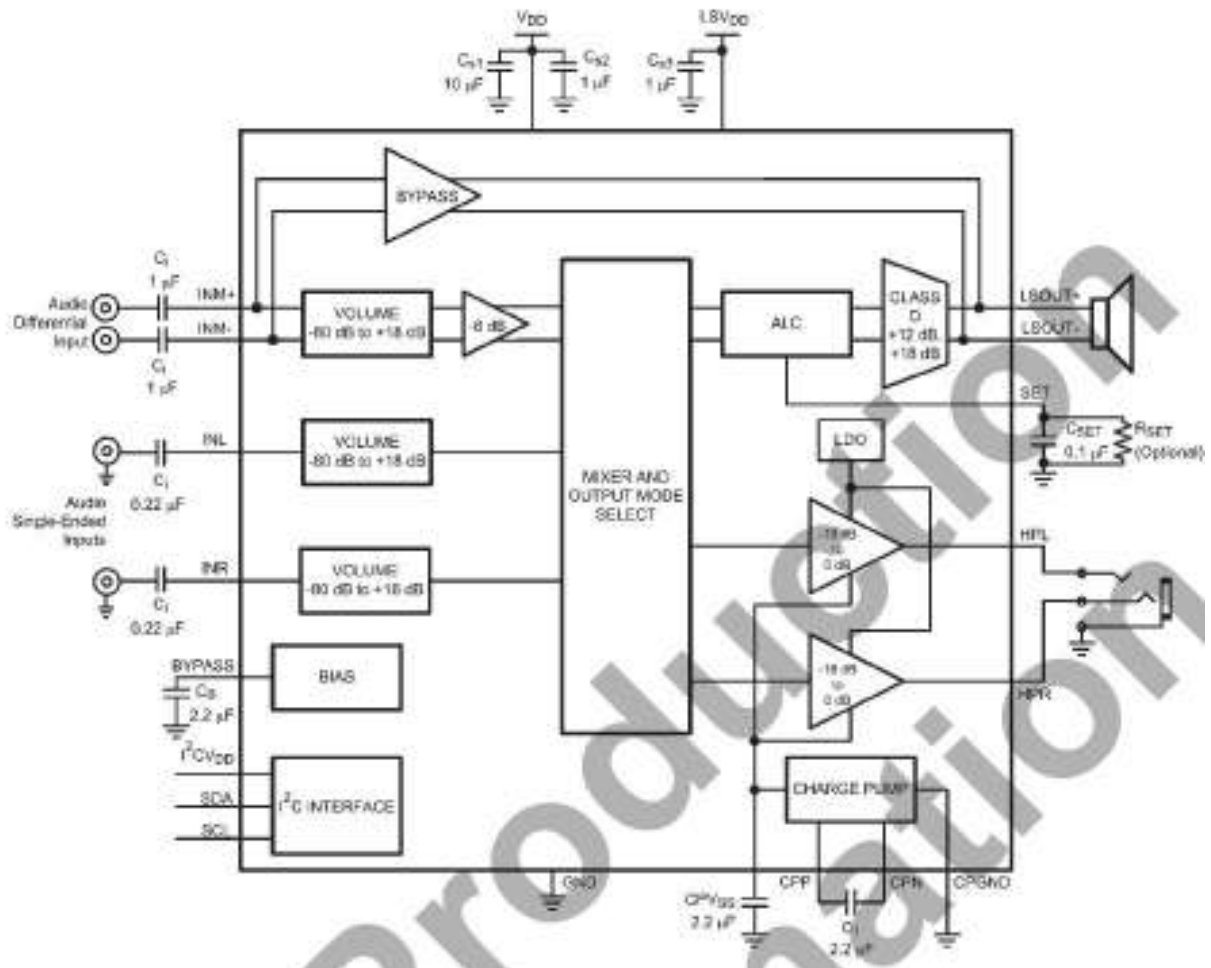
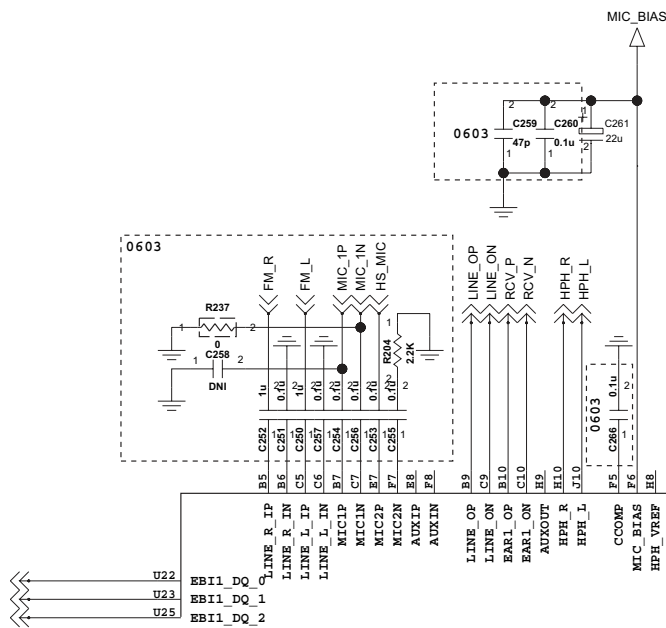


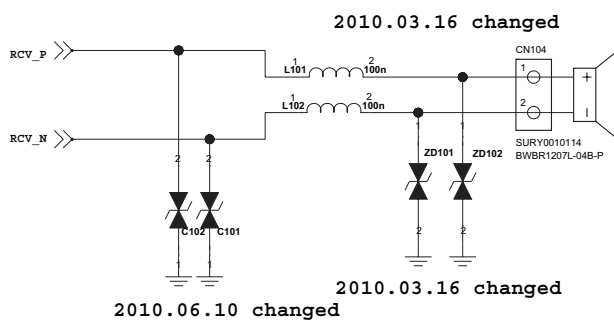
Figure. Detailed diagram of LM49151 audio interface

MSM7227 Block



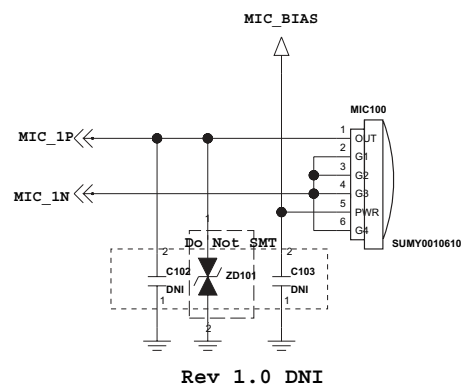
Receiver Block

Receiver



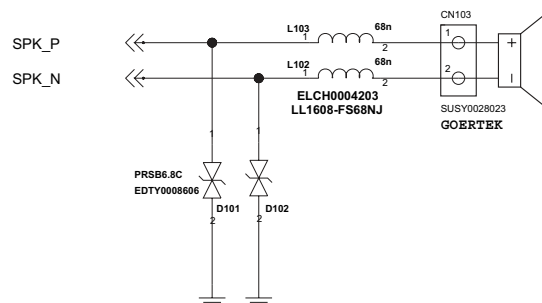
Handset main MIC Block

MIC
changed 12/28



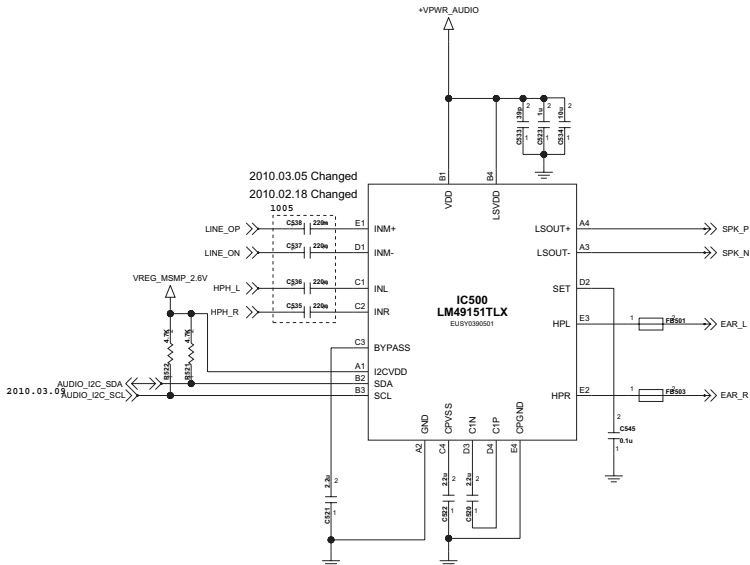
Speaker Block

Speaker

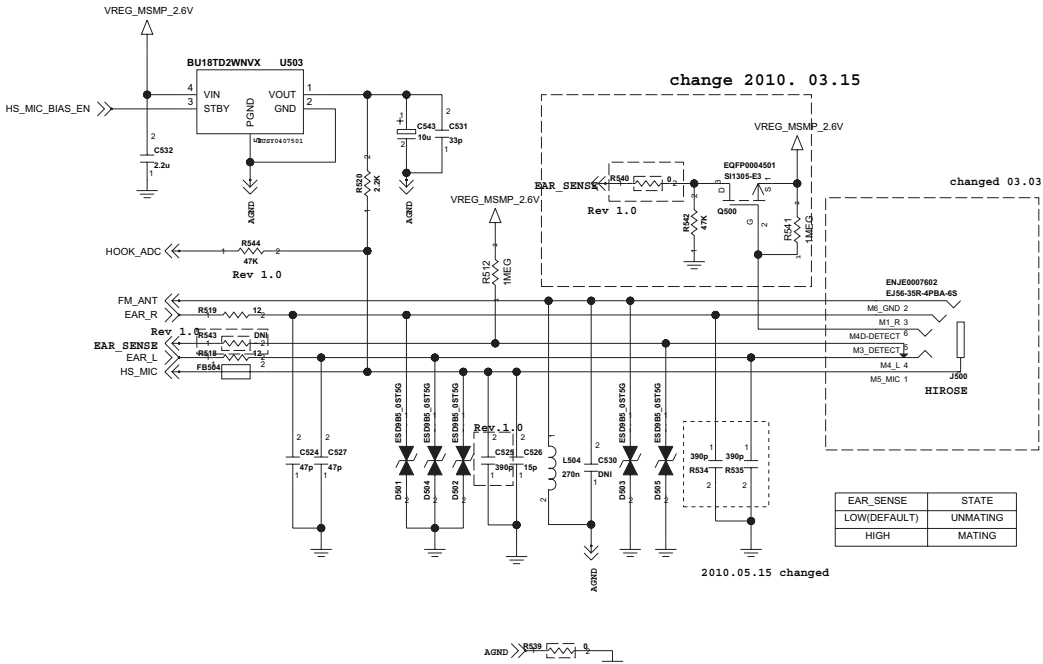


Audio Subsystem(LM49151) Block

Audio SUB SYSTEM



3.5 pi Earjack Block



3.14 Display

LCD module is connected to Main PCB with 49-pin connector(04-6293-649-005-829+ , CN100 (in key pcb)). The LCD is controlled by RGB Interface in MSM7227.

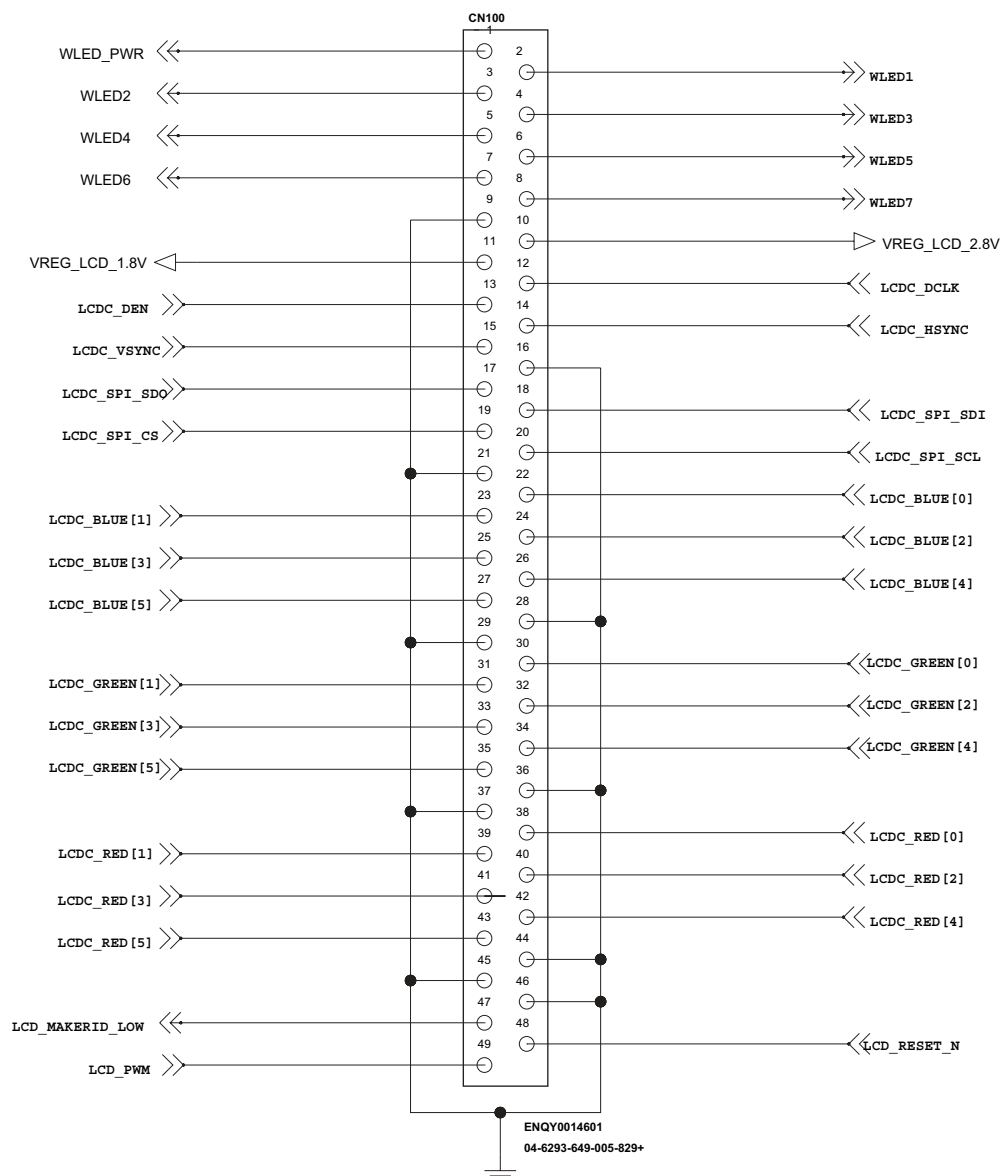


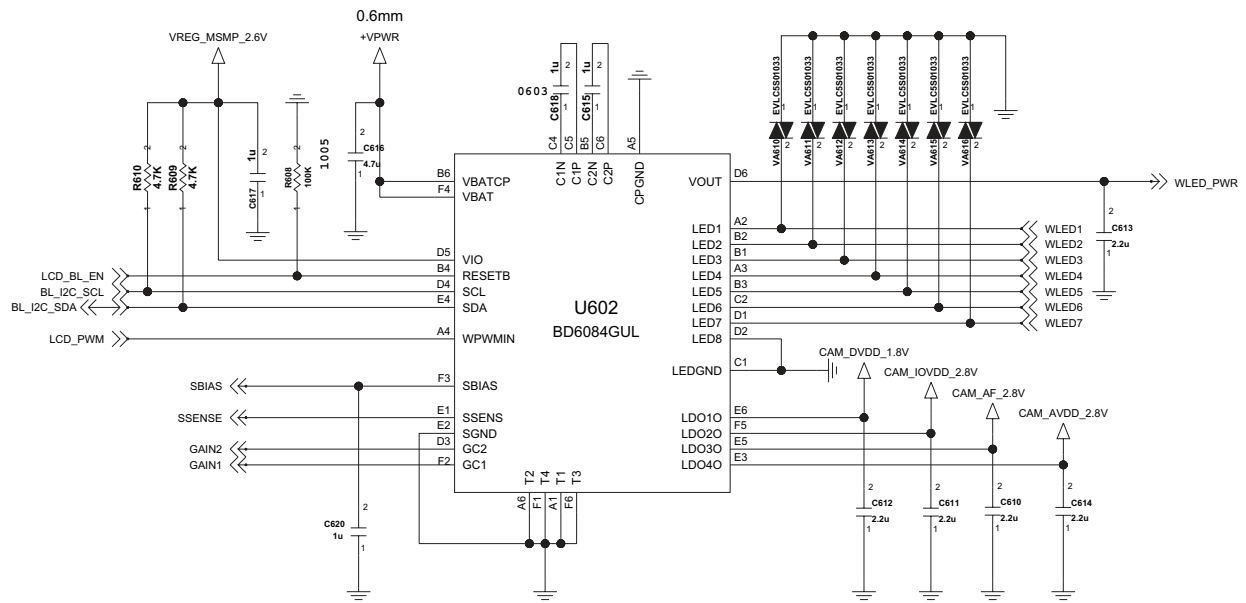
Figure. Schematic of LCD connector (Main Board)

3. TECHNICAL BRIEF

Pin No.	Symbol	Description
1	PWM	LED PWM (CABC)
2	RESET	RESET SIGNAL
3	MAKER_ID(HIGH)	ID_Maker
4	GND	Ground (0V)
5	DB23	Data23, Bi-Directional Data Bus (RED 7)
6	DB22	Data22, Bi-Directional Data Bus (RED 6)
7	DB21	Data21, Bi-Directional Data Bus (RED 5)
8	DB20	Data20, Bi-Directional Data Bus (RED 4)
9	DB19	Data19, Bi-Directional Data Bus (RED 3)
10	DB18	Data18, Bi-Directional Data Bus (RED 2)
11	DB17	Data17, Bi-Directional Data Bus (RED 1)
12	DB16	Data16, Bi-Directional Data Bus (RED 0)
13	DB15	Data15, Bi-Directional Data Bus (GREEN 7)
14	DB14	Data14, Bi-Directional Data Bus (GREEN 6)
15	DB13	Data13, Bi-Directional Data Bus (GREEN 5)
16	DB12	Data12, Bi-Directional Data Bus (GREEN 4)
17	DB11	Data11, Bi-Directional Data Bus (GREEN 3)
18	DB10	Data10, Bi-Directional Data Bus (GREEN 2)
19	DB09	Data9, Bi-Directional Data Bus (GREEN 1)
20	DB08	Data8, Bi-Directional Data Bus (GREEN 0)
21	DB07	Data7, Bi-Directional Data Bus (BLUE 7)
22	DB06	Data6, Bi-Directional Data Bus (BLUE 6)
23	DB05	Data5, Bi-Directional Data Bus (BLUE 5)
24	DB04	Data4, Bi-Directional Data Bus (BLUE 4)
25	DB03	Data3, Bi-Directional Data Bus (BLUE 3)
26	DB02	Data2, Bi-Directional Data Bus (BLUE 2)
27	DB01	Data1, Bi-Directional Data Bus (BLUE 1)
28	DB00	Data0, Bi-Directional Data Bus (BLUE 0)
29	GND	Ground (0V)
30	SCK	Serial Clock
31	SCS	Serial Chip Select
32	SDI	Serial Data input
33	SDO	Serial Data output
34	GND	Ground (0V)
35	VSYNC	Vertical Sync
36	HSYNC	Horizontal Sync
37	ENABLE	Data Enable
38	DOTCLK	Pixel Clock
39	IOVCC	IO Voltage
40	VCI	Analog Voltage
41	GND	Ground (0V)
42	LED_C7	LED7 Cathode Connection
43	LED_C6	LED6 Cathode Connection
44	LED_C5	LED5 Cathode Connection
45	LED_C4	LED4 Cathode Connection
46	LED_C3	LED3 Cathode Connection
47	LED_C2	LED2 Cathode Connection
48	LED_C1	LED1 Cathode Connection
49	LED_AN	LED Anode Connection

Table. Interface between LCD Module and MAIN Board

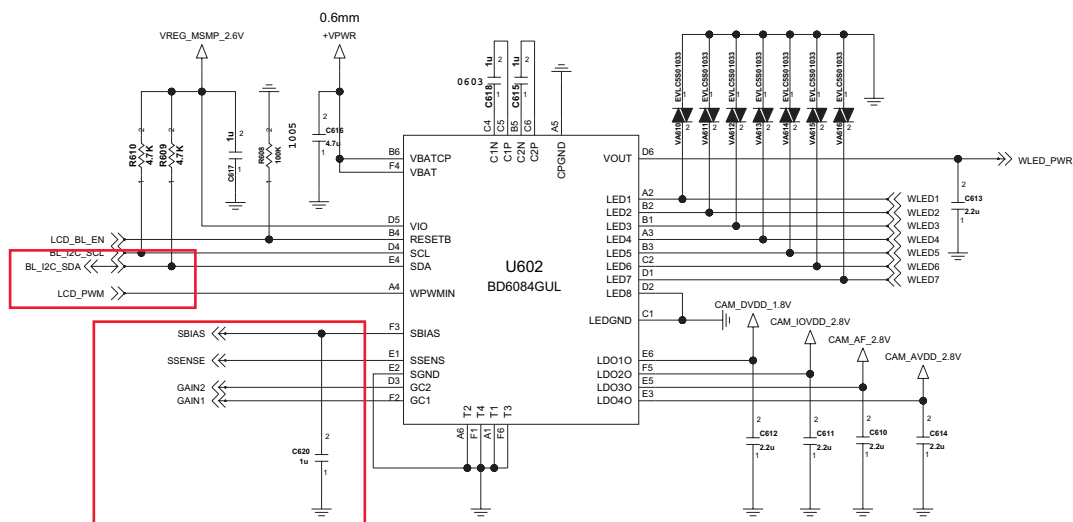
BACKLIGHT CHARGE PUMP



U602 is a Sub PMIC(LCD Backlight LED Driver, Charge pump DCDC and Auto Luminous Control). This part is controlled by I2C of MSM7227.

Luminance Sensor Schematic

BACKLIGHT CHARGE PUMP

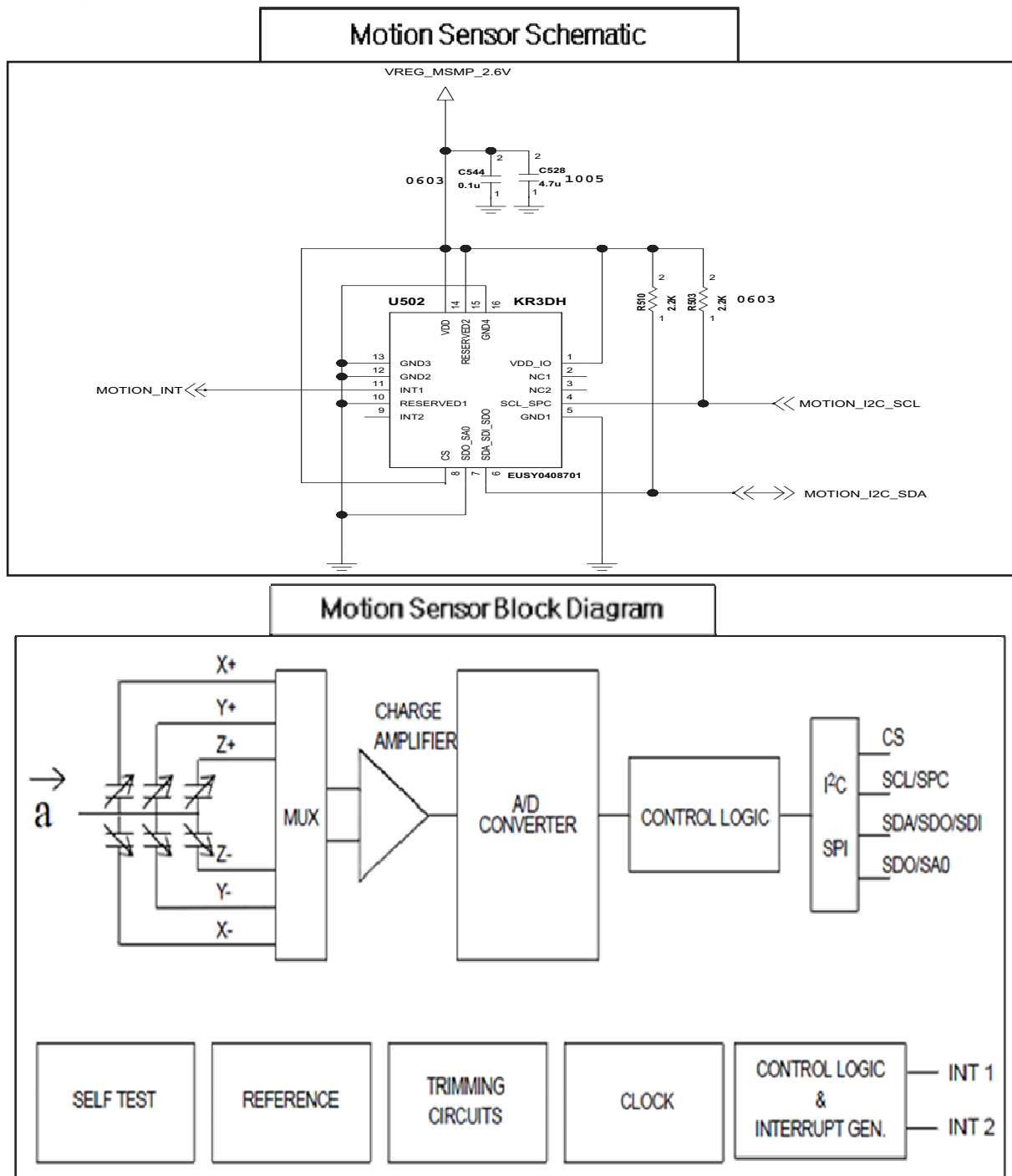


3. TECHNICAL BRIEF

3.15 Motion Sensor

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

U502 :KR3DH IC used I2C interface to MSM7227



The strength of vibration is determined by the duty cycle of PWM (LIN_MOT_PWM)
U601 is Speaker amp for Q coin motor driver IC.

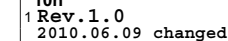


Figure. Q coin moter Drive IC Schematic

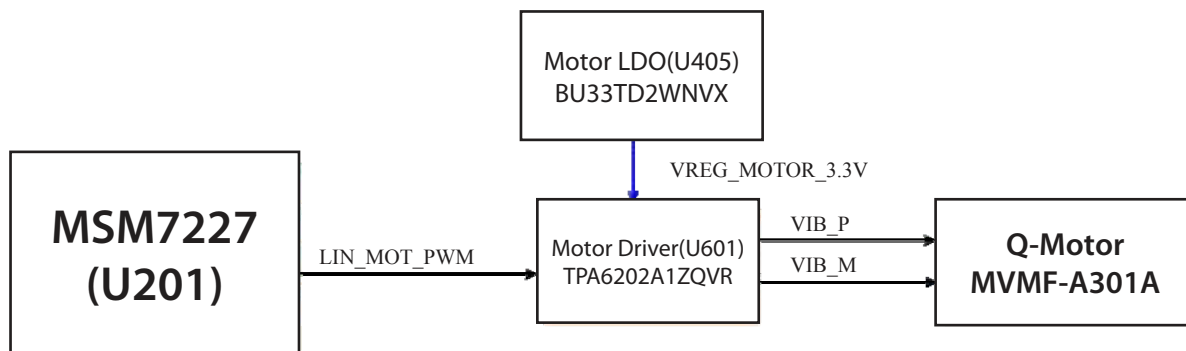


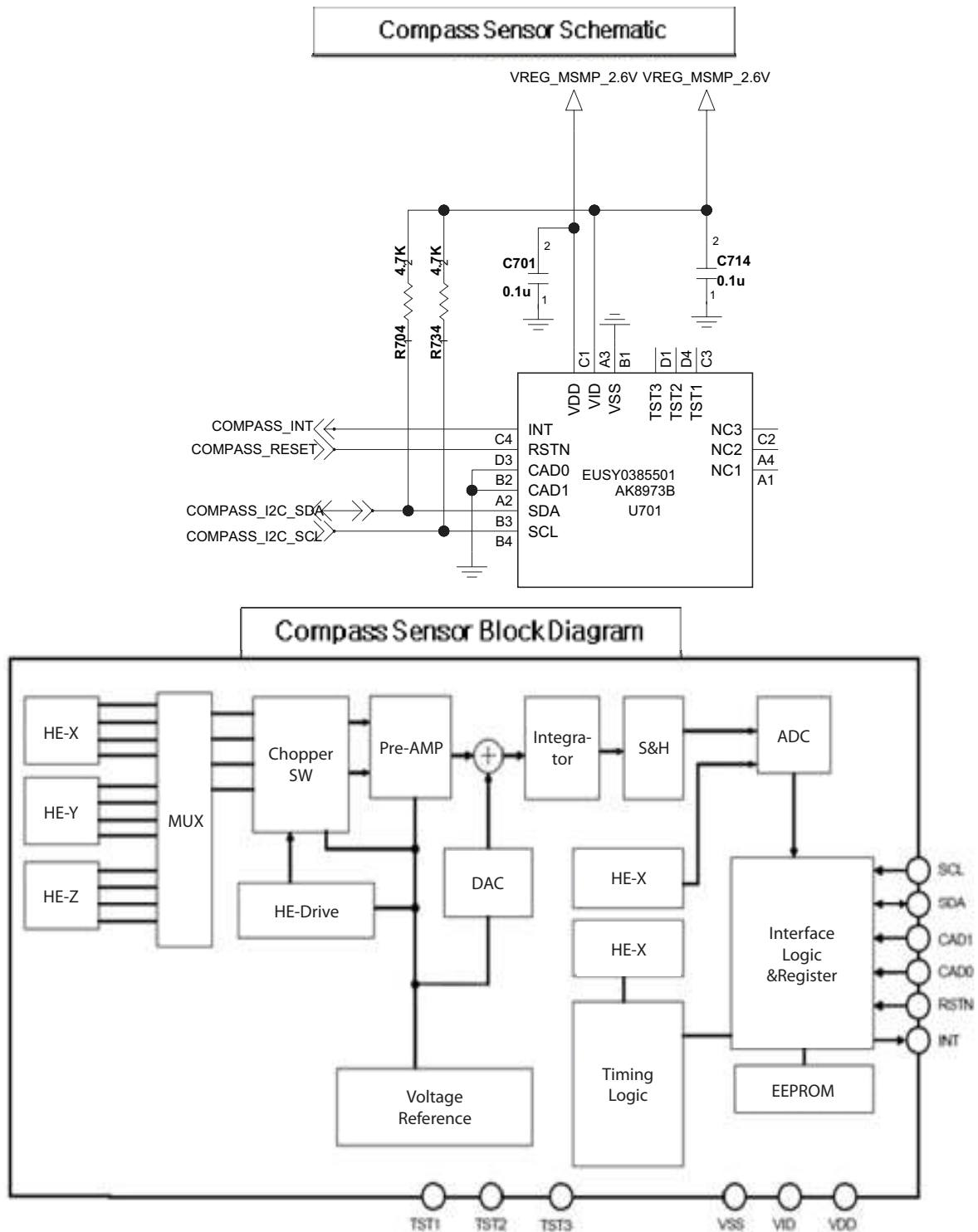
Figure. Vibrator Block Diagram

3. TECHNICAL BRIEF

3.17 Compass Sensor

If a customer buys the application SW, The Sensor supports an Electric Compass function

U701 : AK8973B IC used I2C interface to MSM7227



3.18 5M camera

GM730 has two cameras : 5M Pixel CMOS Camera (Bayer type).

Below figures shows the 5M camera I/F.

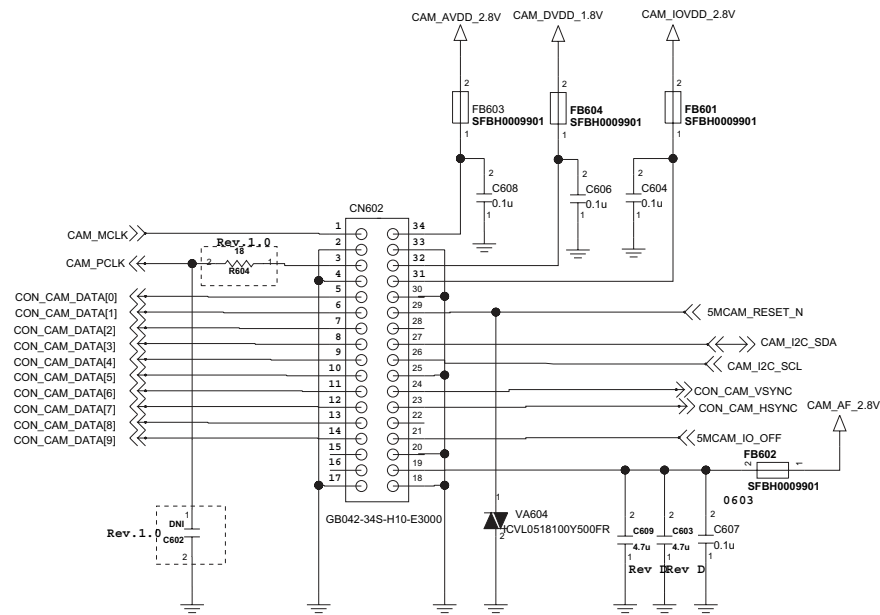


Figure. Schematic of 5 Mega Camera I/F

3. TECHNICAL BRIEF

No.	SYMBOL	DESCRIPTION	No.	SYMBOL	DESCRIPTION
1	MCLK	Master clock input	18	GND	Ground
2	GND	Ground	19	LVDD (2.8V)	VCM & Driver IC Power (2.8V)
3	PCLK	Pixel clock output	20	GND	Ground
4	GND	Ground	21	NC	Not Connect
5	D0-10bit	Parallel pixel data0	22	NC	Not Connect
6	D1-10bit	Parallel pixel data1	23	HSYNC	Horizontal sync output
7	D2-10bit	Parallel pixel data2	24	VSNC	Vertical sync output
8	D3-10bit	Parallel pixel data3	25	GND	Ground
9	D4-10bit	Parallel pixel data4	26	SCL	Serial interface clock
10	D5-10bit	Parallel pixel data5	27	SDA	Serial interface data
11	D6-10bit	Parallel pixel data6	28	NC	Not Connect
12	D7-10bit	Parallel pixel data7	29	XSD	XShutdown (Active'L')
13	D8-10bit	Parallel pixel data8	30	GND	Ground
14	D9-10bit	Parallel pixel data9	31	IOVDD	I/O power(1.8V~2.8V)
15	NC	Not Connect	32	DVDD	Digital power(1.8V)
16	NC	Not Connect	33	GND	Ground
17	GND	Ground	34	AVDD	Analog power(2.8V)

The 5M Camera module is connected to Sub board with 34pin Board to Board connector (GB042-34S-H10-E3000). Its interface is dedicated camera interface port in MSM7227. The camera port supply 24MHz master clock to Cam module and then the cam module supply 24MHz master clock to camera module again and receive serial data from camera module 58MHz pixel clock(max.15fps@ full resolution), vertical sync signal, horizontal sync signal, reset signal to MSM7227 again. The camera module is controlled by I2C port from MSM7227

3.19 Proximity sensor

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

LCD backlight and Touch screen is disable operation automatically.

U101 : GP2AP002S00F With the Control IC

Figure. Proximity Sensor Schematic

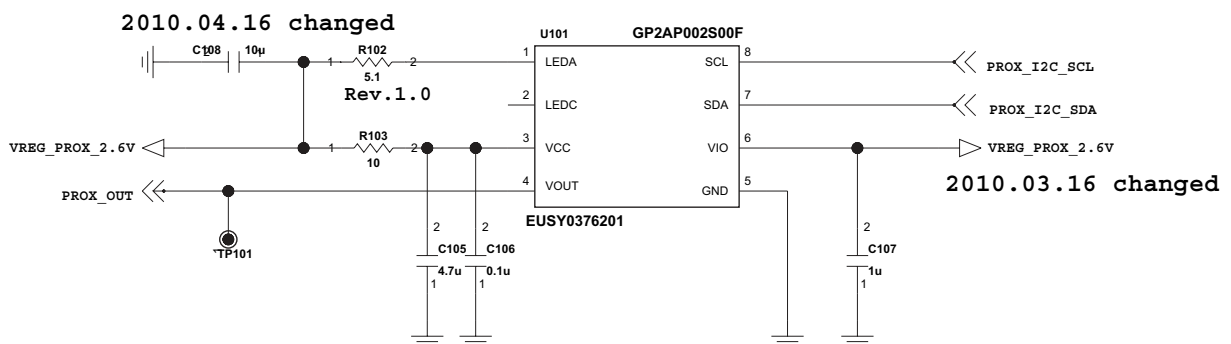
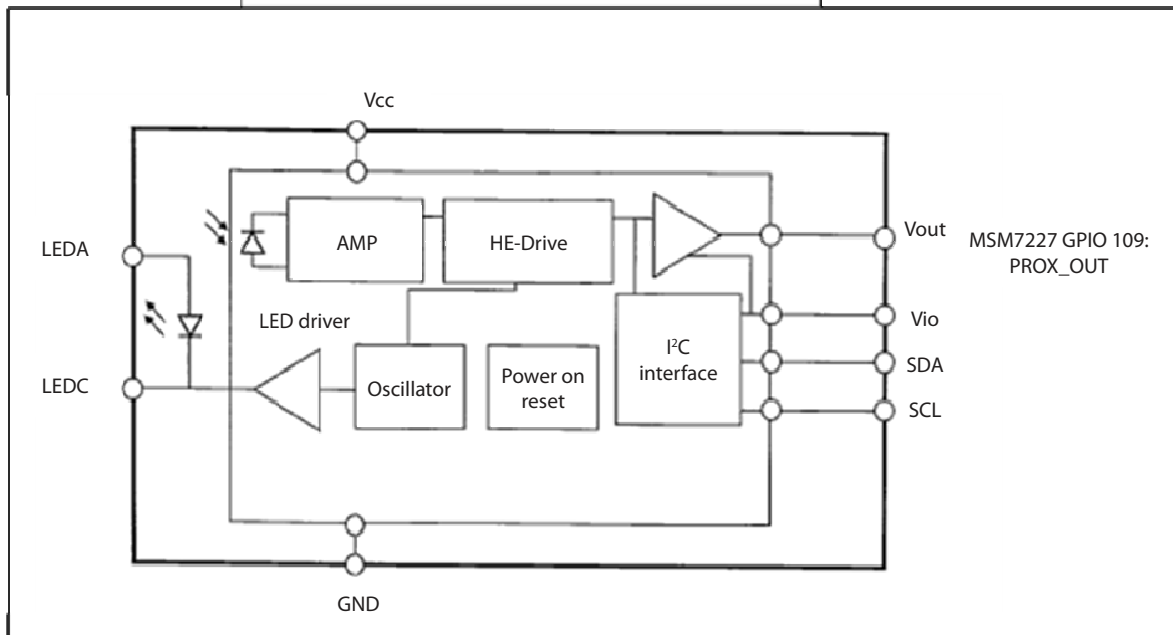
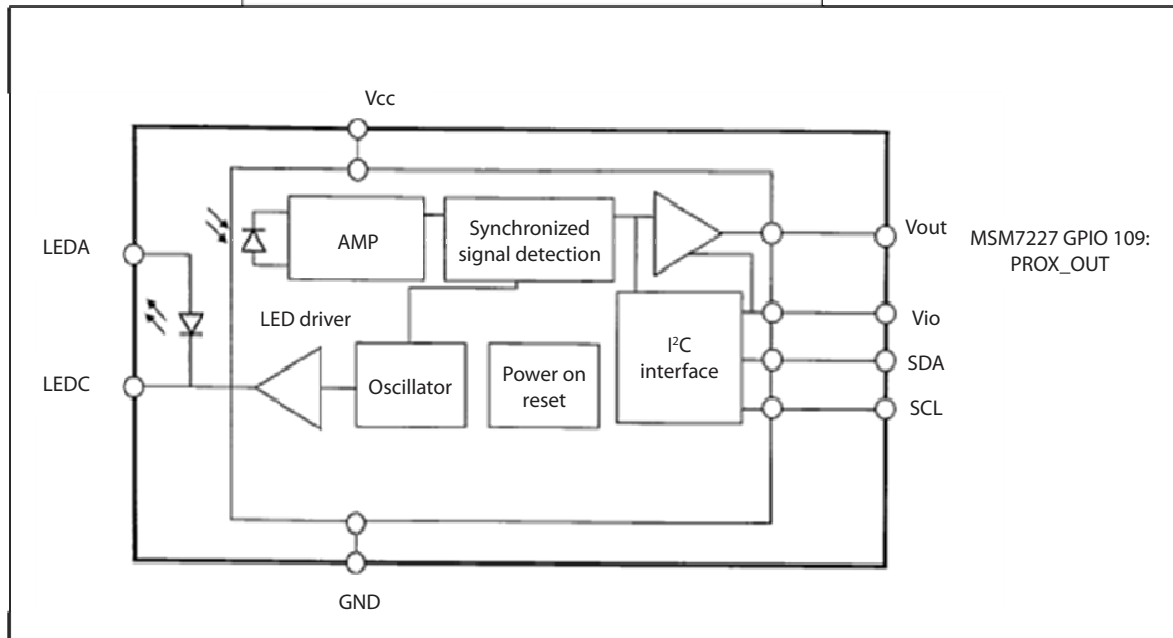


Figure. Proximity Sensor Block Diagram



3. TECHNICAL BRIEF

Figure. Proximity Sensor Block Diagram



3.20 Main Features

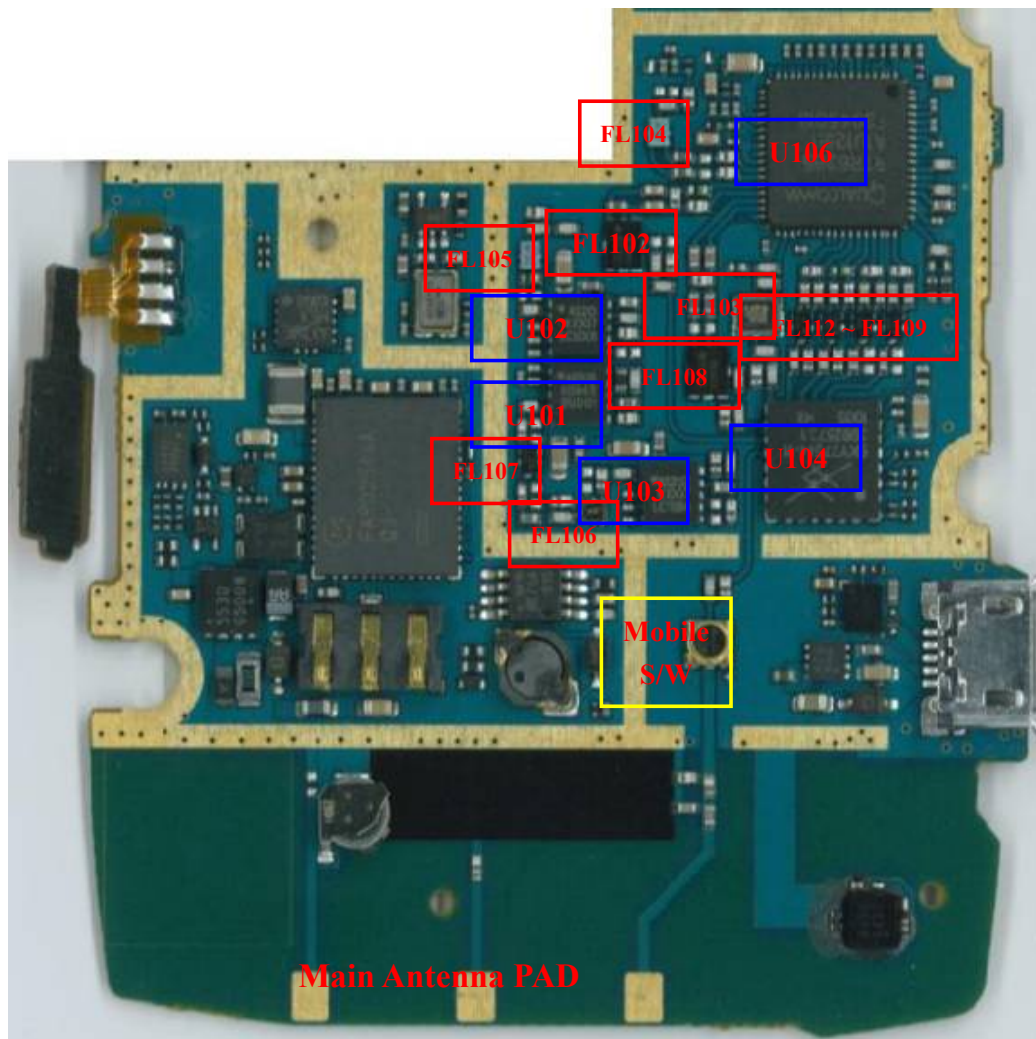
1. LG C710H Main Features

- Side Slide Qwerty type & Stylish design
- UMTS 2100 + UMTS850+ GSM 900 + DCS 1800 + PCS 1900 + GSM850 based GSM/GPRS/EDGE/UMTS
- HSDPA 7.2Mbps/ HSUPA 2.0Mbps
- TFT Main LCD (3.2'WVGA, 480 x 800)
- Capacitive Touch Window
- 5M AF Camera
- 3.5Phi Stereo Headset & Speaker phone
- Mobile XMF –Mobile DLS / Scaleable Polyphony
- MP3/AMR/AAC/AAC/WAV/WMA decoder and play
- MPEG4 encoder/decoder and play/save
- JPEG en/decoder
- Supports Bluetooth and HS-USB
- Supports WLAN
- Supports FM Radio
- 1500 mAh (Li-Ion Polymer)
- Android 2.1 eclair

4. Trouble Shooting

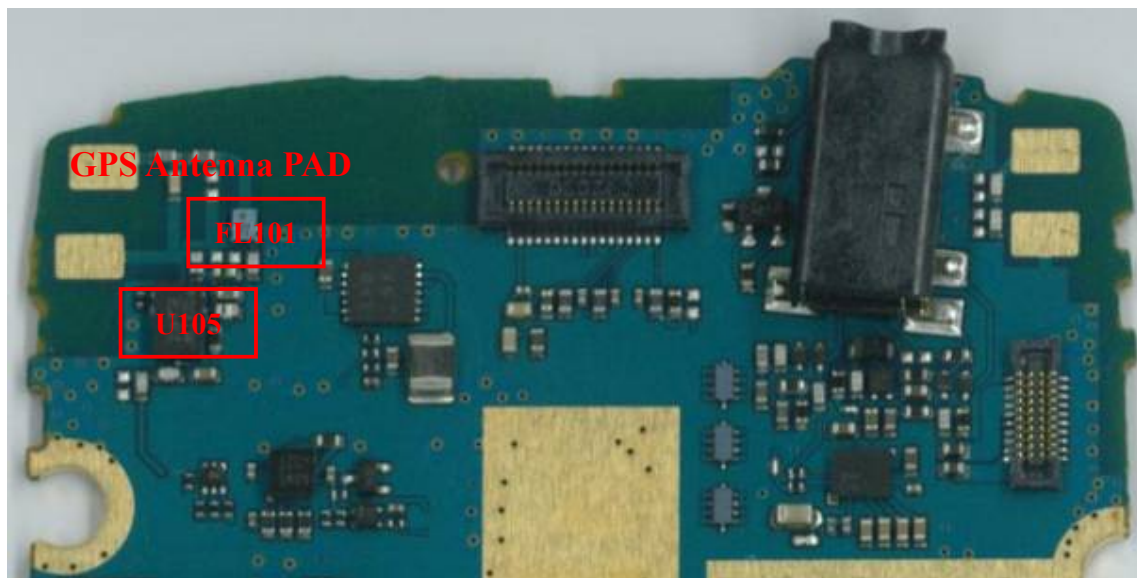
4. Trouble Shooting

4.1 RF Component



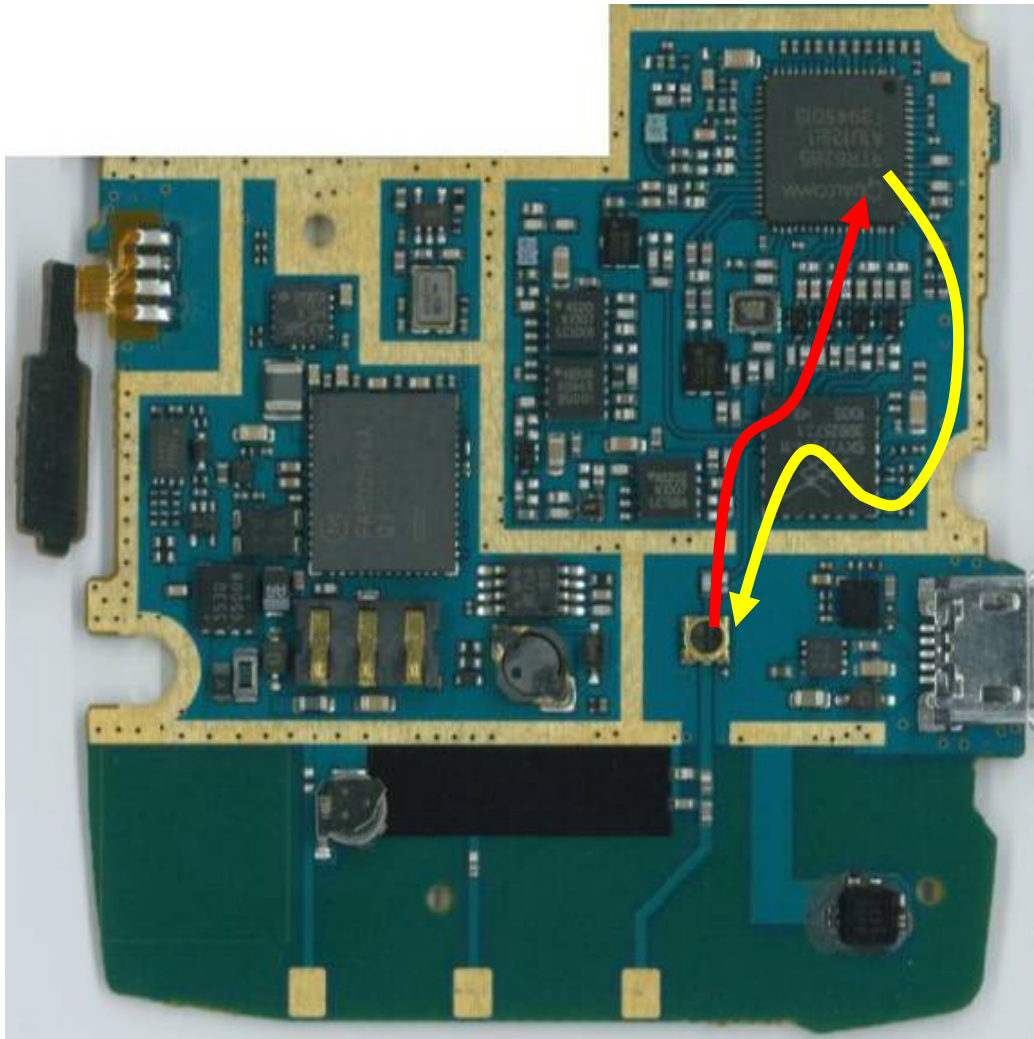
RF component (WCDMA / GSM / GPS)

Reference	Description	Reference	Description
U106	RTR6285(Transceiver)	FL111	DCS Rx SAW Filter
U104	FEM & GSM PAM	FL112	PCS Rx SAW Filter
U102	WCDMA(I) PAM	FL108	WCDMA (II) Duplexer
U103	WCDMA (II) PAM	FL103	WCDMA (I) Duplexer
U101	WCDMA (V) PAM	FL104	WCDMA (I) RX SAW Filter
FL107	WCDMA (II) TX SAW Filter	FL102	WCDMA (V) Duplexer
FL105	WCDMA (I) TX SAW Filter	U105	GPS LNA
FL107	WCDMA (V) TX SAW	FL101	GPS SAW Filter
FL109	GSM850 Rx SAW Filter		
FL110	EGSM Rx SAW Filter		



4. Trouble Shooting

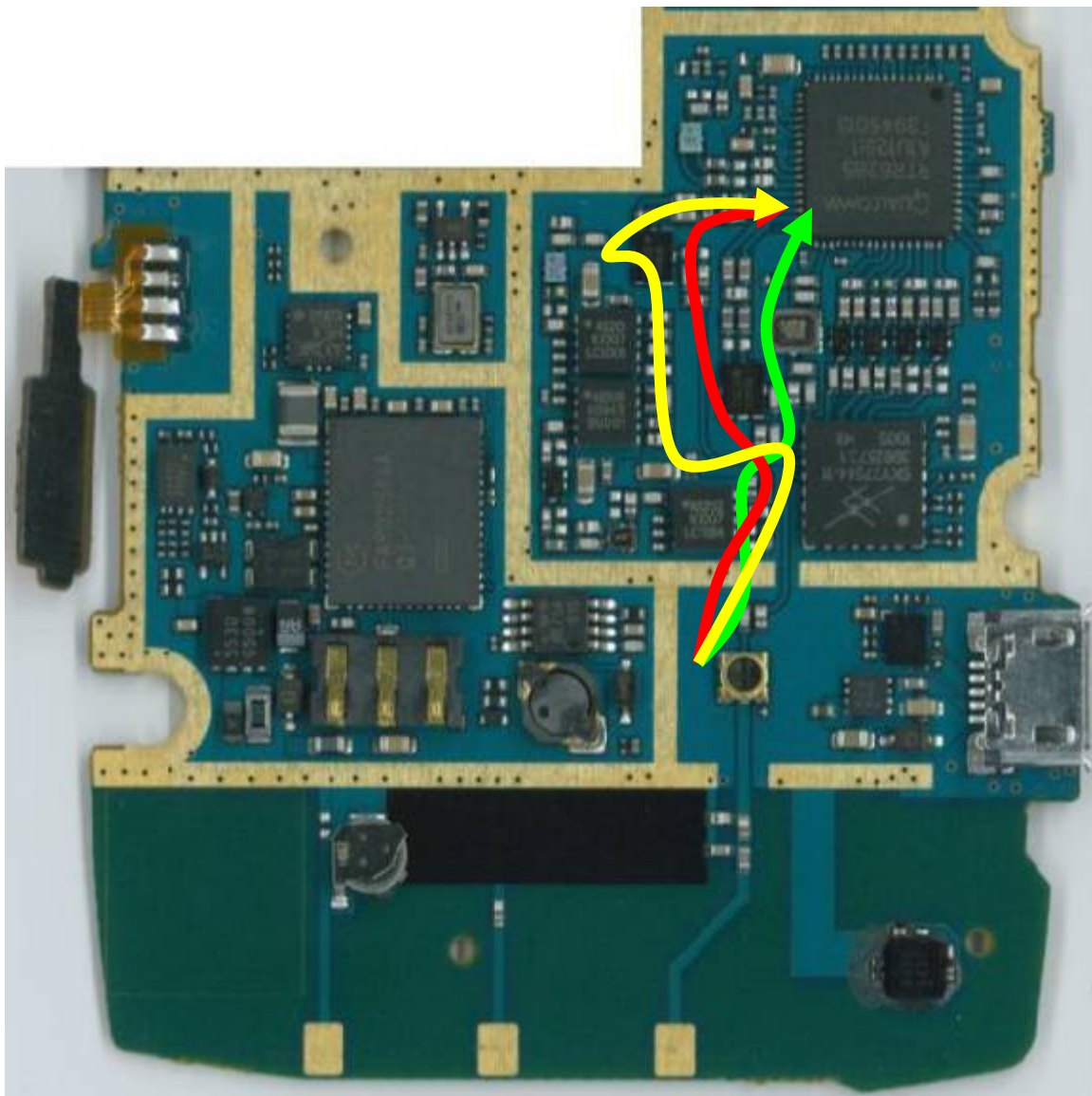
4.2 SIGNAL PATH



GSM850/GSM900/DCS/PCS's RX/TX Signal PATH

A. GSM850/GSM900/DCS1800/PCS1900 RX PATH

B. GSM850/GSM900/DCS1800/PCS1900 TX PATH



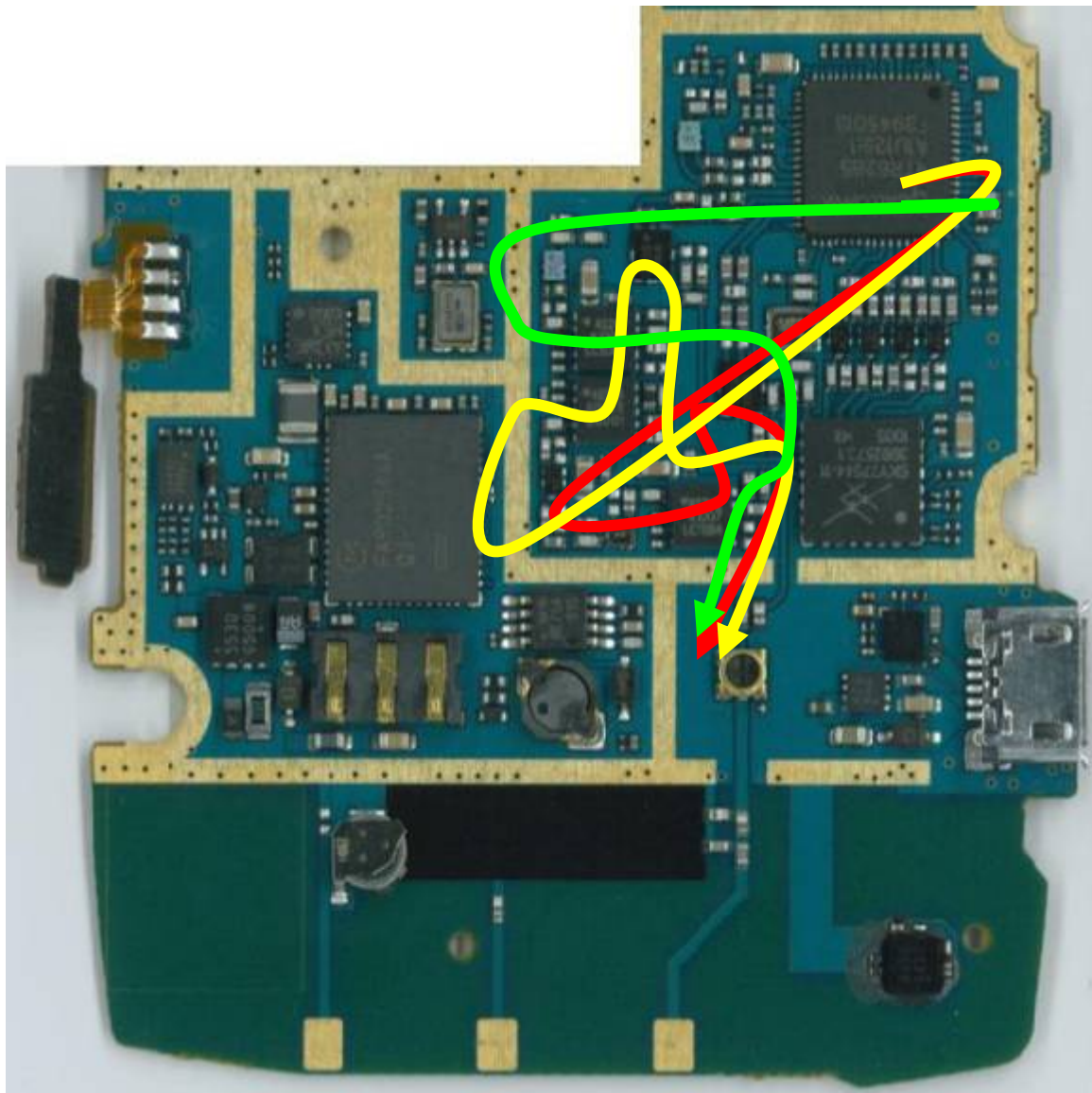
WCDMA I,II and V Band RX Signal PATH

C. WCDMA 1900 RX PATH

D. WCDMA 850 RX PATH

E. WCDMA 2100 RX PATH

4. Trouble Shooting



WCDMA I,II and VIII Band TX Signal PATH

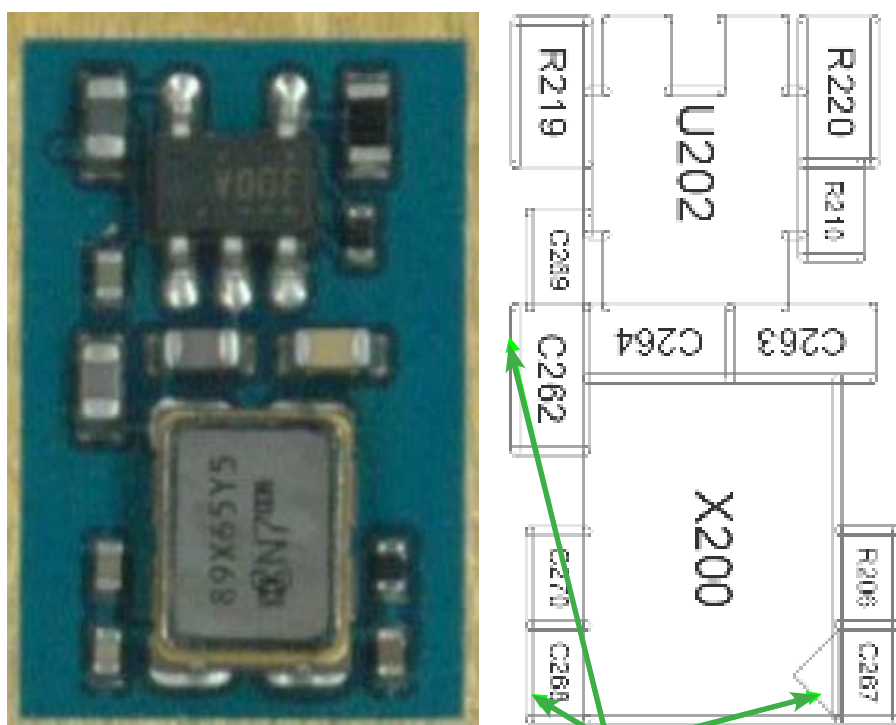
C1. WCDMA 1900 TX PATH

D1. WCDMA 850 TX PATH

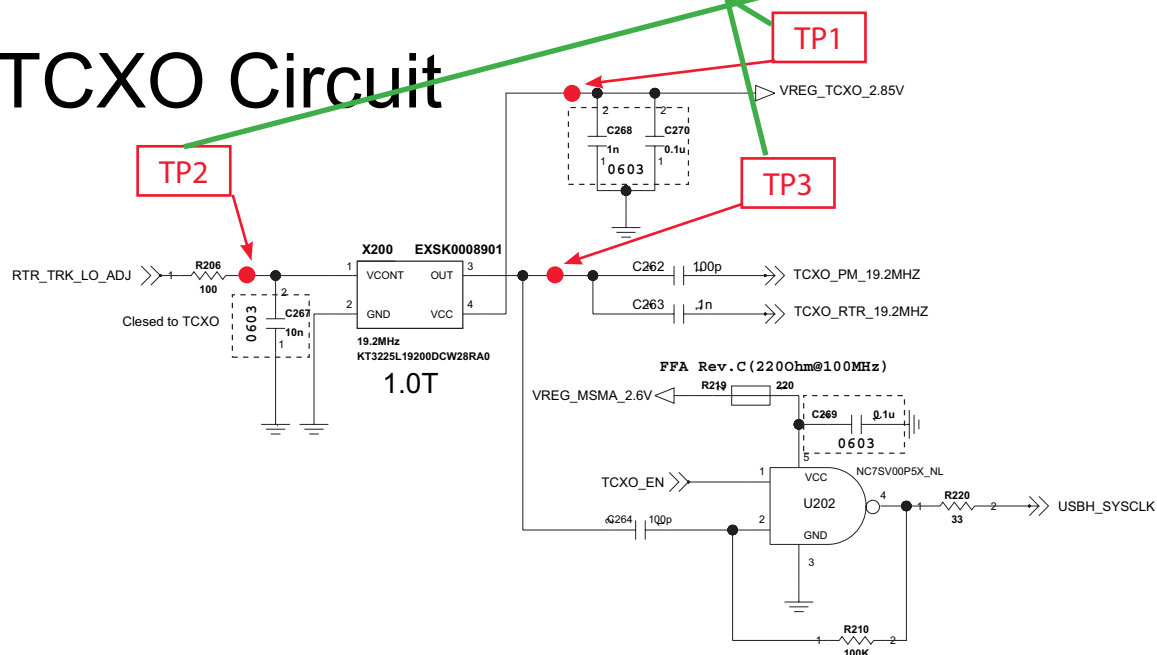
E1. WCDMA 2100 TX PATH

4.3 Checking TCXO Block

The output frequency (19.2MHz) of TCXO (X200) is used as the reference one of RTR6285 and PM7540 internal VCO.

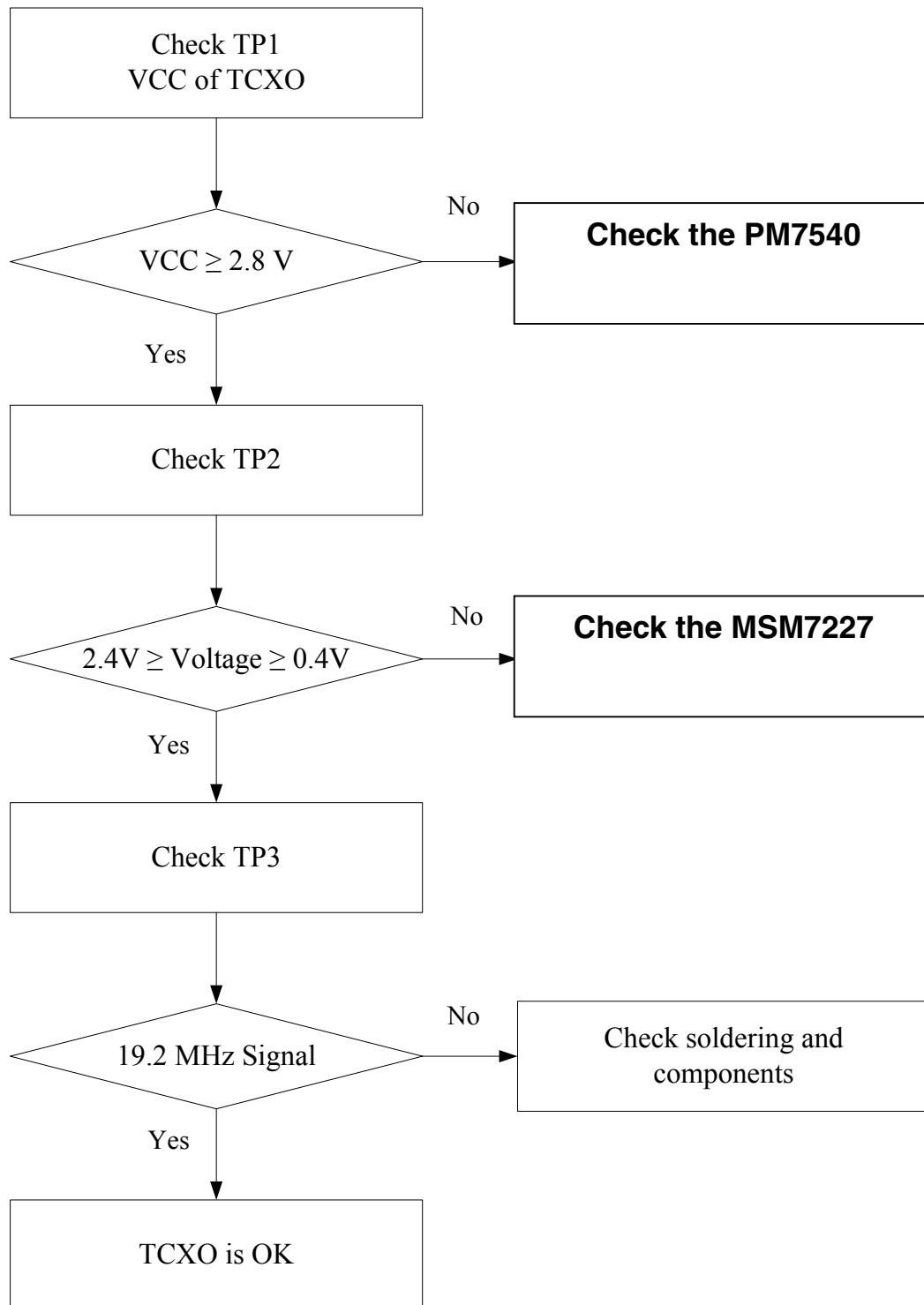


TCXO Circuit

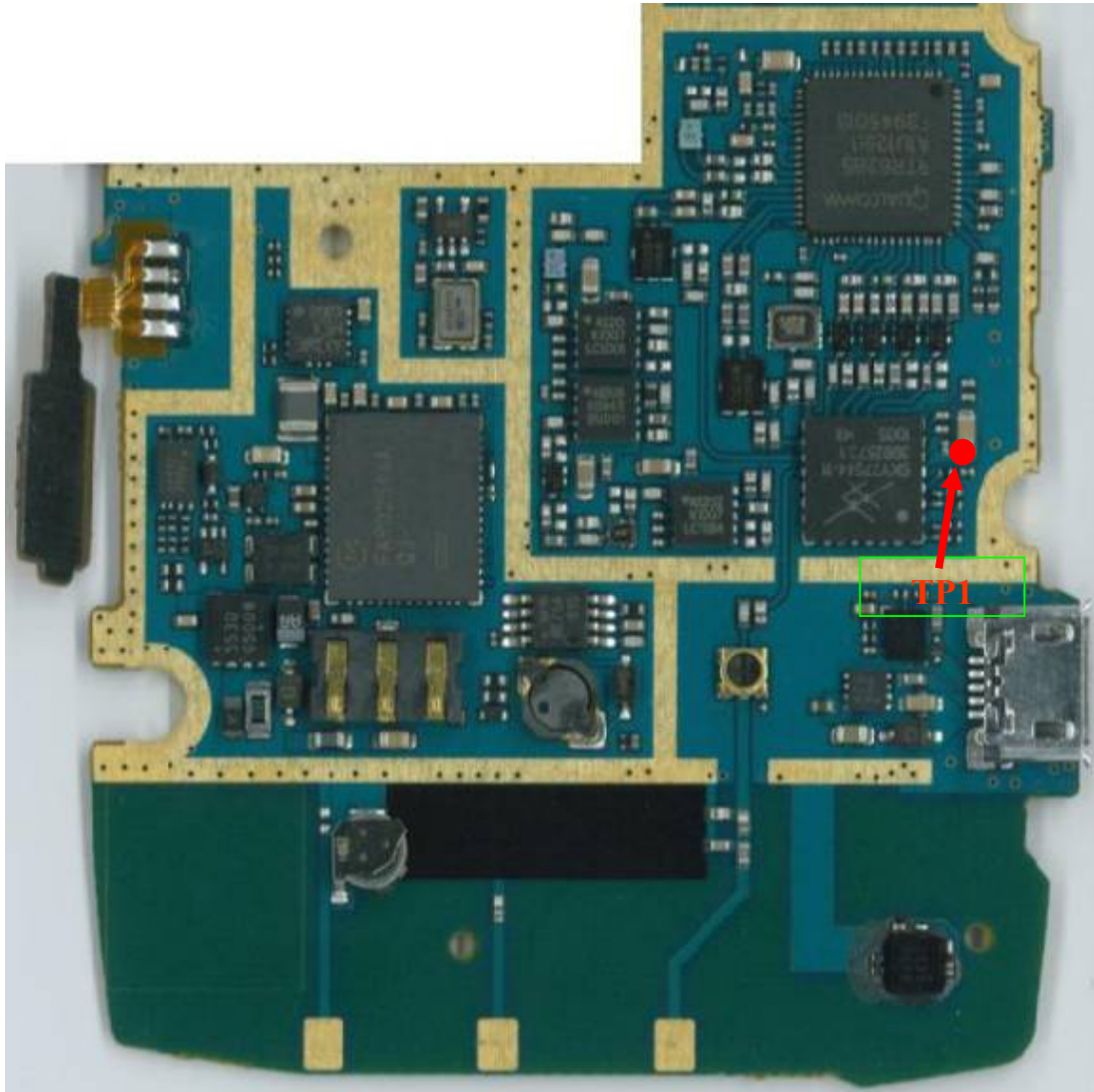


Schematic of the Crystal Part (19.2MHz)

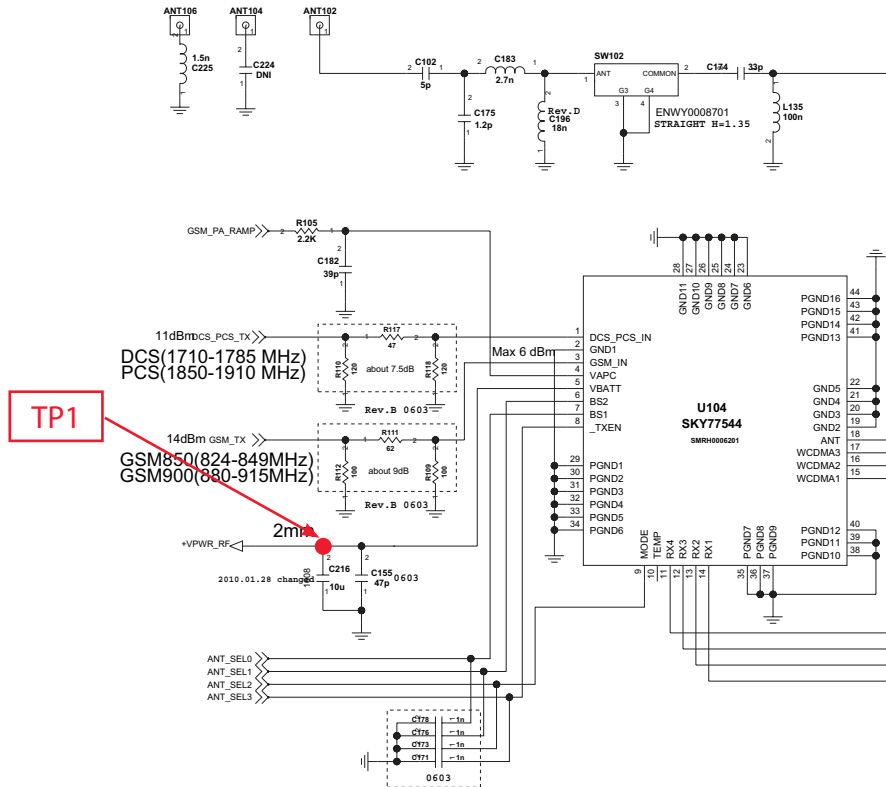
4. Trouble Shooting



4.4 Checking Front End Module (FEM) Block



4. Trouble Shooting

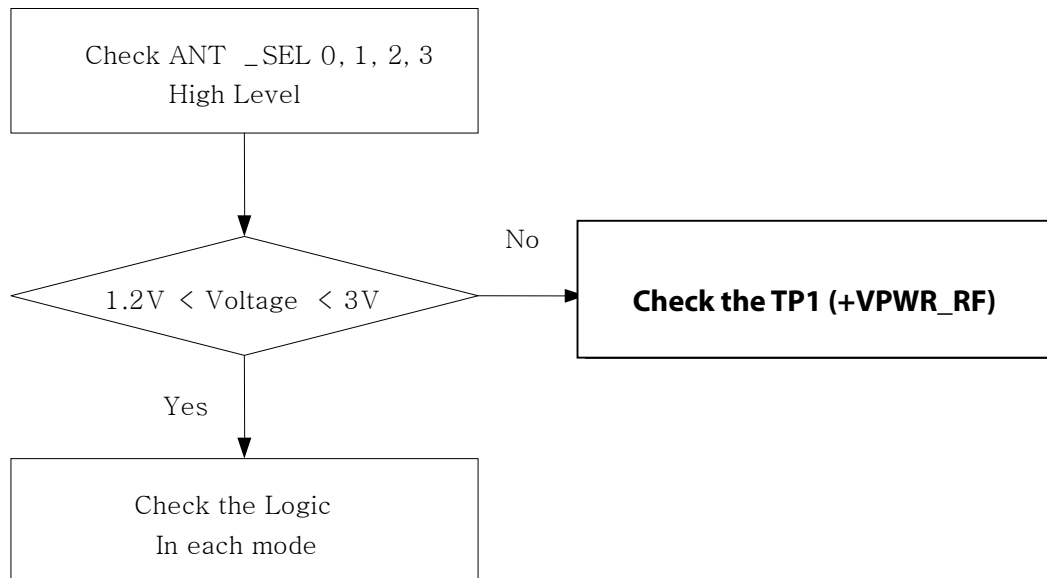


Schematic of the Antenna Switch Block

	ANT_SEL0	ANT_SEL1	ANT_SEL2	ANT_SEL3
GSM850/EGSM TX	LOW	HIGH	LOW	LOW
PCN/PCS TX	HIGH	HIGH	LOW	LOW
WB 2100	HIGH	LOW	LOW	LOW
WB 1900	LOW	LOW	HIGH	LOW
WB 850/900	HIGH	LOW	HIGH	LOW
GSM850 RX	HIGH	LOW	LOW(X)	HIGH
EGSM RX	HIGH	HIGH	LOW(X)	HIGH
DCN RX	LOW	HIGH	LOW(X)	HIGH
PCS RX	LOW	LOW	LOW(X)	HIGH

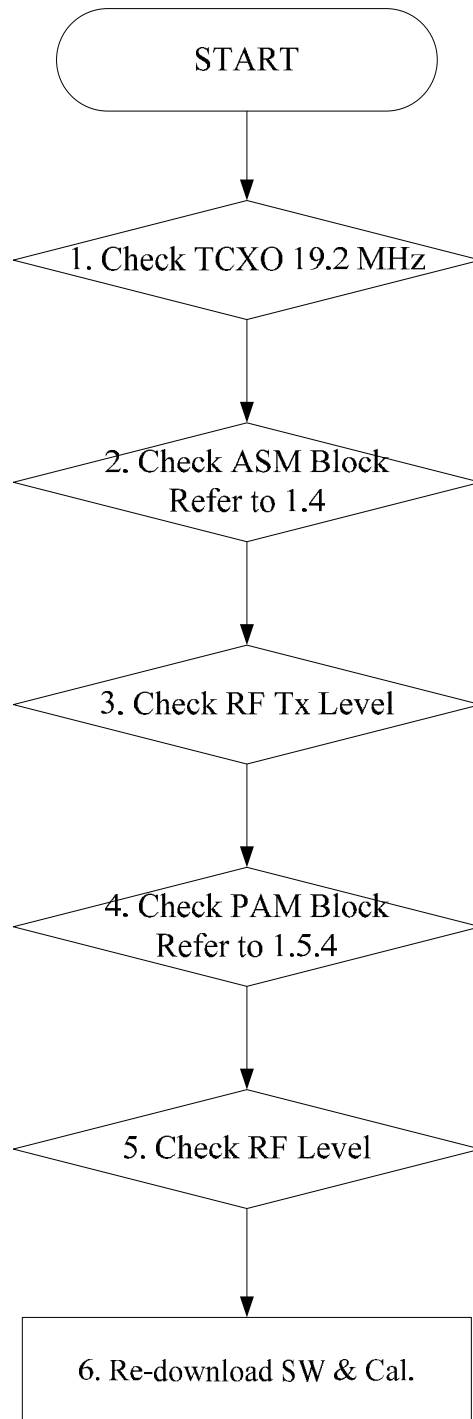
ANTENNA SWITCH MODULE LOGIC(SKY77544)

Checking Switch Block Power Source



4. Trouble Shooting

4.5 Checking WCDMA Block



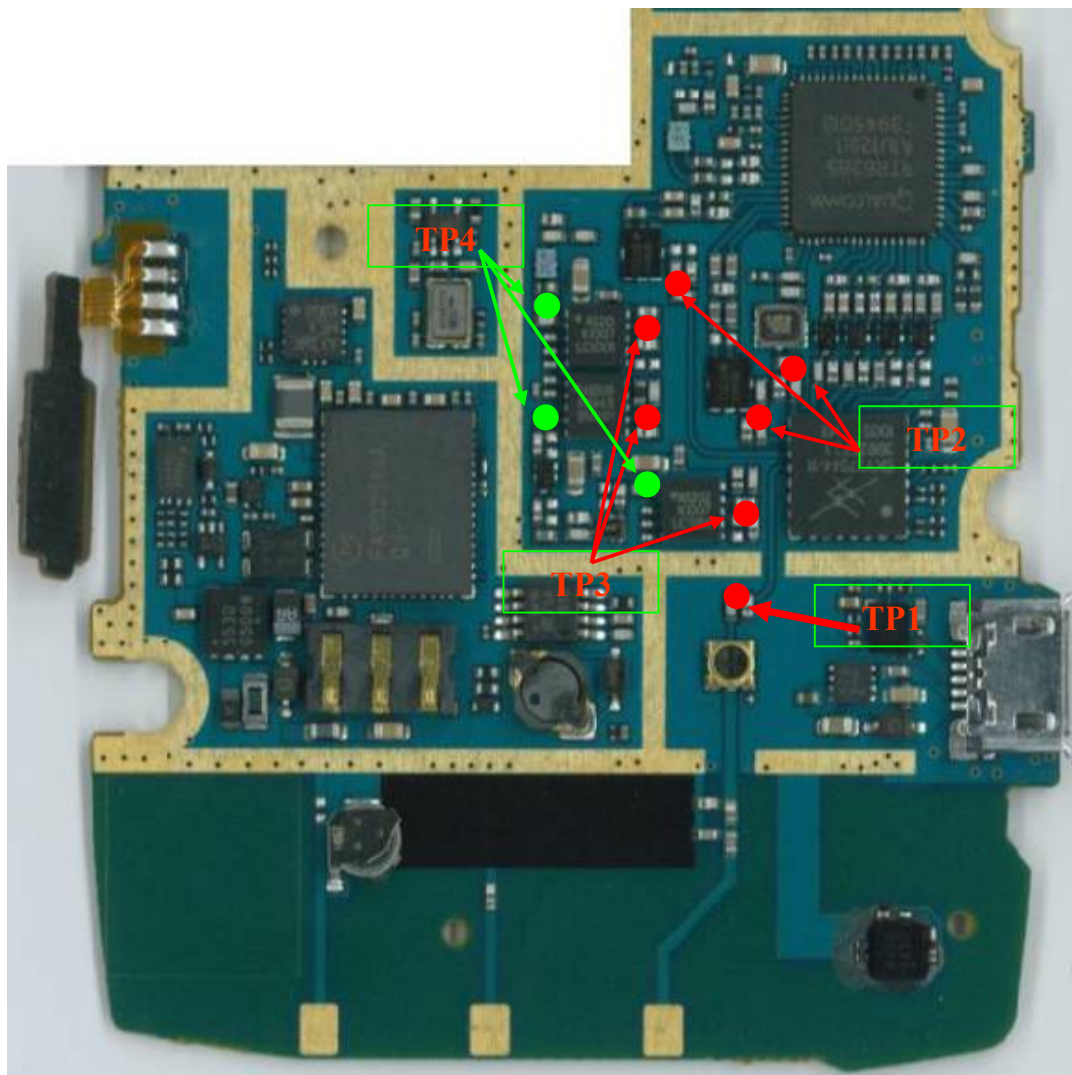
4.5.1 Checking TCXO Block

Refer to 1.3

4.5.2. Checking FEM Block (SKY77544)

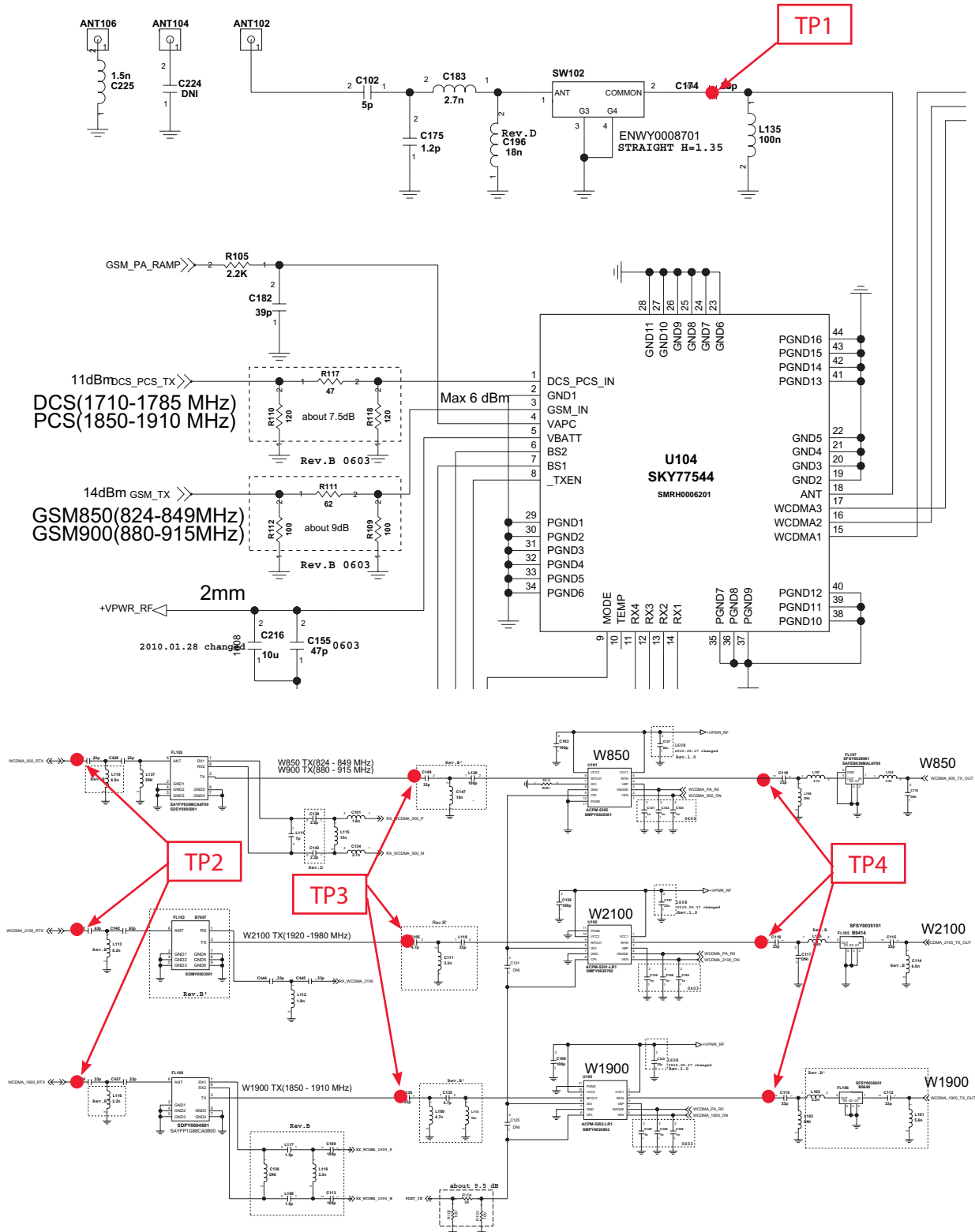
Refer to 1.4

4.5.3. Checking RF TX Level

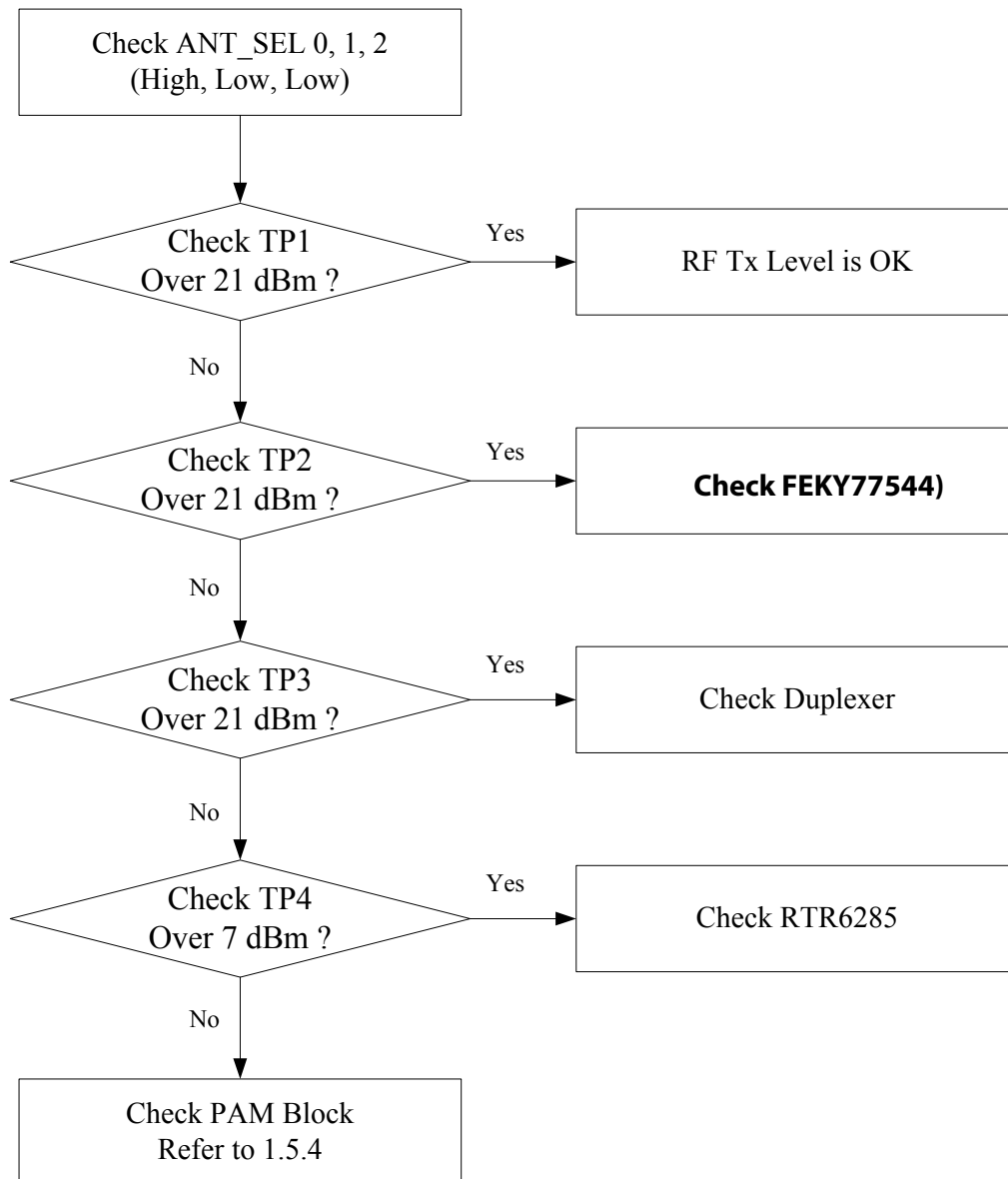


Test Point (TX Level)

4. Trouble Shooting



For testing, Max power output is needed.



RTR6285 Maximum output Power = 7 dBm
 RTR6285 minimum output Power = -80 dBm
 PAM(ACPM-7381) = Maximum input Power = 10 dBm

4. Trouble Shooting

4.5.4. Checking PAM Block

PAM control signal

PA_ON(WCDMA_900_ON(C124), WCDMA_1900_ON(C128) and WCDMA_2100_ON(C104)) : PAM Enable

PA_R0: PAM Gain Control

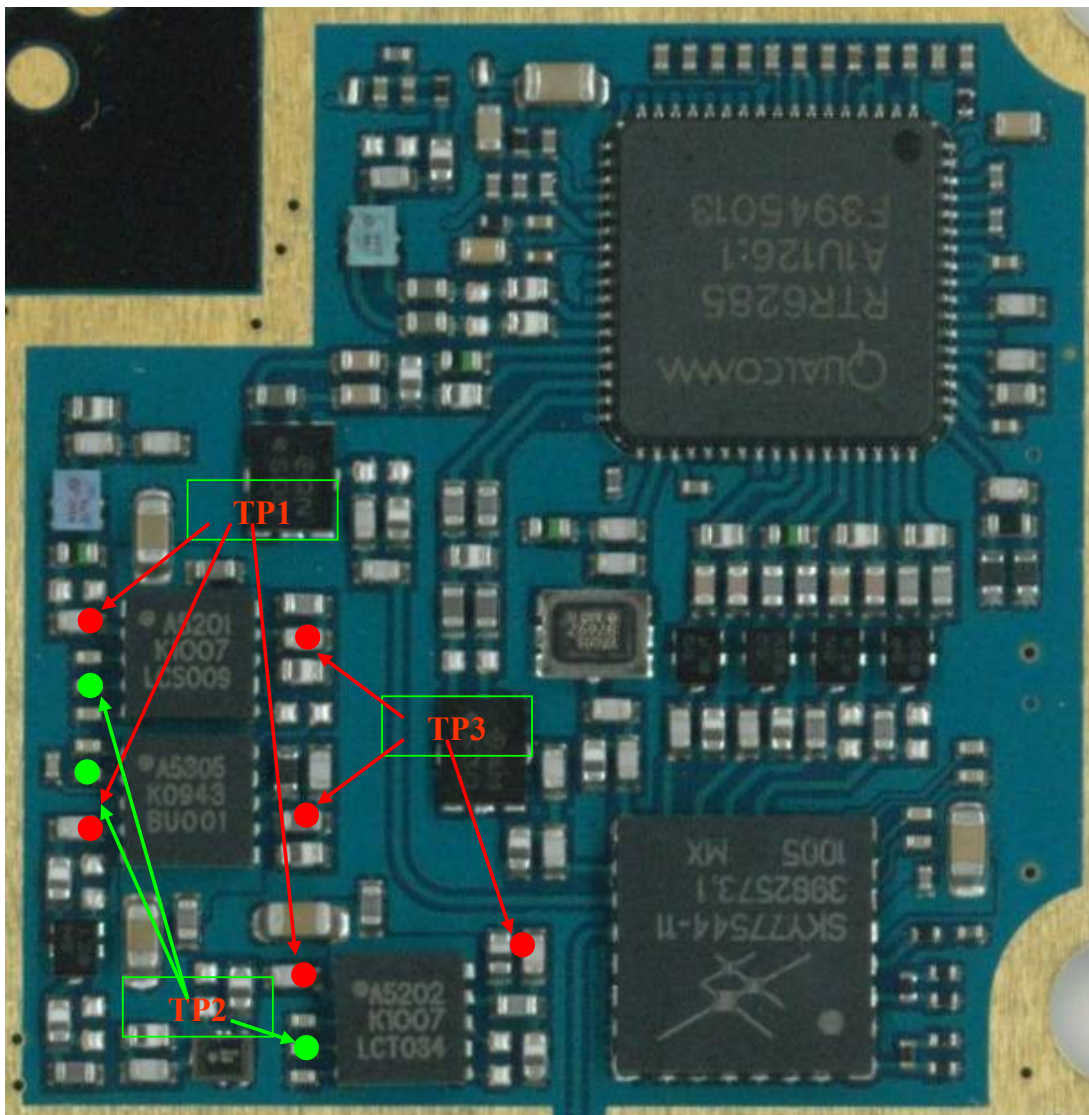
PA_ON must be HIGH (over 2.6V).

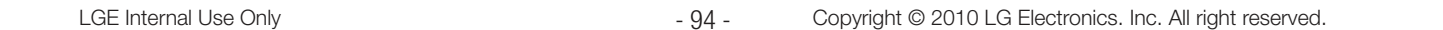
PAM IN/OUT Signal :

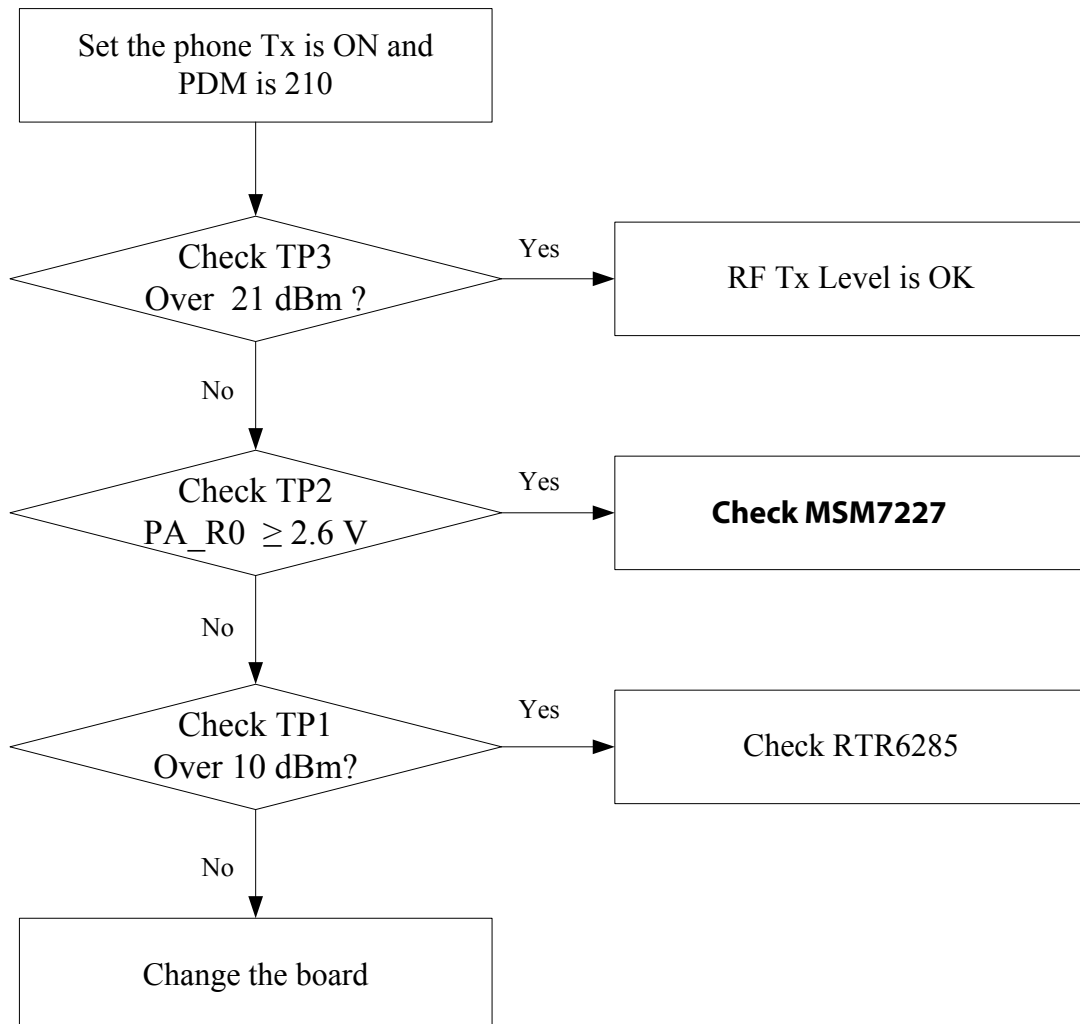
When PAM is under the operation of high power mode (**PA_R0 (C122, C108, 126): Low**),

PAM OUT power must be over 21 dBm

PAM IN power must be under 10 dBm

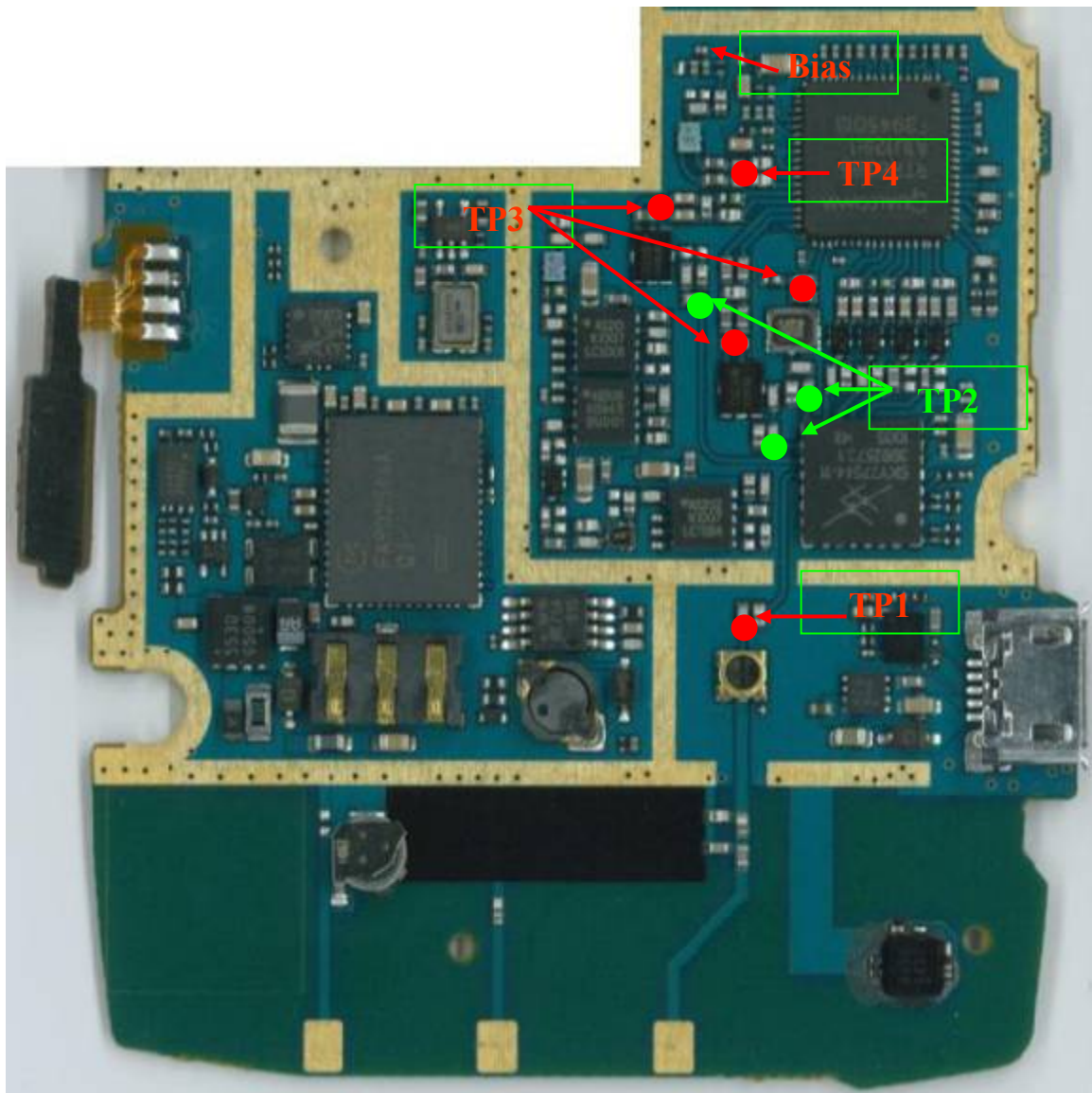






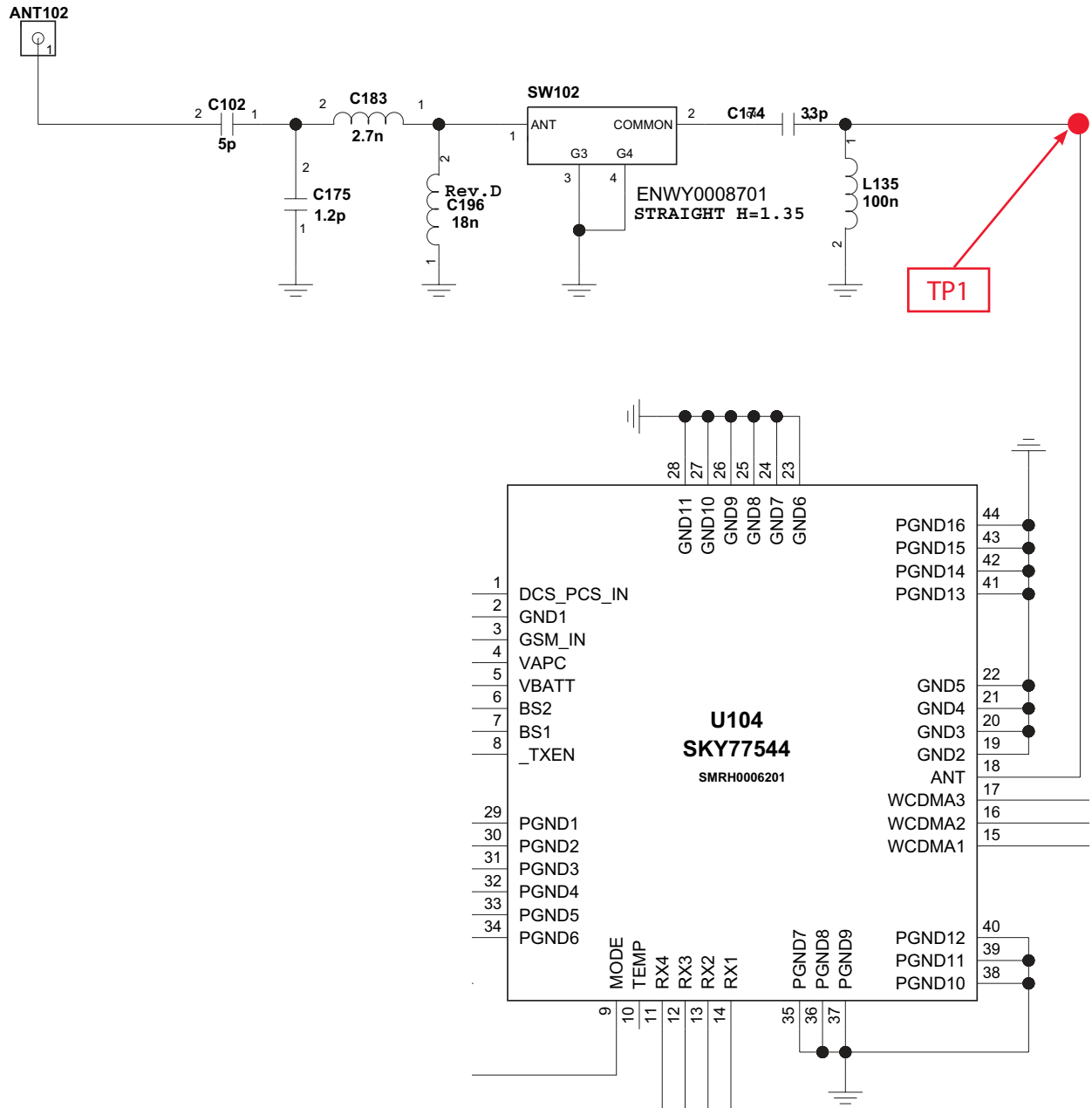
4. Trouble Shooting

4.5.5. Checking RF Rx Level

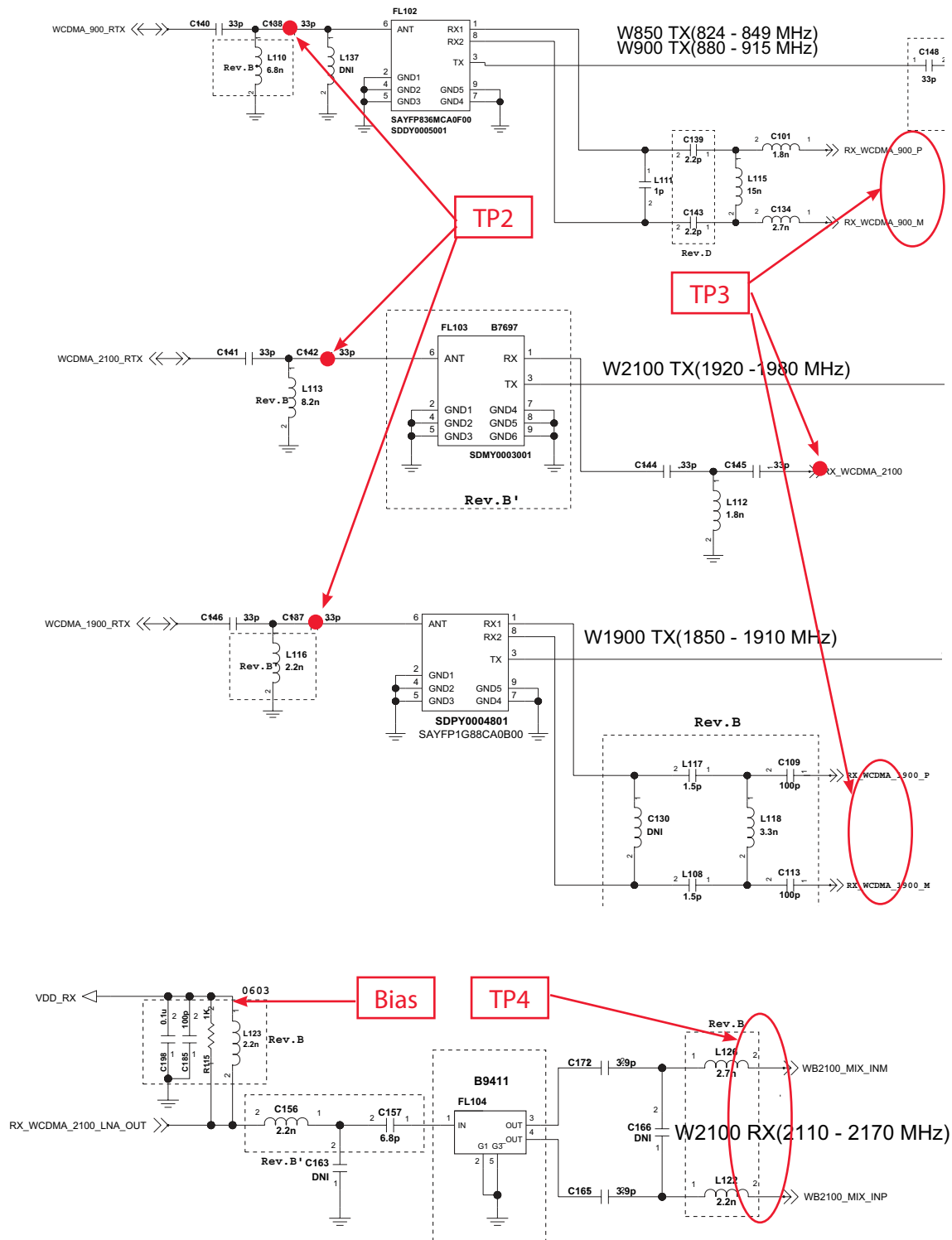


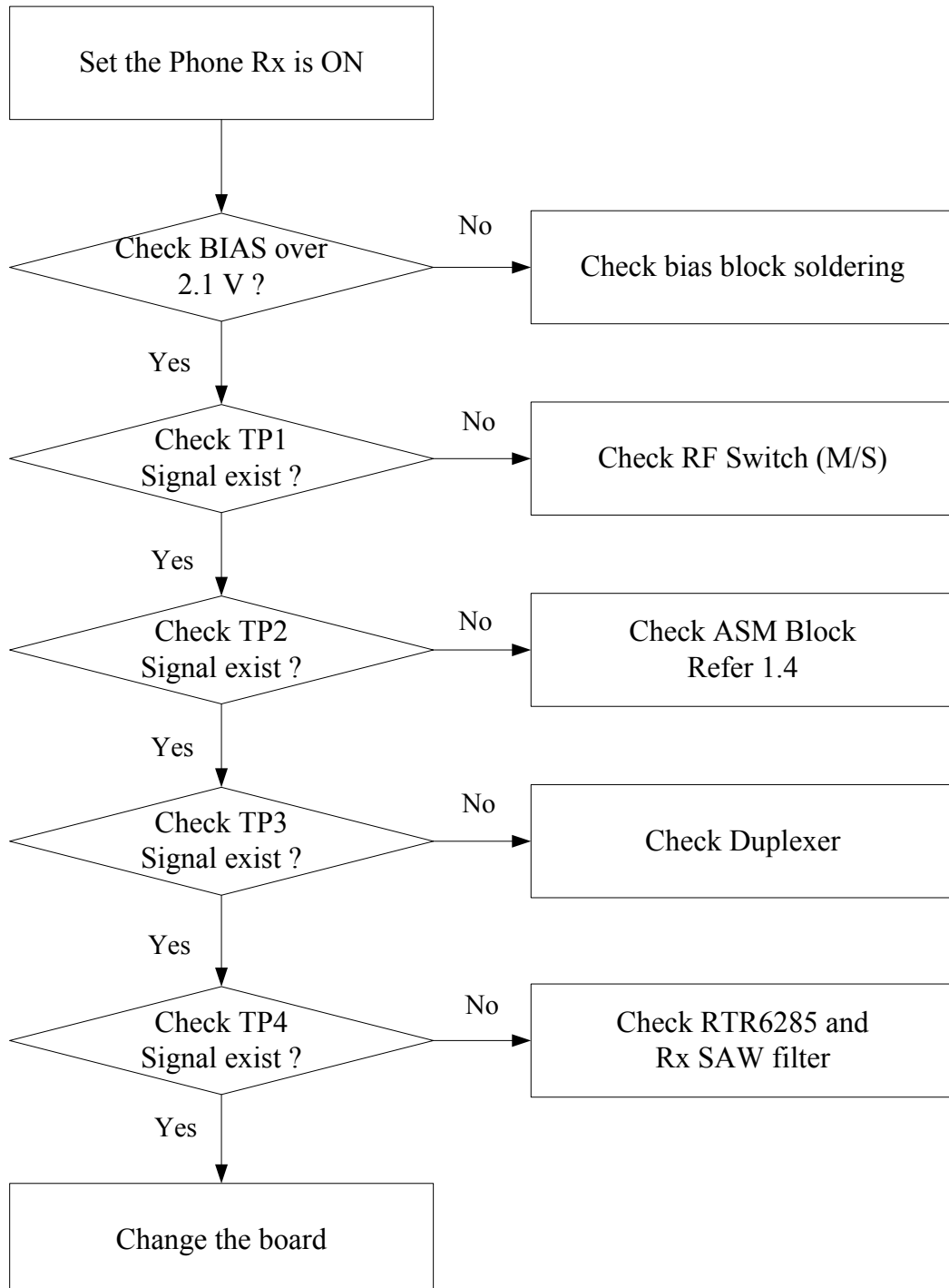
Test Point (RF Rx Level)

4. Trouble Shooting



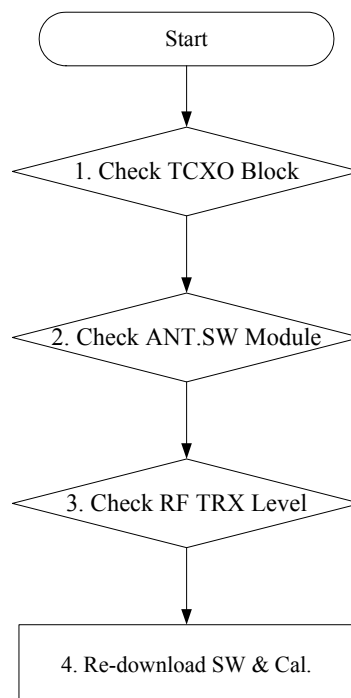
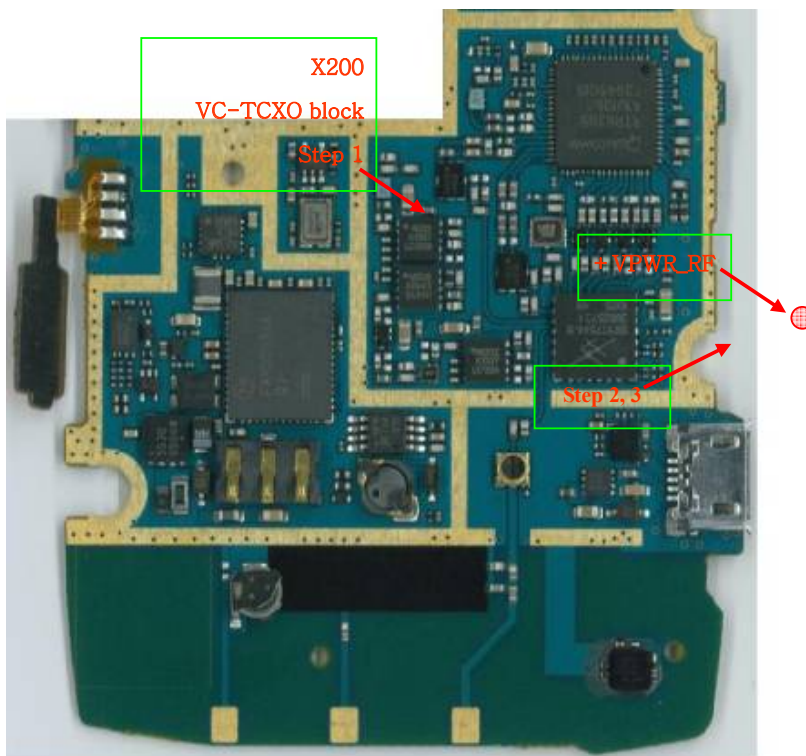
4. Trouble Shooting





4. Trouble Shooting

4.6 Checking GSM Block



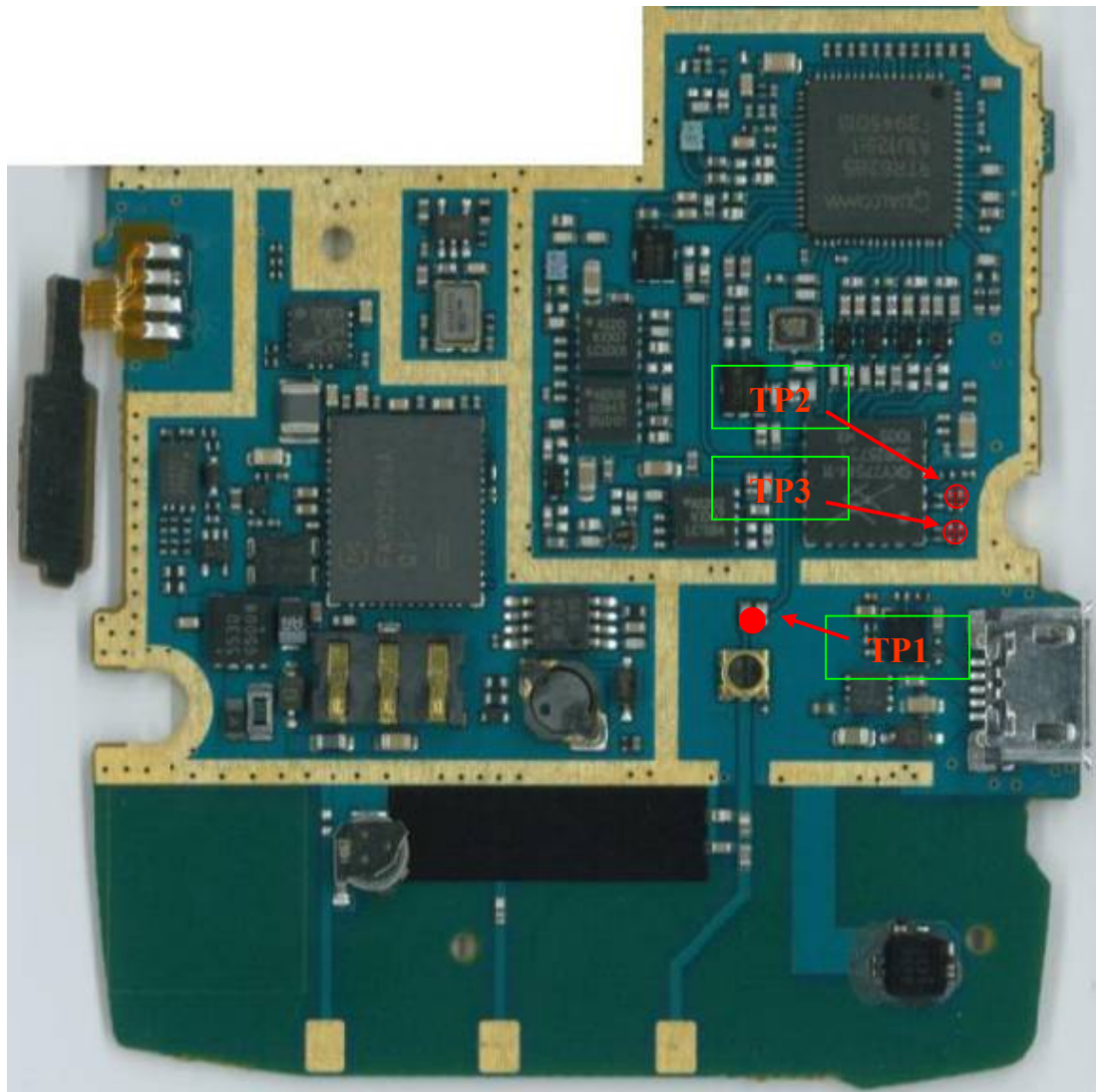
4.6.1. Checking TCXO Block

Refer to 1.3

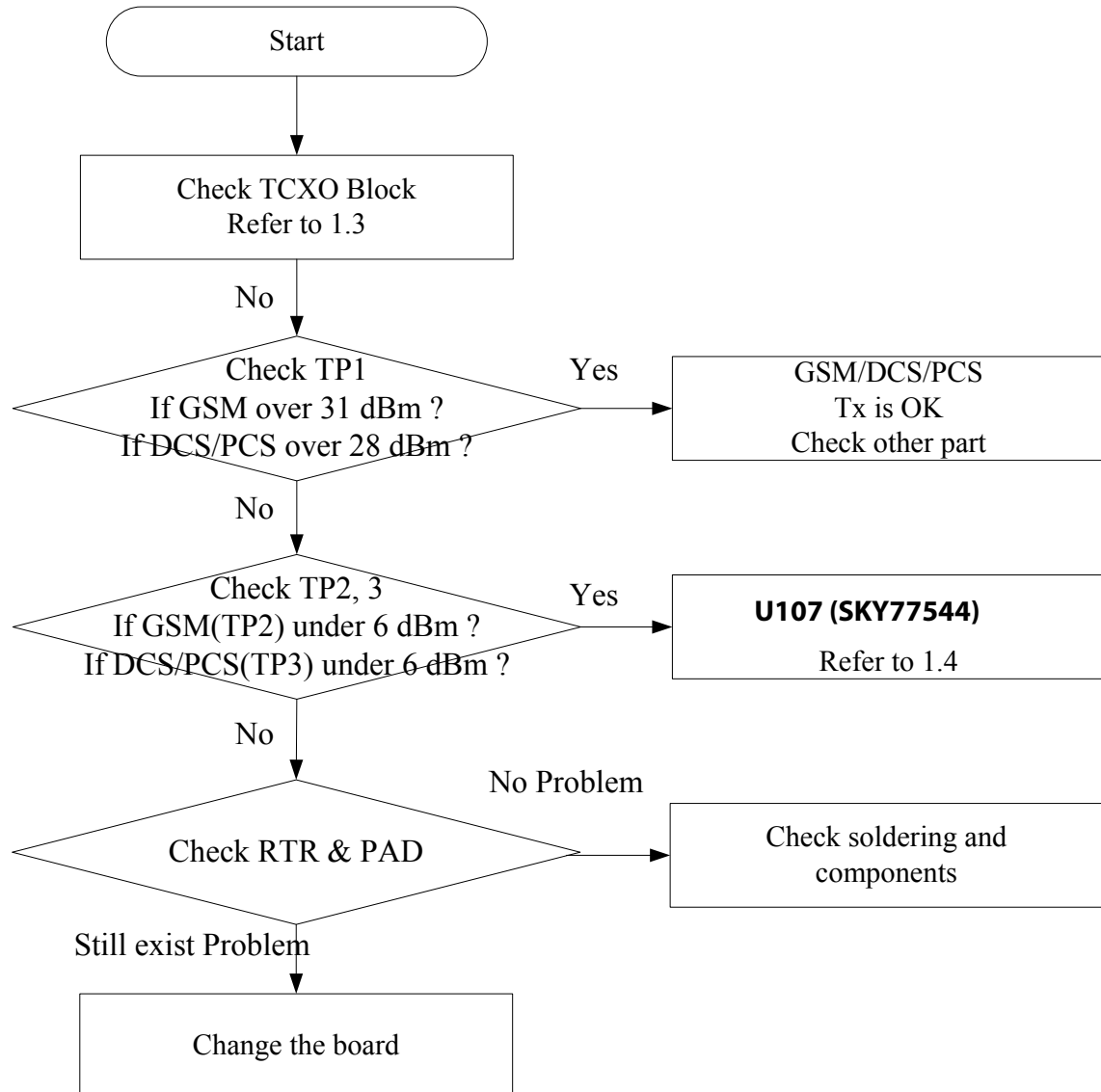
4.6.2. Checking FEM Block

Refer to 1.4

4.6.3.1. Checking RF TX level

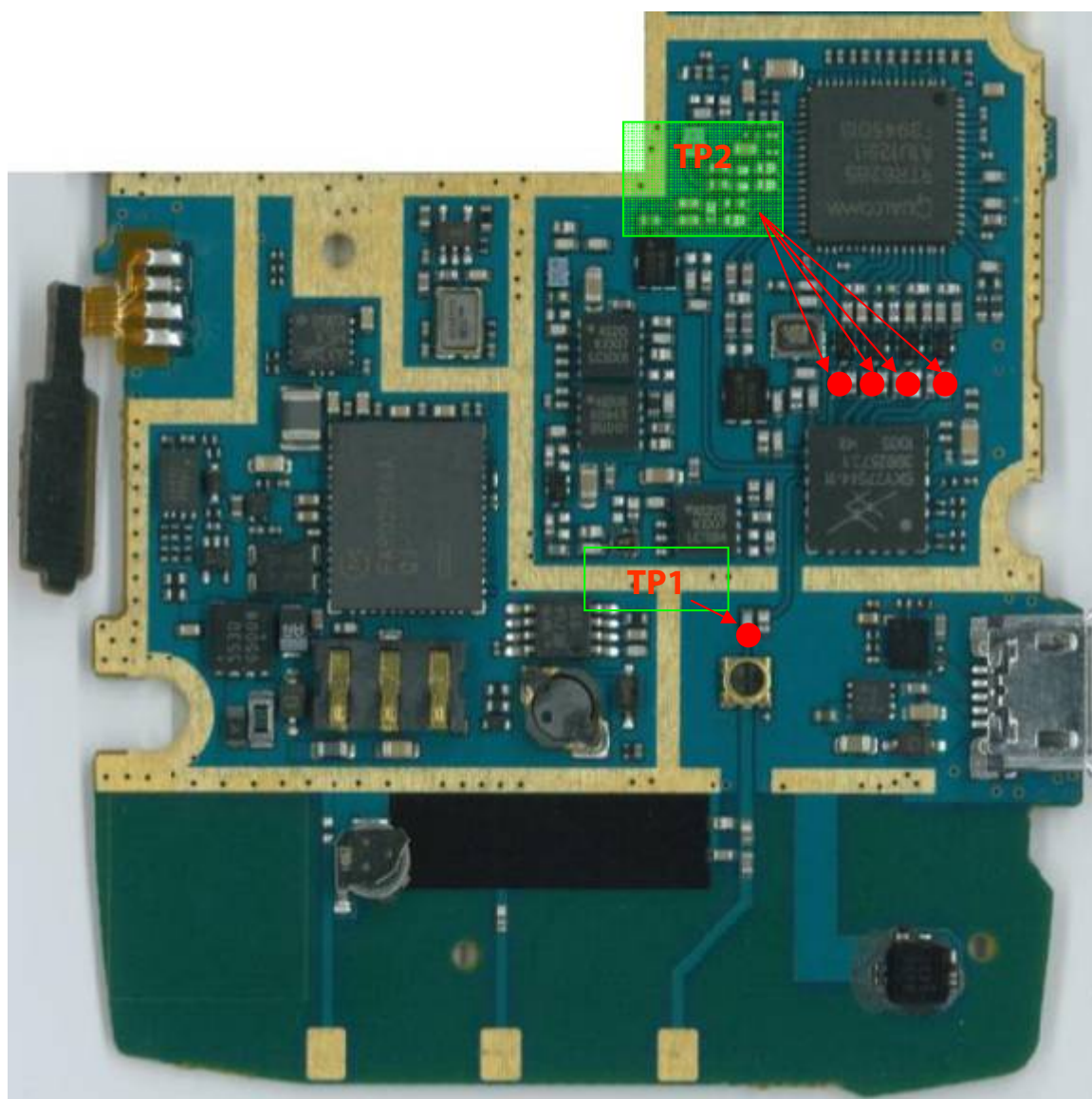


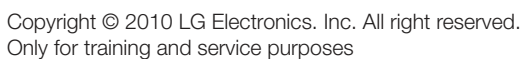




4. Trouble Shooting

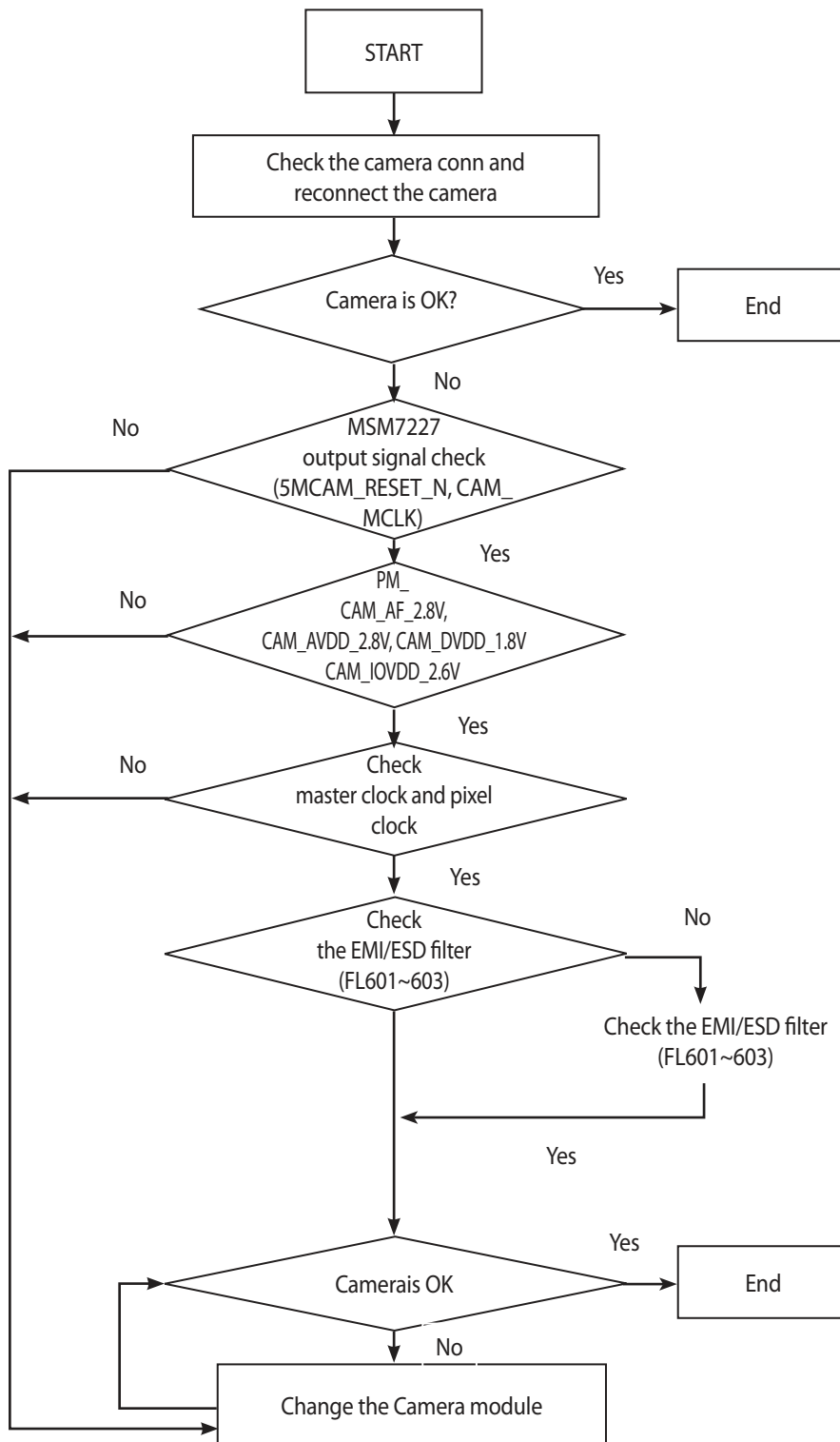
4.6.3.2. Checking RF Rx Block

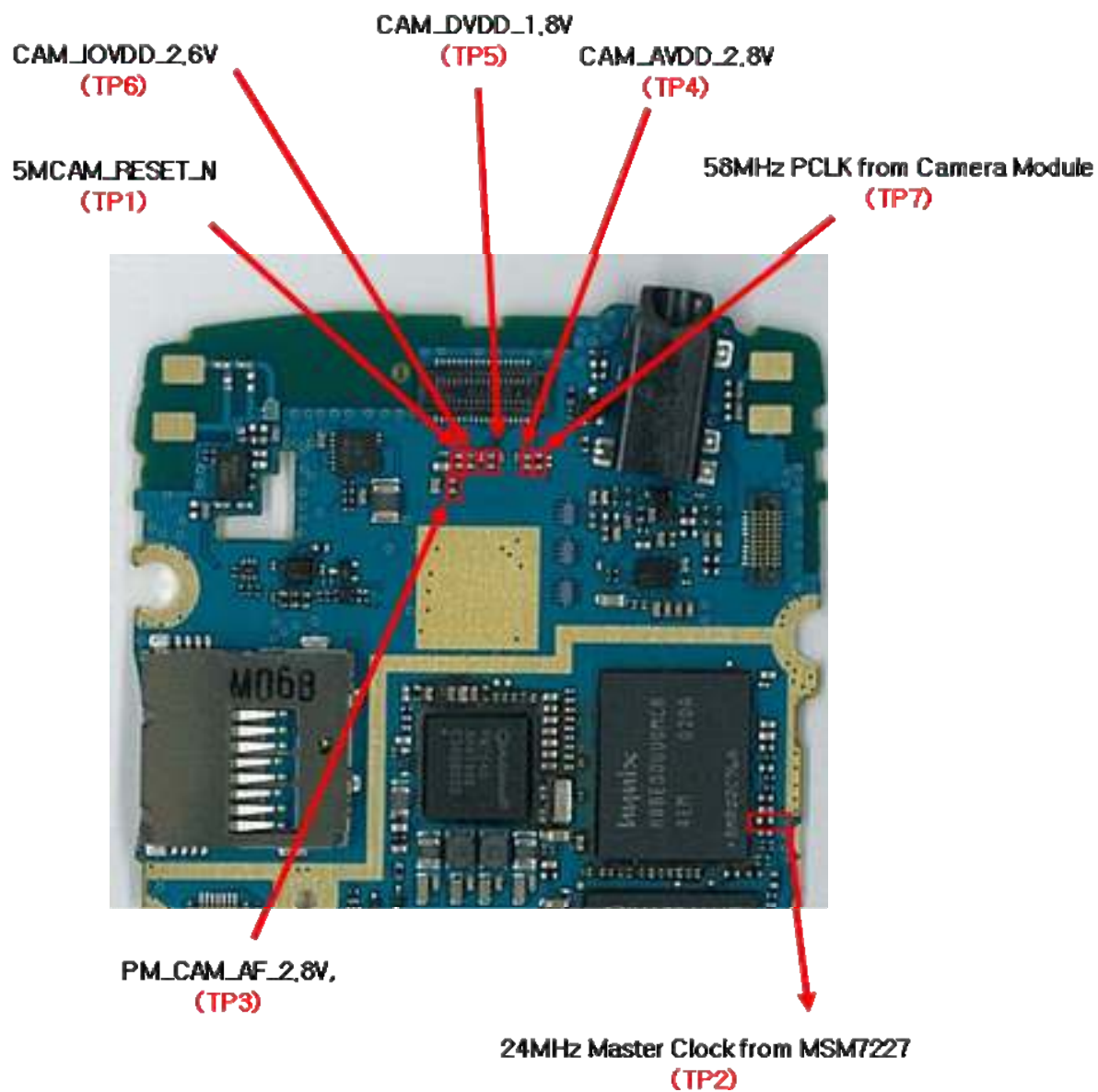




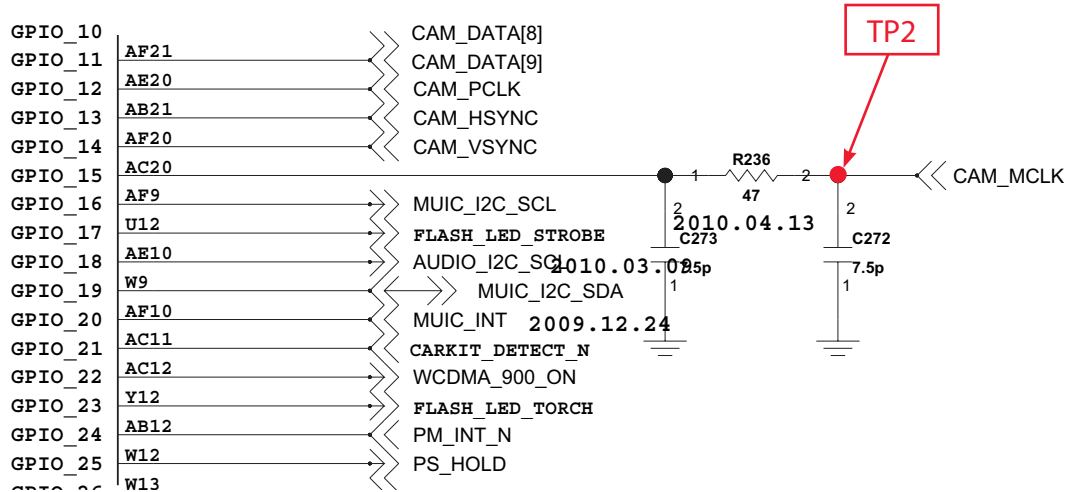
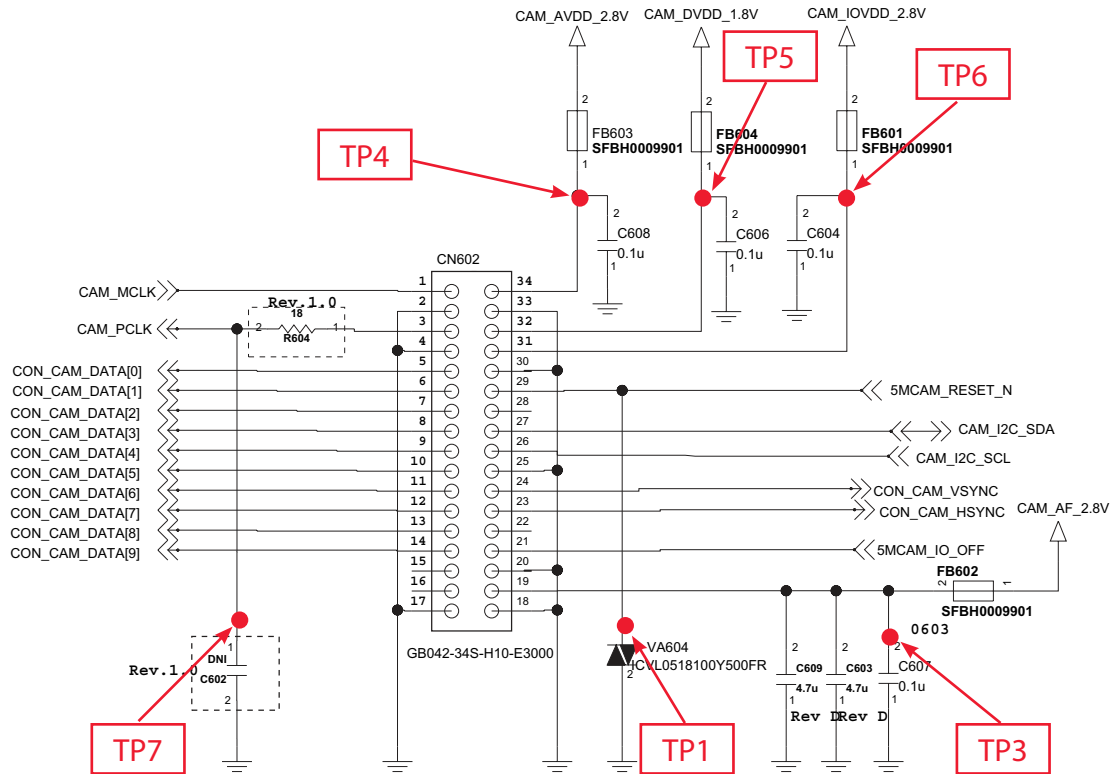
4. Trouble Shooting

4.7 5M camera trouble





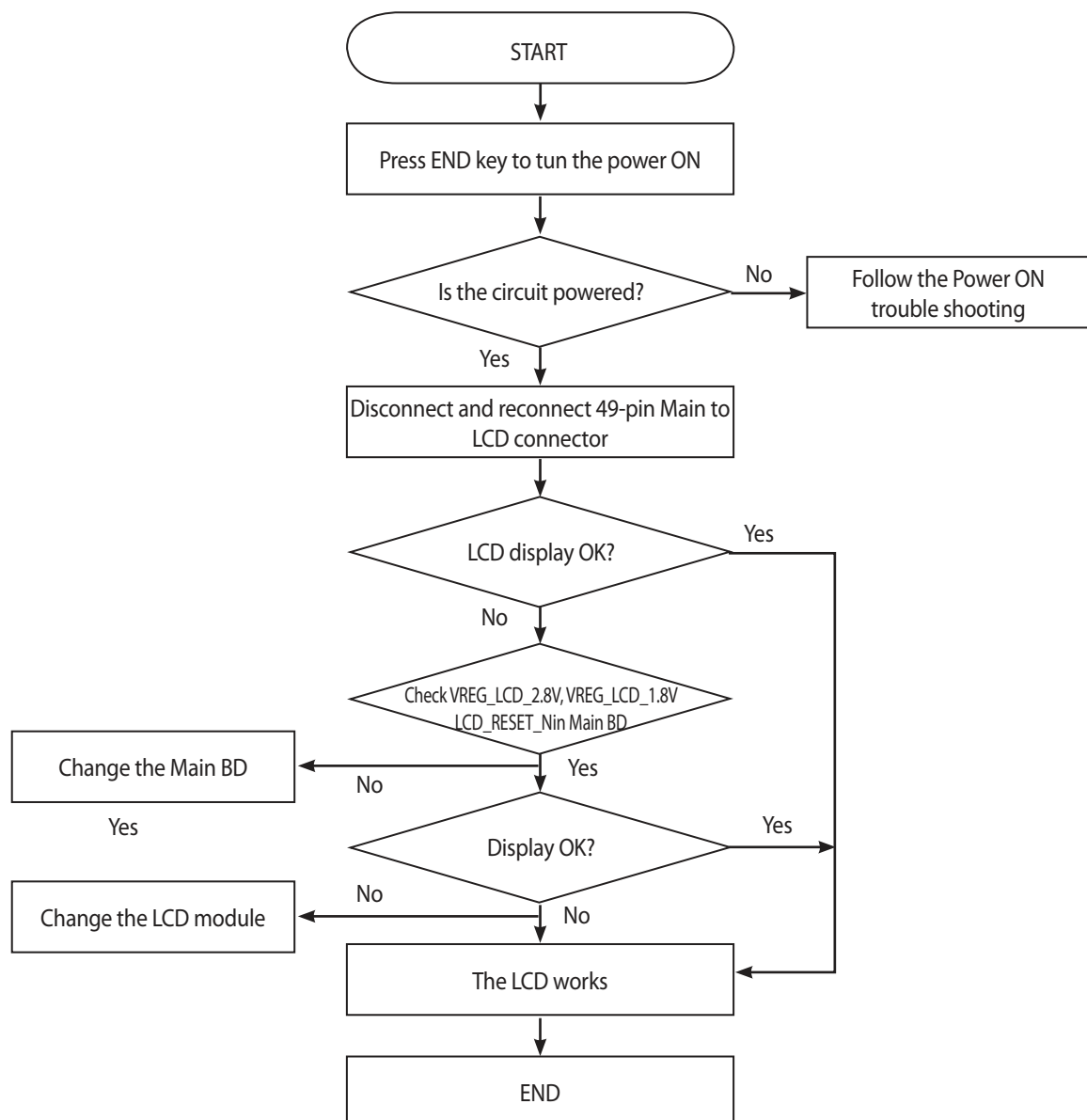
4. Trouble Shooting

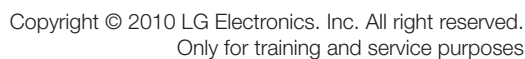


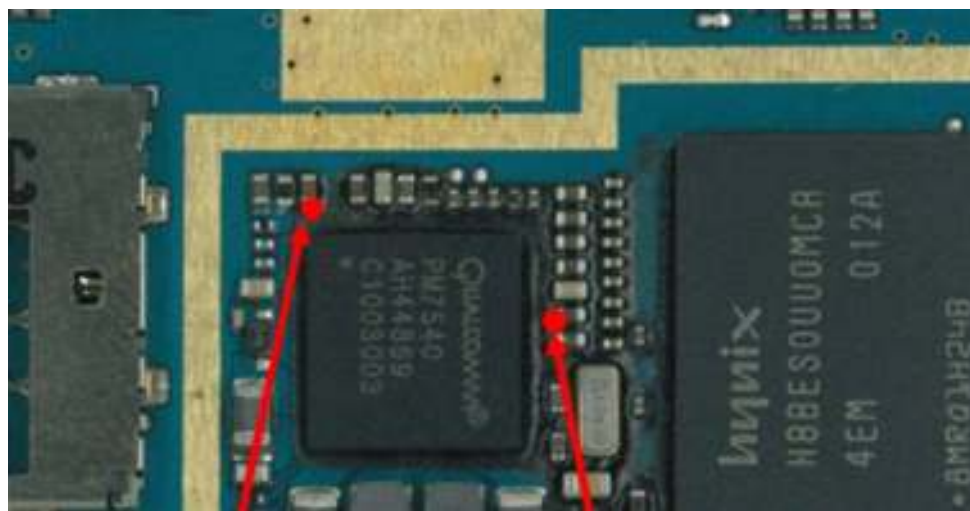
4.8 Main LCD

Main LCD control signals are generated by MSM7227. Those signal's path are :

MSM7227 → 49-pin LCD connector → LCD Module

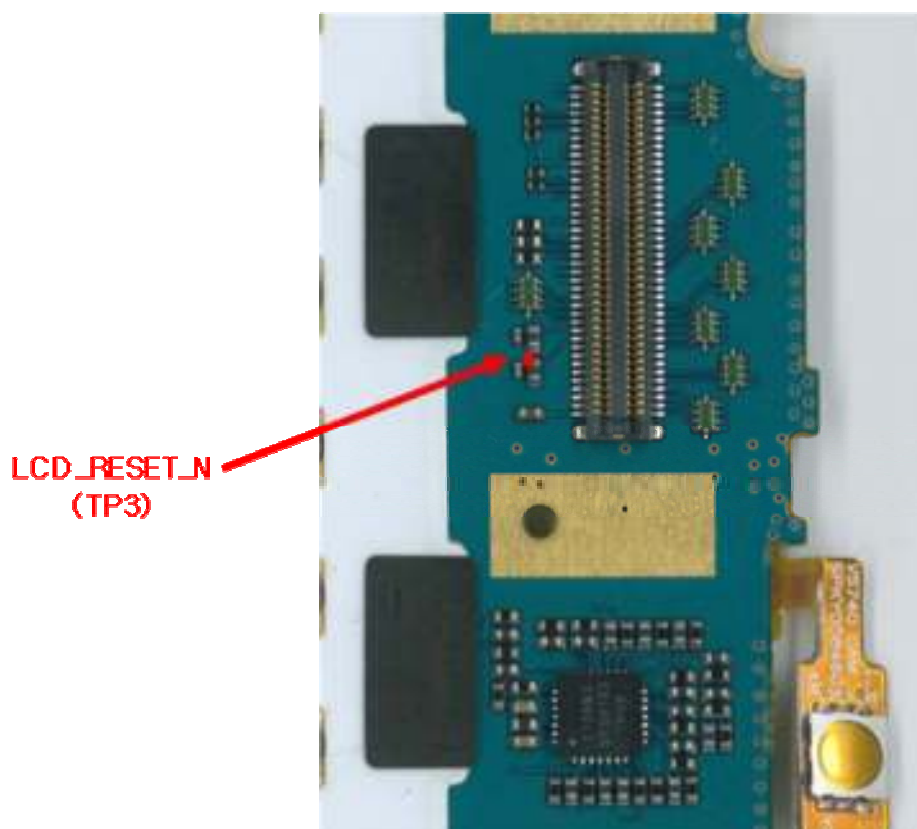






VREG_LCD_1.8V
(TP2)

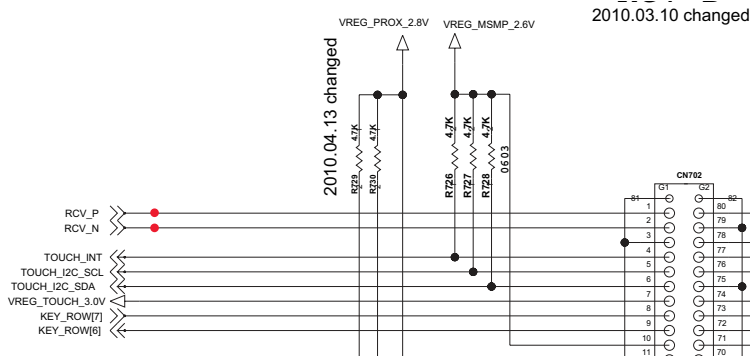
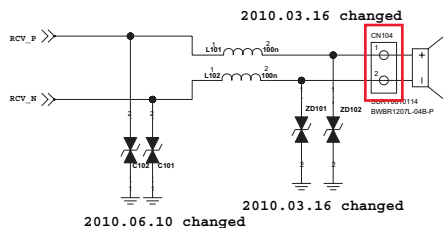
VREG_LCD_2.8V
(TP1)

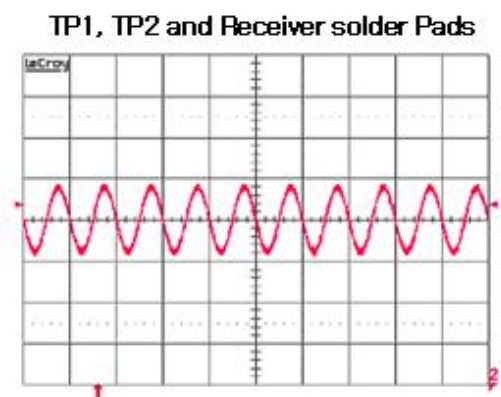
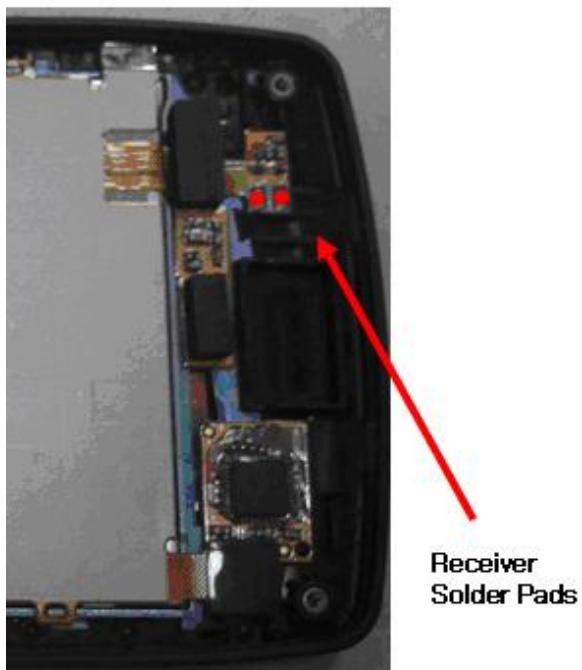
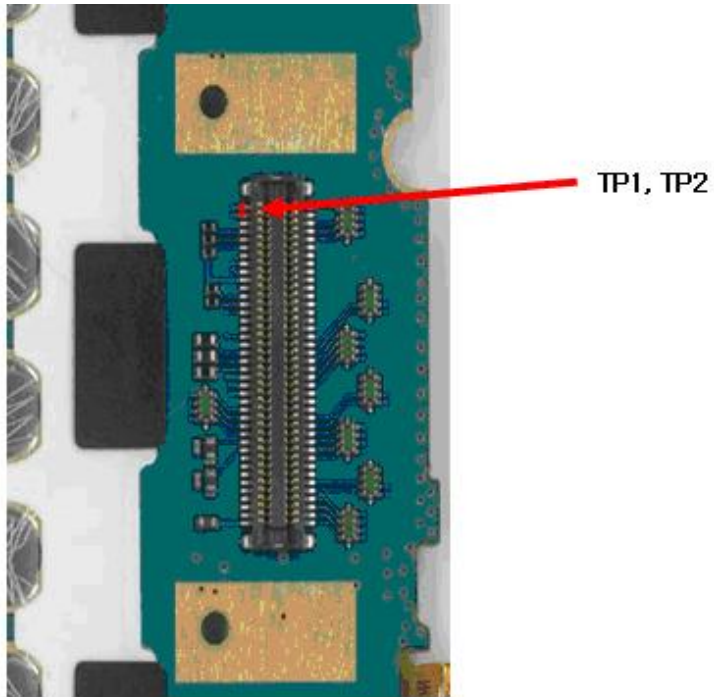


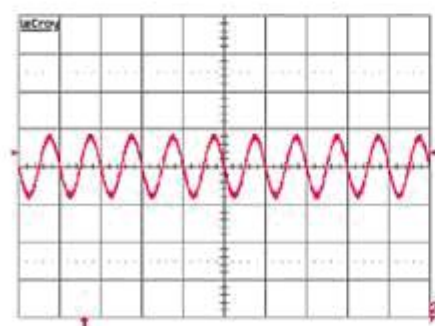
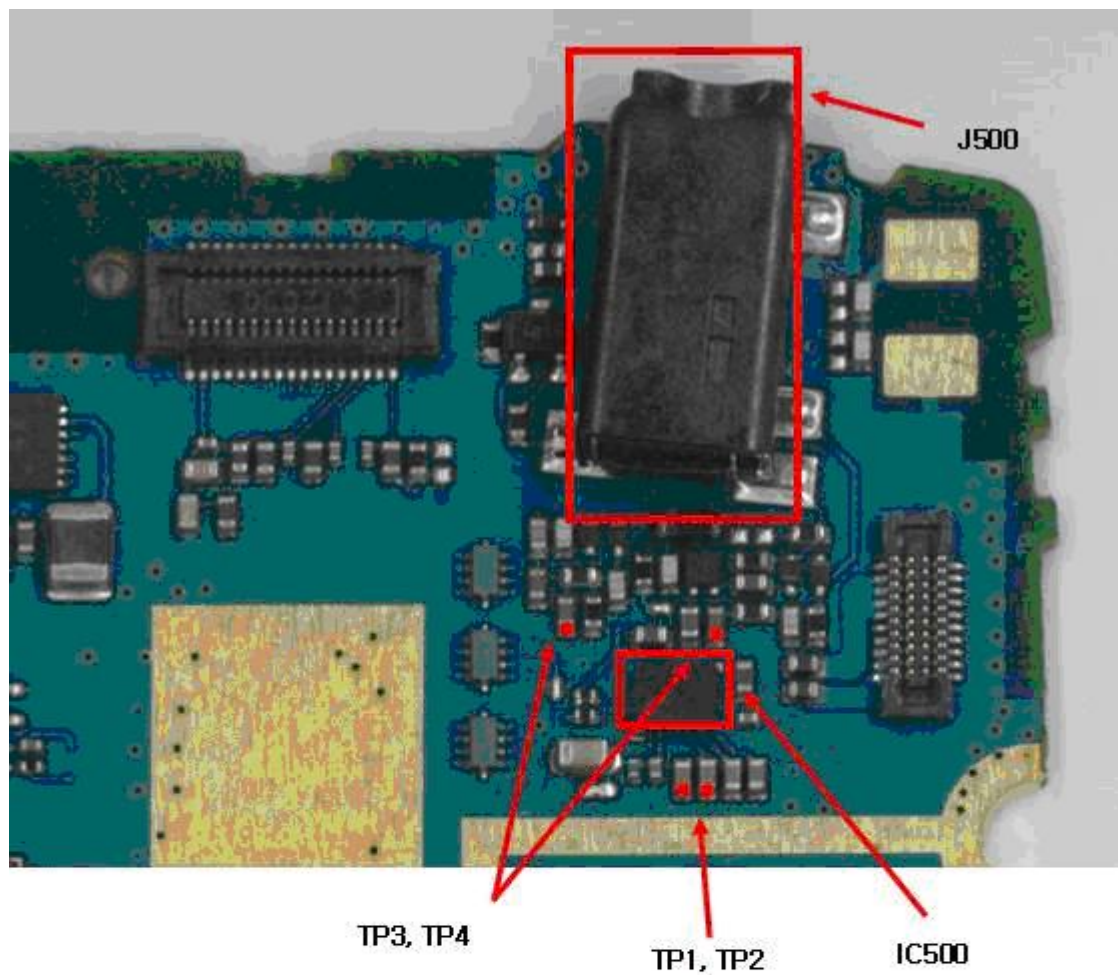
LCD_RESET_N
(TP3)

4.9.1 Receiver path

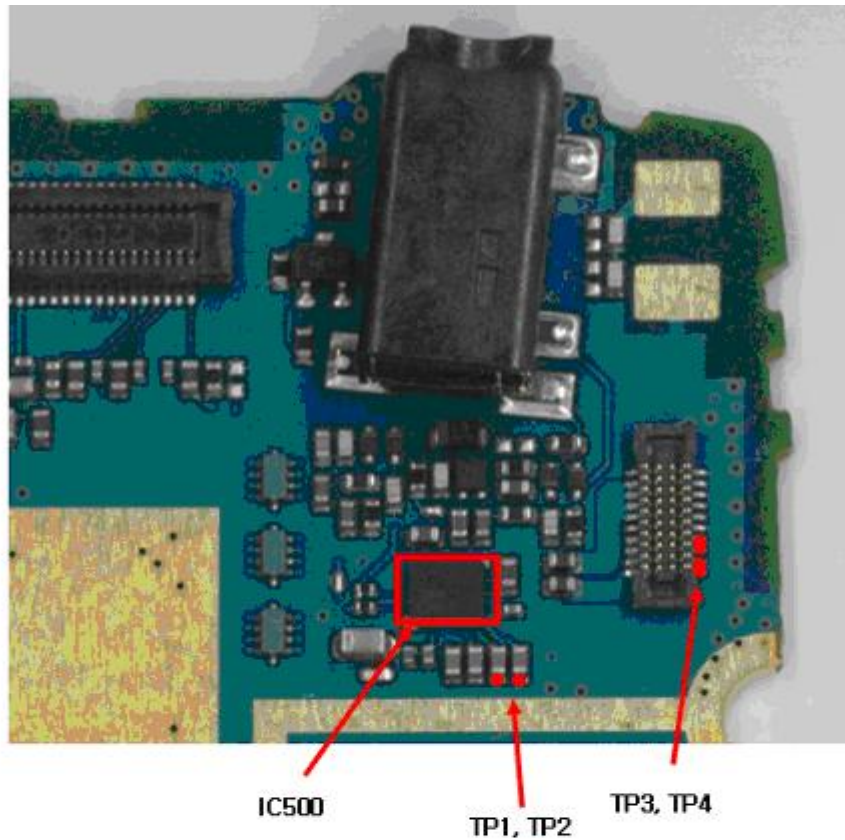
MSM7227 RCV_P/ RCV_N → CN702 (TP1, TP2 / Main Board to Slide FPCB) → RCV Pad → RCV



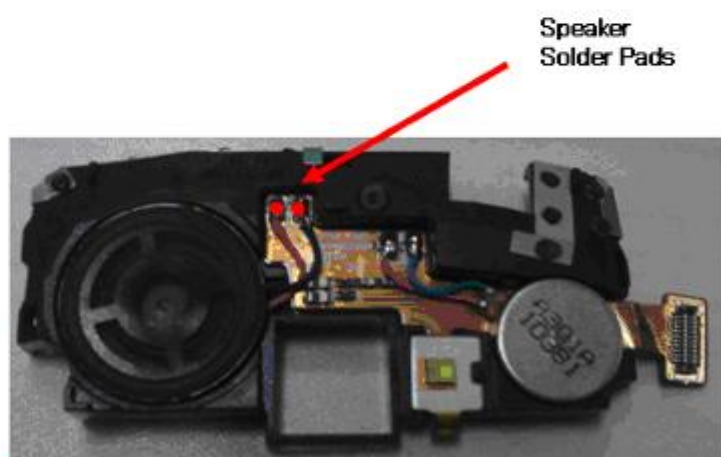
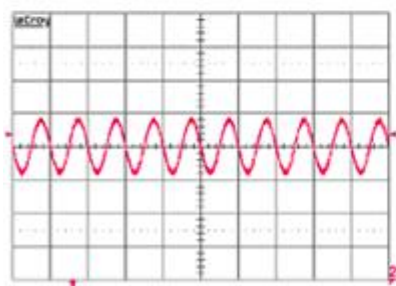




4. Trouble Shooting



TP1, TP2, TP3, TP4, and
Speaker Solder Pad output

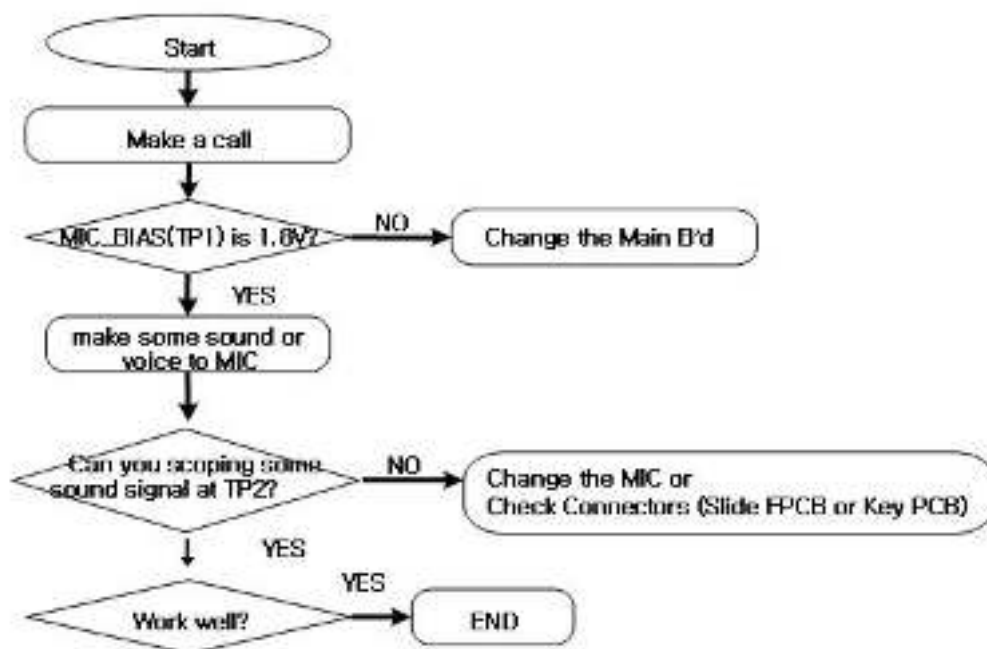
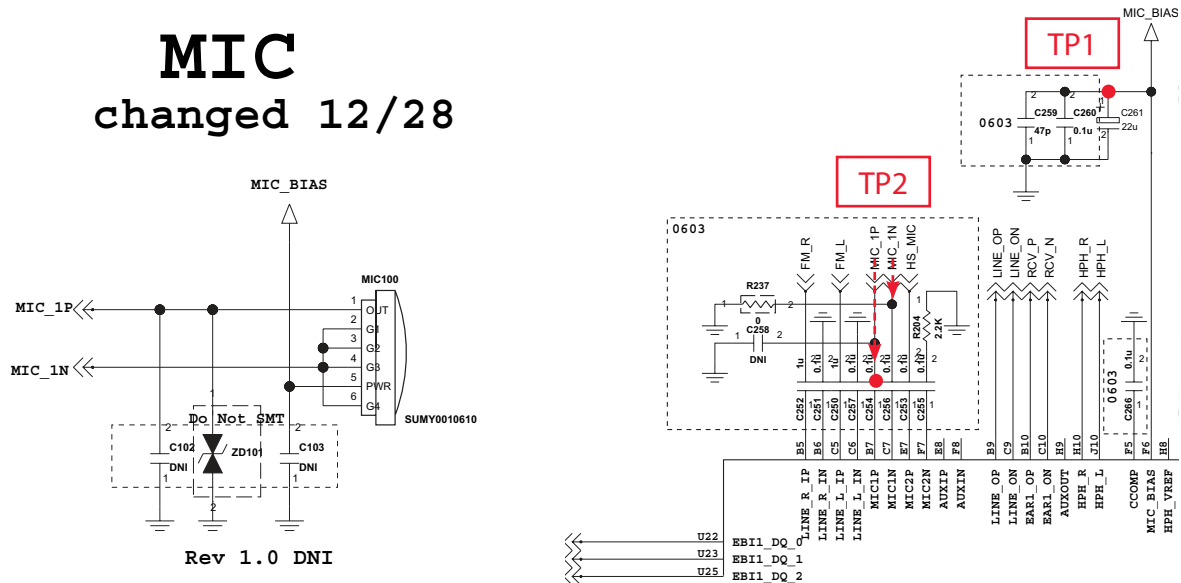


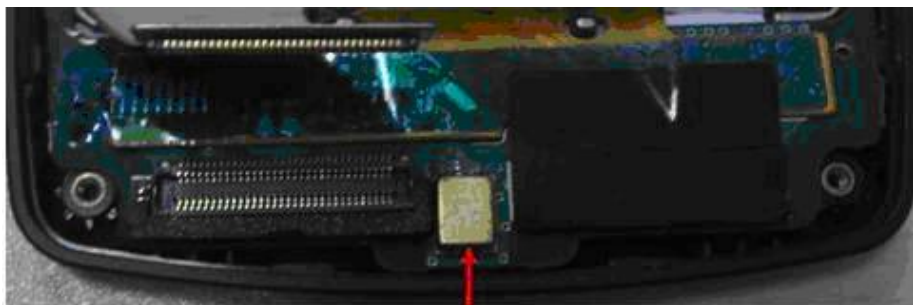
4. Trouble Shooting

4.9.4 Microphone for main MIC

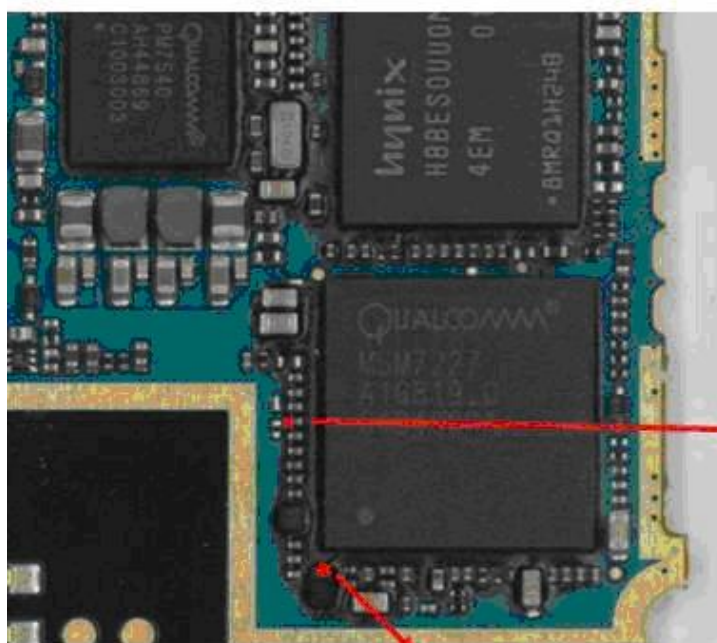
Main Microphone path as below:

MIC ◇ CN101(Key Sub PCB to Slide FPCB) ◇ CN702 (Main B'd to Slide FPCB)◇ MSM7227



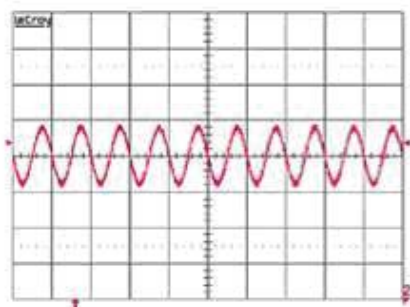


Main MIC

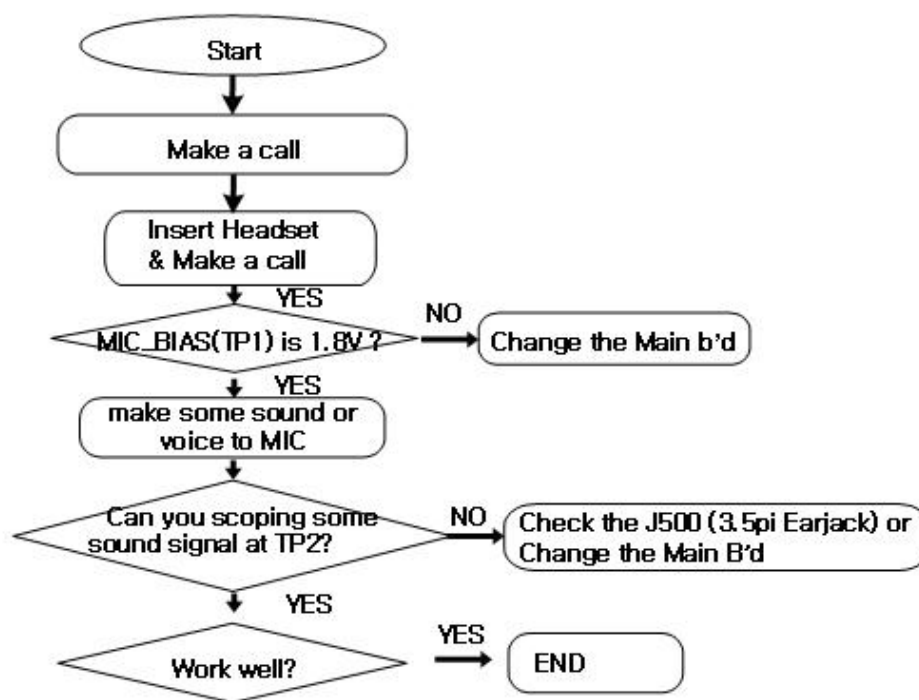
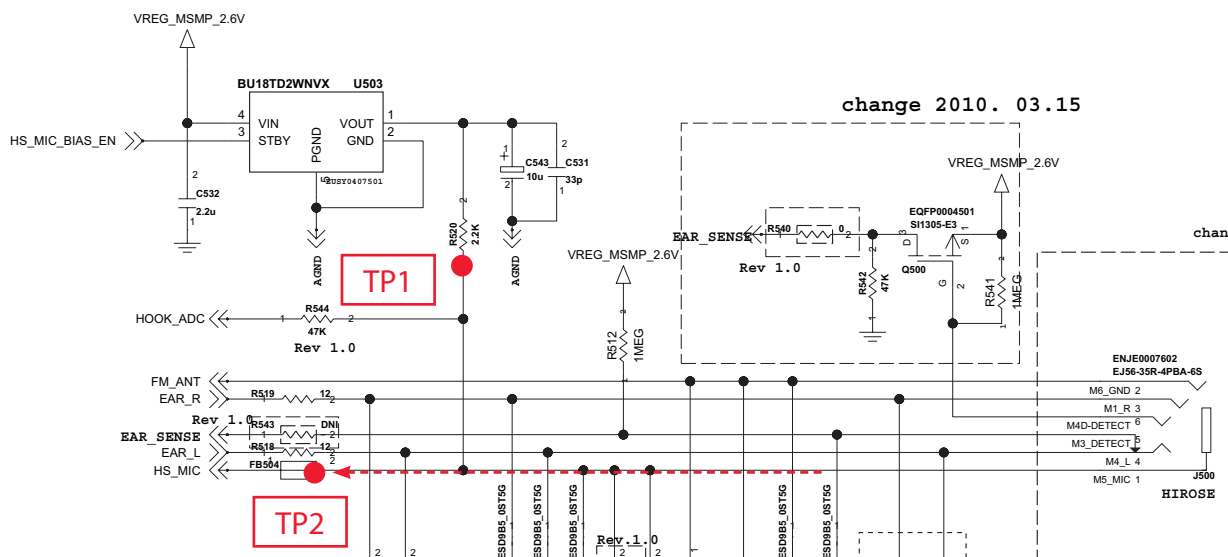


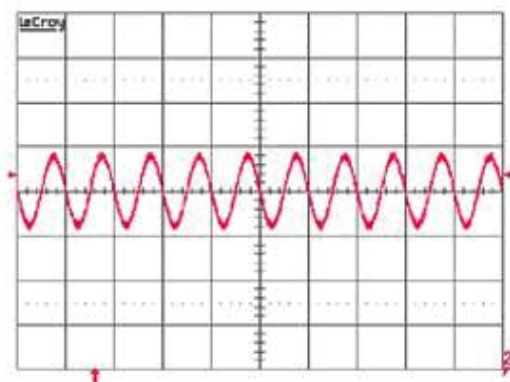
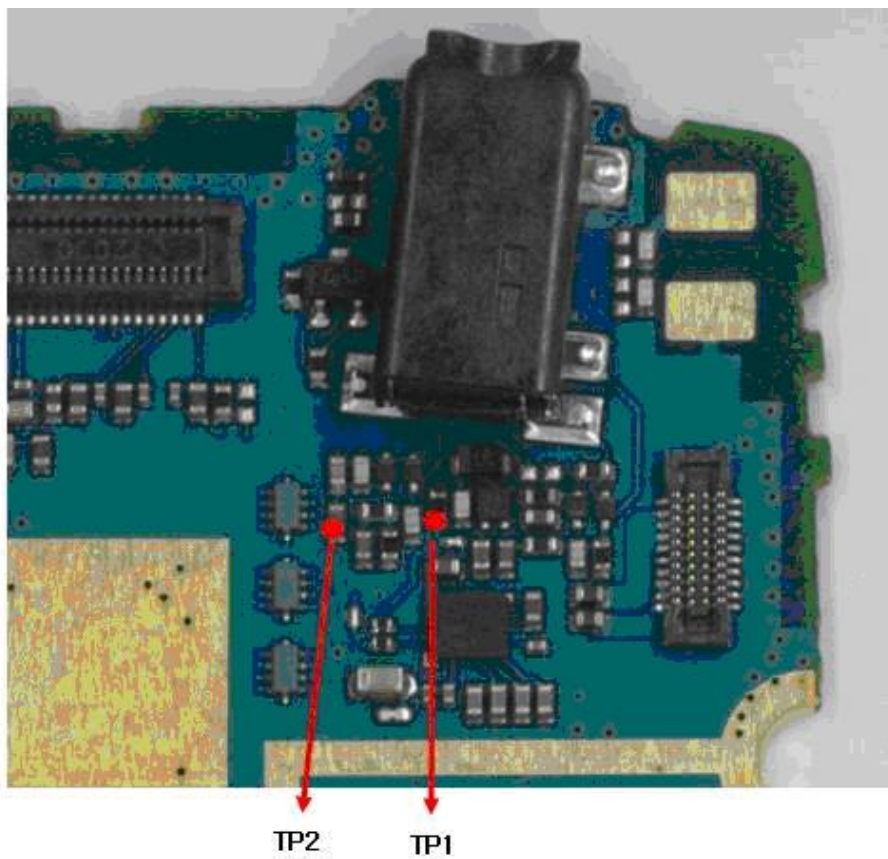
TP2

TP1



MIC for Headset path as below:





4. Trouble Shooting

4.10 Power block

4.10.1 Receiver path

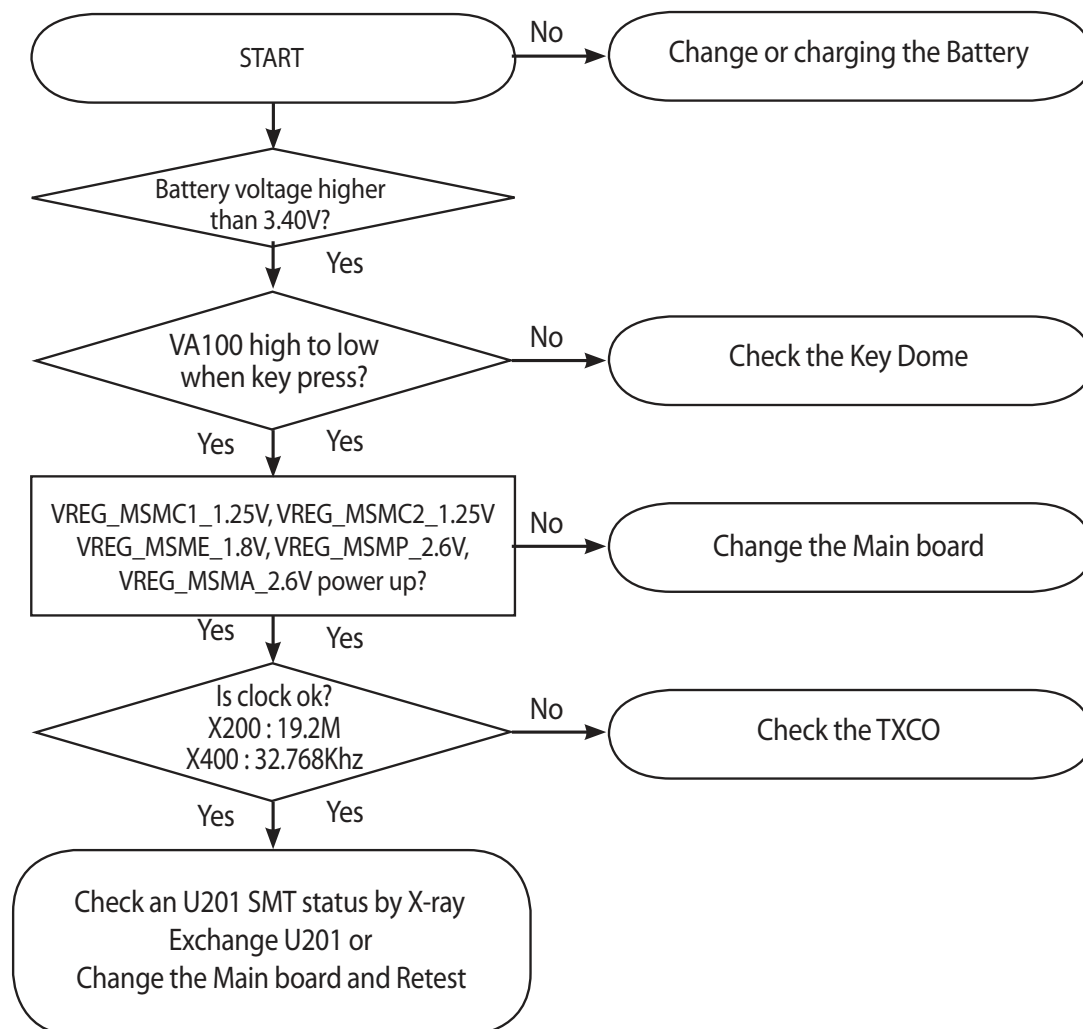
Voice Receiver path as below:

MSM7227 RCV_P/ RCV_N → CN702 (TP1, TP2 / Main Board to Slide FPCB) → RCV Pad → RCV

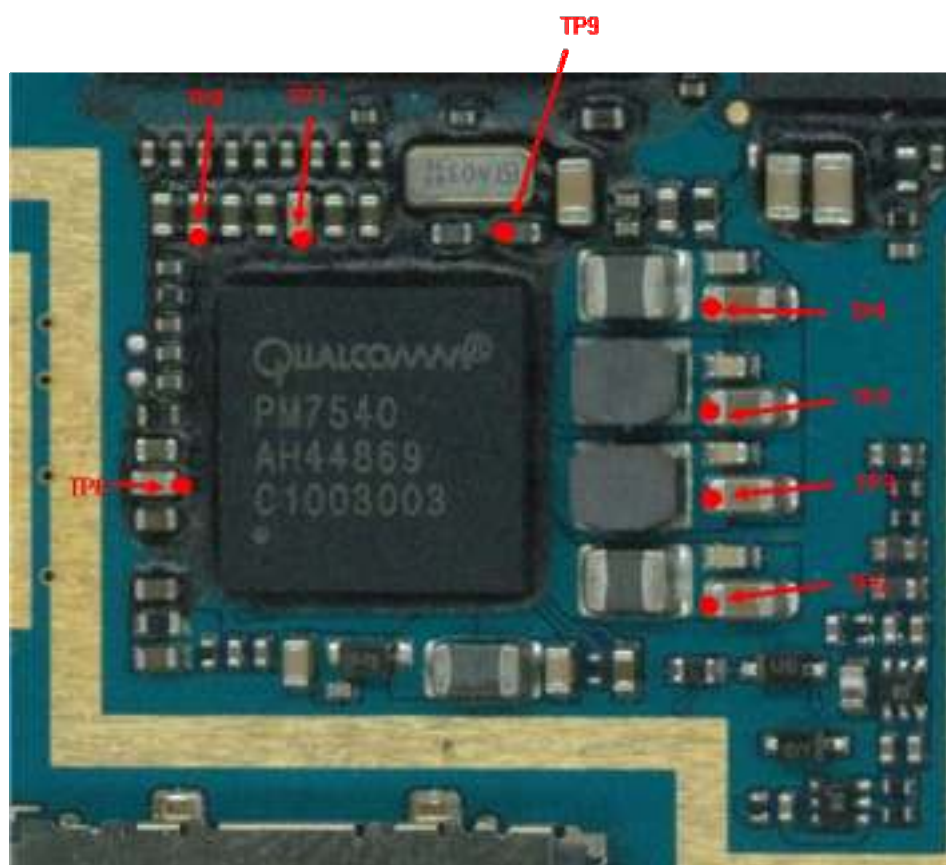
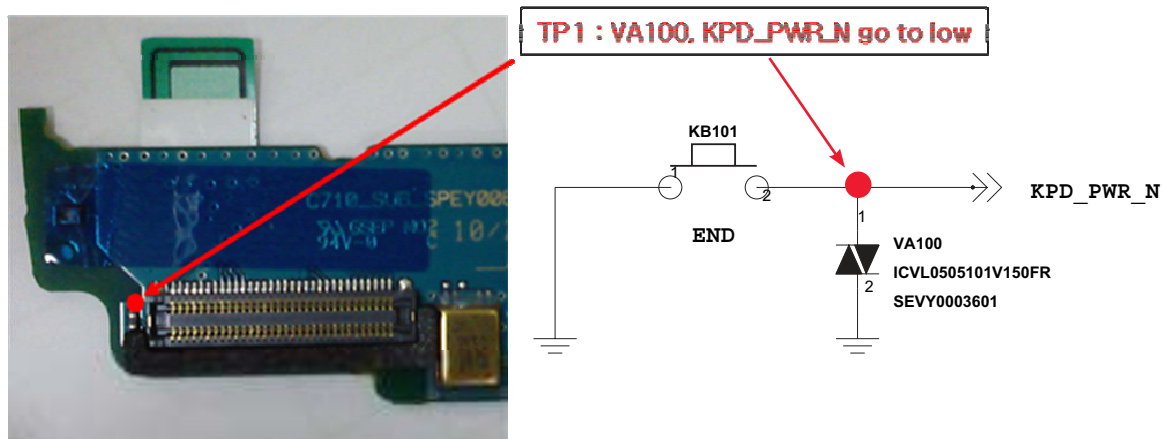
4.10.2 Power ON Troubleshooting

Power On sequence of C710h is :

END key press → KPD_PWR_N go to low (Key SUB / VA100), PM7540 KPDPWR_N pin(C12) → PM7540 Power Up → VREG_MSMC1_1.25V(C446), VREG_MSMC2_1.25V(C417), VREG_MSME_1.8V(C419), VREG_MSMP_2.6V(C424), VREG_MSMA_2.6V(C427), VREG_TCXO_2.85V(C422) power up and system reset assert to MSM → Phone booting and PS_HOLD(D400) assert to PMIC



4. Trouble Shooting



[C710 Main PCB Bottom]



4.10.3 Power ON Troubleshooting

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

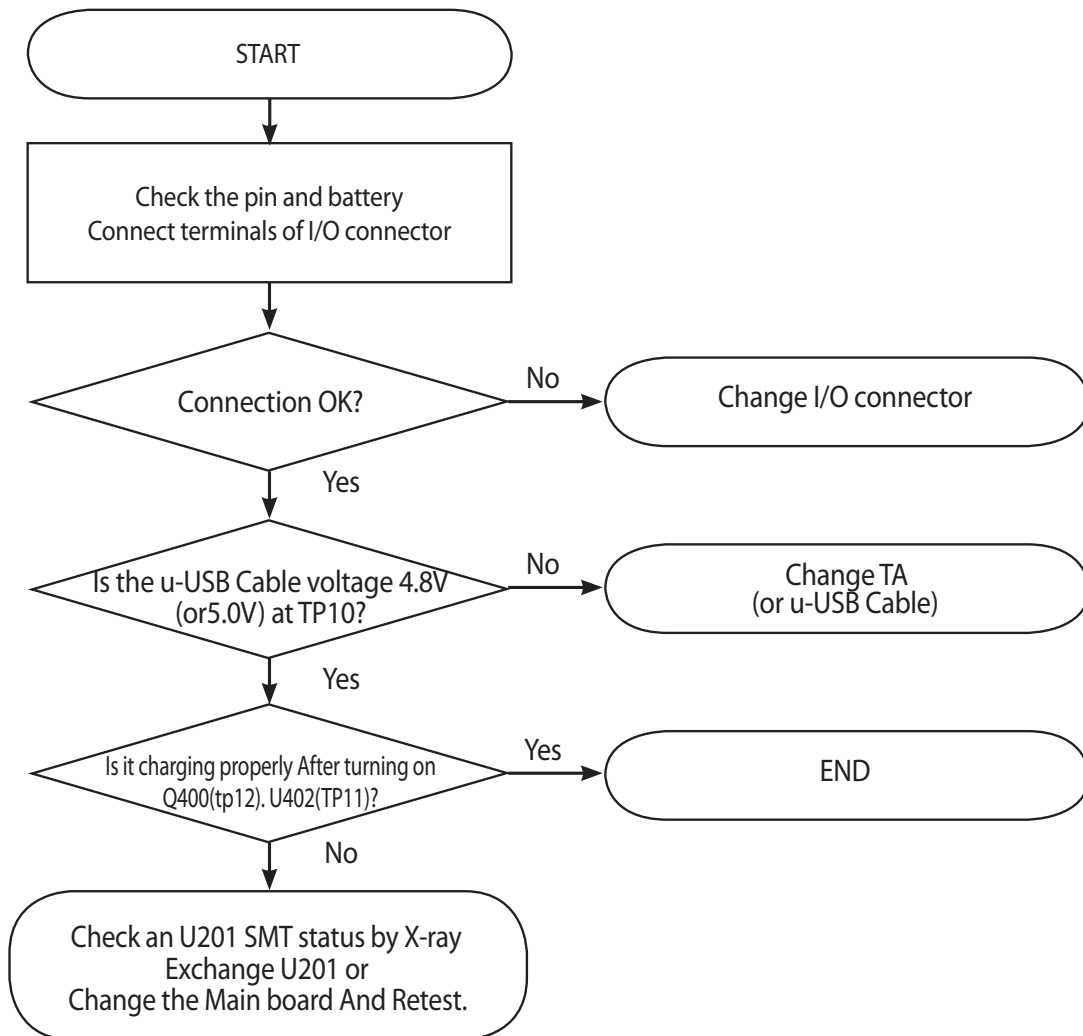
Troubleshooting Procedure

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

Check Point

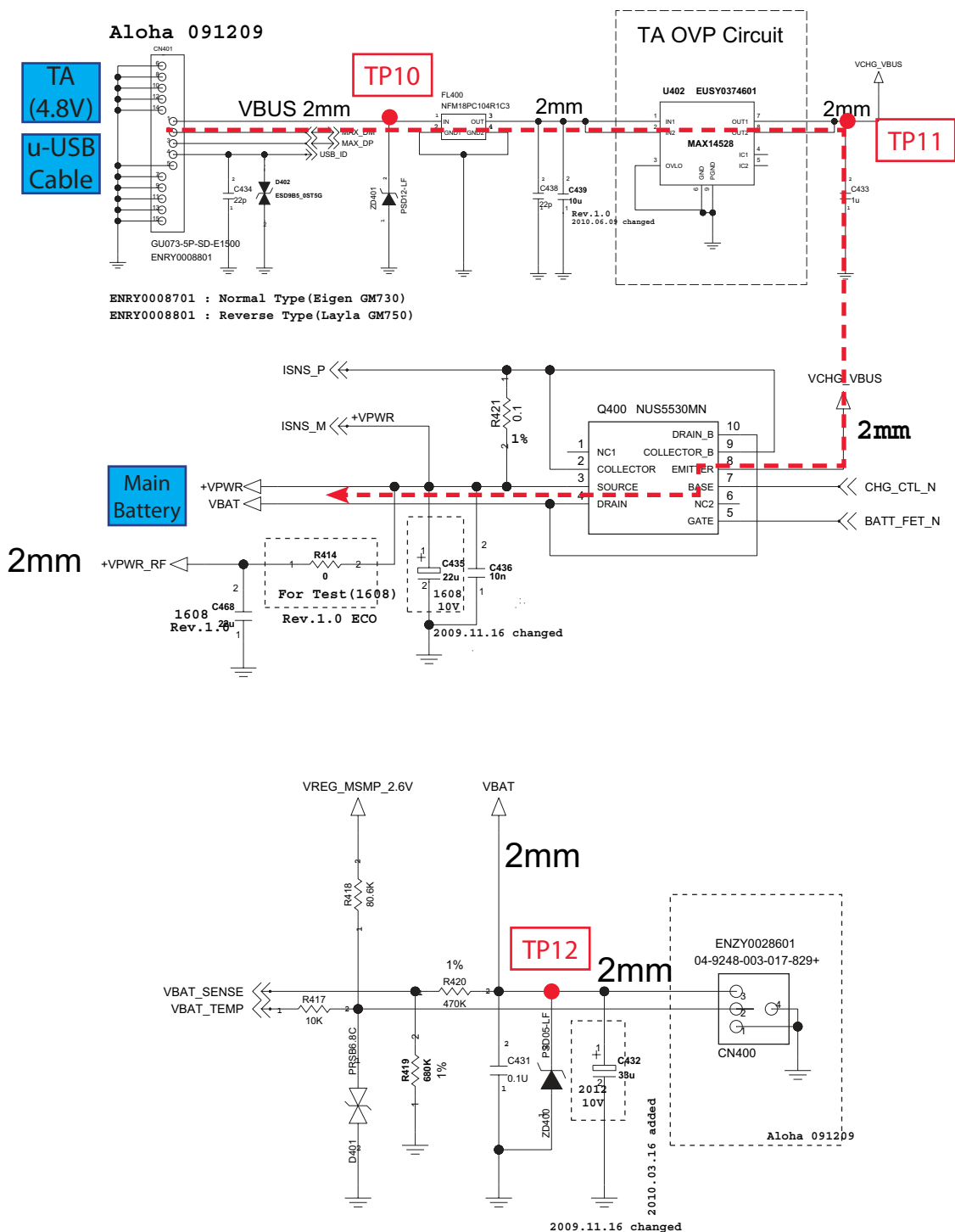
- Connection of TA or USB Cable
- Charging current path
- Battery

4. Trouble Shooting

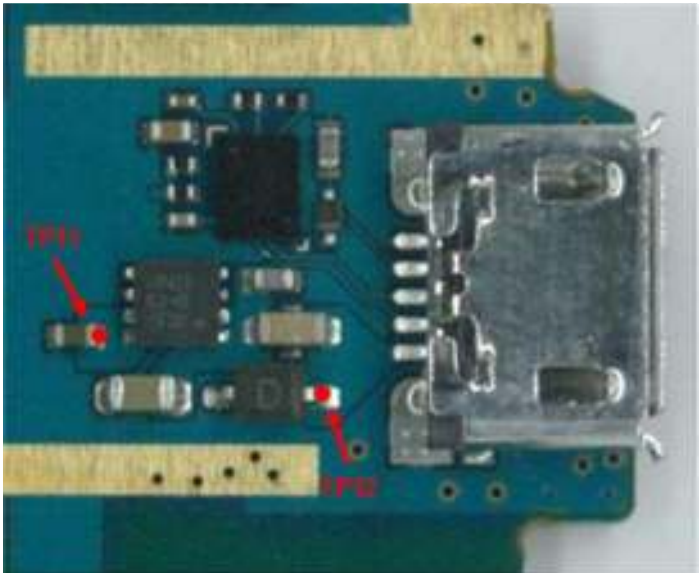
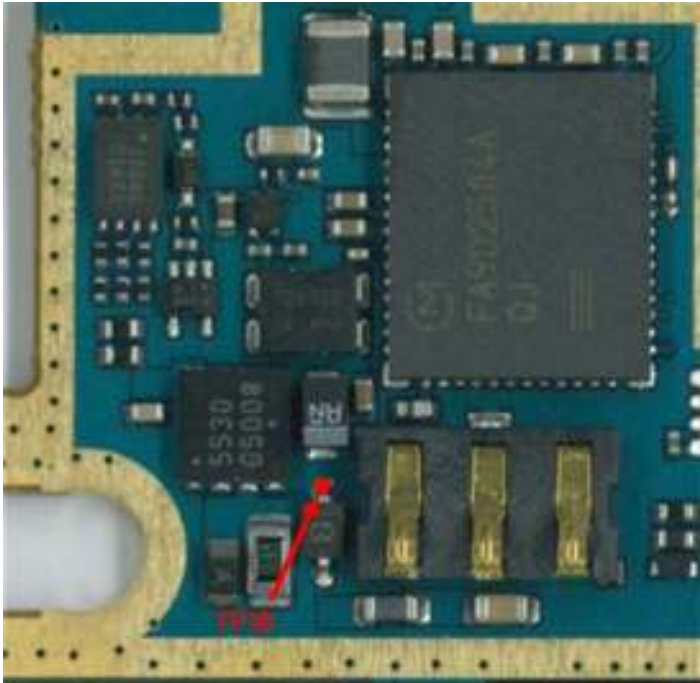


[Charger Troubleshooting Flow]

u-USB Connector



4. Trouble Shooting

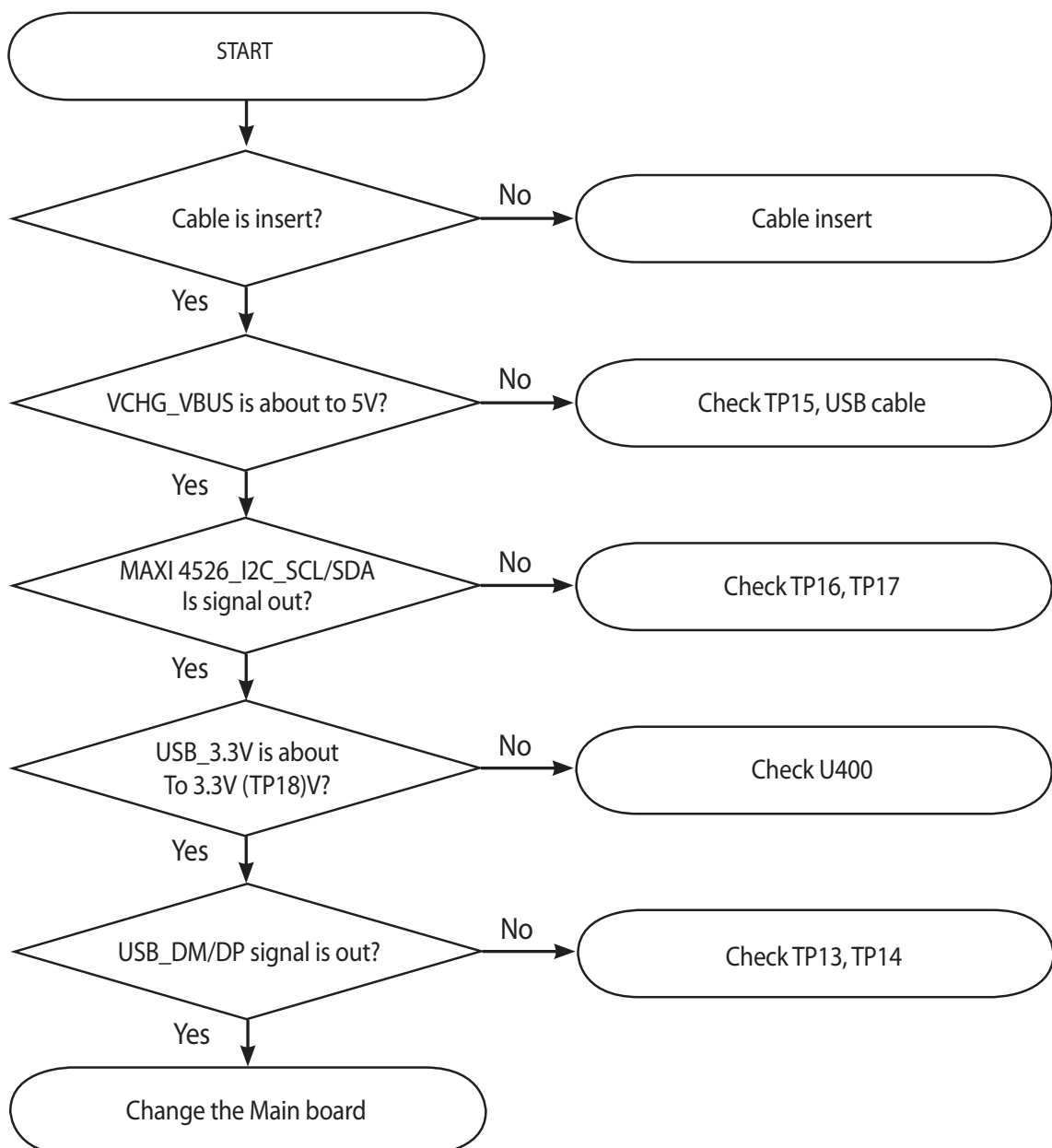


4.11 USB Trouble

USB Initial sequence of C710h is :

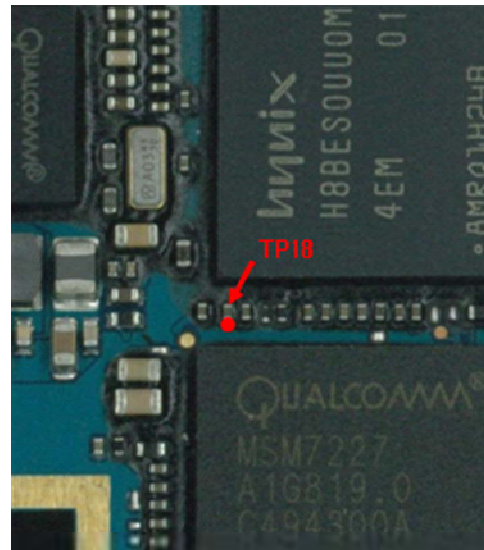
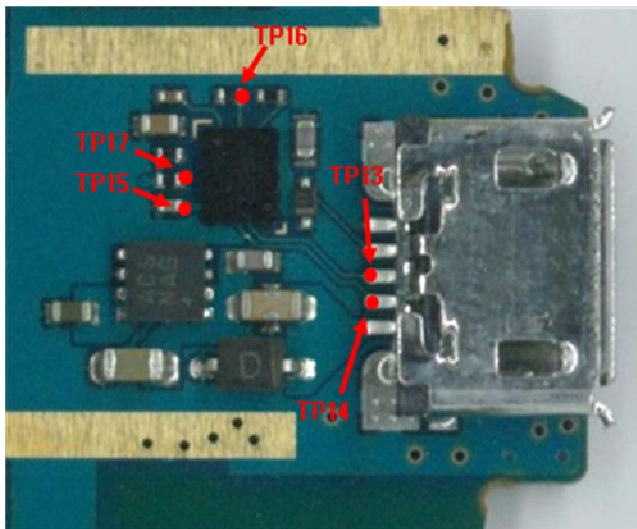
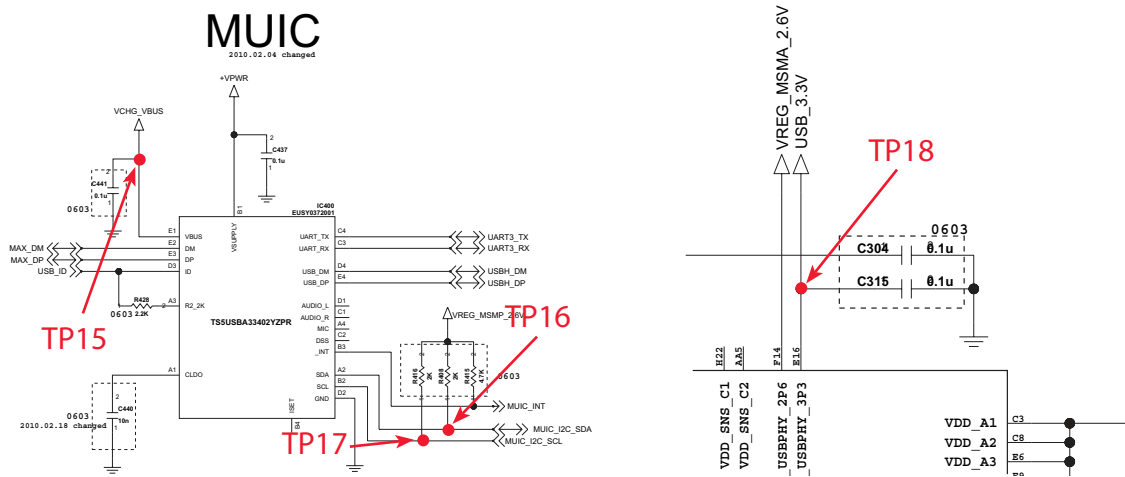
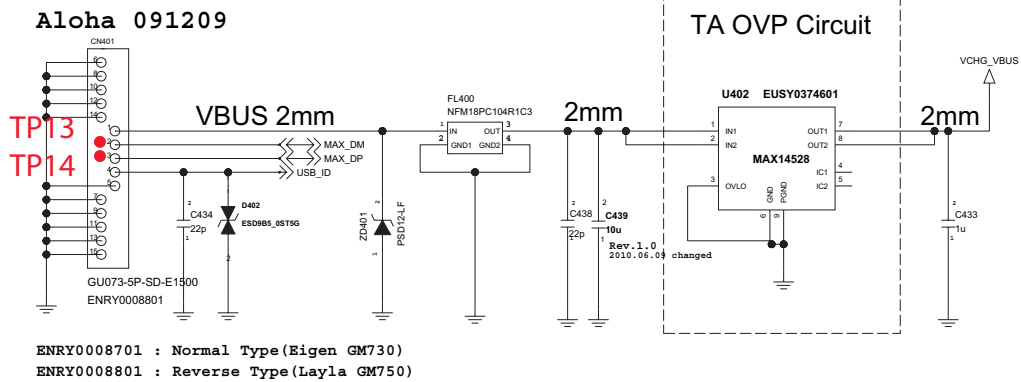
USB connected to C710h → VCHG_VBUS(TP15) go to 5V

→ USB_3.3V is about 3.3V → USB_DATA is triggered → USB work



4. Trouble Shooting

u-USB Connector



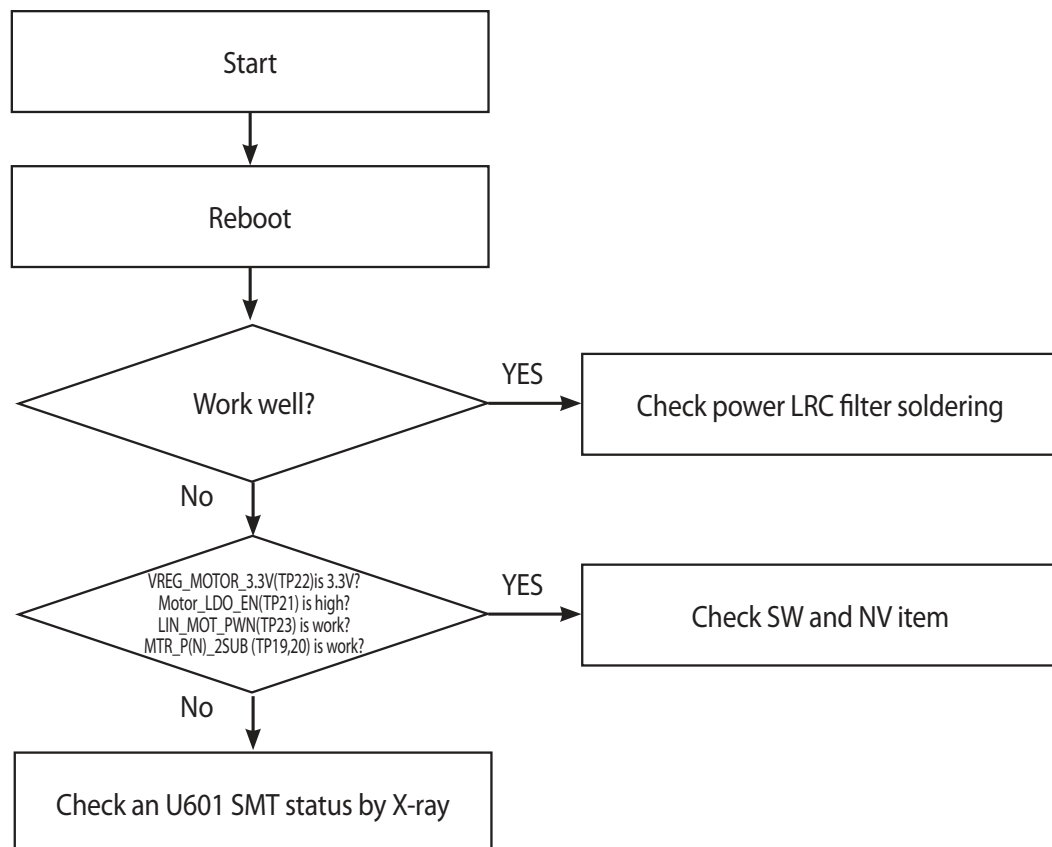
4.12 Q coin Motor

Q coin Motor is worked as below :

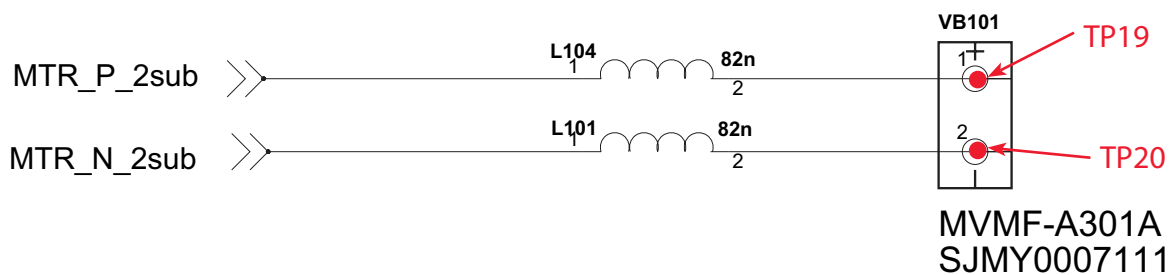
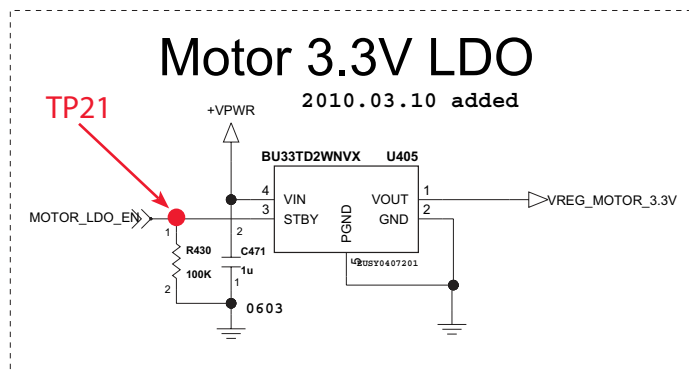
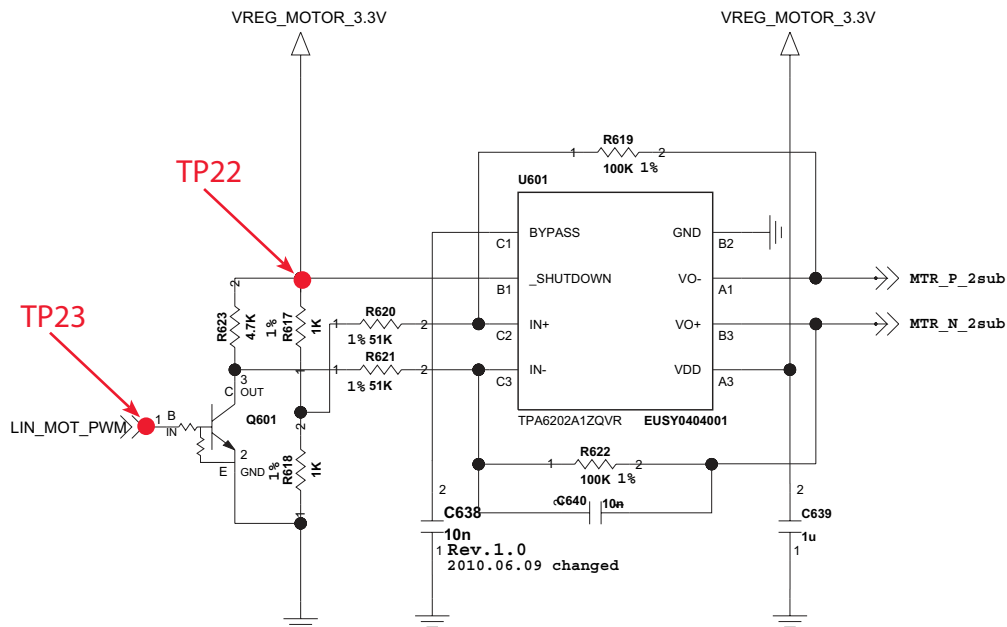
touch touch-window

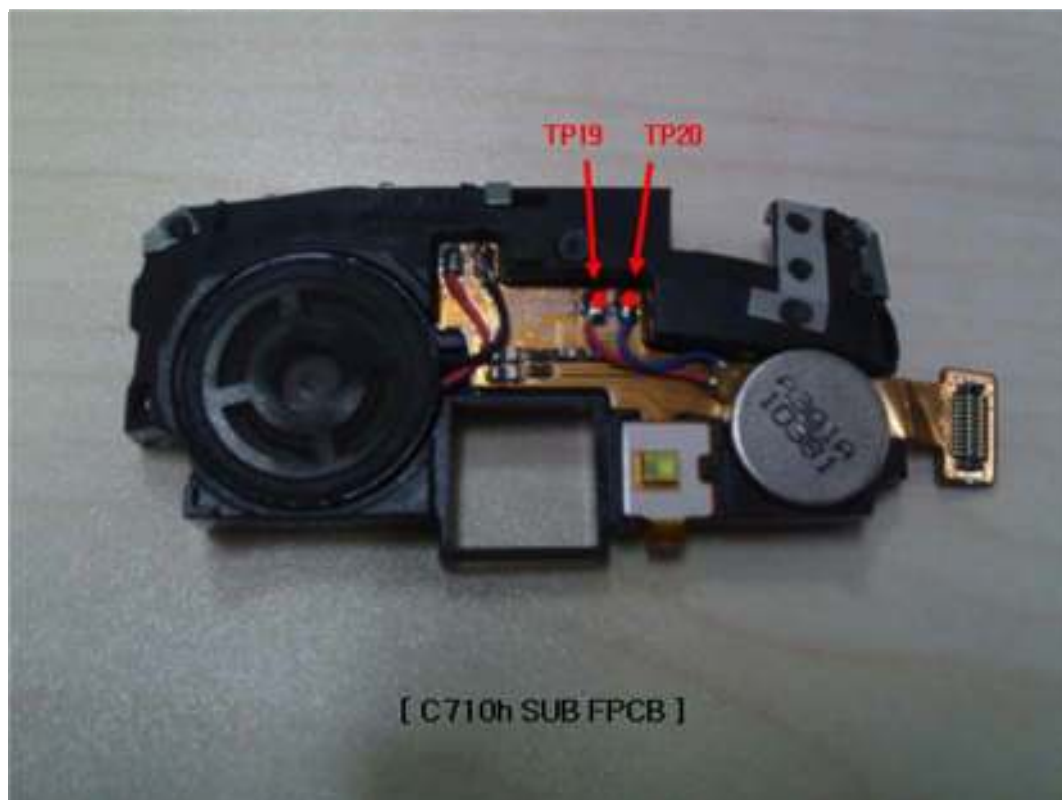
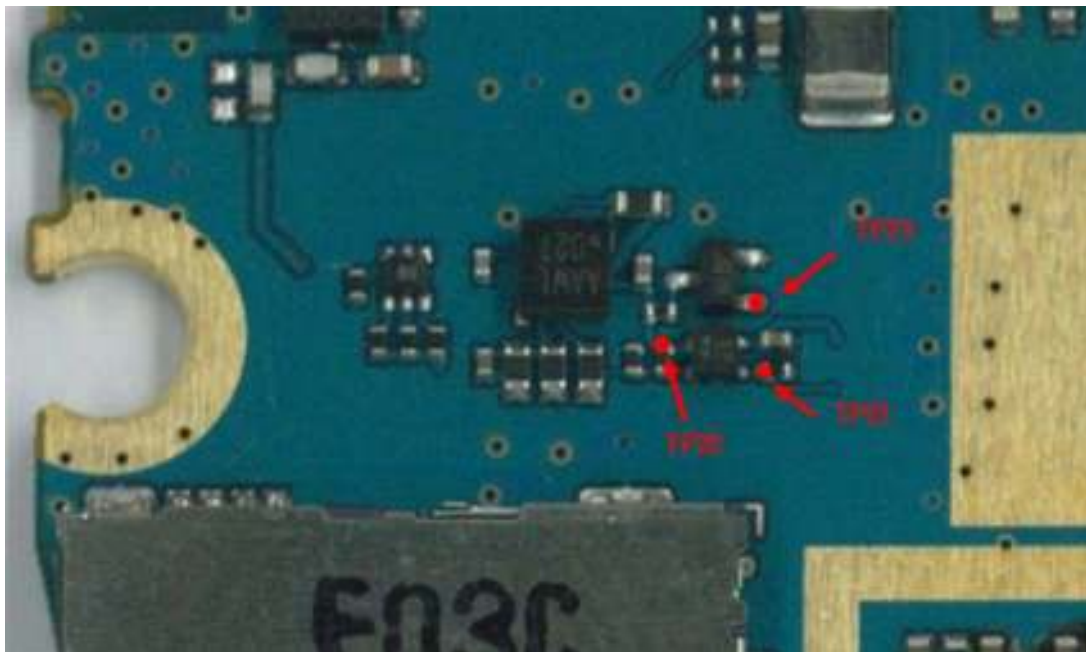
➔ Vibration feedback

U601 : Used the PWM pulse



4. Trouble Shooting



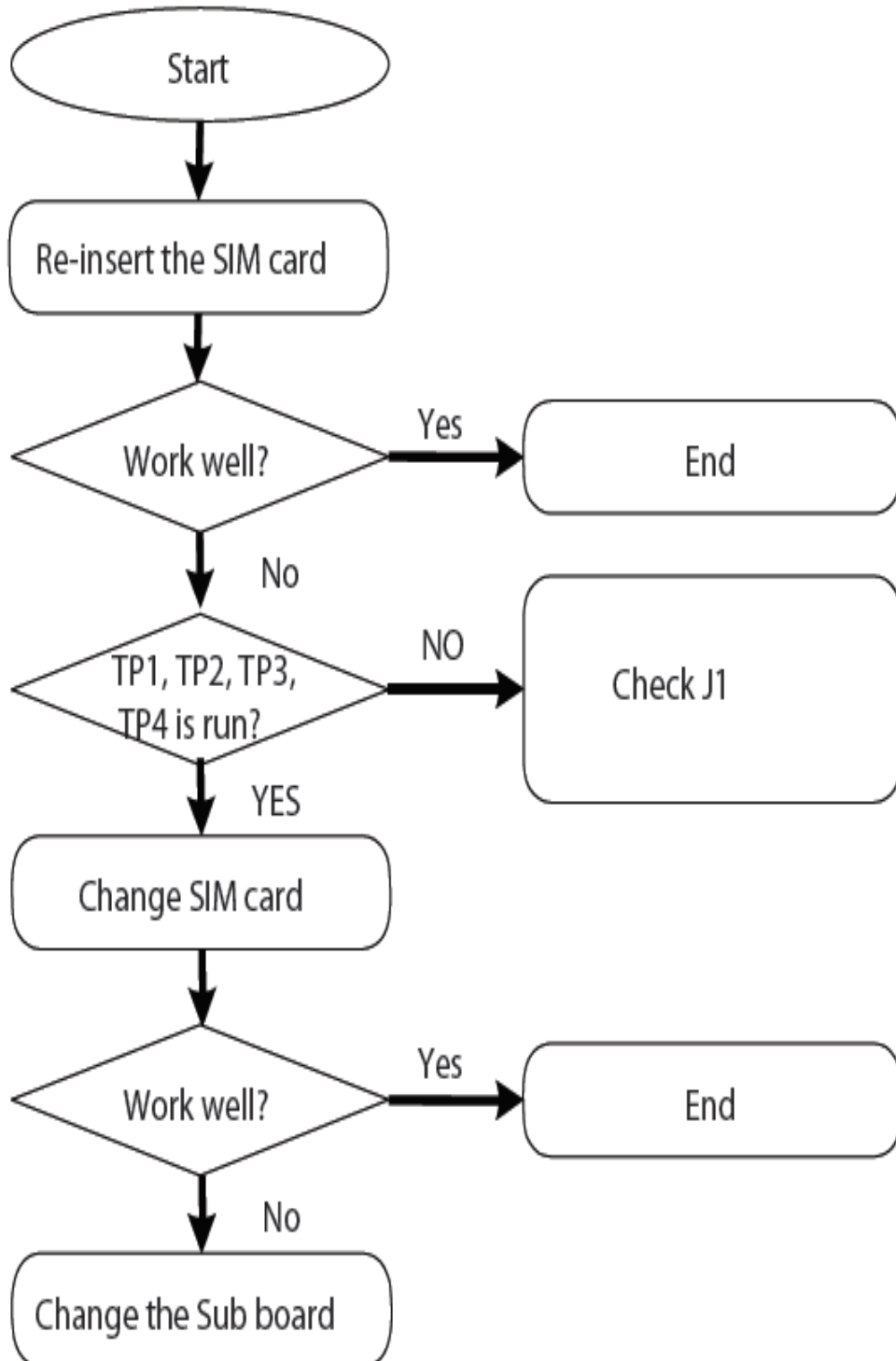


4. Trouble Shooting

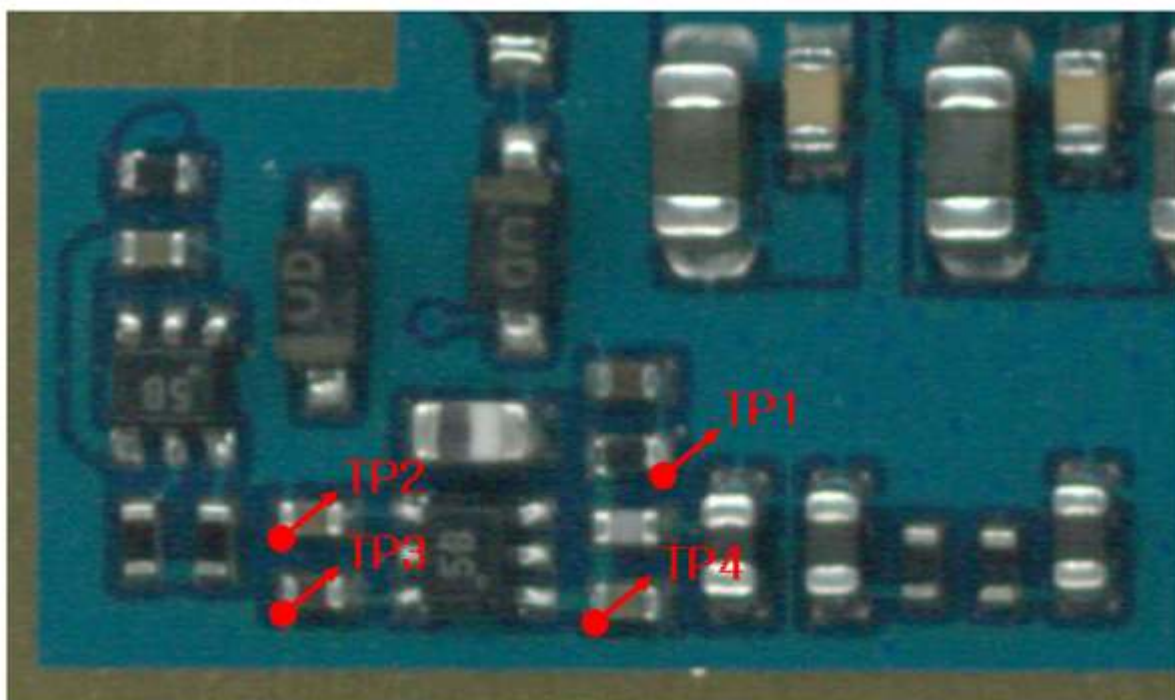
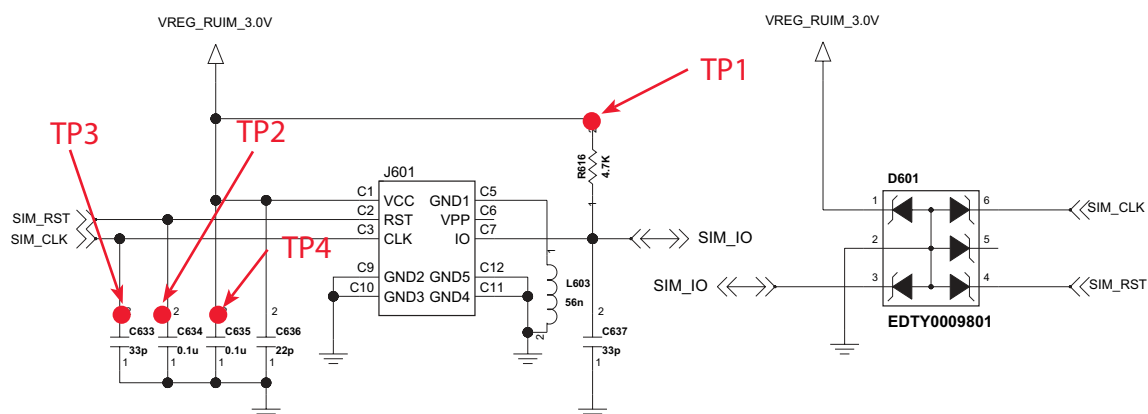
4.13 SIM Detect troubleshooting

USIM Initial sequence of C710 is :

SIM_CLK,SIM_RST,SIM_IO triggered → VRUIM_3.0V go to 2.8V → SIM IF work



USIM Socket



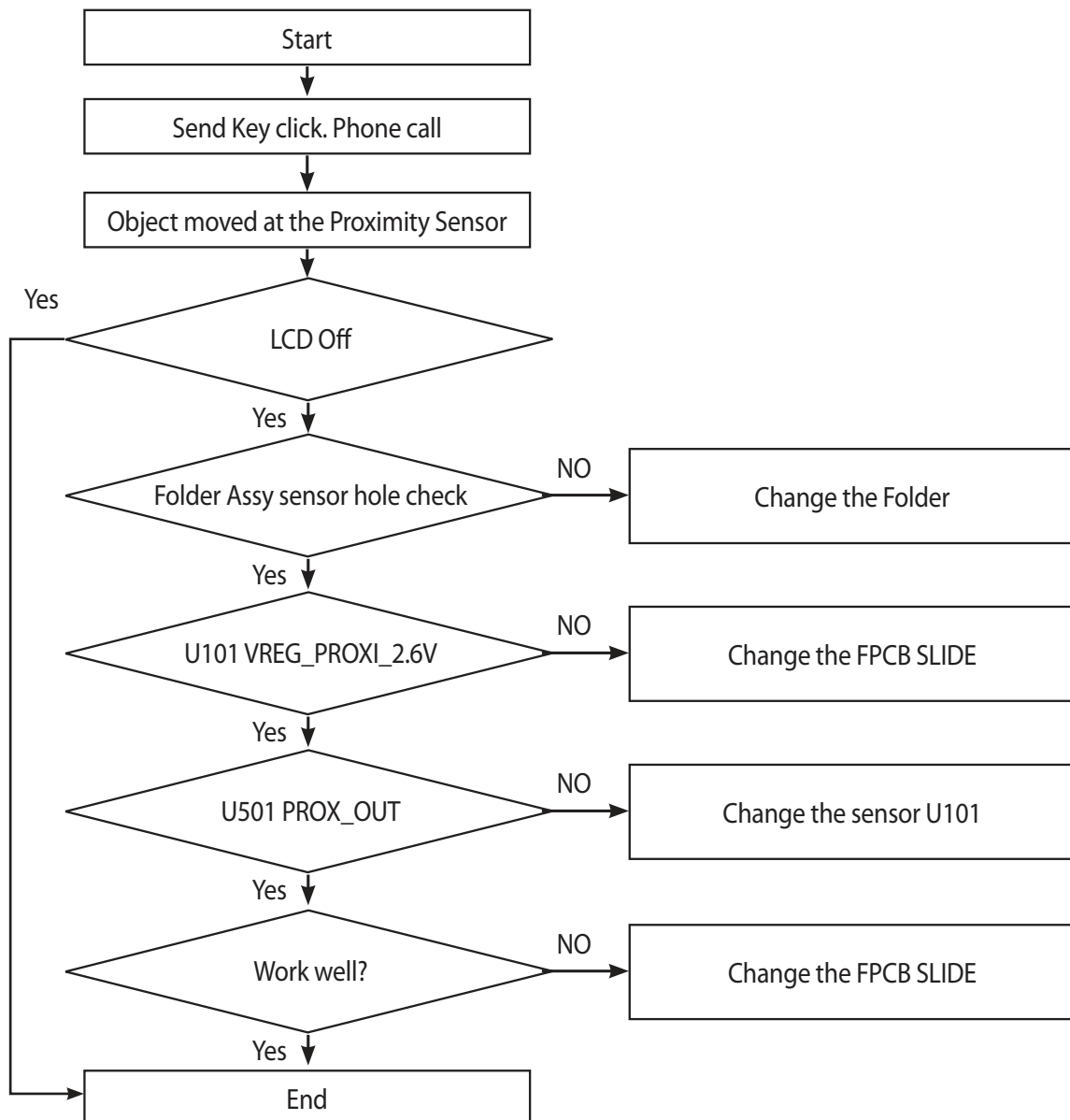
4. Trouble Shooting

4.14 Proximity sensor troubleshooting

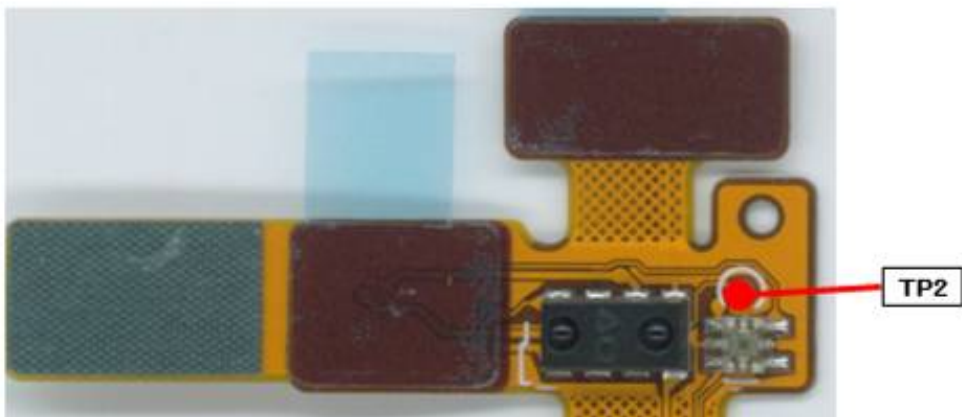
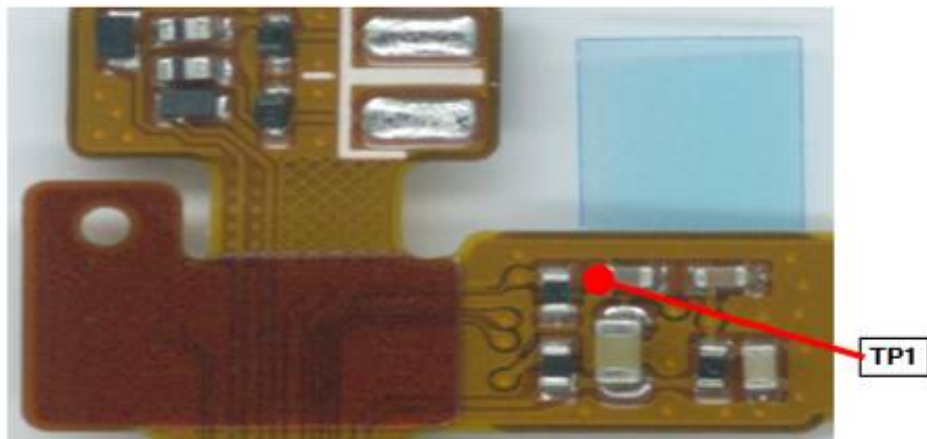
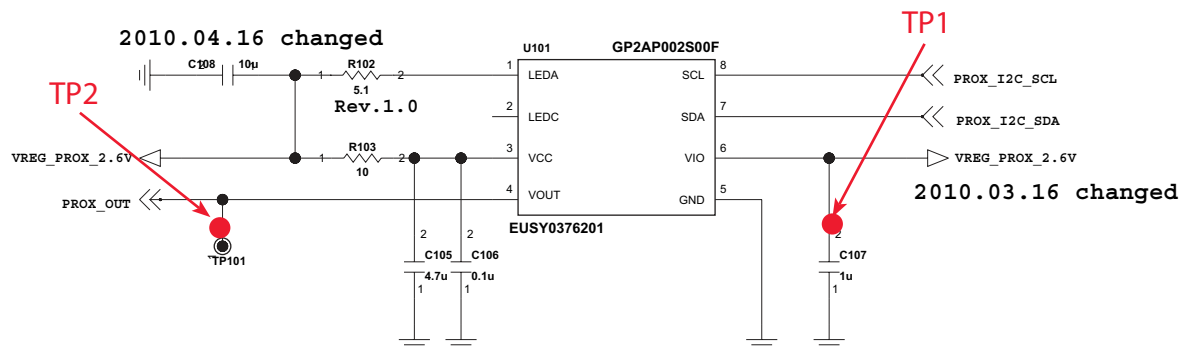
Proximity Sensor is worked as below :

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

→ Control the screen's on/off operation automatically



4. Trouble Shooting

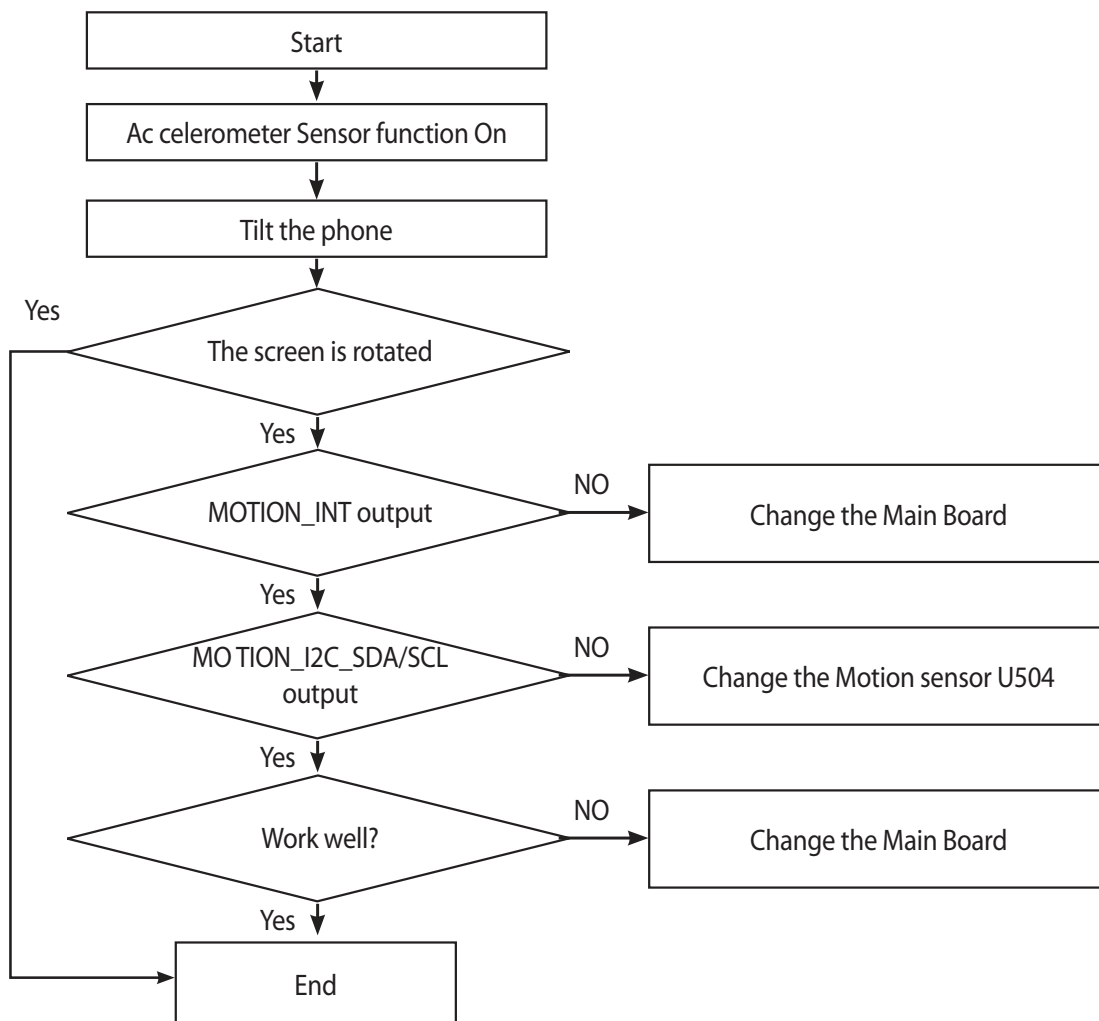


4. Trouble Shooting

4.15 Motion sensor sensor troubleshooting

Motion Sensor is worked as below :

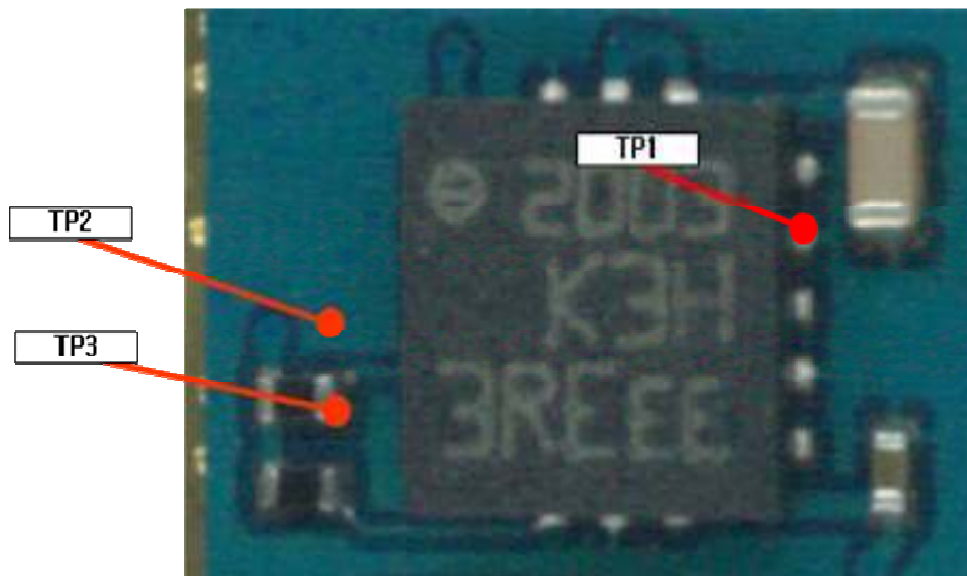
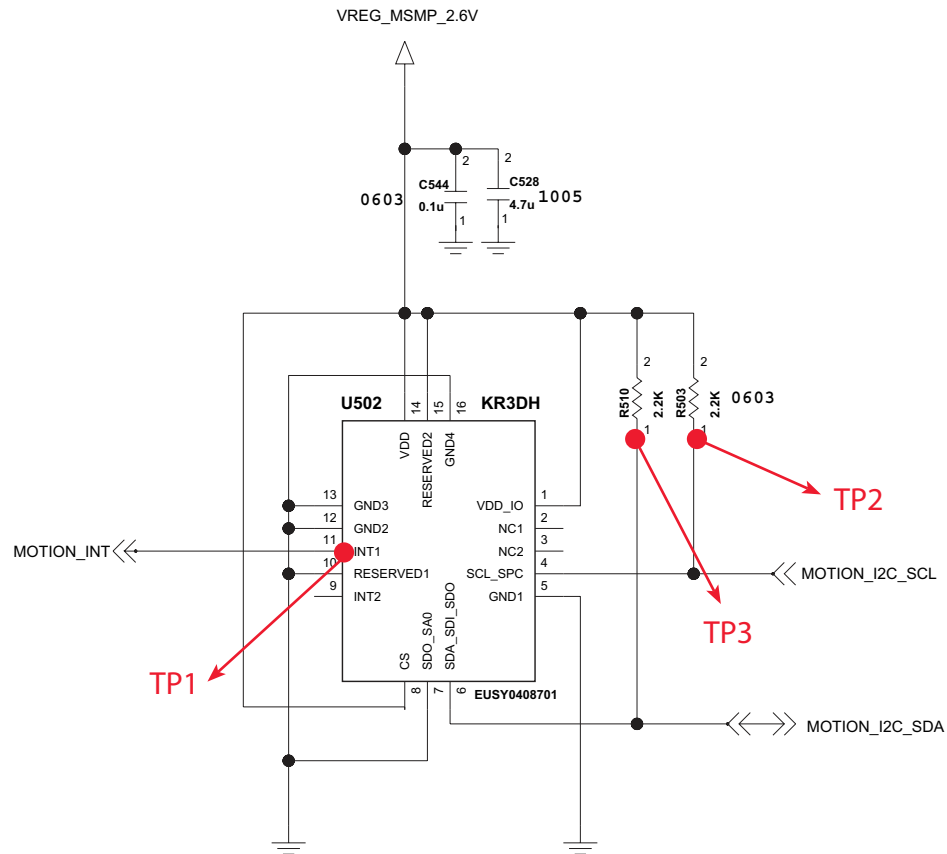
Accelerometer Sensor function On → Tilt the phone (90°) → The screen is had rotated automatically.



1) Measurement : Main(U502)

- VREG_MSMP_2.6V : 2.6V (C544, C528)
- MOTION_INT : High enable U502 No.11 pin
- MOTION_I2C_SDA / SCL : data / CLK pulse (R510, R503)

4. Trouble Shooting

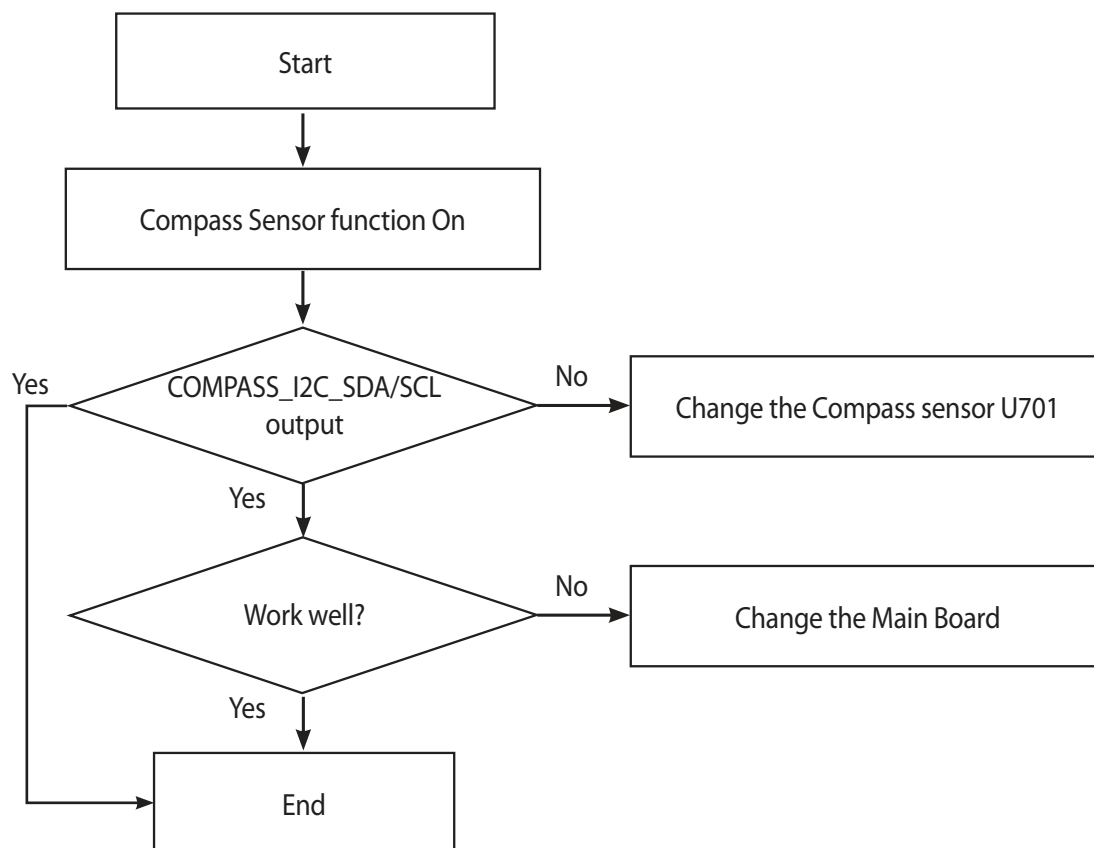


4. Trouble Shooting

4.16 Digital compass sensor troubleshooting

Compass Sensor is worked as below :

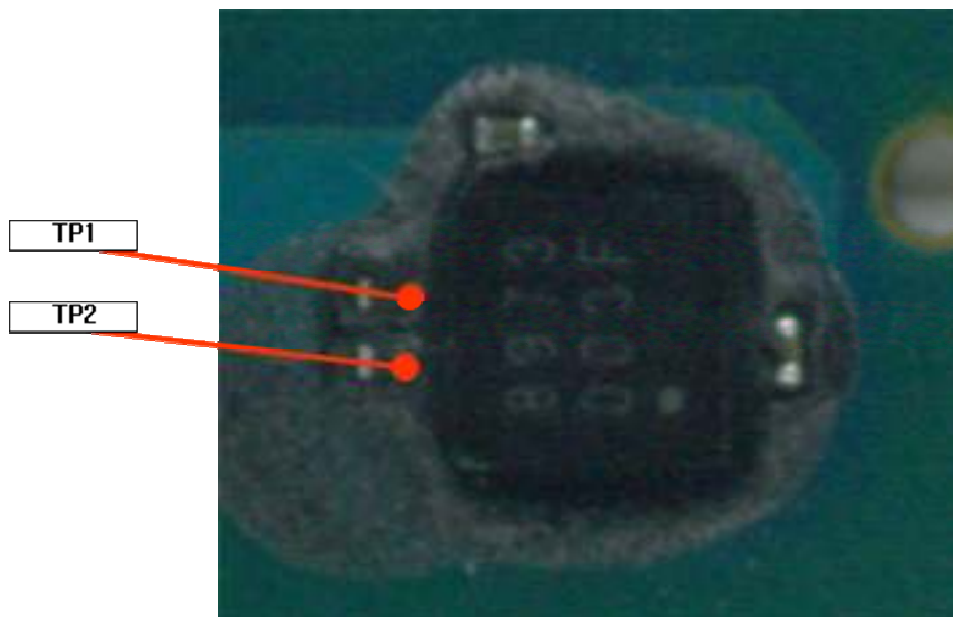
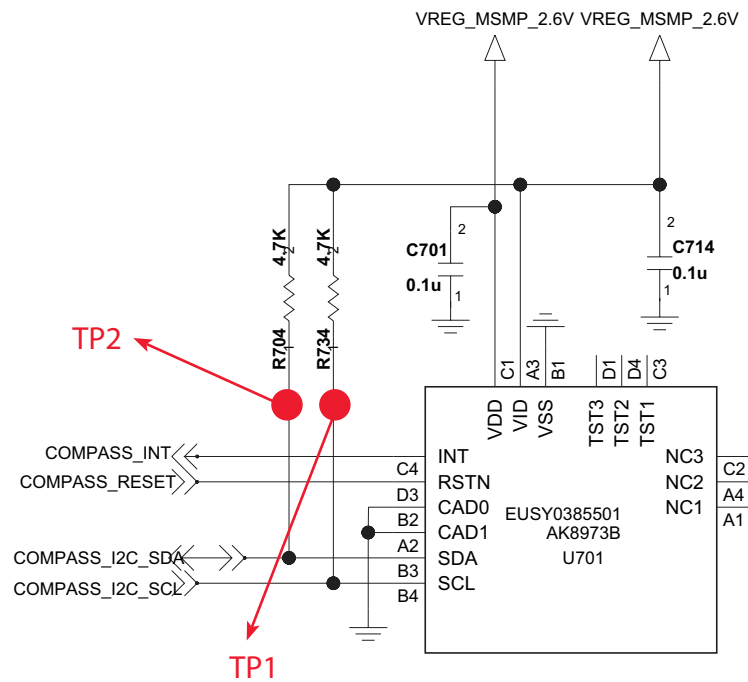
Compass Sensor function On



4. Trouble Shooting

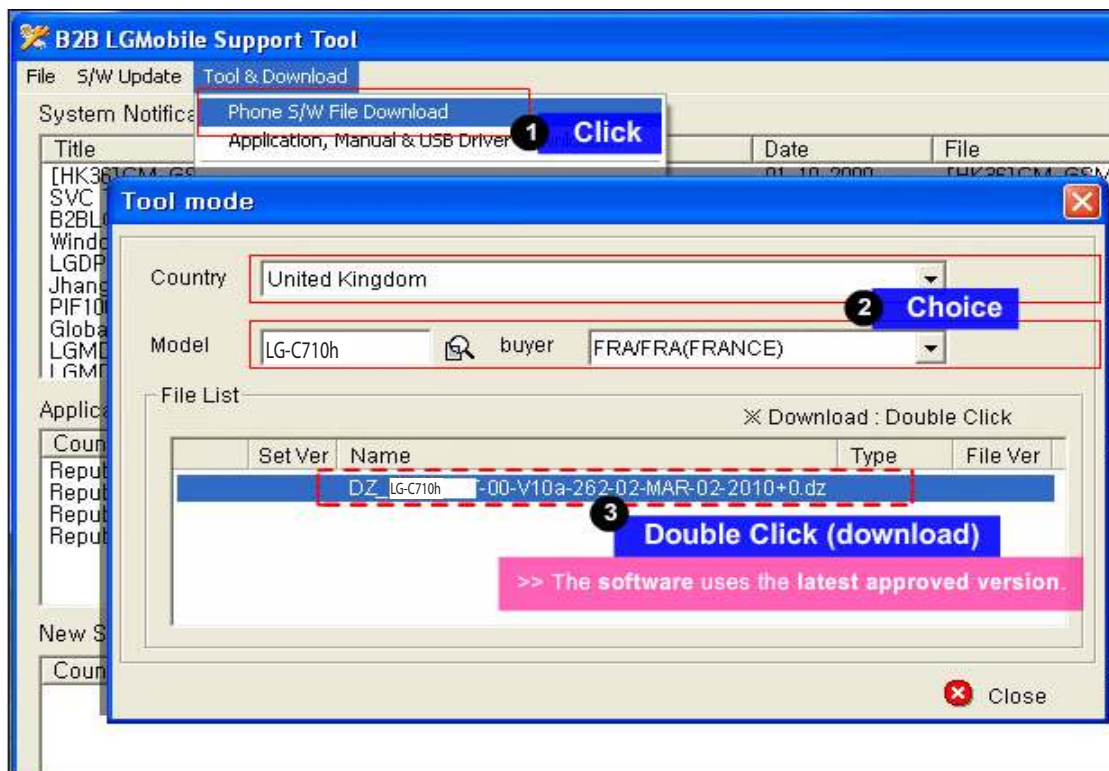
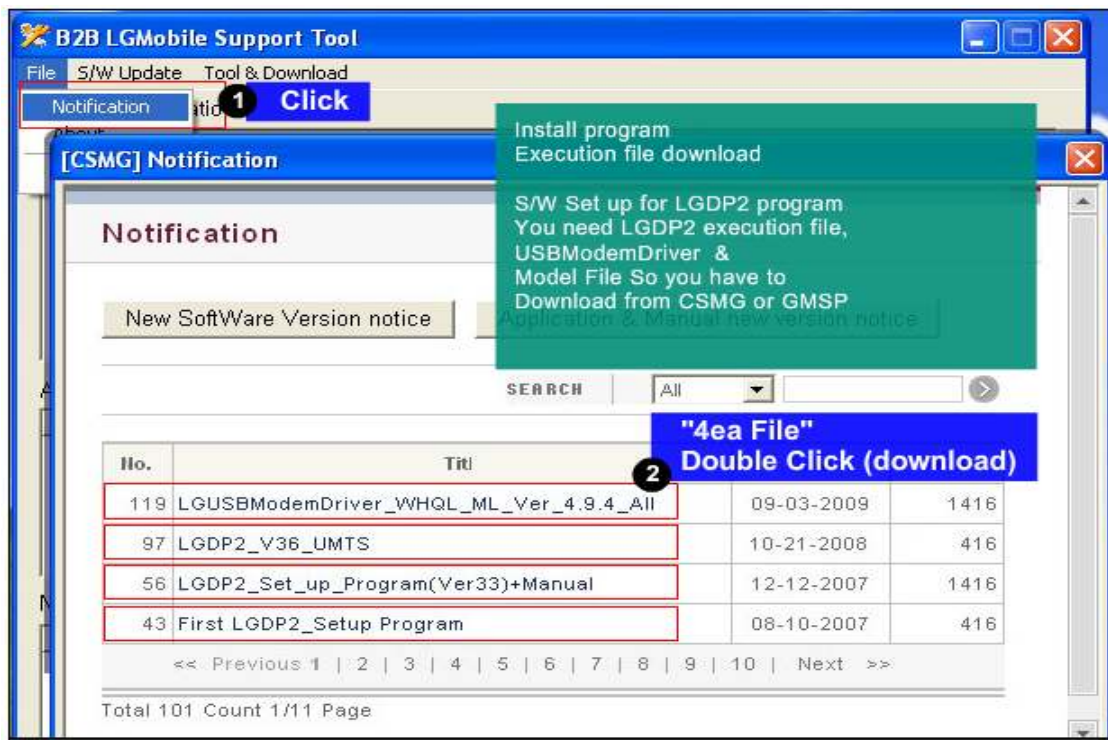
1) Measurement : Main(U701)

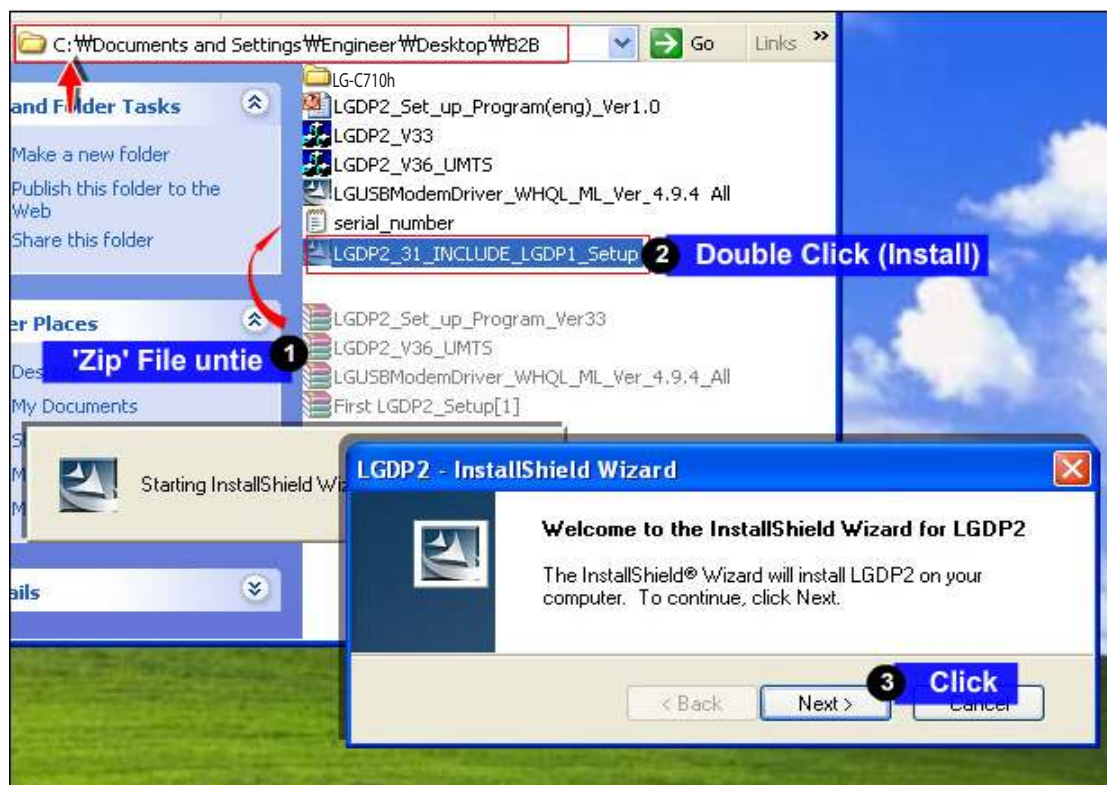
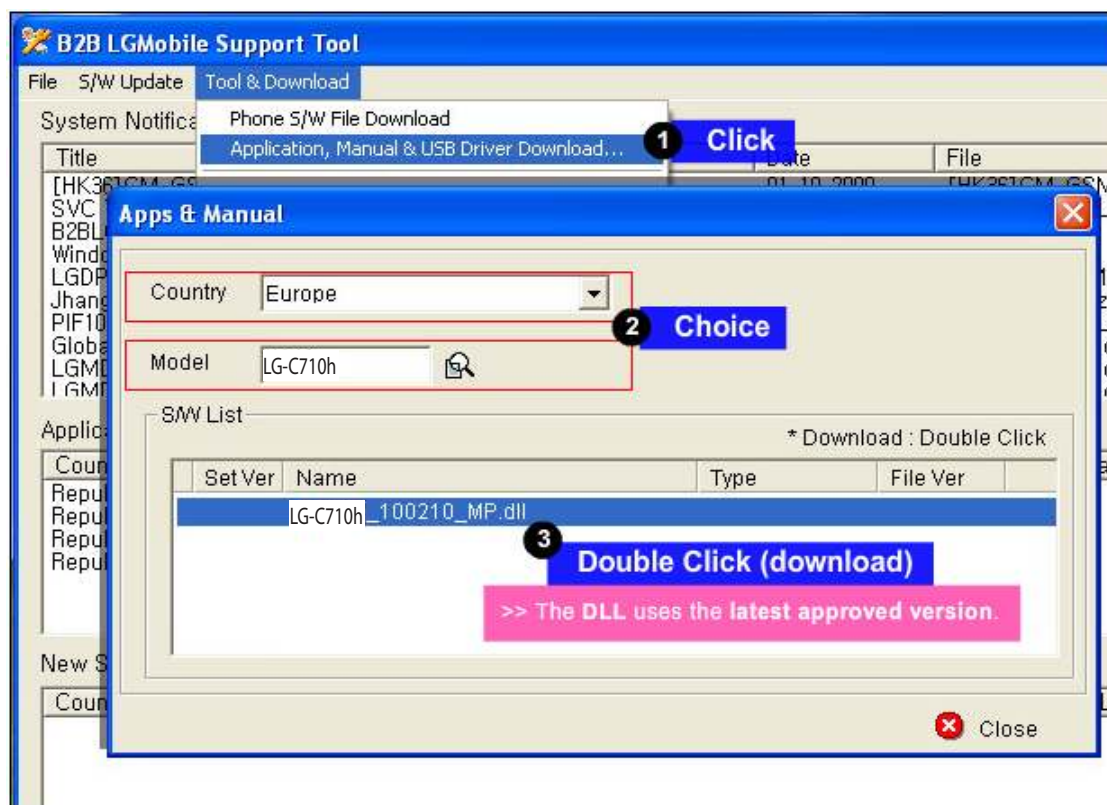
- VREG_MSMP_2.6V : 2.6V (C701, C714)
- COMPASS_I2C_SDA / SCL : data / CLK pulse (R704, R734)



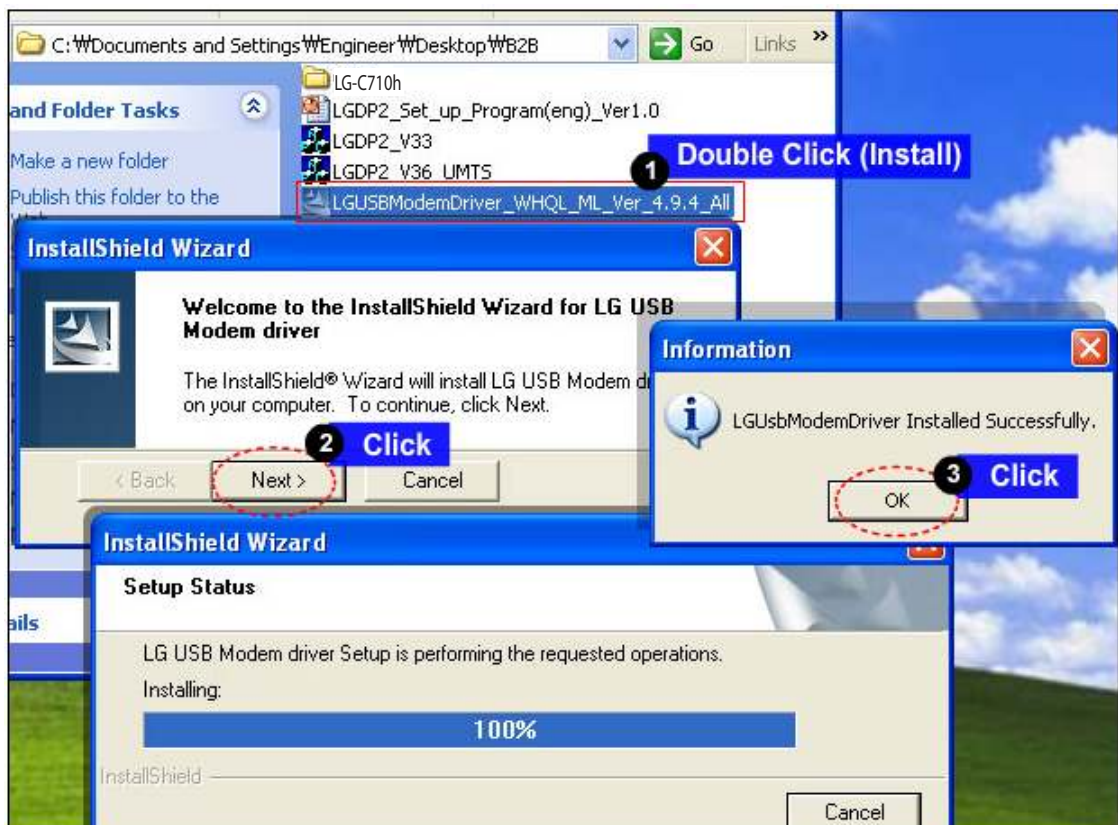
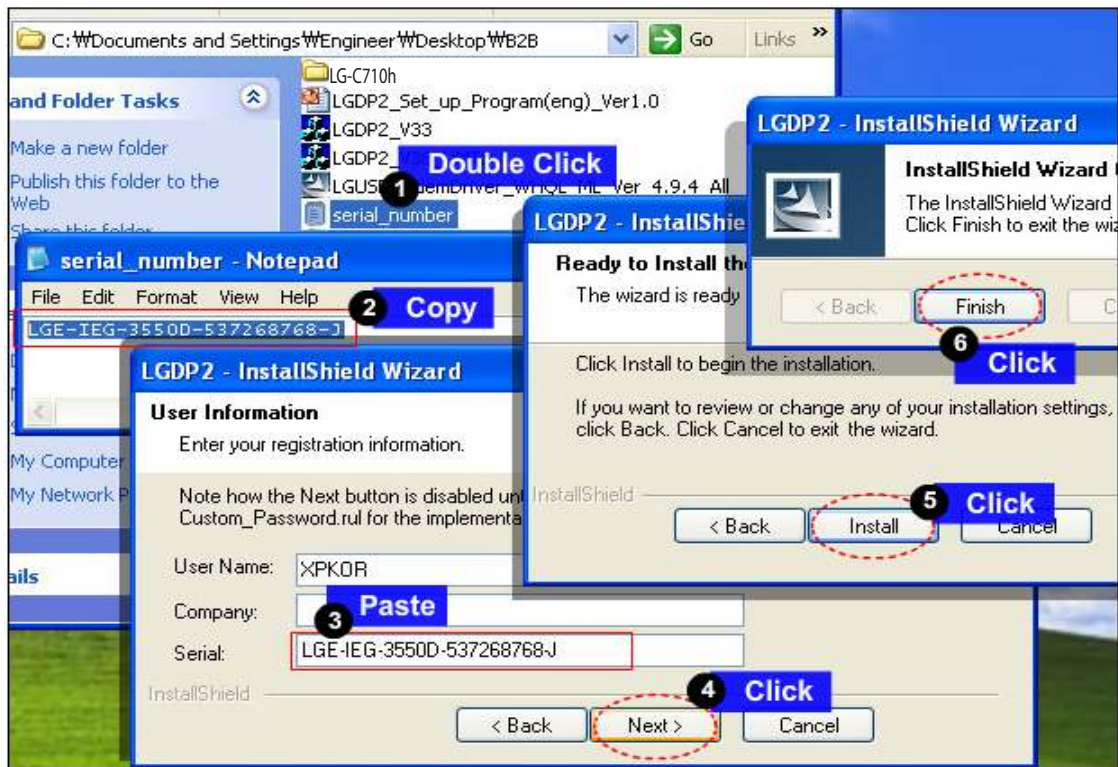
5. Download

5. Download

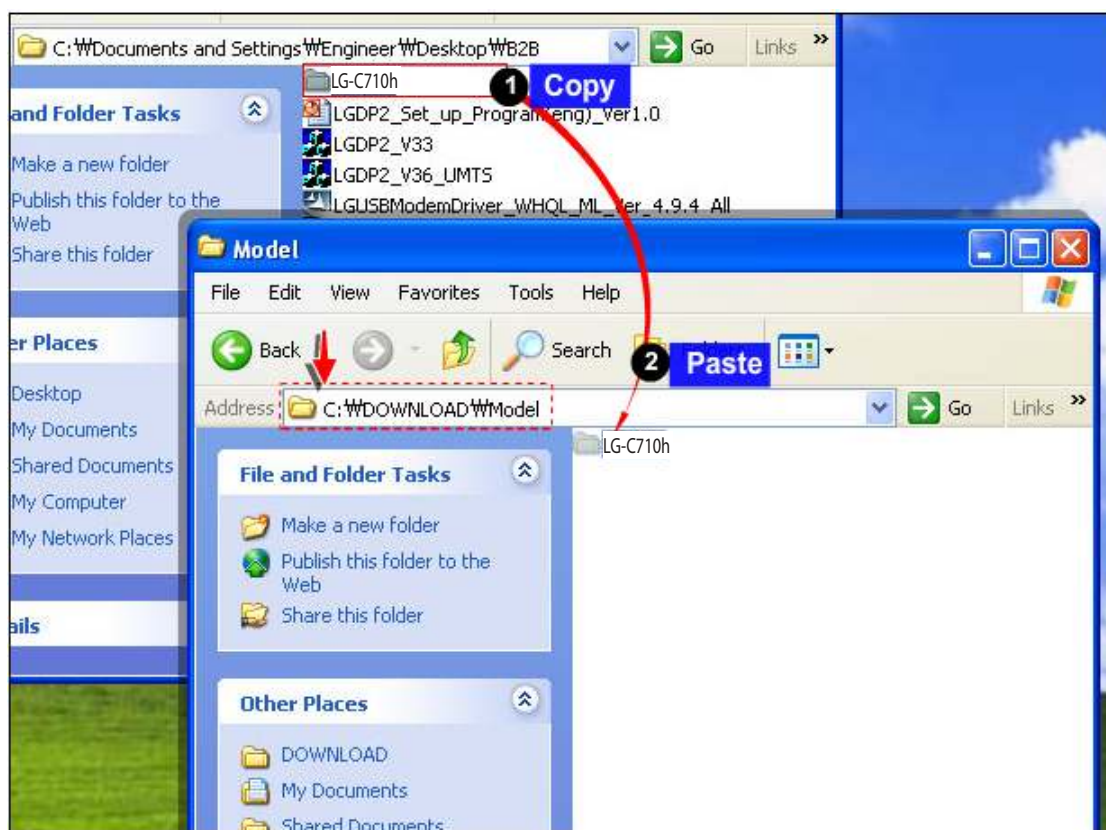
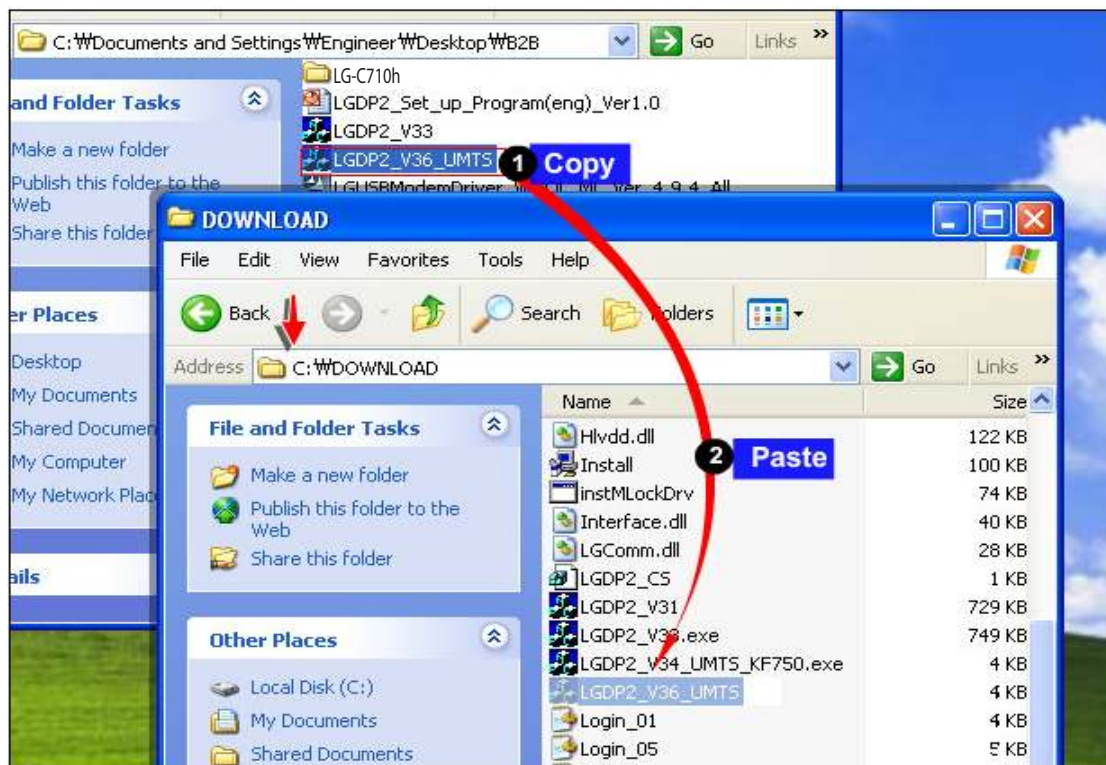




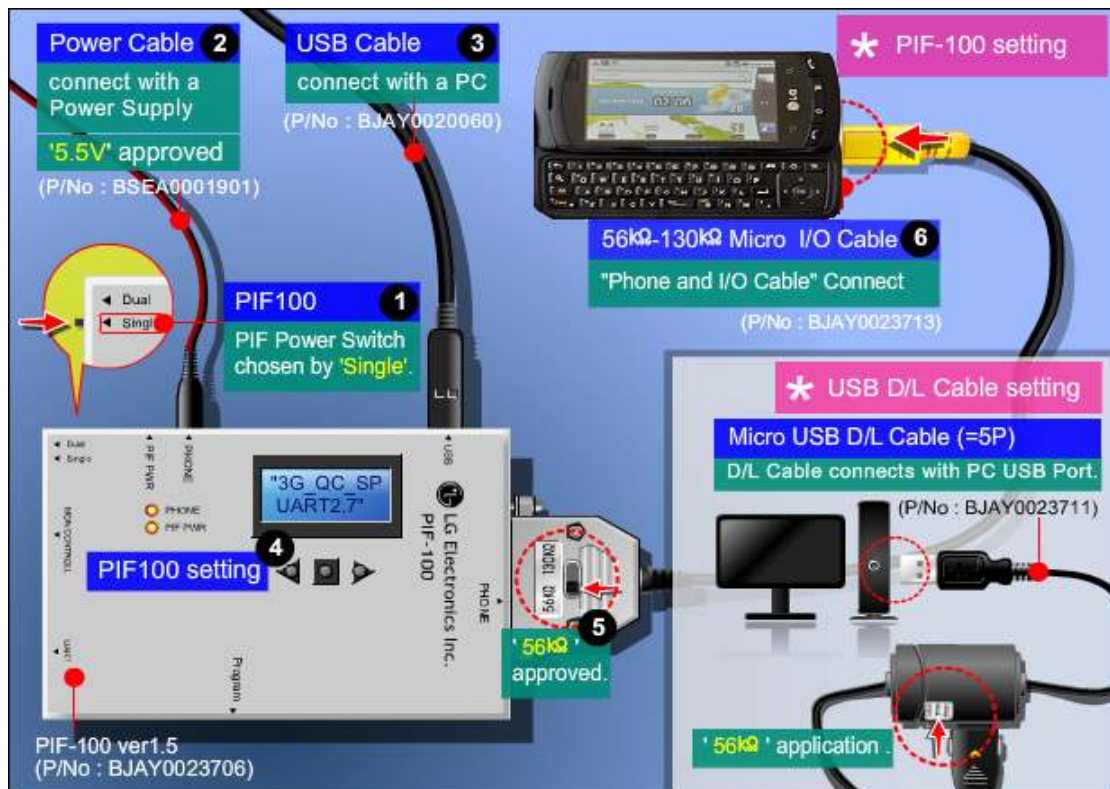
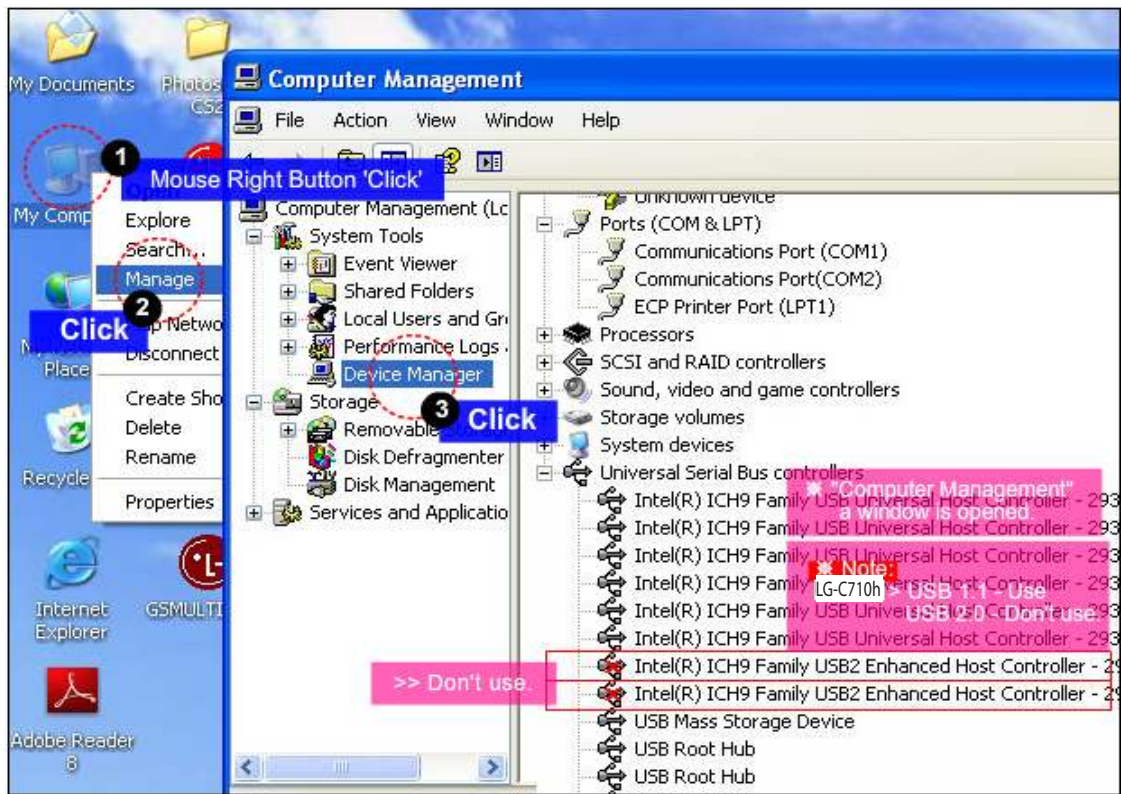
5. Download



5. Download

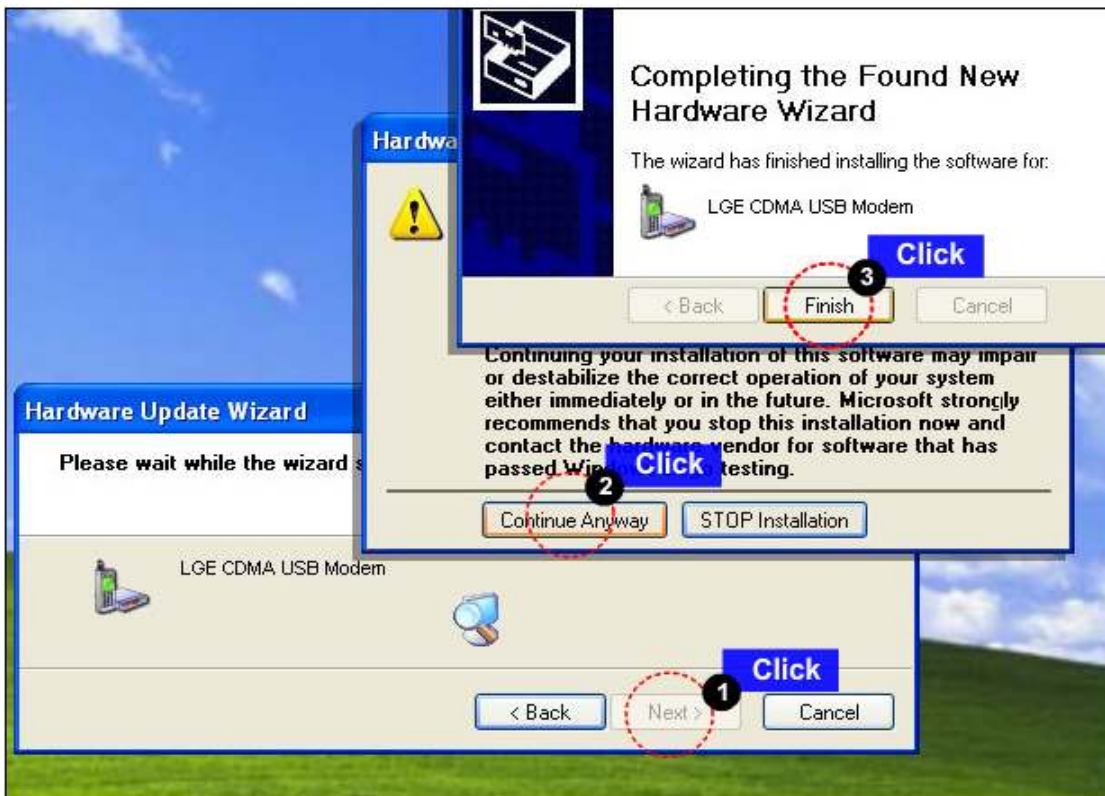
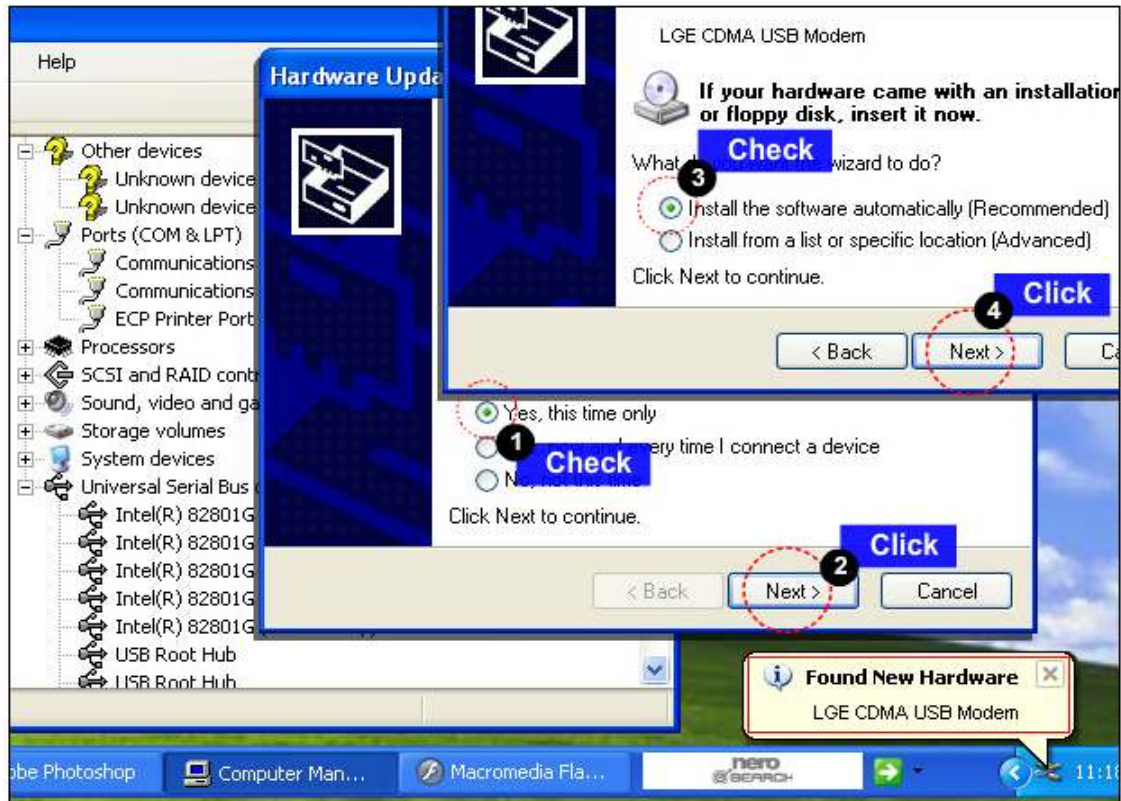


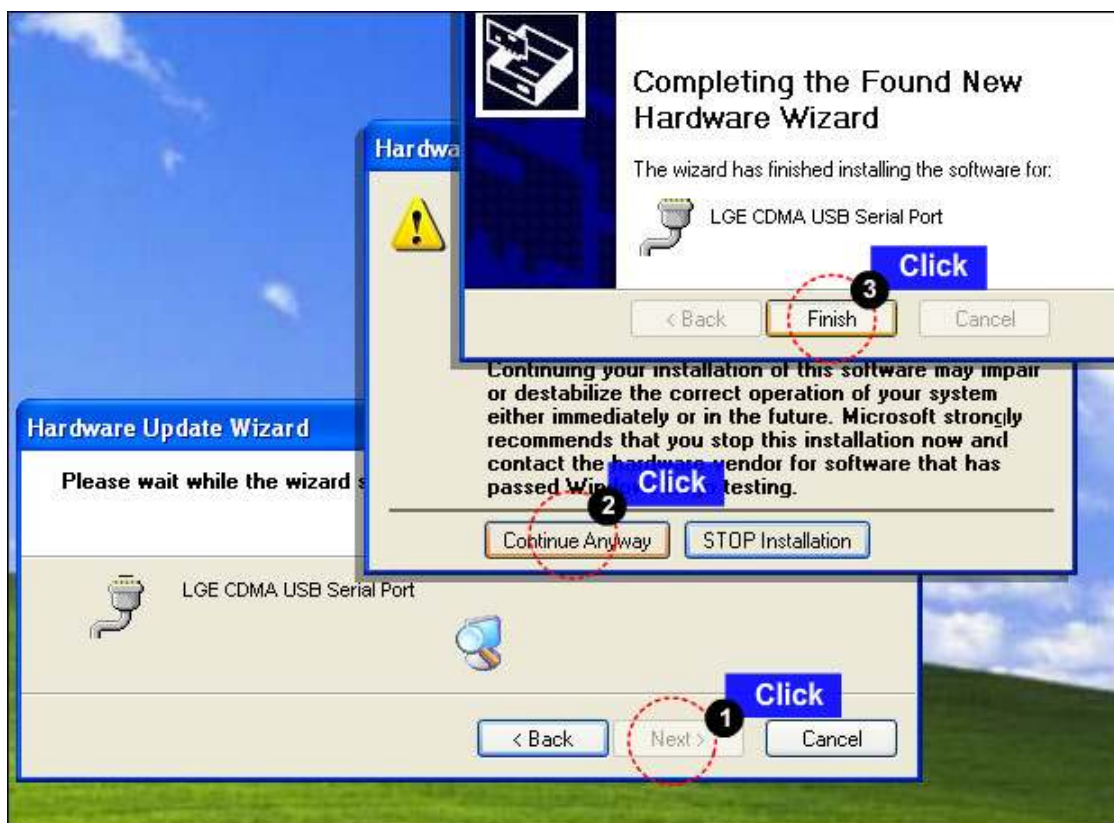
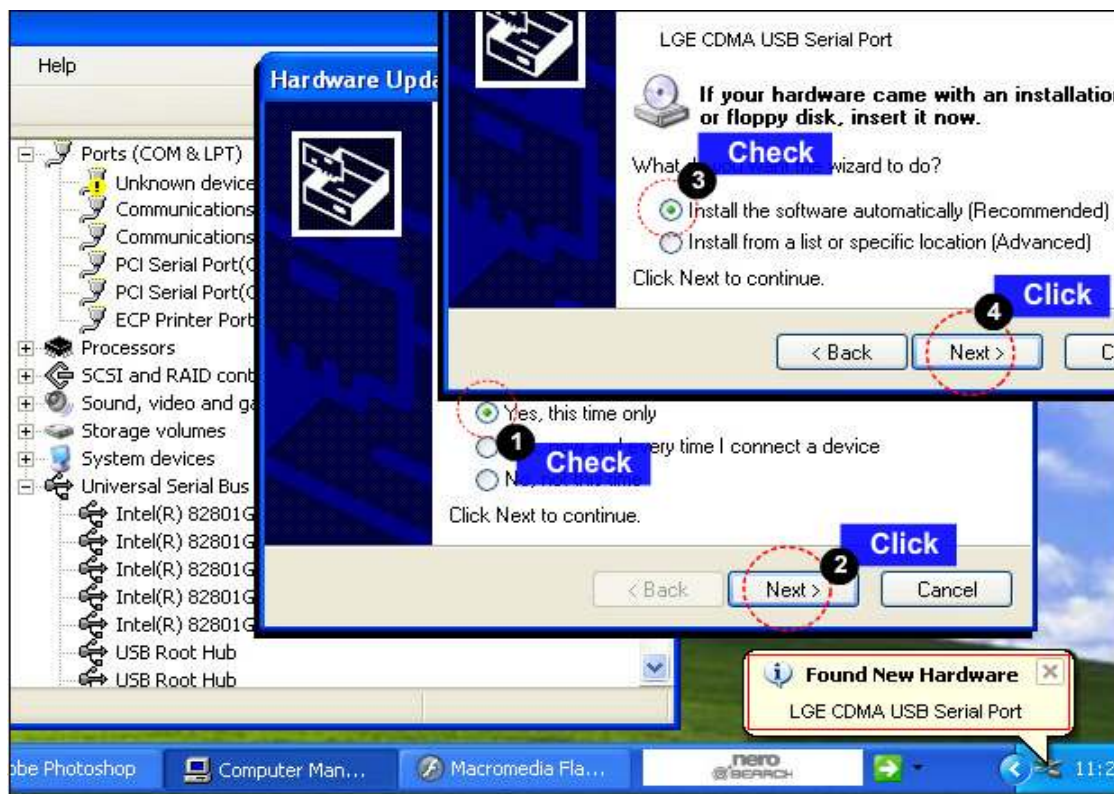
5. Download



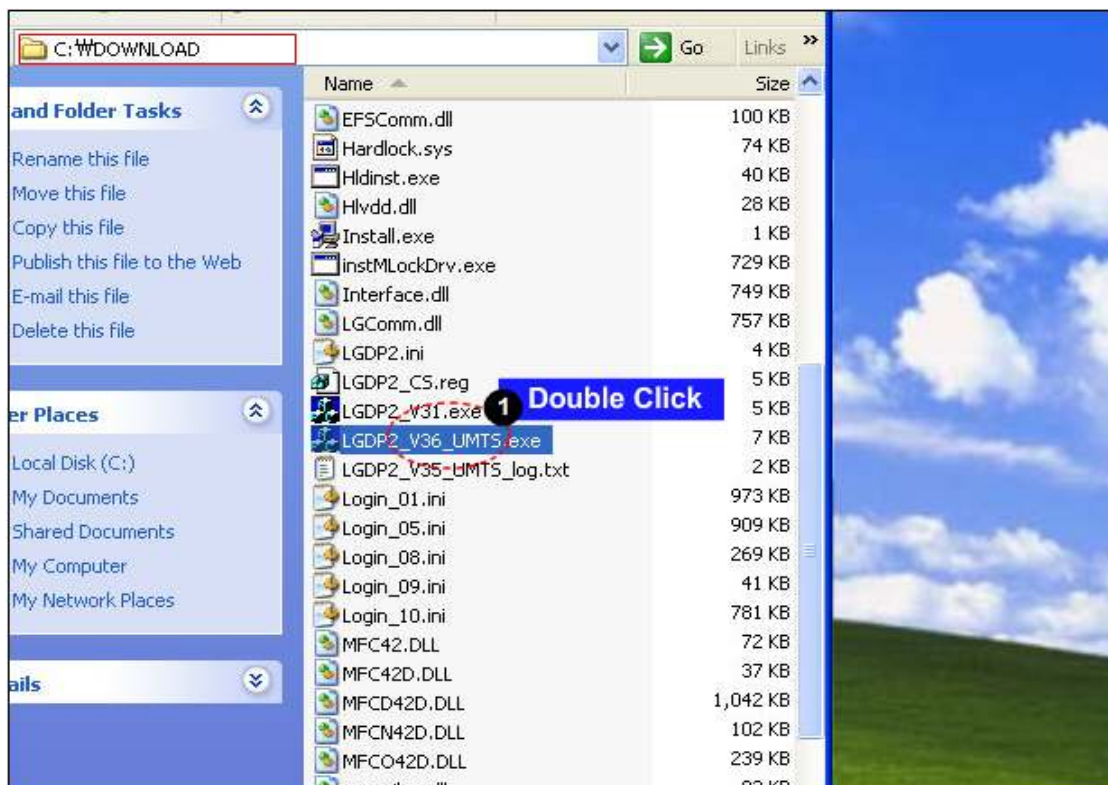
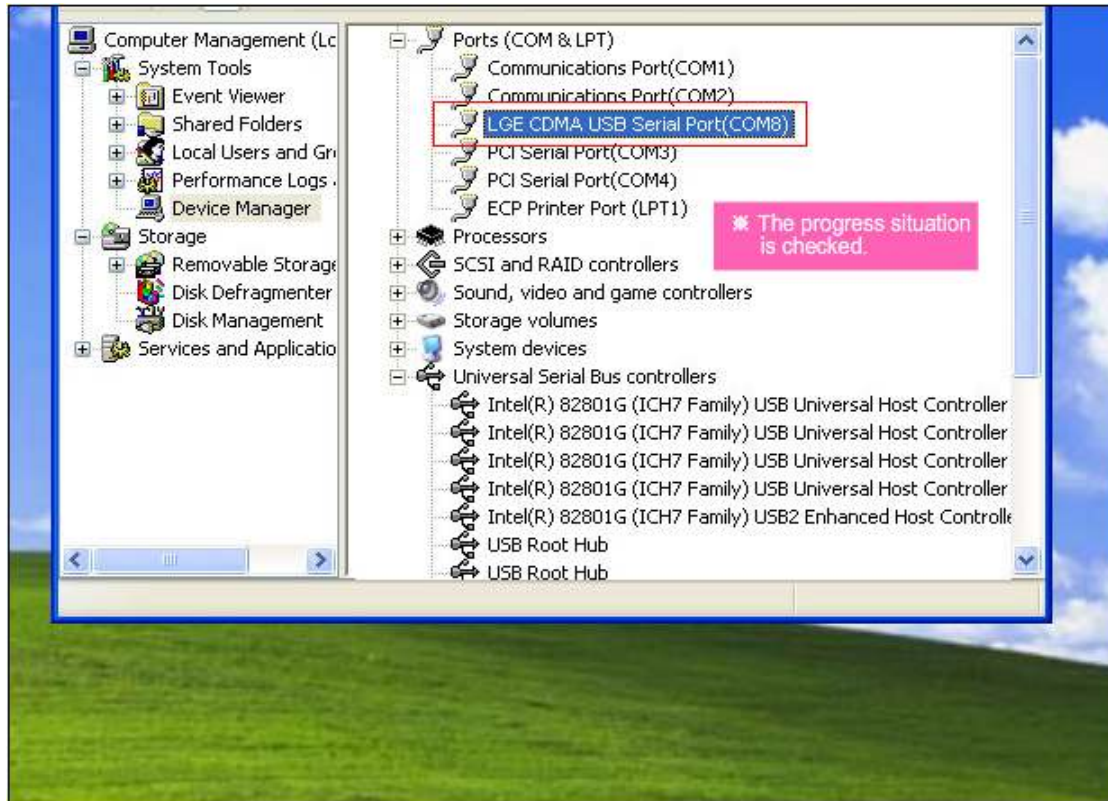


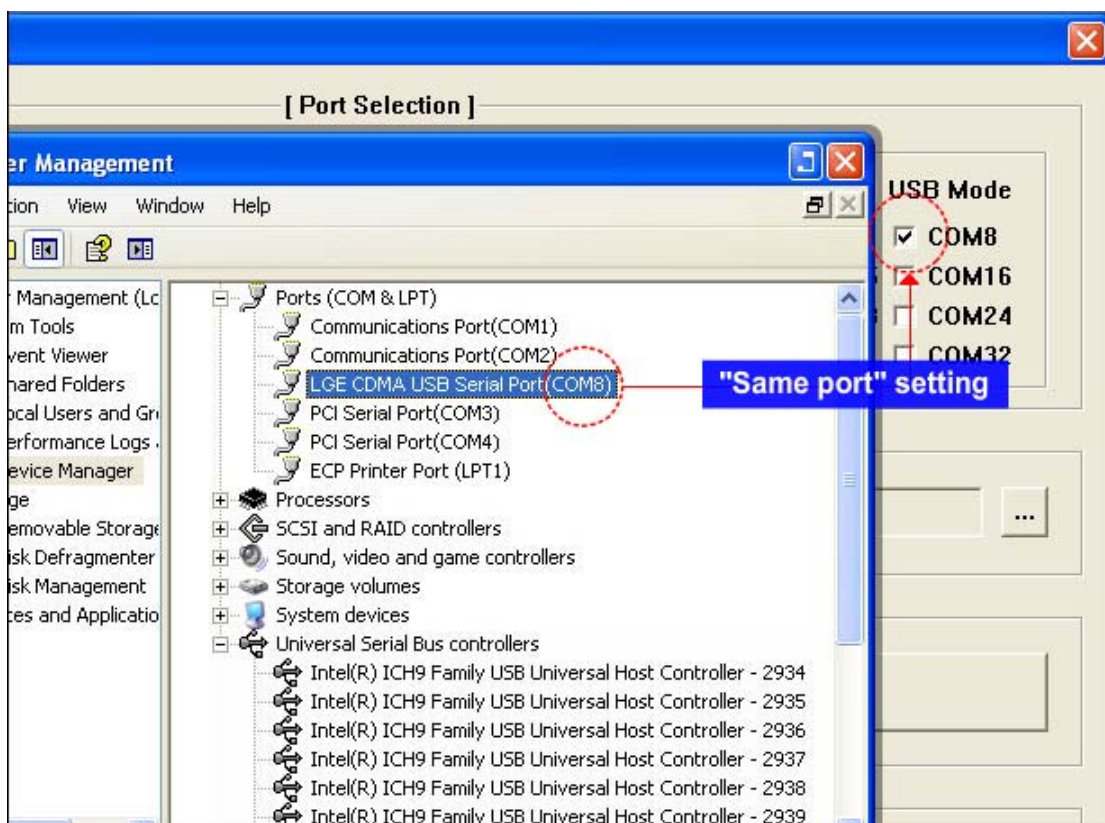
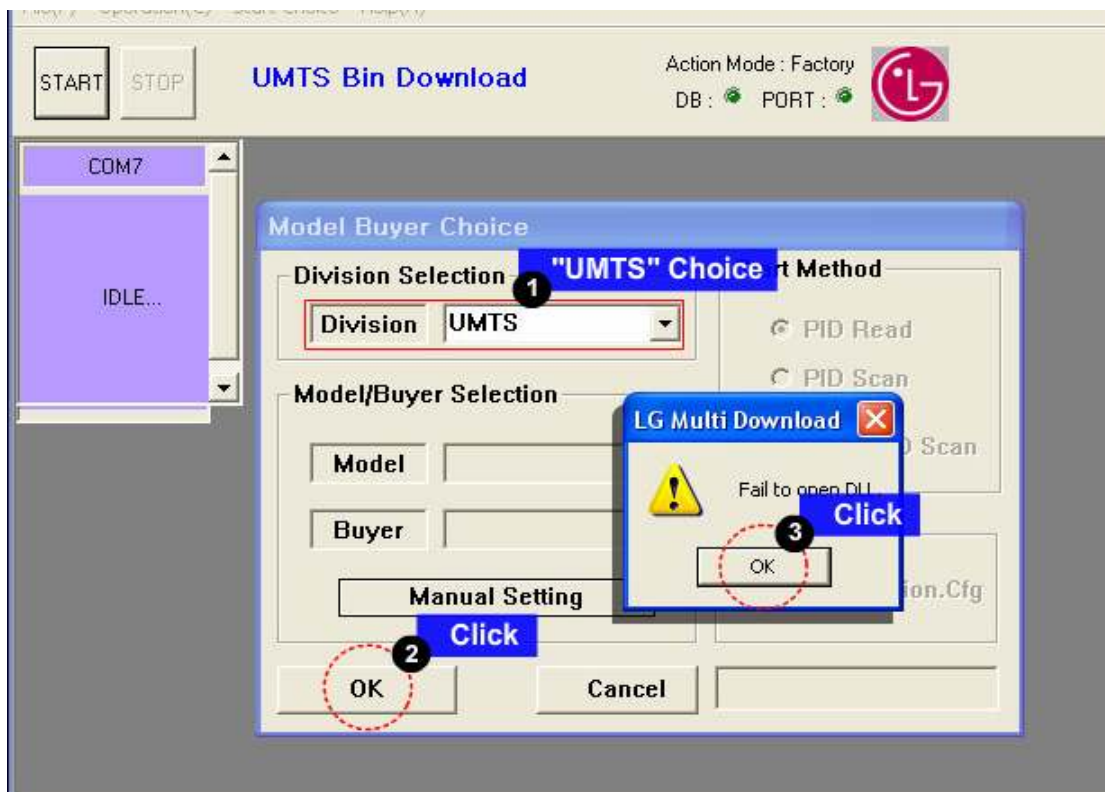
5. Download



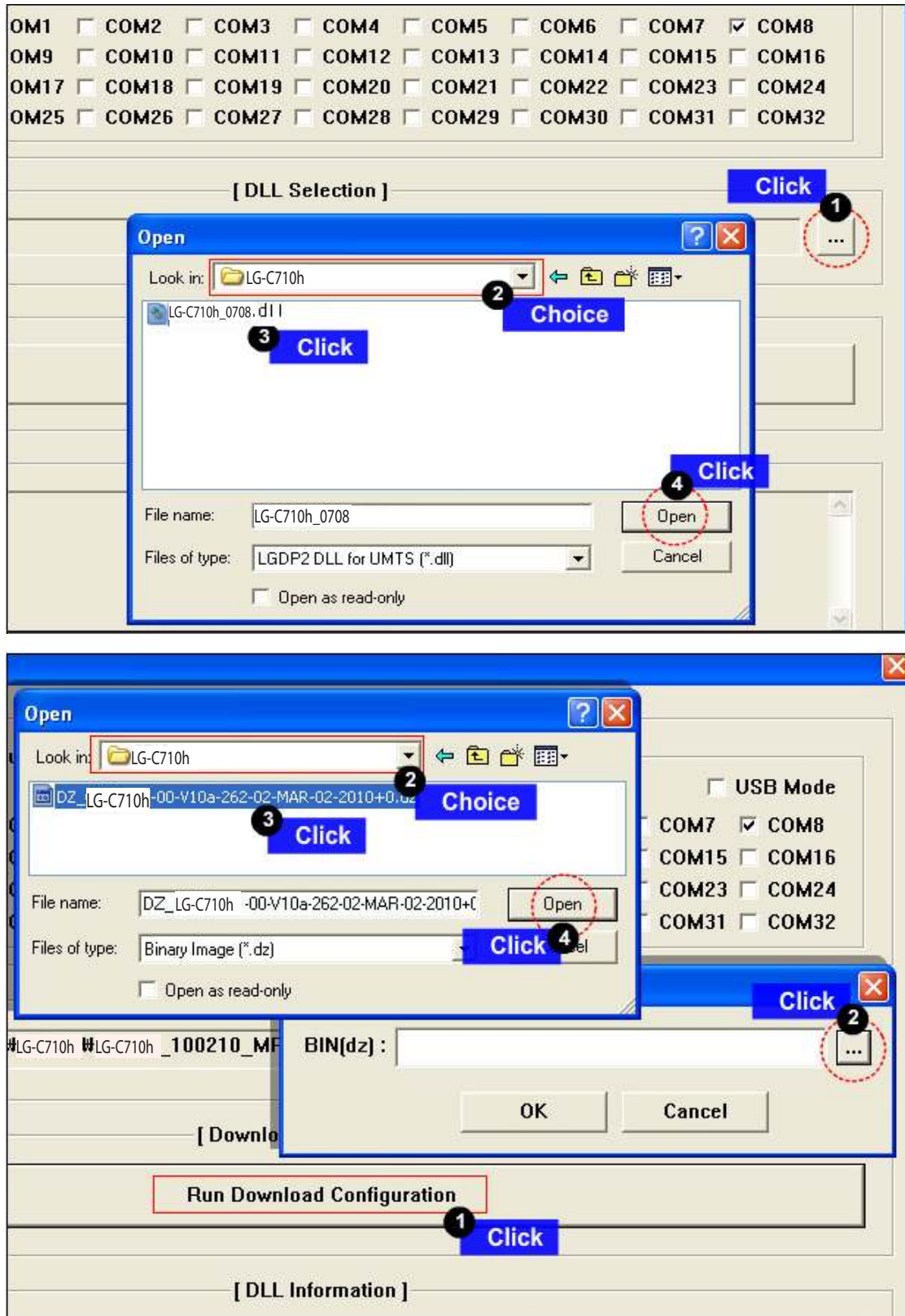


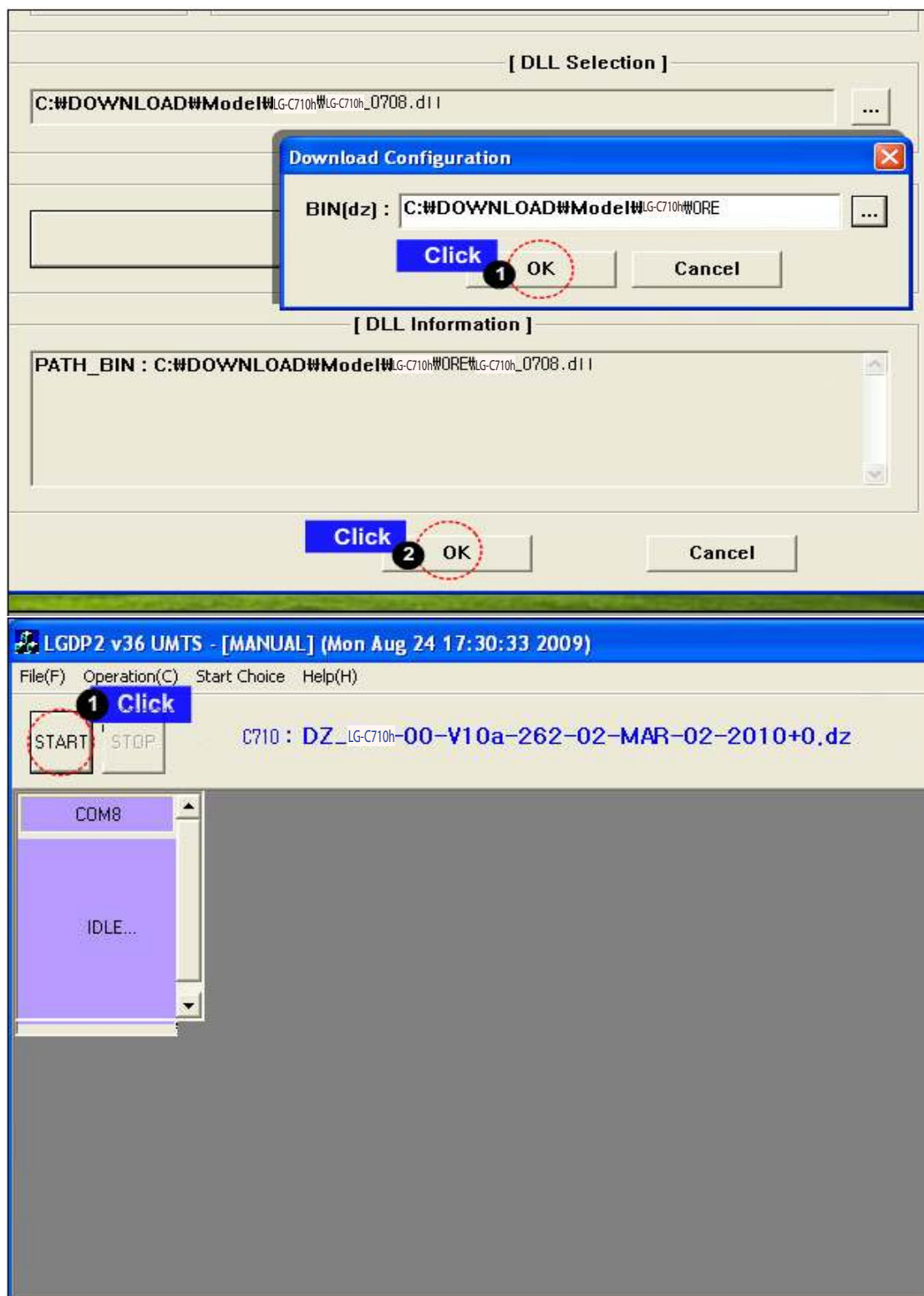
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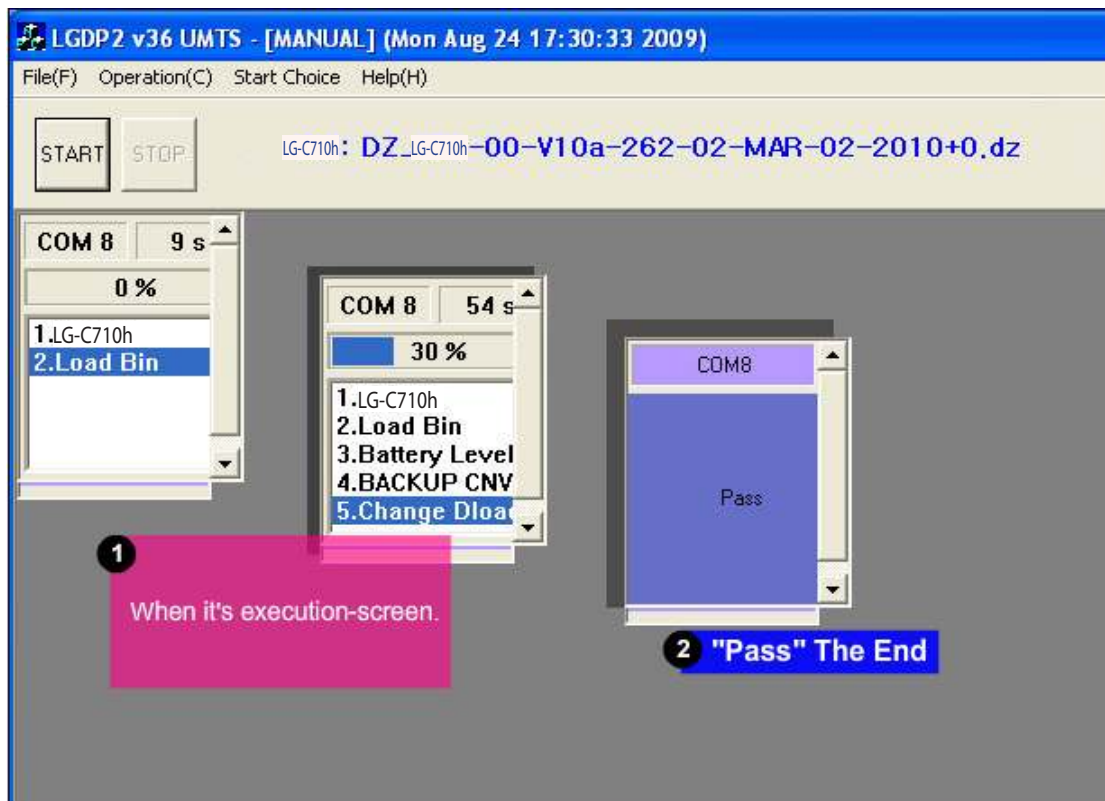
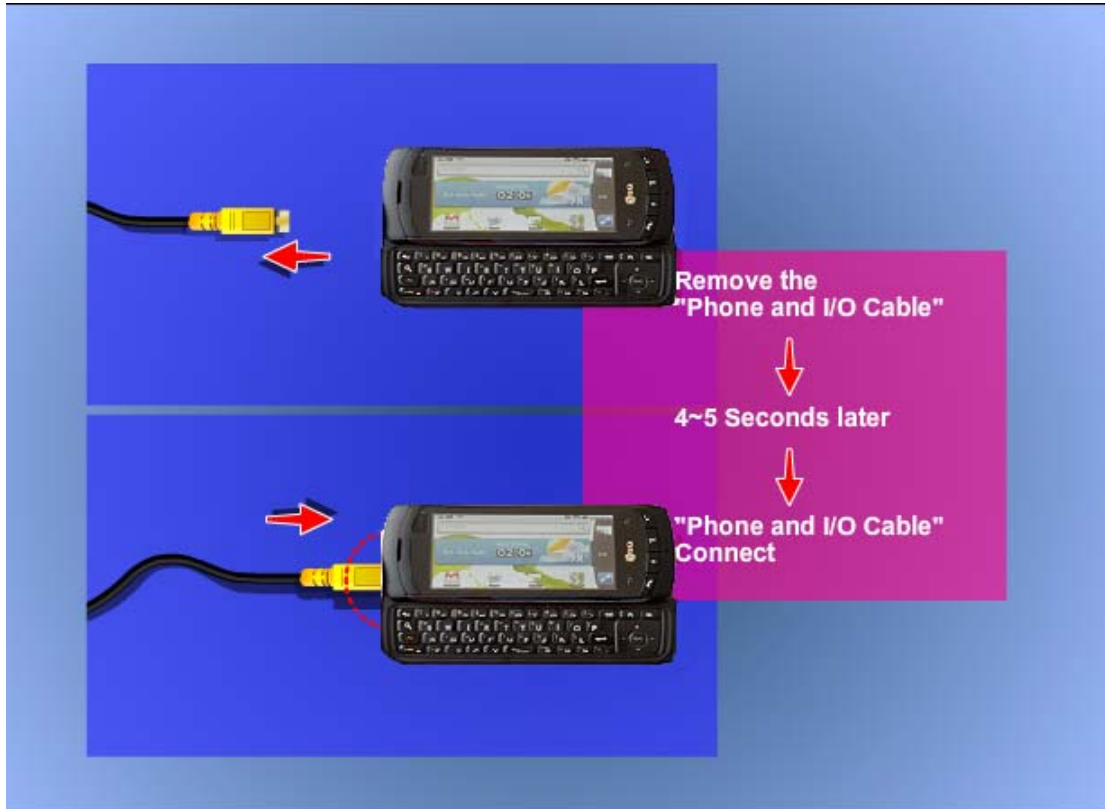


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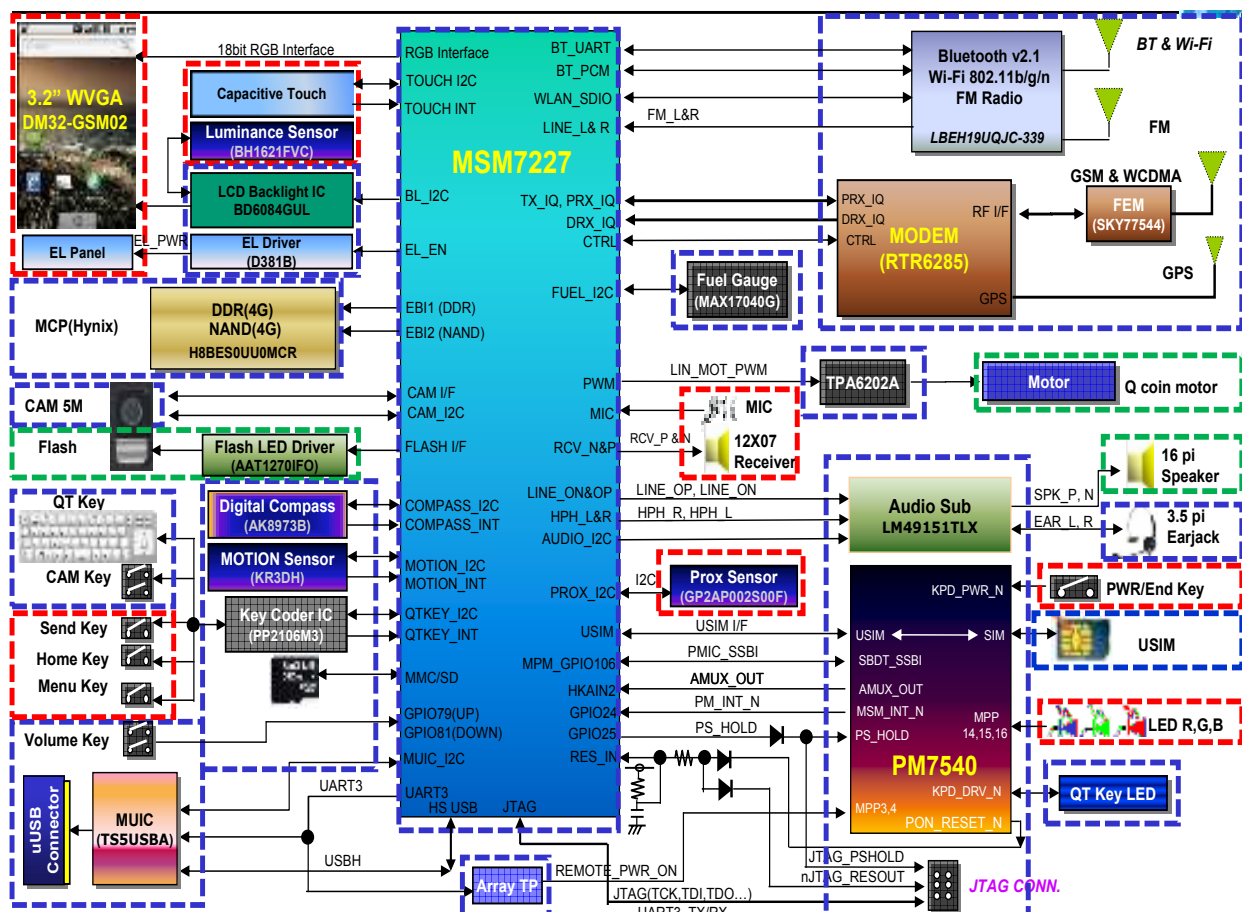


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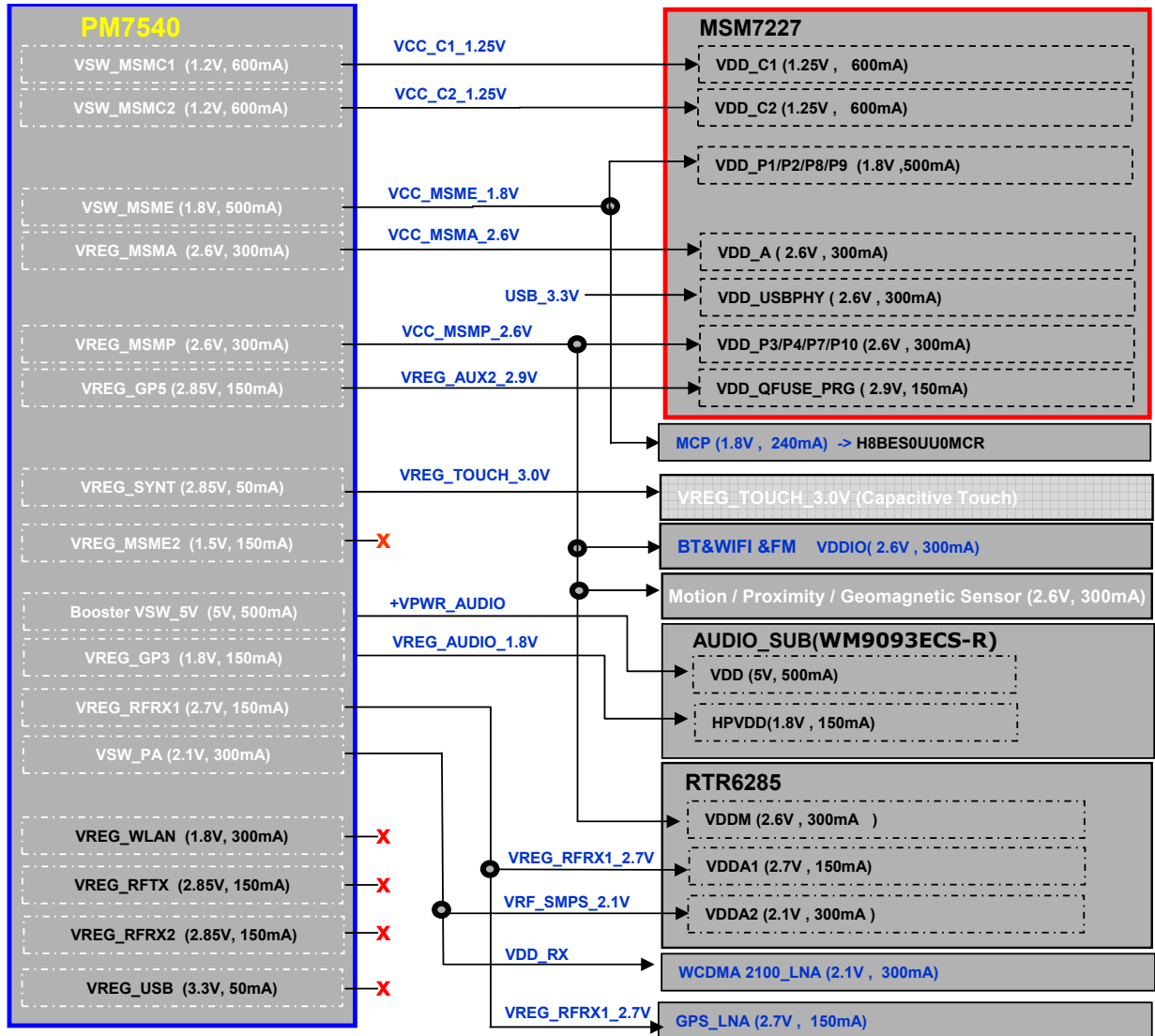


6. Block diagram

All System

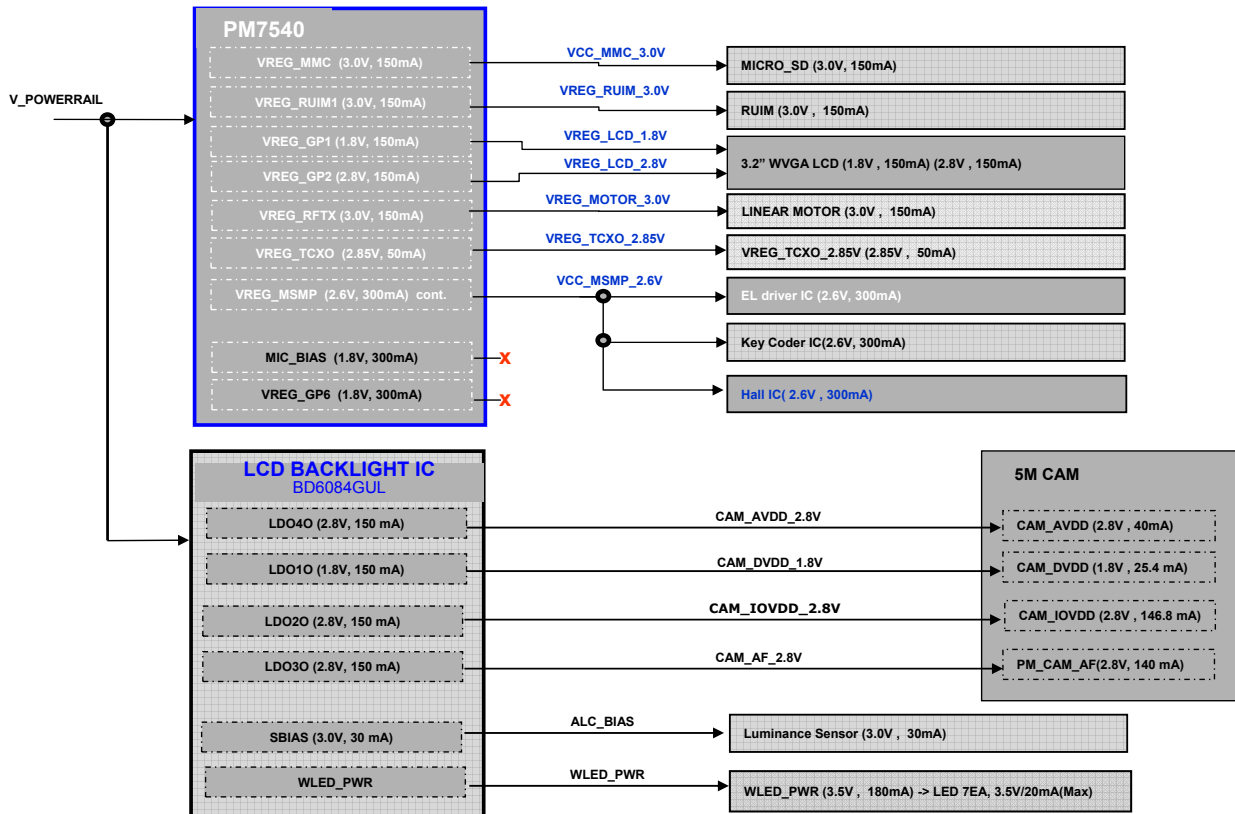


Power Block (1)

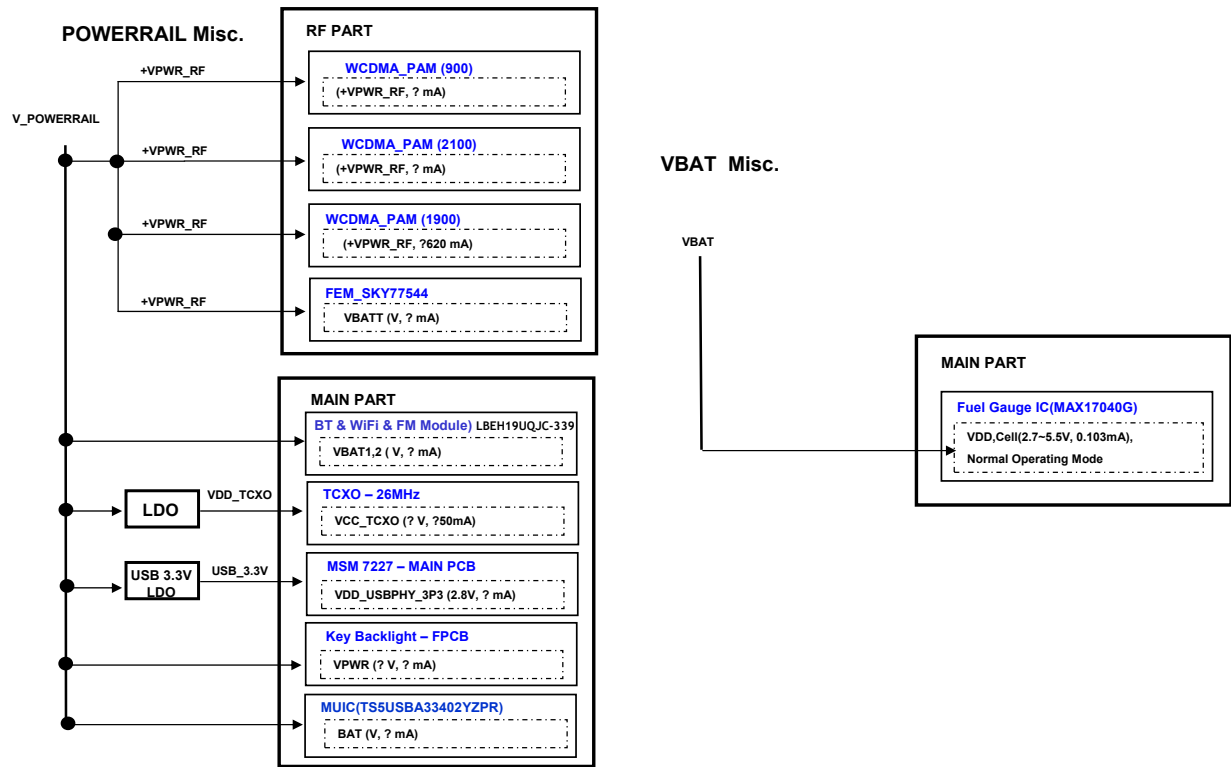


6. Block diagram

Power Block (2)

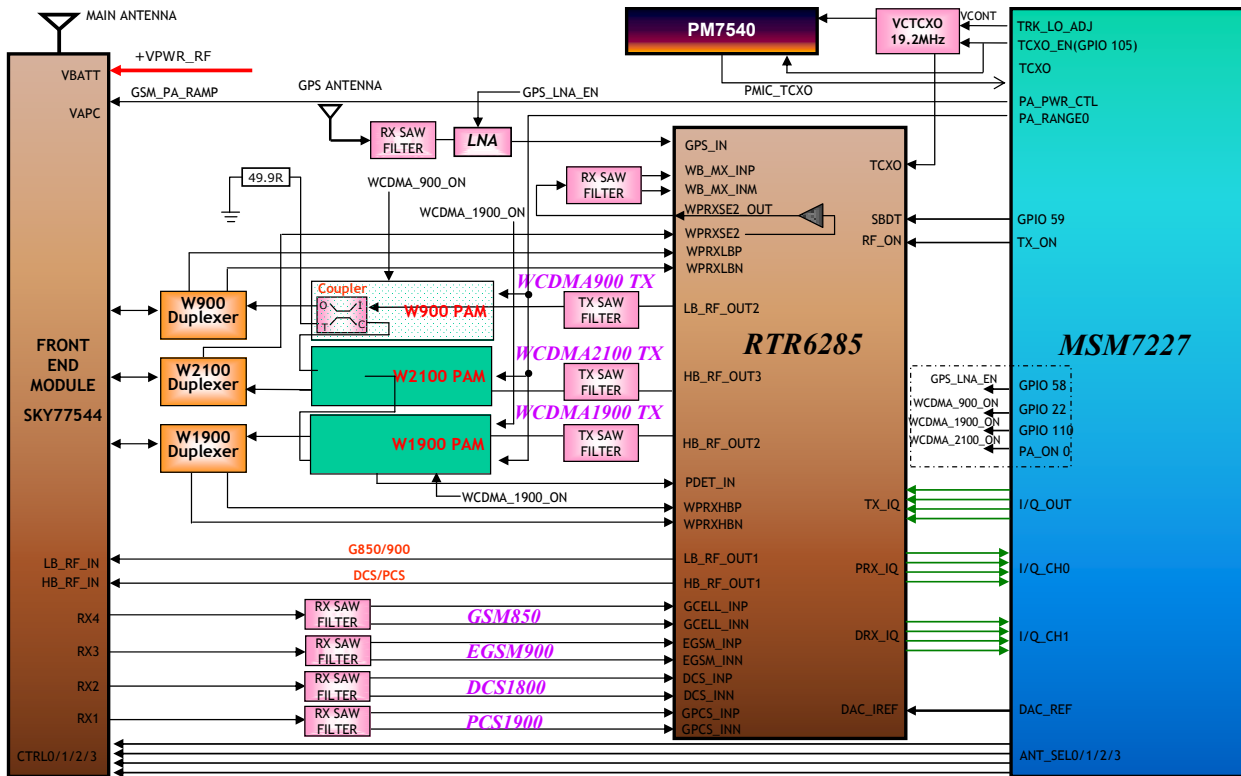


Power Block (3)

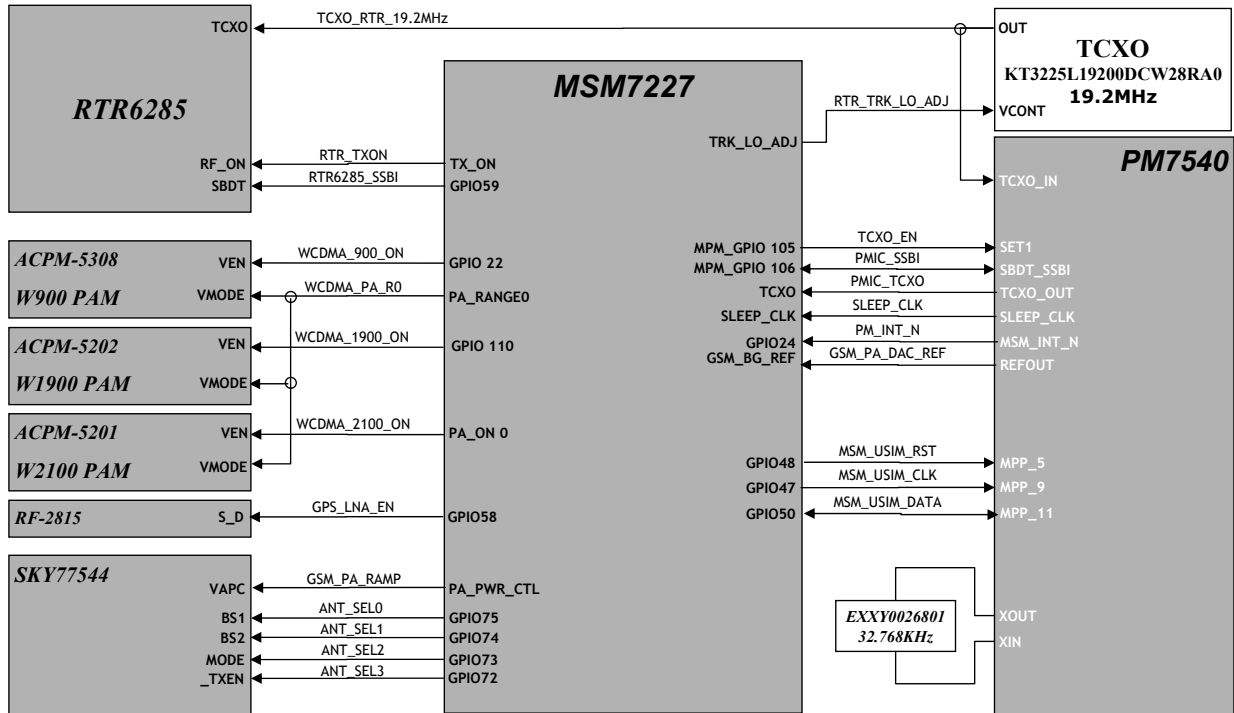


6. Block diagram

RF

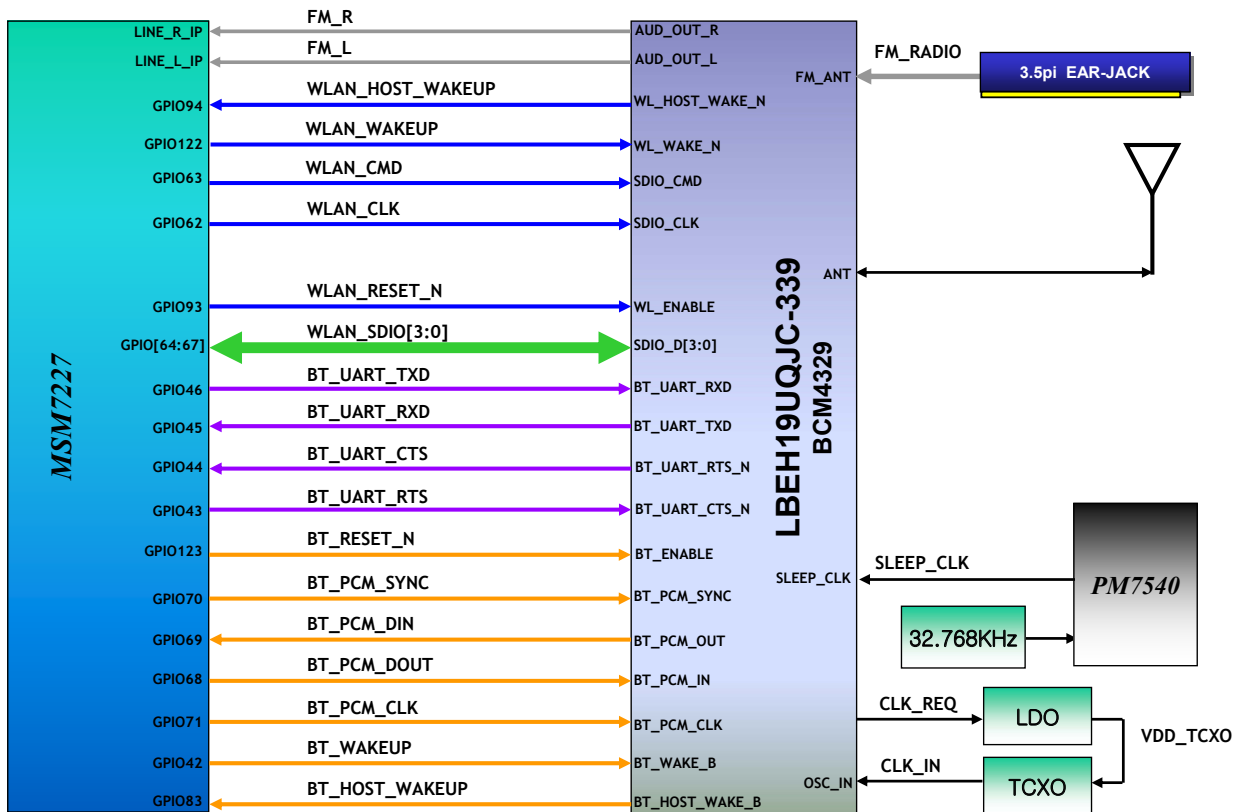


RF Control signals and Clocks

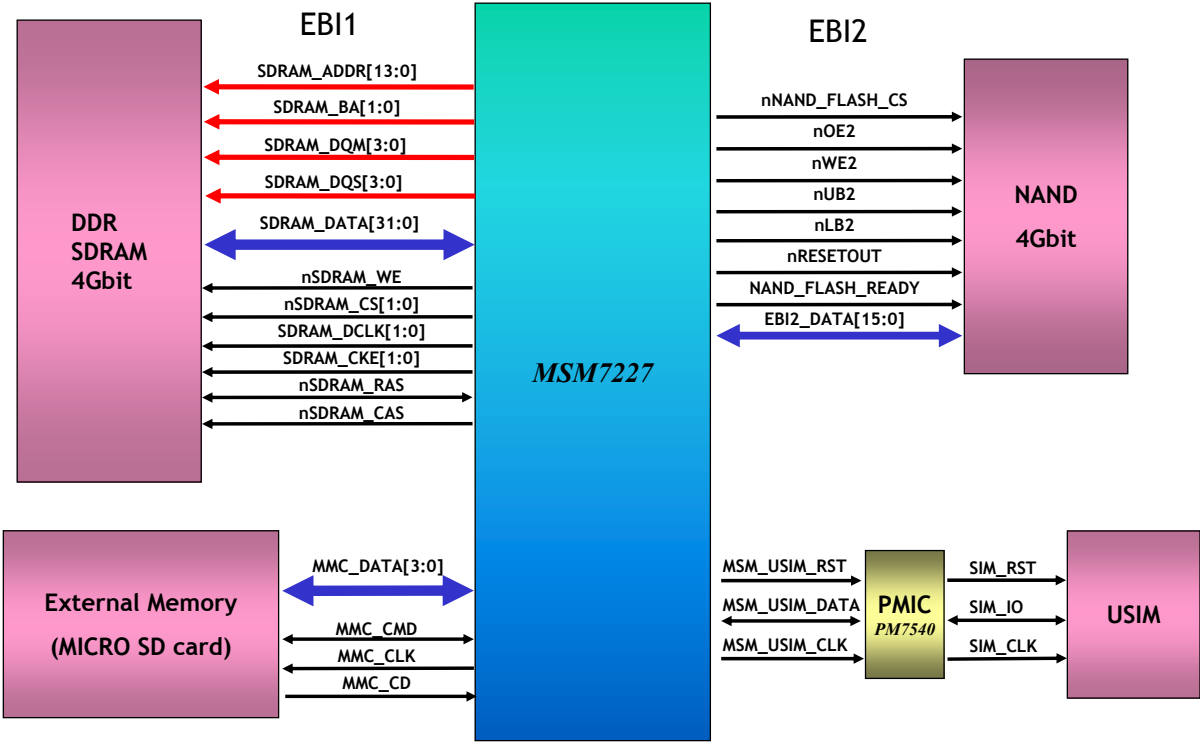


6. Block diagram

WLAN, BT and FM Radio

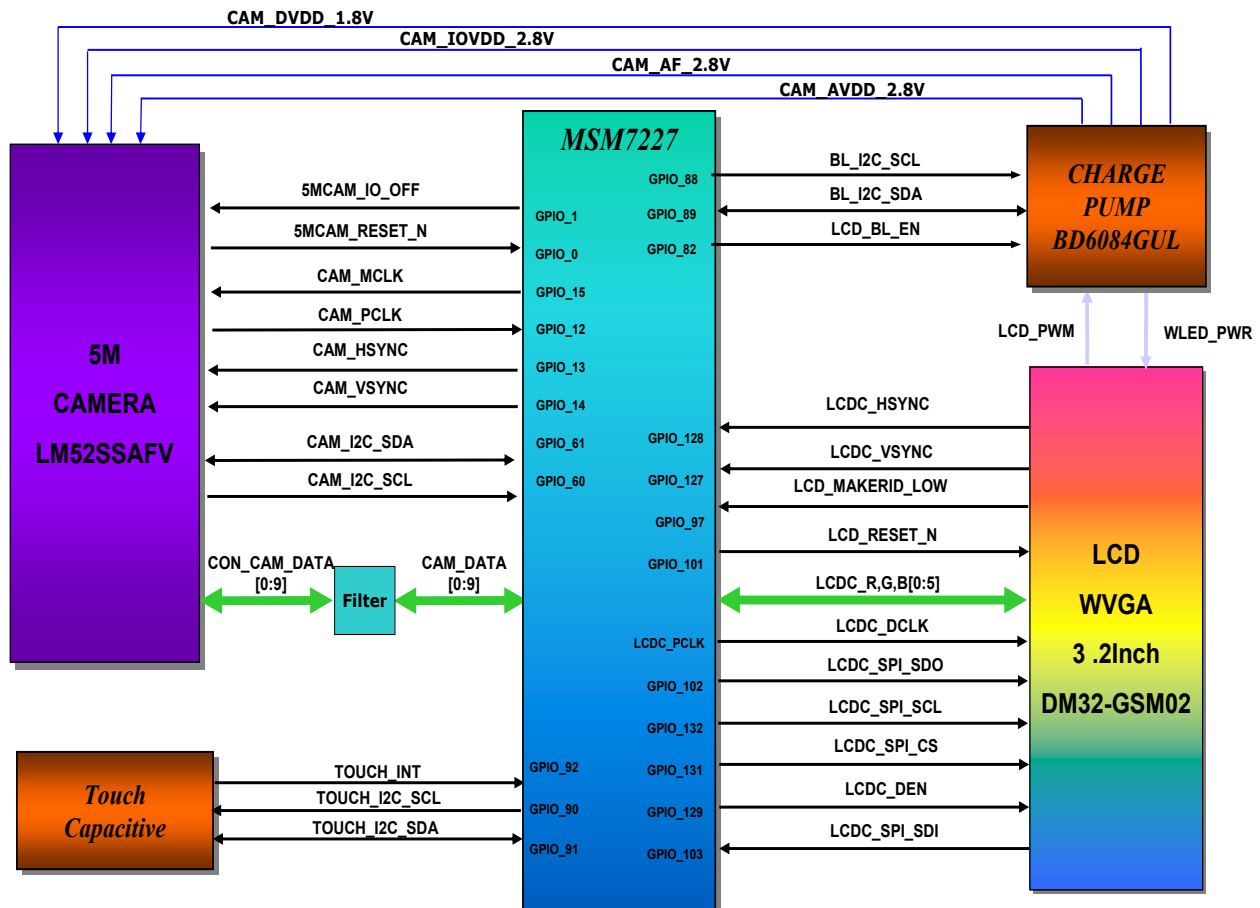


External Memory & USIM

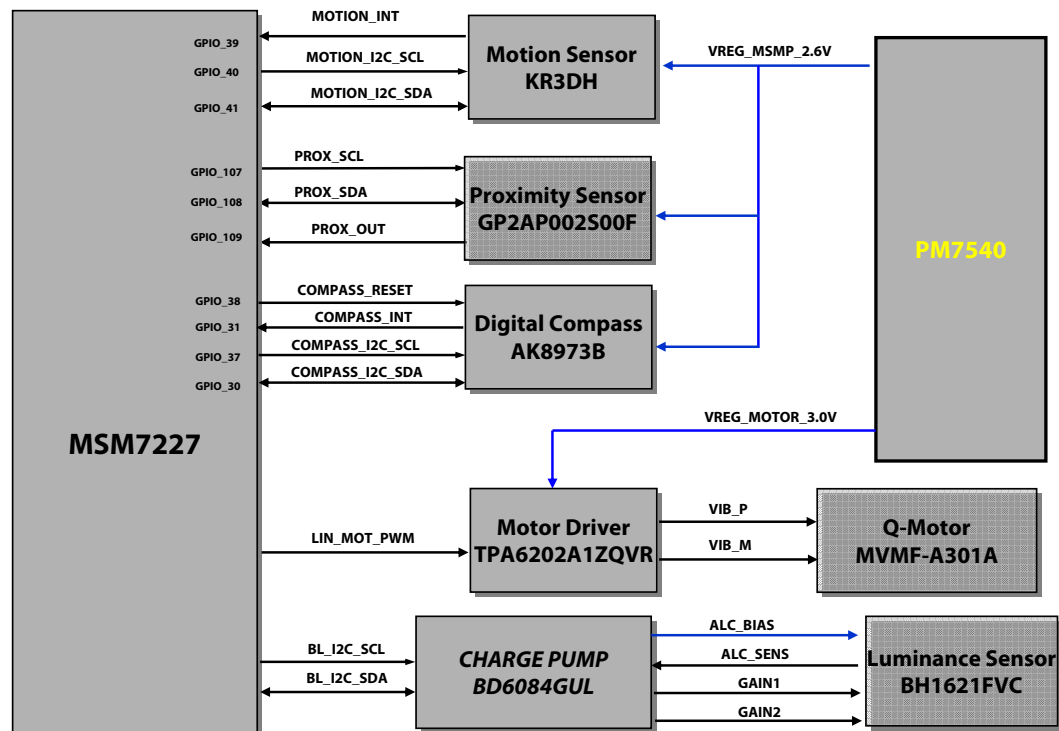


6. Block diagram

LCD & CAMERA Interface

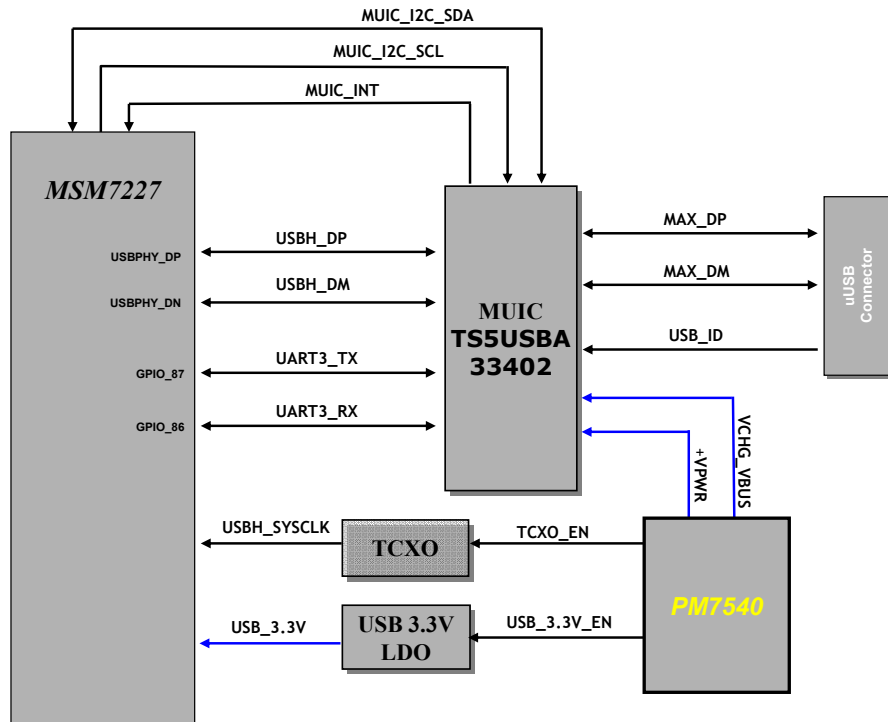


SENSORS & MOTOR

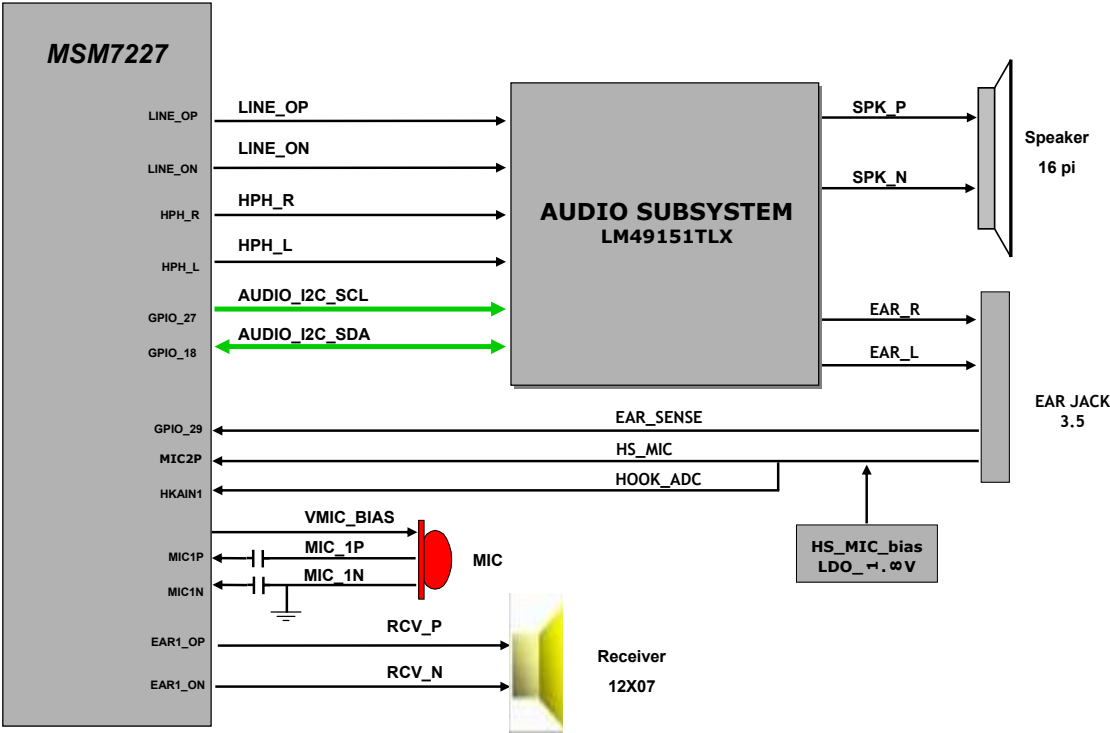


6. Block diagram

USB Transceiver & UART

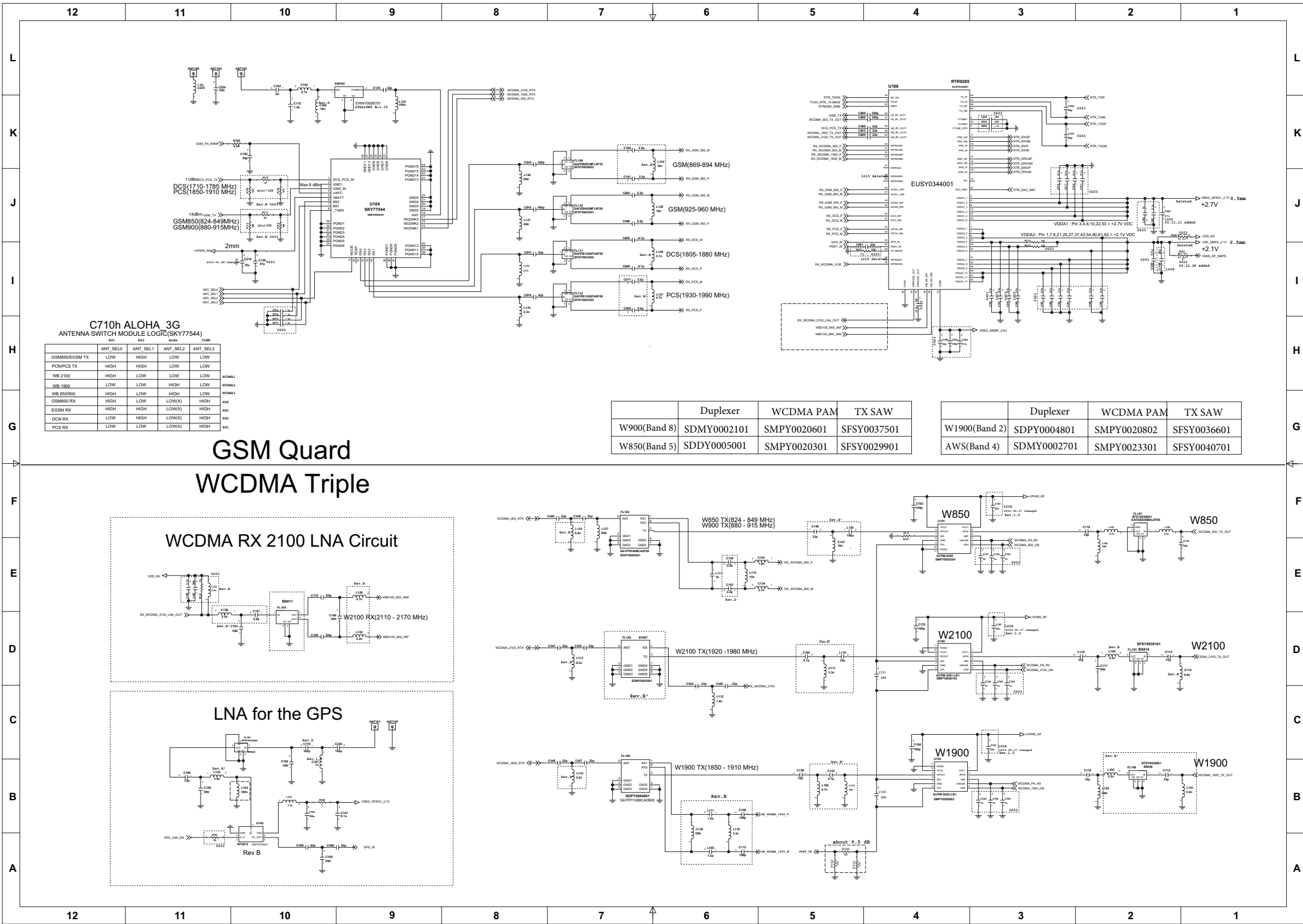


Audio Sub System

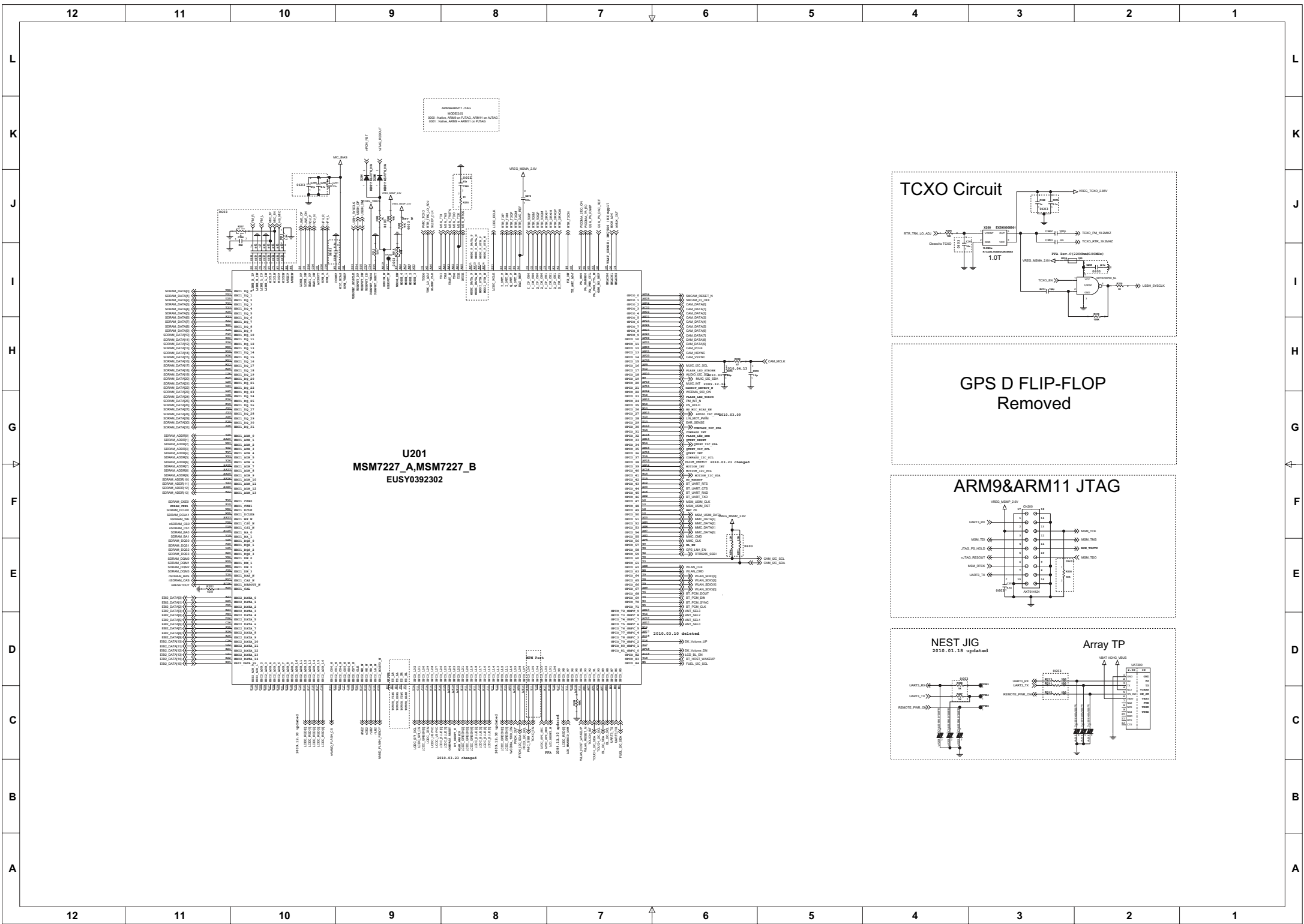




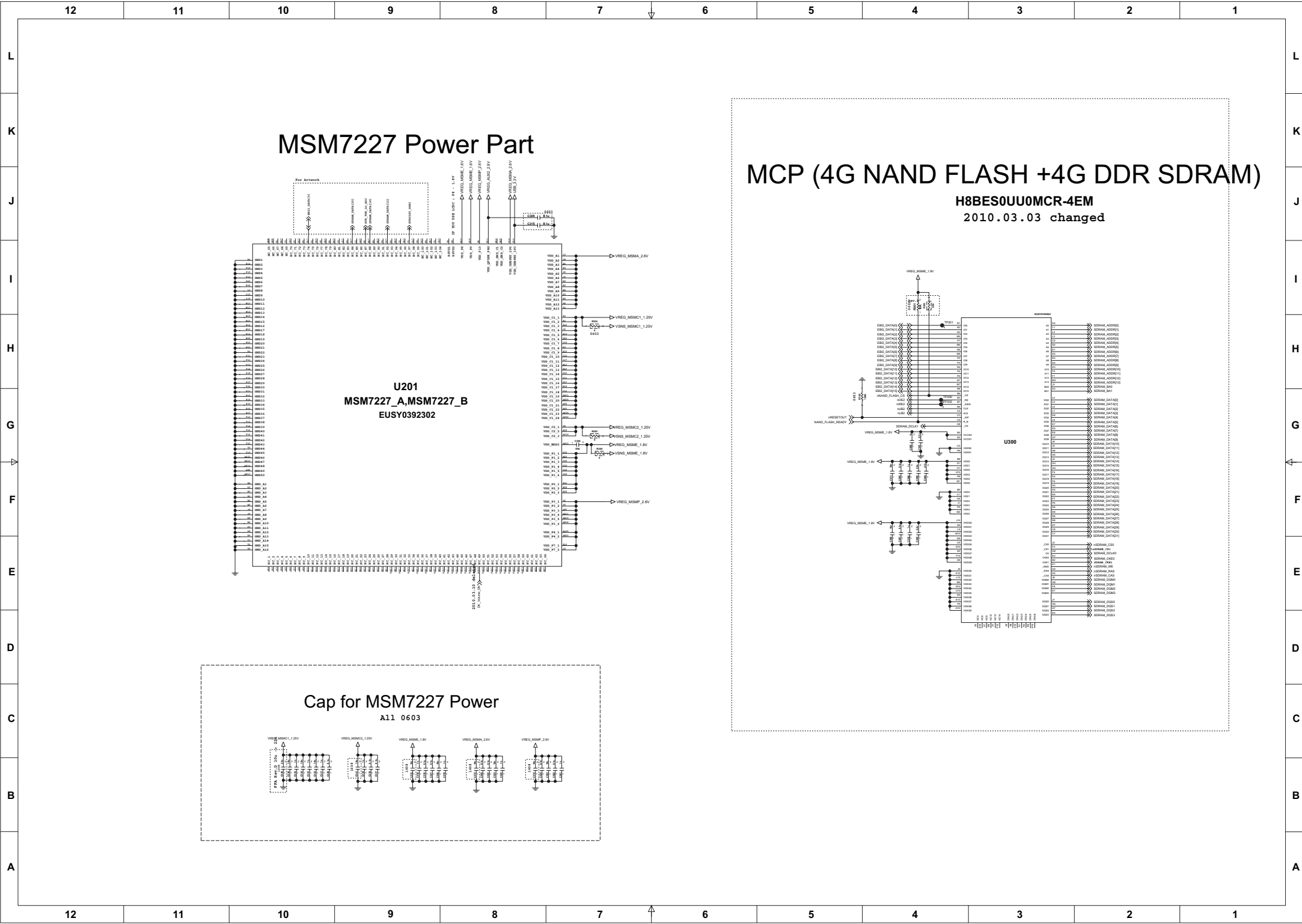
7. Circuit diagram



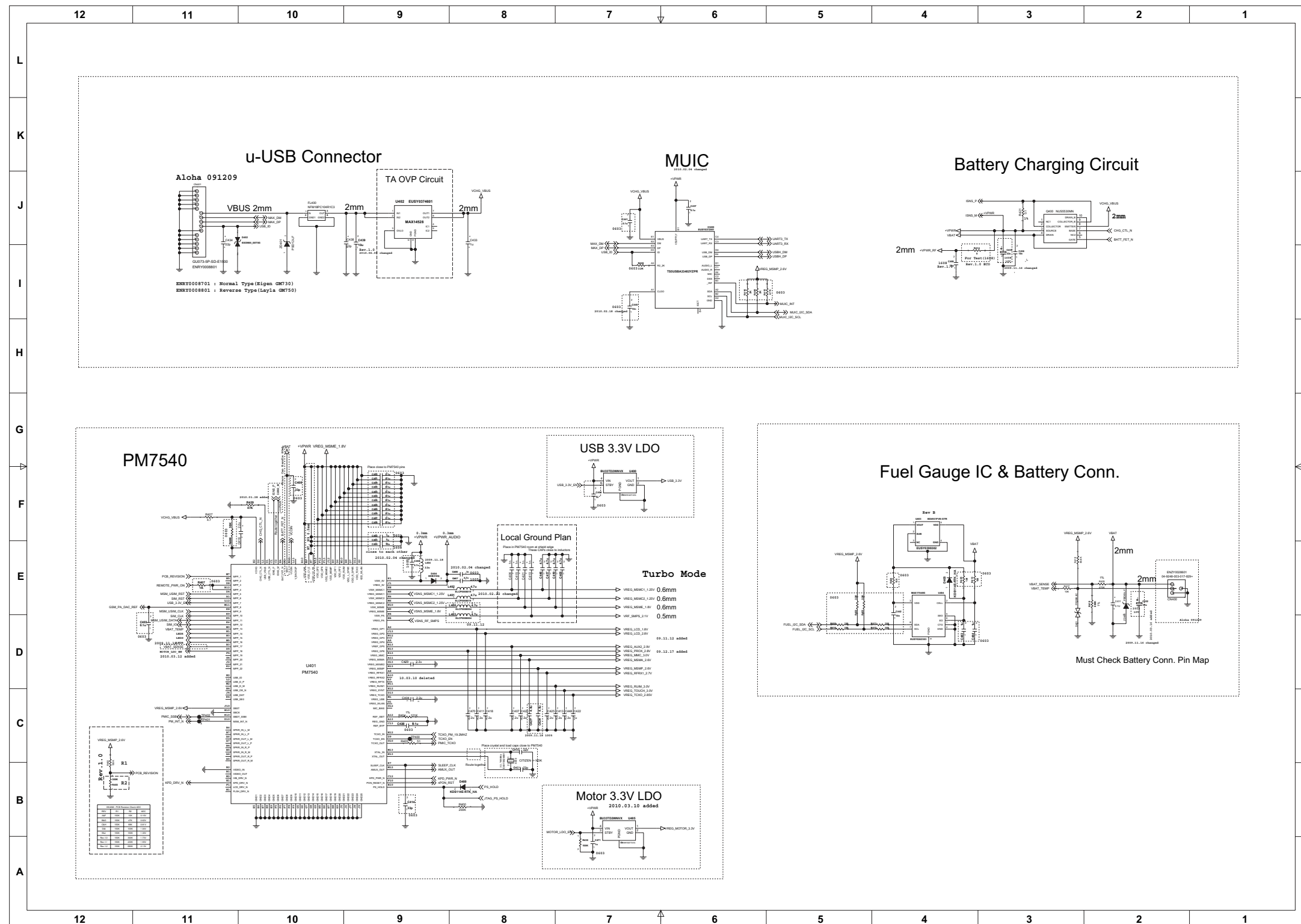
7. CIRCUIT DIAGRAM



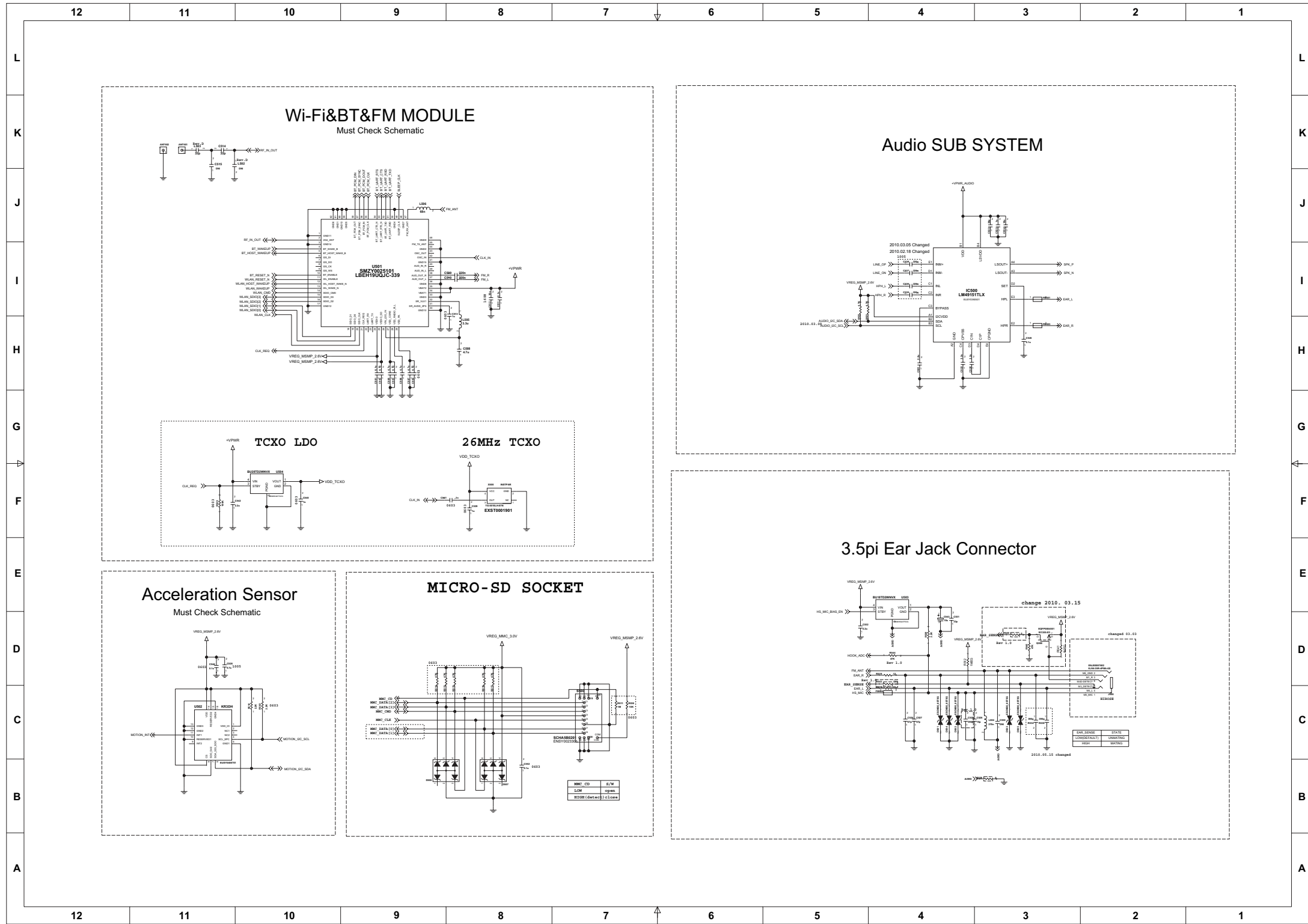
7. CIRCUIT DIAGRAM



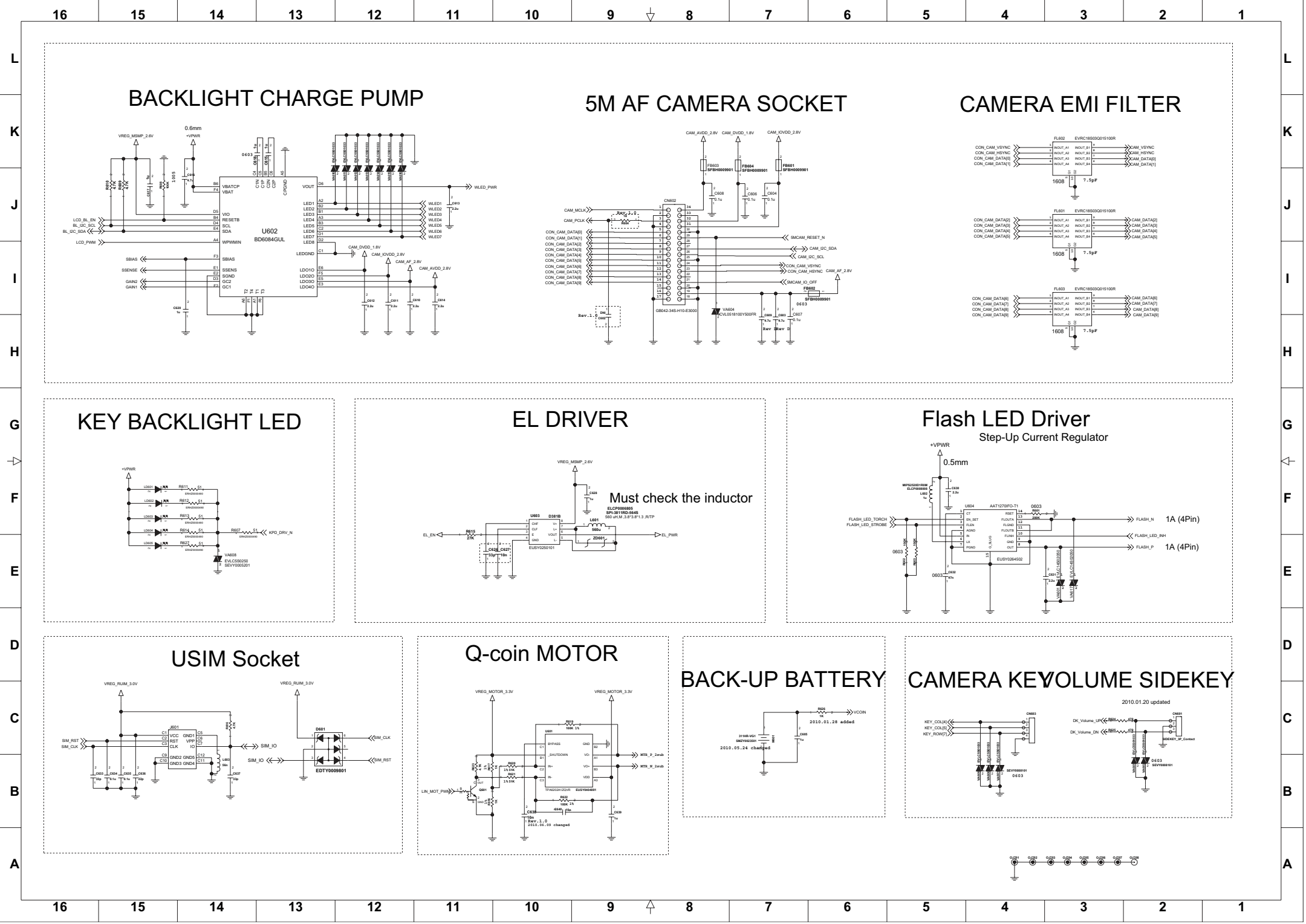
7. CIRCUIT DIAGRAM



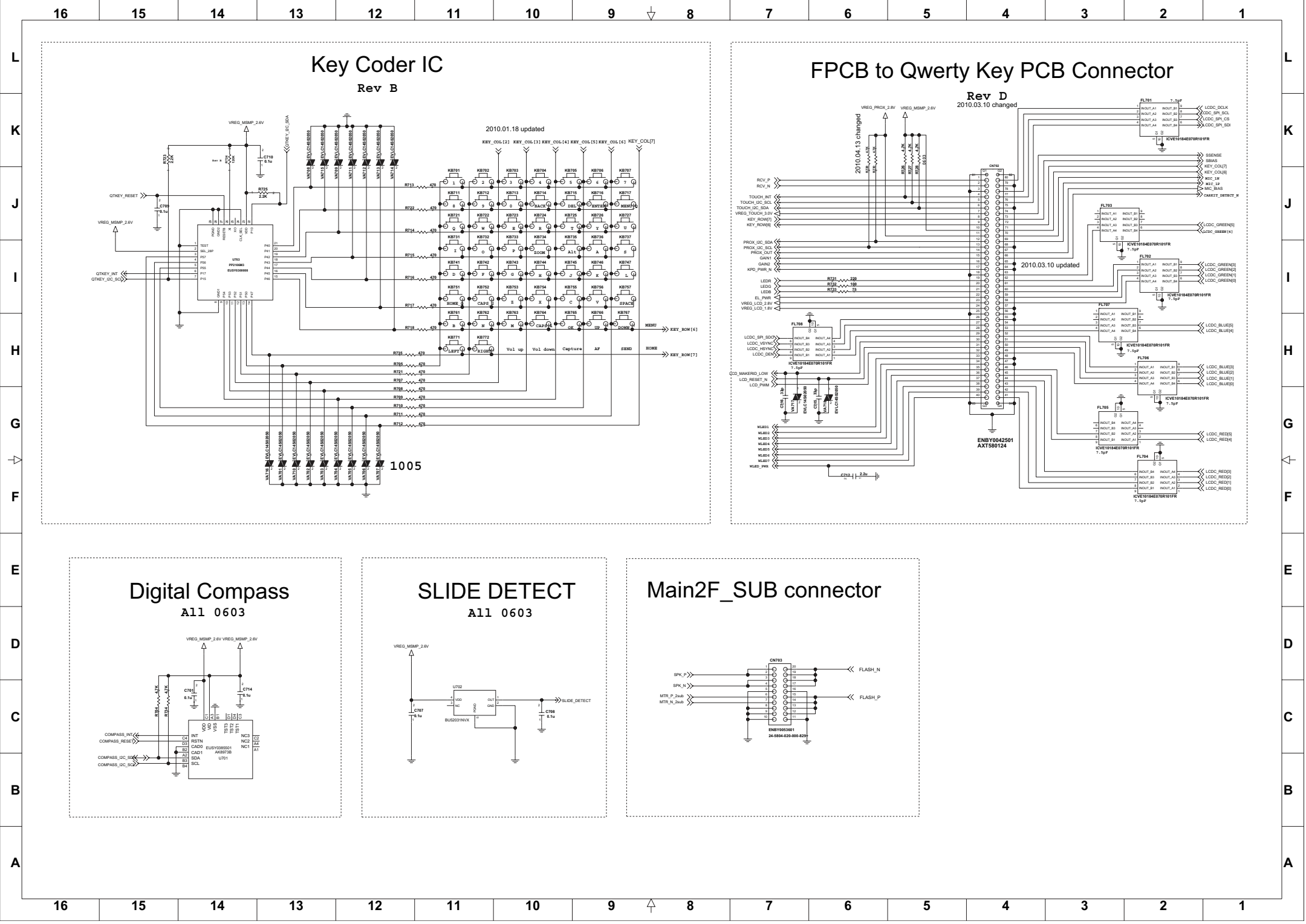
7. CIRCUIT DIAGRAM



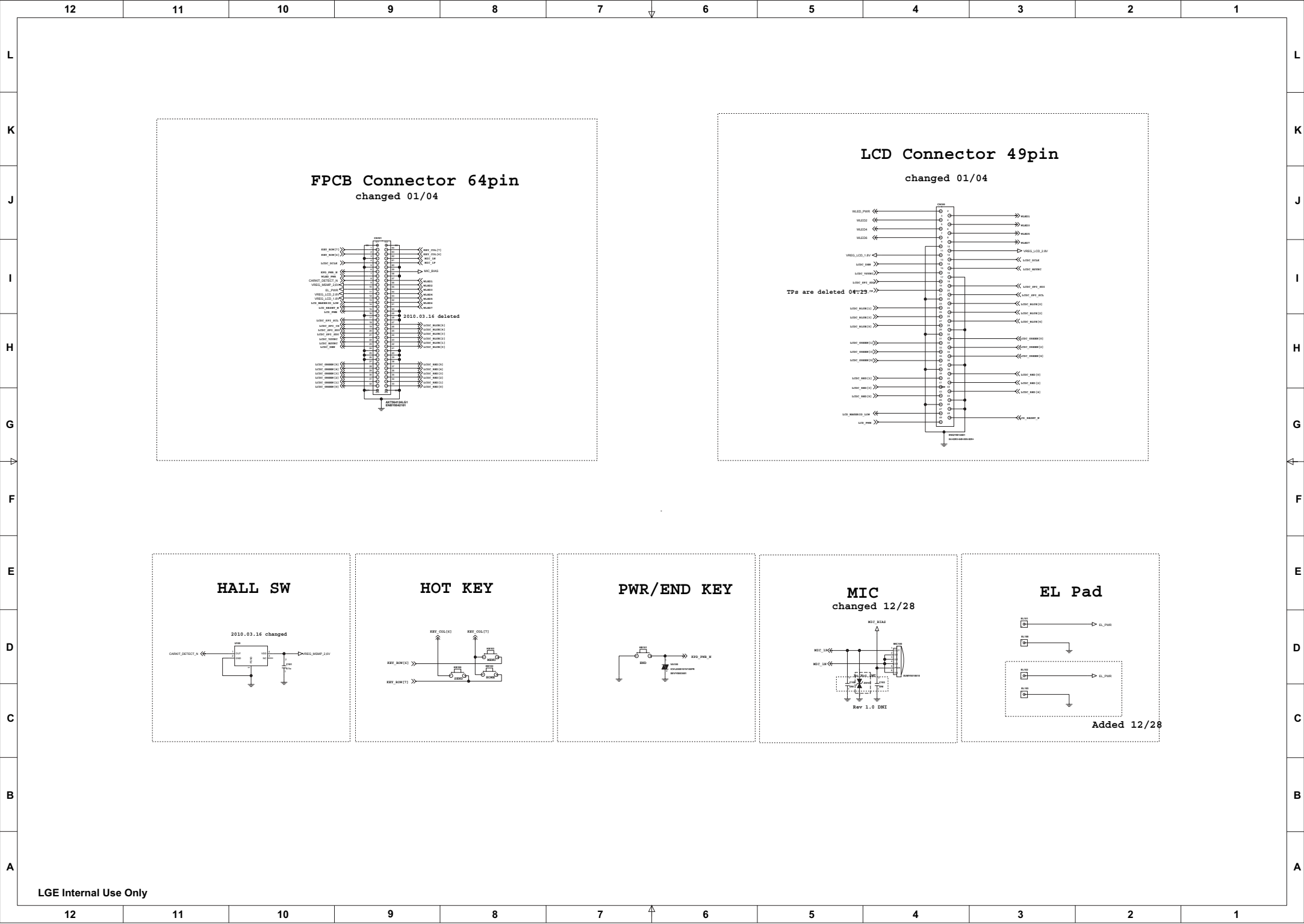
7. CIRCUIT DIAGRAM



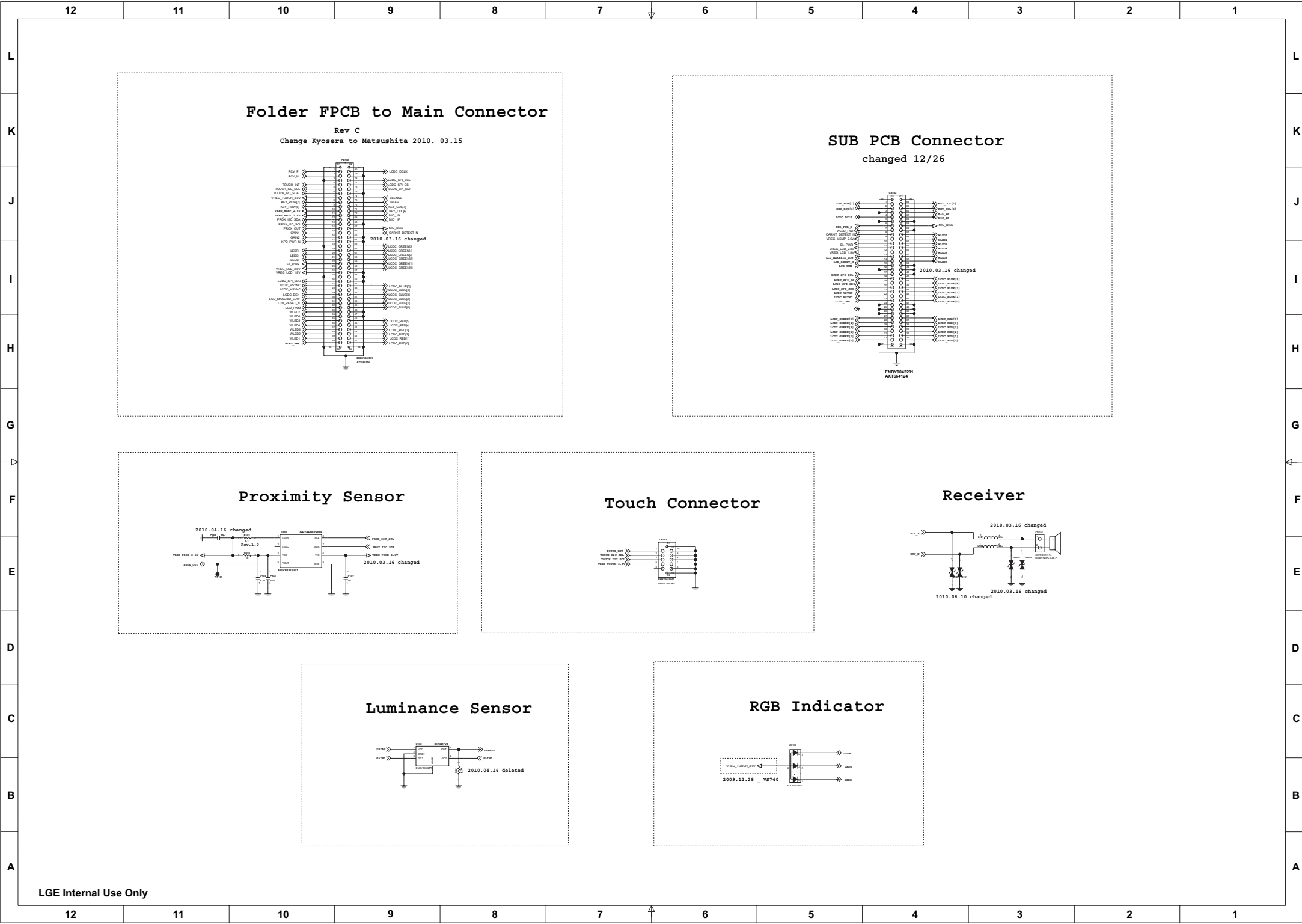
7. CIRCUIT DIAGRAM



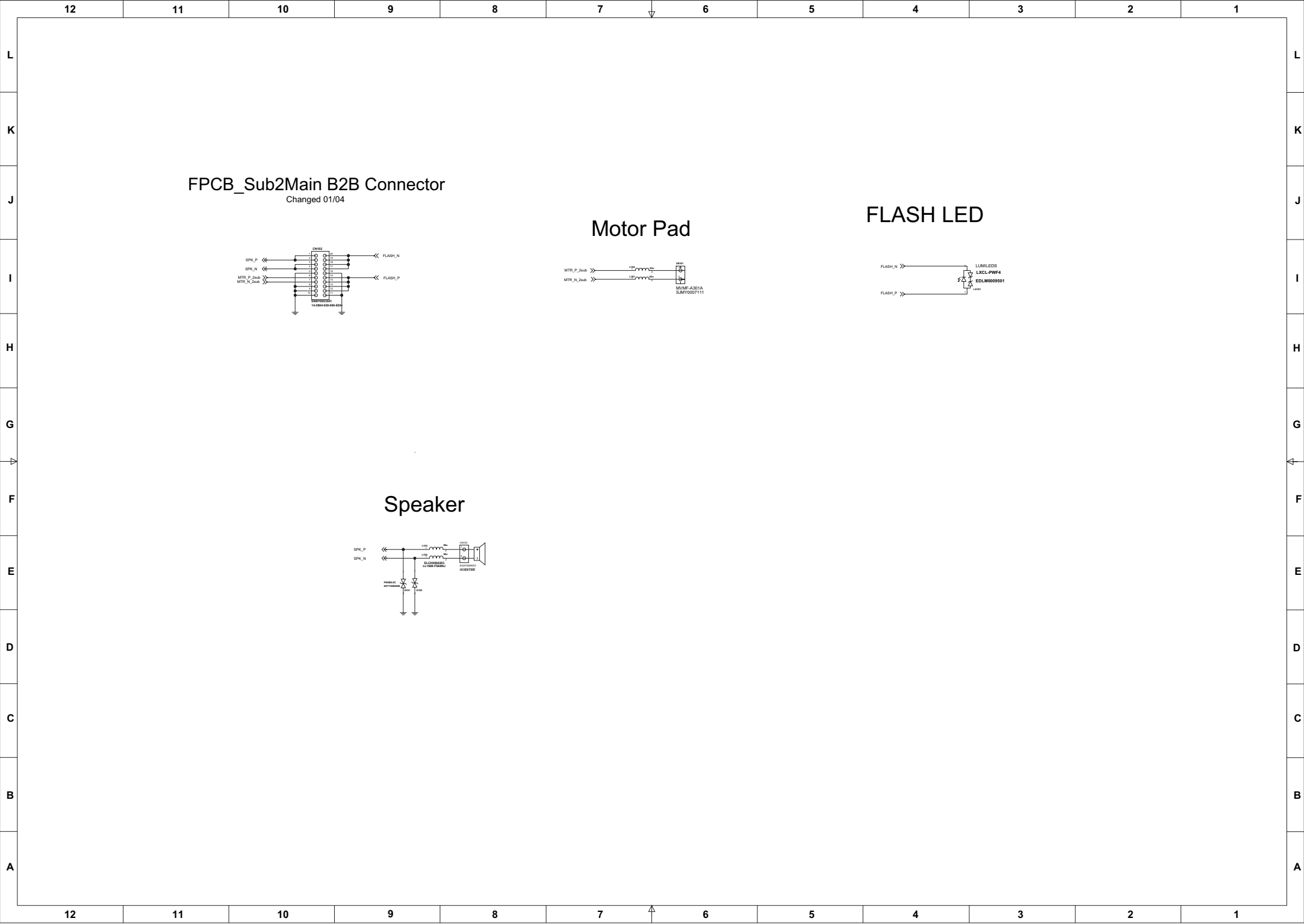
7. CIRCUIT DIAGRAM



7. CIRCUIT DIAGRAM

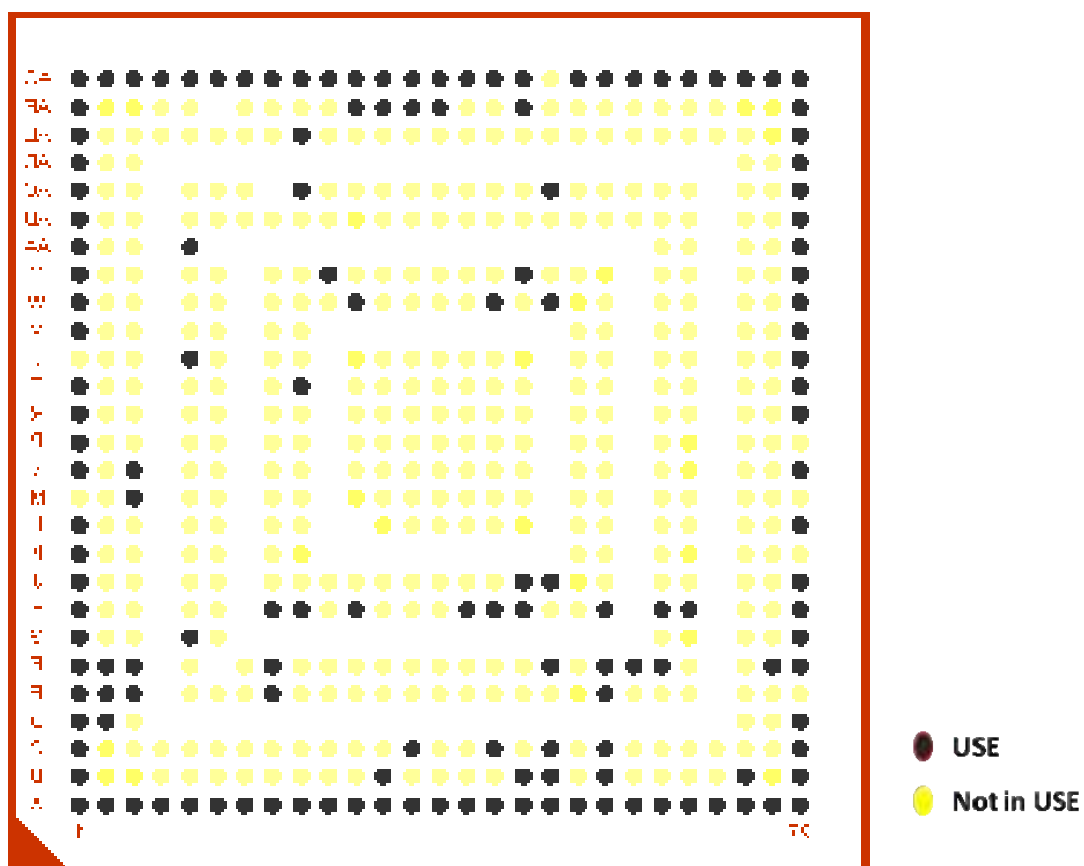


7. CIRCUIT DIAGRAM



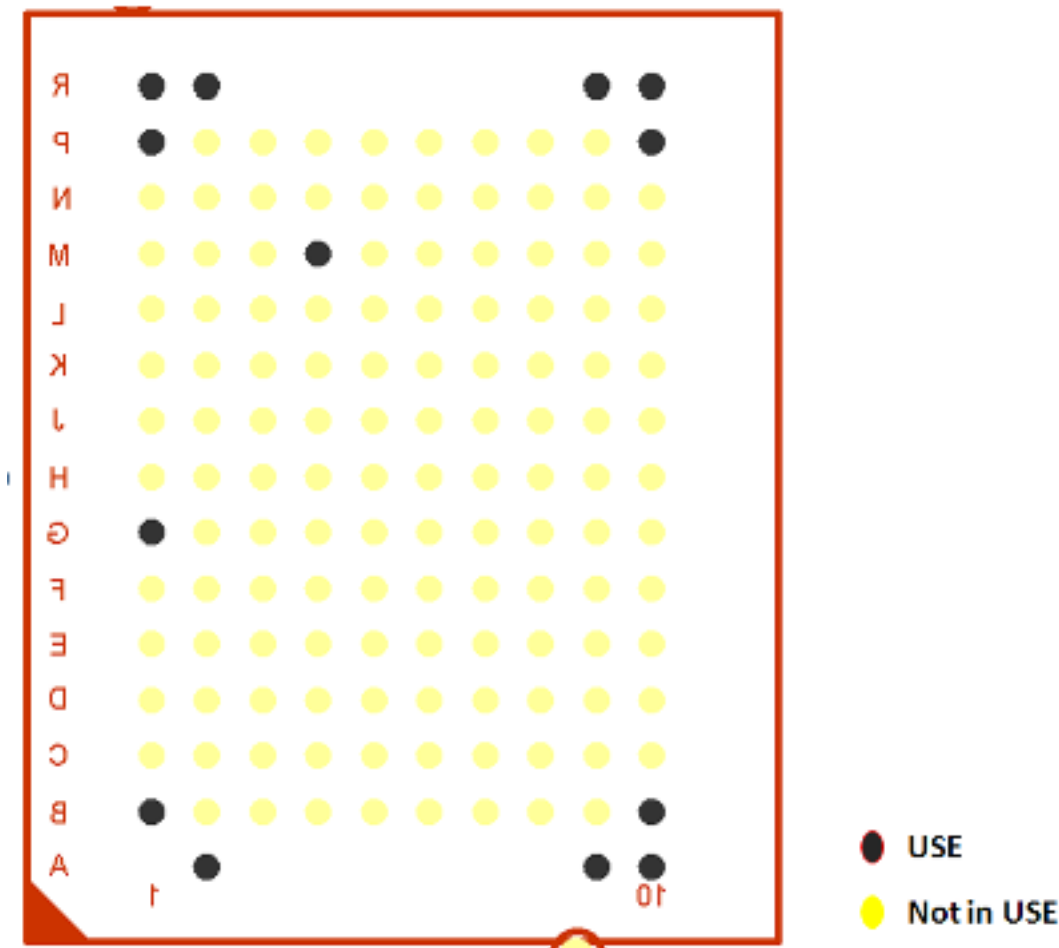
8. BGA Pin Map

MSM7227

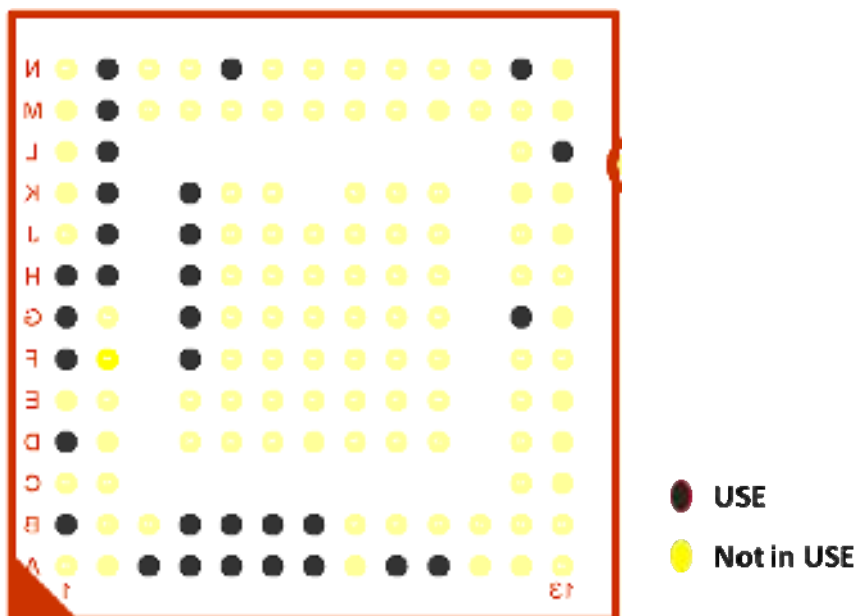


8. BGA Pin Map

MSM7227

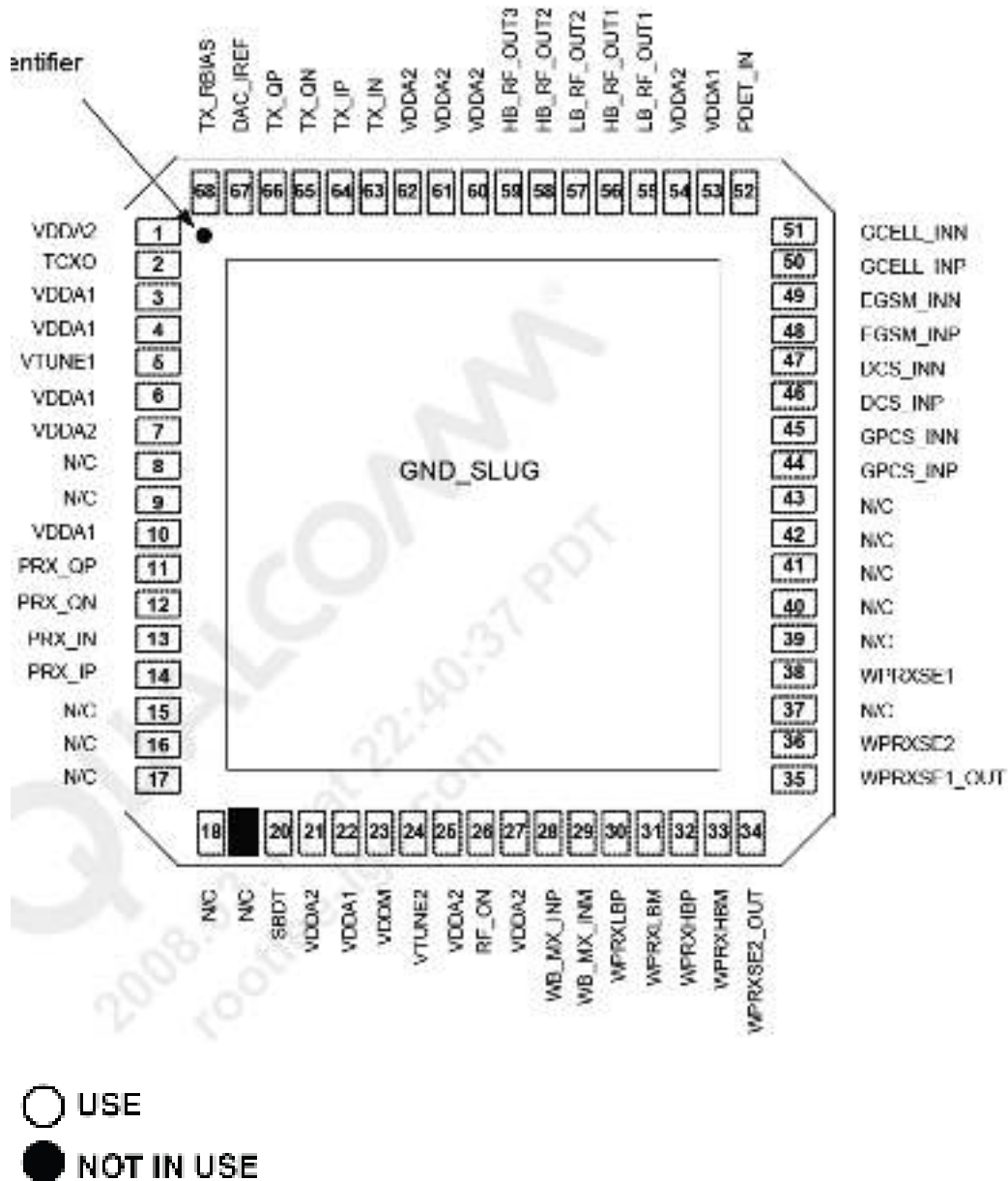


MSM7227

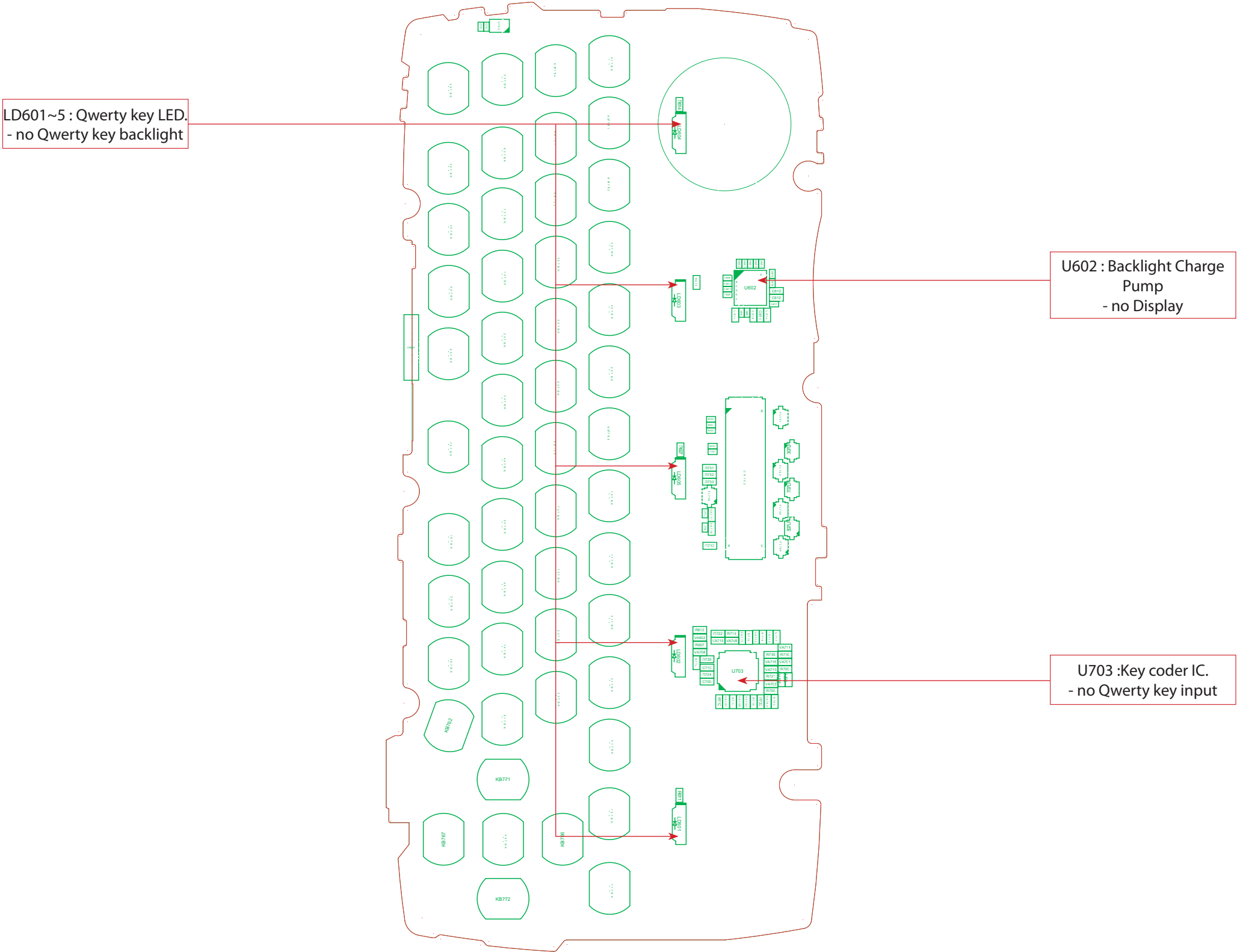


8. BGA Pin Map

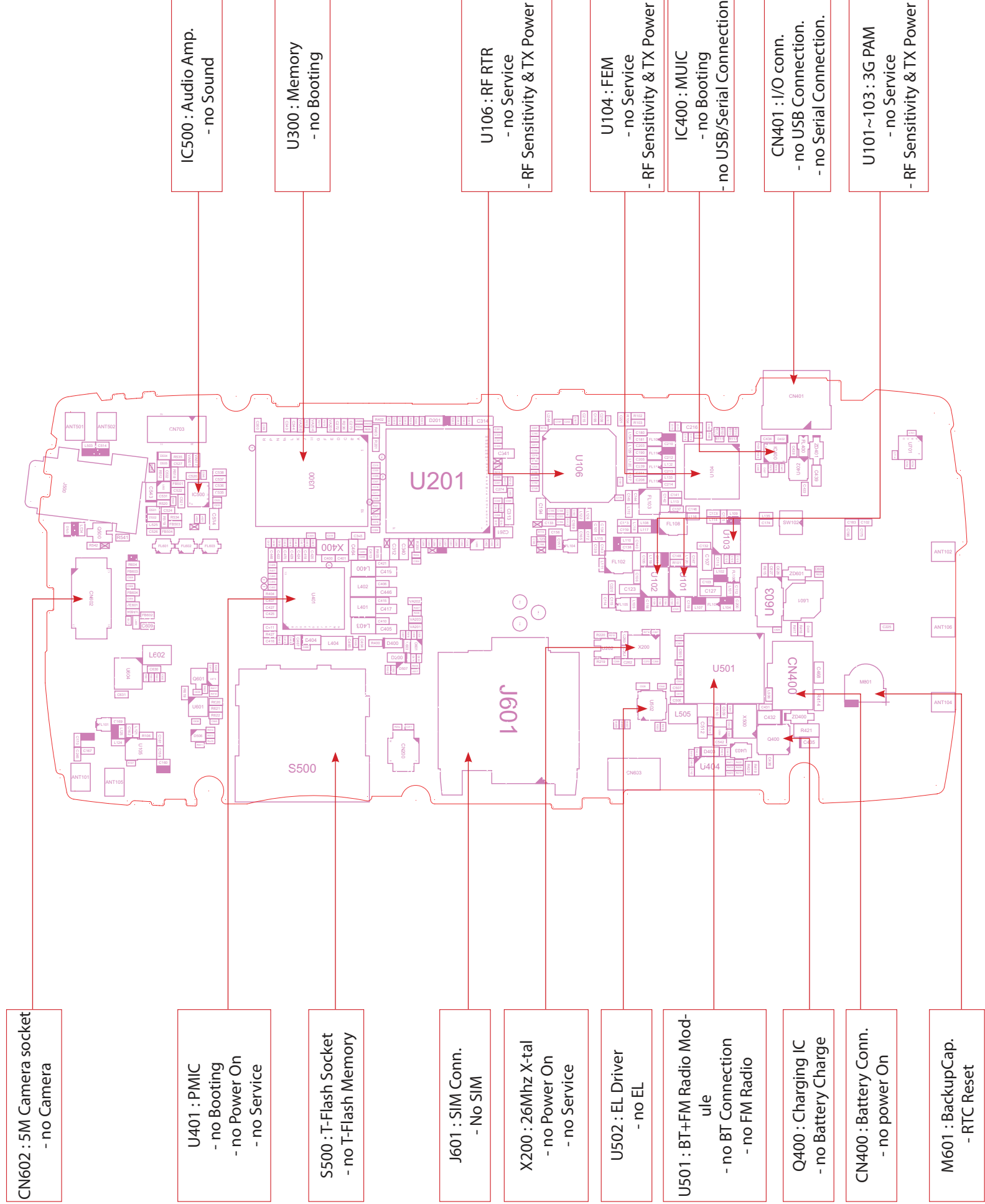
RTR6285



9. PCB Layout



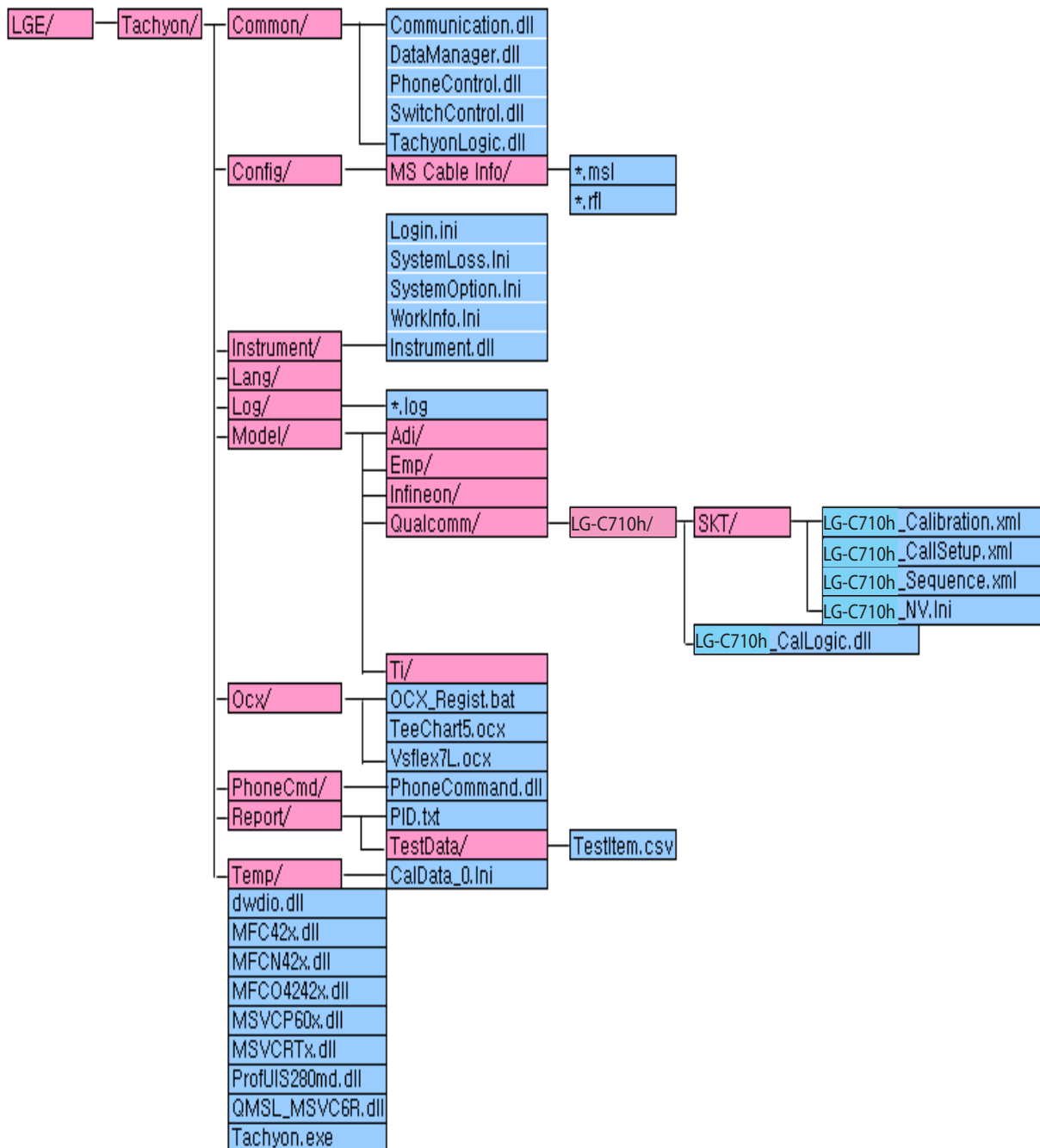
9. PCB LAYOUT



10. Calibration & RF Auto Test Program (Tachyon)

10.1 Configuration of Tachyon

10.1 Configuration of directory



10. Calibration & RF Auto Test Program (Tachyon)

10.1.2 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(LGGM630, LGSH470, ..) -> BUYER NAME(SKT, TEL, VIVO, ...)
OCX	Conponent files.
PhoneCmd	Phone communication file
Report	Report Files is present. (Cal data, test data)

10.1.3 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.

10. Calibration & RF Auto Test Program (Tachyon)

10.2 How to use Tachyon

10.2.1 Model selection

Follow the procedure before start calibration & auto test

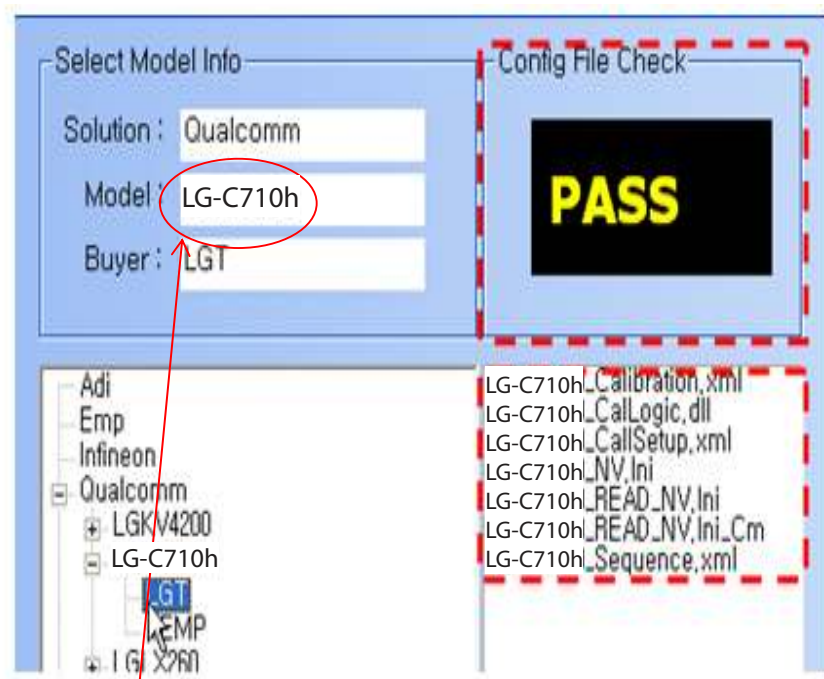


a. Click the icon,  in tool bar.

Then, You can make a choice of C710h for loading cfg files before run.

b. Select model name and then do double-click the buyer name.

You will see configuration files loaded in the right window with PASS information above



< Example of selection of model name >

LG-C710h

10. Calibration & RF Auto Test Program (Tachyon)

10.2.2 Start cal & auto

a. Click calibration & autotest button,  in Tool bar



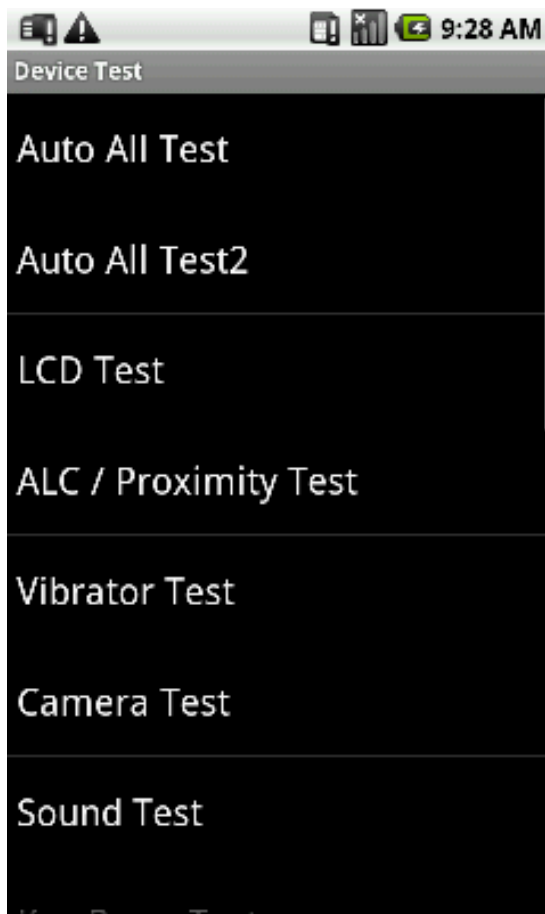
b. Calibration & autotest will be executed in order.

- 1) Precede Action.
 - NV write
 - Test command send.
- 2) RF Calibration
- 3) RF Auto test
- 4) After action
 - Phone reset
 - Change UE to AMSS

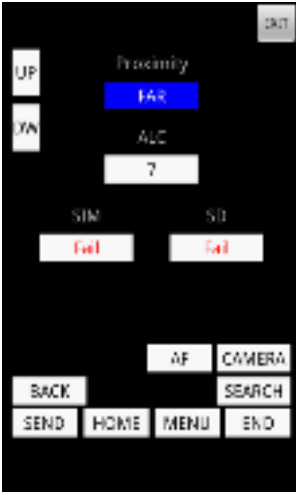
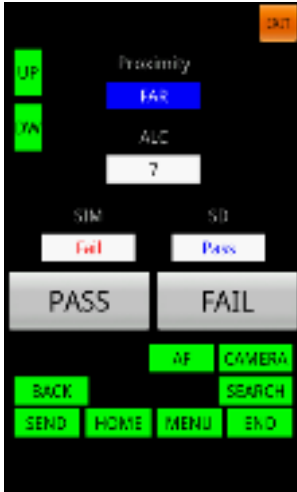
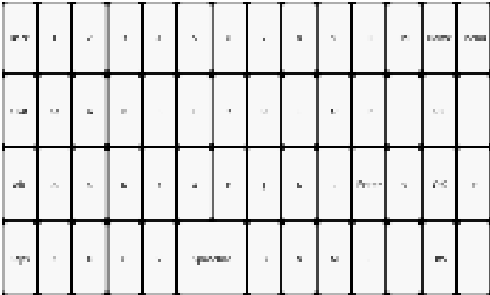
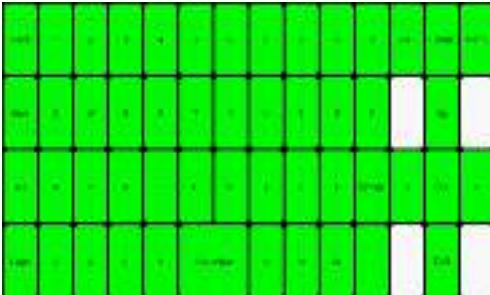
11. Stand-alone Test

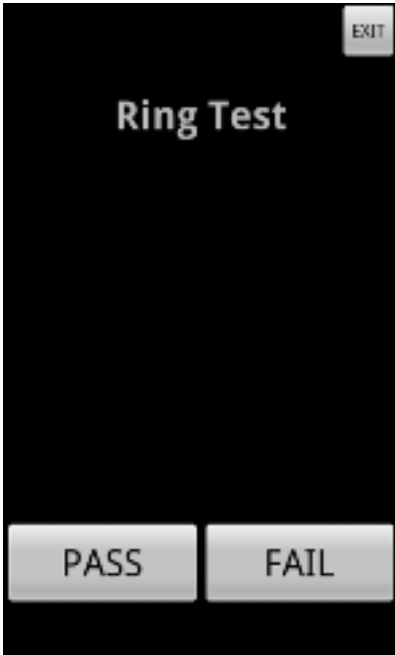
Phone Test Mode_C710h

1. Enter the Engineer Menu(3845#*710#)
2. Tap 2. Device Test
3. Tap 1. Auto All Test2

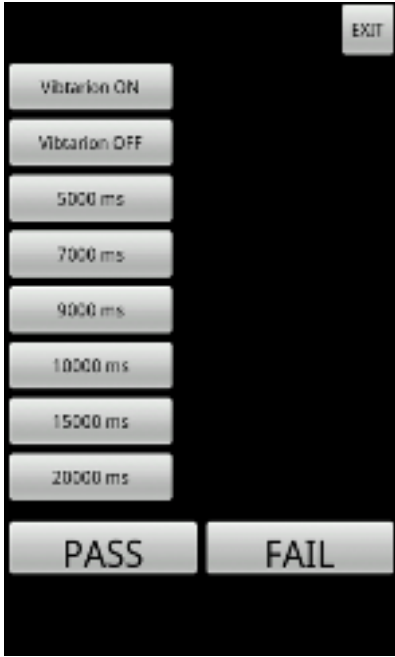


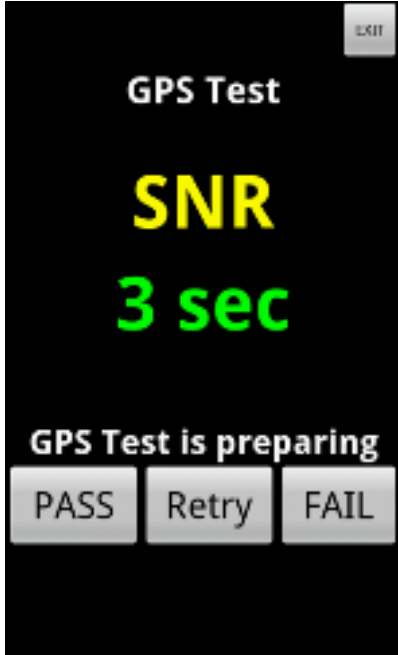
11. Stand-alone Test

Item	Order	Description
(1) Key / Compass Test	① Key / Compass Test & SD, SIM Card Connection TEST ② IF OK, press "PASS" key	  Slide Open  

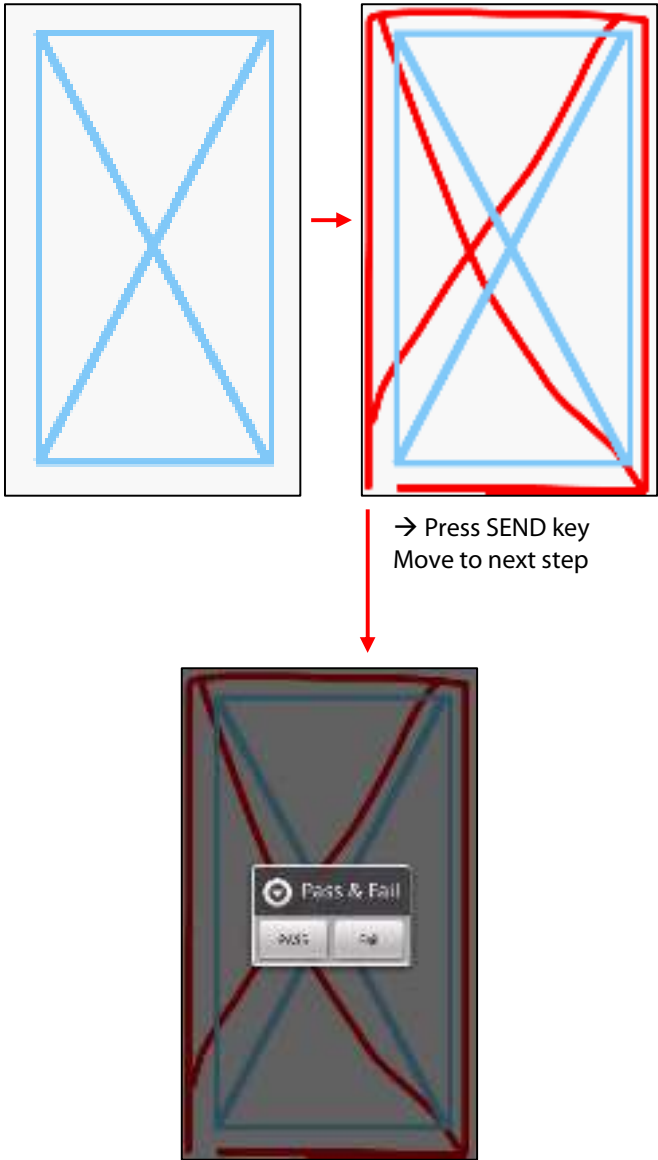
Item	Order	Description
(2) Sound	① Sound On ② IF OK, press "PASS" Button	 Ringtone (MP3) is played regularly

11. Stand-alone Test

Item	Order	Description
(3) Vibrator Test	① Vibrator On ② IF OK, press "PASS" Button	 → Press MENU key Move to next step

Item	Order	Description
(4) GPS Test	① GPS On ② IF OK, press "PASS" key	 → Press MENU key Move to next step

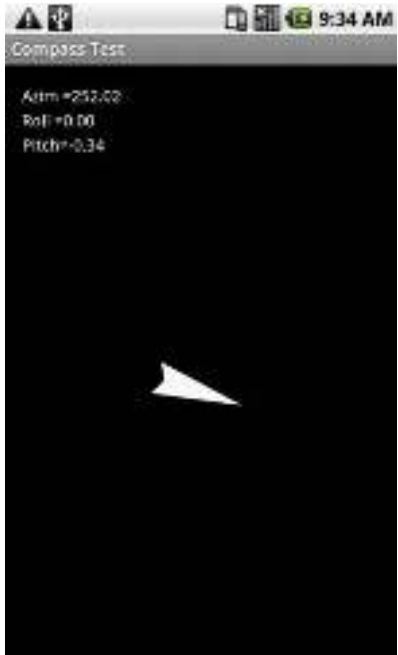
11. Stand-alone Test

Item	Order	Description
(5) Touch Test	① Touch Test Start ② IF OK, press "SEND" key	 → Press SEND key Move to next step

11. Stand-alone Test

Item	Order	Description
(6) Loop Back (Include EAR-MIC)	① Loop Back Start ② IF OK, press "PASS" Button	 

11. Stand-alone Test

Item	Order	Description
(7) Compass Test	① Compass Test Start ② IF OK, press "SEND" Key	 

Item	Order	Description
(7) Motion Sensor Test	① Motion Sensor Test Start ② IF OK, press "SEND" Key	 

11. Stand-alone Test

Item	Order	Description
(8) Camera Test	① Camera Auto On	 
	② Photo Shot Press "Camera icon" or Shutter key	
	③ Photo saved	
	④ Automatically Video Recoding on	

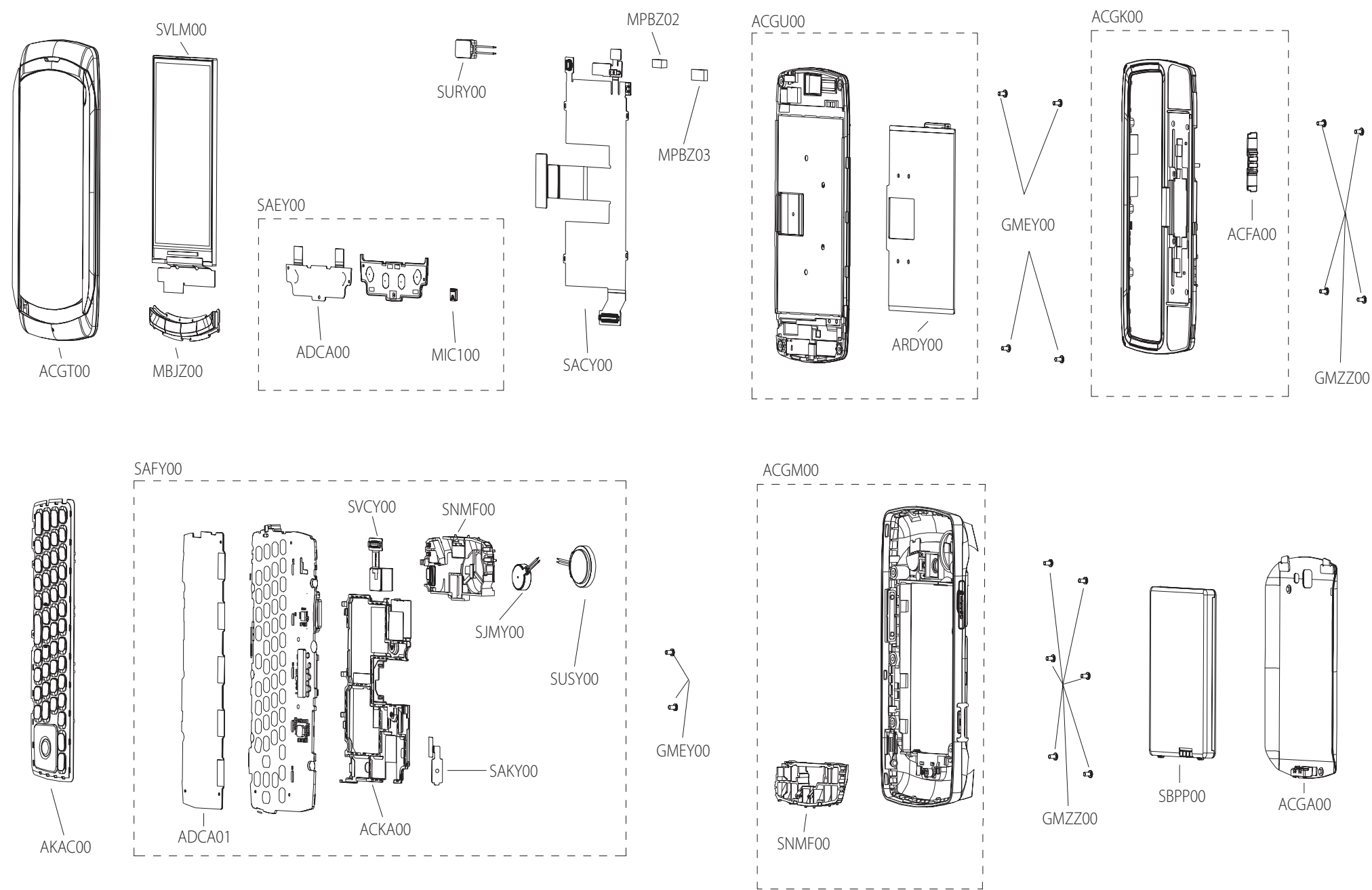
11. Stand-alone Test

Item	Order	Description
(8) Camera Test	⑤ Press recording Icon Then start recording	 A close-up of a computer keyboard with a red recording icon overlaid on the right side of the screen.
	⑥ After 3 seconds, Automatically stop Recording.	 A close-up of a computer keyboard with a stop icon overlaid on the right side of the screen. The text 'MOV001' is visible at the bottom right.
	⑦ Video save	 A close-up of a computer keyboard with a video save icon overlaid on the right side of the screen.



12. Exploded view & Replacement part list

12.1 Exploded view



Location No.	Part Name
ACGA00	COVER ASSY, BATTERY
SBPP00	BATTERY PACK, LI-POLYMER
ACGM00	COVER ASSY, REAR
SNMF00	ANTENNA, MOBILE, FIXED
ACGK00	COVER ASSY, FRONT
ACFA01	CONTACT ASSY, SIDE BUTTON
ACGT00	COVER ASSY, UPPER
ACGU00	COVER ASSY, LOWER
ARDY00	RAIL ASSY, SLIDE
AKAC00	KEYPAD ASSY, MAIN
GMEY00	SCREW MACHINE, BIND
GMZZ00	SCREW MACHINE
MBJZ00	BUTTON
MPBZ02	PAD
MPBZ03	PAD
SACY00	PCB ASSY, FLEXIBLE
SAEY00	PCB ASSY, KEYPAD
ADCA00	DOME ASSY, METAL
MIC100	MICROPHONE
SVLM00	LCD MODULE
SURY00	RECEIVER
GMEY00	SCREW MACHINE, BIND
GMZZ00	SCREW MACHINE
SAFY00	PCB ASSY, MAIN
ACKA00	CAN ASSY, SHIELD
ADCA01	DOME ASSY, METAL
SVCY00	CAMERA
SAKY00	PCB ASSY, SIDEKEY
SJMY00	VIBRATOR, MOTOR
SNMF00	ANTENNA, MOBILE, FIXED
SUSY00	SPEAKER

12. Exploded view & Replacement part list

12.2 Replacement Parts <Mechanic component>

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Spec	Color	Remark
1		IMT-2000(SLIDE)	TISL0016401		BLACK	
2	AAAY00	ADDITION	AAAY0508902		WITHOUT COLOR	
3	ACGA00	COVER ASSY,BATTERY	ACGA0043601		BLACK	
4	MCJA00	COVER,BATTERY	MCJA0113601	COMPLEX, (empty), , , ,	WITHOUT COLOR	
3	AMBA00	MANUAL ASSY,OPERATION	AMBA0186001	LG-C710h manual assy for TLS	WITHOUT COLOR	
4	MCDD00	CARD,QUICK REFERENCE	MCDD0034201	PRINTING, (empty), , , ,	WITHOUT COLOR	
4	MSAB00	SHEET,OPERATING	MSAB0048402	PRINTING, (empty), , , ,	WITHOUT COLOR	
4	MSAB01	SHEET,OPERATING	MSAB0048401	PRINTING, (empty), , , ,	WITHOUT COLOR	
2	APEY00	PHONE	APEY0913402		BLACK	
3	ACGY00	COVER ASSY,EMS	ACGY0006402		BLACK	
4	ACGM00	COVER ASSY,REAR	ACGM0163001		WITHOUT COLOR	
5	MBJZ00	BUTTON	MBJZ0034501	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MBJZ01	BUTTON	MBJZ0034601	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MCCE00	CAP,RECEPTACLE	MCCE0059801	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MCCG01	CAP,MULTIMEDIA CARD	MCCG0025201	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MCJN00	COVER,REAR	MCJN0123101	MOLD, PC LUPOY SC-1004A, , , ,	WITHOUT COLOR	
5	MFBZ00	FILTER	MFBZ0023001	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MLCE00	LENS,FLASH	MLCE0016301	MOLD, PC LUPOY SC-1004A, , , ,	WITHOUT COLOR	
5	MLEA00	LOCKER,BATTERY	MLEA0052101	MOLD, PC LUPOY SC-1004ML, , , ,	BLACK	
5	MPBJ00	PAD,MOTOR	MPBJ0077801	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MPBN00	PAD,SPEAKER	MPBN0091101	COMPLEX, (empty), , , ,	WITHOUT COLOR	

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
5	MPBT00	PAD,CAMERA	MPBT0098201	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MPBZ00	PAD	MPBZ0313601	COMPLEX, (empty), , , ,	WHITE	
5	MSAZ01	SHEET	MSAZ0069301	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MSAZ02	SHEET	MSAZ0069401	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MSDB00	SPRING,COIL	MSDB0005501	COMPLEX, (empty), , , ,	Black	
5	MSDD00	SPRING,PLATE	MSDD0009301	PRESS, Al Alloy, , , ,	WITHOUT COLOR	
5	MTAB01	TAPE,PROTECTION	MTAB0380401	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MTAB02	TAPE,PROTECTION	MTAB0380501	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MTAK00	TAPE,CAMERA	MTAK0041601	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	MWAE00	WINDOW,CAMERA	MWAE0062301	CUTTING, Tempered Glass, , , ,	WITHOUT COLOR	
4	ACGQ	COVER ASSY,SLIDE	ACGQ0052201		BLACK	
5	ACGK00	COVER ASSY,FRONT	ACGK0163401		WITHOUT COLOR	
6	ACFA01	CONTACT ASSY,SIDE BUTTON	ACFA0000302	2Button Type	WITHOUT COLOR	
6	MCJK00	COVER,FRONT	MCJK0130601	MOLD, PC LUPOY SC-1004A, , , ,	WITHOUT COLOR	
7	MICE00	INSERT,NUT	MICE0016902	PRESS, STS, , , ,	WITHOUT COLOR	
6	MTAZ00	TAPE	MTAZ0357801	COMPLEX, (empty), , , ,	WITHOUT COLOR	
5	ACGT00	COVER ASSY,UPPER	ACGT0009401		BLACK	
6	MCJX01	COVER,UPPER	MCJX0011701	MOLD, PC LUPOY SC-1004A, , , ,	BLACK	
7	MFEZ00	FRAME	MFEZ0027401	CASTING, Al Alloy, , , ,	WITHOUT COLOR	
7	MICE00	INSERT,NUT	MICE0016902	PRESS, STS, , , ,	WITHOUT COLOR	
6	MDAY	DECO	MDAY0095701	RECEIVER	SILVER	
6	MDAY01	DECO	MDAY0095501		SILVER	
6	MDAY02	DECO	MDAY0095601		SILVER	
6	MFBZ01	FILTER	MFBZ0014601	COMPLEX, (empty), , , ,	WITHOUT COLOR	

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	MFBZ02	FILTER	MFBZ0014701	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MIAA00	INDICATOR,LED	MIAA0028701	MOLD, PC LEXAN 141R, , , ,	WITHOUT COLOR	
6	MPBG	PAD,LCD	MPBG0106901	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MPBZ00	PAD	MPBZ0277101	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MPBZ01	PAD	MPBZ0333701	COMPLEX, (empty), , , ,	BLACK	
6	MTAA00	TAPE,DECO	MTAA0216901	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MTAA01	TAPE,DECO	MTAA0216701	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MTAA02	TAPE,DECO	MTAA0216801	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MTAB04	TAPE,PROTECTION	MTAB0427101	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MTAB05	TAPE,PROTECTION	MTAB0427001	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MTAZ03	TAPE	MTAZ0350301	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MTAZ04	TAPE	MTAZ0350001	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MWAC01	WINDOW,LCD	MWAC0138002	COMPLEX, (empty), , , ,	BLACK	
7	MWAC	WINDOW,LCD	MWAC0147202		SILVER	
5	ACGU00	COVER ASSY,LOWER	ACGU0007901		SILVER	
6	ARDY00	RAIL ASSY,SLIDE	ARDY0017601		WITHOUT COLOR	
6	MCJY00	COVER,LOWER	MCJY0009701		SILVER	
7	MFEZ00	FRAME	MFEZ0027501	PRESS, STS, , , ,	WITHOUT COLOR	
6	MDAY00	DECO	MDAY0068001	MOLD, POM LUCEL FW-700A, , , ,	BLACK	
6	MDAY01	DECO	MDAY0067901	MOLD, POM LUCEL FW-700A, , , ,	BLACK	
6	MIDZ00	INSULATOR	MIDZ0246301	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MIDZ01	INSULATOR	MIDZ0271601	COMPLEX, (empty), , , ,	BLACK	
6	MMAA00	MAGNET,SWITCH	MMAA0005401		Without Color	
6	MPBU00	PAD,CONNECTOR	MPBU0095801	COMPLEX, (empty), , , ,	WITHOUT COLOR	
6	MPBZ01	PAD	MPBZ0277201	COMPLEX, (empty), , , ,	WITHOUT COLOR	

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
6	MPBZ02	PAD	MPBZ0277301	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
6	MPBZ03	PAD	MPBZ0277701	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
6	MPBZ04	PAD	MPBZ0277601	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
6	MTAZ00	TAPE	MTAZ0340501	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
5	AKAC00	KEYPAD ASSY,MAIN	AKAC0015301		WITHOUT COLOR	
5	GMEY00	SCREW MACHINE,BIND	GMEY0010601	1.4 mm,2.5 mm,MSWR3(BK) ,N ,+ ,NYLOK	Black	
5	GMZZ00	SCREW MACHINE	GMZZ0030301	1.4 mm,1.5 mm,SWCH18A ,B ,+ , - , ; ,FH ,+ ,1.4 ,1.5 ,SWCH ,WHITE ,[empty] ,B	WITHOUT COLOR	
5	MBJZ00	BUTTON	MBJZ0038101	COMPLEX, (empty), , , , ,	BLACK	
5	MGAZ01	GASKET	MGAZ0100801	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
5	MHGZ00	HOLDER	MHGZ0033601	MOLD, Urethane Rubber S190A, , , , ,	WITHOUT COLOR	
5	MIDZ02	INSULATOR	MIDZ0266801	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
5	MPBZ02	PAD	MPBZ0277501	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
5	MPBZ03	PAD	MPBZ0319901	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
5	MPBZ04	PAD	MPBZ0360201	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
5	MSAZ00	SHEET	MSAZ0073901	COMPLEX, (empty), , , , ,	DARK SILVER	
5	MTAB03	TAPE,PROTECTION	MTAB0380101	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
5	MTAD01	TAPE,WINDOW	MTAD0124001	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
5	MTAZ01	TAPE	MTAZ0340701	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
5	MTAZ02	TAPE	MTAZ0354101	COMPLEX, (empty), , , , ,	BLACK	
5	MTAZ04	TAPE	MTAZ0340601	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
7	ADCA01	DOME ASSY,METAL	ADCA0113701	SUB	WITHOUT COLOR	
7	MIDZ02	INSULATOR	MIDZ0266901	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
7	MPBZ00	PAD	MPBZ0353801	COMPLEX, (empty), , , , ,	WITHOUT COLOR	

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
4	GMEY00	SCREW MACHINE,BIND	GMEY0011401	1.4 mm,3 mm,MSWR3(FN) ,N ,+ ,HEAD 3.0,NYLOK		
4	GMZZ00	SCREW MACHINE	GMZZ0017701	1.4 mm,3.0 mm,MSWR3 ,N ,+ , - ,	Silver	
6	ACKA00	CAN ASSY,SHIELD	ACKA0035601		SILVER GRAY	
7	MCBA00	CAN,SHIELD	MCBA0078001	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
7	MIDZ01	INSULATOR	MIDZ0276301	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
7	MIDZ02	INSULATOR	MIDZ0276401	COMPLEX, (empty), , , , ,	WITHOUT COLOR	
7	MLAB00	LABEL,A/S	MLAB0004801	PRINTING, (empty), , , , ,	WITHOUT COLOR	
6	ADCA01	DOME ASSY,METAL	ADCA0121101		WITHOUT COLOR	
6	MLAZ00	LABEL	MLAZ0038301	PID Label 4 Array	WITHOUT COLOR	

12. Exploded view & Replacement part list

12.2 Replacement Parts

<Main component>

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Spec	Color	Remark
5	SNMF00	ANTENNA,MOBILE,FIXED	SNMF0064001	5,-5 dB,Internal,GSM_WCDMA,Pb free ;,MULTI , , ,		
5	SACY	PCB ASSY,FLEXIBLE	SACY0115501			
6	SACB00	PCB ASSY,FLEXIBLE,INSERT	SACB0064301			
6	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0103801			
7	SACC00	PCB ASSY,FLEXIBLE,SMT BOTTOM	SACC0077701			
8	C101	DIODE,TVS	EDTY0012501	SLP1006P2T ,3.3 V,40 W,R/TP , ; , ,4.3 V ,6.5 V ,5 A , ,[empty] ,R/TP ,2P ,1		
8	C102	DIODE,TVS	EDTY0012501	SLP1006P2T ,3.3 V,40 W,R/TP , ; , ,4.3 V ,6.5 V ,5 A , ,[empty] ,R/TP ,2P ,1		
8	C105	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , ; , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
8	C106	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		
8	C107	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
8	C108	CAP,CERAMIC,CHIP	ECCH0007803	10 uF,10V ,M ,X5R ,HD ,1608 ,R/TP , ; , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,0.8 mm		
8	CN100	CONNECTOR,BOARD TO BOARD	ENBY0042801	80 PIN,0.4 mm,ETC , , ; , ,0.40MM ,[empty] ,MALE ,SMD ,R/TP , ,		
8	L101	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE		
8	L102	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE		
8	R101	RES,CHIP,MAKER	ERHZ0000286	4700 ohm,1/16W ,F ,1005 ,R/TP		
8	R102	RES,CHIP,MAKER	ERHZ0003801	5.1 ohm,1/16W ,J ,1005 ,R/TP		
8	R103	RES,CHIP,MAKER	ERHZ0000402	10 ohm,1/16W ,J ,1005 ,R/TP		
8	ZD101	DIODE,TVS	EDTY0010101	SOD-923 ,5 V,300 mW,R/TP ,15pF , ; , ,5.8V(MIN) ,12.5V(1A) ,40A ,300mW ,[empty] ,[empty] ,2P ,2		
8	ZD102	DIODE,TVS	EDTY0010101	SOD-923 ,5 V,300 mW,R/TP ,15pF , ; , ,5.8V(MIN) ,12.5V(1A) ,40A ,300mW ,[empty] ,[empty] ,2P ,2		
7	SACD00	PCB ASSY,FLEXIBLE,SMT TOP	SACD0091301			
8	CN102	CONNECTOR,BOARD TO BOARD	ENBY0042201	64 PIN, mm,STRAIGHT , , ; , ,0.40MM ,STRAIGHT ,MALE ,SMD ,P/TR , ,		
8	CN103	CONNECTOR,BOARD TO BOARD	ENBY0018501	10 PIN,4 mm,STRAIGHT , ,H=0.9,HEADER		

Level	Location No.	Description	Part Number	Spec	Color	Remark
8	LD100	DIODE,LED,7-SEG	EDLS0002001	R/G/B ,3 DIGIT,R/TP ,1.6x1.6x0.35t ; , [empty] ,3 ,R(2.2V), G(3.3V), B(3.3V) ,R(25mA), G(30mA), B(25mA) ,R(112mcd), G(360mcd), B(112mcd) ,R(60mW), G(110mW), B(95mW) ,COMMON ANODE , [empty] ,4P		
8	U101	IC	EUSY0376201	,8 ,R/TP , , , ,IC,PMIC		
8	U102	IC	EUSY0388201	WSOF6 ,5 ,R/TP ,1.6*1.6 , , ,IC,PMIC		
7	SPCY	PCB,FLEXIBLE	SPCY0232201	POLYI ,0.11 mm,MULTI-2 , , , , , , , , , , ,		
5	SAJY	PCB ASSY,SUB	SAJY0049202			
6	SAJB	PCB ASSY,SUB,INSERT	SAJB0023602			
7	BRAH	RESIN,PC	BRAH0002601	; , , , , [empty]		
6	SAJE	PCB ASSY,SUB,SMT	SAJE0039802			
7	SAJC	PCB ASSY,SUB,SMT BOTTOM	SAJC0038802			
8	C101	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
8	CN100	CONNECTOR,FFC/FPC	ENQY0014601	49 PIN,0.3 mm,ANGLE , , , , , ,0.30MM ,FFC/FPC ,ANGLE ,BOTH ,SMD , [empty] ,LOCKING ,		
8	CN101	CONNECTOR,BOARD TO BOARD	ENBY0042101	64 PIN, mm,STRAIGHT , , , , , ,0.40MM ,STRAIGHT ,FEMALE ,SMD ,P/TR , ,		
8	MIC100	MICROPHONE	SUMY0010610	UNIT , -42 dB,4.72*3.76*1.25 ,mems TDMA Improve , , , , ,OMNI , [empty] , ,SMD		
8	U100	IC	EUSY0362601	SSON004 ,4 ,R/TP ,Hall IC , , ,IC,CMOS		
7	SAJD	PCB ASSY,SUB,SMT TOP	SAJD0041102			
7	SPEY00	PCB,KEYPAD	SPEY0066401	FR-4 ,0.5 mm,MULTI-6 , , , , , , , , , , ,		
5	SURY	RECEIVER	SURY0010114	ASSY , dB, ohm,1207*2.5 ,10mm , , , , , , ,WIRE ,		
5	SVLM	LCD MODULE	SVLM0038501	Main ,3.2" ,480*854 ,46.2*84.7*3.08T ,16.7M ,TFT ,TM ,LG4573 , ,		
4	SAFY	PCB ASSY,MAIN	SAFY0374402			
5	SAFB	PCB ASSY,MAIN,INSERT	SAFB0118202			
6	BRAH00	RESIN,PC	BRAH0001301	; , , , , [empty]	Black	
6	SACY00	PCB ASSY,FLEXIBLE	SACY0118901			
7	SACE00	PCB ASSY,FLEXIBLE,SMT	SACE0106801			
8	SACC00	PCB ASSY,FLEXIBLE,SMT BOTTOM	SACC0080001			
9	CN102	CONNECTOR,BOARD TO BOARD	ENBY0053501	20 , mm,STRAIGHT , , , , , ,0.40MM , [empty] ,MALE , [empty] , [empty] , , ,		
9	D101	DIODE,TVS	EDTY0008606	DFN-2 ,7.82 V,150 mW,R/TP ,PB-FREE		
9	D102	DIODE,TVS	EDTY0008606	DFN-2 ,7.82 V,150 mW,R/TP ,PB-FREE		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
9	L101	INDUCTOR,CHIP	ELCH0004717	82 nH,J ,1005 ,R/TP ,		
9	L102	INDUCTOR,CHIP	ELCH0004203	68 nH,J ,1608 ,R/TP ,		
9	L103	INDUCTOR,CHIP	ELCH0004203	68 nH,J ,1608 ,R/TP ,		
9	L104	INDUCTOR,CHIP	ELCH0004717	82 nH,J ,1005 ,R/TP ,		
8	SACD00	PCB ASSY,FLEXIBLE,SMT TOP	SACD0094101			
9	LD101	DIODE,LED,MODULE	EDLM0009501	white ,1 LED,2.0x1.6x0.7t ,R/TP ,		
8	SPCY	PCB,FLEXIBLE	SPCY0232801	POLYI ,0.15 mm,MULTI-2 ,,, ,,,,,,,		
6	SAKY00	PCB ASSY,SIDEKEY	SAKY0009501			
7	SAKF00	PCB ASSY,SIDEKEY,SMT	SAKF0003101			
8	SAKD00	PCB ASSY,SIDEKEY,SMT TOP	SAKD0002601			
9	ESCY00	SWITCH,TACT	ESCY0006101	15 V,20 mA,HORIZONTAL ,1 G, , ,1C1P ,[empty] ,[empty] ,[empty] , ,[empty]		
7	SPKY	PCB,SIDEKEY	SPKY0084601	POLYI , mm,DOUBLE ,F_SK_CAM ,,, ,,,,,,,		
6	SJMY00	VIBRATOR,MOTOR	SJMY0007111	2 V,40 mA,10*3.0 ,Quick response 12mm , ,3V ,,,,,,,		
6	SNMF00	ANTENNA,MOBILE,FIXED	SNMF0063801	5 ,-5 dB,Internal,GPS_BT_WIFI,Pb free , ,DUAL , , ,		
6	SUSY00	SPEAKER	SUSY0028023	ASSY ,8 ohm,90 dB,16 mm,3.0T, 10mm , , , , , , ,WIRE		
6	SVCY00	CAMERA	SVCY0026701	CMOS ,MEGA ,5M AF SSLSI(1/4"), 8.5x8.5x5.4t,RAW,0degree,FPCB		
5	SAFF00	PCB ASSY,MAIN,SMT	SAFF0277402			
6	SAFC	PCB ASSY,MAIN,SMT BOTTOM	SAFC0148402			
7	C101	INDUCTOR,CHIP	ELCH0003847	1.8 nH,S ,1005 ,R/TP ,chip coil		
7	C102	CAP,CHIP,MAKER	ECZH0000806	5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C103	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C104	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
7	C105	CAP,CHIP,MAKER	ECZH0000839	4.7 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C106	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C107	CAP,CERAMIC,CHIP	ECCH0017501	22000000 pF,6.3V ,M ,X5R ,HD ,1608 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1608 ,R/TP ,0.8 mm		
7	C108	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
7	C109	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C110	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C111	INDUCTOR,CHIP	ELCH0004709	3.3 nH,S ,1005 ,R/TP ,		
7	C112	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C113	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C114	INDUCTOR,CHIP	ELCH0001049	6.8 nH,J ,1005 ,R/TP ,PBFREE		
7	C115	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C118	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C119	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C120	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , [empty] , [empty] [empty] , [empty] , [empty] , [empty]		
7	C121	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , [empty] , [empty] [empty] , [empty] , [empty] , [empty]		
7	C122	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , [empty] , [empty] [empty] , [empty] , [empty] , [empty]		
7	C123	CAP,CERAMIC,CHIP	ECCH0017501	22000000 pF,6.3V ,M ,X5R ,HD ,1608 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1608 ,R/TP ,0.8 mm		
7	C124	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , [empty] , [empty] [empty] , [empty] , [empty] , [empty]		
7	C126	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , [empty] , [empty] [empty] , [empty] , [empty] , [empty]		
7	C127	CAP,CERAMIC,CHIP	ECCH0017501	22000000 pF,6.3V ,M ,X5R ,HD ,1608 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1608 ,R/TP ,0.8 mm		
7	C128	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , [empty] , [empty] [empty] , [empty] , [empty] , [empty]		
7	C129	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , [empty] , [empty] [empty] , [empty] , [empty] , [empty]		
7	C132	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C133	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C134	INDUCTOR,CHIP	ELCH0001056	2.7 nH,S ,1005 ,R/TP ,PBFREE		
7	C135	CAP,CHIP,MAKER	ECZH0000839	4.7 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C136	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C137	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C138	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C139	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C140	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C141	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C142	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C143	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C144	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C145	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C146	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C147	INDUCTOR,CHIP	ELCH0001052	18 nH,J ,1005 ,R/TP ,PBFREE		
7	C148	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C149	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C150	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C151	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C152	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C153	CAP,CERAMIC,CHIP	ECCH0009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , ,0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C154	CAP,CERAMIC,CHIP	ECCH0009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , ,0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C155	CAP,CHIP,MAKER	ECZH0025917	47 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C156	INDUCTOR,CHIP	ELCH0004721	2.2 nH,S ,1005 ,R/TP ,		
7	C157	CAP,CERAMIC,CHIP	ECCH0001001	6.8 pF,50V ,D ,NP0 ,TC ,1005 ,R/TP , , ,0.5PF ,50V ,NP0 ,[empty] ,1005 ,R/TP , mm		
7	C159	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C160	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C161	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,.5 mm		
7	C162	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C165	CAP,CERAMIC,CHIP	ECCH0000195	3.9 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C167	INDUCTOR,CHIP	ELCH0004703	1 nH,S ,1005 ,R/TP ,		
7	C169	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C170	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C171	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,		
7	C172	CAP,CERAMIC,CHIP	ECCH0000195	3.9 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C173	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,		
7	C174	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C175	CAP,CERAMIC,CHIP	ECCH0000701	1.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C176	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C178	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
7	C179	CAP,CHIP,MAKER	ECZH0025916	33 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C180	CAP,CERAMIC,CHIP	ECCH0004906	2.5 pF,50V ,C ,X7R ,TC ,1005 ,R/TP		
7	C181	CAP,CERAMIC,CHIP	ECCH0004906	2.5 pF,50V ,C ,X7R ,TC ,1005 ,R/TP		
7	C182	CAP,CERAMIC,CHIP	ECCH0009226	39 pF,25V ,J ,X7R ,TC ,0603 ,R/TP		
7	C183	INDUCTOR,CHIP	ELCH0001039	2.7 nH,S ,1005 ,R/TP ,PBFREE		
7	C184	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C185	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,C0G ,TC ,0603 ,R/TP , ,0.0000000001 ,5% ,50V ,C0G , -55TO+125C ,0603 ,R/TP , ,3 mm		
7	C186	CAP,CERAMIC,CHIP	ECCH0009216	22 pF,25V ,J ,X7R ,TC ,0603 ,R/TP		
7	C187	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C188	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C189	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C190	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C191	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C192	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C193	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
7	C194	CAP,CERAMIC,CHIP	ECCH0017501	22000000 pF,6.3V ,M ,X5R ,HD ,1608 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1608 ,R/TP ,0.8 mm		
7	C195	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C196	INDUCTOR,CHIP	ELCH0004714	18 nH,J ,1005 ,R/TP ,		
7	C197	CAP,CERAMIC,CHIP	ECCH0009206	68 pF,25V ,J ,X7R ,TC ,0603 ,R/TP		
7	C198	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C199	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C200	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C202	CAP,CERAMIC,CHIP	ECCH0009206	68 pF,25V ,J ,X7R ,TC ,0603 ,R/TP		
7	C203	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C204	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
7	C205	CAP,CHIP,MAKER	ECZH0000839	4.7 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C206	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C207	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C208	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C209	CAP,CHIP,MAKER	ECZH0000839	4.7 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C210	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C211	CAP,CERAMIC,CHIP	ECCH0000901	2.2 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	C212	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C213	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C214	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C215	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C216	CAP,CERAMIC,CHIP	ECCH0007803	10 uF,10V ,M ,X5R ,HD ,1608 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , 0.8 mm		
7	C217	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C218	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C219	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C220	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C221	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C222	CAP,CERAMIC,CHIP	ECCH0009103	100 pF,50V ,J ,C0G ,TC ,0603 ,R/TP , , 0.0000000001 ,5% ,50V ,C0G , -55TO+125C ,0603 ,R/TP , ,3 mm		
7	C223	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C225	INDUCTOR,CHIP	ELCH0001033	1.5 nH,S ,1005 ,R/TP ,PBFREE		
7	C244	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C245	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C250	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , , ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C251	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C252	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , , ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C253	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C254	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C255	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C256	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C257	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C259	CAP,CHIP,MAKER	ECZH0025917	47 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C260	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C261	CAP,TANTAL,CHIP	ECTH0001903	22 uF,6.3V ,M ,L_ ESR ,1608 ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C262	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C263	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
7	C264	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C265	CAP,CHIP,MAKER	ECZH0025917	47 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C266	CAP,CERAMIC,CHIP	ECCH00009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C267	CAP,CERAMIC,CHIP	ECCH00009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , ,0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C268	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C269	CAP,CERAMIC,CHIP	ECCH00009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C270	CAP,CERAMIC,CHIP	ECCH00009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C271	CAP,CERAMIC,CHIP	ECCH00009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C272	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP , , C0G TYPE(No X7R) , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C273	CAP,CERAMIC,CHIP	ECCH0010501	7.5 pF,50V ,D ,X7R ,TC ,1005 ,R/TP , , C0G TYPE(No X7R) , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C274	CAP,CERAMIC,CHIP	ECCH0000147	2.2 nF,50V,K,X7R,HD,1005,R/TP		
7	C300	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C301	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C302	CAP,CERAMIC,CHIP	ECCH00009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C303	CAP,CERAMIC,CHIP	ECCH00009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , ,0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C304	CAP,CERAMIC,CHIP	ECCH00009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C305	CAP,CERAMIC,CHIP	ECCH00009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C306	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , 1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C307	CAP,CERAMIC,CHIP	ECCH00009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C308	CAP,CERAMIC,CHIP	ECCH00009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , ,0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C309	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , 1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C310	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , 1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C311	CAP,CERAMIC,CHIP	ECCH00009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , ,0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C312	CAP,CERAMIC,CHIP	ECCH0007803	10 uF,10V ,M ,X5R ,HD ,1608 ,R/TP , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C313	CAP,CERAMIC,CHIP	ECCH0007803	10 uF,10V ,M ,X5R ,HD ,1608 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , 0.8 mm		
7	C314	CAP,CERAMIC,CHIP	ECCH0007803	10 uF,10V ,M ,X5R ,HD ,1608 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , 0.8 mm		
7	C315	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C316	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C318	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C319	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C320	CAP,CERAMIC,CHIP	ECCH0009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , , 0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C321	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C322	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C323	CAP,CERAMIC,CHIP	ECCH0009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , , 0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C324	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C325	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C326	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C331	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C332	CAP,CERAMIC,CHIP	ECCH0009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , , 0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C333	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C334	CAP,CERAMIC,CHIP	ECCH0009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , , 0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C335	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C336	CAP,CERAMIC,CHIP	ECCH0009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , , 0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C337	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C338	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C339	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C340	CAP,CERAMIC,CHIP	ECCH0017501	22000000 pF,6.3V ,M ,X5R ,HD ,1608 ,R/TP , , , 20% ,6.3V ,X5R , -55TO+85C ,1608 ,R/TP , 0.8 mm		
7	C341	CAP,CERAMIC,CHIP	ECCH0007803	10 uF,10V ,M ,X5R ,HD ,1608 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , 0.8 mm		
7	C342	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C343	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C344	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP ; , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C345	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C400	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
7	C401	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
7	C402	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
7	C403	CAP,CERAMIC,CHIP	ECCH00009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C404	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C405	CAP,CERAMIC,CHIP	ECCH00007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP		
7	C406	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
7	C407	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C408	CAP,CHIP,MAKER	ECZH0025916	33 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C410	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
7	C411	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C413	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C414	CAP,CHIP,MAKER	ECZH0025916	33 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C415	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
7	C416	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C417	CAP,CERAMIC,CHIP	ECCH00007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP		
7	C418	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C419	CAP,CERAMIC,CHIP	ECCH00007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP		
7	C420	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C421	CAP,CERAMIC,CHIP	ECCH0000143	1 nF,50V,K,X7R,HD,1005,R/TP		
7	C422	CAP,CERAMIC,CHIP	ECCH0004904	1 uF,6.3V ,K ,X5R ,TC ,1005 ,R/TP		
7	C424	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP ; , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C425	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C427	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP ; , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C428	CAP,CERAMIC,CHIP	ECCH00009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C429	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C431	CAP,CHIP,MAKER	ECZH0003103	0.1 uF,10V ,K ,X7R ,HD ,1005 ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C432	CAP,TANTAL,CHIP	ECTH0005704	33 uF,10V ,M ,L_ESR ,2012 ,R/TP , , , [empty] , [empty] , [empty] , , [empty] , [empty] , [empty] , [empty]		
7	C433	CAP,CHIP,MAKER	ECZH0001215	1 uF,10V ,K ,X5R ,TC ,1005 ,R/TP		
7	C434	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
7	C435	CAP,TANTAL,CHIP	ECTH0006701	22 uF,10V ,M ,L_ESR ,1608 ,R/TP , , , 1608x0.8mm , [empty] , [empty] , , [empty] , [empty] , [empty] , [empty]		
7	C436	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
7	C437	CAP,CERAMIC,CHIP	ECCH0000182	0.1 uF,10V ,K ,X5R ,HD ,1005 ,R/TP		
7	C438	CAP,CERAMIC,CHIP	ECCH0000115	22 pF,50V,J,NP0,TC,1005,R/TP		
7	C439	CAP,CERAMIC,CHIP	ECCH0007803	10 uF,10V ,M ,X5R ,HD ,1608 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , 0.8 mm		
7	C440	CAP,CERAMIC,CHIP	ECCH0009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , , 0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C441	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C442	CAP,CERAMIC,CHIP	ECCH0009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , , 0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C443	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , , 1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C444	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , , 1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C446	CAP,CERAMIC,CHIP	ECCH0007802	4.7 uF,10V ,M ,X5R ,TC ,1608 ,R/TP		
7	C448	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C449	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C450	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C451	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C452	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C453	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C454	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C455	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C456	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C457	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C458	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C459	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C460	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C462	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C463	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
7	C464	CAP,CERAMIC,CHIP	ECCH0007803	10 uF,10V ,M ,X5R ,HD ,1608 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,0.8 mm		
7	C465	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C466	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty]		
7	C467	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C468	CAP,CERAMIC,CHIP	ECCH0017501	22000000 pF,6.3V ,M ,X5R ,HD ,1608 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1608 ,R/TP ,0.8 mm		
7	C470	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C471	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C501	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C502	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C503	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C504	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C505	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C506	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C507	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C508	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C509	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP		
7	C510	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP		
7	C511	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C512	CAP,CERAMIC,CHIP	ECCH0007803	10 uF,10V ,M ,X5R ,HD ,1608 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,[empty] ,0.8 mm		
7	C513	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C514	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C520	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C521	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C522	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C523	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C524	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
7	C525	CAP,CERAMIC,CHIP	ECCH0000138	390 pF,50V,K,X7R,HD,1005,R/TP		
7	C526	CAP,CERAMIC,CHIP	ECCH0000112	15 pF,50V,J,NP0,TC,1005,R/TP		
7	C527	CAP,CERAMIC,CHIP	ECCH0000122	47 pF,50V,J,NP0,TC,1005,R/TP		
7	C528	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C529	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C531	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C532	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C533	CAP,CERAMIC,CHIP	ECCH0009226	39 pF,25V ,J ,X7R ,TC ,0603 ,R/TP		
7	C534	CAP,CERAMIC,CHIP	ECCH0007803	10 uF,10V ,M ,X5R ,HD ,1608 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] ,0.8 mm		
7	C535	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP		
7	C536	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP		
7	C537	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP		
7	C538	CAP,CHIP,MAKER	ECZH0001216	220 nF,10V ,K ,X5R ,TC ,1005 ,R/TP		
7	C540	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C541	CAP,CHIP,MAKER	ECZH0025920	1 nF,16V ,K ,X7R ,HD ,0603 ,R/TP , , , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty] , [empty]		
7	C542	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C543	CAP,TANTAL,CHIP	ECTH0004801	10 uF,6.3V ,M ,STD ,1608 ,R/TP		
7	C544	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C545	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C552	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C603	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C604	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C605	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , , ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C606	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C607	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C608	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C609	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP , , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C626	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	C627	CAP,CERAMIC,CHIP	ECCH0000155	10 nF,16V,K,X7R,HD,1005,R/TP		
7	C628	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP ; ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C630	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C631	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C632	CAP,CERAMIC,CHIP	ECCH0009201	47 nF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C633	CAP,CHIP,MAKER	ECZH0025916	33 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C634	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C635	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C636	CAP,CERAMIC,CHIP	ECCH0009216	22 pF,25V ,J ,X7R ,TC ,0603 ,R/TP		
7	C637	CAP,CHIP,MAKER	ECZH0025916	33 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C638	CAP,CERAMIC,CHIP	ECCH0009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , ,0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C639	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP ; ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C640	CAP,CERAMIC,CHIP	ECCH0009106	10000 pF,10V ,K ,X7R ,TC ,0603 ,R/TP , ,0.00000001 ,10% ,10V ,X7R , -55TO+125C ,0603 ,R/TP , mm		
7	C701	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C714	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	CN200	CONNECTOR,BOARD TO BOARD	ENBY0045901	14 PIN,0.4 mm,STRAIGHT , , , , ,0.40MM ,STRAIGHT ,MALE ,SMD ,[empty] , ,		
7	CN400	CONNECTOR,ETC	ENZY0028601	3 ,2.5 mm,STRAIGHT ,Gold ,Mold 1.7T		
7	CN401	CONNECTOR,I/O	ENRY0008801	5 , mm,ANGLE , , , , ,0.64MM ,ANGLE ,[empty] ,DIP ,[empty] ,		
7	CN602	CONNECTOR,BOARD TO BOARD	ENBY0040301	34 PIN,0.4 mm,ETC , ,H=1.0, Socket		
7	CN703	CONNECTOR,BOARD TO BOARD	ENBY0053601	20 , mm,STRAIGHT , , , , ,0.40MM ,[empty] ,FEMALE ,[empty] ,[empty] , ,		
7	D200	DIODE,SWITCHING	EDSY0010501	ESC ,30 V,100 mA,R/TP ,SWITCH DIODE		
7	D201	DIODE,SWITCHING	EDSY0010501	ESC ,30 V,100 mA,R/TP ,SWITCH DIODE		
7	D400	DIODE,SWITCHING	EDSY0010501	ESC ,30 V,100 mA,R/TP ,SWITCH DIODE		
7	D401	DIODE,TVS	EDTY0008606	DFN-2 ,7.82 V,150 mW,R/TP ,PB-FREE		
7	D402	DIODE,TVS	EDTY0010101	SOD-923 ,5 V,300 mW,R/TP ,15pF ; , ,5.8V(MIN) ,12.5V(1A) ,40A ,300mW ,[empty] ,[empty] ,2P ,2		
7	D403	DIODE,SWITCHING	EDSY0010501	ESC ,30 V,100 mA,R/TP ,SWITCH DIODE		
7	D404	DIODE,SWITCHING	EDSY0011901	EMD2 ,30 V,1 A,R/TP ,VF=1.5V(IF=200mA) , IR=30uA(VR=10V)		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	D501	DIODE,TVS	EDTY0010101	SOD-923 ,5 V,300 mW,R/TP ,15pF ; , , .5.8V(MIN) ,12.5V(1A) ,40A ,300mW ,[empty] ,[empty] ,2P ,2		
7	D502	DIODE,TVS	EDTY0010101	SOD-923 ,5 V,300 mW,R/TP ,15pF ; , , .5.8V(MIN) ,12.5V(1A) ,40A ,300mW ,[empty] ,[empty] ,2P ,2		
7	D503	DIODE,TVS	EDTY0010101	SOD-923 ,5 V,300 mW,R/TP ,15pF ; , , .5.8V(MIN) ,12.5V(1A) ,40A ,300mW ,[empty] ,[empty] ,2P ,2		
7	D504	DIODE,TVS	EDTY0010101	SOD-923 ,5 V,300 mW,R/TP ,15pF ; , , .5.8V(MIN) ,12.5V(1A) ,40A ,300mW ,[empty] ,[empty] ,2P ,2		
7	D505	DIODE,TVS	EDTY0010101	SOD-923 ,5 V,300 mW,R/TP ,15pF ; , , .5.8V(MIN) ,12.5V(1A) ,40A ,300mW ,[empty] ,[empty] ,2P ,2		
7	D506	DIODE,TVS	EDTY0009801	SOT-963 ,5 V,25 W,R/TP , , , , , , , , [empty] ,[empty] ,2P ,1		
7	D507	DIODE,TVS	EDTY0009801	SOT-963 ,5 V,25 W,R/TP , , , , , , , , [empty] ,[empty] ,2P ,1		
7	D601	DIODE,TVS	EDTY0009801	SOT-963 ,5 V,25 W,R/TP , , , , , , , , [empty] ,[empty] ,2P ,1		
7	FB501	FILTER,BEAD,CHIP	SFBH0008102	1800 ohm,1005 ,Bead		
7	FB503	FILTER,BEAD,CHIP	SFBH0008102	1800 ohm,1005 ,Bead		
7	FB504	FILTER,BEAD,CHIP	SFBH0008102	1800 ohm,1005 ,Bead		
7	FB601	FILTER,BEAD,CHIP	SFBH0009901	120 ohm,1005 ,		
7	FB602	FILTER,BEAD,CHIP	SFBH0009901	120 ohm,1005 ,		
7	FB603	FILTER,BEAD,CHIP	SFBH0009901	120 ohm,1005 ,		
7	FB604	FILTER,BEAD,CHIP	SFBH0009901	120 ohm,1005 ,		
7	FL101	FILTER,SAW	SFSY0033404	1575.42 MHz,1.4*1.1*0.45 ,SMD ,1574.42M~1576.42M, IL 1.3, 5pin, U, 50, GPS, EXCELLENT ATTN ; ,1575.42 ,1.4*1.1*0.45 ,SMD ,R/TP		
7	FL102	DUPLEXER,DCN	SDDY0005001	836.5 MHz,881.5 MHz,1.9 dB,2.8 dB,55 dB,45 dB,2.5*2.0*0.55 ,SMD ,Band5, SAW, Rx balance type ; ,881.5 ,869 to 894 ,836.5 ,824 to 849 ,2.8 ,1.9 ,2.5x2.0x0.55 ,DUAL ,SMD ,R/TP		
7	FL103	DUPLEXER,IMT	SDMY0003001	1950 MHz,2140 MHz,1.8 dB,2.2 dB,51 dB,41 dB,2.5*2.0*0.89 ,SMD ,Band1, SAW dup, Rx unbal ; ,2140 ,2110 to 2170 ,1950 ,1920 to 1980 ,2.2 ,1.8 ,2.5x2.0x0.89 ,DUAL ,SMD ,R/TP		
7	FL104	FILTER,SAW	SFSY0035001	2140 MHz,1.4*1.1*0.45 ,SMD ,2110M~2170M, IL 2.3, 5pin, U-B, 50-100_20, WCDMA BAND I Rx ; ,2140 ,1.4*1.1*0.45 ,SMD ,R/TP		
7	FL105	FILTER,SAW	SFSY0035101	1950 MHz,1.4*1.1*0.45 ,SMD ,1920M~1980M, IL 3.2, 5pin, U-U, 50-50, WCDMA BAND I Tx ; ,1950 ,1.4*1.1*0.45 ,SMD ,R/TP		
7	FL106	FILTER,SAW	SFSY0036601	1880 MHz,1.4*1.1*0.45 ,SMD ,1850.625M~1909.375M, IL 3.8, U-U, 50_0.3-50_0.3, USPCS Tx ; ,1880 ,1.4*1.1*0.45 ,SMD ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	FL107	FILTER,SAW	SFSY0029901	836.5 MHz,1.4*1.1*0.6 ,SMD ,824M~849M, IL 2.5, 5pin, U-U, 50-50, GSM850 Tx , ,836.5 ,1.4*1.1*0.6 ,SMD ,R/TP		
7	FL108	DUPLEXER,PCS	SDPY0004801	1880 MHz,1960 MHz,3.1 dB,3.7 dB,51 dB,45 dB,2.5*2.0*0.55 ,SMD ,Band2, SAW, Rx balance type , ,1960 ,1930 to 1990 ,1880 ,1850.48 to 1909.52 ,3.7 ,3.1 ,2.5x2.0x0.55 ,DUAL ,SMD ,R/TP		
7	FL109	FILTER,SAW	SFSY0030003	881.5 MHz,1.4*1.1*0.6 ,SMD ,869M~894M, IL 2.3, 5pin, U-B, 50-200_82, W-BAND V Rx , ,881.5 ,1.4*1.1*0.6 ,SMD ,R/TP		
7	FL110	FILTER,SAW	SFSY0024301	942.5 MHz,1.4*1.1*0.6 ,SMD ,5pin, Unbal-Bal, 50//150		
7	FL111	FILTER,SAW	SFSY0024302	1842.5 MHz,1.4*1.1*0.6 ,SMD ,5pin, Unbal-Bal, 50//150		
7	FL112	FILTER,SAW	SFSY0024303	1960 MHz,1.4*1.1*0.6 ,SMD ,5pin, Unbal-Bal, 50//150		
7	FL400	FILTER,EMI/POWER	SFEY0015301	SMD ,Pb-free_Bais , ,Filter,LCR		
7	FL601	FILTER,EMI/POWER	SFEY0013701	SMD ,18 V,4ch. EMI_ESD Filter (100 Ohm, 7.5pF)		
7	FL602	FILTER,EMI/POWER	SFEY0013701	SMD ,18 V,4ch. EMI_ESD Filter (100 Ohm, 7.5pF)		
7	FL603	FILTER,EMI/POWER	SFEY0013701	SMD ,18 V,4ch. EMI_ESD Filter (100 Ohm, 7.5pF)		
7	IC400	IC	EUSY0372001	WCSP ,20 ,R/TP ,MUIC , ,IC,Analog Switch		
7	IC500	IC	EUSY0390501	WLCSP ,20 ,R/TP , , ,IC,Audio Sub System		
7	J500	CONN,JACK/PLUG,EARPHONE	ENJE0007602	,6 , , ,[empty] ,4P ,[empty] ,R/TP , ,BLACK ,13.0x6.3x4.0t		
7	J601	CONN,SOCKET	ENSY0022102	6 ,ANGLE , ,2.54 mm,Changed Metal shell		
7	L101	INDUCTOR,CHIP	ELCH0001054	5.6 nH,S ,1005 ,R/TP ,PBFREE		
7	L102	INDUCTOR,CHIP	ELCH0004721	2.2 nH,S ,1005 ,R/TP ,		
7	L104	INDUCTOR,CHIP	ELCH0004709	3.3 nH,S ,1005 ,R/TP ,		
7	L105	INDUCTOR,CHIP	ELCH0003832	2.2 nH,S ,1005 ,R/TP ,MLCI		
7	L107	INDUCTOR,CHIP	ELCH0001056	2.7 nH,S ,1005 ,R/TP ,PBFREE		
7	L108	CAP,CHIP,MAKER	ECZH0000822	1.5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	L109	INDUCTOR,CHIP	ELCH0004704	4.7 nH,S ,1005 ,R/TP ,		
7	L110	INDUCTOR,CHIP	ELCH0001049	6.8 nH,J ,1005 ,R/TP ,PBFREE		
7	L111	CAP,CHIP,MAKER	ECZH0000802	1 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	L112	INDUCTOR,CHIP	ELCH0003847	1.8 nH,S ,1005 ,R/TP ,chip coil		
7	L113	INDUCTOR,CHIP	ELCH0004705	8.2 nH,J ,1005 ,R/TP ,		
7	L114	INDUCTOR,CHIP	ELCH0001409	10 nH,J ,1005 ,R/TP ,PBFREE		
7	L115	INDUCTOR,CHIP	ELCH0004710	15 nH,J ,1005 ,R/TP ,		
7	L116	INDUCTOR,CHIP	ELCH0004721	2.2 nH,S ,1005 ,R/TP ,		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	L117	CAP,CHIP,MAKER	ECZH0000822	1.5 pF,50V ,C ,NP0 ,TC ,1005 ,R/TP		
7	L118	INDUCTOR,CHIP	ELCH0004709	3.3 nH,S ,1005 ,R/TP ,		
7	L119	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	L120	CAP,CHIP,MAKER	ECZH0000813	100 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	L121	INDUCTOR,CHIP	ELCH0004709	3.3 nH,S ,1005 ,R/TP ,		
7	L122	INDUCTOR,CHIP	ELCH0004721	2.2 nH,S ,1005 ,R/TP ,		
7	L123	INDUCTOR,CHIP	ELCH0004108	2.2 nH,S ,0603 ,R/TP ,MLCI		
7	L124	INDUCTOR,CHIP	ELCH0001430	100 nH,J ,1005 ,R/TP ,PBFREE		
7	L125	INDUCTOR,CHIP	ELCH0003816	3.6 nH,S ,1005 ,R/TP ,		
7	L126	INDUCTOR,CHIP	ELCH0001056	2.7 nH,S ,1005 ,R/TP ,PBFREE		
7	L127	INDUCTOR,CHIP	ELCH0004704	4.7 nH,S ,1005 ,R/TP ,		
7	L128	INDUCTOR,CHIP	ELCH0003814	5.1 nH,S ,1005 ,R/TP ,5.1nH,1005		
7	L129	INDUCTOR,CHIP	ELCH0001052	18 nH,J ,1005 ,R/TP ,PBFREE		
7	L132	INDUCTOR,CHIP	ELCH0004704	4.7 nH,S ,1005 ,R/TP ,		
7	L133	INDUCTOR,CHIP	ELCH0004709	3.3 nH,S ,1005 ,R/TP ,		
7	L134	INDUCTOR,CHIP	ELCH0004714	18 nH,J ,1005 ,R/TP ,		
7	L135	INDUCTOR,CHIP	ELCH0004727	100 nH,J ,1005 ,R/TP ,		
7	L400	INDUCTOR,SMD,POWER	ELCP0008004	4.7 uH,N ,2.0x1.6x1.0 ,R/TP , , ,0.0000047 ,30% , ,0.9A ,0.16 ohm , , ,SHIELD ,2X1.5X1.3MM ,11MM ,R/TP ,Inductor,Wire Wound,Chip		
7	L401	INDUCTOR,SMD,POWER	ELCP0008019	4.7 uH,M ,2.5X2.0X1.2 ,R/TP ,2.5X2.0X1.2 , , ,4.7uH ,20% , , , , ,SHIELD ,2.5X2MM ,[empty] ,[empty] ,Inductor,Wire Wound,Chip		
7	L402	INDUCTOR,SMD,POWER	ELCP0008019	4.7 uH,M ,2.5X2.0X1.2 ,R/TP ,2.5X2.0X1.2 , , ,4.7uH ,20% , , , , ,SHIELD ,2.5X2MM ,[empty] ,[empty] ,Inductor,Wire Wound,Chip		
7	L403	INDUCTOR,SMD,POWER	ELCP0008004	4.7 uH,N ,2.0x1.6x1.0 ,R/TP , , ,0.0000047 ,30% , ,0.9A ,0.16 ohm , , ,SHIELD ,2X1.5X1.3MM ,11MM ,R/TP ,Inductor,Wire Wound,Chip		
7	L404	INDUCTOR,SMD,POWER	ELCP0011901	2.2 uH,M ,2.0*1.25*1.0 ,R/TP , , ,2.2 ,20% , ,0.8A ,0.23 OHM , , ,SHIELD ,2X1.25X1MM ,NONE ,R/TP ,Inductor,Wire Wound,Chip		
7	L503	CAP,CHIP,MAKER	ECZH0000830	33 pF,50V ,J ,NP0 ,TC ,1005 ,R/TP		
7	L504	INDUCTOR,CHIP	ELCH0010402	270 nH,M ,1005 ,R/TP ,CHIP		
7	L505	INDUCTOR,SMD,POWER	ELCP0008007	3.3 uH,N ,2.5*2.0*1.0 ,R/TP ,MLCI Power , , ,3.3 ,30% , , , , ,SHIELD ,2.5X2X1MM ,[empty] ,[empty] ,Inductor,Wire Wound,Chip		
7	L506	INDUCTOR,CHIP	ELCH0005019	68 nH,J ,1005 ,R/TP ,		
7	L601	INDUCTOR,SMD,POWER	ELCP0006805	560 uH,M ,3.8*3.8*1.3 ,R/TP ,		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	L602	INDUCTOR,SMD,POWER	ELCP0008008	1 uH,M ,2.0x2.5x1.0 ,R/TP ,MLCI ; ,1uH ,2% ; ,0.09ohm ; ,SHIELD ,2.5X2X1MM ,[empty] ,R/TP ,Inductor,Wire Wound,Chip		
7	L603	INDUCTOR,CHIP	ELCH0004729	56 nH,J ,1005 ,R/TP ,		
7	M601	MODULE,ETC	SMZY0023501	3.8 Backup Capacitor 0.03F ; ,Module Assembly		
7	Q400	TR,FET,P-CHANNEL	EQFP0008601	DFN8 ,1.3 W,-20 V,-3.9 A,R/TP ,Intergrated power MOSFET with PNP Transistor		
7	Q500	TR,FET,P-CHANNEL	EQFP0004501	SOT-323 ,.29 W,1.8 V,.86 A,R/TP ,P-Chanel MOSFET, Pb free		
7	Q601	TR,BJT,NPN	EQBN0012401	ESM ,100 mW,R/TP ,NPN TRANSISTOR		
7	R101	RES,CHIP	ERHY0000104	49.9 ohm,1/16W,F,1005,R/TP		
7	R102	RES,CHIP,MAKER	ERHZ0000201	100 ohm,1/16W ,F ,1005 ,R/TP		
7	R103	RES,CHIP,MAKER	ERHZ0000201	100 ohm,1/16W ,F ,1005 ,R/TP		
7	R104	RES,CHIP,MAKER	ERHZ0000504	68 ohm,1/16W ,J ,1005 ,R/TP		
7	R105	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R106	RES,CHIP,MAKER	ERHZ0000434	1 ohm,1/16W ,J ,1005 ,R/TP		
7	R107	RES,CHIP	ERHY0009504	1 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R109	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R110	RES,CHIP	ERHY0009543	120 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R111	RES,CHIP	ERHY0009531	62 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R112	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R113	RES,CHIP	ERHY0019401	5.6 ohm,1/20W(0.05W) ,J ,0603 ,R/TP ; ,5.6 ,5% ,1/20W ,0603 ,R/TP		
7	R114	RES,CHIP	ERHY0019401	5.6 ohm,1/20W(0.05W) ,J ,0603 ,R/TP ; ,5.6 ,5% ,1/20W ,0603 ,R/TP		
7	R115	RES,CHIP	ERHY0009504	1 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R116	RES,CHIP	ERHY0009555	12 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R117	RES,CHIP	ERHY0009524	47 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R118	RES,CHIP	ERHY0009543	120 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R200	RES,CHIP	ERHY0024201	6040 ohm,1/16W ,F ,1005 ,R/TP ; ,6040 ,1% ,1/16W ,1005 ,R/TP		
7	R201	RES,CHIP	ERHY0000104	49.9 ohm,1/16W,F,1005,R/TP		
7	R202	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R203	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R204	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R205	RES,CHIP	ERHY0009504	1 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	R206	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R207	RES,CHIP	ERHY0009504	1 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R208	RES,CHIP	ERHY0009504	1 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R210	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R211	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R212	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R213	RES,CHIP	ERHY0009503	100 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R215	RES,CHIP	ERHY0009311	51 ohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R216	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R217	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R219	FILTER,BEAD,CHIP	SFBH0009601	220 ohm,1005 ,DCR : 0.35 , Rated current : 500mA,PBFFREE		
7	R220	RES,CHIP,MAKER	ERHZ0000463	33 ohm,1/16W ,J ,1005 ,R/TP		
7	R236	RES,CHIP,MAKER	ERHZ0000483	47 ohm,1/16W ,J ,1005 ,R/TP		
7	R237	PCB ASSY,MAIN,PAD SHORT	SAFP0000401			
7	R238	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R239	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R301	RES,CHIP	ERHY0009303	10 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R302	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R400	RES,CHIP	ERHY0000161	200K ohm,1/16W,F,1005,R/TP		
7	R402	RES,CHIP,MAKER	ERHZ0000222	150 Kohm,1/16W ,F ,1005 ,R/TP		
7	R403	RES,CHIP,MAKER	ERHZ0000265	300 Kohm,1/16W ,F ,1005 ,R/TP		
7	R404	RES,CHIP,MAKER	ERHZ00004201	121000 ohm,1/16W ,F ,1005 ,R/TP		
7	R405	RES,CHIP	ERHY0000105	51 ohm,1/16W,F,1005,R/TP		
7	R406	RES,CHIP	ERHY0009303	10 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R407	RES,CHIP	ERHY0009504	1 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R408	RES,CHIP	ERHY0009592	2000 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R409	RES,CHIP	ERHY0024601	150 ohm,1/20W(0.05W) ,J ,0603 ,R/TP ,; ,150 ,0.05% ,1/20W ,0603 ,R/TP		
7	R410	RES,CHIP	ERHY0024601	150 ohm,1/20W(0.05W) ,J ,0603 ,R/TP ,; ,150 ,0.05% ,1/20W ,0603 ,R/TP		
7	R411	RES,CHIP	ERHY0024601	150 ohm,1/20W(0.05W) ,J ,0603 ,R/TP ,; ,150 ,0.05% ,1/20W ,0603 ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	R412	RES,CHIP	ERHY0024601	150 ohm,1/20W(0.05W) ,J ,0603 ,R/TP ; ,150 ,0.05% ,1/20W ,0603 ,R/TP		
7	R413	RES,CHIP	ERHY0024601	150 ohm,1/20W(0.05W) ,J ,0603 ,R/TP ; ,150 ,0.05% ,1/20W ,0603 ,R/TP		
7	R414	RES,CHIP,MAKER	ERHZ0000701	0 ohm,1/10W ,J ,1608 ,R/TP		
7	R415	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R416	RES,CHIP	ERHY0009592	2000 ohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R417	RES,CHIP,MAKER	ERHZ0000405	10 Kohm,1/16W ,J ,1005 ,R/TP		
7	R418	RES,CHIP,MAKER	ERHZ0000318	80.6 Kohm,1/16W ,F ,1005 ,R/TP		
7	R419	RES,CHIP,MAKER	ERHZ0000537	680000 ohm,1/16W ,F ,1005 ,R/TP		
7	R420	RES,CHIP,MAKER	ERHZ0000288	470 Kohm,1/16W ,F ,1005 ,R/TP		
7	R421	RES,CHIP,MAKER	ERHZ0003901	0.1 ohm,1/8W ,F ,2012 ,R/TP ; ,0.1 ohm ,1% ,1/8W ,2012 ,R/TP		
7	R422	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R423	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R424	RES,CHIP	ERHY0024601	150 ohm,1/20W(0.05W) ,J ,0603 ,R/TP ; ,150 ,0.05% ,1/20W ,0603 ,R/TP		
7	R425	RES,CHIP	ERHY0009507	1 Mohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R427	RES,CHIP,MAKER	ERHZ0000488	4.7 ohm,1/16W ,J ,1005 ,R/TP		
7	R428	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R429	RES,CHIP	ERHY0009527	47 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R430	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R503	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R510	RES,CHIP	ERHY0009516	2.2 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R511	RES,CHIP	ERHY0009507	1 Mohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R512	RES,CHIP,MAKER	ERHZ0000407	1000 Kohm,1/16W ,J ,1005 ,R/TP		
7	R513	RES,CHIP	ERHY0009527	47 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R514	RES,CHIP	ERHY0009527	47 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R515	RES,CHIP	ERHY0009527	47 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R516	RES,CHIP	ERHY0009527	47 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R517	RES,CHIP	ERHY0009527	47 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R518	RES,CHIP,MAKER	ERHZ0000348	12 ohm,1/16W ,F ,1005 ,R/TP		
7	R519	RES,CHIP,MAKER	ERHZ0000348	12 ohm,1/16W ,F ,1005 ,R/TP		
7	R520	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	R521	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R522	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R529	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R534	CAP,CERAMIC,CHIP	ECCH0000138	390 pF,50V,K,X7R,HD,1005,R/TP		
7	R535	CAP,CERAMIC,CHIP	ECCH0000138	390 pF,50V,K,X7R,HD,1005,R/TP		
7	R536	RES,CHIP	ERHY0009505	10 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R540	PCB ASSY,MAIN,PAD SHORT	SAFP0000401			
7	R541	RES,CHIP,MAKER	ERHZ0000407	1000 Kohm,1/16W ,J ,1005 ,R/TP		
7	R542	RES,CHIP,MAKER	ERHZ0000287	47 Kohm,1/16W ,F ,1005 ,R/TP		
7	R543	PCB ASSY,MAIN,PAD OPEN	SAFO0000401	0OHM DNI		
7	R544	RES,CHIP	ERHY0009550	47 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R601	RES,CHIP	ERHY0009547	200 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R602	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R603	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R604	RES,CHIP,MAKER	ERHZ0000428	18 ohm,1/16W ,J ,1005 ,R/TP		
7	R615	RES,CHIP	ERHY0000137	27K ohm,1/16W,F,1005,R/TP		
7	R616	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R617	RES,CHIP	ERHY0009302	1 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R618	RES,CHIP	ERHY0009302	1 Kohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R619	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP		
7	R620	RES,CHIP,MAKER	ERHZ0000295	51 Kohm,1/16W ,F ,1005 ,R/TP		
7	R621	RES,CHIP,MAKER	ERHZ0000295	51 Kohm,1/16W ,F ,1005 ,R/TP		
7	R622	RES,CHIP,MAKER	ERHZ0000204	100 Kohm,1/16W ,F ,1005 ,R/TP		
7	R623	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R624	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R625	RES,CHIP	ERHY0009541	470 ohm,1/20W(0.05W) ,F ,0603 ,R/TP		
7	R626	RES,CHIP	ERHY0009504	1 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R704	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R734	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	S500	CONN,SOCKET	ENSY0023301	8 ,ETC , ,0.7 mm,H=1.52,(15*15)		
7	SW102	CONN,RF SWITCH	ENWY0008701	STRAIGHT H=1.35 ,SMD , dB , , ,1.40MM ,STRAIGHT ,SOCKET ,SMD ,P/TR ,AU , ,		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	U101	PAM	SMPY0020301	27.5 dBm,40 %,3 mA,-36 dBc,26.5 dB,3x3x1.0 ,SMD ,3G single PAM 3x3 Band 5 Coupler Integrated ; , , , , , , , ,LGA ,R/TP ,		
7	U102	PAM	SMPY0020702	dBm, %, A, dBc, dB,3.0*3.0*1.1 ,SMD ,WBAND 1, CPL, 3 MODE, BYPASS CLAMPING ; , , , , , , , ,SMD ,R/TP ,		
7	U103	PAM	SMPY0020802	dBm, %, A, dBc, dB,3.0*3.0*1.1 ,SMD ,WBAND 2, CPL, 3 MODE, BYPASS CLAMPING ; , , , , , , , ,SMD ,R/TP ,		
7	U104	RF MODULE,HANDSET	SMRH0006201	MHz, MHz, ,POLA EDGE QUAD TX MODULE, SP9T, 6.0*6.0*1.0, 28p		
7	U105	MODULE,ETC	SMZY0025501	3.3*2.1*1.0, FILTER+GPS LNA+FILTER MODULE ; , ,GPS		
7	U106	IC	EUSY0344001	QFN ,68 ,R/TP ,Quad GSM, Tri WCDMA RF Transceiver ; ,IC,Tx/Rx		
7	U201	IC	EUSY0392302	560 NSP ,12 ,R/TP ,ARM11(600M),UPA5.7,FWGA,8M,WVGA30fps,WM,BMP, Android ; ,IC,Digital Baseband Processor		
7	U202	IC	EUSY0216301	SC70 ,5 PIN,R/TP ,Single 2-Input NAND Gate		
7	U300	IC	EUSY0395604	FBGA ,137 ,ETC ,4G(LB/256Mx16) NAND+4G(DDR400/16Mx4x32*2_2CS_2CKE) SDRAM ; ,IC,MCP		
7	U400	IC	EUSY0407201	SSON004 ,4 ,R/TP ,3.3V 150mA Single LDO ; ,IC,LDO Voltage Regulator		
7	U401	IC	EUSY0342201	CSP ,137 PIN,R/TP ,PMIC, for MSM7xxx ; ,IC,PMIC		
7	U402	IC	EUSY0374601	TDFN ,8 ,R/TP ,Programmable OVP ; ,IC,Charger		
7	U403	IC	EUSY0399302	VSO5 ,5 ,R/TP , , ; ,IC,Voltage Detector		
7	U404	IC	EUSY0242303	DFN ,8 ,R/TP ,Fuel gauge ; ,IC,CMOS		
7	U405	IC	EUSY0407201	SSON004 ,4 ,R/TP ,3.3V 150mA Single LDO ; ,IC,LDO Voltage Regulator		
7	U501	MODULE,ETC	SMZY0025101	WiFi(11bgn)+BT+FM Module 9.0x7.8x1.3,62Pin,BCM4329B0 ; ,WLAN		
7	U502	IC	EUSY0408701	LGA ,16 ,R/TP ,Sensor ; ,IC,A/D Converter		
7	U503	IC	EUSY0407501	SSON004 ,4 ,R/TP ,1.8V 150mA Single LDO ; ,IC,LDO Voltage Regulator		
7	U504	IC	EUSY0407101	SSON004 ,4 ,R/TP ,2.8V 150mA Single LDO ; ,IC,LDO Voltage Regulator		
7	U601	IC	EUSY0404001	BGA ,8 ,R/TP ,Class AB SPK Amp ; ,IC,Audio Amplifier		
7	U603	IC	EUSY0250101	MSOP ,8 PIN,R/TP ,AC_182Vpp EL DRIV		
7	U604	IC	EUSY0264502	DFN ,14 PIN,R/TP ,700mA Boost converter ; ,IC,DC,DC Converter		
7	U701	IC	EUSY0385501	,15 ,R/TP ,2.5*2.5, BGA ; ,IC,PMIC		
7	VA201	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
7	VA202	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	VA203	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
7	VA204	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
7	VA205	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
7	VA206	VARISTOR	SEVY0004401	18 V ,SMD ,40pF, 1005		
7	VA601	VARISTOR	SEVY0001001	14 V ,SMD ,50pF, 1005		
7	VA602	VARISTOR	SEVY0008101	5.5 V ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA604	VARISTOR	SEVY0004301	18 V ,SMD ,10pF, 1005		
7	VA605	VARISTOR	SEVY0008101	5.5 V ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA606	VARISTOR	SEVY0008101	5.5 V ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA607	VARISTOR	SEVY0008101	5.5 V ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA609	VARISTOR	SEVY0008101	5.5 V ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA617	VARISTOR	SEVY0001001	14 V ,SMD ,50pF, 1005		
7	X200	VCTCXO	EXSK0008901	19.2 MHz,1.5 PPM,40 pF,SMD ,3.2*2.5*1.0 ,19.2M VCTCXO,Vin=2.8, Pb-Free , ,19.2MHz ,2PPM ,2.8V ,3.2 ,2.5 ,1.0 , ,SMD ,R/TP		
7	X400	X-TAL	EXXY0026801	32.768 KHz,20 PPM,12.5 pF,500 Mohm,SMD ,3.2*1.5*0.8 ,RTC X-Tal , ,32.768kHz ,20PPM ,12.5pF , ,SMD ,R/TP		
7	X500	TCXO	EXST0001901	26 MHz,2.5 PPM,10 pF,SMD ,32*15*1.0 ,TI_WL1251 , ,2.5PPM ,2.8V , , , ,SMD ,R/TP		
7	ZD400	DIODE,TVS	EDTY0008601	SOD-323 ,6 V,400 W,R/TP ,PB-FREE		
7	ZD401	DIODE,TVS	EDTY0008602	SOD-323 ,13.3 V,400 W,R/TP ,PB-FREE		
7	ZD601	DIODE,ZENER	EDNY0010401	USC ,100 V,0.2 W,R/TP ,		
6	SAFD	PCB ASSY,MAIN,SMT TOP	SAFD0146502			
7	C610	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C611	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C612	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C613	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C614	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C615	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP , ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	C616	CAP,CERAMIC,CHIP	ECCH0017601	4700000 pF,6.3V ,M ,X5R ,HD ,1005 ,R/TP ,; , ,20% ,6.3V ,X5R , -55TO+85C ,1005 ,R/TP ,0.5 mm		
7	C617	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP ,; ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C618	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP ,; ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C620	CAP,CERAMIC,CHIP	ECCH0017301	1000000 pF,6.3V ,M ,X5R ,HD ,0603 ,R/TP ,; ,1 ,20% ,6.3V ,X5R , -55TO+85C ,0603 ,R/TP ,0.3 mm		
7	C707	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C708	CAP,CERAMIC,CHIP	ECCH0009101	0.1 uF,6.3V ,K ,X5R ,TC ,0603 ,R/TP		
7	C709	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,.5 mm		
7	C710	CAP,CERAMIC,CHIP	ECCH0002001	0.1 uF,6.3V ,K ,B ,HD ,1005 ,R/TP , , ,[empty] ,[empty] ,[empty] ,[empty] ,.5 mm		
7	C712	CAP,CERAMIC,CHIP	ECCH0000198	2.2 uF,6.3V ,M ,X5R ,TC ,1005 ,R/TP		
7	C715	CAP,CHIP,MAKER	ECZH0025916	33 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	C716	CAP,CHIP,MAKER	ECZH0025916	33 pF,25V ,J ,NP0 ,TC ,0603 ,R/TP		
7	CN702	CONNECTOR,BOARD TO BOARD	ENBY0042501	80 PIN,0.4 mm,ETC , , , , ,0.40MM ,[empty] ,FEMALE ,SMD ,R/TP , ,		
7	FL701	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
7	FL702	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
7	FL703	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
7	FL704	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
7	FL705	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
7	FL706	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
7	FL707	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
7	FL708	FILTER,EMI/POWER	SFEY0011401	SMD ,SMD, 18V, 4ch, EMI_ESD Filter (100 Ohm, 7.5pF)		
7	LD601	DIODE,LED,CHIP	EDLH0013701	WHITE ,ETC ,R/TP ,SIDEVIEW ,; ,[empty] ,2.9~3.2V ,30mA ,1200~1400mcd , ,120mW ,[empty] ,[empty] ,2P		
7	LD602	DIODE,LED,CHIP	EDLH0013701	WHITE ,ETC ,R/TP ,SIDEVIEW ,; ,[empty] ,2.9~3.2V ,30mA ,1200~1400mcd , ,120mW ,[empty] ,[empty] ,2P		
7	LD603	DIODE,LED,CHIP	EDLH0013701	WHITE ,ETC ,R/TP ,SIDEVIEW ,; ,[empty] ,2.9~3.2V ,30mA ,1200~1400mcd , ,120mW ,[empty] ,[empty] ,2P		
7	LD604	DIODE,LED,CHIP	EDLH0013701	WHITE ,ETC ,R/TP ,SIDEVIEW ,; ,[empty] ,2.9~3.2V ,30mA ,1200~1400mcd , ,120mW ,[empty] ,[empty] ,2P		
7	LD605	DIODE,LED,CHIP	EDLH0013701	WHITE ,ETC ,R/TP ,SIDEVIEW ,; ,[empty] ,2.9~3.2V ,30mA ,1200~1400mcd , ,120mW ,[empty] ,[empty] ,2P		
7	R607	RES,CHIP,MAKER	ERHZ0000490	51 ohm,1/16W ,J ,1005 ,R/TP		
7	R608	RES,CHIP	ERHY0009506	100 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	R609	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R610	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R611	RES,CHIP,MAKER	ERHZ0000490	51 ohm,1/16W ,J ,1005 ,R/TP		
7	R612	RES,CHIP,MAKER	ERHZ0000490	51 ohm,1/16W ,J ,1005 ,R/TP		
7	R613	RES,CHIP,MAKER	ERHZ0000490	51 ohm,1/16W ,J ,1005 ,R/TP		
7	R614	RES,CHIP,MAKER	ERHZ0000490	51 ohm,1/16W ,J ,1005 ,R/TP		
7	R627	RES,CHIP,MAKER	ERHZ0000490	51 ohm,1/16W ,J ,1005 ,R/TP		
7	R705	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R707	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R708	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R709	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R710	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R711	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R712	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R713	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R714	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R715	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R716	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R717	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R718	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R721	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R722	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	R723	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		
7	R724	RES,CHIP,MAKER	ERHZ0000213	120 Kohm,1/16W ,F ,1005 ,R/TP		
7	R725	RES,CHIP,MAKER	ERHZ0000443	2200 ohm,1/16W ,J ,1005 ,R/TP		
7	R726	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R727	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R728	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R729	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R730	RES,CHIP	ERHY0009526	4.7 Kohm,1/20W(0.05W) ,J ,0603 ,R/TP		
7	R731	RES,CHIP	ERHY0003501	220 ohm,1/16W ,J ,1005 ,R/TP		
7	R732	RES,CHIP	ERHY0003301	100 ohm,1/16W ,J ,1005 ,R/TP		

12. Exploded view & Replacement part list

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	R733	RES,CHIP,MAKER	ERHZ0000509	75 ohm,1/16W ,J ,1005 ,R/TP		
7	R735	RES,CHIP,MAKER	ERHZ0000285	470 ohm,1/16W ,F ,1005 ,R/TP		
7	U602	IC	EUSY0383103	CSP ,35 ,R/TP ,8CH,PWM,ALC,4LDO ,; ,IC,Sub PMIC		
7	U702	IC	EUSY0362601	SSON004 ,4 ,R/TP ,Hall IC ,; ,IC,CMOS		
7	U703	IC	EUSY0300008	QFN ,28 ,R/TP ,64key ,; ,IC,Bus Controller		
7	VA608	VARISTOR	SEVY0005201	5.5 V , ,SMD ,1005, 50pF		
7	VA610	VARISTOR	SEVY0008101	5.5 V , ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA611	VARISTOR	SEVY0008101	5.5 V , ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA612	VARISTOR	SEVY0008101	5.5 V , ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA613	VARISTOR	SEVY0008101	5.5 V , ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA614	VARISTOR	SEVY0008101	5.5 V , ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA615	VARISTOR	SEVY0008101	5.5 V , ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA616	VARISTOR	SEVY0008101	5.5 V , ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP		
7	VA701	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA702	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA703	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA704	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA705	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA706	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA707	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA708	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA709	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA710	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA711	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA712	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		
7	VA713	VARISTOR	SEVY0001001	14 V , ,SMD ,50pF, 1005		

Level	Location No.	Description	Part Number	Spec	Color	Remark
7	VA714	VARISTOR	SEVY0001001	14 V, ,SMD ,50pF, 1005		
7	VA715	VARISTOR	SEVY0001001	14 V, ,SMD ,50pF, 1005		
7	VA716	VARISTOR	SEVY0001001	14 V, ,SMD ,50pF, 1005		
7	VA717	VARISTOR	SEVY0001001	14 V, ,SMD ,50pF, 1005		
7	VA718	VARISTOR	SEVY0001001	14 V, ,SMD ,50pF, 1005		
6	SPFY00	PCB,MAIN	SPFY0227501	FR-4 ,0.8 mm,LX-BUMP 10 ,GW740 ;, , , , , , , , , ,		
3	SMZY00	MODULE,ETC	SMZY0027203	MicroSD Card / 4GB (MLC NAND 16Gbx2) ;, ,Module Assembly		

12. Exploded view & Replacement part list

12.3 Accessory

Note: This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	Location No.	Description	Part Number	Spec	Color	Remark
3	SBPP00	BATTERY PACK,LI-POLYMER	SBPP0027401	3.7 V,1500 mAh,1 CELL,PRISMATIC ,454261 WW LABEL ; , , , ,PRISMATIC , , ,BLACK , ,	GRAY	
3	SGDY00	DATA CABLE	SGDY0017401	; ,[empty] ,[empty] ,1.2M ,26AWG ,BLACK , ,[empty]		
3	SGEY00	EAR PHONE/EAR MIKE SET	SGEY0007610	; ,20mW ,16 ohm ,99dB,1KHZ,1mW ,65dB 10KHZ ,104dB 100KHZ ,[empty] ,[empty] ,3.5 L TYPE STEREO 4POLE PLUG ,Mic Slimtype Canal(BK) ,Earphone,Stereo		
3	SSAD00	ADAPTOR,AC-DC	SSAD0033801	100-240V ,5060 Hz,4.8 V,1 A,UL ,Cableless TA ,; ,90Vac~264Vac ,4.8Vdc ,1A ,5060 , ,WALL 2P ,USB ,		
3		ADAPTOR,AC-DC	SSAD0033802	100-240V ,5060 Hz,4.8 V,1 A,UL / SCA ,AC-DC ADAPTOR ; ,90Vac~264Vac ,4.8Vdc ,1A ,5060 , ,WALL 2P ,USB ,		