

Service Manual

LG-D320

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1. INTRODUCTION

1.1 Purpose

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

1.2 Regulatory Information

A. Security

Toll fraud, the unauthorized use of telecommunications system by an unauthorized part (for example, persons other than your company's employees, agents, subcontractors, or person working on your company's behalf) can result in substantial additional charges for your telecommunications services. System users are responsible for the security of own system. There are may be risks of toll fraud associated with your telecommunications system. System users are responsible for programming and configuring the equipment to prevent unauthorized use. The manufacturer does not warrant that this product is immune from the above case but will prevent unauthorized use of common carrier telecommunication service of facilities accessed through or connected to it. The manufacturer will not be responsible for any charges that result from such unauthorized use.

B. Incidence of Harm

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

C. Changes in Service

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

D. Maintenance Limitation

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 Emission

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.

1.3 Specification

KEY FEATURES

- Android 4.4-(KitKat)
- 4.5" Touch Screen WVGA (480 x 800)
- 5MP AF with flash
- 3G Mobile Hotspot

ENHANCED USER EXPERIENCE

- Android 4.4
- Proximity Sensor – locks the touch screen and buttons while talking on the phone
- Motion Sensor – Electronic compass , Accelerometer and Gyroscope
- USB Charging via Computer
- Airplane Mode (RF Off)

DESIGN

- Sleek and Stylish Design
- 4.5" WVGA LCD Screen
- Capacitive Touch Screen – Glass with fast and accurate response
- Micro USB/Charging Port

CAMERA/VIDEO

- 5MP AF with flash and Camcorder
- Camera Resolutions: 2560 x 1920, 2048 x 1536, 2240 x 1344, 1280 x 960, 1280 X 768 Pixels
- Image Editor: zoom, rotate, crop images
- Brightness, ISO, White Balance,* Color Effects, Timer
- Cheese shutter – take photo with voice command.
- Video Resolutions: 800 x 480, 640 x 480, 320 x 240, 176 x 144 Pixels

MULTIMEDIA

- Music Player for MP3, WMA, and Unprotected AAC
- Stereo Sound via Headset or *Bluetooth*
- Music Library – Organized by Artists, Albums, Songs, and Playlists
- Repeat and Shuffle Music Playback Modes

BLUETOOTH®

- Version: 4.0
- Supported Profiles: headset, hands-free, object push, advanced audio distribution (stereo), audio/video remote control, file transfer, phone book access, message access, serial port
- Listen to Music with Optional Stereo *Bluetooth* Headset**
- Send User-Generated Pictures (JPEG) and Videos via *Bluetooth* Wireless Technology

*Depends on available memory.

**Accessories sold separately.

VOICE/AUDIO

- One-Touch Speakerphone*
- Speaker-Independent Voice Commands
- Voice-Activated Dialing
- Text to Speech
- MP3 Music Ringer Support

TOOLS & DATA

- Android Apps: Alarm/Clock, Browser, Calculator, Calendar (Corporate or Google), Camera, Contacts, Email, Gallery, Gmail, Google+, Maps, Messaging, Messenger, Music Player, Phone, Places, Play Books, Play Movies, Play Music, Play Store, Talk, Video Player, Voice Recorder, Youtube
- Navigation – spoken turn-by-turn directions showing real-time traffic
- Wi-Fi Connectivity – IEEE 802.11 b/g/n
- A-GPS Support for Enhanced Location Accuracy

SPECIFICATIONS

- Technology: GSM/WCMDA
- Frequencies: GSM 850,900,1800,1900
- WCDMA 2100, 900
- Data Transmission: WCMDA, GPRS
- Dimensions: 127.2 x 66.8 x 9.55(mm)
- Display: 4.5" , WVGA (480 x 800) pixels
- Standard Battery: 2,100 [mAh]

ACCESSORIES

- Standard Battery
- Travel Adapter and USB Cable*
- Stereo Headset

2. PERFORMANCE

2.1 Product Name

LG-D320 : WCDMA 900/2100+GSM850/EGSM/DCS/PCS HSUPA 5.8Mbps(cat6)/HSDPA 14.4Mbps(cat10)/HSPA+21.1Mbps(Cat14)/
GPRS Class12/EDGE Class12

2.2 Supporting Standard

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		

2.3 Main Parts : GSM Solution

Item	Part Name	Comment
AP Chip	MSM8210 (Qualcomm)	
CP Chip	MSM8210 (Qualcomm)	

2.4 HW Features

List	Type / Spec.	
1. Phone Type	DOP Type	
2. Size	127.2x66.8x9.57mm	
3. Weight	126 g	
4. Battery	2,100mAh (typ.), 2,040mAh(min) (Li-Ion)	
5. Chipset	MSM8210	
6. Memory	8Gb(SDRAM DDR2) + 4GB eMMC	
7. LCD	Size	4.5 inch
	Dot	800(H) X480(V)
	Color	16.7M colors
	Display Type	Active matrix TFT, Transmissive Type
	NTSC	Typ. 70%
	Contrast Ratio	Typ. 1000:1
	Pixel Pitch	0.0408mm (208ppi)
	Color temperature	5000 ~ 9000(K) (typ. 6500K)
8. Main Camera (5M)	Type	CMOS image sensor
	Resolution	2560(H) X 1920(V) pixels.
	Frame Rate	22.5 fps@ Full Size(2560*1920)
	View Angle	71.4° ± 1° (Diagonal)
	Image Scaling Down	5M(2560x1920), 1M(1280x960)
	Pixel x size	1.1um X 1.1um (square pixel)

2. PERFORMANCE

10. Audio	1) MIDI	MIDI
	2) Mono	18 X 10 X 3T Speaker
	3) Receiver	13 X 07 X 2.7T Wideband Receiver
11. Bluetooth	Effective Distance	10M
	Distance	0 m ~ 10 m (depend on environment)
12. WLAN	standard	IEEE 802.11 b/g/n
	Throughput	Max 40Mbps (SDIO Driver performance)
	depend on environment	0 ~ 50m (depend on environment)
13. GPS	type	A-GPS, GNSS

2.5 HW SPEC

1) WCDMA transmitter specification

Item	Spec.	Min	Typ.	Max	Unit
Maximum Output Power	Power class III	21.0	23.5	25.0	dBm/3.84MHz
Frequency Accuracy	-	-200	-	+200	Hz
Minimum Output Power	-	-	-	-50	dBm/3.84MHz
Occupied Bandwidth	-	-	-	4.6	MHz
Adjacent Channel Leakage Power Ratio	$\Delta f = \pm 5\text{MHz}$	-	-	-33	dBm/3.84MHz
	$\Delta f = \pm 10\text{MHz}$	-	-	-43	dBm/3.84MHz
Error Vector Magnitude(EVM)	-	-	-	17	%
Peak Code Domain Error	-	-	-	15	dBm/3.84MHz
Open Loop Output Power	lor = -106.7dBm/3.84MHz	-46.7	-	-28.7	dBm/3.84MHz
	lor = -65.7dBm/3.84MHz	-23.0	-	-5.0	dBm/3.84MHz
	lor = -25.0dBm/3.84MHz	-0.0	-	14.0	dBm/3.84MHz
Transmit Off Power	-	-	-	-56	dBm/3.84MHz
Spectrum Emission Mask	$\Delta f = 2.5 \sim 3.5\text{MHz}$	$-35-15 * (\Delta f-2.5)$			dBc/30KHz
	$\Delta f = 3.5 \sim 7.5\text{MHz}$	$-35-1 * (\Delta f-3.5)$			dBc/1MHz
	$\Delta f = 7.5 \sim 8.5\text{MHz}$	$-39-10 * (\Delta f-7.5)$			dBc/1MHz
	$\Delta f = 8.5 \sim 12.5\text{MHz}$	-49			dBc/1MHz
Transmit Spurious Emission	9kHz ~ 150kHz			-36	dBm
	150kHz ~ 30MHz			-36	dBm
	30MHz ~ 1GHz			-36	dBm
	1GHz ~ 12.5GHz			-30	dBm

2) WCDMA receiver specification

Item	Specification																			
Receive Frequency	FDD1: 2110 ~ 2170 MHz FDD8: 925 MHz ~ 960 MHz																			
Reference Sensitivity Level <REFÎ _{or} >	FDD1 : BER < 0.001 when Î _{or} = -106.7 dBm / 3.84 MHz FDD2 : BER < 0.001 when Î _{or} = -104.7 dBm / 3.84 MHz FDD5 : BER < 0.001 when Î _{or} = -104.7 dBm / 3.84 MHz FDD8 : BER < 0.001 when Î _{or} = -103.7 dBm / 3.84 MHz																			
Maximum Input Level	BER < 0.001 when Î _{or} = -25 dBm / 3.84 MHz																			
Adjacent Channel Selectivity (ACS)	ACS > 33 dB where BER < 0.001 when Î _{or} = <REFÎ _{or} > + 14 dB / 3.84 MHz & loac = -52 dBm / 3.84 MHz @ ±5 MHz																			
Blocking Characteristic	BER < 0.001 when Î _{or} = <REFÎ _{or} > + 3 dB / 3.84 MHz & lblocking = -56 dBm / 3.84 MHz @ Fuw(offset) = ±10 MHz or lblocking = -44 dBm / 3.84 MHz @ Fuw(offset) = ±15 MHz																			
Spurious Response	BER < 0.001 when Î _{or} = <REFÎ _{or} > + 3 dB / 3.84 MHz & lblocking = -44 dBm																			
Intermodulation	BER < 0.001 when Î _{or} = <REFÎ _{or} > + 3 dB / 3.84 MHz & louw1 = -46 dBm @ Fuw1(offset) = ±10 MHz & louw2 = -46 dBm / 3.84 MHz @ Fuw2(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) <table><tr><td>cmd</td><td>1dB</td><td>2dB</td><td>3dB</td></tr><tr><td>+1</td><td>+0.5/1.5</td><td>+1/3</td><td>+1.5/4</td></tr><tr><td>0</td><td>-0.5/+0.5</td><td>-0.5/+0.5</td><td>-0.5/+0.5</td></tr><tr><td>-1</td><td>-0.5/-1.5</td><td>-1/-3</td><td>-1.5/-4</td></tr></table> group(10equal command group) <table><tr><td>+1</td><td>+8/+12</td><td>+16/+24</td></tr></table>	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	+1	+8/+12	+16/+24
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																	
+1	+8/+12	+16/+24																		

3) HSDPA transmitter specification

	Item	Spec.		Min	Typ.	Max	Unit
Transmitter	5.2.A Maximum Output Power with HS-DPCCH	$1/15 \leq \beta_c/\beta_d \leq 12/15$ $13/15 \leq \beta_c/\beta_d \leq 15/8$ $15/7 \leq \beta_c/\beta_d \leq 15/0$		21.0 20 19	23.5 23.5 23	25.0 25 25	dBm/3.84M Hz
	5.7A HS-DPCCH	MAX / 0dBm	Step 0	0 dB +/- 1 dB			dB
			Step 1 – Step 0	6 dB +/- 2.3 dB			dB
			Step 2 – Step 3	1 dB +/- 0.6 dB			dB
			Step 5 – Step 4	0 dB +/- 0.6 dB			dB
			Step 6 – Step 7	5 dB +/- 2.3 dB			dB
	5.9A Spectrum Emission Mask with HS-DPCCH	$\Delta f = 2.5 \sim 3.5\text{MHz}$		-35-15 * (Δf -2.5)			dBc/30KHz
		$\Delta f = 3.5 \sim 7.5\text{MHz}$		-35-1 * (Δf -3.5)			dBc/1MHz
		$\Delta f = 7.5 \sim 8.5\text{MHz}$		-39 10 * (Δf -7.5)			dBc/1MHz
		$\Delta f = 8.5 \sim 12.5\text{MHz}$		-49			dBc/1MHz
	5.10A Adjacent Channel Leakage Power Ratio with HS-DPCCH	$\Delta f = \pm 5\text{MHz}$		-	-	-33	dBm/3.84M Hz
		$\Delta f = \pm 10\text{MHz}$		-	-	-43	dBm/3.84M Hz
	5.13.1A Error Vector Magnitude (EVM) with HS-DPCCH	MAX Power -20 dBm		-	-	17.5	%
Receiver	6.3A Maximum Input Level for HS-PDSCH Reception	Pin = -25dBm		-	-	10	BLER(%)

4) GSM receiver specification

Item	Spec.
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

5) Bluetooth transmitter specification

Item	Spec.		Min	Typ.	Max	Unit
Output Power	DH5 PRBS9	Power (Class I)	0	-	20	dBm
Power Density	DH5 PRBS9	@100kHz RBW		-	+20	dBm
Power Control	DH1 PRBS9	Step size	2	-	8	dB
		Power(min)		-	4	dBm
Frequency Range	DH5 PRBS9	-30dBc @100kHz RBW	2400	-	2483.5	MHz
Tx Output Spectrum (20dB BW)	DH5 PRBS9	$\Delta f = f_H - f_L$		-	1	MHz
Tx Output Spectrum (Adjacent Output Power)	DH5 PRBS9	@M-N = 2		-	-20	dBm
		@M-N ≥ 3		-	-40	dBm
Modulation Index	DH5 11110000	$f1_{AVG}$	140	-	175	kHz
	DH5 10101010	$f2_{MAX}$	115	-		kHz
		$f2_{AVG}/f1_{AVG}$	0.8	-		
Initial Carrier Freq. Tolerance	DH5 PRBS9		-75	-	+75	kHz
Carrier Frequency Drift	DH1 10101010	Freq. Drift	-25	-	+25	kHz
		Drift Rate	-20	-	+20	kHz/50us
	DH3 10101010	Freq. Drift	-40	-	+40	kHz
		Drift Rate	-20	-	+20	kHz/50us
	DH5 10101010	Freq. Drift	-40	-	+40	kHz
		Drift Rate	-20	-	+20	kHz/50us

6) Bluetooth receiver specification

Item	Spec. / BER=0.1%		Min	Typ.	Max	Unit
Sensitivity (Single Slot Packet)	DH1 PRBS9 Input power @BT_w	-		-	-70	dBm
Sensitivity (Multi Slot Packet)	DH5 PRBS9 Input power @BT_w	-		-	-70	dBm
C/I Performance*	DH1 PRBS9 Input power @BT_i	C/I@Co-Channel -60dBm @ BT		-	11	dB
		C/I @1MHz -60dBm@ BT		-	0	
		C/I @2MHz -60dBm@ BT		-	-30	
		C/I @≥3MHz -67dBm@ BT		-40	-37	
		C/I @Image -67dBm@ BT		-	-9	
		C/I @ Image±1MHz -67dBm@ BT		-	-20	
Blocking Performance	DH1 PRBS9 Input power @CW	30M ~2 GHz -67dBm@ BT	-10	-		dBm
		2 ~ 2.4 GHz -67dBm@ BT	-27	-		
		2.5 ~ 3 GHz -67dBm@ BT	-27	-		
		3 ~ 12.75 GHz -67dBm@ BT	-10	-		
Intermodulation Performance	DH1 PRBS9 Input power @CW_i	$\Delta f = +5\text{MHz}$ (CW_i) $\Delta f = +10\text{MHz}$ (BT_i) -64dBm@ BT_w	-39	-		dBm
		$\Delta f = -5\text{MHz}$ (CW_i) $\Delta f = -10\text{MHz}$ (BT_i) -64dBm@ BT_w	-39	-		dBm
Maximum Input Level	DH1 PRBS9 Input power @BT_w	-	-20	-		dBm

7) WLAN 802.11b transceiver specification

Item	Specification
Transmit Frequency	2400 MHz ~ 2483.5 MHz (CH1~CH13)
Tx Power Level	$\leq 20\text{dBm}$ under (Europe), $\leq 30\text{dBm}$ 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	$\leq 2\mu\text{s}$
Carrier Suppression	$\leq -15\text{dB}$
Modulation Accuracy (Peak EVM)	$\leq 35\%$
Spurious Emissions	$< -36\text{ dBm}$ @ 30MHz ~ 1GHz $< -30\text{ dBm}$ above @ 1GHz ~ 12.75GHz $< -47\text{ dBm}$ @ 1.8GHz ~ 1.9GHz $< -47\text{ dBm}$ @ 5.15GHz ~ 5.3GHz
Rx Min input Sensitivity	$\leq -76\text{dBm}$ (1Mbps,2Mbps,5.5Mbps,11Mbps) @ FER $\leq 8\%$
Rx Max input Sensitivity	$\geq -10\text{dBm}$ (1Mbps,2Mbps,5.5Mbps,11Mbps) @ FER $\leq 8\%$
Rx Adjacent Channel Rejection	$\geq 35\text{dB}$ @ FER $\leq 8\%$, interference input signal -70dBm @ $f_c \pm 25\text{MHz}$ (11Mbps)

8) WLAN 802.11g transceiver specification

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

9) WLAN 802.11n 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) ≤ -45 @ ±30MHz offset (20MHz ~ 30MHz)
Transmitter constellation error (rms EVM)	≤ -5dB@6.5Mbps, ≤ -10dB@13Mbps, ≤ -13dB@19.5Mbps, ≤ -16dB@26Mbps, ≤ -19dB@39Mbps, ≤ -22dB@52Mbps, ≤ -25dB@58.5Mbps, ≤ -28dB@65Mbps
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@6.5Mbps, -79dBm@13Mbps, -77dBm@19.5Mbps -74dBm@26Mbps, -70dBm@39Mbps, -66dBm@52Mbps -65dBm@58.5Mbps, -64dBm@65Mbps
Rx Max input Sensitivity	≥ -20dBm(6.5,13,19.5,26,39,52,58.5,65Mbps) @ PER ≤ 10%
Rx Adjacent Channel Rejection	PER ≤ 10%, ACR ≥ 16dB@6.5Mbps, ACR ≥ 13dB@13Mbps, ACR ≥ 11dB@19.5Mbps, ACR ≥ 8dB@26Mbps, ACR ≥ 4dB@39Mbps, ACR ≥ 0dB@52Mbps ACR ≥ -1dB@58.5Mbps, ACR ≥ -2dB@65Mbps ※ ACR shall be measured by setting the desired signal's strength 3 dB above the rate-dependent sensitivity specified in min input sensitivity

10) GPS receiver specification

Item	Spec.
Sensitivity Test	Success rate $\geq$ 60% @ -154 dBm

11) Current consumption

** Test condition for Standby current consumption should be as below.

: Measurement time 1hr, with Agilent & CMT JIG

Item	Specification	
	WCDMA	GSM
1. Sleep Mode	Under 3.5mA	Under 3.5mA
2. Sleep : connector Ear jack	Under 4.5mA	Under 4.5mA
3. Current(Sleep & Idle AVG)	Under 4.5mA @ DRX 7	Under 4.5mA @ P.P 5
4. BT Connected idle	Under 6mA	Under 6mA
5. Talk Mode	- Max Pwr Under 600mA @ Avg - Tx 10dBm Under 400 mA @ Avg	GSM LVL 5 under 400 mA @ Avg
6. Power Off Mode	under 300uA	Under 300 uA
7. Backup Battery	under 8uA	under 8uA

12) RSSI indicator (Based on Cell power)

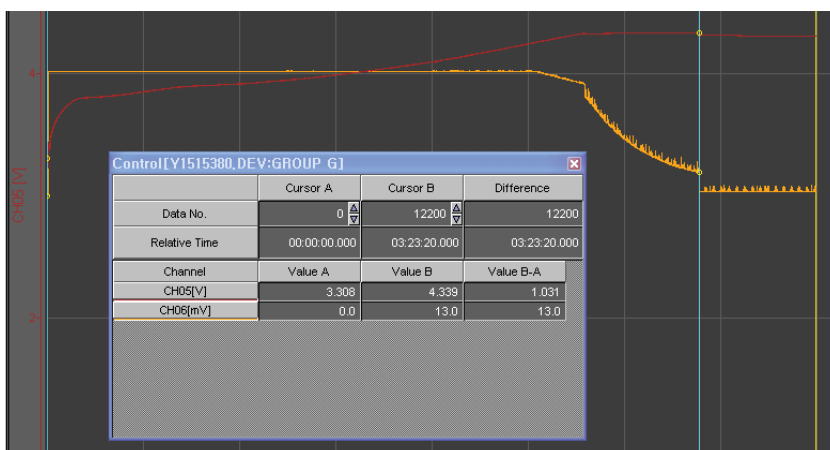
Antenna BAR	Specification		
	WCDMA	GSM	
5→4	-89±2	-91±2	dBm
4→3	-94±2	-96±2	
3→2	-100±2	-99±2	
2→1	-104±2	-103±2	
1→0	-110±2	-105±2	

13) Current consumption

Standby (WCDMA)	Over 400 Hours Under 4.5mA	DRX 7 @ BATT Capacity : 2040mAh
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14) Charging hour

Under 4 hour (2040mAh battery, 0.7A TA)



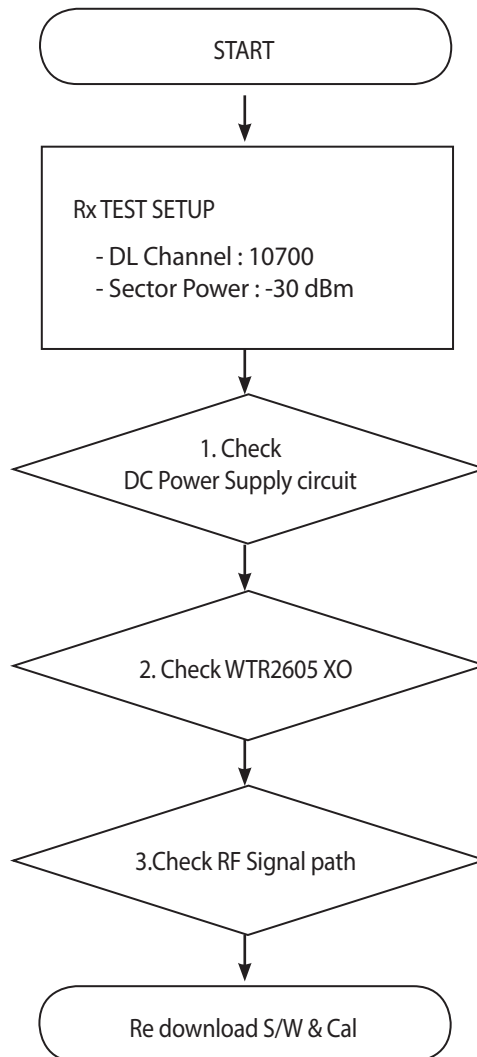
15) Battery indicator

Battery Bar	Specification	Battery Bar	Specification
Bar 20(Full)	98%	Bar 9 -> Bar 8	43% -> 42%
Bar 20 -> Bar 19	98% -> 97%	Bar 8 -> Bar 7	38% -> 37%
Bar 19 -> Bar 18	93% -> 92%	Bar 7 -> Bar 6	33% -> 32%
Bar 18 -> Bar 17	88% -> 87%	Bar 6 -> Bar 5	28% -> 27%
Bar 17 -> Bar 16	83% -> 82%	Bar 5 -> Bar 4	23% -> 22%
Bar 16 -> Bar 15	78% -> 77%	Bar 4 -> Bar 3	18% -> 17%
Bar 15 -> Bar 14	73% -> 72%	Bar 3 -> Bar 2	13% -> 12%
Bar 14 -> Bar 13	68% -> 67%	Bar 2 -> Bar 1	8% -> 7%
Bar 13 -> Bar 12	63% -> 62%	Bar 1 -> Bar 0	3% -> 2%
Bar 12 -> Bar 11	58% -> 57%	Power off	1%
Bar 11 -> Bar 10	53% -> 52%	Low battery pop-up	15% , 5%, 0%
Bar 10 -> Bar 9	48% -> 47%		

3. TROUBLE SHOOTING

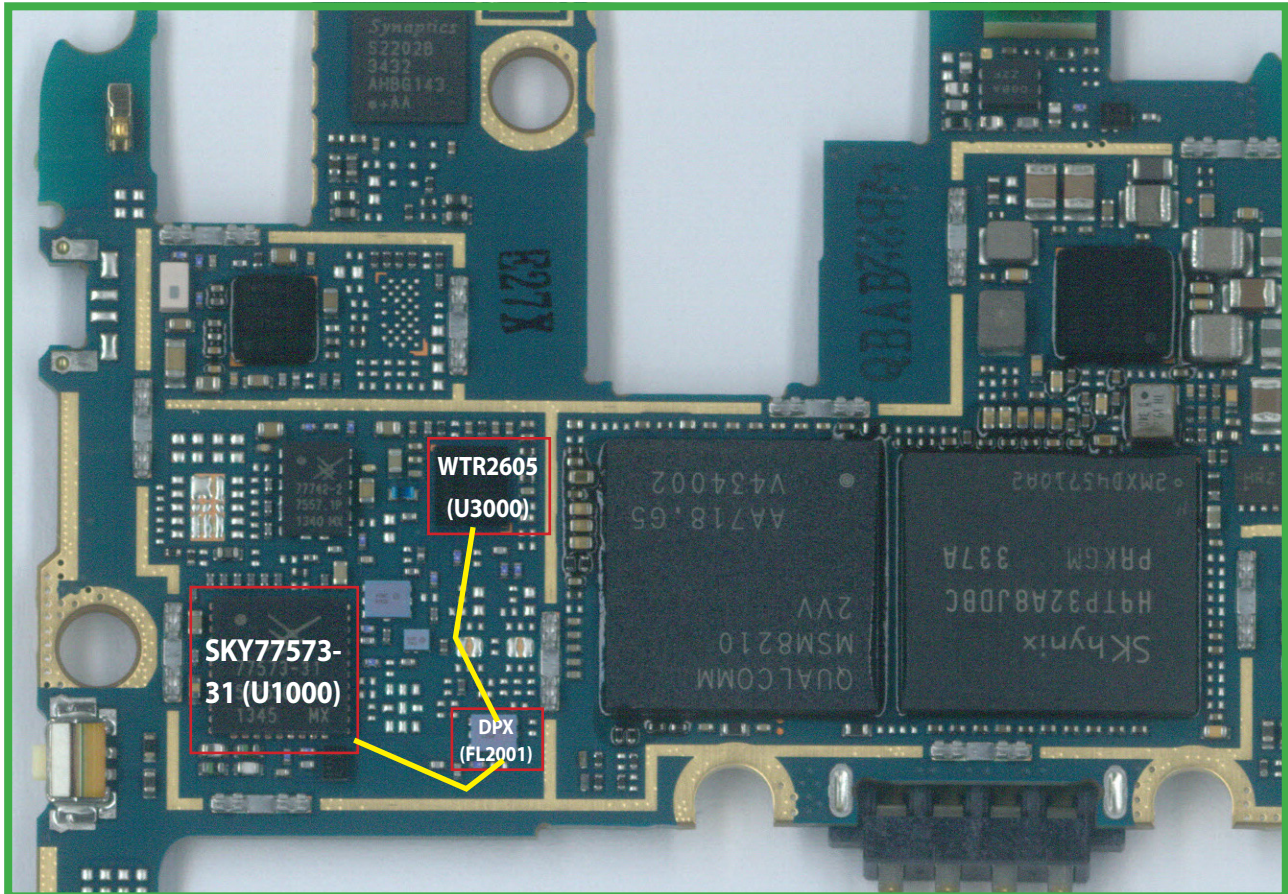
3.1 WCDMA Rx Part

3.1.1 WCDMA_B1 Rx



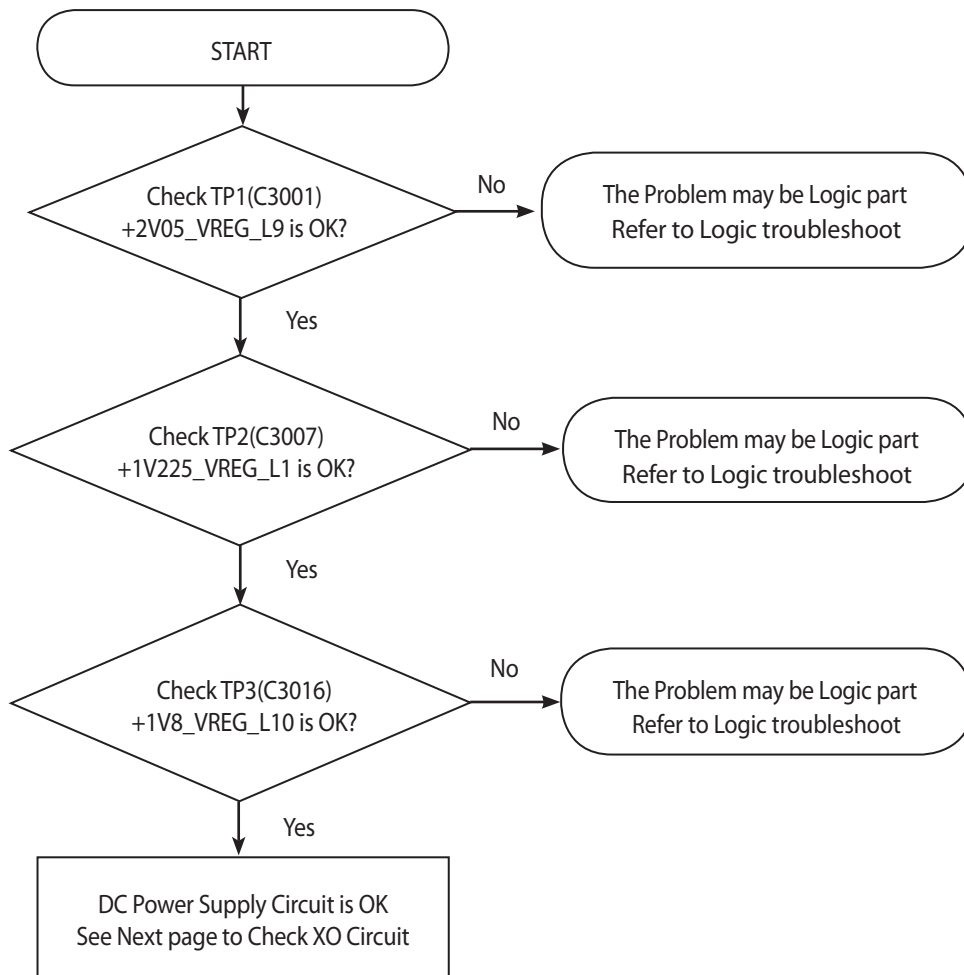
* There are no Test Points on the IQ Data Line. So It is impossible to check the IQ Data Wave form

3. TROUBLE SHOOTING

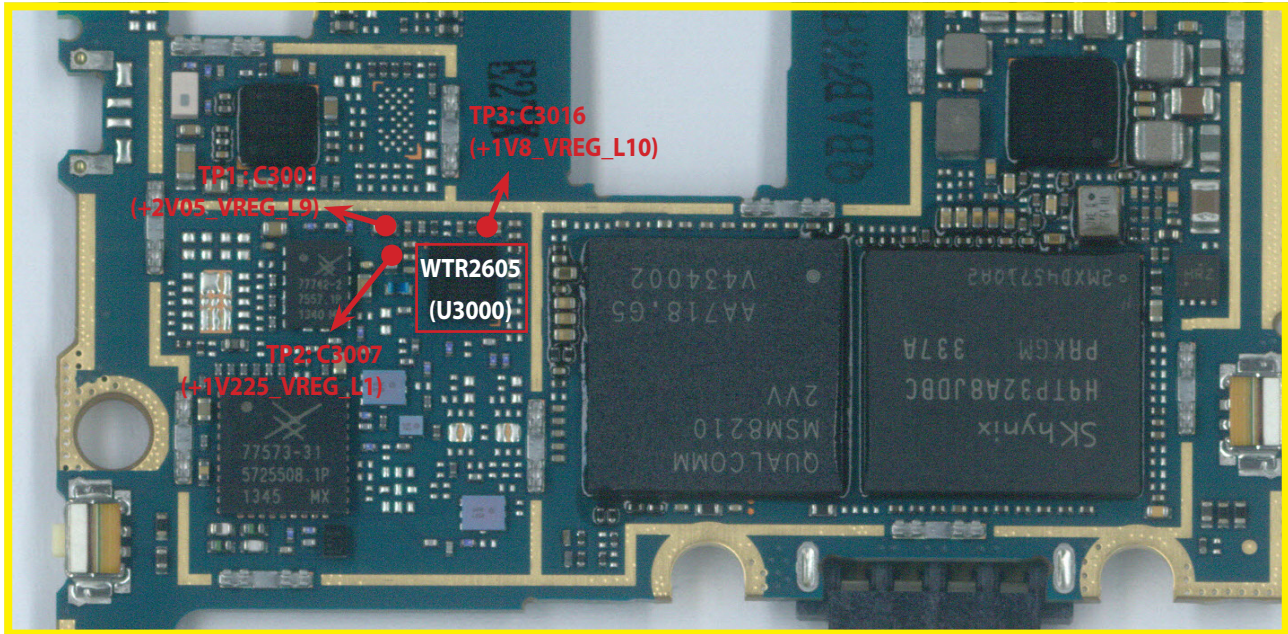


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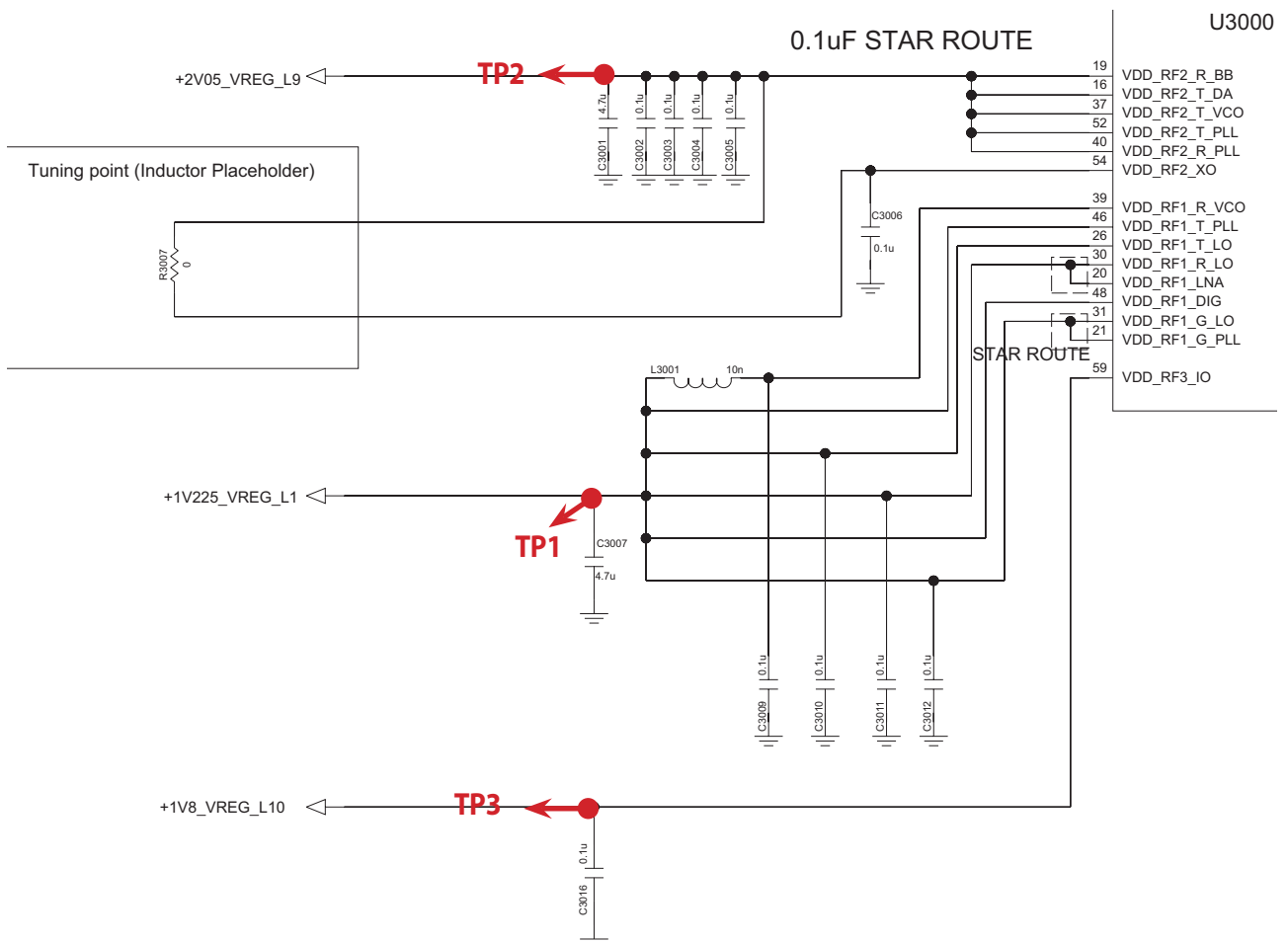
3.1.1.1 Checking DC Power supply circuit



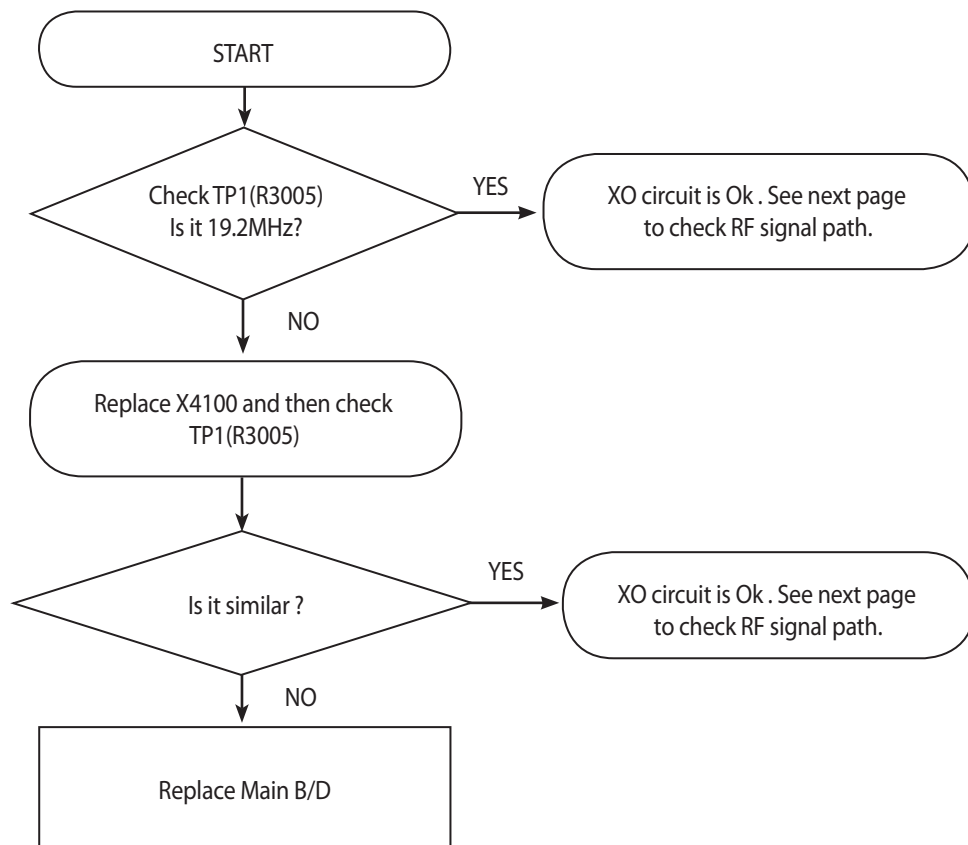
3. TROUBLE SHOOTING



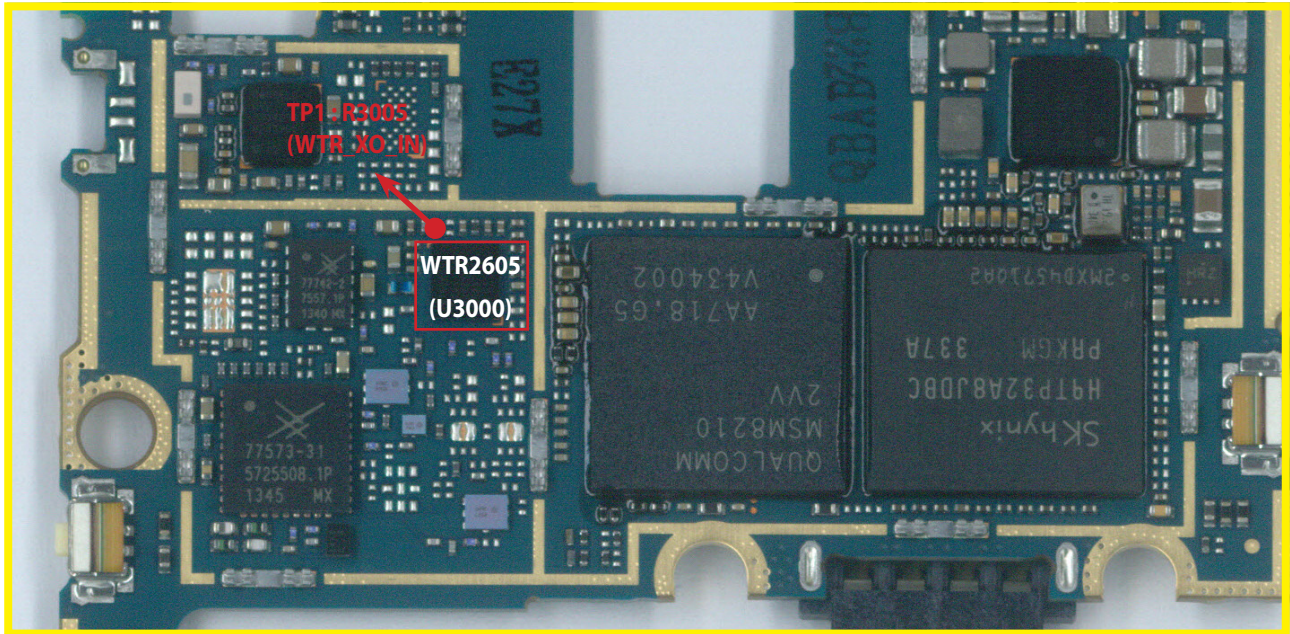
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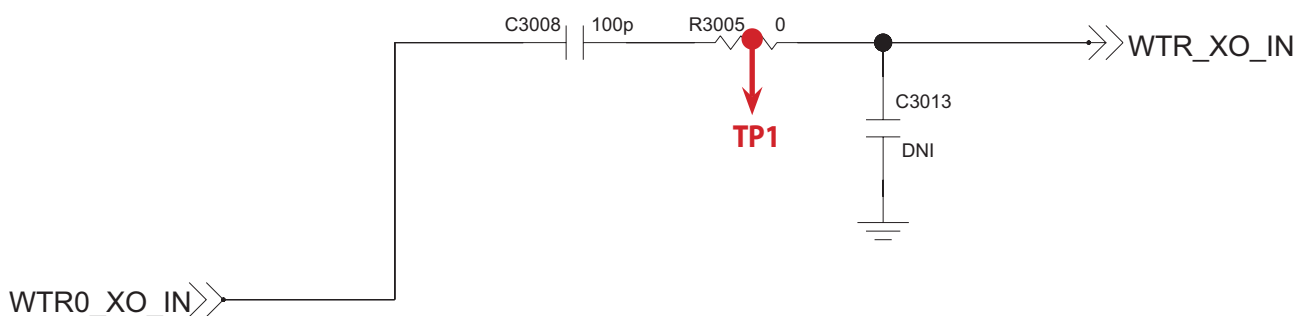
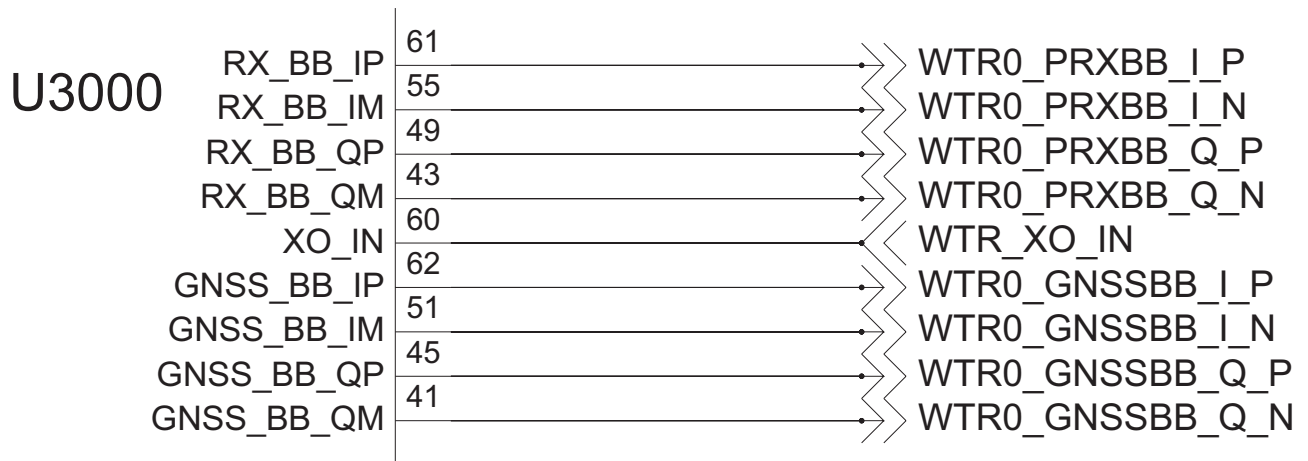
3.1.1.2 Checking WTR2605 XO circuit



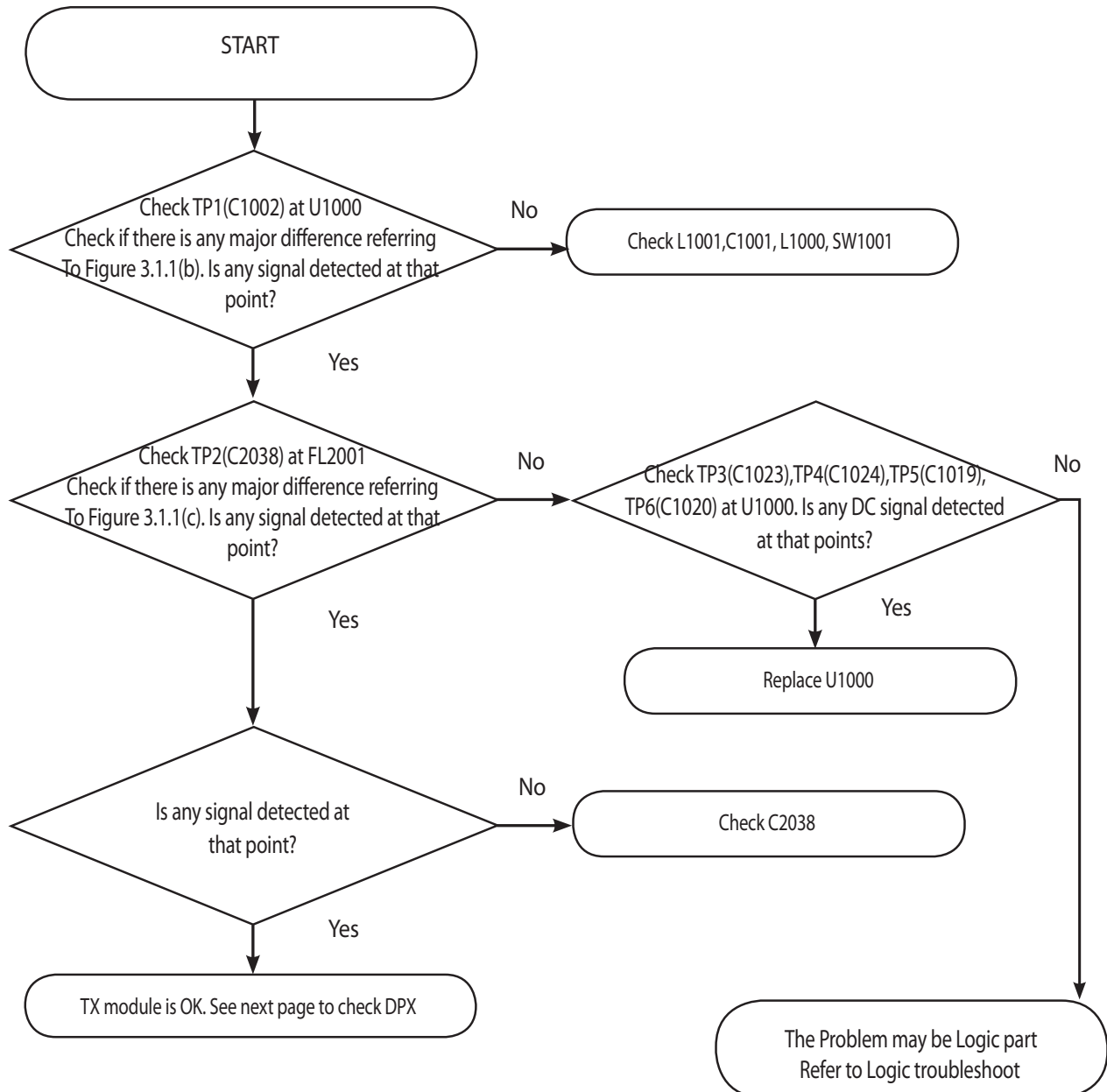
3. TROUBLE SHOOTING



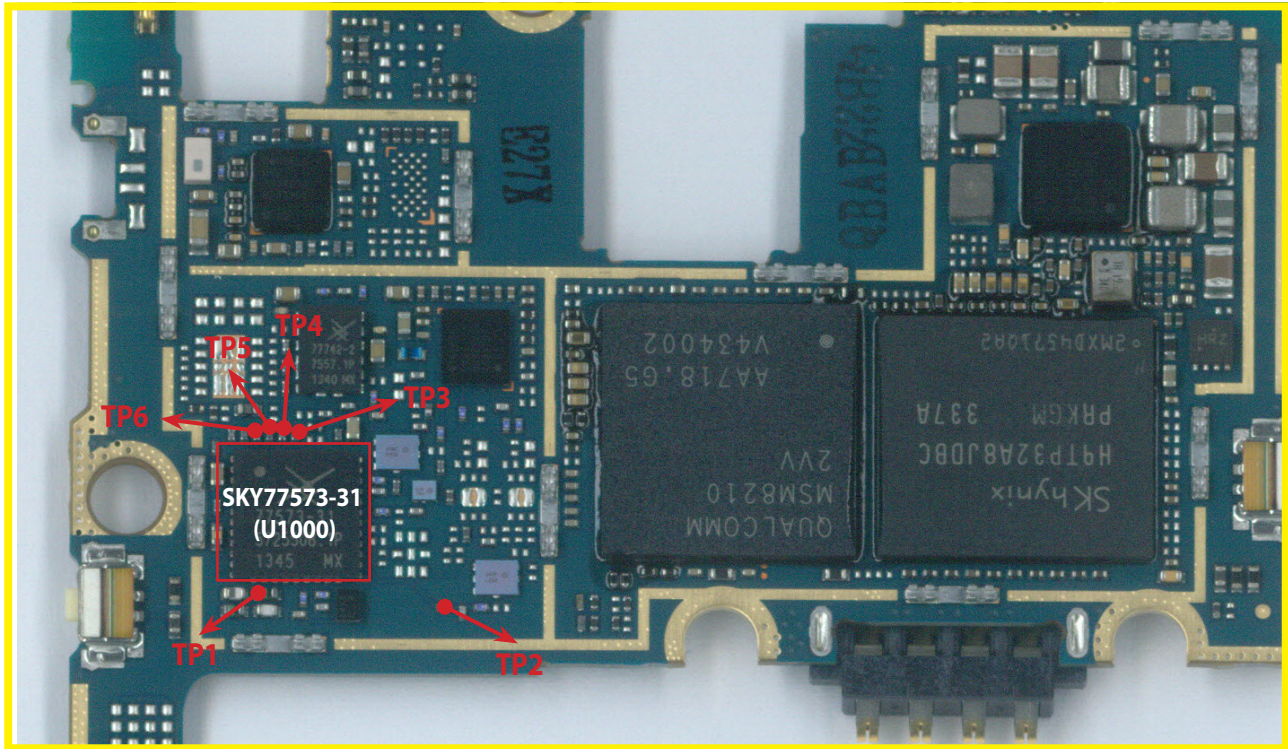
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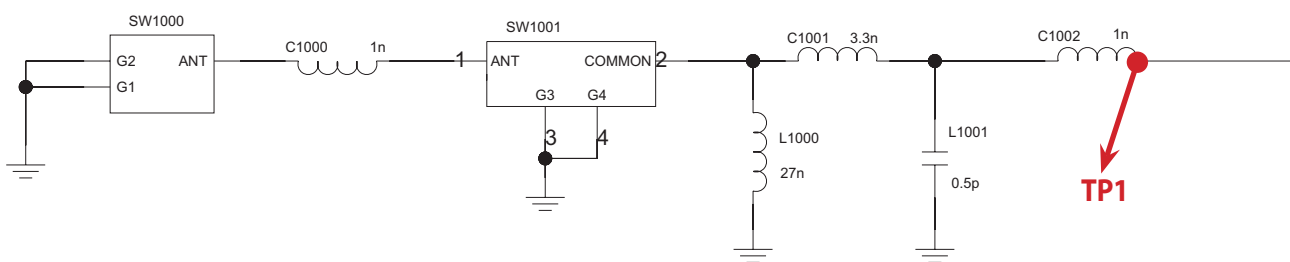
3.1.1.3 Checking RF signal path (TX Module)



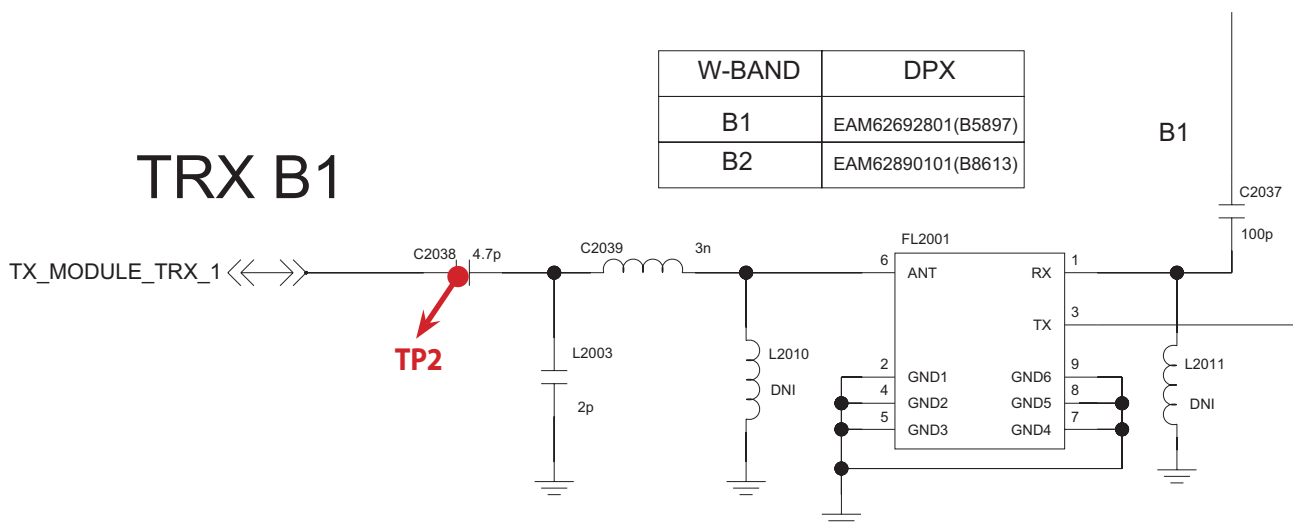
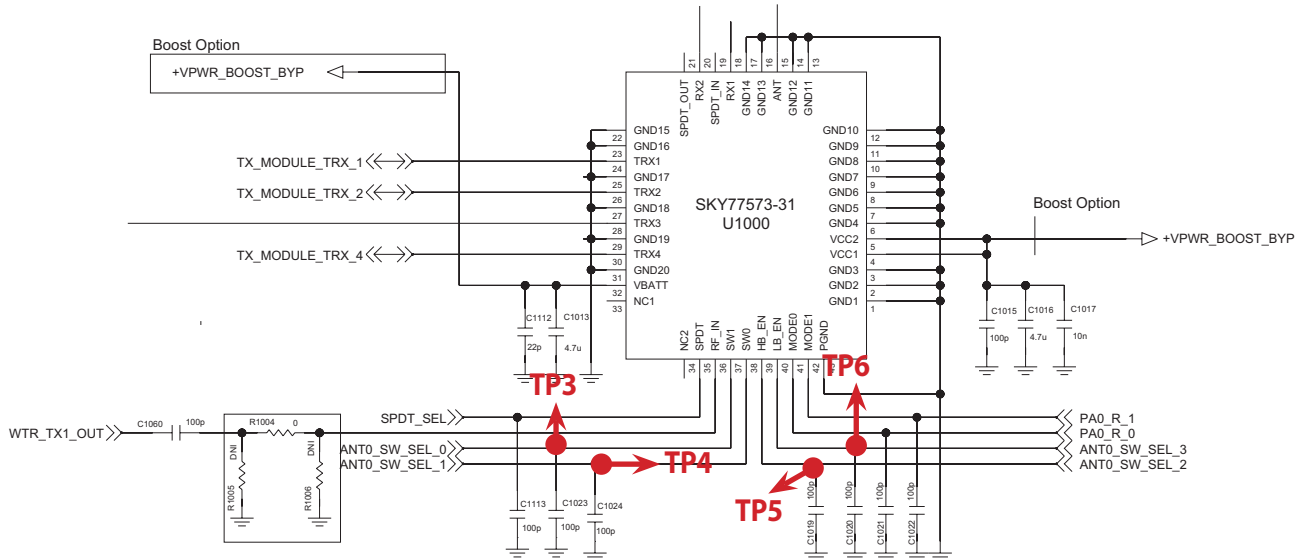
3. TROUBLE SHOOTING



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3. TROUBLE SHOOTING



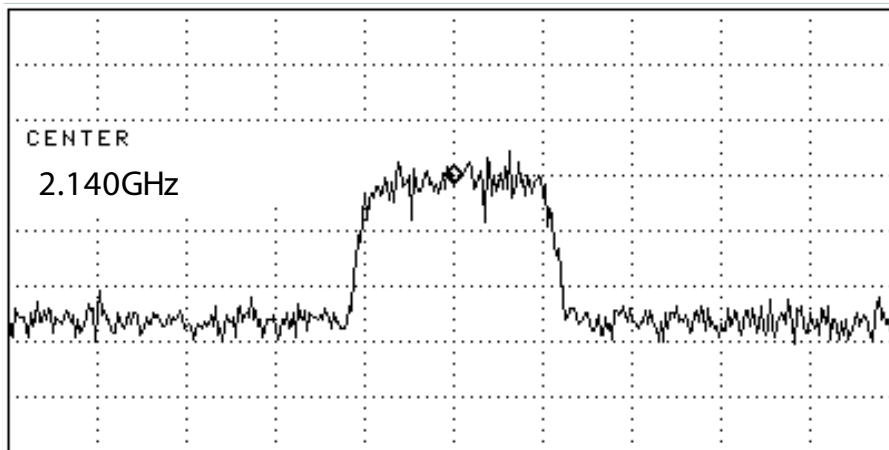


Figure 3.1.1 (b) TP1

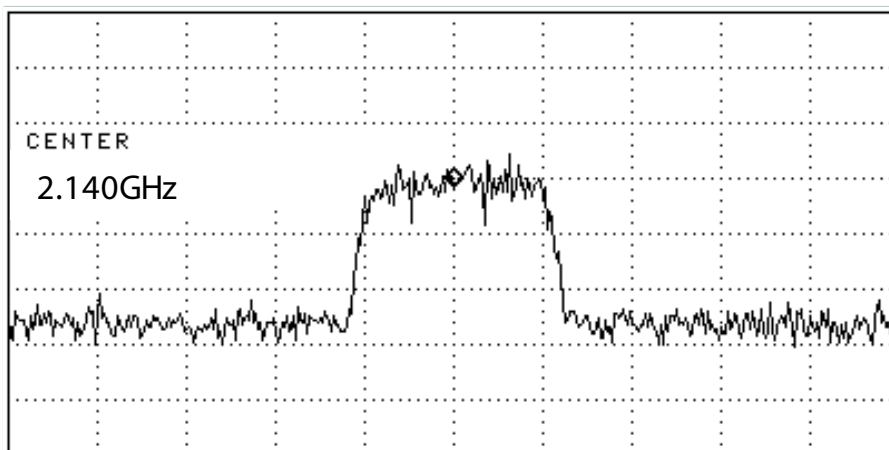
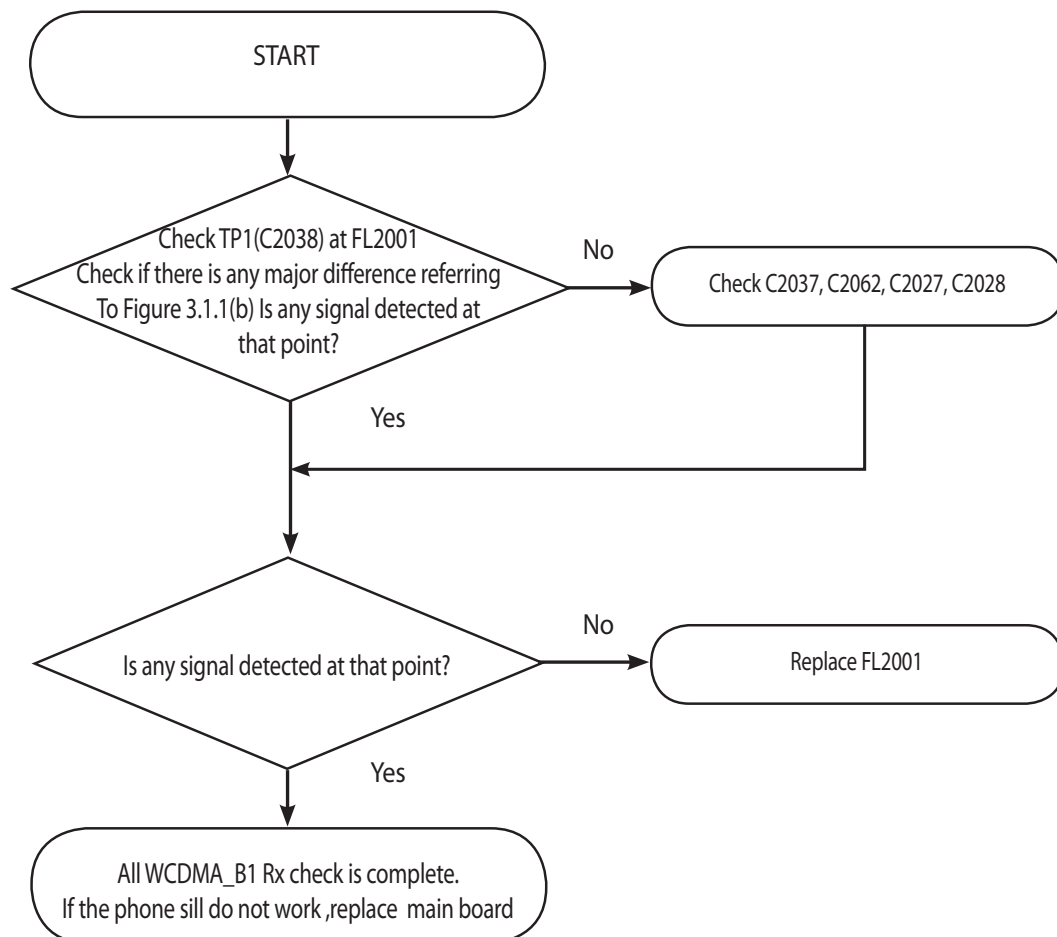
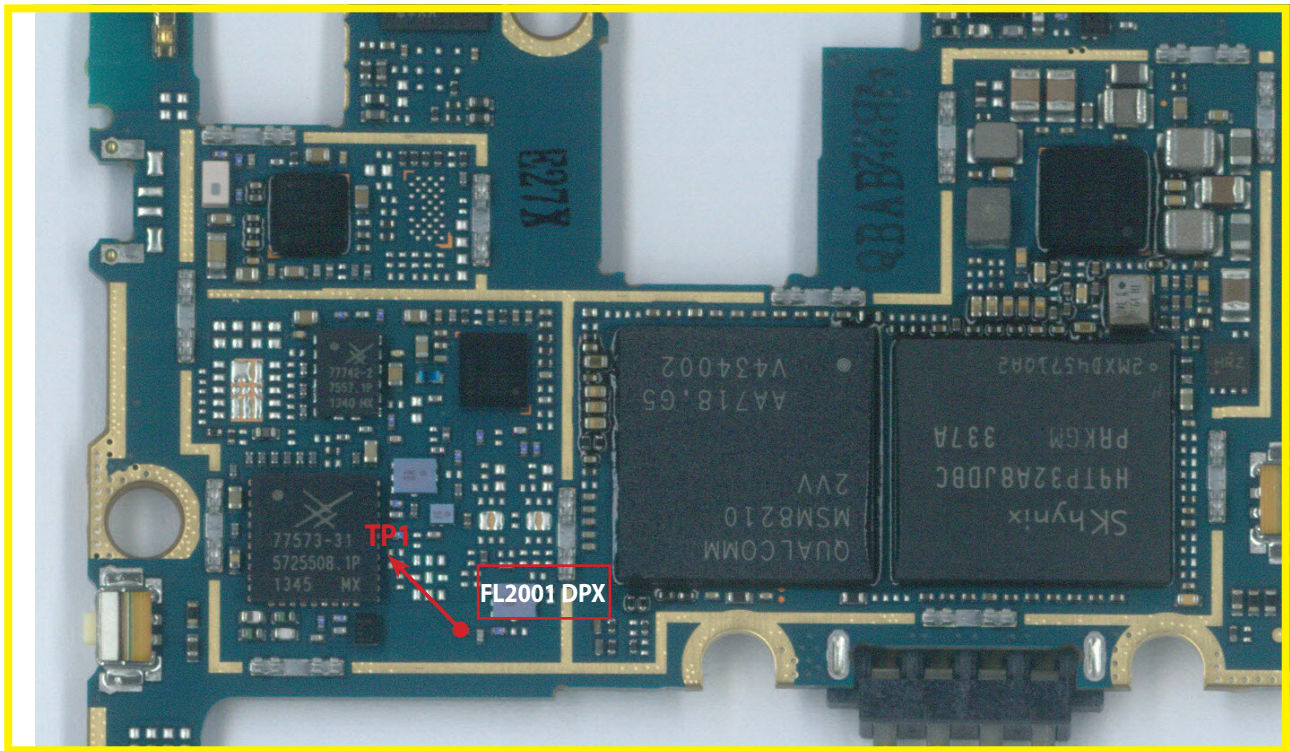


Figure 3.1.1 (c) TP2

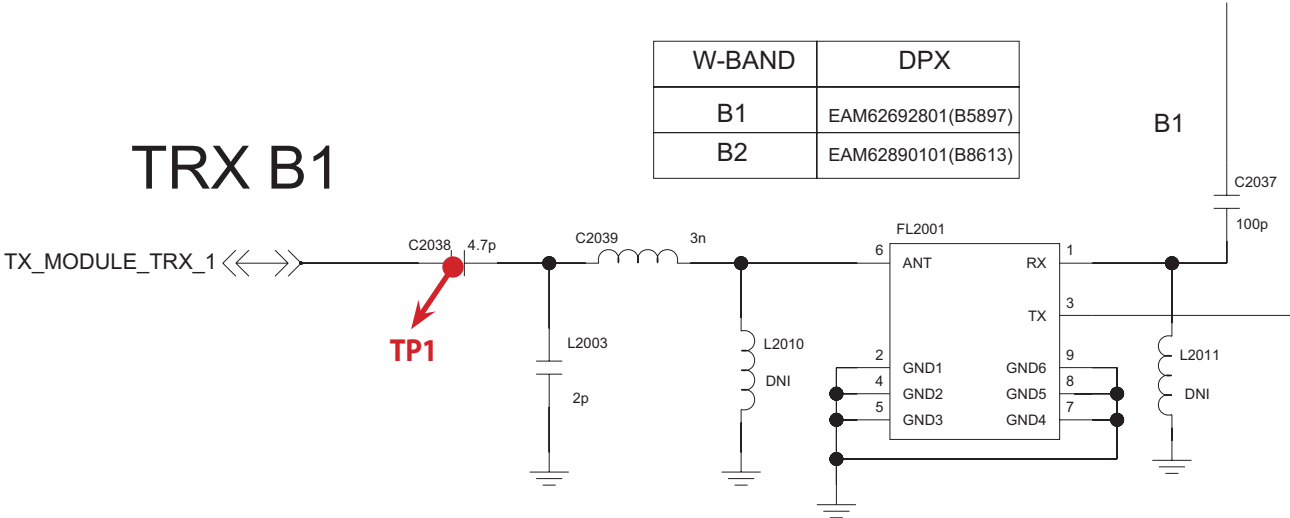
3.1.1.4 Checking RF signal path(Duplexer)



3. TROUBLE SHOOTING



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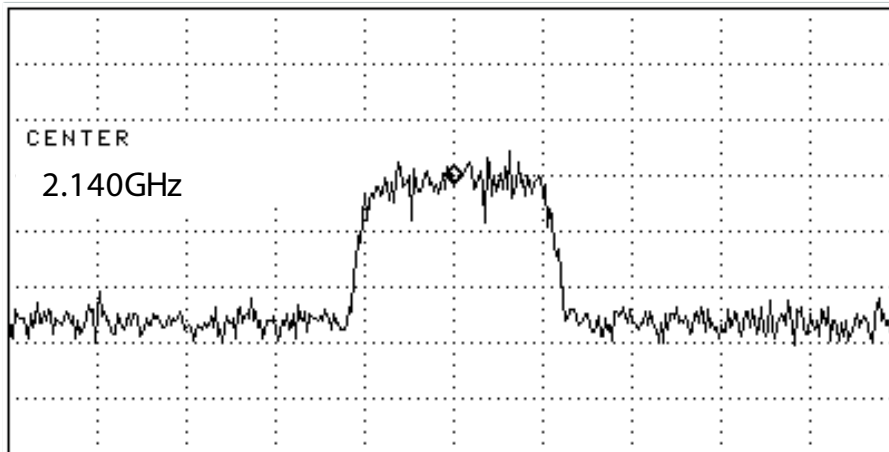
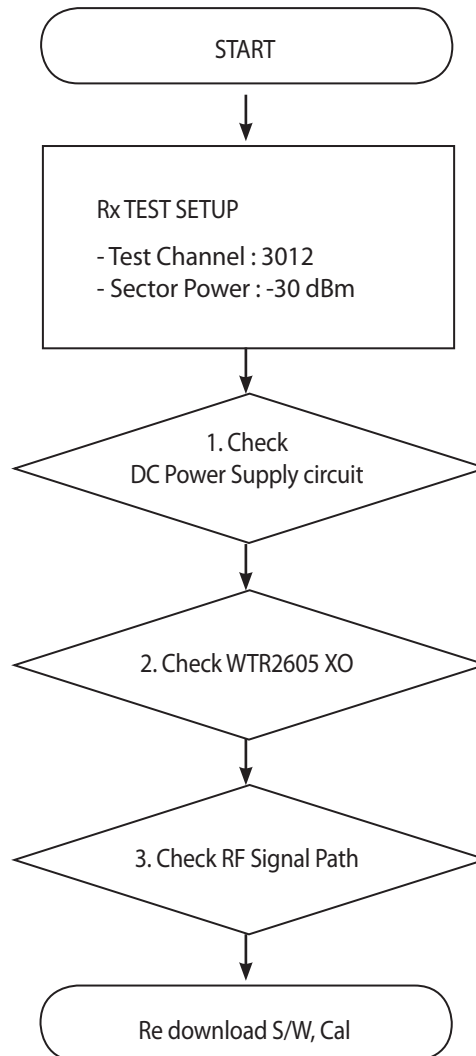


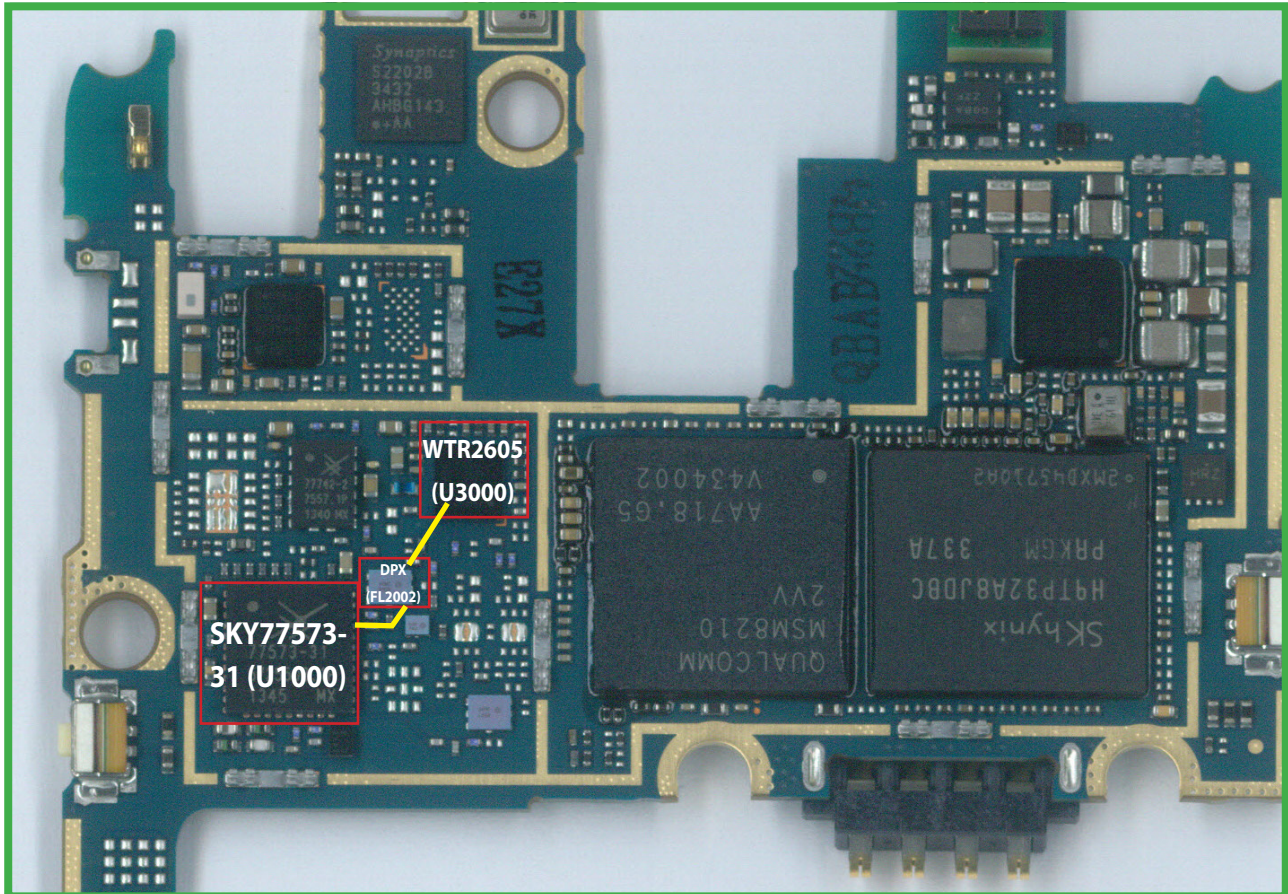
Figure 3.1.1 (b)

3.1.2 WCDMA_B8 Rx



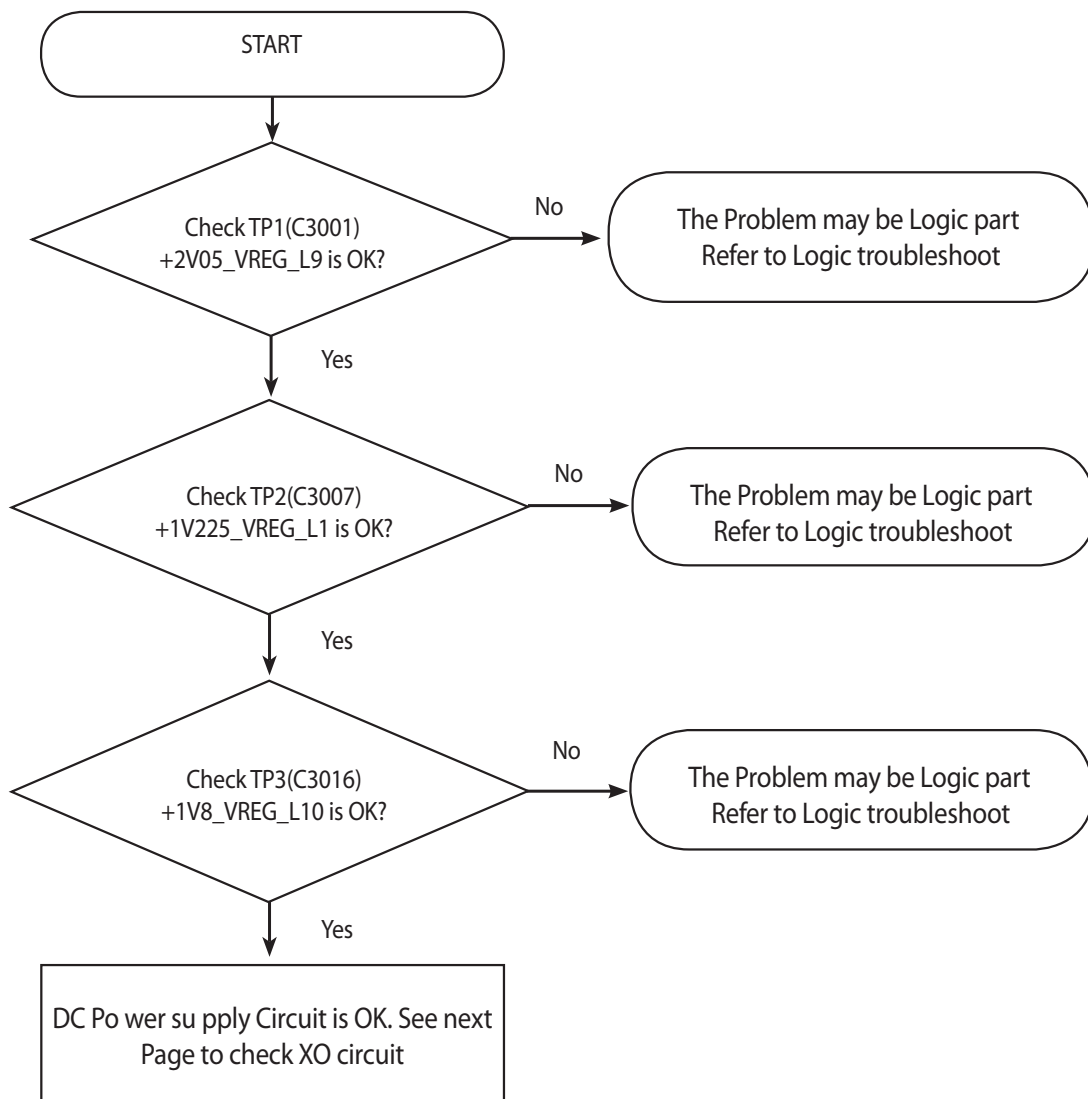
there are no Test Points on the IQ Data Line. So It is impossible to check the IQ Data Wave form

3. TROUBLE SHOOTING

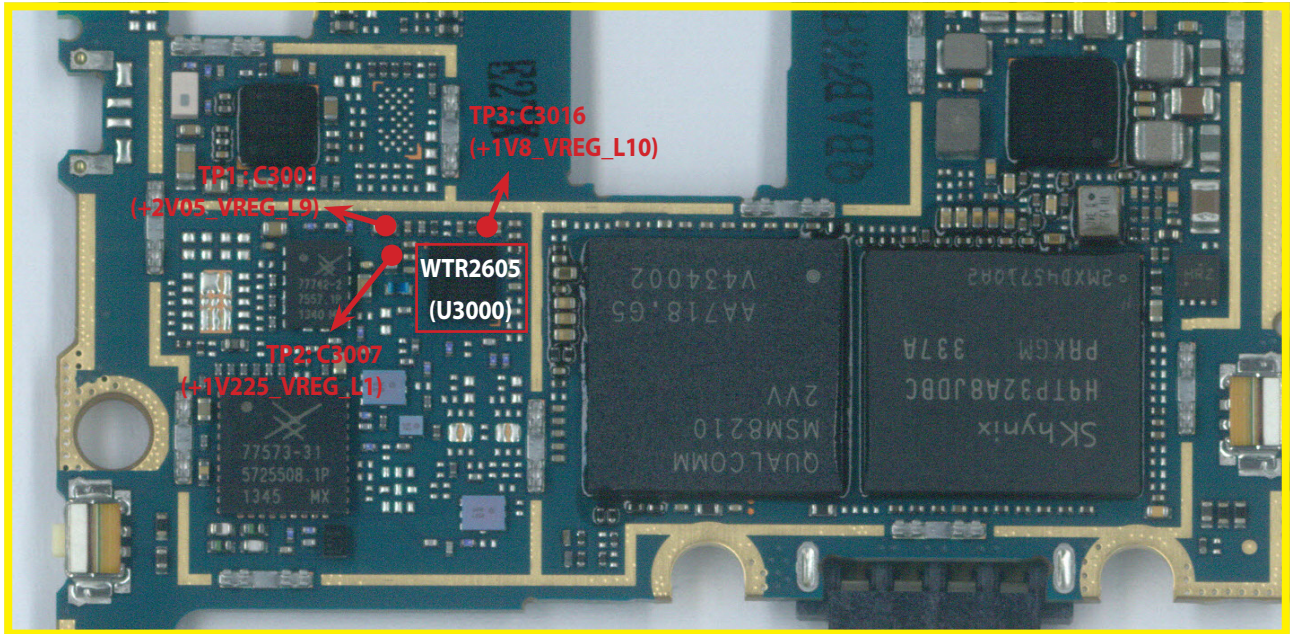


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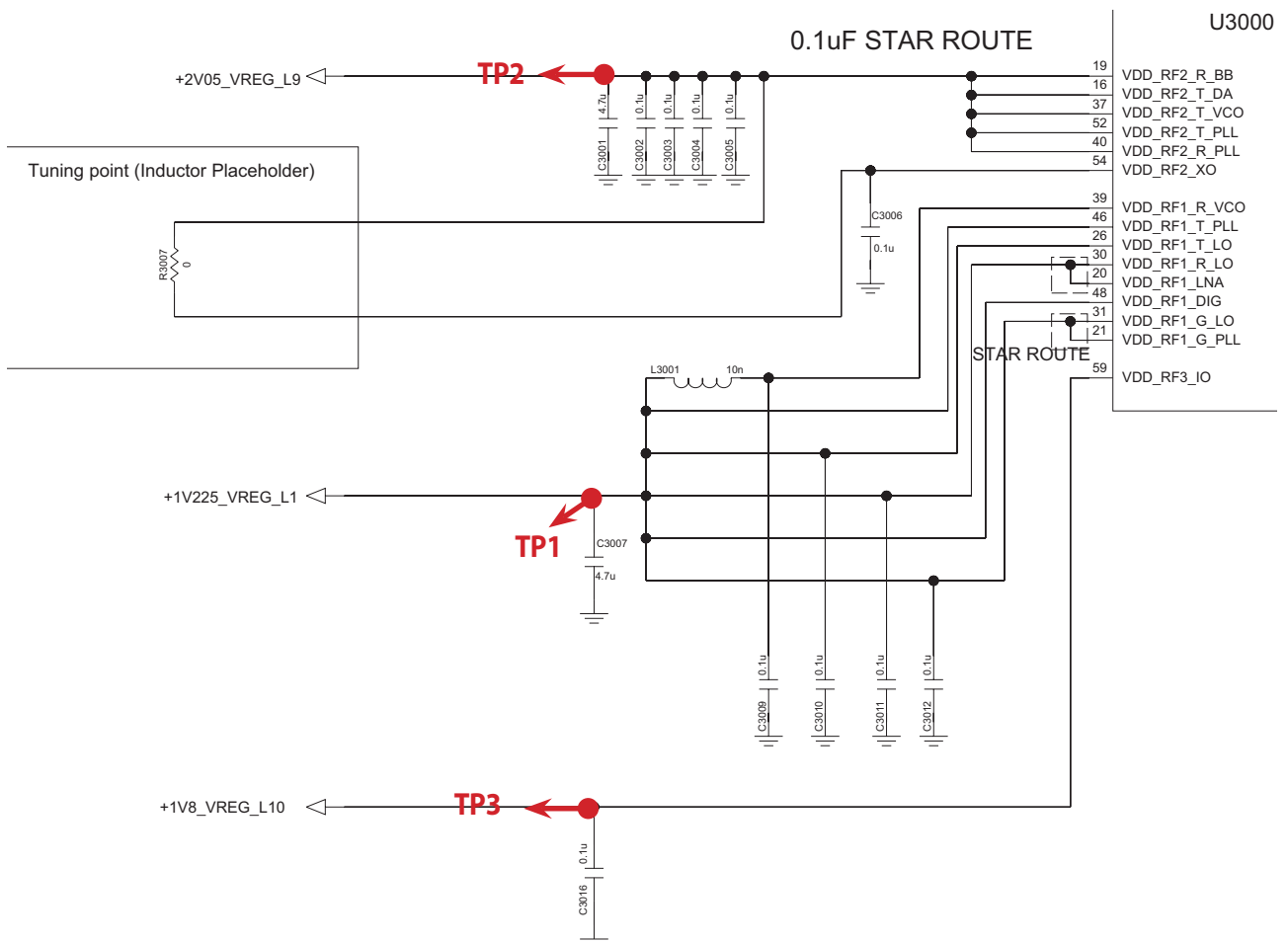
3.1.2.1 Checking DC Power supply circuit



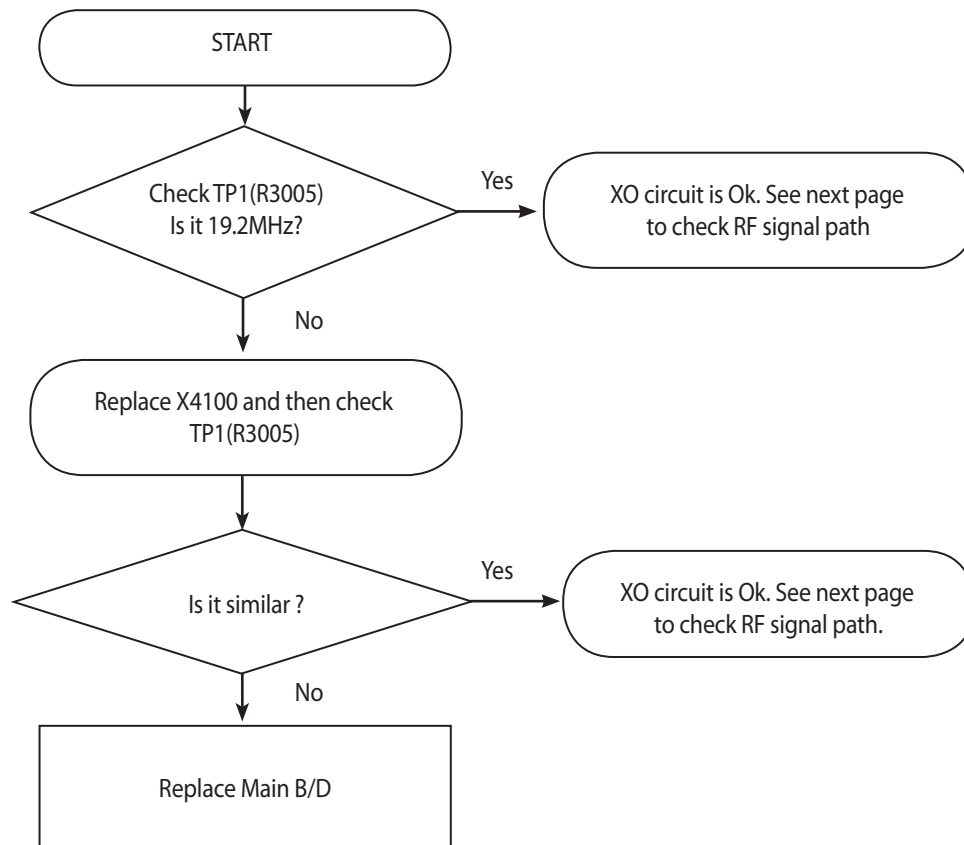
3. TROUBLE SHOOTING



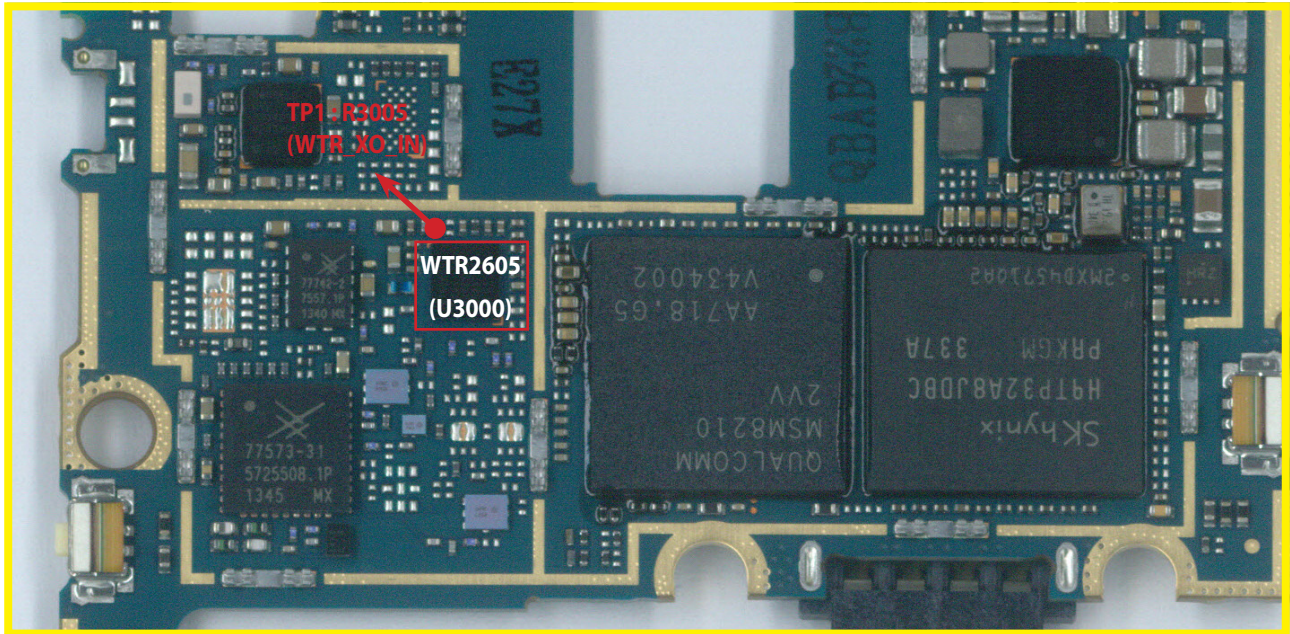
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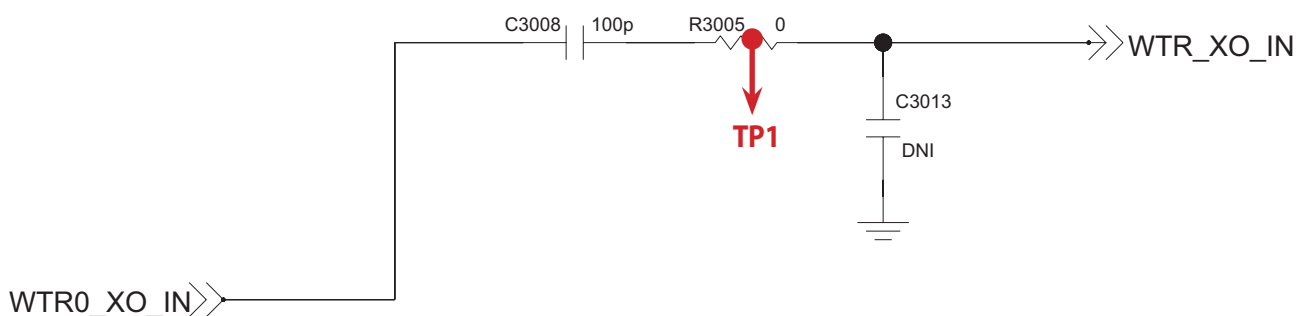
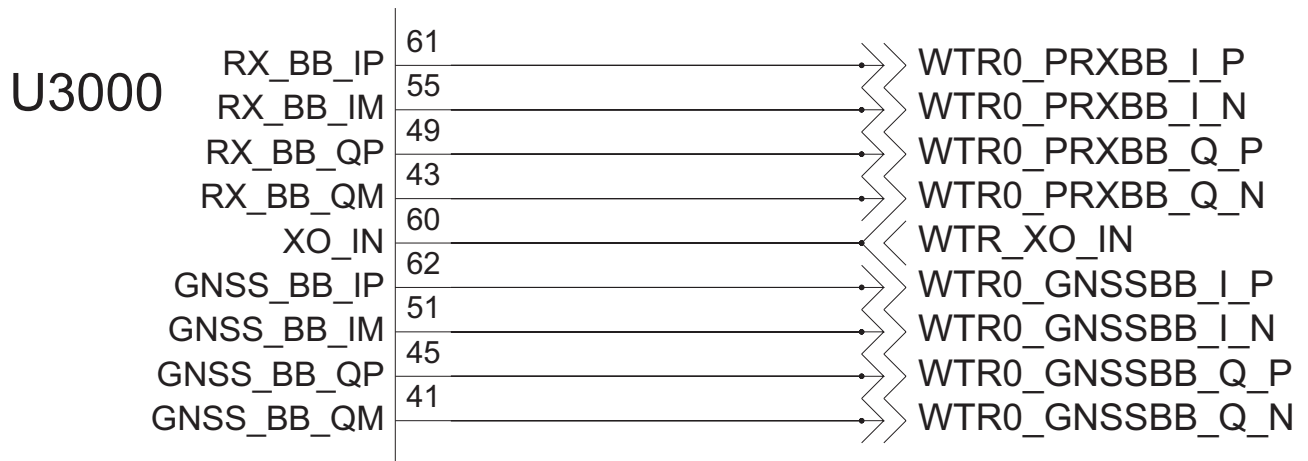
3.1.2.2 Checking MT6162 XO circuit



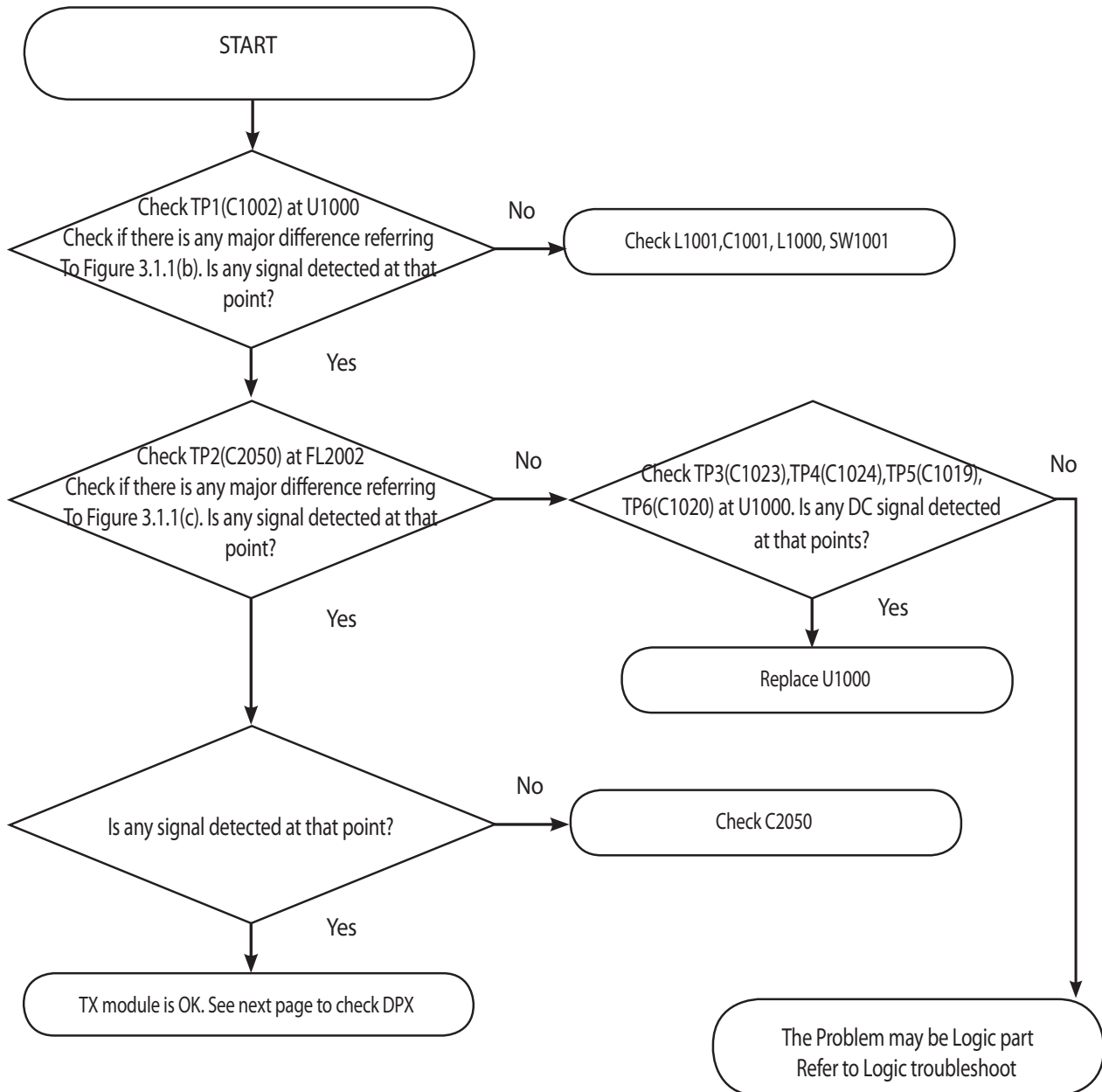
3. TROUBLE SHOOTING



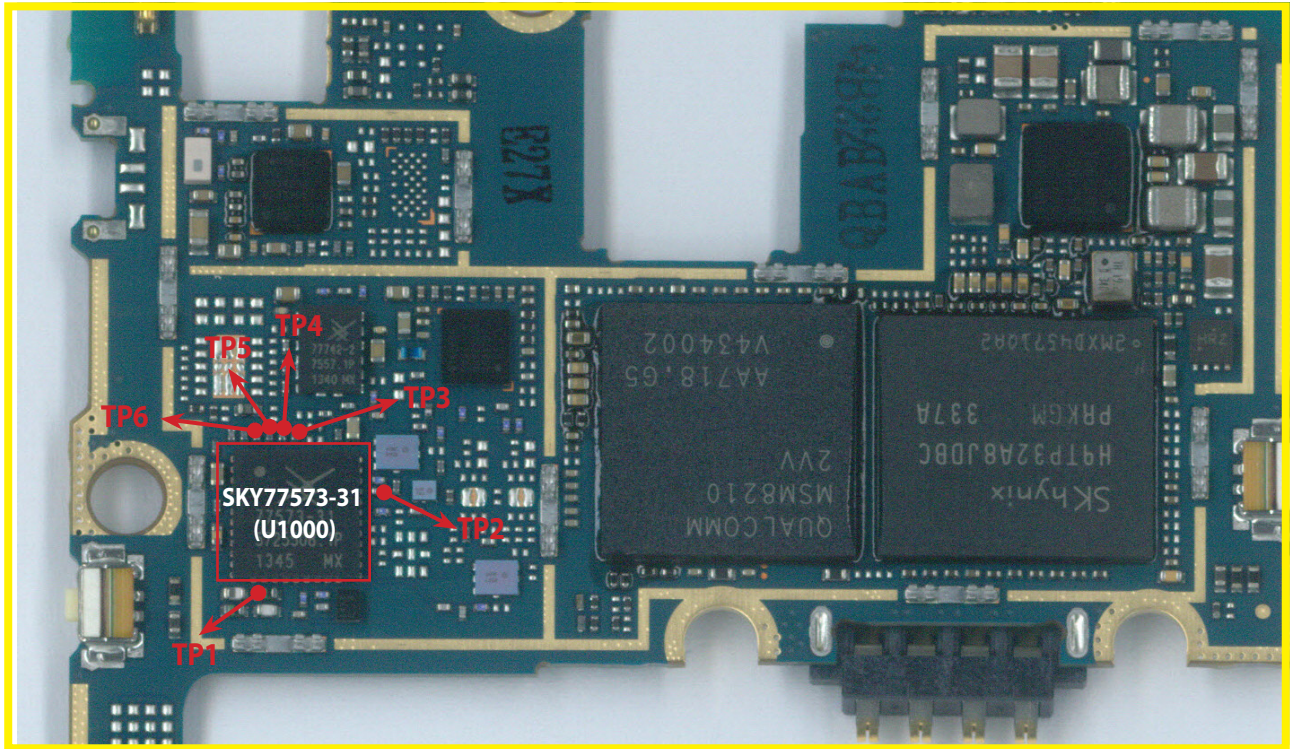
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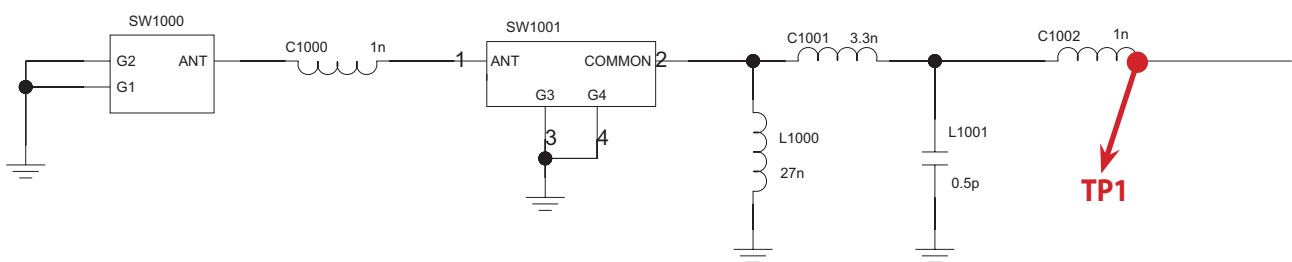
3.1.2.3 Checking RF signal path (Tx Module)

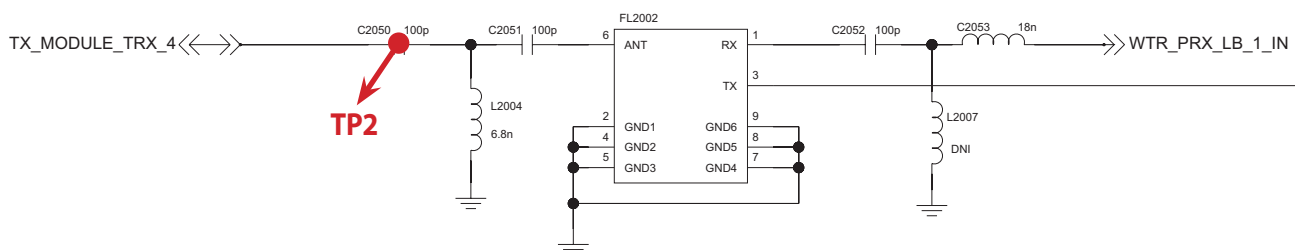
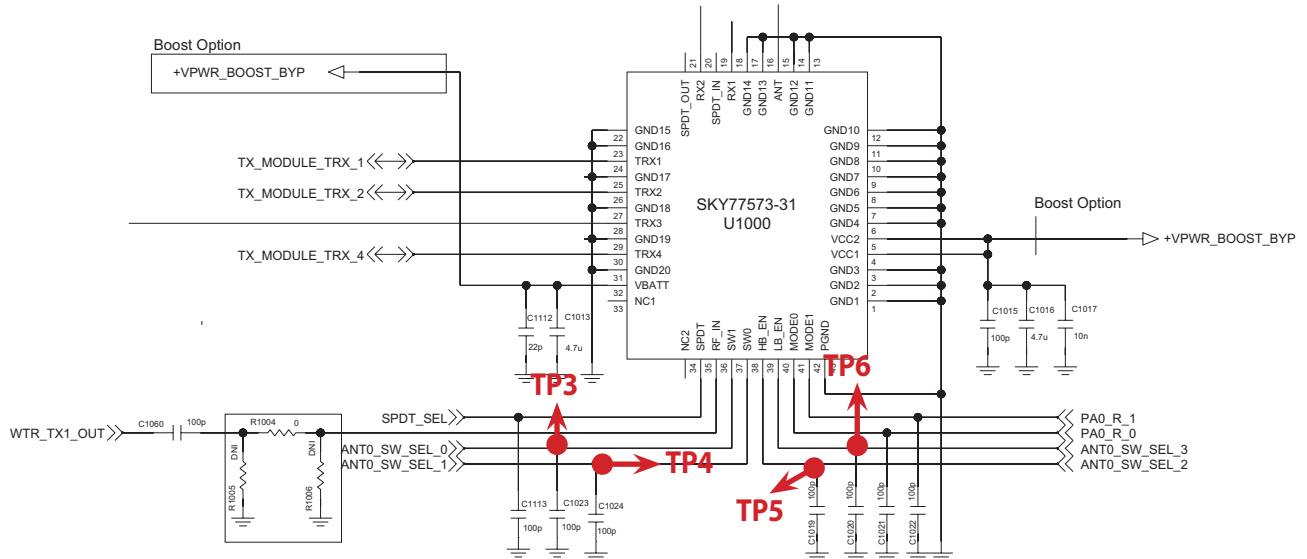


3. TROUBLE SHOOTING



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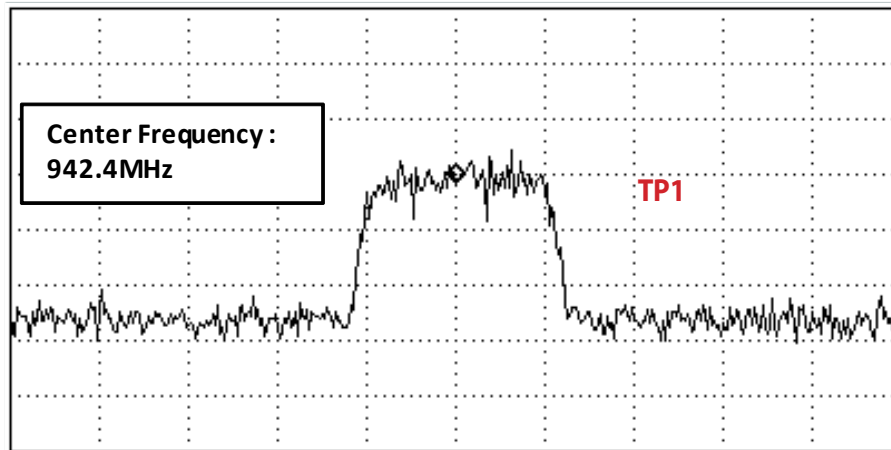


Figure 3.1.1 (b)

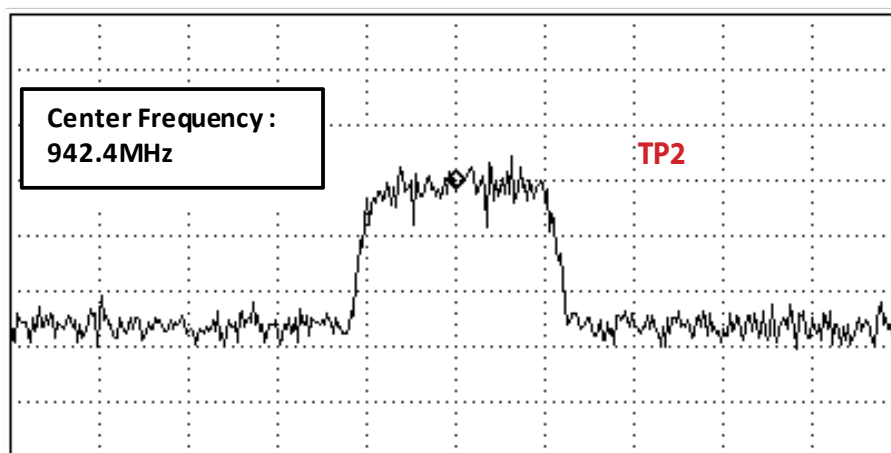


Figure 3.1.1 (c)

3.1.2.4 Checking RF signal path (FEM)

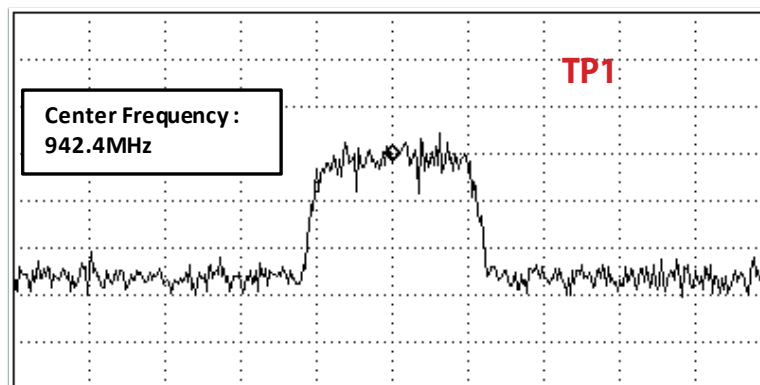
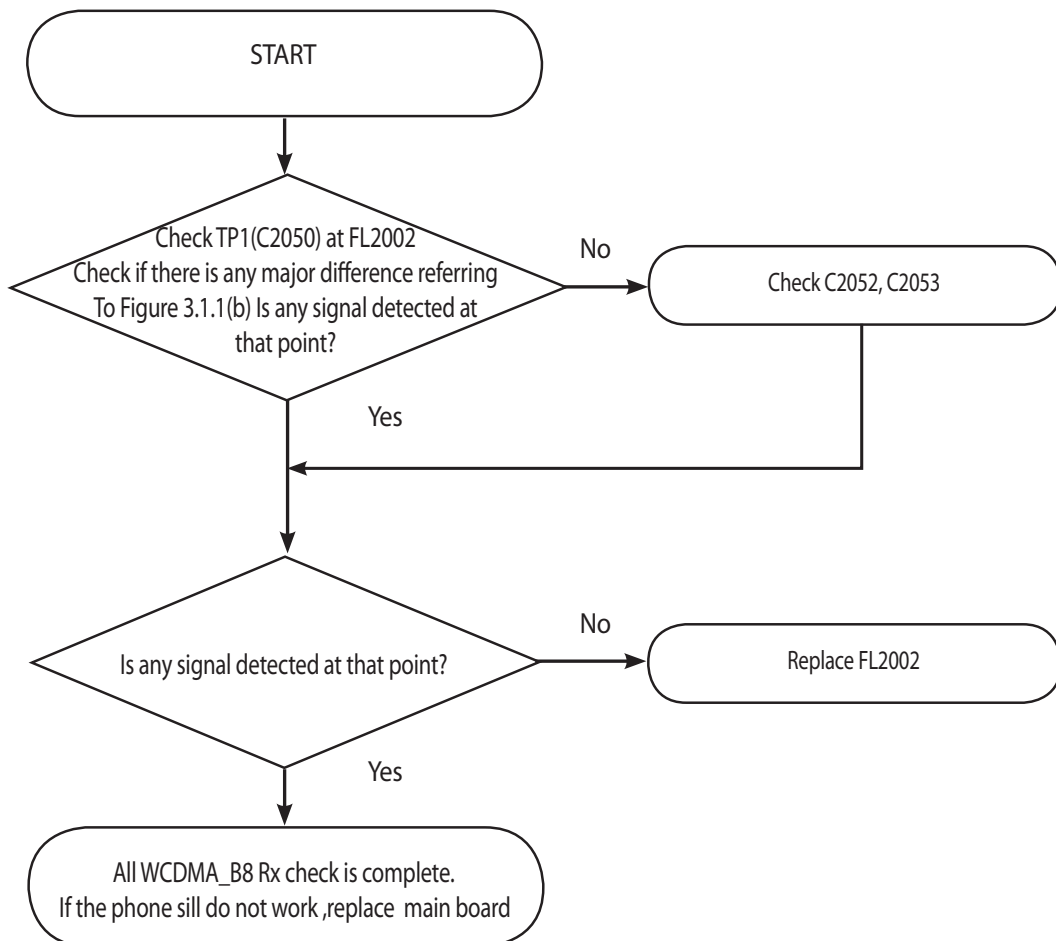
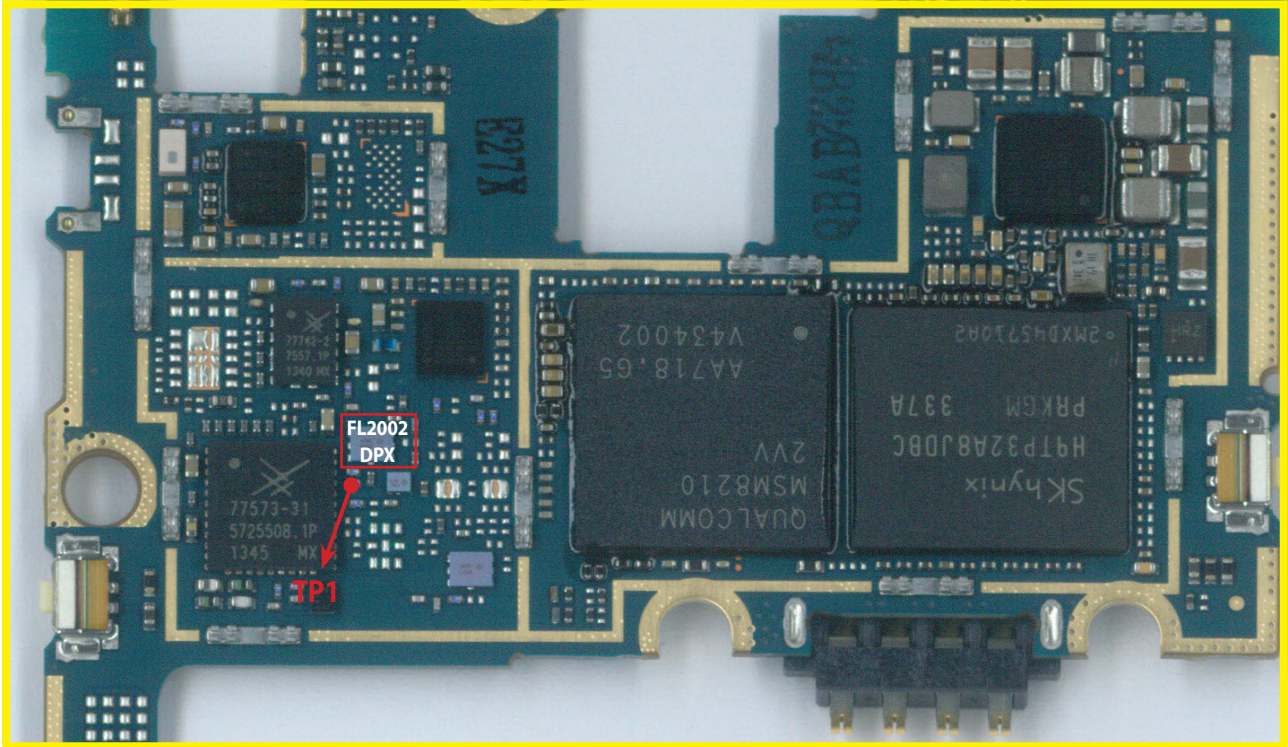
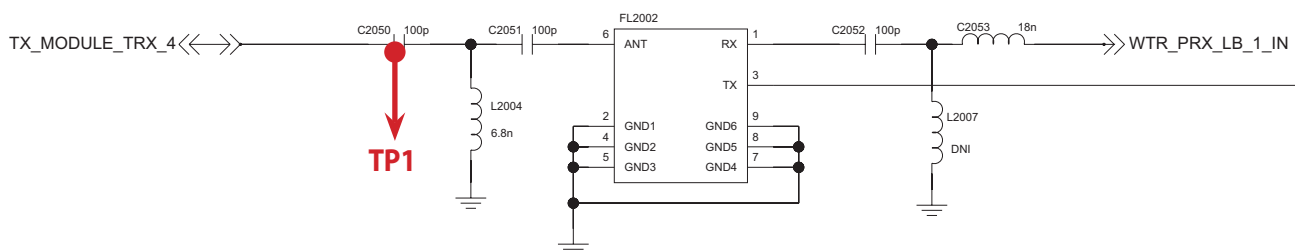


Figure 3.1.1 (b)

3. TROUBLE SHOOTING

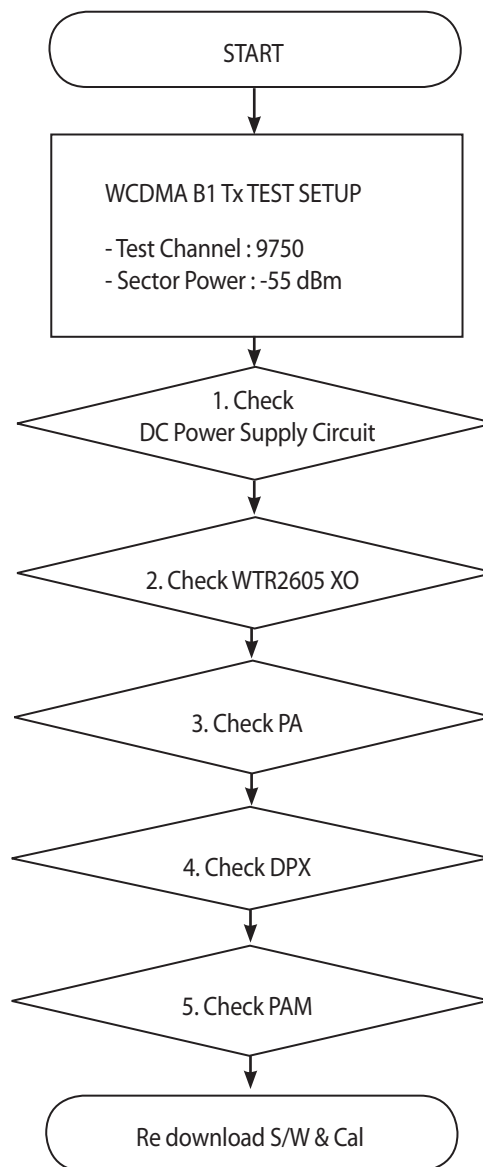


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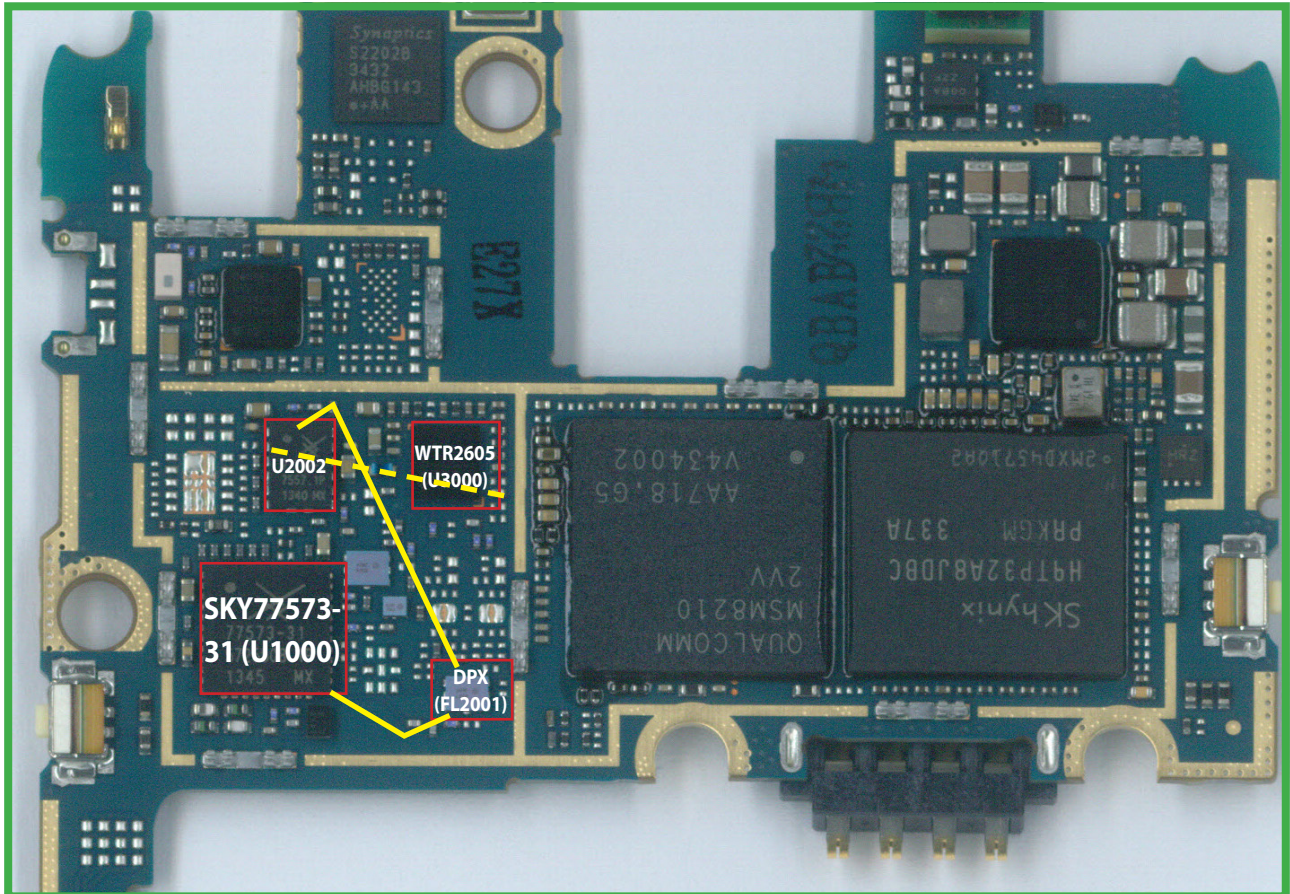
3.2 WCDMA Tx Part Trouble

3.2.1 WCDMA_B1 Tx



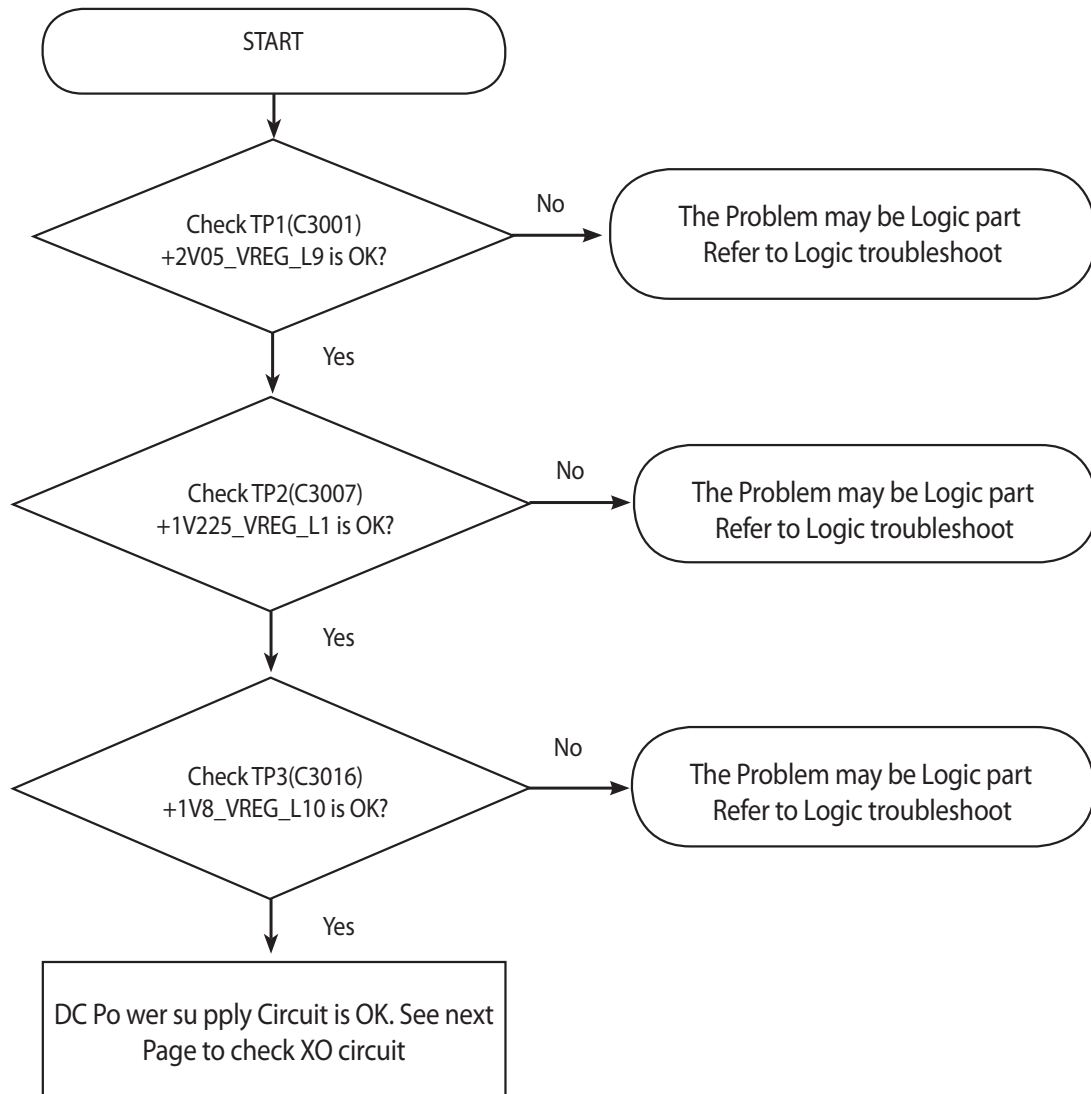
* There are no Test Points on the IQ Data Line. So It is impossible to check the IQ Data Wave form

3. TROUBLE SHOOTING

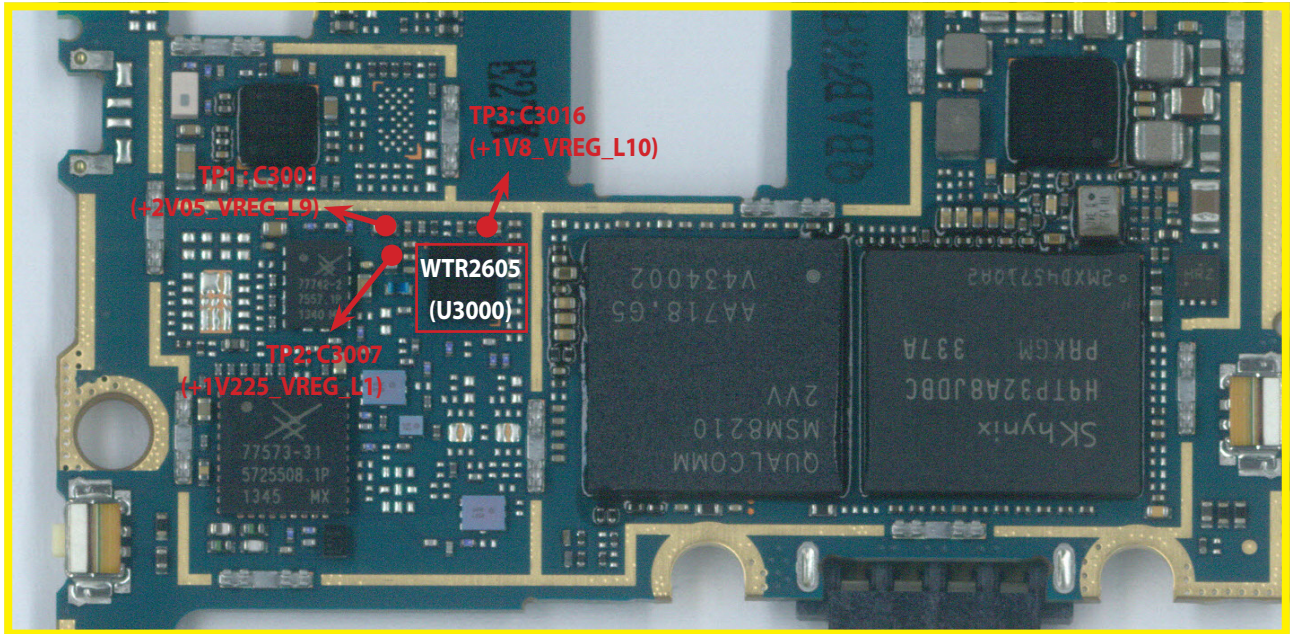


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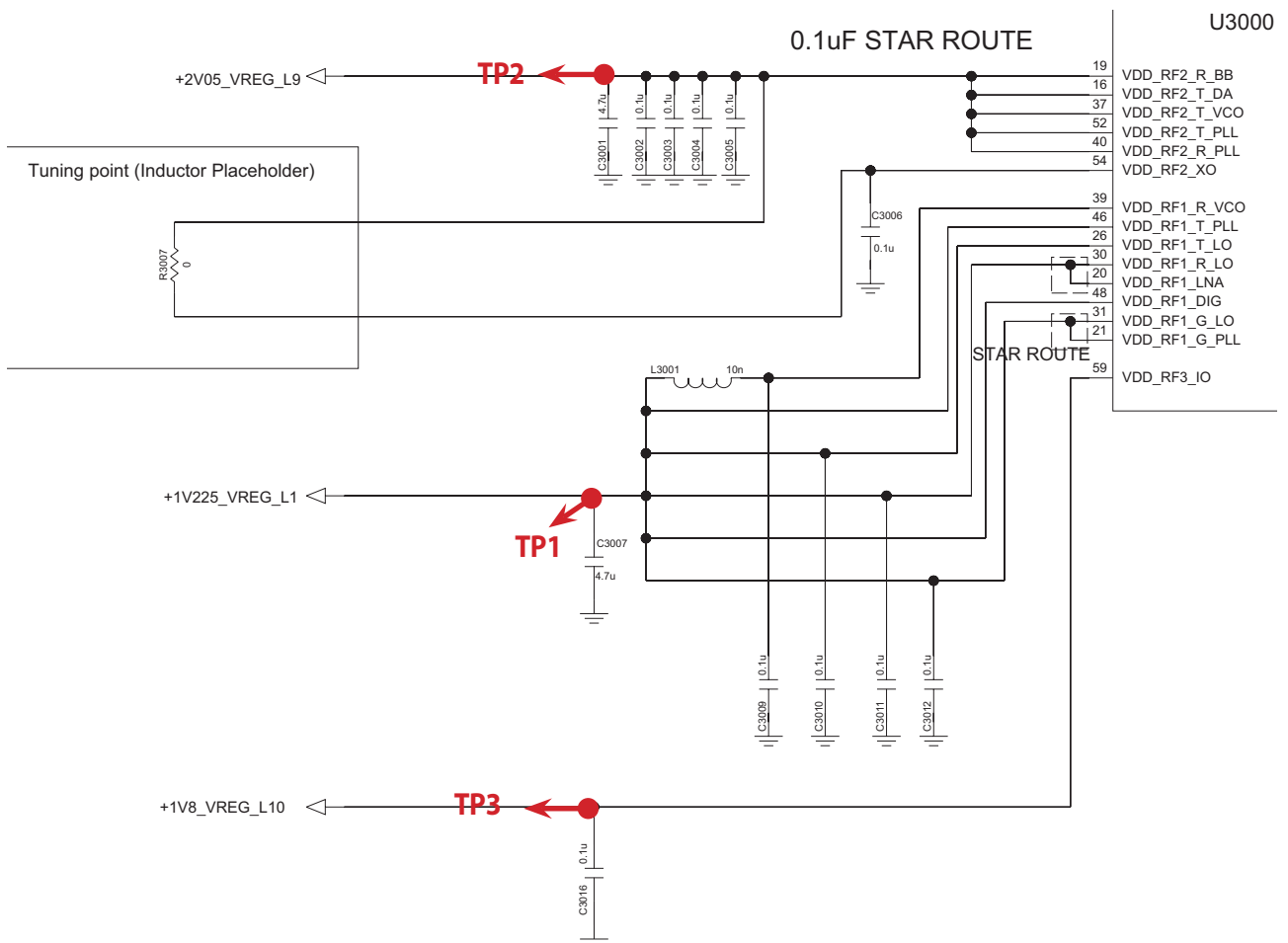
3.2.1.1 Checking DC Power supply circuit



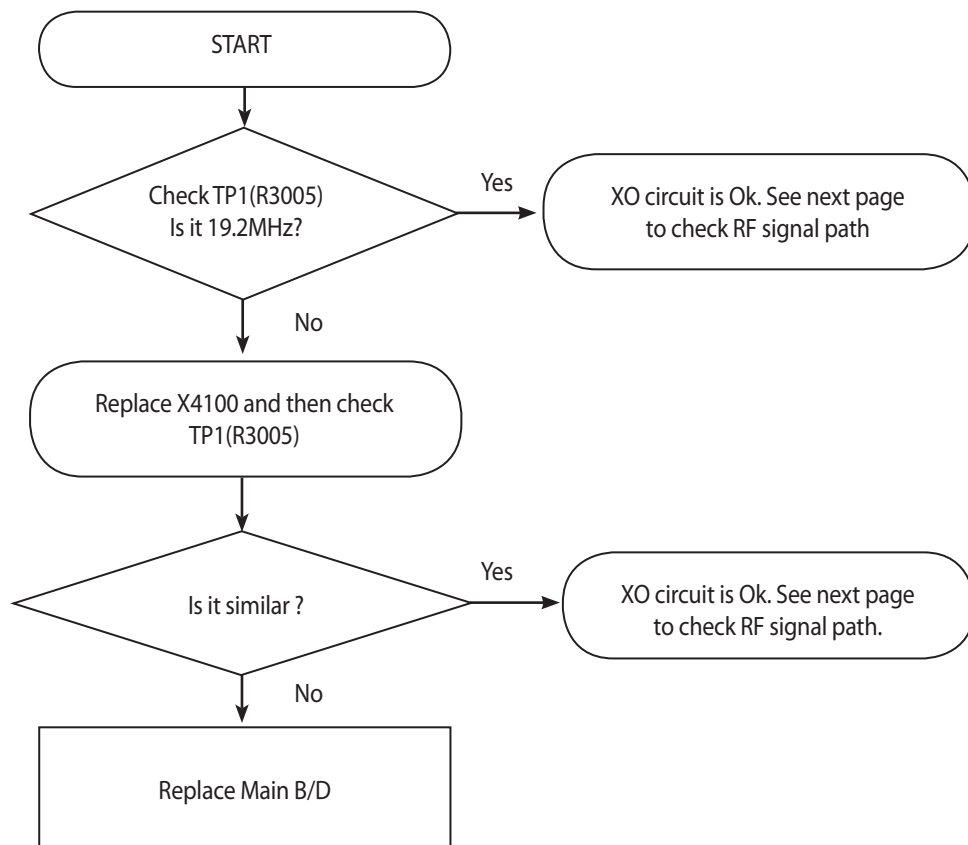
3. TROUBLE SHOOTING



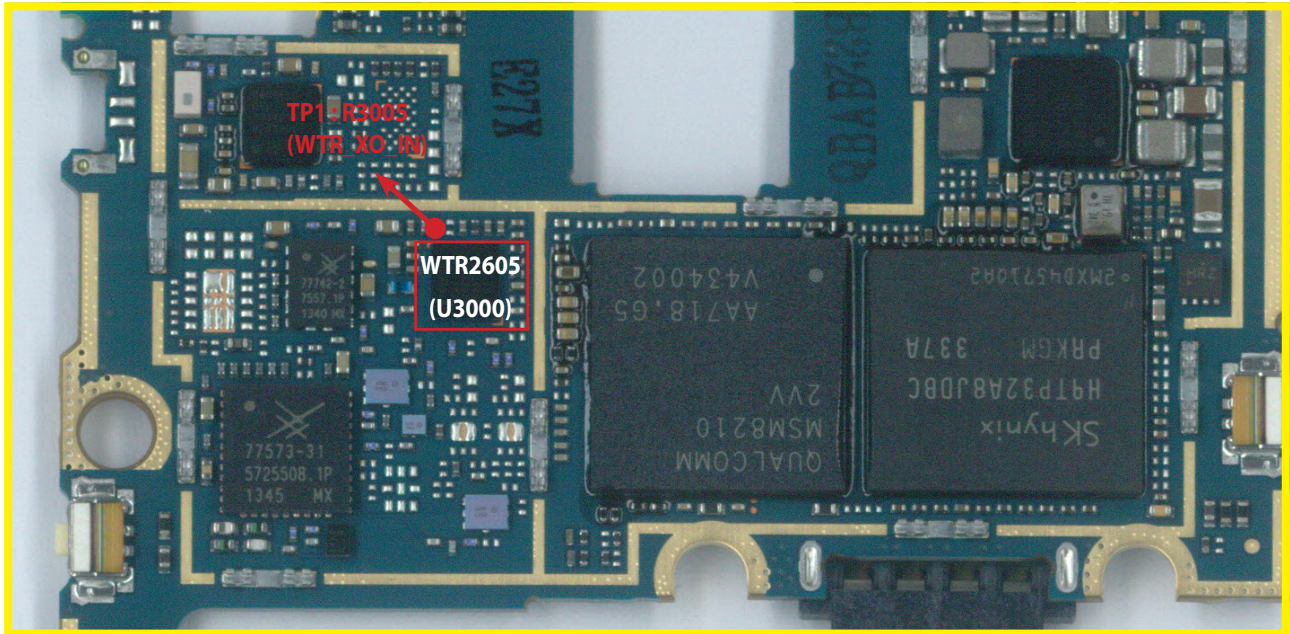
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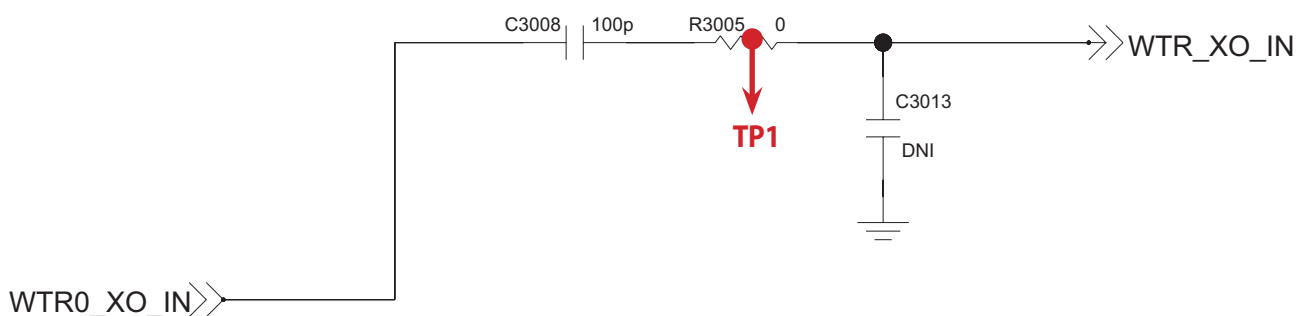
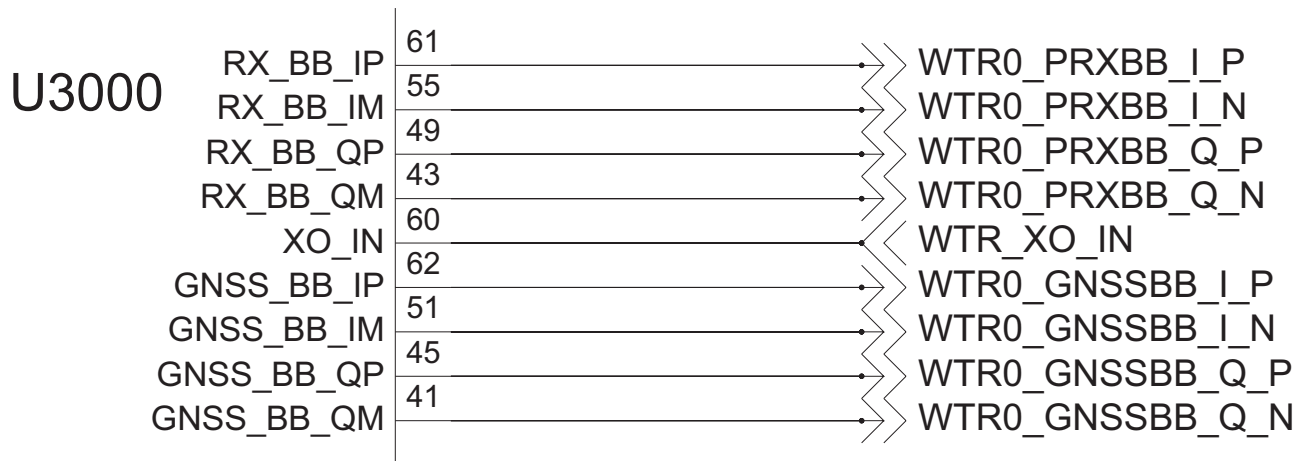
3.2.1.2 Checking WTR6205 XO circuit



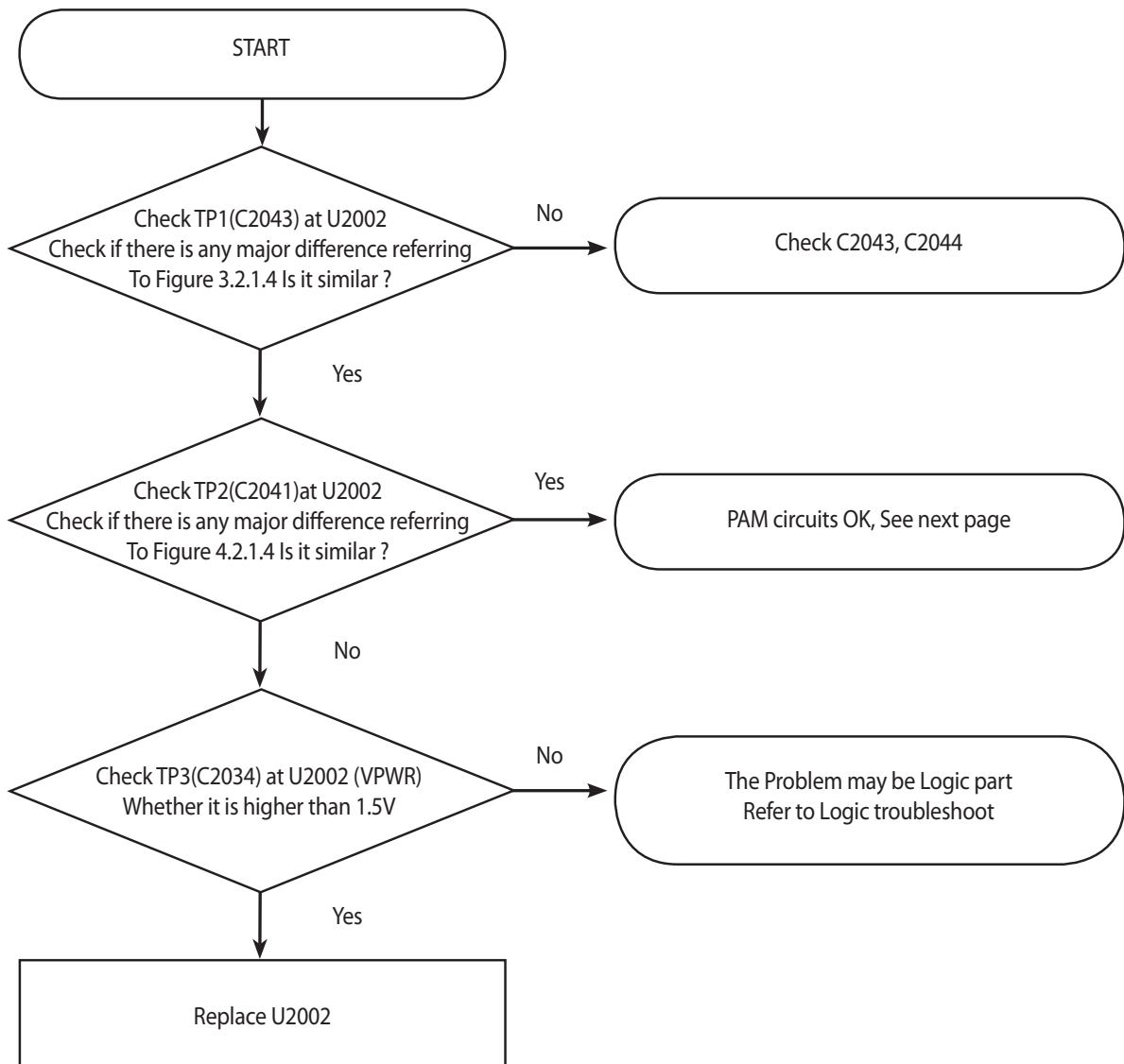
3. TROUBLE SHOOTING



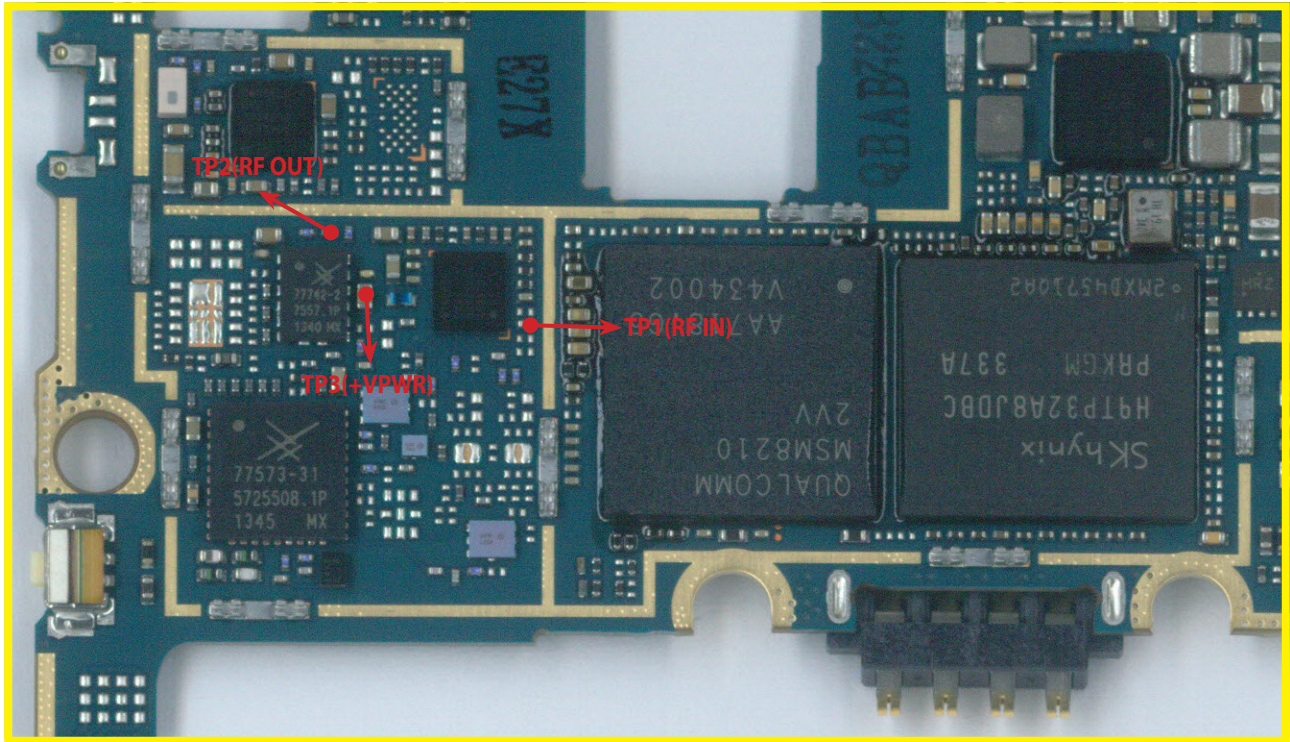
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3.2.1.3 Checking B1 TX PA

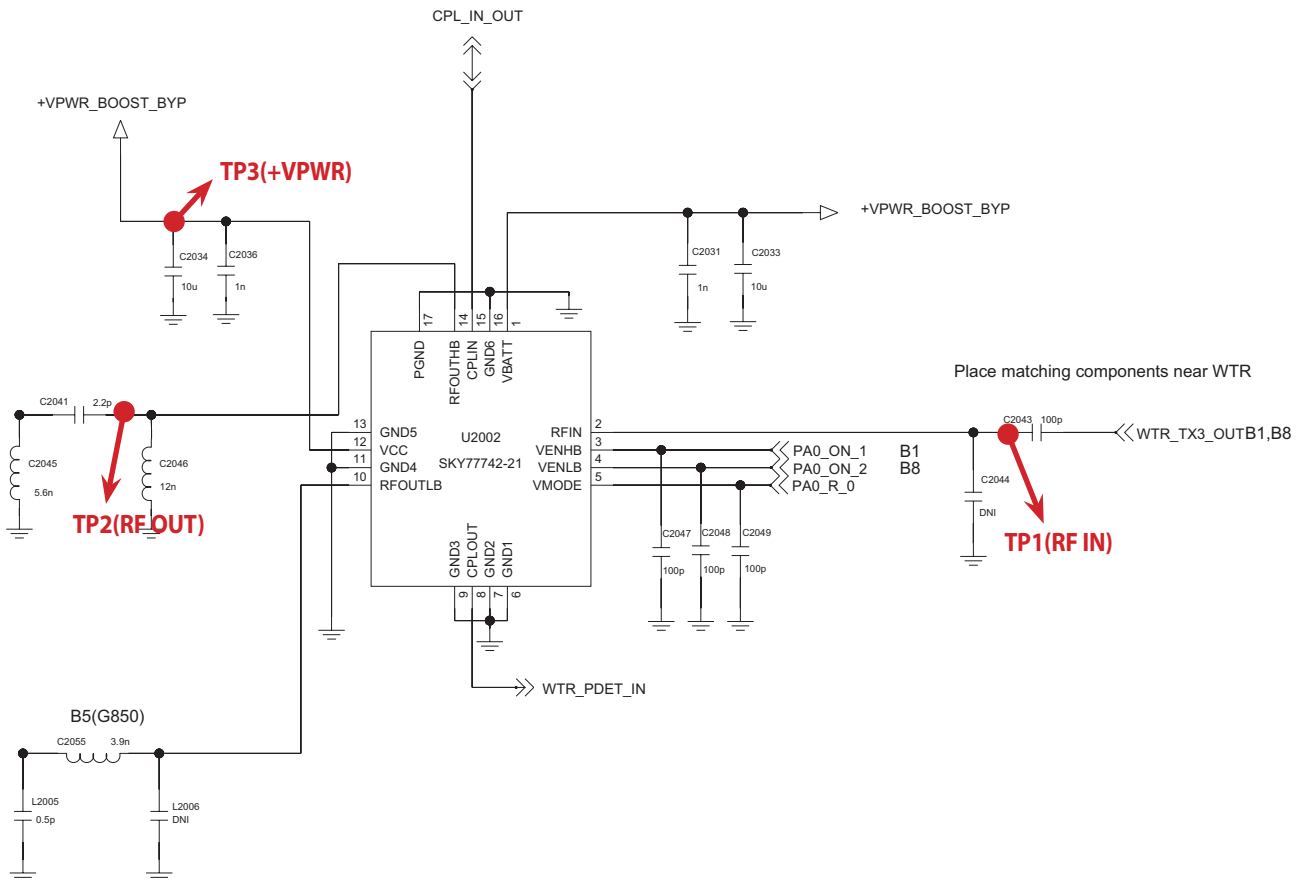


3. TROUBLE SHOOTING



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3. TROUBLE SHOOTING



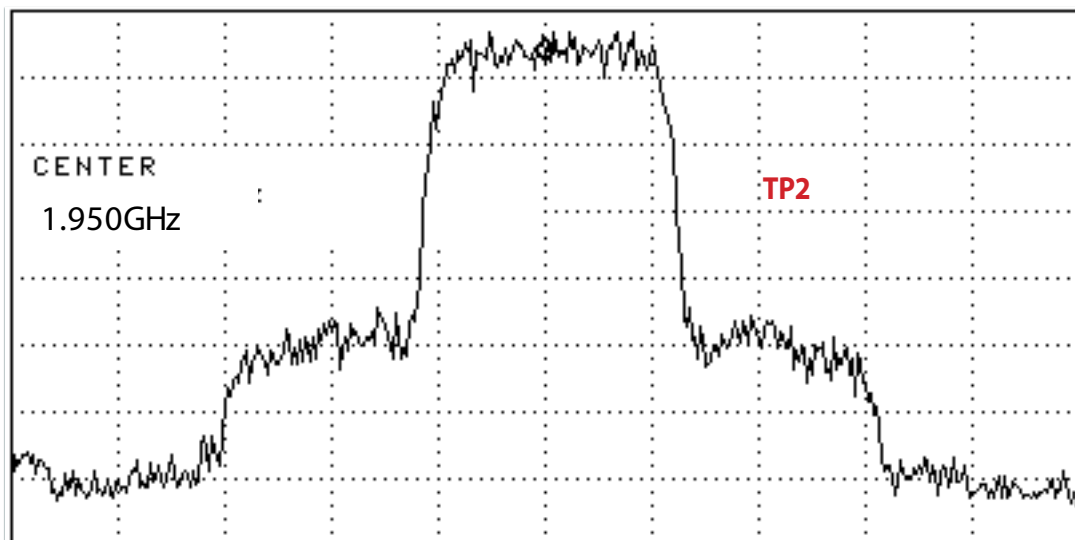
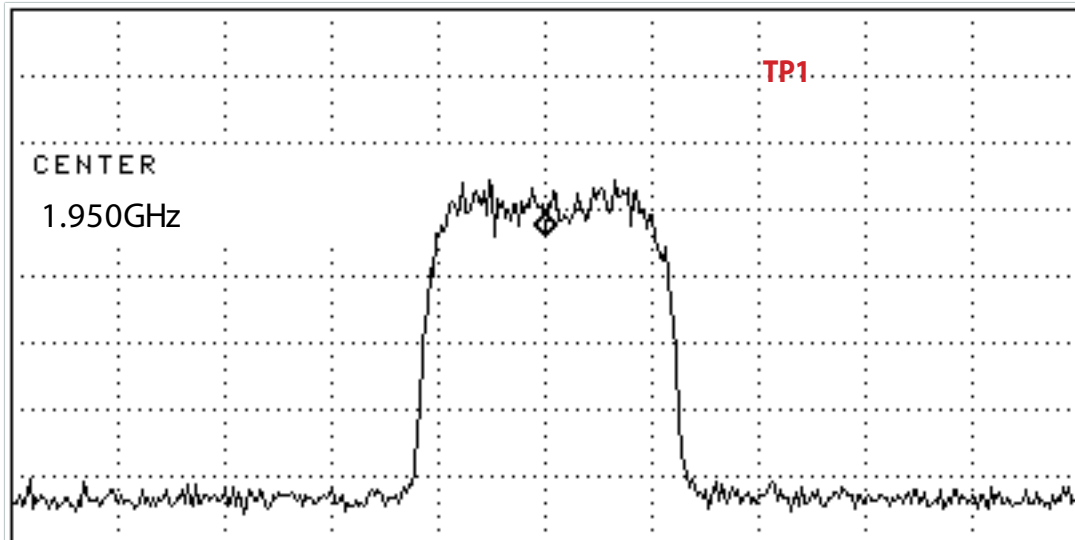


Figure 4.2.1.4

3.2.1.4 Checking RF signal path (DPX)

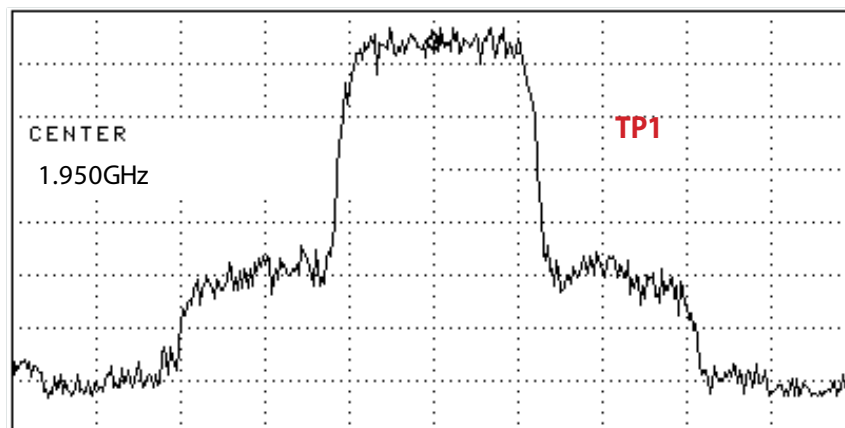
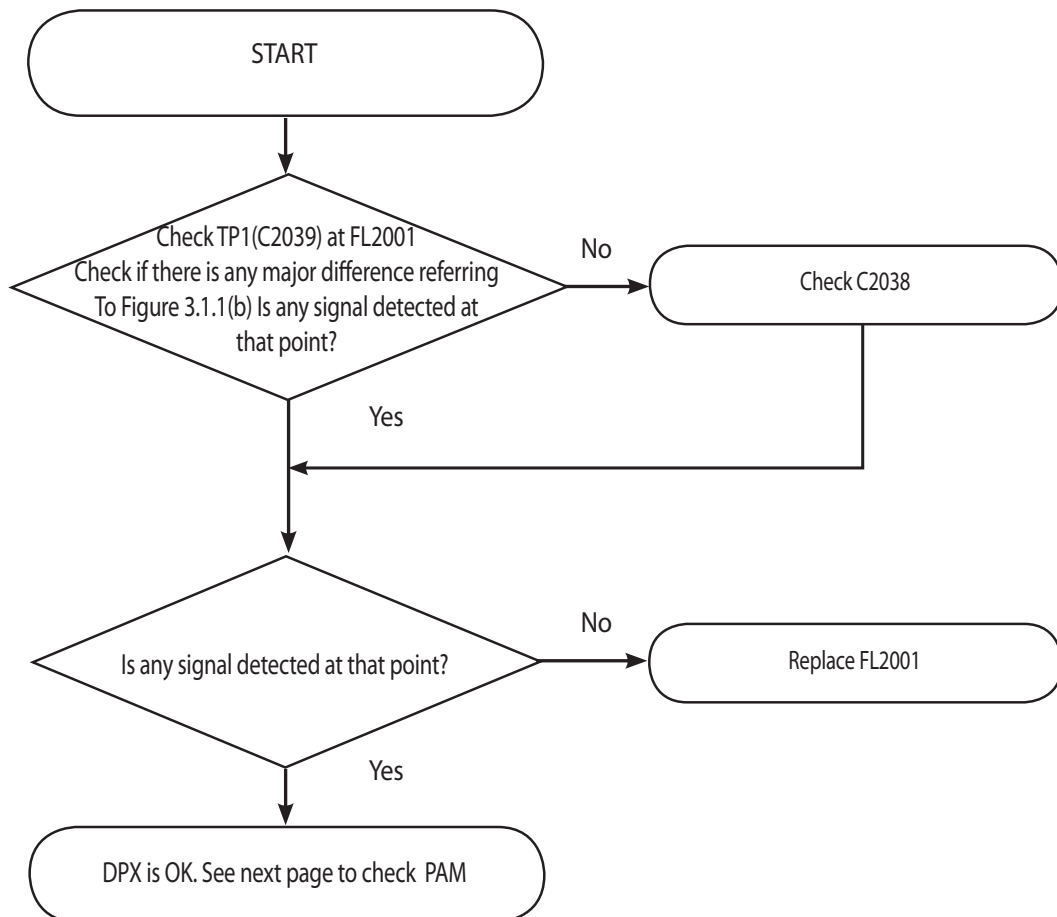
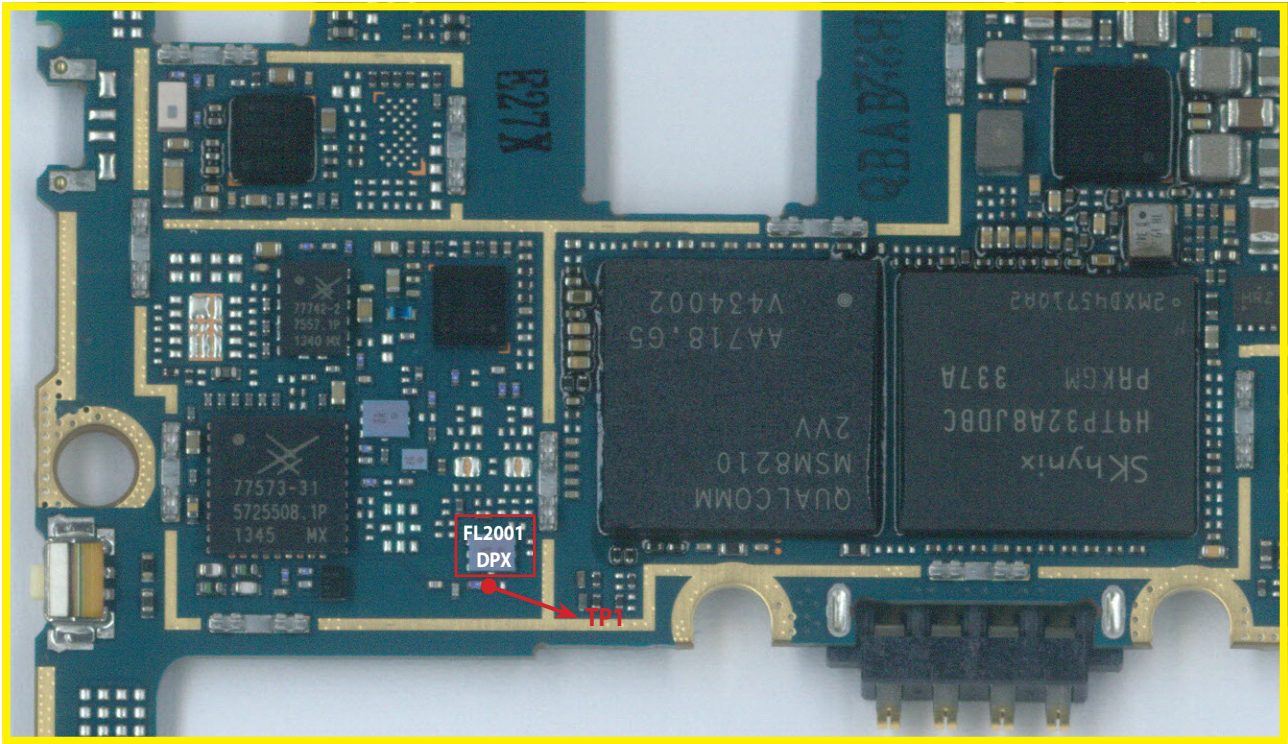
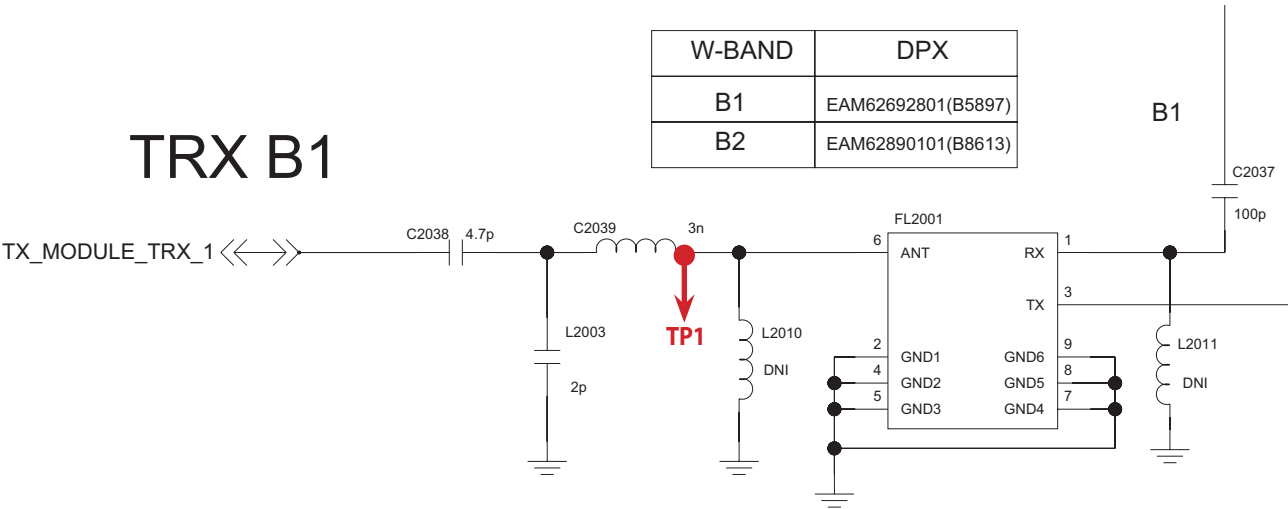


Figure 4.1.1 (b)

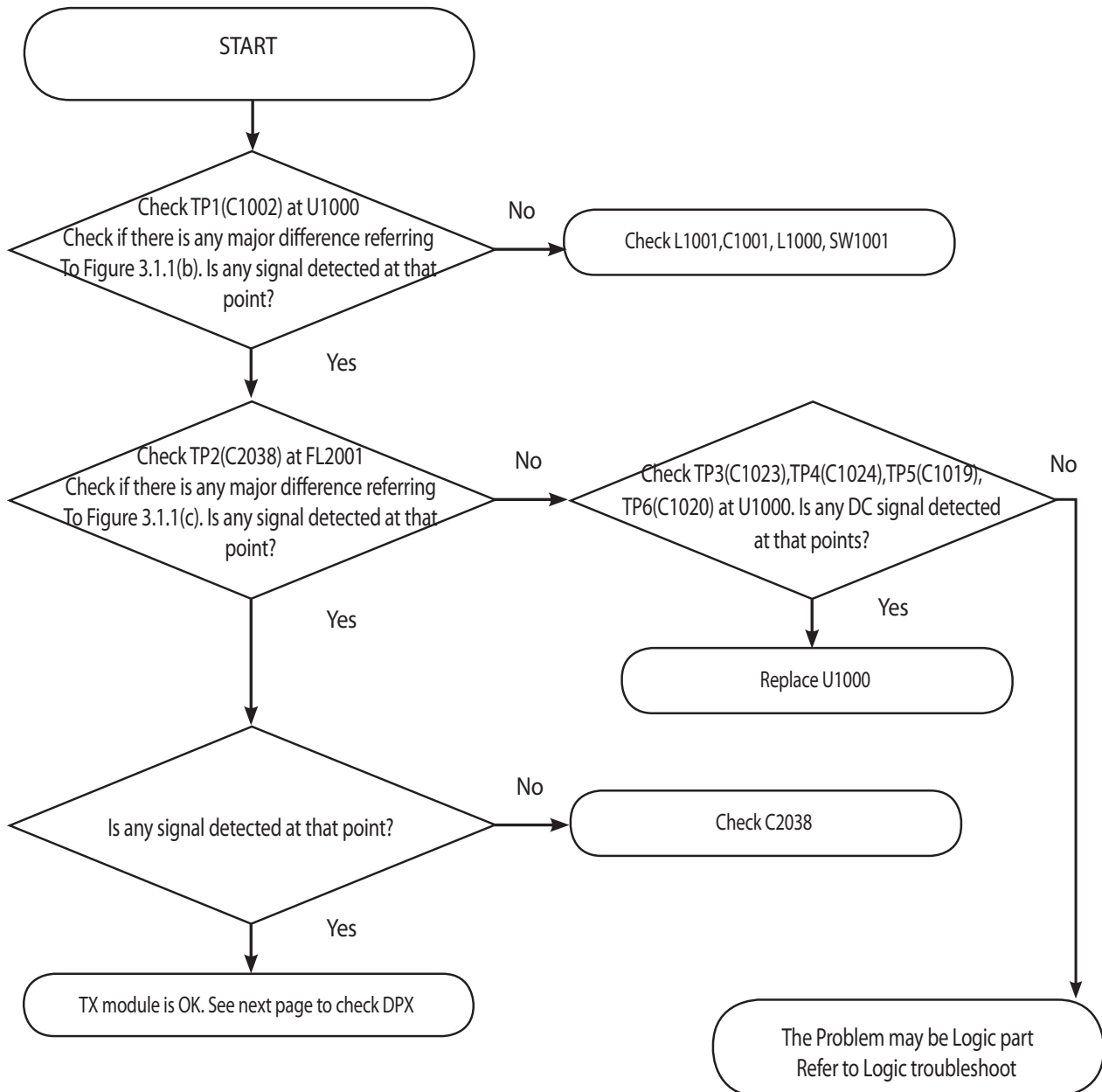


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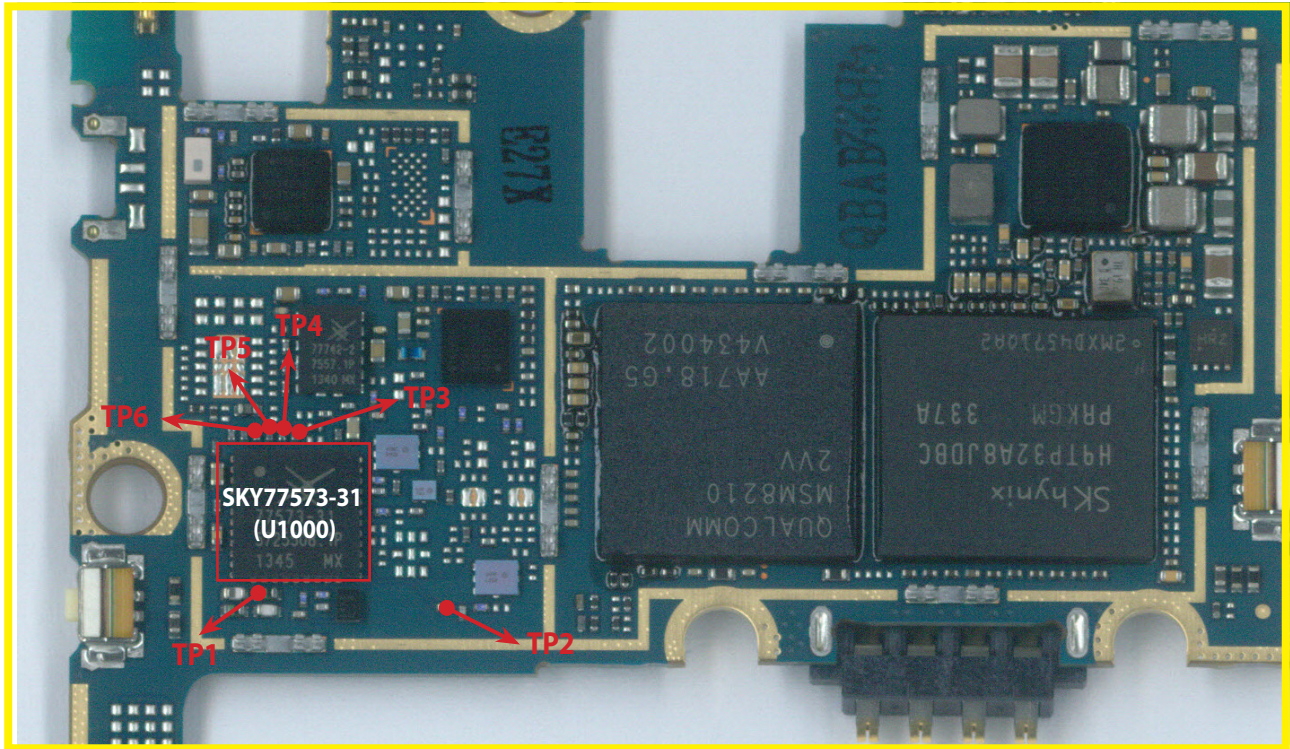
TRX B1



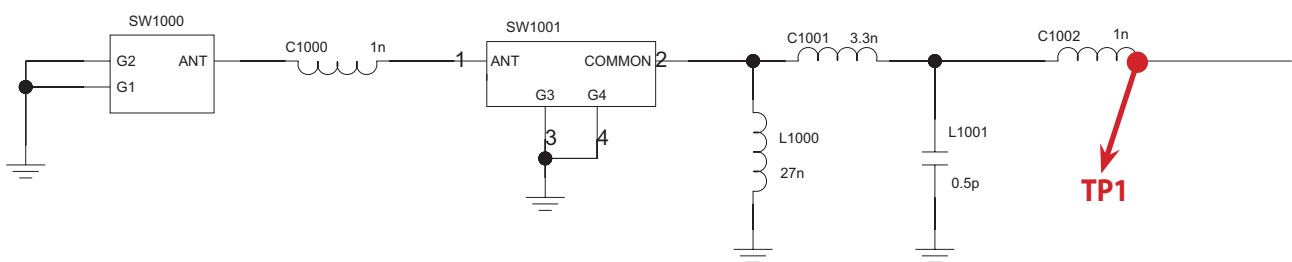
3.2.1.5 Checking RF signal path (Tx Module)

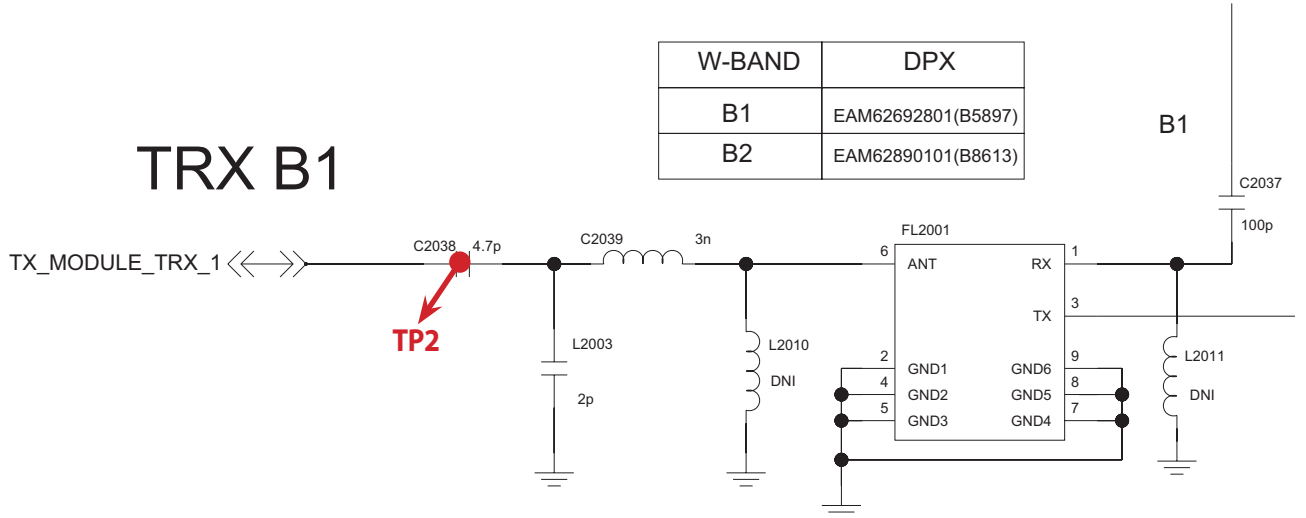


3. TROUBLE SHOOTING



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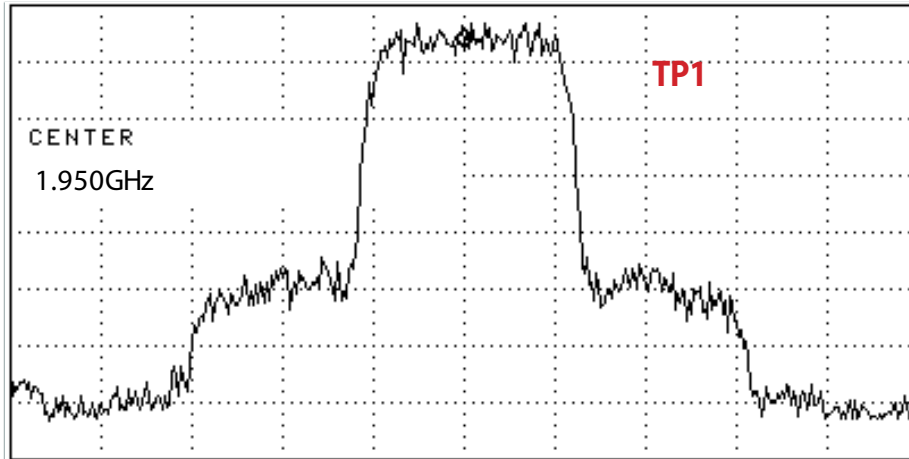


Figure 4.1.1 (b)

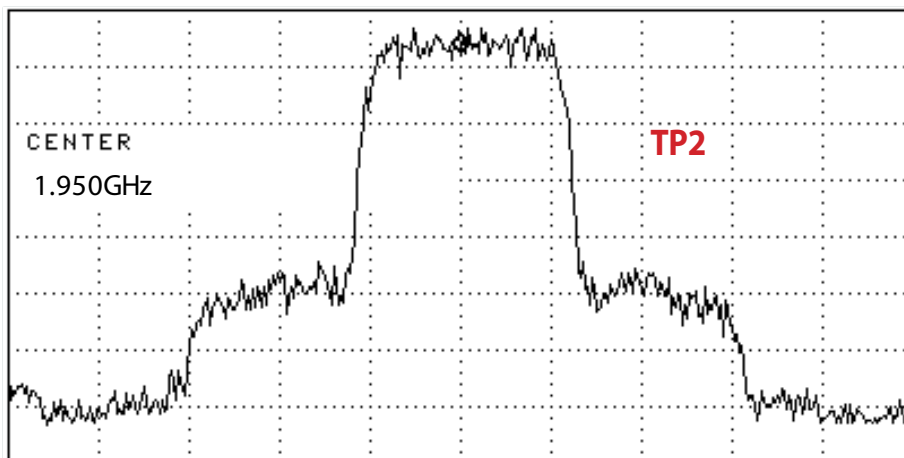
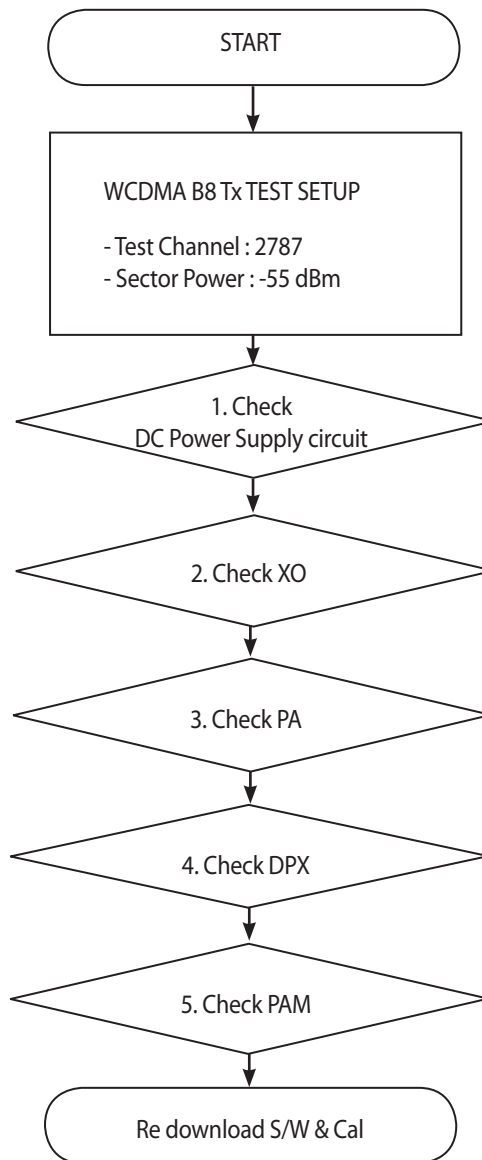


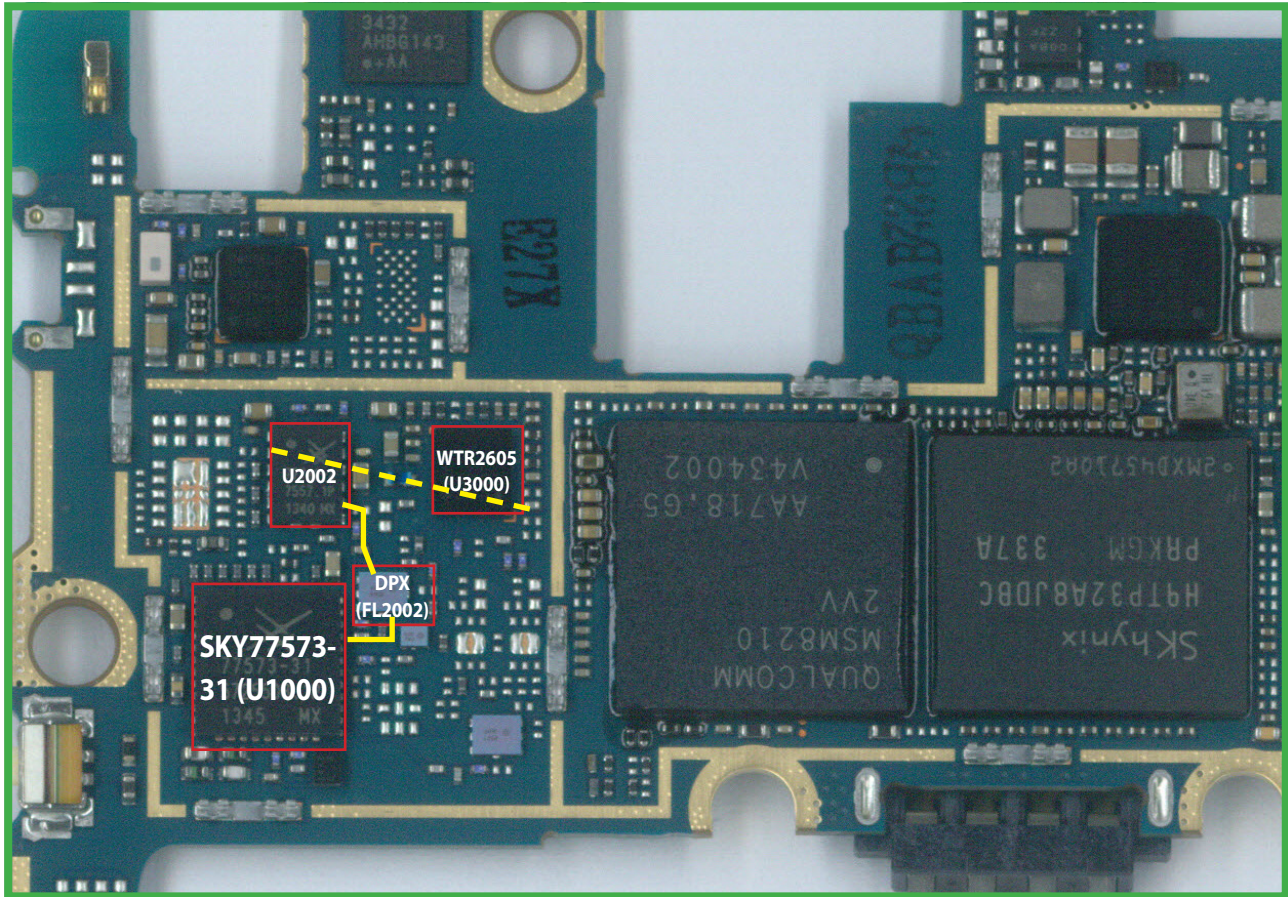
Figure 4.1.1 (c)

3.2.2 WCDMA_B8 Tx



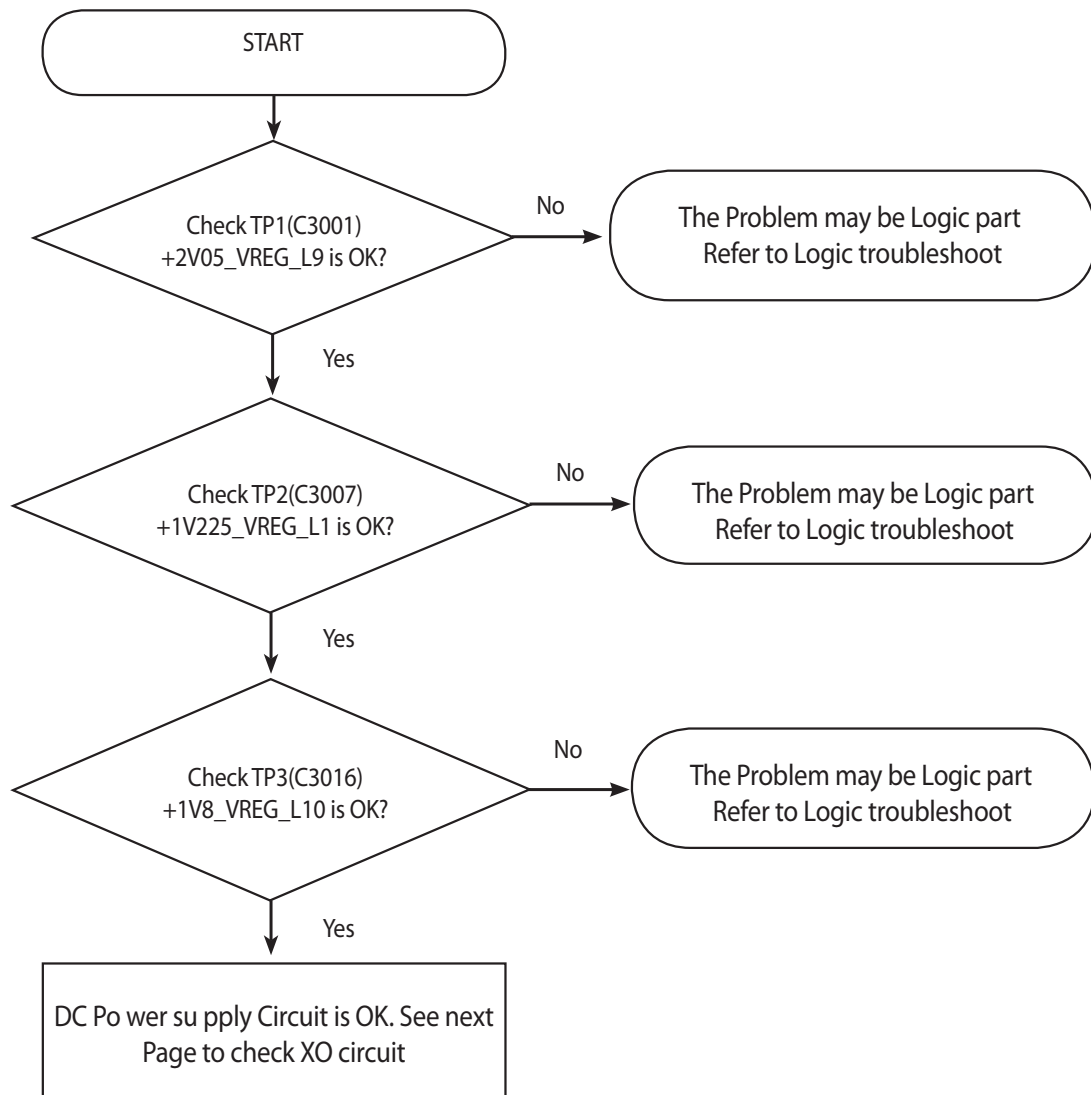
* There are no Test Points on the IQ Data Line. So It is impossible to check the IQ Data Wave form

3. TROUBLE SHOOTING

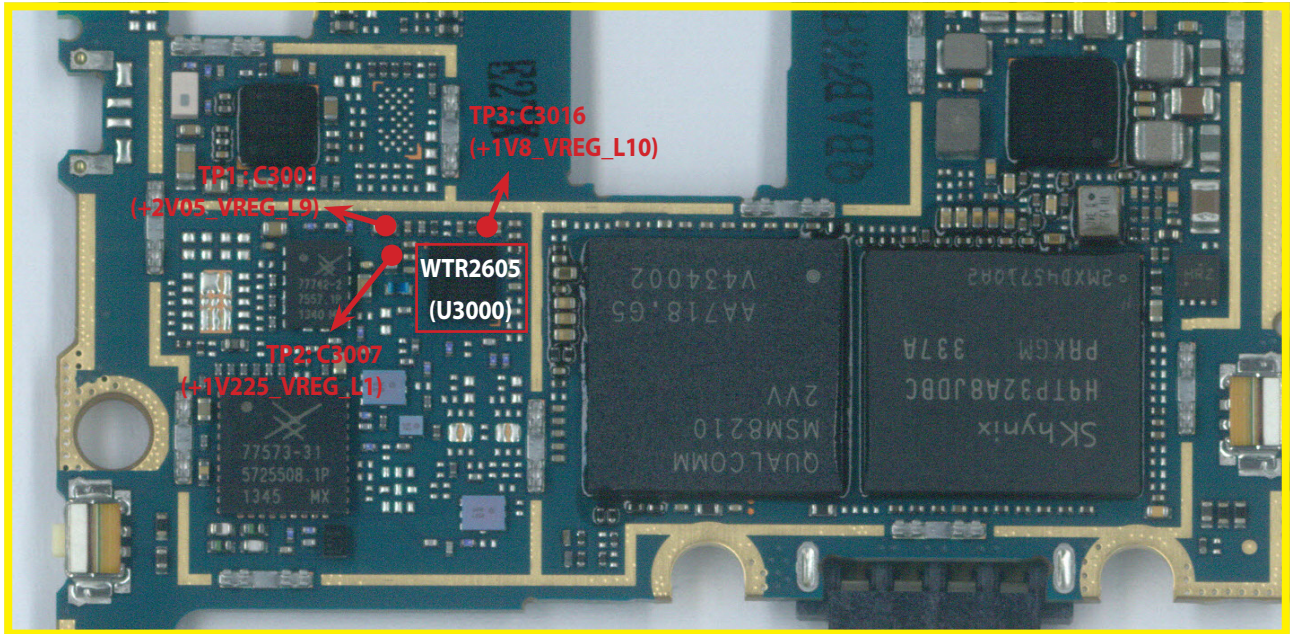


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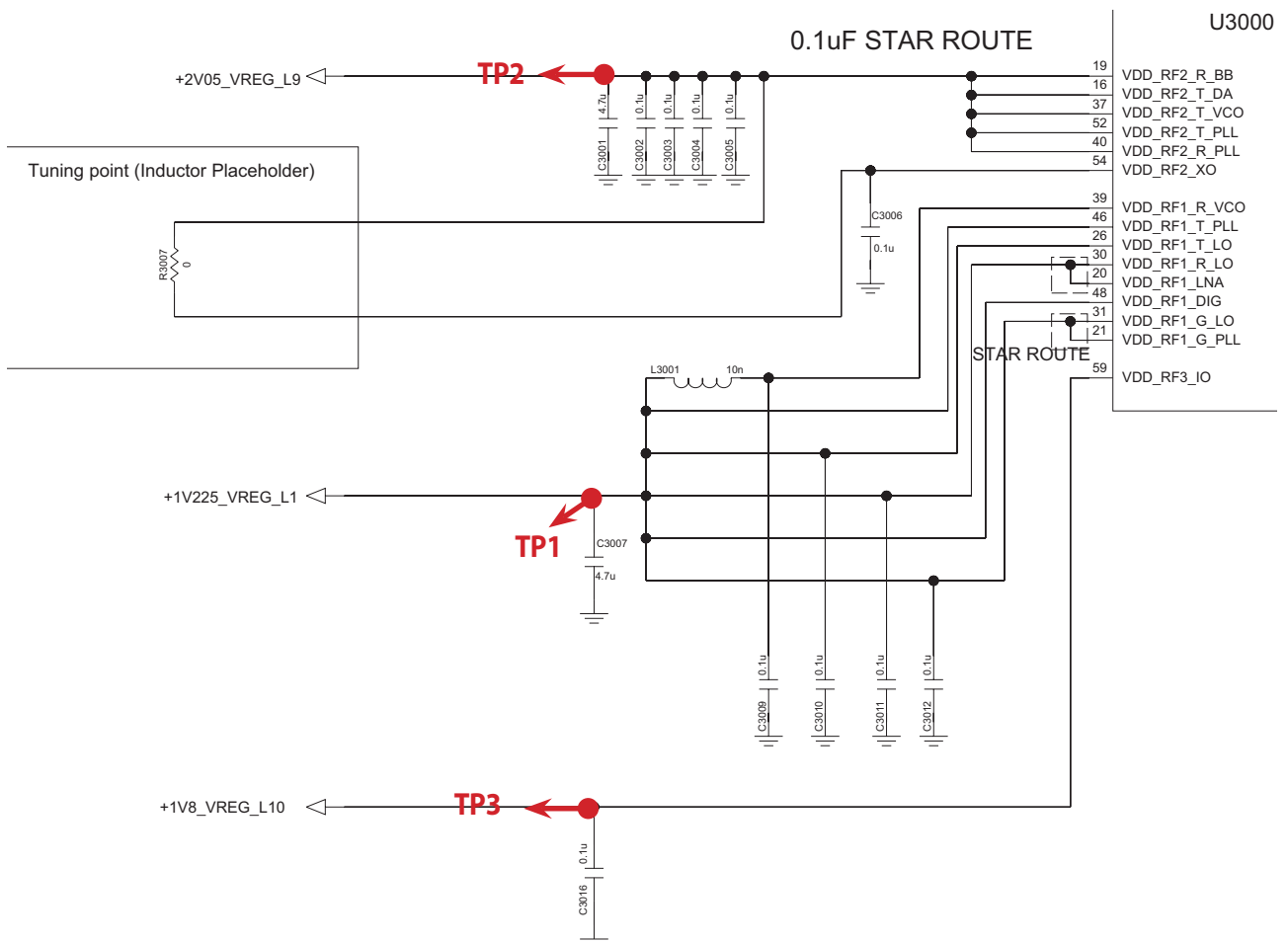
3.2.2.1 Checking DC Power supply circuit



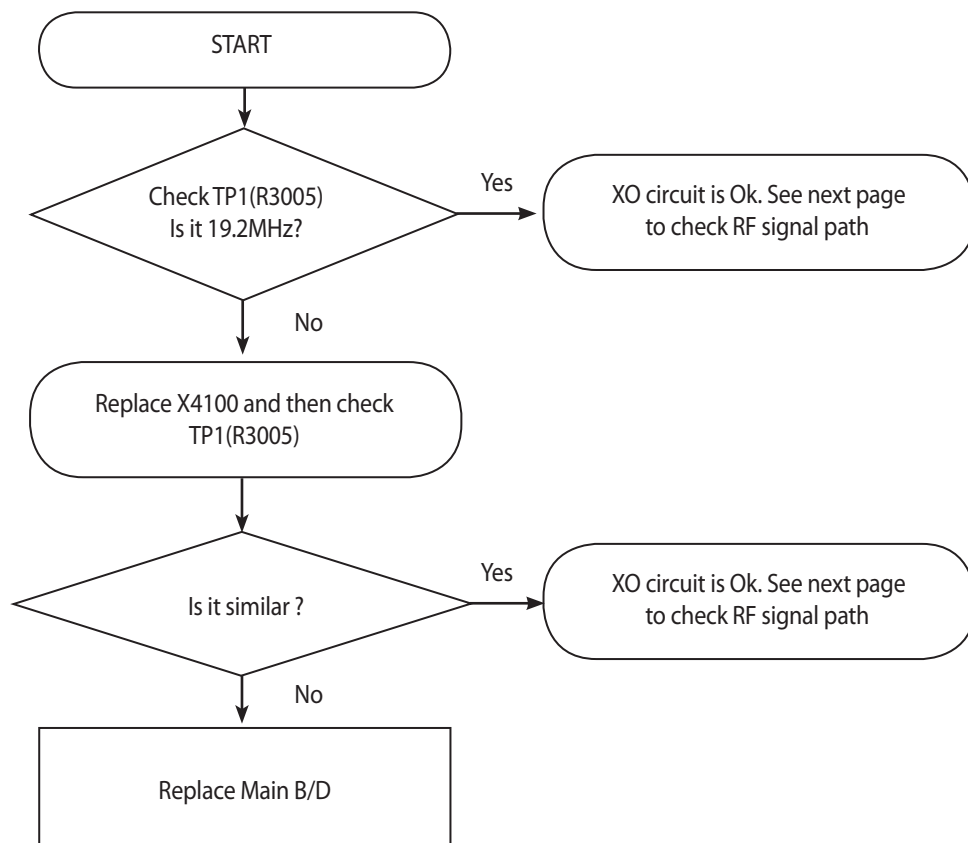
3. TROUBLE SHOOTING



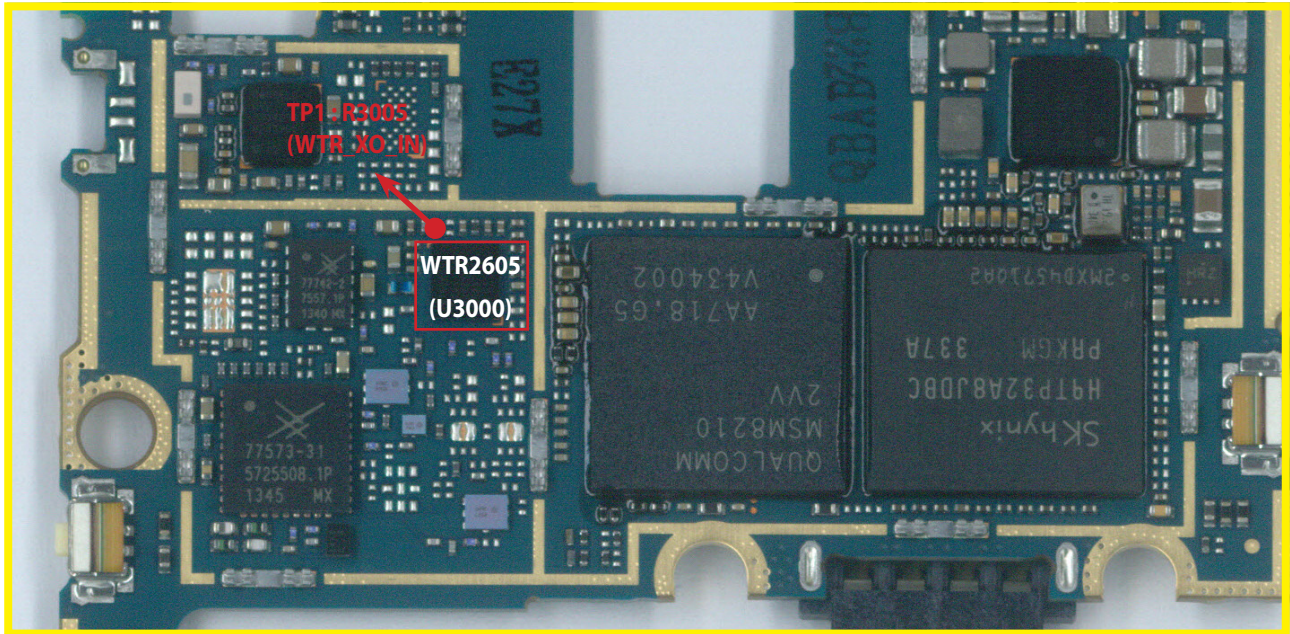
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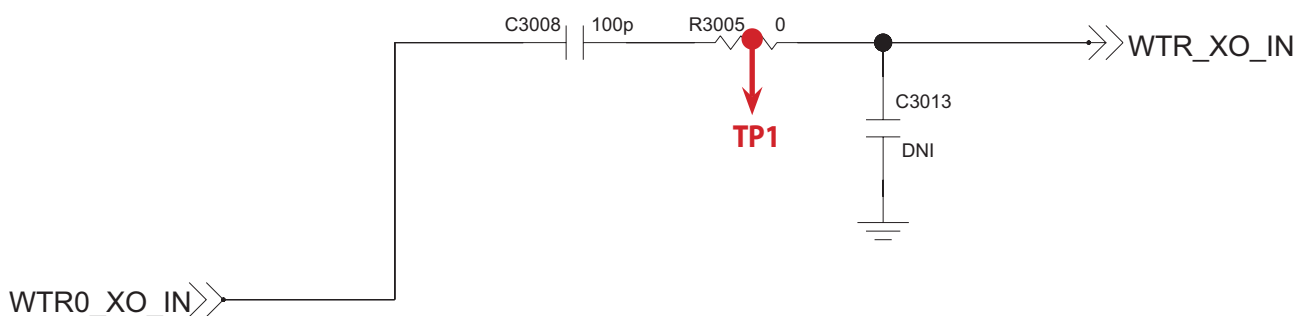
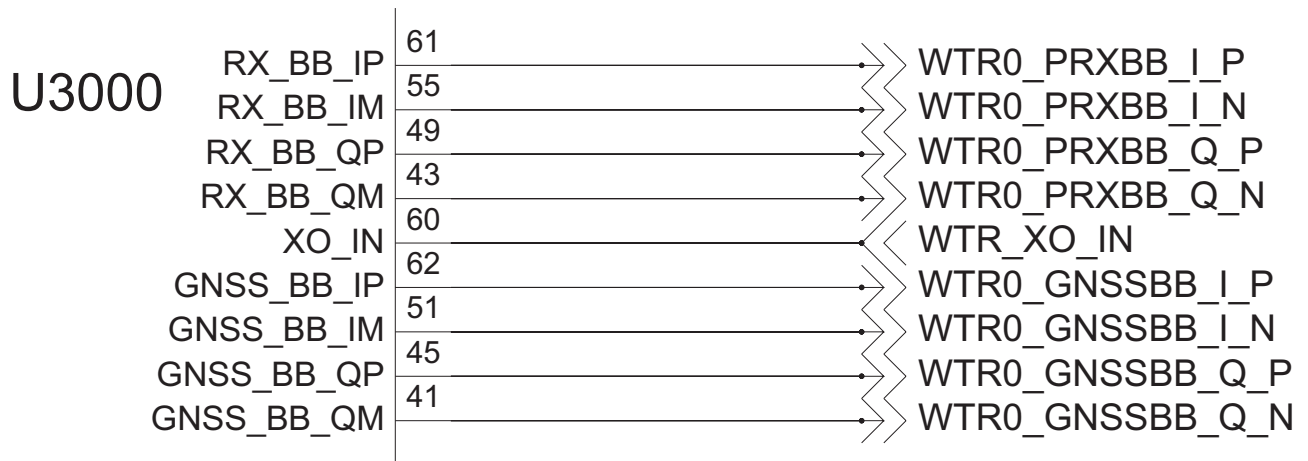
3.2.2.2 Checking WTR2605 XO circuit



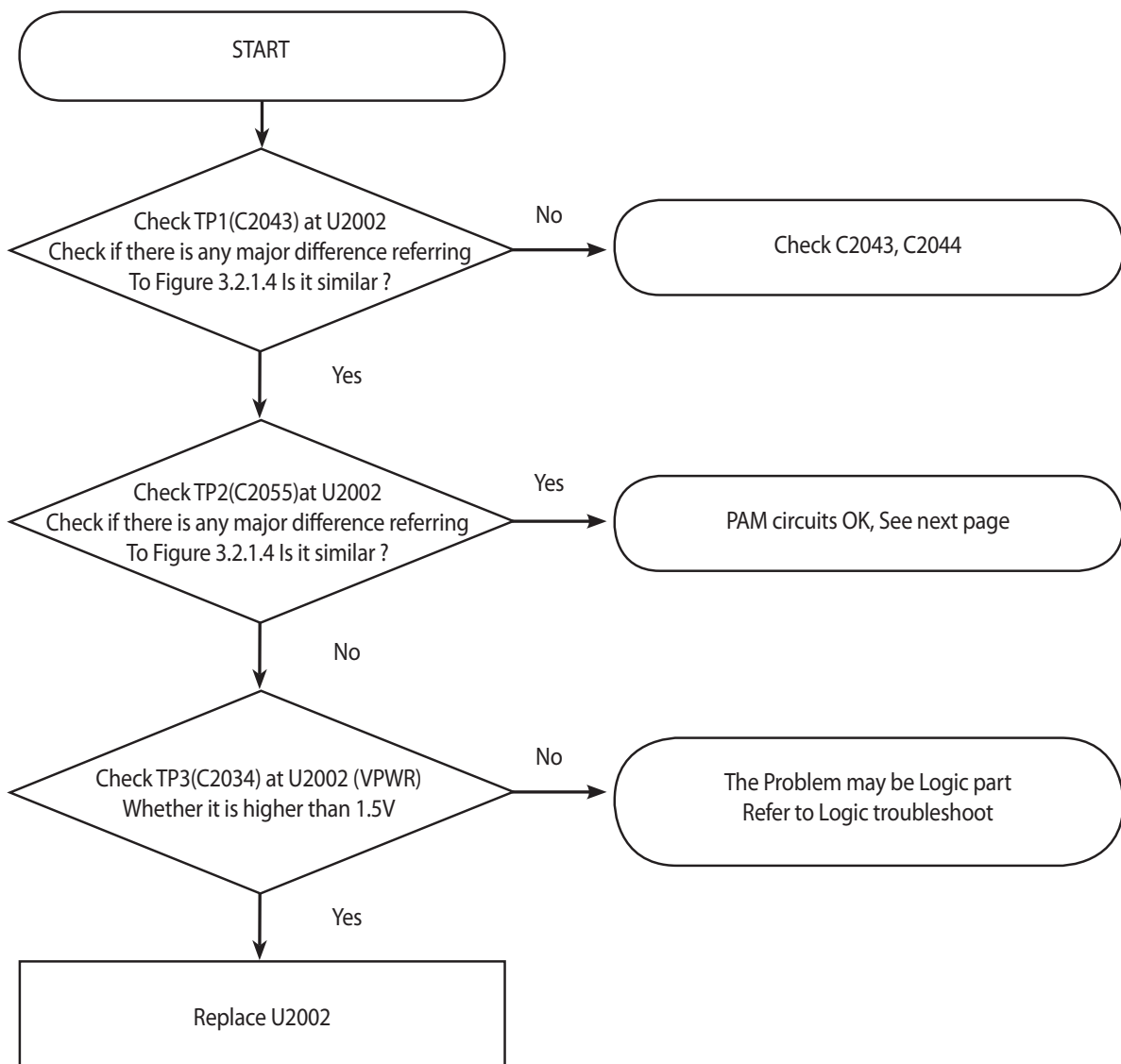
3. TROUBLE SHOOTING



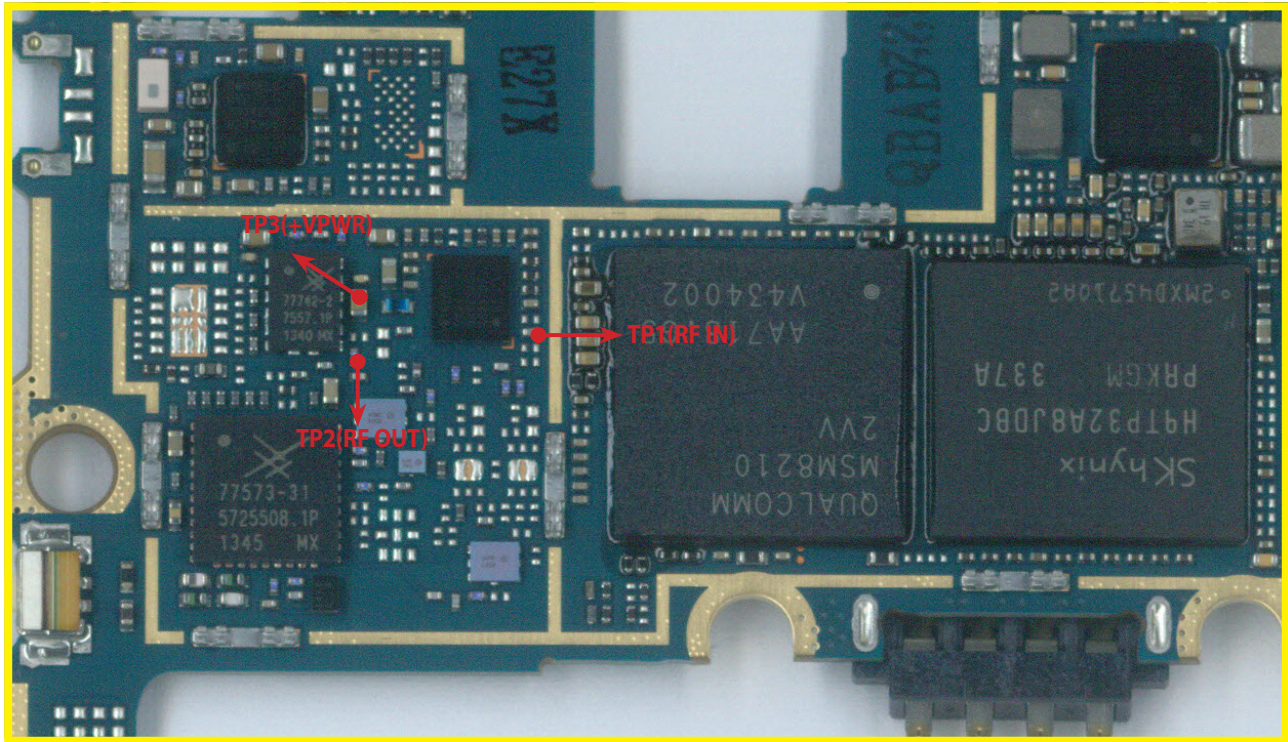
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3.2.2.3 Checking B8 TX PA

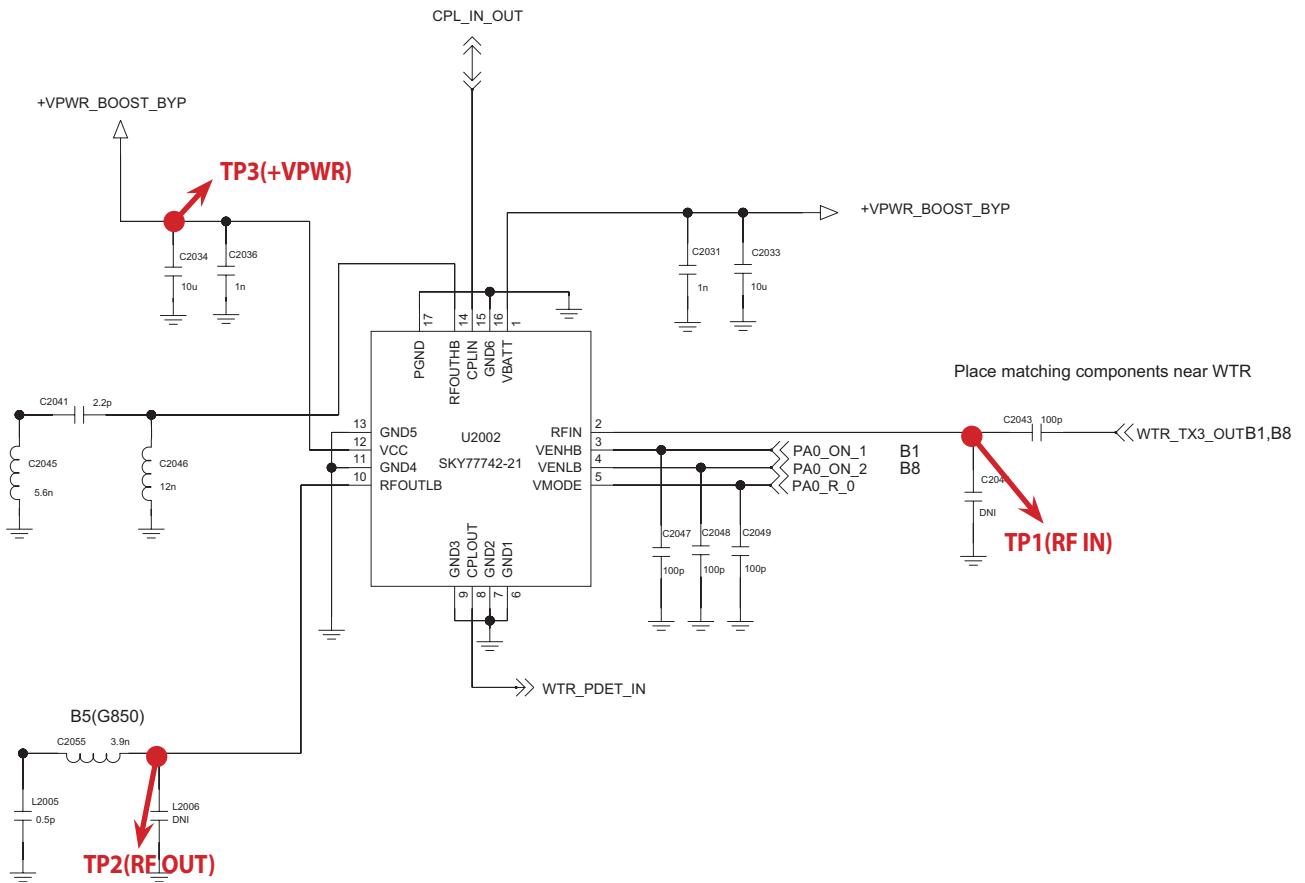


3. TROUBLE SHOOTING



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3. TROUBLE SHOOTING



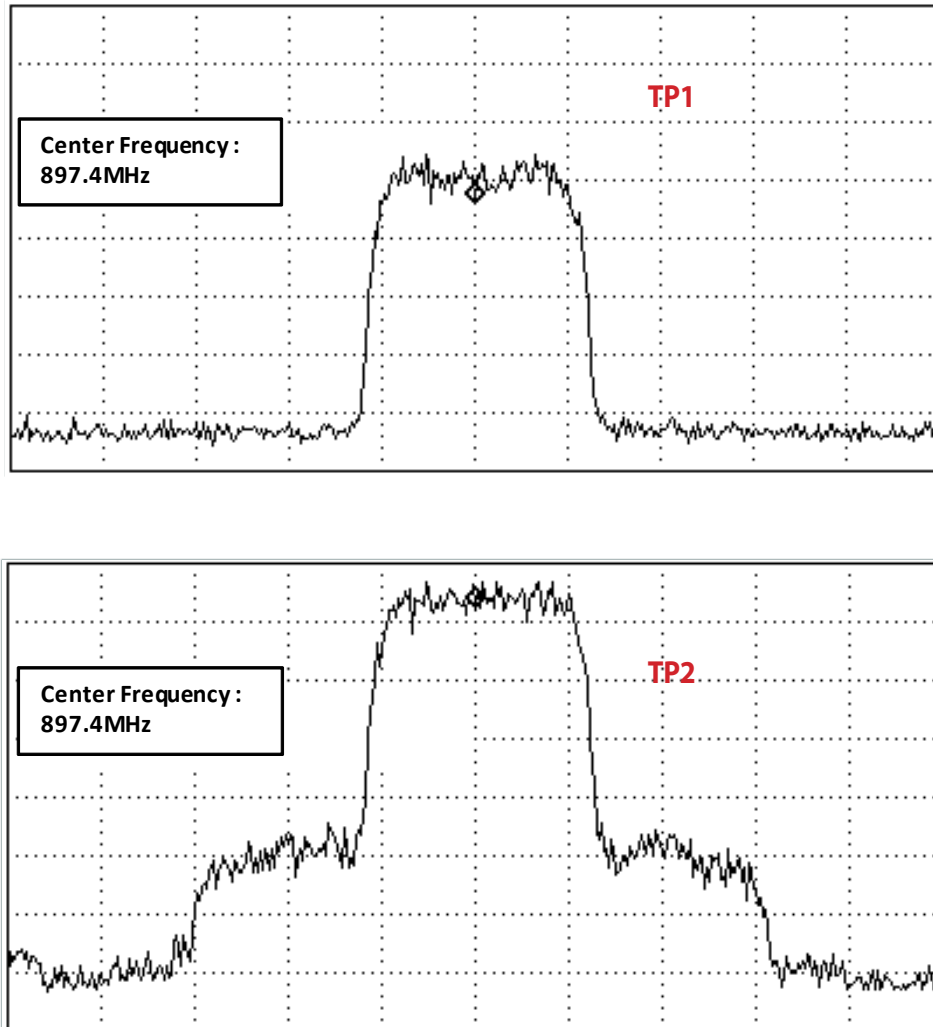


Figure 3.2.1.4

3.2.2.4 Checking RF signal path (DPX)

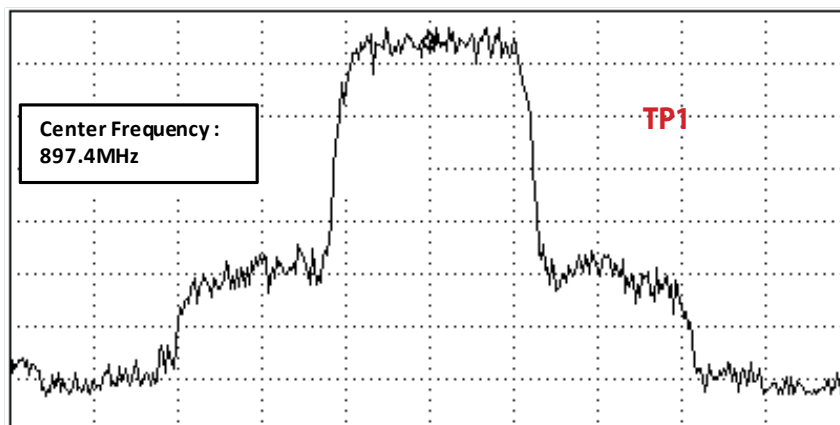
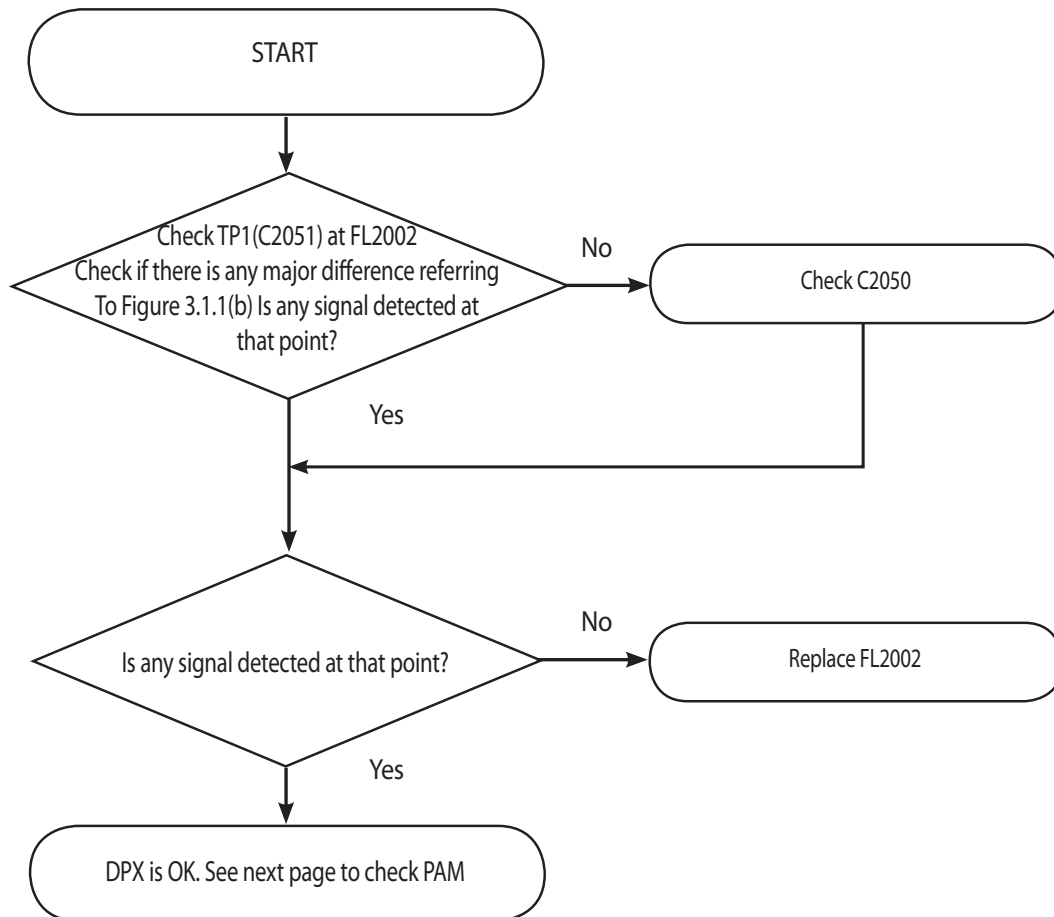
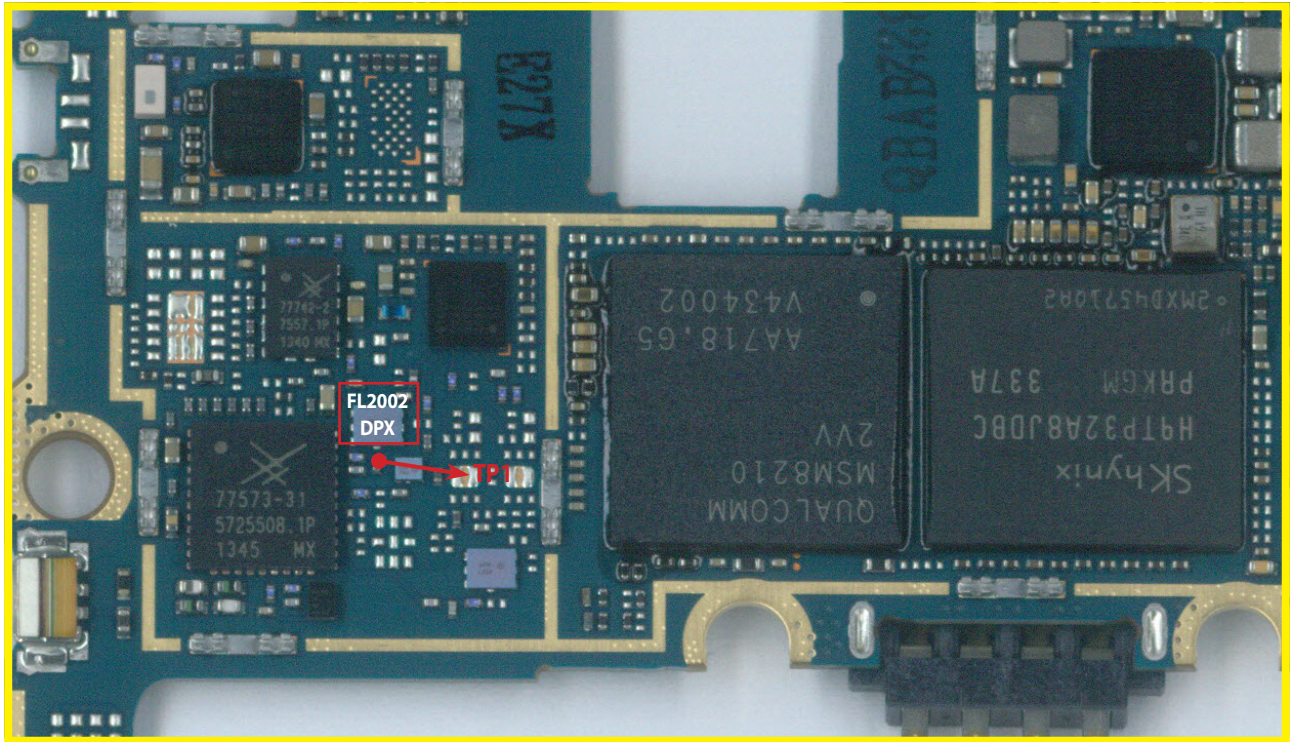
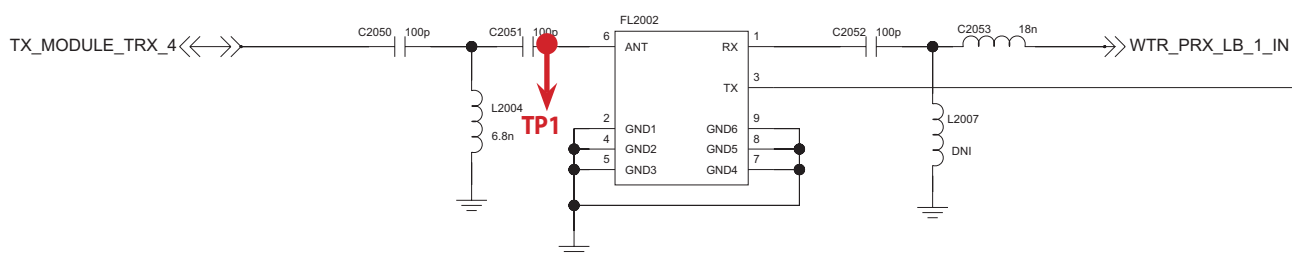


Figure 3.1.1 (b)

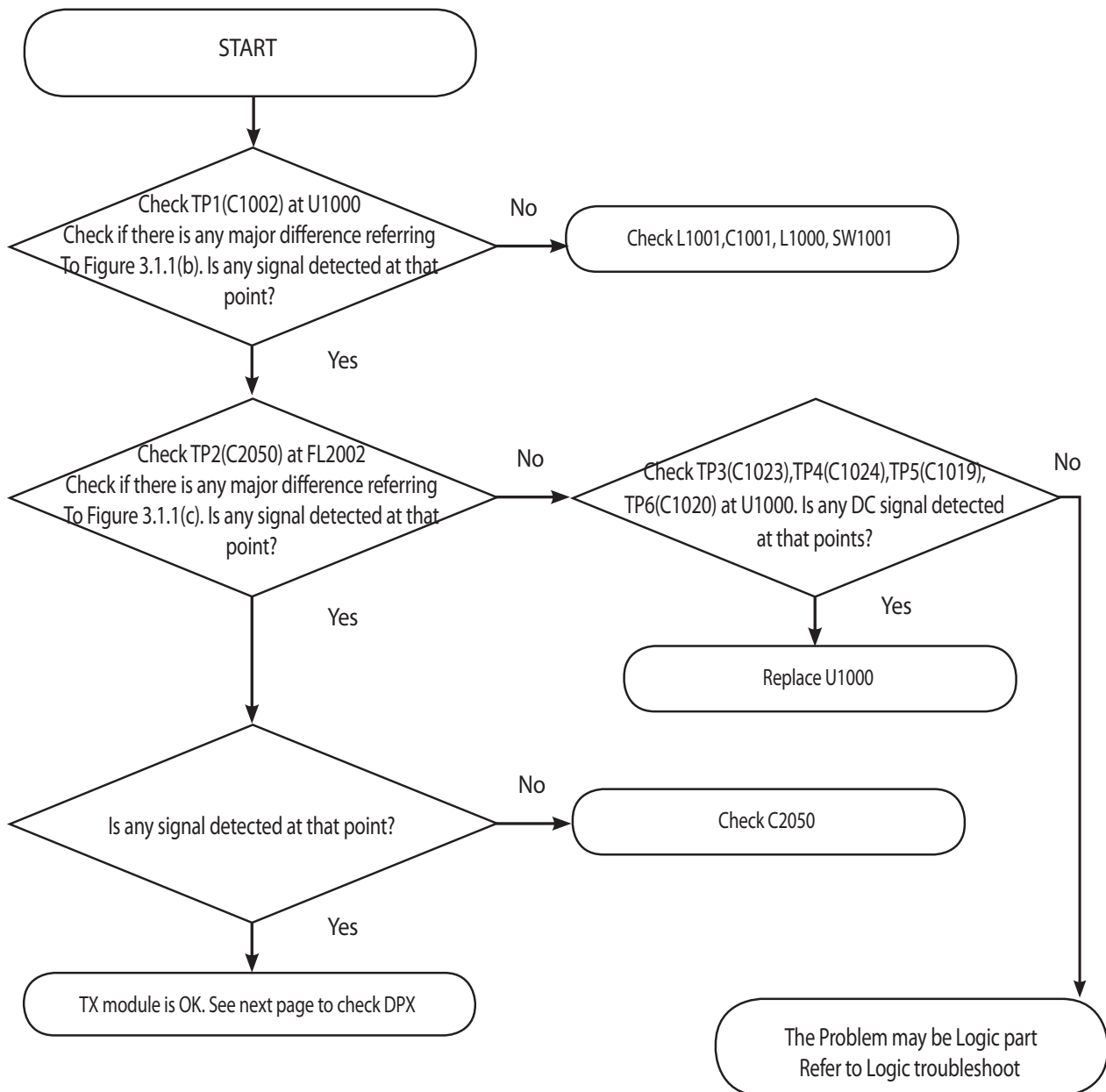
3. TROUBLE SHOOTING



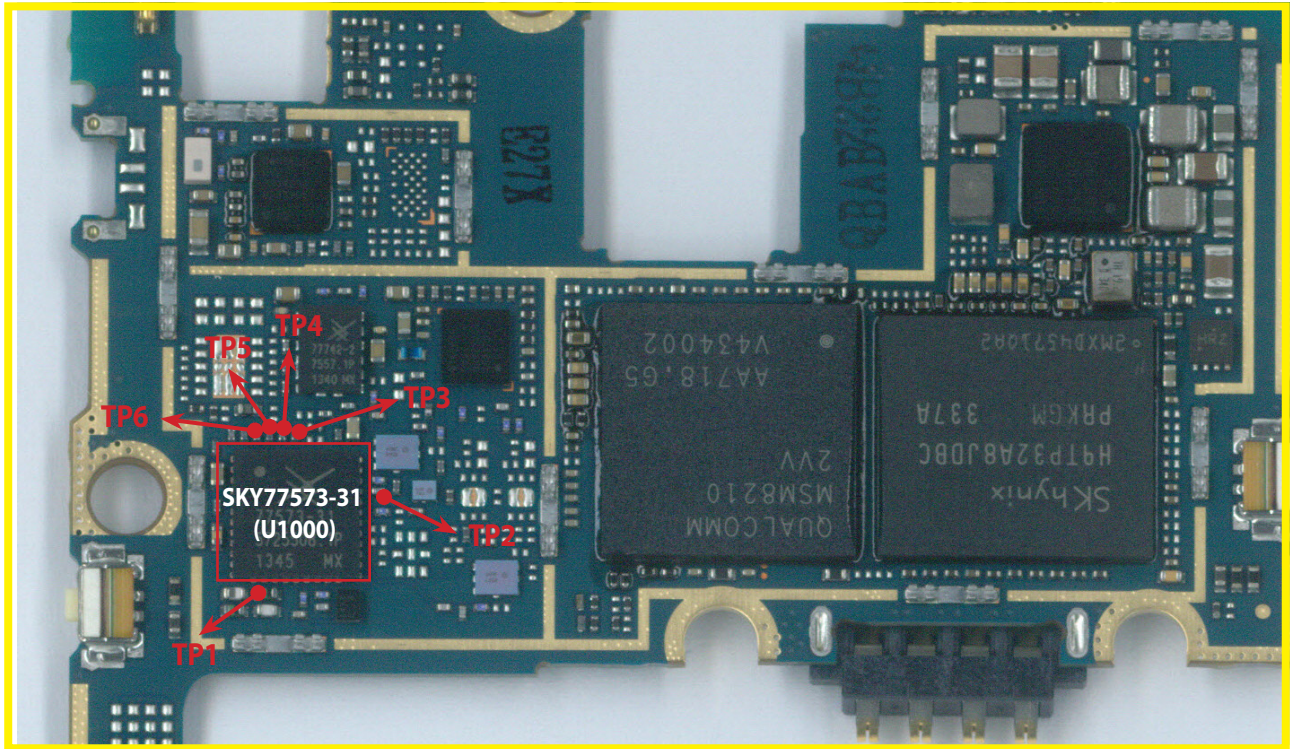
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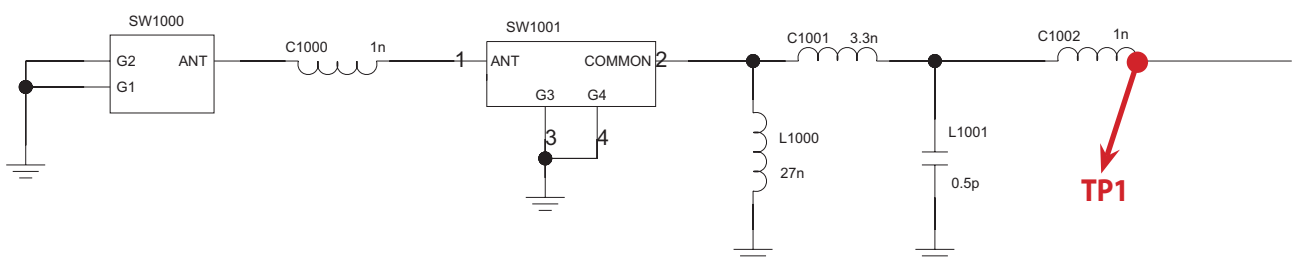
3.2.2.5 Checking RF signal path (PAM)

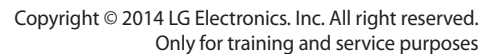


3. TROUBLE SHOOTING



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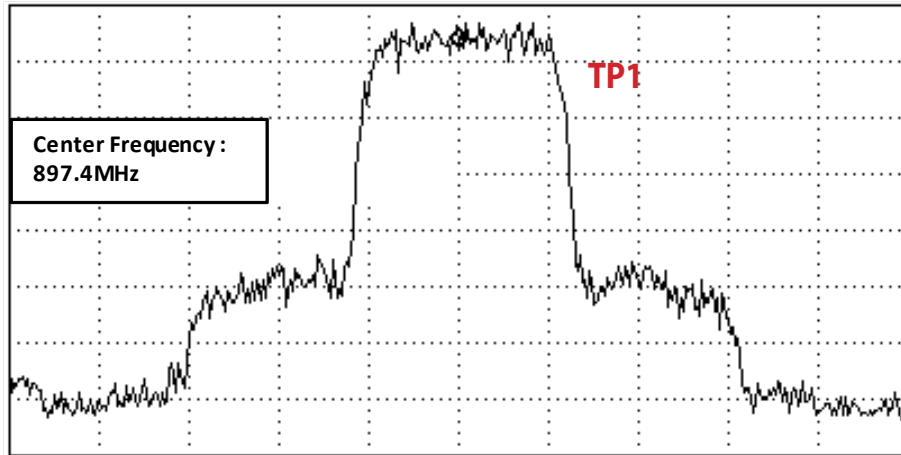


Figure 3.1.1 (b)

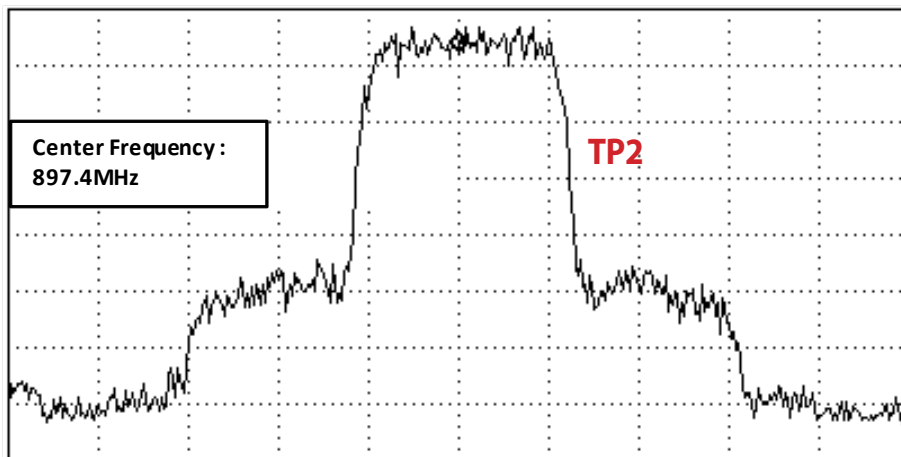
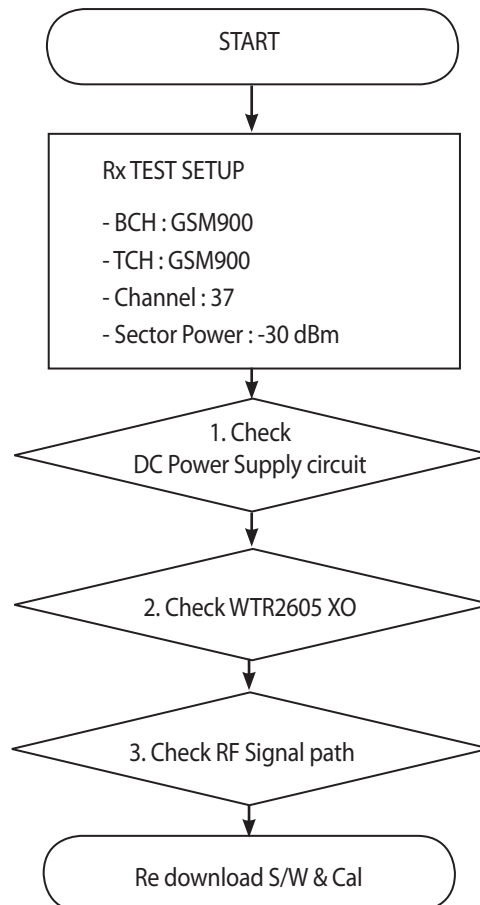


Figure 3.1.1 (c)

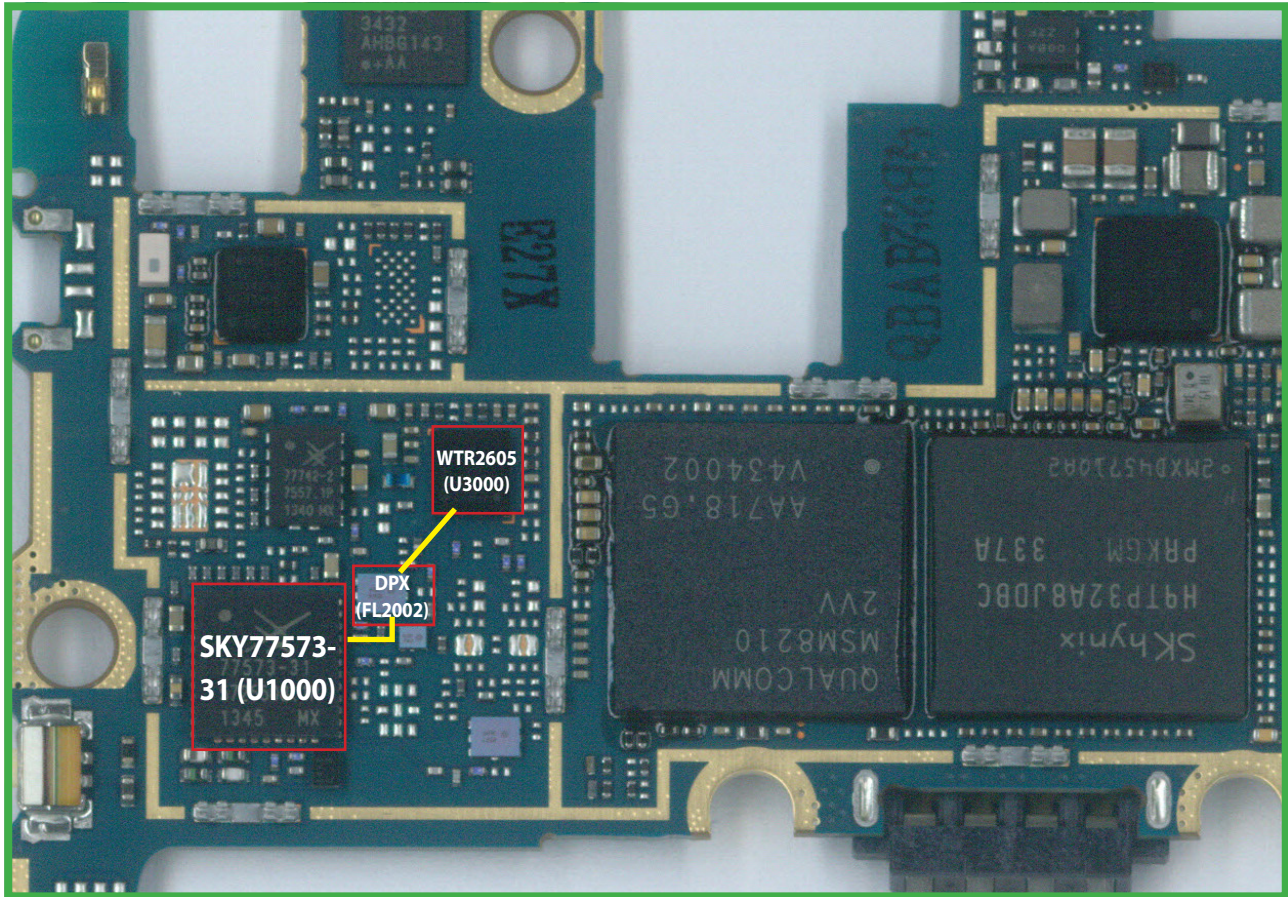
3.3 GSM Rx Part Troubleshooting

3.3.1 GSM900 Rx



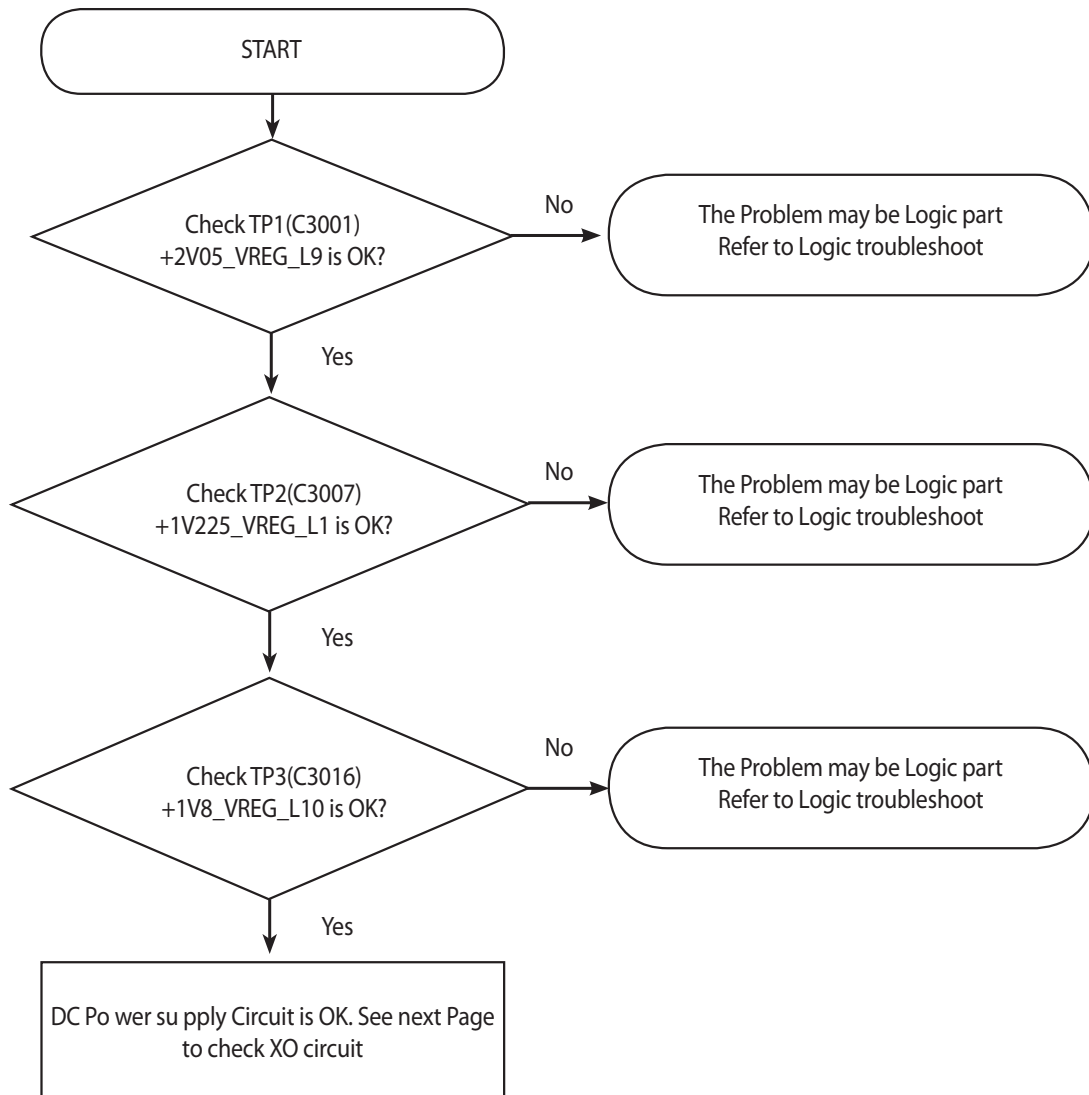
* There are no Test Points on the IQ Data Line. So It is impossible to check the IQ Data Wave form

3. TROUBLE SHOOTING

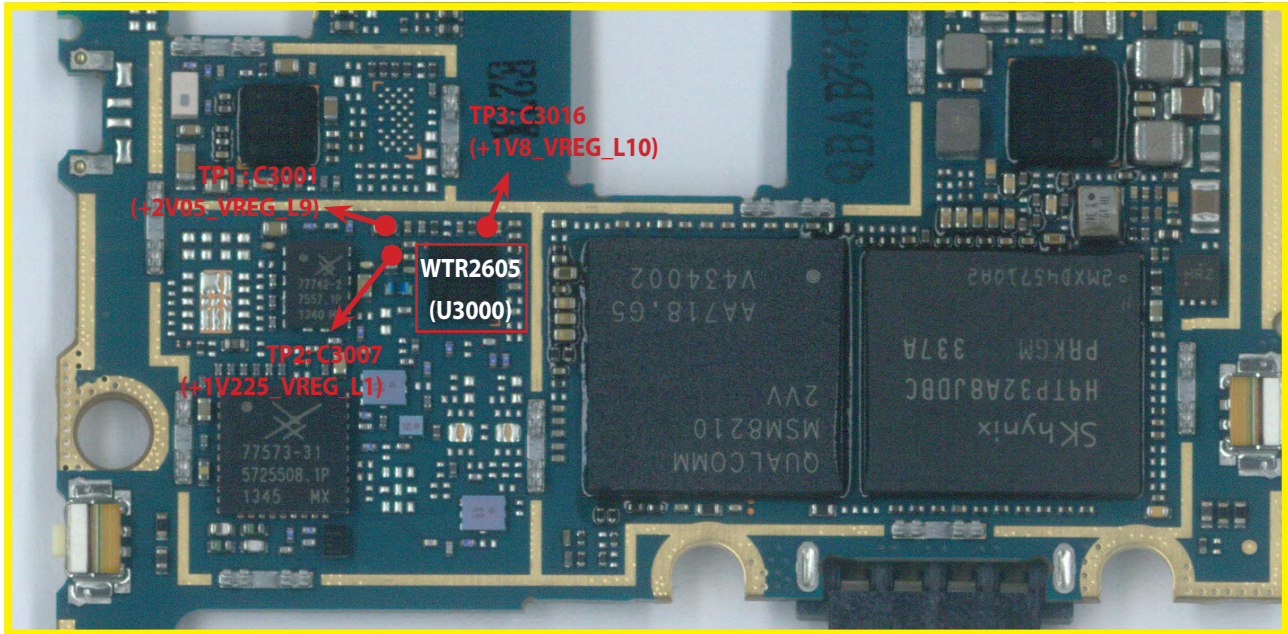


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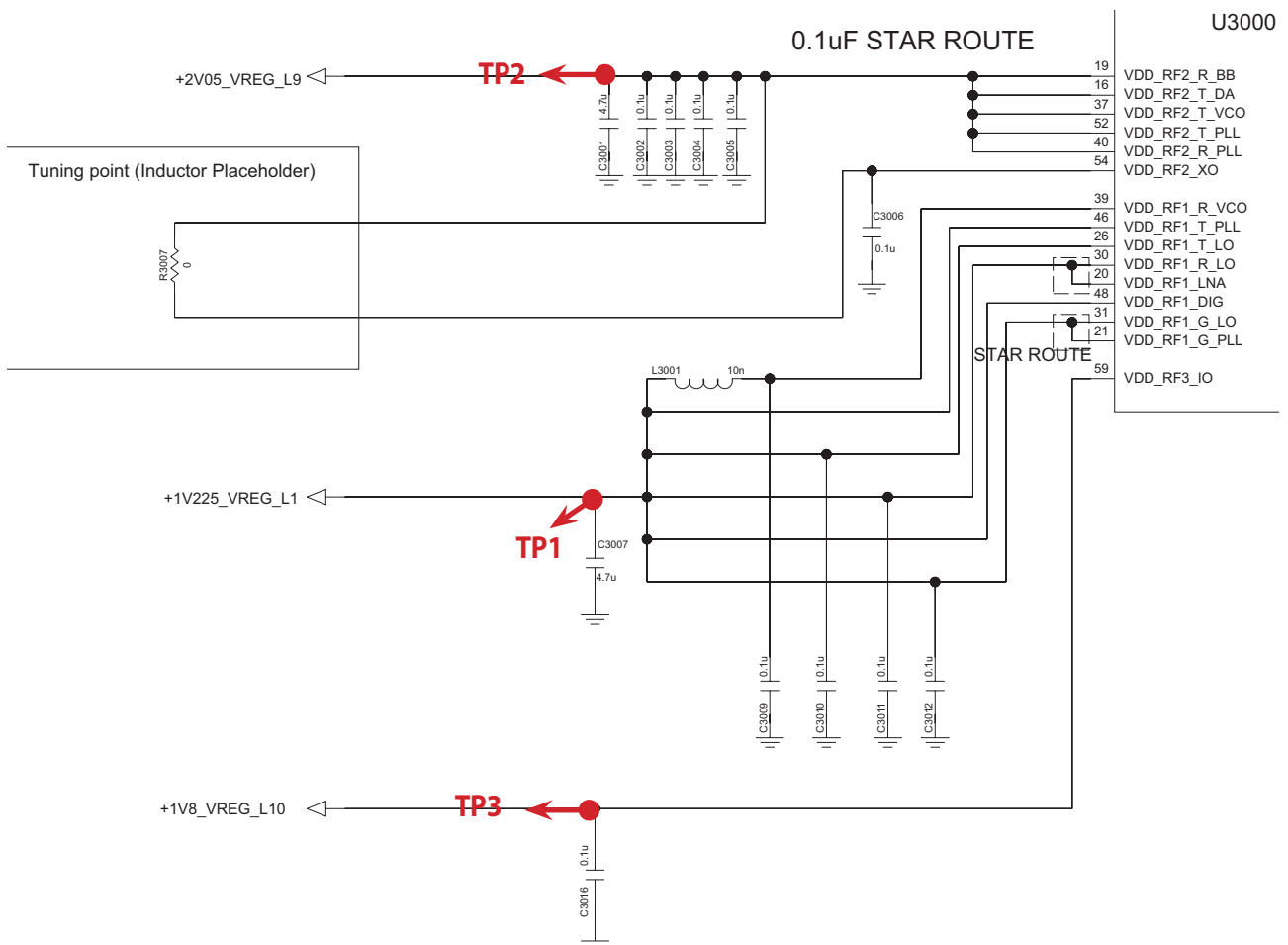
3.3.1.1 Checking DC Power supply circuit



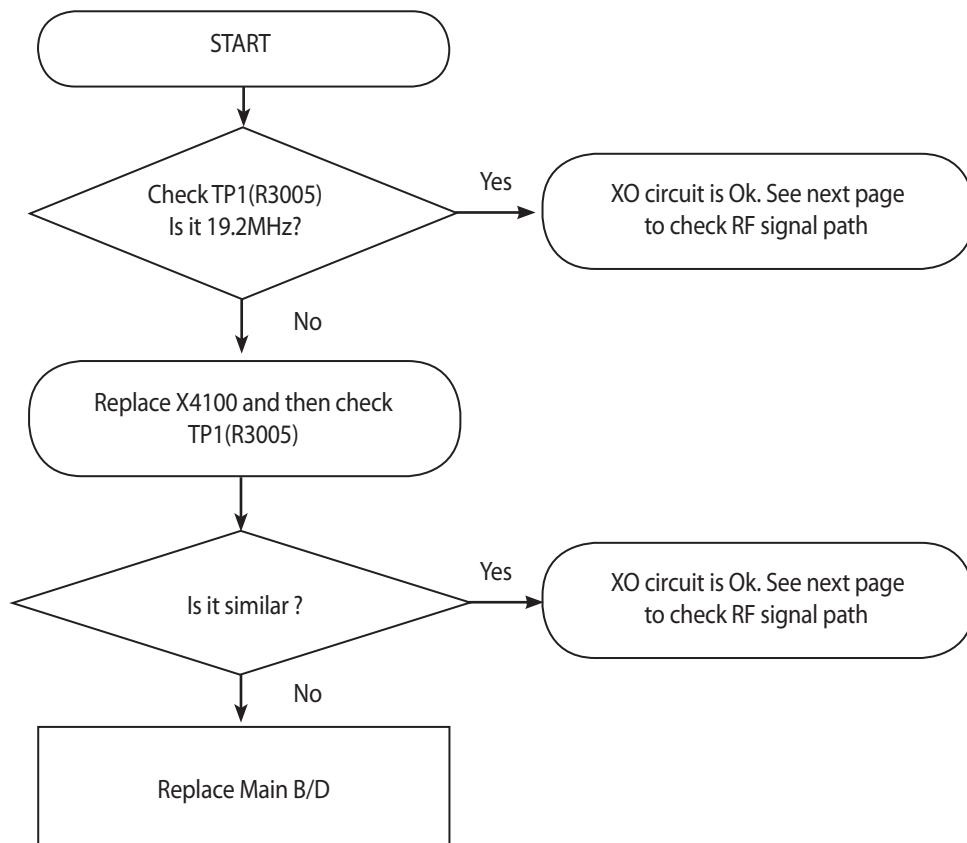
3. TROUBLE SHOOTING



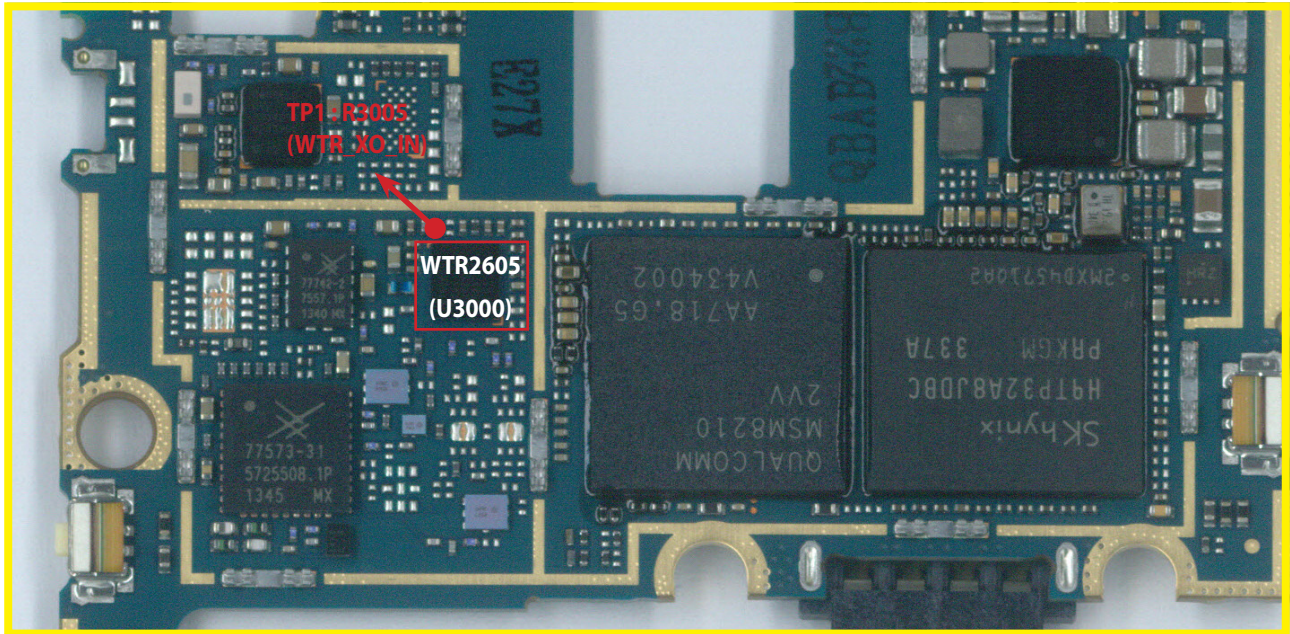
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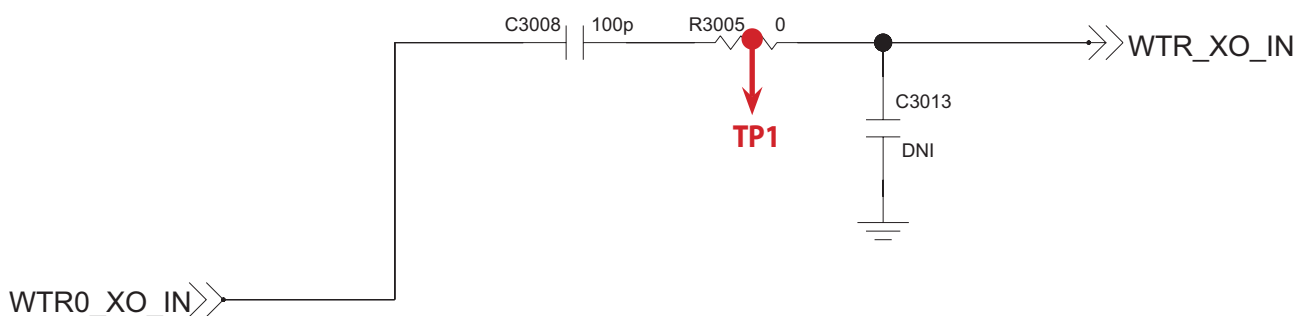
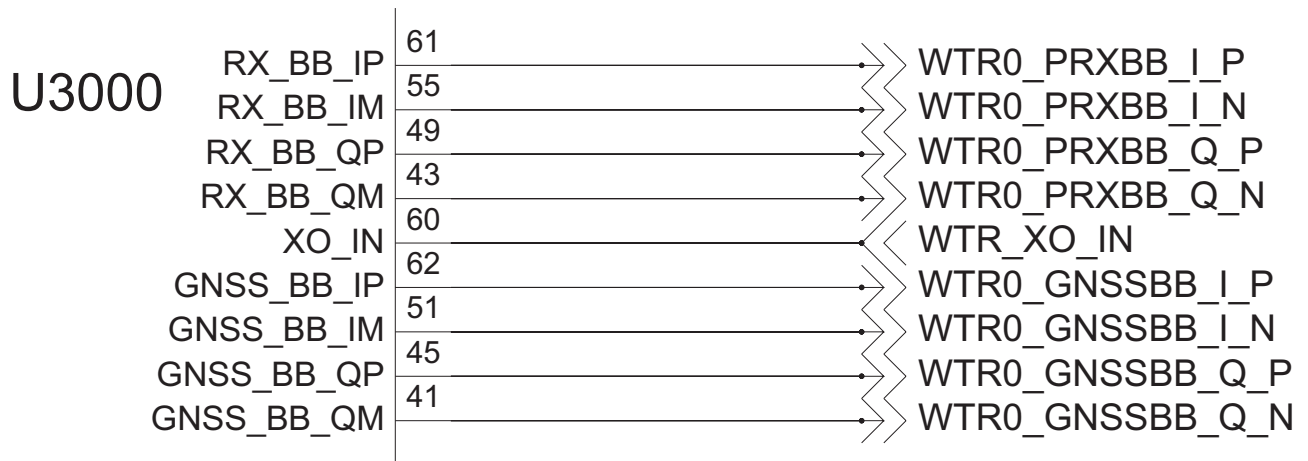
3.3.1.2 Checking WTR2605 XO circuit



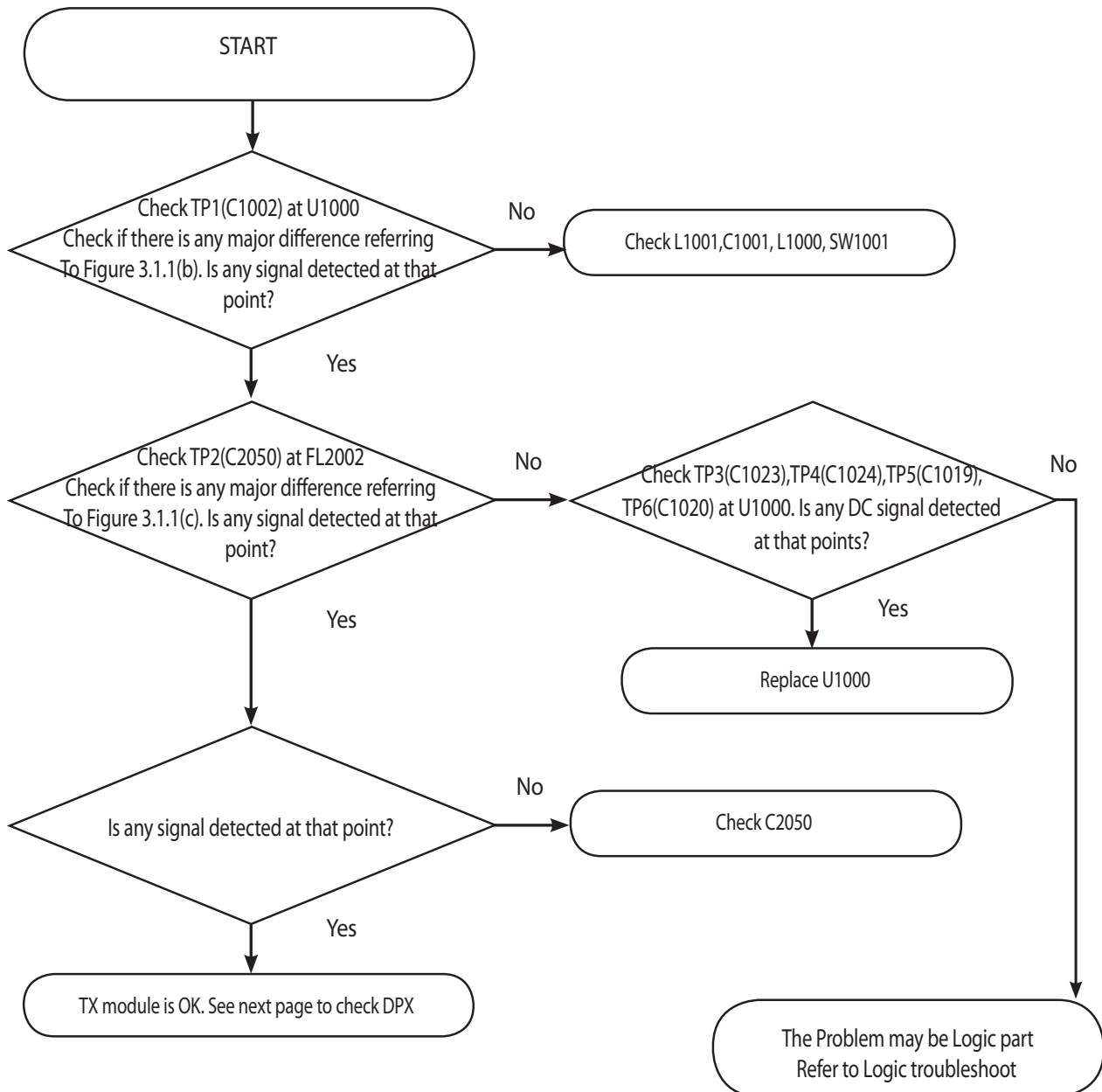
3. TROUBLE SHOOTING



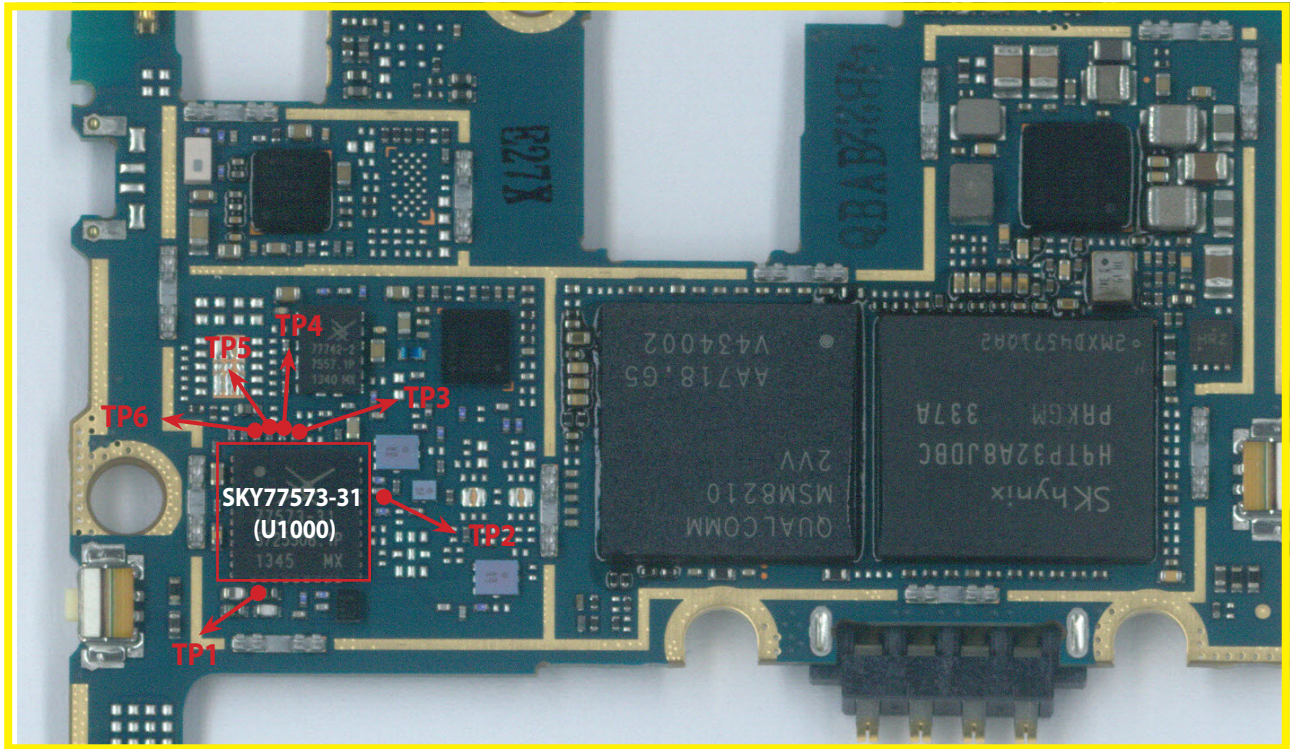
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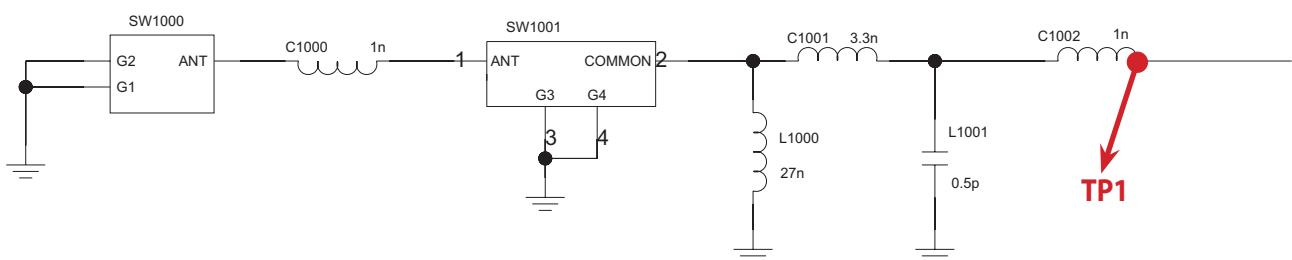
3.3.1.3 Checking RF signal path (PAM)

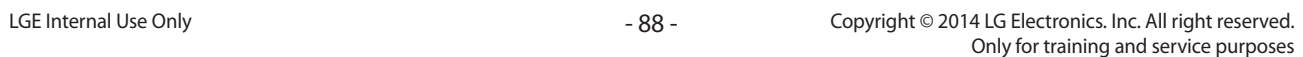


3. TROUBLE SHOOTING



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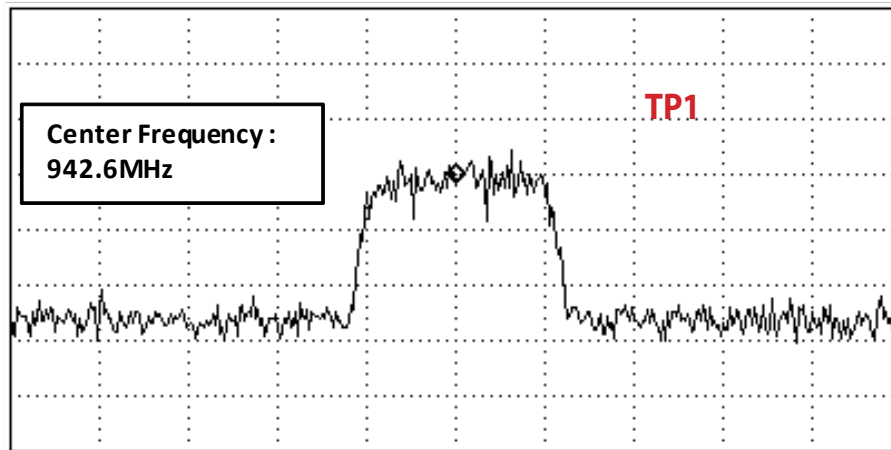


Figure 3.1.1 (b)

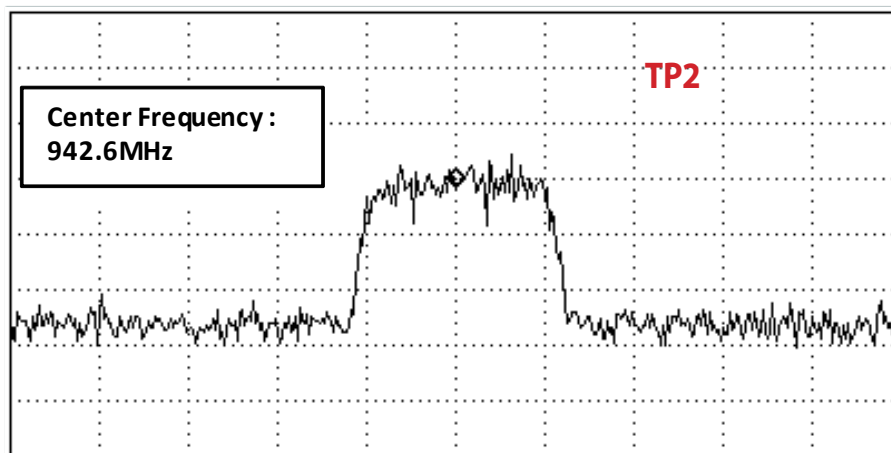


Figure 3.1.1 (c)

3.3.1.4 Checking RF Signal Path (Duplexer)

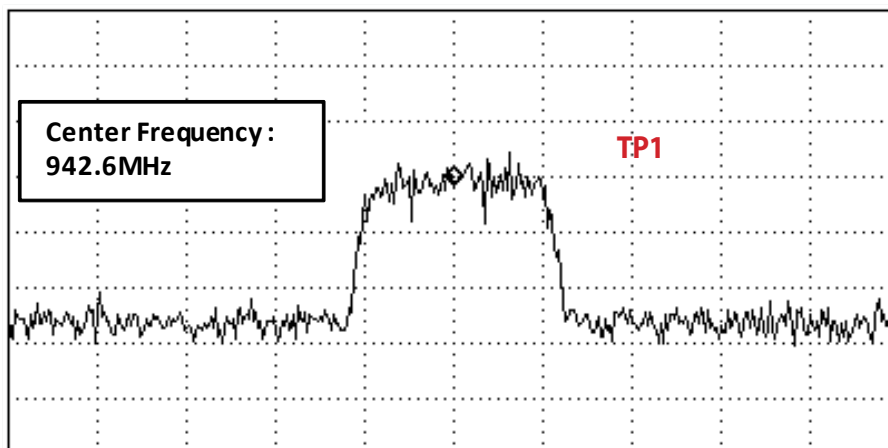
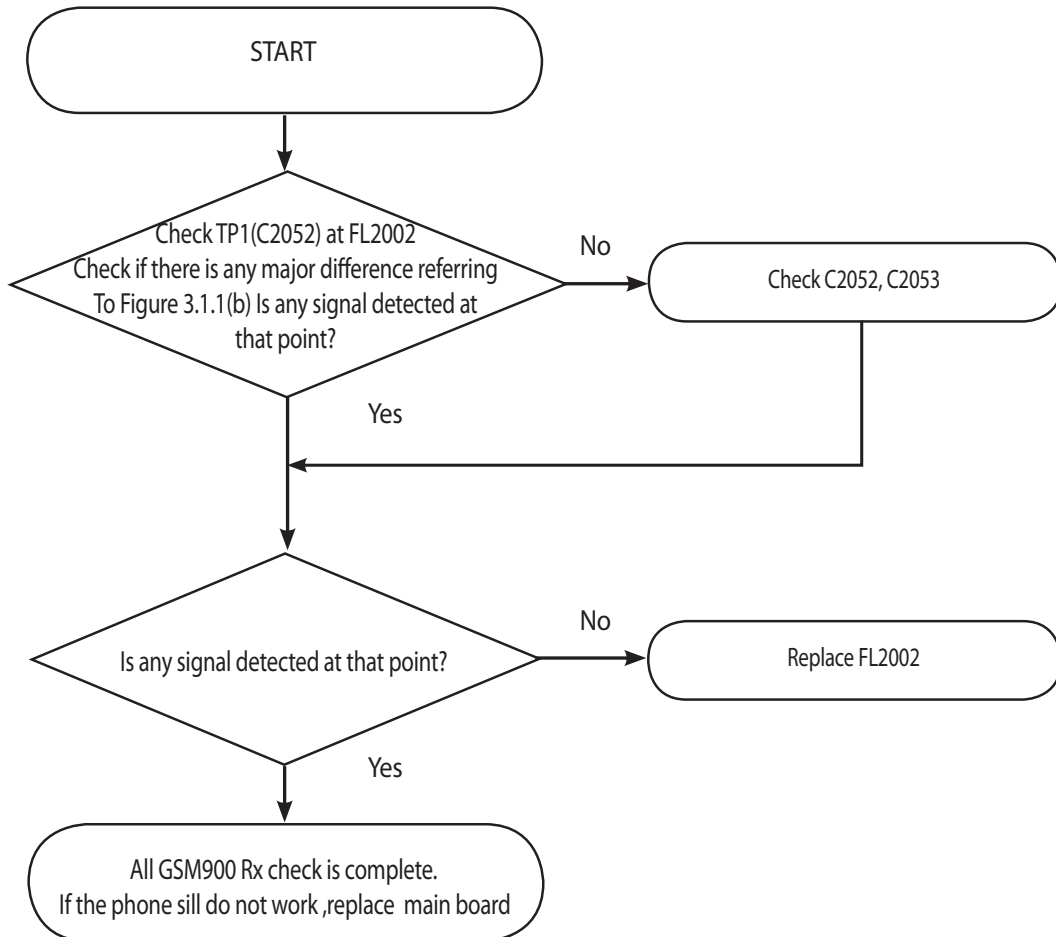
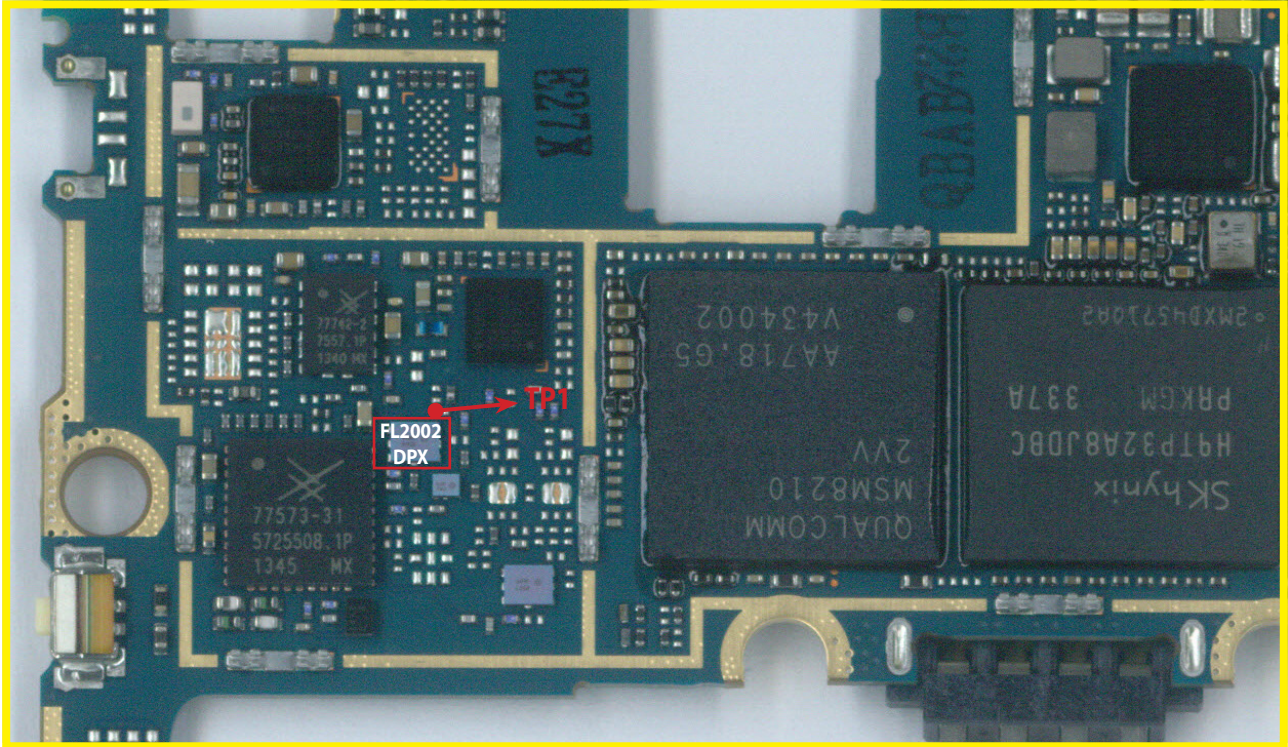
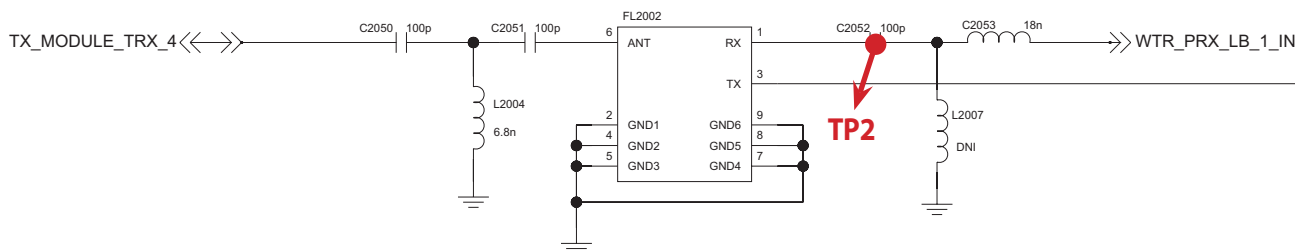


Figure 3.1.1 (b)

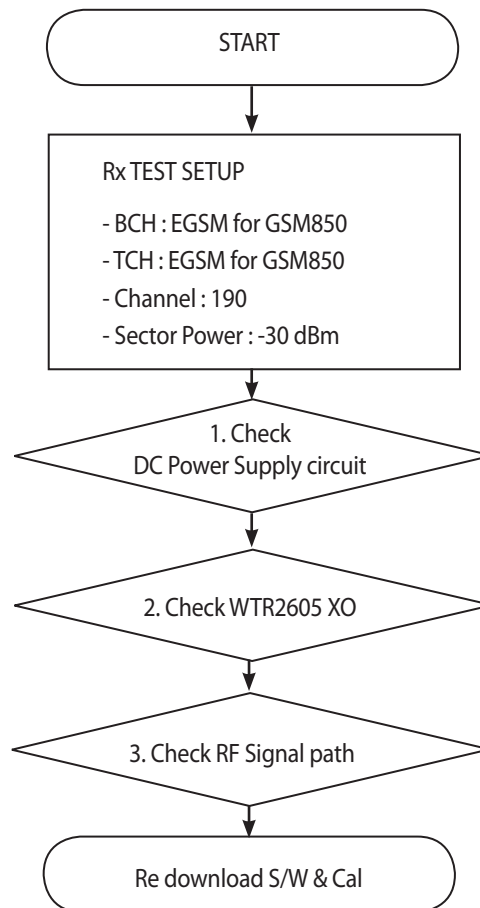
3. TROUBLE SHOOTING



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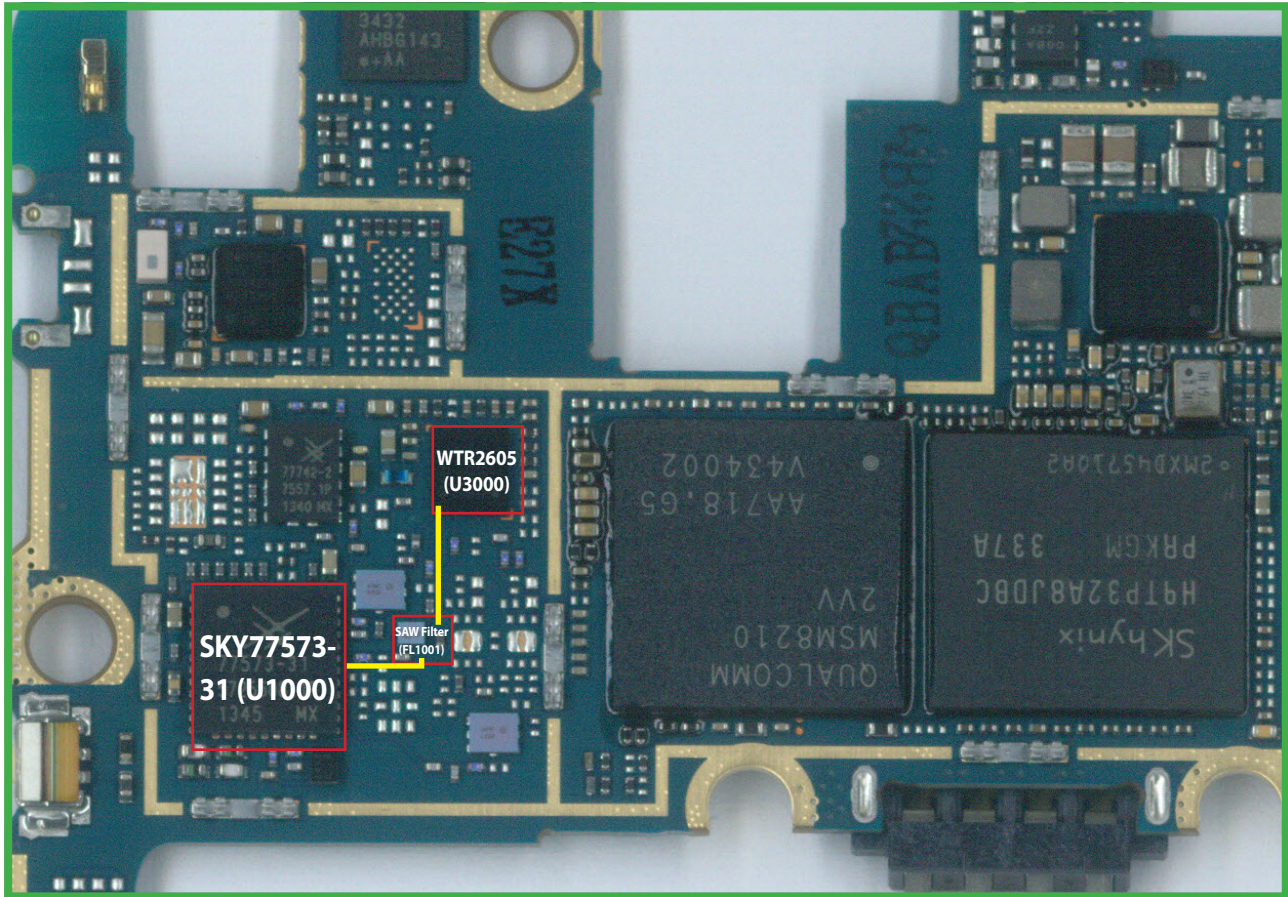


3.3.2 GSM850 Rx



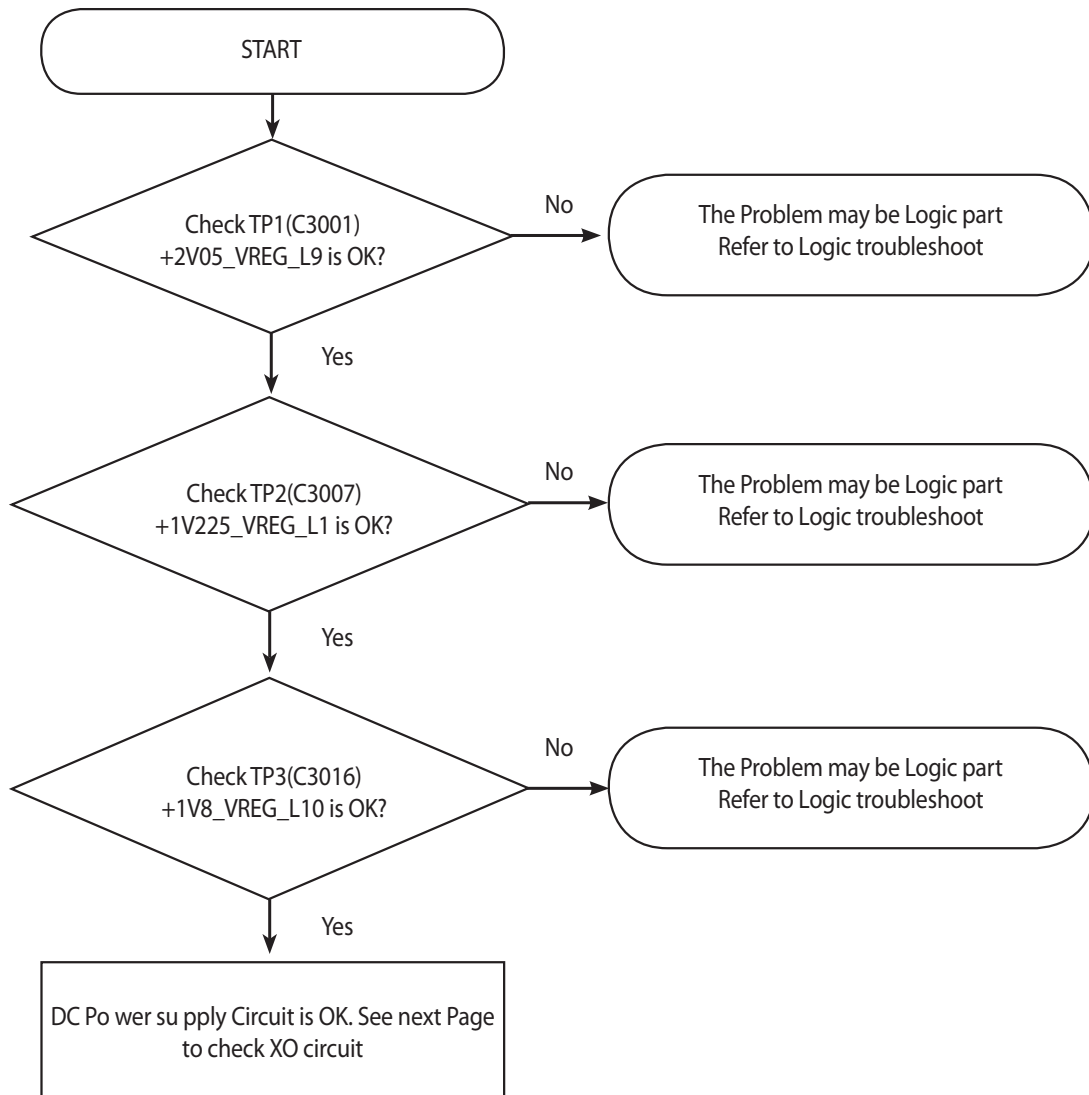
* There are no Test Points on the IQ Data Line. So It is impossible to check the IQ Data Wave form

3. TROUBLE SHOOTING

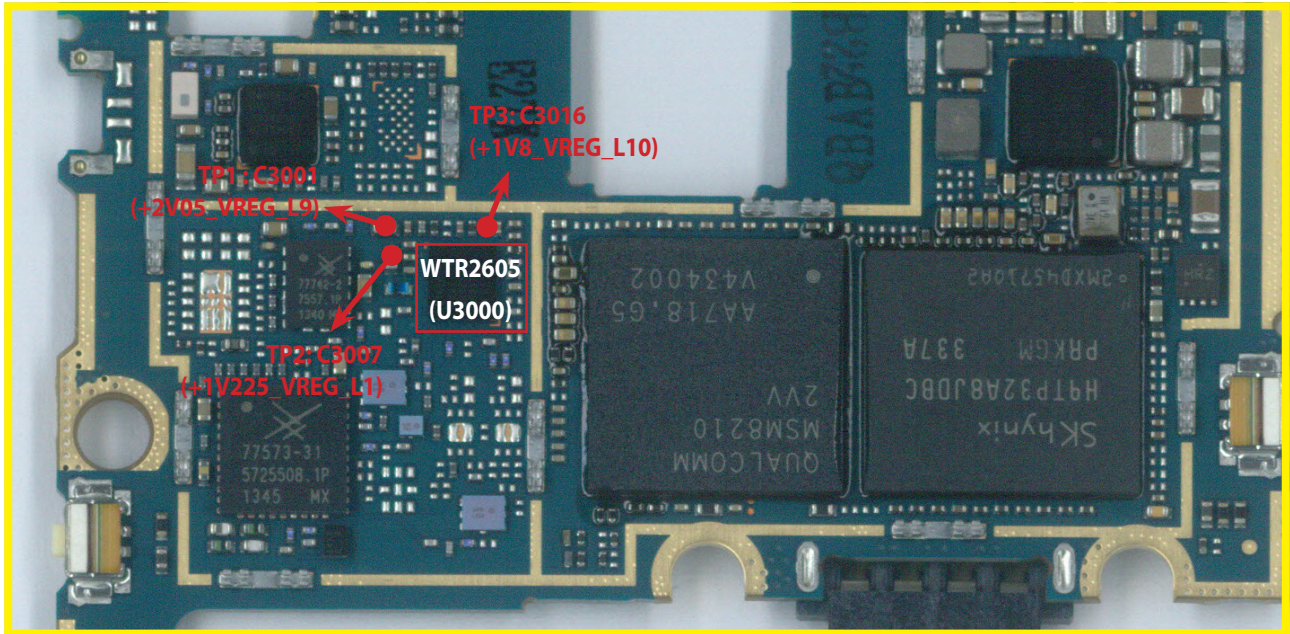


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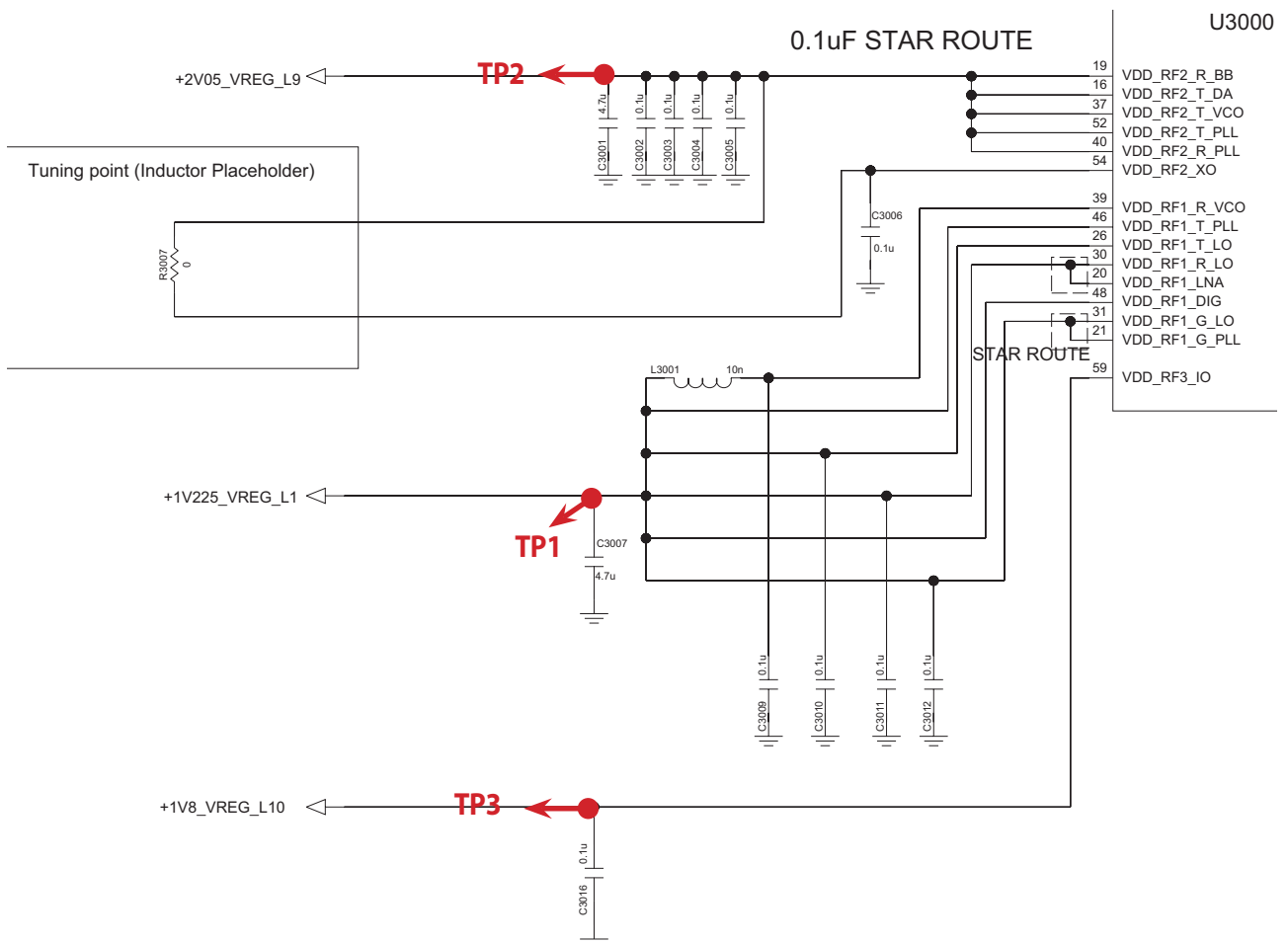
3.3.2.1 Checking DC Power supply circuit



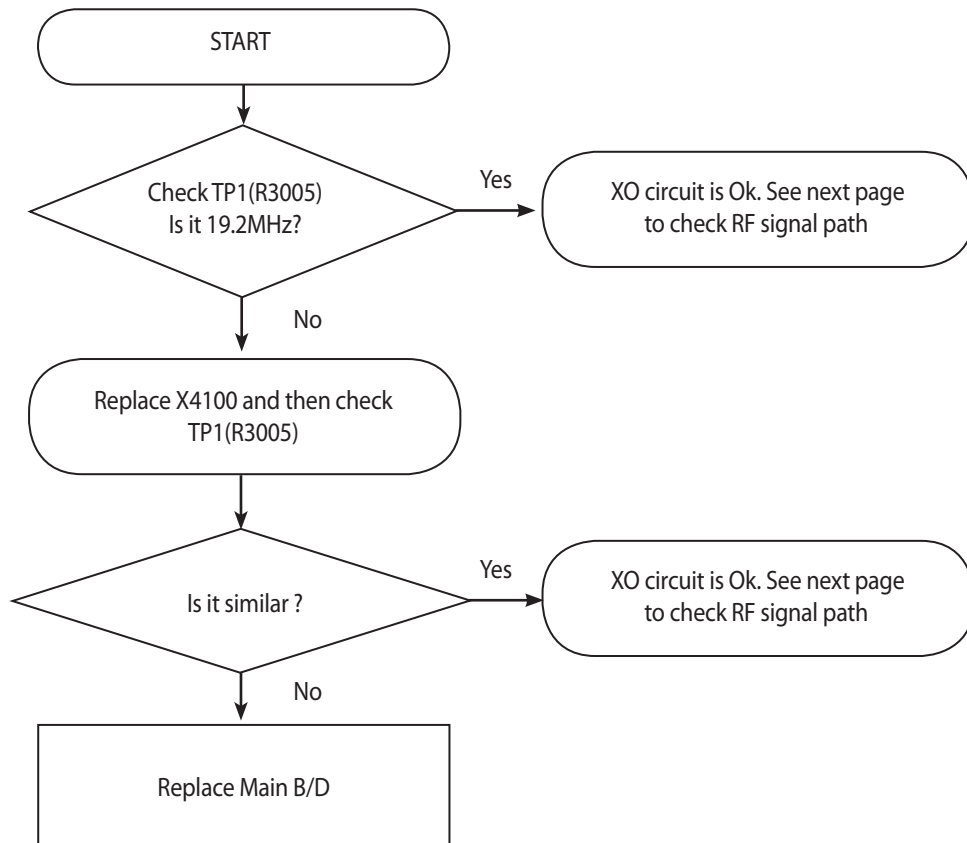
3. TROUBLE SHOOTING



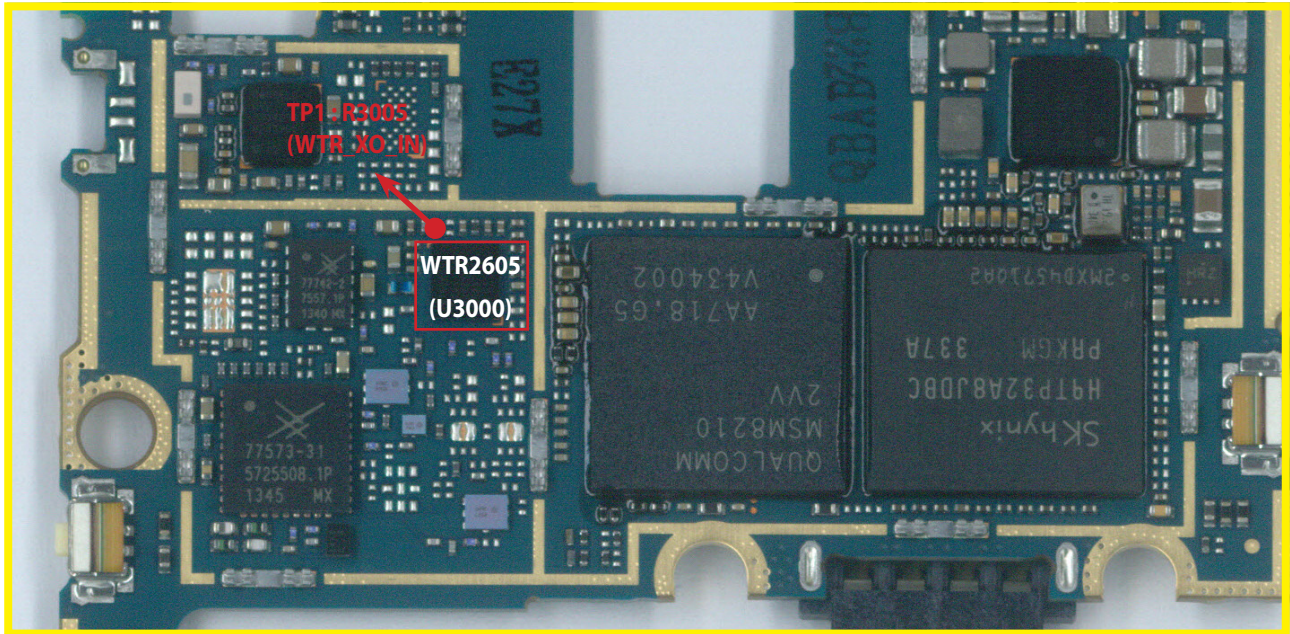
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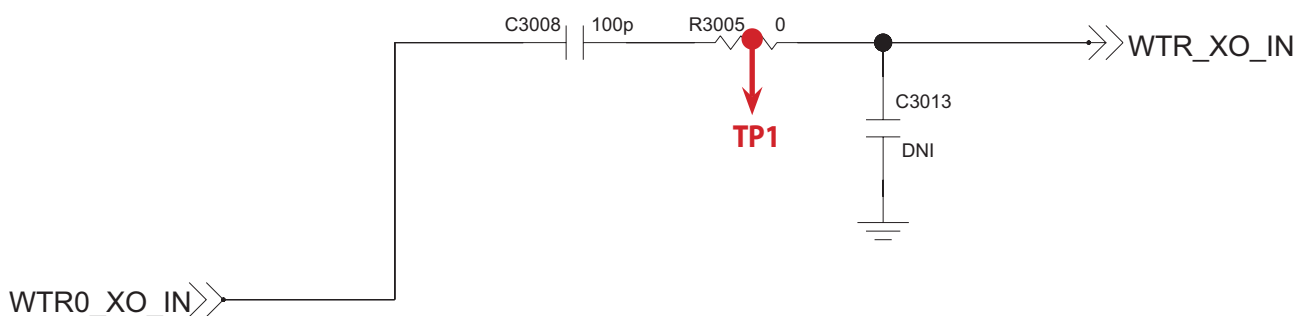
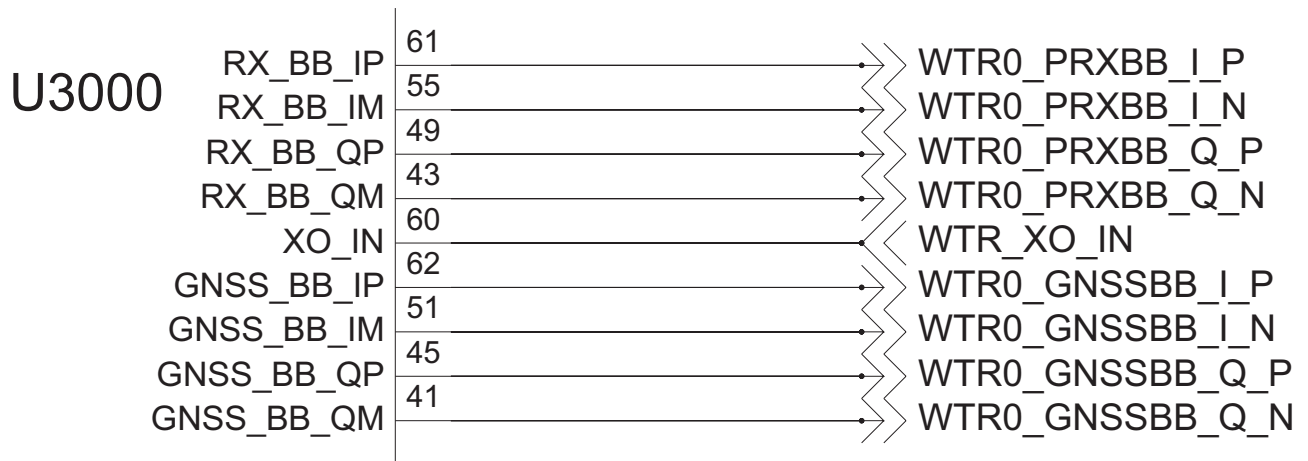
3.3.2.2 Checking WTR2605 XO circuit



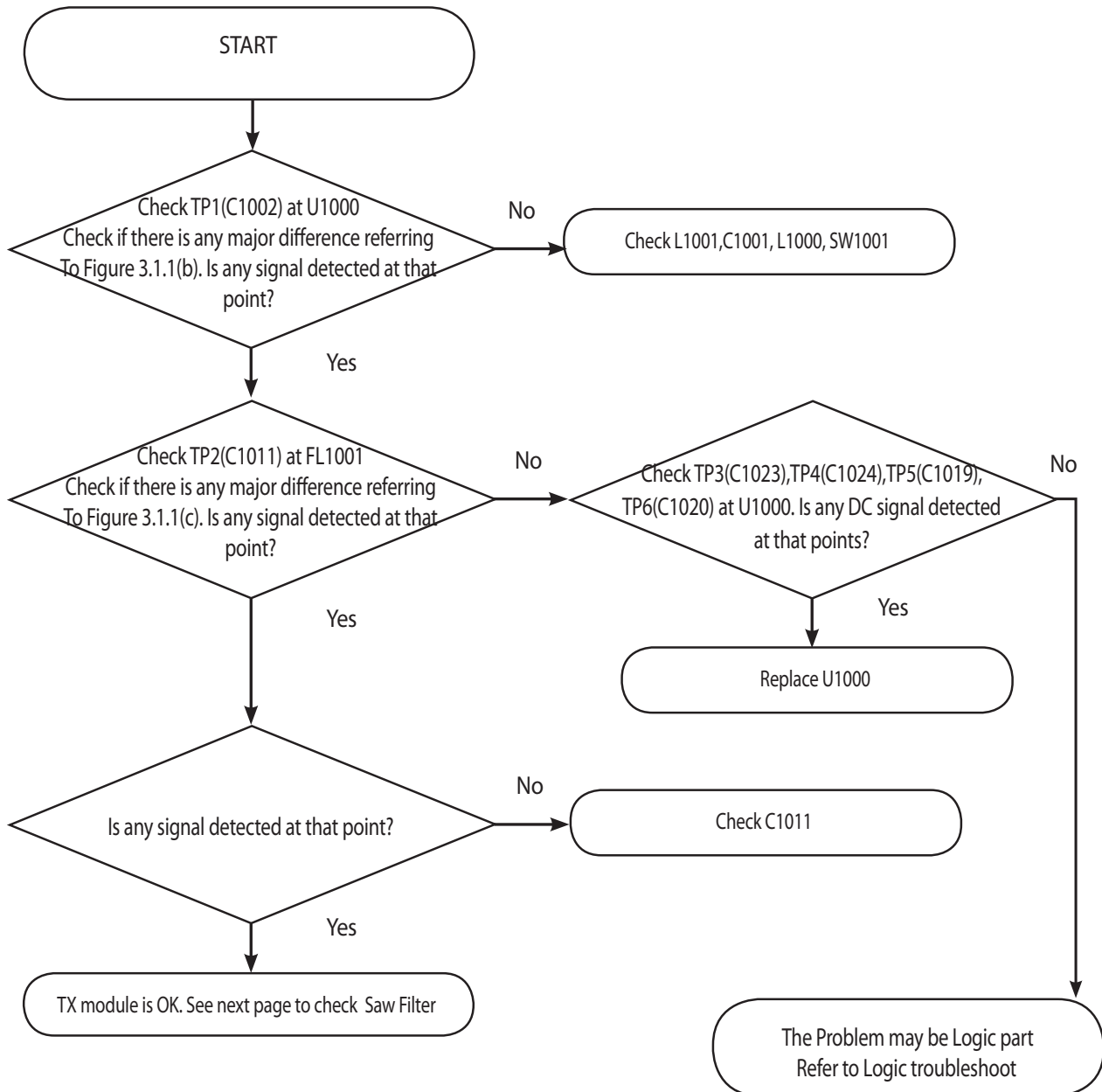
3. TROUBLE SHOOTING



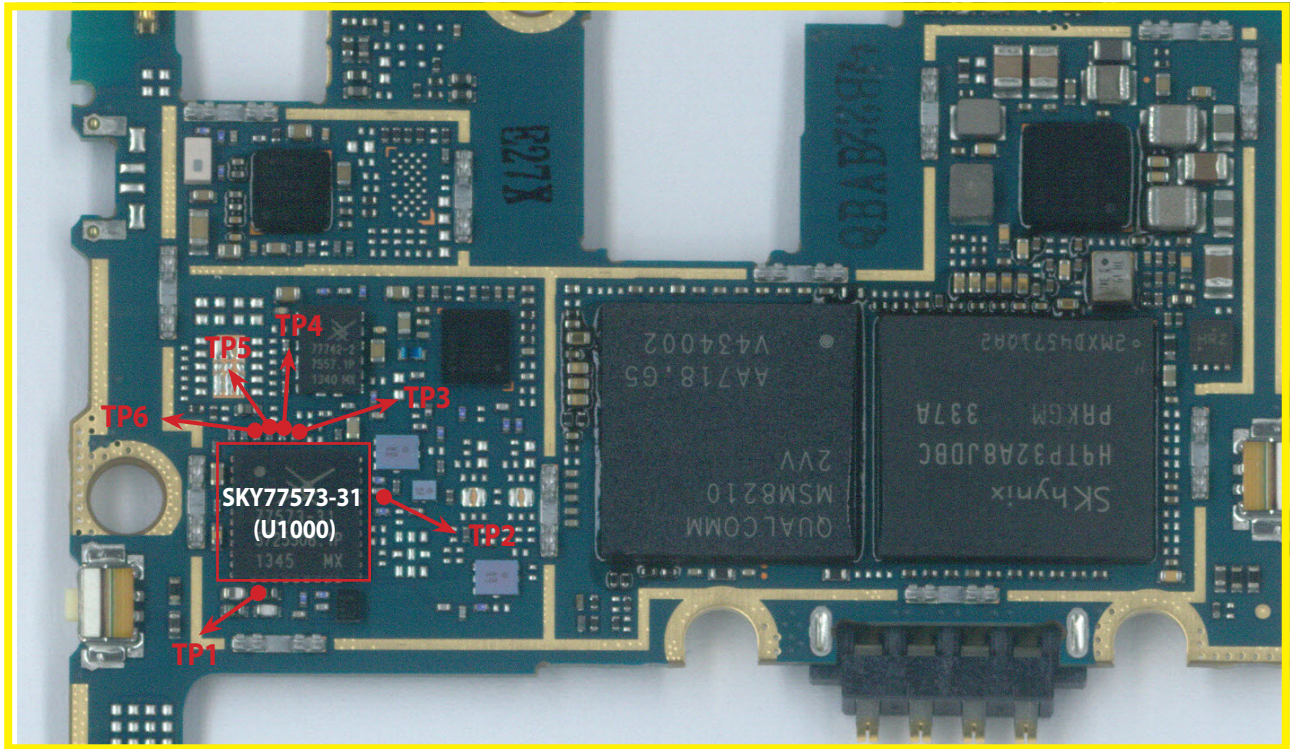
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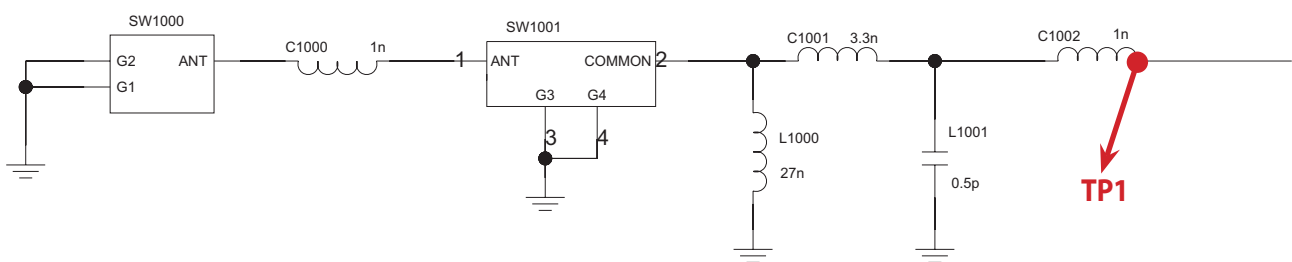
3.3.2.3 Checking RF Signal Path (Tx Module)

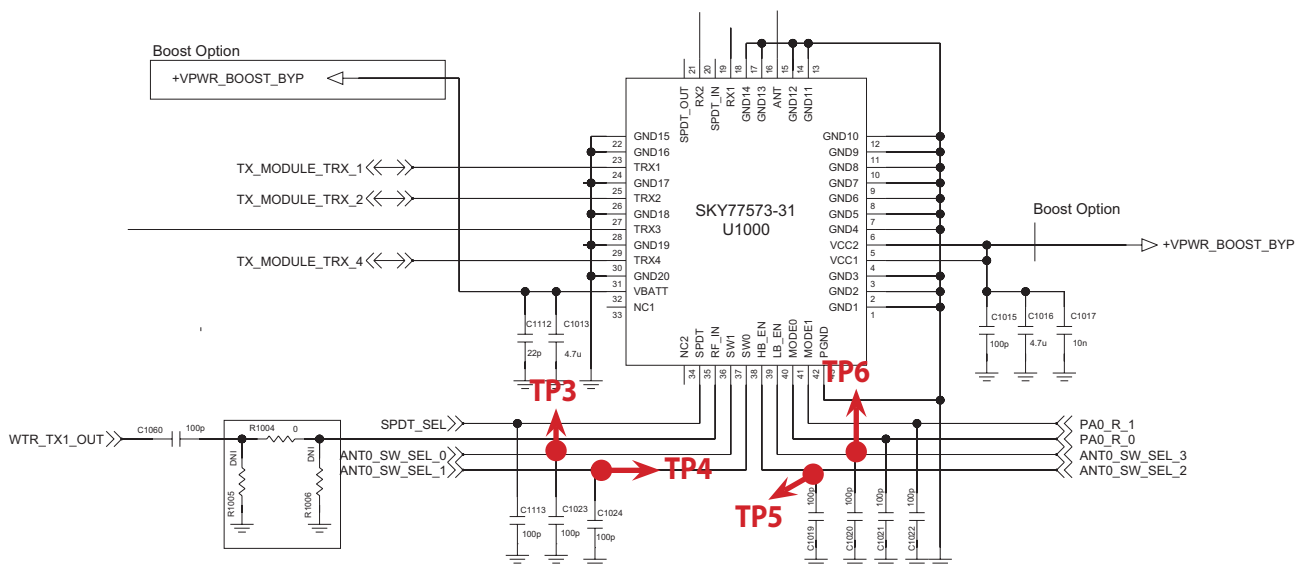
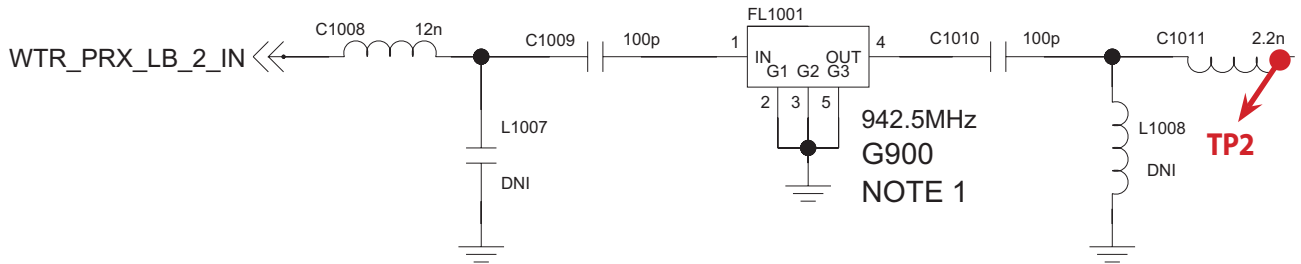


3. TROUBLE SHOOTING



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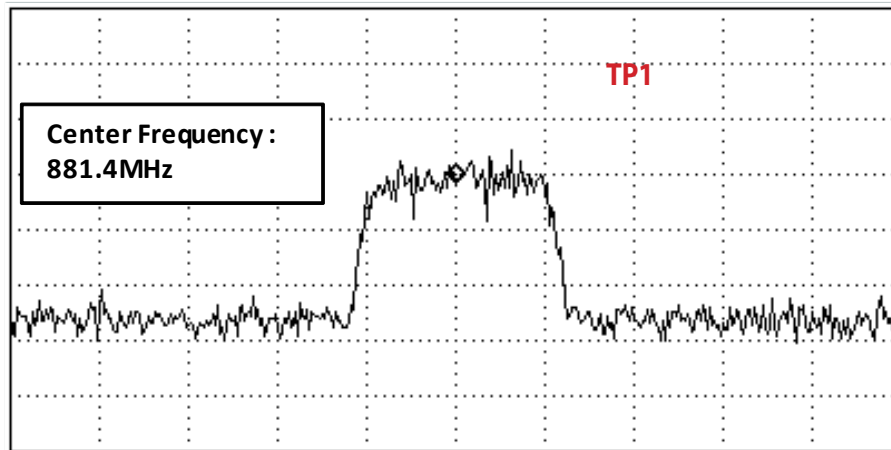


Figure 3.1.1 (b)

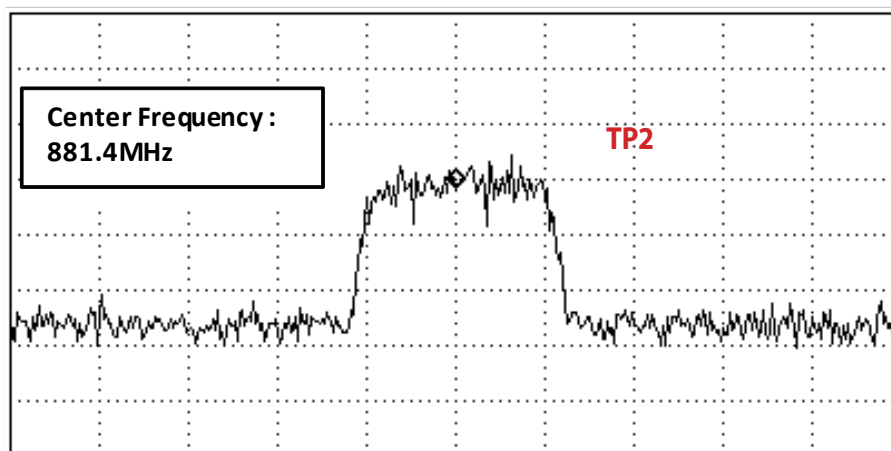


Figure 3.1.1 (c)

3.3.2.4 Checking RF Signal Path (Saw Filter)

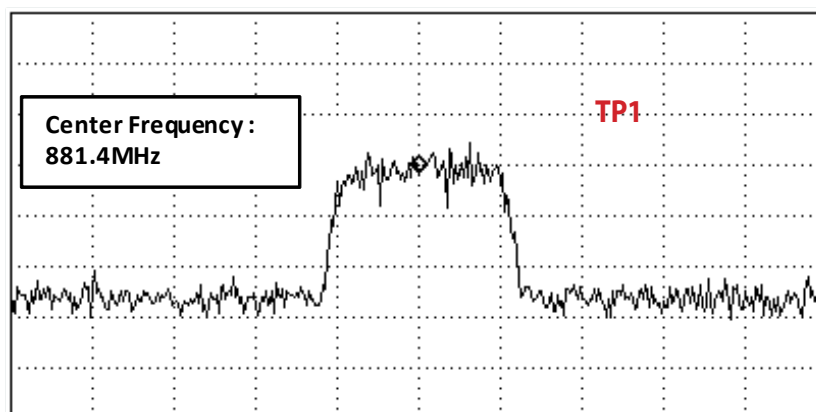
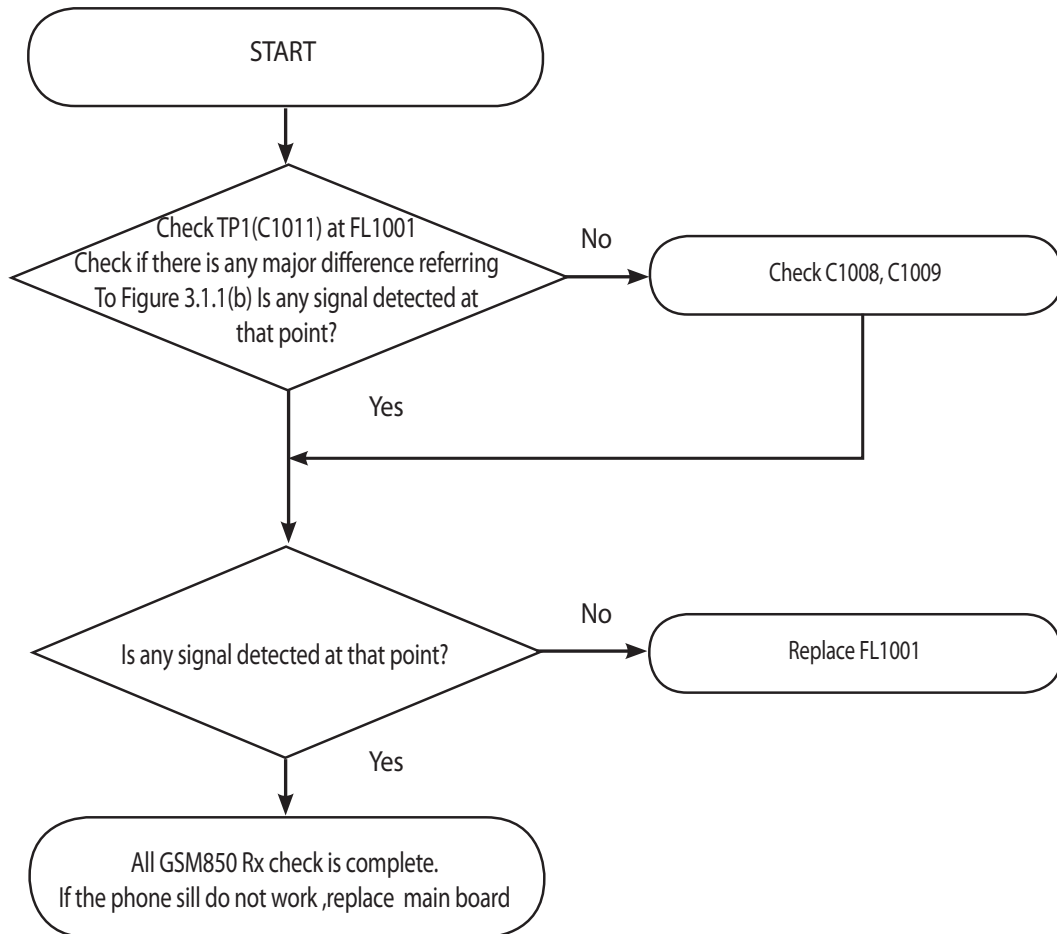
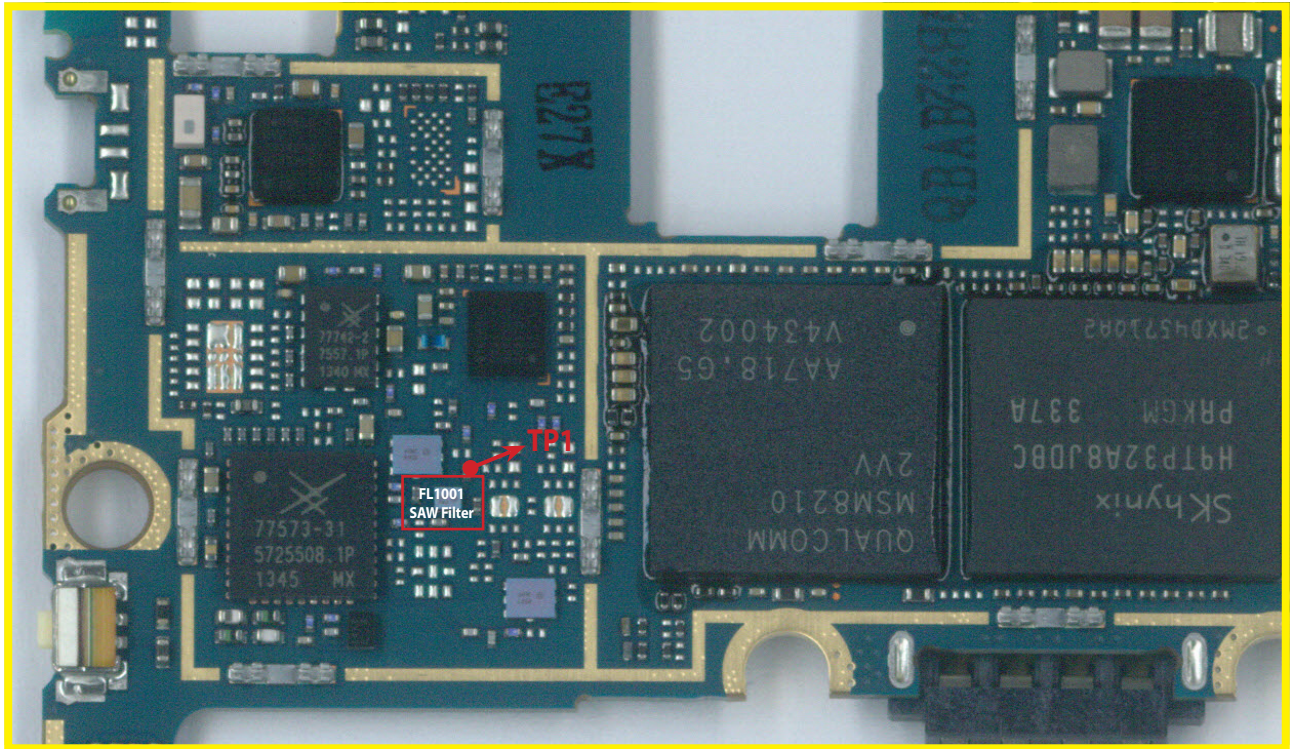
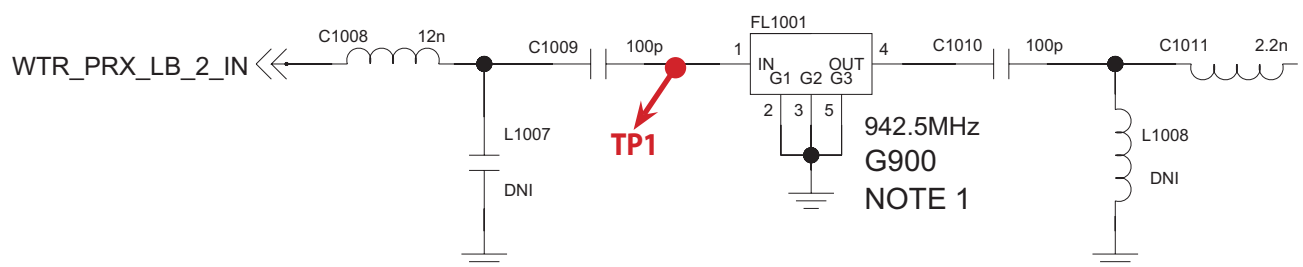


Figure 3.1.1 (b)

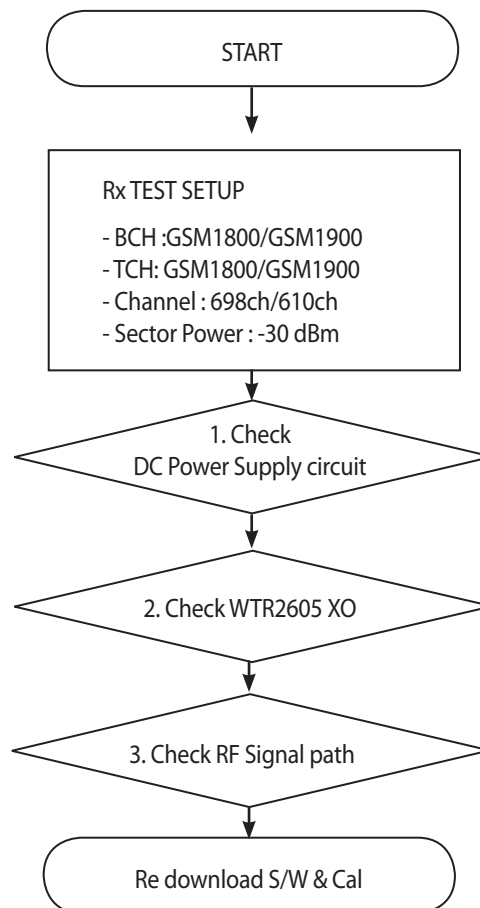
3. TROUBLE SHOOTING



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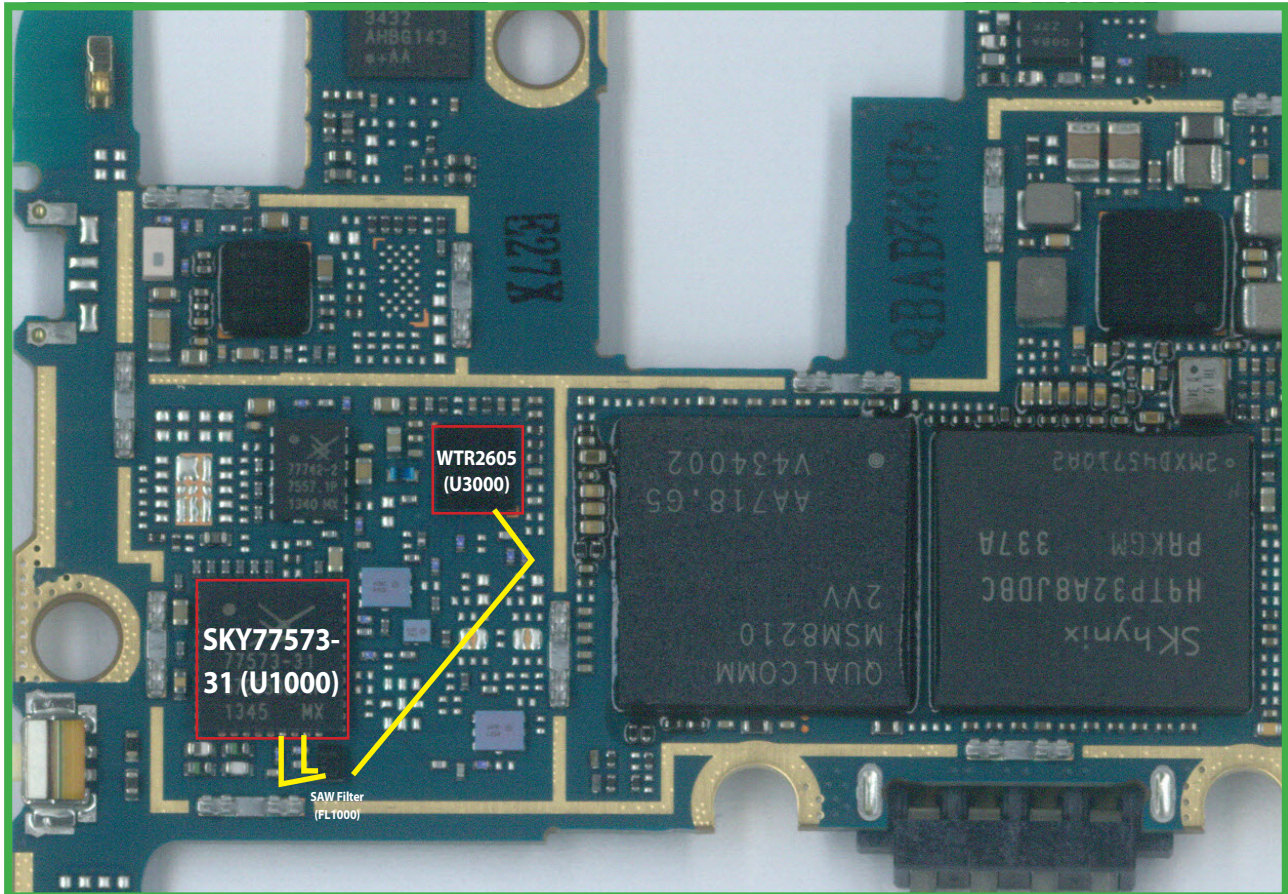


3.3.3 GSM1800/1900 Rx



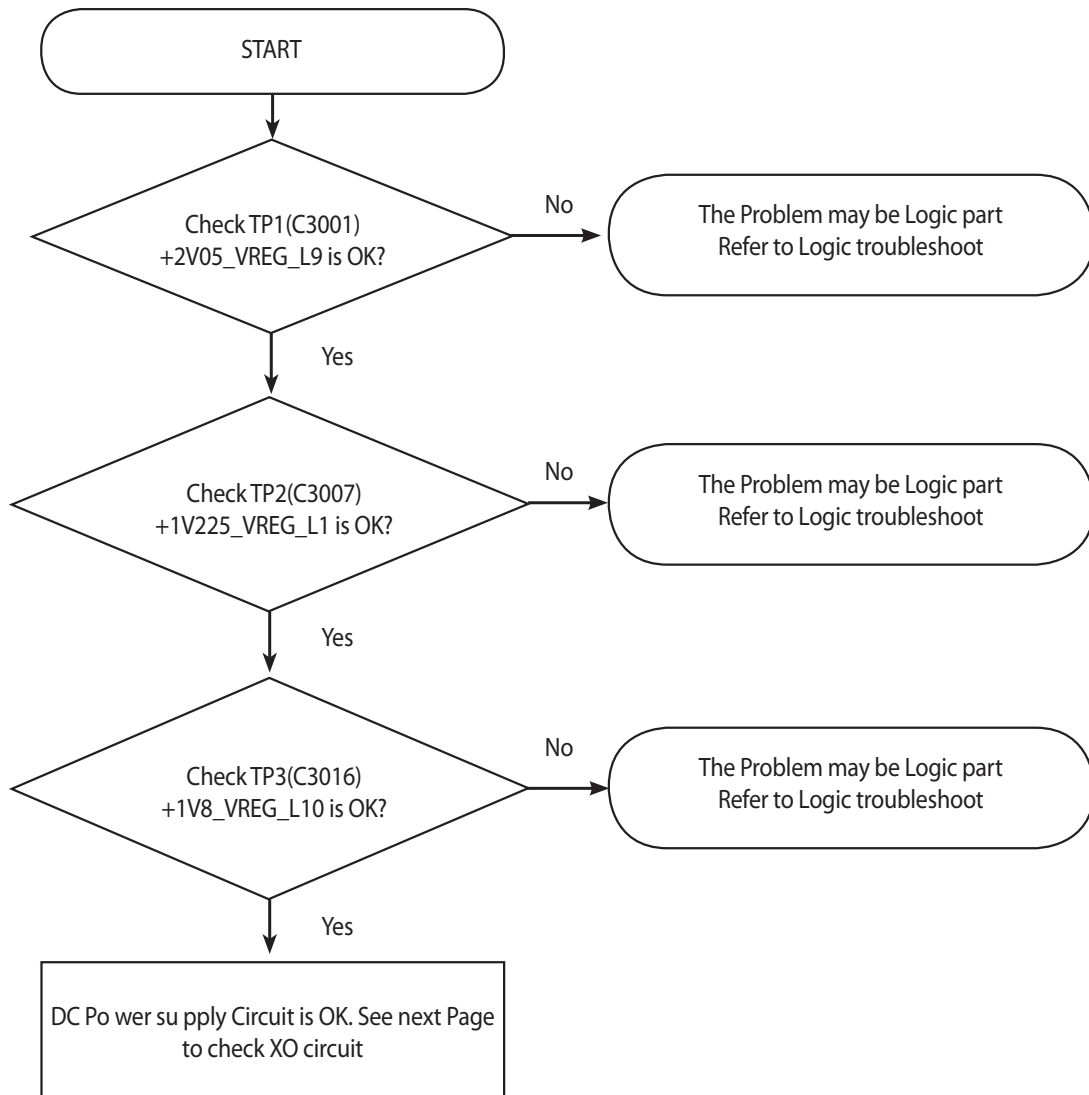
* There are no Test Points on the IQ Data Line. So It is impossible to check the IQ Data Wave form

3. TROUBLE SHOOTING

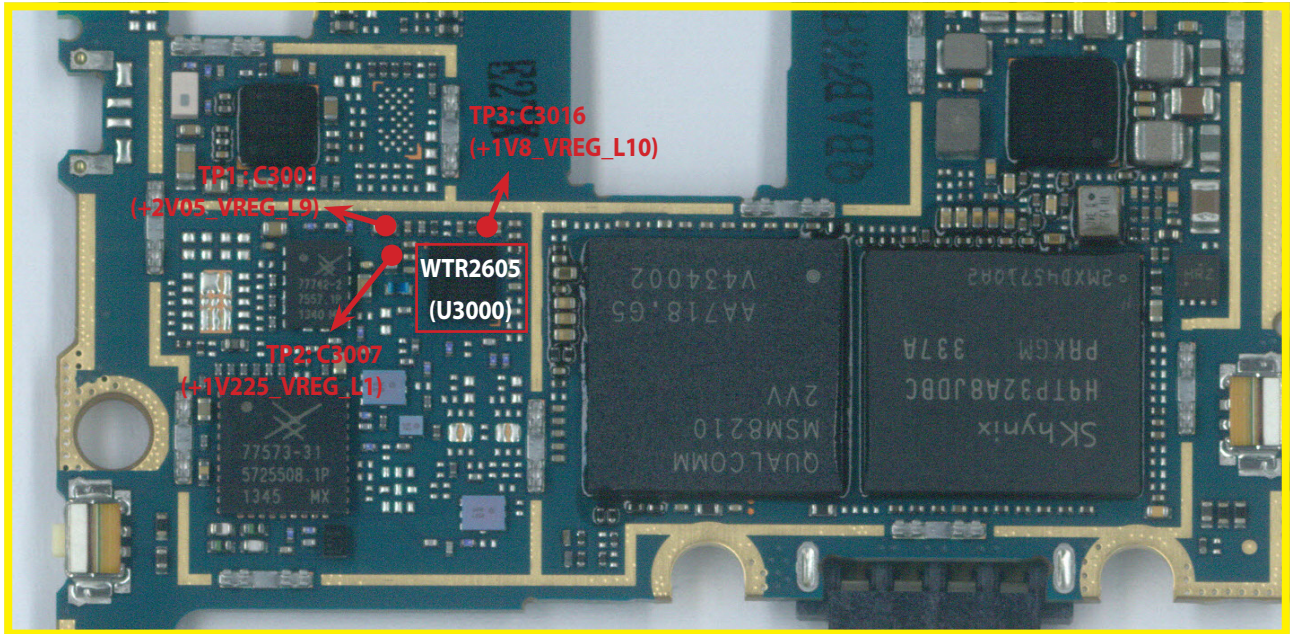


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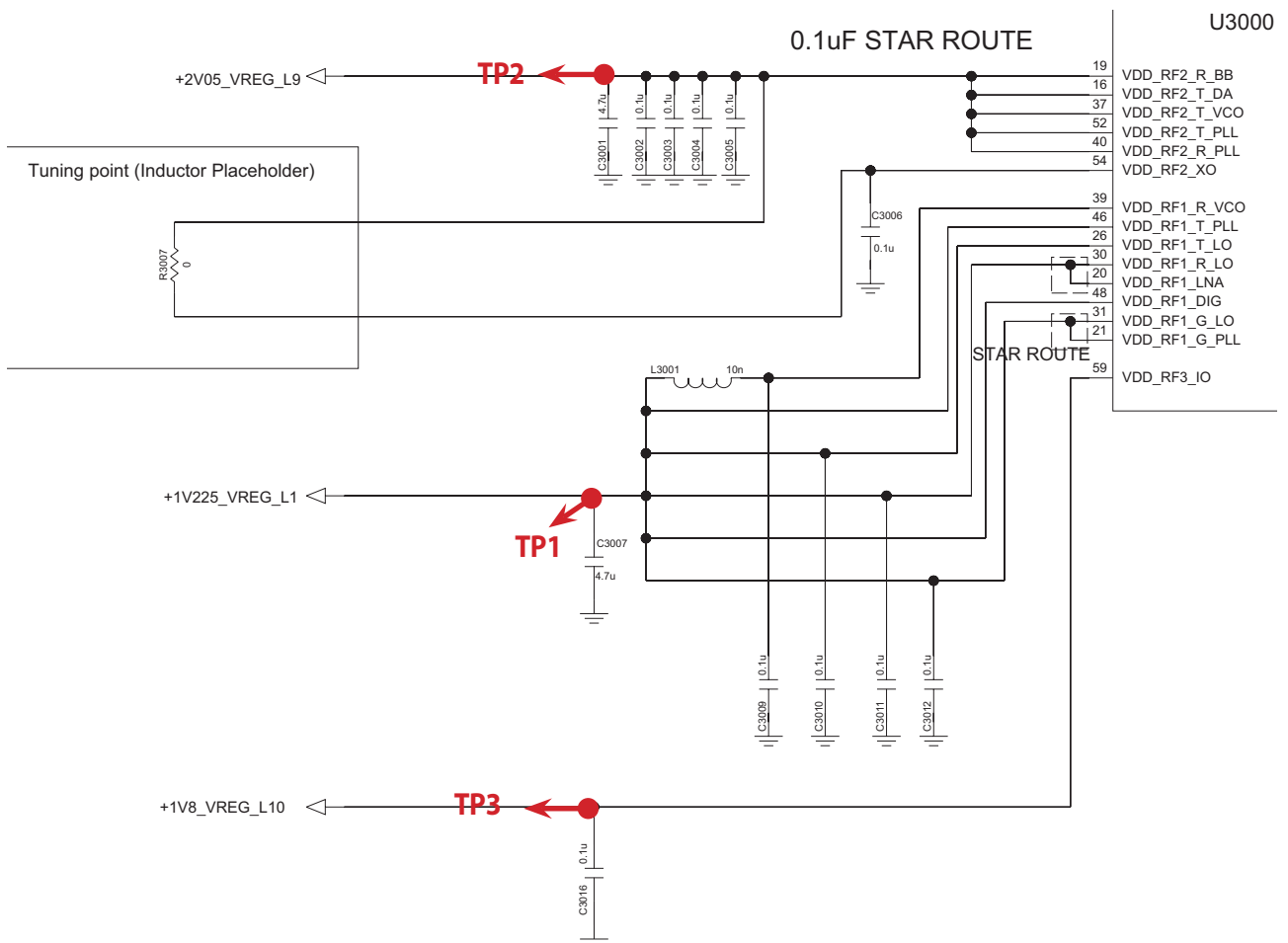
3.3.3.1 Checking DC Power supply circuit



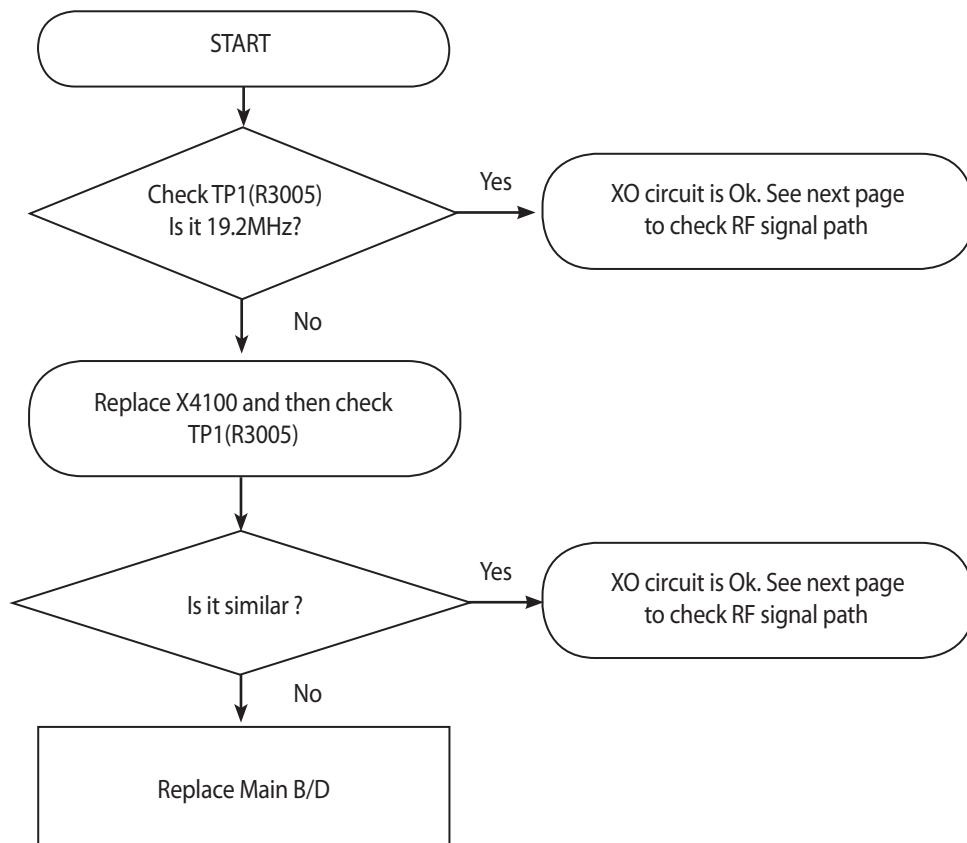
3. TROUBLE SHOOTING



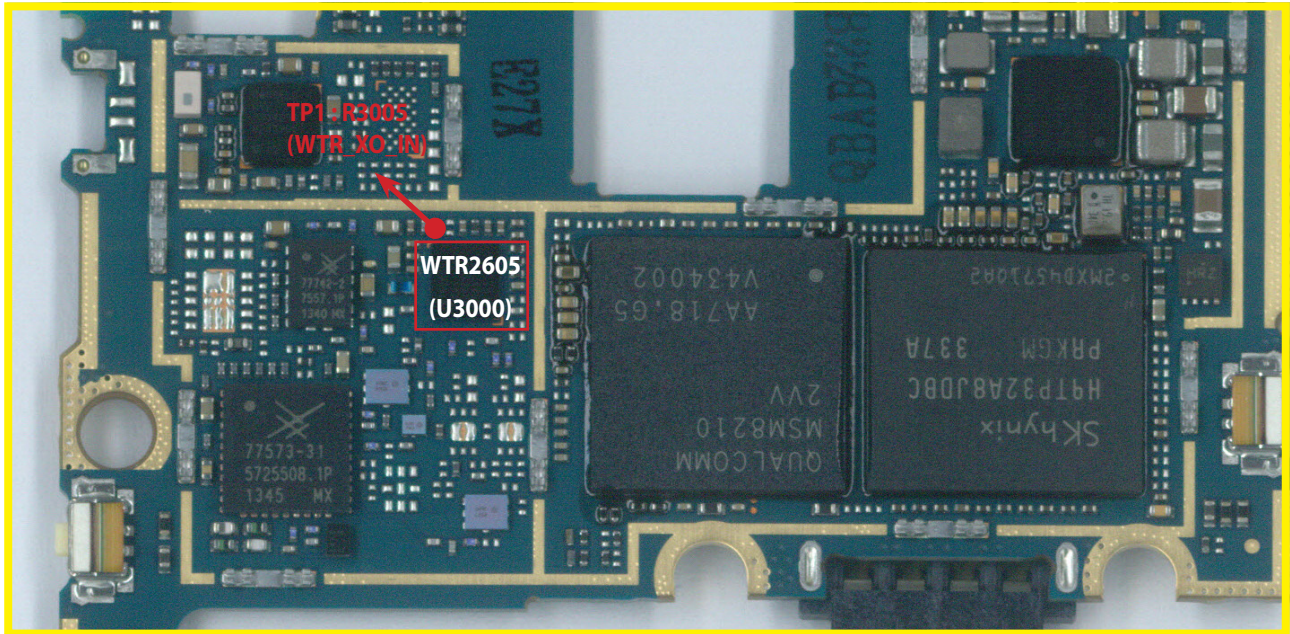
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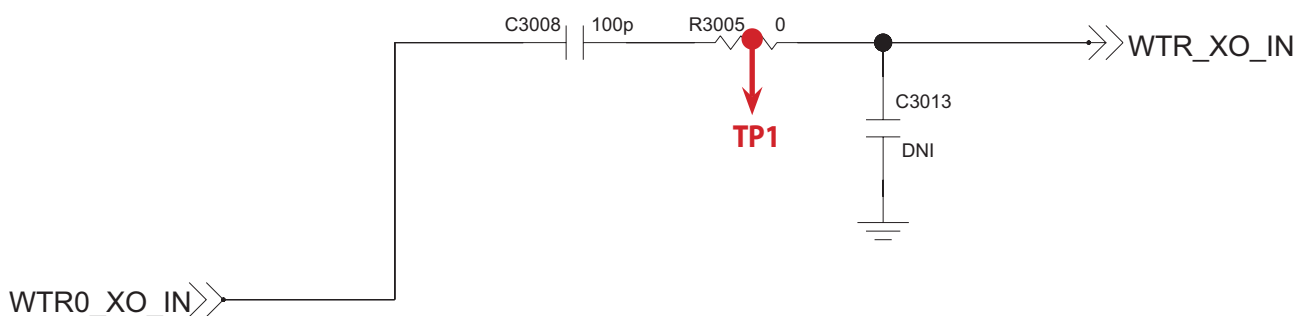
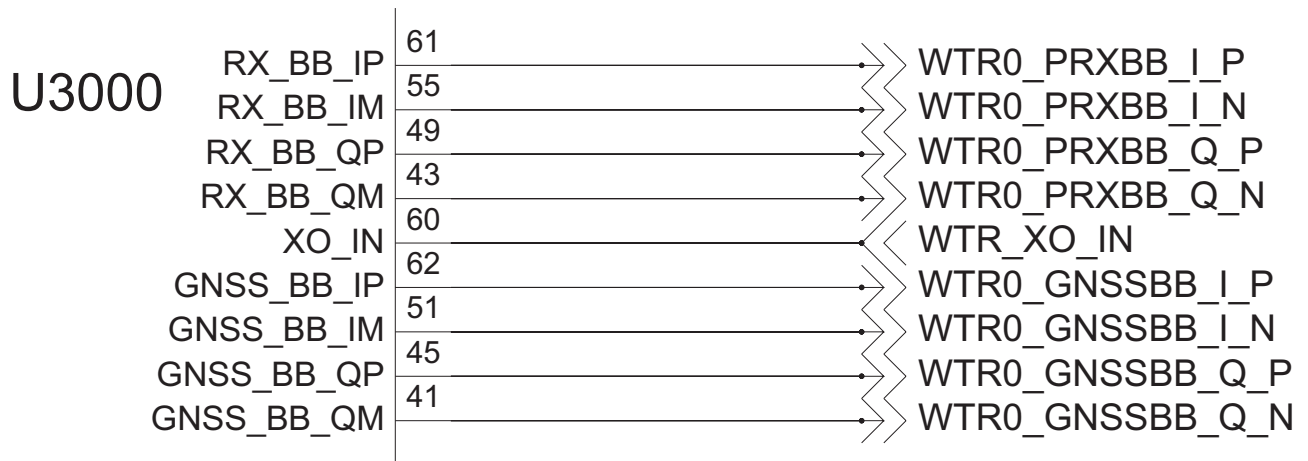
3.3.3.2 Checking WTR2605 XO circuit



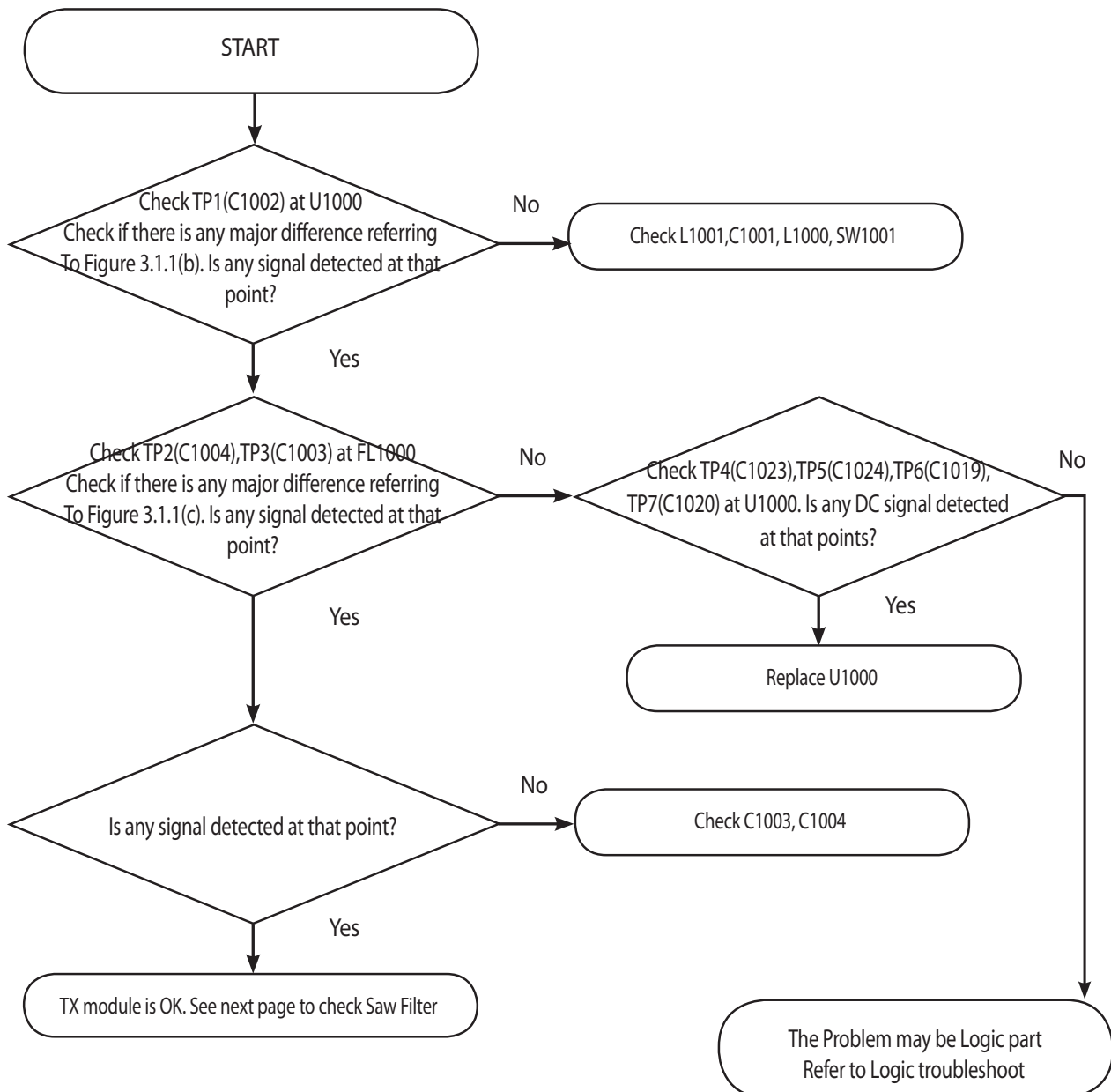
3. TROUBLE SHOOTING



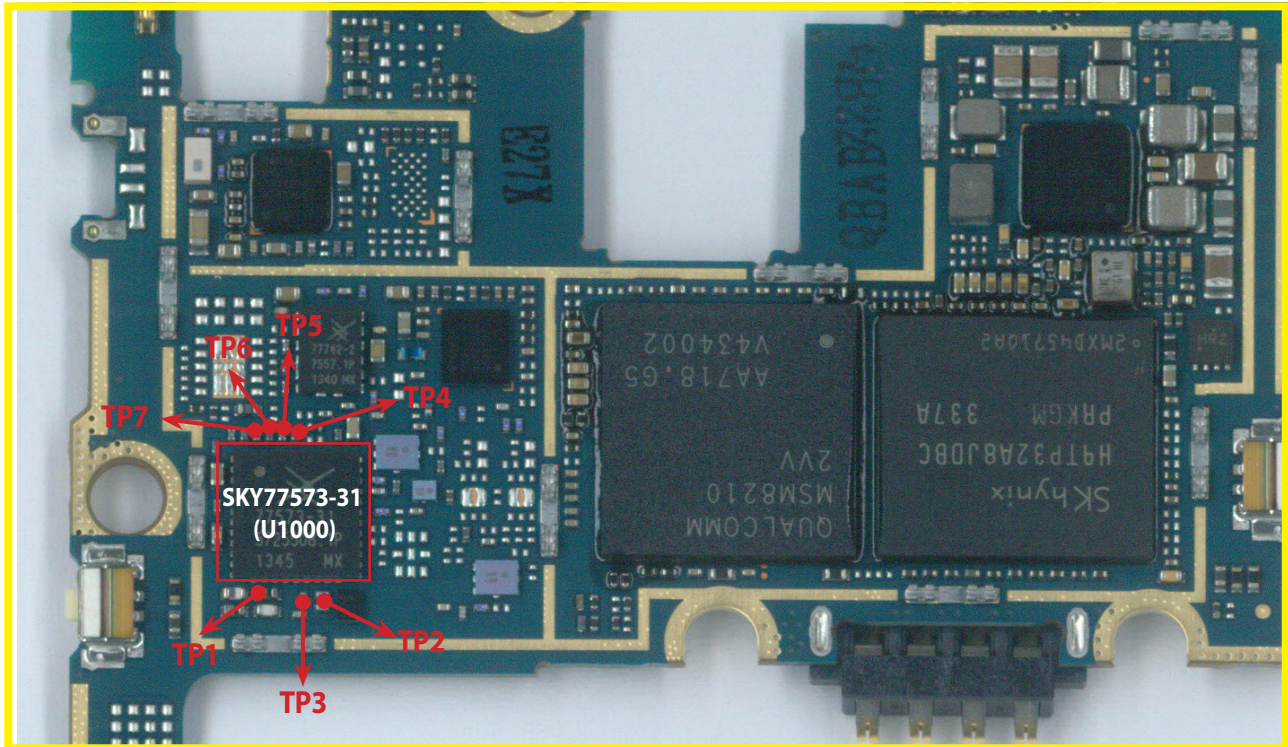
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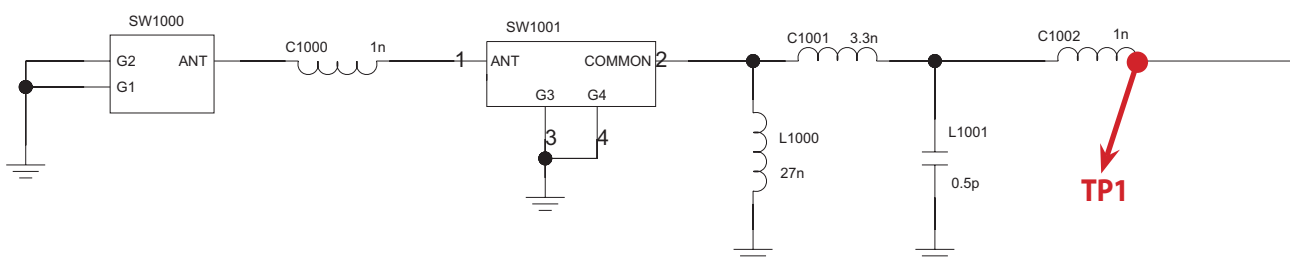
3.3.3.3 Checking RF Signal Path (Tx Module)



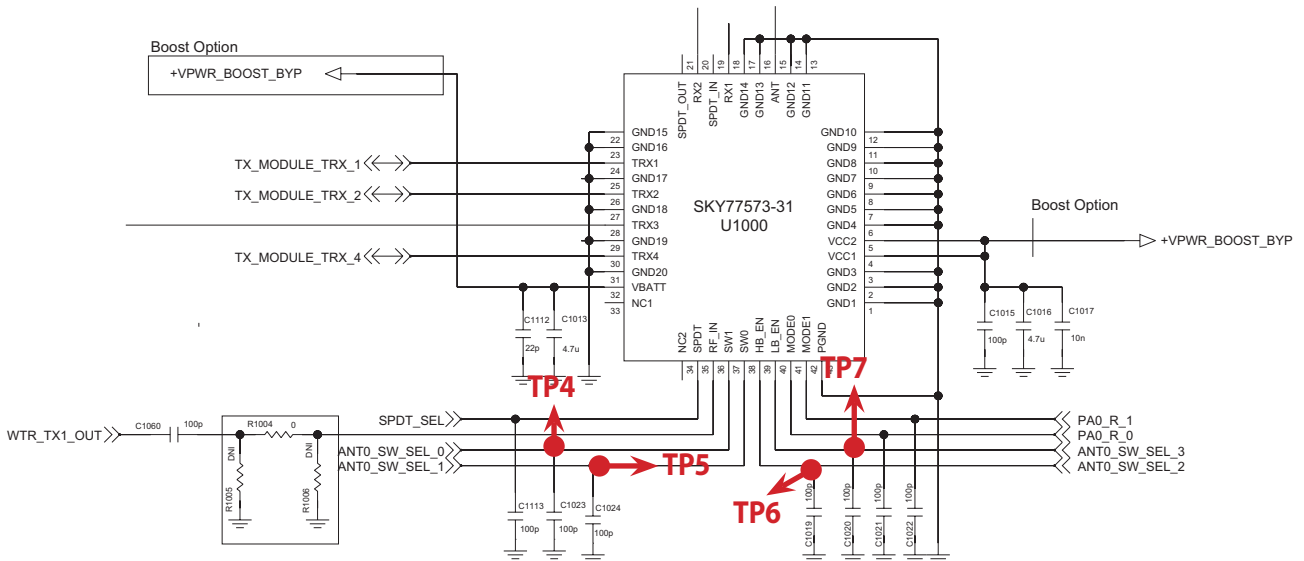
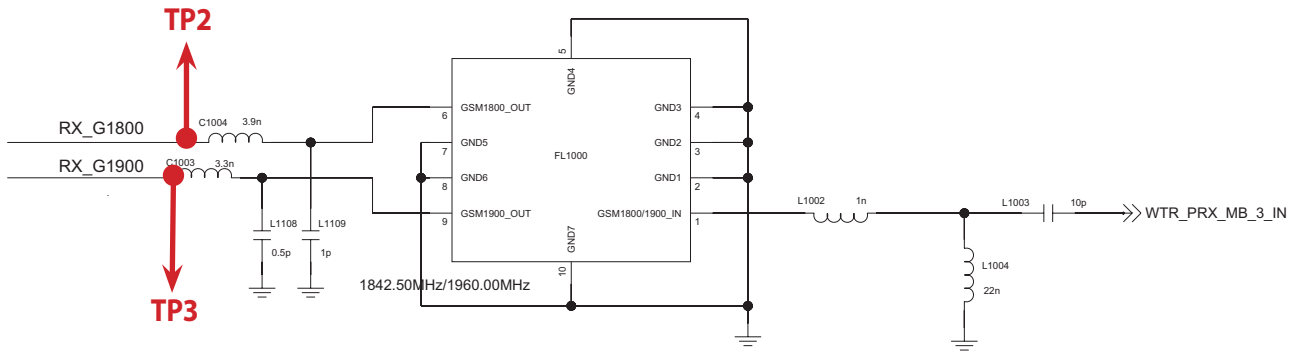
3. TROUBLE SHOOTING



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3. TROUBLE SHOOTING



TP1

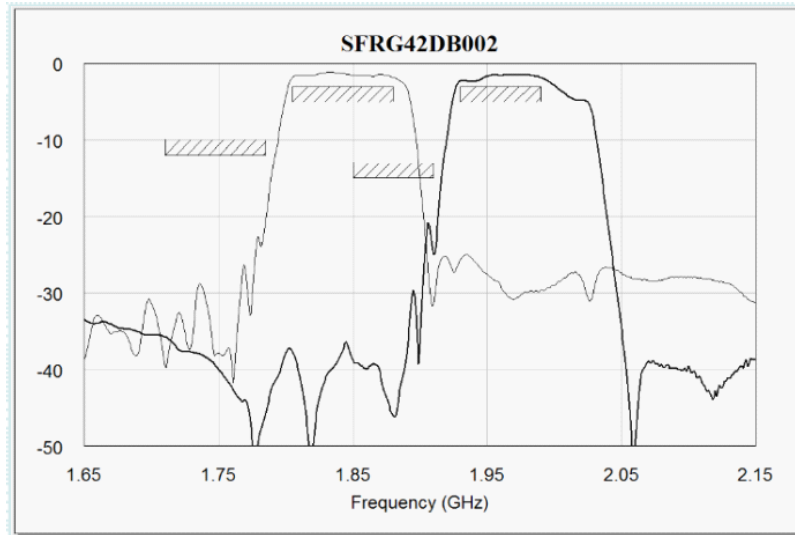


Figure 3.1.1 (b)

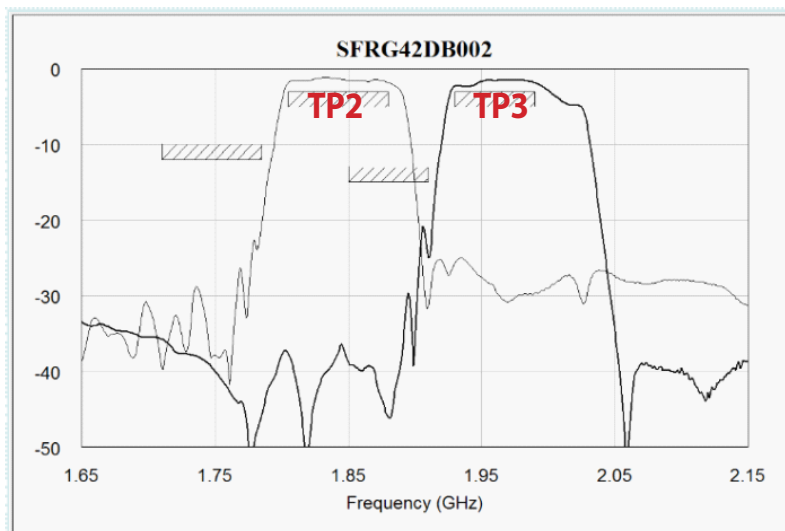


Figure 3.1.1 (c)

3.3.3.4 Checking RF Flow(SAW filter)

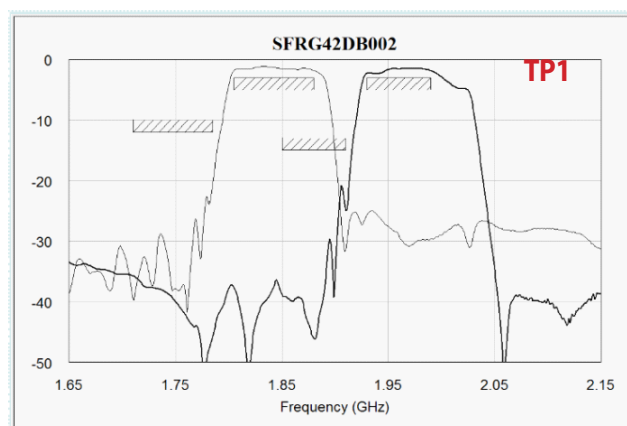
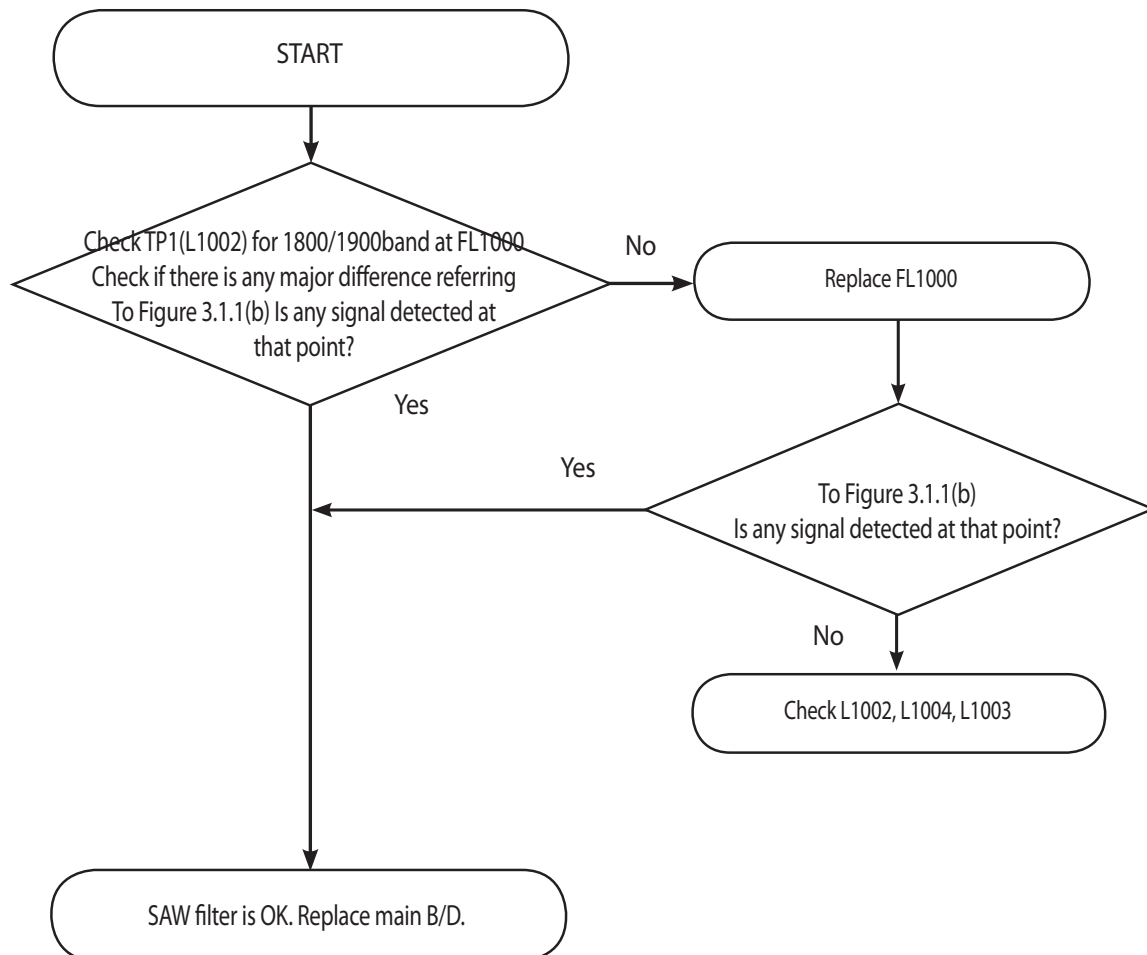
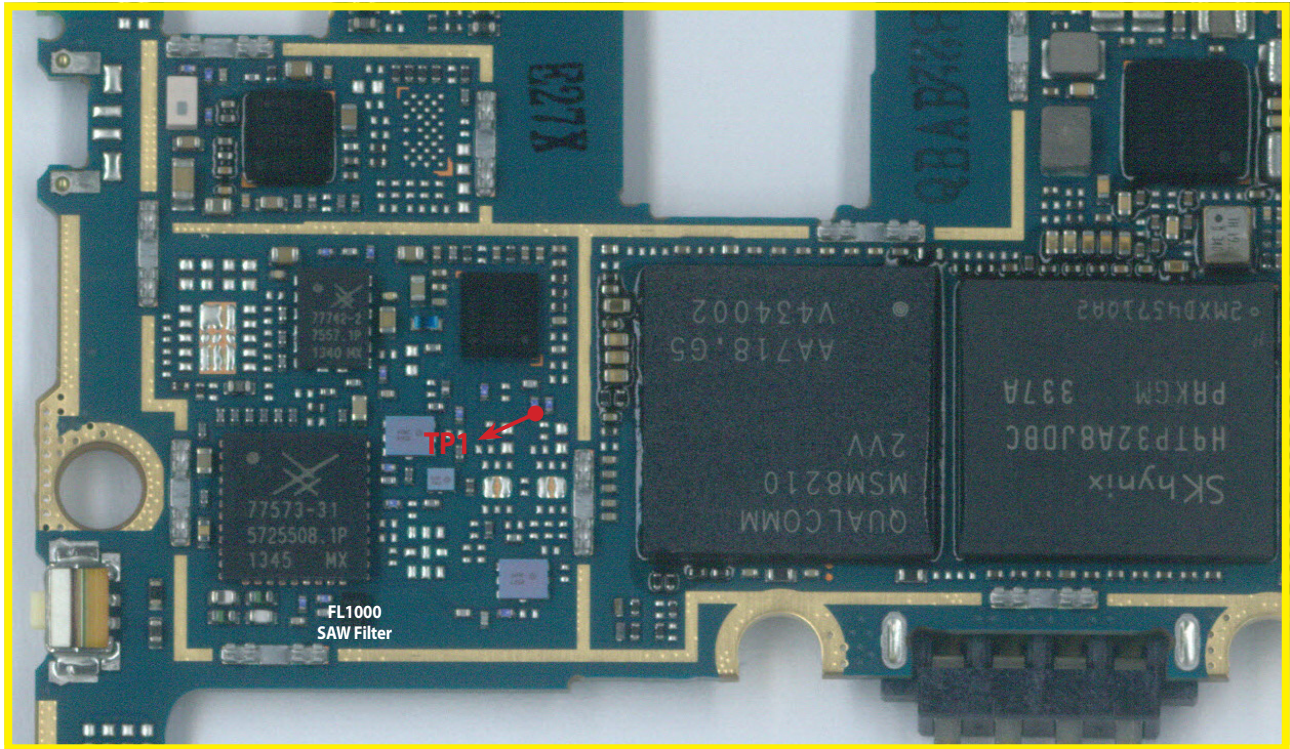
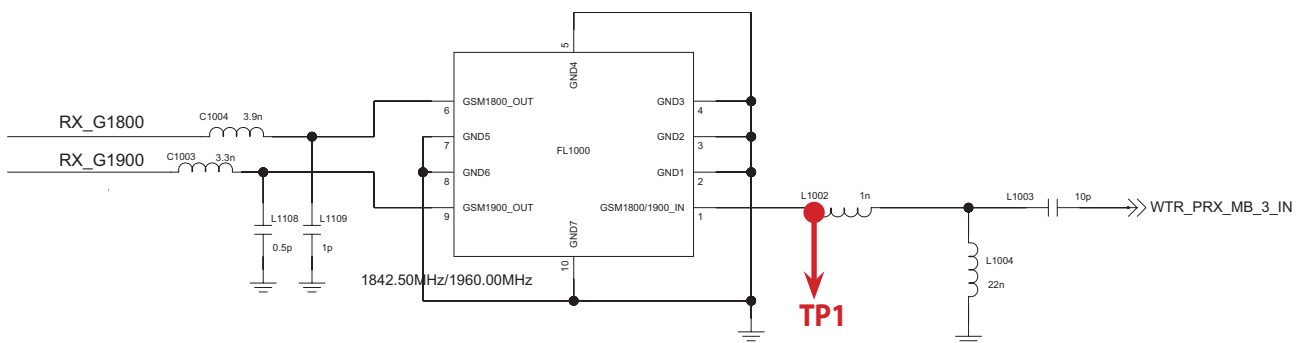


Figure 3.1.1 (b)

3. TROUBLE SHOOTING

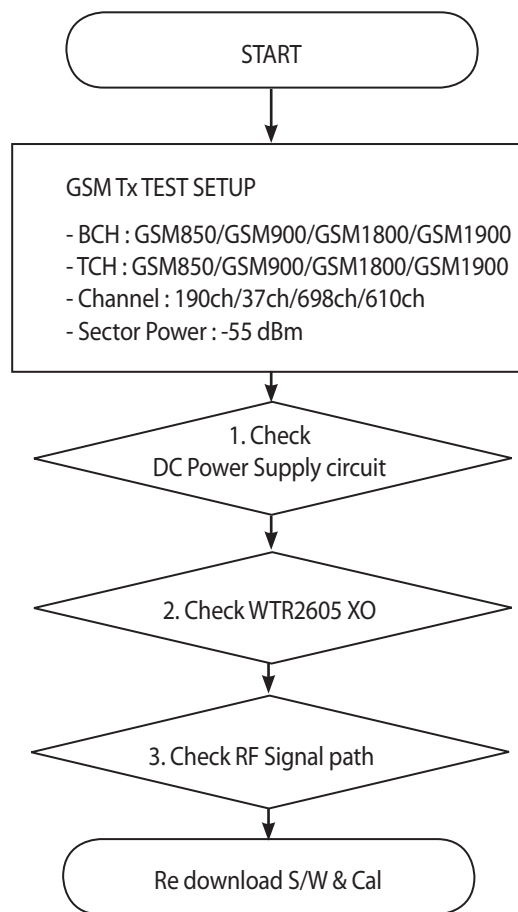


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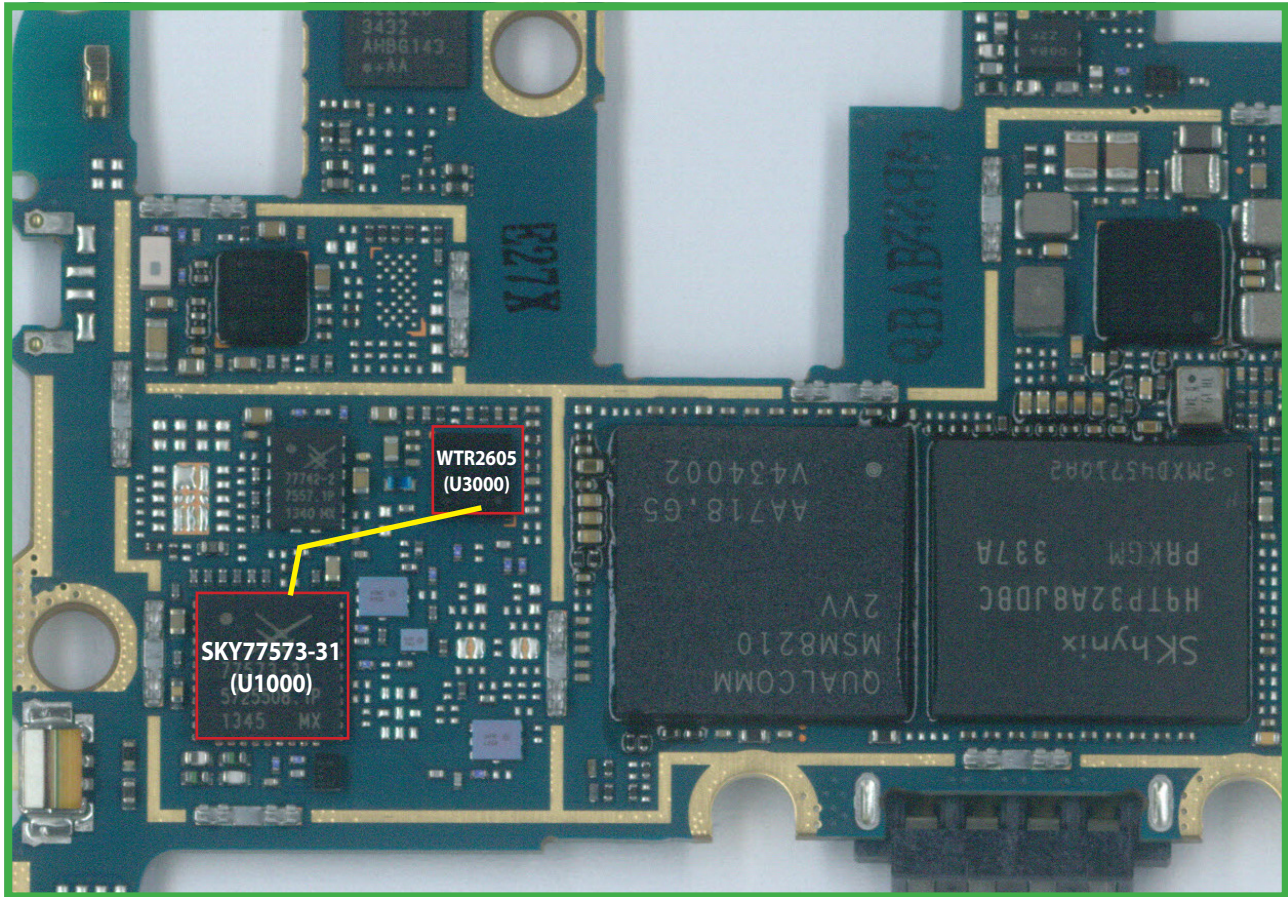
3.4 GSM Tx Part Troubleshooting

3.4.1 GSM850/900/1800/1900 Tx



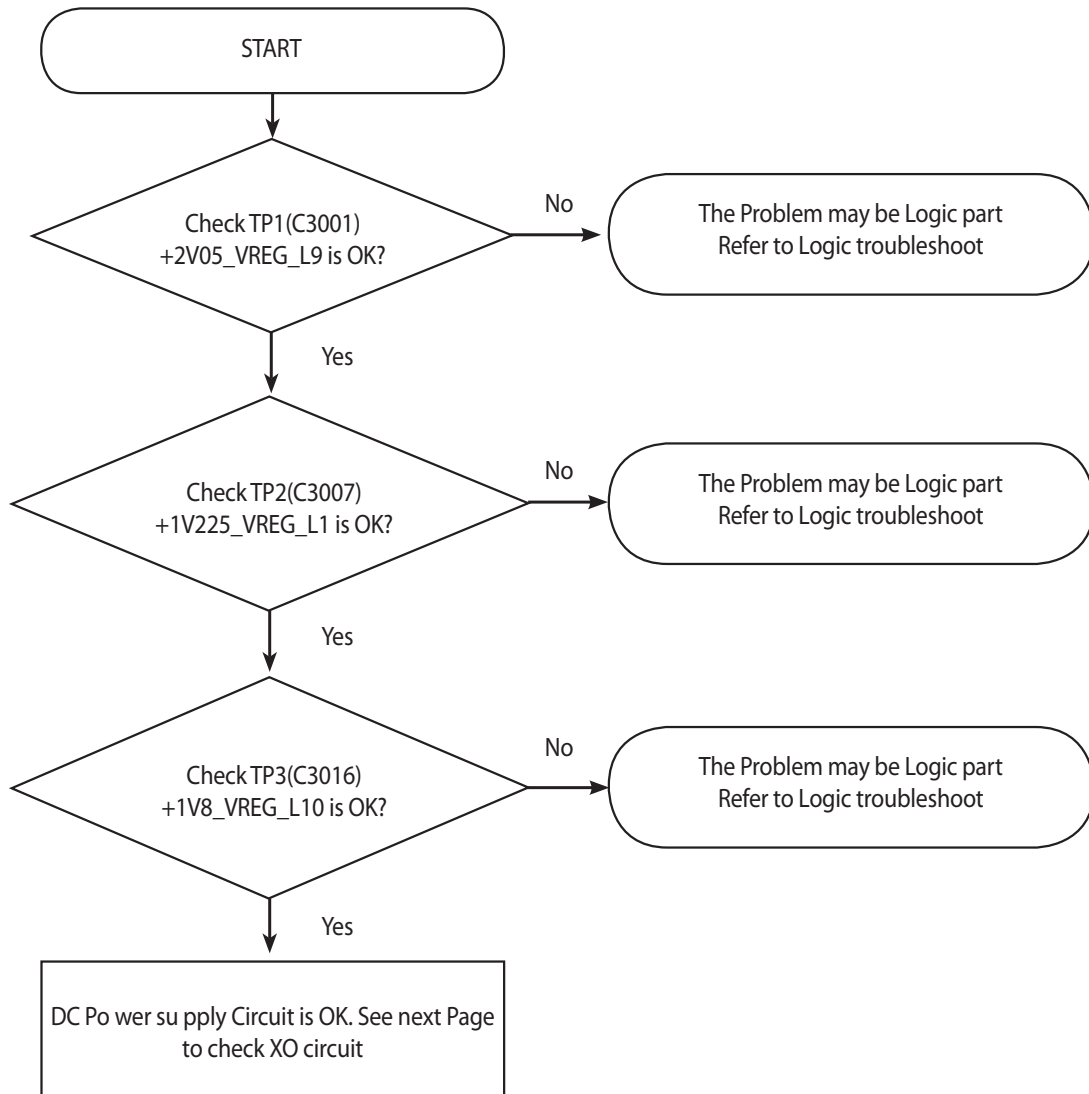
* There are no Test Points on the IQ Data Line. So It is impossible to check the IQ Data Wave form

3. TROUBLE SHOOTING

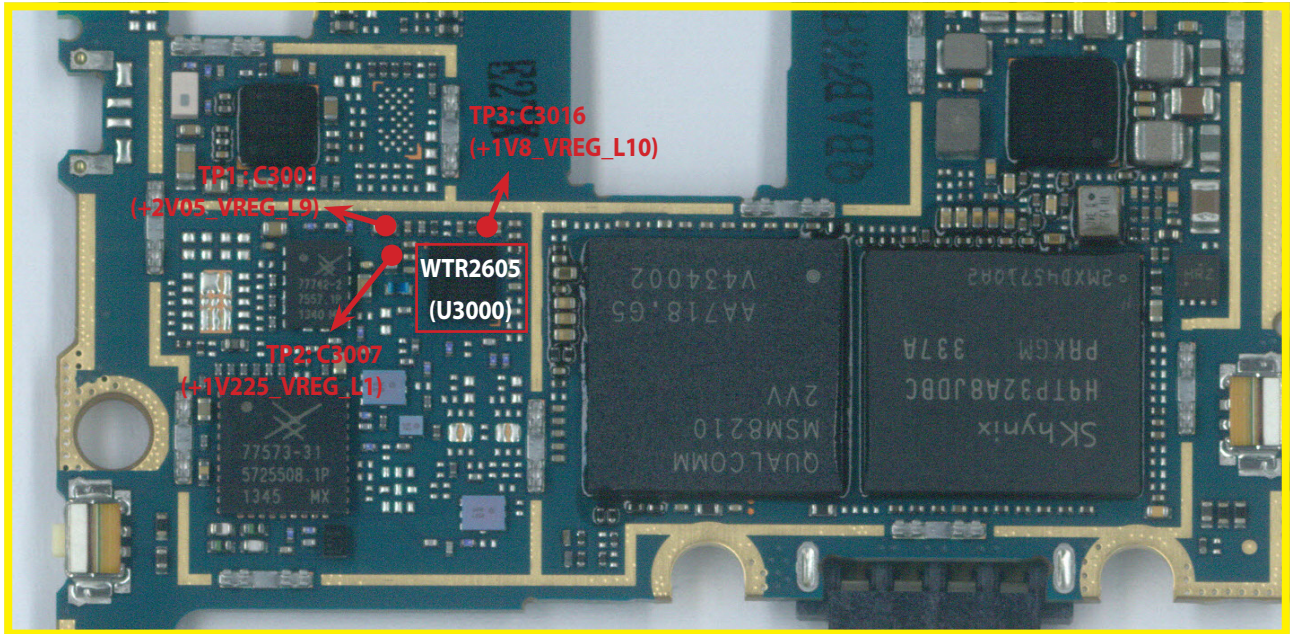


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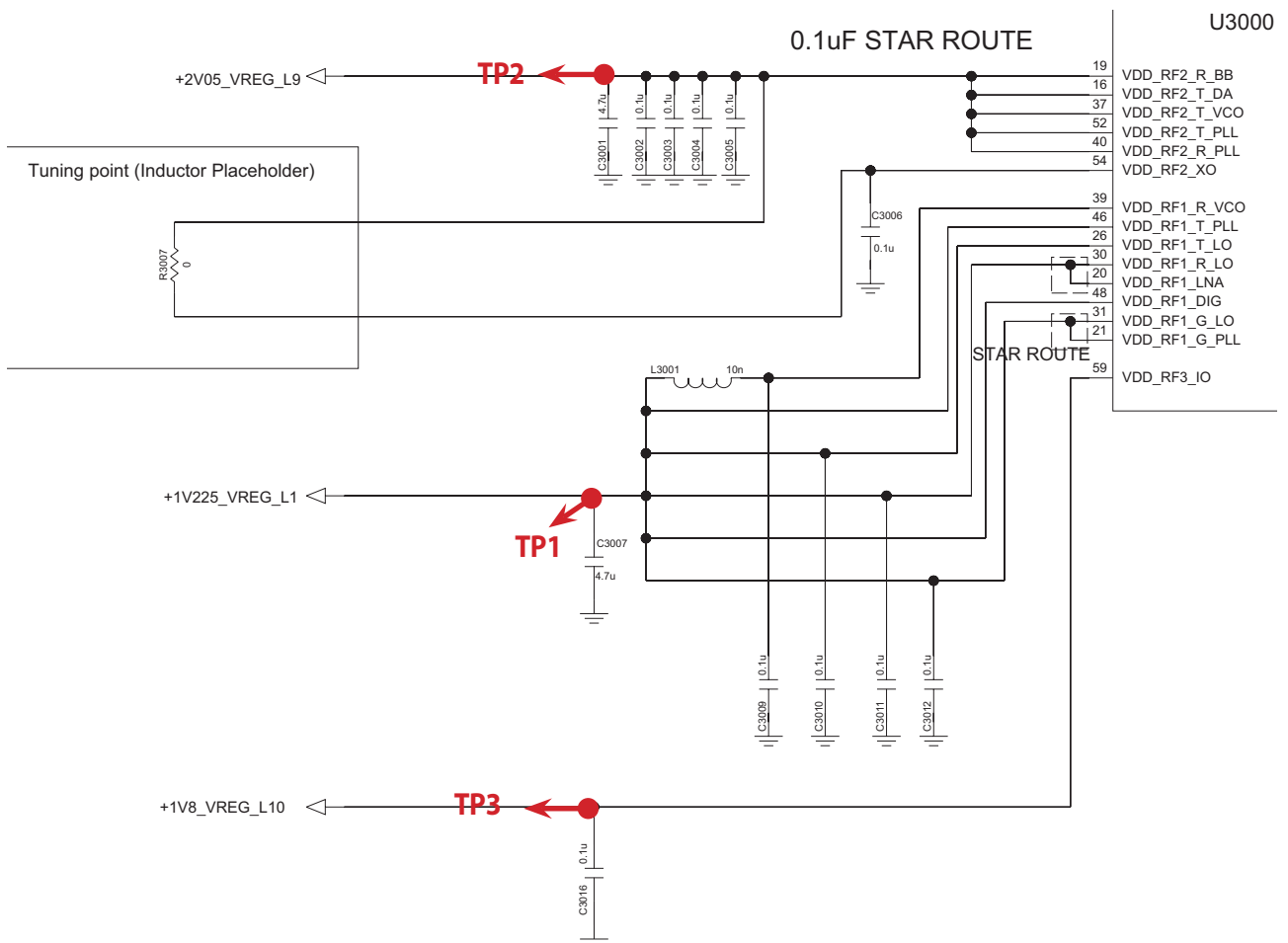
3.4.1.1 Checking DC Power supply circuit



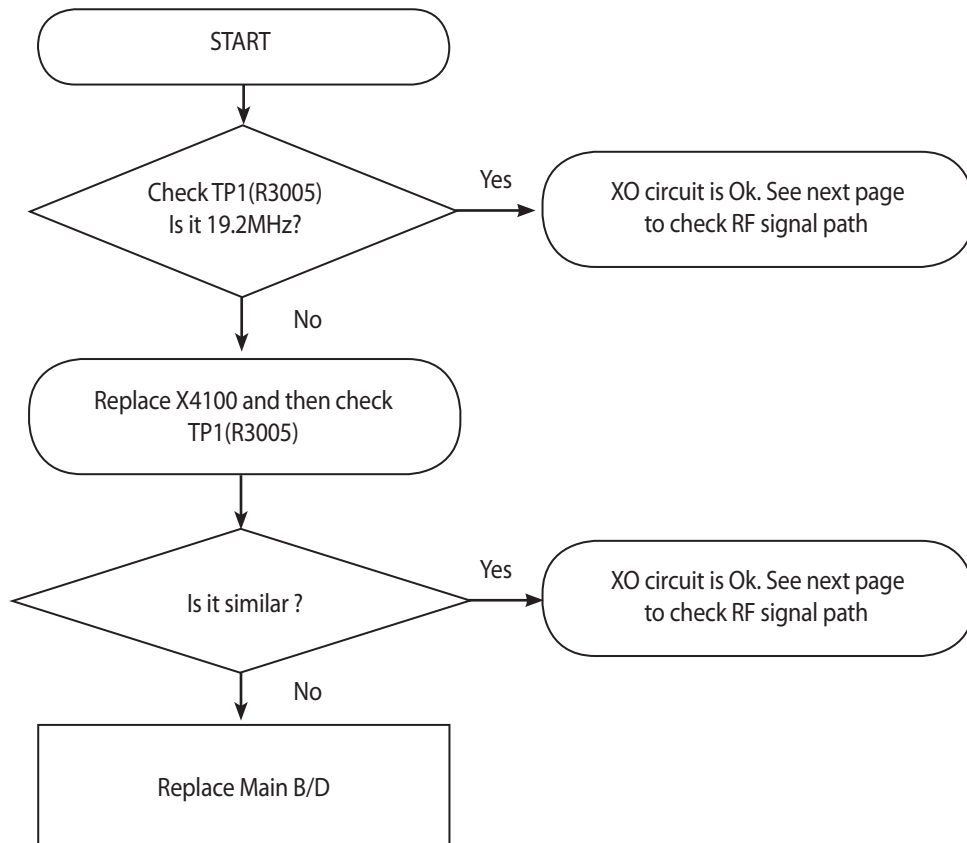
3. TROUBLE SHOOTING



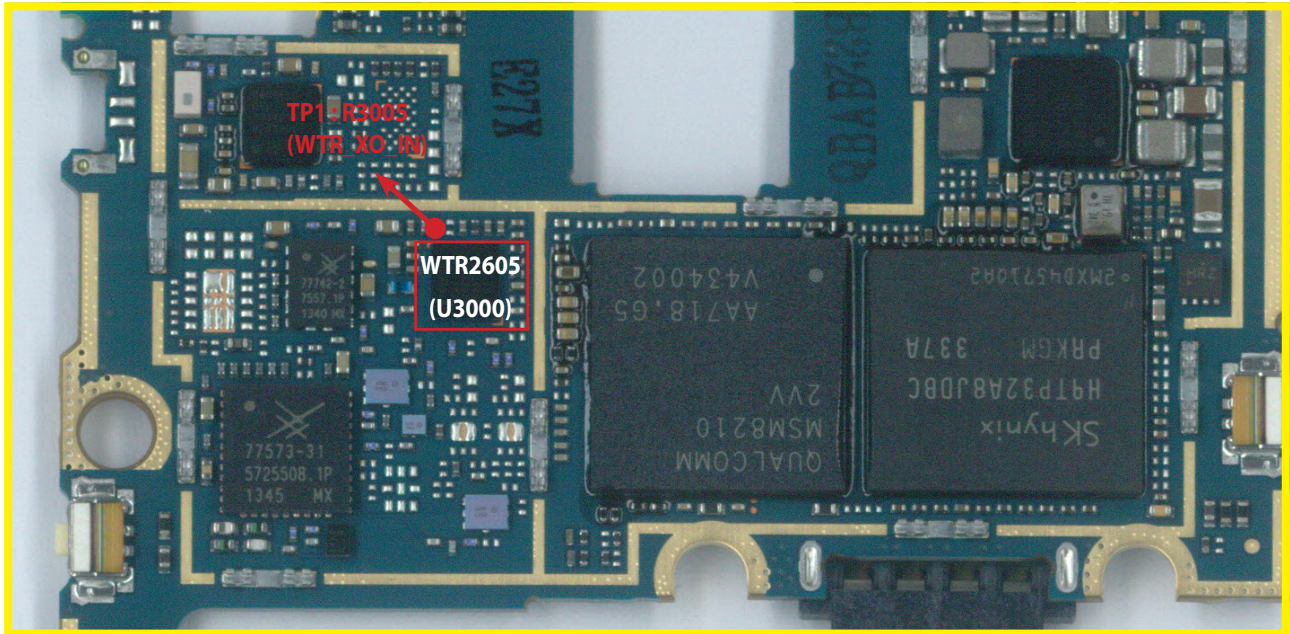
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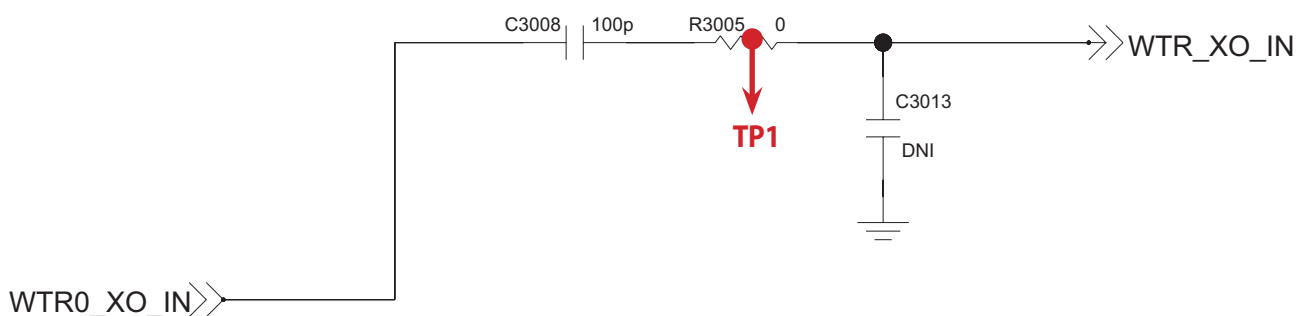
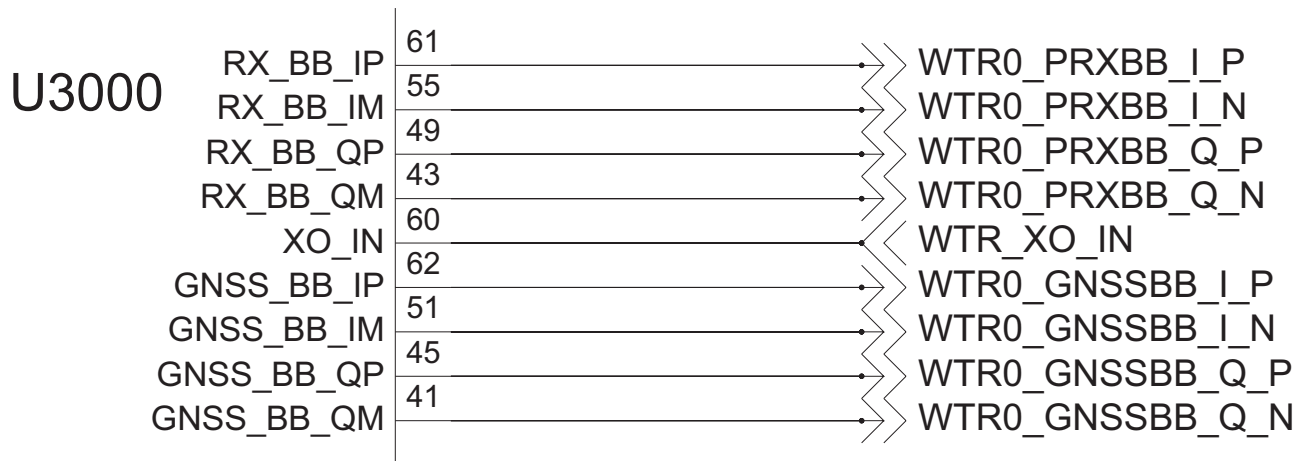
3.4.1.2 Checking WTR2605 XO circuit



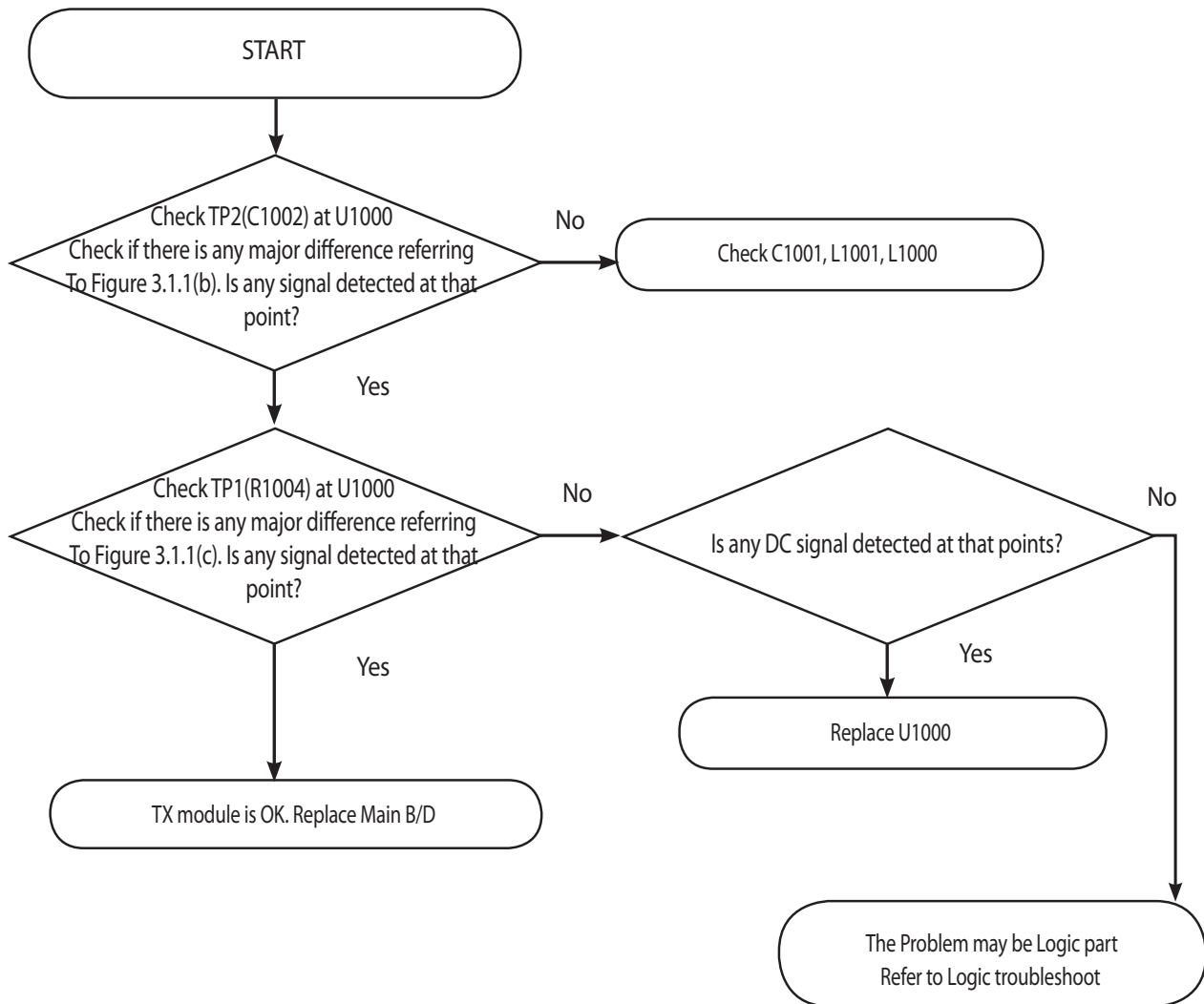
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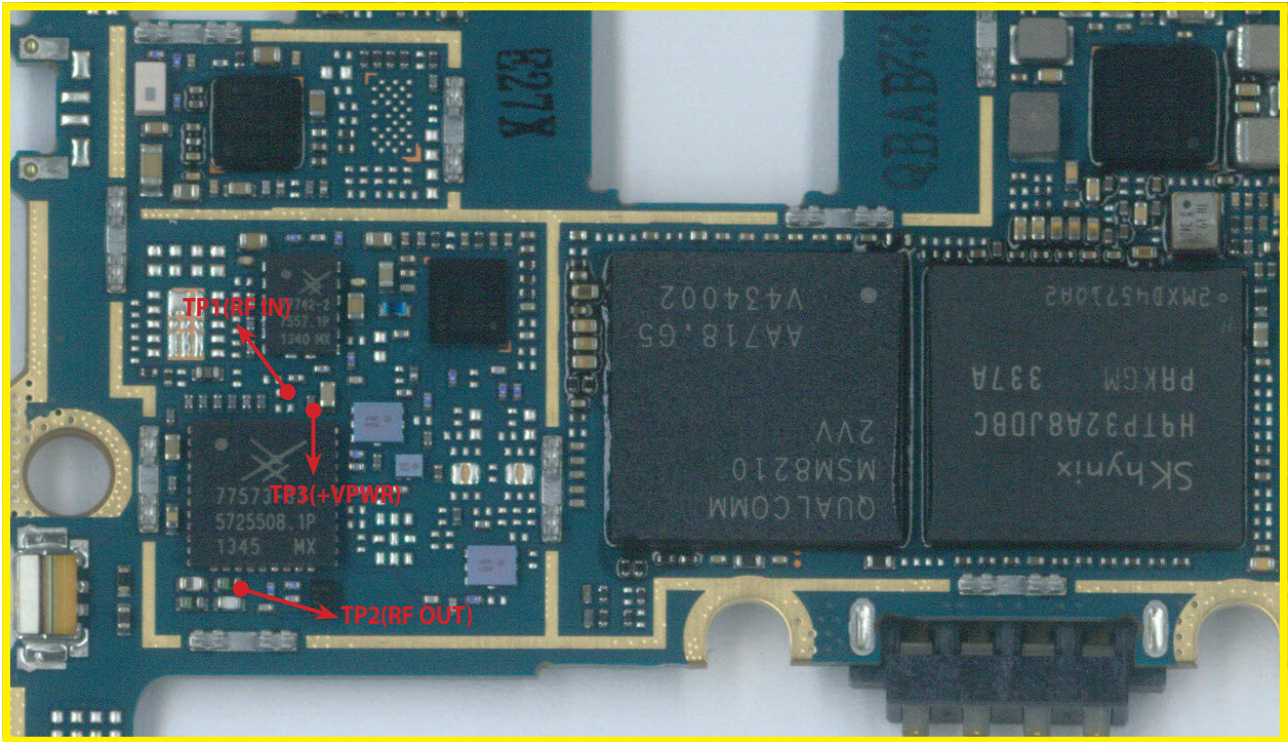
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3.4.1.3 Checking RF signal path (Tx Module)

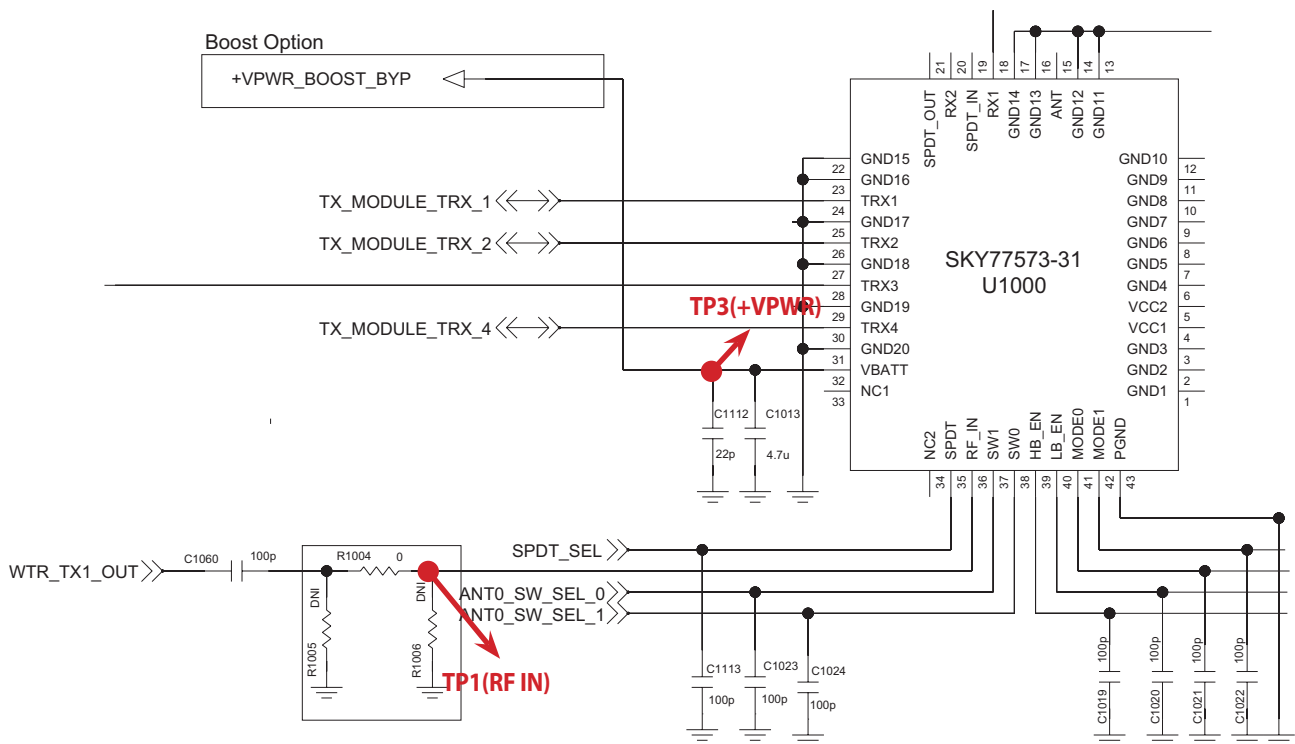
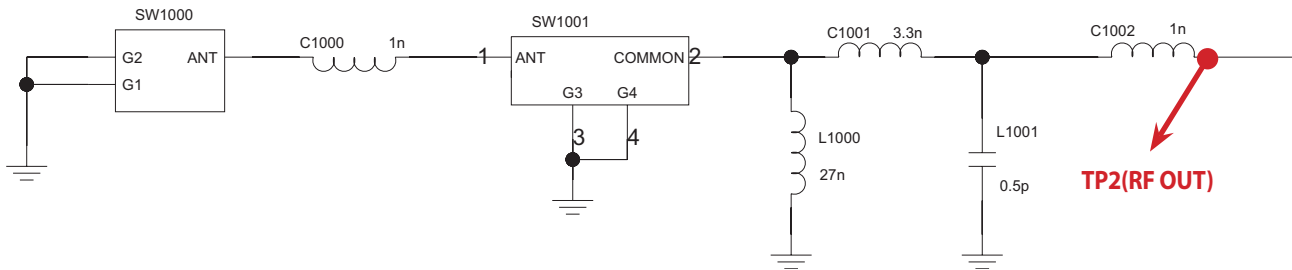


3. TROUBLE SHOOTING



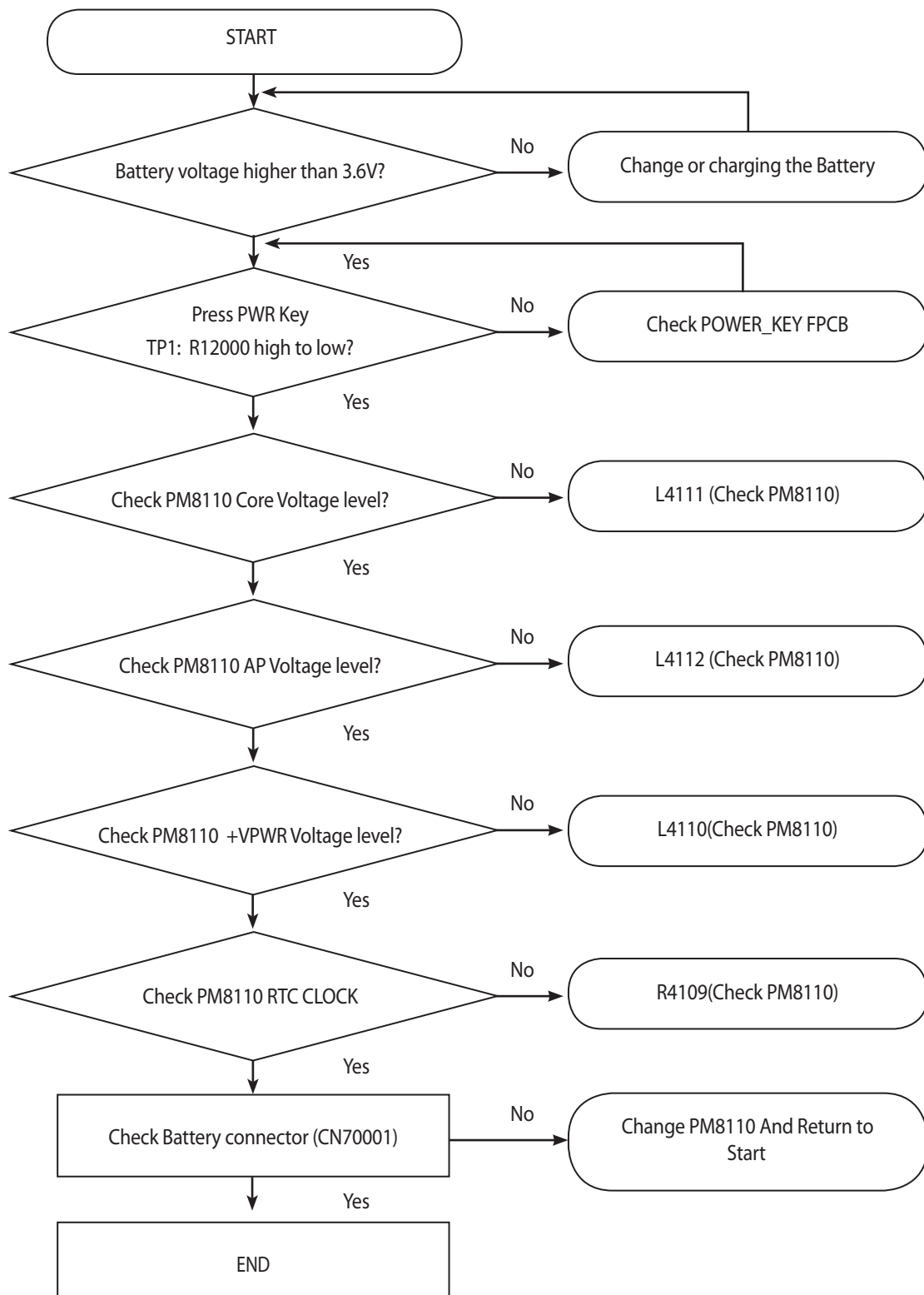
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3. TROUBLE SHOOTING

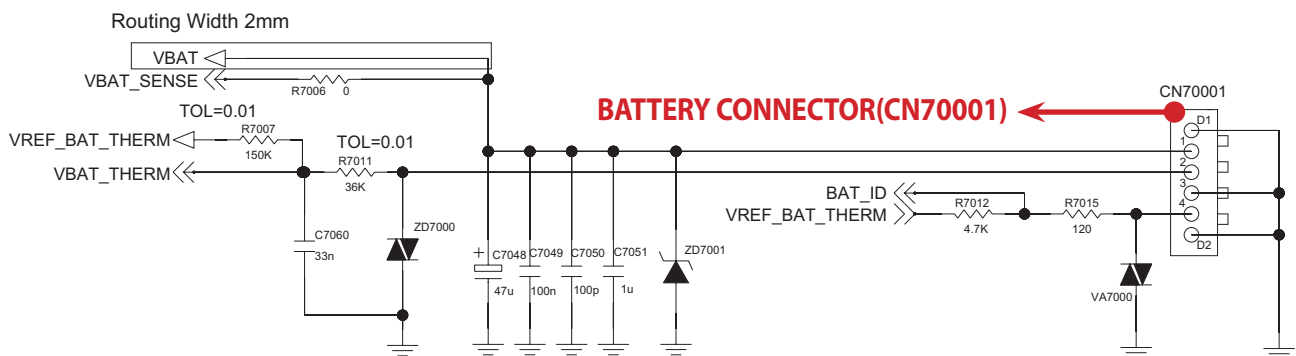
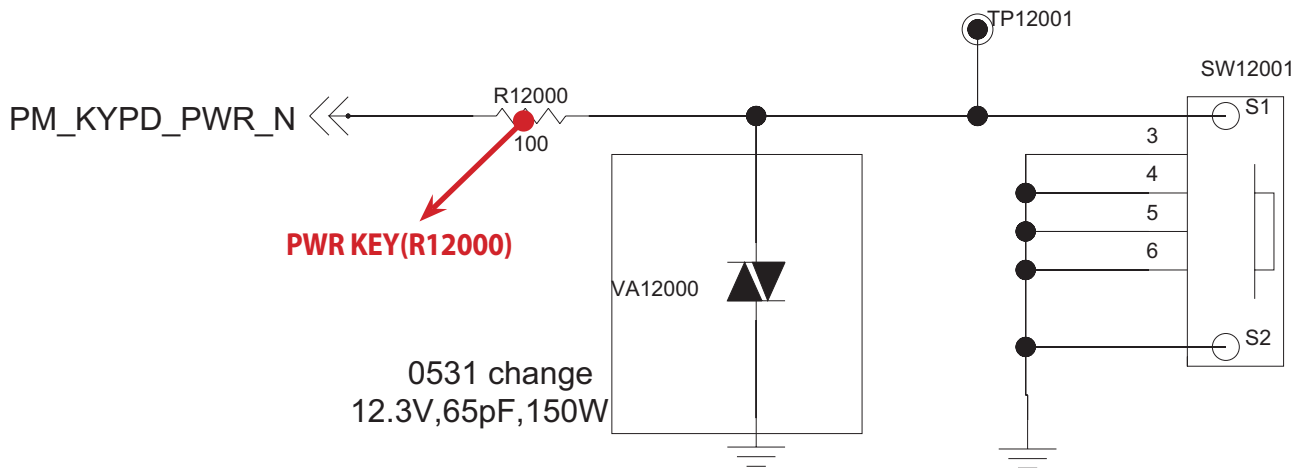


3.5 Power

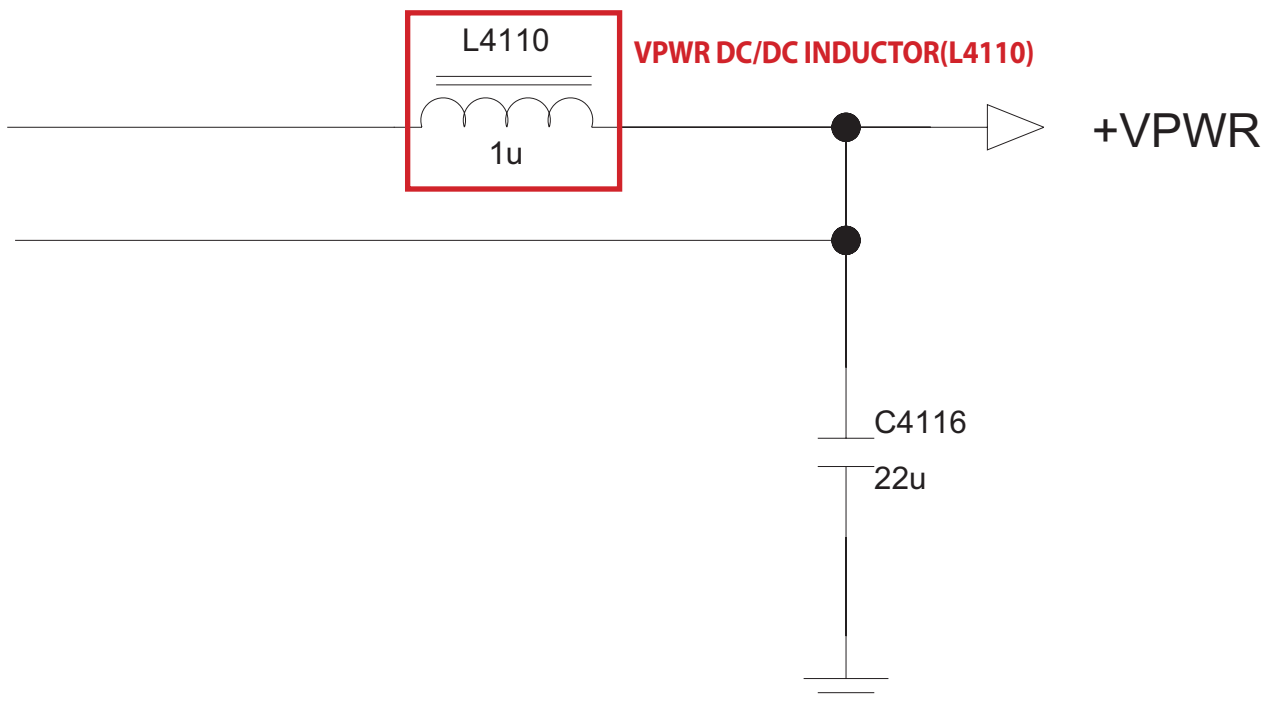
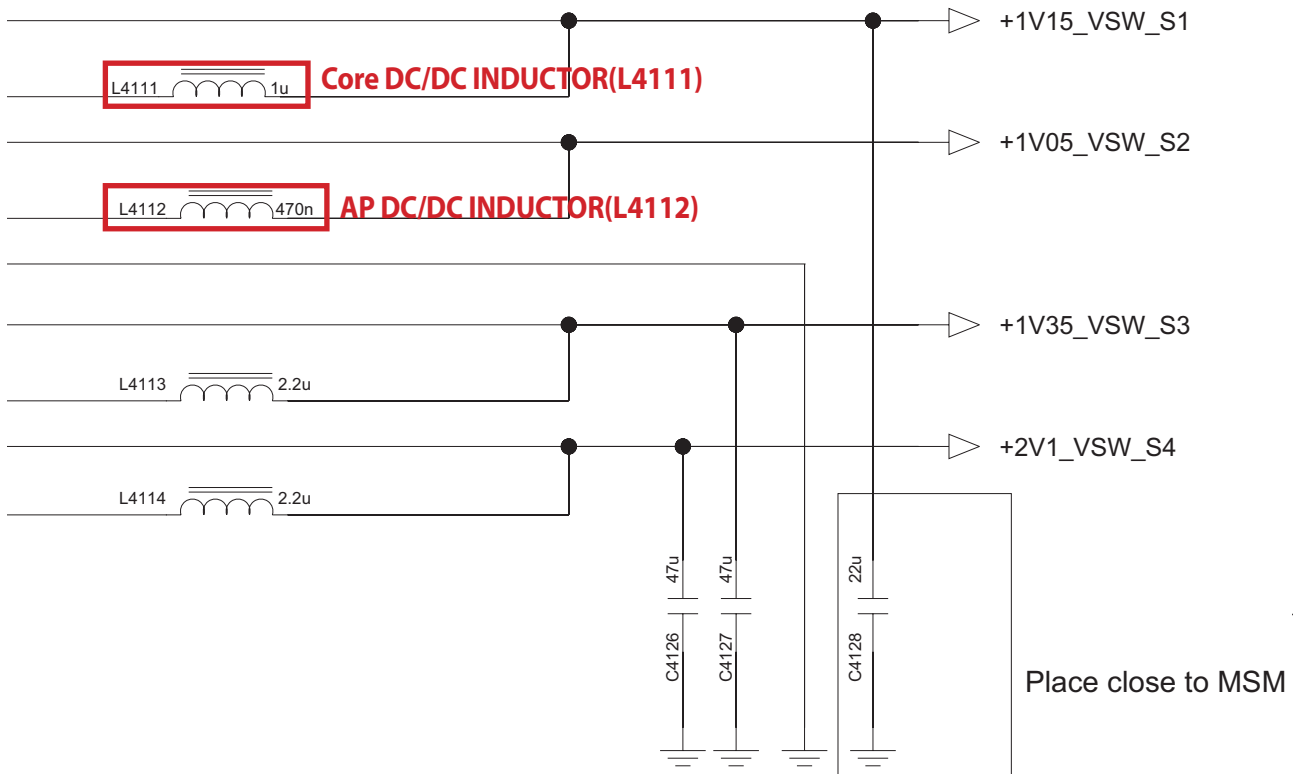
The main power source of D320 is provided by 1 chip which is PM8110



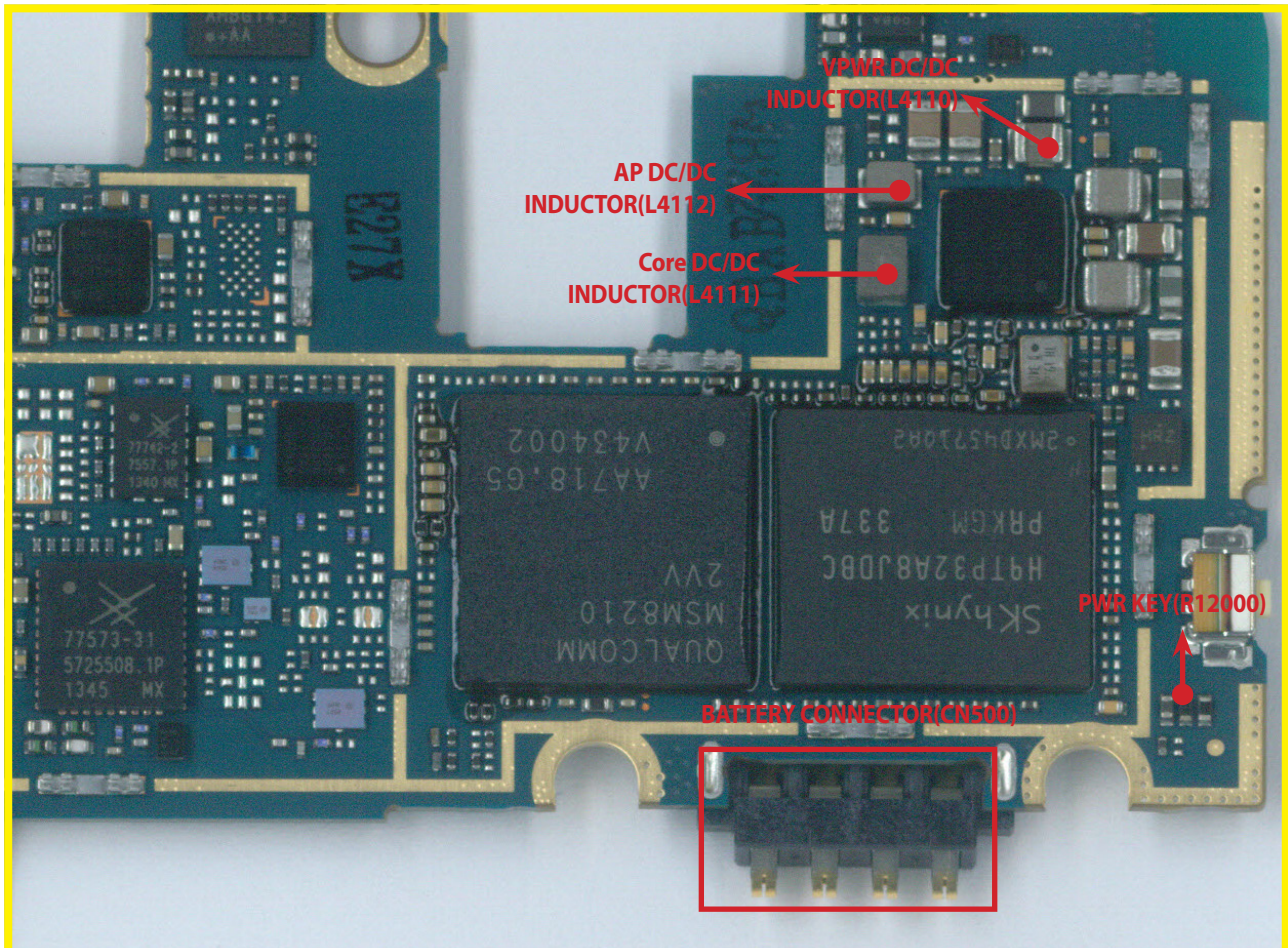
3. TROUBLE SHOOTING



3. TROUBLE SHOOTING



3. TROUBLE SHOOTING



<Main Top>

3.6 Charging

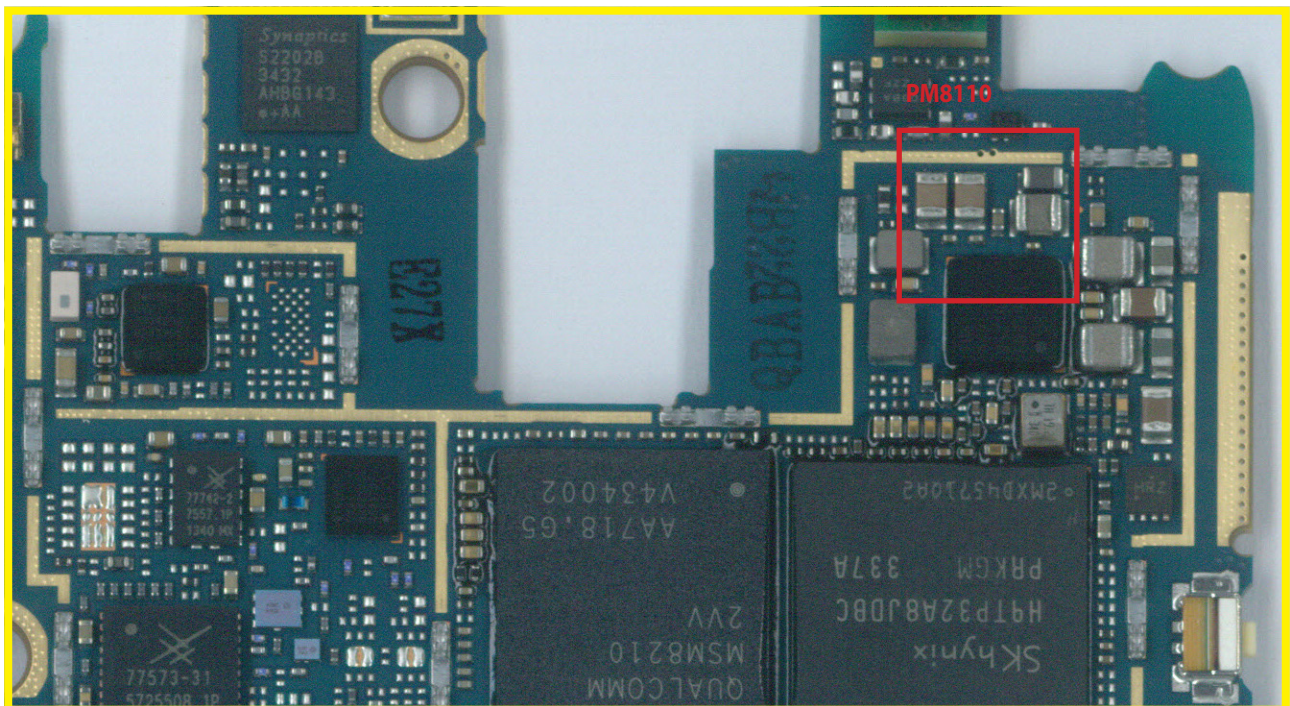
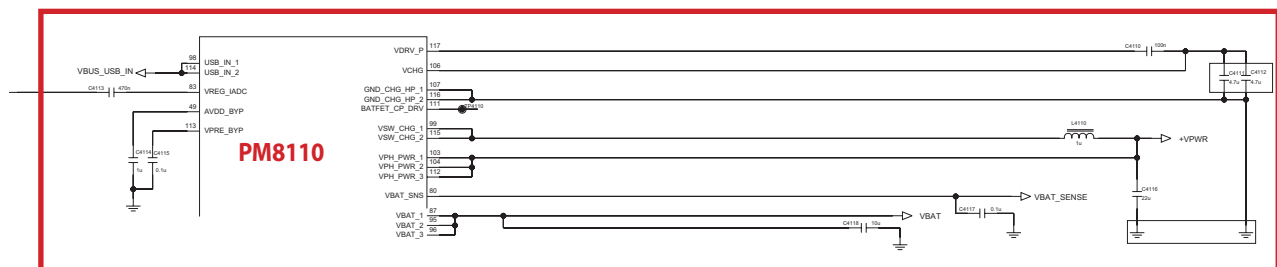
D320 uses PM8110 (Internal switched-mode battery charger) for charging control. PM8110 circuit includes the Integrated BAT FET detects battery presence and temperature, and its control driver. PM8110 maximum charging current is set around 800mA at D320.

Charging Procedure

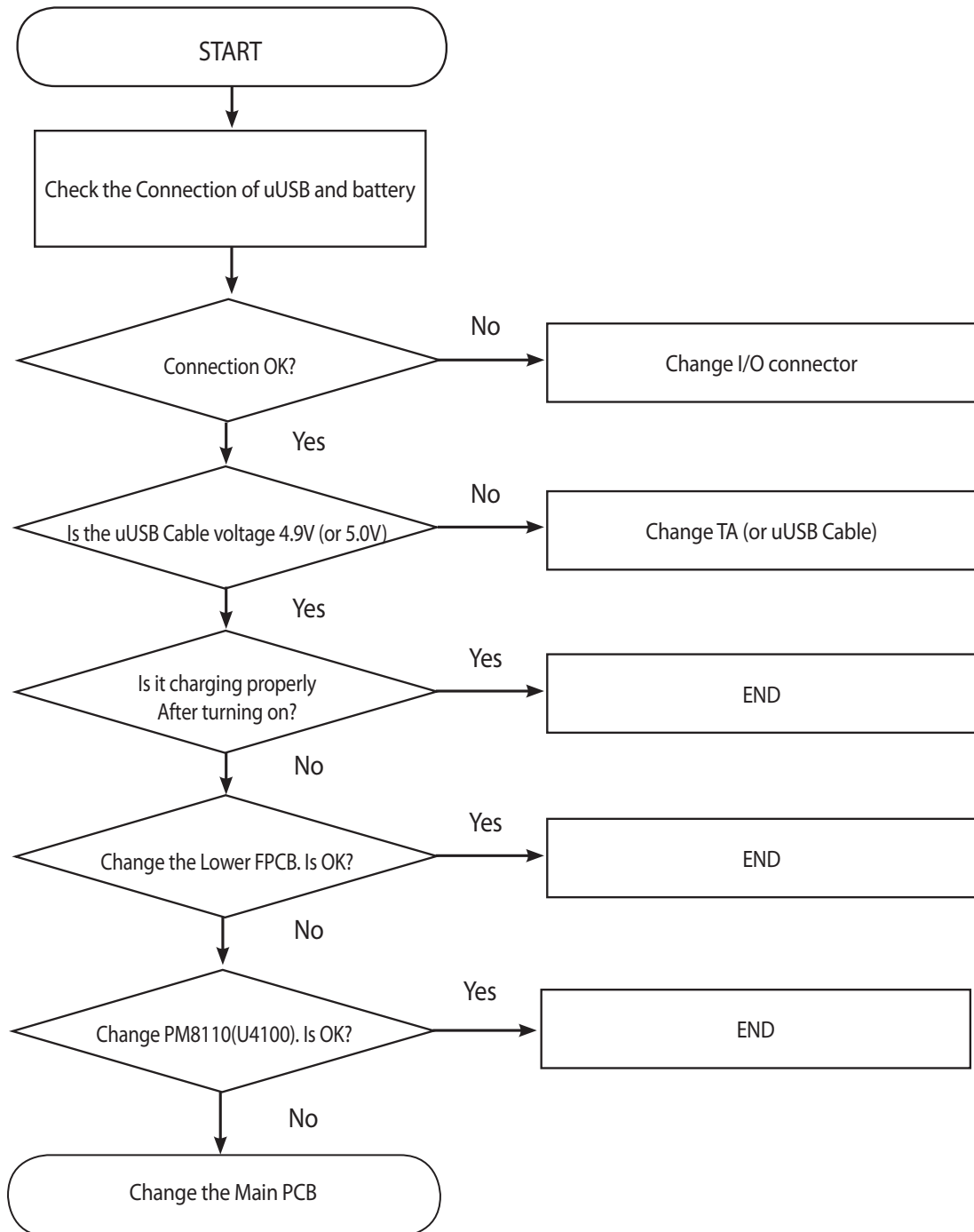
- Supply the VCHG use a TA or u-USB cable
- PMIC (PM8110) control the charging current
- Charging current flows into the main battery

Troubleshooting Check Point

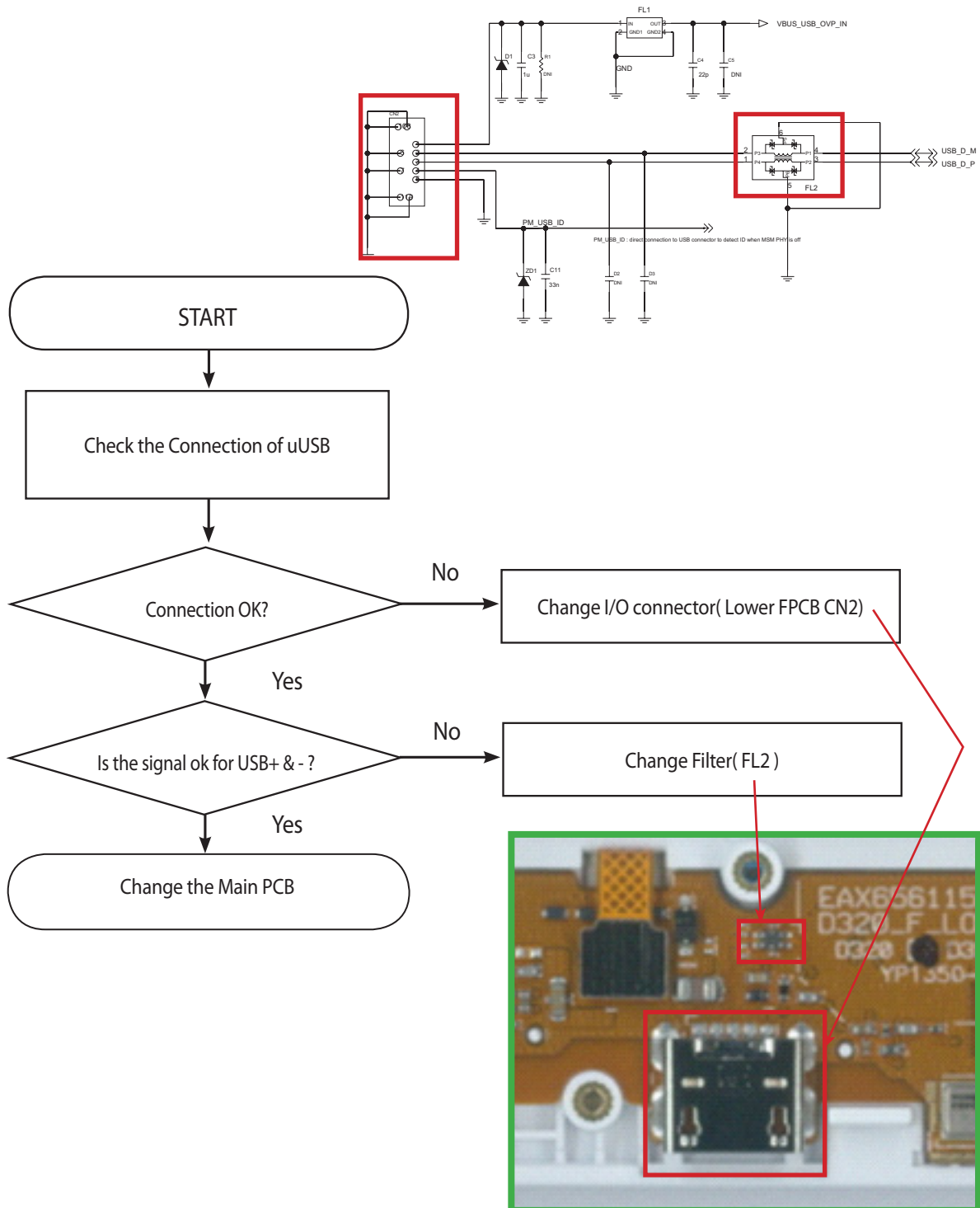
- Connection of the TA or u-USB cable
- Main battery



<Main Top>



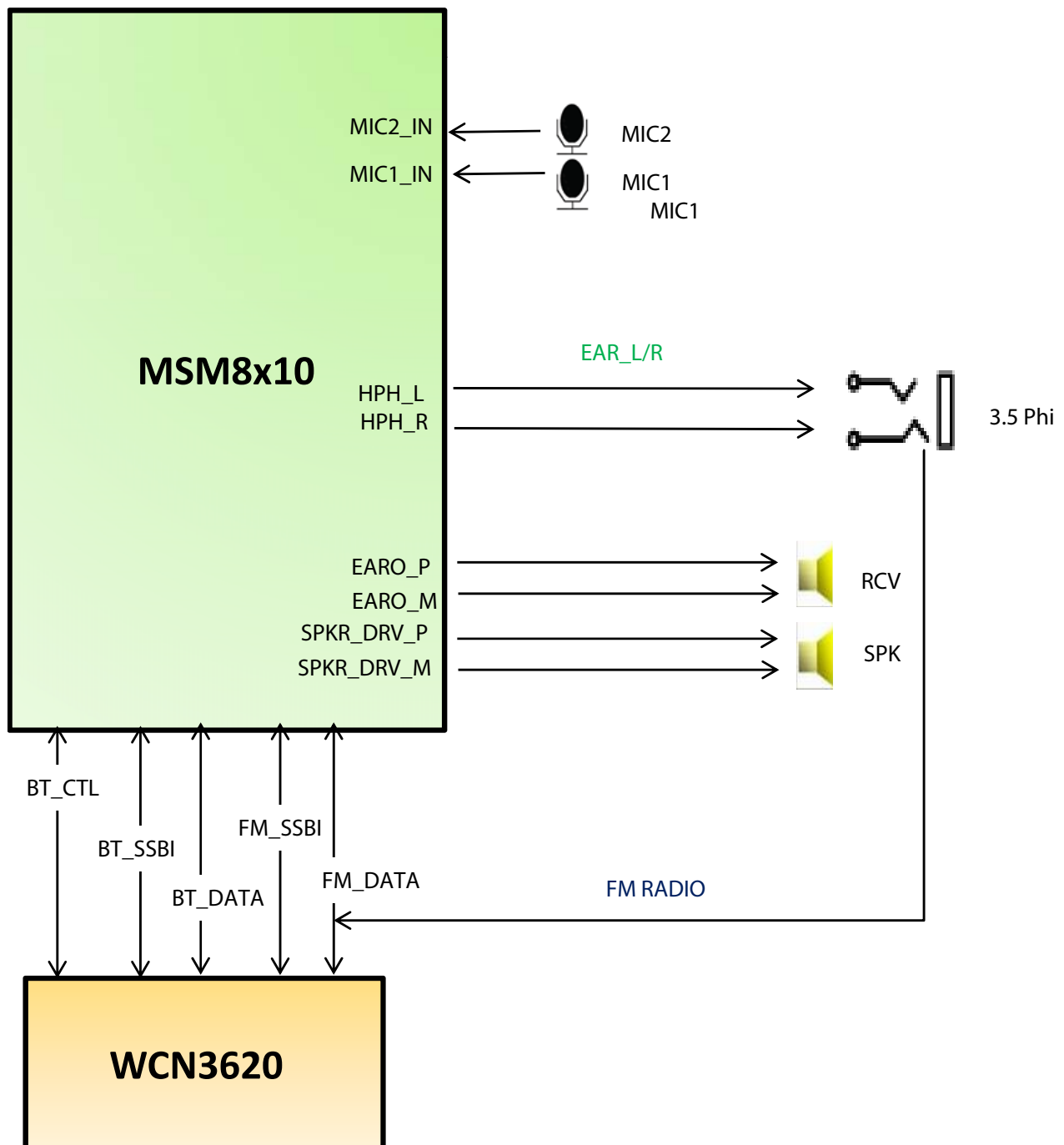
3.7 USB TS



3.8 Audio

3.8.1 Overview

Audio Block Diagram

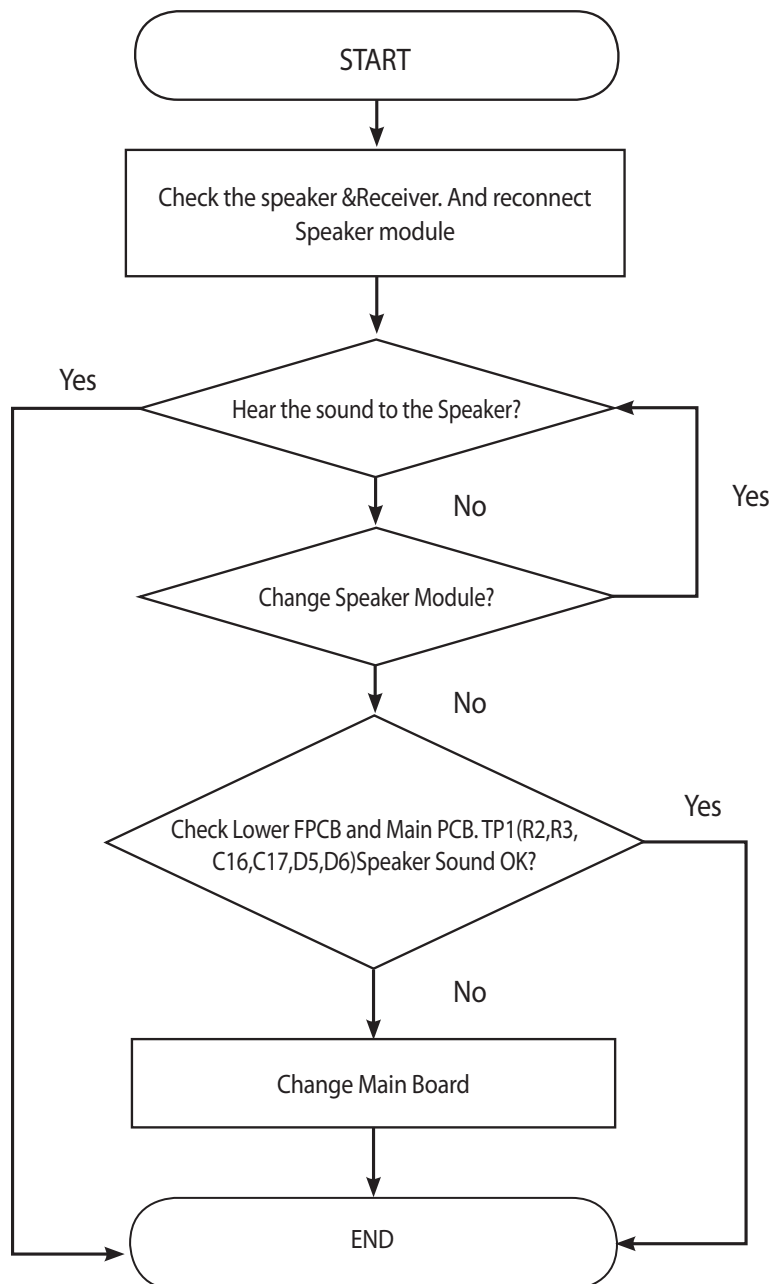


3.8.2 Speaker

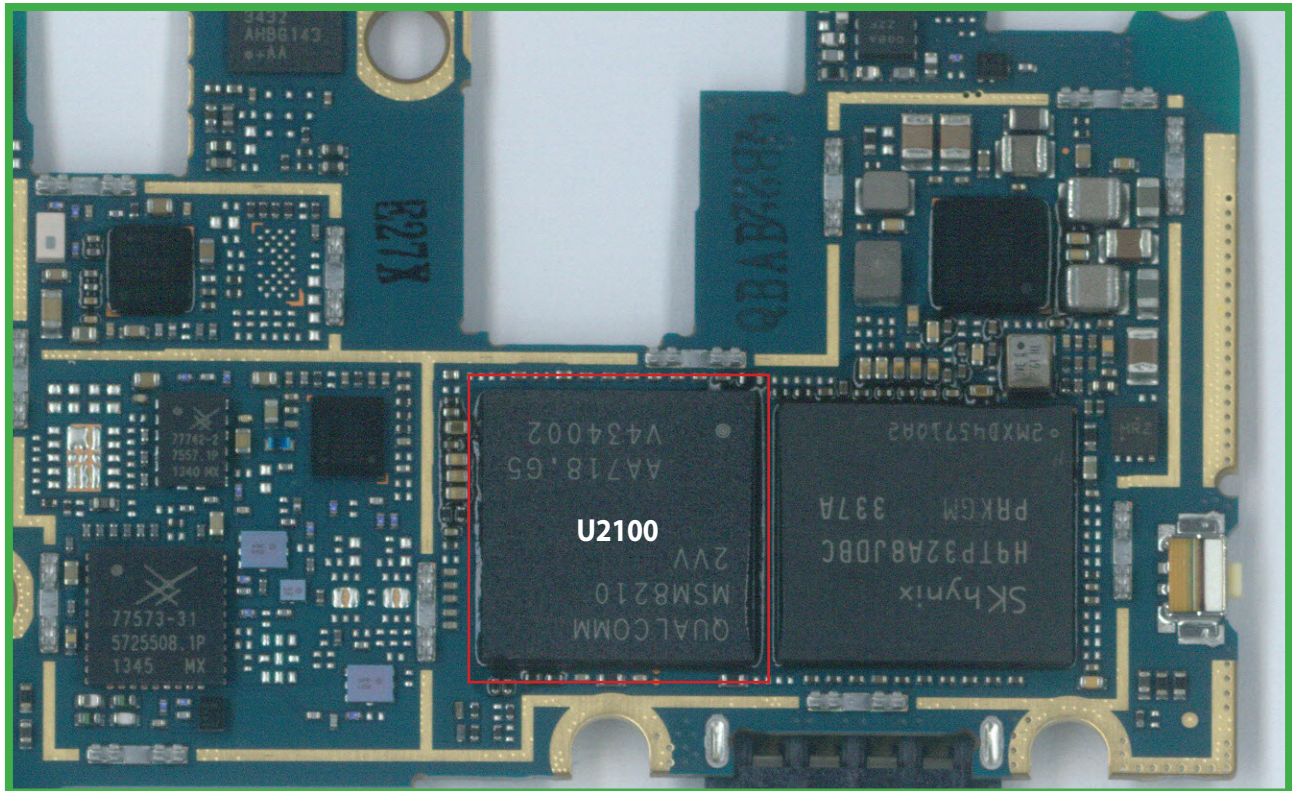
It's trouble shooting guide for no sound case.

Speaker control signals are generate by MSM8210(U2100)

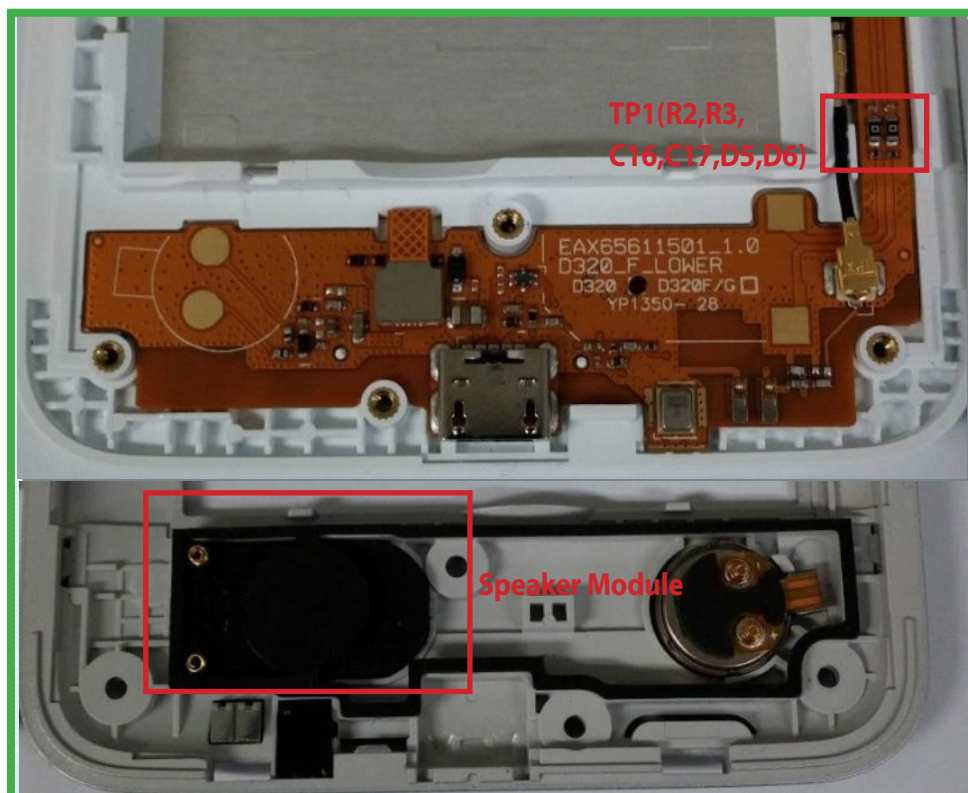
If low level volume or breaking the sound, change speaker module



3. TROUBLE SHOOTING

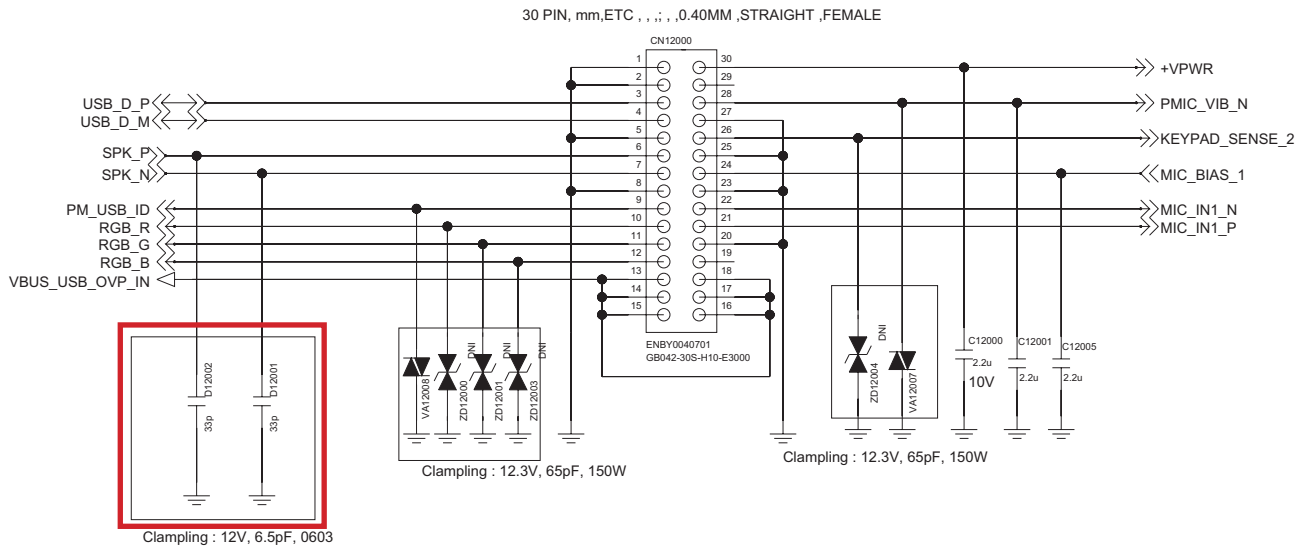


<Main Top>

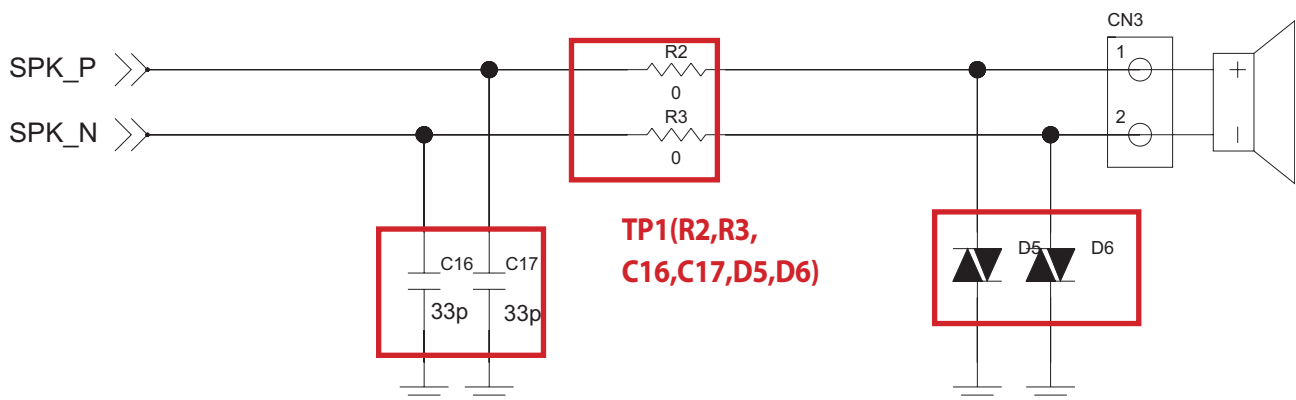


3. TROUBLE SHOOTING

Main TO-lower FPCB CONNECTOR

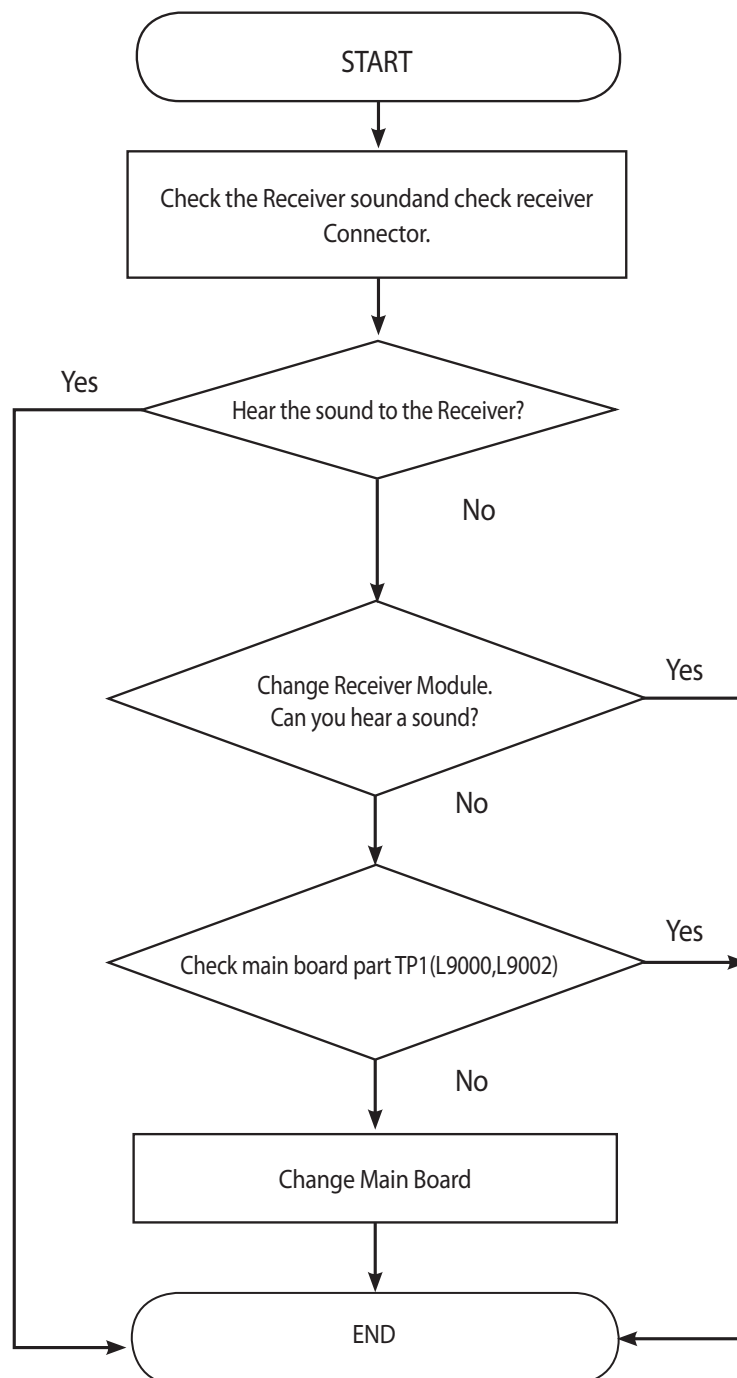


FPCB

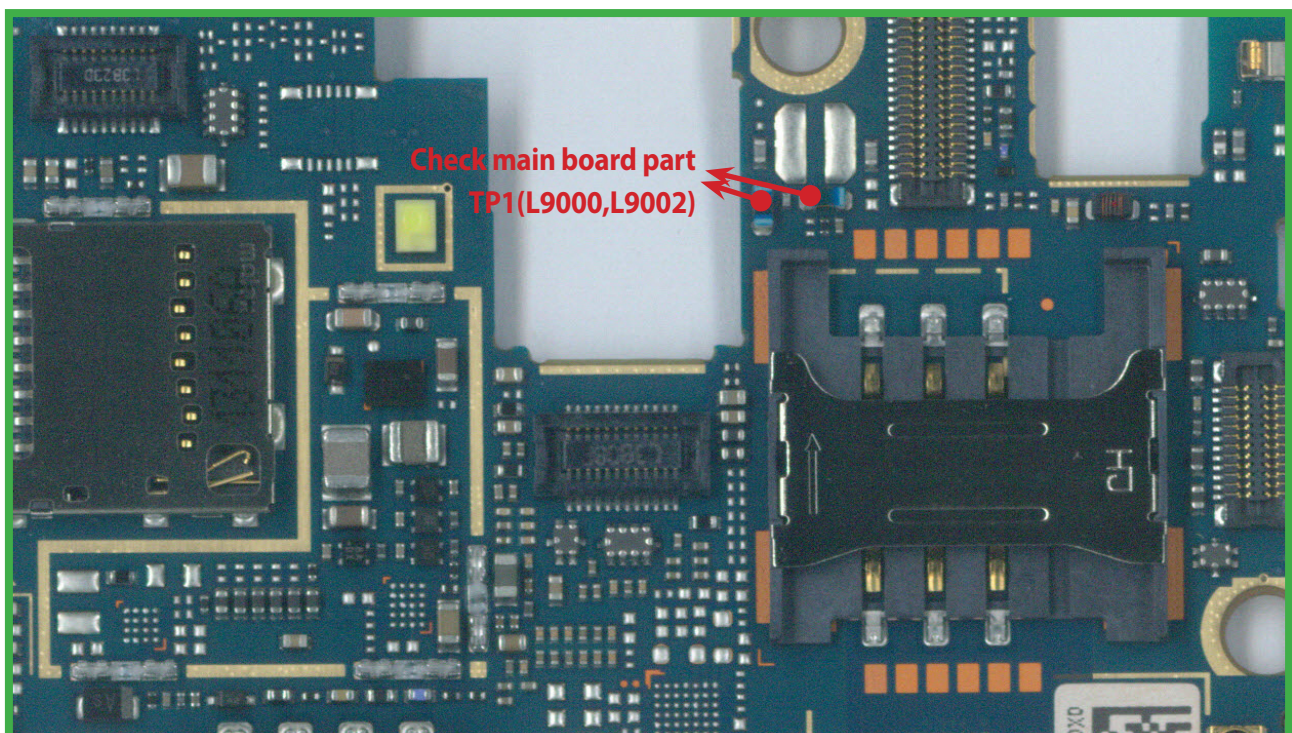
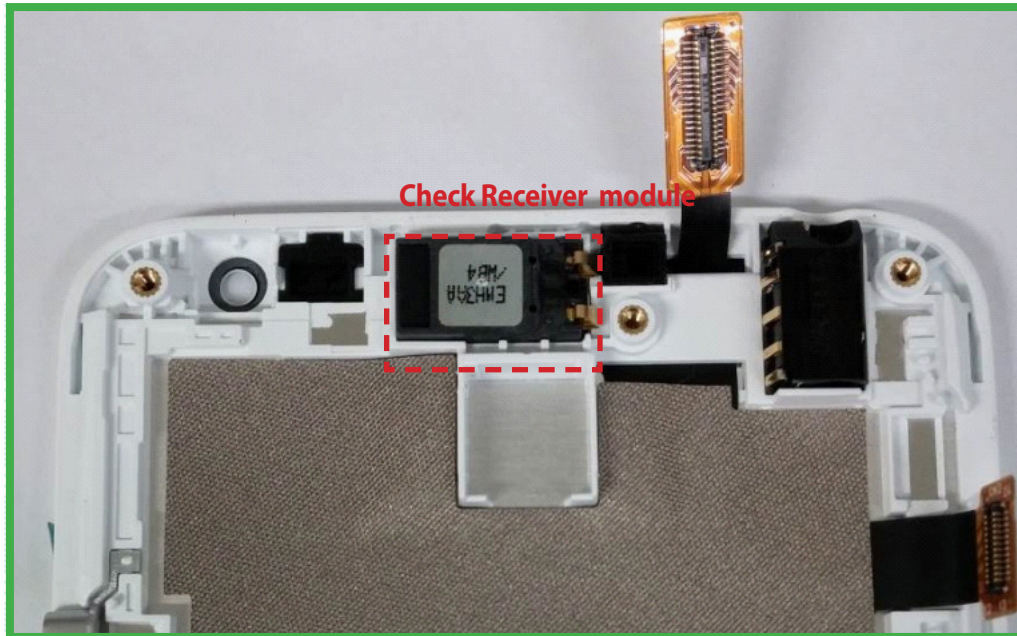


3.8.3 Receiver

Receiver control signals are generate by MSM8210(U2100)



3. TROUBLE SHOOTING



<Main Bot>

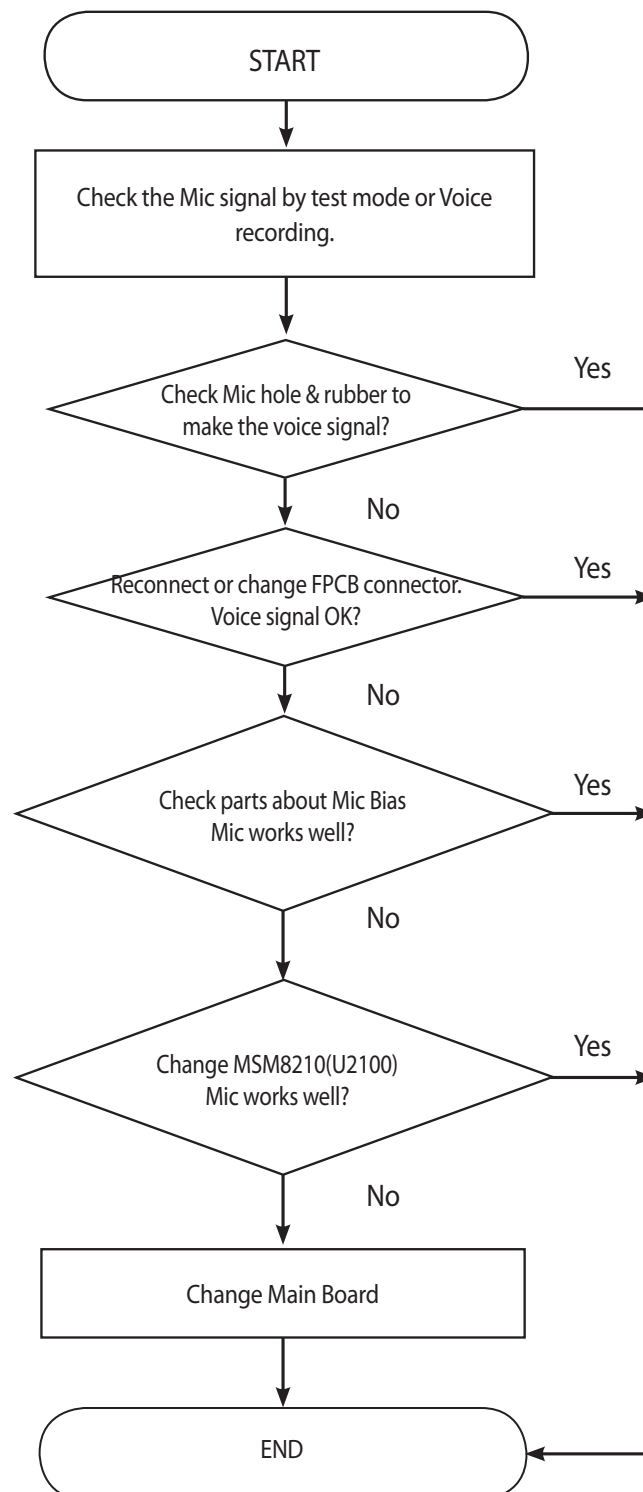
In case of No Receiver sound, not only Receiver fault but Mic fault.

You must check first voice recording test. After voice recording you can hear a recording sound, receiver path or parts is something wrong.

3.8.4 Main Mic

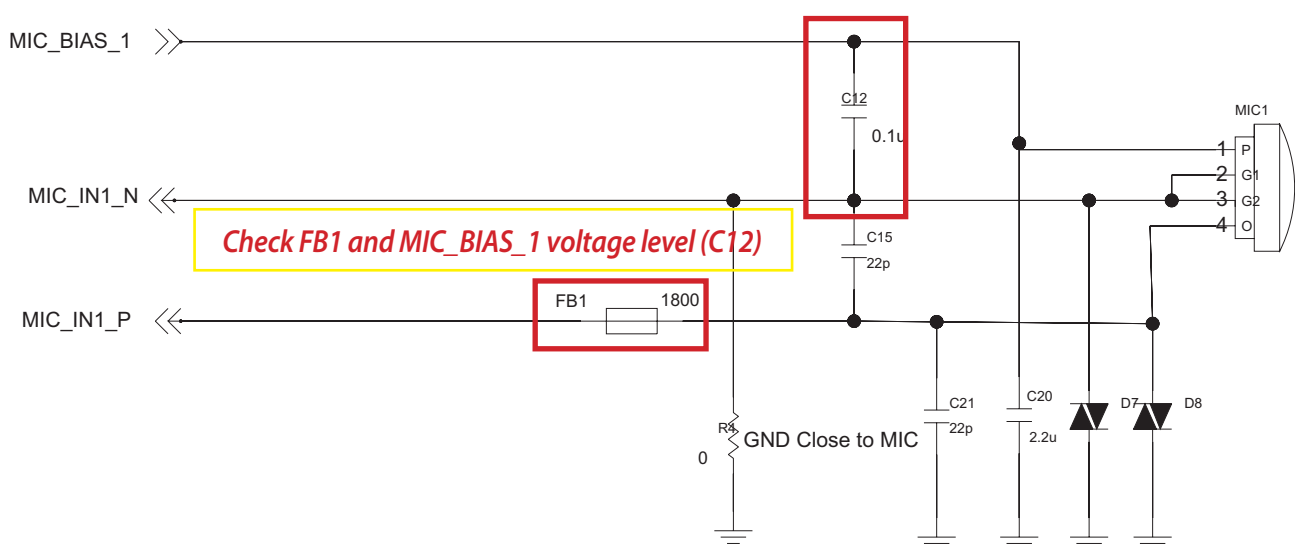
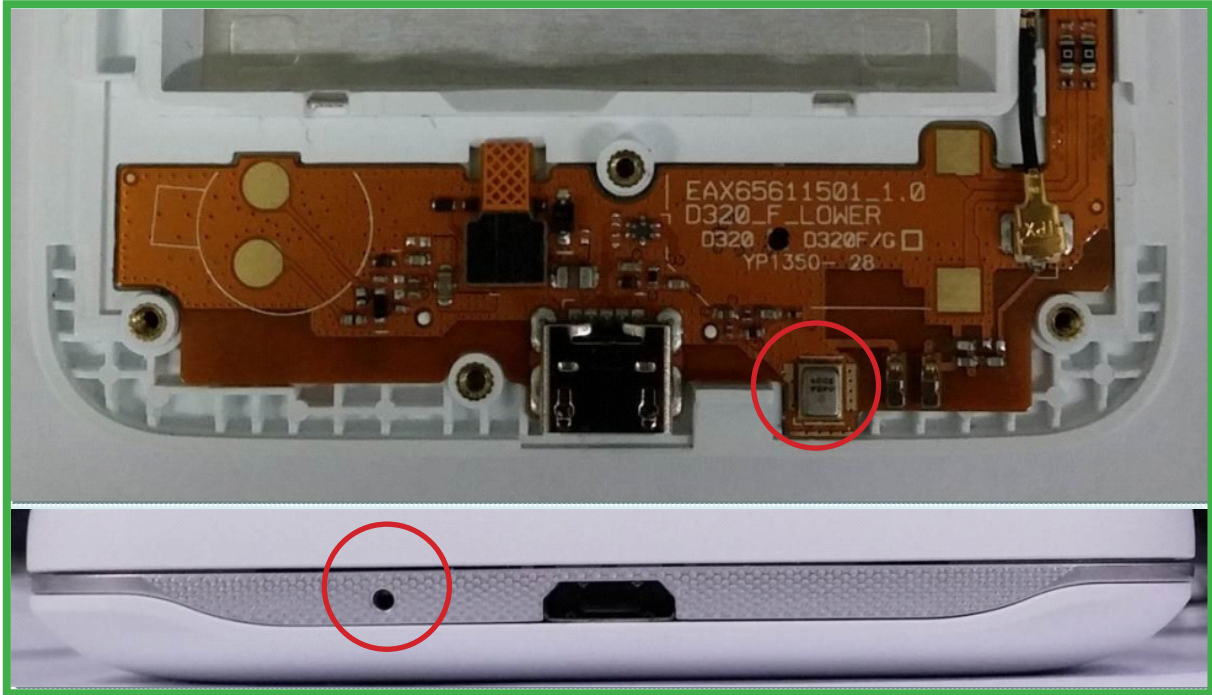
Main Mic located on Lower FPCB.

It's operating voice call(except speakerphone), voice recording, camcorder recording



3. TROUBLE SHOOTING

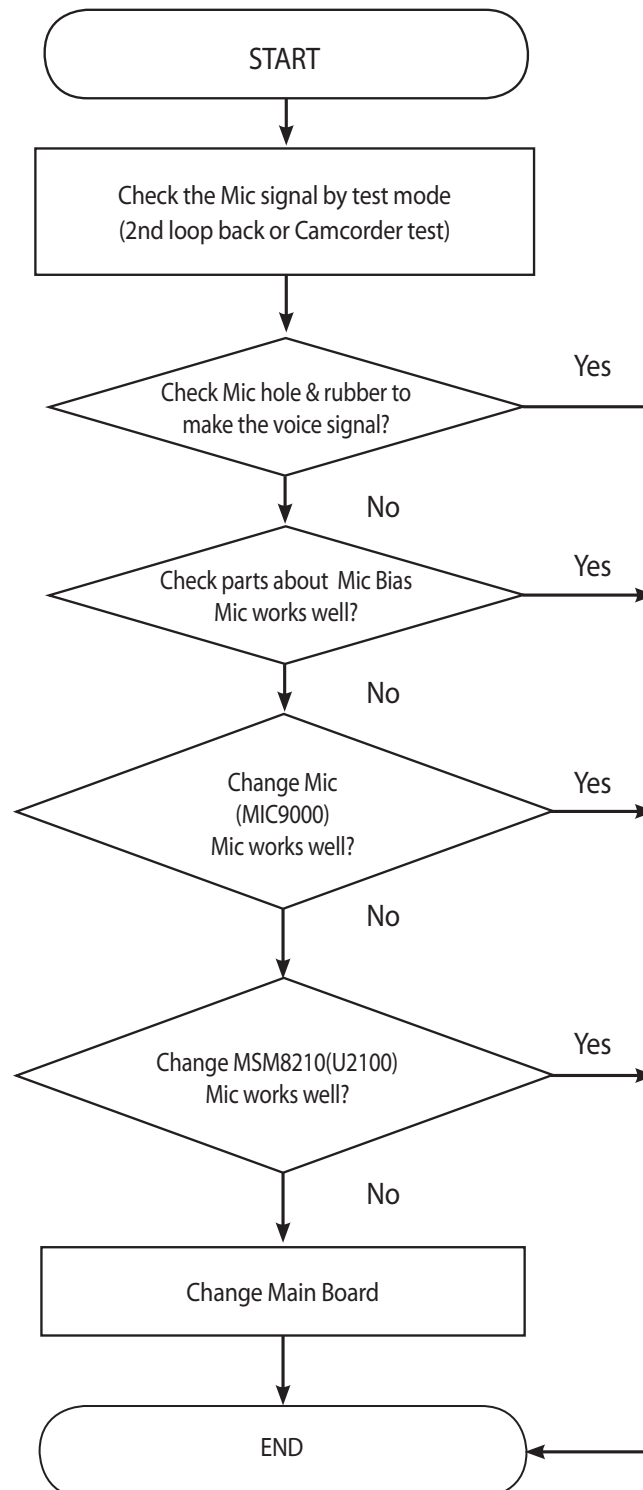
Check Main Mic hole.



3.8.5 2nd Mic

2nd Mic located on Main PCB Top Side.

It's operating handset voice call and speakerphone.

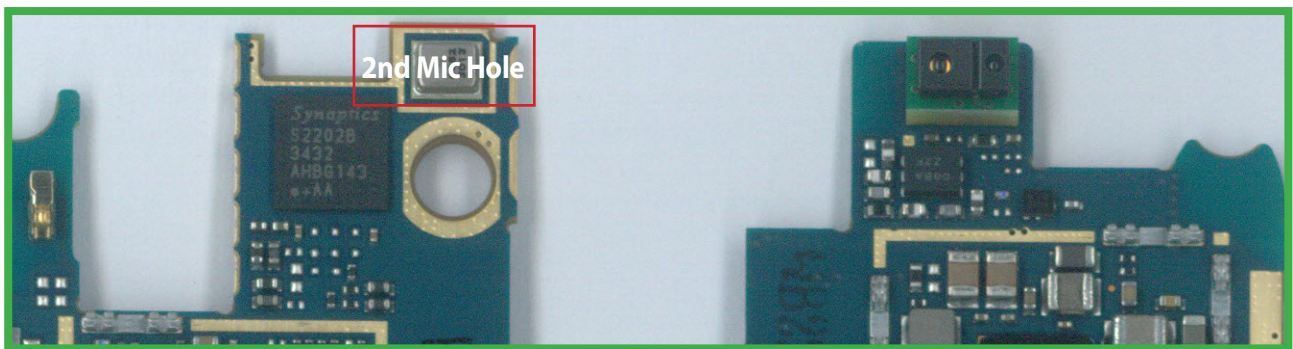


3. TROUBLE SHOOTING

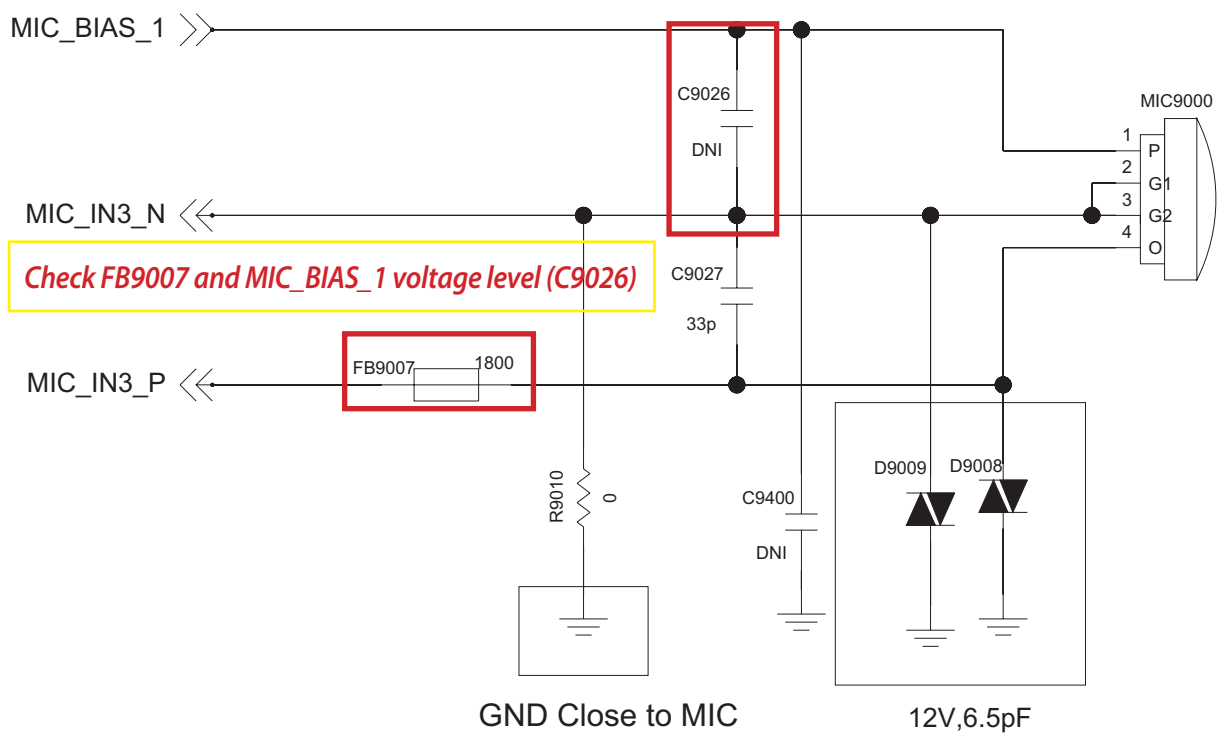
2nd Mic Hole located on Main PCB Top Side..

It's operating handset voice call and speakerphone

In case of Test menu, loopback 2nd Mic test and Camcorder recording.



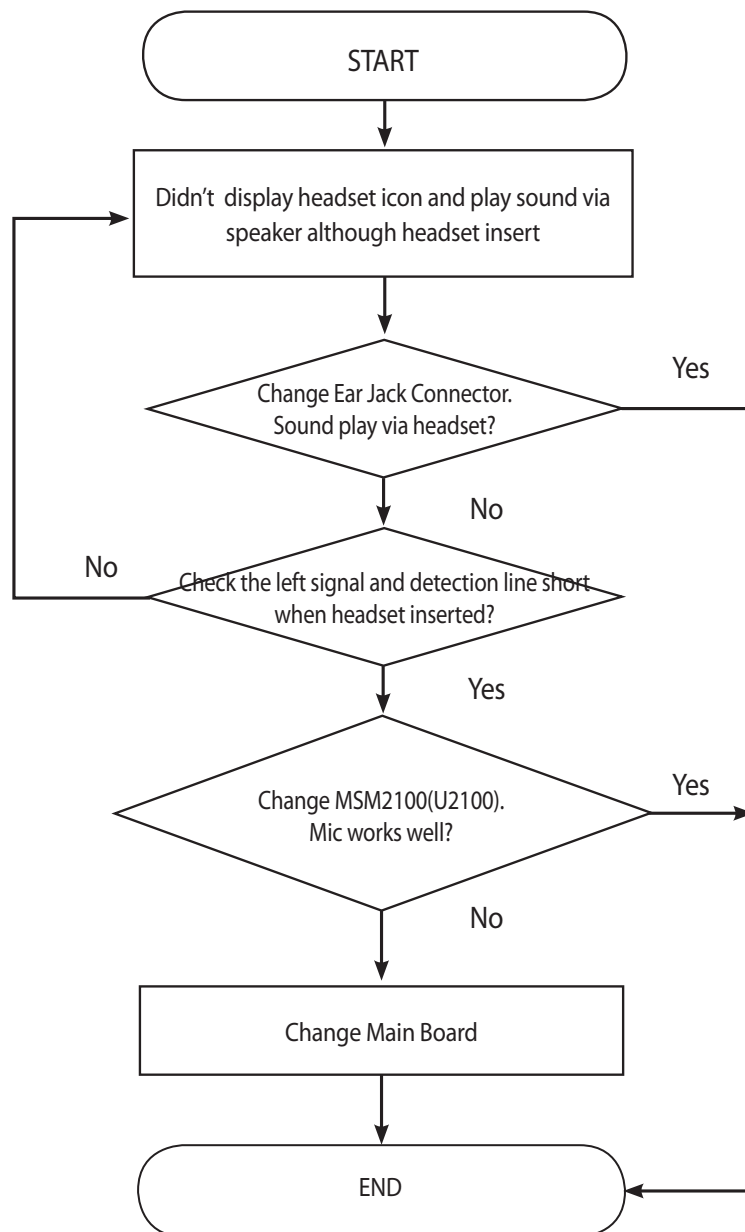
<Main Top>



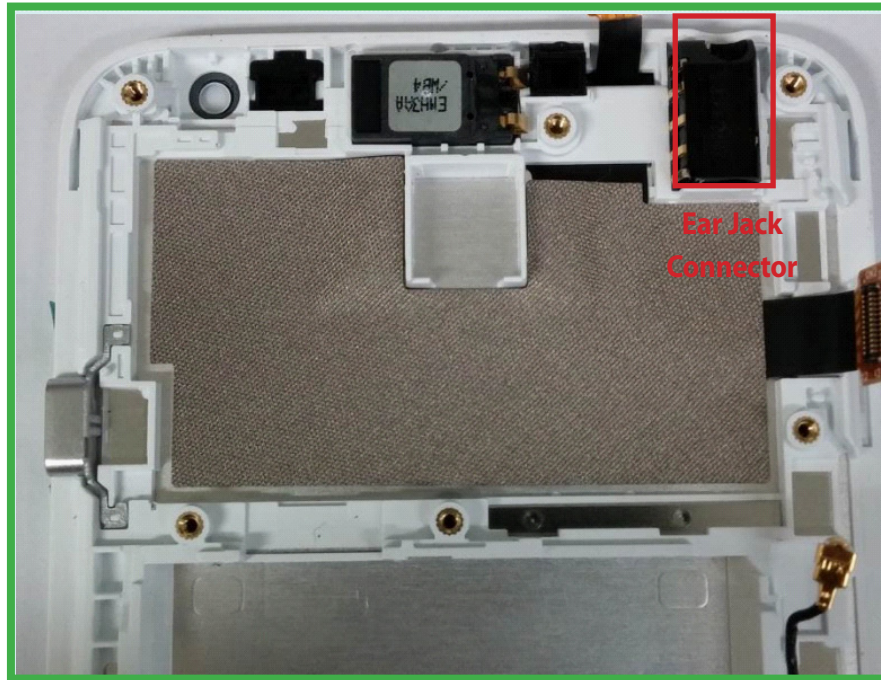
3.8.6 Ear-Mic Trouble Shooting

Ear MIC control signals are generate by MSM8210(U2100)

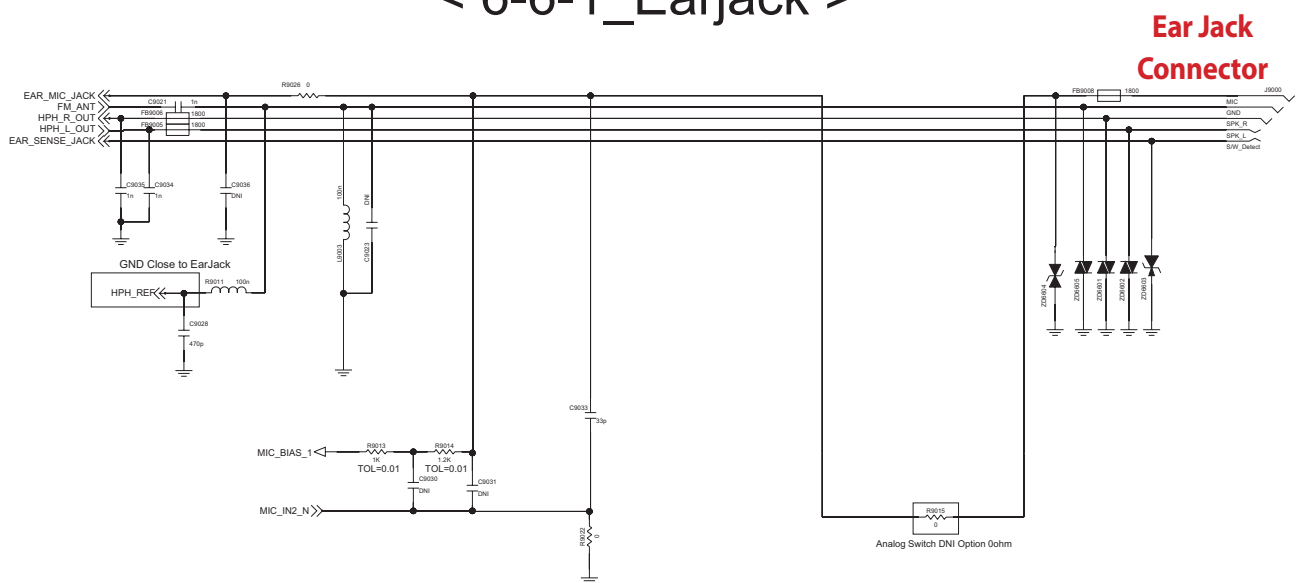
Case A. Disable detected headset insert.



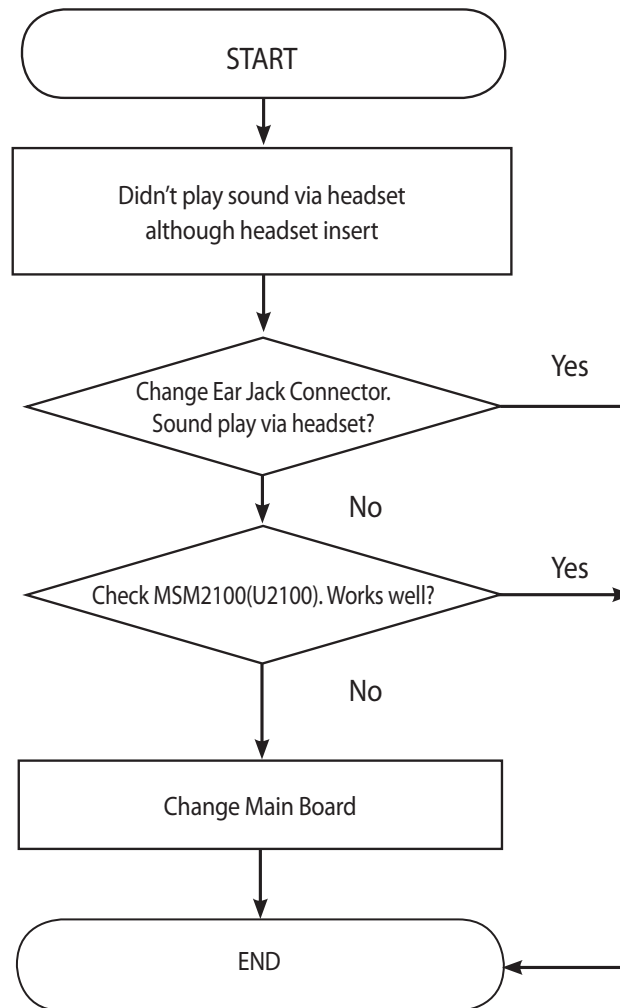
Case A. Disable detected headset insert.



< 6-6-1_Earjack >

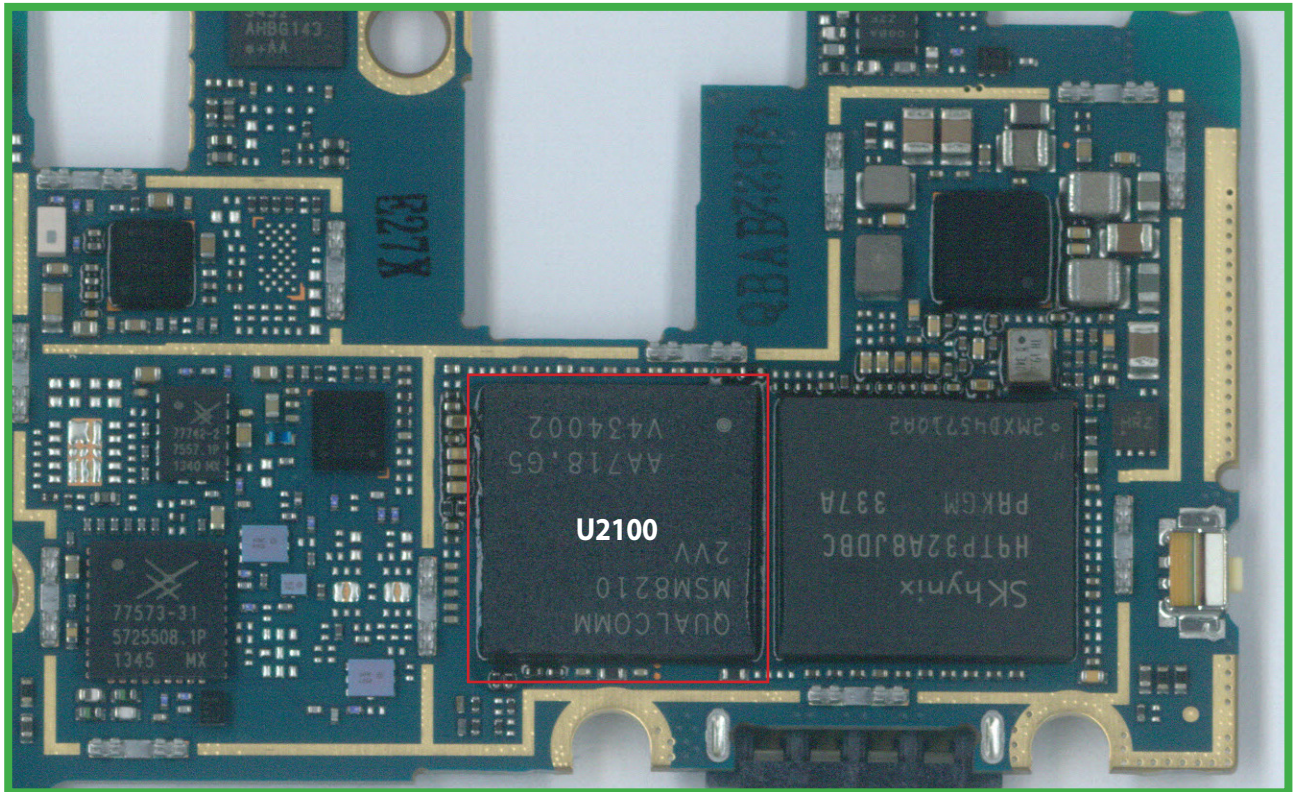


Case B. No Sound from Headset



3. TROUBLE SHOOTING

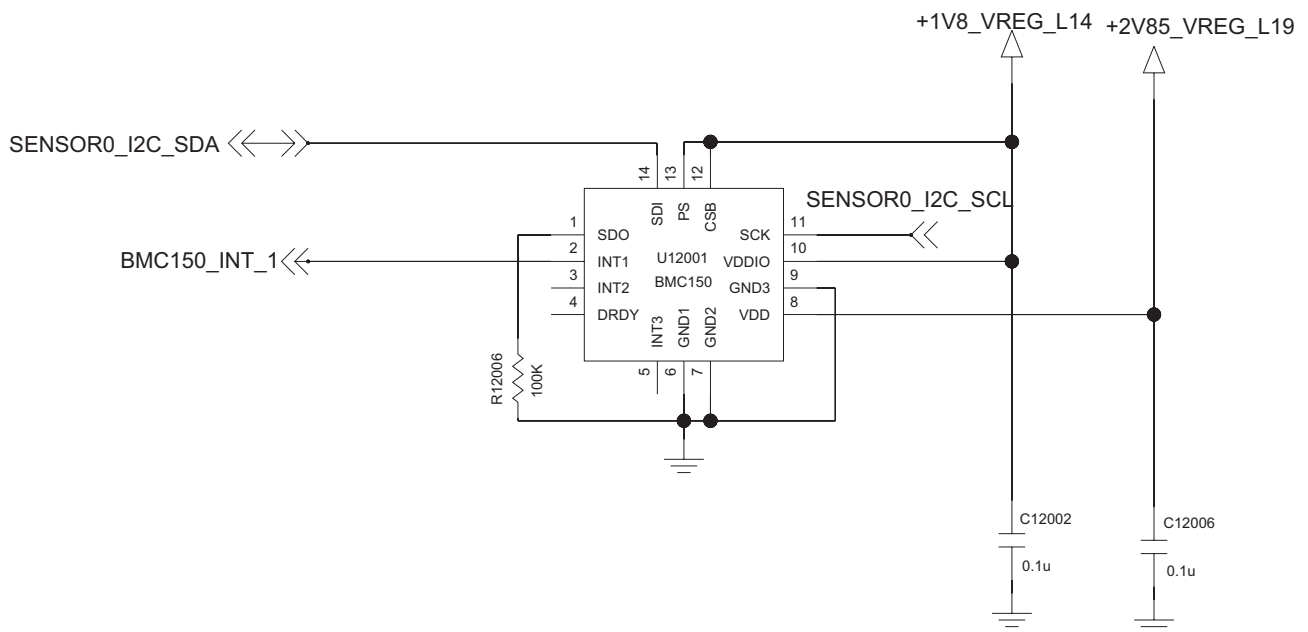
Case B. No Sound from Headset



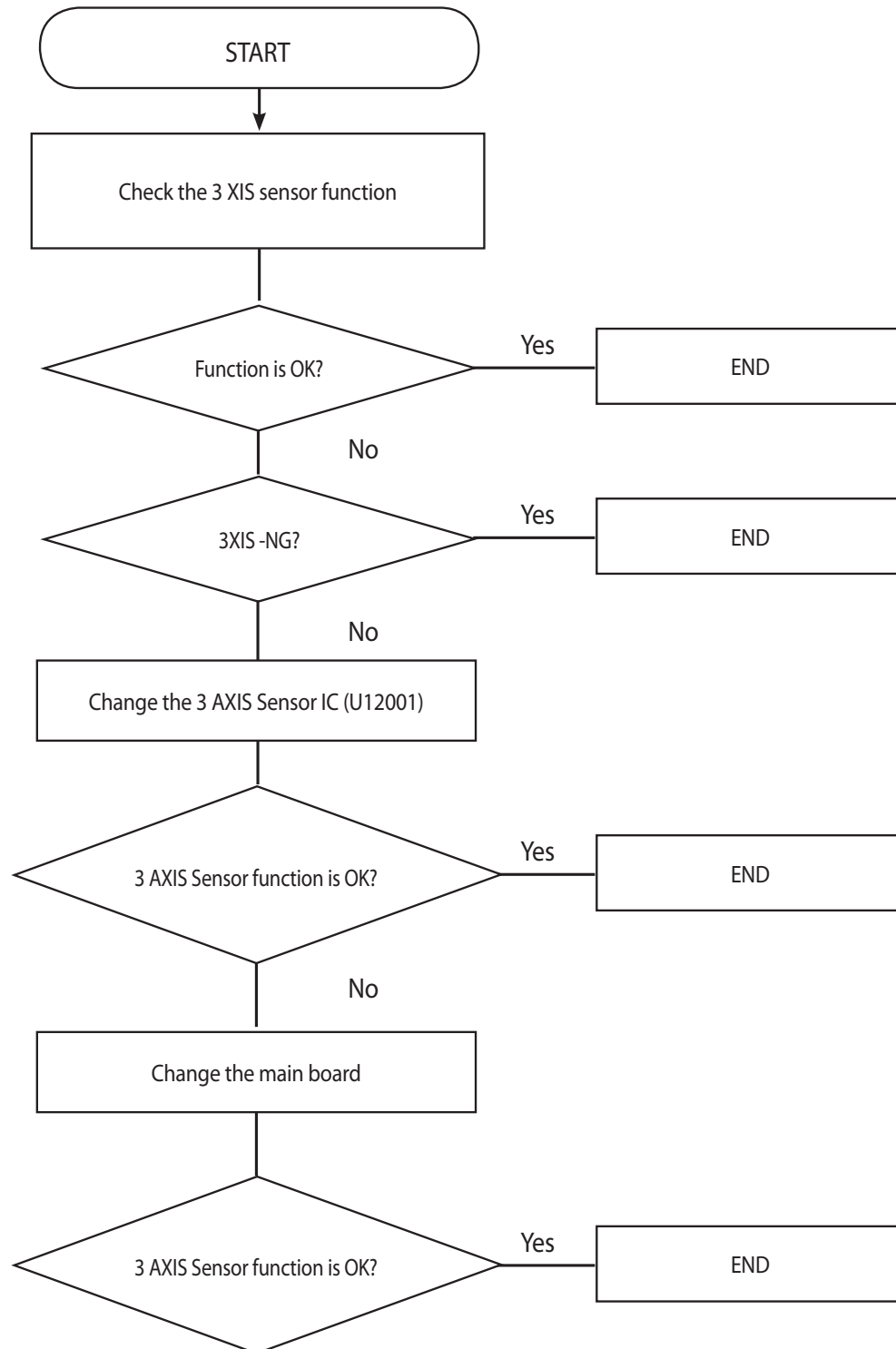
<Main Top>

3.9 3 AXIS Sensor

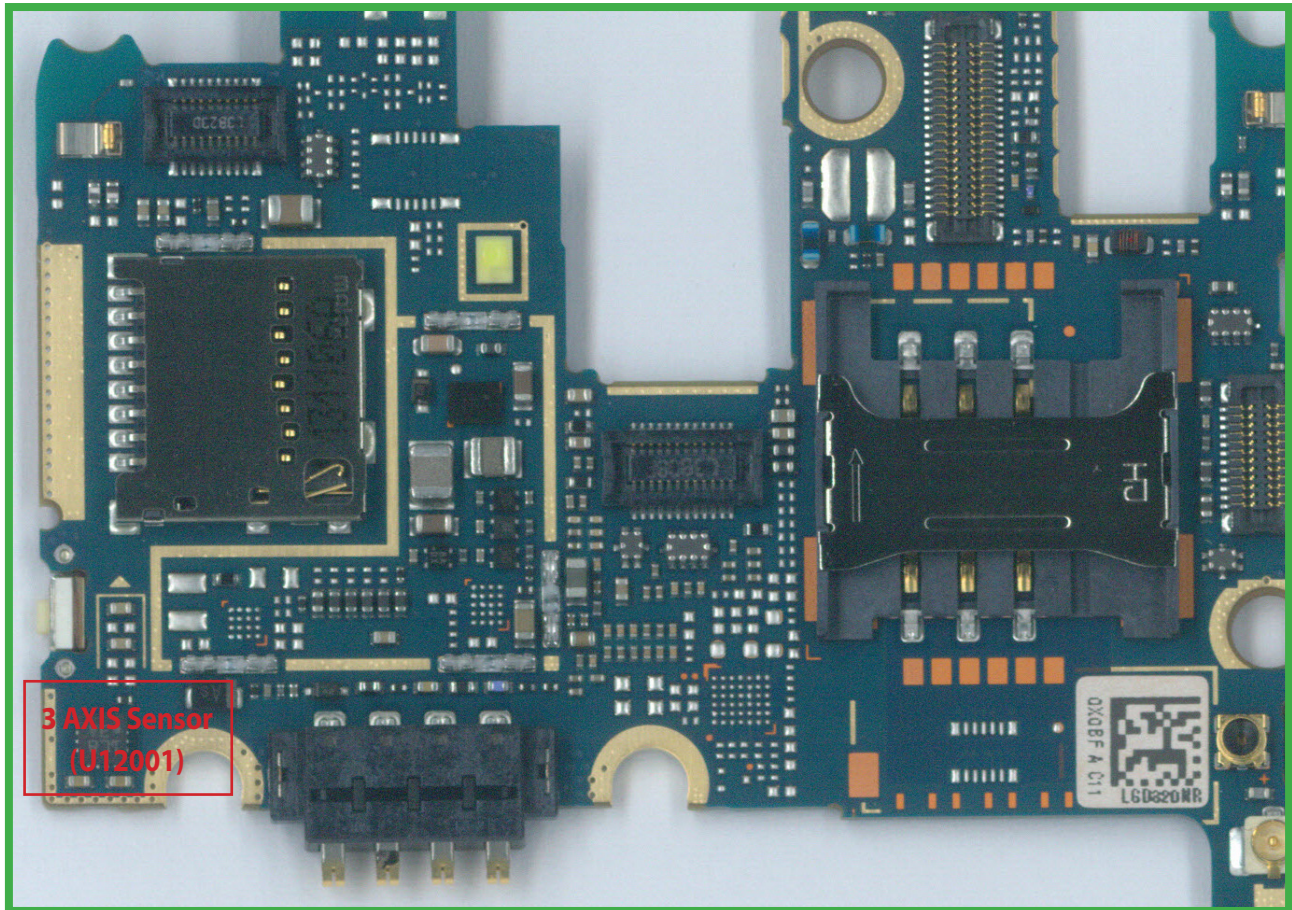
The 3 AXIS sensor is calibrated by the sensor data using SW algorithm.
Therefore sensor error makes the compass sensor malfunction.



3 AXIS Sensor



3. TROUBLE SHOOTING

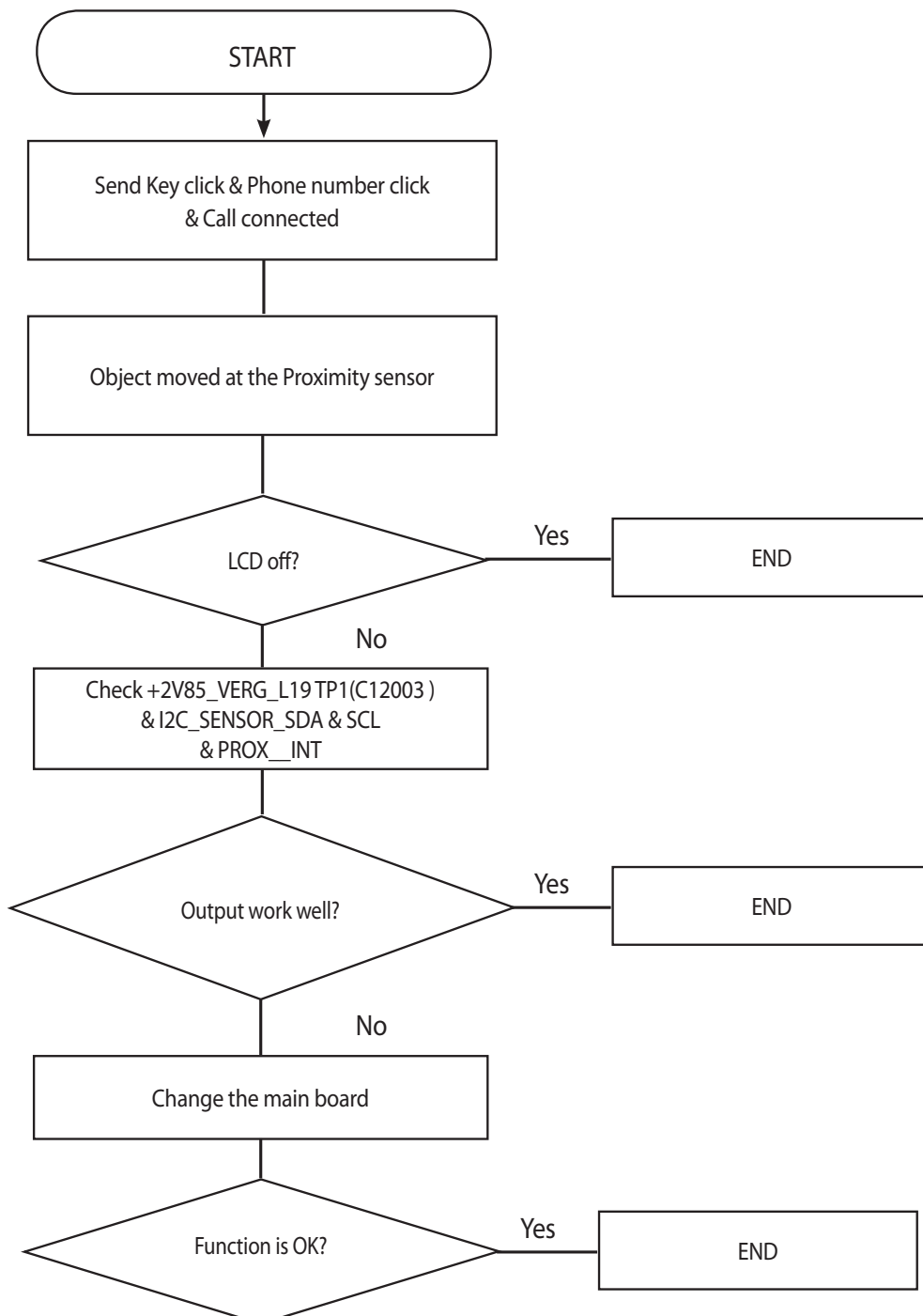


<Main Bot>

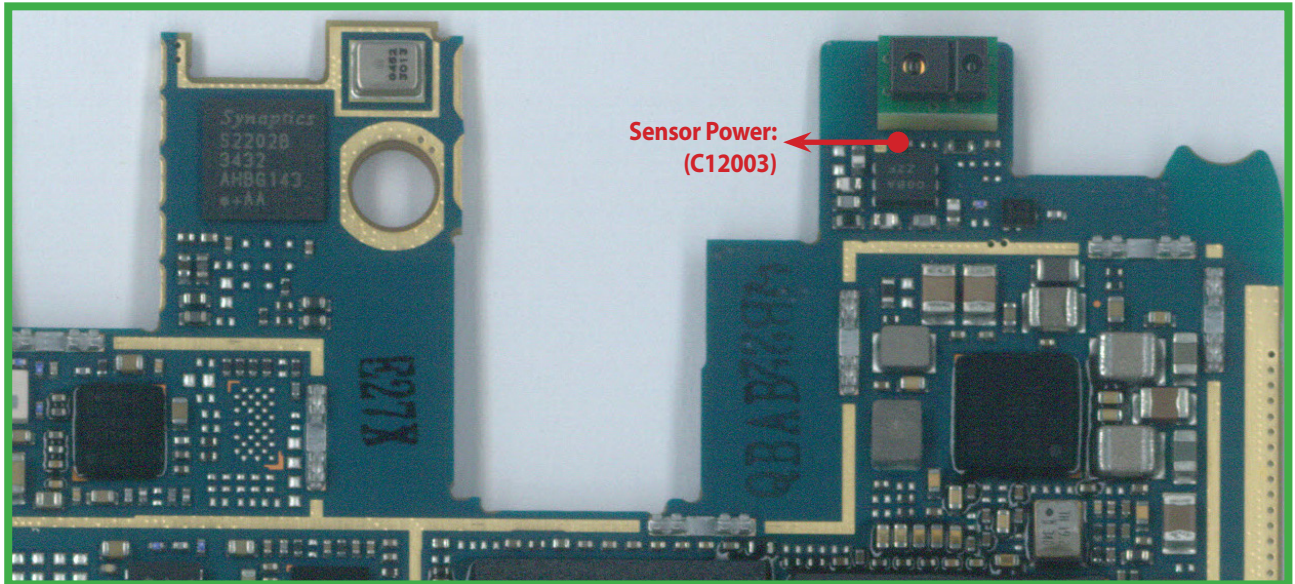
3.10 Proximity Sensor

Proximity Sensor is worked as below:

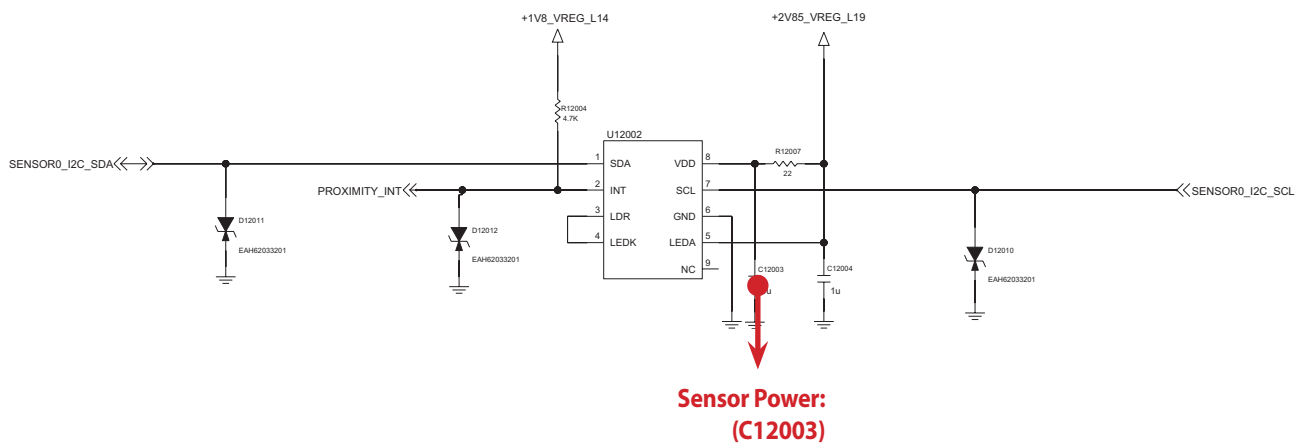
Send Key click -> Phone number click -> Call connected -> Object moved at the sensor -> Control the screen's on/off operation automatically



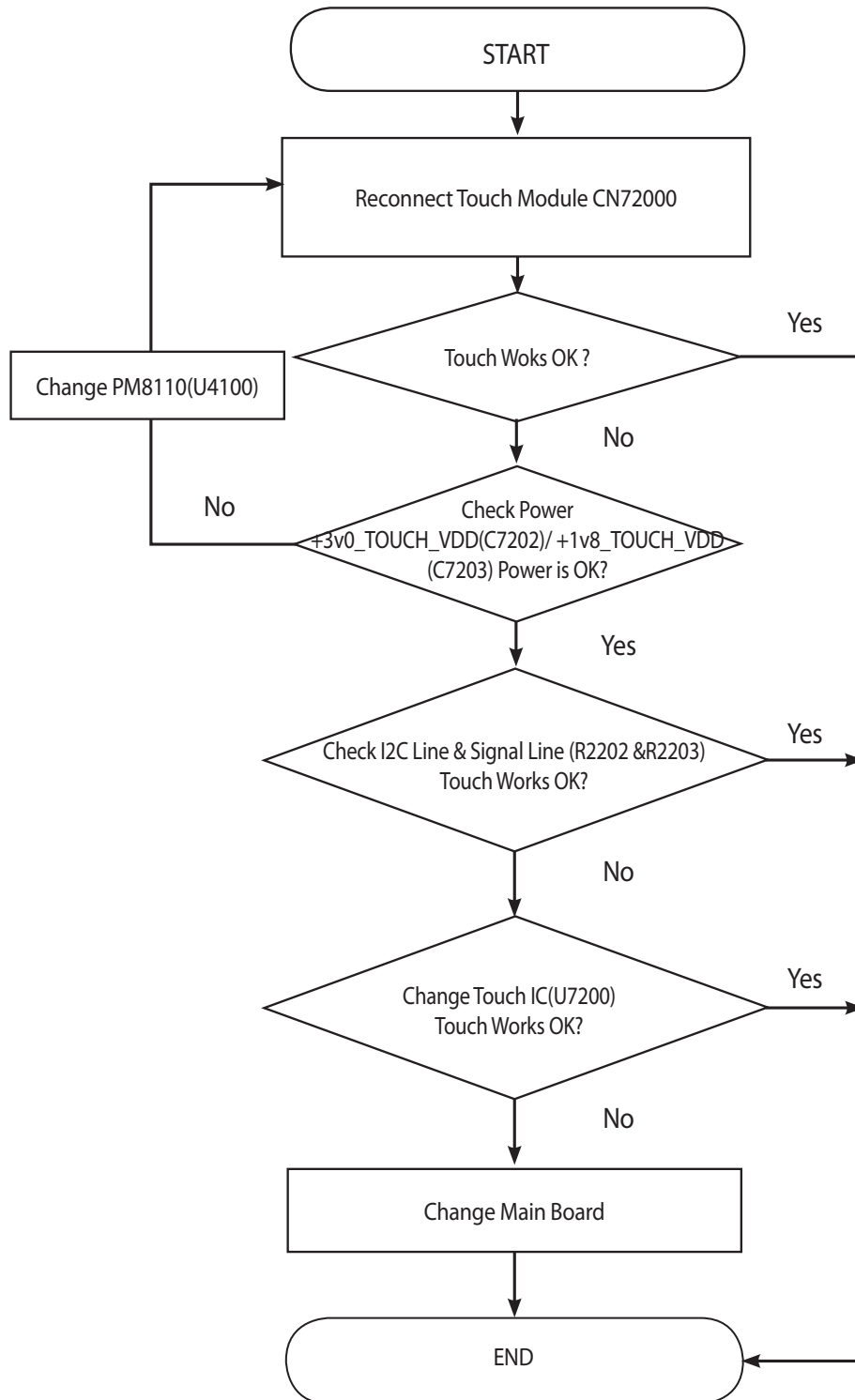
3. TROUBLE SHOOTING



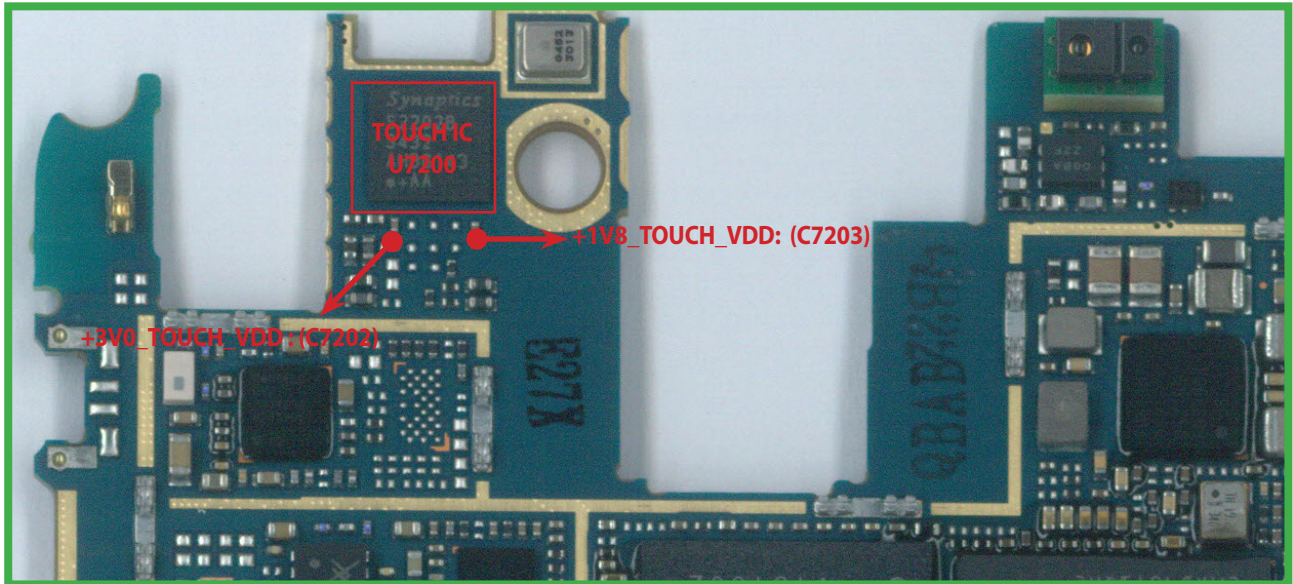
<Main Top>



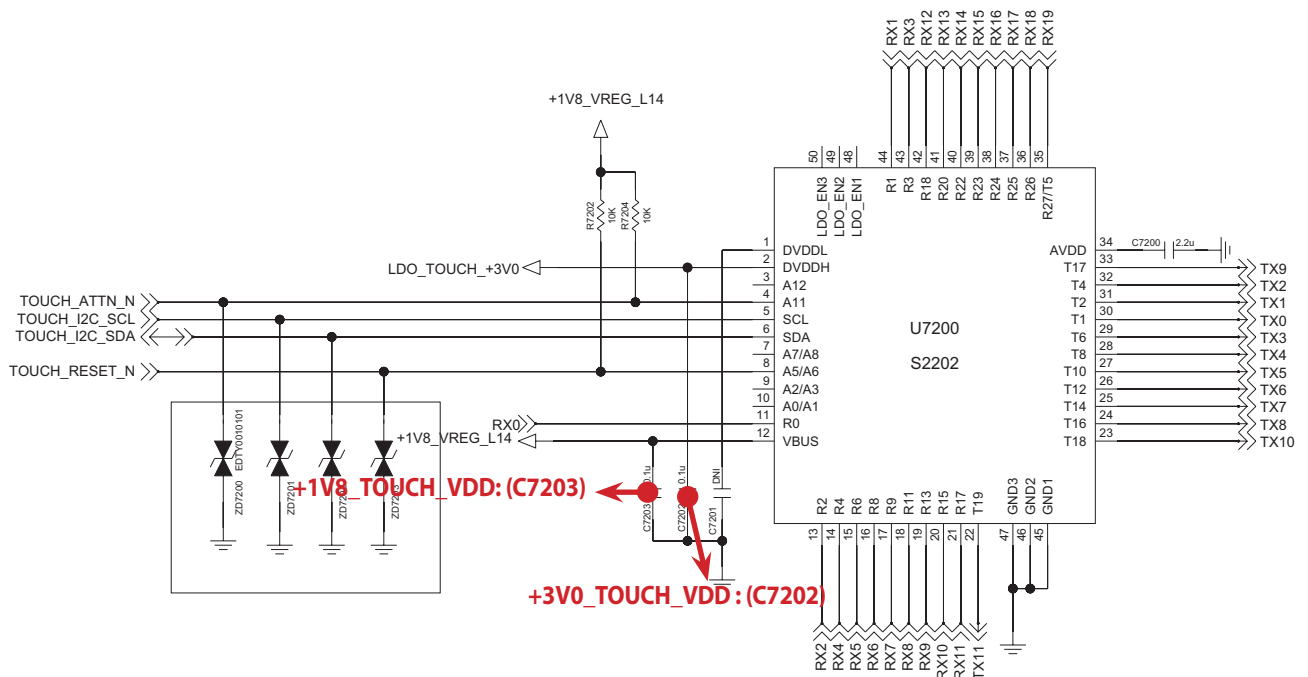
3.11 Touch Sensor Trouble Shooting



3. TROUBLE SHOOTING

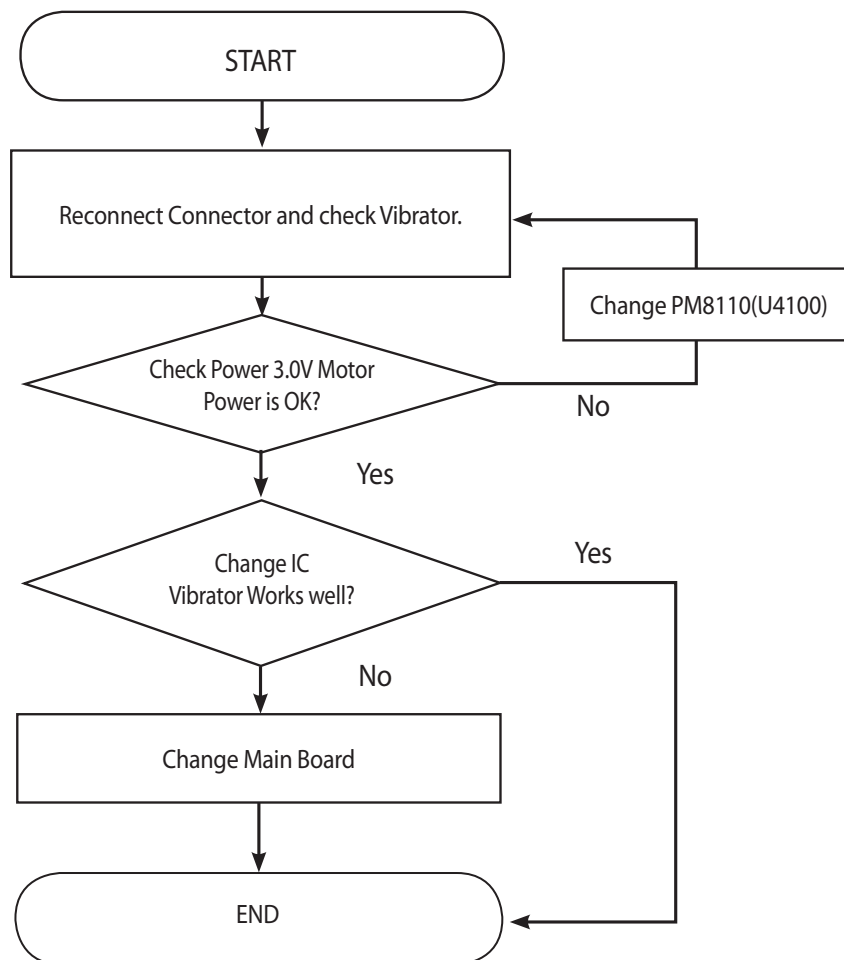


<Main Top>

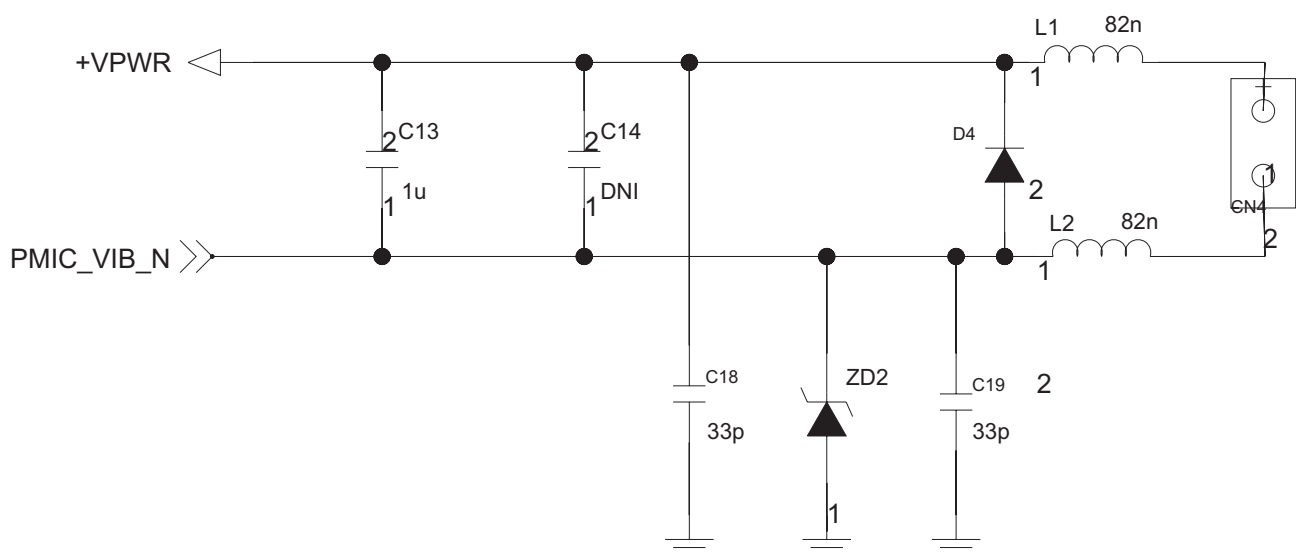
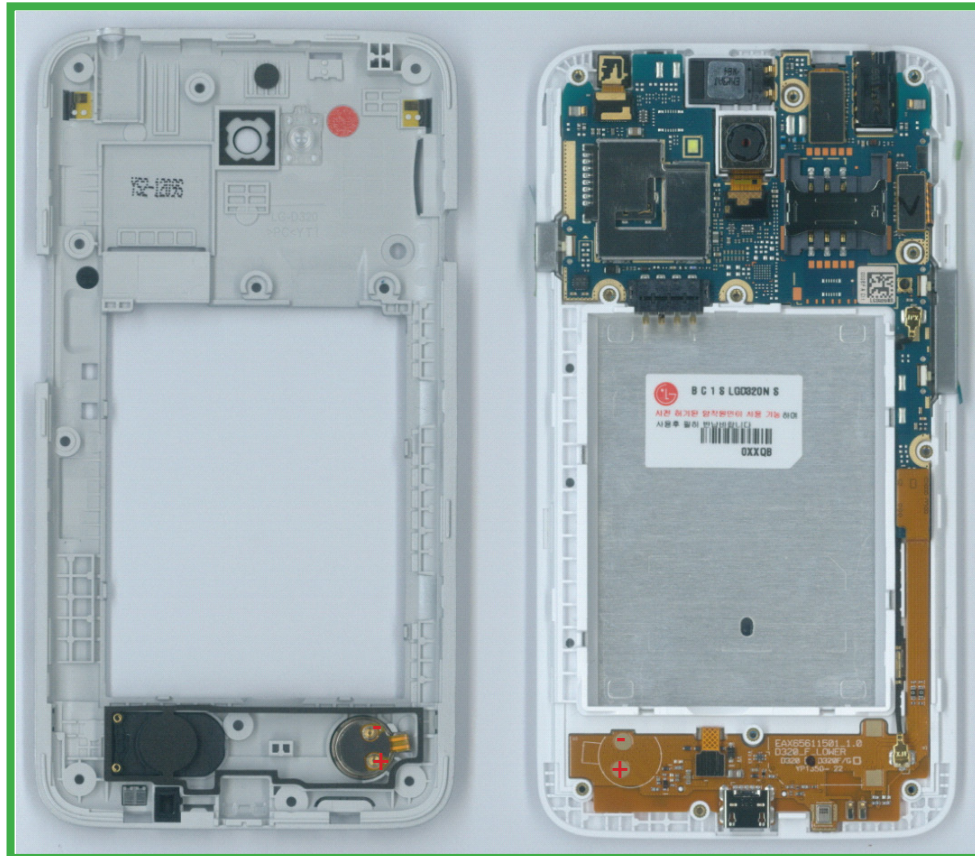


3.12 Vibrator Trouble Shooting

Vibrator signal path is PM8110(U4100) -> Vibrator. Motor Type is DC Motor



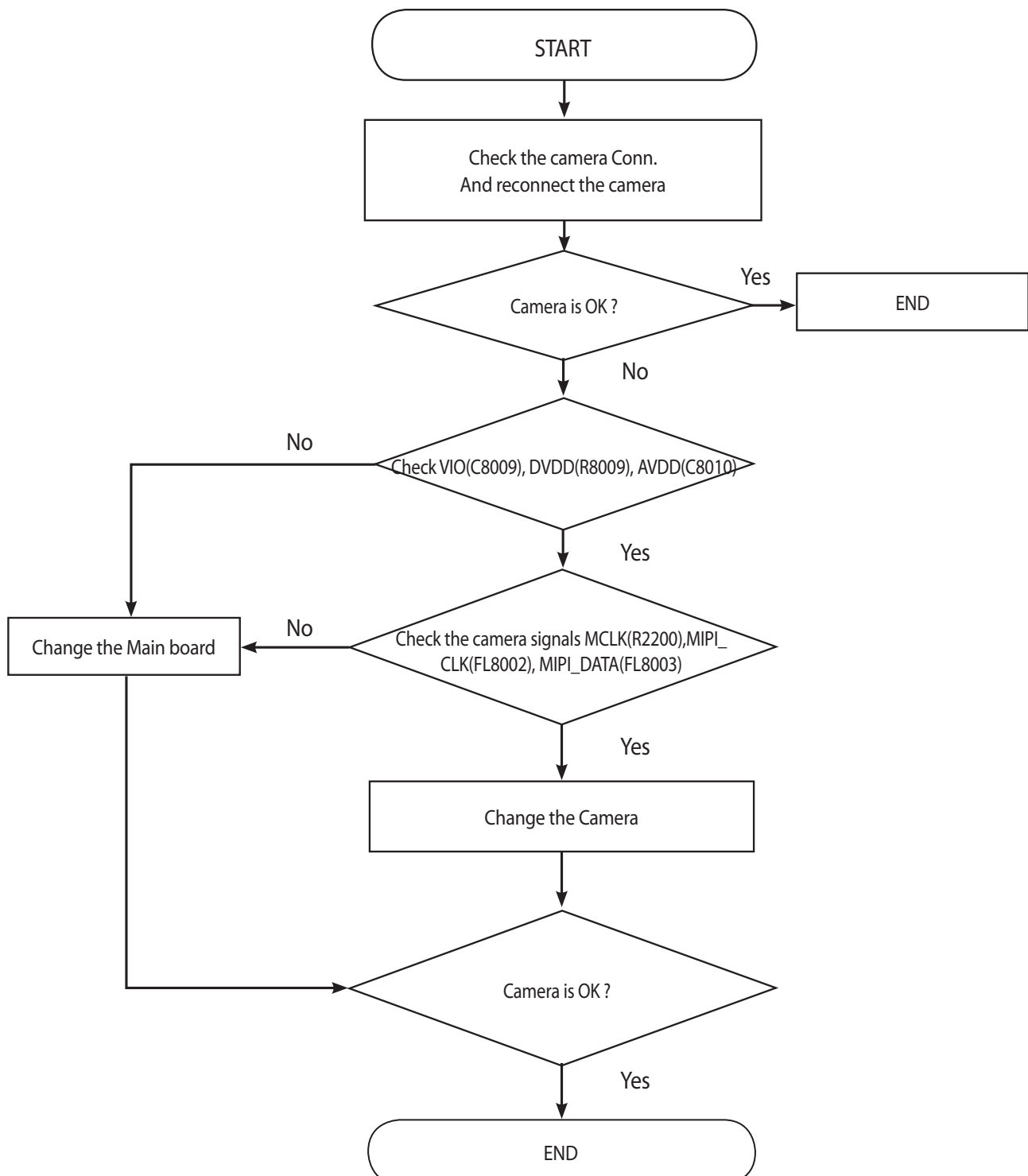
3. TROUBLE SHOOTING



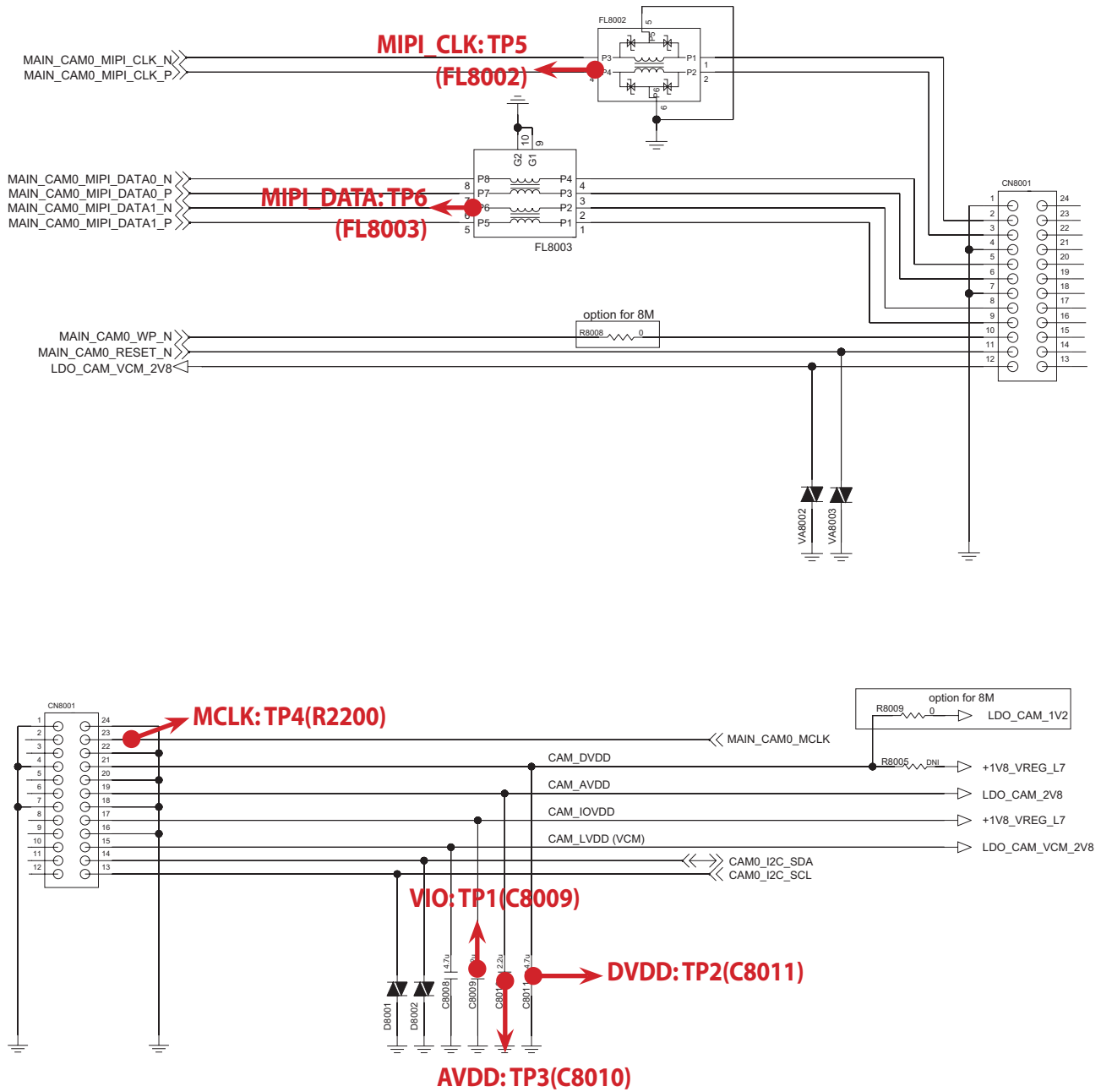
Motor

3.13 5M Main Camera TS

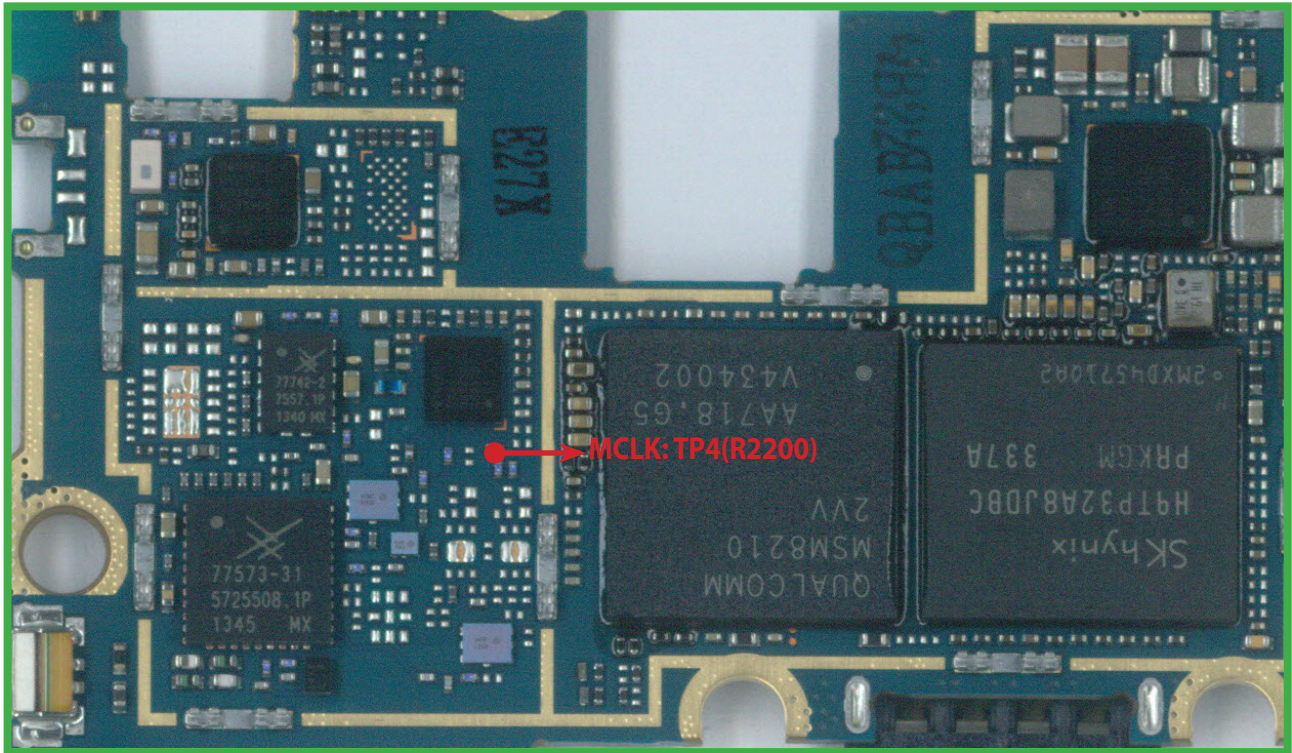
5M camera control signals are generated by MSM8210 (U2100 : Main Chipset) and powered by voltage regulator (U4133,U4136 : DO).



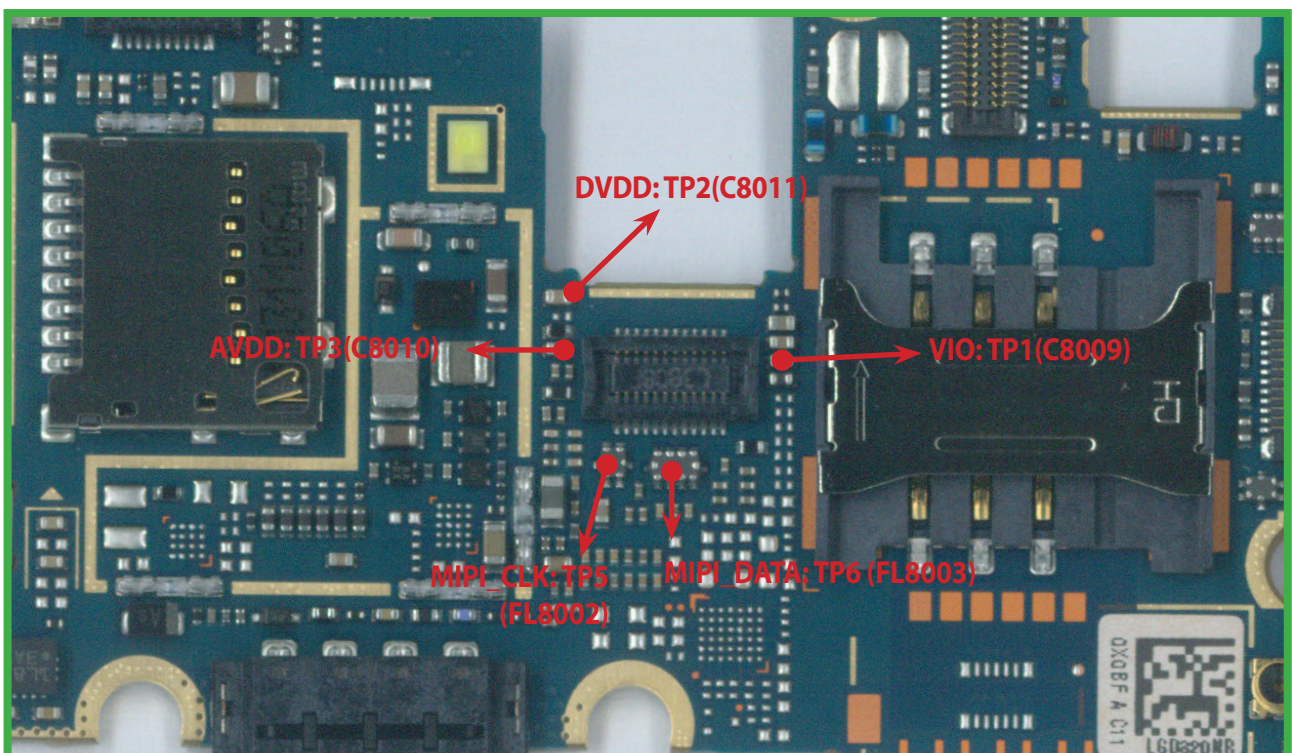
3. TROUBLE SHOOTING



3. TROUBLE SHOOTING



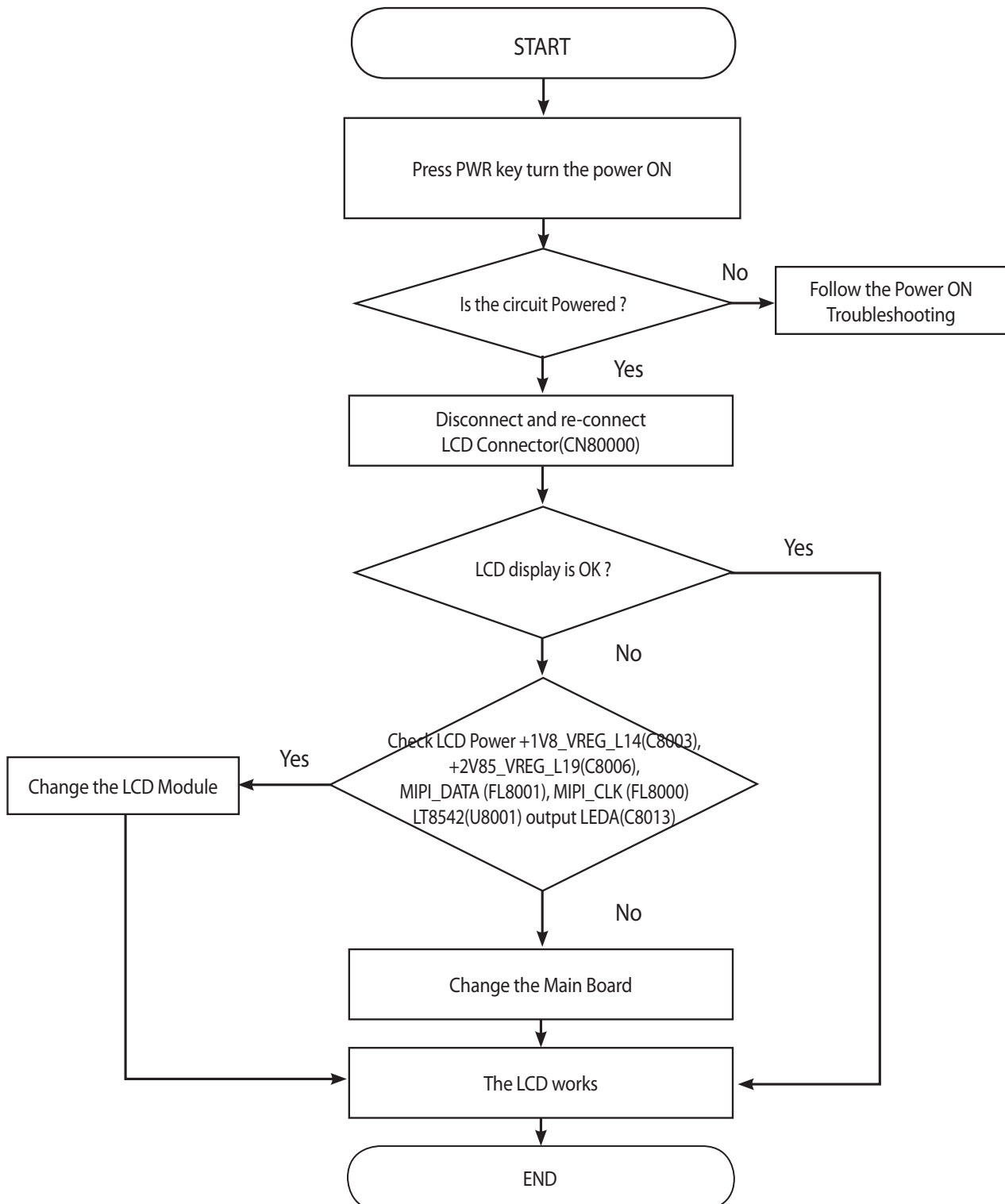
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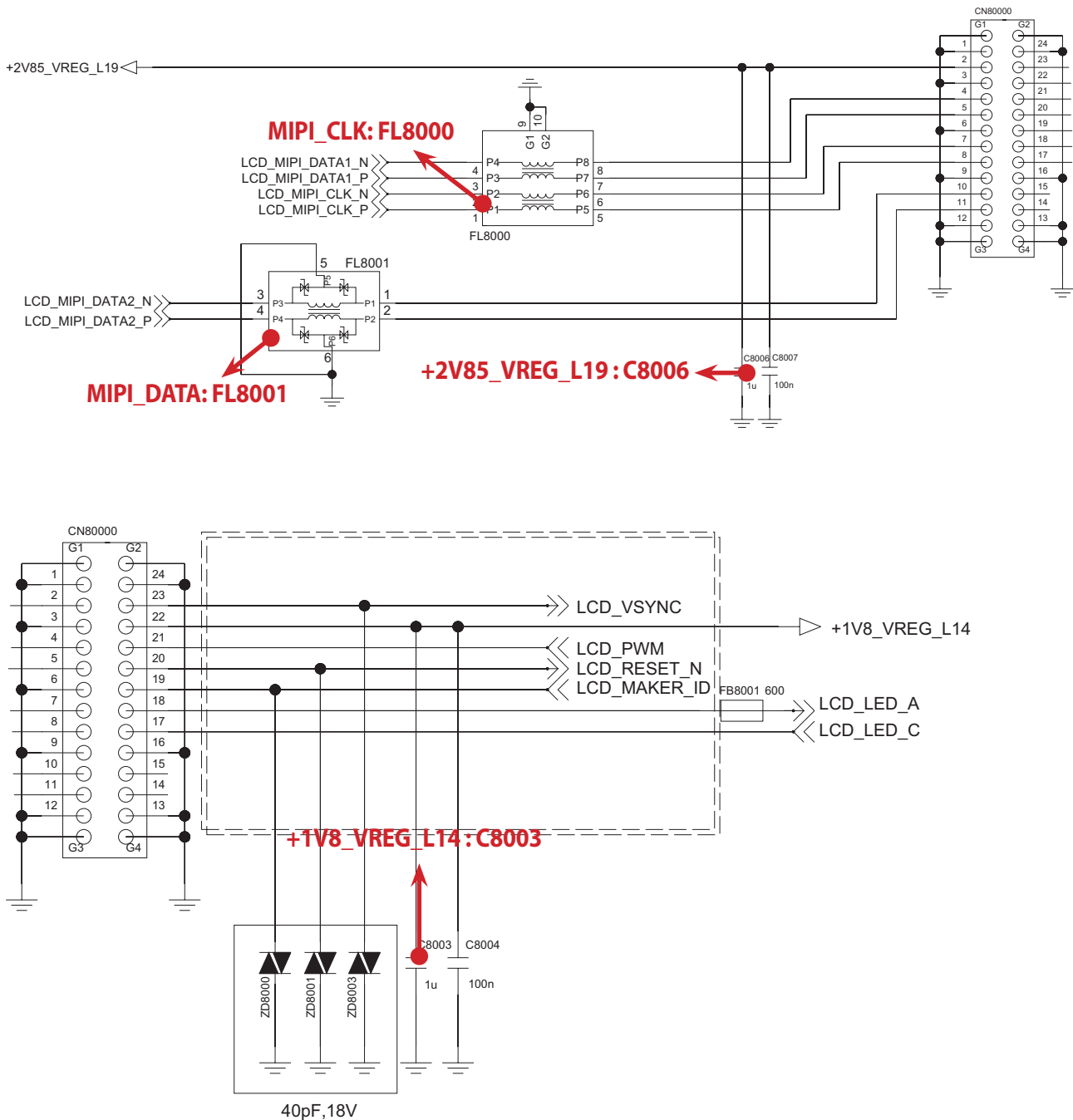
<Main Bot>

3.14 Main LCD TS

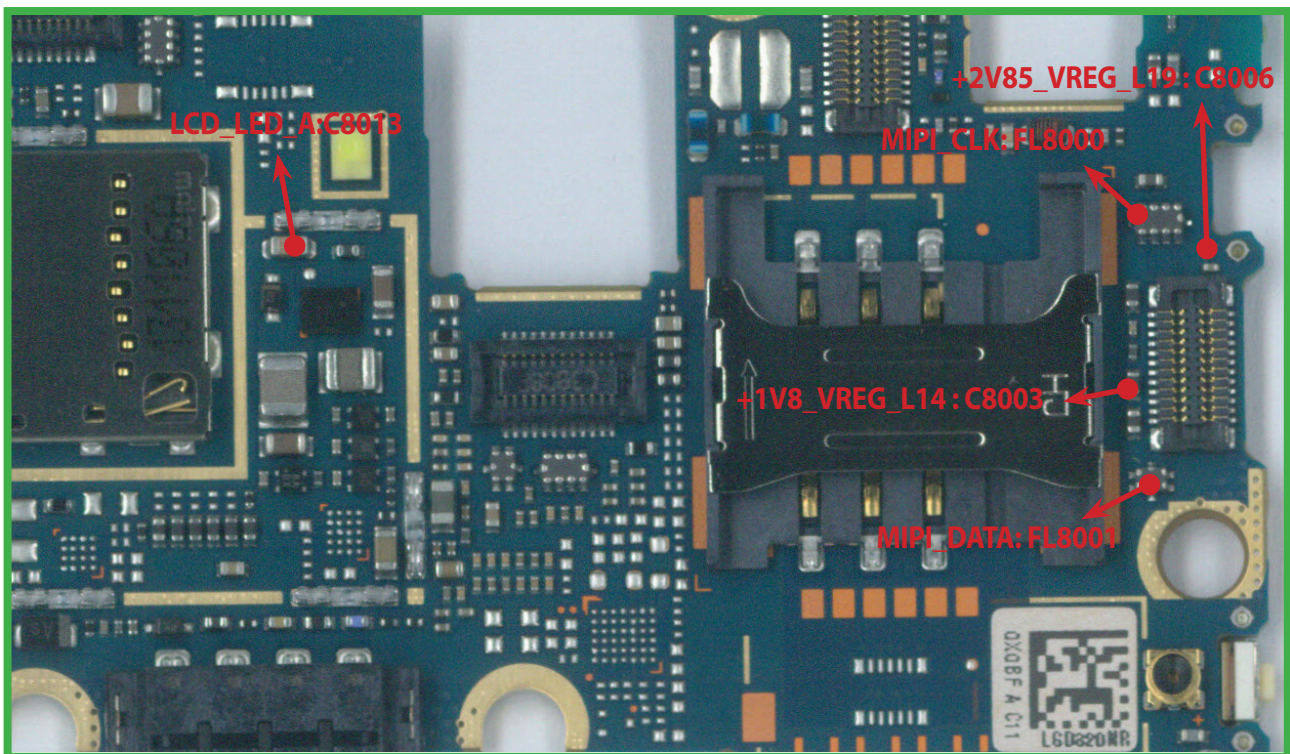
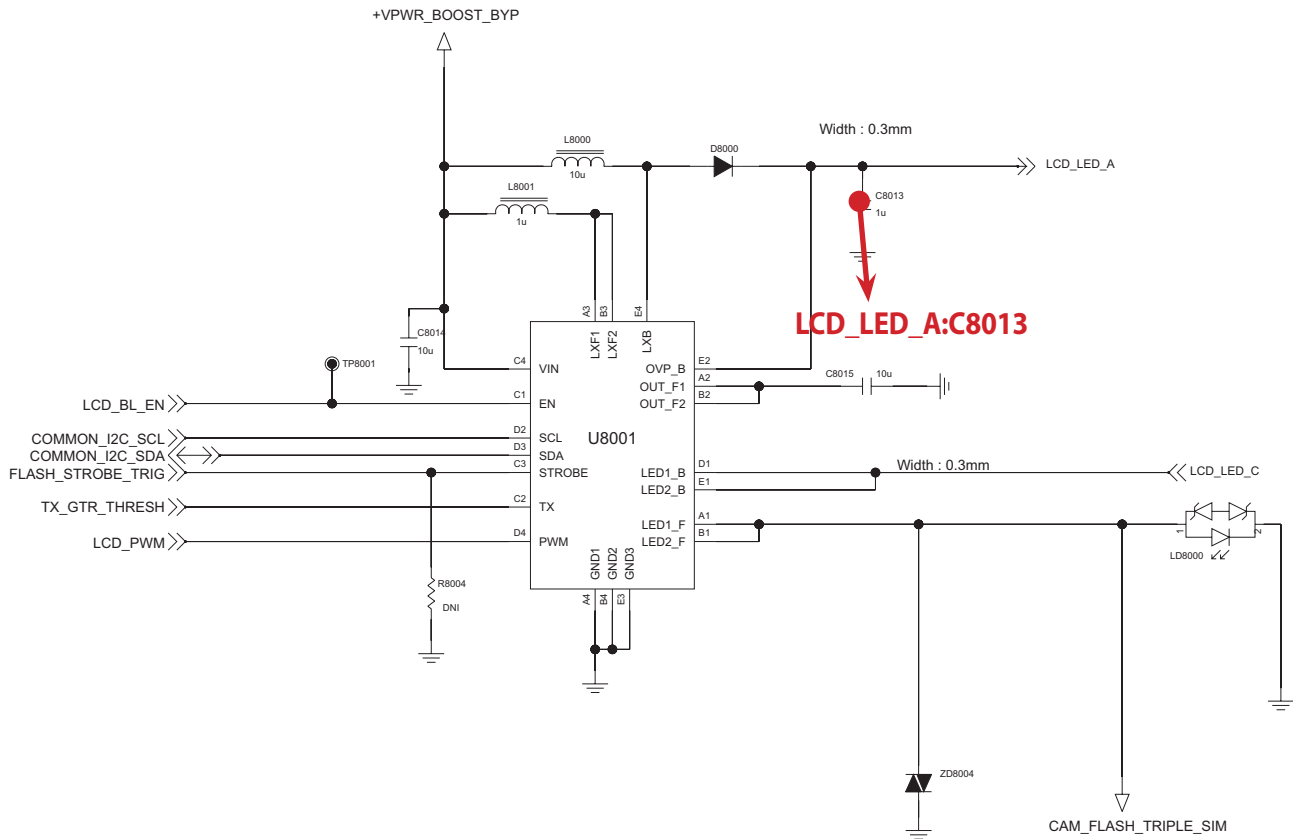
The LCD control signals are generated by MSM8210. It needs two external powers like +1.8V_VREG_L14 and +2.85V_VREG_L19. And its interface is MIPI having two data lanes and one clock lane.



3. TROUBLE SHOOTING

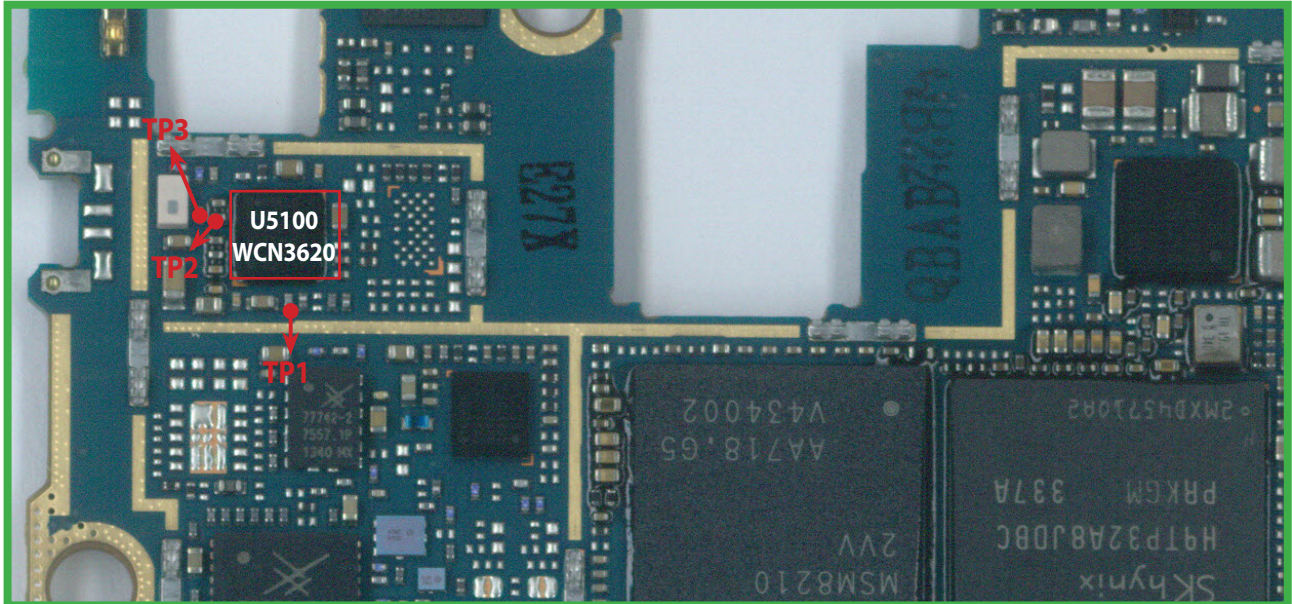


3. TROUBLE SHOOTING

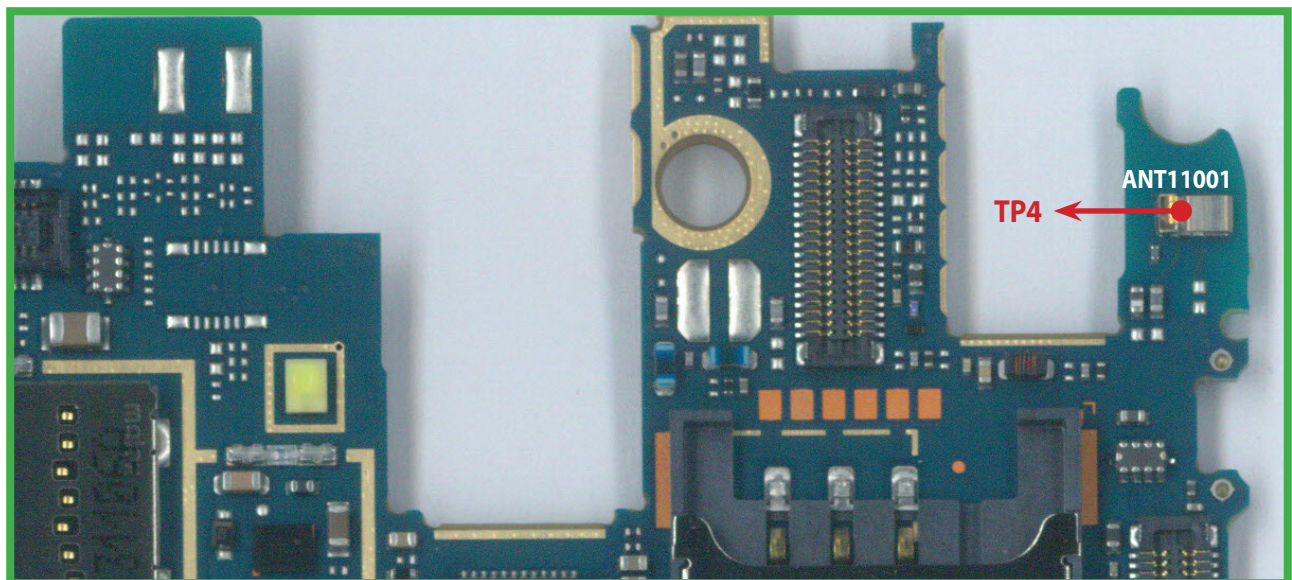


<Main Bot>

3.15 BT/Wifi TS

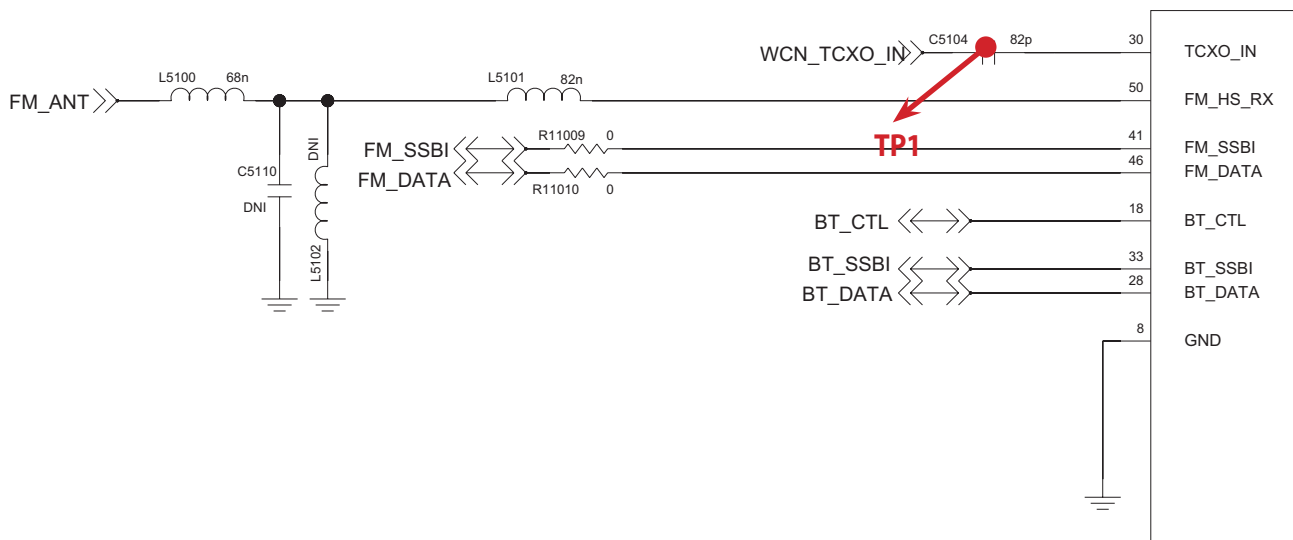
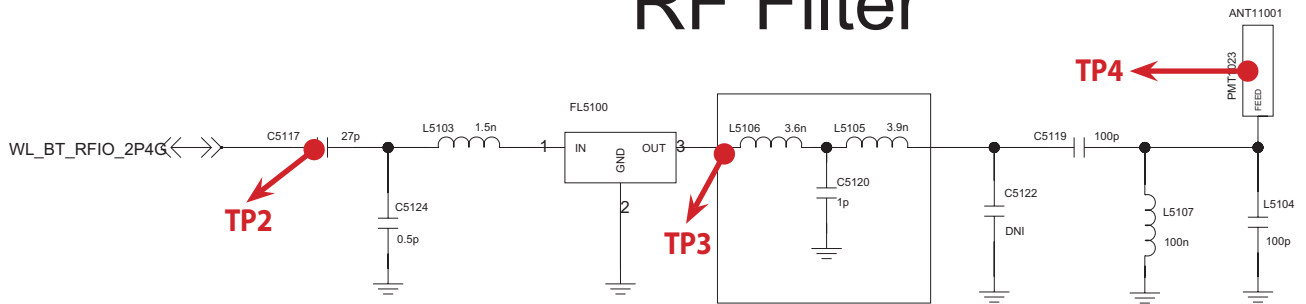


<Main Top>

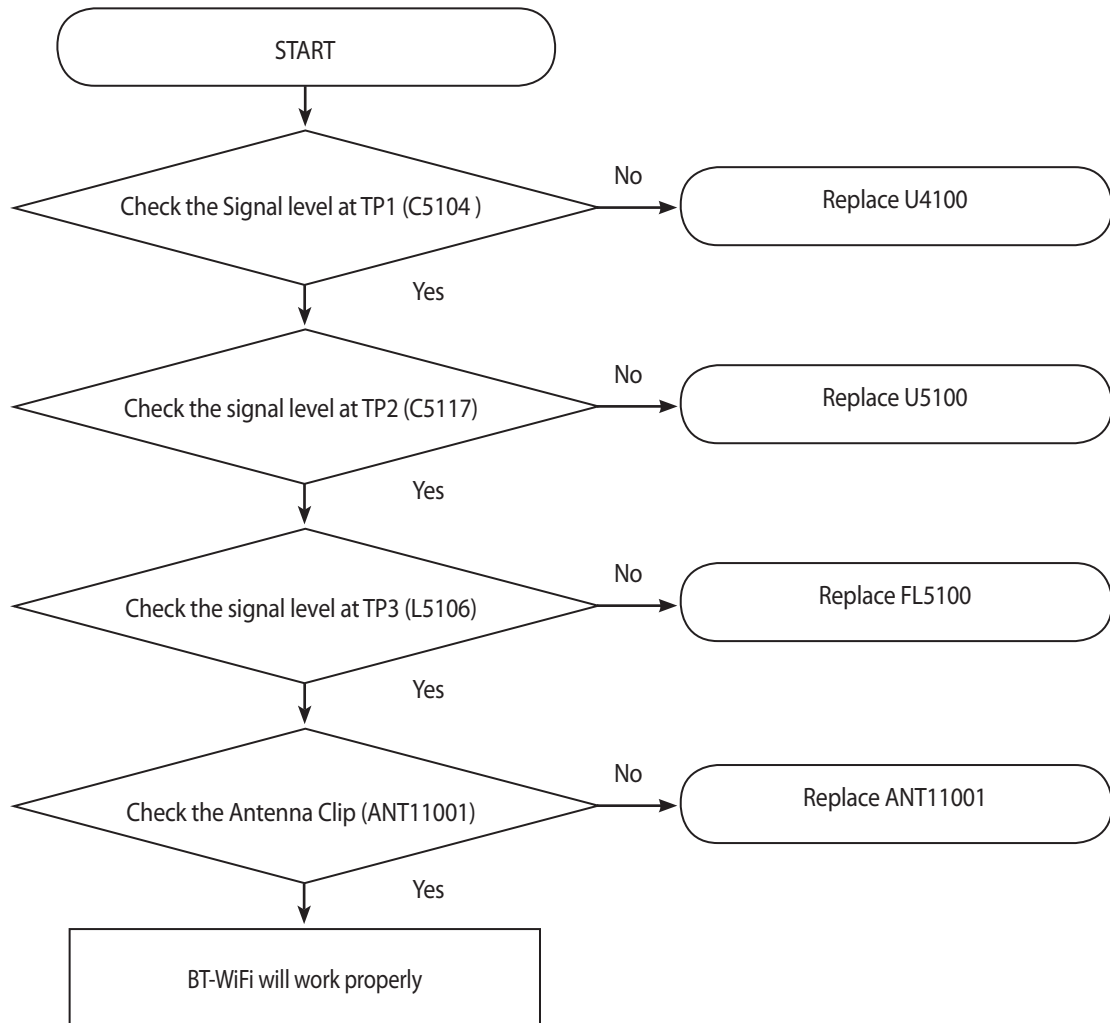


<Main Bot>

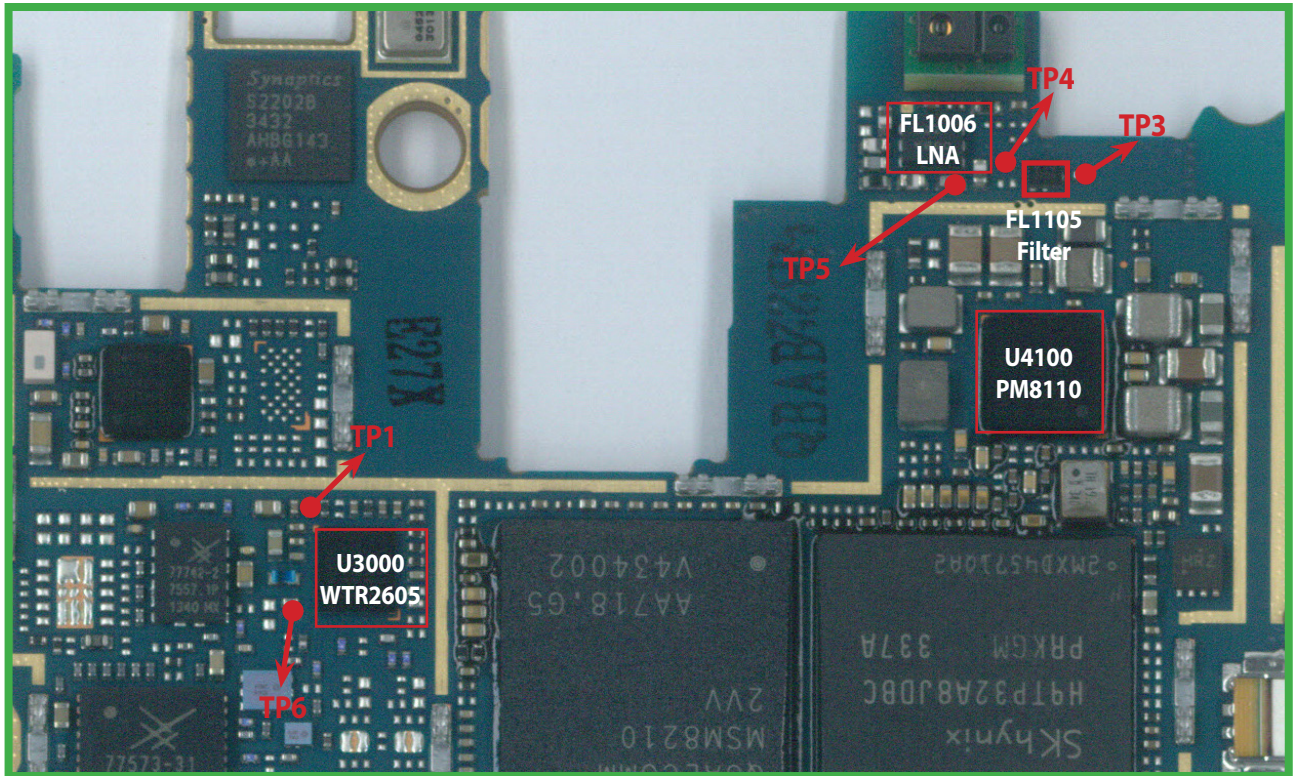
RF Filter



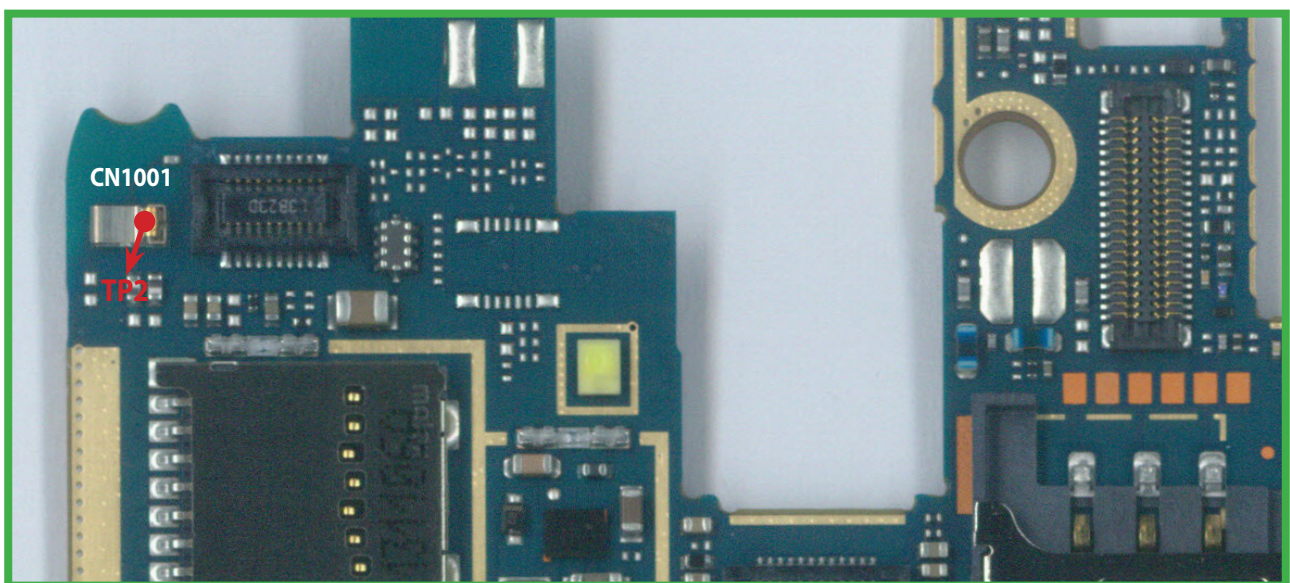
3. TROUBLE SHOOTING



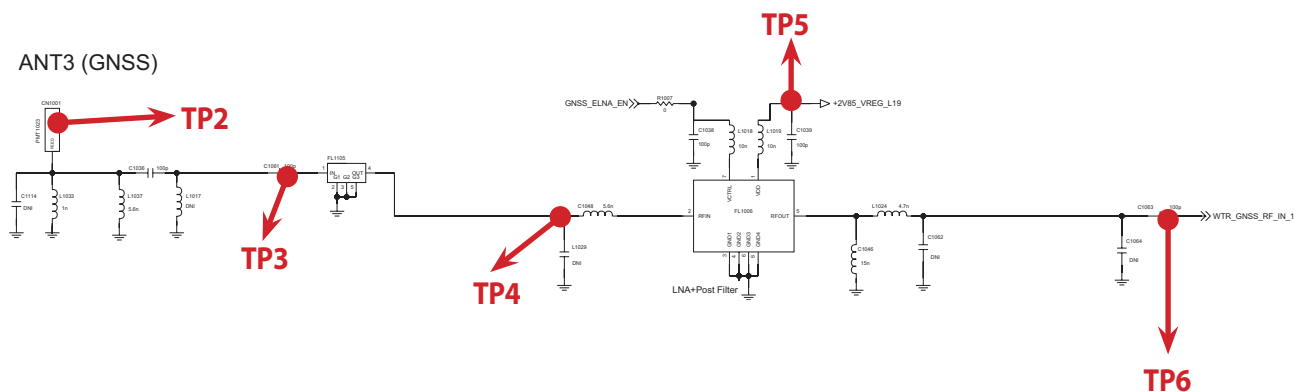
3.16 GPSTS



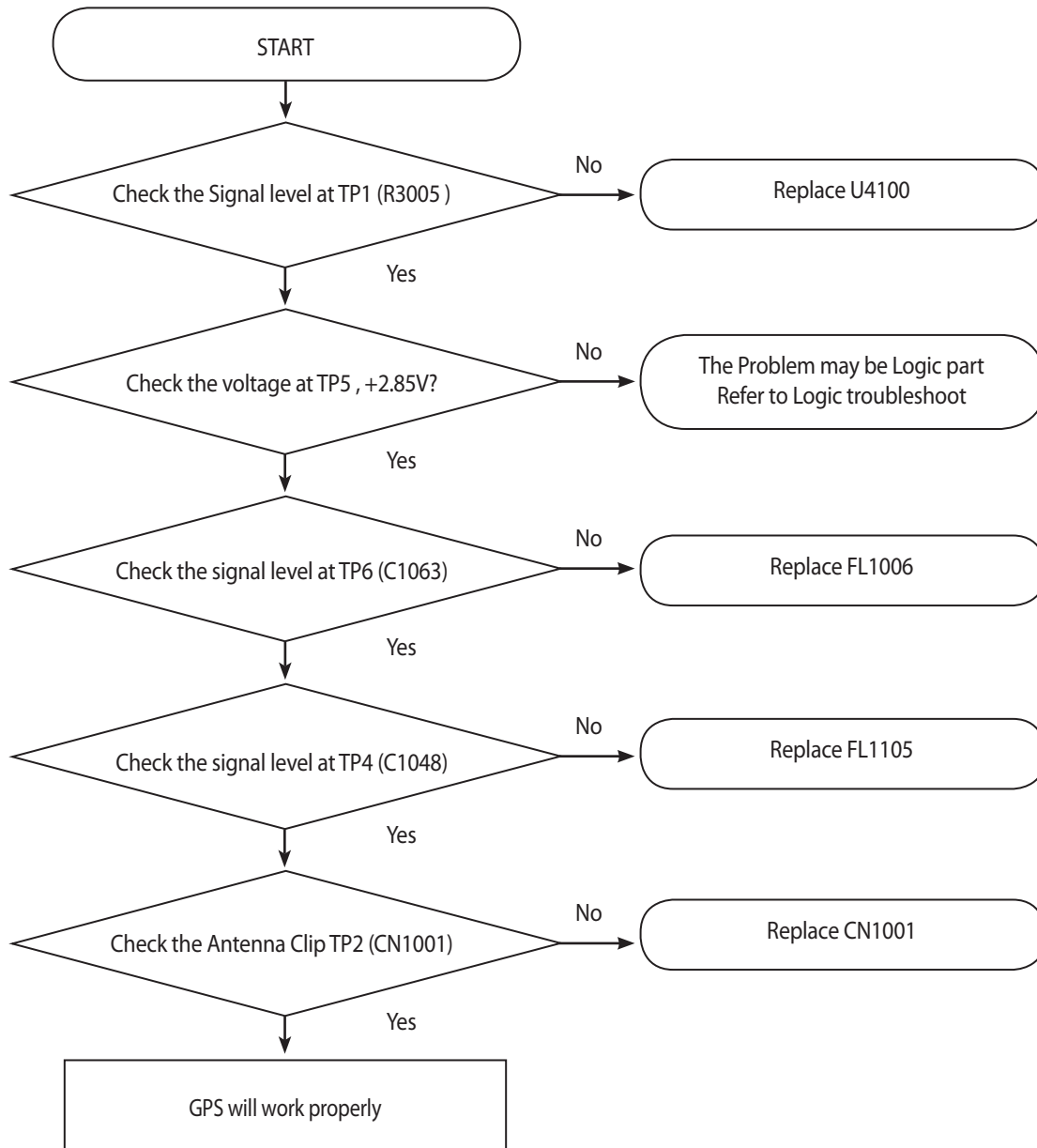
<Main Top>



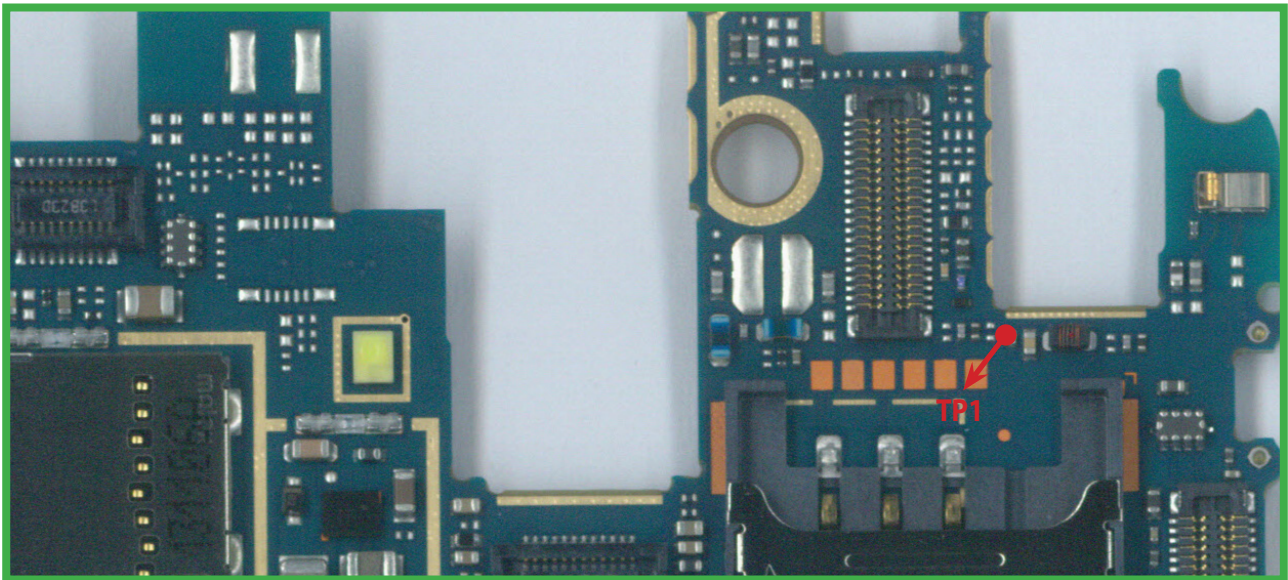
<Main Bot>



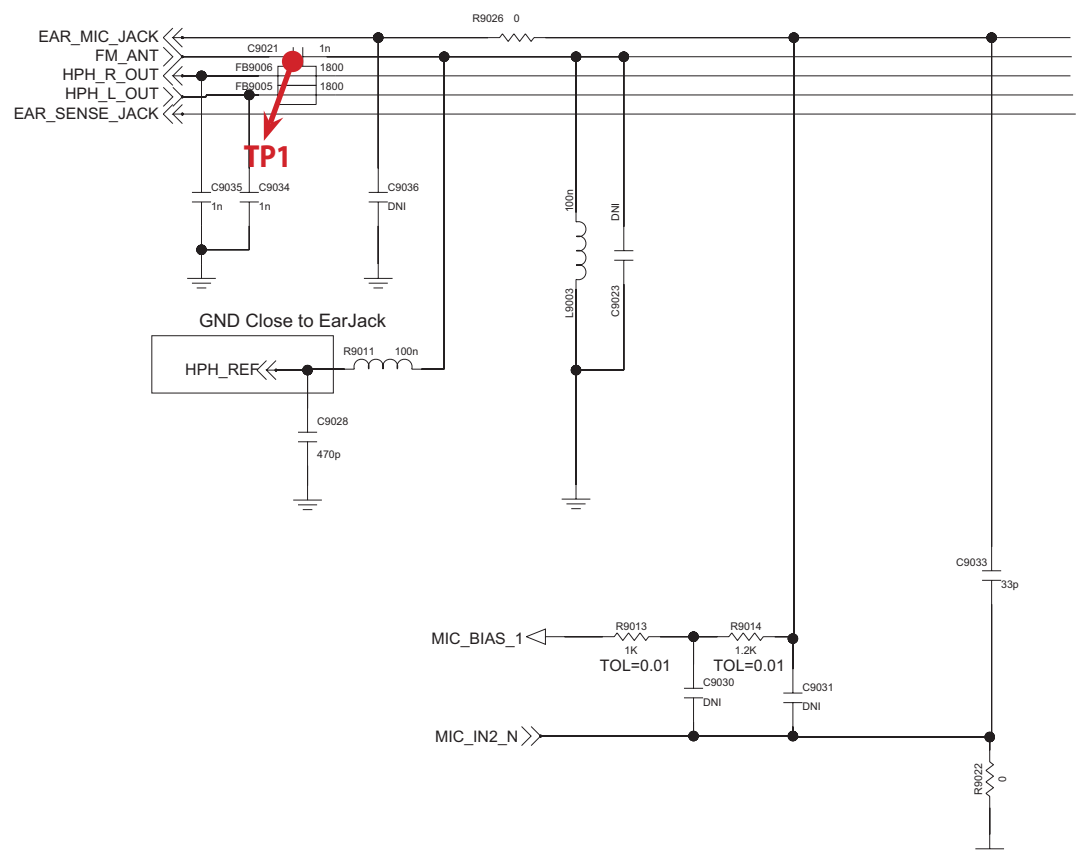
3. TROUBLE SHOOTING



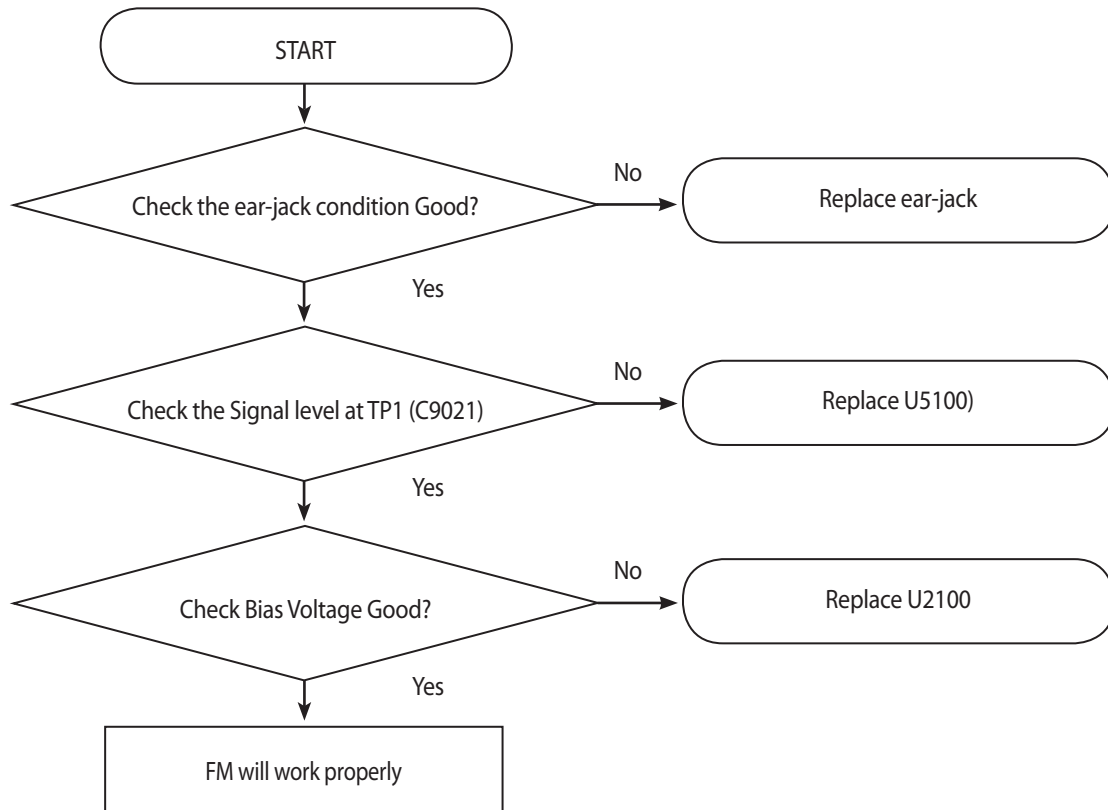
3.17 FMTS



<Main Bot>



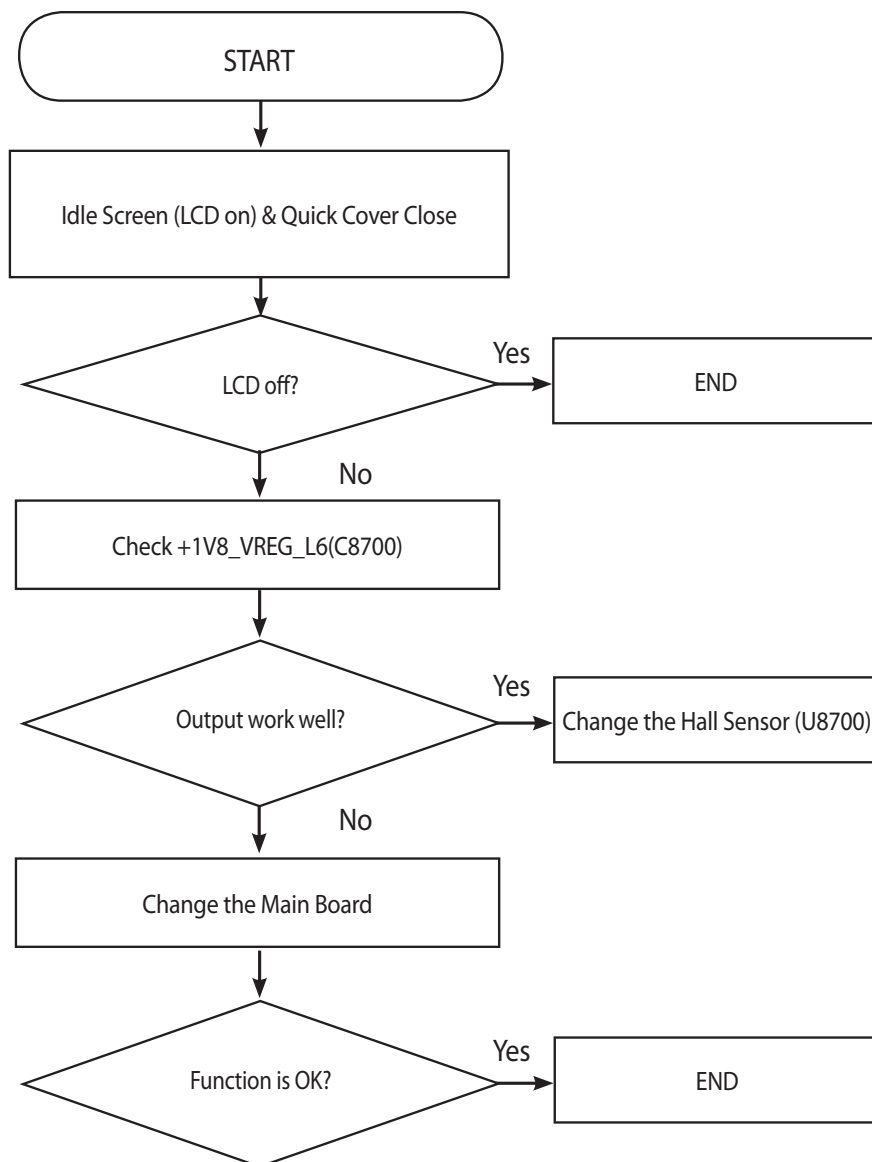
3. TROUBLE SHOOTING



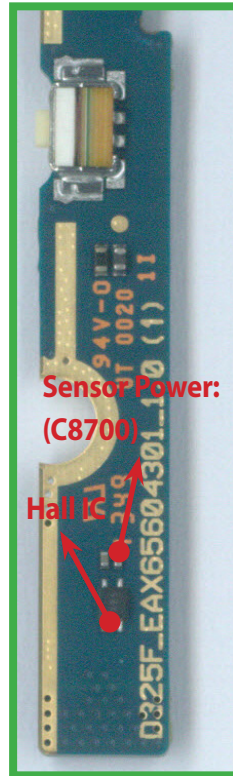
3.18 Hall Sensor on/off TS

Hall Sensor is worked as below:

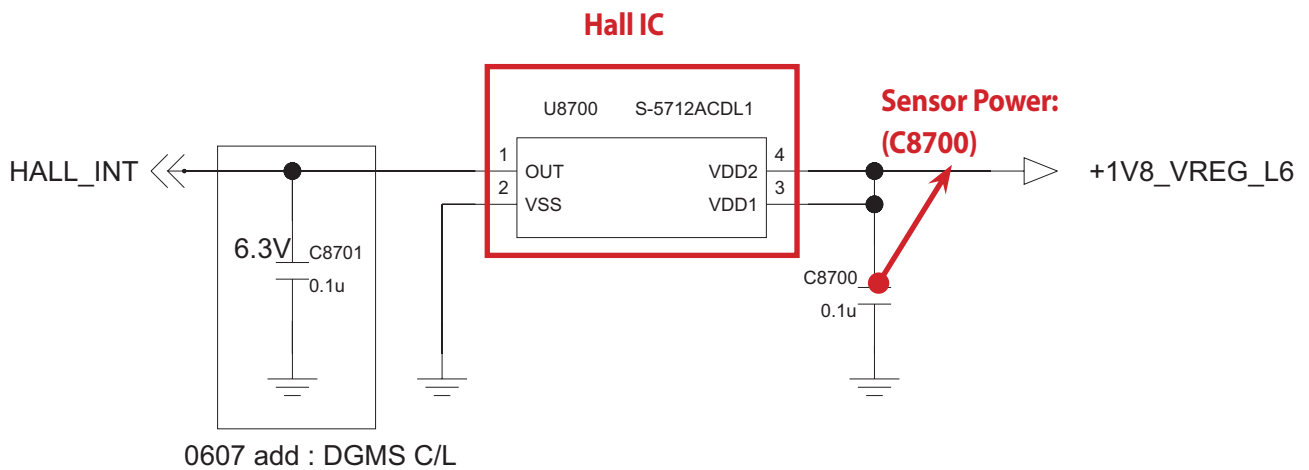
Idle Screen (LCD on) -> Quick Cover Close -> the screen's off operation automatically



3. TROUBLE SHOOTING

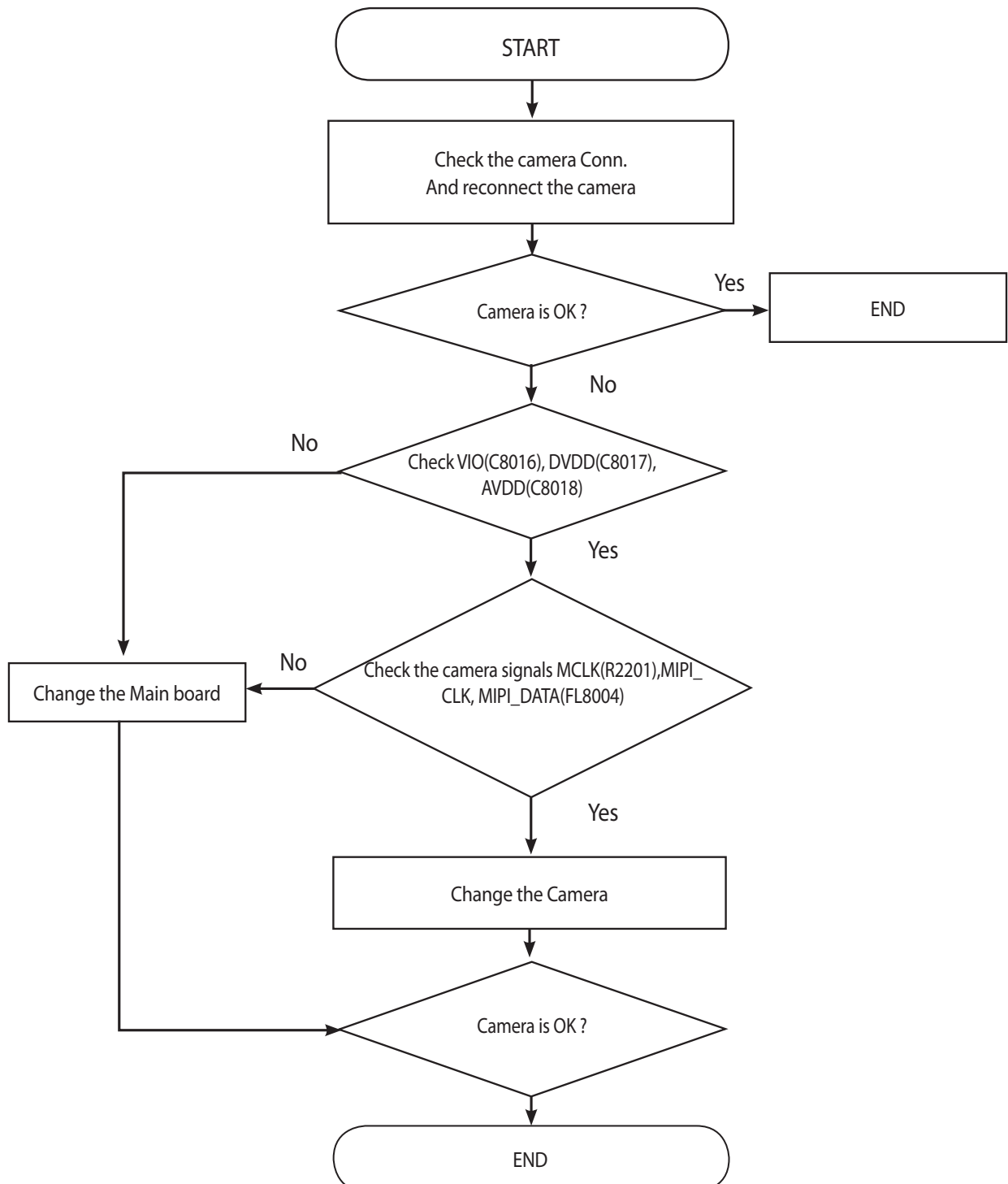


<Main Top>

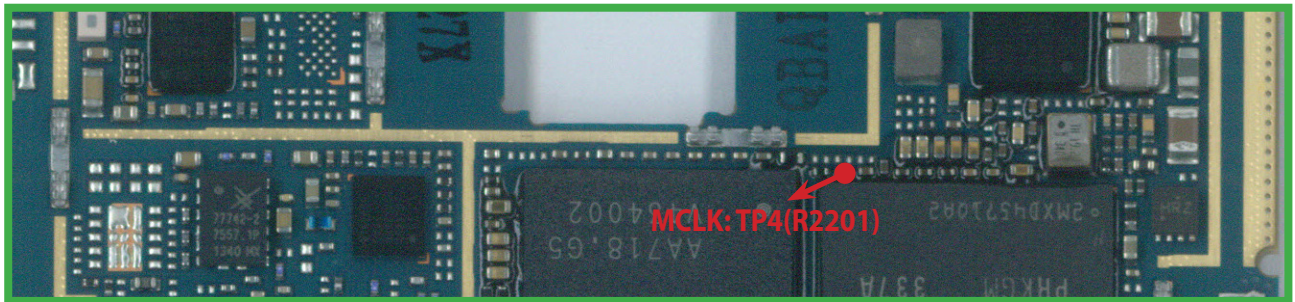
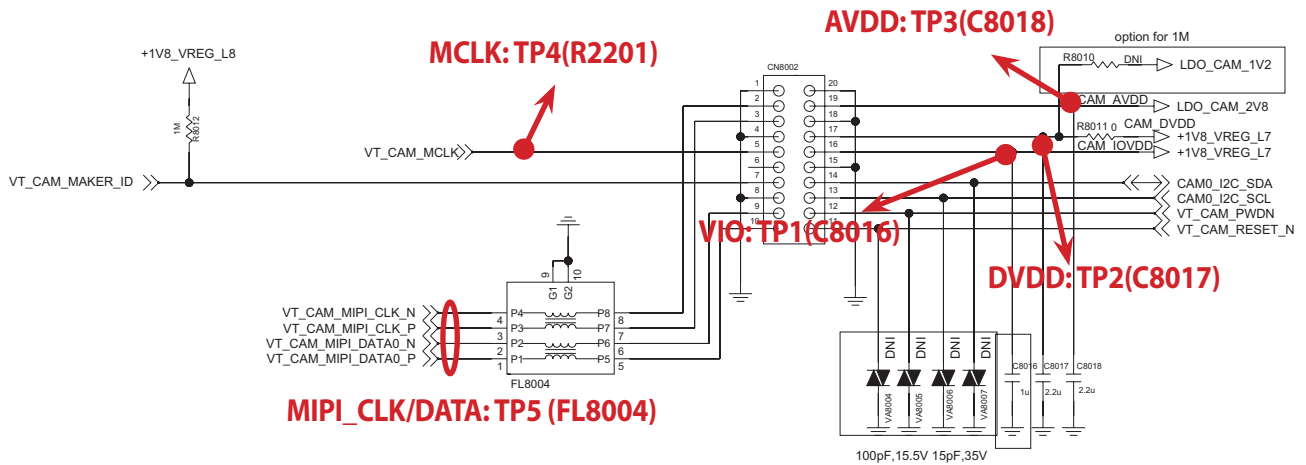


3.19 VT Camera TS

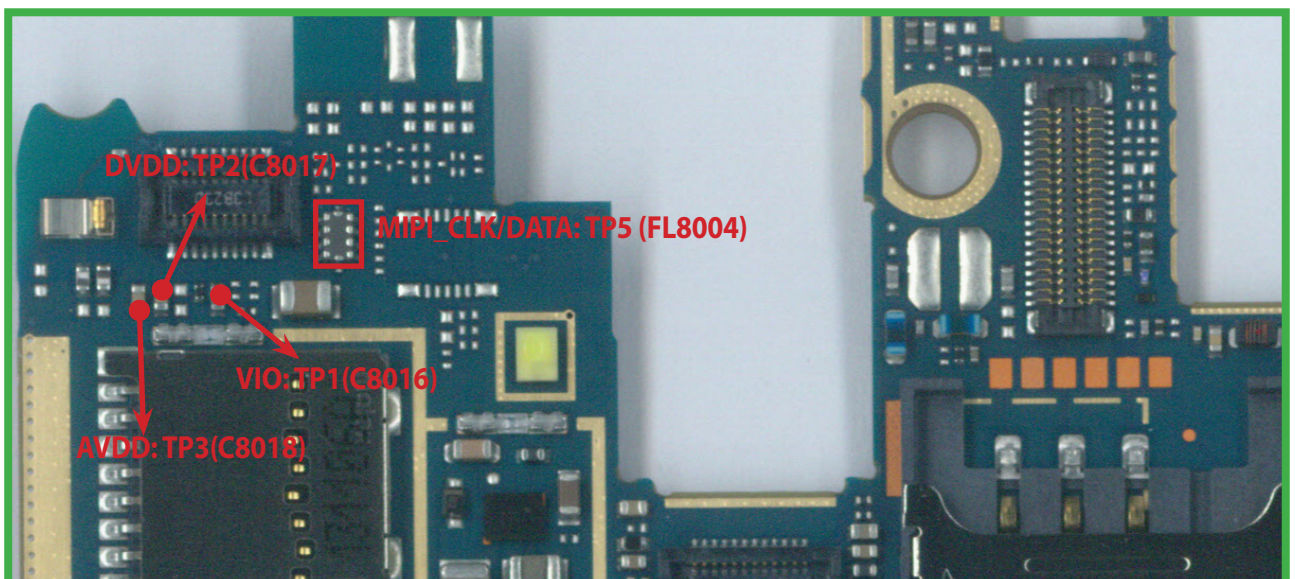
VT camera control signals are generated by MSM8210 (U2100 : Main Chipset) and powered by voltage regulator (U4136 : LDO).



3. TROUBLE SHOOTING



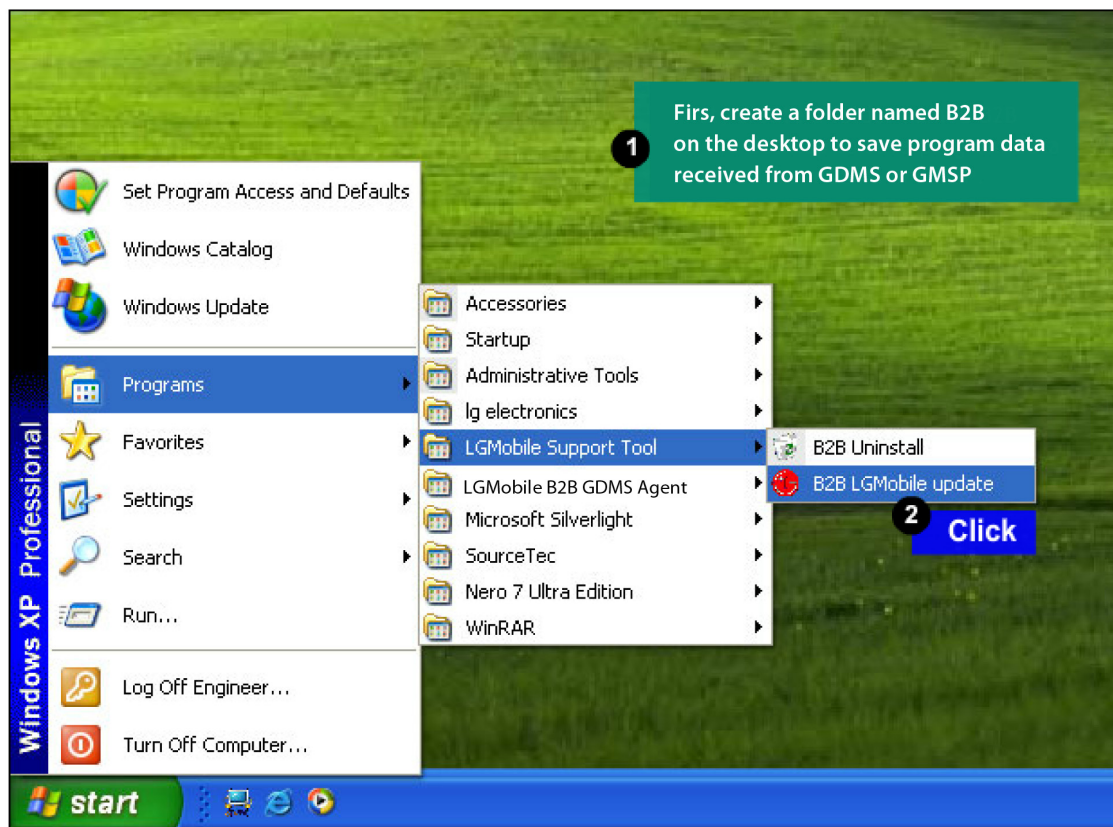
<Main Top>



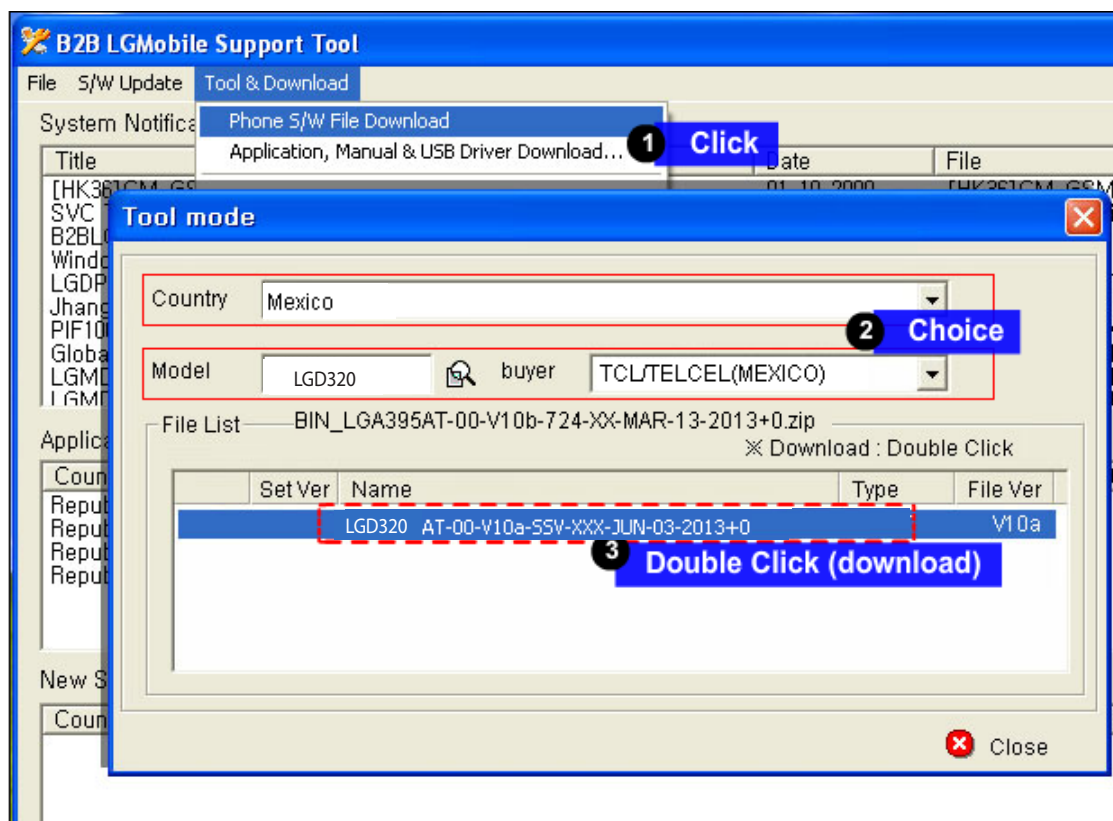
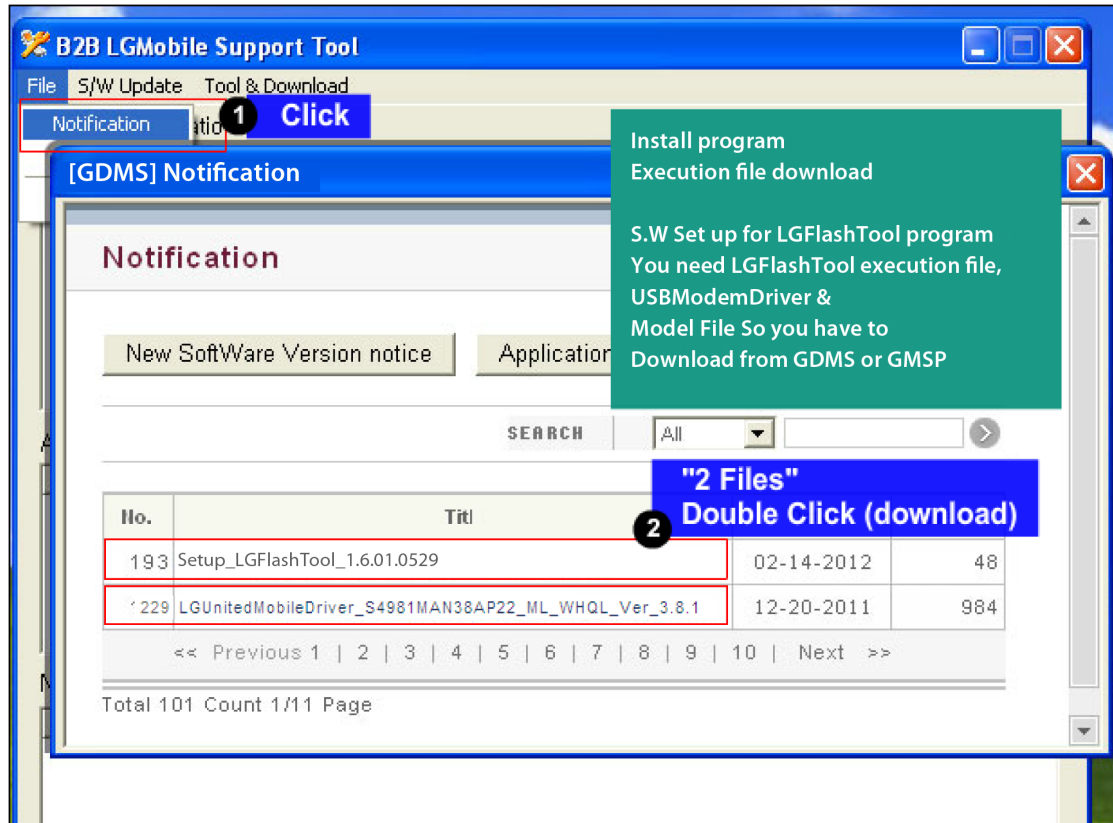
<Main Bot>

4. DOWNLOAD

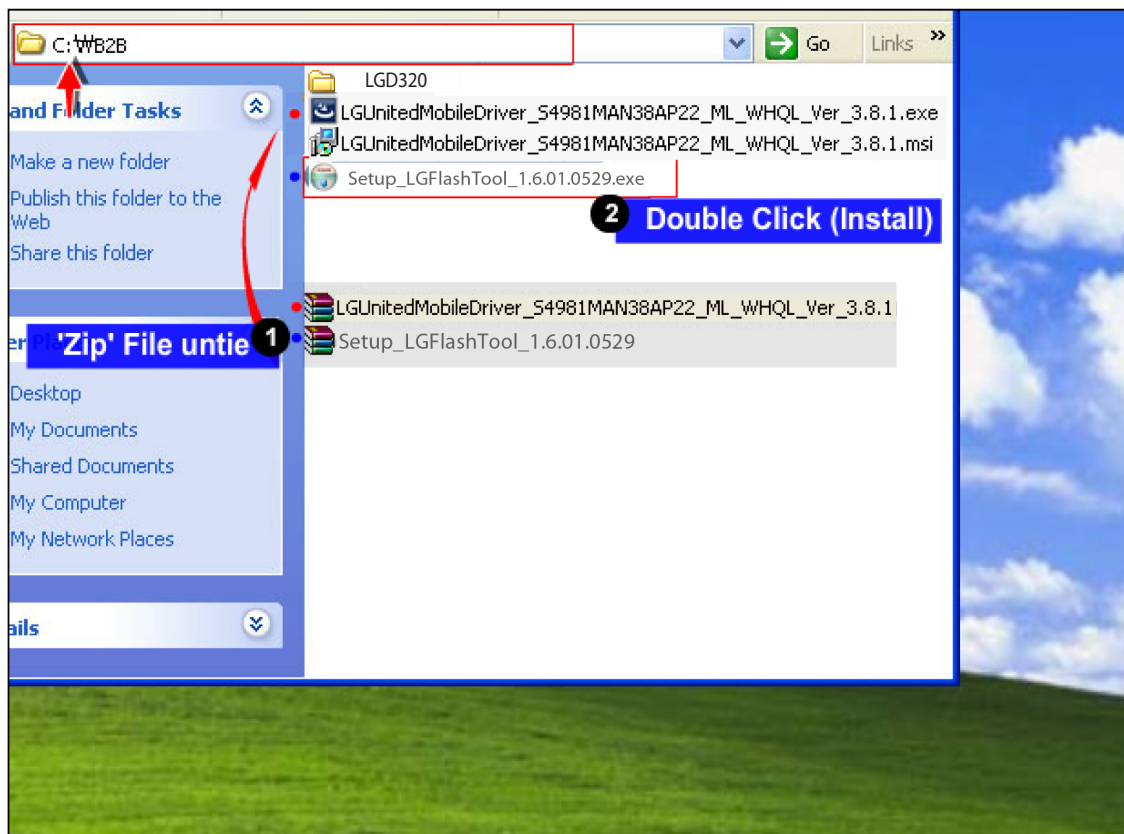
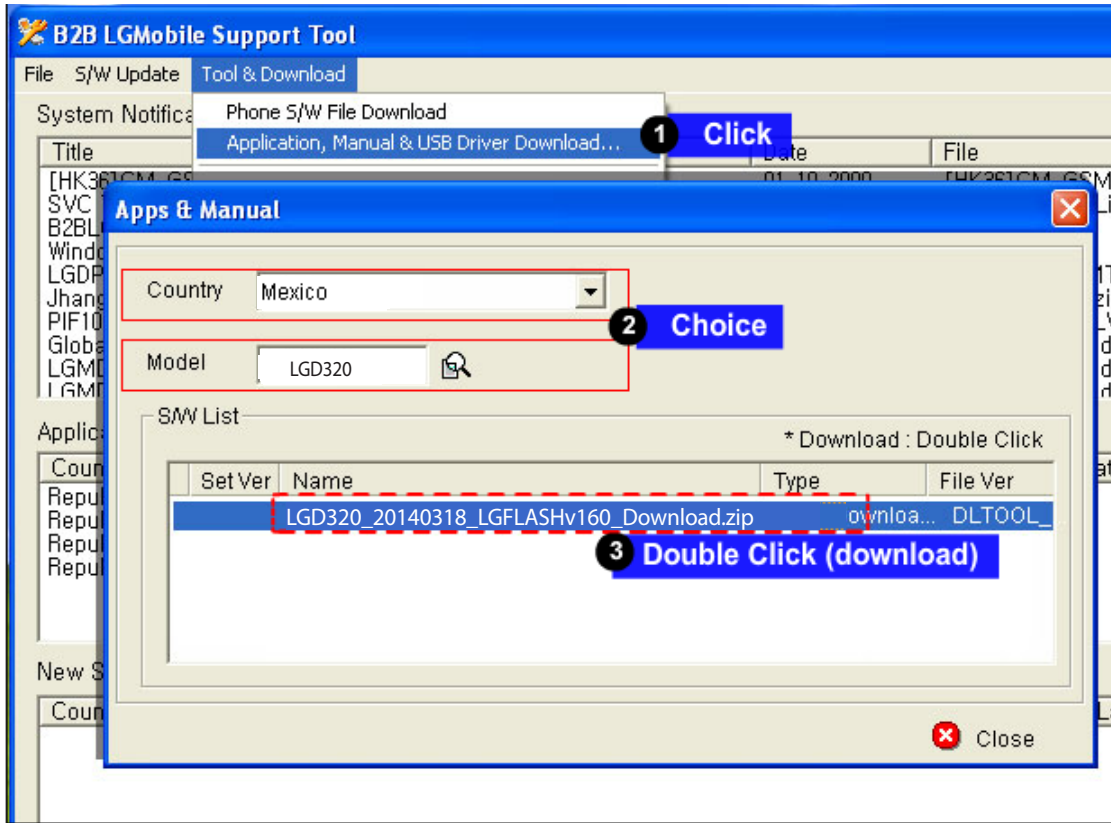
TOOL INFORMATION			
TOOL VERSION	DLL NAME	USB DRIVER	
LGFLASHv160	LGD320_20140318_LGFLASHv160_ Download	LGUnitedMobileDriver_S4981MAN38AP22_ML_WHQL_ Ver_3.8.1	
Please Check the Version to “B2B”			
H/W			
	Name	Part No.	SW
D/L Cable	Micro 5P (56-open-910K) USB DLC	RAD32167835	TOT



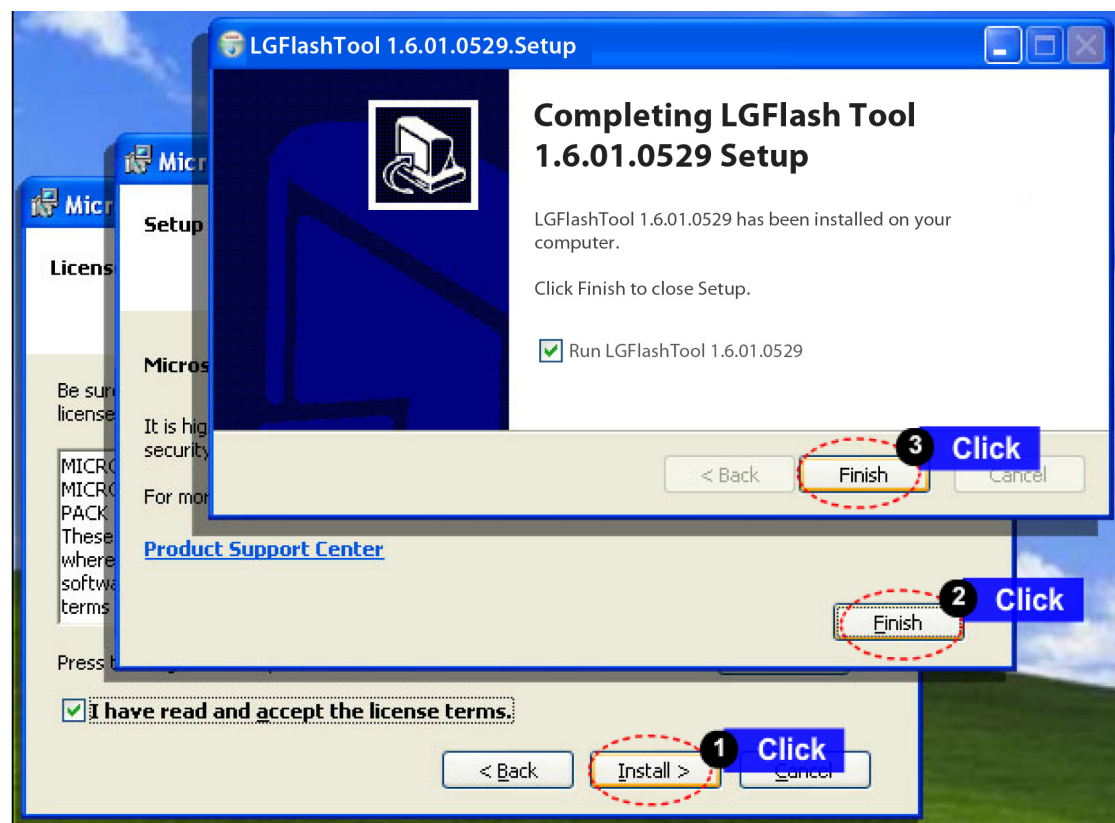
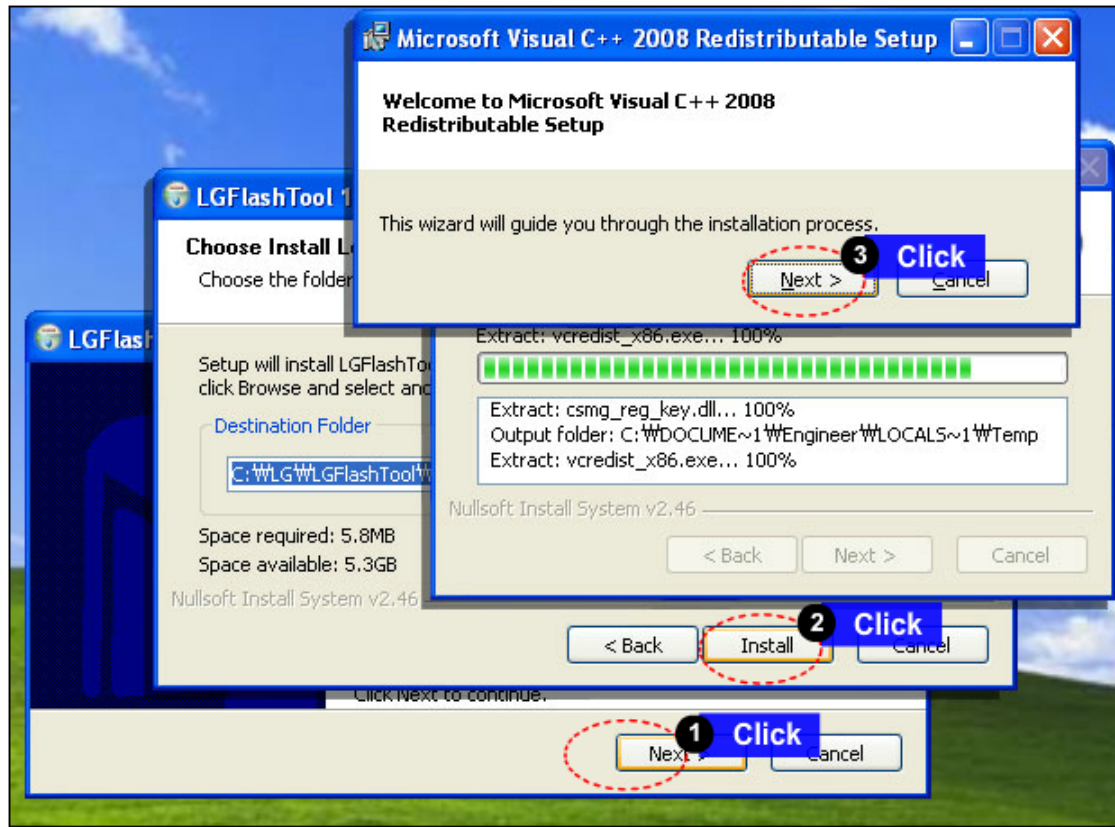
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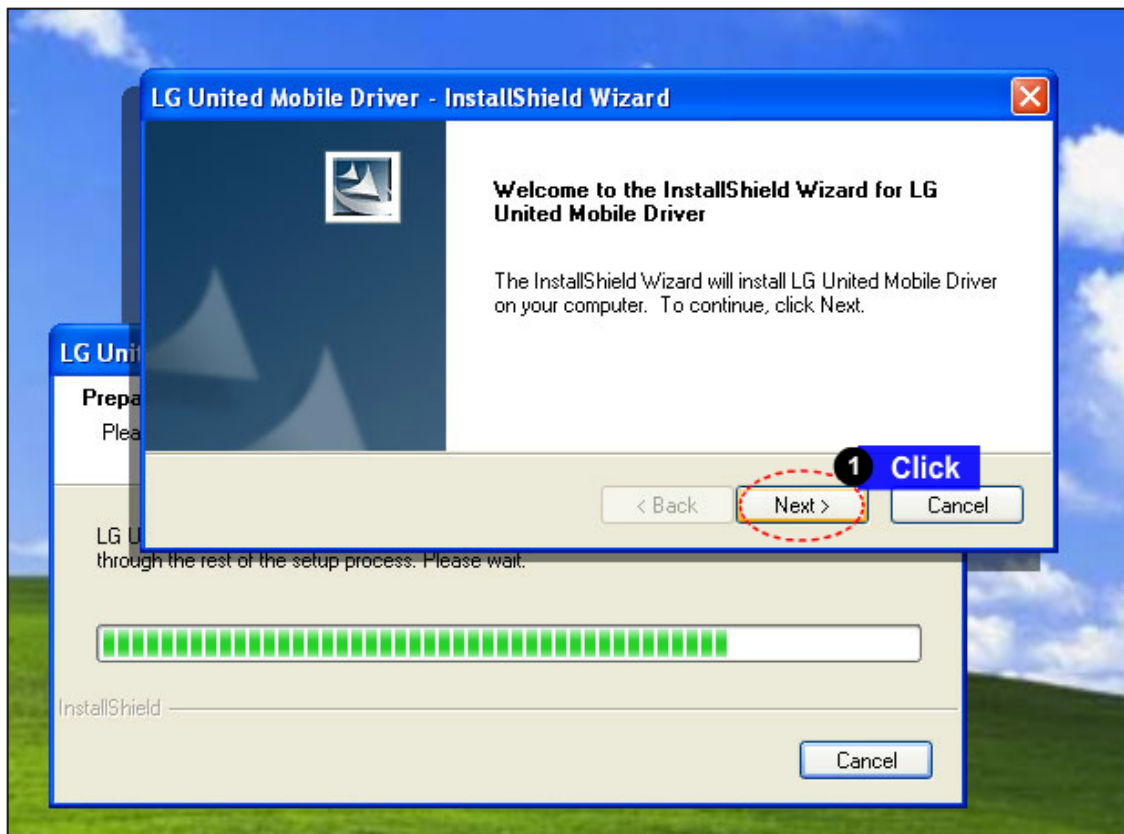
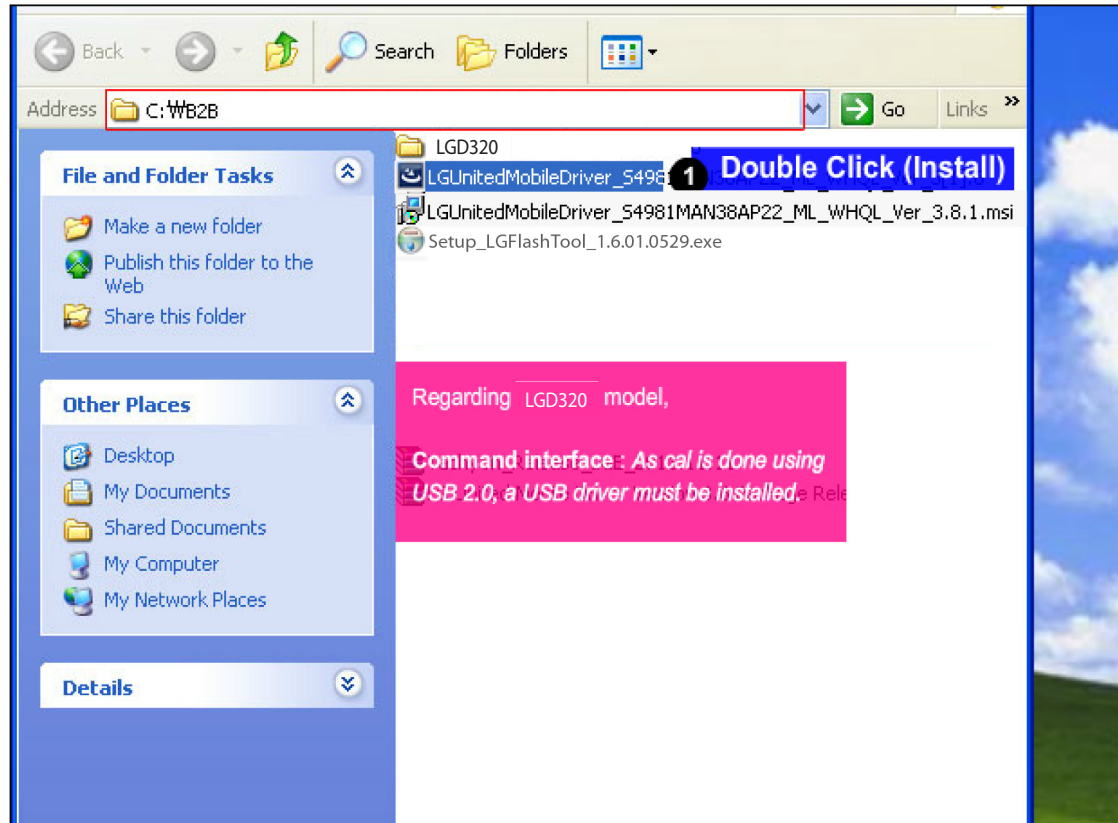
4. DOWNLOAD



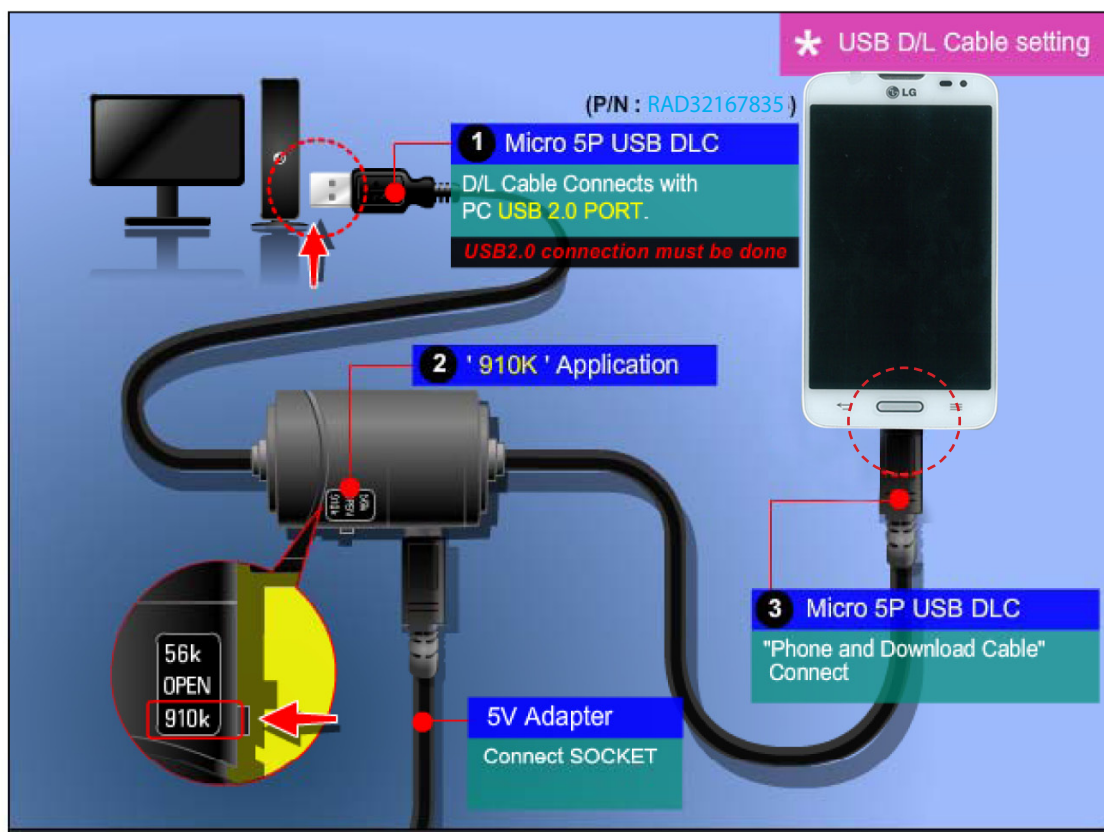
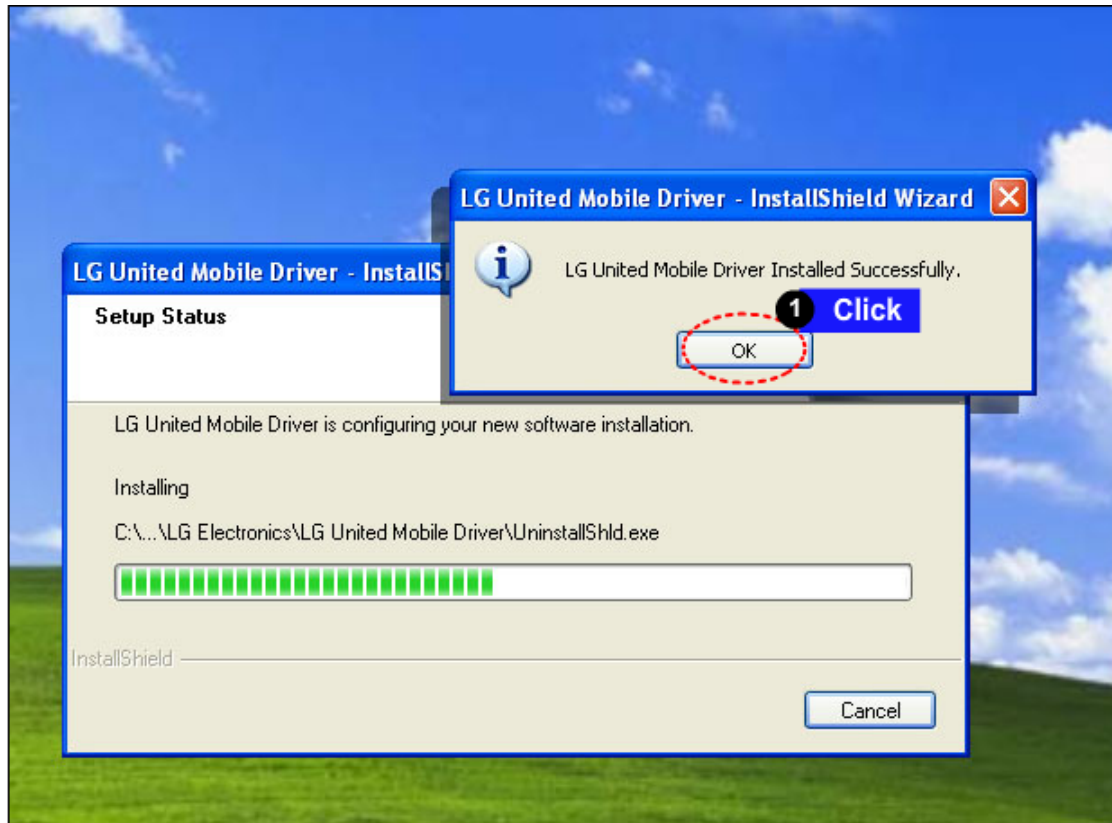
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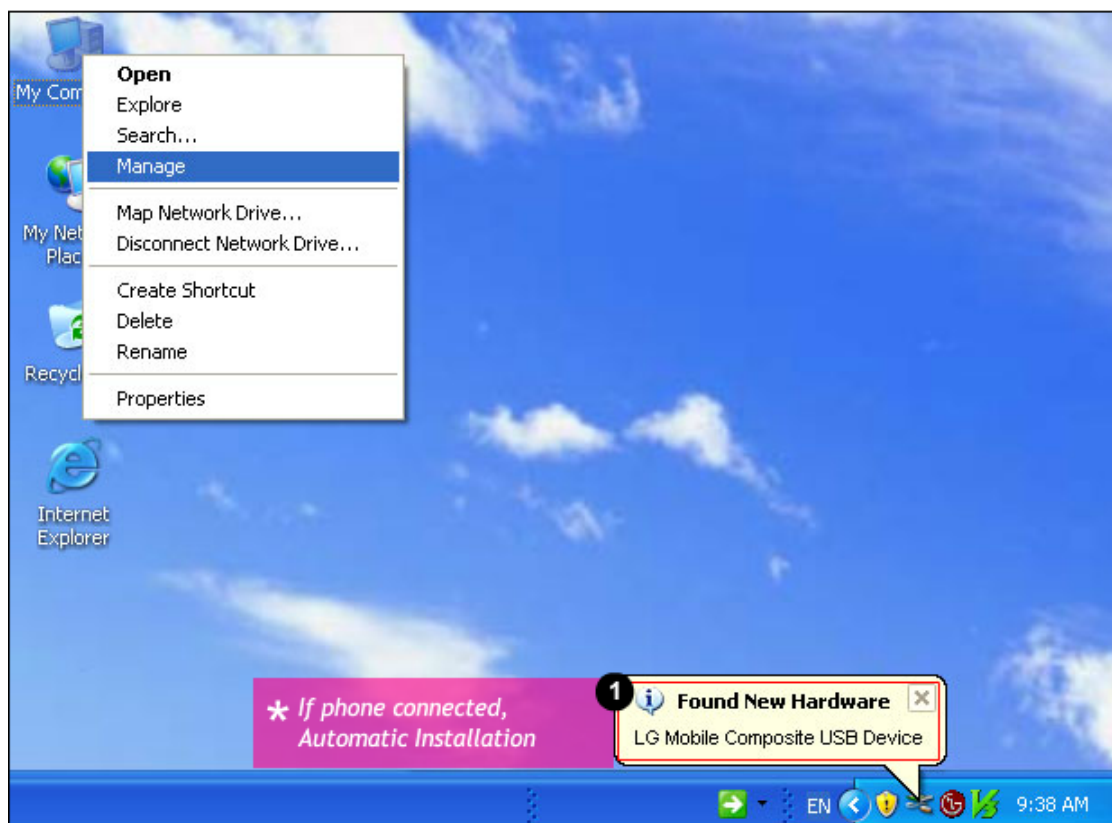
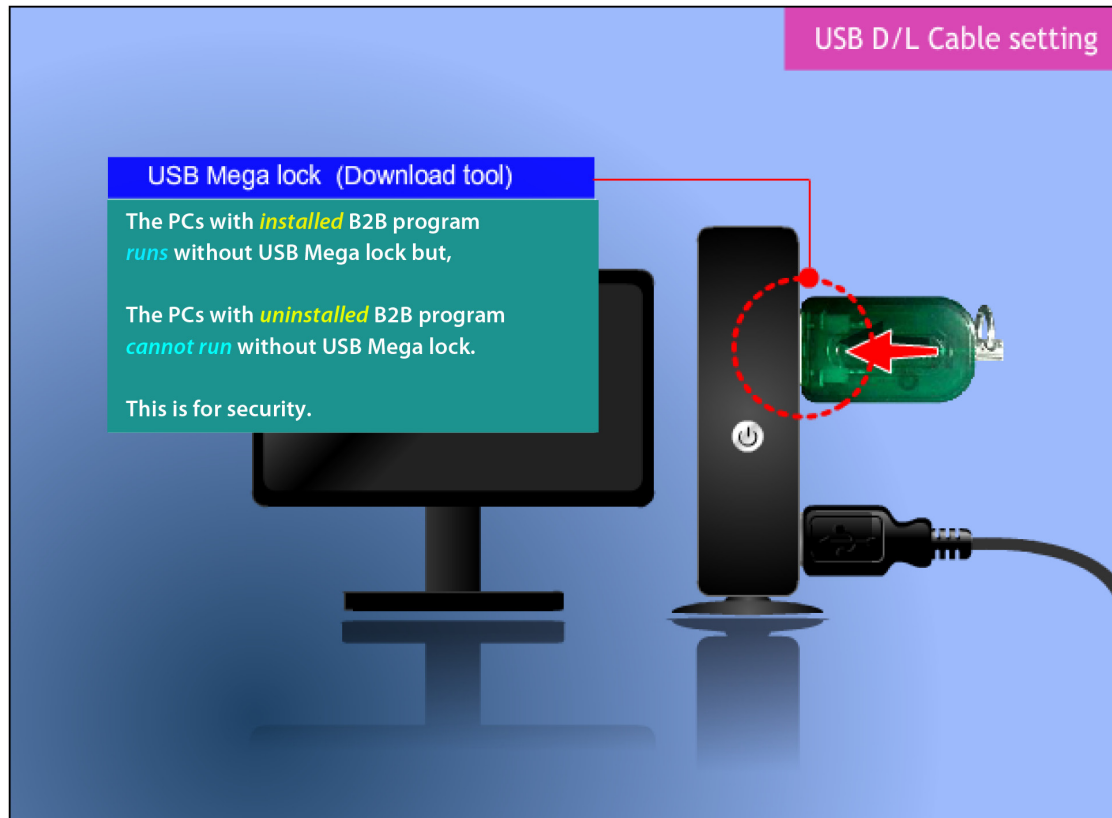
4. DOWNLOAD



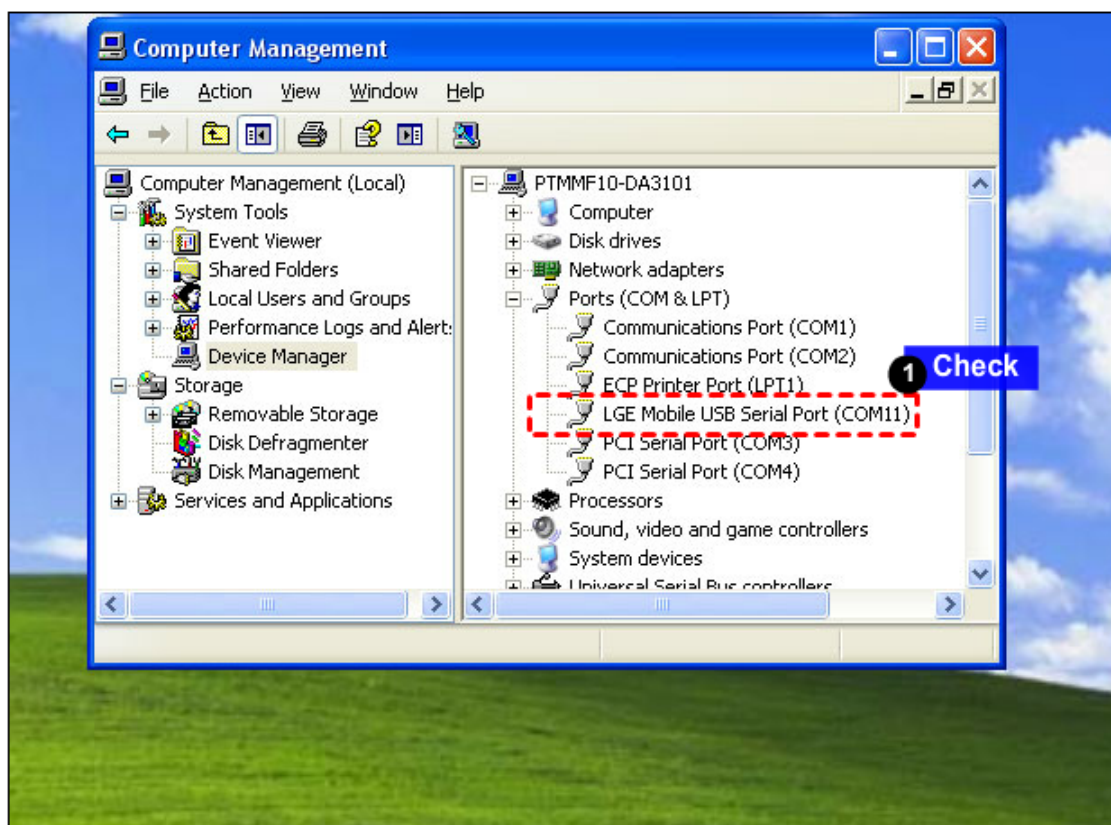
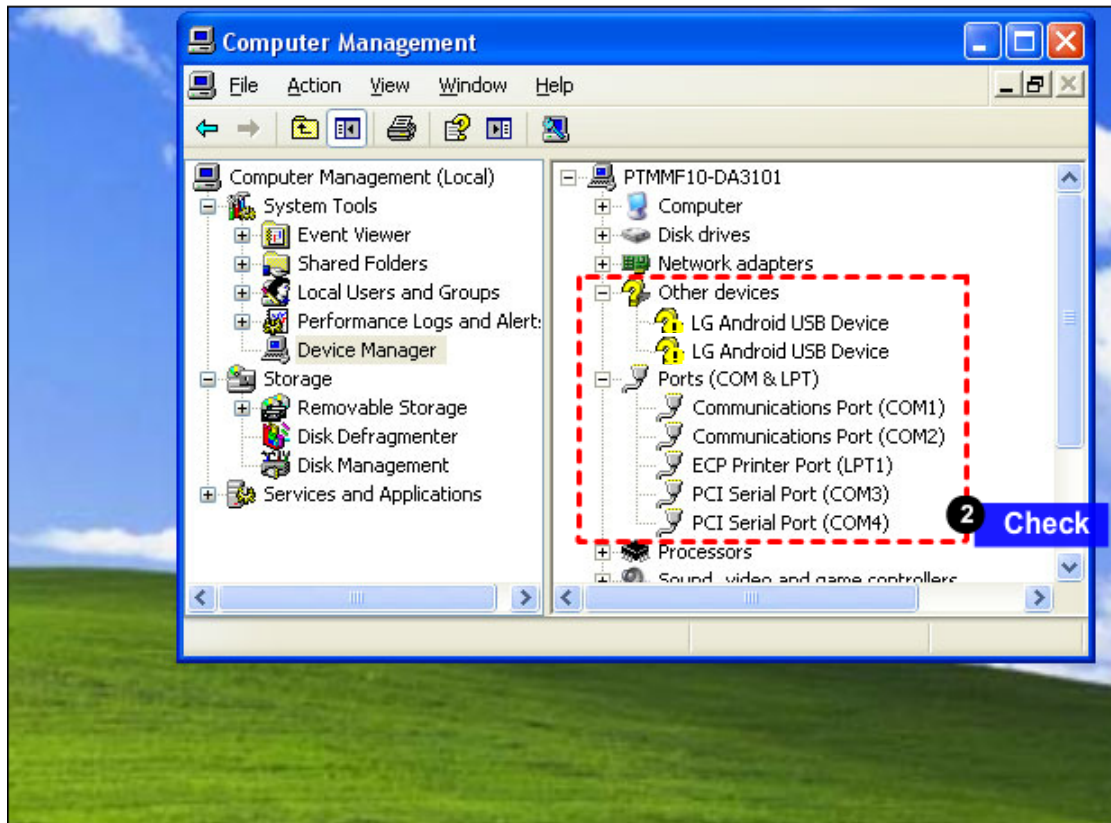
4. DOWNLOAD



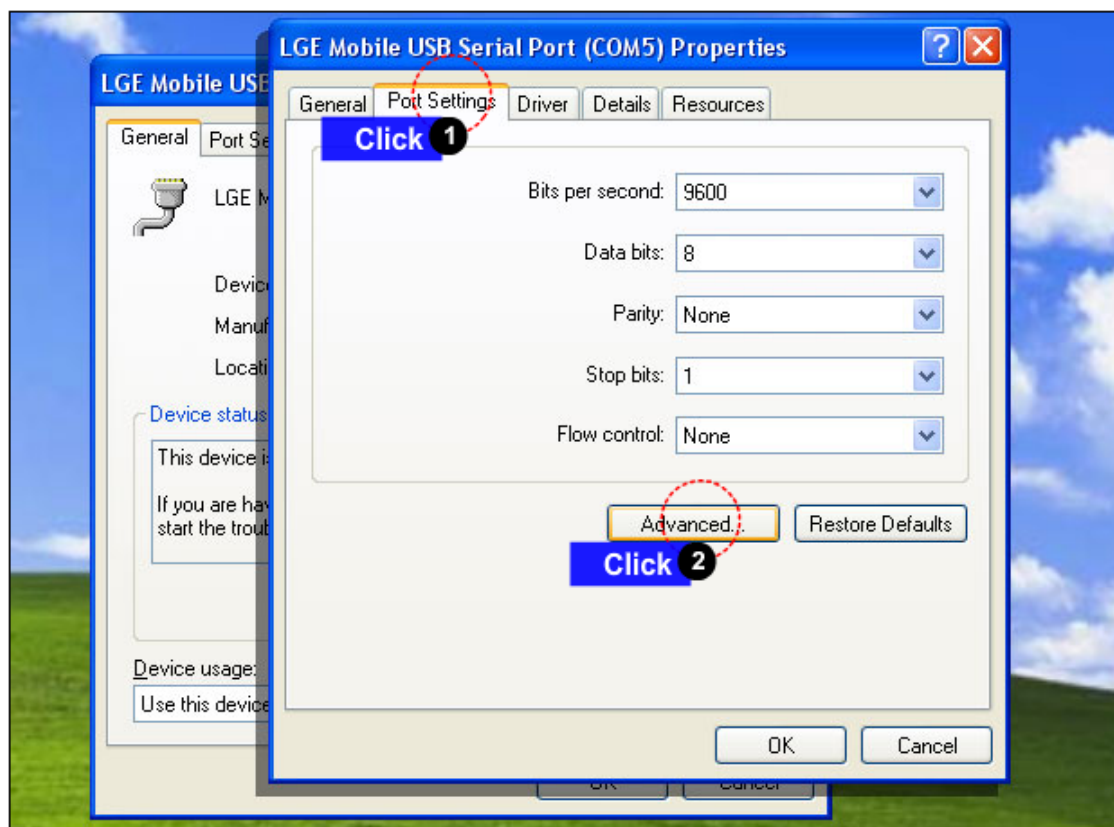
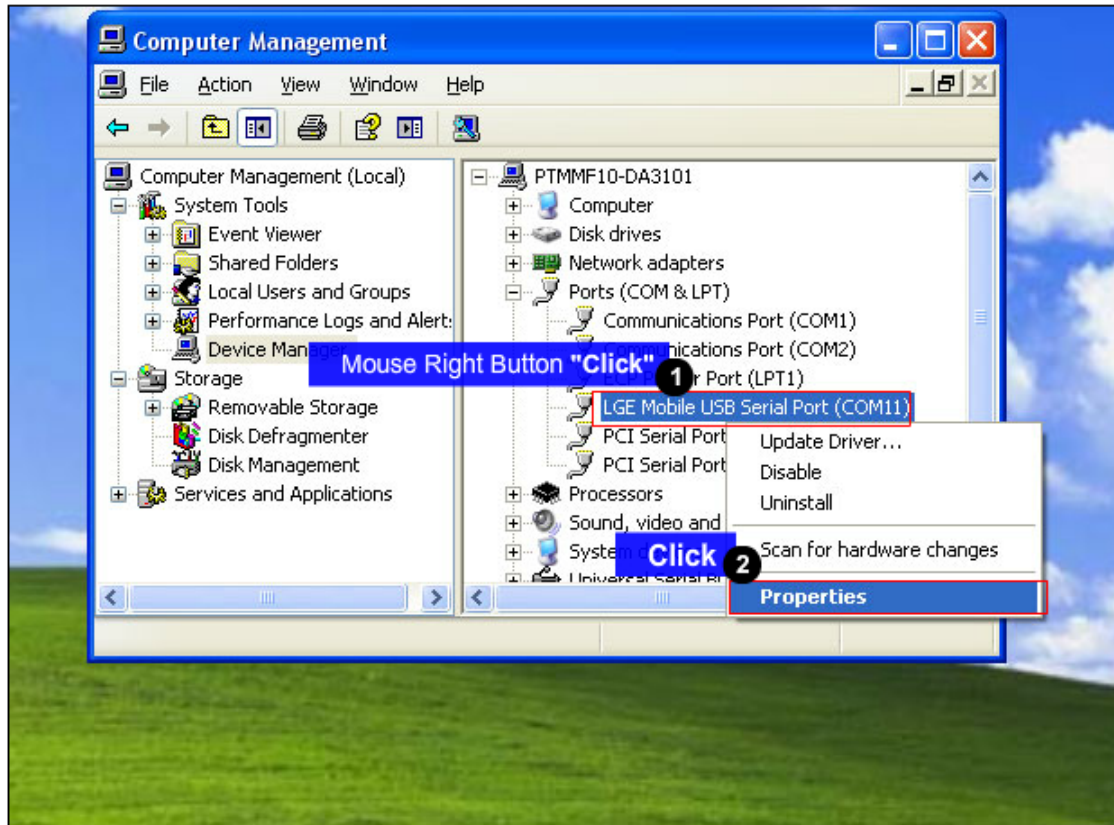
4. DOWNLOAD



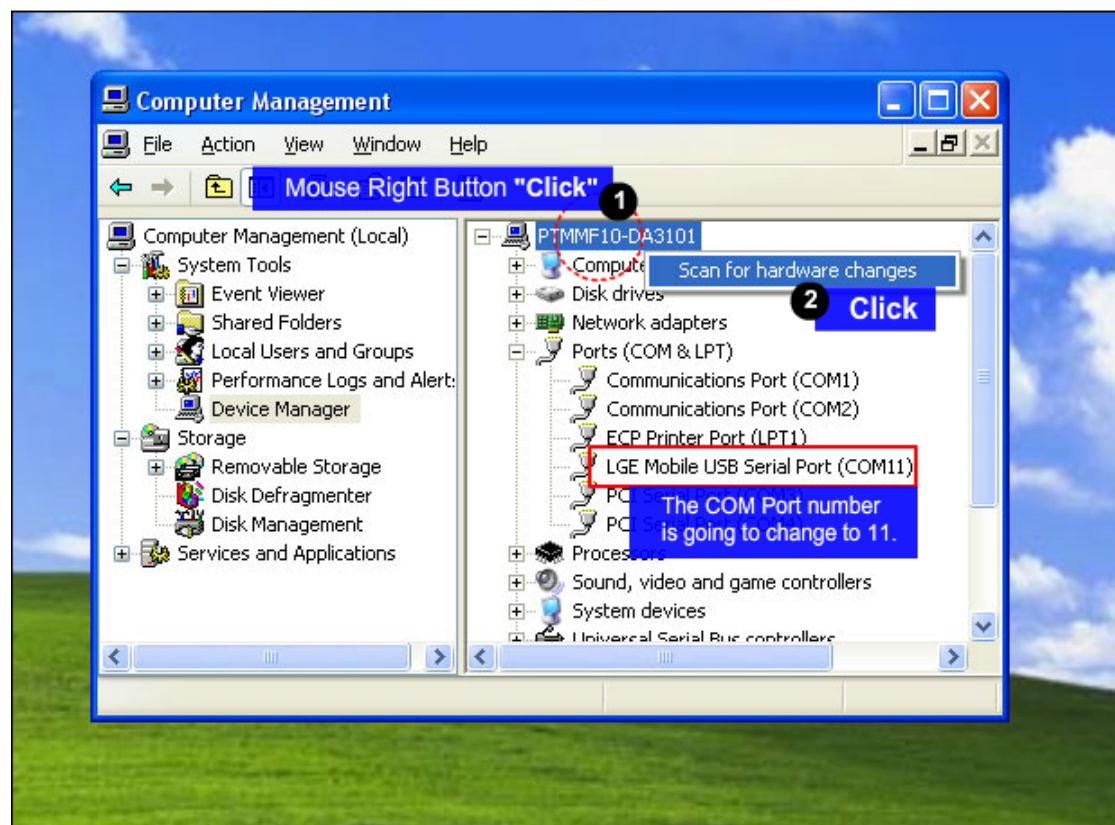
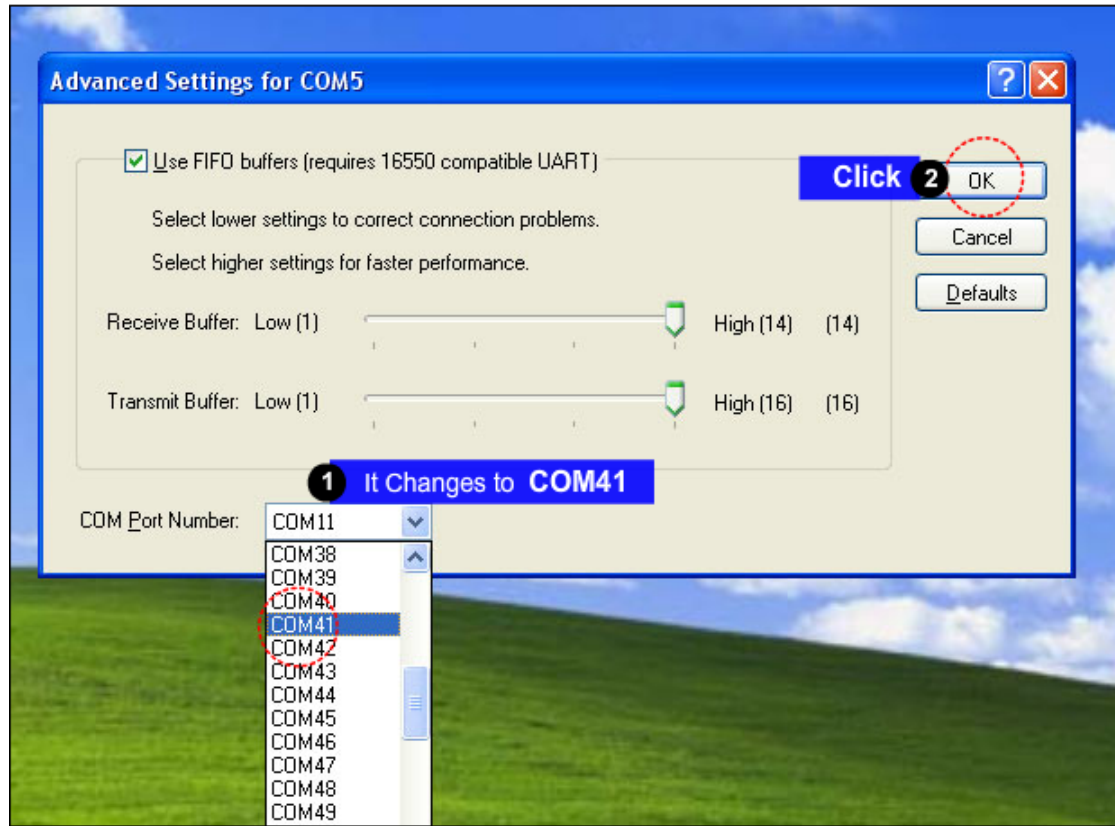
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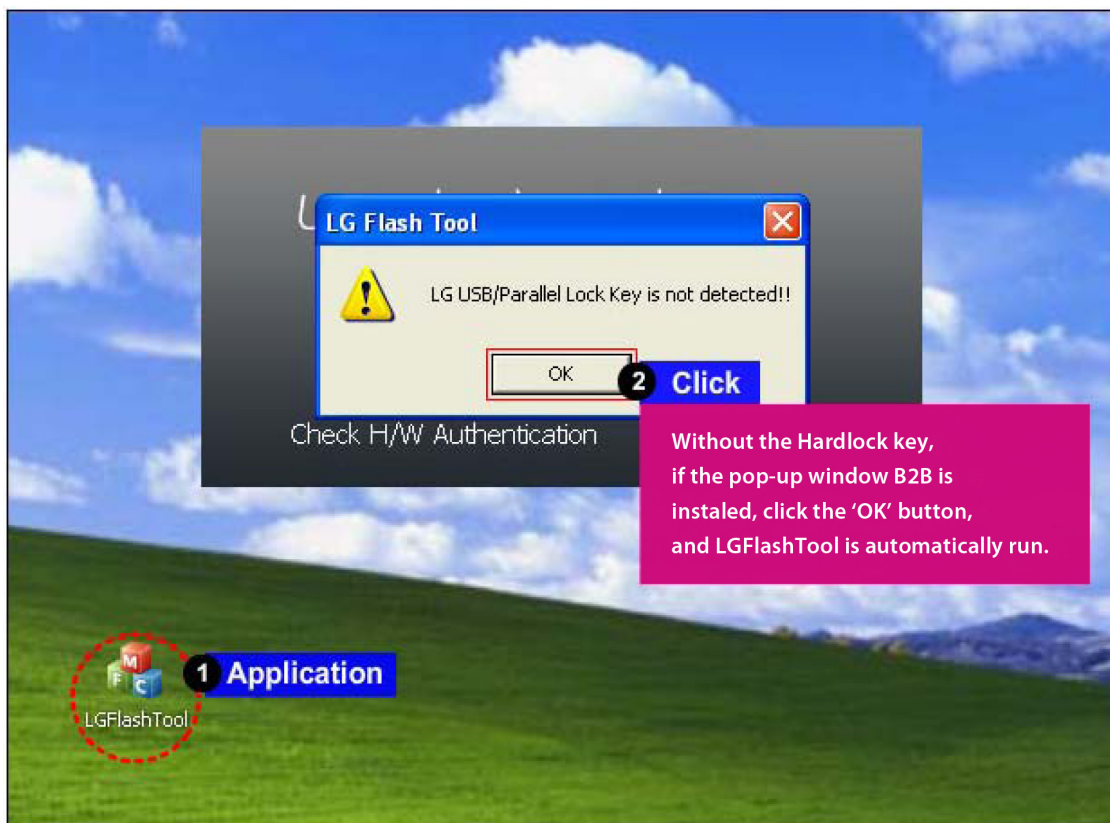
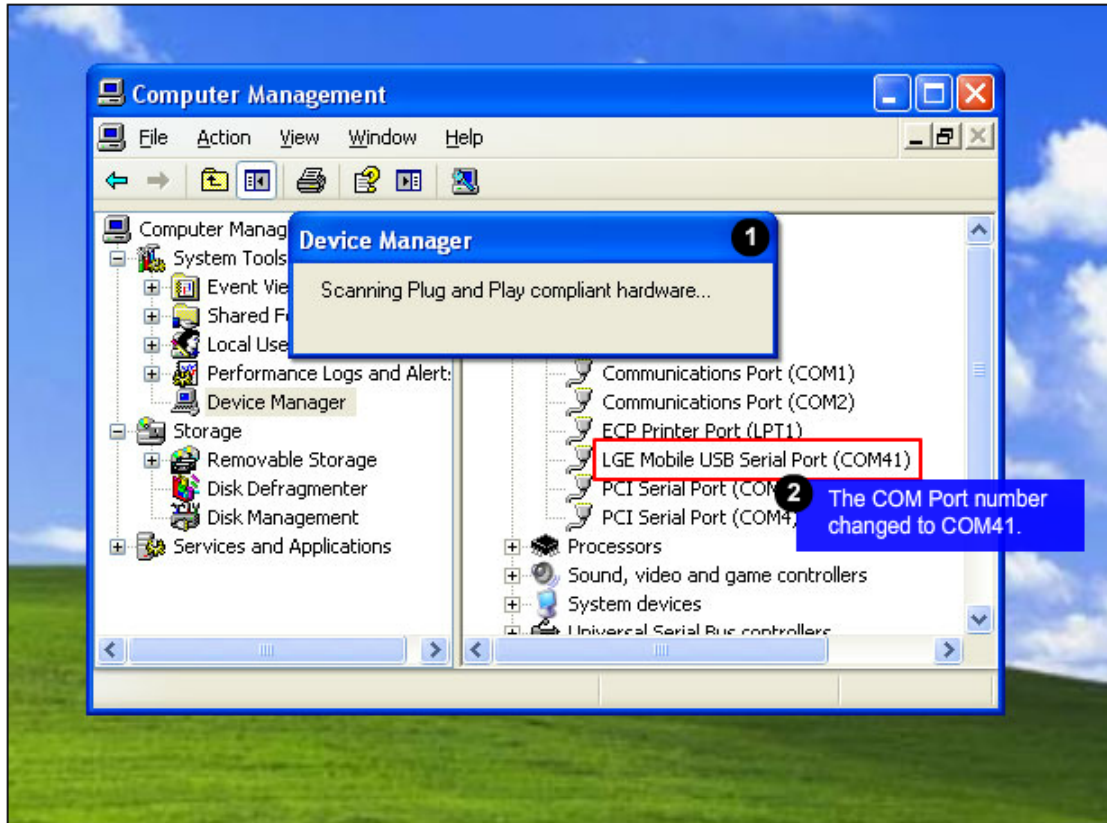


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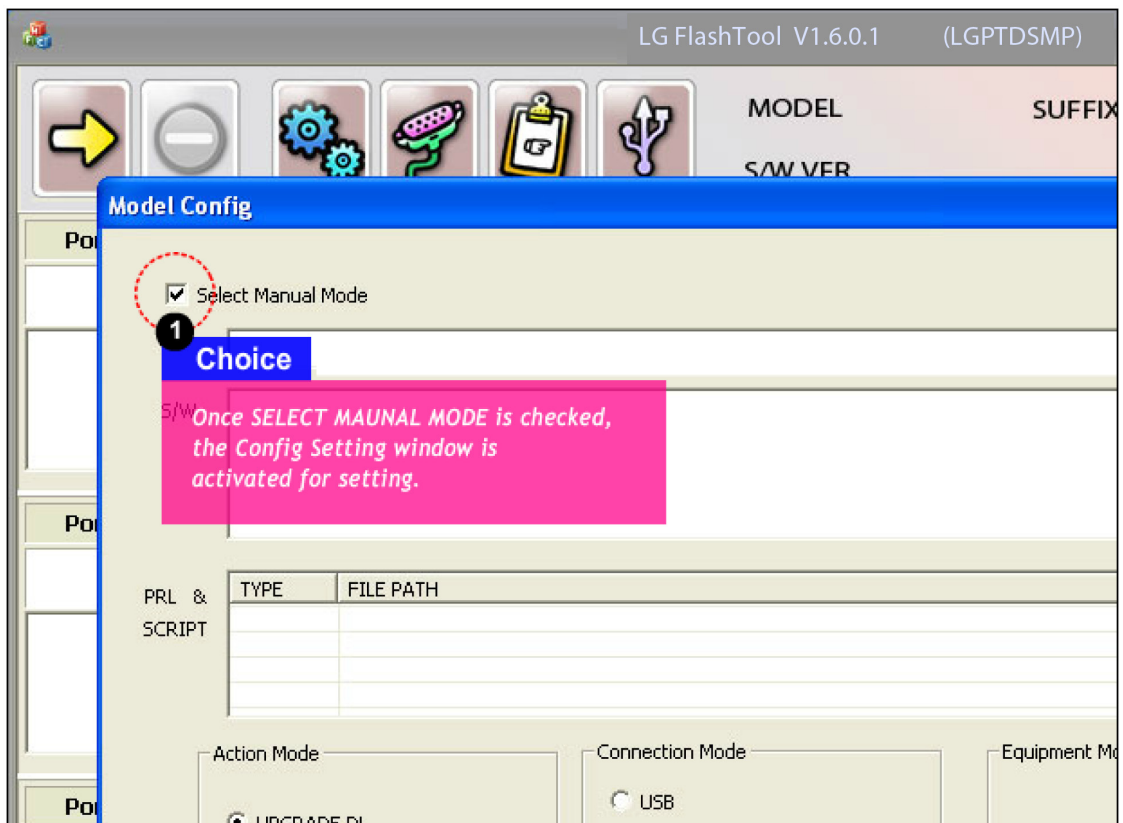
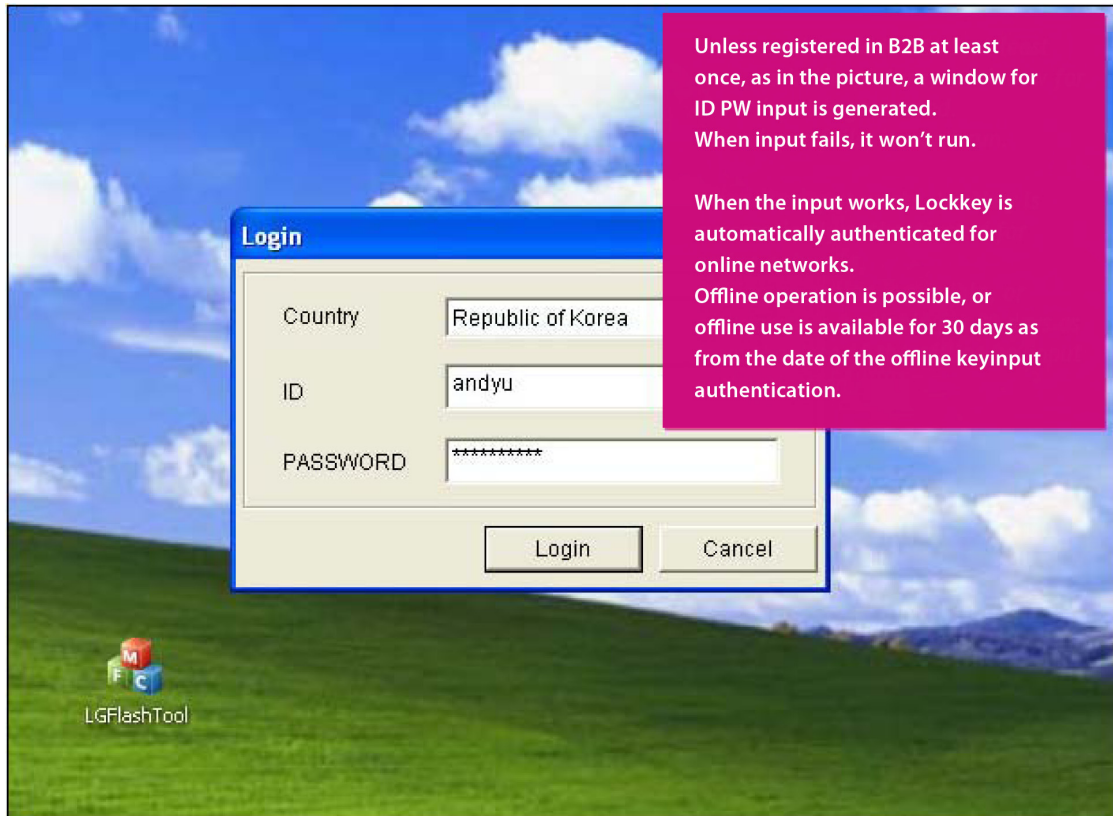


4. DOWNLOAD

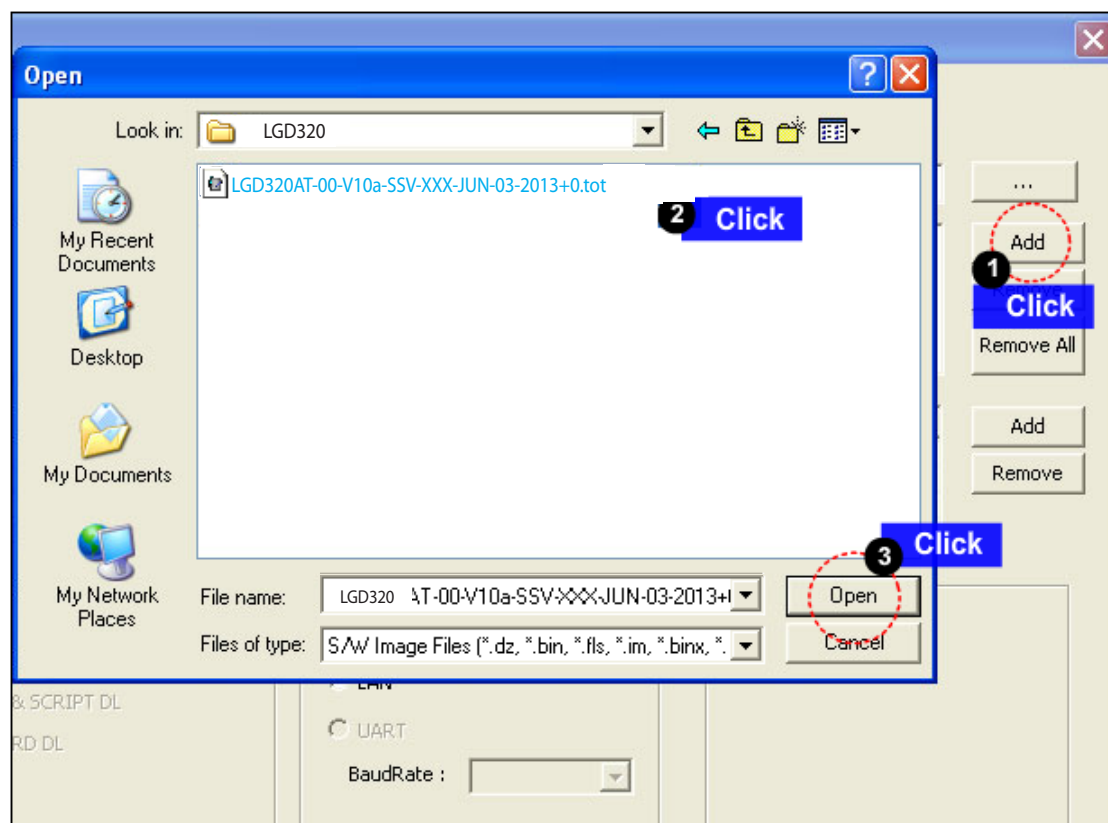
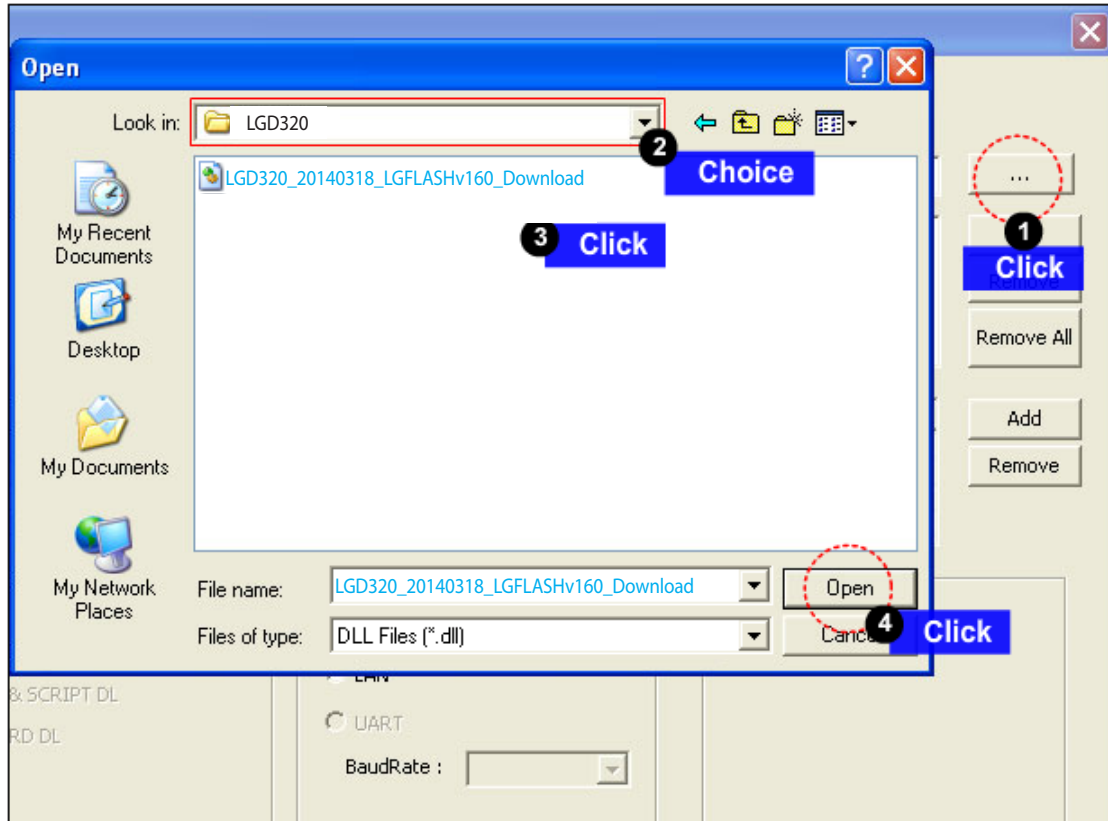




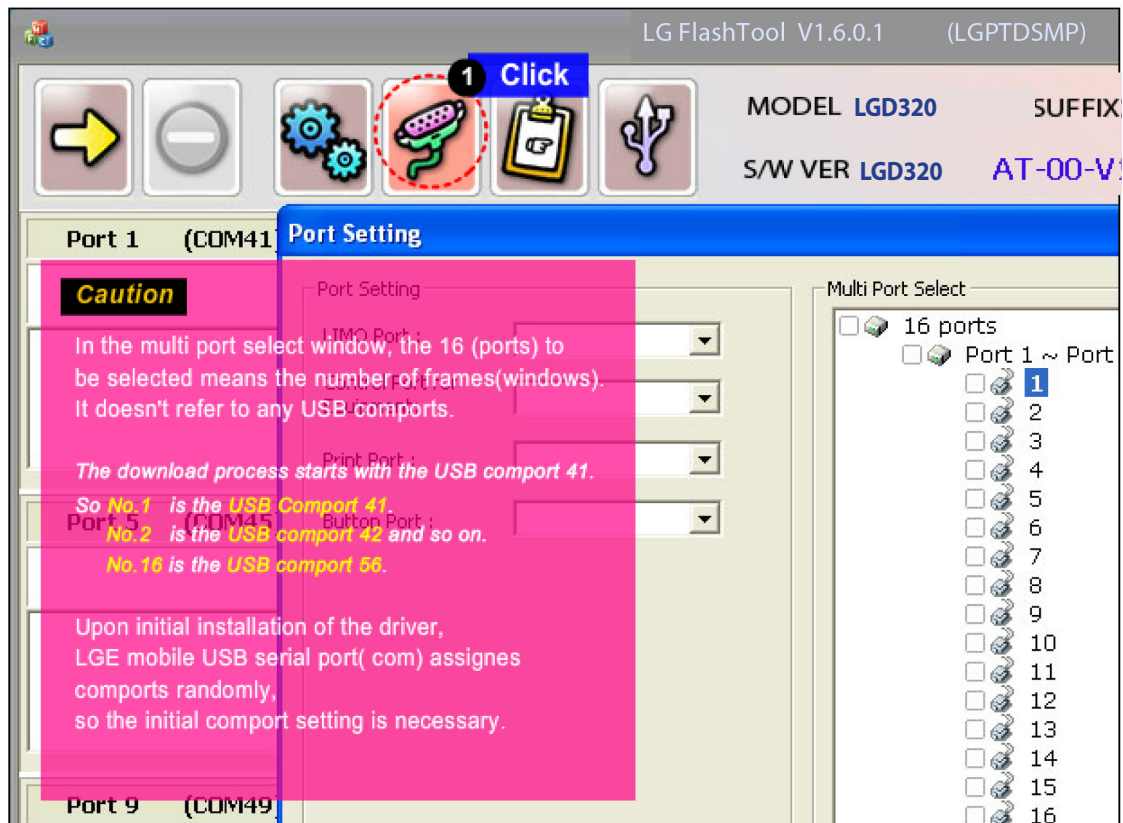
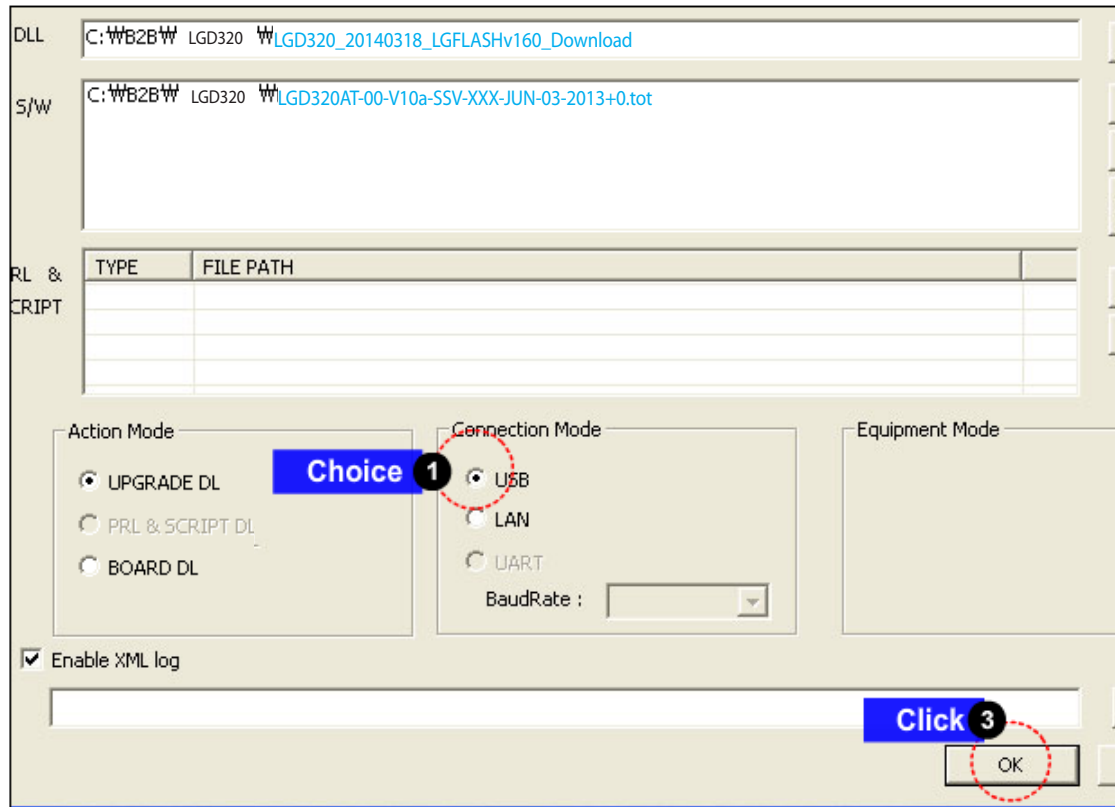
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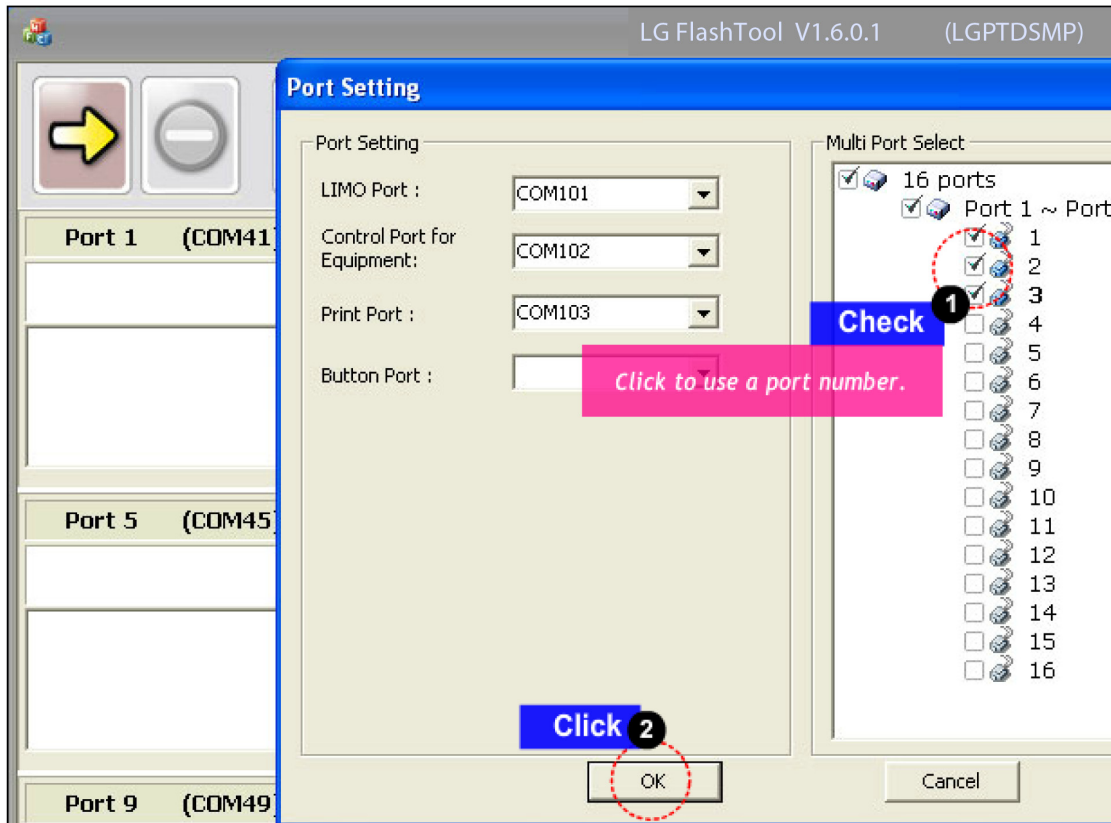
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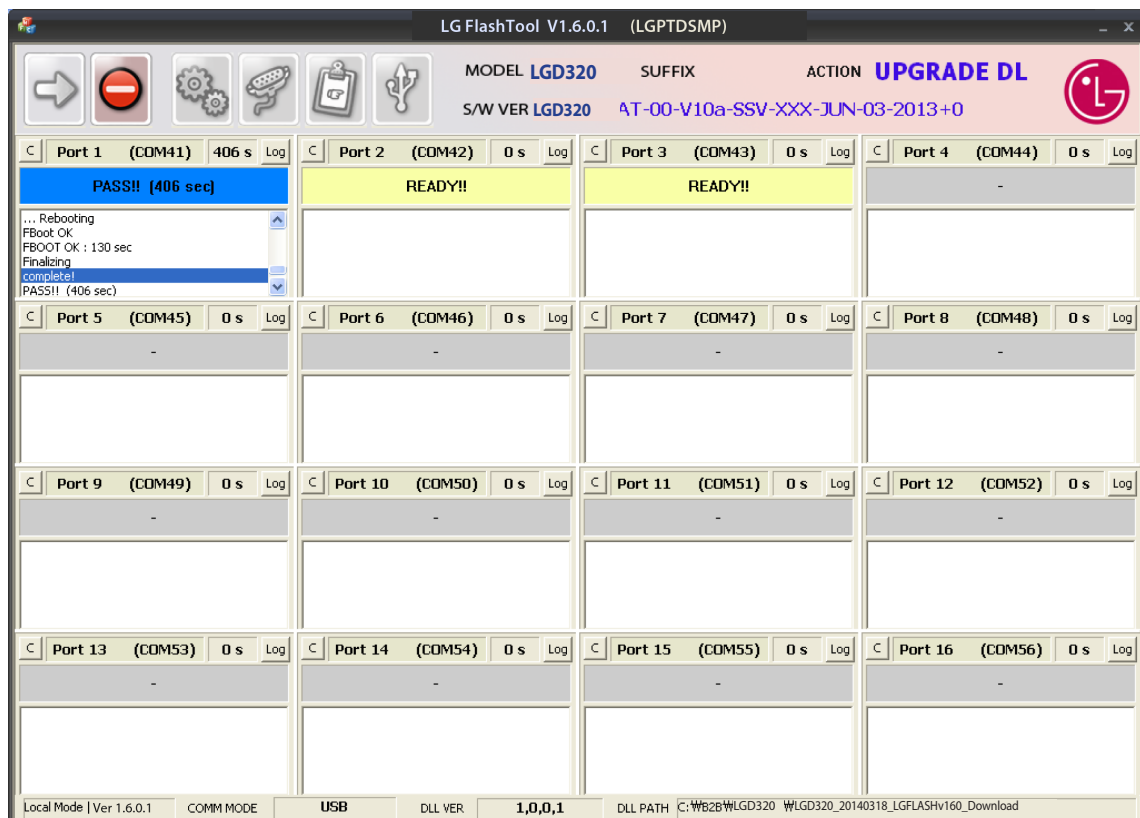
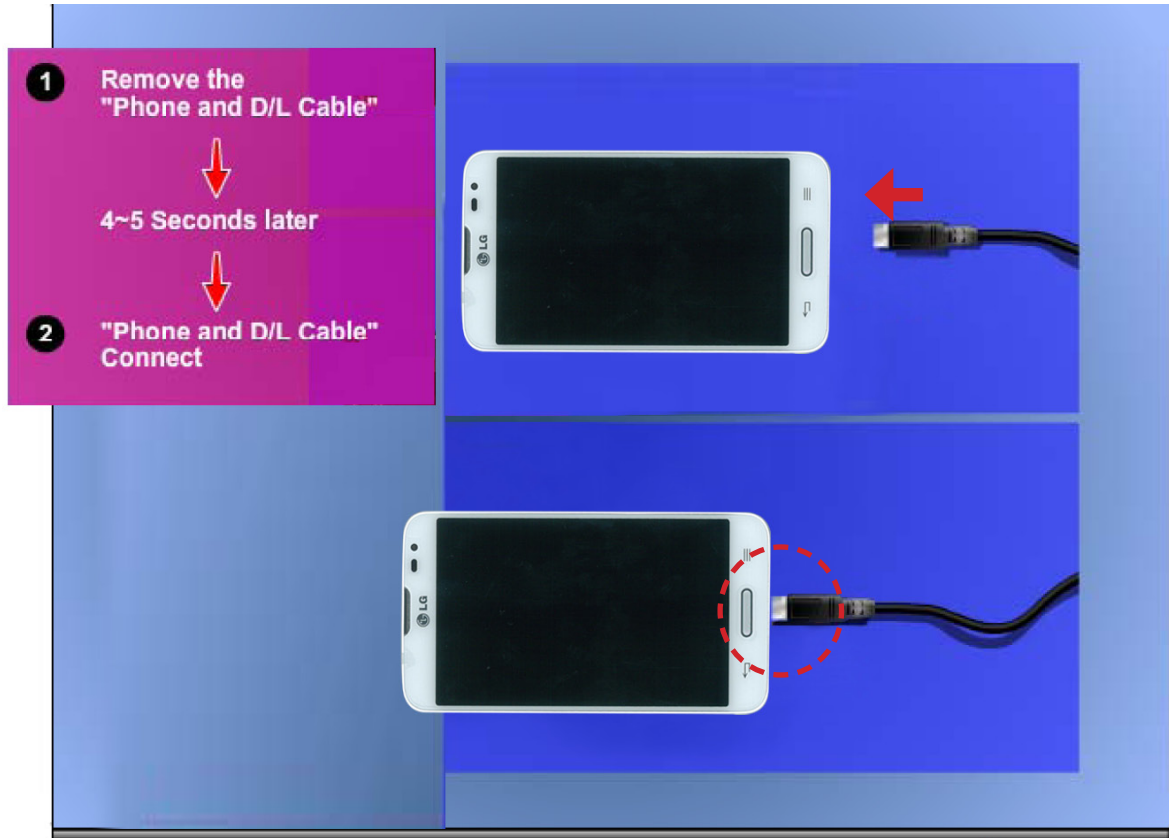
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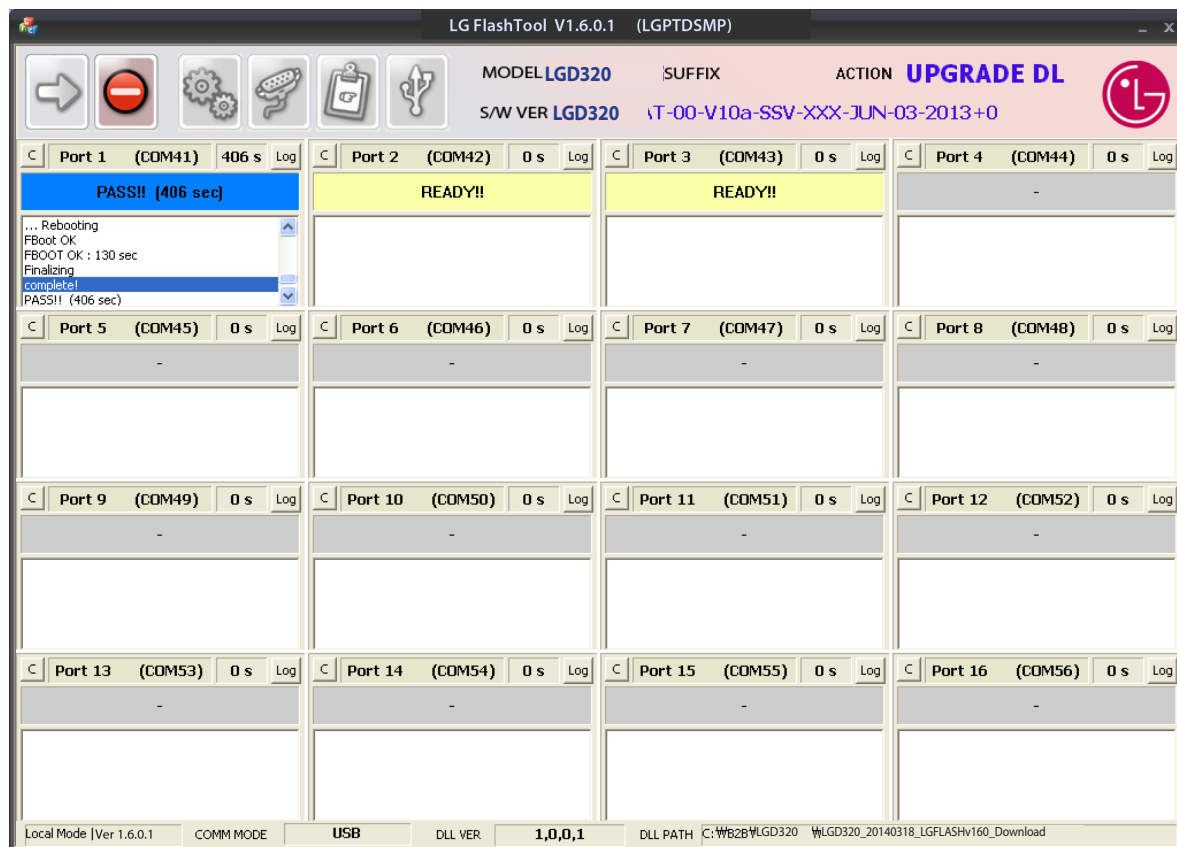
4. DOWNLOAD



4. DOWNLOAD

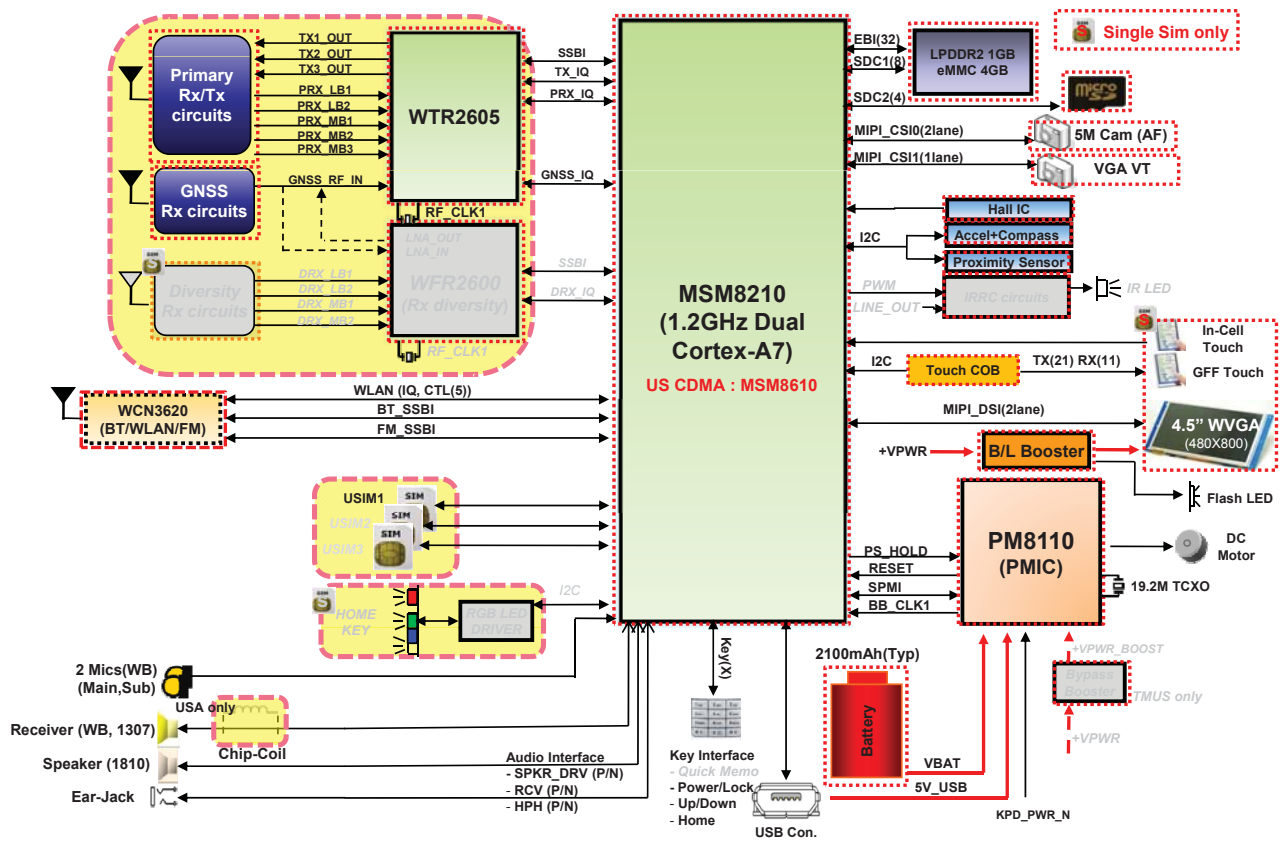


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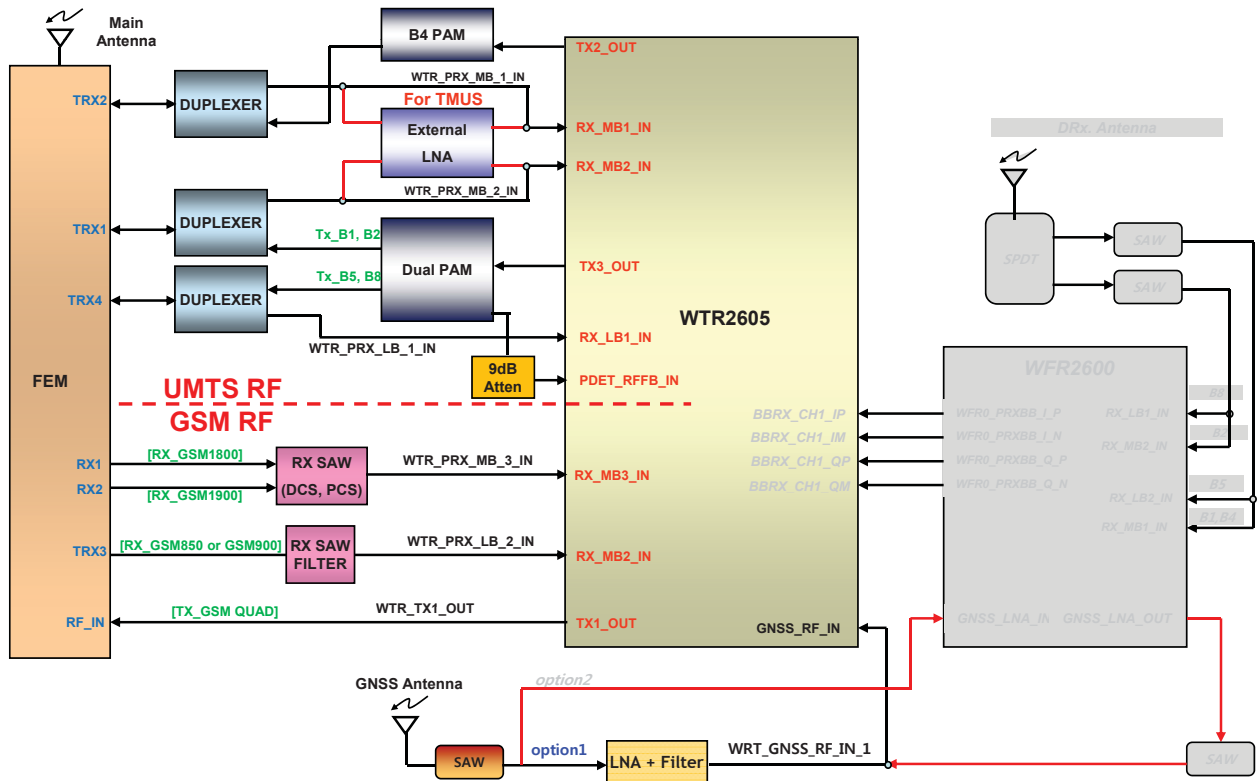


5. BLOCK DIAGRAM

[D320] Total Block Diagram

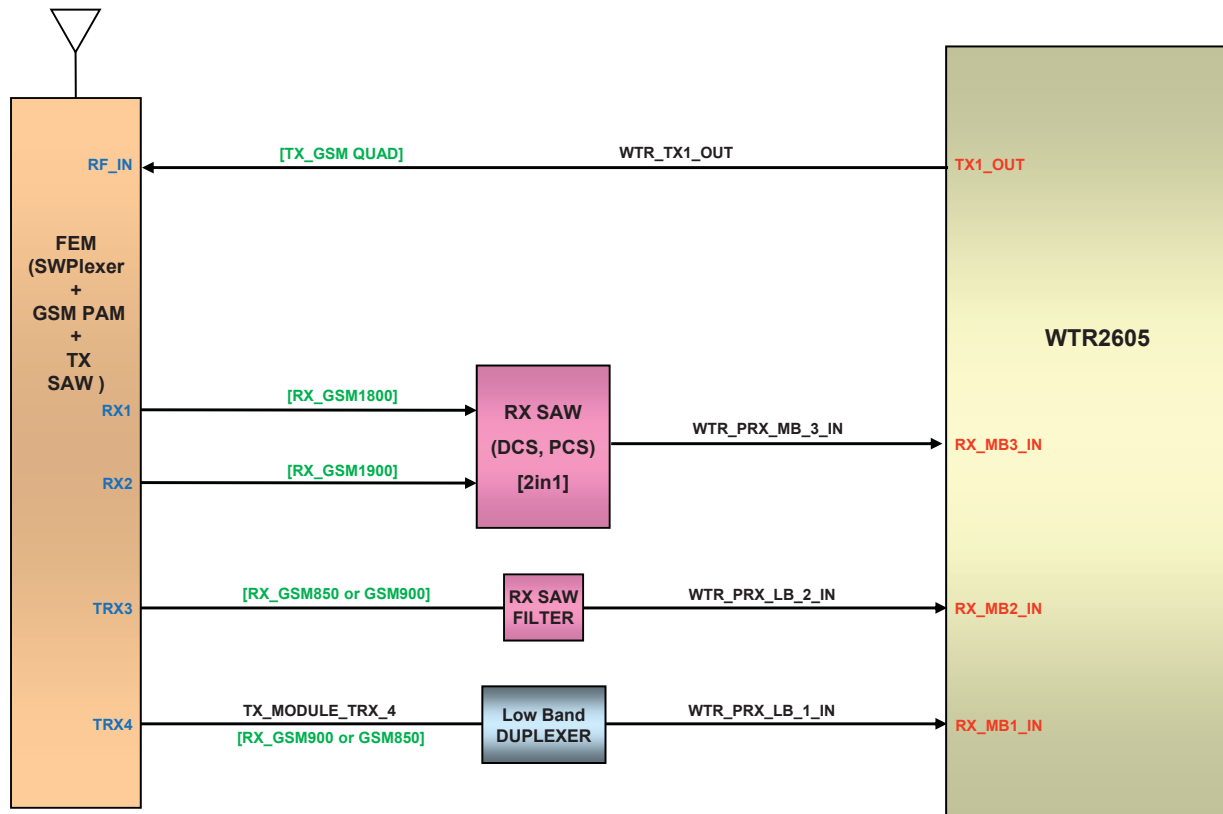


[D320] RF Block Diagram



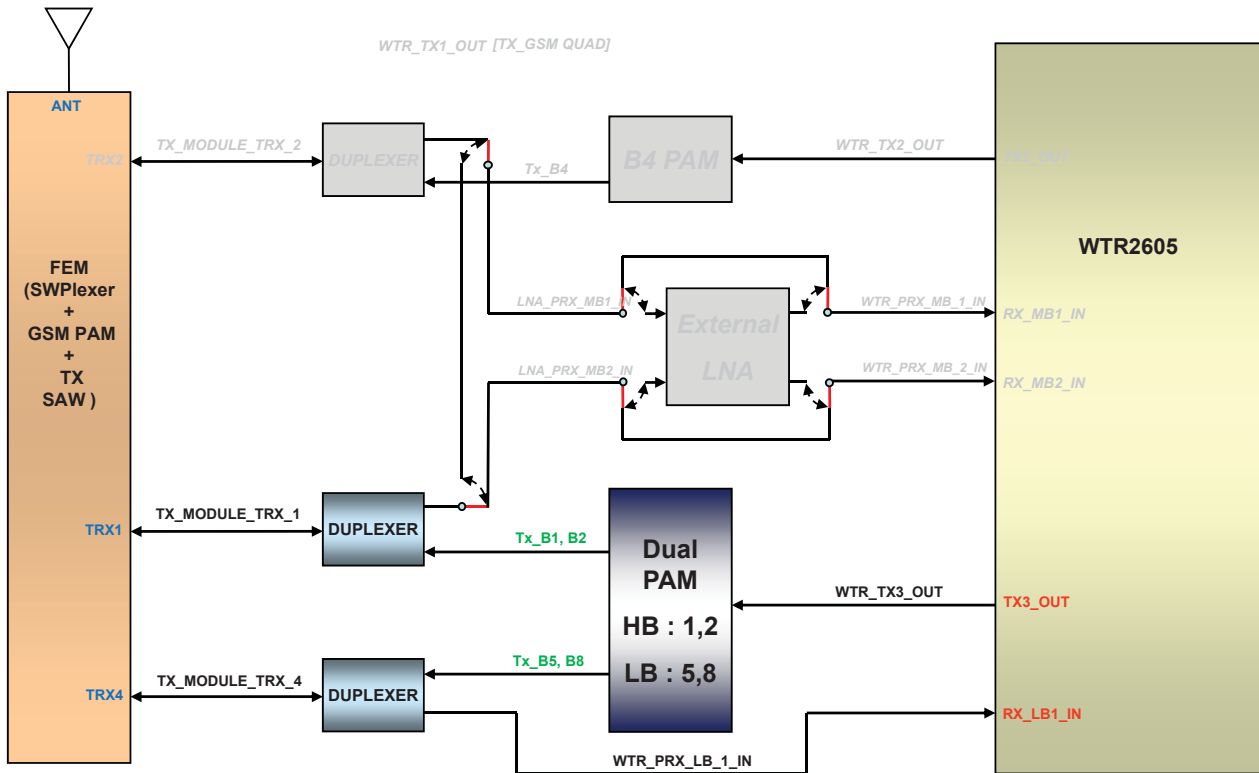
5. BLOCK DIAGRAM

[D320] RF(GSM)



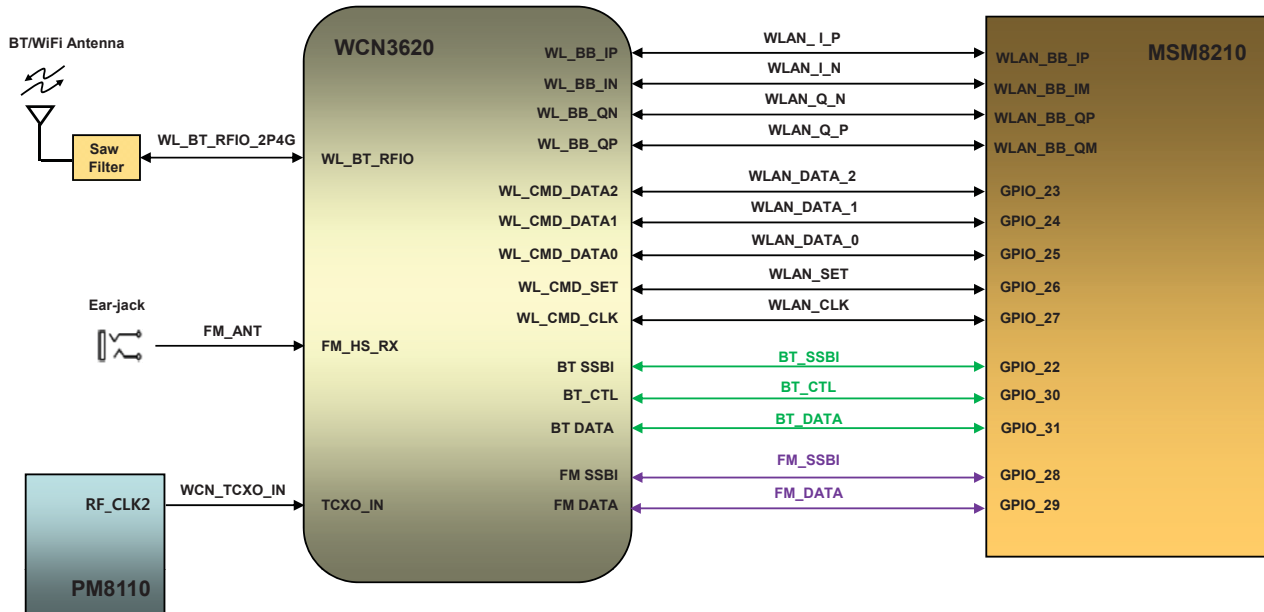
5. BLOCK DIAGRAM

[D320] RF(WCDMA)

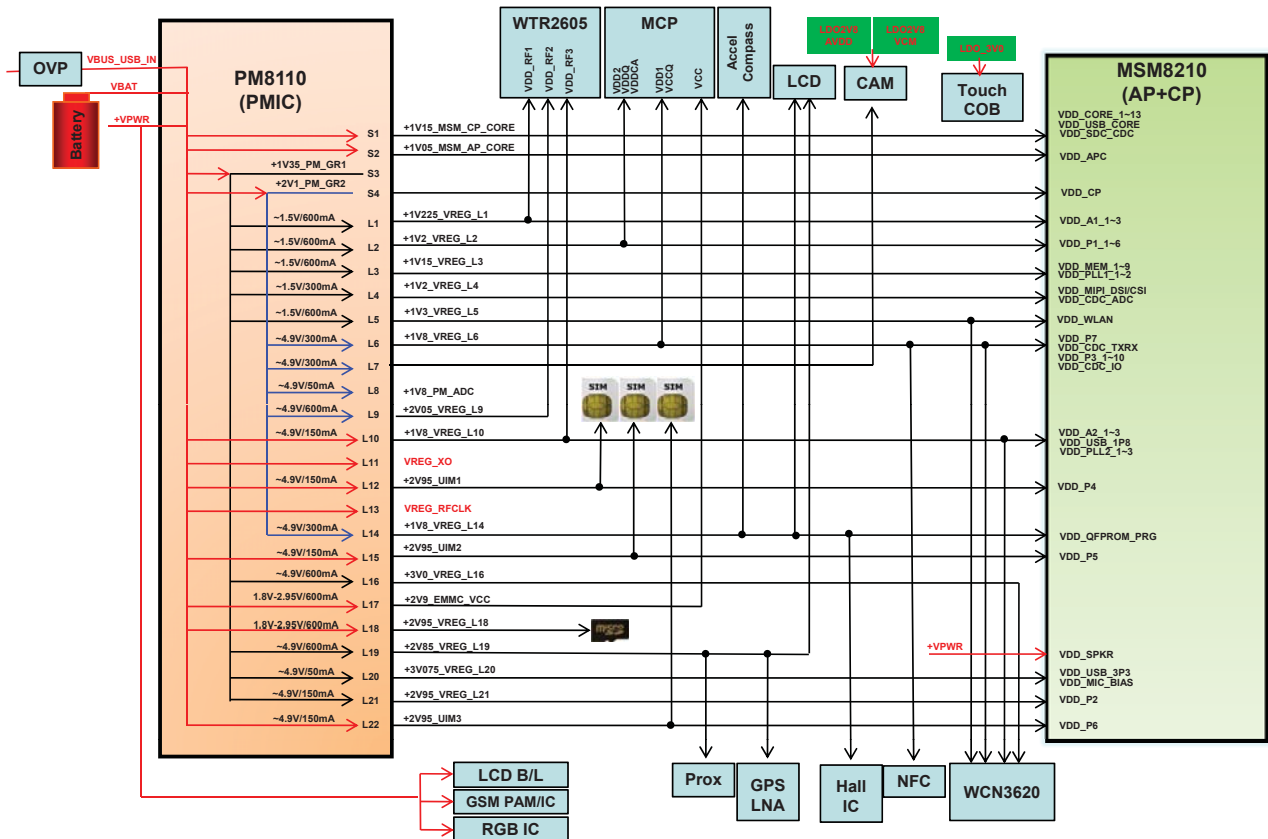


5. BLOCK DIAGRAM

[D320] BT/Wifi

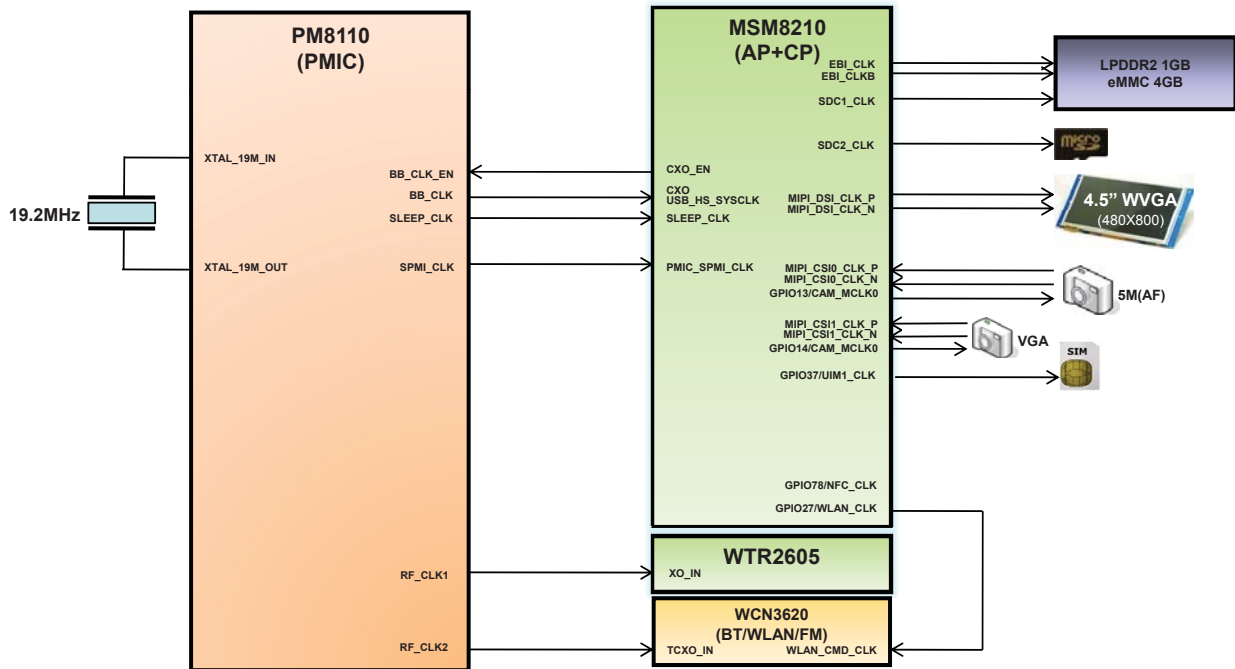


[D320] Power



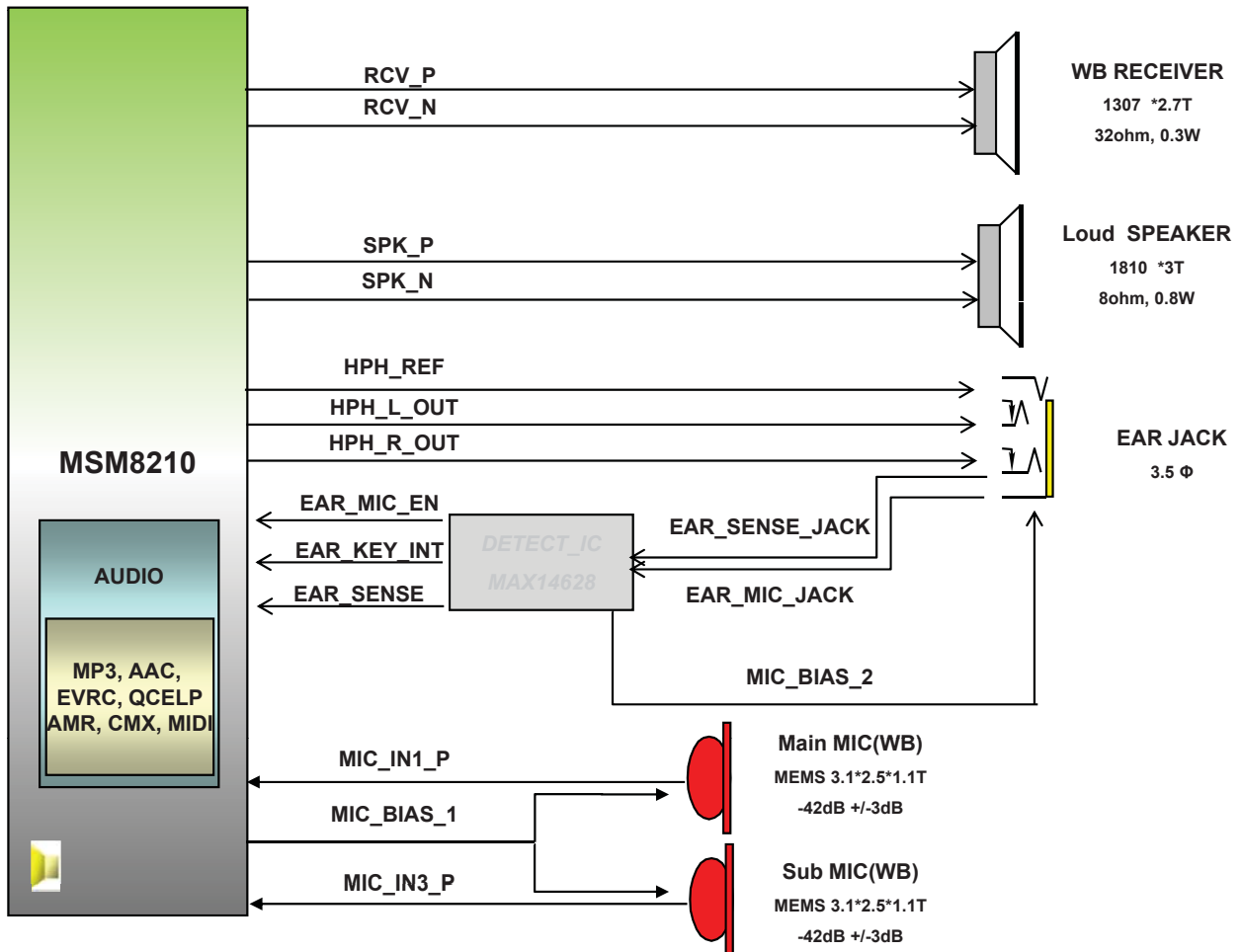
5. BLOCK DIAGRAM

[L70_D320] Clock



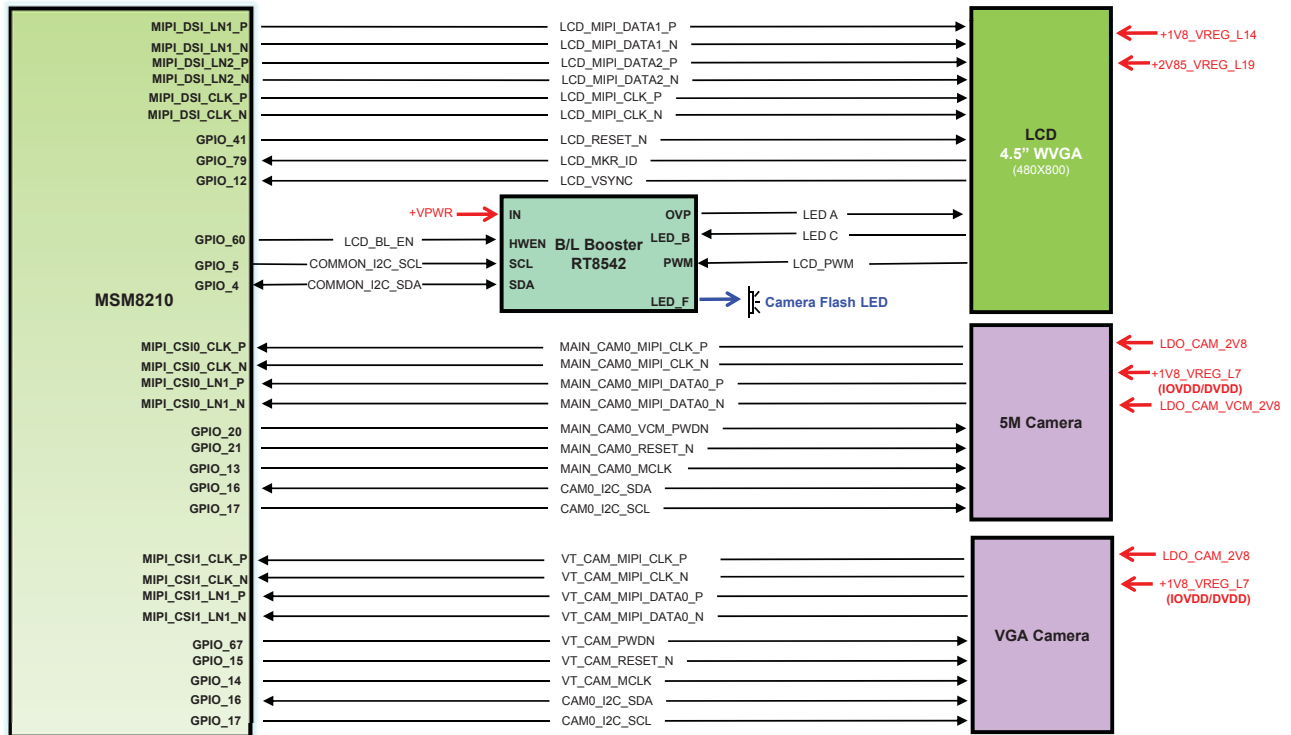
5. BLOCK DIAGRAM

[D320] Audio



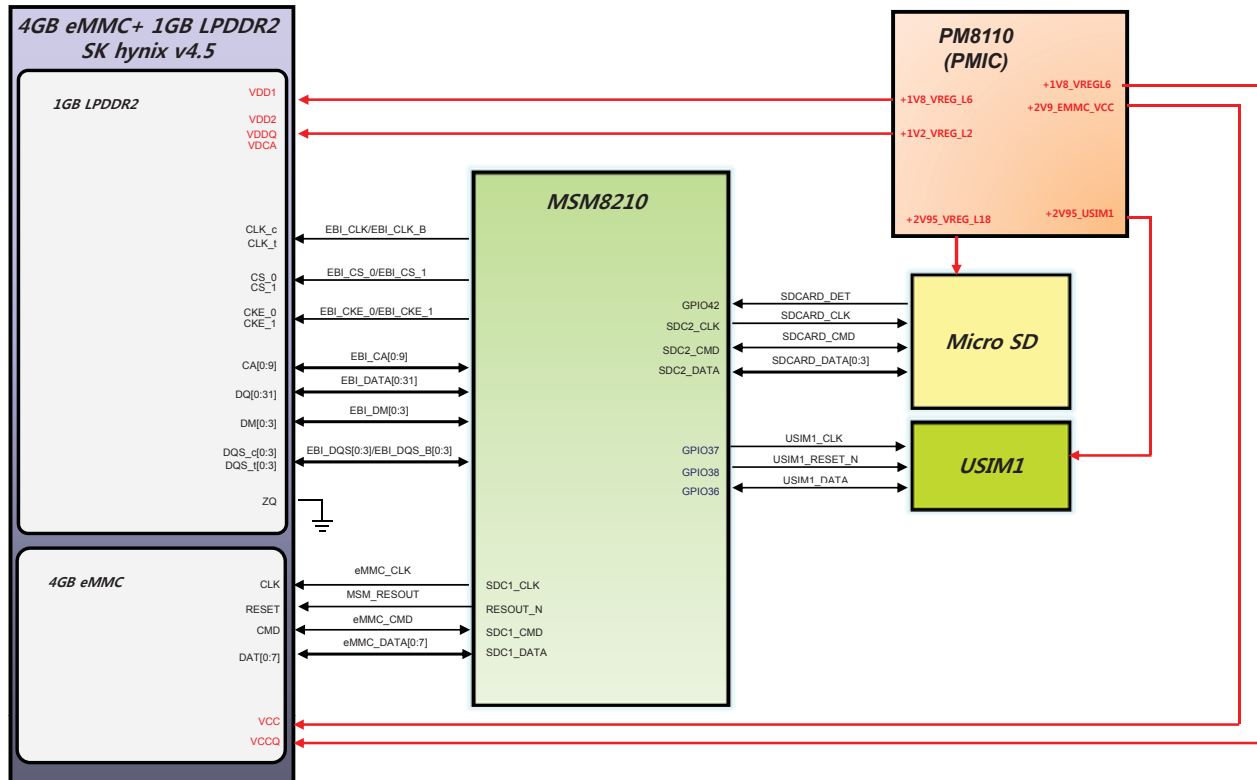
5. BLOCK DIAGRAM

[D320] LCD/Camera



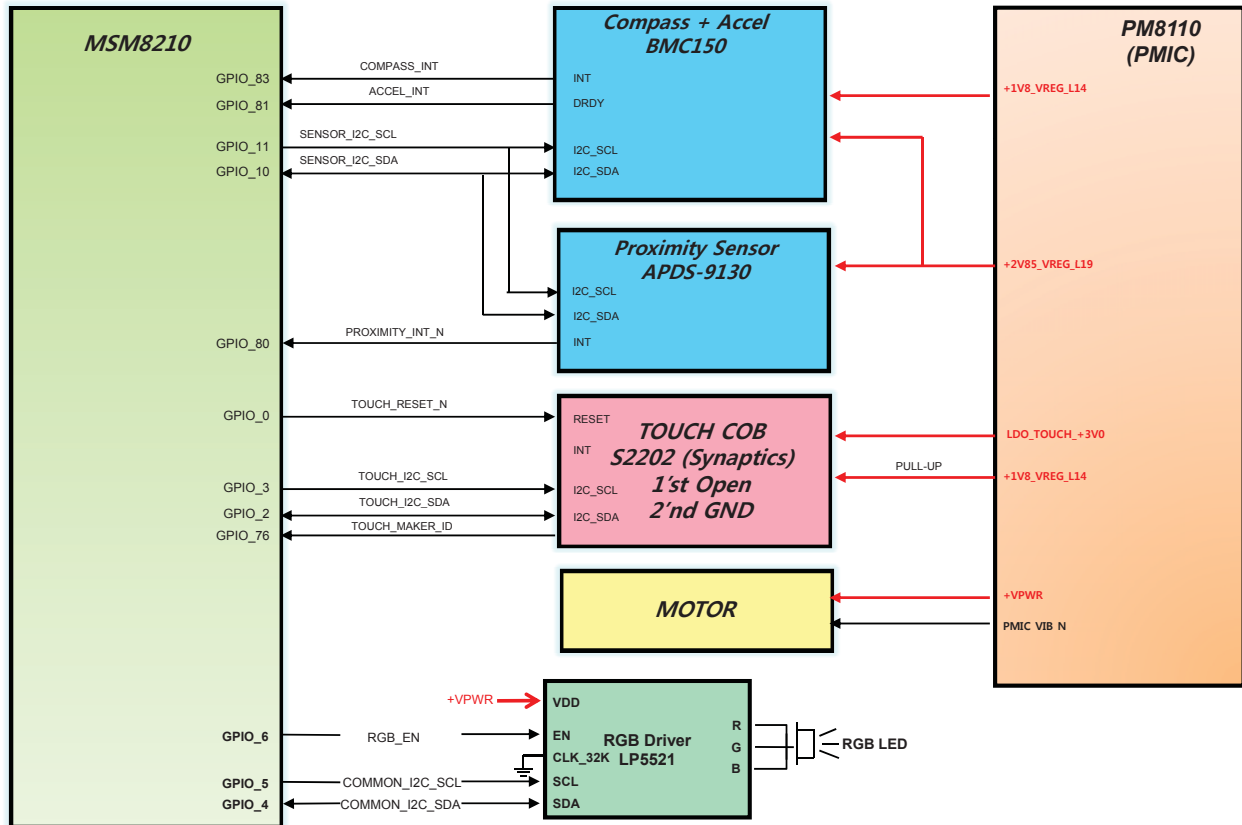
5. BLOCK DIAGRAM

[D320] MCP/Peripherals



5. BLOCK DIAGRAM

[D320] Sensors

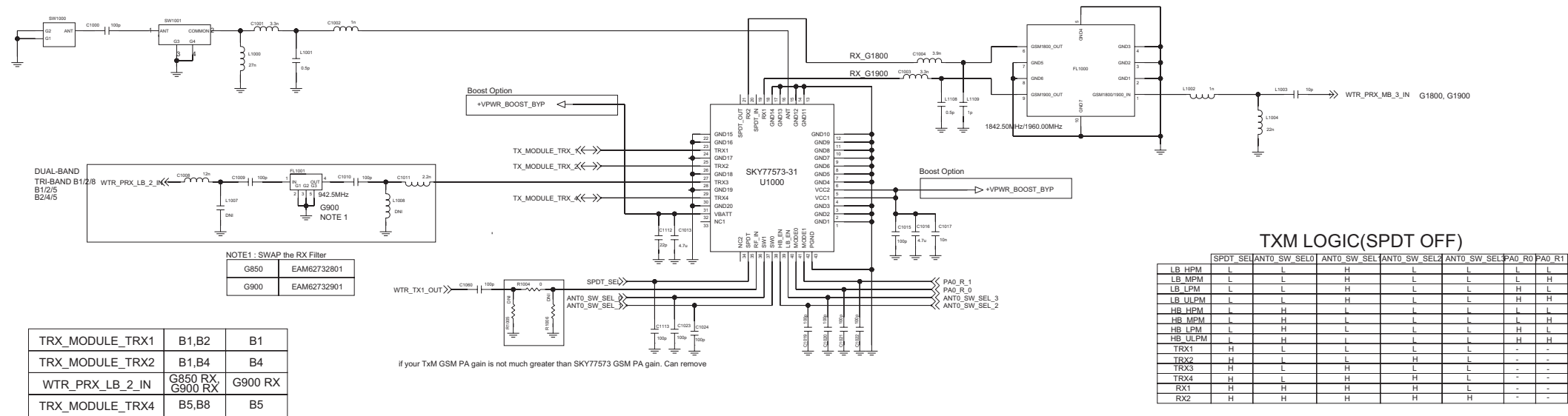


6. CIRCUIT DIAGRAM

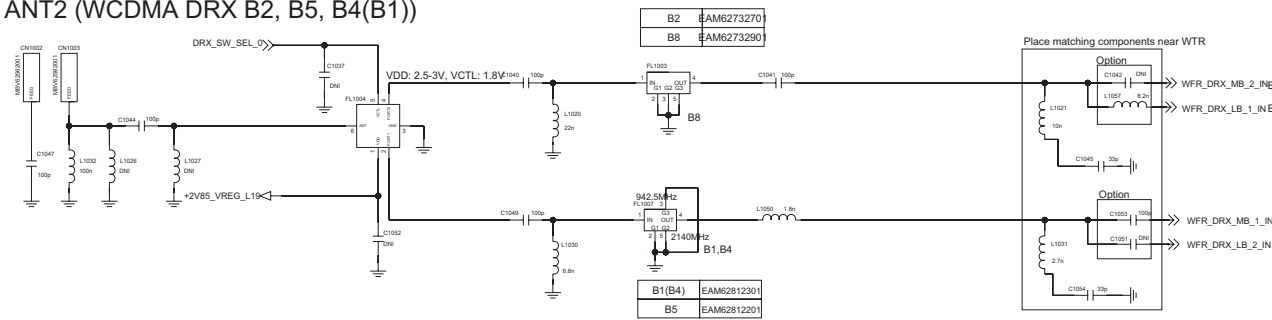
< 1-1-1-1_ANT_WCDMA_DUAL_DRX >

Rev_0.4

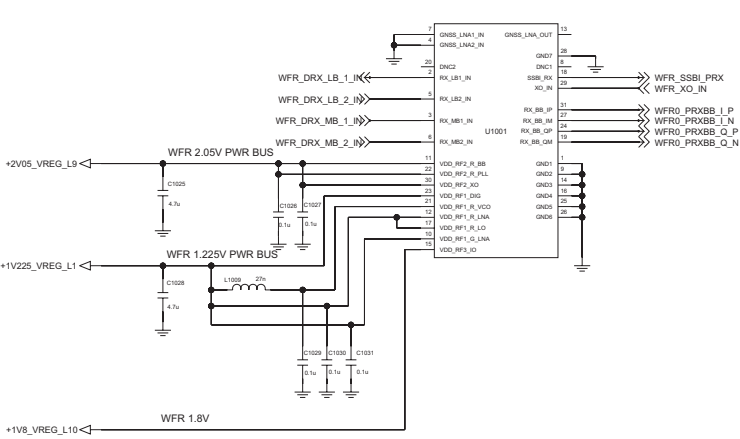
ANT1 (GSM Quad / WCDMA B1, B2, B4, B5, B8)



ANT2 (WCDMA DRX B2, B5, B4(B1))

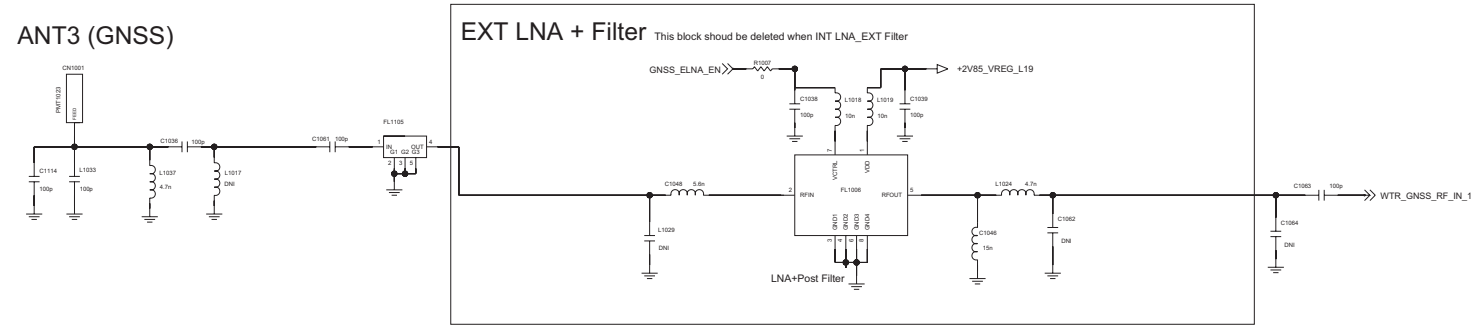


WFR2600 FOR DRX



WCDMA			
WFR2600	EU/GLOBAL	ATT	TMUS
RX_LB1_IN	B8		
RX_LB2_IN		B5	
RX_MB1_IN	B1		B4
RX_MB2_IN		B2	B2

ANT3 (GNSS)

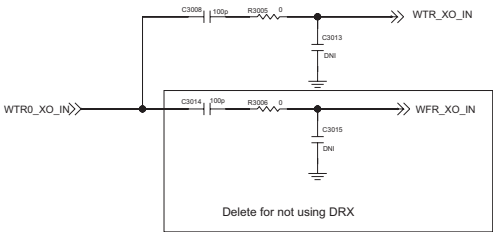
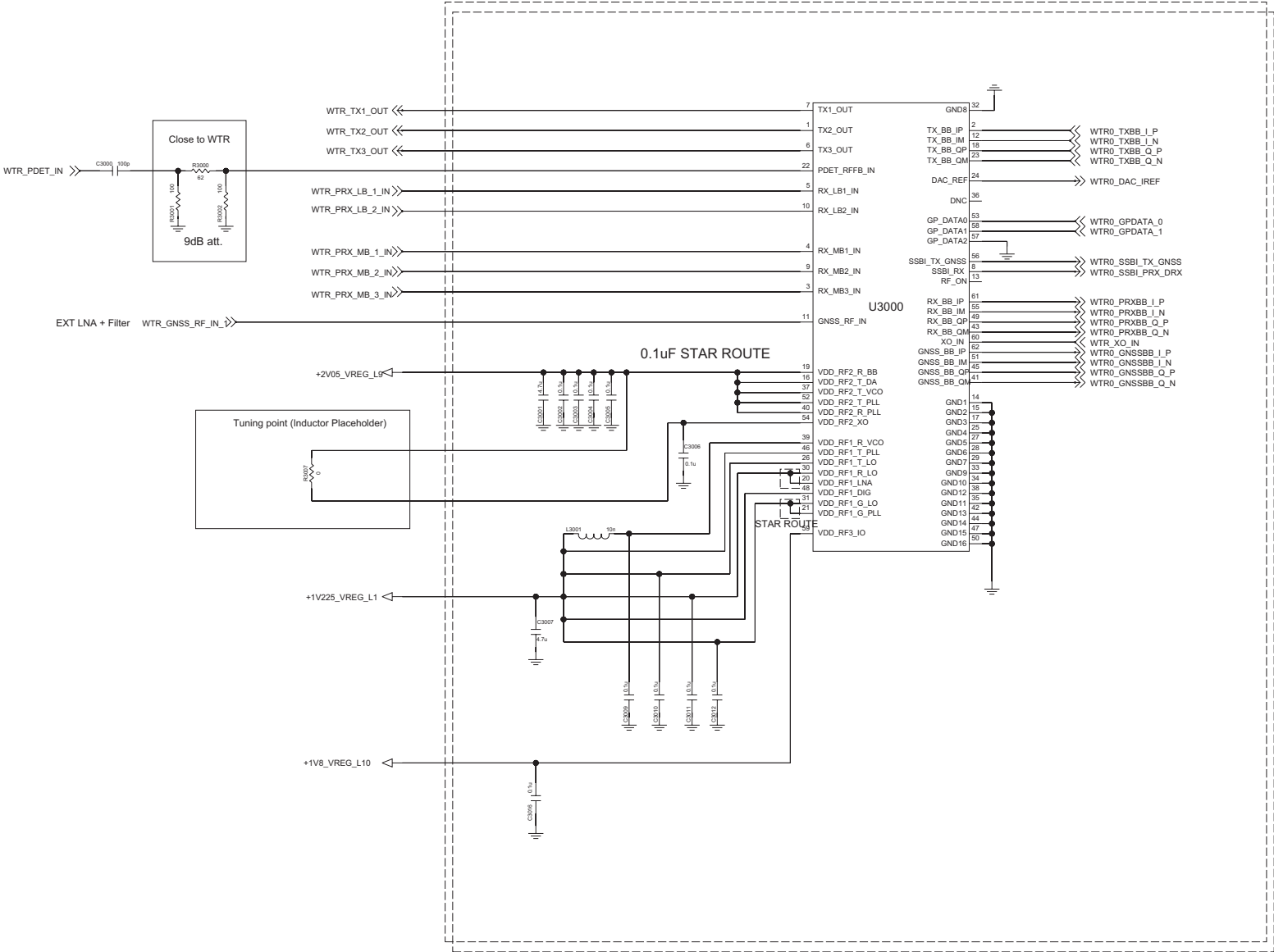


< 1-1-3-1_RFIC_WTR2605 >

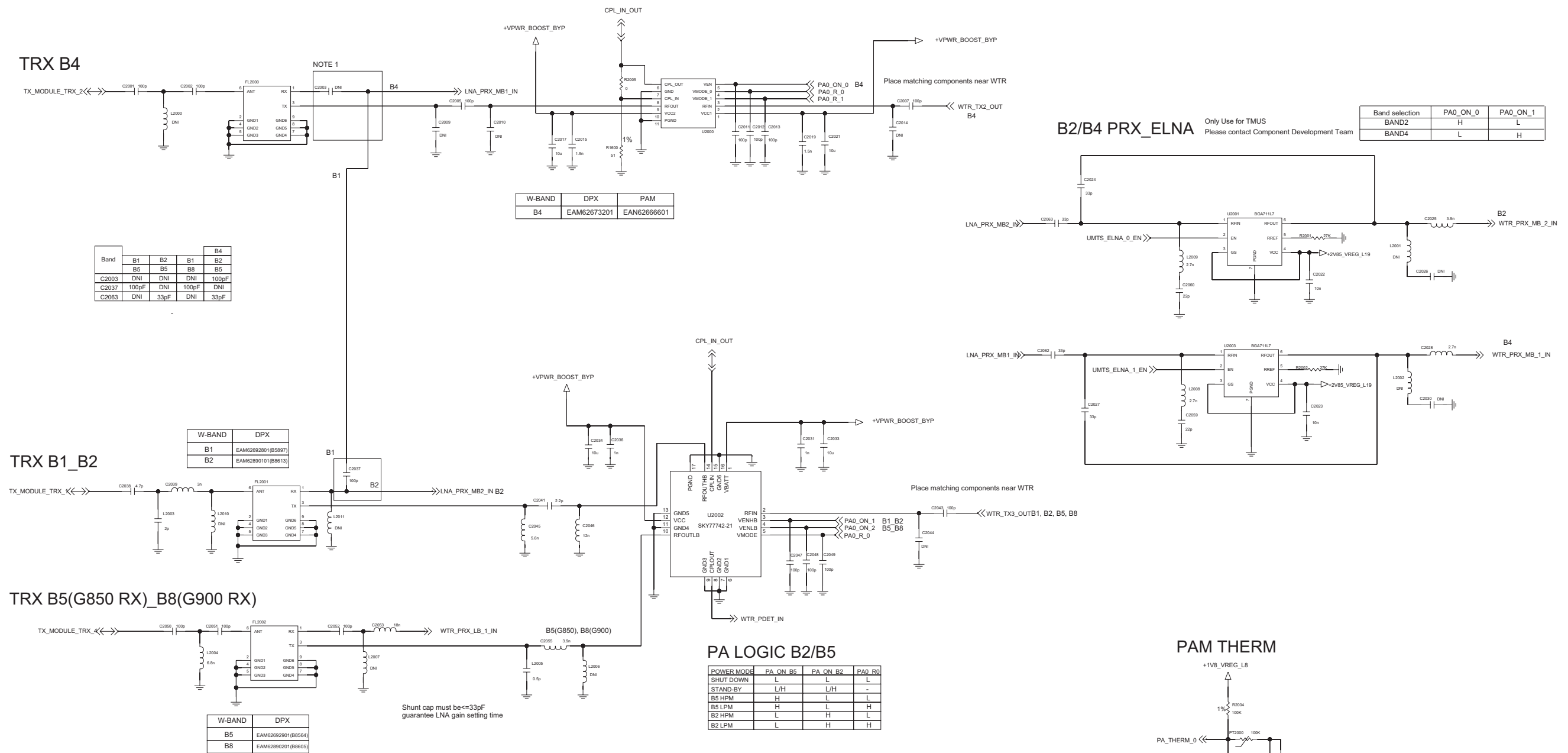
Rev_0.4

WCDMA							
WTR2605	B2, B4, B5	B1, B2, B5	B1, B2, B8	B1, B5, B8	B2, B5	B1, B5	B1, B8
TX1_OUT	GSM	GSM	GSM	GSM	GSM	GSM	GSM
TX2_OUT	B4	B1	B1	B5			
TX3_OUT	B2, B5	B2, B5	B2, B8	B1, B8	B2, B5	B1, B5	B1, B8
RX_LB1_IN	B5(G850)	B5(G850)	B8(G900)	B8(G900)	B5(G850)	B5(G850)	B8(G900)
RX_LB2_IN	G900	G900	G850	B5(G850)	G900	G900	G850
RX_MB1_IN	B4	B1	B1	B1			B1
RX_MB2_IN	B2	B2	B2		B2	B2	
RX_MB3_IN	G1800,G1900	G1800,G1900	G1800,G1900	G1800,G1900	G1800,G1900	G1800,G1900	G1800,G1900

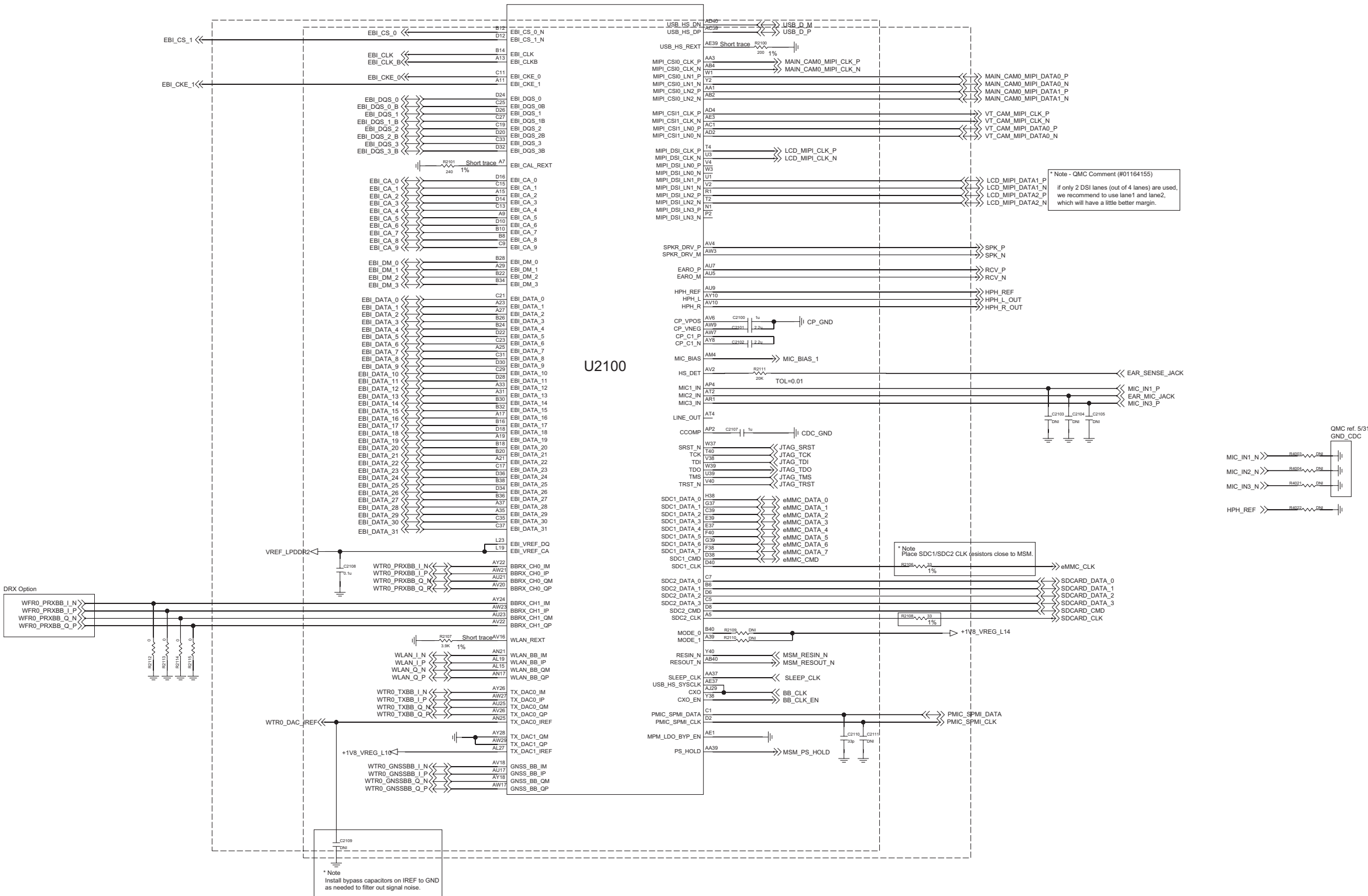
CDMA			
WTR2605	VZW	SPCS	Metro PCS
TX1_OUT			
TX2_OUT	BC0(BC10)	BC0(BC10)	BC0(BC10),BC15
TX3_OUT	BC1	BC1	BC1
RX_LB1_IN	BC0(BC10)	BC0(BC10)	BC0(BC10)
RX_LB2_IN			
RX_MB1_IN			BC15
RX_MB2_IN	BC1	BC1	BC1
RX_MB3_IN			



< 1-1-4-1 TRX_WCDMA_B1_B2_B4_B5_B8 TRIPLE > Rev 0.4



<2-1-4-1-1_MSM8210_CONTROL> REV.0.4



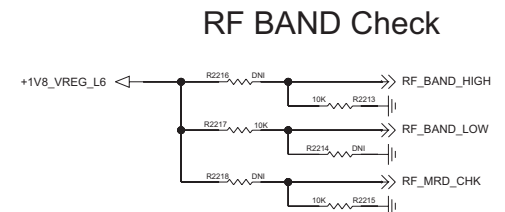
U2100

Left Side Pins:

- AU11: GPIO_0/BLSPI_3/TOUCH_RESET_N
- AW11: GPIO_1/BLSPI_1/TOUCH_INT_N
- AV12: GPIO_2/BLSPI_1
- AY12: GPIO_3/BLSPI_1_0
- AU13: GPIO_4/BLSPI_2_3
- AW13: GPIO_5/BLSPI_2_2
- AV14: GPIO_6/BLSPI_2_1
- AV14: GPIO_7/BLSPI_2_0/WVGA_MODE_SEL
- AKH1: GPIO_8/BLSPI_3_2
- AKH1: GPIO_9/BLSPI_3_3
- AJ39: GPIO_10/BLSPI_3_1
- AJ39: GPIO_11/BLSPI_3_0
- AJ39: GPIO_12/DSI_LCD_TEO
- B2: GPIO_13/CAM_MCLK0
- C3: GPIO_14/CAM_MCLK1
- AH2: GPIO_15/VT_CAM_RESET_N
- D4: GPIO_16/CAM_I2C_SDA
- BA: GPIO_17/CAM_I2C_SCL
- AG3: GPIO_18/FLASH_EN
- AF4: GPIO_19/FLASH_NOW
- AG1: GPIO_20/CAM1_STANDBY_N
- AF2: GPIO_21/CAM1_RESET_N
- MAIN_CAM0_RESET_N
- AH1: BT_SSB1
- AM2: WLAN_DATA_2
- AG7: WLAN_DATA_1
- AJ1: WLAN_DATA_0
- AL1: WLAN_SET
- AL3: WLAN_CLK
- AK4: FM_SSB1
- AK2: FM_DATA
- AN1: BT_CTL
- AJ3: BT_DATA
- GI: GPIO_32/UIM2_DATA
- H2: GPIO_33/UIM2_CLK
- JT: GPIO_34/UIM2_RESET
- E3: GPIO_35/UIM2_DETECT
- L1: GPIO_36/UIM1_DATA
- K2: GPIO_37/UIM1_CLK
- MG: GPIO_38/UIM1_RESET
- H4: GPIO_39/UIM1_DETECT
- G3: GPIO_40/UIM_BATT_ALARM
- N37: GPIO_41/DSI_RESET_N
- M38: GPIO_42/SD_CARD_DETECT_N
- AL37: GPIO_43/GRFC_0
- AT40: GPIO_44/GRFC_1
- AK39: GPIO_45/GRFC_2
- AP38: GPIO_46/GRFC_3
- AN37: GPIO_47/GRFC_4
- AV40: GPIO_48/GRFC_5
- AU39: GPIO_49/GRFC_6/BOOT_CONFIG_0
- AT38: GPIO_50/GRFC_7/BOOT_CONFIG_1

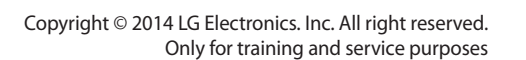
Right Side Pins:

- AW39: GRFC_8/BOOT_CONFIG_2/GPIO_51
- AR37: GRFC_9/BOOT_CONFIG_3/GPIO_52
- AV38: GRFC_10/BOOT_CONFIG_4/GPIO_53
- AU37: GRFC_11/SD_EMMC_1P2_EN/GPIO_54
- AW35: GRFC_12/BOOT_CONFIG_5/GPIO_55
- AW31: GRFC_13/BOOT_CONFIG_6/GPIO_56
- AV32: GRFC_14/BOOT_CONFIG_7/GPIO_57
- AY32: GRFC_15/BOOT_CONFIG_8/GPIO_58
- AU29: GRFC_16/GPIO_59
- AV30: GRFC_17/GPIO_60
- AV30: GRFC_18/BOOT_CONFIG_9/GPIO_61
- AU31: GRFC_19/BOOT_CONFIG_10/GPIO_62
- AW37: GRFC_20/EXT_GPS_LNA_EN/GPIO_63
- AV36: SSBI_WTR0_RX/GPIO_64
- AY38: SSBI_WTR0_TX/GPIO_65
- AW33: WFR_SSBI_RX/GPIO_66
- AU33: GRFC_21/GPIO_67
- AY36: GSM0_TX_PHASE_D0/GPIO_68
- AU35: GSM0_TX_PHASE_D1/GPIO_69
- AY34: GPIO_70
- AV34: GPIO_71
- AM40: KYPD_SNS0/GPIO_72
- AK38: KYPD_SNS1/GPIO_73
- AJ37: KYPD_SNS2/GPIO_74
- AP40: GPIO_75
- AK38: GPIO_76
- AM38: GPIO_77
- T38: BLSPI3_SPI_CS1_N/GP_CLK_1A/GPIO_78
- U37: BLSPI2_SPI_CS1_N/GPIO_79
- J39: BLSPI3_SPI_CS1_N/GP_CLK_1B/PROXIMITY_INT_N/GPIO_80
- I37: BLSPI4_SPI_CS1_N/GP_PDM_0B/ACCEL_INT1/GPIO_81
- K38: BLSPI1_SPI_CS2_N/GP_PDM_0A/ACCEL_INT2/GPIO_82
- L37: BLSPI2_SPI_CS2_N/GP_MNC/COMPASS_INT/GPIO_83
- H40: BLSPI3_SPI_CS2_N/GYRO_INT_N/GPIO_84
- L39: BLSPI4_SPI_CS2_N/BOOT_CONFIG_15/GPIO_85
- AF38: BLSPI4_3/GPIO_86
- AG39: BLSPI4_2/GPIO_87
- AH40: BLSPI4_1/GPIO_88
- AG37: BLSPI4_0/GPIO_89
- I40: BLSPI5_3/GP_CLK_2B/BOOT_CONFIG_11/GPIO_90
- N39: BLSPI5_2/GP_PDM_1B/GPIO_91
- P38: BLSPI6_3/GP_CLK_3B/BOOT_CONFIG_12/GPIO_92
- R37: BLSPI6_2/GP_PDM_2B/GPIO_93
- J3: GP_CLK_3A/UIM3_DATA/GPIO_94
- E1: GP_PDM_2A/UIM3_CLK/GPIO_95
- F2: UIM3_RESET/GPIO_96
- F4: GP_CLK_2A/UIM3_DETECT/GPIO_97
- AB38: BLSPI1_SPI_CS3_N/GP_PDM_1A/BOOT_CONFIG_13/GPIO_98
- K40: BLSPI2_SPI_CS3_N/BOOT_CONFIG_14/GPIO_99
- P40: BLSPI3_SPI_CS3_N/FORCE_USB_BOOT/GPIO_100
- R39: BLSPI4_SPI_CS3_N/GPIO_101

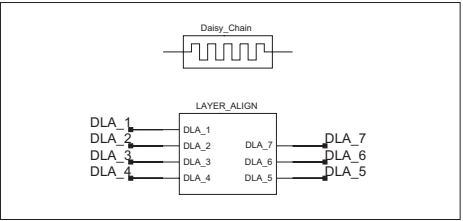
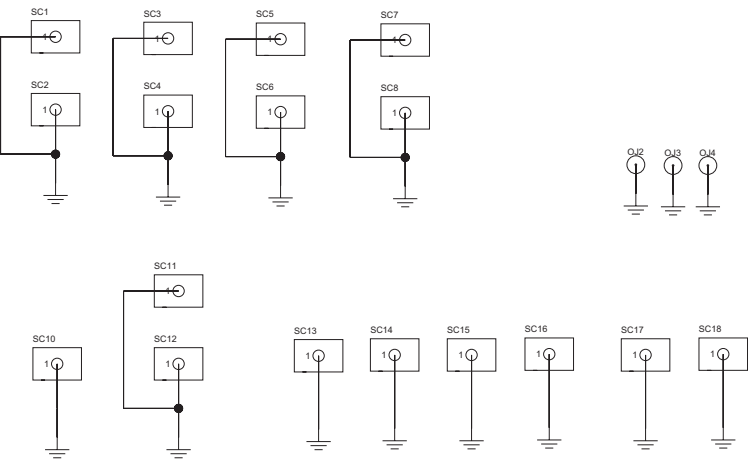
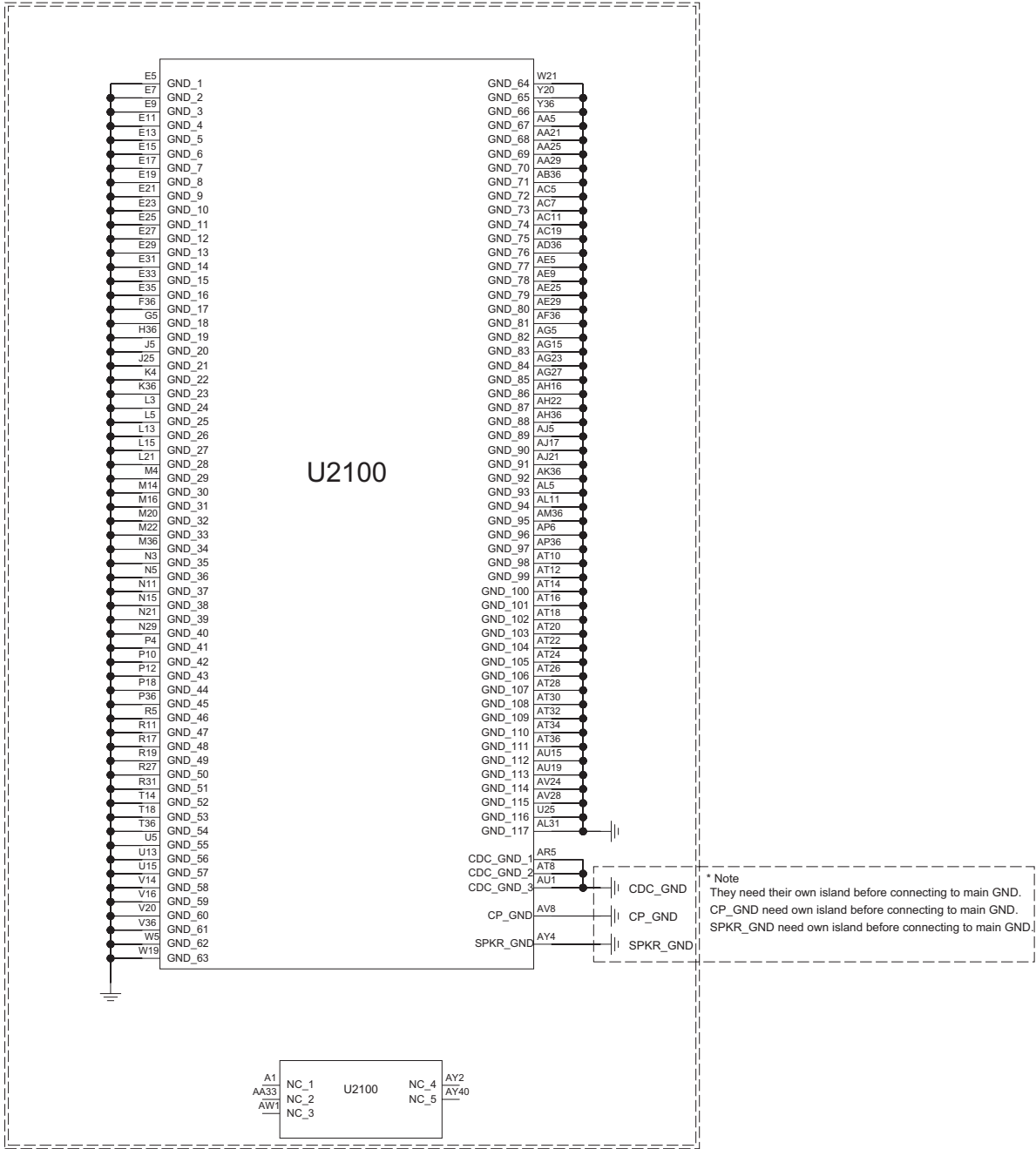


	LOW	HIGH	MRD
GPIO	59	87	58
EU_1_8	L	L	L
F_1_5	H	L	L
G_2_5	H	H	L
J_2_8	L	H	L
EU_MRD	L	L	H

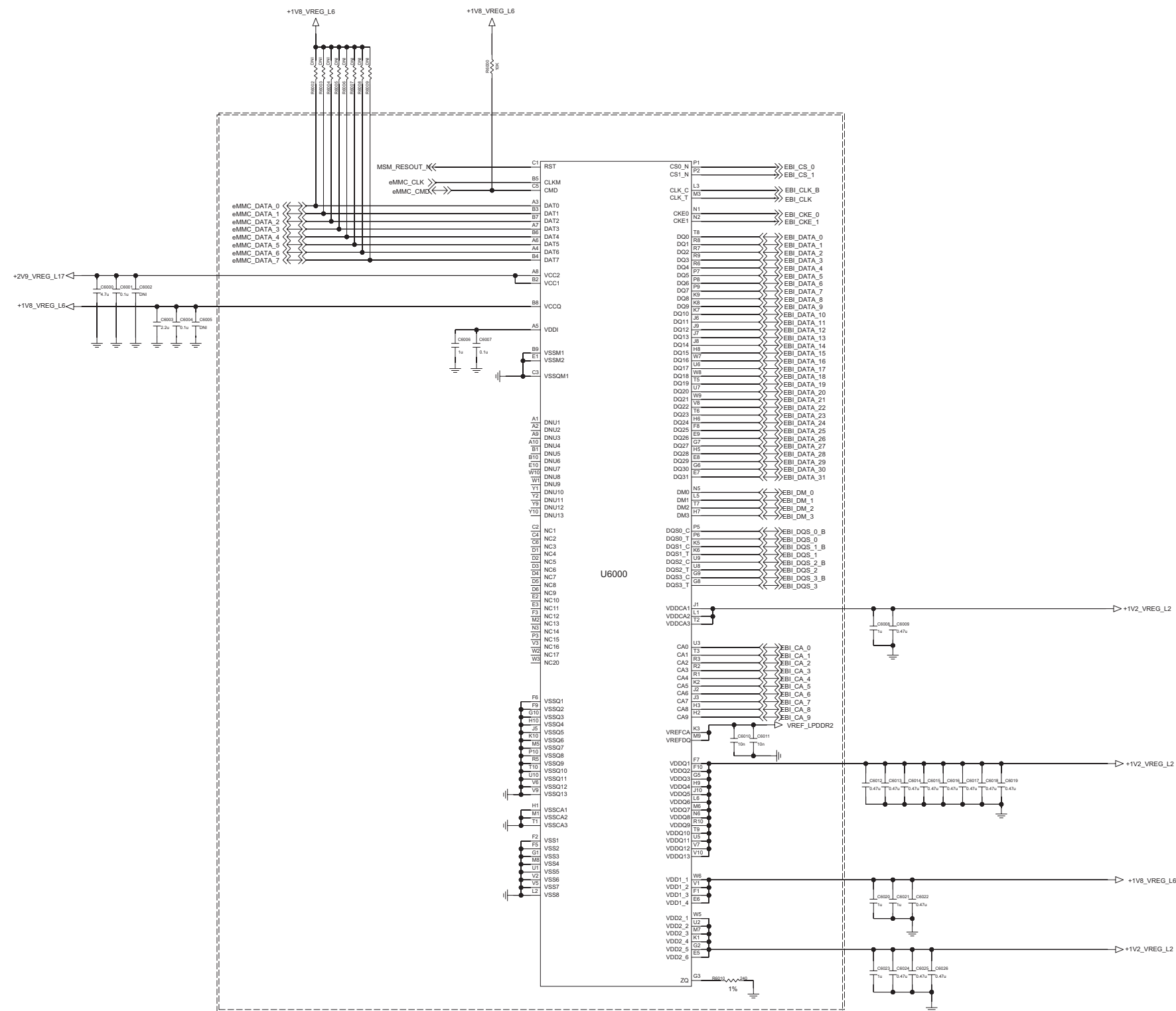
<2-1-4-1-3_MSM8210_POWER> REV.0.4



<2-1-4-1-4_MSM8210_GND/NC>REV.0.4

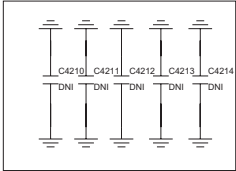
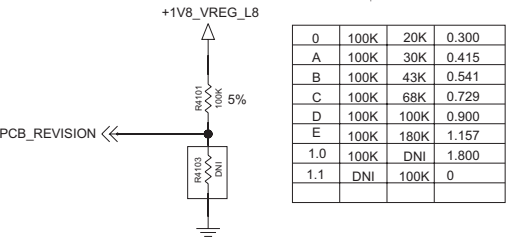


3_3_2_3_5_MCP_eMMC_v4_5_4G_DDR2_8G_SK_Hynix REV.0.4
eMMC 4.5

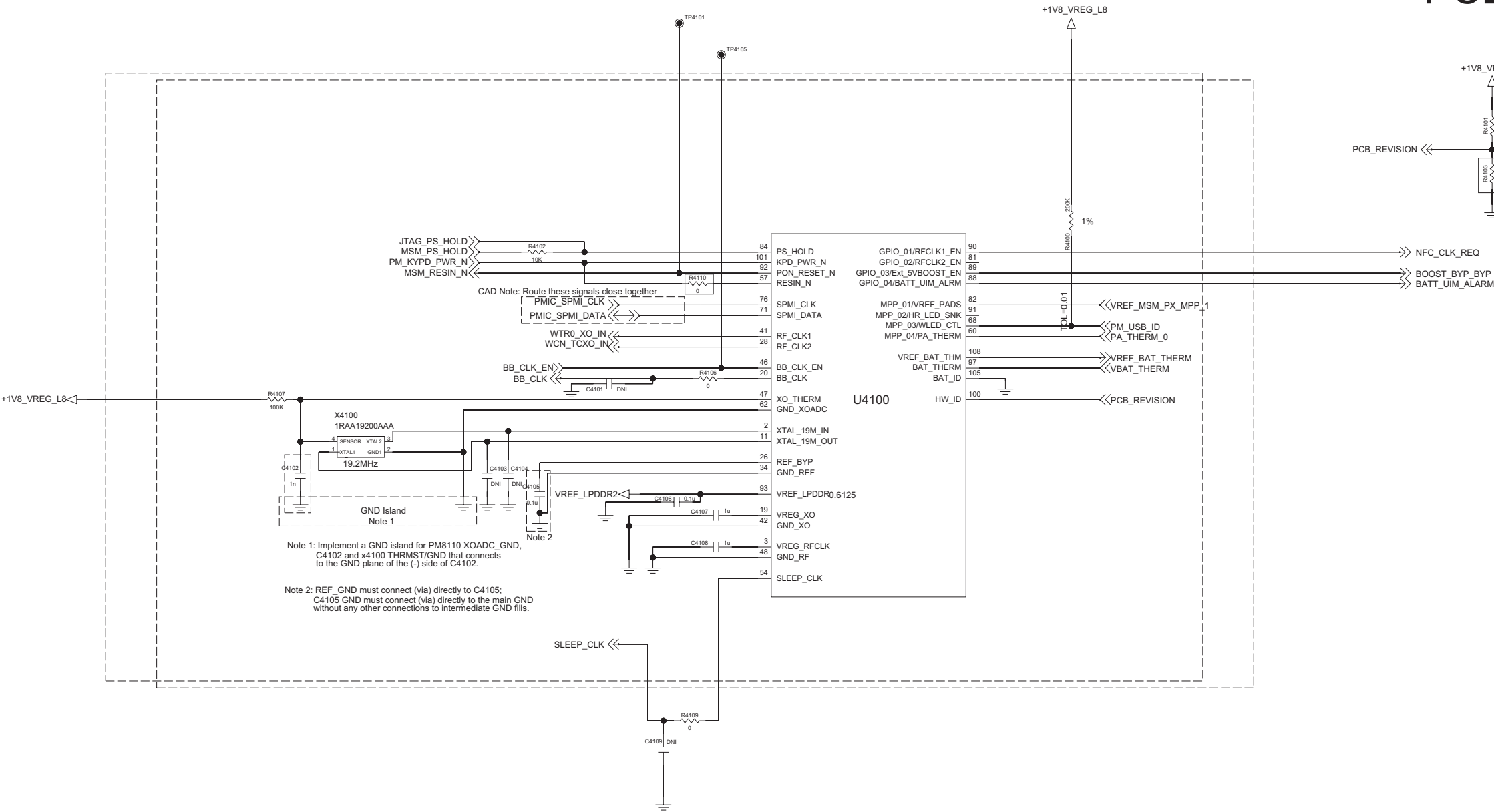


<4-1-4-1_PMIC_PM8110_DATA> REV.0.4

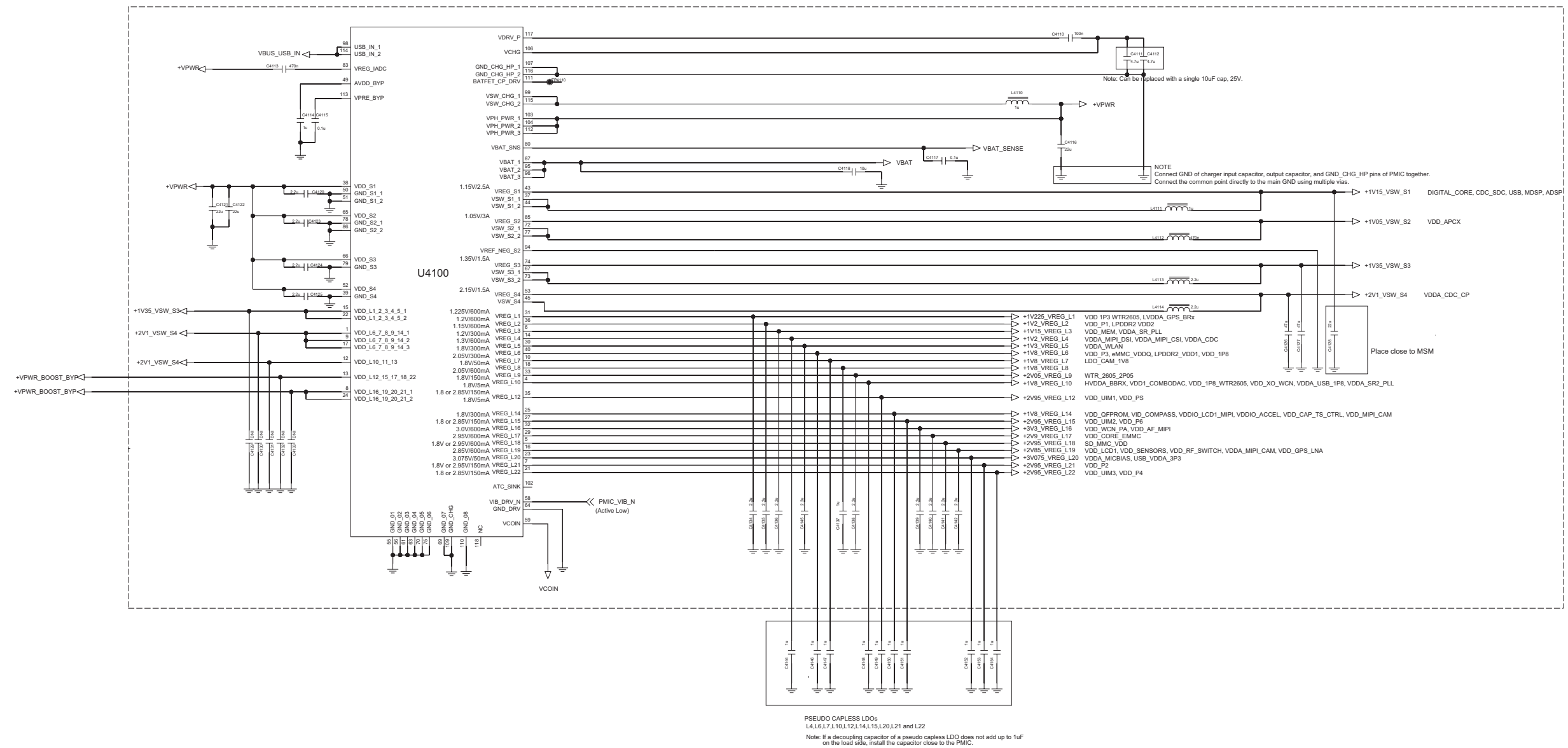
PCB REVISION



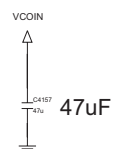
RF_BAND_SEL



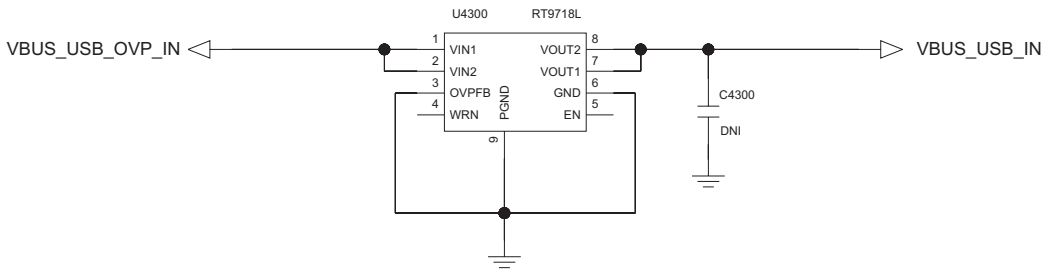
<4-1-4-2_PMIC_PM8110_POWER> REV.0.4



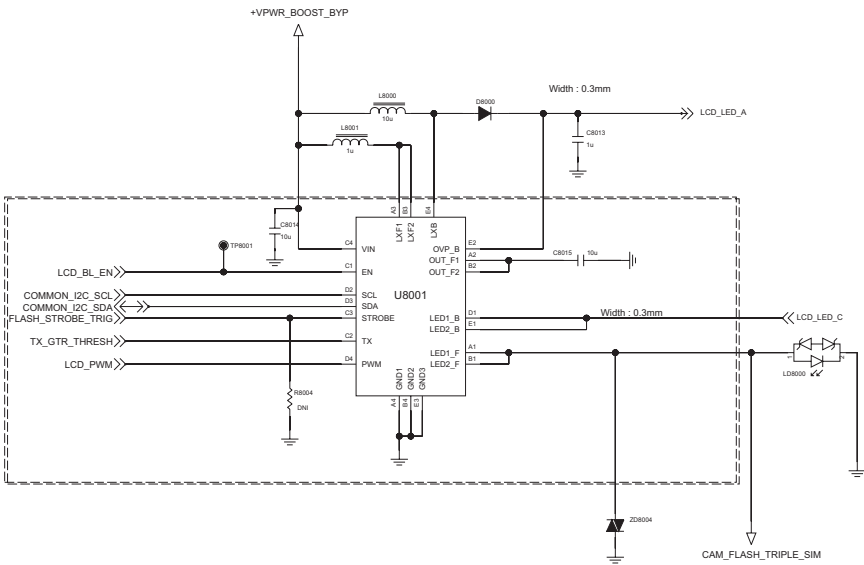
BACKUP BATT



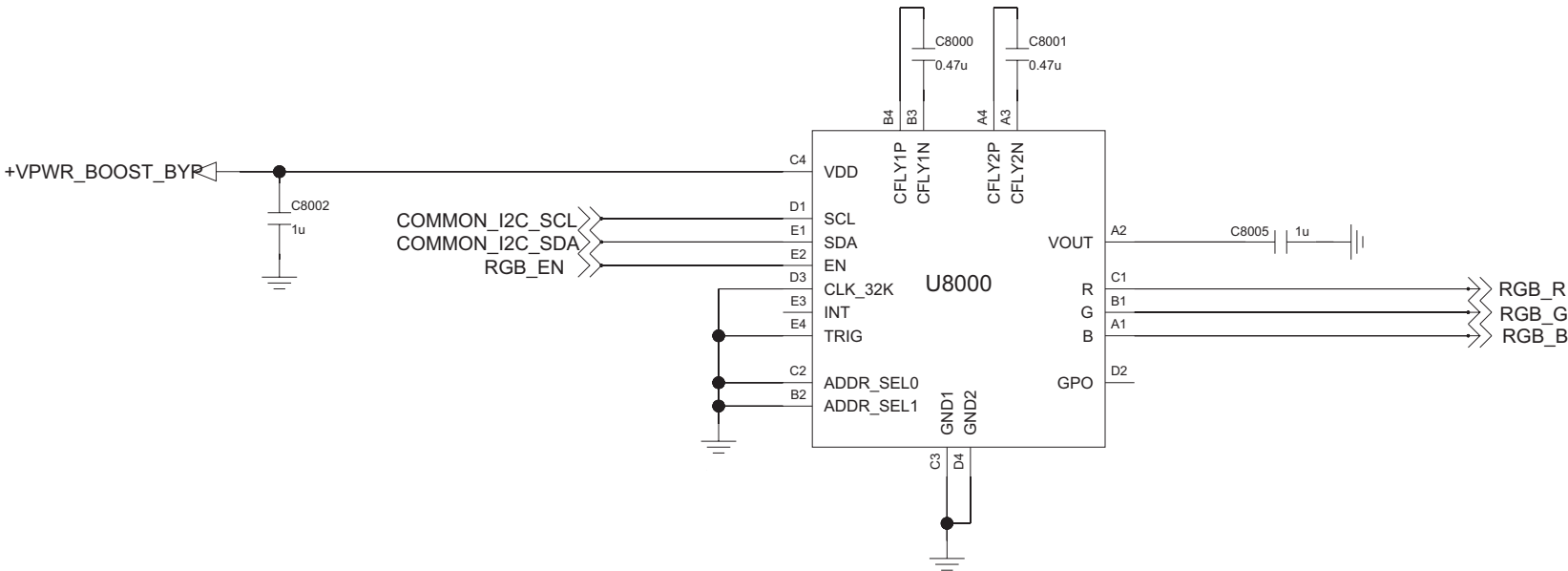
<4-3-2_OVP_MAX14528>REV.0.4



<4-4-3_LCD_Backlight_IC_RT8542> REV_0.3

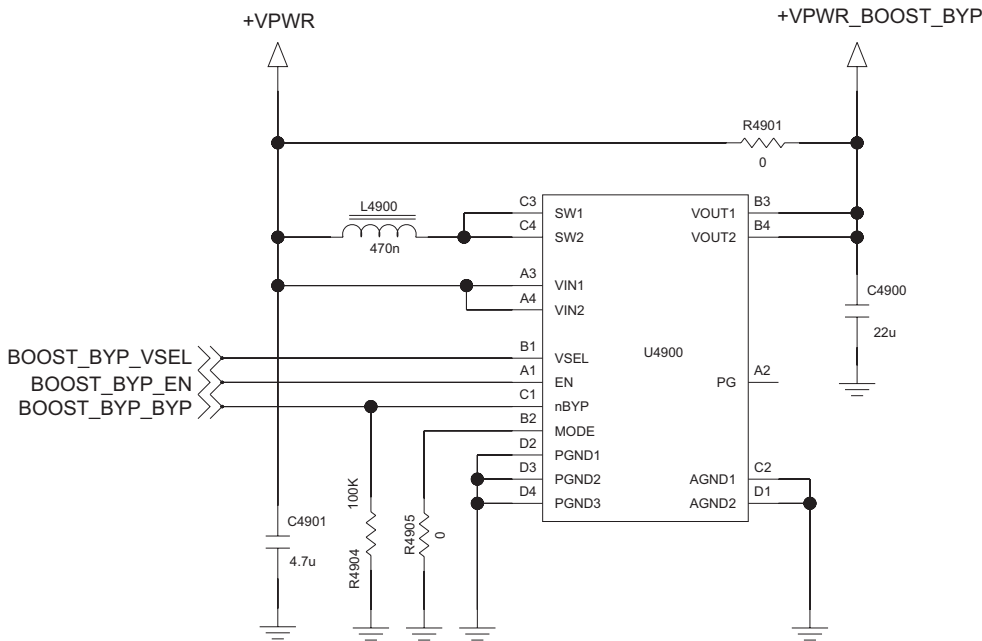
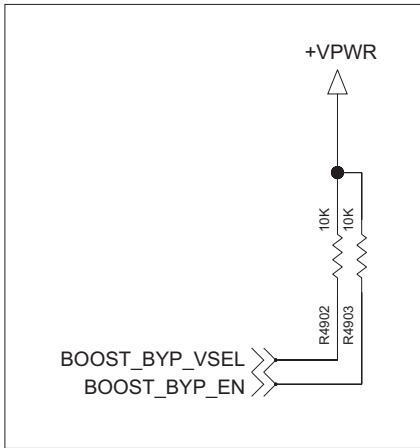


<4-6-1_LED_Driver_IC_LP5521>REV.0.4



< 4-9-1-4-1_Bypass_Boost_TPS61282 > Rev_0.4

TPS61281 and TPS61281 pin to pin version must be changed to TPS61282

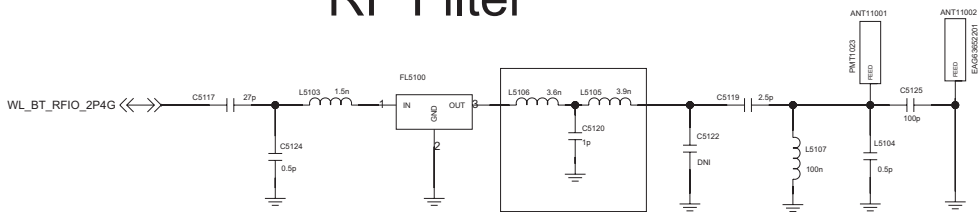


+VPWR_BOOST_BYP	For TMUS
+VPWR	Others

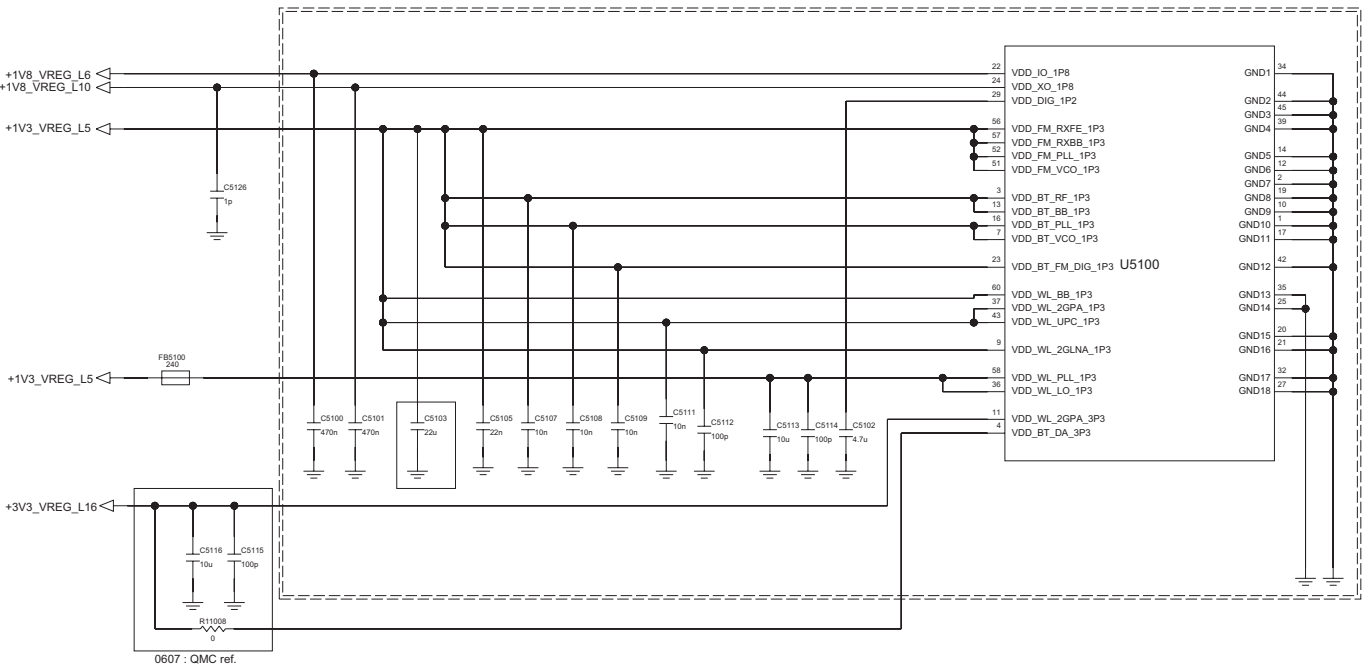
EN	BYP N	VSEL	Vout
0	X	X	Boost bypass disabled
1	1	0	For Vin < 3.3V, Vout = 3.3V (Boost mode) For Vin >= 3.3V, Vout = Vin(bypass mode)
1	1	1	For Vin < 3.5V, Vout = 3.5V (Boost mode) For Vin >= 3.5V, Vout = Vin (bypass mode)
1	0	X	Vout = Vin (forced bypass mode)

<5-1-1-4> BT/WiFi Combo_WCN3620REV.0.4

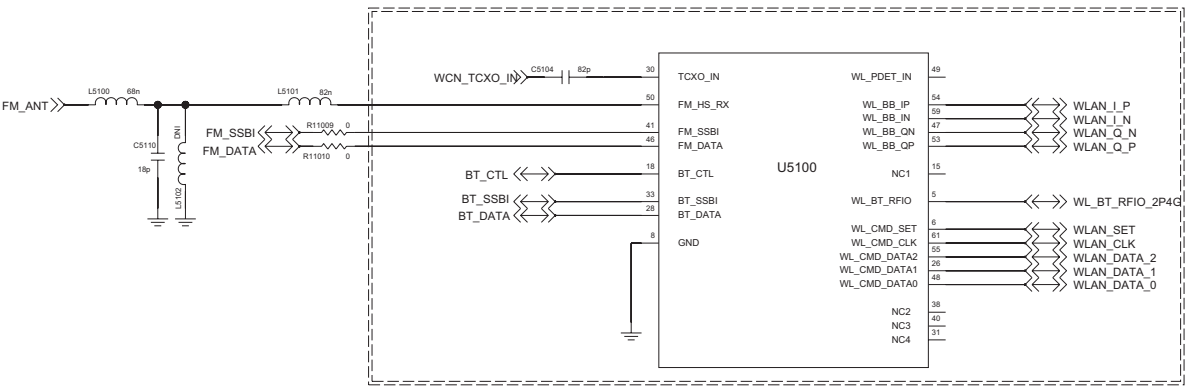
RF Filter

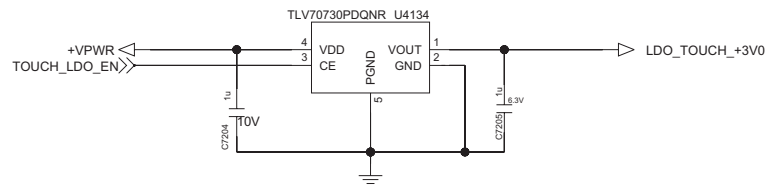


POWER/GND



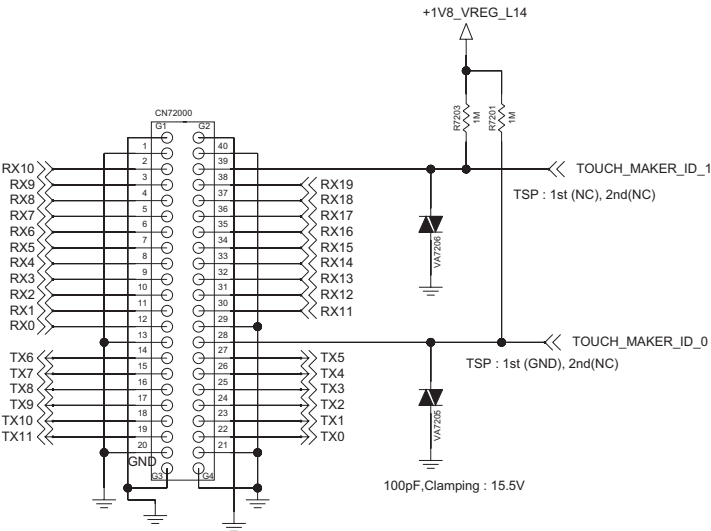
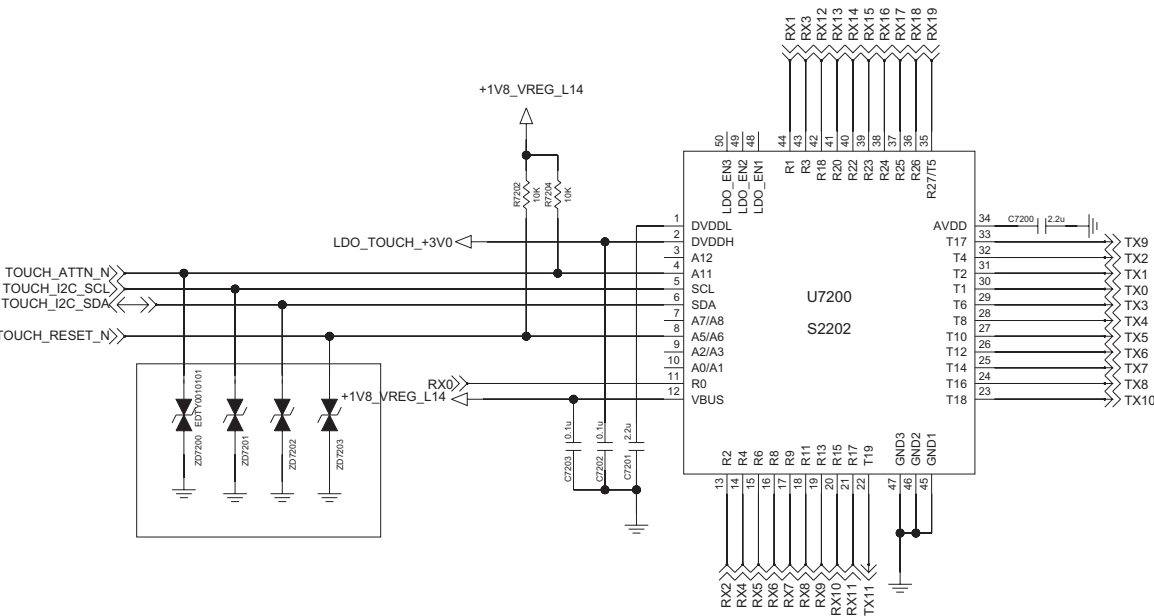
RF/CONTROL

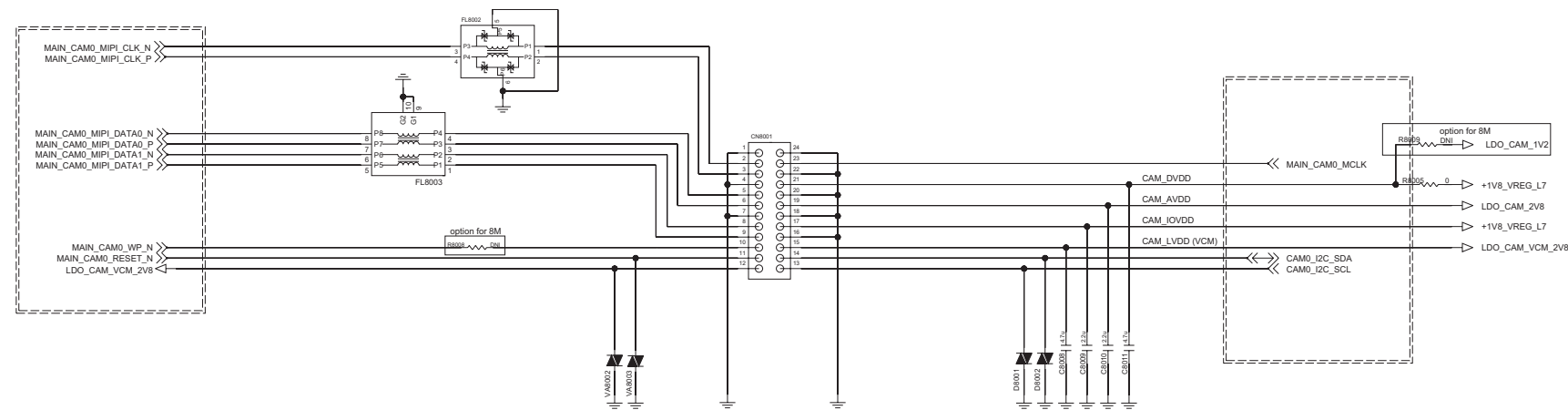




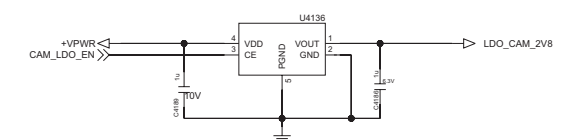
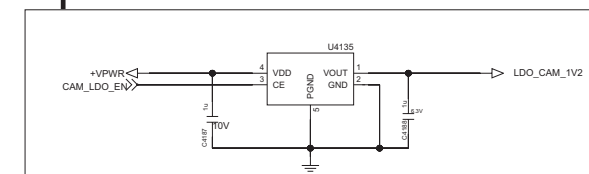
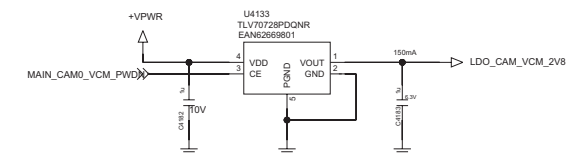
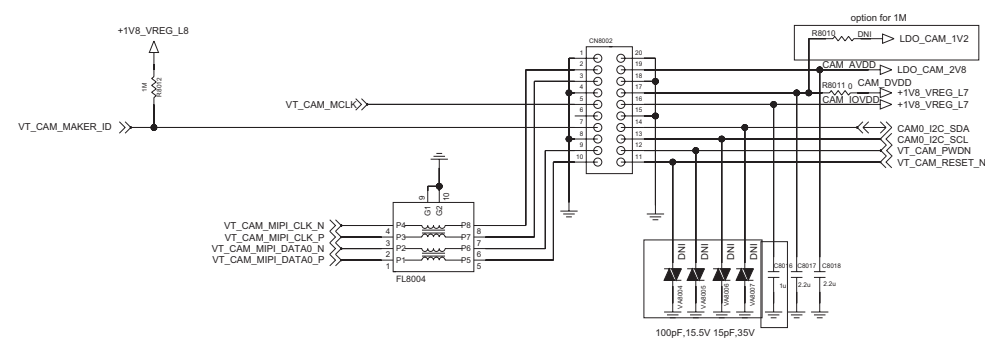
TOUCH COB

< 7-2-1-1_Touch_Connector >
Touch Connector
(B to B type)

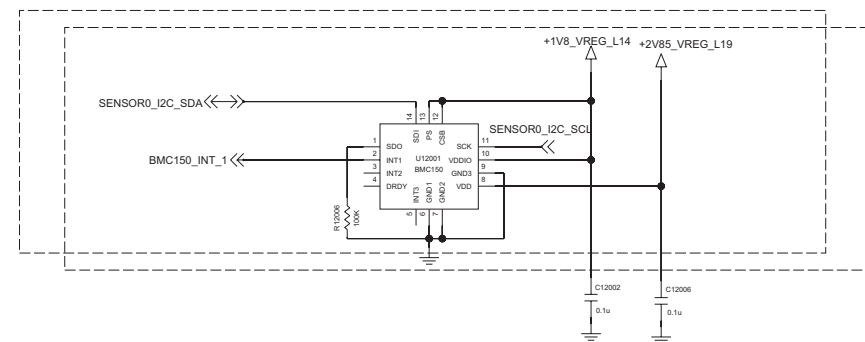




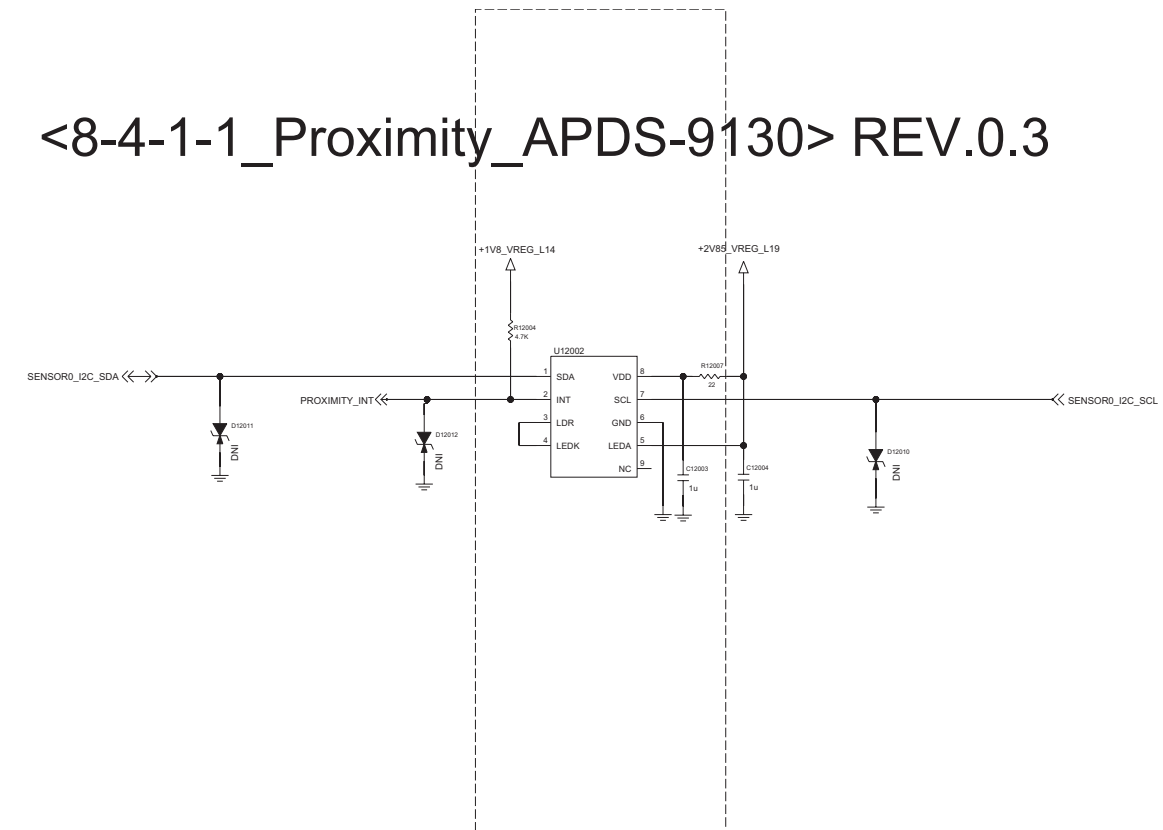
8M Camera P/N : EBP61601902



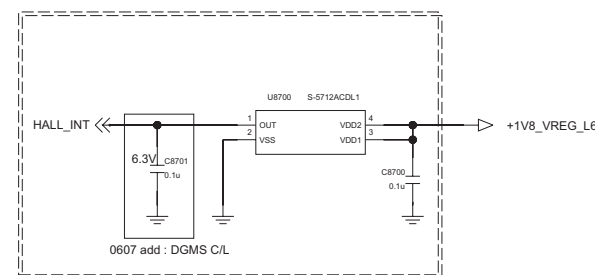
<8-1-2-1_Accel_Compass_BMC150> REV.0.3



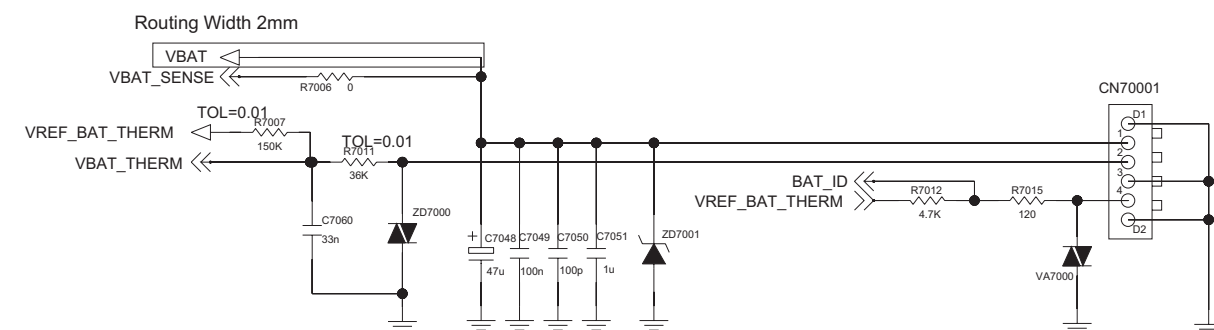
<8-4-1-1_Proximity_APDS-9130> REV.0.3



<8-7-1-1_Hall IC_BU52061NVX>Rev_0.3



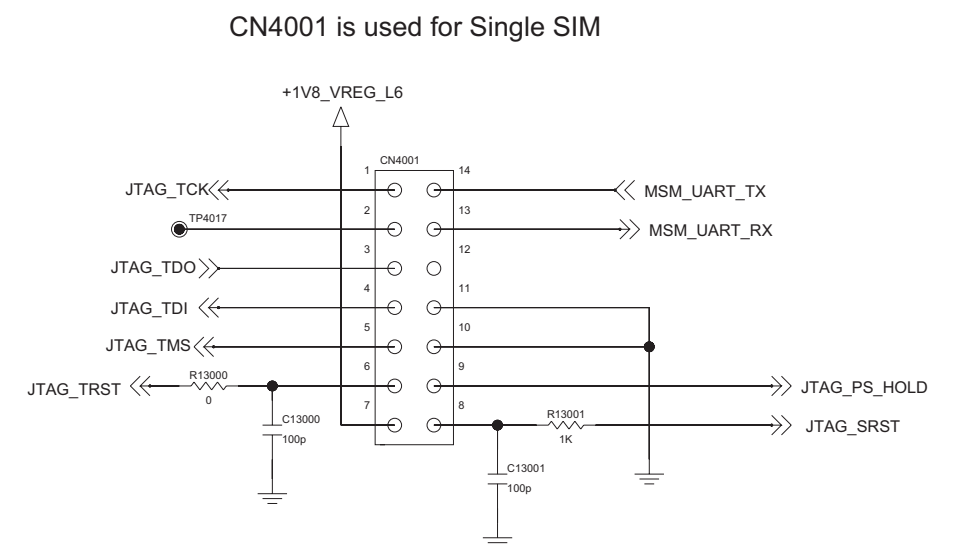
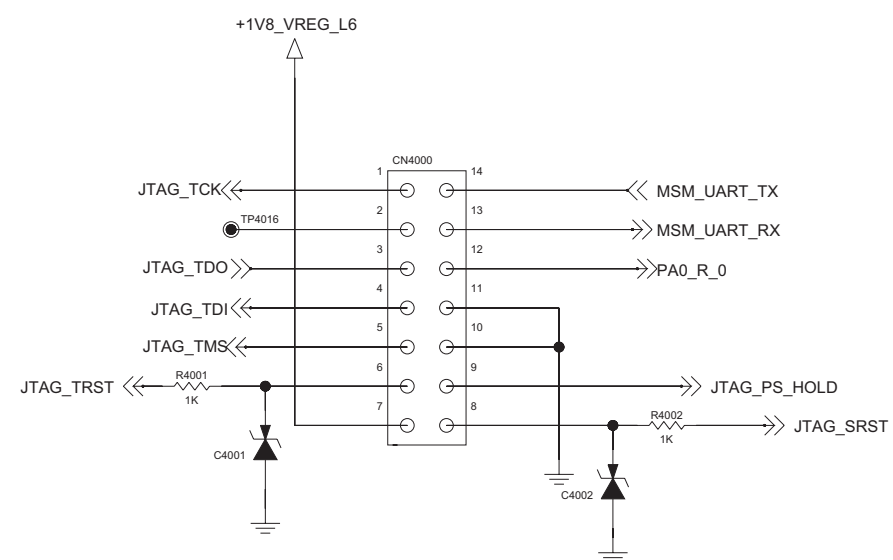
<9-1-2_Battery_CNT_4P> REV.0.4



EMBY0053201

same as all W/X series

< 9-3-1_JTAG > Rev_0.4

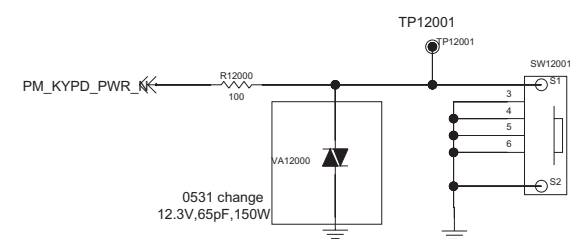


<9-5-1-2_Dual_SIM_Socket_12P>REV.0.3

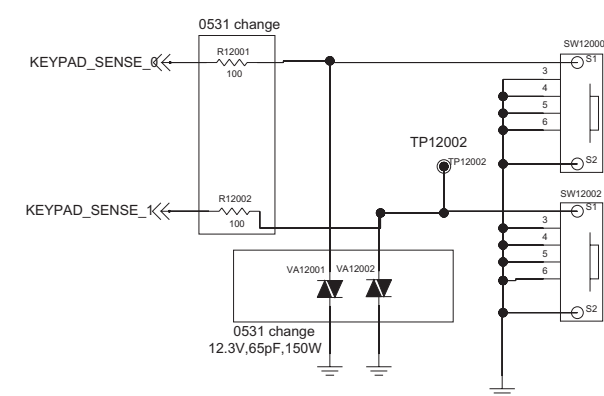


< 9-7-1_Power_Lock_Volume_Key > Rev_0.4

POWER & LOCK KEY

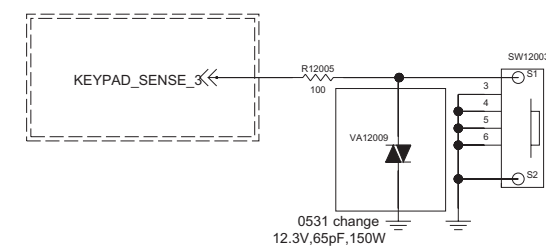


Vol. UP/DOWN



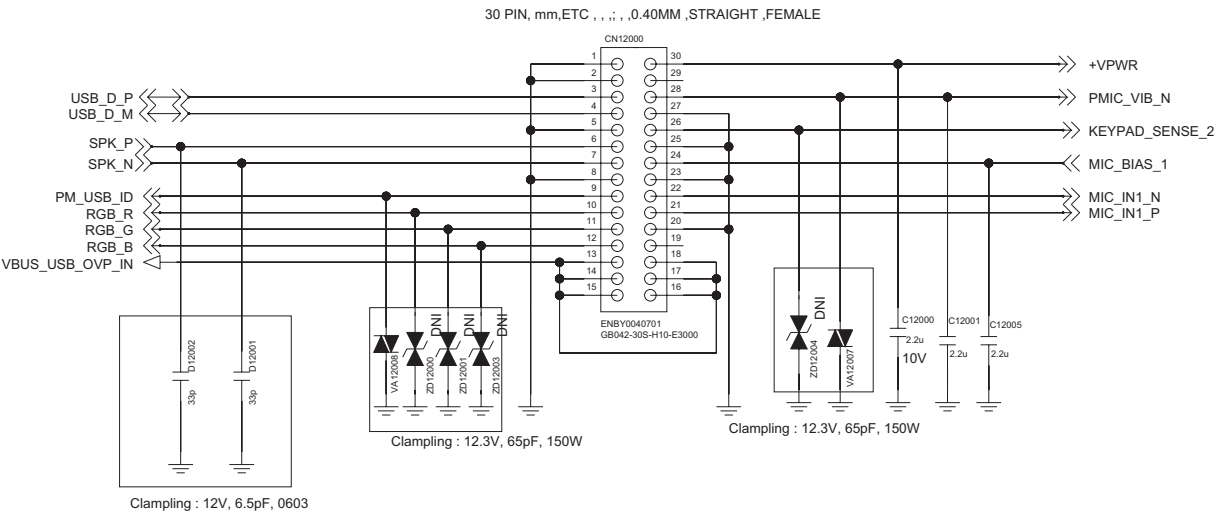
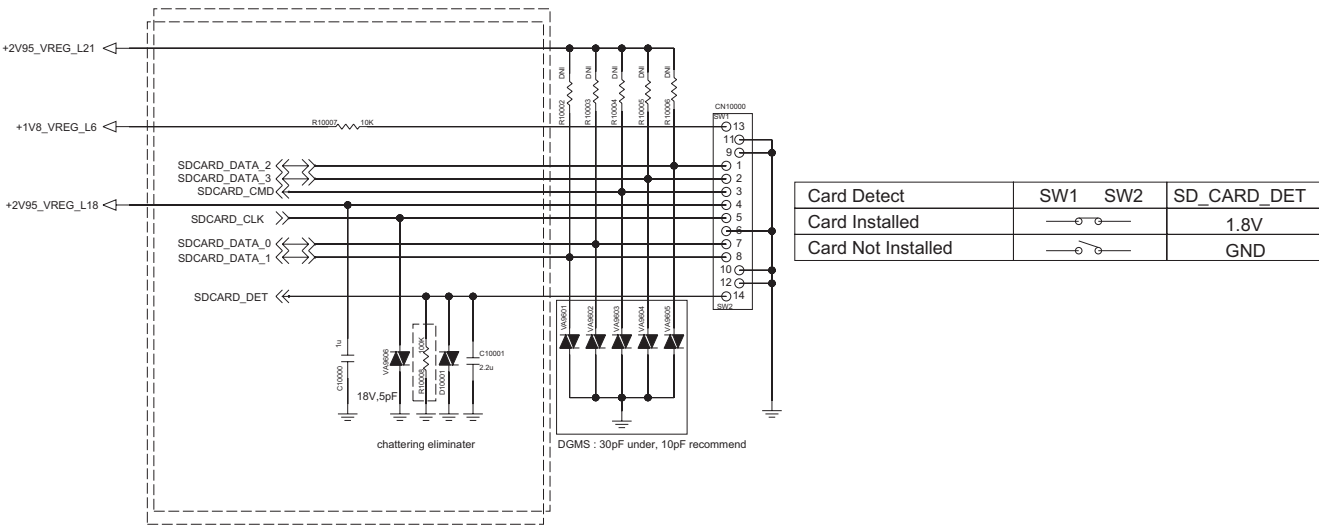
< 9-7-4_Quick_Memo_Key_SW > Rev_0.3

Quick Memo Key



MAIN-TO-lower FPCB CONNECTOR

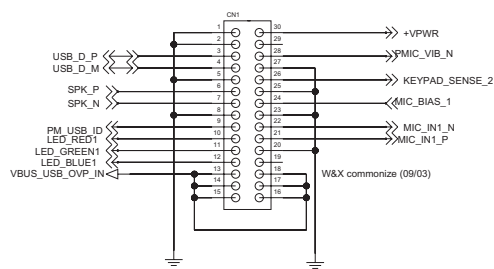
<9-6-1_Socket_Micro_SD> Rev_0.3



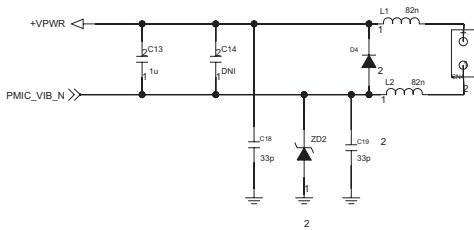
Need to Change TVS DNI for BOM

< W5 Single Lower FPCB >

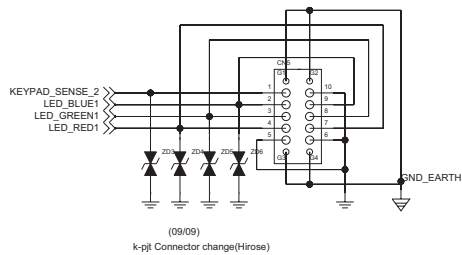
FPCB_LOWER_CONNECTOR



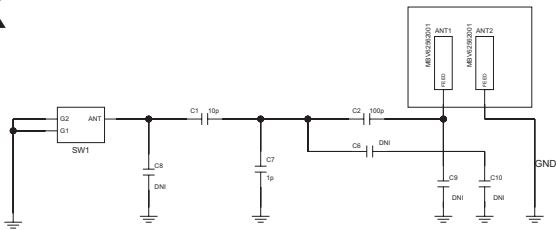
MOTOR



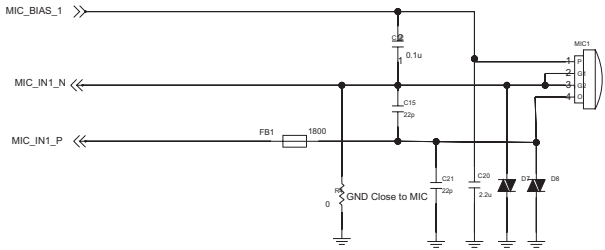
K-PJT CONNECTOR



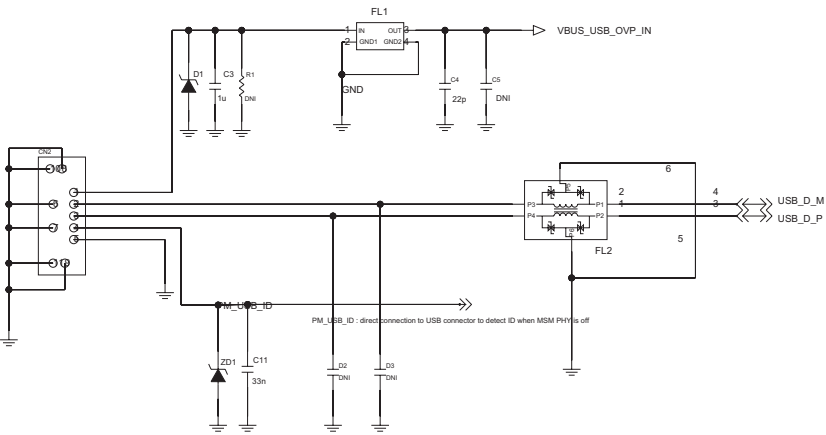
ANT1_PAD



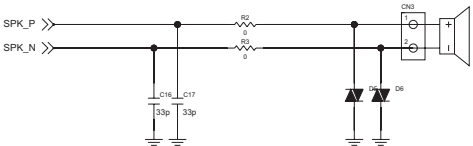
MAIN_MIC



5PIN_MICRO_USB

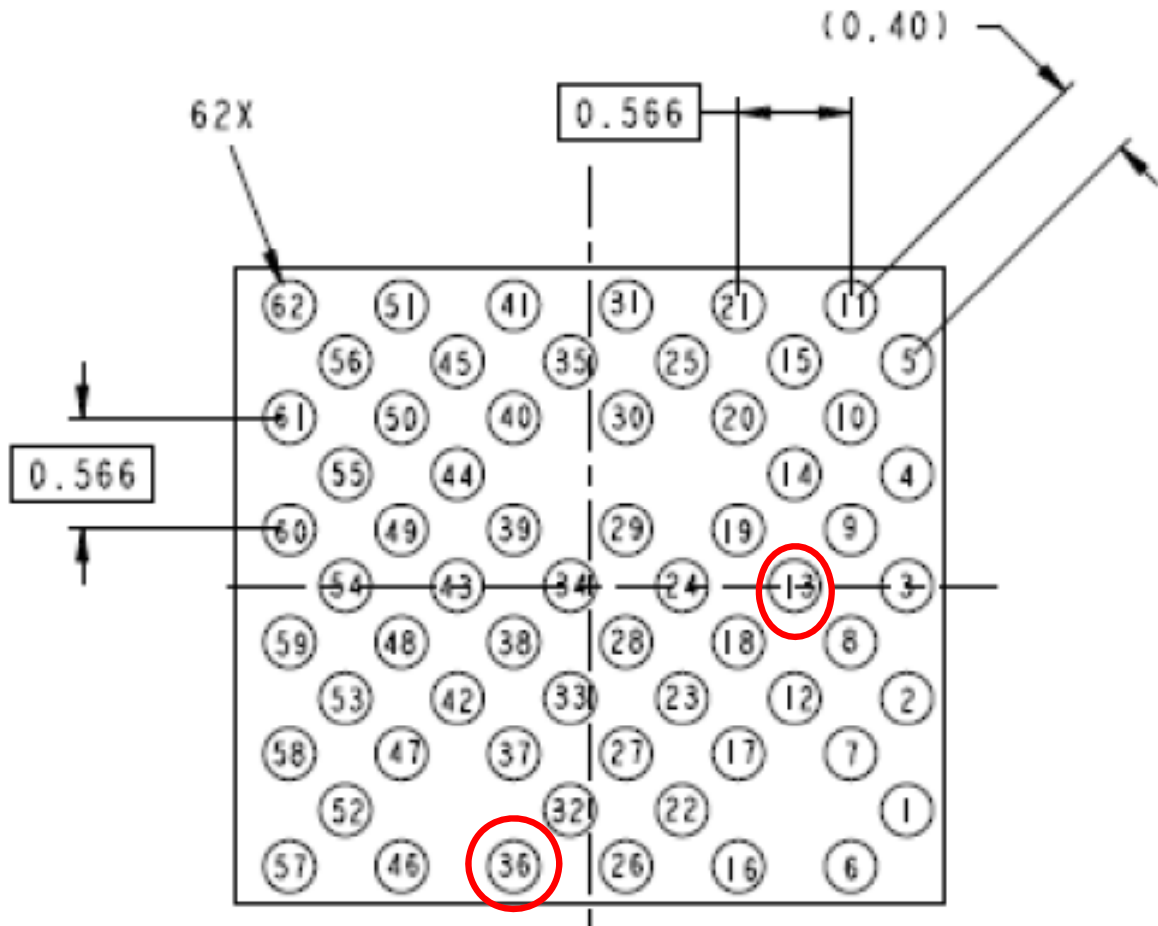


SPEAKER



7. BGA PIN MAP

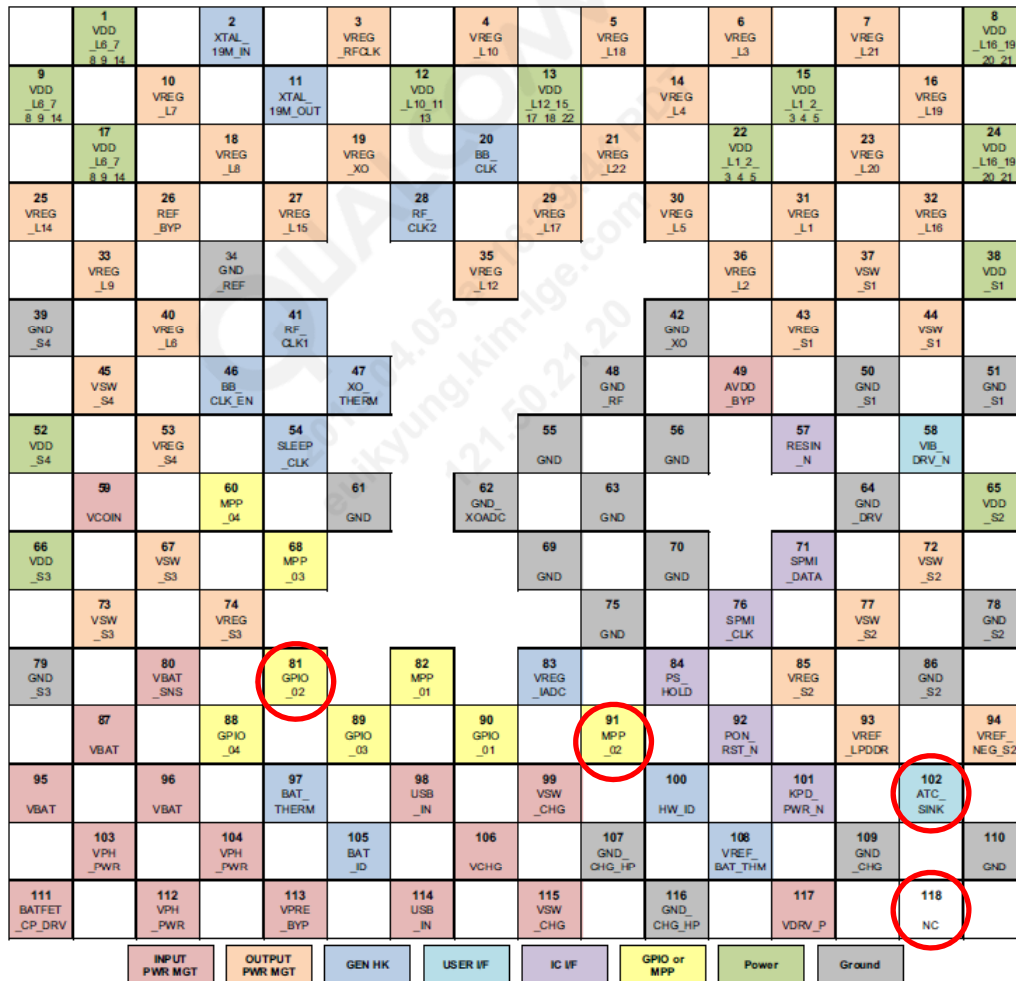
U3000 WTR2605



○ Not Used

7. BGA PIN MAP

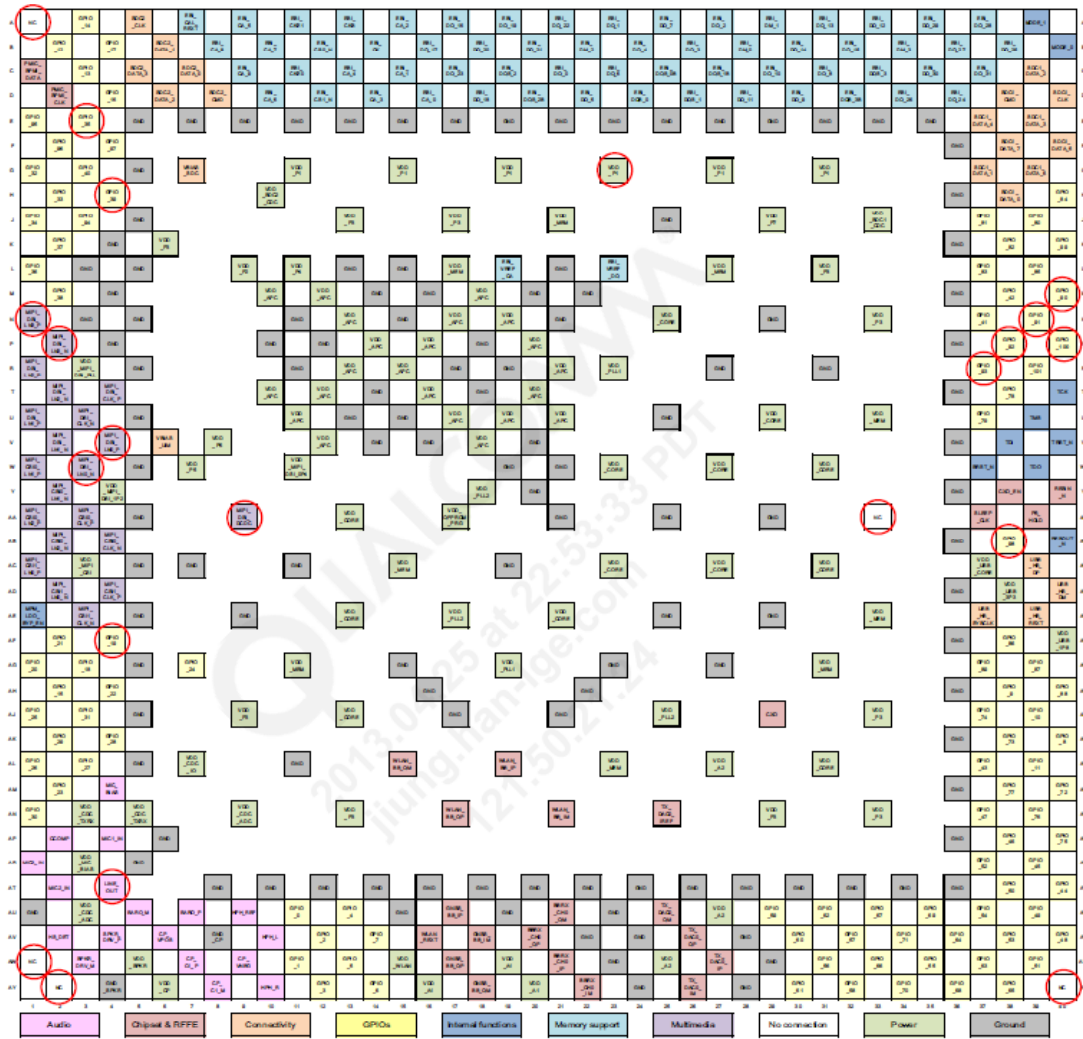
U4100 PM8110



○ Not Used

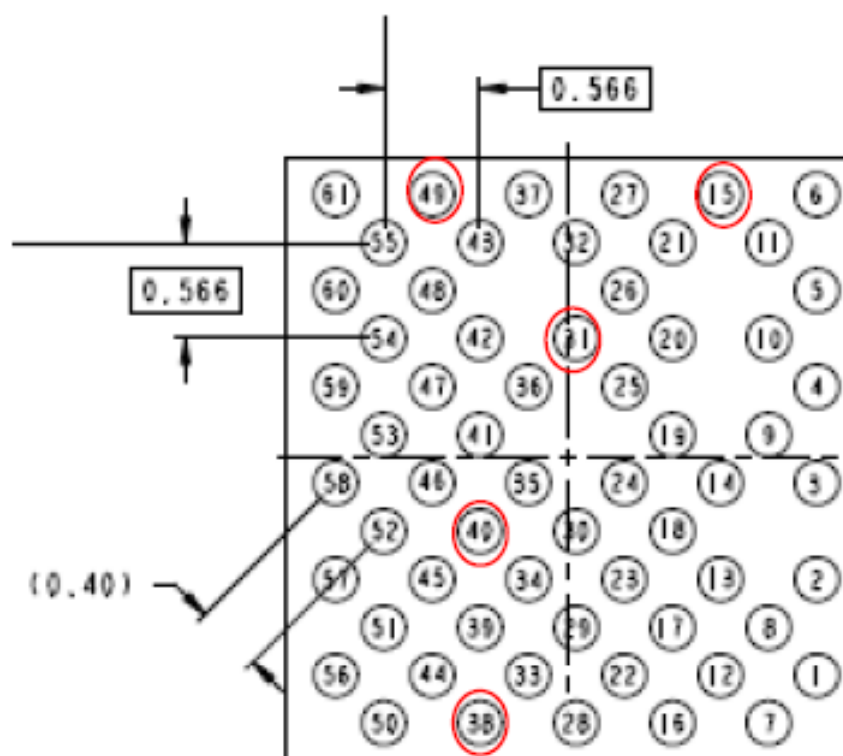
7. BGA PIN MAP

U2100 MSM8210



○ Not Used

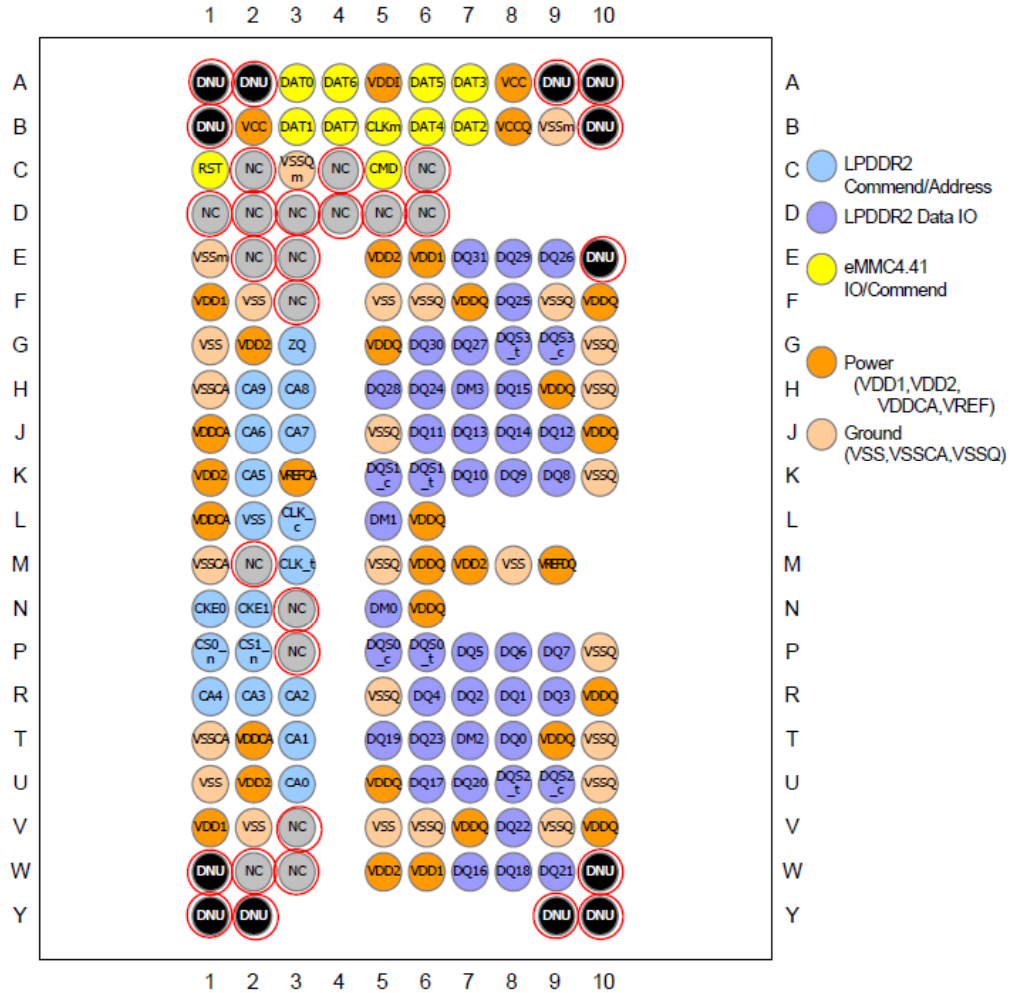
U5100 WCN3620



○ Not Used

7. BGA PIN MAP

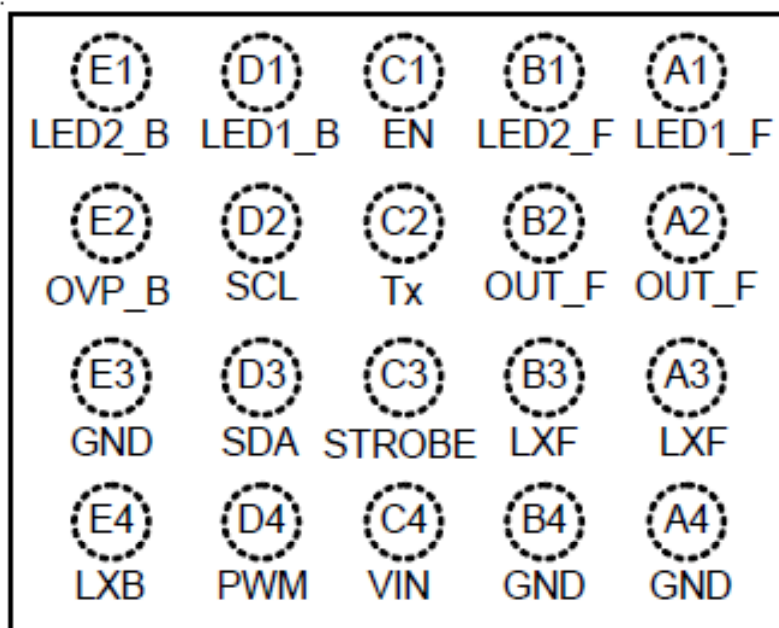
U6000 H9TP32A8JDBCPR-KGM



○ Not Used

U8001 RT8542

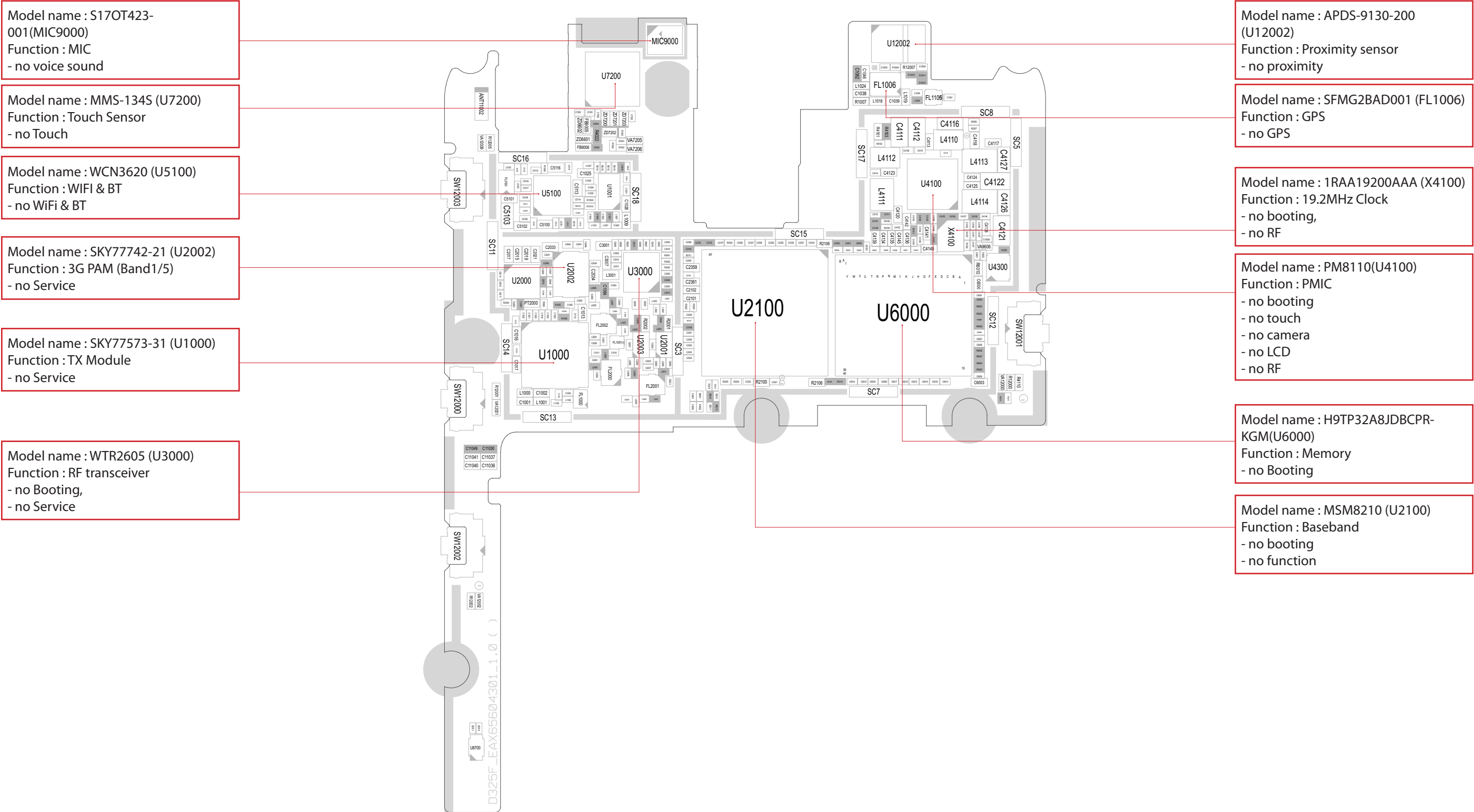
(TOP VIEW)



WL-CSP-20B 1.85x2.35 (BSC)

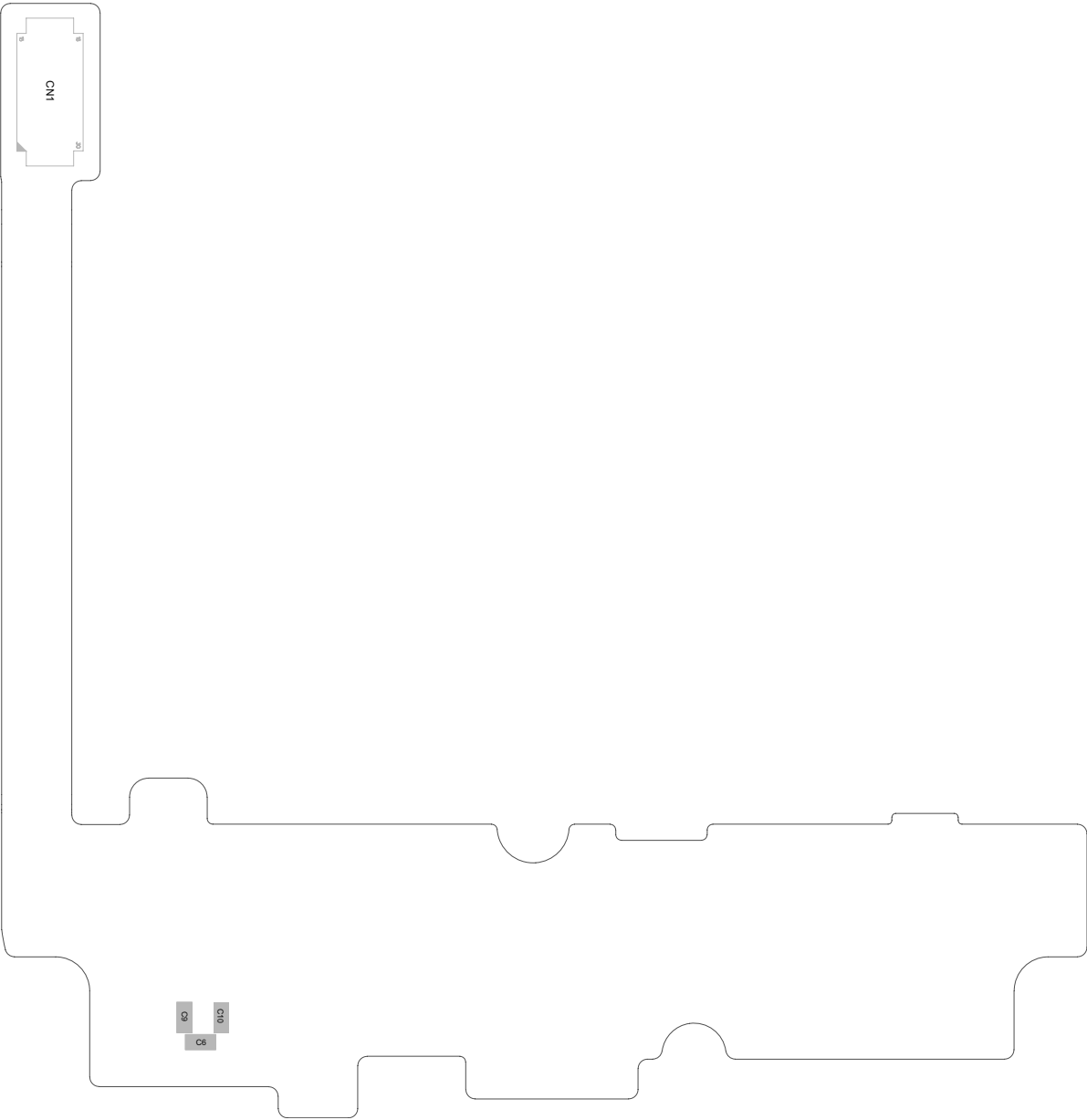
ALL USED PIN

8. PCB LAYOUT

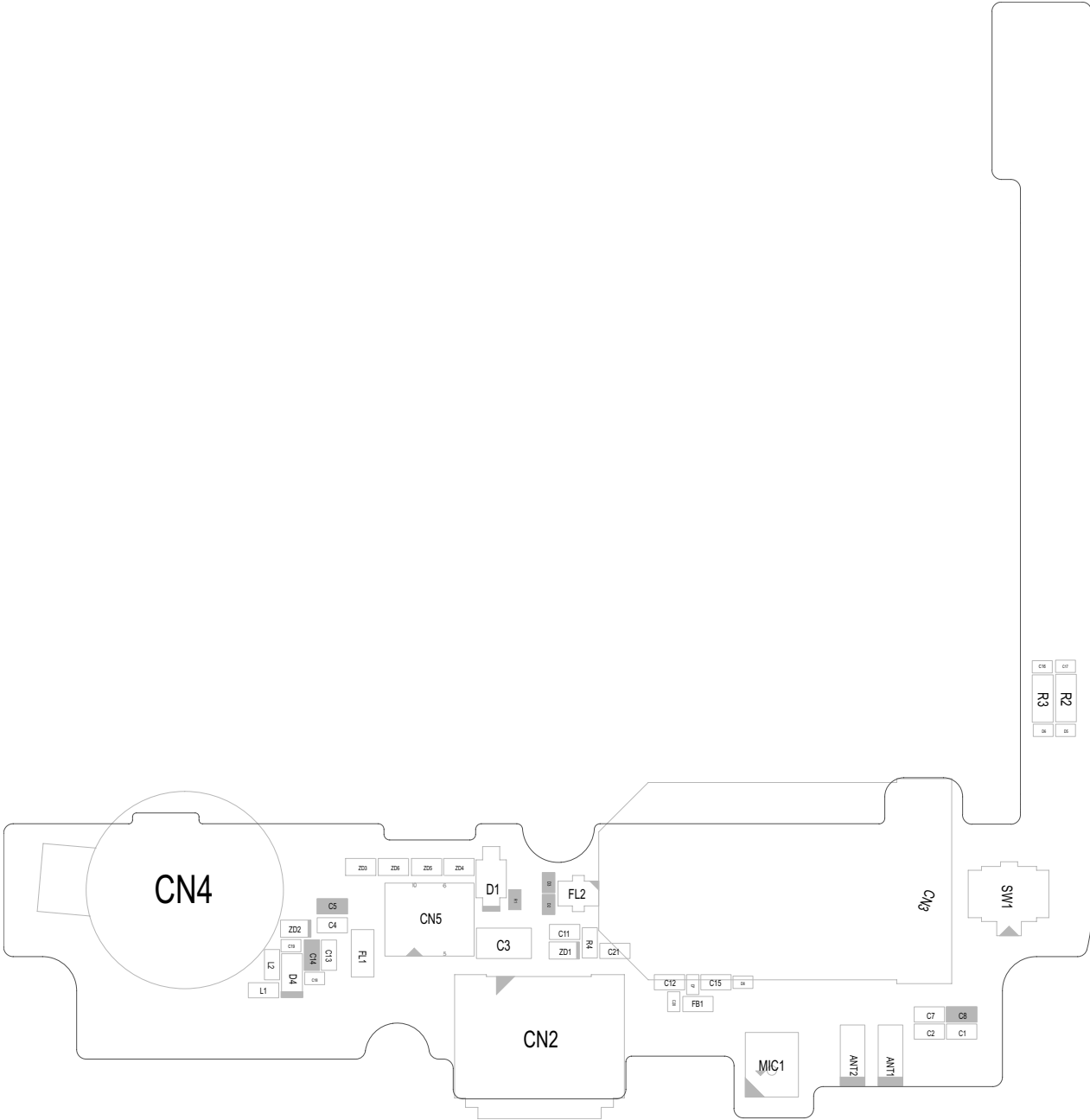


LG-D320_MAIN_EAX65604301_1.0_TOP





LG-D320_F_LOWER_EAX65608401_1.0_BOT

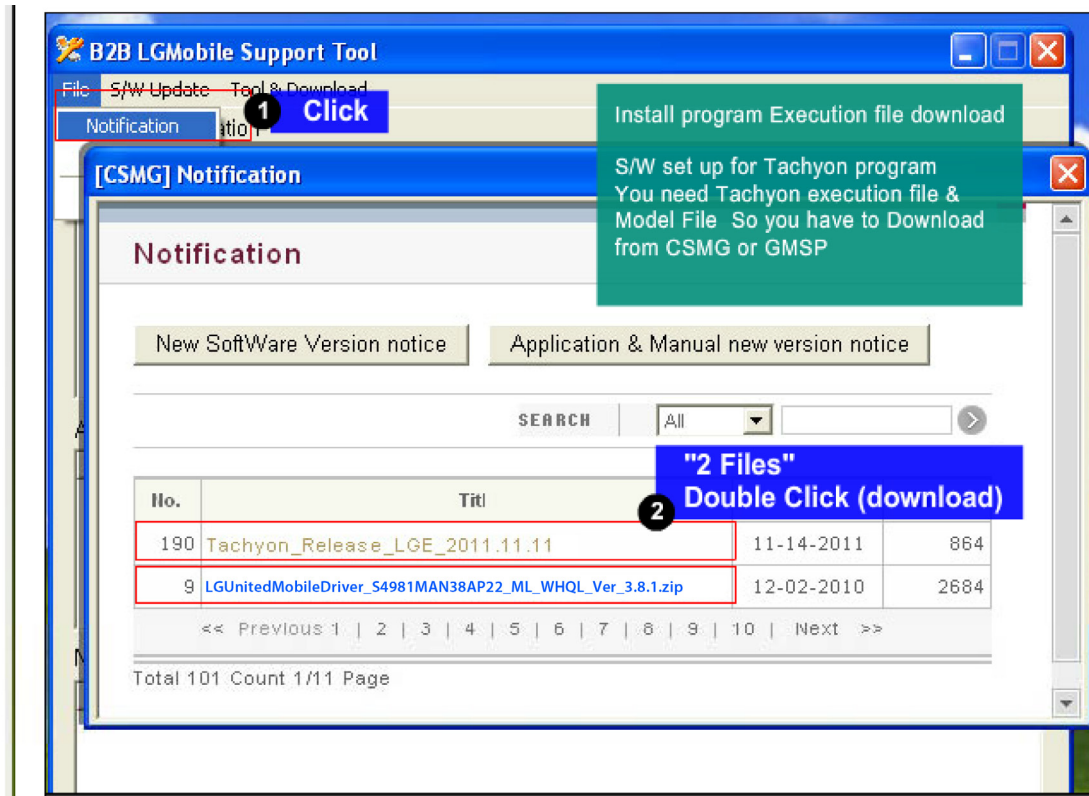
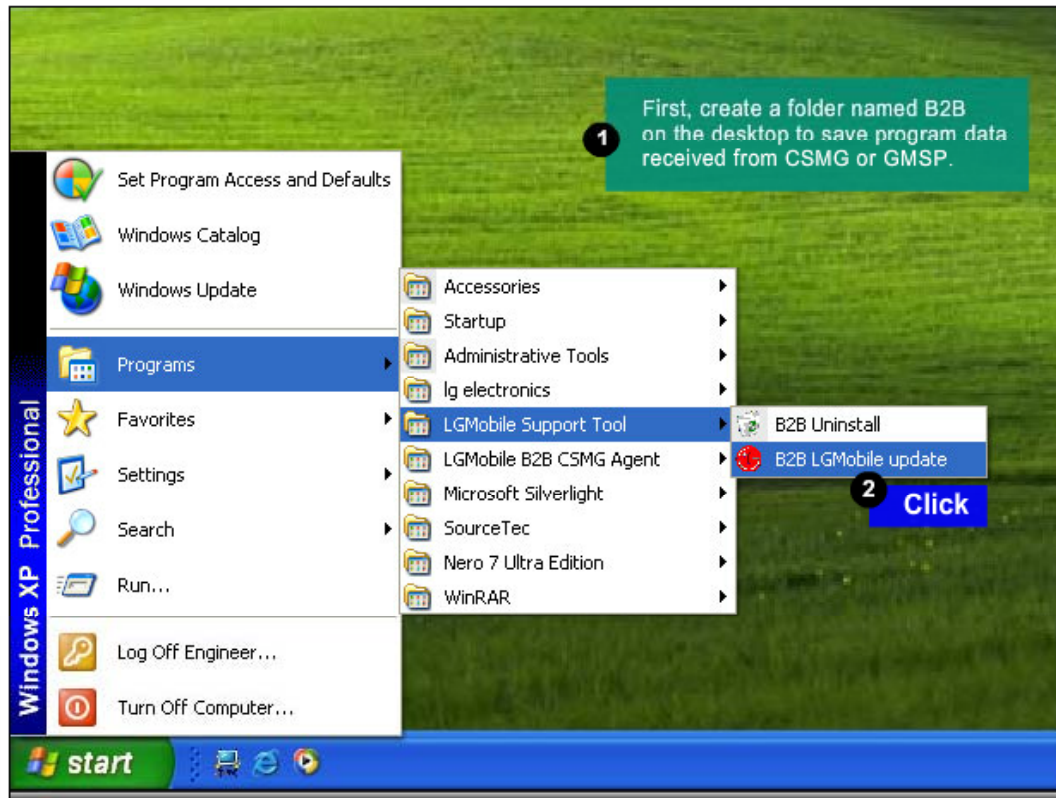


LG-D320_F_LOWER_EAX65608401_1.0_BOT

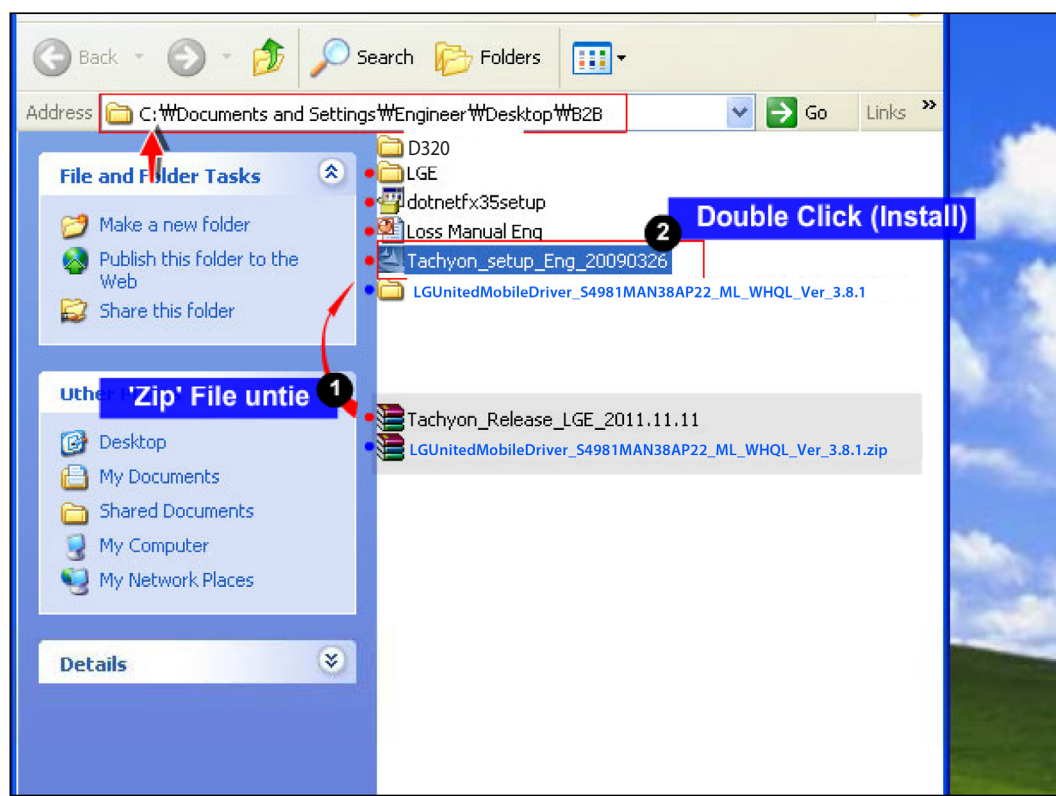
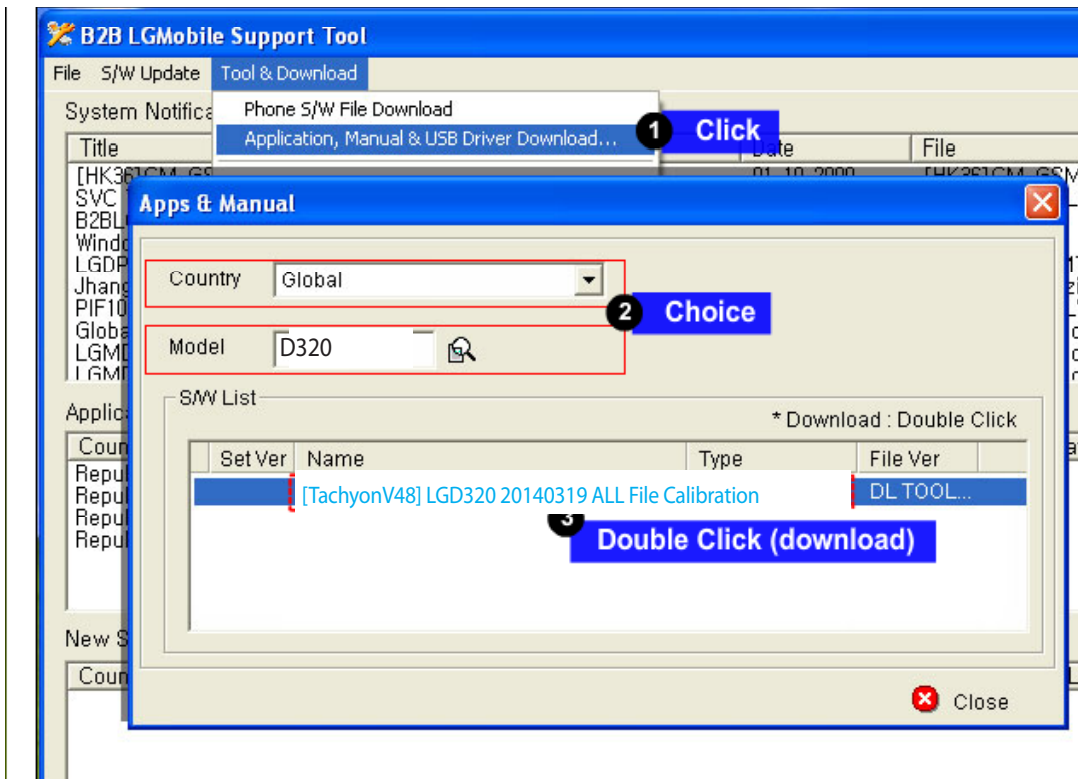
9. CALIBRATION

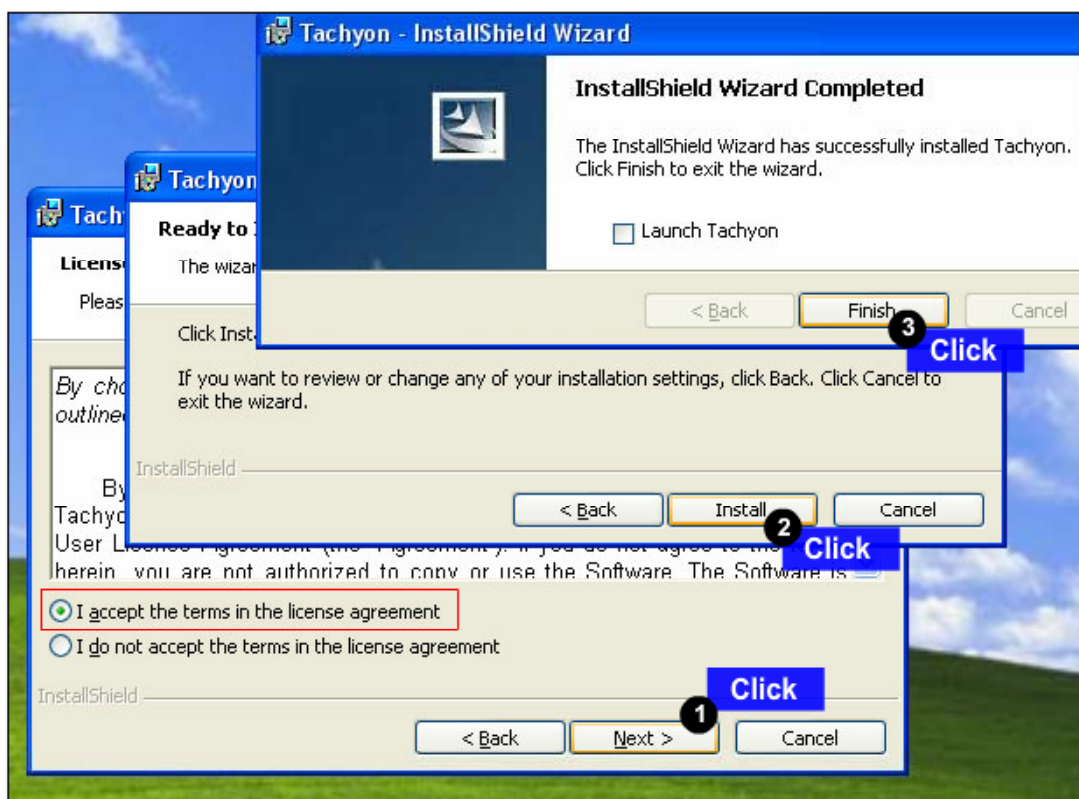
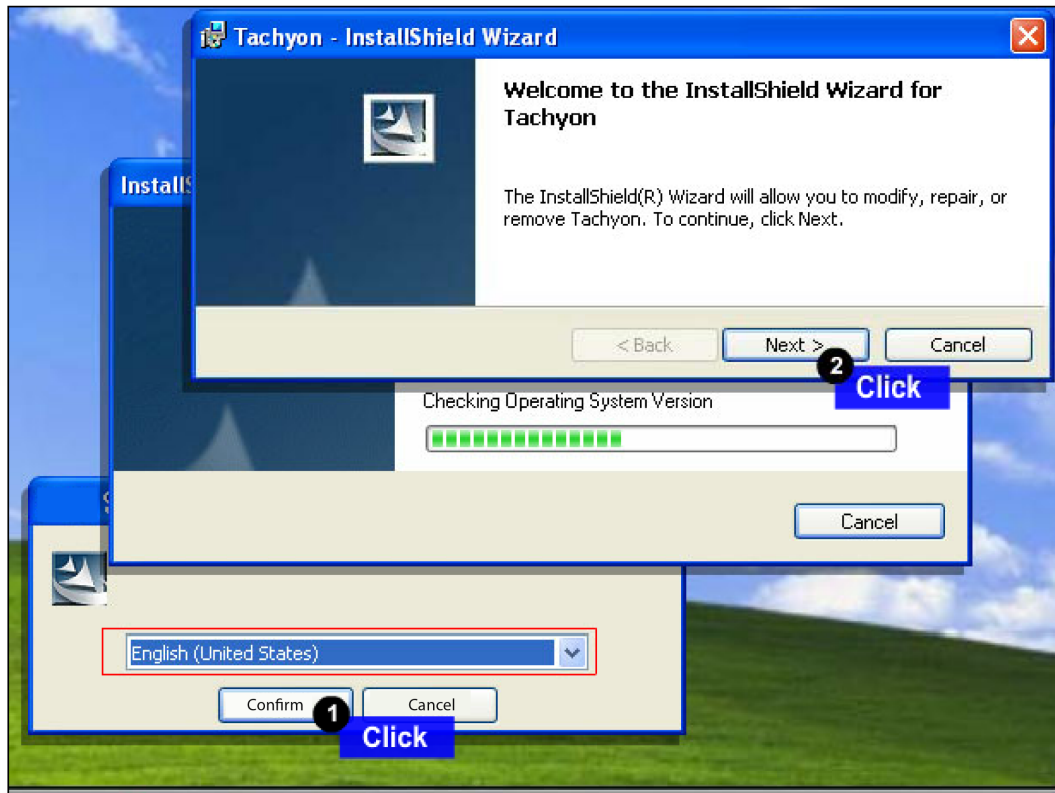
CAL INFORMATION		
S/W VERSION		
[TachyonV48] LGD320 20140319 ALL File Calibration		
Please Check the Version to "B2B"		
H/W		
	Name	Part No.
PIF	PIF200(All Type)	BJAY0024021
USB Cable	USB Cable	RAD32247898
Power Cable	DC Power Cable	RAD32247878
I/O Cable	5P E-SATA_DC_Plug	RAD32167861
RF Cable_Main	MS-156C	BJAY0024004
Power Supply_PIF	Power Supply 5.3V	
Power Supply_Phone	Power Supply 5.0V	
RF Test Equipment	E5515C(8960)	
NOTICE	1. Use the dummy Battery (Refer to Attached image) 1) Phone states: Power off 2) If do not use the dummy battery, GSM TX fails. 2. Port Setting (Refer to Attached image) 1) Uart Port2 : Use the "LGE CDMA USB Serial Port"	

9. CALIBRATION

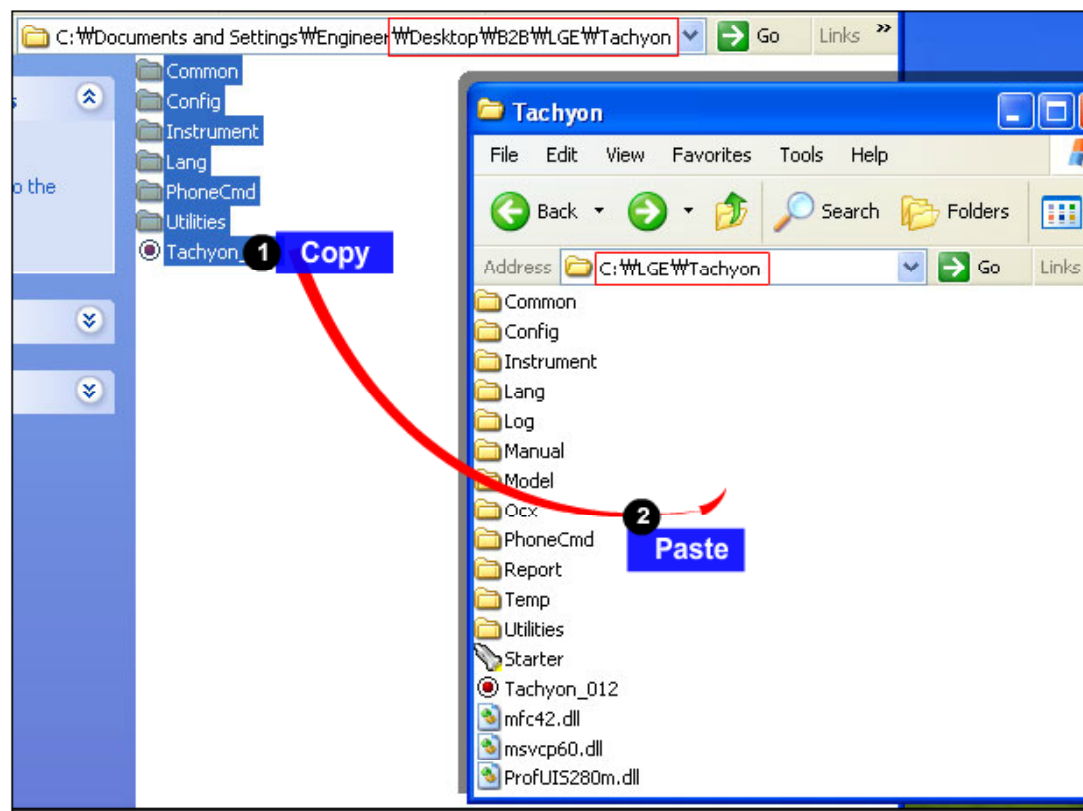
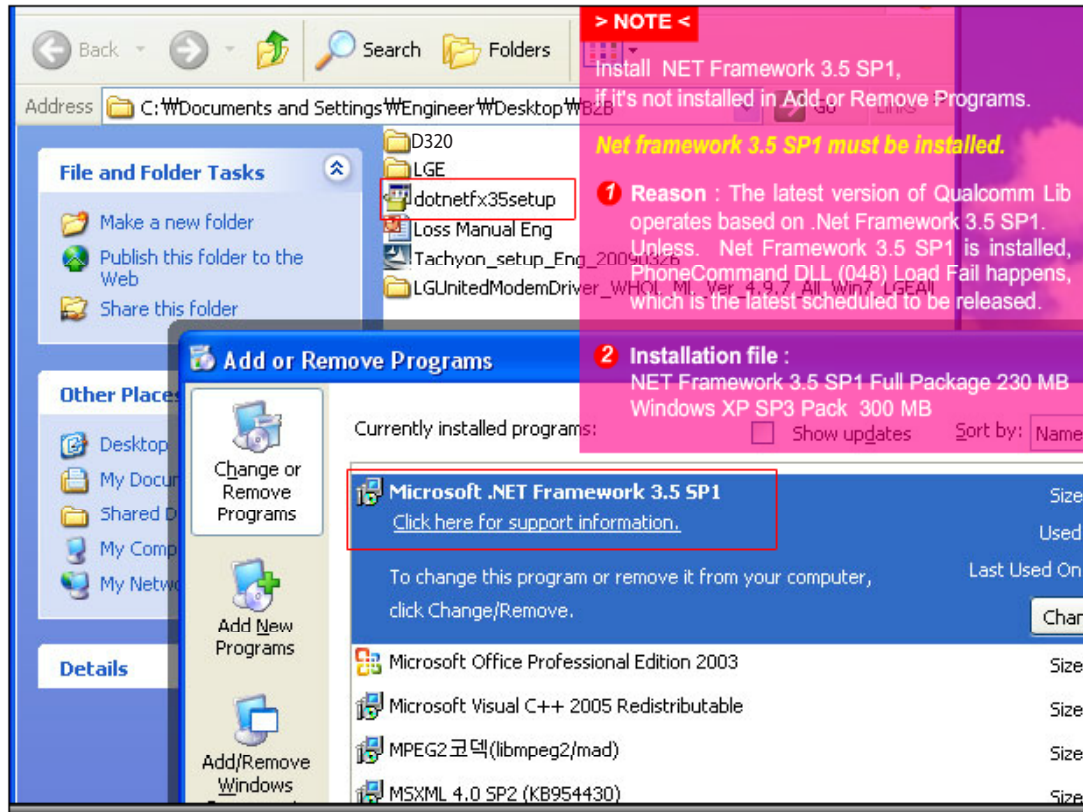


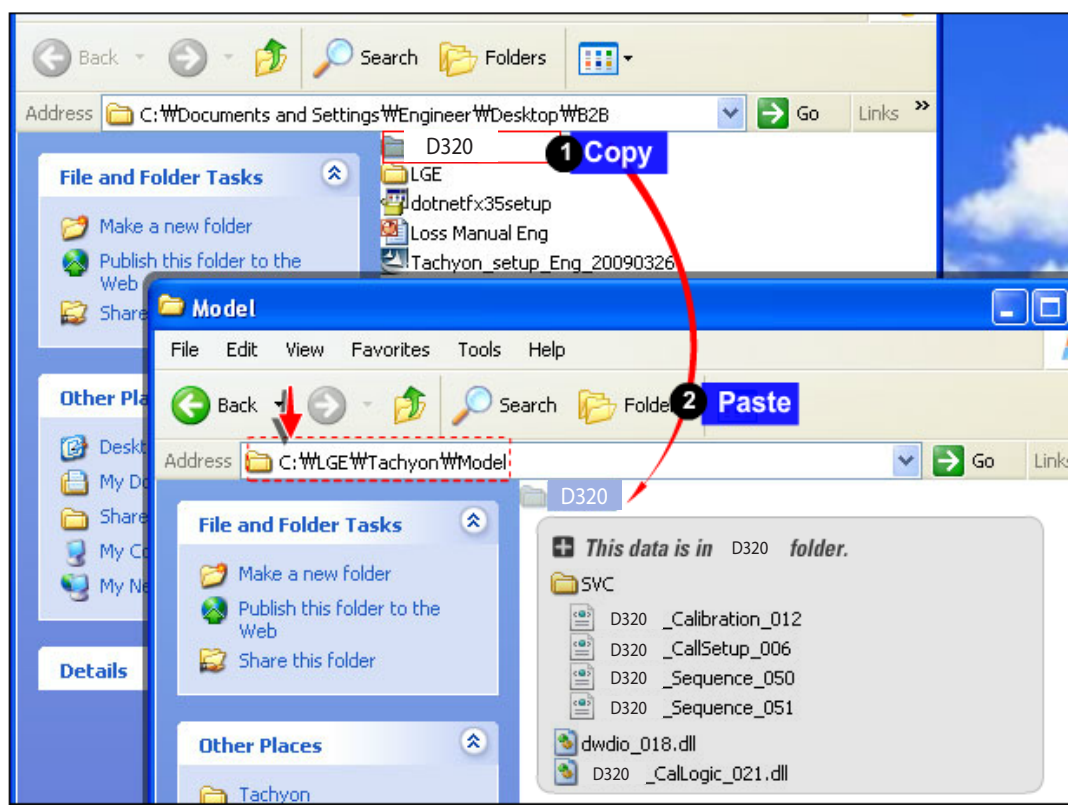
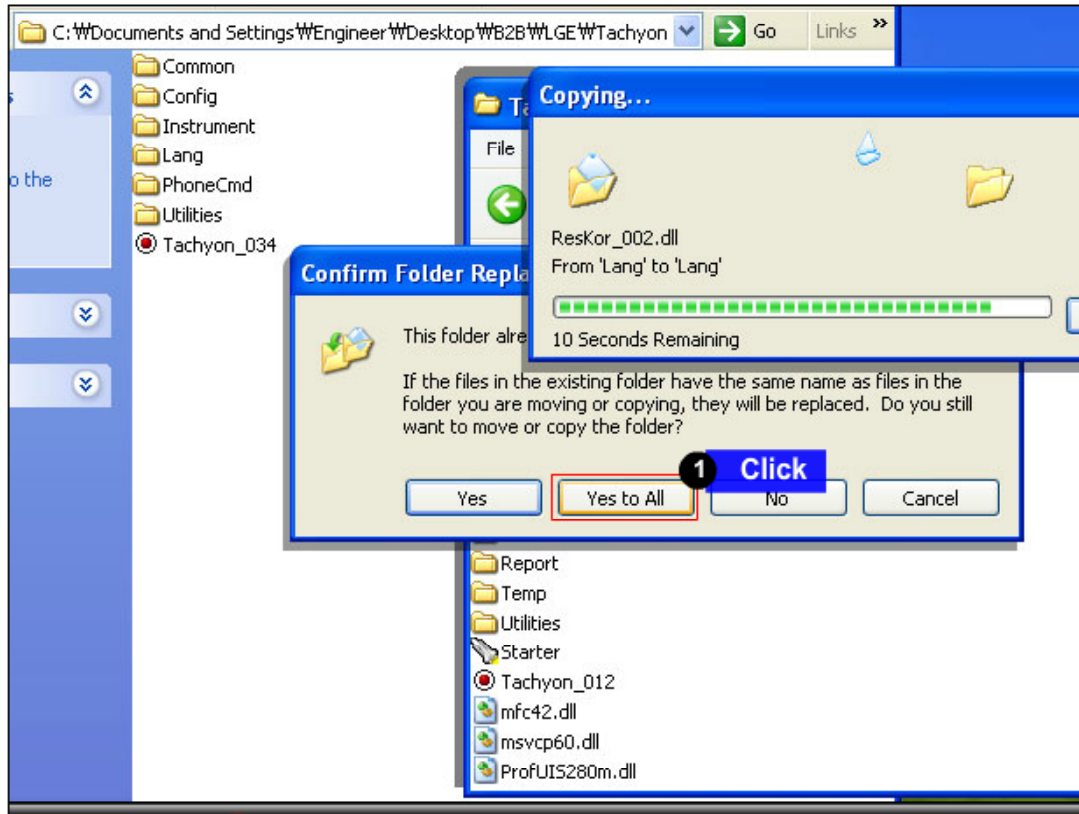
9. CALIBRATION

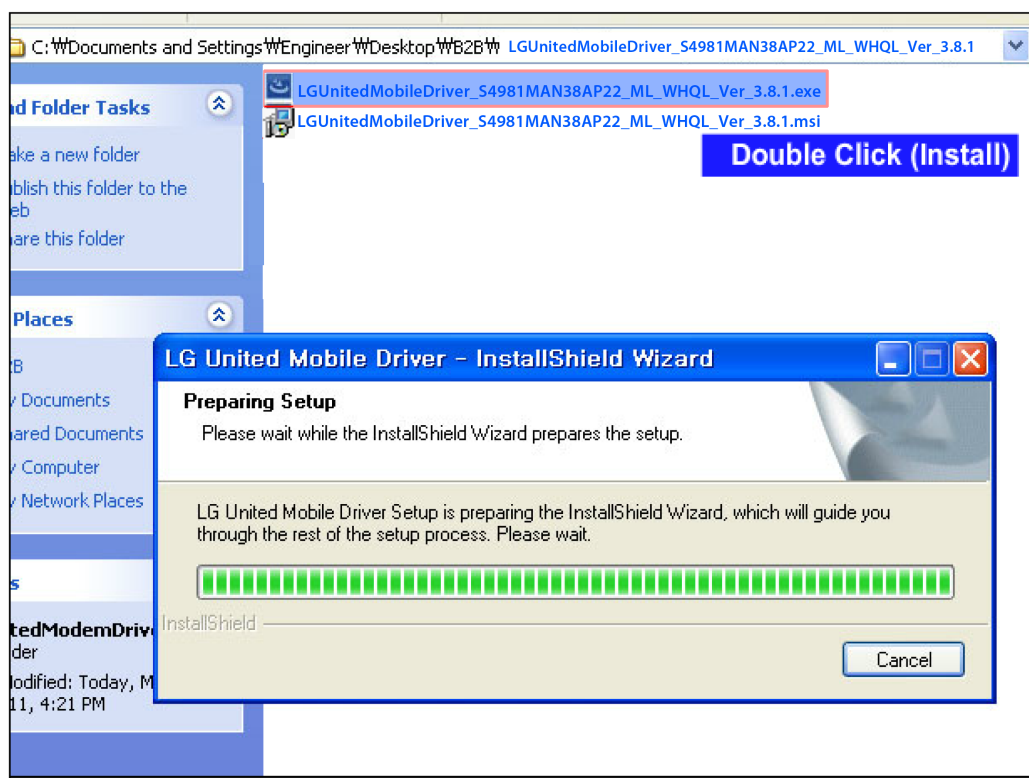
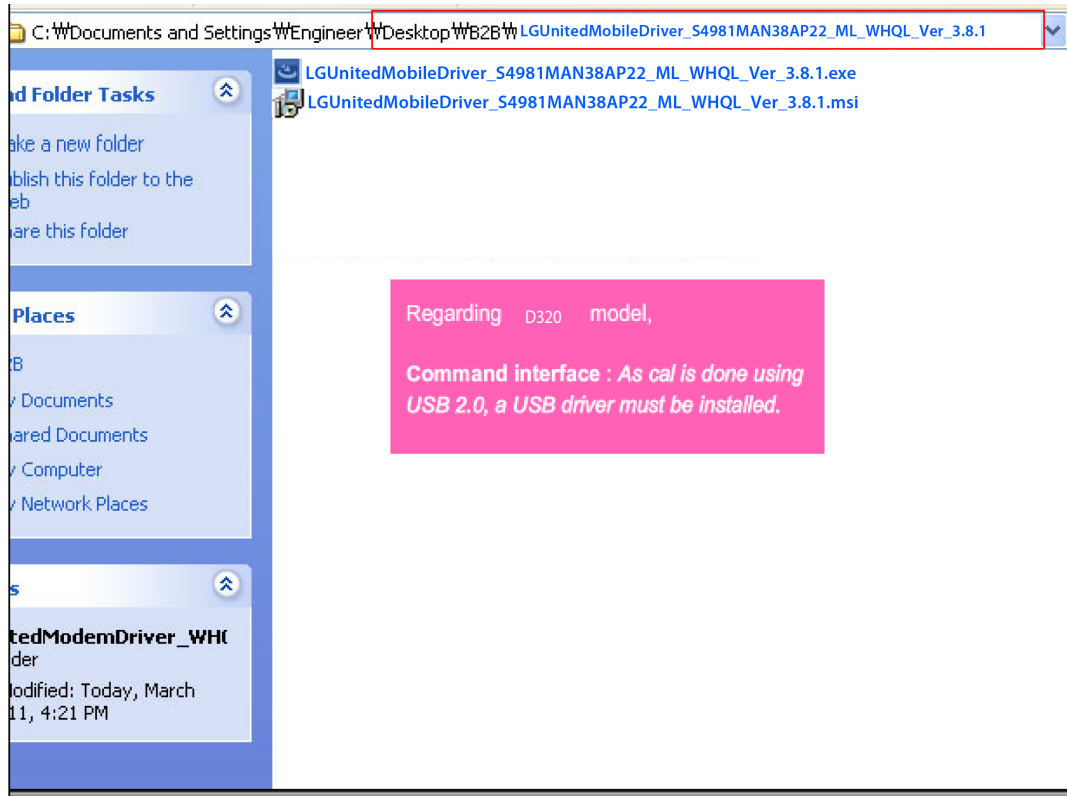


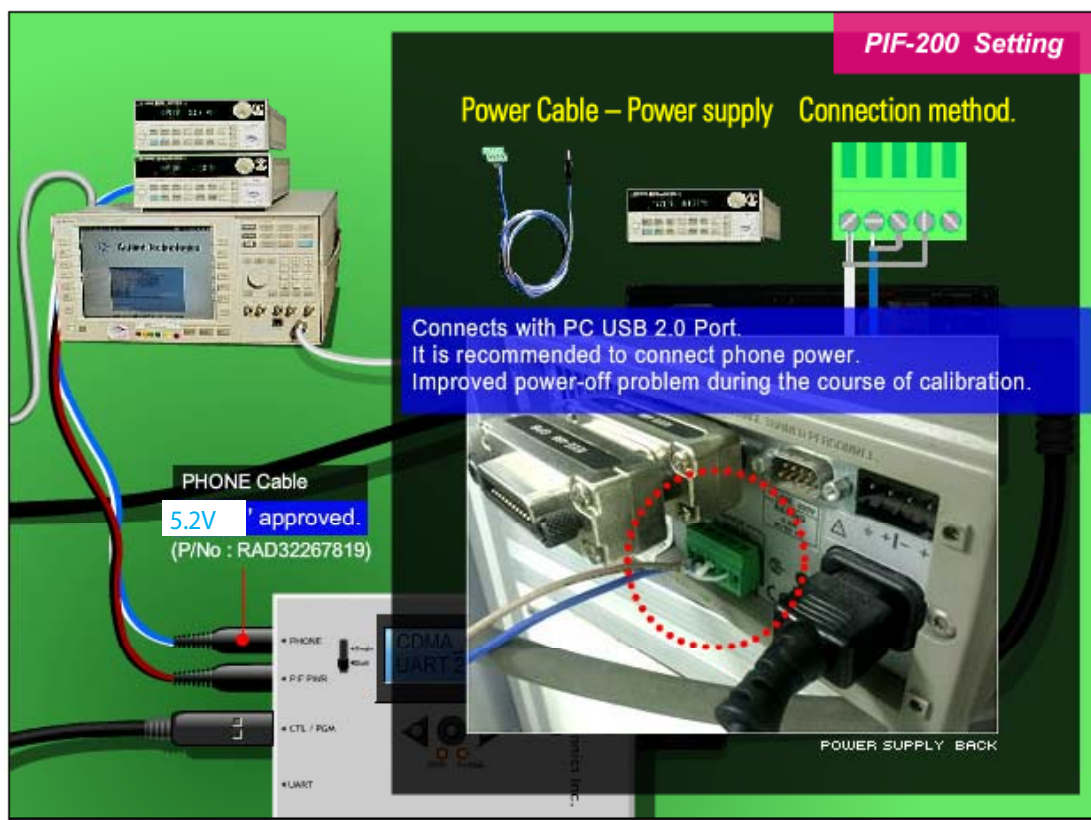
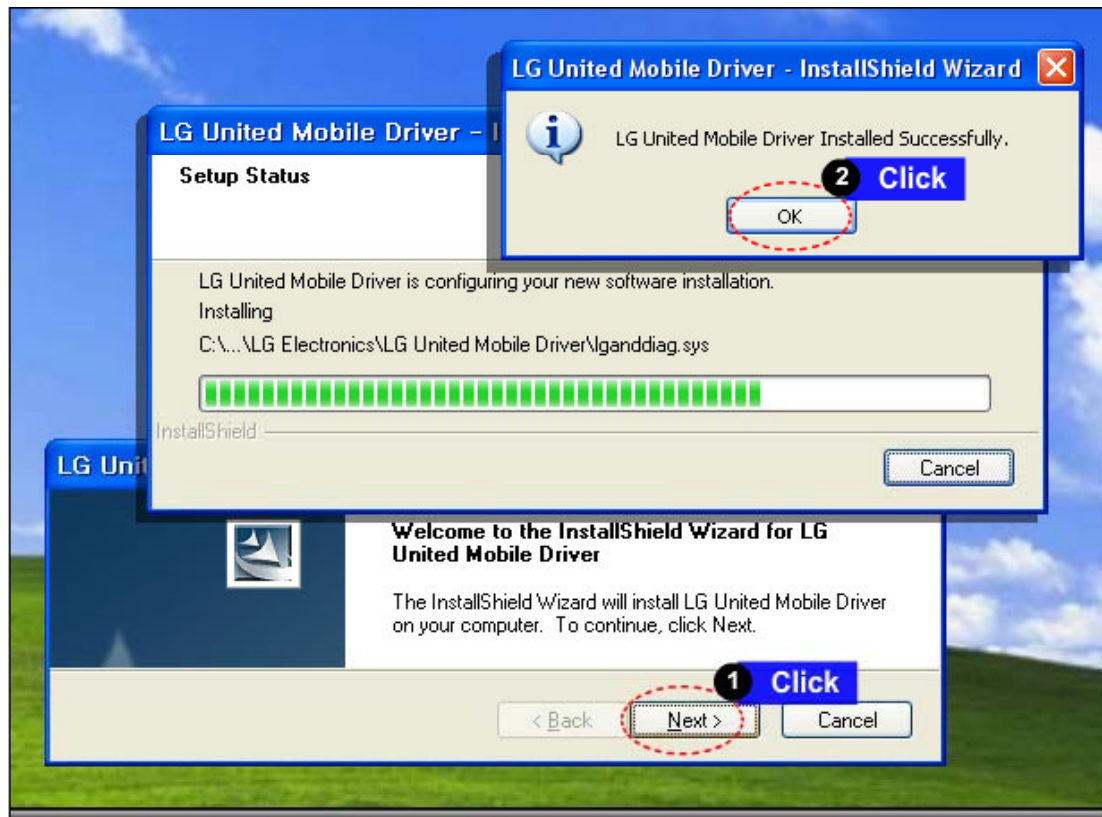


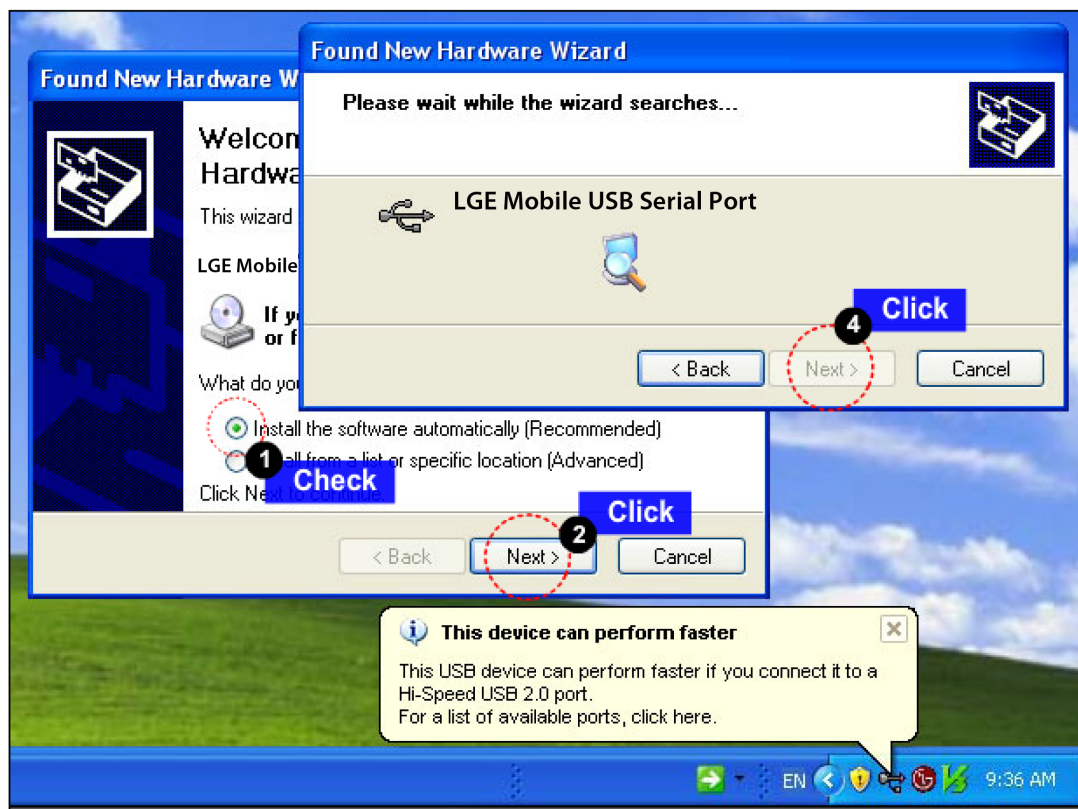
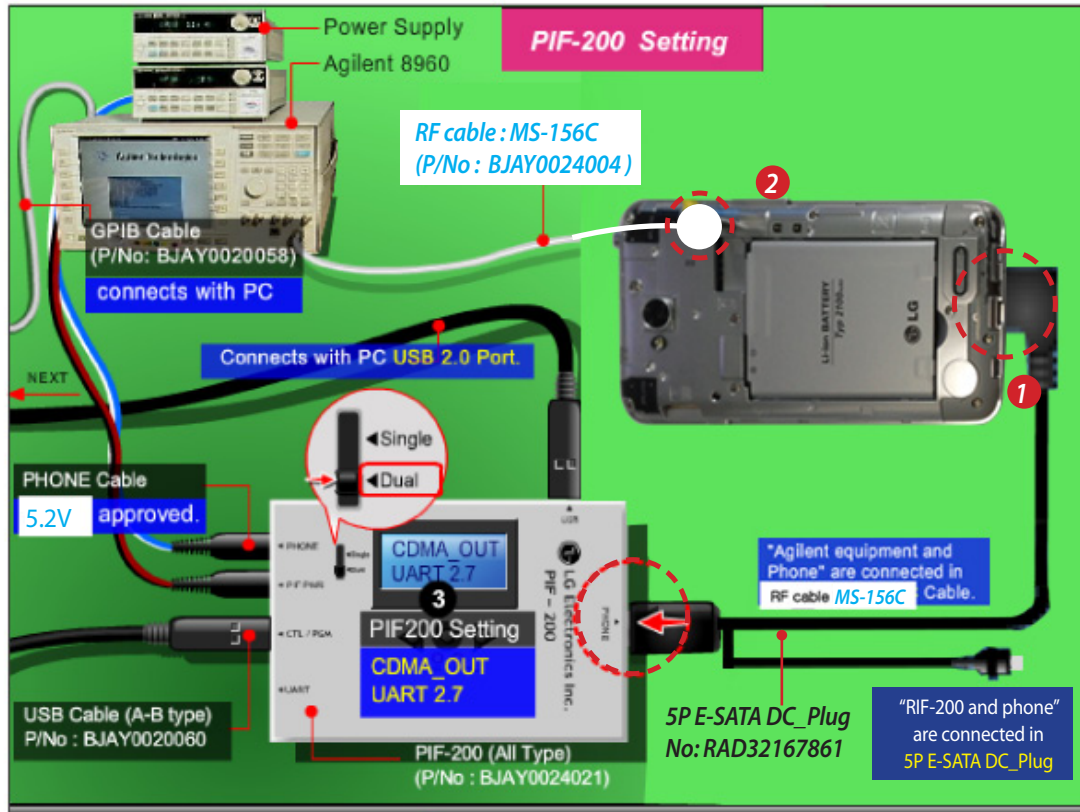
9. CALIBRATION

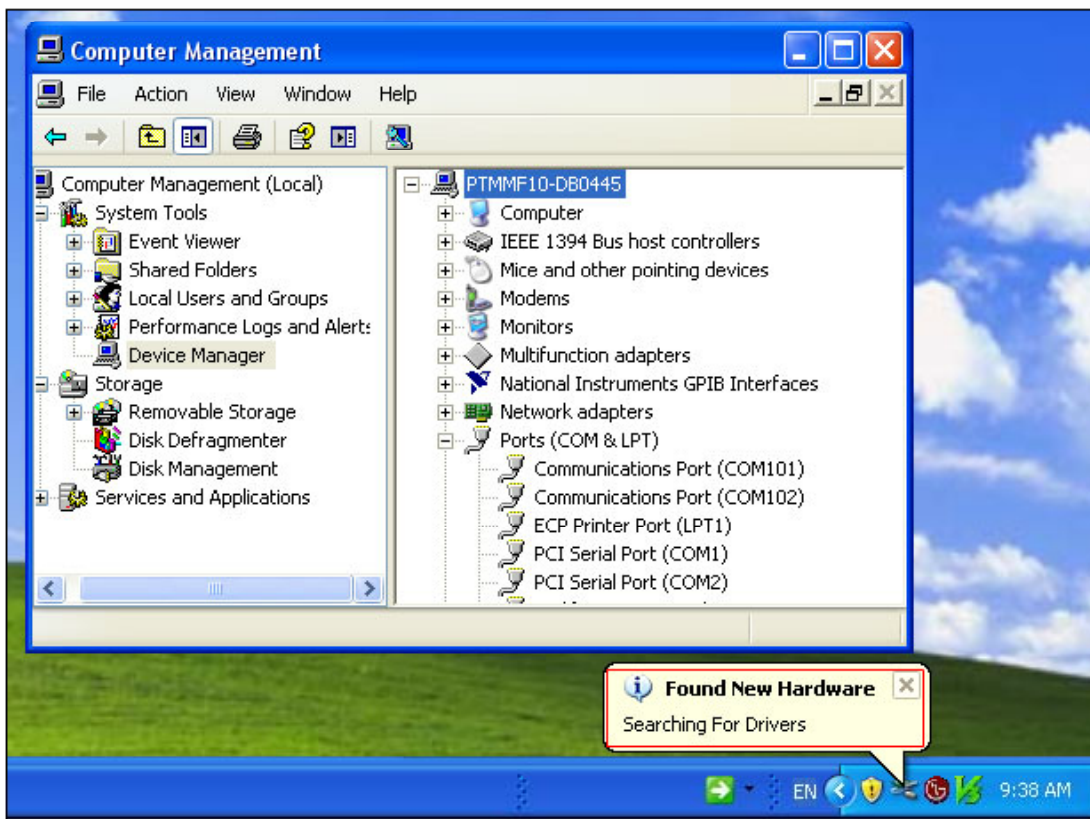
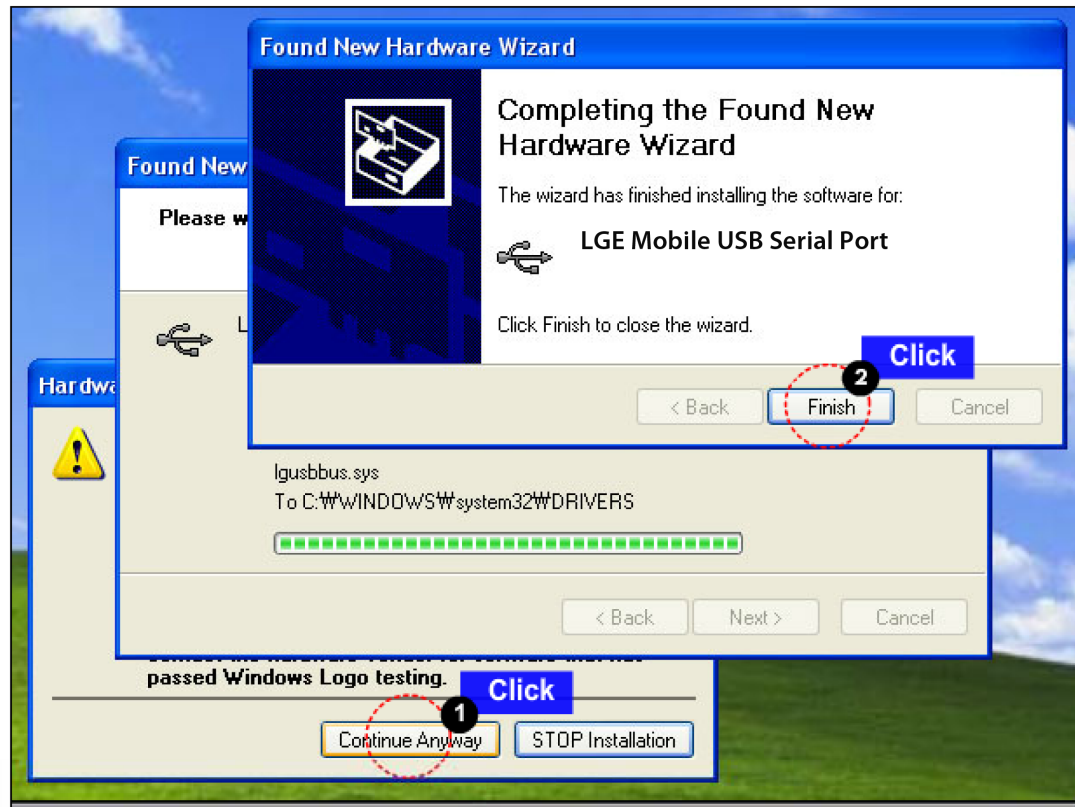


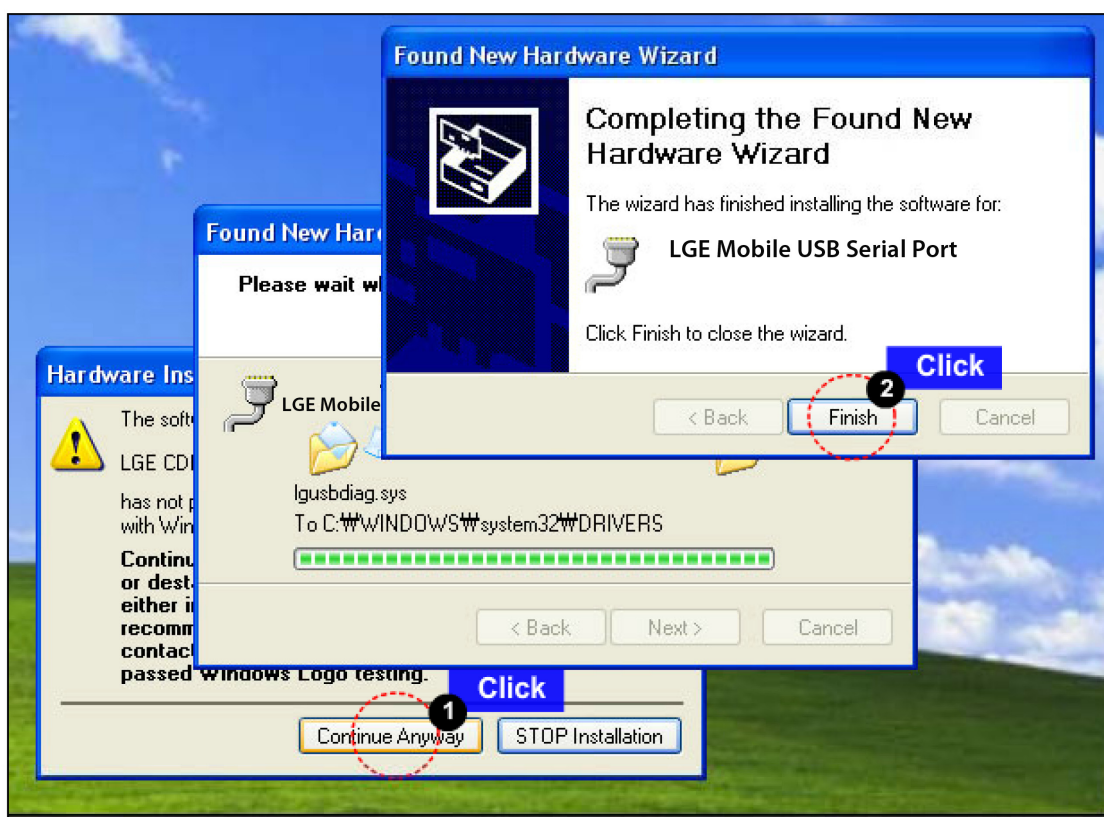
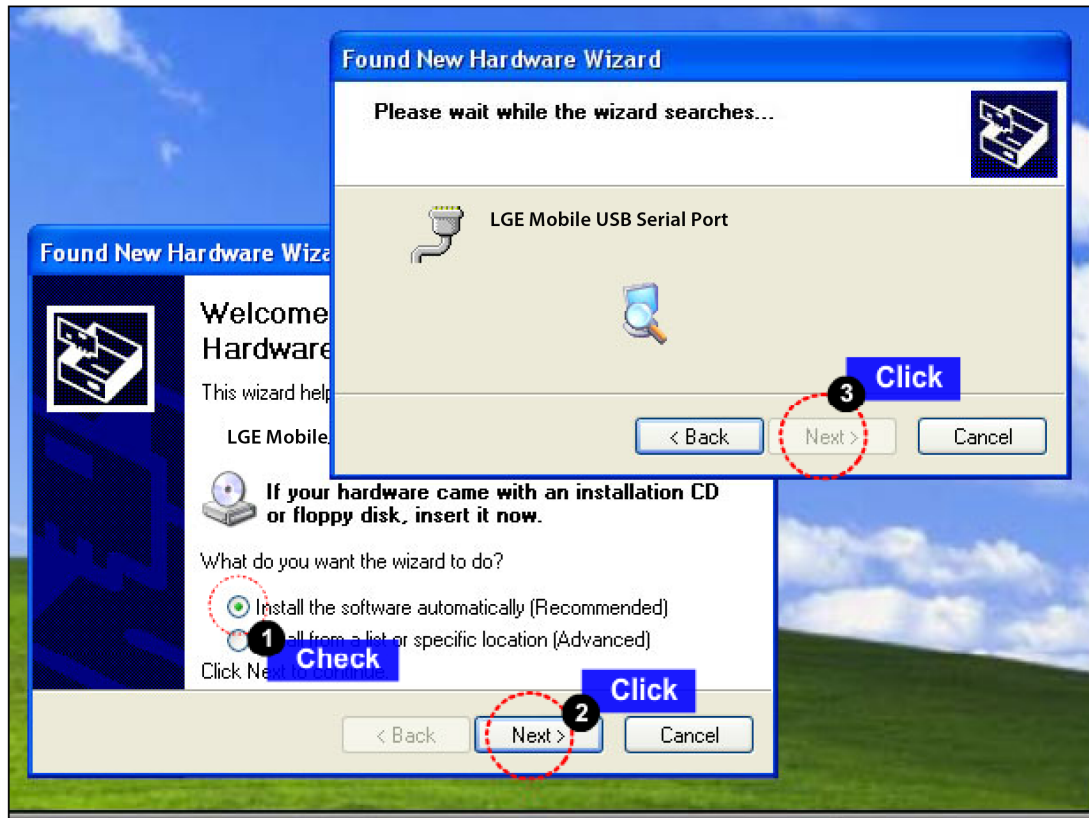




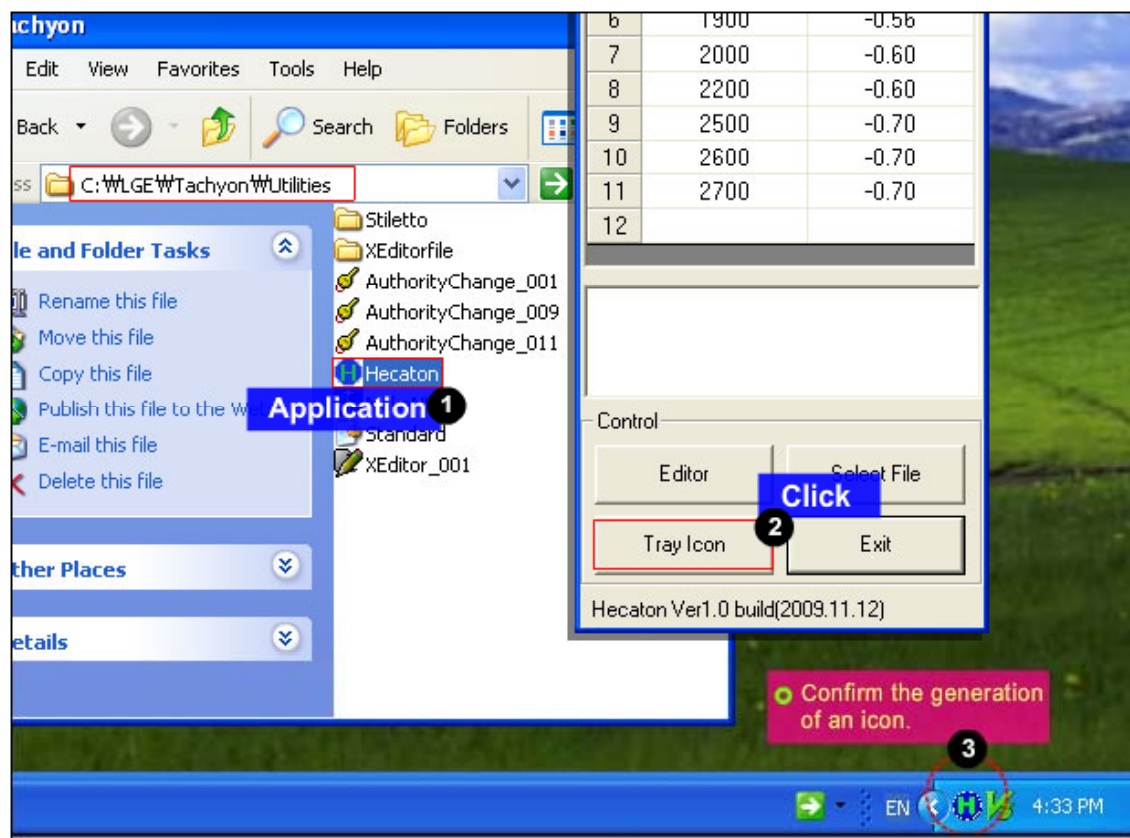
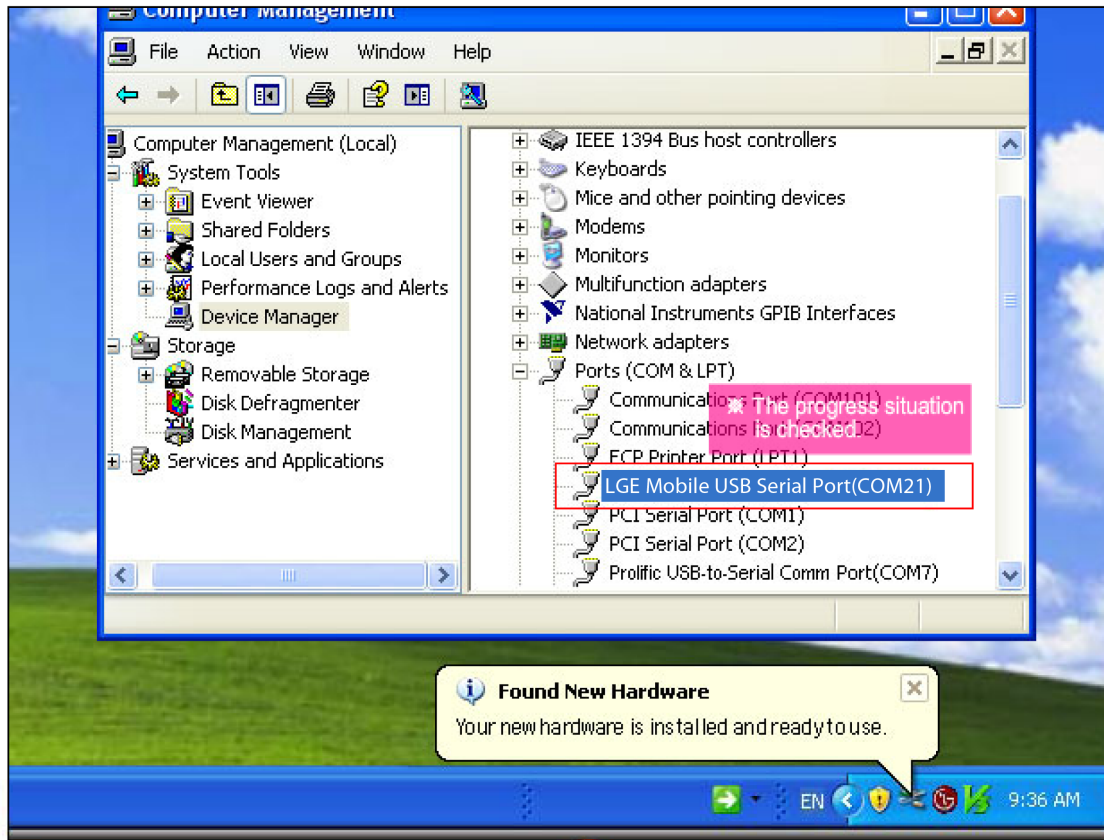




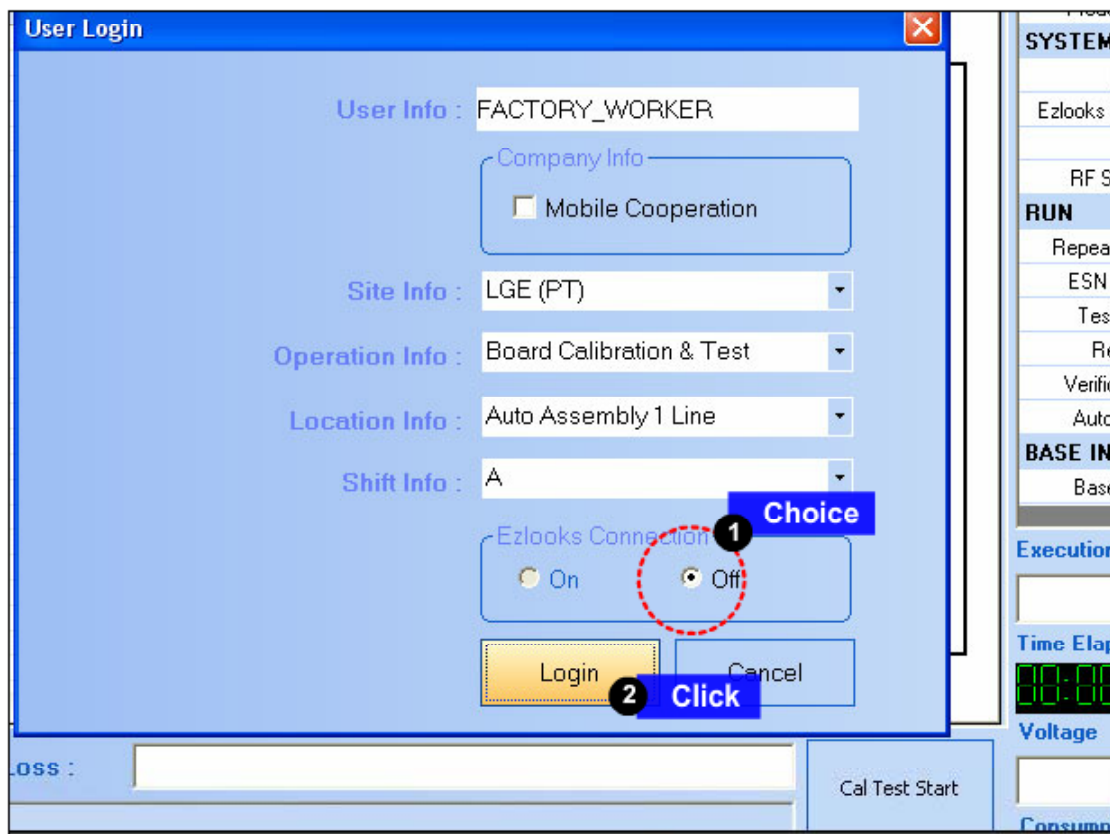
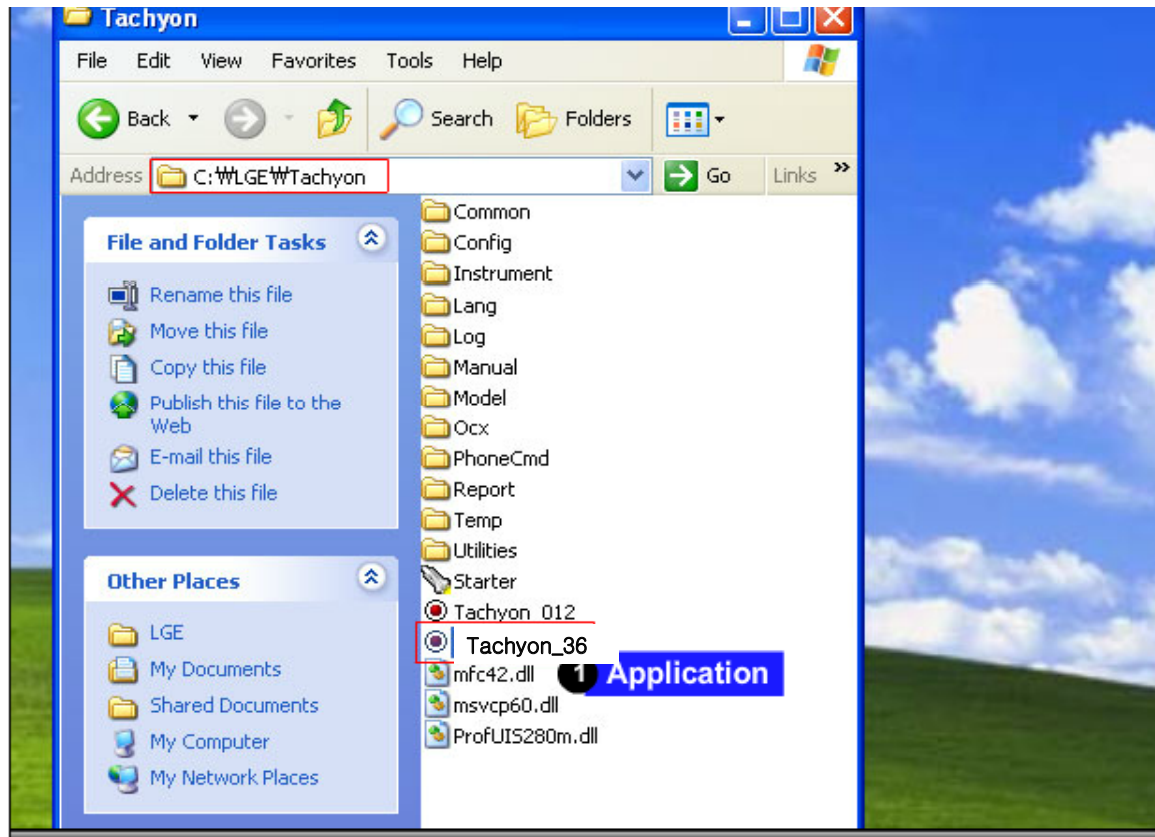


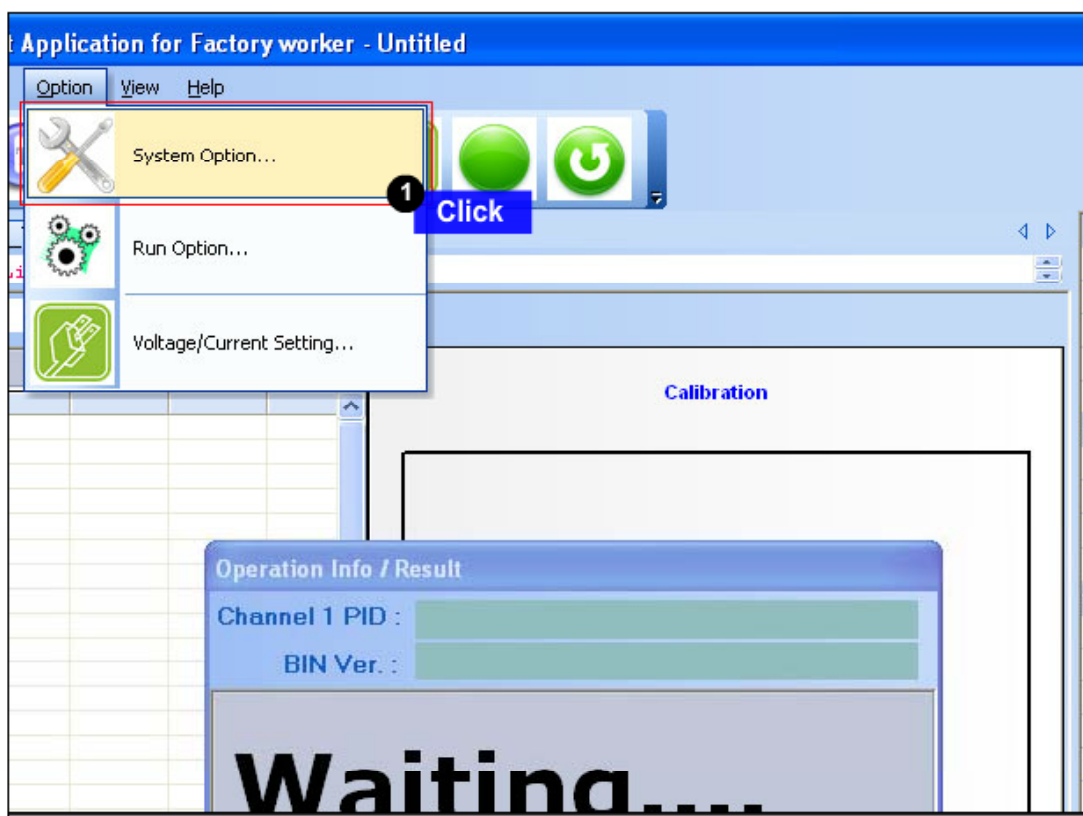
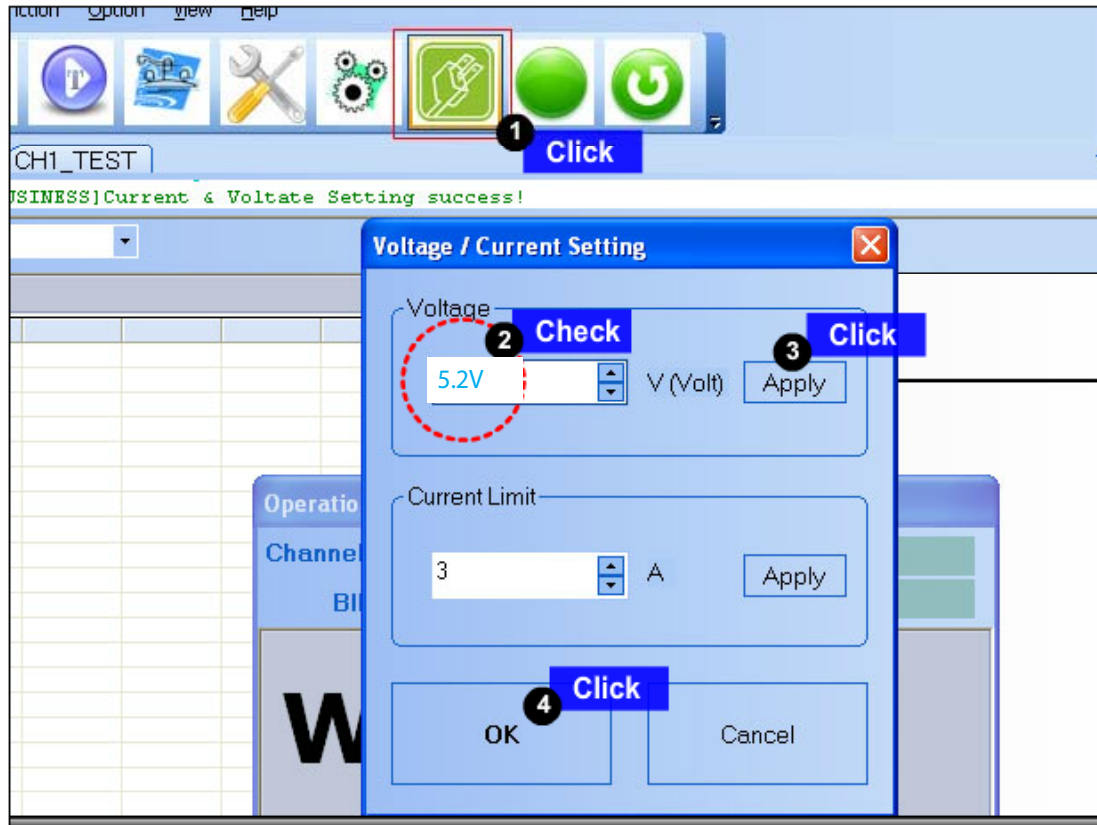


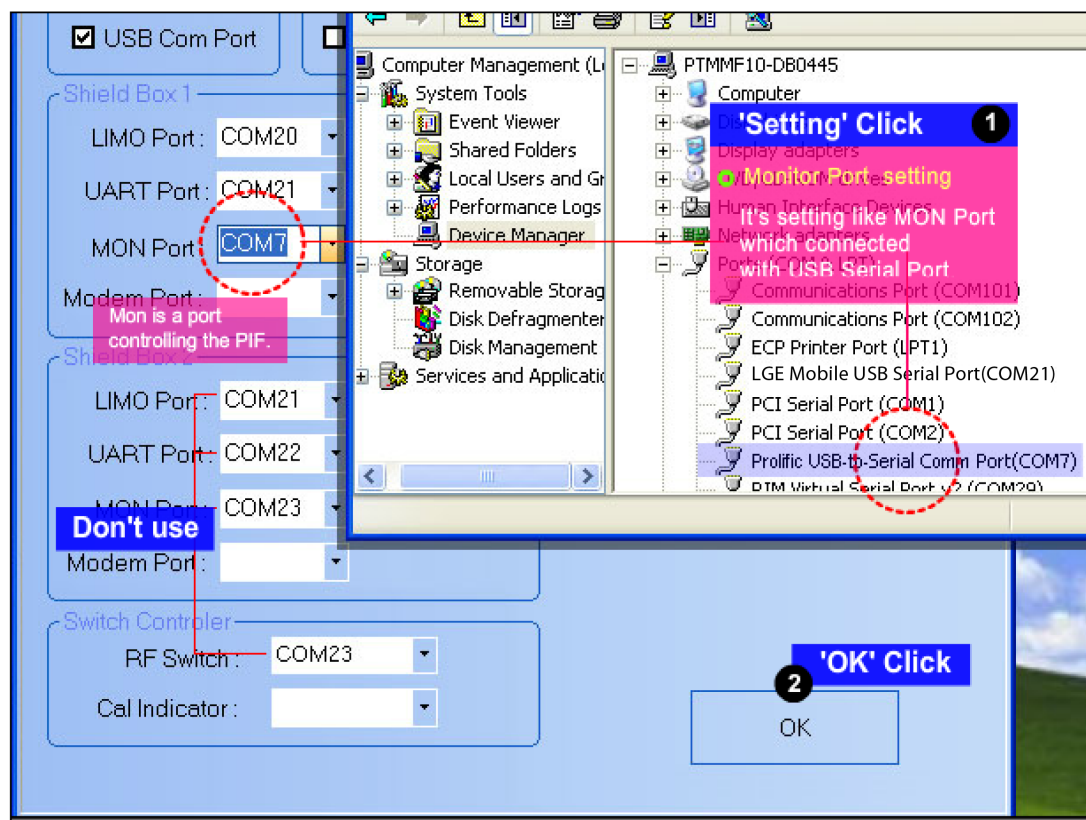
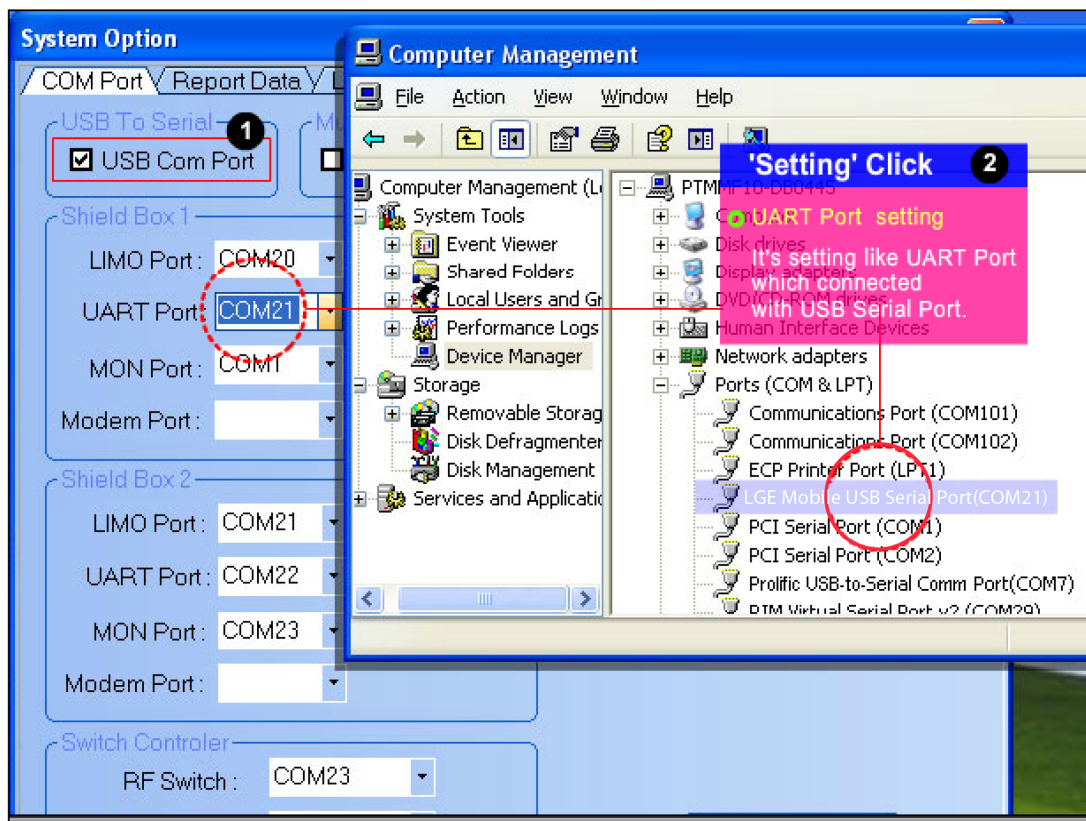
9. CALIBRATION



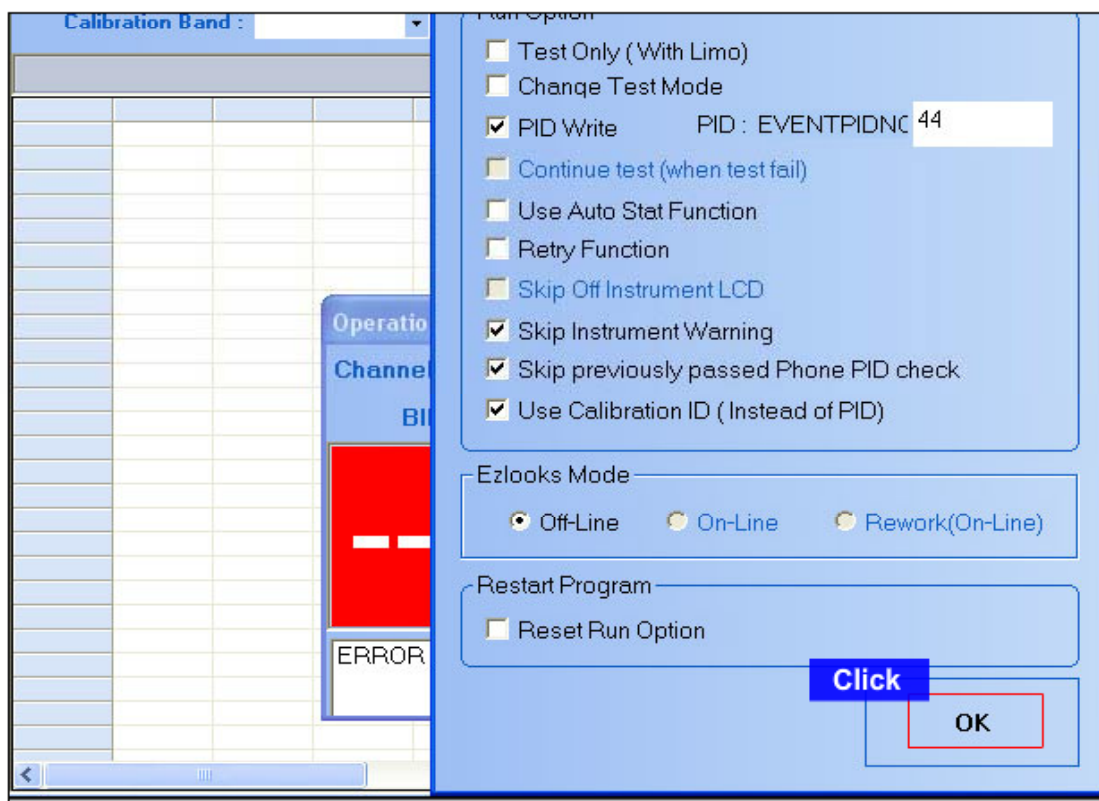
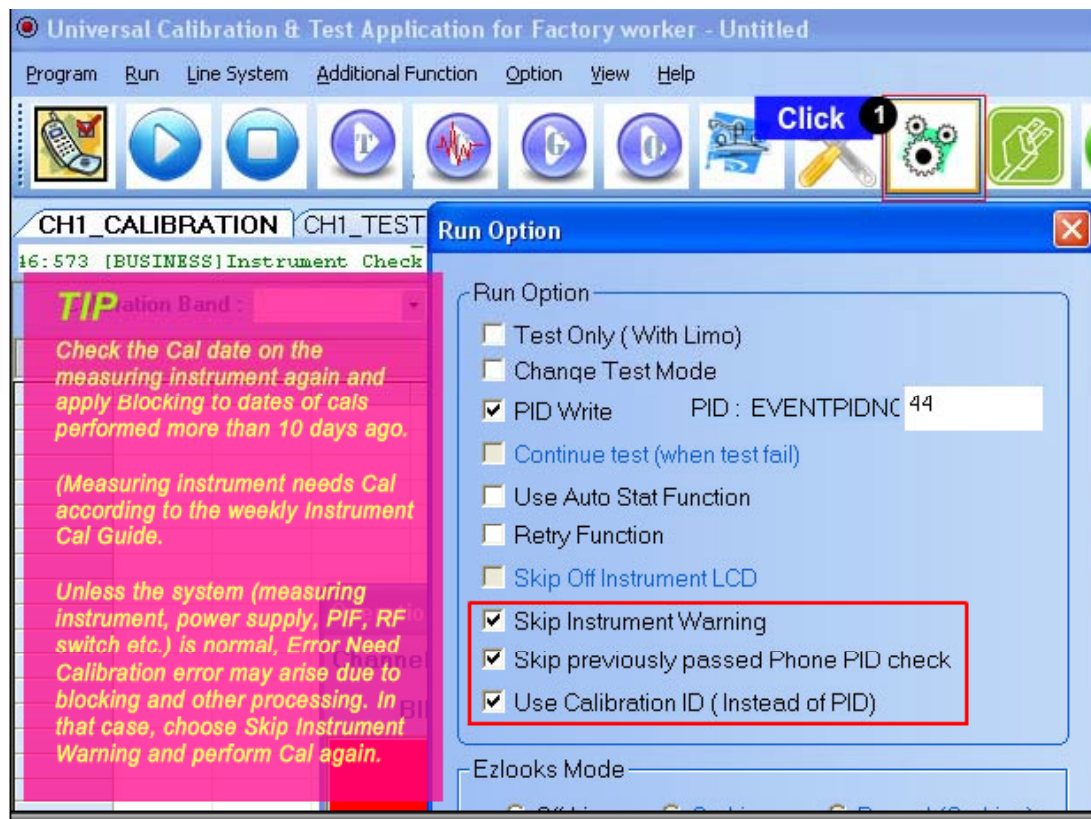
9. CALIBRATION

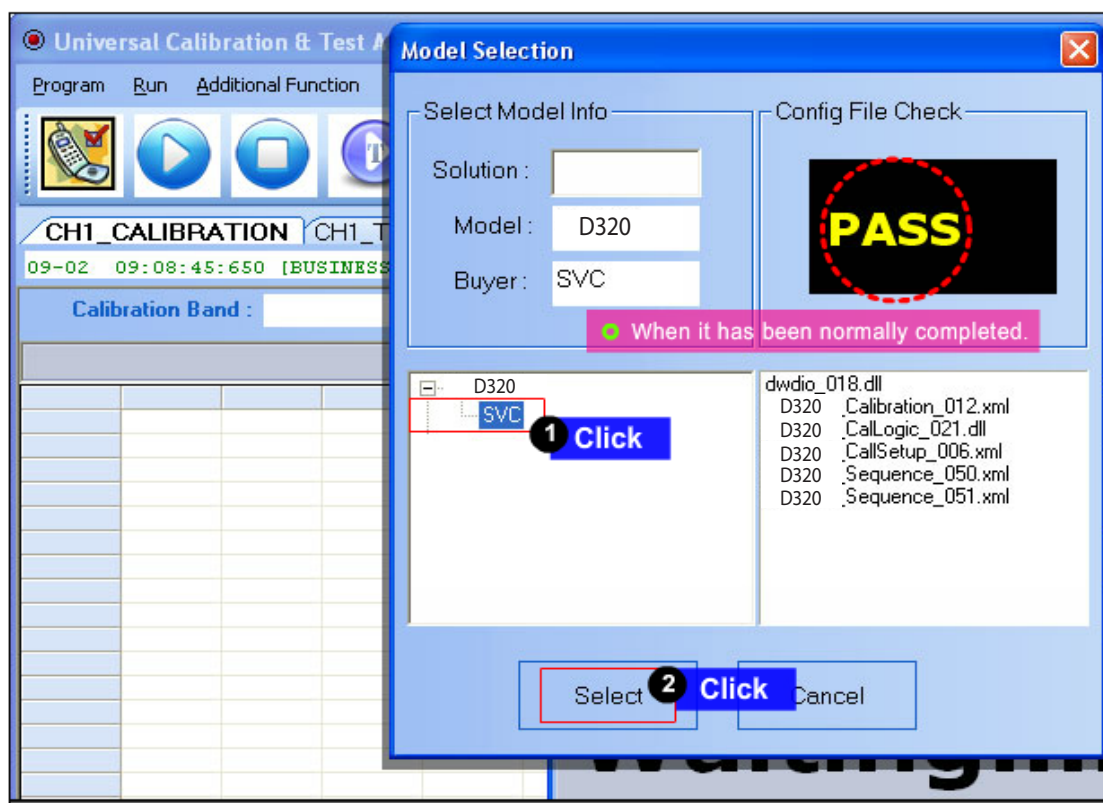
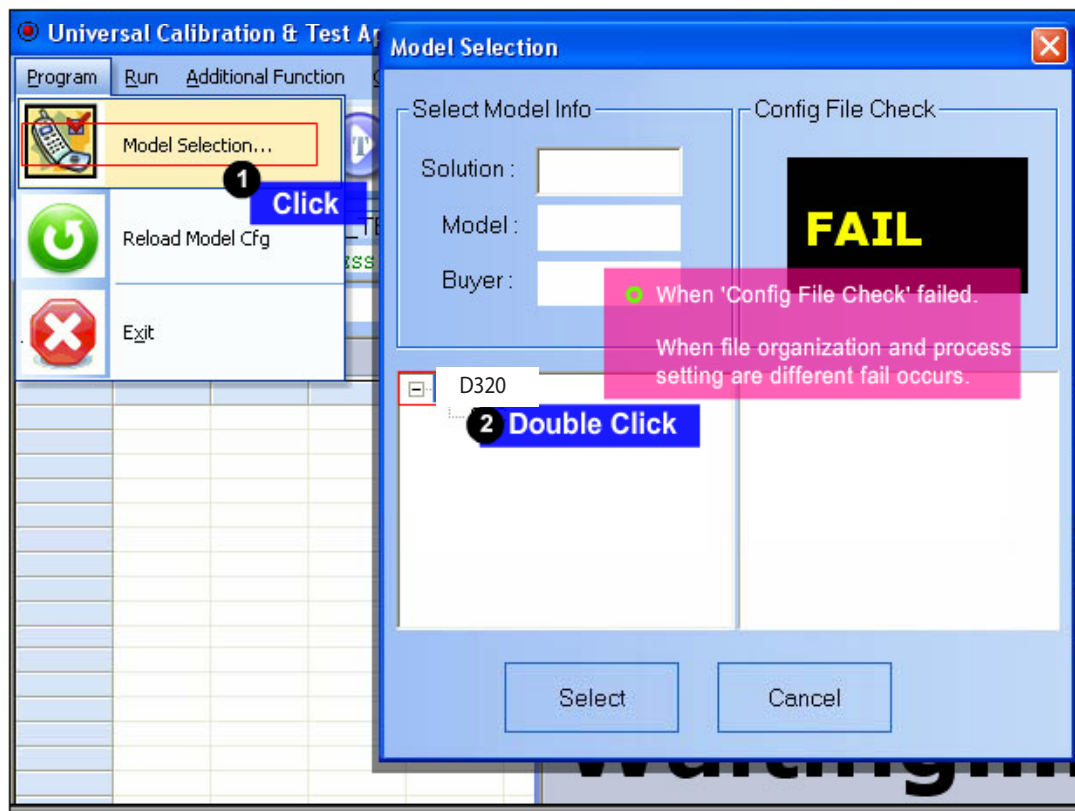


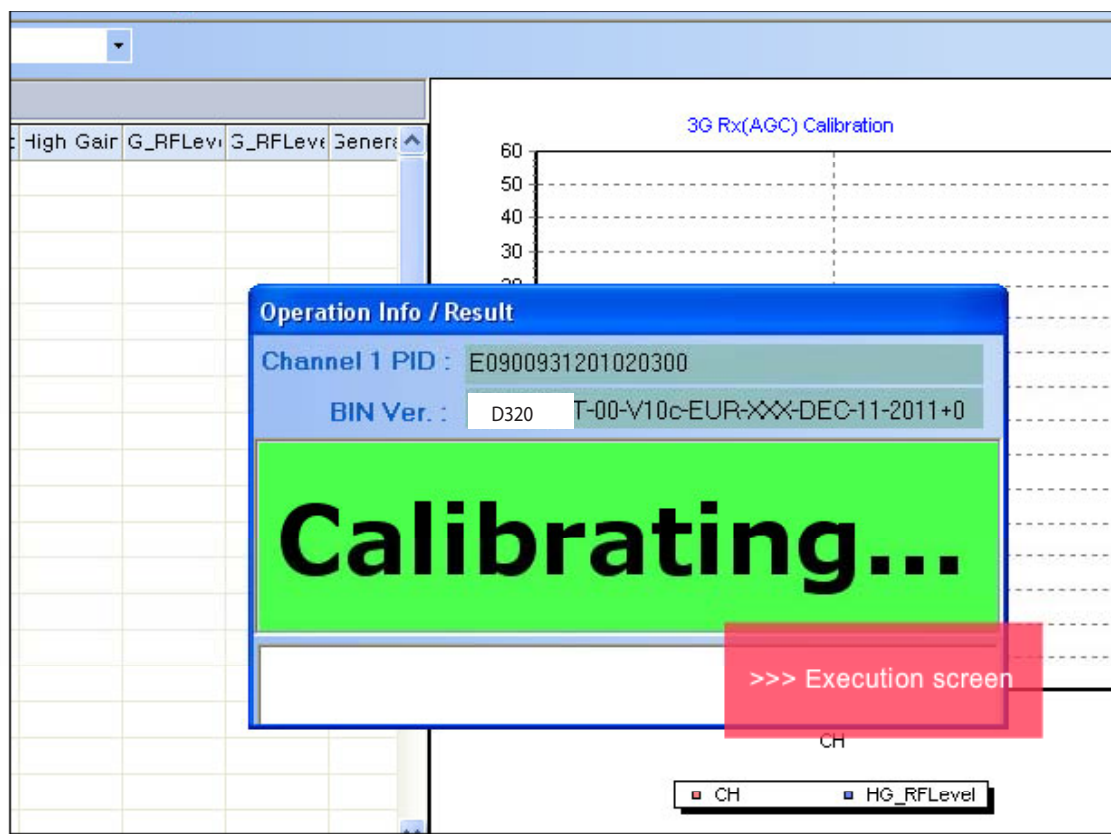
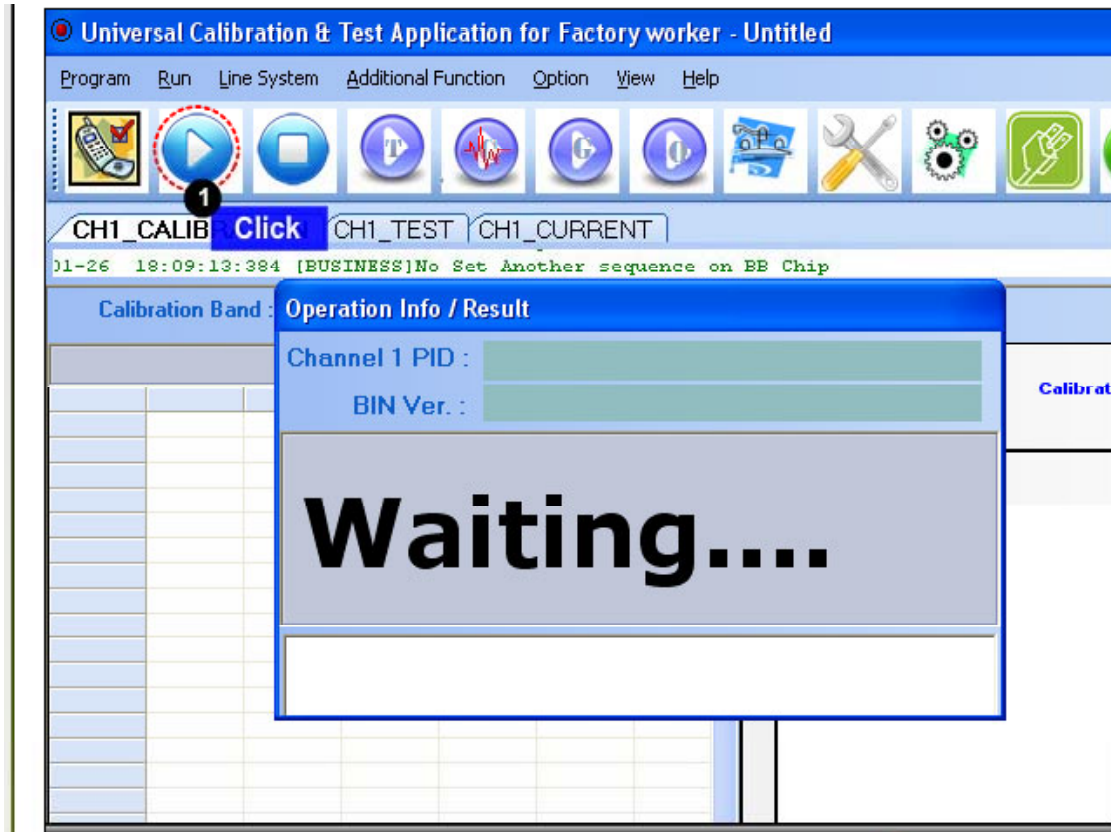




9. CALIBRATION







				CH01	CH02	CH03	
				10562	10700	10838	PASS
				☒	☒	☒	
	NC	23,7	22,3	23,000	22,963	22,976	
MARGIN				☐	☒	☐	
	SEGMENT-F	-0,4	-1,6		-1,148		
	SEGMENT						
	SEGMENT						
	SEGMENT						
H							
	NC						
LEAKAGE RAT							
	ACLR-5M						
	ACLR+5M						
	ACLR-10M						
	ACLR+10M						
MASK							
	NC						
				☐	☒	☐	
	EVM-20DBM	17,50	0,00		4,933		
	PCDE-20DBM	-15,00	0,00		-38,716		

Operation Info / Result

Channel 1 PID : E0900931201020302

BIN Ver. : D320 AT-00-V10c-EUR-XXX-DEC-11-2011+0

Auto Testing

>>> Execution screen

	Condition	USL	LSL	CH01	CH02	CH03	P/F
				10562	10700	10838	PASS
				☒	☒	☒	
	NC	23,7	22,3	23,065	22,983	23,013	
MARGIN				☐	☒	☐	
	SEGMENT						
	SEGMENT						
	SEGMENT						
	SEGMENT						
OTH							
	NC						
LEAKAGE RAT							
	ACLR-5M						
	ACLR+5M						
	ACLR-10M						
	ACLR+10M						
ON MASK							
	NC	0,5	-0,5		0,000		
Y							
	EVM-20DBM	17,50	0,00		4,720		
	PCDE-20DBM	-15,00	0,00		-38,441		
System Loss :				MySystem(MS).gms · RF900 6C.grf			

Operation Info / Result

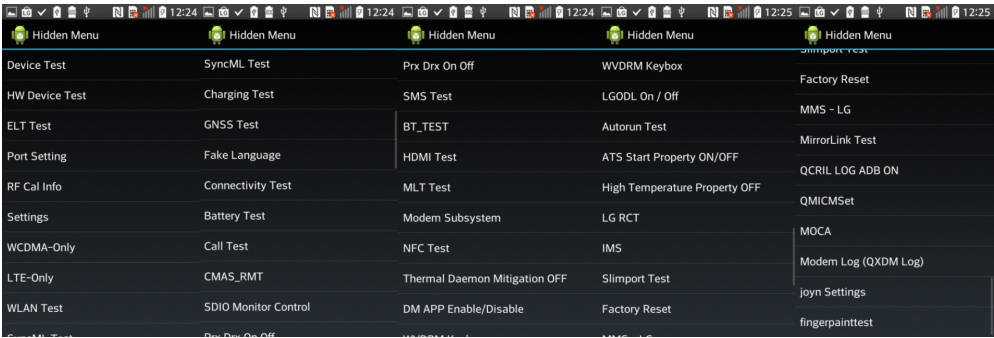
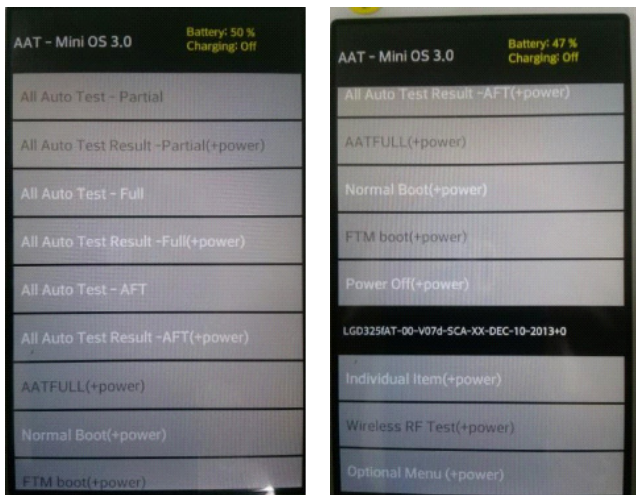
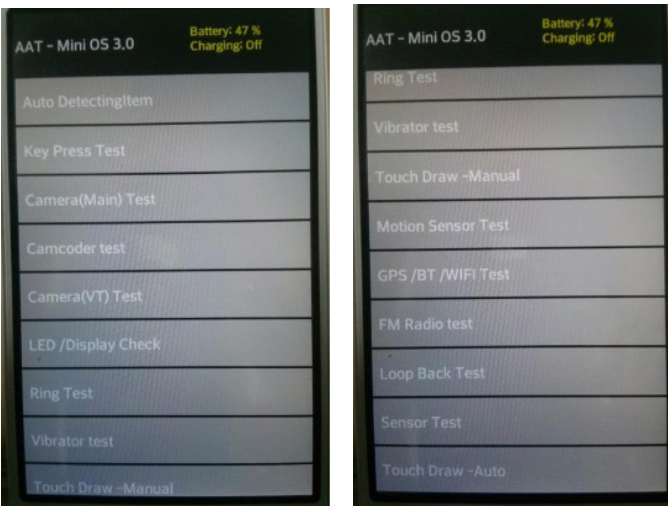
Channel 1 PID : F0900931201020299

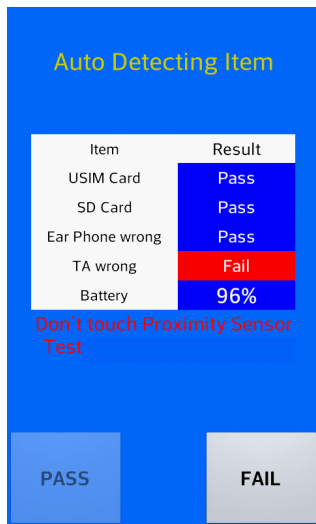
BIN Ver. : D320 AT-00-V10c-EUR-XXX-DEC-11-2011+0

--- PASS ---

'PASS' The End

10. HIDDEN MENU

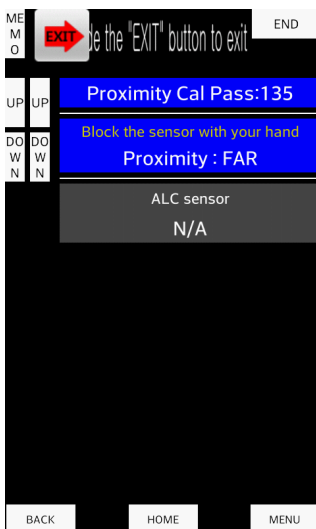
	Hidden Menu Start Start shortcut keys:3845#*320#
	All Auto Test 1. All Auto Test – Partial 2. All Auto Test Result– Partial(+power) 3. All Auto Test – Full 4. All Auto Test Result– Full(+power) 5. All Auto Test – AFT 6. All Auto Test Result– AFT(+power) 7. AATFULL (+power) 8. Normal Boot (+power key) 9. FTM Boot (+power key) 10. Power Off (+power key) 11. Version Name 12. Individual Item(+power) 13. Wireless RF Test(+power) 14. Optional Menu(+power)
	Individual Item List: 1. Auto DetectingItem 2. Key Press Test 3. Camera(Main) test 4. Camcoder Test 5. Camera(VT) test 6. LED / Display check Test 7. Ring Test 8. Vibrator Test 9. Touch Draw-Manual 10. Motion Sensor Test 11. GPS BT WIFI Test 12. FM Radio Test 13. Loopback Test 14. Sensor Test 15. Touch Draw-Auto



Auto Detecting Test

: USIM, SD card, Ear jack, TA, Battery

- Check the SIM card
- Check the SD card
- Check Ear phone(jack)
- Check TA
- Check Battery
 - Ejected TA is normal
 - Ejected ear jack is normal



Key/Compass Test

Memo key : Check Recognition

Up/Down key : Check Recognition

Menu key : Check Recognition

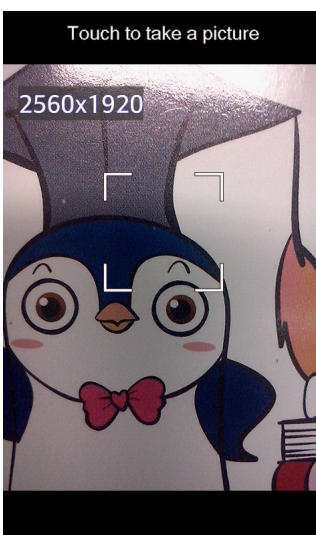
Home key : Check Recognition

Back key : Check Recognition

End key : Check Recognition

Phone contact with your fingers in the top of the sensor determine the sensor response

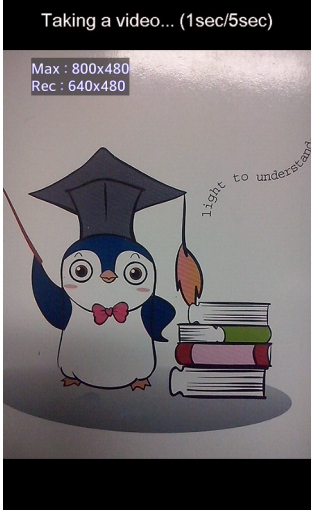
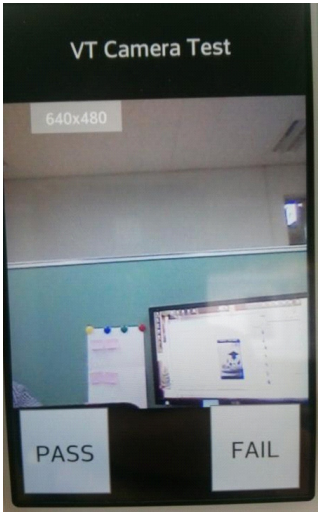
- Far
- Near

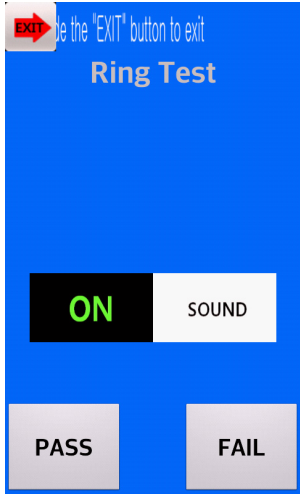
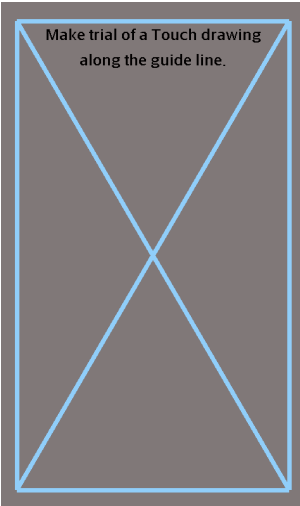


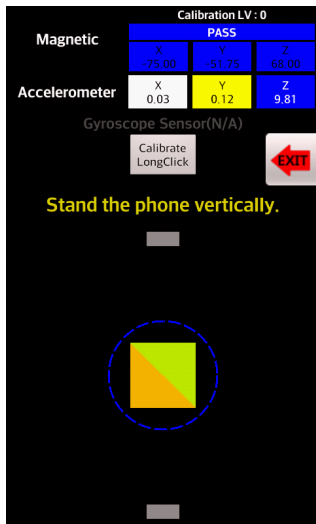
Camera Test 1

Main Camera Preview

10. HIDDEN MENU

	Camera Test 2 Camcorder Preview
	Camera Test 1 VT Camera Preview
Check Ton/Side/Down LED 2.0 mm PASS FAIL PASS FAIL	LED / Display check Test : LCD Black & White test, LED test, MURA 2.0 mm test • Check the Black display • Check the White display • Check the Home key LED • Check MURA 2.0 mm

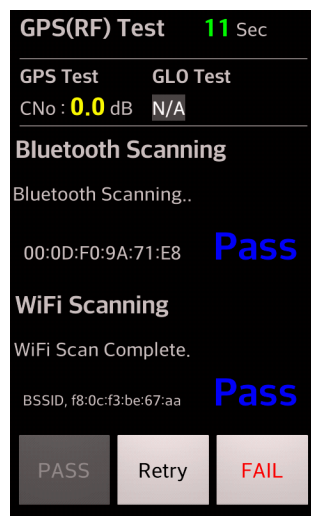
	Ring Test : Check sound • Check the sound
	Vibrator test A case-by-state vibration tests
	Touch window test Write with finger



Accelerometer Test

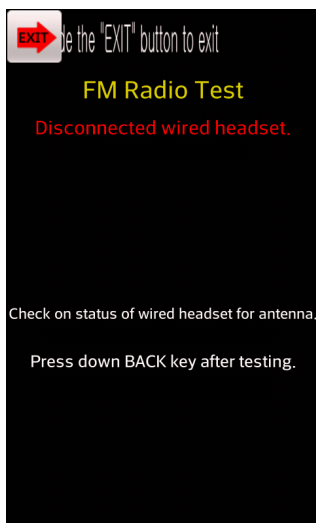
: Magnetic sensor test, Accelerometer sensor test

- Check the magnetic sensor
- Check the accelerometer sensor



GPS BT WI-FI Test

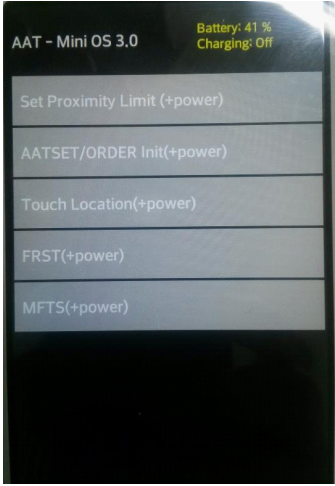
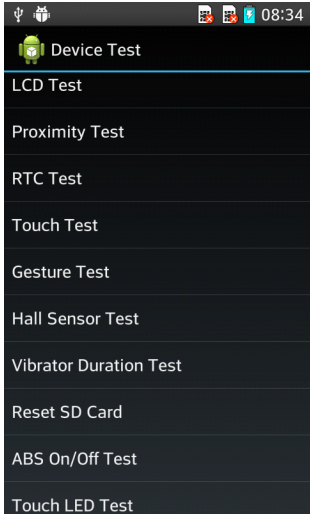
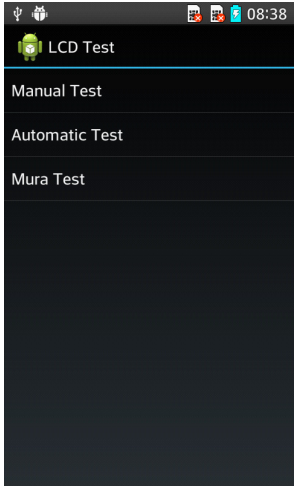
- Check the GPS scanning
- Check the GLONASS : N/A
- Check the WIFI scanning
- Check the BT scanning

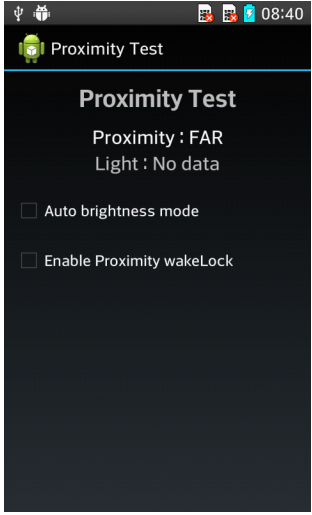
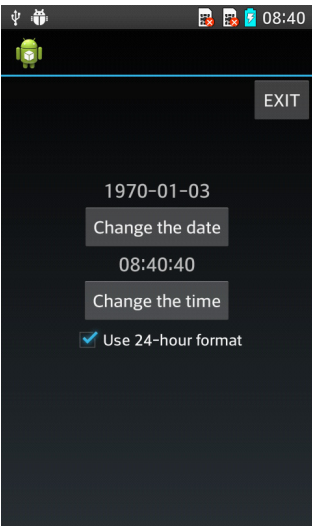
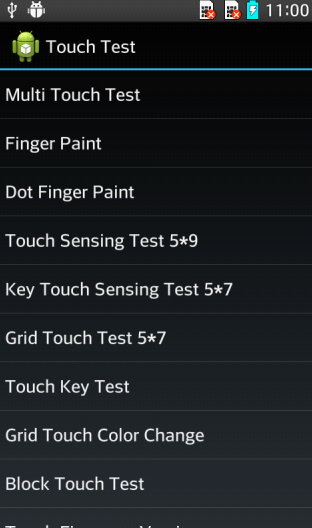


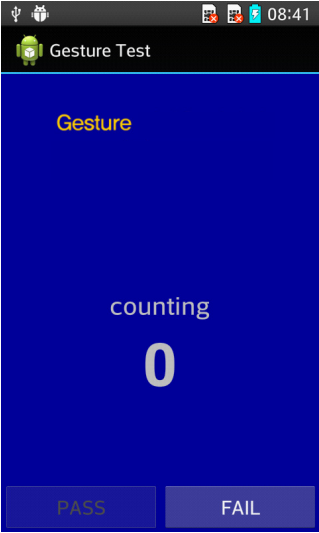
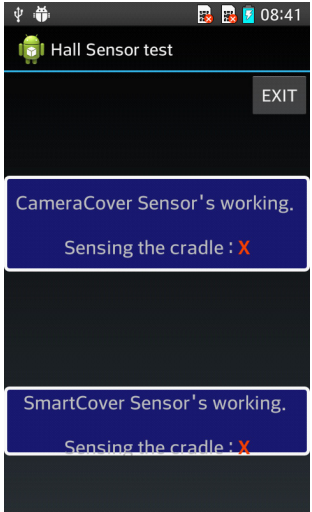
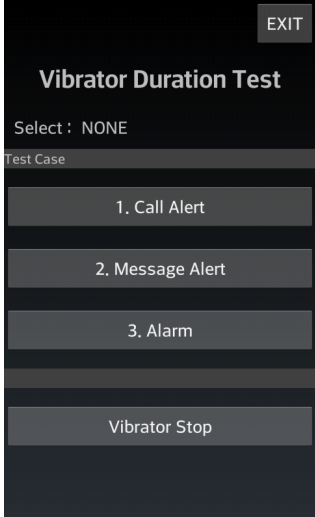
FM Radio Test

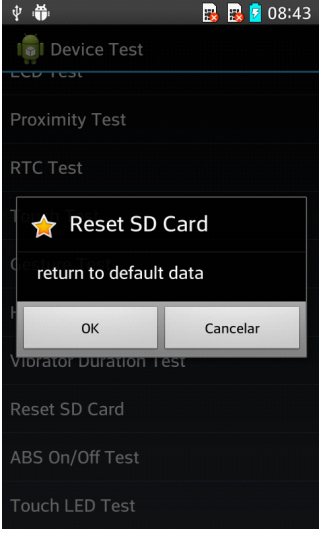
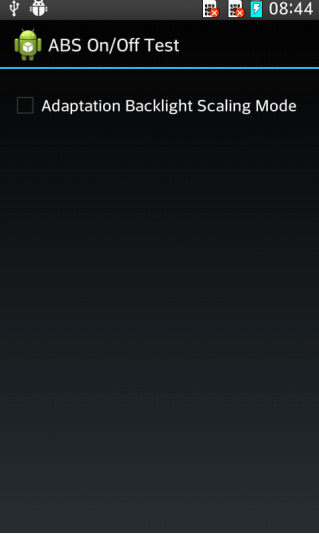
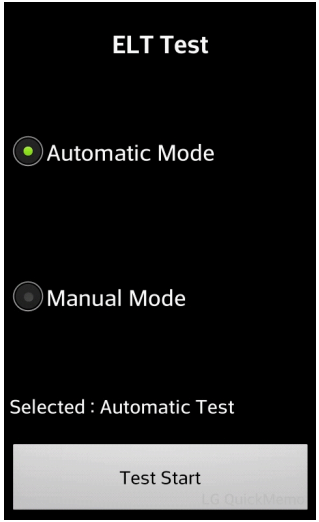
- Check the FM Radio

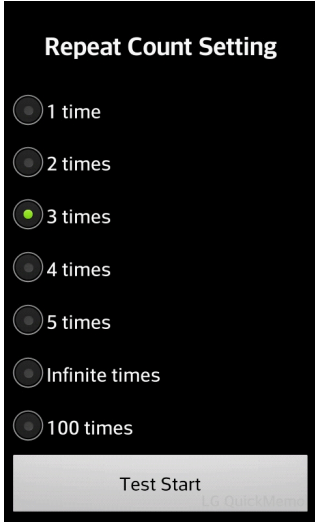
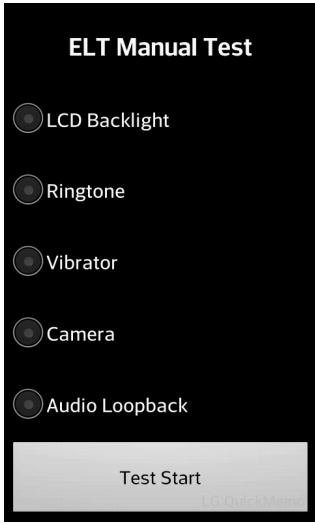
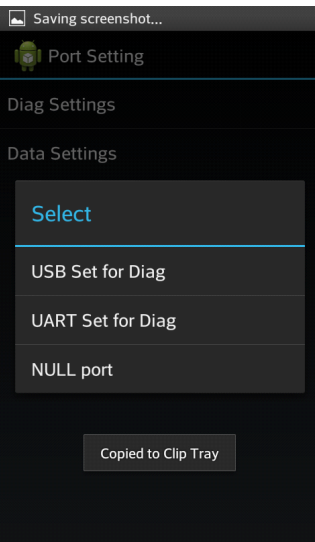
	Audio Loopback Test • Check the Receiver loopback • Check the speaker loopback
	Sensor Test
	Touch Draw -Auto

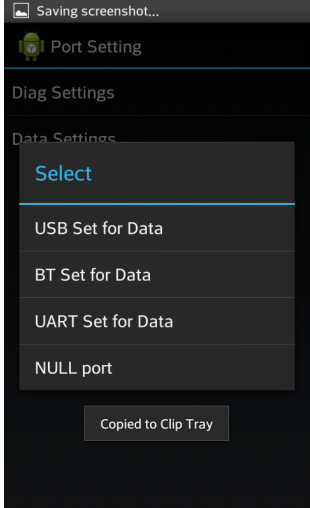
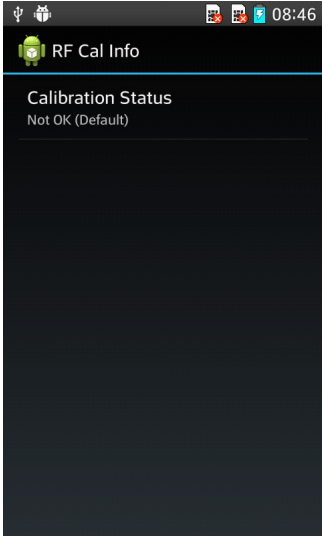
	Optional Menu List: 1. Set Proximity Limit(+power) 2. AATSET/ORDER init (+power) 3. Touch Location (+power) 4. FRST (+power) 5. MFTS (+power)
	HW Device Test 1. LCD 2. Proximity 3. RTC 4. Touch 5. Gesture 6. Hall Sensor 7. Vibrator Dutation 8. Reset SD Card 9. ABS On/Off Test 10. Touch LED Test(Not Implemented)
	LCD list - Manual Test - Automatic Test - Mura Test

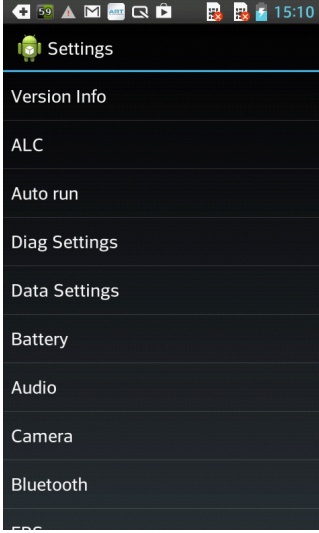
	Proximity
	RTC
	Touch list - Multi Touch Test - Finger Paint - Dot Finger Paint - Touch Sensing Test 5*9 - key Touch Sensing Test 5*7 - Grid Touch Test 5*7 - Touch Key Test - Grid Touch Color change - Block Touch Test - Touch Firmware Version - Touch Firmware Upgrade - Check Touch Panel

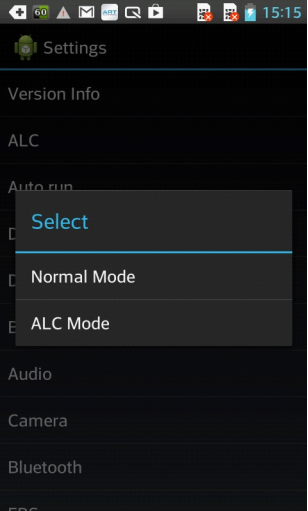
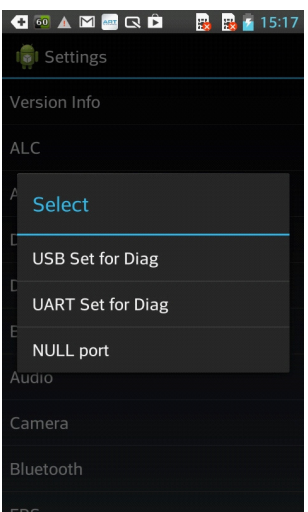
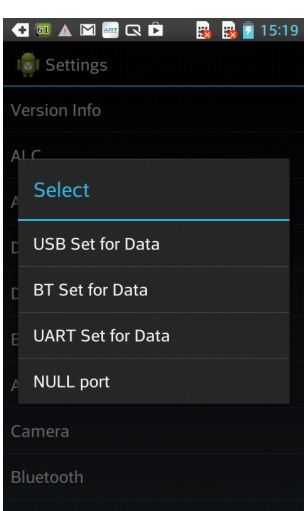
	Gesture
	Hall Sensor
	Vibrator Duration

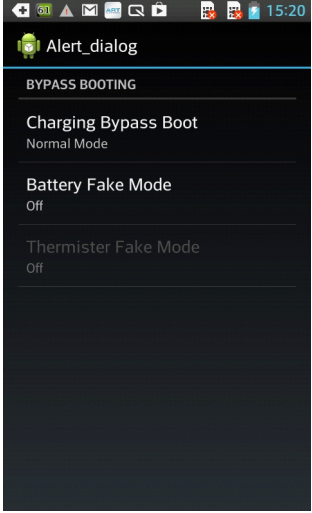
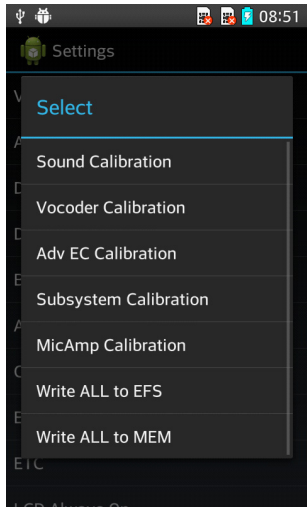
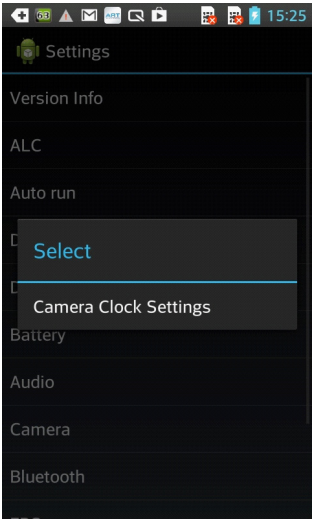
	Reset SD Card
	ABS On/Off Test
	ELT Test Automatic Mode -> Test Automatically Manual Mode : Test selectivity

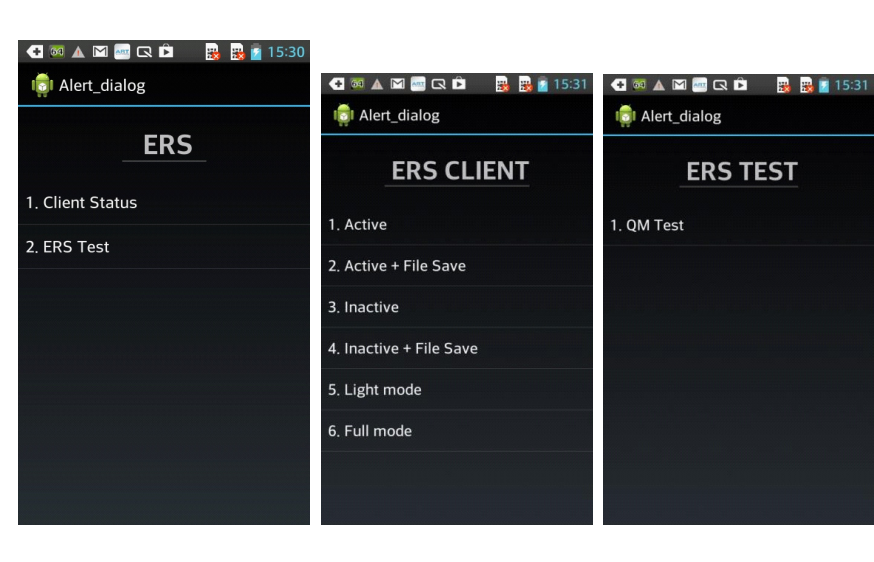
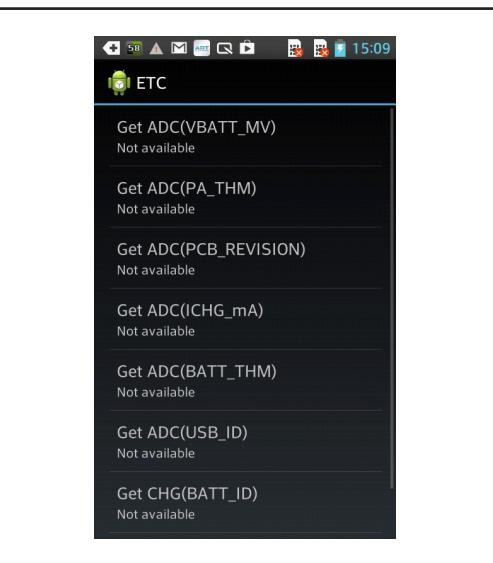
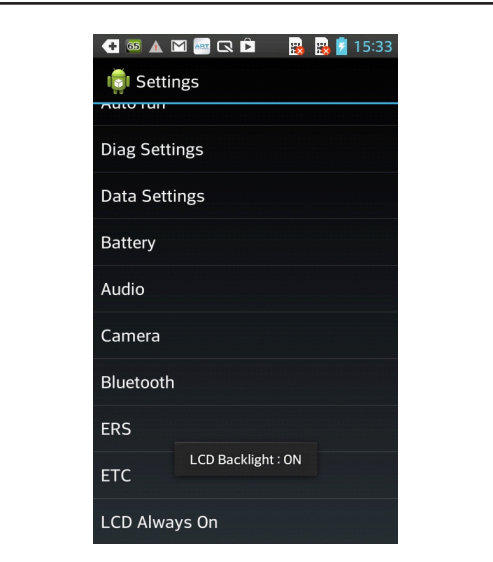
 Repeat Count Setting ☐ 1 time ☐ 2 times ☒ 3 times ☐ 4 times ☐ 5 times ☐ Infinite times ☐ 100 times Test Start	ELT Test Automatic Mode : LCD Automatic on/off test -> time setting
 ELT Manual Test ☐ LCD Backlight ☐ Ringtone ☐ Vibrator ☐ Camera ☐ Audio Loopback Test Start	ELT Manual Test - LCD Backlight - Ringtone - Vibrator - Camera - Audio Loopback -> test on the device is working (The ability to use plant)
 Saving screenshot... Port Setting Diag Settings Data Settings Select - USB Set for Diag - UART Set for Diag - NULL port Copied to Clip Tray	Port Settings – Diag Settings Same as 6. Settings – Diag Settings

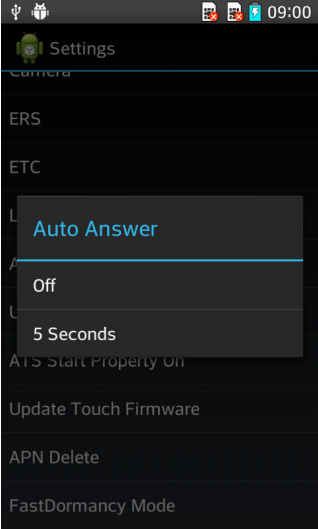
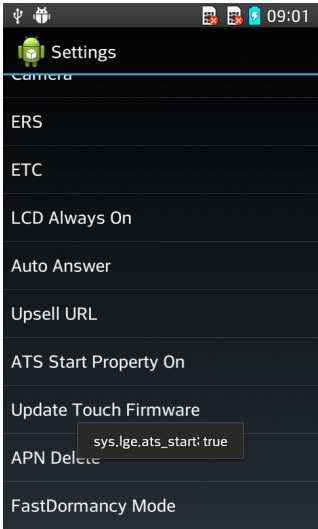
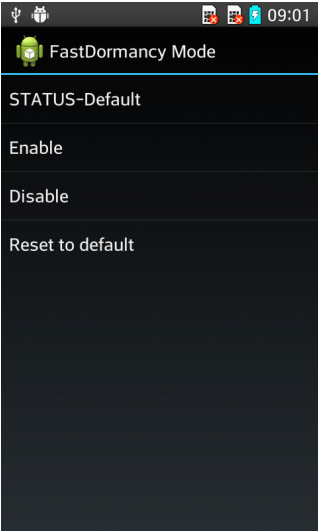
	Port Settings – Data Settings Same as 6. Settings – Data Settings
	RF Cal Info

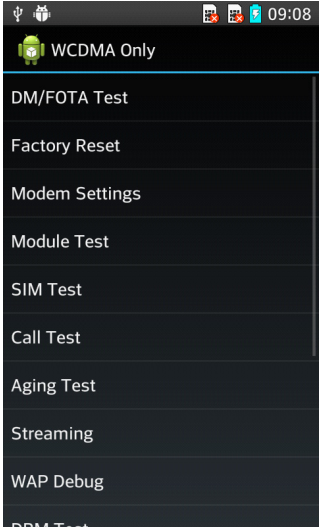
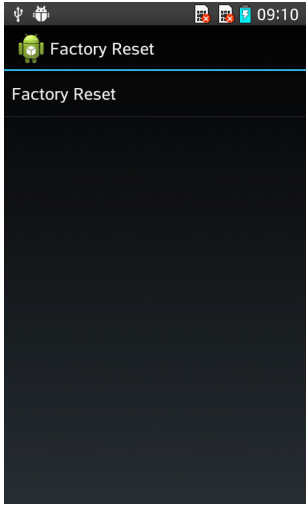
	Settings - Version Info - ALC - Diag Settings - Data Settings - Battery - Audio - Camera - ERS - ETC - LCD Always On - Auto Answer - Upsell URL - ATS Start Property On - Update Touch Firmware - APN Delete - FastDormancy Mode
	Version Info (Classified Information representation) - SW Version Info - Firmware Version - Baseband Version - Kernel Version - HW Version - Factory Version - Touch Firmware Version - Build finger print

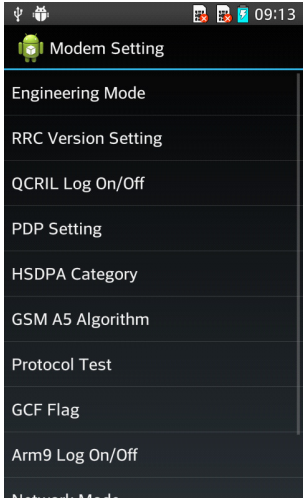
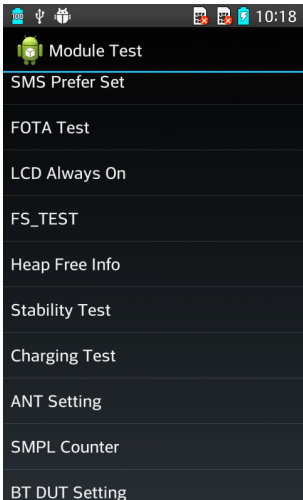
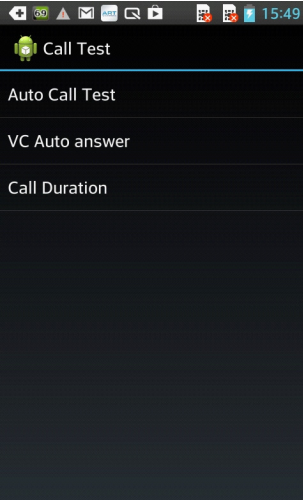
	ALC Normal Mode : Change to Normal Mode ALC Mode : Change to ALC Mode
	Diag Settings - USB Set for Diag - UART Set for Diag - Null port
	Data Settings - USB Set for Data - BT Set for Data - UART Set for Data - Null port

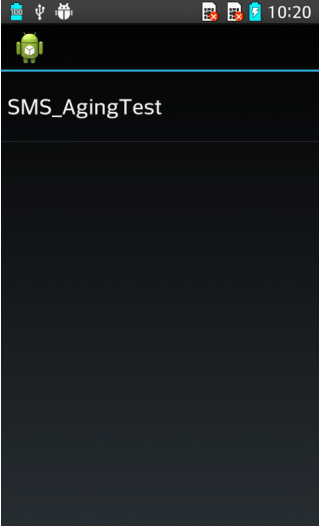
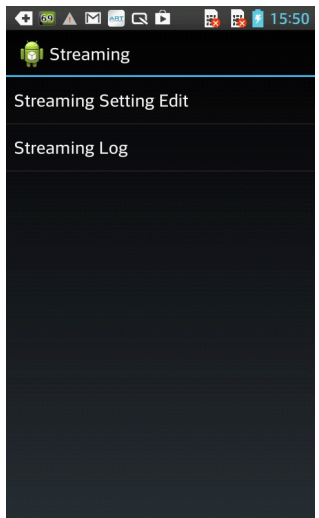
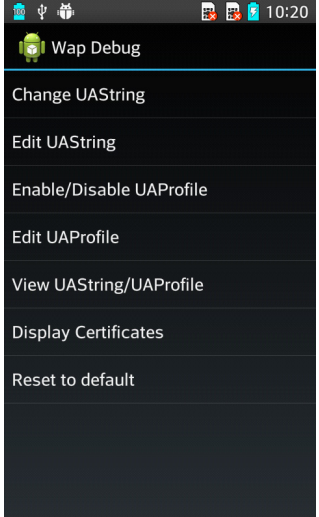
	Battery Charging Bypass Boot -> Change to Pseudo LT Mode/Normal Mode - Battery Fake Mode(On/Off)
	Audio - Sound Calibration - Vocoder Calibration - Adv EC Calibration - Subsystem Calibration - MicAmp Calibration - Write All to EFS - Write All to MEM
	Camera Camera Clock Settings

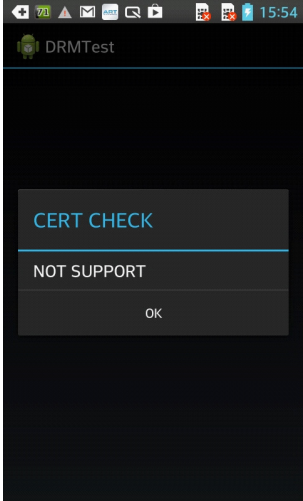
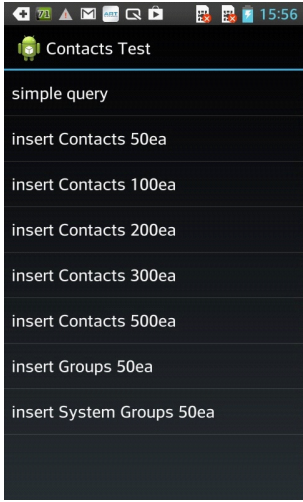
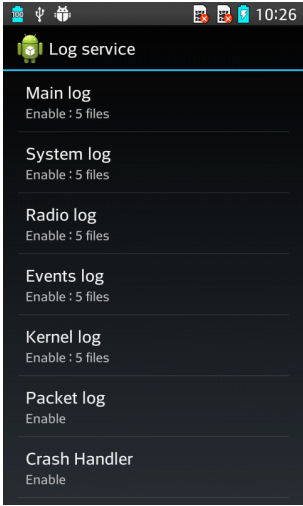
	ERS Settings - Client Status - ERS Test
	ETC ADC Info
	LCD Always On Switch to LCD Backlight ON/OFF

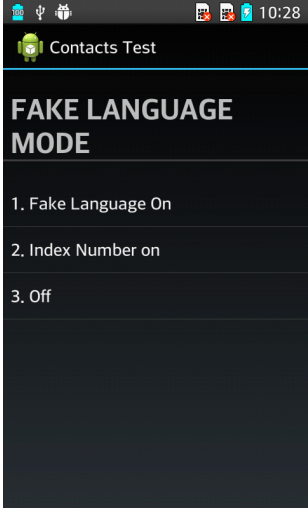
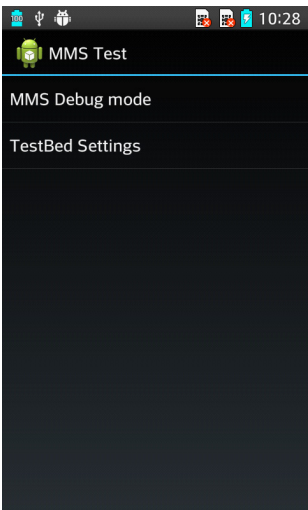
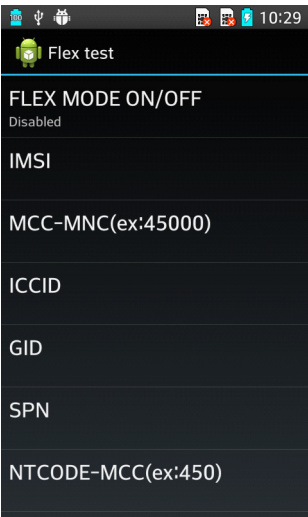
 The screenshot shows a list of hidden menu items. 'Auto Answer' is highlighted in blue. Other visible items include 'Camera', 'ERS', 'ETC', 'LCD Always On', 'Auto Answer', 'Upsell URL', 'ATS Start Property On', 'Update Touch Firmware', 'APN Delete', and 'FastDormancy Mode'.	Auto Answer
 The screenshot shows the same list of hidden menu items. 'ATS Start Property On' is highlighted. A tooltip is visible over the 'APN Delete' item, displaying the text 'sys.lge.ats_start: true'.	ATS Start Property On
 The screenshot shows the 'FastDormancy Mode' sub-menu. It contains three options: 'STATUS-Default', 'Enable', and 'Disable'. The 'Reset to default' option is also visible at the bottom.	Fast Dormancy Mode

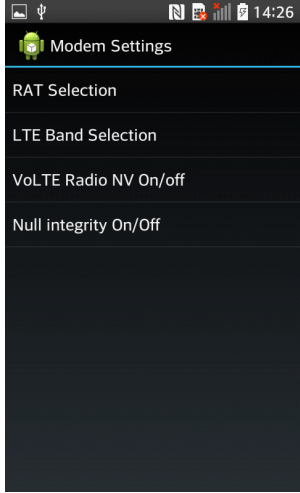
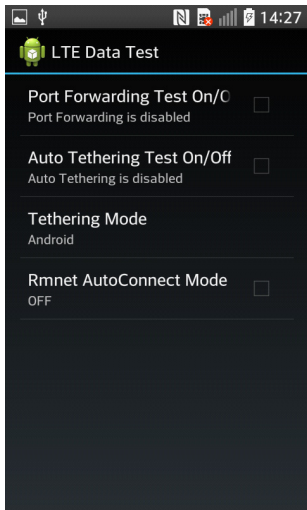
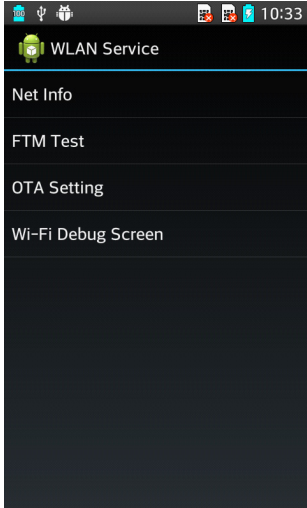
 The screenshot shows a mobile phone screen with the status bar at the top displaying signal strength, battery, and the time 09:08. Below the status bar is a green header bar with the text 'WCDMA Only'. A list of test options is displayed below the header: DM/FOTA Test, Factory Reset, Modem Settings, Module Test, SIM Test, Call Test, Aging Test, Streaming, WAP Debug, and DRM Test.	WCDMA Only test list - DM/FOTA Test(Not Implemented) - Factory Reset - Modem Settings - Module Test - SIM Test(Not Implemented) - Call Test - Aging Test - Streaming - WAP Debug - DRM Test - Contacts Test - Log service - Fake Language - Mms Test - Flex test
 The screenshot shows a mobile phone screen with the status bar at the top displaying signal strength, battery, and the time 09:10. Below the status bar is a green header bar with the text 'Factory Reset'. Below the header bar, the text 'Factory Reset' is displayed on a dark background.	Factory Reset: - Factory Reset :Changing the Factory

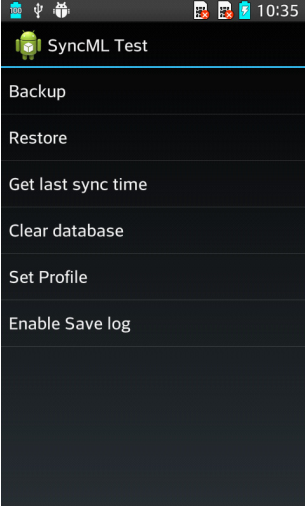
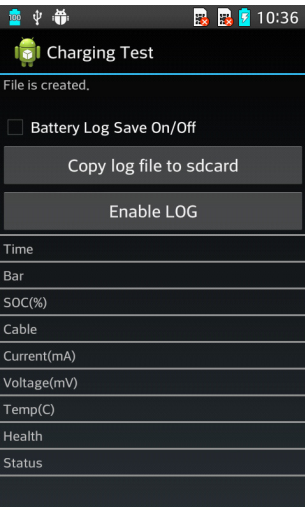
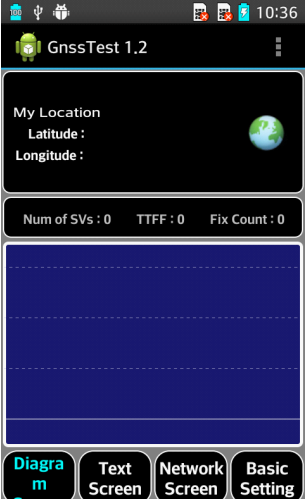
	Modem Settings - Engineering Mode - RRC Version Setting - QCRIL Log On/Off - PDP Setting - HSDPA Category - GSM A5 Algorithm - Protocol Test - GCF Flag - Arm9 Log On/Off - Network Mode - RAT Selection
	Module Test list: - SMS Prefer Set - FOTA Test - LCD Always On - FS_TEST - Heap Free Info - Stability Test - Charging Test - ANT Setting - SMPL Counter - BT DUT Setting
	Call Test - Auto Call Test - VC Auto answer - Call Duration

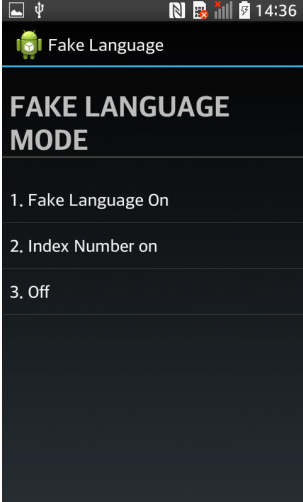
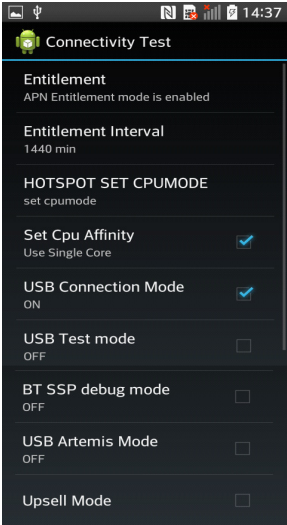
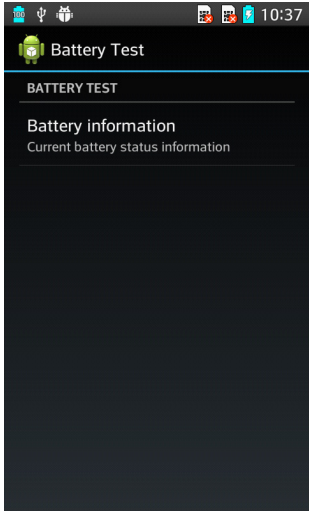
	Aging Test
	Streaming Streaming Setting Edit -> Edit Enable or not Streaming Log -> Log Enable or not
	Wap Debug -Change UAStrng - Edit UAStrng - Enable/Disable UAProfile - Edit UAProfile - View UAStrng/UAProfile - Display Certificates - Reset to default

	DRM Test
	Contacts Test Insert specific number of contact info
	Log service Enable of disable creating below log files. - Maing log - System log - Radio log - Events log - Kernel log - Packet log

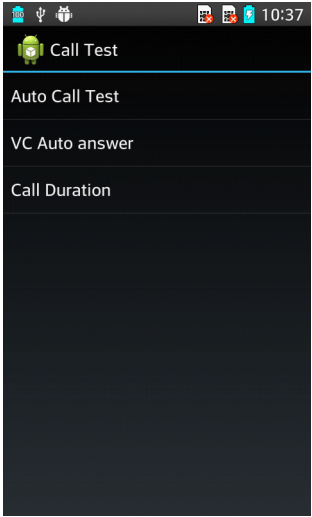
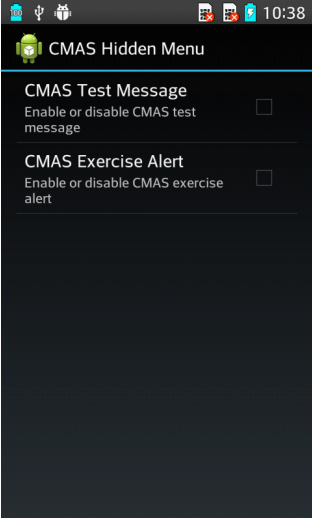
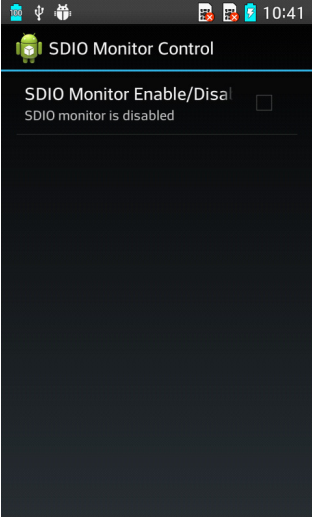
	Fake Language
	MMS test
	Flex Test

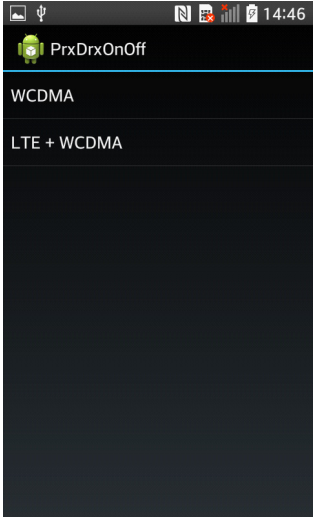
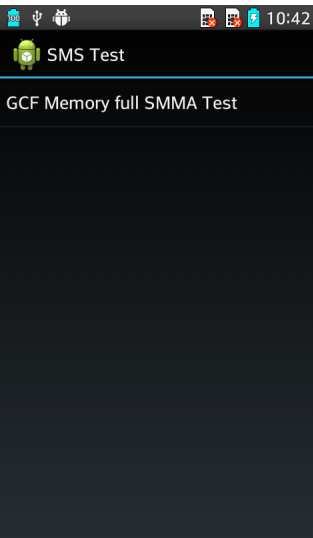
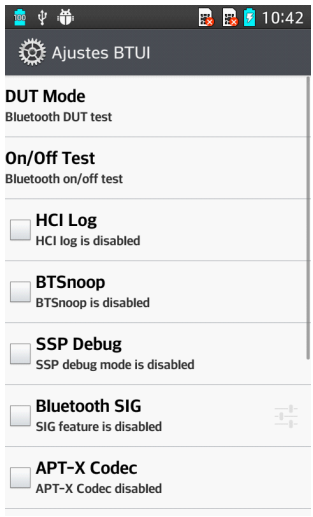
	LTE Only – Modem Settings - RAT Selection - LTE Band Selection - VoLTE Radio NV On/off - Null integrity On/Off
	LTE Only – LTE Data Test - Port Forwarding Test On/Off - Auto Tethering Test On/Off - Tethering Mode - Rmnet AutoConnect Mode
	WLAN Test WLAN performance on SW

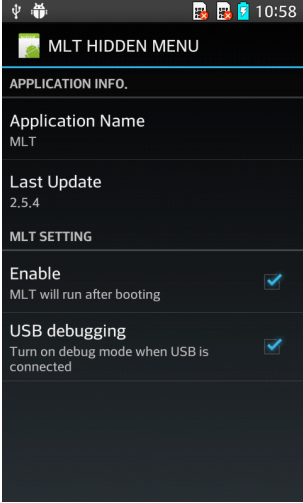
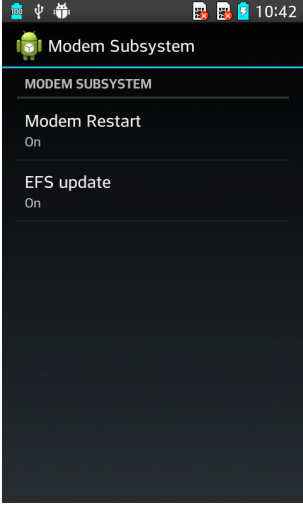
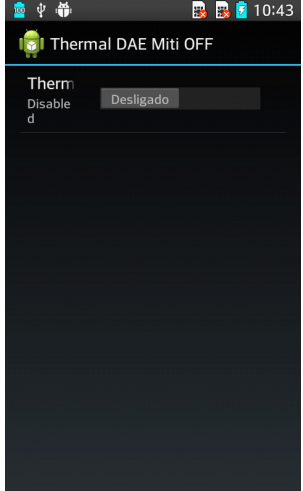
	SyncML Test
	Charging Test
	Gnss Test

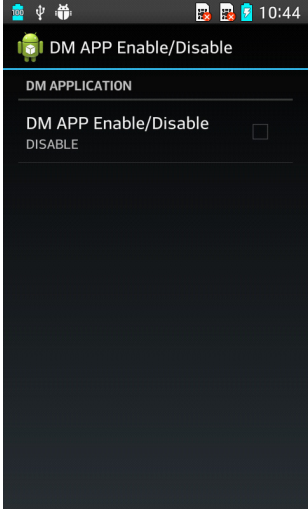
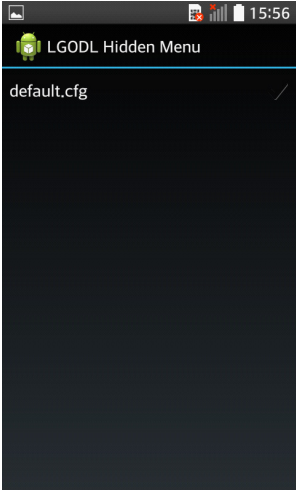
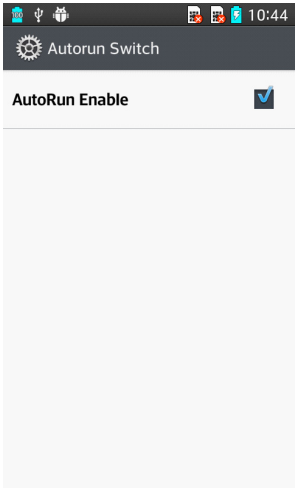
	Fake Language Same as 7. WCDMA Only – Fake Language
	Connectivity Test
	Battery Test

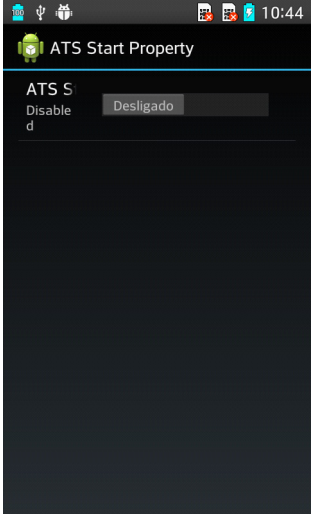
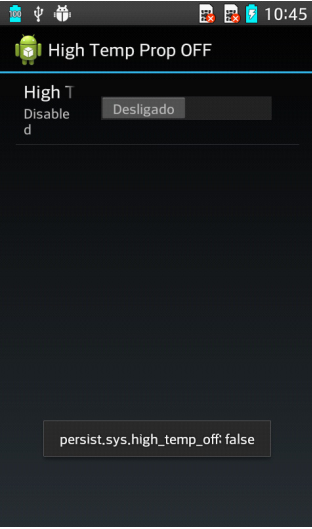
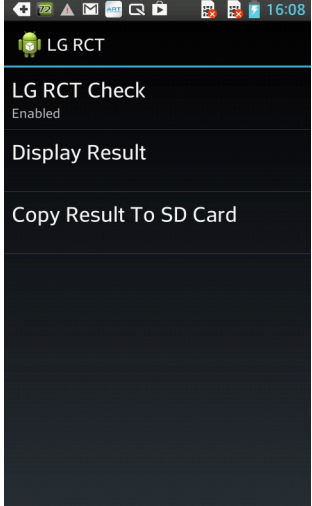
10. HIDDEN MENU

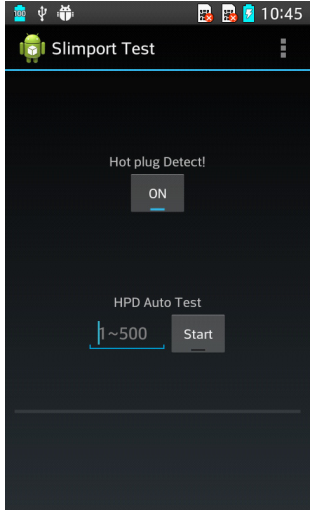
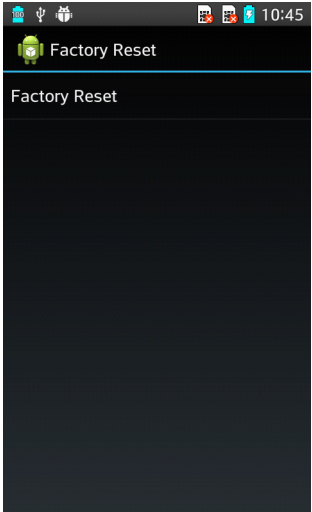
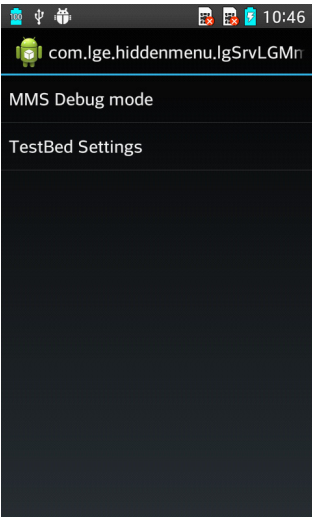
	Call Test
	CMAS_RMT
	SDIO Monitor Control

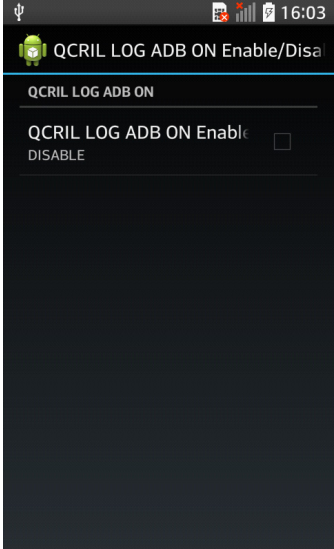
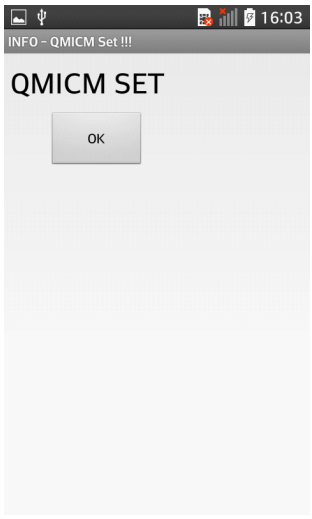
	Prx Drx On Off WCDMA - LTE + WCDMA Prx Drx enable Setting.
	SMS Test
	BT_TEST

	MLT Test
	Modem Subsystem
	Thermal Daemon Mitigation OFF

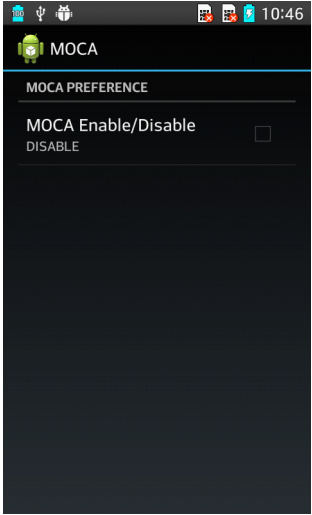
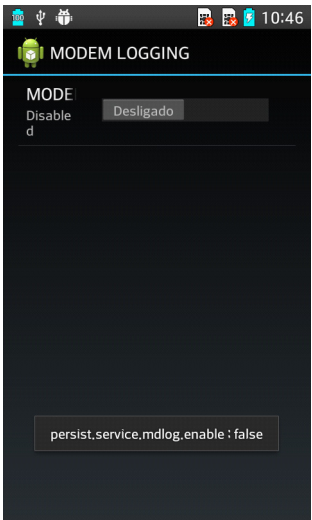
	DM APP Enable/Disable
	LGODL On / Off First Execute, default.cfg is made
	Autorun Test

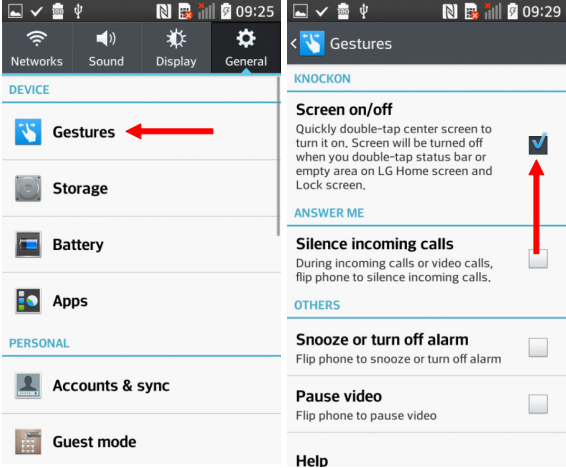
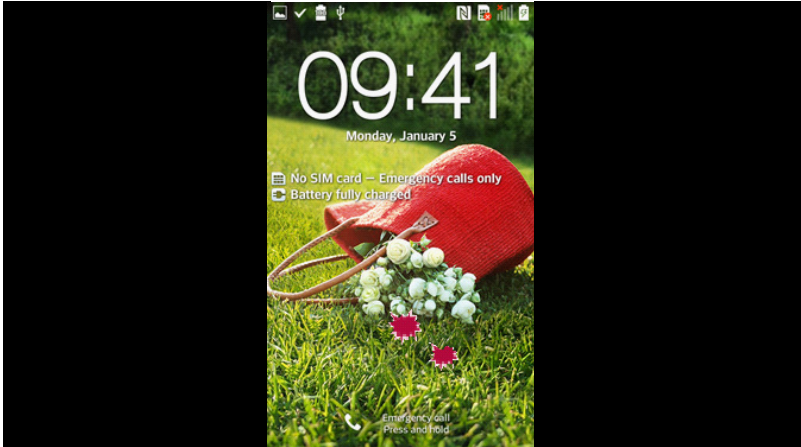
	ATS Start Property ON/OFF
	Hiht Temperature Perperty OFF
	LG RCT Test

 The screenshot shows the 'Slimport Test' app interface. At the top, there's a status bar with icons for USB, battery, and time (10:45). Below the title bar, the text 'Hot plug Detect!' is displayed above a toggle switch labeled 'ON'. Further down, 'HPD Auto Test' is shown with a slider set to '~500' and a 'Start' button.	Slimport Test
 The screenshot shows the 'Factory Reset' app interface. The title bar displays 'Factory Reset'. Below it, the text 'Factory Reset' is repeated. The rest of the screen is dark.	Facroty Reset
 The screenshot shows the 'MMS - LG' app interface. The title bar displays 'com.lge.hiddenmenu.lgSrvLGMn'. Below it, the text 'MMS Debug mode' and 'TestBed Settings' are visible. The rest of the screen is dark.	MMS - LG

	QCRIL LOG ADB ON/OFF
	QMICMSet

10. HIDDEN MENU

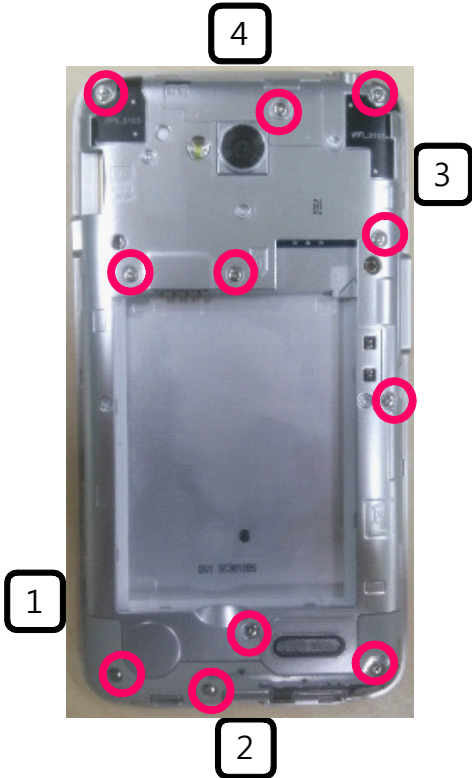
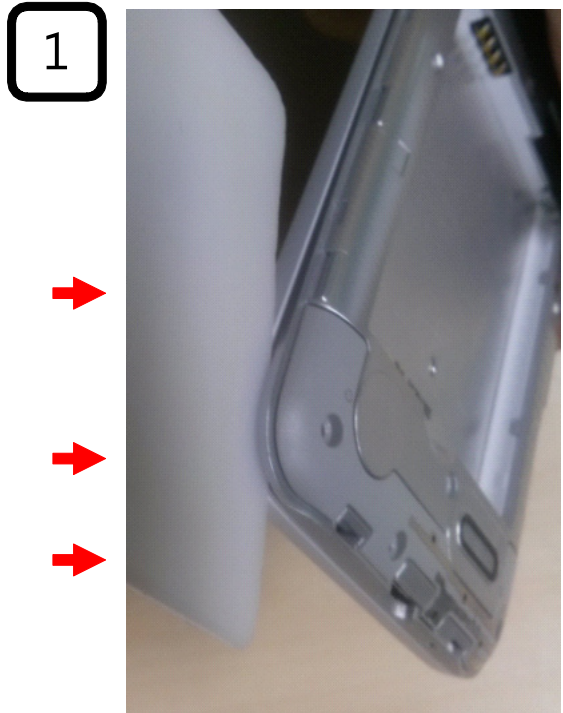
	MOCA
	Modem Log (QXDM Log)

1 2 	1. Knock On/Off Setting Knock On Setting sequence : 1 -> 2 1. Execute 'System Settings' and Select 'General -> Gestures' 2. Check with 'Screen on/off' Item
1 2 3 	2. Knock On / Off Knock On sequence : 1 -> 2 -> 3 1. Double-tab to phone to turn screen on regardless of tapping position and context 2. Double-tap Lock screen to turn screen off or empty area including status bar area on LG Home screen ** 'Screen off' is not working with 'talkback' or 'touch zoom'

1 2 3	3. Knock Code Setting Knock Code Setting sequence : 1 -> 2 -> 3 -> 4 -> 5 -> 6 Through the following sequence, User can input customized pattern of quadrant screen
4 5 6	3. Knock Code Setting Knock Code Setting sequence : 1 -> 2 -> 3 -> 4 -> 5 -> 6 Through the following sequence, User can input customized pattern of quadrant screen ** If user forgot Knock Code, User have to insert customized PIN Code. So step 6 is needed

1-1	1-2	2	4. Knock Code Knock Code sequence : 1-1 or 1-2 -> 2 User can wake up and unlock their device with customized pattern of quadrant screen. ** If user forgot Knock Code, User can unlock their device with customized PIN Code.
1	2	3	5. Knock Code : backup PIN Knock Code PIN sequence : 1 -> 2 -> 3 If user forgot Knock Code, User can unlock their device with customized backup PIN Code.

11. DISASSEMBLE GUIDE

1. Disassemble Battery Cover , Rear	
Disassemble sequence : 1 -> 2 -> 3 -> 4 	
	

4



1. Remove Battery Cover
2. Remove 11 Screws from Rear
3. Remove Rear Cover

2. Disassemble PCB



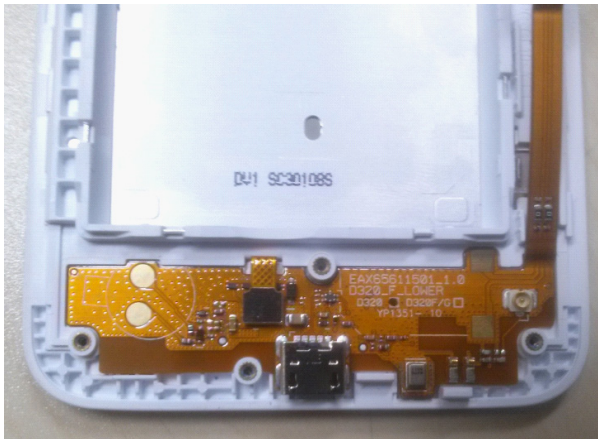
1. Remove Touch, LCD, FPCB, Camera Connector from PCB
2. Remove Coaxial Cable from PCB
3. Remove PCB

3. Disassemble Camera, Key, Rubber



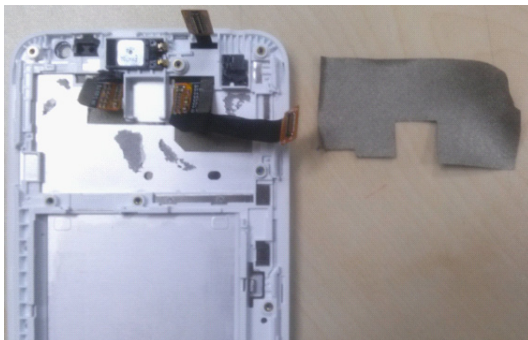
1. Remove Camera, Earjack
2. Remove Mic Top Rubber from Frame
3. Remove Power, Volume key from Frame
4. Remove Coaxial Cable from Lower FPCB

4. Disassemble FPCB



1. Remove Home key connector From Sub FPCB
2. Remove Sub FPCB from Frame

5. Disassemble Touch Window





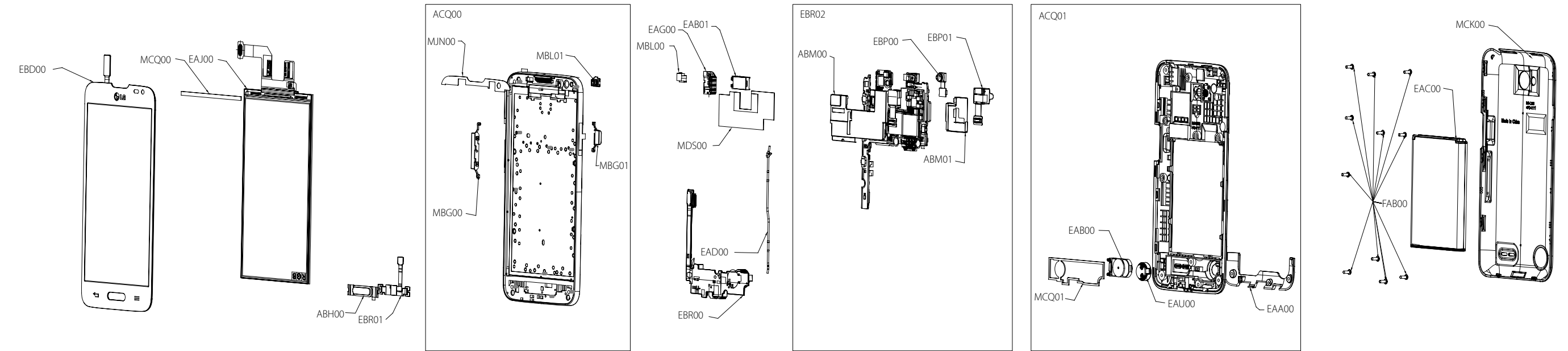
1. Remove Gasket from Frame
2. Keep 50oC Chamber for 10 min.
3. Remove Window by using Window disassemble Jig.

6. Disassemble LCD



12. EXPLODED VIEW & REPLACEMENT PART LIST

12.1 EXPLODED VIEW(SBOM)



location	Description	location	Description
FAB00	Screw,Machine	MCQ00	Damper,LCD
ACQ01	Cover Assembly,Rear	MD500	Gasket
MCQ01	Damper,Speaker	ACQ00	Cover Assembly,Front
EAA00	PIFA Antenna,Multiple	MBG00	Button,Side
EAU00	Motor,DC	MBG01	Button,Side
EAB00	Speaker,Dual Mode	MBL01	Cap
EBD00	Touch Window Assembly	MJN00	Tape,Window
EAJ00	LCD,Module-TFT	EBR02	PCB Assembly,Main
EAG00	Jack,Phone	EBP00	Camera Module
EAD00	Cable,Assembly	EBP01	Camera Module
EAB01	Receiver	ABM00	Can Assembly,Shield
EBR00	PCB Assembly,Flexible	ABM01	Can Assembly,Shield
EBR01	PCB Assembly,Flexible	MCK00	Cover,Battery
ABH00	Button Assembly	EAC00	Rechargeable Battery,Lithium Ion
MBL00	Cap		

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	Remark
1	AGQ000000	Phone Assembly	AGQ87706901	LGD320.ADEUBK BK:BLACK BLACK -	
2	ACQ100400	Cover Assembly,EMS	ACQ87289601	LGD320.ADEUBK BK:BLACK BLACK -	
3	FAB00	Screw,Machine	FAB31478701	BH + 1.4mm 3.7mm MSWR FZB N -	
3	ACQ01	Cover Assembly,Rear	ACQ86841502	LGD320N.AVDRBK BS:Bright Silver -	
4	ACQ105800	Cover Assembly Rear(SVC)	ACQ86841602	LGD320N.AVDRBK BS:Bright Silver -	
5	MCK063300	Cover,Rear	MCK67930402	MOLD PC LGD320N.AVDRBK BS:Bright Silver -	
5	MKC009400	Window,Camera	MKC64759301	CUTTING ACRYL LGD320N.AVDIWK BK:BLACK BLACK IMR08	
5	MJN089300	Tape,Window	MJN68652101	COMPLEX LGD320N.AVDIWK ZZ:Without Color Tape, Window, Camera	
5	MFB029600	Lens,Flash	MFB63233201	MOLD PC LGD320N.AVDIWK ZZ:Without Color LENS FLASH , PC SABIC OQ1028-112	
5	MCR000000	Decor	MCR65289702	COMPLEX LGD320N.AVDRBK ZZ:Without Color DECO (MESH, SPK)(Grill, Speaker)	
5	MBL000000	Cap	MBL65820001	MOLD RUBBER LGD320N.AVDIWK ZZ:Without Color CAP MIC MAIN	
5	MCQ009400	Damper,Camera	MCQ67488001	COMPLEX LGD320N.AVDIWK ZZ:Without Color damper_camera_main	
5	MCQ049800	Damper,Motor	MCQ67511101	COMPLEX LGD320N.AVDIWK ZZ:Without Color -	
5	MCQ074200	Damper,Speaker	MCQ67511201	COMPLEX LGD320N.AVDIWK ZZ:Without Color damper_spk_2_	
5	MCQ000000	Damper	MCQ67624401	COMPLEX LGD320N.AVDIWK ZZ:Without Color Pad, Receiver (rear)	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
5	MEZ000900	Label,After Service	MEZ64319901	COMPLEX LGF120L.ALGTWA ZZ:Without Color F120I AS Label	
4	MCQ01	Damper,Speaker	MCQ67487901	COMPLEX LGD320N.AVDIWH ZZ:Without Color DAMPER spk_1(shielding)	
3	ACQ003400	Cover Assembly,Bar	ACQ87076003	LGD320.ADEUBK BK:BLACK BLACK -	
7	ANT1,ANT2	Clip	MBV62562001	PRESS BECU 1.4 LGF300L.ALGTWH ZZ:Without Color -	
6	MDS000000	Gasket	MDS64530501	COMPLEX LGD320N.AVDIWH ZZ:Without Color Gasket, FPCB_Lower	
6	MJN000000	Tape	MJN68711001	COMPLEX LGD320N.AVDIWH ZZ:Without Color -	
4	MEZ000000	Label	MLAZ0038301	COMPLEX LG-VX6000 ZZ:Without Color PID Label 4 Array PRINTING,	
6	ABH00	Button Assembly	ABH74779702	LGLS740.AVGMWH BK:BLACK BLACK K-pjt_BK	
6	MJN000000	Tape	MJN68692701	CUTTING TAPE LGLS740.AVGMWH ZZ:Without Color -	
4	MBL00	Cap	MBL65819801	MOLD RUBBER LGD320N.AVDIWH ZZ:Without Color Cap, Mic_Sub	
4	MCQ00	Damper,LCD	MCQ67625101	COMPLEX LGD320N.AVDIWH ZZ:Without Color Pad, LCD_D/IC	
4	MDS00	Gasket	MDS64513601	COMPLEX LGD320N.AVDIWH ZZ:Without Color Gasket Shield Contact	
4	ACQ00	Cover Assembly,Front	ACQ86856802	LGD320N.AVDRBK BK:BLACK BLACK -	
5	MBG00	Button,Side	MBG64983702	COMPLEX LGD320N.AVDRBK BS:Bright Silver _Volume,PC+TPU	
5	MBG01	Button,Side	MBG64923902	COMPLEX LGD320N.AVDRBK BS:Bright Silver Button_Power,PC+TPU	
5	ACQ033200	Cover Assembly Front(Sub)	ACQ86841402	LGD320N.AVDRBK BK:BLACK BLACK -	
6	ADV076900	Frame Assembly,Sub	ADV74687201	LGD320N.AVDIWH ZZ:Without Color insert frame_sts_al_rivet	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
7	MJB000000	Stopper	MJB63369901	COMPLEX LGD325F.ABRAWH ZZ:Without Color sts304 rivet	
7	MCK032701	Cover,Front	MCK67933501	PRESS AL 0.5 LGD320N.AVDIYW ZZ:Without Color -	
7	MCK032700	Cover,Front	MCK67933601	PRESS SUS 304 0.5 LGD320N.AVDIYW ZZ:Without Color -	
6	MCK032700	Cover,Front	MCK67933402	MOLD PC LGD320N.AVDRBK BK:BLACK BLACK PC GF 10%	
6	MET099500	Insert,Nut	MICE0016904	COMPLEX MECH_COMMON ZZ:Without Color -	
5	MCR000001	Decor	MCR65267802	COMPLEX LGD320N.AVDRBK ZZ:Without Color Grill Receiver	
5	MCQ000002	Damper	MCQ67864301	COMPLEX LGD320N.AVDRWY ZZ:Without Color pad, homekey fpcb	
5	MJN000001	Tape	MJN68807401	COMPLEX LGD320N.AVDIYW ZZ:Without Color Tape, Side Key	
5	MJN089300	Tape,Window	MJN68747201	COMPLEX LGD320N.AVDIYW ZZ:Without Color tape, window top	
5	MJN000002	Tape	MJN68710901	COMPLEX LGD320N.AVDIYW ZZ:Without Color Tape Removal FT Sub	
5	MJN000000	Tape	MJN68694701	COMPLEX LGD320N.AVDIYW ZZ:Without Color taep, earjack	
5	MDS000000	Gasket	MDS64490501	COMPLEX LGD320N.AVDIYW ZZ:Without Color GASKET, LCD (TAPE, LCD FPCB)	
5	MCR000000	Decor	MCR65267701	MOLD PC LGD320N.AVDIYW SV:SILVER SILVER NCVM	
5	MCQ043300	Damper,LCD	MCQ67624901	COMPLEX LGD320N.AVDIYW ZZ:Without Color Pad, Front Back	
5	MBL01	Cap	MBL65819701	MOLD RUBBER LGD320N.AVDIYW ZZ:Without Color Cap, Sensor	
5	MCQ000000	Damper	MCQ67526701	COMPLEX LGD320N.AVDIYW ZZ:Without Color DAMPER RECEIVER front	
5	MCQ000001	Damper	MCQ67590101	COMPLEX LGD320N.AVDIYW ZZ:Without Color Pad, Front DIC	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
4	MJN00	Tape,Window	MJN68695101	COMPLEX LGD320N.AVDIWY ZZ:Without Color tape window mid	
4	MJN061100	Tape,Protect	MJN68787301	COMPLEX LGD320N.AVDIWY ZZ:Without Color Tape, Protection, Bar	
4	MJN107400	Tape,USP Film	MJN68787402	COMPLEX LGD320.ANEUWY ZZ:Without Color D320USP	
5	ABM00	Can Assembly Shield	ABM74136401	LGD325F.ABRAWH ZZ:Without Color Can Assembly, Shield, Top	
6	MBK070300	Can,Shield	MBK63652501	PRESS SUS304 0.15 LGD325F.ABRAWH ZZ:Without Color STS304 1/2H	
6	MEV000000	Insulator	MEV64612301	COMPLEX LGD325F.ABRAWH ZZ:Without Color Can, Shield_Top	
5	ABM01	Can Assembly Shield	ABM74136503	LGD320N.AVDRWY ZZ:Without Color Can Assembly, Shield, BTM	
6	MBK070300	Can,Shield	MBK63632901	PRESS STS304 0.15 LGD325F.ABRAWH ZZ:Without Color Can, Shield_BTMTM	
6	MCQ000000	Damper	MCQ68024301	COMPLEX LGD320N.AVDRWY ZZ:Without Color PAD D320_canshieldBTM	
6	SC11 SC12 SC13 SC14 SC15 SC16 SC17 SC18 SC3 SC5 SC7 SC8	Clip	MBV62321701	PRESS STS 301 0.15 LGLU6200.ALGTBK BK:Black -	
6	ANT11002	Clip	MBV62641601	PRESS CU 0.1 LGD800.AATTBK BK:Black D800 1.7T c-clip	
5	MEZ000000	Label	MEZ65049701	COMPLEX LGLS720.ASPRTS ZZ:Without Color PID label	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	SC11 SC12 SC13 SC14 SC15 SC16 SC17 SC18 SC3 SC5 SC7 SC8	Clip	MBV62321701	PRESS STS 301 0.15 LGLU6200.ALGTBK BK:Black -	
2	MEZ002100	Label,Approval	MEZ65531601	COMPLEX LGD325.AVNMWH ZZ:Without Color -	
1	AGF000000	Package Assembly	AGF77303812	LGD320.ADEUWY ZZ:Without Color D320 DEU (A1-1H/1080)	
2	MEZ047200	Label,Master Box	MLAJ0004402	PRINTING CG300 CGR DG ZZ:Without Color LABEL MASTER BOX(for CGR TDR 2VER. mbox_label) GSM standard_master box label	
2	MEZ000000	Label	MLAZ0050901	COMPLEX KU990.AGBRBK ZZ:Without Color Battery Warning Label (Lithium ion Battery Label)	
2	MEZ003500	Label,Barcode	MLAC0004541	PRINTING HB620 KPNBK ZZ:Without Color GSM standard_unit box label_90*40	
2	MEZ067500	Label,Sealing	MEZ65347401	COMPLEX LGD820.AUSGBK WH:WHITE WHITE Nexus5(D820) Seal label (50*25)	
2	AGJ000000	Pallet Assembly	AGJ73758401	LGD320N.AVDIBK ZZ:Without Color A1-1H Type EU STD_Body+Cap+AL Pallet(1200x800)+Sleeve_1,080ea	
3	MAY010800	Box,Carton	MAY66471601	COMPLEX LGD320N.AVDIWH ZZ:Without Color D320 VDI Body (A1-1H/1200*800)	
3	MGA000000	Pallet	MPCY0012403	COMPLEX KG800 FRABK DB:DARK BLUE -	
3	MAY115200	Box,Pallet Sleeve	MAY66471701	COMPLEX ZZ:Without Color LGD320N.AVDIWH D320 VDI DEADSPACE (A1-1H/1200*800)	
3	MBL007000	Cap,Box	MBL65957701	COMPLEX LGD320N.AVDIWH ZZ:Without Color D320 VDI CAP (A1-1H/1200*800)	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
2	MAY047100	Box,Master	MAY66470401	COMPLEX LGD320N.AVDIWH ZZ:Without Color A1-1h_STD Master Box(10EA)	
2	MAY084000	Box,Unit	MAY66331630	COMPLEX LGD320N.AVDIBK ZZ:Without Color D320 ENGLISH OPEN(A1-1H)	
1	AAD000000	Addition Assembly	AAD86830601	LGD320.ADEUBK BK:BLACK BLACK -	
2	MCK00	Cover,Battery	MCK68066801	MOLD PC LGD320N.AVDIBK BK:BLACK BLACK -	

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	Remark
5	EAA030101	PIFA Antenna,GPS	EAA63225601	ACA-00289 SINGLE -5DB 5:1 FPCB Type M323 GPS Ant GPS Tape MOBITECH CORPORATION	
5	EAA030100	PIFA Antenna Multiple	EAA63225401	ACA-00287 MULTI -5DB 5:1 FPCB Type M323 BT/Wifi ANT WLAN+BT Tape MOBITECH CORPORATION	
4	EAA00	PIFA Antenna Multiple	EAA63545401	KI-M081110 MULTI -5DB 5:1 SIMA - Main Carrier KOMATECH CO.,LTD	
4	EAU00	Motor,DC	EAU62303401	TLE-1030MF 3V 100mA 0A 12KRPM 0RPM 0SEC 0GF.CM 34OHM	
4	EAB00	Speaker Dual Mode	EAB62653201	EMS1810TPB8P Nd-Fe-B 700mW 8OHM 90DB 850HZ 18.0 X 10.0 X 3.0T SPRING EM-TECH	
4	EBD00	Touch Window Assembly	EBD61825201	TSMC-B412A CAPACITIVE TOUCH GFF 305 Stack up Melfas MMS134S 4.5" B to B W5 Single Black Color LG INNOTEK.,LTD.	
4	EAJ00	LCD,Module-TFT	EAJ62590001	LM450MN1A WVGA 4.5INCH 480X800 450CD COLOR 70% 15/9 Typ 1000:1 60Hz Inverter N LED 2D - TOVIS	
4	EAG00	Jack,Phone	EAG63515401	HG05-AB3555 5P 4P STRAIGHT R/TP 3.5M BLACK 5P - HYUPJIN I&C CO.,LTD.	
4	EAD00	Cable,Assembly	EAD62671801	80409-202B-74L-1 UFL-LP-066 UFL-LP-066 0.06M 1 BLACK N N I-PEX CO., LTD	
4	EAB01	Receiver	EAB62888201	EMR1307SWB4 30mW 32OHM 107DB 300HZ TO 7KHZ PIN - EM-TECH	
4	EBR00	PCB Assembly Flexible	EBR77993801	LGD320N.AVDIWH 1.2 Flexible	
5	EBR070400	PCB Assembly Flexible,SMT	EBR78054801	LGD320N.AVDIWH 1.1 Flexible	
6	EBR070300	PCB Assembly Flexible,SMT Top	EBR78054901	LGD320N.AVDIWH 1.1 Flexible	
7	EAX010700	PCB,Flexible	EAX65611501	LGD320N.AVDIWH 1.1 POLYI Multi 5 0.45 Flexible	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
7	CN1	Connector,BtoB	ENBY0040601	GB042-30P-H10-E3000 - 0.40MM STRAIGHT MALE SMD R/TP - - LS Mtron Ltd.	
6	EBR070200	PCB Assembly Flexible SMT Bottom	EBR78055001	LGD320N.AVDIWH 1.2 Flexible	
7	D7,D8	Diode,TVS	EAH62033201	UCLAMP3311Z 3.3V 3.65V min. 7.5V 4A 30W SLP0603P2X3A R/TP 2P 1 SEMTECH INTERNATIONAL AG	
7	CN5	Connector,BtoB	EAG63393201	BM10NB(0.8)-10DS-0.4V 10P 0.40MM STRAIGHT FEMALE SMD R/TP 800mM - HIROSE KOREA CO.,LTD	
7	C16 C17	Capacitor Ceramic,Chip	ECZH0025920	GRM033R71C102K 1nF 10% 16V X7R - 55TO+125C 0603 R/TP - - MURATA MANUFACTURING CO.,LTD.	
7	ZD1 ZD2	Diode,TVS	EDTY0009101	ESD9X5.0ST5G 5V 6.2 12.3V 8.7A 107W SOD528 R/TP 2P 1 ON SEMICONDUCTOR	
7	C15 C21 C4	Capacitor Ceramic,Chip	ECCH0000115	MCH155A220JK 22pF 5% 50V NP0 -55TO+125C 1005 R/TP - ROHM Semiconductor KOREA CORPORATION	
7	D5 D6	Varistor	SEVY0008101	EVLC5S01033 EVLC5S01033 EVLC5S01033,5.5 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 AMOTECH CO., LTD. AMOTECH CO., LTD.	
7	ZD3 ZD4 ZD5 ZD6	Diode,TVS	EDTY0012501	UCLAMP3311T.TCT 3.3V 3.5V min. 6.5V 5A - SLP1006P2T R/TP 2P 1 SEMTECH CORPORATION	
7	C12	Capacitor Ceramic,Chip	ECCH0002001	C1005JB0J104KT000F 0.1uF 10% 6.3V X5R - 30TO+85C 1005 R/TP - - TDK CORPORATION	
7	CN2	Connector,I/O	EAG63090001	04-5161-005-100-868 7P 0.90MM ANGLE RECEPTACLE DIP R/TP Normal New IO Connector KYOCERA ELCO KOREA SALES CO.,LTD.	
7	FB1	Filter,Bead	SFBH0008102	BLM15HD182SN1D 1800 ohm 1.0X0.5X0.5 25% 2.2 ohm 0.2A SMD R/TP 2P 0 MURATA MANUFACTURING CO.,LTD.	
7	C7	Capacitor (High Frequency) Ceramic,Chip	EAE62945301	GRM1555C1HR50B_H 0.5pF 0.1PF 50V C0G - 55TO+125C 1005 R/TP 0.5+/-0.05 L:1.0+/-0.05 W:0.5+/-0.05 T:0.5+/-0.05 MURATA MANUFACTURING CO.,LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
7	D1	Diode,TVS	EAH61872601	PESD12VS1UA 12V 13.3V min. 19V 22.5A 360mW SOD323 R/TP 2P 1 NXP Semiconductors	
7	L1 L2	Inductor Multilayer,Chip	ELCH0001425	LL1005-FHL82NJ 82NH 5% - 150mA 1.9OHM 1.15GHZ 10 SHIELD NONE 1.0X0.5X0.5MM R/TP TOKO, INC.	
7	FL2	Filter,EMI/Power	EAM62272401	ICMEF112P500MFR COMMON MODE NOISE FILTER 0HZ 0.0000000000001F 0H SMD R/TP - INNOCHIPS TECHNOLOGY	
7	C3	Capacitor Ceramic,Chip	ECCH0017401	CL21B105KBFNNNE 1uF 10% 50V X7R - 55TO+125C 2012 R/TP 1.25MM - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
7	R2 R3	Resistor,Chip	ERHZ0000701	MCR03EZP5J000 0OHM 5% 1/10W 1608 R/TP - ROHM.	
7	C11	Capacitor Ceramic,Chip	ECCH0000161	MCH153CN333KK 33nF 10% 16V X7R - 55TO+125C 1005 R/TP - - ROHM Semiconductor KOREA CORPORATION	
7	C18 C19	Capacitor Ceramic,Chip	ECZH0025916	GRM0335C1E330J 33pF 5% 25V NP0 - 55TO+125C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
7	SW1	Connector,RF	ENWY0005501	20279-001E-01 NONE STRAIGHT SOCKET SMD R/TP AU 50OHM 400mDB I-PEX CO., LTD	
7	D4	Diode,Switching	EAH61532901	BA891_ 1V 35V - - 0SEC 715mW SOD523 R/TP 2P 1 NXP Semiconductors	
7	C1 C2	Capacitor Ceramic,Chip	ECZH0000813	C1005C0G1H101JT 100pF 5% 50V C0G - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
7	FL1	Filter,EMI/Power	EAM62790301	NFM18PC225B1A3D_ EMI - 0.0000022F 0H SMD R/TP size : 1.6x0.8x0.6 (3 terminal cap) MURATA MANUFACTURING CO.,LTD.	
7	MIC1	Microphone,Conde nser	EAB62911301	S17OT423-001 -42DB 150OHM OMNI 1.5 TO 3.6V 3.10 * 2.5 * 1.1T SMD GoerTek Inc.	
7	C13	Capacitor Ceramic,Chip	EAE62685301	CL05A105KA5NQNC 1uF 10% 25V X5R - 55TO+85C 1005 R/TP 0.6T max. Samsung(1.0+- 0.1 0.5+-0.1 0.5+-0.1) Murata (1.0+-0.05 0.5+-0.05 0.5+-0.05) SAMSUNG ELECTRO-MECHANICS CO., LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
7	C20	Capacitor Ceramic,Chip	EAE62726601	CL03A225MQ3CRNC 2.2uF -20TO20% 6.3V X5R - 55TO+85C 0603 R/TP 0.3T - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
5	EBR070100	PCB Assembly Flexible,Insert	EBR78992201	LGD320N.AVDRWY 1.0 Flexible	
4	EBR01	PCB Assembly Flexible	EBR78575702	LGD405N.AITABK 1.0 Flexible	
5	EBR070100	PCB Assembly Flexible,Insert	EBR78515902	LGD405N.AITABK 1.0 Flexible	
5	EBR070400	PCB Assembly Flexible,SMT	EBR78516001	LGD405N.AITAWY 1.0 Flexible	
6	EBR070200	PCB Assembly Flexible SMT Bottom	EBR78516101	LGD405N.AITAWY 1.0 Flexible	
7	EAG020000	Connector,BtoB	EAG63393301	BM10SB(0.8)-10DP-0.4V 10P 0.40MM STRAIGHT MALE SMD R/TP 800mm - HIROSE KOREA CO.,LTD	
7	EBF120000	Switch,Tact	EBF61955001	LS75C2D 1C1P 12VDC 0.02A HORIZONTAL 160GF R/TP - CITIZEN ELECTRONICS CO.,LTD.	
6	EBR070300	PCB Assembly Flexible,SMT Top	EBR78516201	LGD405N.AITAWY 1.0 Flexible	
7	EAX010700	PCB,Flexible	EAX65608701	LGD405.AVDSKT 1.0 POLYI Multi 2 0.25 Flexible	
3	EBR02	PCB Assembly Main	EBR78687502	LGD320.ADEUBK 1.0 Main	
4	EBR071500	PCB Assembly Main,Insert	EBR78934902	LGD320.ADEUWY 1.1 Main	
5	EBP00	Camera Module	EBP61941701	CW0373-ADDAC CW0373-ADDAC VGA Hynix 1/10 CNT Top COWELL ELECTRONICS CO.,LTD	
5	EBP01	Camera Module	EBP61721801	CW5025-AF4C1 CW5025-AF4C1 5M AF Hynix Hi- 543 1/4" 0deg, FPC 7mm, 8.5*8.5*4.95t COWELL ELECTRONICS CO.,LTD	
5	RAA050100	Resin,PC	BRAH0001301	UF2040 or 3075BHF . . NONE	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
4	EBR071800	PCB Assembly Main,SMT	EBR78496005	LGD320.ADEUBK 1.0 Main	
5	EBR071700	PCB Assembly Main,SMT Top	EBR78496203	LGD320.ANLDWT 1.1 Main	
6	D7 D8	Diode,TVS	EAH62033201	UCLAMP3311Z 3.3V 3.65V min. 7.5V 4A 30W SLP0603P2X3A R/TP 2P 1 SEMTECH INTERNATIONAL AG	
6	C1008 L2005	Inductor Multilayer,Chip	EAP62226601	LQP03TG15NJ02D 15NH 5% - 170mA - - 1.9OHM 3.1GHZ 11 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	EAX010000	PCB,Main	EAX65604301	LGD325.ACISWH 1.2 FR-4 - 10 0.8 Main	
6	R1600	Resistor,Chip	ERHY0009311	MCR006YZPF51R0 51OHM 1% 1/20W 0603 R/TP - ROHM.	
6	C1009 C1010 C1015 C1019 C1020 C1021 C1022 C1023 C1024 C1060 C1061 C1063 C1113 C2037 C2043 C2047 C2048 C2049 C2050 C2051 C3000 C3008 C5112 C5114 C5115	Capacitor Ceramic,Chip	ECCH0009103	C0603C0G1H101JT00NN 100pF 5% 50V C0G - 55TO+125C 0603 R/TP - - TDK CORPORATION	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C2101 C2102 C2361 C4120 C4123 C4124 C4125 C4134 C4135 C4136 C4138 C4139 C4140 C4141 C4142 C4145 C6003	Capacitor Ceramic,Chip	EAE62962301	GRM155R61A225KE95 2.2uF -10TO+10% 10V X5R -55TO+85C 1005 R/TP 0.5 L:1.0+-0.05 W:0.5+-0.05 T:0.5+-0.05 MURATA MANUFACTURING CO.,LTD.	
6	R2111	Resistor,Chip	ERHY0009554	MCR006YZPF2002 20KOHM 1% 1/20W 0603 R/TP - ROHM.	
6	C1001	Inductor Multilayer,Chip	ELCH0003826	LQG15HS3N3S02D 3.3NH 0.3NH - 300mA - - 0.17OHM 6GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	L2003	Capacitor (High Frequency) Ceramic,Chip	EAE62946101	GRM0335C1E2R0C_H 2pF 0.25PF 25V C0G - 55TO+125C 0603 R/TP 0.3+-0.03 L:0.6+-0.03 W:0.3+-0.03 T:0.3+-0.03 MURATA MANUFACTURING CO.,LTD.	
6	C2300 C2301 C2302 C2303 C2304 C2306 C2307 C2308 C2309 C2321 C2322 C2355 C2356 C2357 C3002 C3003 C3004 C3005	Capacitor Ceramic,Chip	ECCH0009101	C0603X5R0J104KT00NN 0.1uF 10% 6.3V X5R - 55TO+85C 0603 R/TP - TDK CORPORATION	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C3006 C3009 C3010 C3011 C3012 C3016 C4001 C4002 C4105 C4106 C4115 C6001 C6004 C6007 C7202 C7203 C8700 C8701	Capacitor Ceramic,Chip	ECCH0009101	C0603X5R0J104KT00NN 0.1uF 10% 6.3V X5R - 55TO+85C 0603 R/TP - TDK CORPORATION	
6	C1112	Capacitor Ceramic,Chip	ECCH0009216	GRM0335C1E220J 22pF 5% 25V X7R - 55TO+125C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	U4100	IC,PMIC	EAN62737301	PM8110 to 5.5V adj 0W CSP R/TP 118P SMBC, PWM, 19.2MHz XO QUALCOMM INCORPORATED.	
6	C6009 C6012 C6013 C6014 C6015 C6016 C6017 C6018 C6019 C6022 C6024 C6025 C6026	Capacitor Ceramic,Chip	ECCH0034801	CL03A474MQ3NNNH 0.47uF -20TO20% 6.3V X5R -55TO+85C 0603 R/TP 0.3+-0.03 - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	L1018 L1019	Inductor Multilayer,Chip	ELCH0004706	1005GC2T10NJLF 10NH 5% - 250mA 0.42OHM 2.5GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C10000 C12003 C12004 C2100 C2107 C2345 C4107 C4108 C4114 C4137 C4144 C4146 C4147 C4148 C4149 C4150 C4151 C4152 C4153 C4154 C4300 C6006 C6008 C6020 C6021 C6023	Capacitor Ceramic,Chip	ECCH0017301	CL03A105MQ3CSNH 0.000001F 20% 6.3V X5R - 45TO+85C 0603 R/TP - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	SW12000 SW12001 SW12002	Switch,Tact	EBF61974601	LS12P2E-T 1C1P 12VDC 0.02A HORIZONTAL 160GF R/TP Side Tact Switch (offset) CITIZEN	
6	R1004 R11008 R11009 R11010 R2005 R2112 R2113 R2114 R2115 R2200 R2201 R2300 R3005 R3007 R4106 R4109	Resistor,Chip	ERHY0009501	MCR006YZPJ000 0OHM 5% 1/20W 0603 R/TP - ROHM.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C4121 C4122	Capacitor Ceramic,Chip	EAE62542701	CL21A226MPCLRNC 22uF 20% 10V X5R - 55TO+85C 2012 R/TP 0.95T max. - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	R3001 R3002	Resistor,Chip	ERHY0009503	MCR006YZPJ101 100OHM 5% 1/20W 0603 R/TP - ROHM.	
6	C1013 C1016 C2359 C5102 C6000	Capacitor Ceramic,Chip	EAE62506501	CL05A475MP5NRNC 4.7uF 20% 10V X5R - 55TO+85C 1005 R/TP - - SAMSUNG ELECTRO- MECHANICS CO., LTD.	
6	R4001 R4002	Resistor,Chip	ERHY0009504	MCR006YZPJ102 1KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	L4112	Inductor,Wire Wound,Chip	EAP62665901	VLS201610HBX-R47M 470NH 20% - 3.3A 3.4 3.3 0.043OHM - - SHIELD 2.0X1.6X1.0MM - R/TP TDK KOREA COOPERATION	
6	L4110	Inductor,Wire Wound,Chip	EAP62526501	TFM201610GHM-1R0MTAA 1UH 20% - 3A 3.6 3 0.06OHM - - SHIELD 2.0X1.6X1.0 MM - R/TP TDK KOREA COOPERATION	
6	U6000	IC,MCP,eMMC	EAN62825901	H9TP32A8JDBCPR-KGM NAND/4G SDRAM/4G(2G*2/ 32bit) 2.7VTO3.6V,1.7VTO1.95V,1.14VTO1.3V 11.5x13.0x1.0 TR 162P NAND+DDR SDRAM FBGA 4GB eMMC v4.5+8Gb LPDDR2 MCP (20nm 32Gb MLC+29nm 4Gb 533MHz LPDDR2) HYNIX SEMICONDUCTOR INC.	
6	C1017	Capacitor Ceramic,Chip	ECCH0000155	MCH153CN103KK 10nF 10% 16V X7R - 55TO+125C 1005 R/TP - ROHM Semiconductor KOREA CORPORATION	
6	C1048 C2045	Inductor Multilayer,Chip	EAP62226301	LQP03TG5N6J02D 5.6NH 5% - 250mA - - 0.88OHM 6GHZ 12 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	U8700	IC,Hall Effect Switch	EAN62357301	S-5712ACDL1 Hall IC 1.6X1.2 HVSO F R/TP 4P - SEIKO INSTRUMENTS INC.	
6	C20	Capacitor Ceramic,Chip	EAE62726601	CL03A225MQ3CRNC 2.2uF -20TO20% 6.3V X5R - 55TO+85C 0603 R/TP 0.3T - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	U12002	IC,Proximity	EAN62646301	APDS-9130-200 High T Proximity Sensor 3.36X4.94X3.45 COB R/TP 8P - AVAGO TECHNOLOGIES INTERNATIONAL SALES PTE. LIMITED	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C1046	Inductor Multilayer,Chip	ELCH0004710	1005GC2T15NJLF 15NH 5% - 250mA 0.53OHM 2GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	C5107 C5108 C5109 C5111 C6010 C6011	Capacitor Ceramic,Chip	ECCH0009106	C0603X7R1C103KT 10nF 10% 10V X7R - 55TO+125C 0603 R/TP - TDK CORPORATION	
6	C2053	Inductor Multilayer,Chip	EAP61987001	HK0603 18NH-T 18NH 3% - 140mA - - 1.05OHM 2.3GHZ 21 SHIELD 0 0.6X0.3X0.3MM R/TP TAIYO YUDEN CO.,LTD	
6	R2213 R2214 R2215 R4102 R6000 R7202 R7204	Resistor,Chip	ERHY0009505	MCR006YZPJ103 10KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	C18 C19	Capacitor Ceramic,Chip	ECZH0025916	GRM0335C1E330J 33pF 5% 25V NP0 - 55TO+125C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	X4100	Crystal	EAW62063901	1RAA19200AAQ 19.2MHZ 10PPM 7pF 2520 SMD R/TP DAISHINKU CORPORATION.	
6	VA9606	Varistor	SEVY0005101	ICVL0518050FR 18V 0% 5F 1.0*0.5*0.55 NONE SMD R/TP INNOCHIPS TECHNOLOGY	
6	R4101	Resistor,Chip	ERHZ0000406	MCR01MZP5J104 100KOHM 5% 1/16W 1005 R/TP - ROHM.	
6	C2046	Inductor Multilayer,Chip	EAP62108401	LQP03TG12NJ02D 12NH 5% - 180mA - - 1.78OHM 3.7GHZ 11 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	PT2000	Thermistor,NTC	SETY0007301	NCP15WF104F03RC NTC,100000 ohm,SMD,4250K+/-1%,100K,1%,0.1mA,4250K+/- 1%,SMD,R/TP MURATA MANUFACTURING CO.,LTD.	
6	L4113 L4114	Inductor Wire Wound Chip	ELCP0014201	1239AS-H-2R2N=P2 2.2UH 30% - 1.6A 2.2 1.6 0.108OHM - - SHIELD 2.5X2.0X1.2MM NONE R/TP TOKO, INC.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C4116	Capacitor Ceramic,Chip	EAE62522101	CL10A226MP8NUNE 22uF 20% 10V X5R - 55TO+85C 1608 R/TP 1.05T max. - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C1 C2	Capacitor Ceramic,Chip	ECZH0000813	C1005C0G1H101JT 100pF 5% 50V C0G - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	U1000	Module,Tx Module	EAT62073401	SKY77573-31 0DBM 0DB 0% 0A 0A 0DB 0DBM 0DBM 42P 6.0x6.0x0.9MM WEDGE TxM for WTR2605, SP10T SKYWORKS SOLUTIONS INC.	
6	R12000 R12001 R12002	Resistor,Chip	ERHY0003301	MCR01MZP5J101 100OHM 5% 1/16W 1005 R/TP - ROHM.	
6	C1003	Inductor Multilayer,Chip	EAP62108201	LQP03TG3N3C02D 3.3NH 0.2NH - 400mA - - 0.32OHM 6GHZ 13 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	R12004	Resistor,Chip	ERHY0009526	MCR006YZPJ472 4.7KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	R2202 R2203 R2204 R2205 R2206 R2207 R2210 R2211	Resistor,Chip	ERHY0009516	MCR006YZPJ222 2.2KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	C2033 C2034 C4118 C5113 C5116	Capacitor Ceramic,Chip	EAE62502901	CL05A106MP5NUNC 10uF 20% 10V X5R - 55TO+85C 1005 R/TP 0.55T max. SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	VA12000 VA12001 VA12002 VA7205 VA7206	Varistor	SEVY0003601	ICVL0505101V150FR 5.6V 0% 100pF 1.0*0.5*0.55 NONE SMD R/TP INNOCHIPS TECHNOLOGY	
6	C3001 C3007	Capacitor Ceramic,Chip	ECCH0017601	CL05A475MQ5NRNC 4.7uF 20% 6.3V X5R - 55TO+85C 1005 R/TP 0.5MM - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	R2004 R4107	Resistor,Chip	ERHY0009536	MCR006YZPF1003 100KOHM 1% 1/20W 0603 R/TP - ROHM.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C7	Capacitor (High Frequency) Ceramic,Chip	EAE62945301	GRM1555C1HR50B_H 0.5pF 0.1PF 50V C0G - 55TO+125C 1005 R/TP 0.5+/-0.05 L:1.0+-0.05 W:0.5+-0.05 T:0.5+-0.05 MURATA MANUFACTURING CO.,LTD.	
6	L1024	Inductor Multilayer,Chip	ELCH0004704	1005GC2T4N7SLF 4.7NH 0.3NH - 300mA 0.23OHM 3.5GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	U7200	IC,Capacitive Touch Sensor	EAN62996101	S2202 Touch IC 5X5X0.4 LGA R/TP 44P - SYNAPTICS CO.	
6	C5104	Capacitor Ceramic,Chip	ECCH0009105	C0603C0G1H820JT00NN 82pF 5% 50V NP0 - 55TO+125C 0603 R/TP -- TDK CORPORATION	
6	L1004	Inductor Multilayer,Chip	EAP62108601	LQP03TG22NJ02D 22NH 5% - 140mA - - 2.85OHM 2.5GHZ 9 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	C5124 L1108 L2006	Capacitor Ceramic,Chip	ECCH0009208	GRM0335C1ER50C 0.5pF 0.25PF 25V X7R - 55TO+125C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	R7201 R7203	Resistor,Chip	ERHY0009507	MCR006YZPJ105 1MOHM 5% 1/20W 0603 R/TP - ROHM.	
6	ZD6601 ZD6602	Varistor	SEVY0005201	EVLC5S02050 5.5V 0% 50F 1.0*0.5*0.6 - SMD R/TP AMOTECH CO., LTD.	
6	L5100	Inductor Multilayer,Chip	EAP61767601	HK0603 68NJ-T 68NH 5% - 80mA - - 2.66OHM 1.1GHZ 4 SHIELD NONE 0.6X0.3X0.3MM R/TP TAIYO YUDEN CO.,LTD	
6	C4111 C4112	Capacitor Ceramic,Chip	ECCH0042302	CL21A475KACLRNC 4.7uF -10TO+10% 25V X5R - 55TO+85C 2012 R/TP 0.85+-0.1 - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	R2107	Resistor,Chip	EBC62581801	RC0603F392CS 3.9KOHM 1% 1/20W 0603 R/TP - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C1004 L5105	Inductor Multilayer,Chip	EAP62226101	LQP03TG3N9C02D 3.9NH 0.2NH - 350mA - - 0.35OHM 6GHZ 13 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	FL5100	Filter,Ceramic	EAM62250401	LFB212G45CG7D227 BPF 2.45KHZ 100Hz SMD R/TP 3P MURATA MANUFACTURING CO.,LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	U4300	IC,Over Voltage Protection	EUSY0407301	RT9718L WDFN8,8,R/TP,Programmable OVP,IC,ChargerIC,Charger - - WDFN R/TP 8P - RICHTEK TECHNOLOGY CORP.	
6	L5106	Inductor Multilayer,Chip	EAP61747501	LQP03TN3N6B02D 3.6NH 0.1NH - 400mA - - 0.3OHM 6GHZ 14 SHIELD NONE 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	C5100 C5101	Capacitor Ceramic,Chip	ECZH0001217	GRM155R60J474K 470nF 10% 6.3V X5R - 25TO+70C 1005 BK-DUP - MURATA MANUFACTURING CO.,LTD.	
6	R1007 R4022 R4110	Resistor,Chip	ERHZ0000401	MCR01MZSJ000 0OHM 5% 1/16W 1005 R/TP - ROHM.	
6	U2002	IC,Power Amplifier	EAN62885901	SKY77742-21 3.2V to 4.35V 0 0 0W 0W 0 2 SMD R/TP 16P 3*4size, for WTR2605, single input dual output, Band1/2/5/8, with CPL, GPIO SKYWOKS SOLUTIONS INC.	
6	C4102	Capacitor Ceramic,Chip	EAE62282201	GRM033R71E102KA01D 0.000000001F 10% 25V X7R -55TO+125C 0603 R/TP 0.3+/-0.03 MM - MURATA MANUFACTURING CO.,LTD.	
6	FB1	Filter,Bead	SFBH0008102	BLM15HD182SN1D 1800 ohm 1.0X0.5X0.5 25% 2.2 ohm 0.2A SMD R/TP 2P 0 MURATA MANUFACTURING CO.,LTD.	
6	U5100	IC,WiFi	EAN62698901	WCN-3620-0-61WLNSP WiFi(11bgn)+BT4.0+FM IC for QMC 28nm BB, 3.32*3.55*0.63, 0.4pitch WLCSP R/TP 61P QUALCOMM INCORPORATED.	
6	C4113	Capacitor Ceramic,Chip	ECZH0001210	C1005Y5V1A474ZT000F 470nF -20TO+80% 10V Y5V -30TO+85C 1005 R/TP - TDK KOREA COOPERATION	
6	C16,C17	Capacitor Ceramic,Chip	ECZH0025920	GRM033R71C102K 1nF 10% 16V X7R - 55TO+125C 0603 R/TP - - MURATA MANUFACTURING CO.,LTD.	
6	C5120 C5126 L1109	Capacitor (High Frequency) Ceramic,Chip	EAE62945801	GRM0335C1E1R0C_H 1pF 0.25PF 25V C0G - 55TO+125C 0603 R/TP 0.3+/-0.03 L:0.6+/-0.03 W:0.3+/-0.03 T:0.3+/-0.03 MURATA MANUFACTURING CO.,LTD.	
6	FL1001	Filter,Saw	EAM62732801	B8808 881.5MHz 1.1x0.9x0.45t SMD R/TP 5P EPCOS PTE LTD.	
6	R2003	Resistor,Chip	EBC62316201	RC0603F224CS 220KOHM 1% 1/20W 0603 R/TP - SAMSUNG ELECTRO-MECHANICS CO., LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	L2004	Inductor Multilayer,Chip	EAP62226401	LQP03TG6N8J02D 6.8NH 5% - 200mA - - 1.15OHM 5.4GHZ 12 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	U2100	IC,Digital Baseband Processor,3G	EAN62797001	MSM8210 Dual 1.2GHz A7, 1x300 LPDDR2, HSPA(7.2/5.8),CDMA, TD-SCDMA,DOrA,DSDS, qHD display@ 60fps, Adreno 302, 12x12mm NSP R/TP 488P QUALCOMM INCORPORATED.	
6	L4111	Inductor,Wire Wound,Chip	EAP62266501	MAMK2520T1R0M 1UH 20% - 2.7A 3.1 2.7 0.059OHM - - SHIELD 2.5X2.0X1.2MM - R/TP TAIYO YUDEN CO.,LTD	
6	R4100	Resistor,Chip	ERHY0009547	MCR006YZPF2003 200KOHM 1% 1/20W 0603 R/TP - ROHM.	
6	L1002	Inductor Multilayer,Chip	EAP62225901	LQP03TG1N0C02D 1NH 0.2NH - 600mA - - 0.15OHM 6GHZ 12 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	C4126 C4127	Capacitor Ceramic,Chip	EAE62927201	ADK107BBJ476MA 47uF -20TO20% 4V X5R - 55TO+85C 1608 R/TP 0.8T +0.2 L:1.6+0.2 W:0.8+0.2 T:0.8+0.2 KOREA TAIYO YUDEN.CO., LTD.	
6	FL2001	Filter,Duplexer	EAM62692801	B8597 2140.0MHz 2112.4to2167.6MHz 1950.0MHz 1922.4to1977.6MHz 2.1typ/2.6max 1.6typ/2.0max 2.0x1.6x0.47t DUAL SMD R/TP 9P EPCOS PTE LTD.	
6	FB5100	Filter,Bead	EAM62471001	BLM03AX241SN1D 240 ohm 0.6X0.3X0.33 25% 0.38 ohm 0.35A SMD R/TP 2P 0 MURATA MANUFACTURING CO.,LTD.	
6	C2039	Inductor Multilayer,Chip	EAP61767701	LQP03TN3N0B02D 3NH 0.1NH - 450mA - - 0.25OHM 6GHZ 14 SHIELD NONE 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	C2041	Capacitor (High Frequency) Ceramic,Chip	EAE62946201	GRM0335C1E2R2C_H 2.2pF 0.25PF 25V C0G - 55TO+125C 0603 R/TP 0.3+-0.03 L:0.6+-0.03 W:0.3+-0.03 T:0.3+-0.03 MURATA MANUFACTURING CO.,LTD.	
6	C5103	Capacitor Ceramic,Chip	ECCH0017501	CL10A226MQ8NRNE 22uF 20% 6.3V X5R - 55TO+85C 1608 R/TP 0.8MM - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C4117	Capacitor Ceramic,Chip	ECCH0000182	GRM155R61A104K 0.1uF 10% 10V X5R - 55TO+85C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C5117	Capacitor Ceramic,Chip	ECCH0009506	MCH032A270JK 27pF 5% 25V NP0 -55TO+125C 0603 R/TP - ROHM.	
6	R12007	Resistor,Chip	ERHZ0000441	MCR01MZP5J220 22OHM 5% 1/16W 1005 R/TP - ROHM.	
6	C5105	Capacitor Ceramic,Chip	ECCH0009110	C0603X7R0J223KT 22nF 10% 6.3V X7R - 55TO+125C 0603 R/TP -- TDK CORPORATION	
6	R2106 R2108	Resistor,Chip	ERHZ0000270	MCR01MZP5F33R0 33OHM 1% 1/16W 1005 R/TP - ROHM.	
6	FL1006	IC,RF Amplifier	EAN62826801	SFMG2BAD001 2.85 0 0 0W 0W 0 0 MOLD R/TP 8P - WISOL.CO.,LTD	
6	C1011 C2055	Inductor Multilayer,Chip	EAP62108001	LQP03TG2N2C02D 2.2NH 0.2NH - 450mA - - 0.25OHM 6GHZ 13 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	U3000	IC Assembly	EAN62686601	WTR2605 2G/3G, WCDMA, GSM, EDGE, CDMA and TDSCDMA Multi Mode QUALCOMM INCORPORATED.	
6	L1000	Inductor Multilayer,Chip	ELCH0004715	1005GC2T27NJLF 27NH 5% - 200mA - - 0.9OHM 1.4GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	L5103	Inductor Multilayer,Chip	EAP62107901	LQP03TG1N5C02D 1.5NH 0.2NH - 600mA - - 0.15OHM 6GHZ 13 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	FL1000	Filter,Saw,Dual	EAM62792801	SFRG42DB002 1842.50MHz/1960.00MHz 1.5x1.1x0.60t SMD R/TP 10P WISOL.CO.,LTD	
6	L5101	Inductor Multilayer,Chip	EAP61866701	LG HK0603 82NJ-T 82NH 5% - 70mA - - 3.37OHM 1GHZ 4 SHIELD 0 0.6X0.3X0.3MM R/TP TAIYO YUDEN CO.,LTD	
6	C1002	Inductor Multilayer,Chip	ELCH0003831	LQG15HS1N0S02D 1NH 0.3NH - 300mA - - 0.07OHM 10GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	FL2002	Filter,Duplexer	EAM62890201	B8605 942.5MHz 925.0to960.0MHz 897.5MHz 880.0to915.0MHz 1.9/4.0dB 2.4/4/0dB 2.0x1.6x0.47t DUAL SMD R/TP 9P EPCOS PTE LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	R6010	Resistor,Chip	ERHZ0000250	MCR01MZP5F2400 240OHM 1% 1/16W 1005 R/TP - ROHM.	
6	C2052	Capacitor Ceramic,Chip	ECCH0009504	MCH032A180JK 18pF 5% 25V NP0 -55TO+125C 0603 R/TP - ROHM.	
6	L1003	Capacitor (High Frequency) Ceramic,Chip	EAE62963701	GRM0335C1H100J_H 10pF -5 to +5% 50V C0G - 55TO+125C 0603 R/TP 0.3+-0.03 L:0.6+-0.03 W:0.3+-0.03 T:0.3+-0.03 MURATA MANUFACTURING CO.,LTD.	
6	FL1105	Filter,Saw	EAM62633001	SFHG89DQ102 1575.42@GPS/1601.72@GLONASS 1.4x1.1x0.5t SMD R/TP 5P WISOL.CO.,LTD	
6	C2038	Capacitor (High Frequency) Ceramic,Chip	EAE62946601	GRM0335C1E4R7C_H 4.7pF 0.25PF 25V C0G - 55TO+125C 0603 R/TP 0.3+-0.03 L:0.6+-0.03 W:0.3+-0.03 T:0.3+-0.03 MURATA MANUFACTURING CO.,LTD.	
6	C4110	Capacitor Ceramic,Chip	EAE62286801	CL03A104KP3NNNC 0.0000001F 10% 10V X5R - 55TO+85C 0603 R/TP 0.3 - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	MIC1	Microphone Condenser	EAB62911301	S17OT423-001 -42DB 150OHM OMNI 1.5 TO 3.6V 3.10 * 2.5 * 1.1T SMD GoerTek Inc.	
6	R3000	Resistor,Chip	ERHY0009531	MCR006YZPJ620 62OHM 5% 1/20W 0603 R/TP - ROHM.	
6	R2100	Resistor,Chip	ERHZ0000235	MCR01MZP5F2000 200OHM 1% 1/16W 1005 R/TP - ROHM.	
6	L3001	Inductor Multilayer,Chip	ELCH0012502	LQW15AN10NG00D 10NH 2% - 500mA 0.17OHM 5.5GHZ 25 NON SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	C2028	Inductor Multilayer,Chip	EAP62266401	LQP03TN2N7B02D 2.7NH 0.1NH - 500mA - - 0.2OHM 6GHZ 14 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
5	EBR071600	PCB Assembly,Main SMT Bottom	EBR78496303	LGD320.ANLDWT 1.1 Main	
6	R9015	Filter,Bead	EAM62070901	BLM03AX601SN1D 600 ohm 0.6X0.3X0.3 25% 0.85 ohm 0.25A SMD R/TP 2P 0 MURATA MANUFACTURING CO.,LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C1036	Inductor Multilayer,Chip	ELCH0004721	1005GC2T2N2SLF 2.2NH 0.3NH - 300mA - - 0.16OHM 6GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	L5104	Inductor Multilayer,Chip	ELCH0004708	1005GC2T2N7SLF 2.7NH 0.3NH - 300mA 0.17OHM 5.5GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	C5122	Capacitor Ceramic,Chip	ECCH0000196	MCH155A0R75C 0.75pF 0.25PF 50V NP0 - 55TO+125C 1005 R/TP - - ROHM Semiconductor KOREA CORPORATION	
6	C4117	Capacitor Ceramic,Chip	ECCH0000182	GRM155R61A104K 0.1uF 10% 10V X5R - 55TO+85C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	L1003	Capacitor (High Frequency) Ceramic,Chip	EAE62963701	GRM0335C1H100J_H 10pF -5 to +5% 50V C0G - 55TO+125C 0603 R/TP 0.3+-0.03 L:0.6+-0.03 W:0.3+-0.03 T:0.3+-0.03 MURATA MANUFACTURING CO.,LTD.	
6	C1000	Inductor Multilayer,Chip	ELCH0004726	1005GC2T1N5SLF 1.5NH 0.3NH - 300mA 0.13OHM 7GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	ZD8000 ZD8001 ZD8003	Varistor	SEVY0004401	ICVL0518400V500FR 18V 0% 40pF 1.0*0.5*0.55 NONE SMD R/TP INNOCHIPS TECHNOLOGY	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C2300 C2301 C2302 C2303 C2304 C2306 C2307 C2308 C2309 C2321 C2322 C2355 C2356 C2357 C3002 C3003 C3004 C3005 C3006	Capacitor Ceramic,Chip	ECCH0009101	C0603X5R0J104KT00NN 0.1uF 10% 6.3V X5R - 55TO+85C 0603 R/TP - TDK CORPORATION	
6	C3009 C3010 C3011 C3012 C3016 C4001 C4002 C4105 C4106 C4115 C6001 C6004 C6007 C7202 C7203 C8700 C8701	Capacitor Ceramic,Chip	ECCH0009101	C0603X5R0J104KT00NN 0.1uF 10% 6.3V X5R - 55TO+85C 0603 R/TP - TDK CORPORATION	
6	R1007 R4022 R4110	Resistor,Chip	ERHZ0000401	MCR01MZSJ000 0OHM 5% 1/16W 1005 R/TP - ROHM.	
6	C10002 C10004	Capacitor (High Frequency) Ceramic,Chip	EAE62947001	GRM0335C1E100J_H 10pF 5% 25V C0G - 55TO+125C 0603 R/TP 0.3+-0.03 :0.6+-0.03 W:0.3+-0.03 T:0.3+-0.03 MURATA MANUFACTURING CO.,LTD.	
6	CN12000	Connector,BtoB	ENBY0040701	GB042-30S-H10-E3000 30P 0.4MM STRAIGHT FEMALE SMD R/TP 1M - LS Mtron Ltd.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C10001 C2310 C8009 C8010 C8017 C8018	Capacitor Ceramic,Chip	ECCH0000198	CL05A225MQ5NSNC 2.2uF 20% 6.3V X5R - 55TO+85C 1005 R/TP . SAMSUNG ELECTRO- MECHANICS CO., LTD.	
6	FL8000 FL8003 FL8004	Filter,EMI/Power	SFEY0015901	ICMEF214P101MFR ICMEF214P101MFR ICMEF214P101MFR,SMD ,ESD Common mode Filter INNOCHIPS TECHNOLOGY INNOCHIPS TECHNOLOGY	
6	R12004	Resistor,Chip	ERHY0009526	MCR006YZPJ472 4.7KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	R9014	Resistor,Chip	ERHZ0000211	MCR01MZP5F1201 1.2KOHM 1% 1/16W 1005 R/TP - ROHM.	
6	C4182 C4189 C7051 C7204 C8003 C8006	Capacitor Ceramic,Chip	EAE62762301	CL03A105MP3NSNC 1uF 20% 10V X5R - 55TO+85C 0603 R/TP 0.33 MM - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C5107 C5108 C5109 C5111 C6010 C6011	Capacitor Ceramic,Chip	ECCH0009106	C0603X7R1C103KT 10nF 10% 10V X7R - 55TO+125C 0603 R/TP - TDK CORPORATION	
6	R10008	Resistor,Chip	ERHY0009506	MCR006YZPJ104 100KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	C4102	Capacitor Ceramic,Chip	EAE62282201	GRM033R71E102KA01D 0.000000001F 10% 25V X7R -55TO+125C 0603 R/TP 0.3+/-0.03 MM - MURATA MANUFACTURING CO.,LTD.	
6	D8001 D8002 D9008	Varistor	SEVY0008102	EVLC5S01015 5.5V 0% 15pF 0.6*0.3*0.33 NONE SMD R/TP AMOTECH CO., LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C10000 C12003 C12004 C2100 C2107 C2345 C4107 C4108 C4114 C4137 C4144 C4146 C4147 C4148 C4149 C4150 C4151 C4152 C4153 C4154 C4300 C6006 C6008 C6020 C6021 C6023	Capacitor Ceramic,Chip	ECCH0017301	CL03A105MQ3CSNH 0.000001F 20% 6.3V X5R - 45TO+85C 0603 R/TP - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	U4134	IC,LDO Voltage Regulator	EAN62512901	TLV70730PDQNR V2 to V5.5 V3.0 0W QFN R/TP 4P EUSY0373901 RP103K301D-TR. RICHIO PIN TO PIN TEXAS INSTRUMENTS KOREA LTD, HONGKONG BRANCH.	
6	C18 C19	Capacitor Ceramic,Chip	ECZH0025916	GRM0335C1E330J 33pF 5% 25V NP0 - 55TO+125C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	D10001	Varistor	SEVY0007901	ICVS0505481FR 5.6V 0% 480F 1.0*0.5*0.55 NONE SMD R/TP INNOCHIPS TECHNOLOGY	
6	C8016	Capacitor Ceramic,Chip	ECCH0004904	GRM155R60J105K 1uF 10% 6.3V X5R -55TO+85C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	L9000 L9002	Inductor,Wire Wound,Chip	ELCH0003806	LQW18AN82NG00D 82NH 2% - 250mA 0.6OHM 2KHZ 34 NON SHIELD 1.6X0.8X0.8MM - R/TP MURATA MANUFACTURING CO.,LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	VA12000 VA12001 VA12002 VA7205 VA7206	Varistor	SEVY0003601	ICVL0505101V150FR 5.6V 0% 100pF 1.0*0.5*0.55 NONE SMD R/TP INNOCHIPS TECHNOLOGY	
6	L8000	Inductor,Wire Wound,Chip	EAP62106301	1239AS-H-100N=P2 10UH 30% 30V 700mA 1 0.7 0.46OHM - - SHIELD 2.5X2.0X1.2MM NONE R/TP TOKO, INC.	
6	CN8002	Connector,BtoB	ENBY0039601	GB042-20S-H10-E3000 20P 0.4MM STRAIGHT SOCKET SMD R/TP 1M - LS Mtron Ltd.	
6	U4133 U4136	IC,LDO Voltage Regulator	EAN62669801	TLV70728PDQNR V2 to V5.5 V2.8 0W QFN R/TP 4P - TEXAS INSTRUMENTS KOREA LTD, HONGKONG BRANCH.	
6	CN72000	Connector,BtoB	EAG63393001	BM10NB(0.8)-40DS-0.4V 40P 0.40MM STRAIGHT FEMALE SMD R/TP 800mM - HIROSE KOREA CO.,LTD	
6	C7048	Capacitor,TA Conformal	EAE62748401	F981A476MSAFZH 47uF 20% 10V 9.4UA - 55TO+125C 5OHM 2.2X1.25X0.9MM NONE SMD R/TP 0.9T max. UNITEL ELECTRONICS CO. LTD.	
6	R7201 R7203	Resistor,Chip	ERHY0009507	MCR006YZPJ105 1MOHM 5% 1/20W 0603 R/TP - ROHM.	
6	C2313 C2314	Capacitor Ceramic,Chip	ECCH0009230	GRM033R61A222K 2.2nF 10% 25V X5R - 55TO+85C 0603 R/TP - - MURATA MANUFACTURING CO.,LTD.	
6	C1 C2	Capacitor Ceramic,Chip	ECZH0000813	C1005C0G1H101JT 100pF 5% 50V C0G - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	C9019 C9020 C9027	Capacitor Ceramic,Chip	ECZH0000830	C1005C0G1H330JT000F 33pF 5% 50V NP0 - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	VA9606	Varistor	SEVY0005101	ICVL0518050FR 18V 0% 5F 1.0*0.5*0.55 NONE SMD R/TP INNOCHIPS TECHNOLOGY	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	R2202 R2203 R2204 R2205 R2206 R2207 R2210 R2211	Resistor,Chip	ERHY0009516	MCR006YZPJ222 2.2KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	R2004 R4107	Resistor,Chip	ERHY0009536	MCR006YZPF1003 100KOHM 1% 1/20W 0603 R/TP - ROHM.	
6	C2312 C2329 C2346 C2364 C2365	Capacitor Ceramic,Chip	ECCH0009228	GRM033R61A472K 4700pF 10% 10V X5R - 55TO+85C 0603 R/TP - - MURATA MANUFACTURING CO.,LTD.	
6	R10001	Resistor,Chip	ERHY0042402	RC0201JR-0715KL 15KOHM 5% 1/20W 0603 R/TP - YAGEO CORPORATION	
6	C2101 C2102 C2361 C4120 C4123 C4124 C4125 C4134 C4135 C4136 C4138 C4139 C4140 C4141 C4142 C4145 C6003	Capacitor Ceramic,Chip	EAE62962301	GRM155R61A225KE95 2.2uF -10TO+10% 10V X5R -55TO+85C 1005 R/TP 0.5 L:1.0+-0.05 W:0.5+-0.05 T:0.5+-0.05 MURATA MANUFACTURING CO.,LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C1009 C1010 C1015 C1019 C1020 C1021 C1022 C1023 C1024 C1060 C1061 C1063 C1113 C2037 C2043 C2047 C2048 C2049 C2050 C2051 C3000 C3008 C5112 C5114 C5115	Capacitor Ceramic,Chip	ECCH0009103	C0603C0G1H101JT00NN 100pF 5% 50V C0G - 55TO+125C 0603 R/TP - - TDK CORPORATION	
6	R6010	Resistor,Chip	ERHZ0000250	MCR01MZP5F2400 240OHM 1% 1/16W 1005 R/TP - ROHM.	
6	C3001 C3007	Capacitor Ceramic,Chip	ECCH0017601	CL05A475MQ5NRNC 4.7uF 20% 6.3V X5R - 55TO+85C 1005 R/TP 0.5MM - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	FB1	Filter,Bead	SFBH0008102	BLM15HD182SN1D 1800 ohm 1.0X0.5X0.5 25% 2.2 ohm 0.2A SMD R/TP 2P 0 MURATA MANUFACTURING CO.,LTD.	
6	LD8000	LED,Flash	EAV62175401	ELCH07-5565J6J7294010-N8(LM) WHITE 2.95~4.05V 1.5A(Pulse) 350mA(DC) 200lm(Min) 240lm(Typ) X(0.3084~0.3325) Y(0.3003~0.3967) 6W(Pulse Mode) 2016 R/TP 2P - EVERLIGHT ELECTRONICS CO., LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C6009 C6012 C6013 C6014 C6015 C6016 C6017 C6018 C6019 C6022 C6024 C6025 C6026	Capacitor Ceramic,Chip	ECCH0034801	CL03A474MQ3NNNH 0.47uF -20TO20% 6.3V X5R -55TO+85C 0603 R/TP 0.3+-0.03 - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	FL8001 FL8002	Filter,EMI/Power	SFEY0016301	ICMEF112P900M COMMON MODE NOISE FILTER 0HZ 0F 0H SMD R/TP INNOCHIPS TECHNOLOGY	
6	R1004 R11008 R11009 R11010 R2005 R2112 R2113 R2114 R2115 R2200 R2201 R2300 R3005 R3007 R4106 R4109	Resistor,Chip	ERHY0009501	MCR006YZPJ000 0OHM 5% 1/20W 0603 R/TP - ROHM.	
6	ANT11001 CN1001	C-Clip	EAG63670501	PMT1023 1P ANT TERMINAL STRAIGHT SMD T/REEL AU 3.0X1.5X1.3(LXWXH) SERVEONE CO., LTD.	
6	FB8001	Filter,Bead	SFBH0008101	BLM15AG601SN1D 600 ohm 1.0X0.5X0.5 25% 0.6 ohm 0.3A SMD R/TP 2P 0 MURATA MANUFACTURING CO.,LTD.	
6	ZD6603	Diode,TVS	EAH61693001	uClamp0541Z 5V 6V min 12V 2A 30W SLP0603P2X3 R/TP 2P 1 SEMTECH INTERNATIONAL AG	
6	R7007	Resistor,Chip	ERHZ0000222	MCR01MZP5F1503 150KOHM 1% 1/16W 1005 R/TP - ROHM.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C4126 C4127	Capacitor Ceramic,Chip	EAE62927201	ADK107BBJ476MA 47uF -20TO20% 4V X5R - 55TO+85C 1608 R/TP 0.8T +0.2 L:1.6+0.2 W:0.8+0.2 T:0.8+0.2 KOREA TAIYO YUDEN.CO., LTD.	
6	ZD6601 ZD6602	Varistor	SEVY0005201	EVLC5S02050 5.5V 0% 50F 1.0*0.5*0.6 - SMD R/TP AMOTECH CO., LTD.	
6	D12001 D12002	Capacitor Ceramic,Chip	ECCH0009104	C0603C0G1H330JT00NN 33pF 5% 50V C0G - 55TO+125C 0603 R/TP - TDK CORPORATION	
6	VA7000	Varistor	SEVY0010501	IECS0505C040FR 10V 0% 4E-12F 1.0x0.5x0.3 IEC61000-4-1 (ESD) level #4 SMD R/TP INNOCHIPS TECHNOLOGY	
6	C5103	Capacitor Ceramic,Chip	ECCH0017501	CL10A226MQ8NRNE 22uF 20% 6.3V X5R - 55TO+85C 1608 R/TP 0.8MM - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	R10010	Resistor,Chip	ERHY0009502	MCR006YZPJ100 10OHM 5% 1/20W 0603 R/TP - ROHM.	
6	J10001	Card Socket	EAG63032701	5000-6P-1.8SLB SIM 6P STRAIGHT SMD R/TP - HYUPJIN I&C CO.,LTD.	
6	ZD7001	Diode,Zener	EDNY0013602	EDZVT2R5.1B 4.98V 4.98TO5.2V 80OHM 150mW EMD2 R/TP 2P 1 ROHM Semiconductor KOREA CORPORATION	
6	C8013	Capacitor Ceramic,Chip	EAE62505701	CL10A105KB8NNNC 1uF 10% 50V X5R - 55TO+85C 1608 R/TP 0.9T max. - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	SW1001	Connector,RF	ENWY0008701	MS-156C NONE STRAIGHT SOCKET SMD T/REEL AU 50OHM 400mDB HIROSE KOREA CO.,LTD	
6	C9028	Capacitor Ceramic,Chip	ECCH0009231	GRM033R71C471K 470pF 10% 16V X7R - 55TO+125C 0603 R/TP - - MURATA MANUFACTURING CO.,LTD.	
6	C4110	Capacitor Ceramic,Chip	EAE62286801	CL03A104KP3NNNC 0.0000001F 10% 10V X5R - 55TO+85C 0603 R/TP 0.3 - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	L1037 L5107	Inductor Multilayer,Chip	ELCH0004727	1005GC2TR10JLF 100NH 5% - 100mA 2.3OHM 600MHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	CN8001	Connector,BtoB	ENBY0034201	GB042-24S-H10-E3000 24P 0.40MM STRAIGHT SOCKET SMD R/TP 1M - LS Mtron Ltd.	
6	R7011	Resistor,Chip	EBC62235801	RC0603F363CS 36KOHM 1% 1/20W 0603 R/TP - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C4157	Capacitor Ceramic,Chip	ECCH0009603	CE JMK212 BJ476MG-T 47uF 20% 6.3V X5R - 55TO+85C 2012 R/TP 1.25mm - TAIYO YUDEN CO.,LTD	
6	R9013	Resistor,Chip	ERHY0009302	MCR006YZPF1001 1KOHM 1% 1/20W 0603 R/TP - ROHM.	
6	D8000	Diode,Schottky	EAH61992701	PMEG6002EB 600mV 60V 200mA 0SEC 20pF 0W SOD523 R/TP 2P 1 NXP Semiconductors	
6	R7015	Resistor,Chip	ERHY0009543	MCR006YZPJ121 120OHM 5% 1/20W 0603 R/TP - ROHM.	
6	U12001	IC,Acceleration Sensor	EAN62637201	BMC150 Accelerometer with Geomagnetic Sensor 2.2X2.2X1.0 LGA R/TP 14P Accelerometer with Geomagnetic Sensor BOSCH SENSORTTEC GMBH	
6	C2311	Capacitor Ceramic,Chip	ECCH0007805	CL05A106MQ5NUNC 10uF 20% 6.3V X5R - 55TO+85C 1005 R/TP 0.5+-0.05 - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	U8001	IC,DC,DC Converter	EAN62766201	RT8542 2.7 to 5.5V adj 0W CSP R/TP 20P - RICHTEK TECHNOLOGY CORP.	
6	C8014 C8015	Capacitor Ceramic,Chip	EAE62843001	CL10A106MO8NQNC 10uF -20TO20% 16V X5R - 55TO+85C 1608 R/TP 0.8+-0.15 - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	R9011	Inductor Multilayer,Chip	EAP61866601	LG HK0603 R10J-T 100NH 5% - 60mA - - 3.74OHM 900MHZ 4 SHIELD 0 0.6X0.3X0.3MM R/TP TAIYO YUDEN CO.,LTD	
6	L9003	Inductor Multilayer,Chip	ELCH0010302	0603LS-101XJEC 100NH 5% - 1.4A 0.13OHM 1.15GHZ 12 NON SHIELD NONE 1.80X1.12X1.12MM R/TP COILCRAFT SINGAPORE PTE LTD.	
6	L4110	Inductor,Wire Wound,Chip	EAP62526501	TFM201610GHM-1R0MTAA 1UH 20% - 3A 3.6 3 0.06OHM - - SHIELD 2.0X1.6X1.0 MM - R/TP TDK KOREA COOPERATION	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
6	C12	Capacitor Ceramic,Chip	ECCH0002001	C1005JB0J104KT000F 0.1uF 10% 6.3V X5R - 30TO+85C 1005 R/TP - - TDK CORPORATION	
6	C11	Capacitor Ceramic,Chip	ECCH0000161	MCH153CN333KK 33nF 10% 16V X7R - 55TO+125C 1005 R/TP - - ROHM Semiconductor KOREA CORPORATION	
6	CN80000	Connector,BtoB	EAG63232601	BM10NB(0.8)-24DS-0.4V(43) 24P 0.40MM STRAIGHT SOCKET SMD R/TP 800mM - HIROSE KOREA CO.,LTD	
6	R2213 R2214 R2215 R4102 R6000 R7202 R7204	Resistor,Chip	ERHY0009505	MCR006YZPJ103 10KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	ZD3 ZD4 ZD5 ZD6	Diode,TVS	EDTY0012501	UCLAMP3311T.TCT 3.3V 3.5V min. 6.5V 5A - SLP1006P2T R/TP 2P 1 SEMTECH CORPORATION	
6	C20	Capacitor Ceramic,Chip	EAE62726601	CL03A225MQ3CRNC 2.2uF -20TO20% 6.3V X5R - 55TO+85C 0603 R/TP 0.3T - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	ZD7000	Varistor	SEVY0005402	ICVS0505500FR 5.6V 0% 50F 1.0*0.5*0.55 - SMD R/TP INNOCHIPS TECHNOLOGY	
6	CN70001	Connector Terminal Block	EAG63530401	KQ03L3-4R 4P 2.50MM STRAIGHT DIP T/REEL - HIROSE KOREA CO.,LTD	
6	SW1	Connector,RF	ENWY0005501	20279-001E-01 NONE STRAIGHT SOCKET SMD R/TP AU 50OHM 400mDB I-PEX CO., LTD	
6	CN10000	Socket,Card	EAG62830201	104031-0811 SD 8P ANGLE SMD R/TP 11.95x11.40x1.42t, Push-pull type MOLEX	
5	SAD010000	Software,Mobile	SAD34387101	Android KK Base D32010b - EUROPE QCT -	
1	SAF010100	Software Assembly Common	SAF30200301	LGD320N.AVDIWH KK -	
2	SAD010100	Software Application	SAD34412501	Windows KK - PCSuiteV - - EUROPE PC SYNC -	

12. EXPLODED VIEW & REPLACEMENT PART LIST

Level	Location No.	Description	Part Number	Spec	Remark
2	SAD010600	Software,OSP	SAD34371801	Windows Windows KK - -	
2	SAD010500	Software USB Driver	SAD34412601	Windows -	
2	EAD010000	Cable,Assembly	EAD62377902	LG0108 USB USB 1.0M 4 BLACK UL N ningbo broad telecommunication co.,ltd	

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	Remark
2	EAY060000	Adapters	EAY62709906	MCS-02ED_EAC 90Vac~264Vac 4.75Vdc~5.25Vdv 850mA 50/60Hz CE WALL 2P USB - DONG DO ELECTRONICS CO., LTD	
2	MFL053800	Manual Operation	MFL68221234	PRINTING LGD320.ADEUBK ZZ:Without Color Germany ENGLISH+ GERMAN -	
2	EAC00	Rechargeable Battery Lithium Ion	EAC62258301	BL-52UH_WW_TOCAD 3.8V 2.04AH 500mAH 47*59*5.2 47*62*5.5 BLACK Innerpack BL- 52UH_WW_Tocad_2040mAh_Innerpack TOCAD DONG-HWA CO., LTD	
2	AFN053800	Manual Assembly Operation	AFN76332426	LGD320.ADEUBK ZZ:Without Color -	
3	MBM087200	Card,Warranty	MBM64057101	PRINTING LGD802.ADEUBK ZZ:Without Color Germany Warranty Card	
3	MBM068900	Card,Service Guide	MBM64256833	PRINTING LGD320.ADEUBK ZZ:Without Color -	
2	EAB010200	Earphone Stereo	EAB62808211	HC-MYD-LG174 20mW 16OHM 105DB 20HZ TO 20KHZ 1.08M BLACK 4 POLE PLUG open type I-SOUND CO.,LTD	
2	EAD010000	Cable,Assembly	EAD62377902	LG0108 USB USB 1.0M 4 BLACK UL N ningbo broad telecommunication co.,ltd	