



Internal Use Only

MOBILE PHONE SERVICE MANUAL

CAUTION

BEFORE SERVICING THE UNIT, READ THE "SAFETY PRECAUTIONS" IN THIS MANUAL

MODEL : LG-X230DS

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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

This material is prohibited to share and release to unauthorized person, in accordance with the regulations, LG Electronics, Civil / criminal responsibility in accordance with the relevant provisions violate.

B. Precautions for repair

- In case of Disassembly or Assembly to repair product, be careful of a product failure caused by RF signals and Static electricity.
- When using Magnetic tool for the Phone's SVC repair, you should check affect the Electric parts according to effect of Magnet.
- When fastening the screw, be careful not to damage the head of screw and even product.

C. Attention

Boards, which contain Electrostatic Sensitive Device (ESD), are indicated by the  sign.

Following information is ESD handling:

- Service personal should ground themselves by using a wrist, strap when exchange system board.
- When repair 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 board or parts like EEPROM to the Factory, use the protective package as described.

2.1 Band Specification

Support Band	TX Freq (MHz)	RX Freq (MHz)
LTE(FDD3)	1710 - 1785	1805 – 1880
LTE(FDD7)	2500 - 2570	2620 – 2690
LTE(FDD28)	703 - 748	758 - 803
WCDMA(FDD1)	1920 - 1980	2110 – 2170
WCDMA(FDD5)	824 – 849	869 – 894
WCDMA(FDD8)	880 – 915	925 – 960
EGSM	880 – 915	925 – 960
GSM850	824 – 849	869 – 894
DCS1800	1710 – 1785	1805 – 1880
PCS1900	1850 – 1910	1930 – 1990

2.2 HW Features

List	Type / Spec.	
1. Phone Type	DOP Type	
2. Size	145.79mm x 74.13mm x 8.1mm	
3. Weight	145.5 g (with Battery)	
4. Battery	2,500mAh(Typ) (Li-Ion) , 2,410mAh(Min.)	
5. Chipset	MT67637M 1.1GHz Quad core	
6. Memory	8GB(EMMC) + 1GB(LPDDR3) External Memory(SD Card) : Up to 32GB	
1	Size	5 inch
	Display Type	Active matrix TFT, Transmissive Type
	Color	16.7M colors
	Resolution	854(H) X 480(V), 196ppi
8. Touch	Type	5 inch Capacitive type
9. Main Camera (8M)	Type	CMOS image sensor
	Resolution	3264(H) X 2448(V) pixels.
	Image Scaling Down	8M(4:3, 3264x2448), 8M(16:9, 3264x1836), EIS 1080P(2112x1188), 1080P(1920x1080), EIS 720P(1408x792), and more.
	Format	Image : JPG, Video : MP4

2. PERFORMANCE

2.2 HW Features

10. Audio	Receiver	12 X 06 X 2.3T Receiver
	Speaker	15 X 11 X 3T Speaker
	Format	MP3, AAC, MIDI, EAAC+, OGG, AMR
11. Bluetooth	Standard	Bluetooth 4.2
	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
14. FM	type	FM Radio, 3.5pi Ear-jack

2.3 RSSI Display

Antenna BAR	Specification			Unit
	LTE	WCDMA	GSM	
5□4	-91 ±2dBm	-89 ±2dBm	-91 ±2dBm	dBm
4□3	-96 ±2dBm	-94 ±2dBm	-96 ±2dBm	
3□2	-99±2dBm	-100±2 dBm	-99 ±2dBm	
2□1	-101 ±2dBm	-104 ±2dBm	-103 ±2dBm	
1□0	-105 ±2dBm	-110 ±2dBm	-105 ±2dBm	

2.4 Current consumption

Item	Specification		Item
	WCDMA	GSM	
1. Sleep Mode	Under 9mA	Under 9mA	1. Sleep Mode
2. Sleep : connector Ear jack	Under 9.5mA	Under 9.5mA	2. Sleep : connector Ear jack

2.4 Battery bar

Battery Bar	Specification	Battery Bar	Specification
Bar 20(Full)	98%이상	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	16% -> 15%
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	2% -> 1%
Bar 11 -> Bar 10	53% -> 52%	Low battery pop-up	15% , 5%
Bar 10 -> Bar 9	48% -> 47%		

2.5 SW specification

Item	Feature	Comment
RSSI	0 ~ 5 Levels	
Battery Charging	Depends on battery level to dynamic draw	
Key Volume	No Level	
Audio Volume	0 ~ 15 Level	
Time / Date Display	Yes	
Multi-Language	Yes	depending on build language
Quick Access Mode	Phone / Messaging / Applications	Phone / Messaging / Application
PC Sync	Yes	
Speed Dial	Yes	Voice mail center -> 1 key
Profile	Yes	not same with feature phone setting
CLIP / CLIR	Yes	
Phone Book	Name / Number / Email / Groups / Postal addresses / Organizations / IM / Note / Nick name / Website	There is no limitation on the number of items. It depends on available memory amount.
Last Dial Number	Yes	
Last Received Number	Yes	
Last Missed Number	Yes	
Search by Number/Name	Yes	
Group	Yes	There is no limitation on the number of items. It depends on available memory amount.
Fixed Dial Number	Yes	
Service Dial Number	Yes	It depends on operator requirements
Own Number	Yes	My Profile (add/edit/delete are supported)
Voice Memo	Yes	Support voice recorder
Call Reminder	No	
Network Selection	Automatic	

2.5 SW specification

Mute	Yes	
Call Divert	Yes	
Call Barring	Yes	
Call Charge (AoC)	No	
Call Duration	Yes	
SMS (EMS)	There is no limitation on the number of items. It depends on available memory amount.	EMS does not support.
SMS Over GPRS	No	
EMS Melody / Picture Send / Receive / Save	No	
MMS MPEG4 Send / Receive / Save	Yes	➤ Send / Receive : Yes ➤ Save : depends on content type Support video content type list 1. video/mp4 2. video/h263 3. video/3gpp2 - video/3gpp
Long Message	MAX 2000 characters	The standard of Open vender
Cell Broadcast	Yes	CB app supports Cell Broadcast message
Download	Over the Web	
Game	No	
Calendar	Yes	
Memo	Yes	There is no limitation on the number of items. It depends on available memory amount.
World Clock	Yes	
Unit Convert	No	
Stop Watch	Yes	
Wall Paper	Yes	
WAP Browser	No	Support only web browser via Chrome. WAP stack and wml are not supported.
Download Melody / Wallpaper	Yes	Over web browser
SIM Lock	No	
SIM Toolkit	Yes	

2.5 SW specification

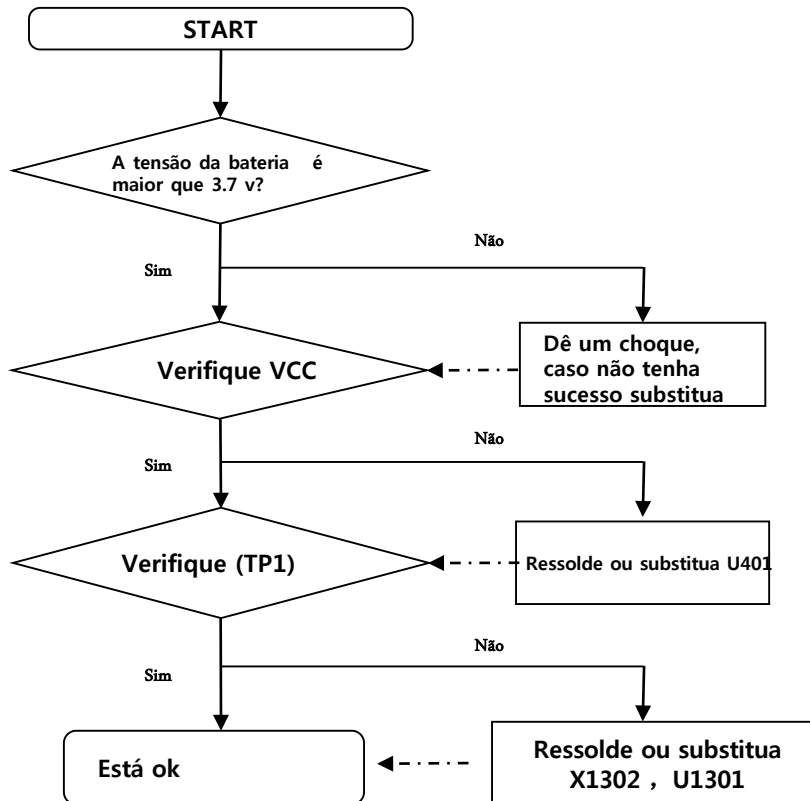
MMS	Yes	LG MMS Client
EONS	Yes	
CPHS	Yes	V4.2
ENS	No	
Camera	Yes	8M(Real)/5M(Front) AF / Digital Zoom : x4
JAVA	No	
Voice Dial	No	
IrDa	No	
Bluetooth	Yes	Ver. 4.2
FM radio	Yes	
GPRS	Yes	Class 12
EDGE	Yes	Class 12
Hold / Retrieve	Yes	
Conference Call	Yes	Max. 6
DTMF	Yes	
Memo pad	No	
TTY	No	
AMR	Yes	
SyncML	No	
IM	Yes	Google Hangout
Email	Yes	

3. TROUBLE SHOOTING

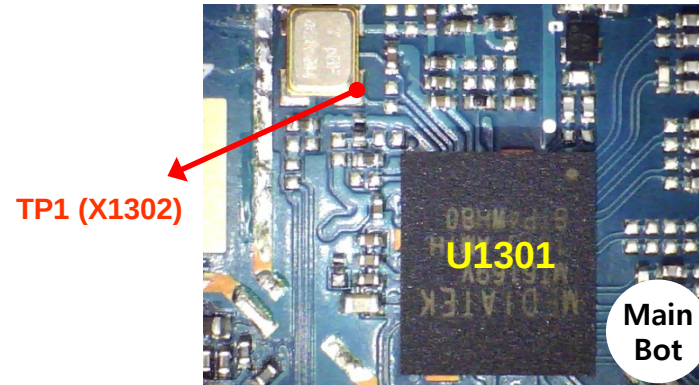
3.1 Checking XO Block

The out put frequency(26.0MHz) of XO(X1302) is used as the reference one of MT6169 internal VCO

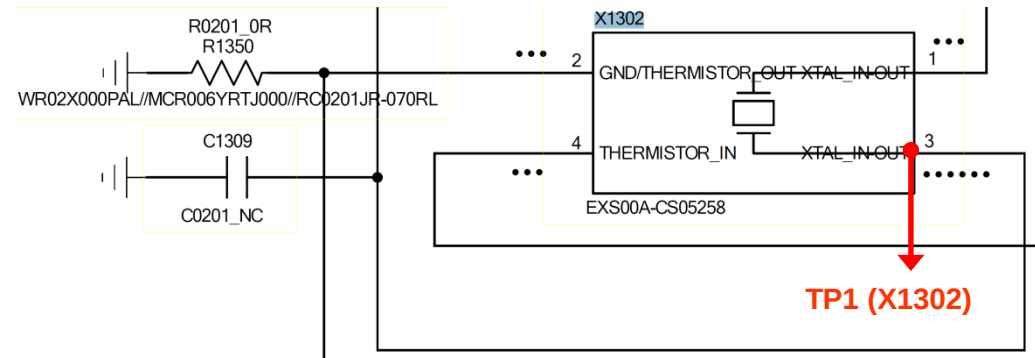
Checking Flow



Image



Circuit Diagram

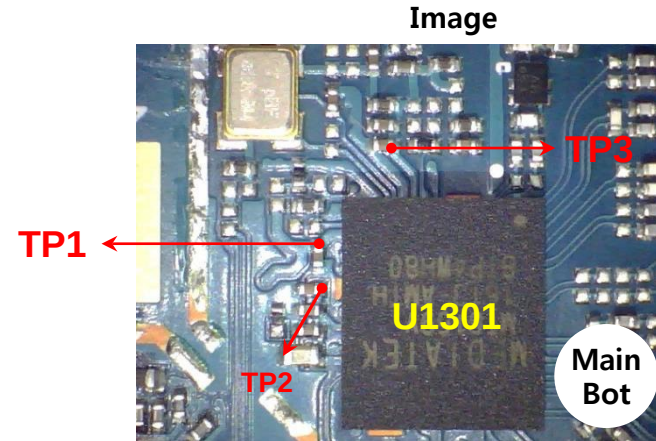
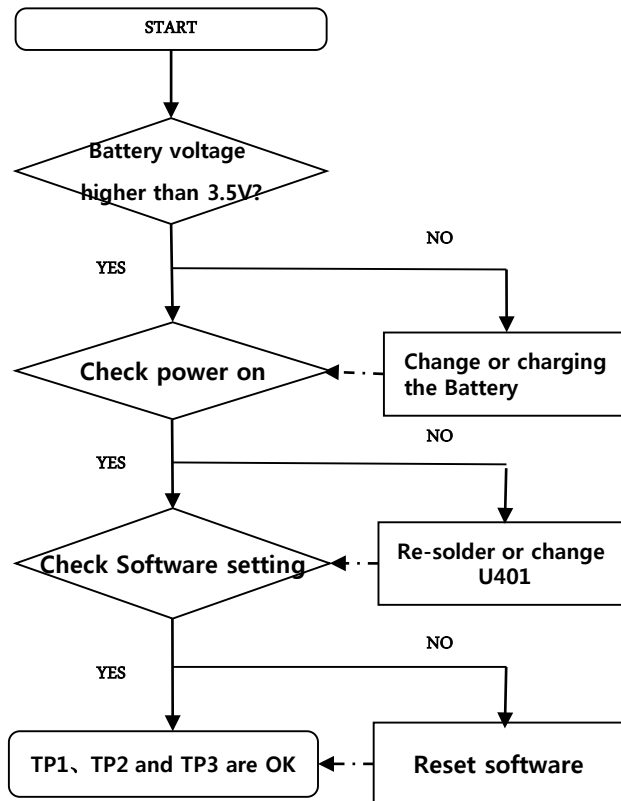


3. TROUBLE SHOOTING

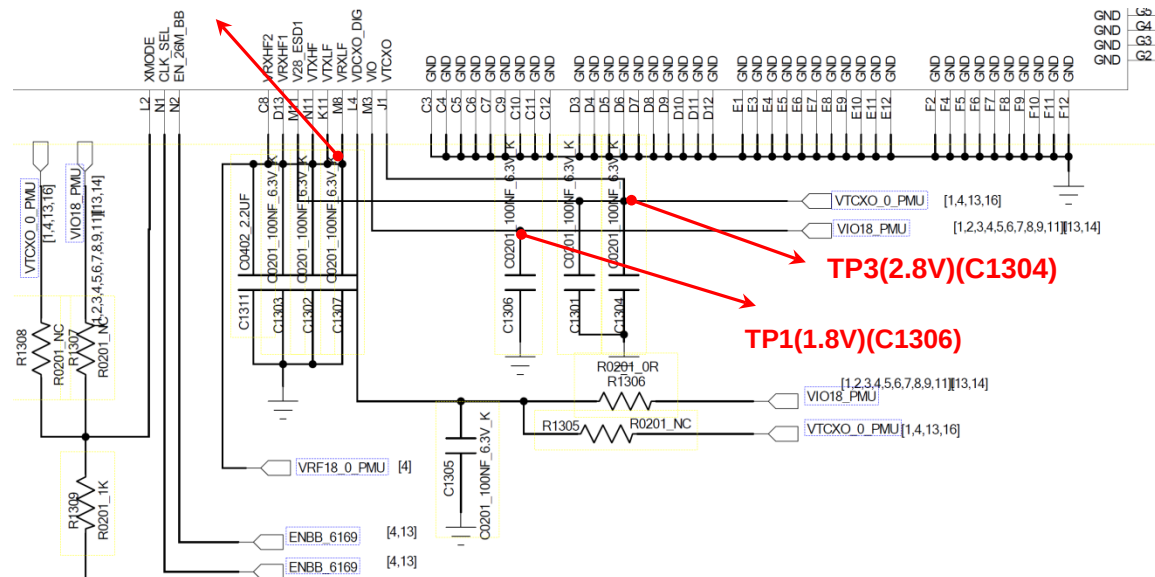
3.2 Checking Transceiver DC Power Supply Circuit Block

The MT6169 operating voltages used three voltage sources 1.8V and 1.8V and 2.8V

Checking Flow



Circuit Diagram



3.3 FEM (Front-End Module) Block

3.3.1 . FEM Mode Control Logic Table

FEM Mode Control Logic Table

MIPI RFFE Control Register Logic Tables

Register 00h (00000b): Module Control Logic Definitions

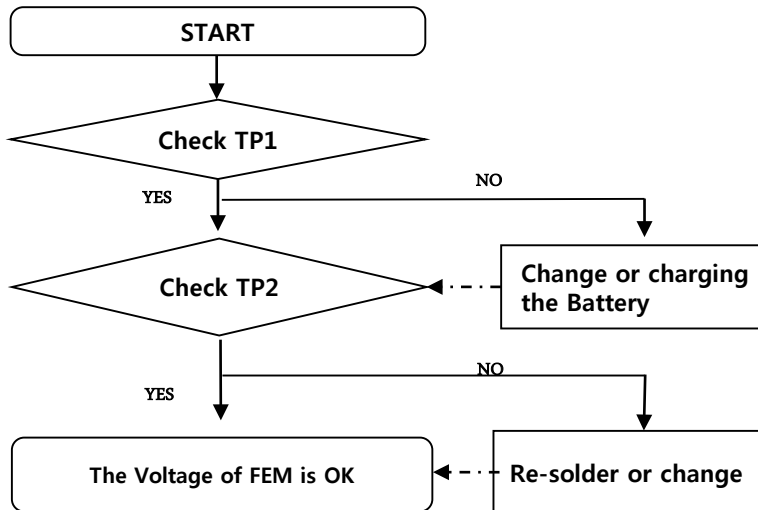
MIPI Location	Bit Name	Default	Description	R/W	Broadcast ID support	Trigger support
Reg00[7:3]	RF_MODE_CTRL	00000	0 0 0 0 0 : Sleep All circuits off 0 0 0 1 1 : TRX3 to ANT path is active. Power amplifier is off. 0 0 1 0 0 : TRX4 to ANT path is active. Power amplifier is off. 0 0 1 0 1 : TRX5 to ANT path is active. Power amplifier is off. 0 0 1 1 0 : TRX6 to ANT path is active. Power amplifier is off. 0 0 1 1 1 : TRX7 to ANT path is active. Power amplifier is off. 0 1 0 0 0 : TRX8 to ANT path is active. Power amplifier is off. 0 1 0 0 1 : TRX9 to ANT path is active. Power amplifier is off. 0 1 0 1 0 : TRX10 to ANT path is active. Power amplifier is off. 1 0 0 0 0 : TX_LB_GSM Low Band power amplifier active, Saturated mode (VRAMP power control). 1 0 0 0 1 : TX_HB_GSM High Band power amplifier active, Saturated mode (VRAMP power control). 1 0 0 1 0 : TX_LB_EDGE Low Band power amplifier active, Linear mode (RFIN power control). 1 0 1 0 0 : TX_HB_EDGE High Band power amplifier active, Linear mode (RFIN power control). All other settings : Sleep All circuits off.	R/W	N	T012
Reg00[2]	ENABLE	0	1: PA and/or switch enabled depending on RF_MODE_CTRL 0: PA and switch power supplies disabled; low-power mode	R/W	N	T012
Reg00[1:0]	FREQ	00	Frequency control of the switch and coupler. 11: HB 10: MB 01: LB 00: Coupler Off	R/W	N	T012

3. TROUBLE SHOOTING

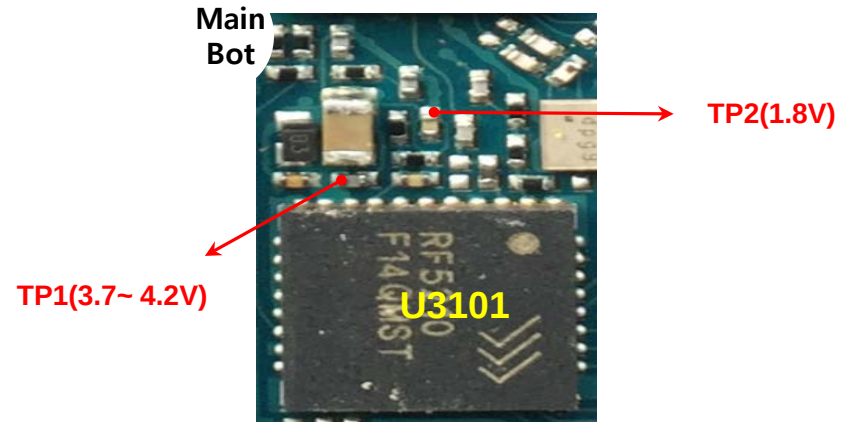
3.3 FEM (Front-End Module) Block

3.3.2 . All Band FEM Block (GSM 850/900/1800/1900, WCDMA B1/5/8)

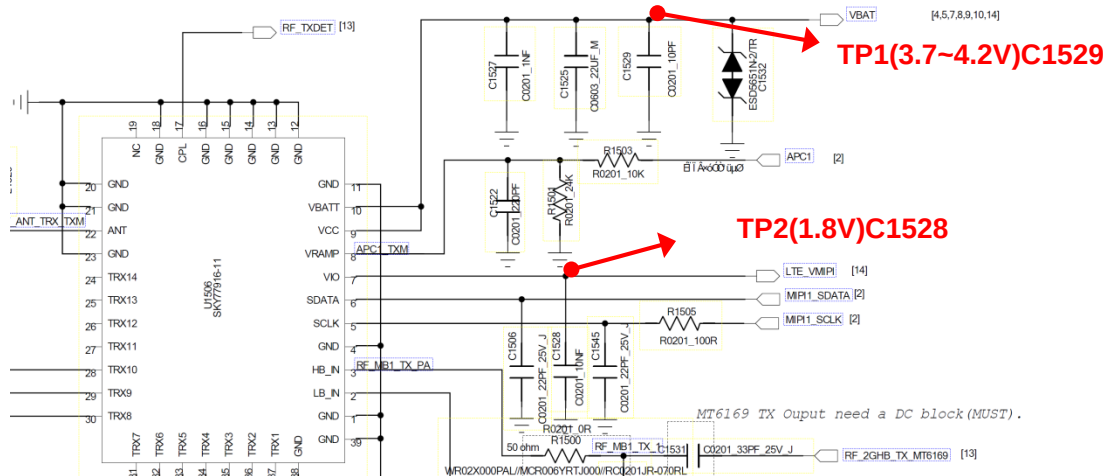
Checking Flow



Image



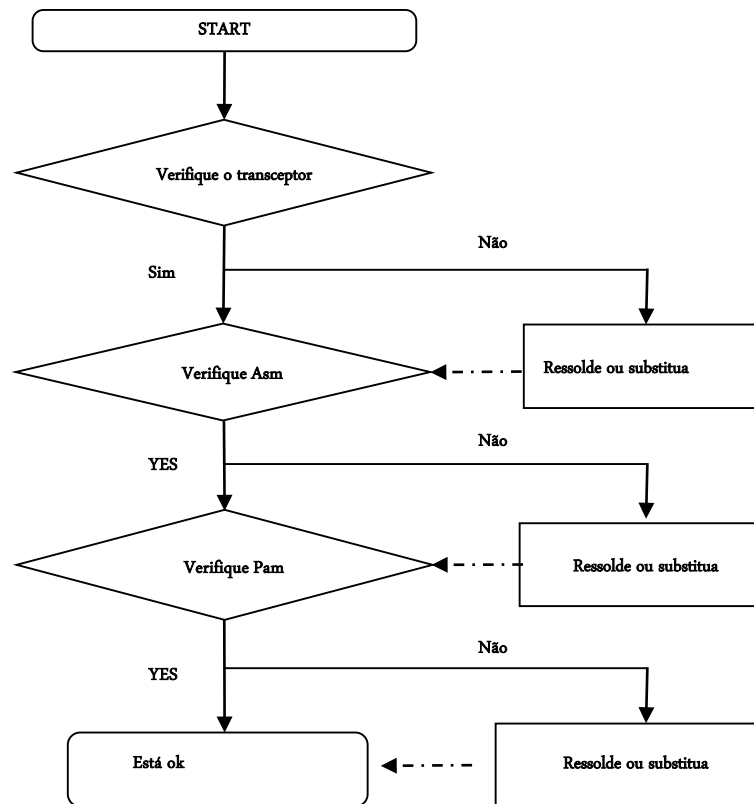
Circuit Diagram



3.4 GSM RF PART

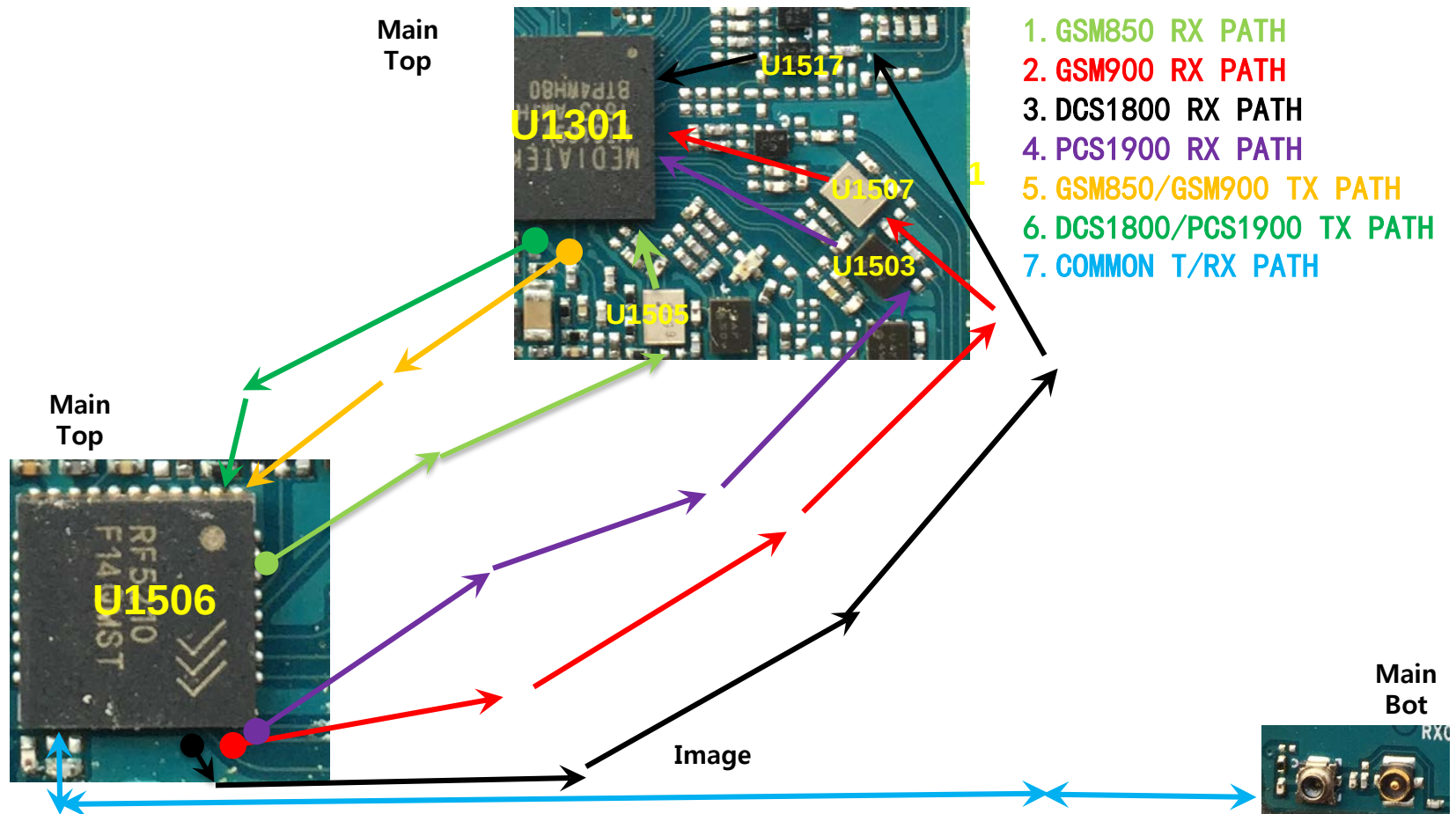
GSM RF Part support GSM850/900/1800/1900 with ASM, PAM, Transceiver component

Checking Flow



3.4 GSM RF PART

3.4.1 GSM850/900/1800/1900 Rx

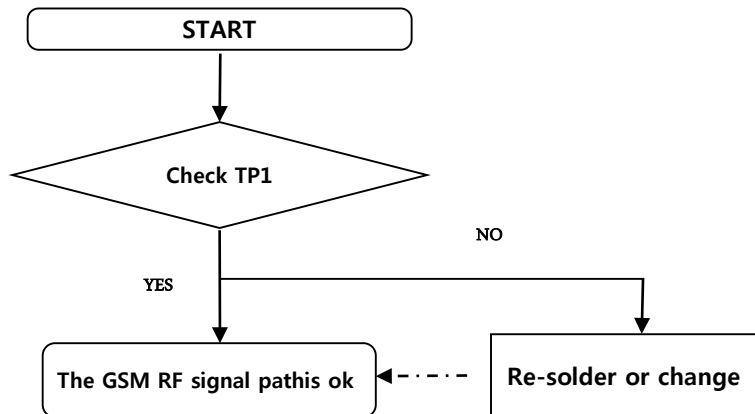


3. TROUBLE SHOOTING

3.4 GSM RF PART

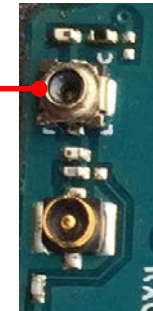
3.4.1.1 Checking RF signal path (SW)

Checking Flow



Image

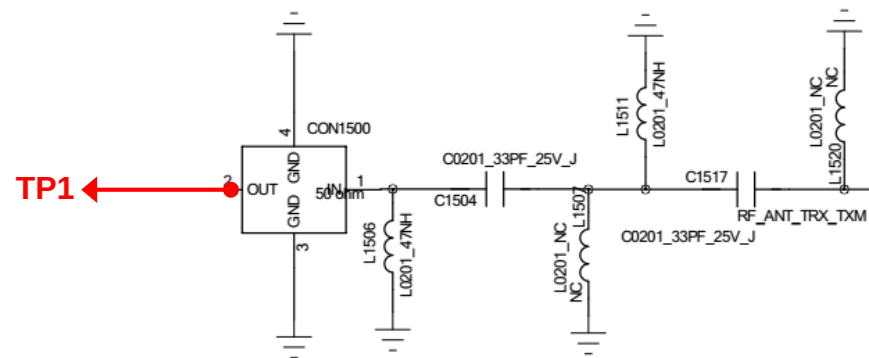
Main Bot



TP1(CON1500)

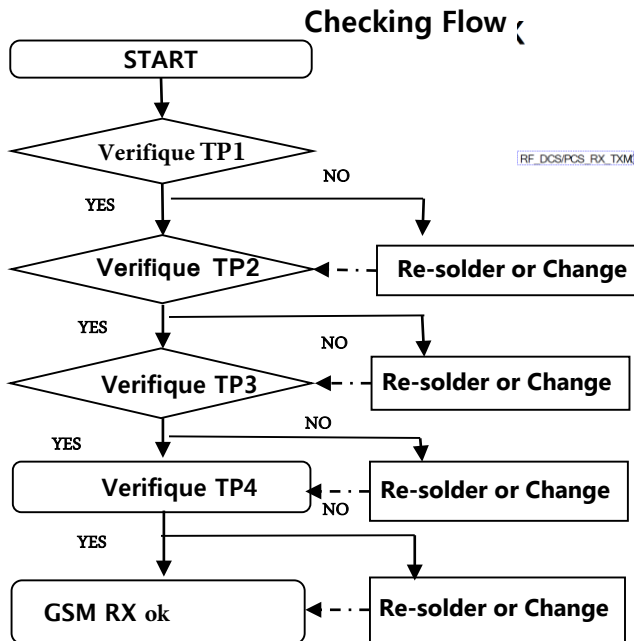
CON1500

Circuit Diagram

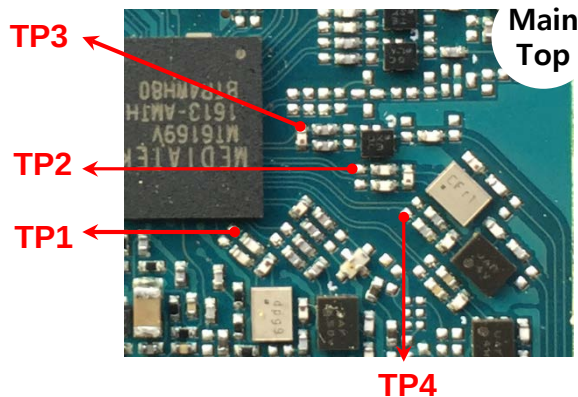


3.4 GSM RF PART

3.4.1.2 Checking RF Signal RX path(GSM850/GSM900/DCS1800/PCS1900)

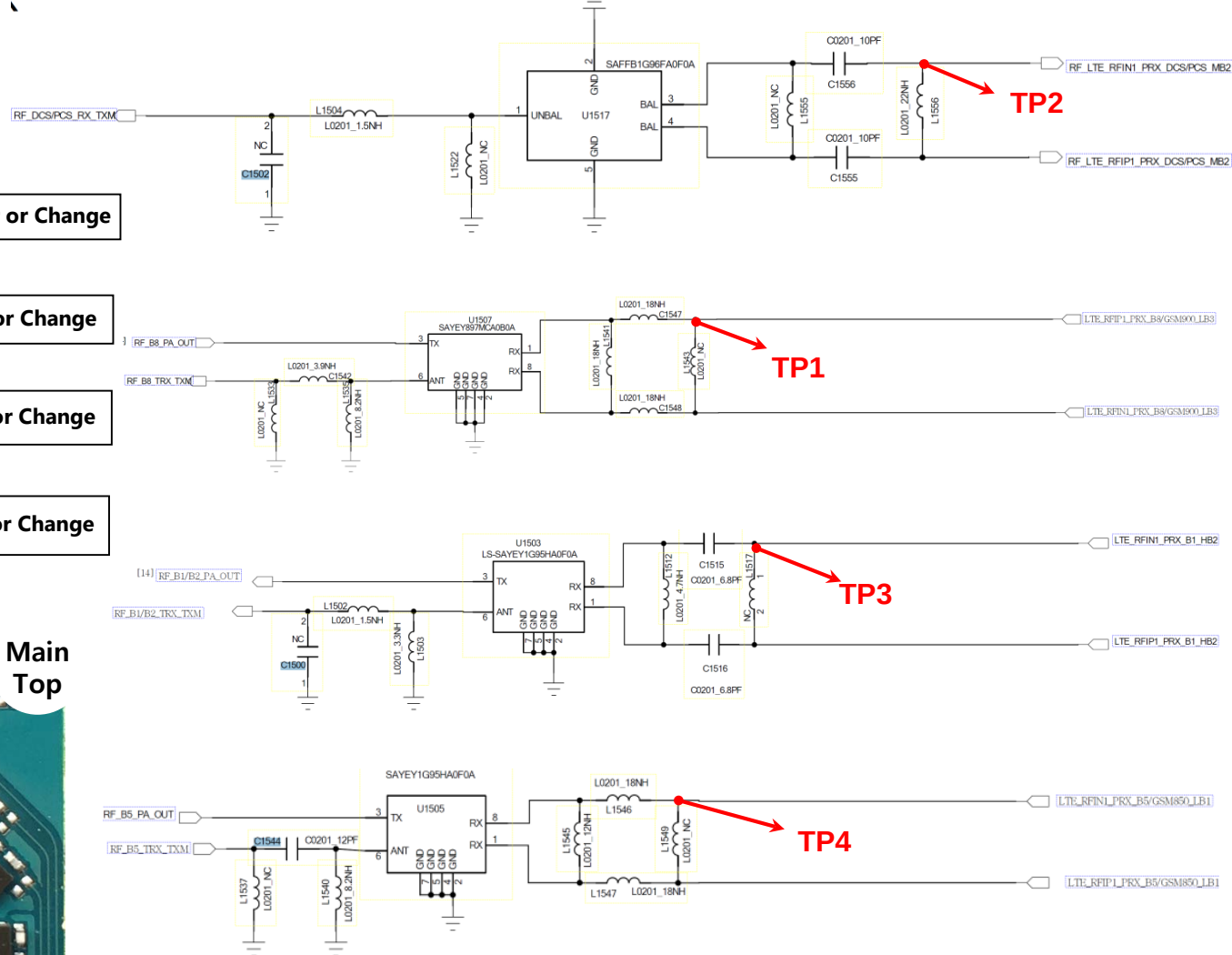


Image



LGE Internal Use Only

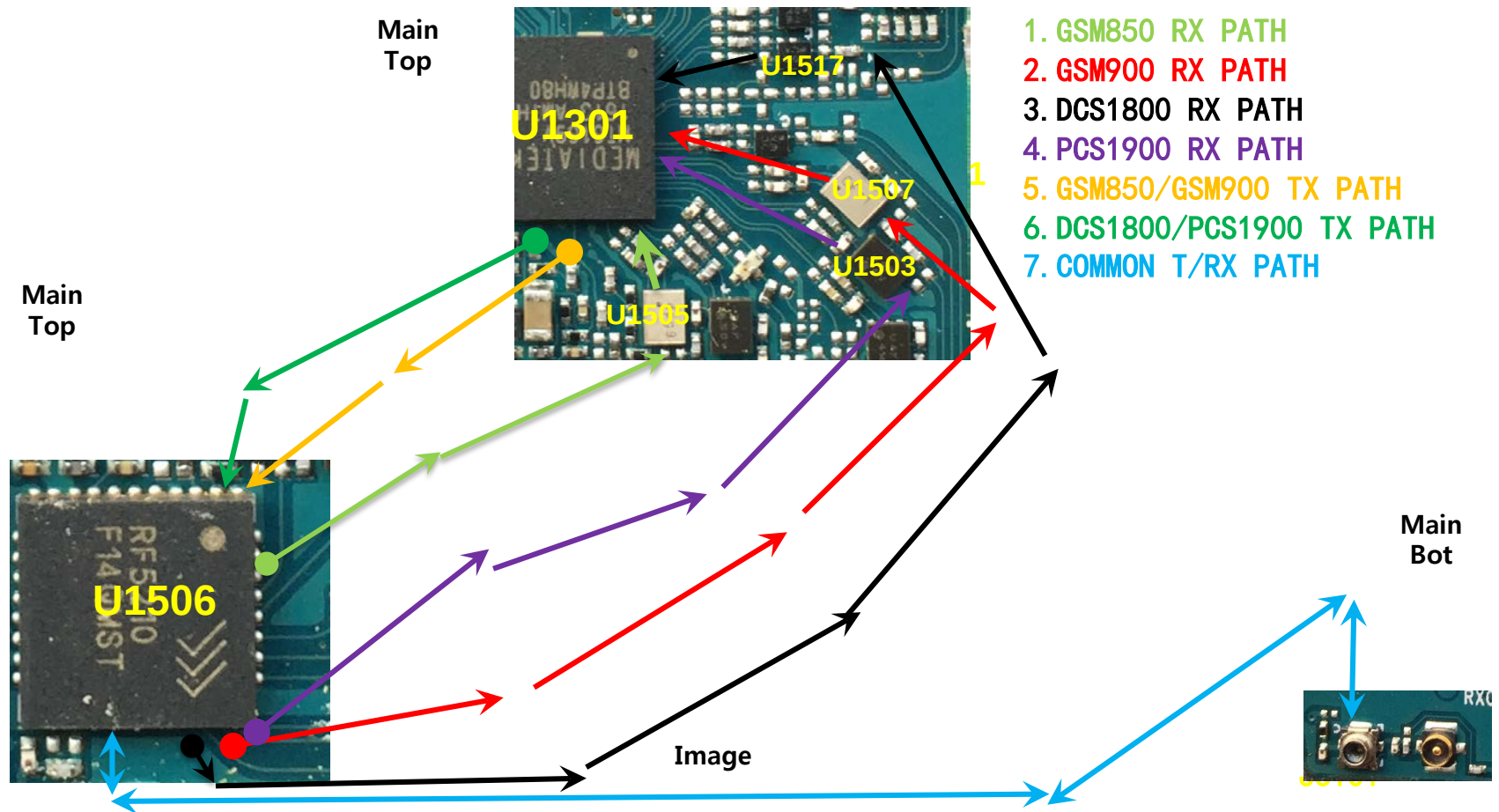
Circuit Diagram



3. TROUBLE SHOOTING

3.4 GSM RF PART

3.4.2.1 GSM850/900/1800/1900 Tx

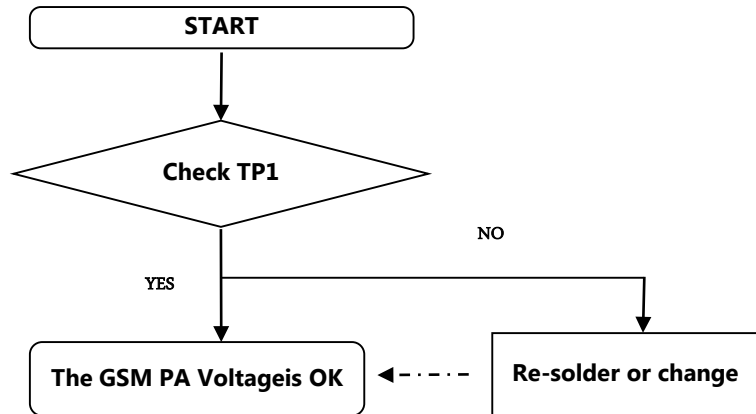


3. TROUBLE SHOOTING

3.4 GSM RF PART

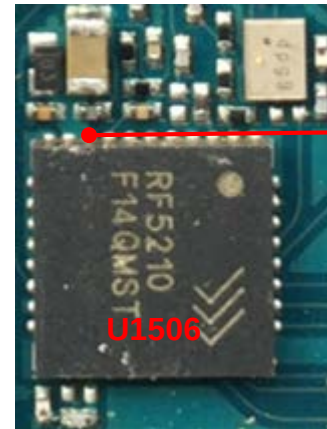
3.4.2.2 Checking GSM PAM DC Power Circuit

Checking Flow



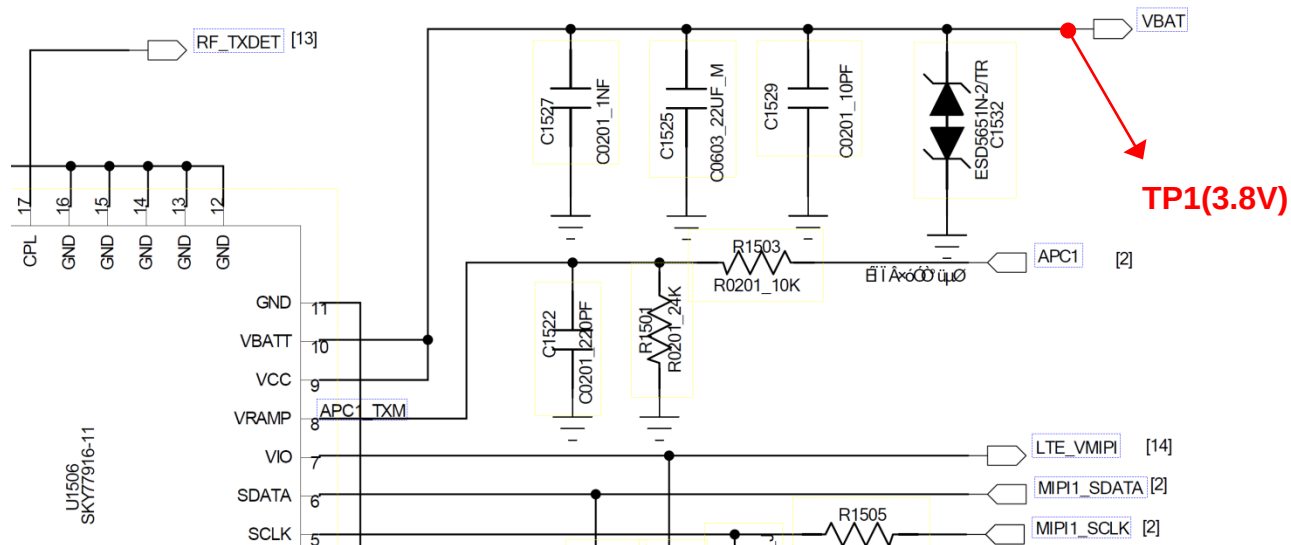
Image

Main Bot



TP1

Circuit Diagram

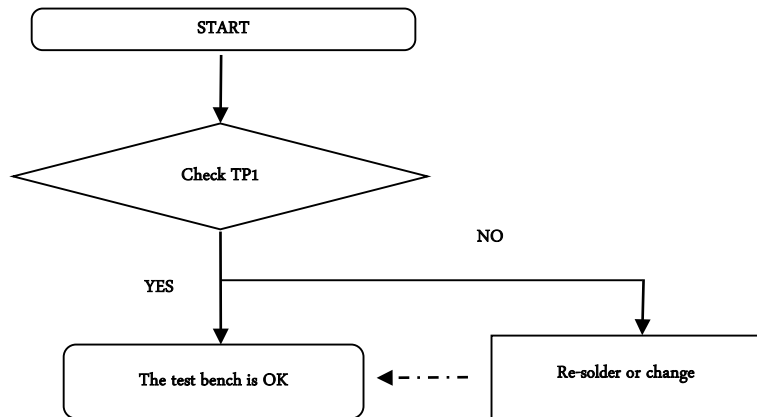


3. TROUBLE SHOOTING

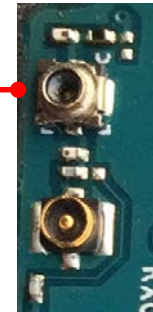
3.4 GSM RF PART

3.4.2.3 Checking RF signal path(SW)

Checking Flow

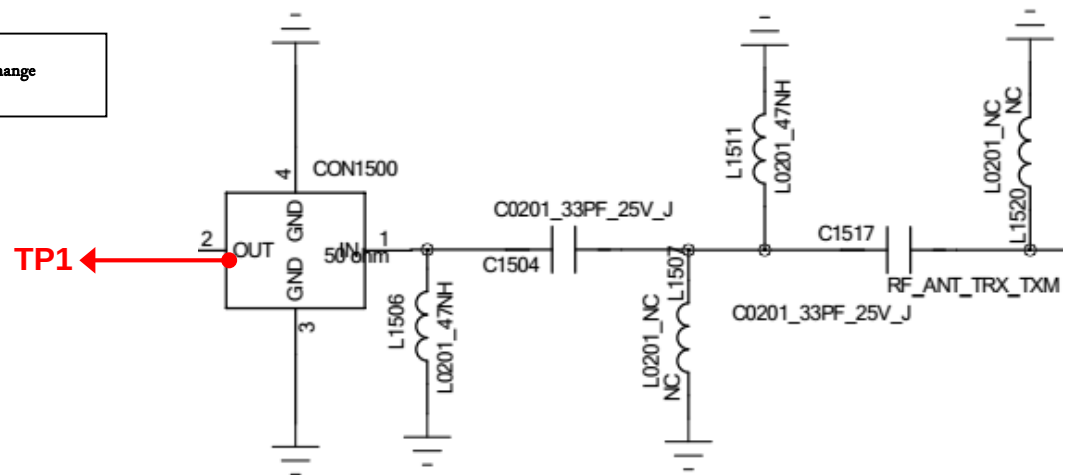


Image



TP1(CON1500)

Circuit Diagram

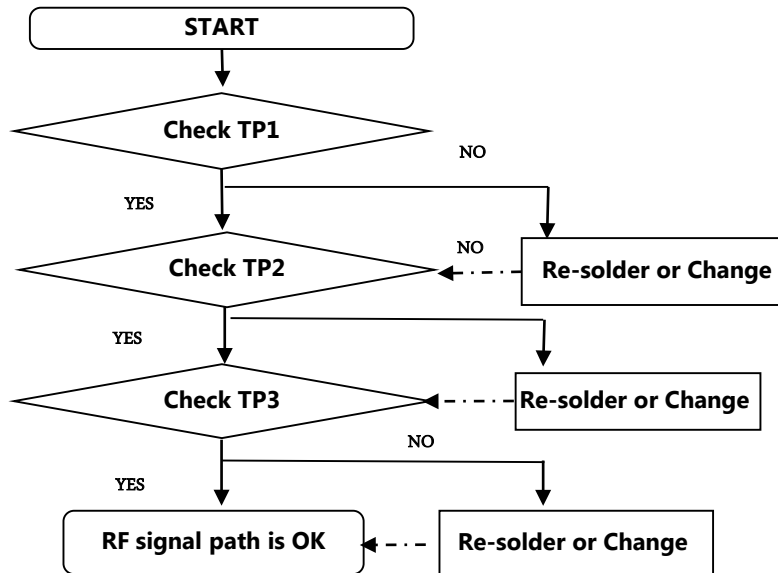


3. TROUBLE SHOOTING

3.4 GSM RF PART

3.4.2.4 Checking RF signal path

Checking Flow

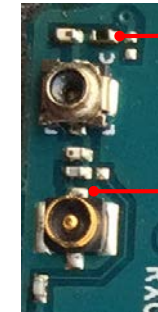


Image



TP3

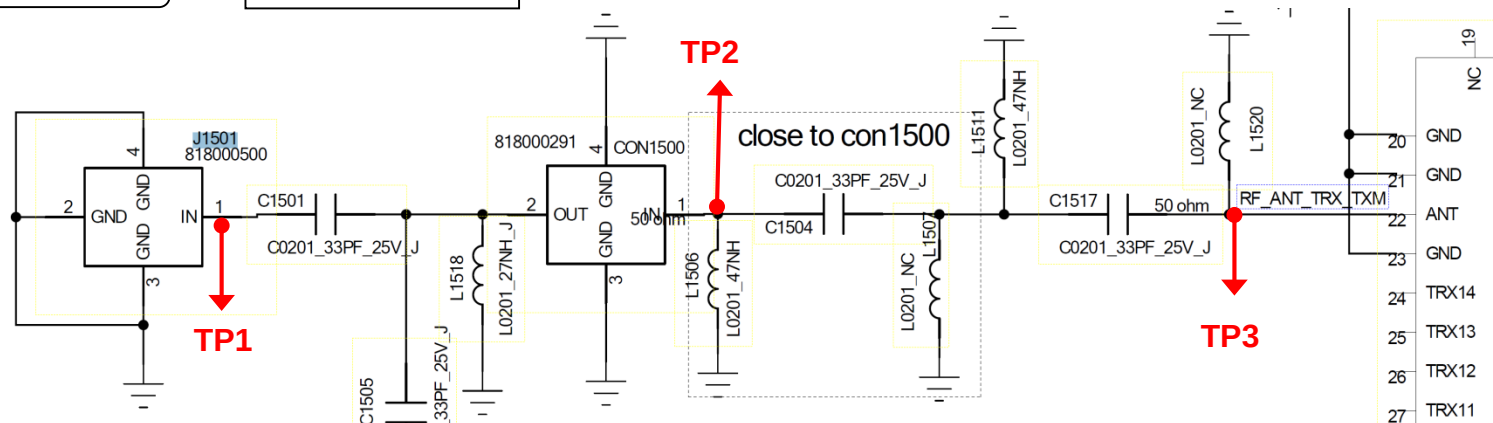
Main Bot



TP2

TP1

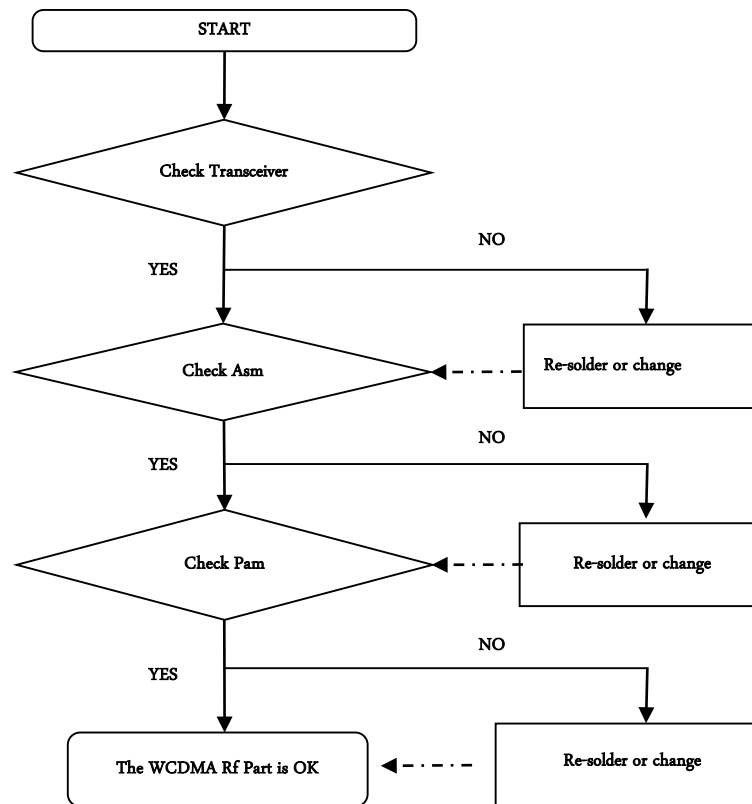
Circuit Diagram



3.5 WCDMA RF Part

WCDMA RF Part support WCDMA B1/5/8 with FEM, PAM, Transceiver component

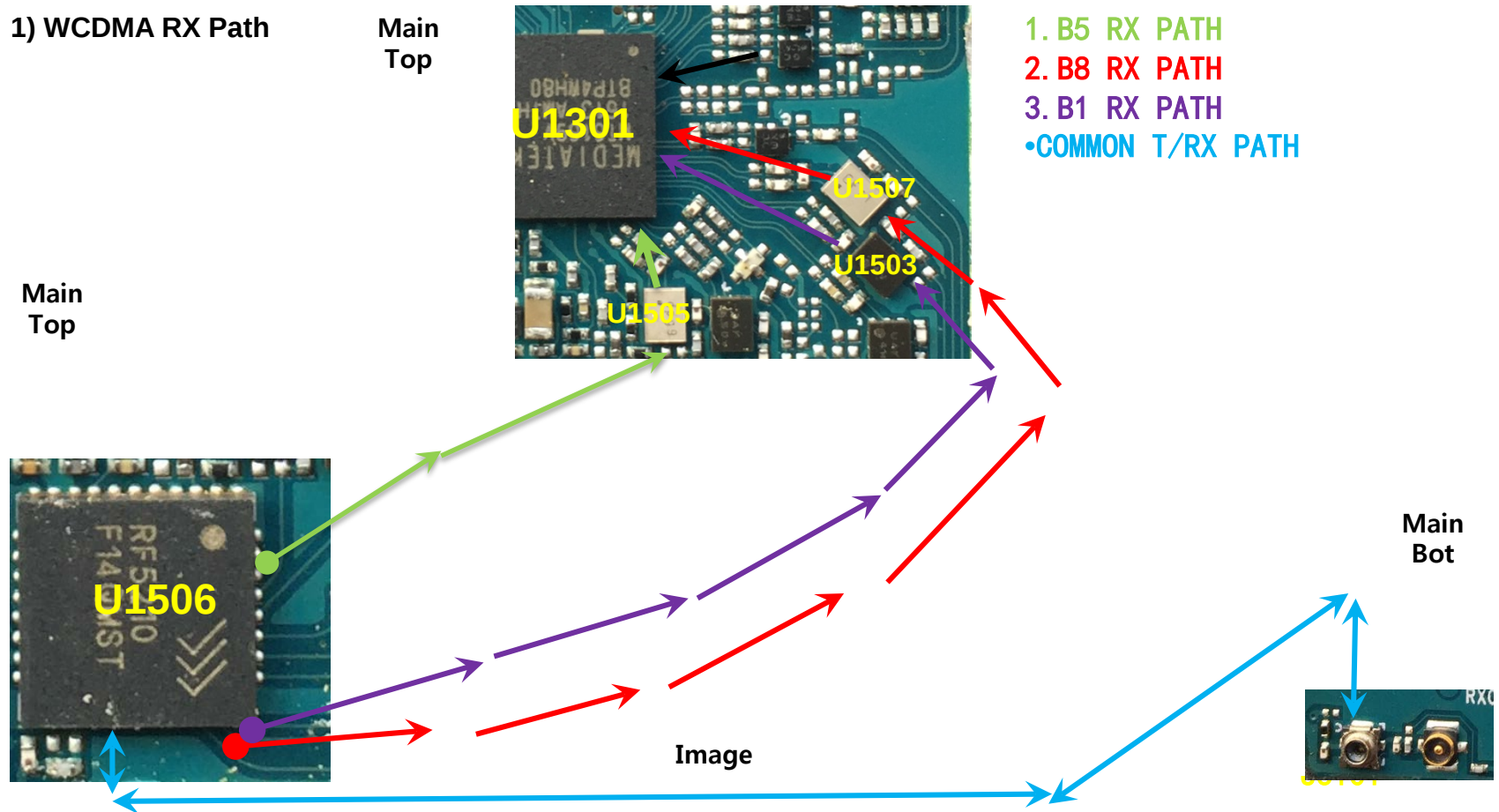
Checking Flow



3.5 WCDMA RF PART

3.5.1 WCDMA RF Part RX PATH (B1/B5/B8)

1) WCDMA RX Path

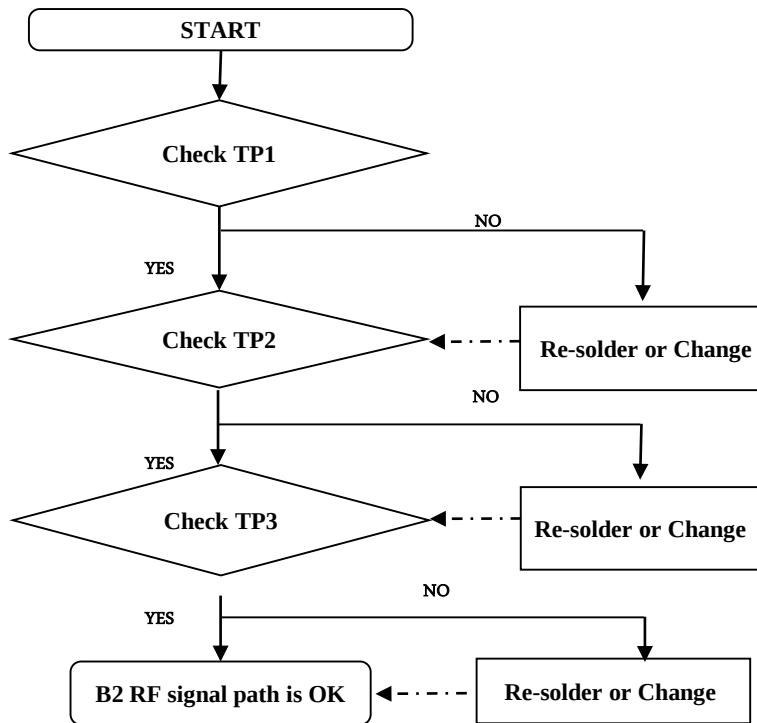


3. TROUBLE SHOOTING

3.5 WCDMA RF PART

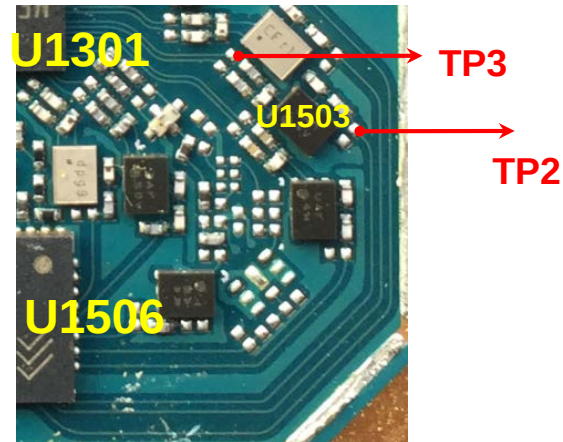
3.5.1.1 Checking RF signal path(Band 1)

Checking Flow



Image

Main
Top



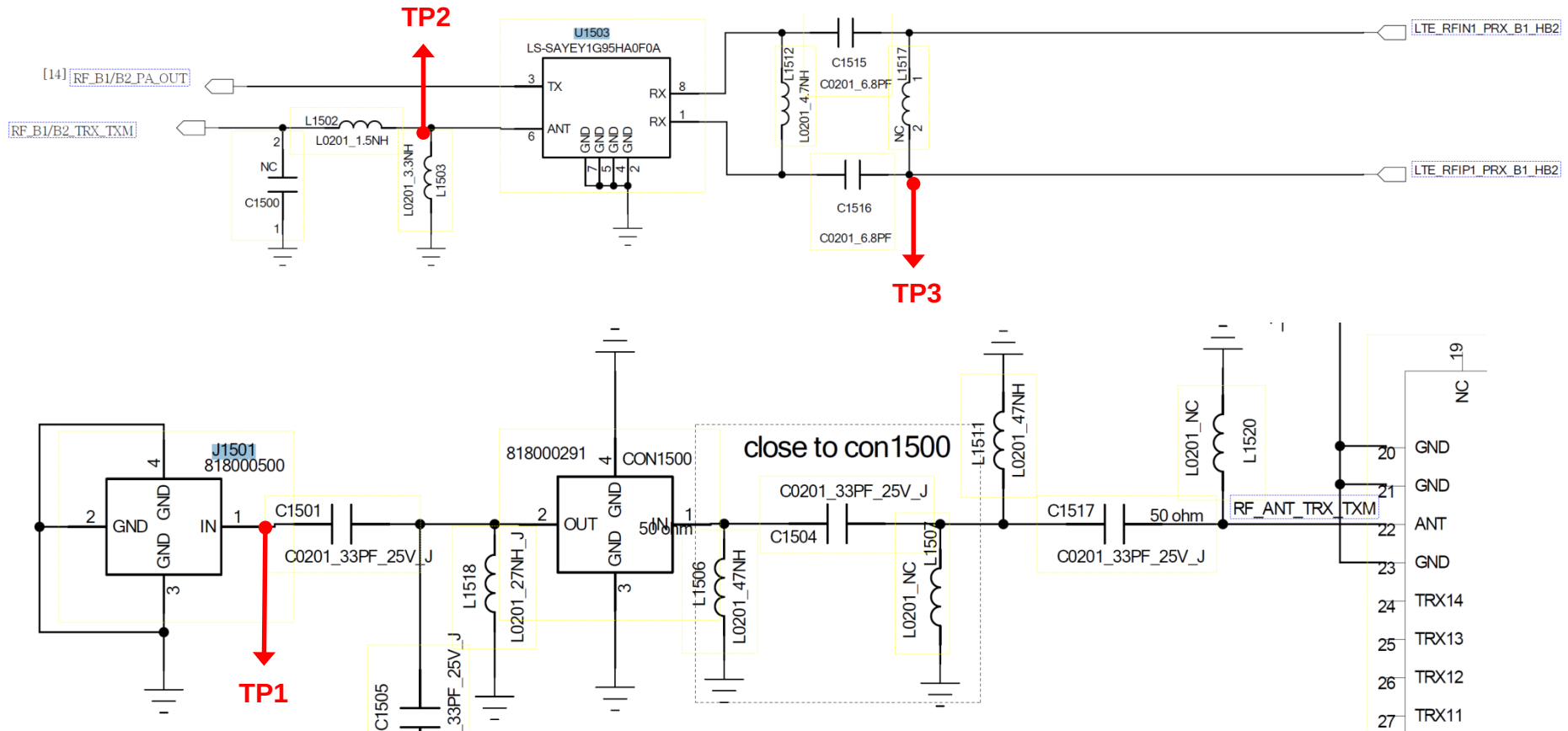
Main
Bot



3.5 WCDMA RF PART

3.5.1.1 Checking RF signal path(Band 1)

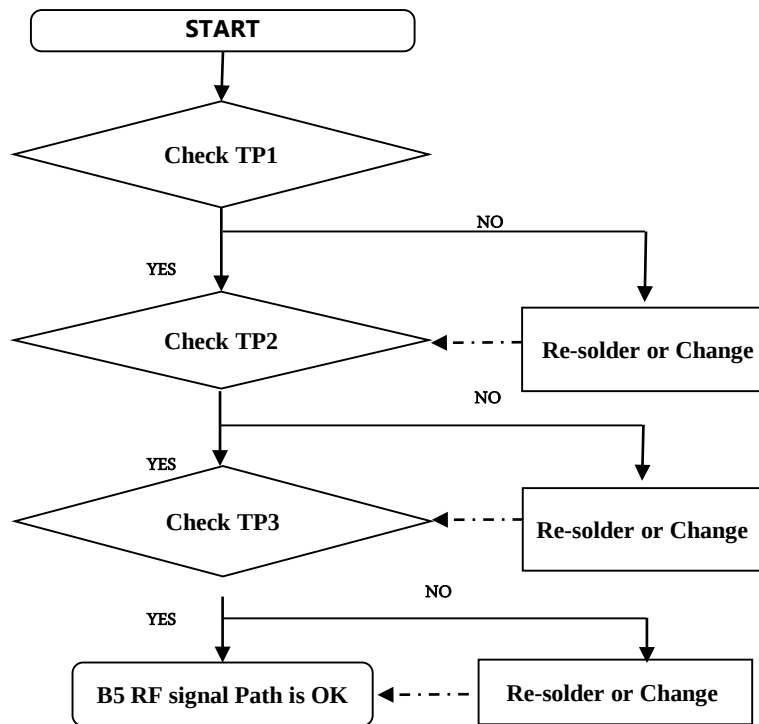
Circuit Diagram



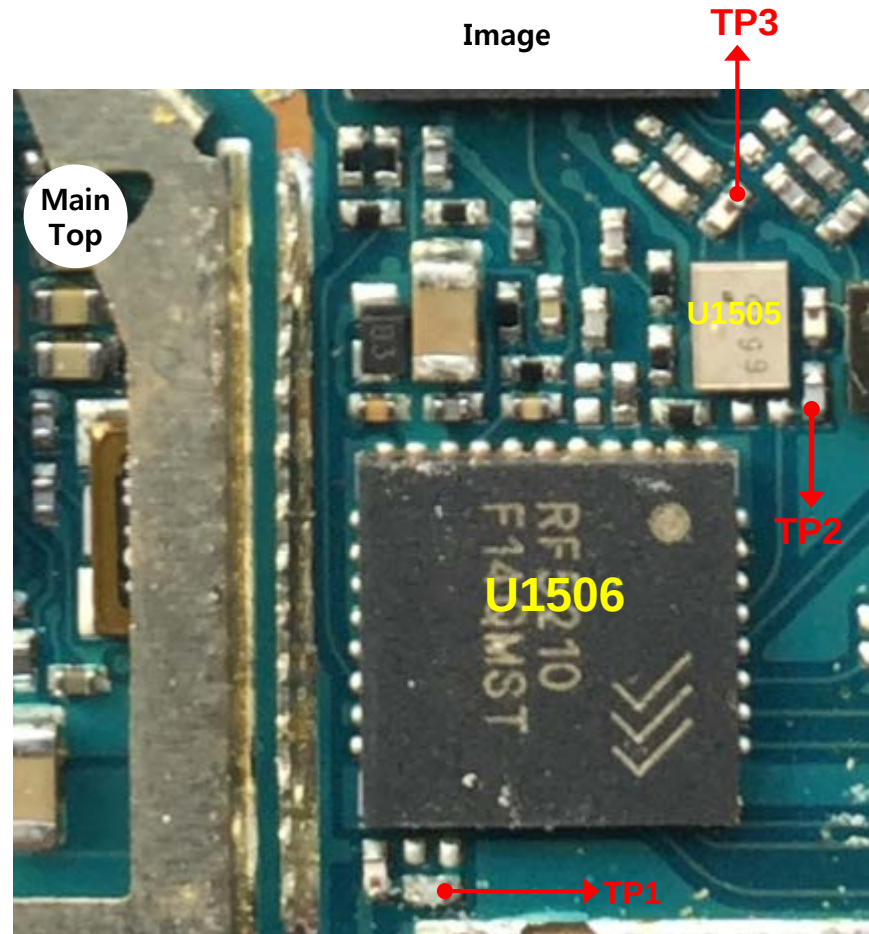
3.5 WCDMA RF PART

3.5.1.2 Checking RF signal path(Band 5)

Checking Flow



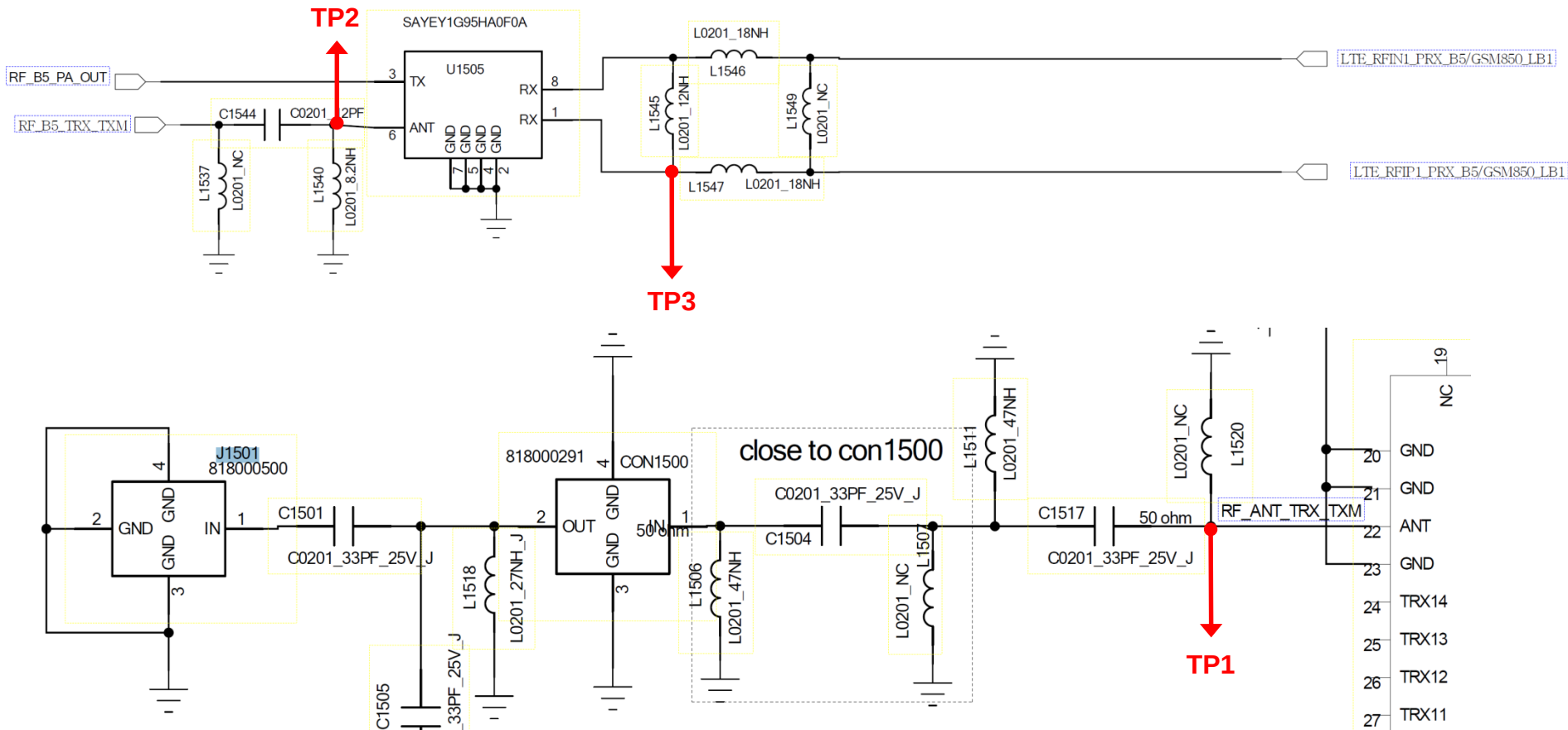
Image



3.5 WCDMA RF PART

3.5.1.2 Checking RF signal path(Band 5)

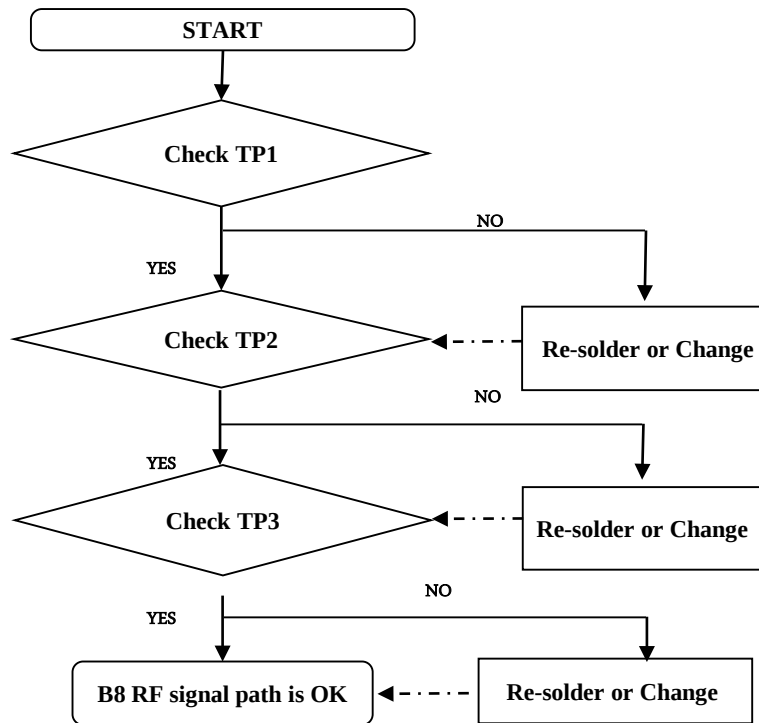
Circuit Diagram



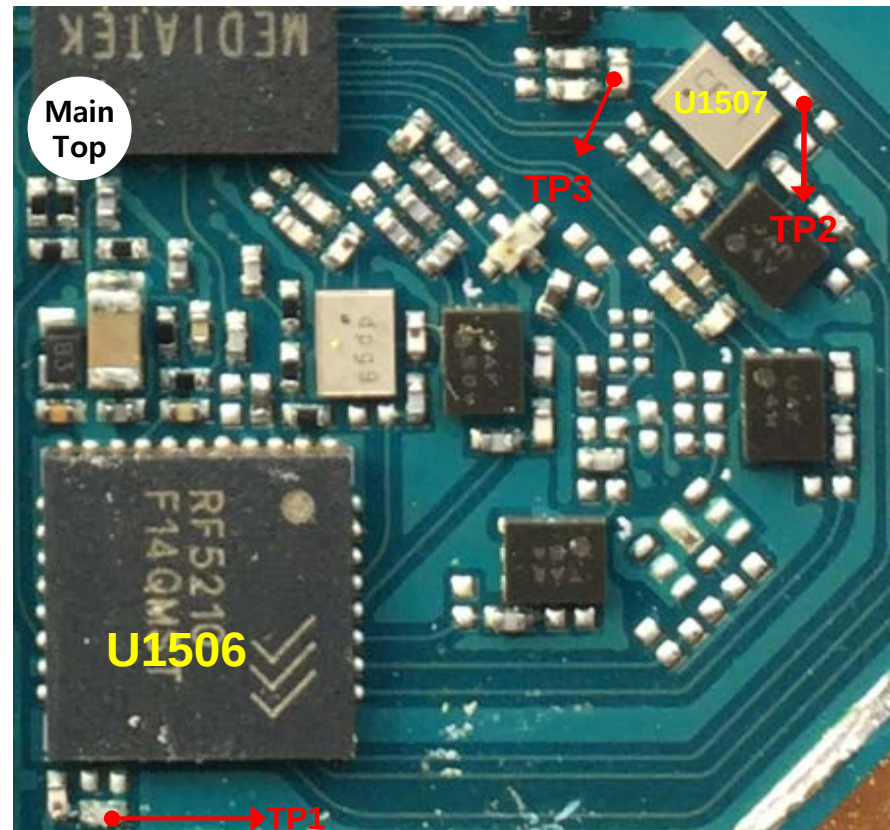
3.5 WCDMA RF PART

3.5.1.3 Checking RF signal path(Band 8)

Checking Flow



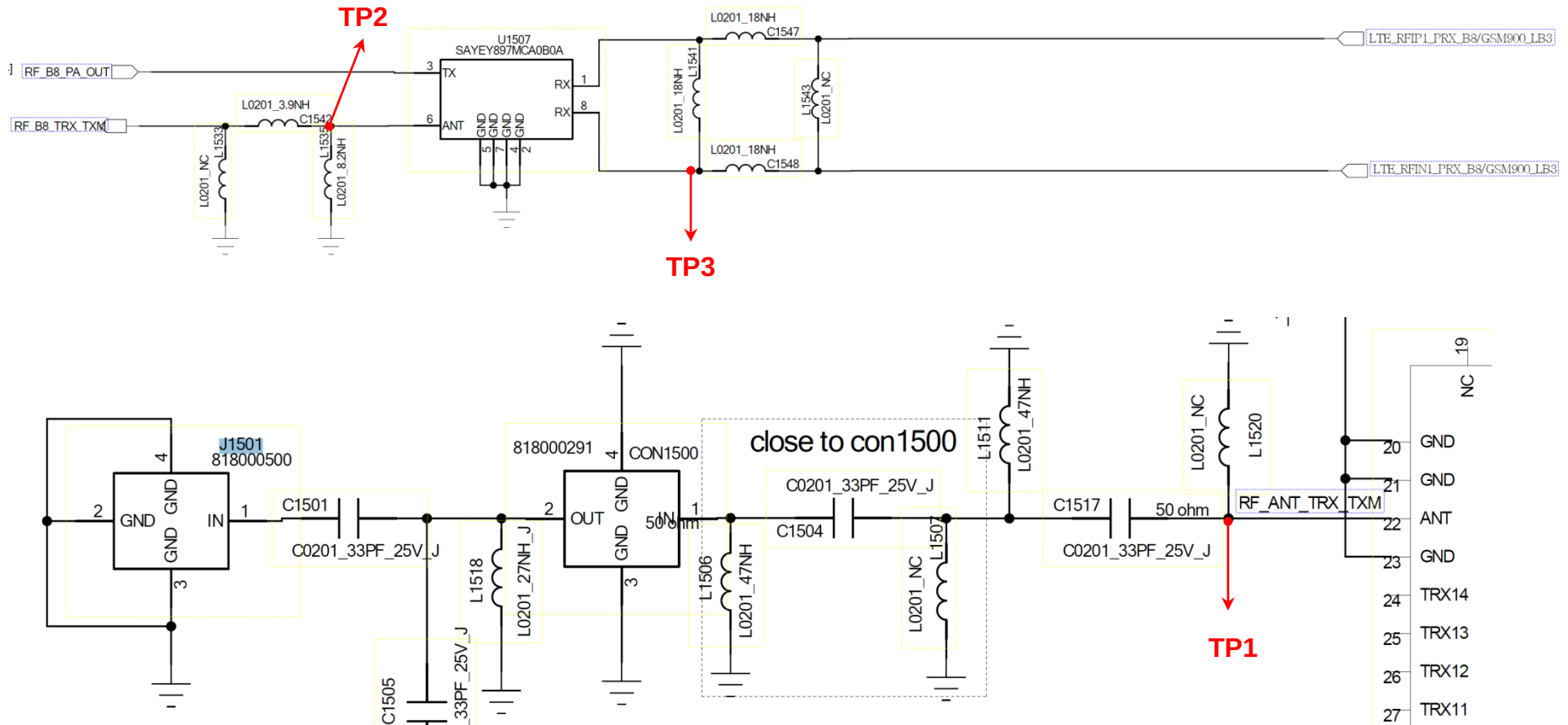
Image



3.5 WCDMA RF PART

3.5.1.3 Checking RF signal path(Band 8)

Circuit Diagram

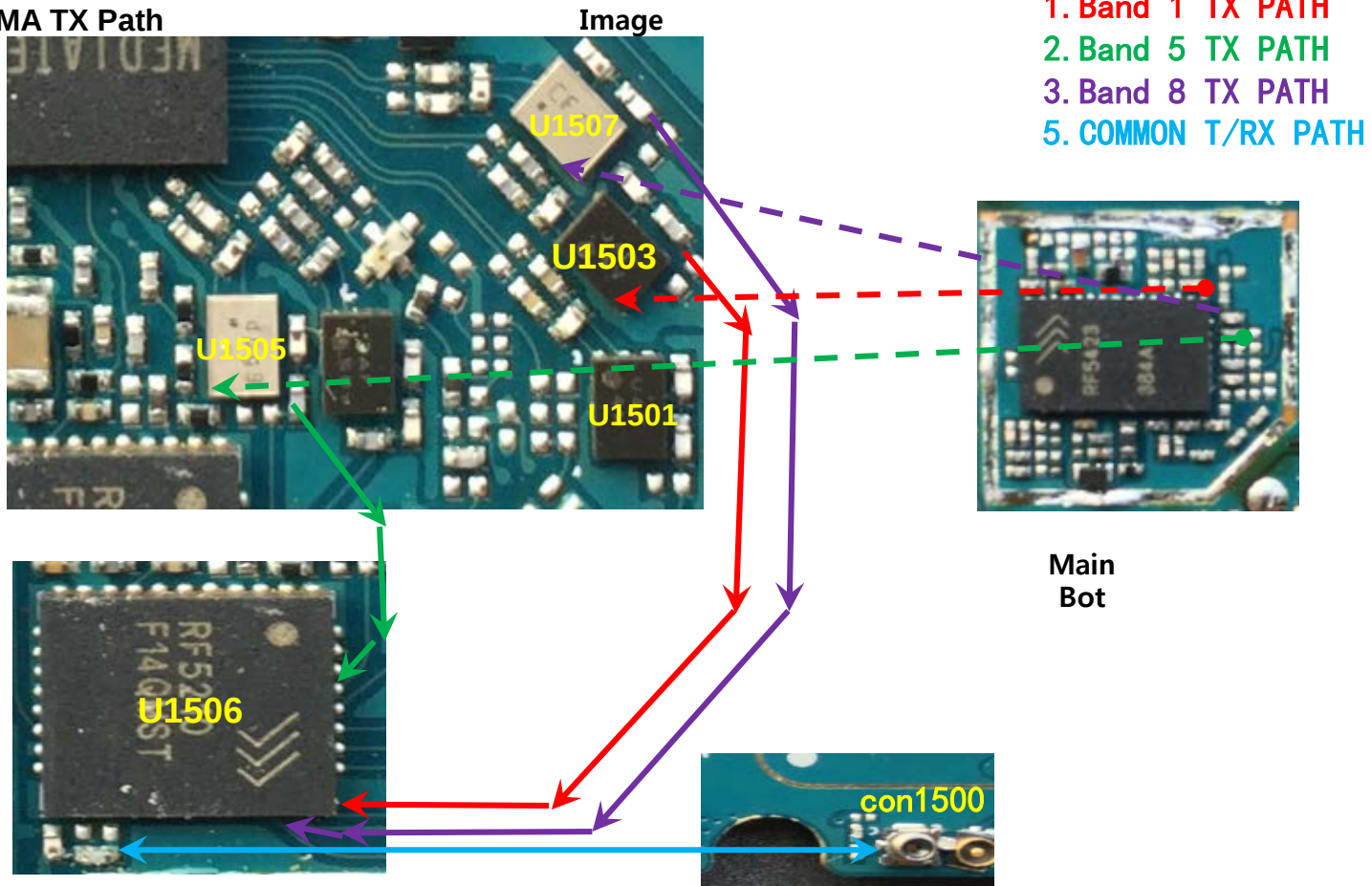


3.5 WCDMA RF PART

3.5.2 WCDMA RF Part TX PATH (B1/B5/B8)

2) WCDMA TX Path

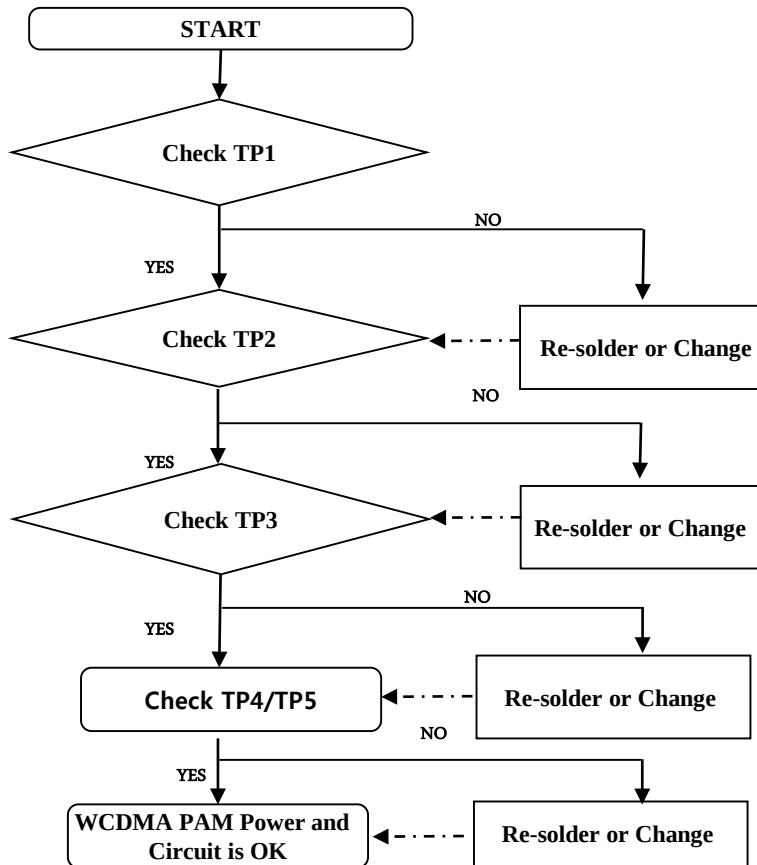
Main
Top



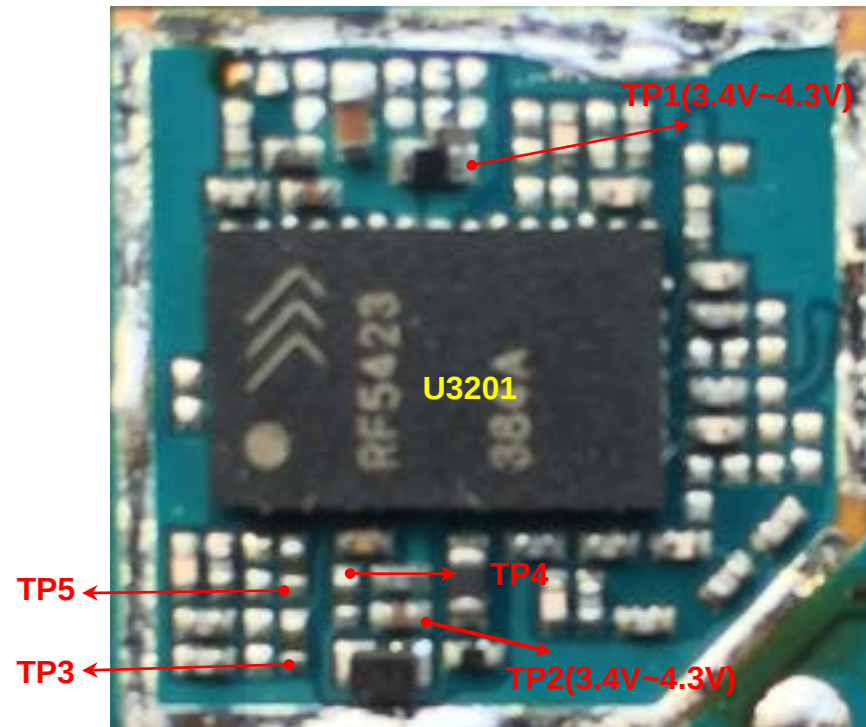
3.5 WCDMA RF PART

3.5.2.1 Checking WCDMA PAM DC Power & Control Circuit

Checking Flow



Image



3.5 WCDMA RF PART

3.5.2.1 Checking WCDMA PAM DC Power & Control Circuit

U1405 PAM CONTROL LOGIC

MB/HB: Mode and Band Specific Recommended Settings

Mode	Band	IDAC1 (decimal)	IDAC2 (decimal)	Power Mode
LTE	B1-4,B25,B39	7	8	HPM
		7	8	LPM
CDMA2000	BC1/14,BC6,BC15	7	8	HPM
		7	8	LPM
W-CDMA	B1-4	6	5	HPM
		6	5	LPM
TD-SCDMA	B34/39	6	5	HPM
		6	5	LPM
LTE	B7,B38,B40,B41	3	6	HPM
		3	6	LPM

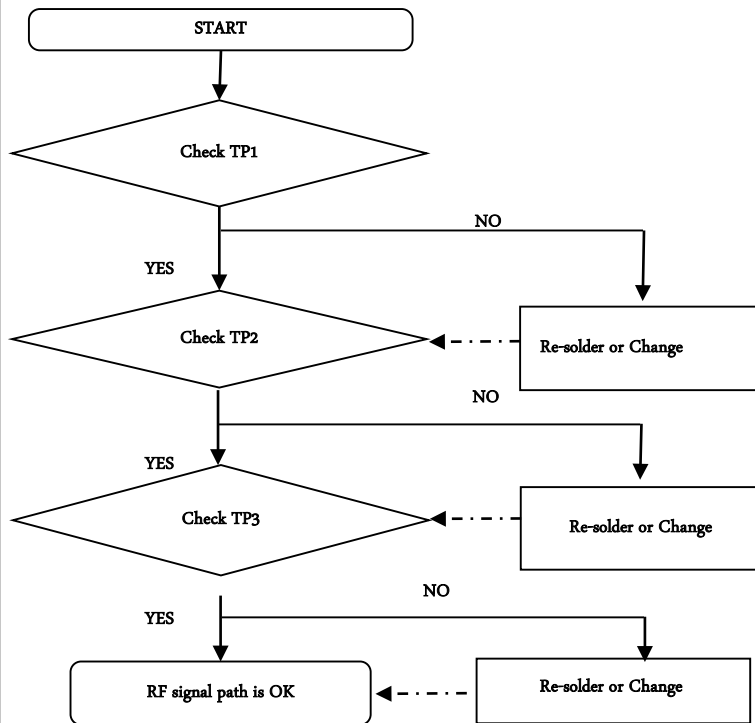
LB: Mode and Band Specific Recommended Settings

Mode	Band	IDAC1 (decimal)	IDAC2 (decimal)	BS	PM	Power Mode
LTE	B12/13/14/17/28	3	10	1	0	HPM
		3	10	1	1	LPM
LTE	B5/6/8/18/20/26	3	10	0	0	HPM
		3	10	0	1	LPM
CDMA2000	BC0/10	2	12	0	0	HPM
		2	12	0	1	LPM
W-CDMA	B5/8	4	7	0	0	HPM
		4	7	0	1	LPM

3.5 WCDMA RF PART

3.5.2.2 Checking RF signal path(SW)

Checking Flow



Image

Refer to 3.5.1.1

Circuit Diagram

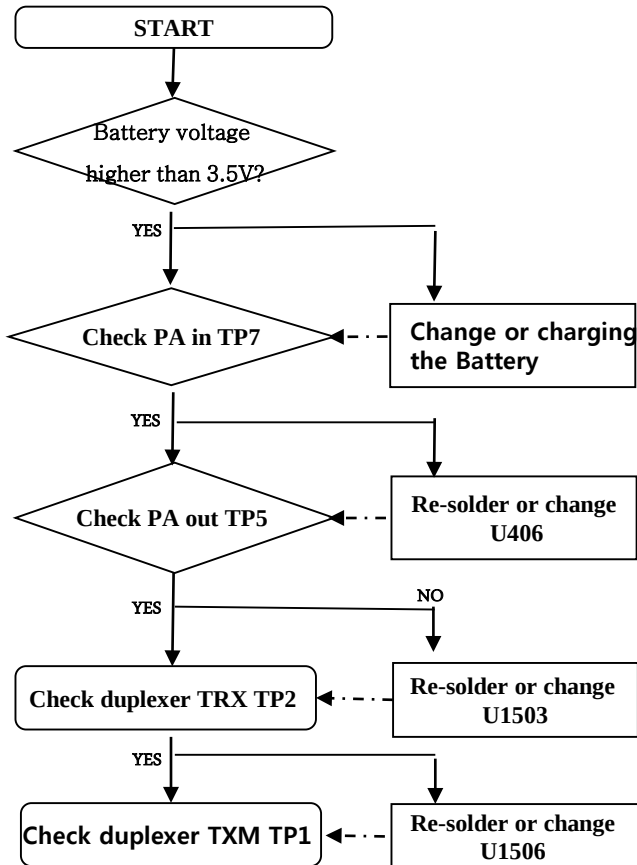
Refer to 3.5.1.1

3. TROUBLE SHOOTING

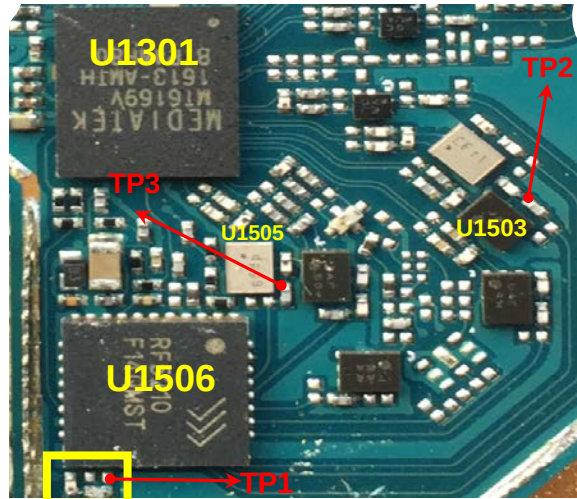
3.5 WCDMA RF PART

3.5.2.3 Checking RF signal path

Checking Flow

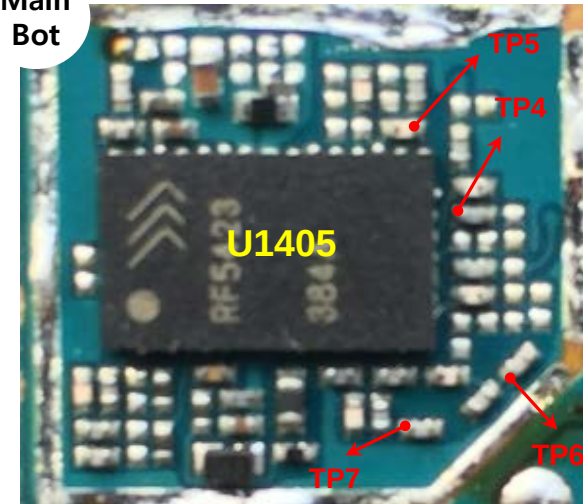


Main
Top

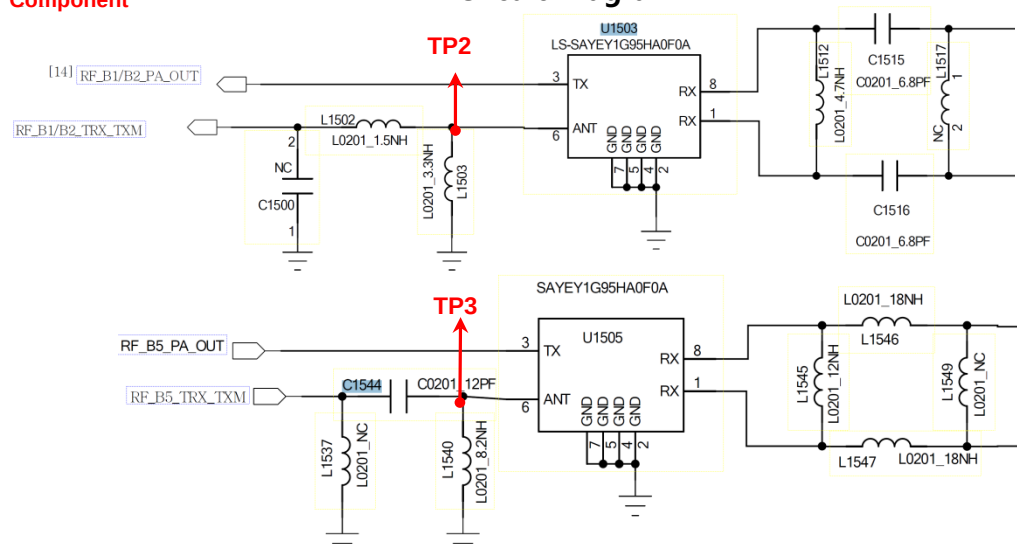


RF Matching
Component

Main
Bot



Circuit Diagram

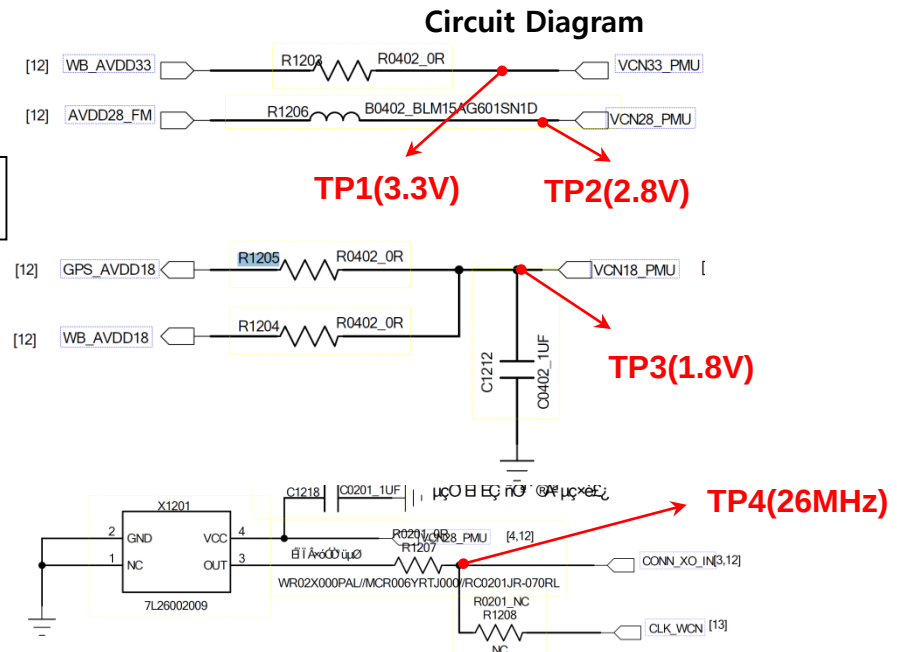
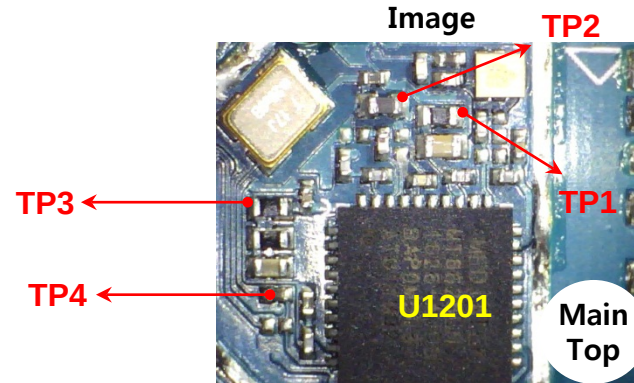
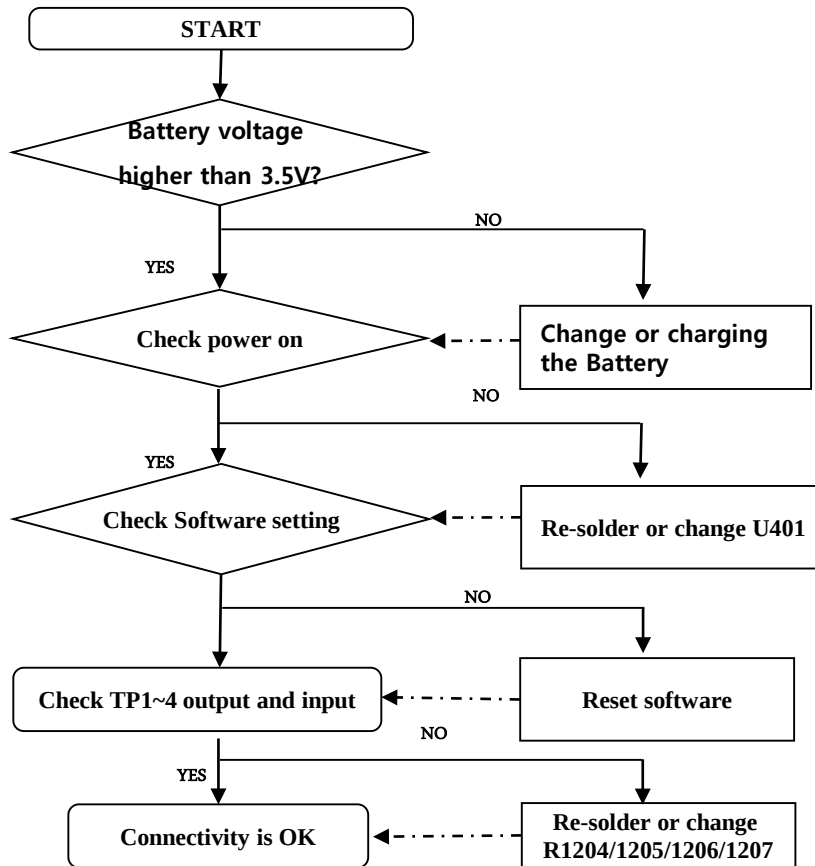


3. TROUBLE SHOOTING

3.6 Connectivity PART

3.6. 1. Checking Connectivity DC Power & TCXO Circuit

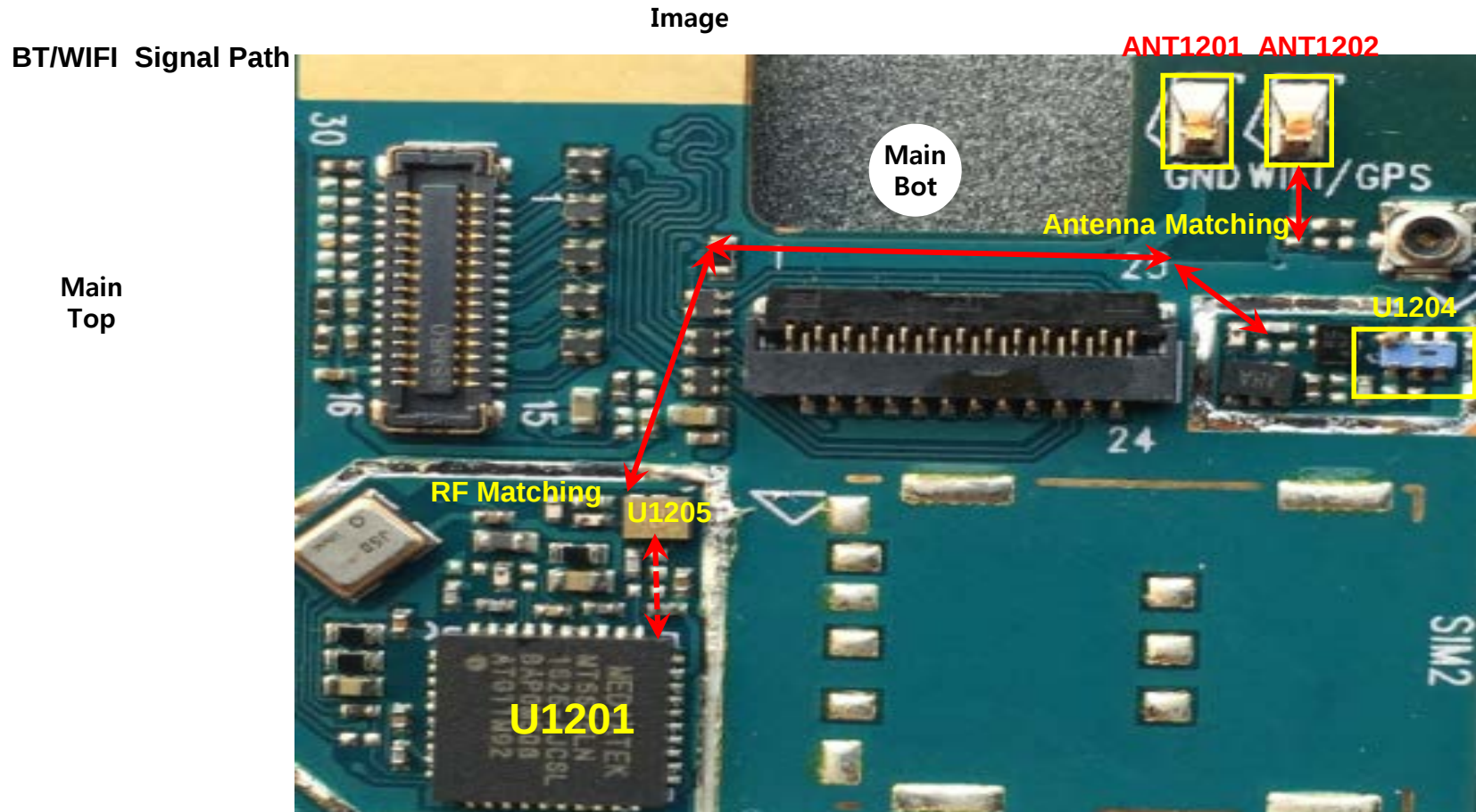
Checking Flow



3. TROUBLE SHOOTING

3.6 Connectivity PART

3.6. 2. 1. BT&WIFI Trouble Shooting

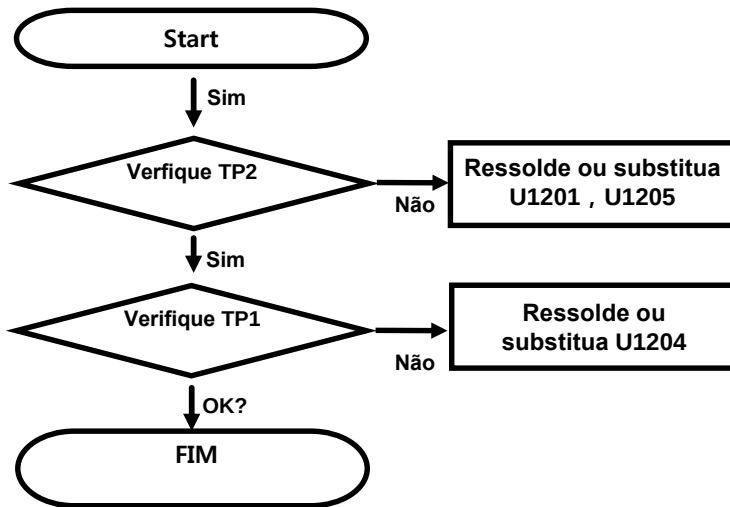


3. TROUBLE SHOOTING

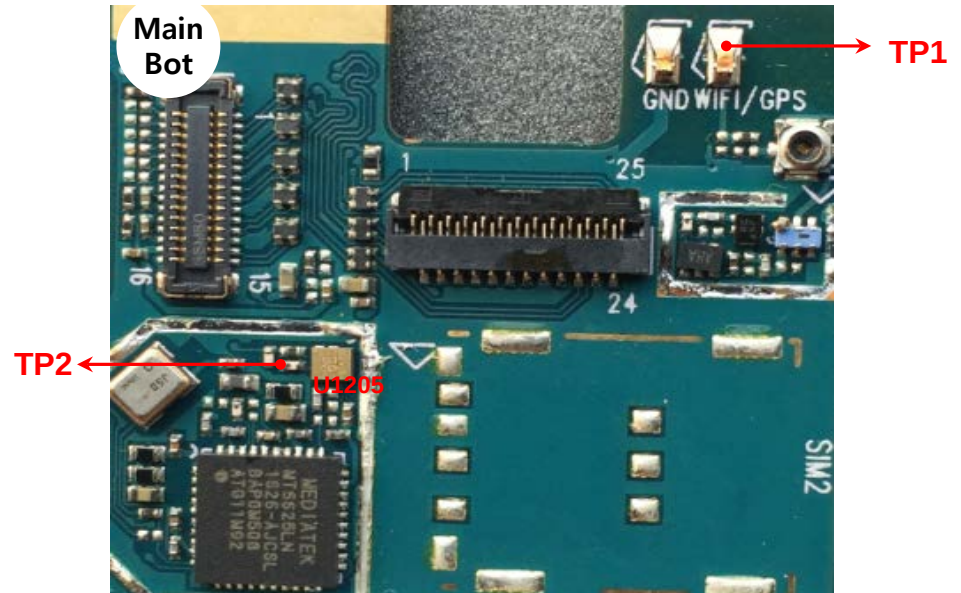
3.6. Connectivity PART

3.6. 2. 2. BT&WIFI Trouble Shooting

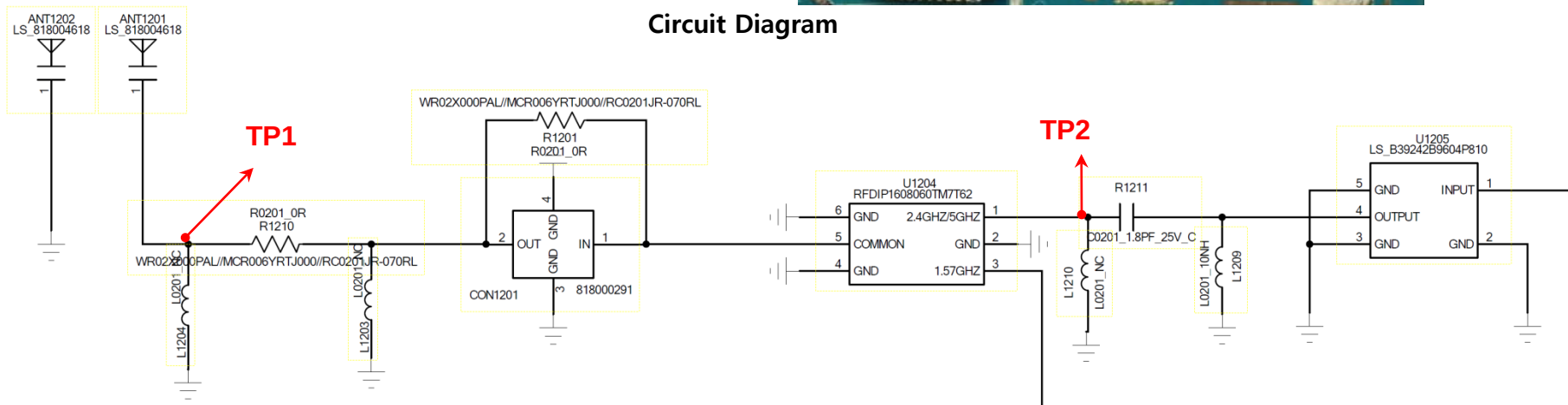
Checking Flow



Image



Circuit Diagram

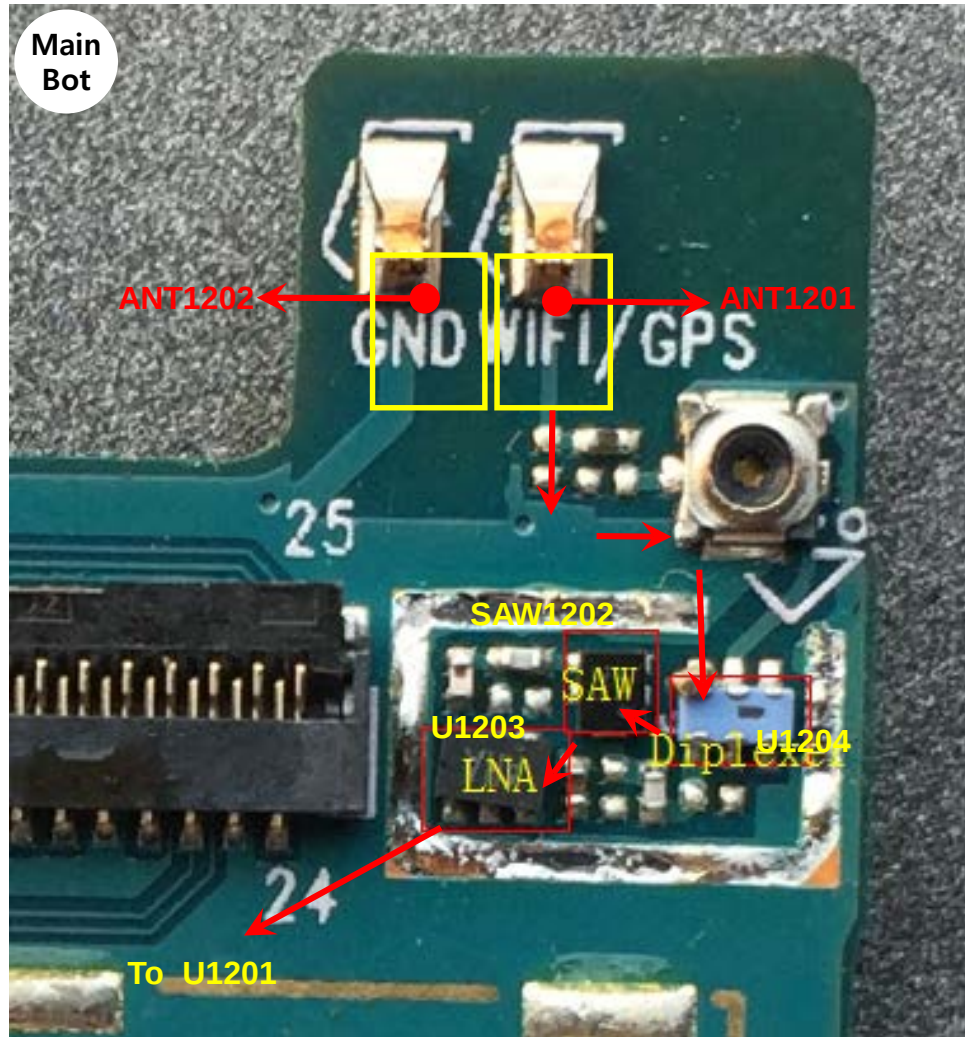


3.6 Connectivity PART

3.6. 3. 1. GPS Trouble Shooting

Image

GPS Signal Path

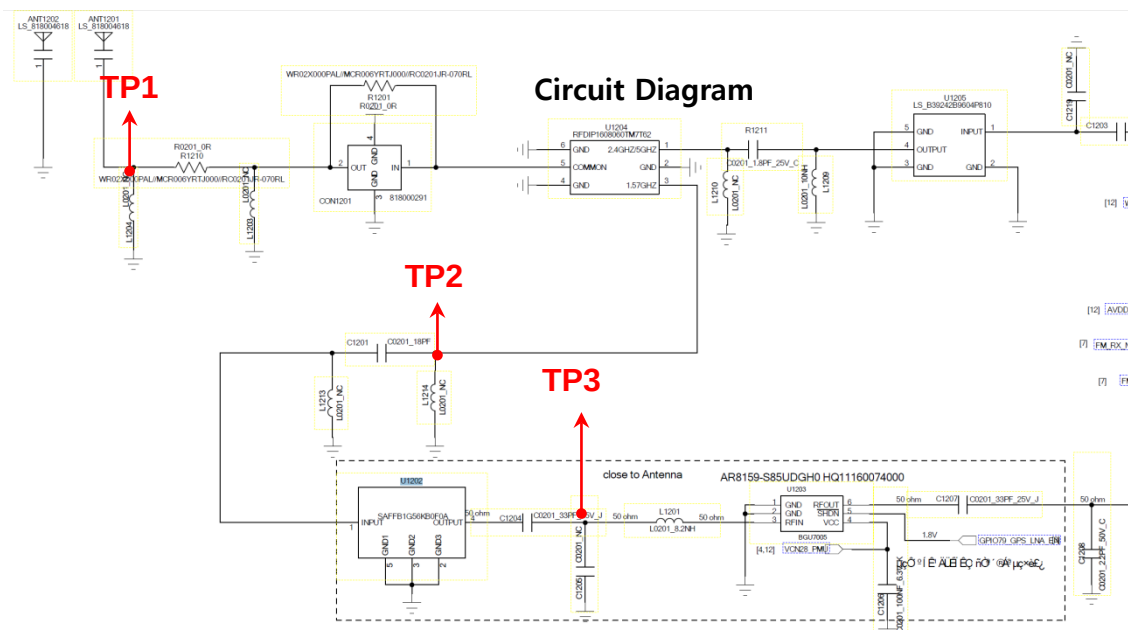
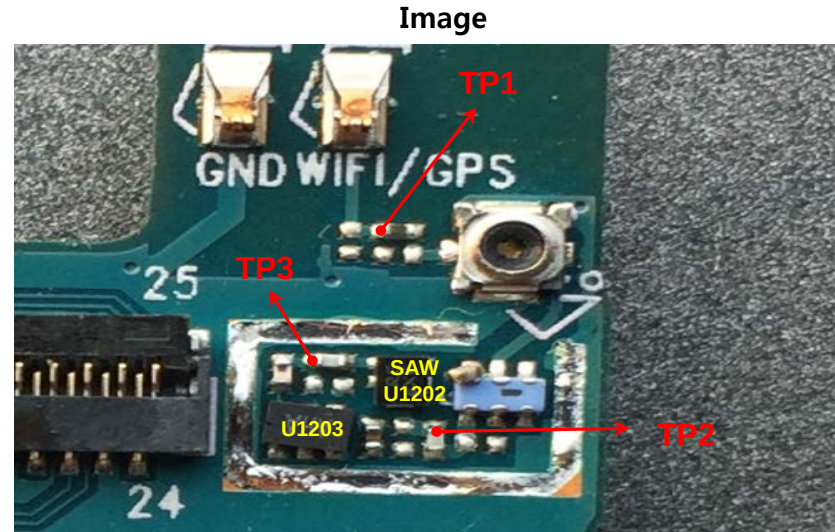
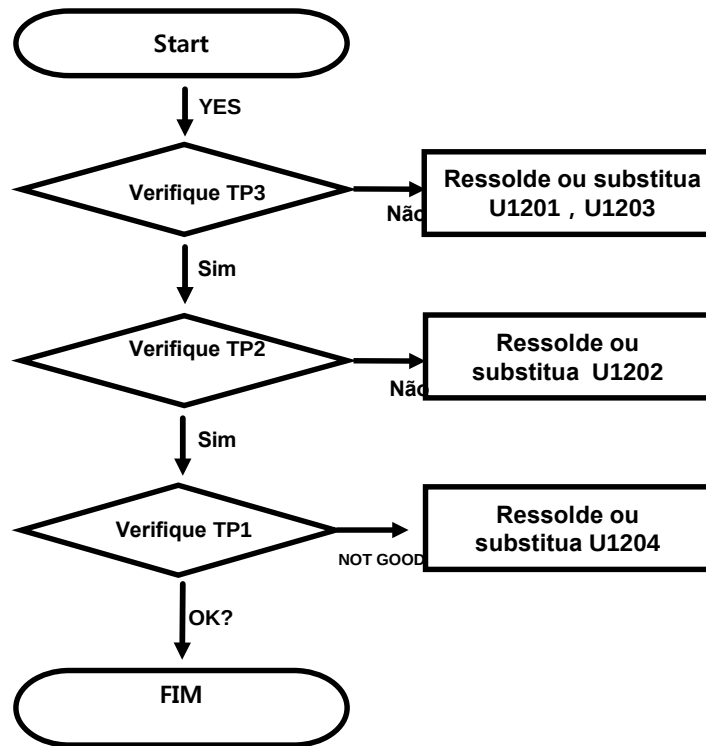


3. TROUBLE SHOOTING

3.6 Connectivity PART

3.6. 3. 2. GPS Trouble Shooting

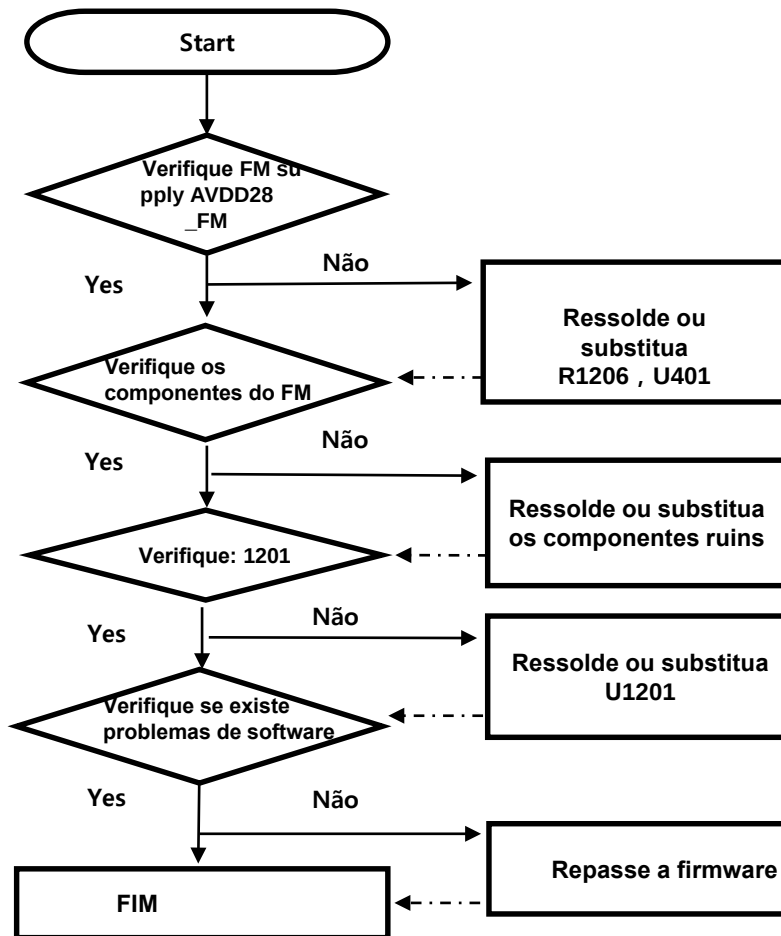
Checking Flow



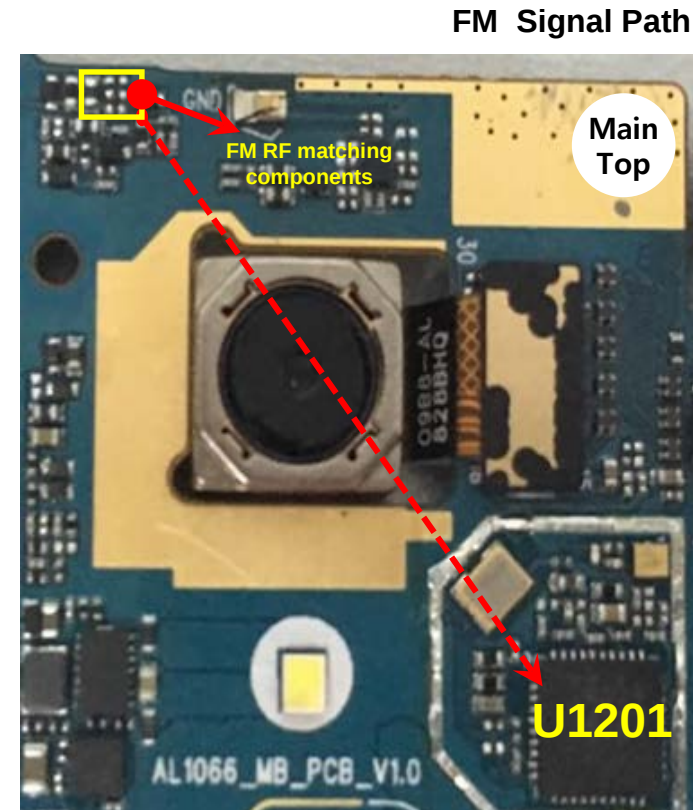
3.6 Connectivity PART

3.6. 4. 1. FM Trouble Shooting

Checking Flow



Image

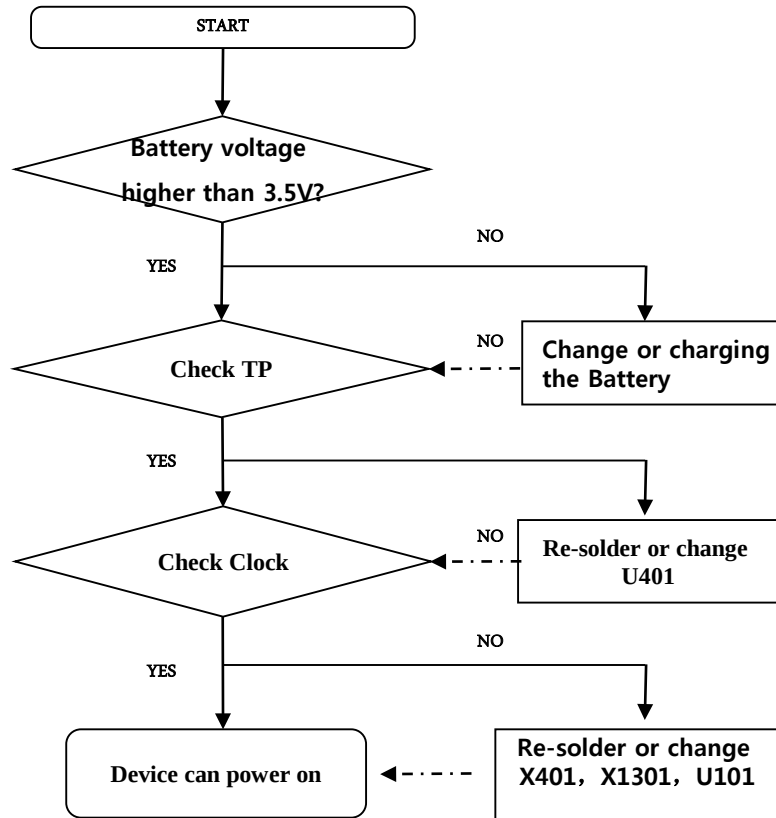


3. TROUBLE SHOOTING

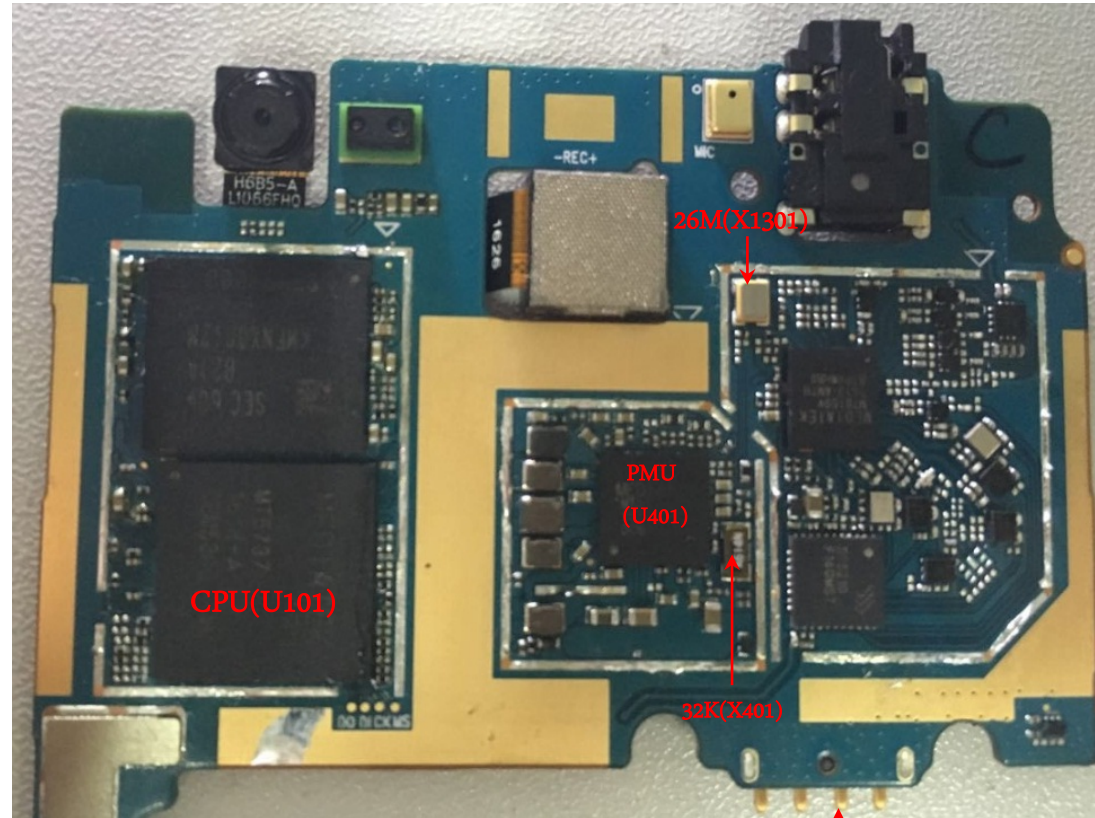
3.7 Power

Checking Power signal(Battery connector, PMU, Clock)

Checking Flow



Image



BATTERY CONNECTOR (J501)

3. TROUBLE SHOOTING

3.7 Power

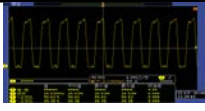
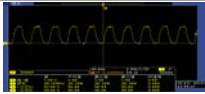
Checking Power signal(Battery connector, PMU, Clock)

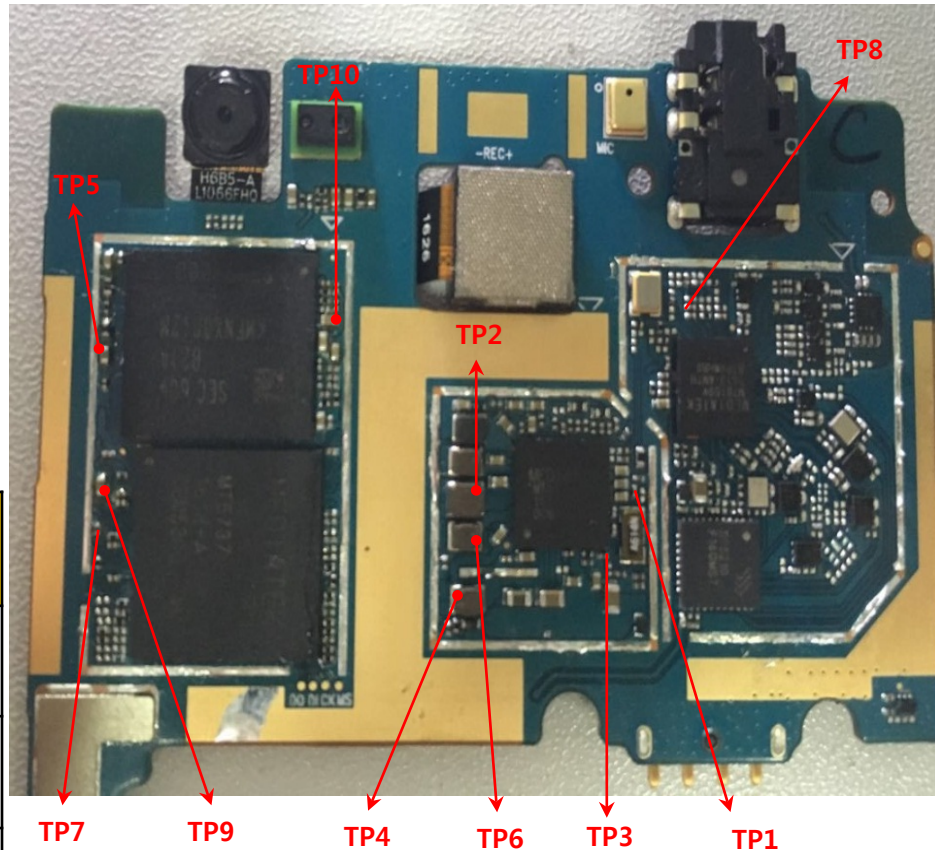
Check Output Voltage of U401 (PMU)

Power on voltage check list

Power domain	Configurable Voltage	Signal Name	Measurment Location	TP
VRTC	2.8 V	VRTC	C417	TP1
VPROC	0.75 ~ 1.3V (25mV/step)	VPROC_PMU	L401	TP2
VIO18	1.8 V	VIO18_PMU	C416	TP3
VIO28	2.8 V	VIO28_PMU	C424	TP4
VM	1.2 V	DVDD12_EMI	C605	TP5
VCORE	1.15 V	VCORE_PMU	L403	TP6
VUSB	3.3V	VUSB33_PMU	C157	TP7
VTCXO	2.8V	VTCXO_0	C1304	TP8
VMC	3V	VMC_PMU	C153	TP9
VEMC_3V3	3 V	VEMC_3V3	C612	TP10

Oscillate frequency measurement

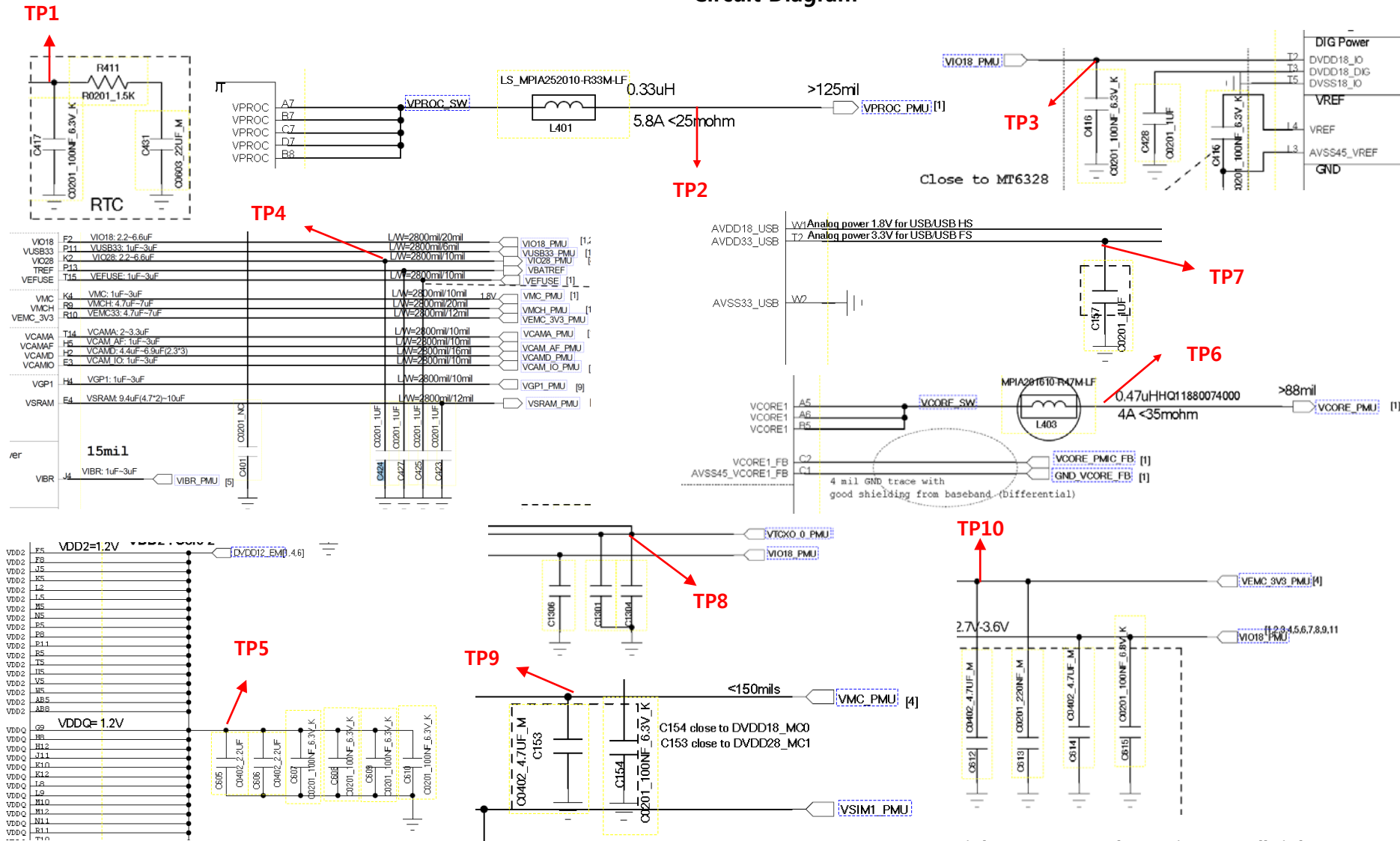
Signal name	Description	Frequency MHz	Measurment Location	Check Clock Result
X401 32.768 KHz crystal		32.74kHz	C419	
X1201 26MHz Crystal(WCN)		26.03MHz	R1207	
X1301 26MHz Crystal(Transceiver)		26.1MHz	C1309	



3.7 Power

Checking Power signal(Battery connector, PMU, Clock)

Circuit Diagram

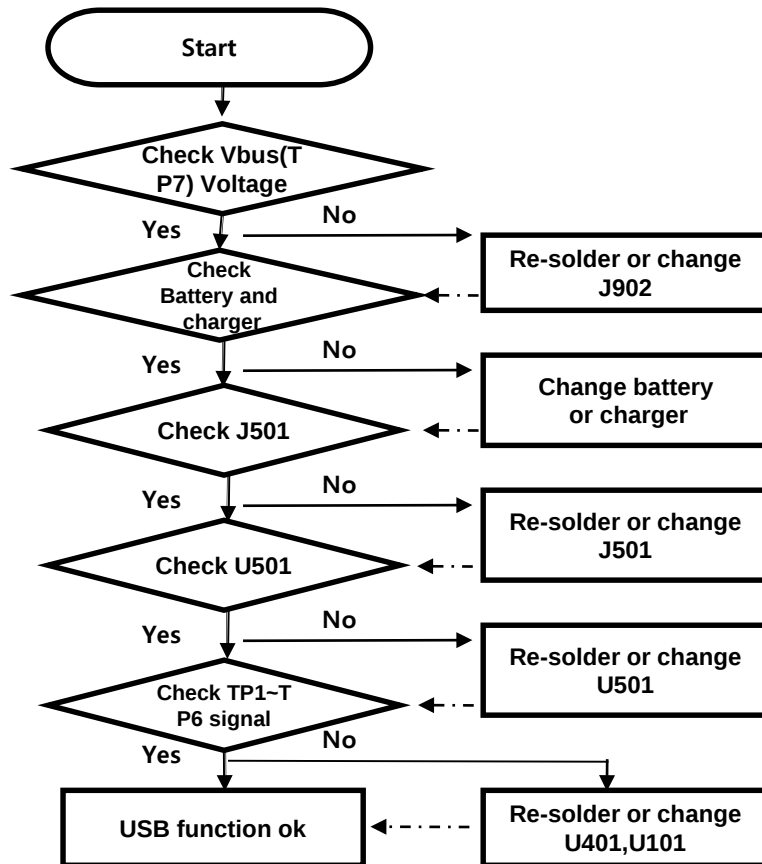


3. TROUBLE SHOOTING

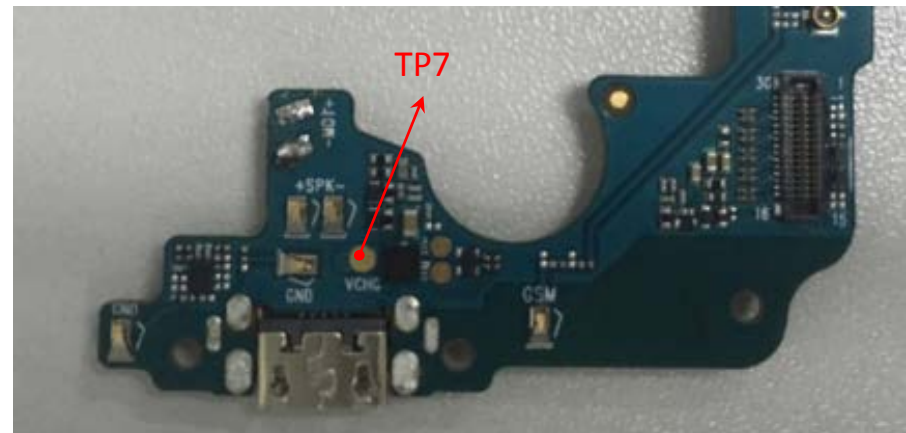
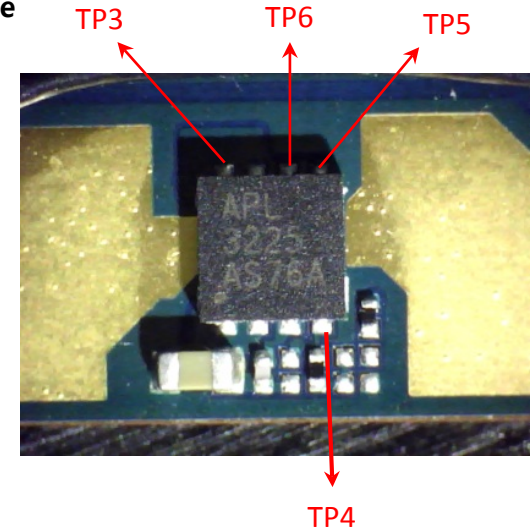
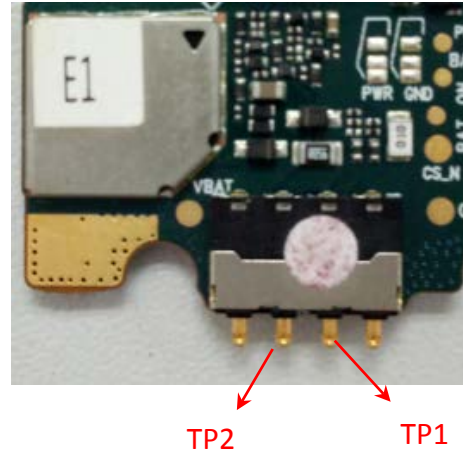
3.8 charger

The charging controlled by BB chip MT6737M U101, PMU chip MT6328(U401), charge IC APL3225(U501).

Checking Flow



Image



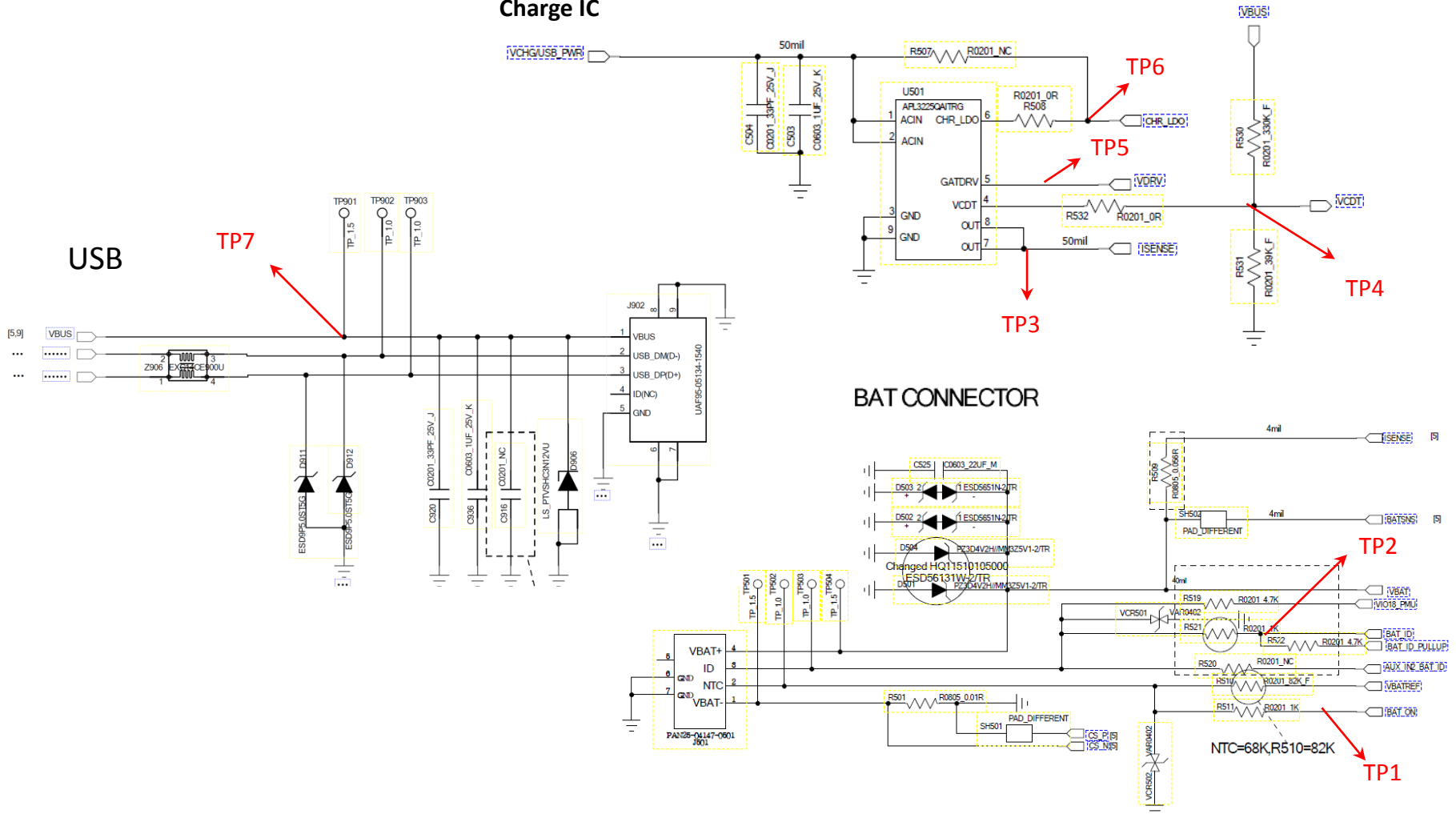
3. TROUBLE SHOOTING

3.8 Charger

The charging controlled by BB chip MT6737M U101), PMU chip MT6328(U401), charge IC APL3225(U501).

Circuit Diagram

Charge IC



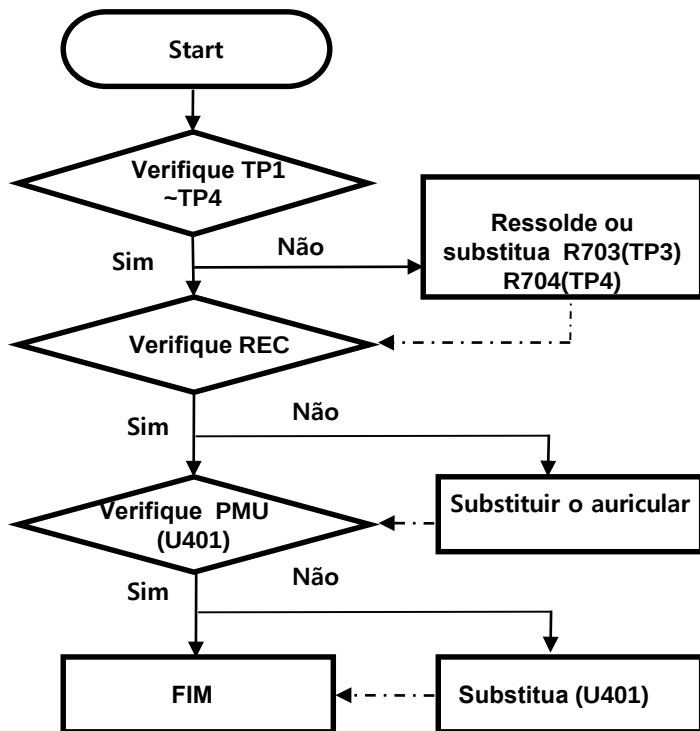
3. TROUBLE SHOOTING

3.9 Checking Audio Block

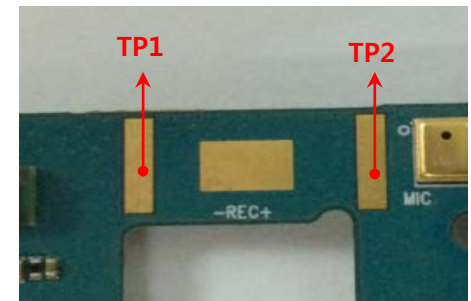
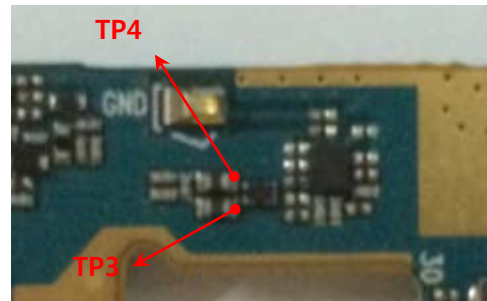
3.9.1 Audio_REC

The REC control signals are generated by PMU chip MT6328(U401), the PMU chip and the receiver are to be checked out.

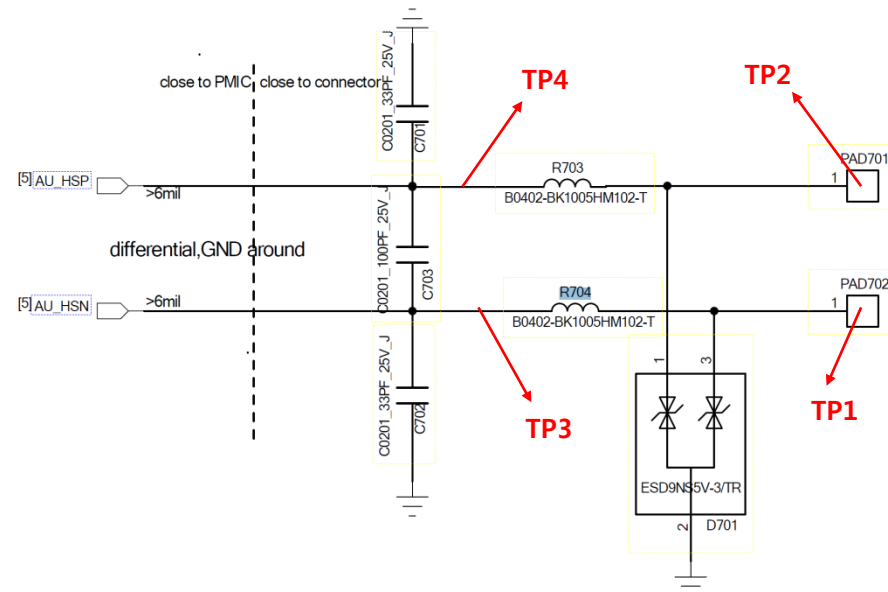
Checking Flow



Image



Circuit Diagram



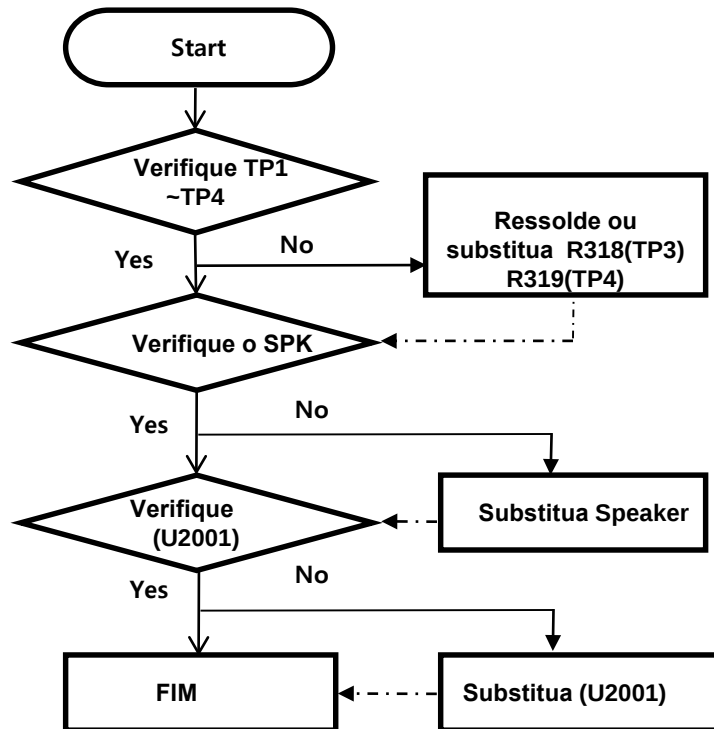
3. TROUBLE SHOOTING

3.9 Checking Audio Block

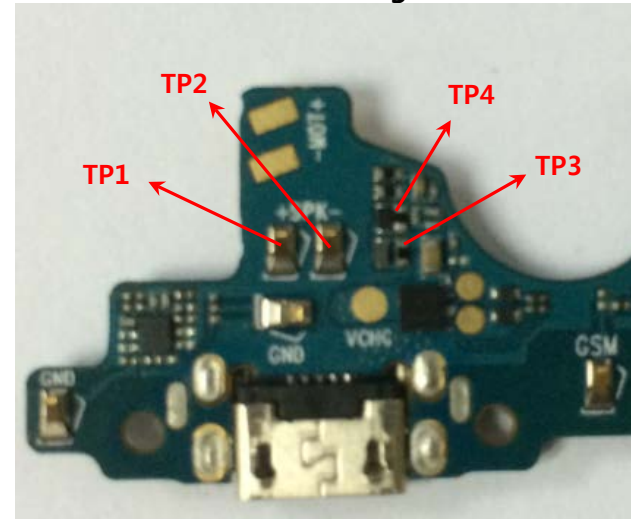
3.9.1 Audio speaker

The Speaker control signals are generated by PMU chip MT6328(U401), the PMU chip and the speaker are to be checked out.

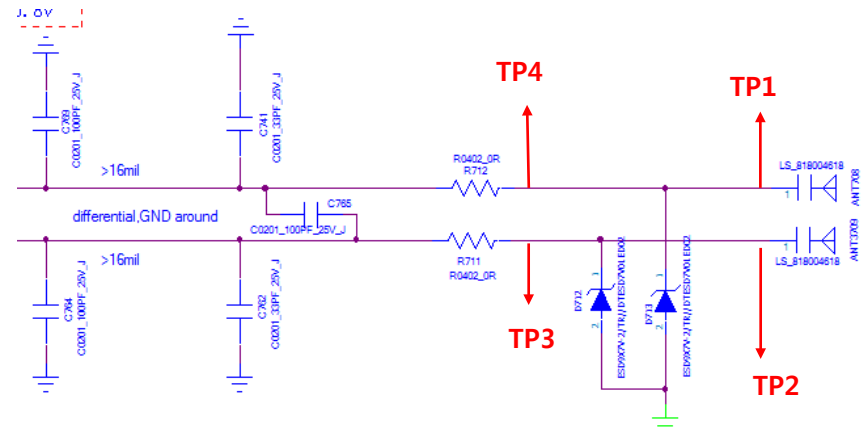
Checking Flow



Image



Circuit Diagram



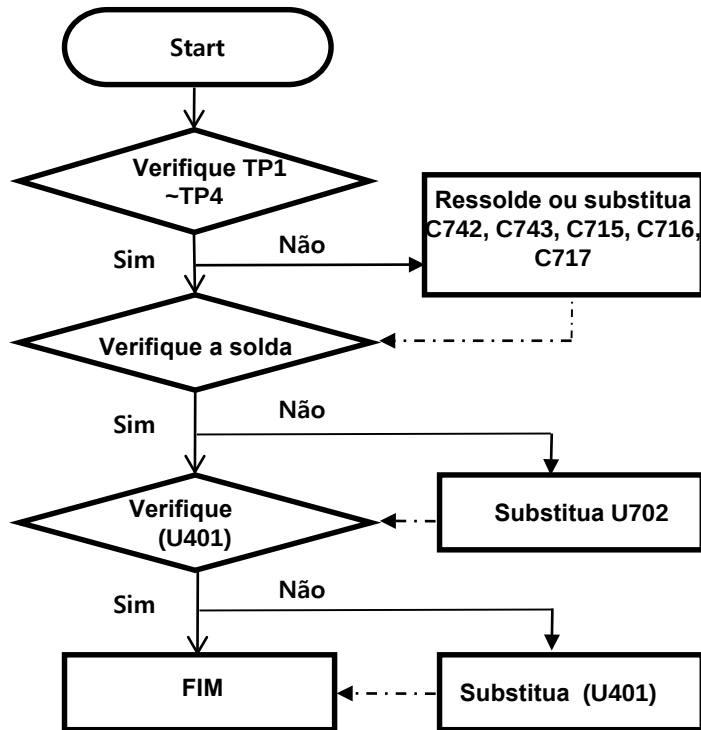
3. TROUBLE SHOOTING

3.9 Checking Audio Block

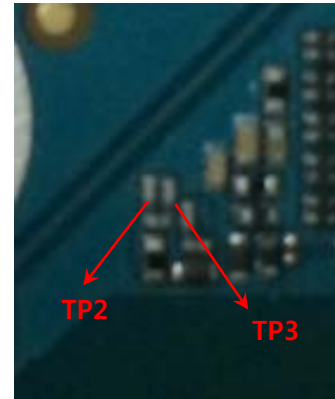
3.9.2 Audio_Main MIC

The MIC control signals are generated by PMU chip MT6328(U401), the PMU chip and the MIC are to be checked out.

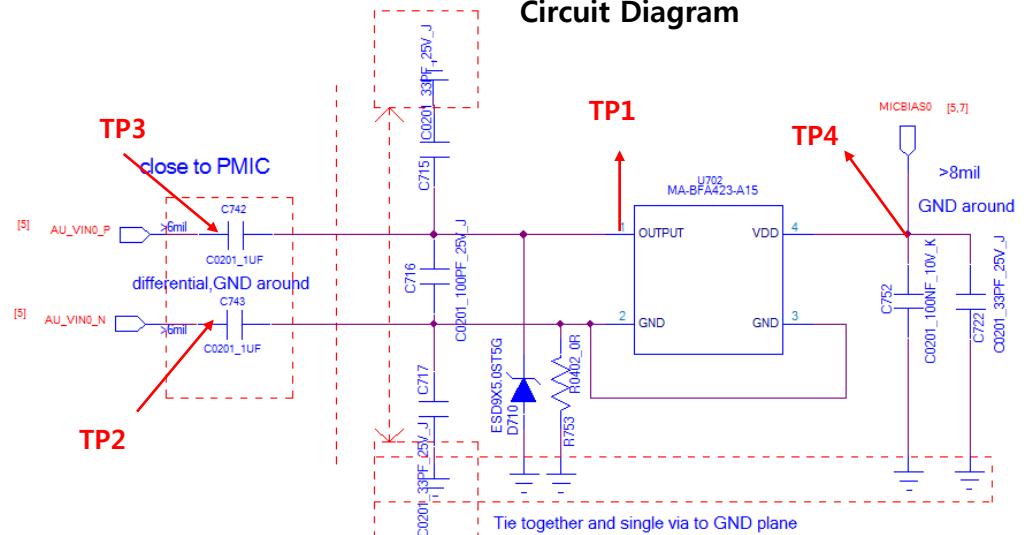
Checking Flow



Image



Circuit Diagram



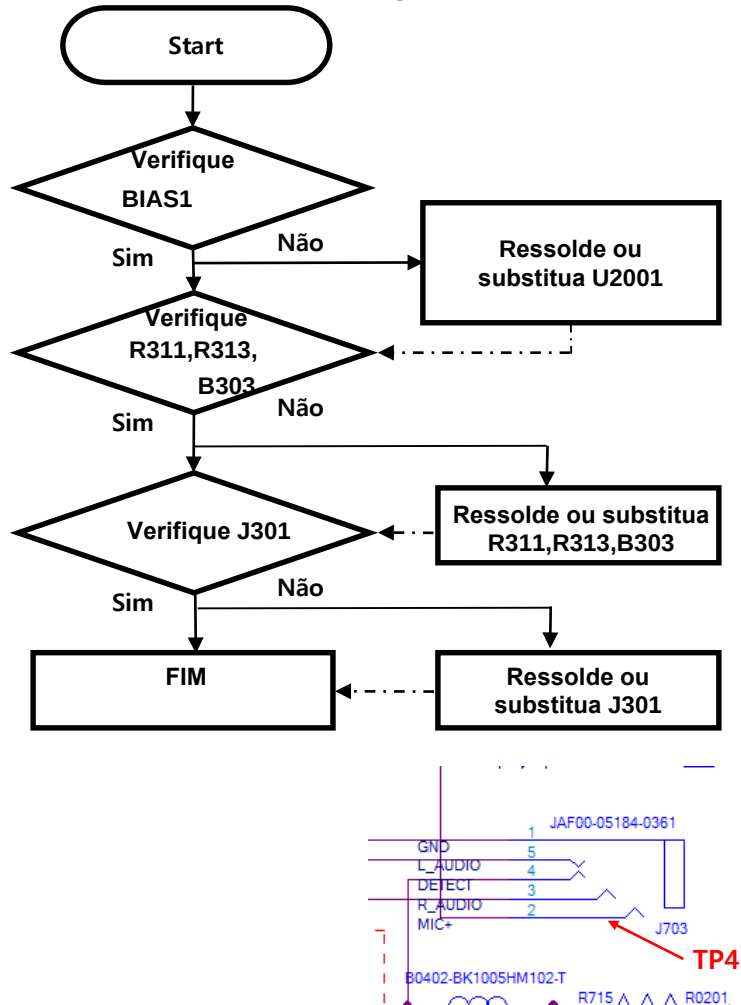
3. TROUBLE SHOOTING

3.9 Checking Audio Block

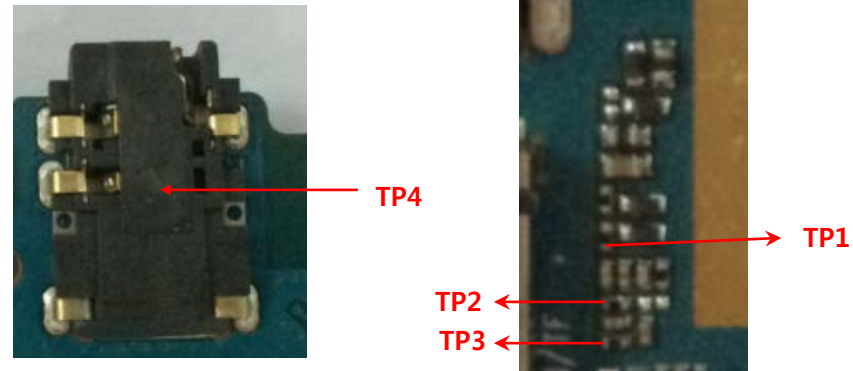
3.9.3 Audio_Ear MIC

Disable detecting headset insert or No sound from Earphone, Check the Ear Mic and PMU(U401).

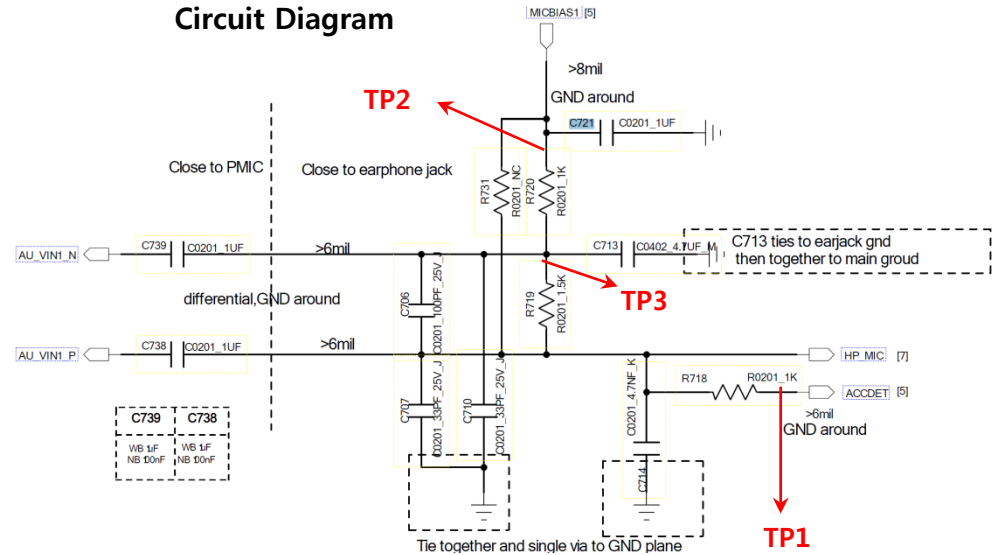
Checking Flow



Image



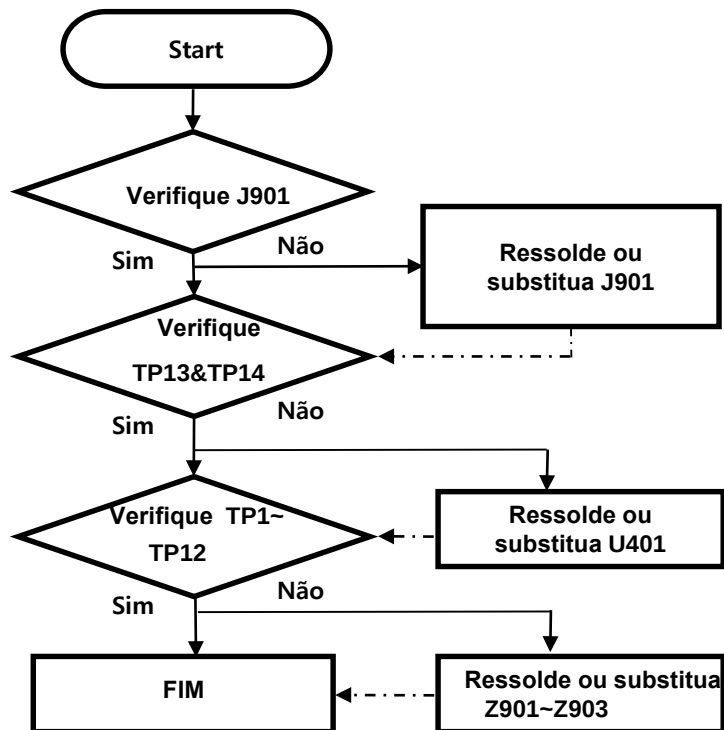
Circuit Diagram



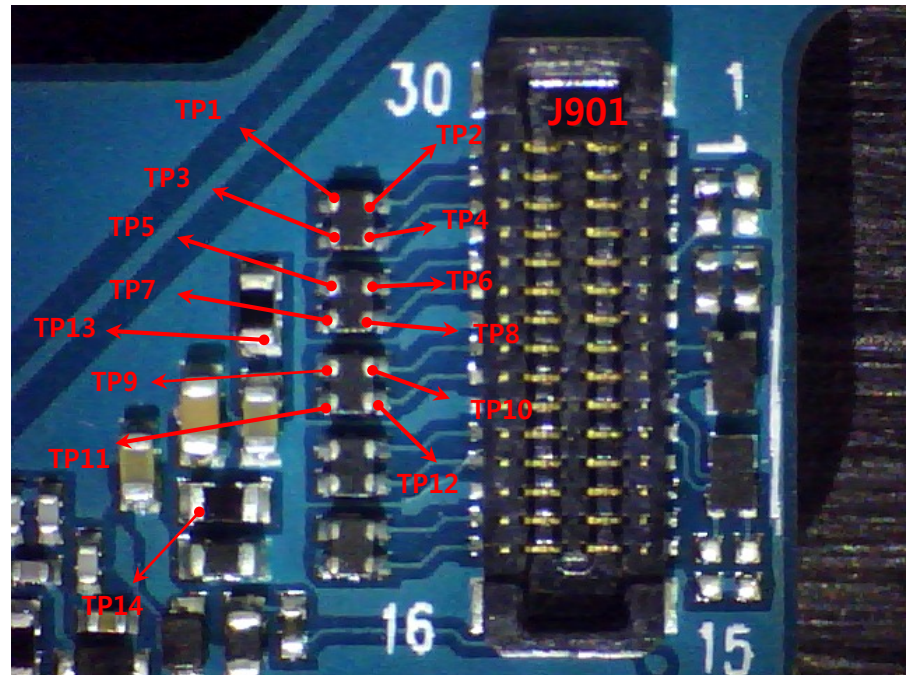
3.10 Checking LCD Block

The LCD control signals are generated by MT6737M. Its interface is MIPI having two data lanes and one clock lane.

Checking Flow



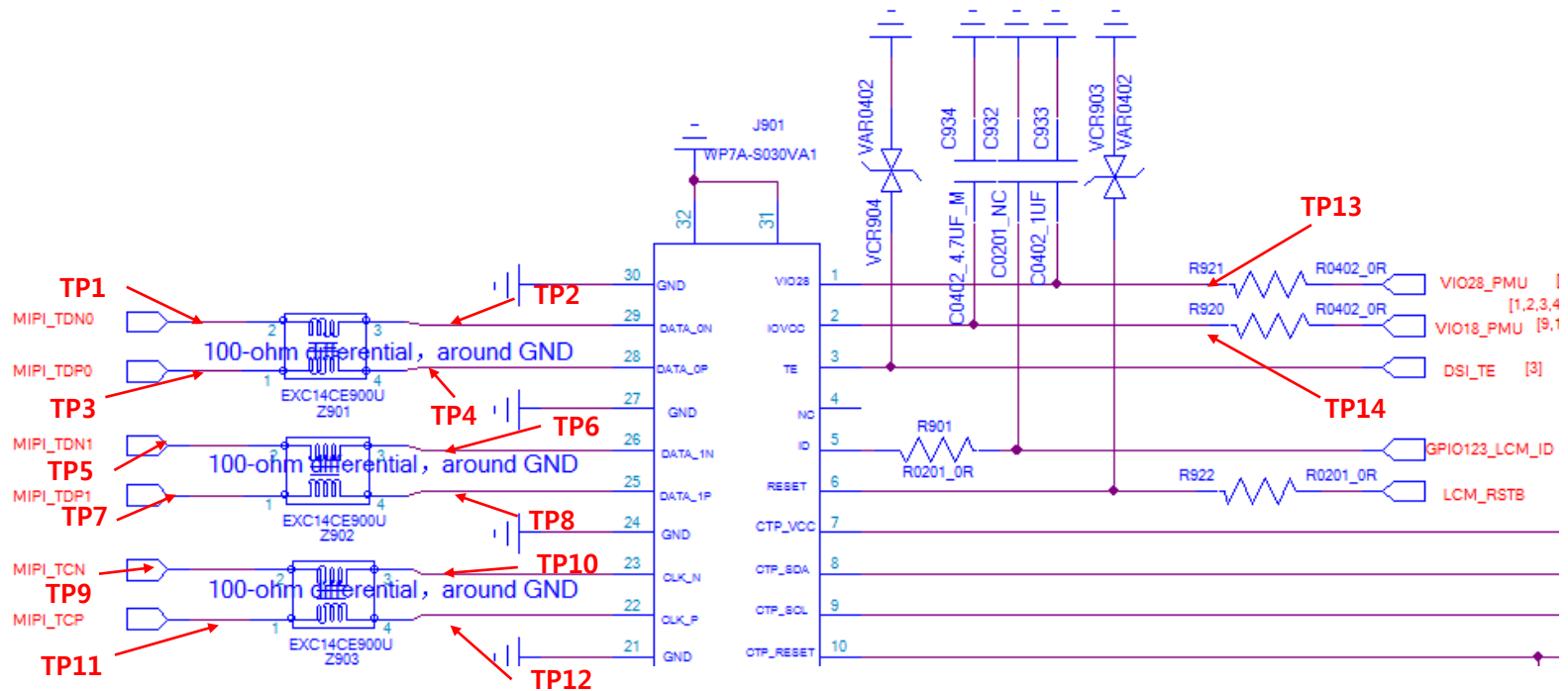
Image



3.10 Checking LCD Block

The LCD control signals are generated by MT6737M. Its interface is MIPI having two data lanes and one clock lane.

Circuit Diagram

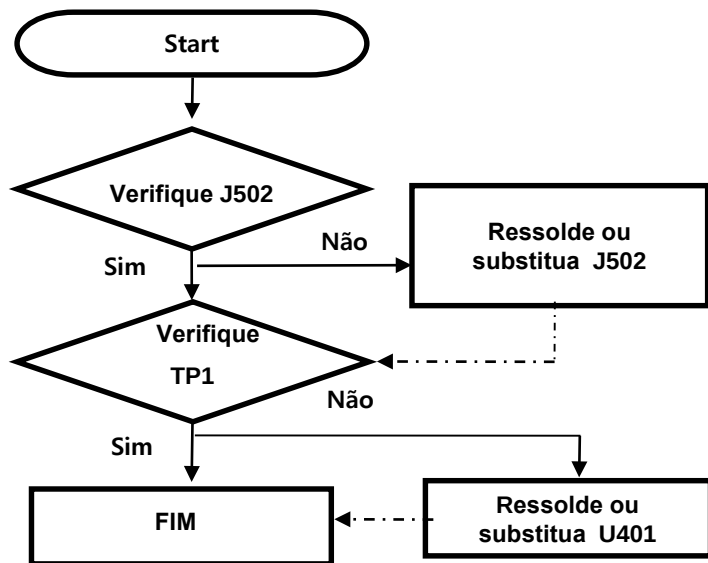


3. TROUBLE SHOOTING

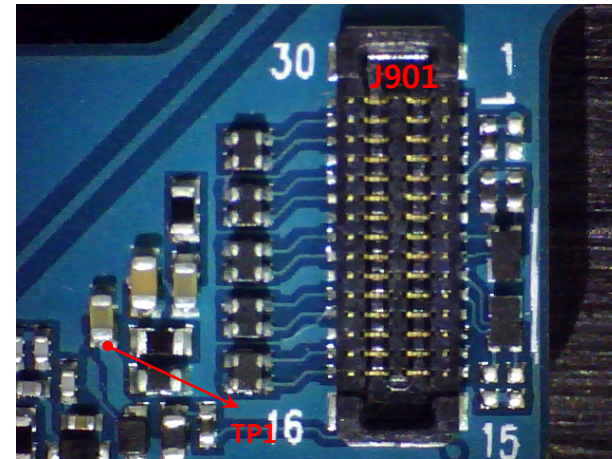
3.11 Checking Touch Block

The Touch control signals are generated by MT6737M and MT6328. It is assembled with LCD.

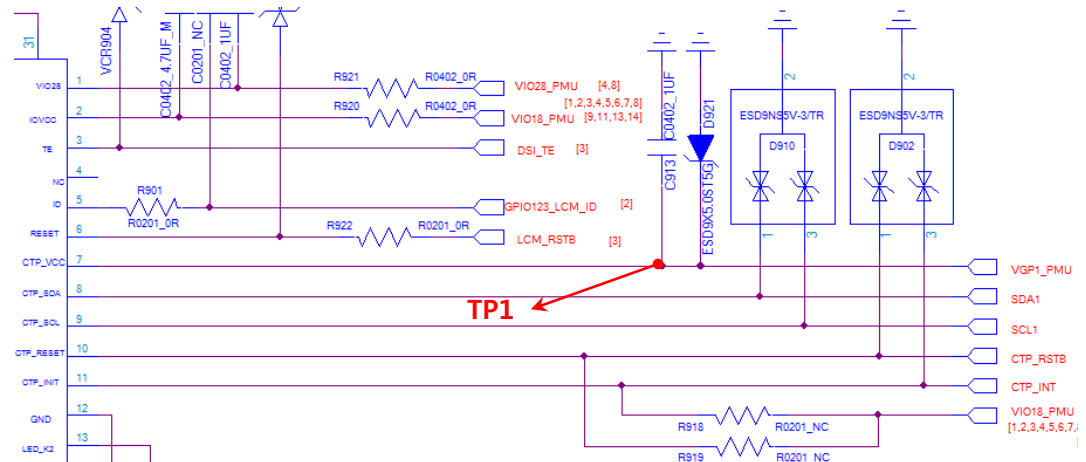
Checking Flow



Image



Circuit Diagram



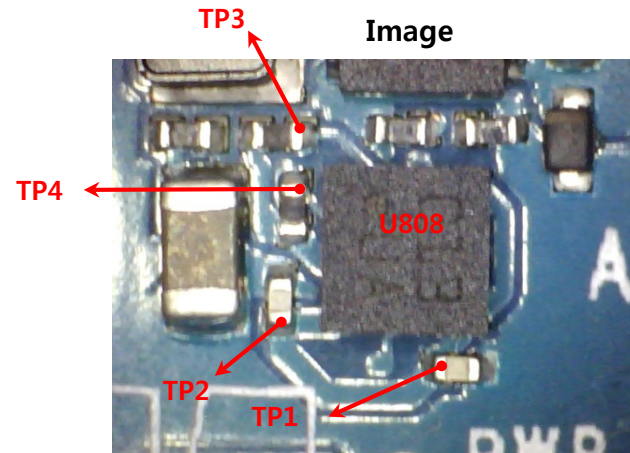
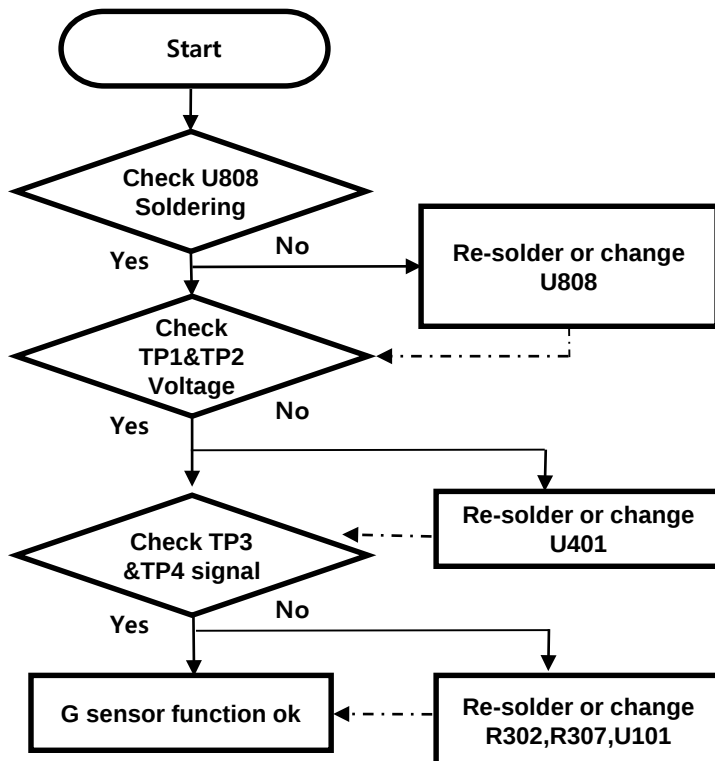
3. TROUBLE SHOOTING

3.12 Checking sensor Block

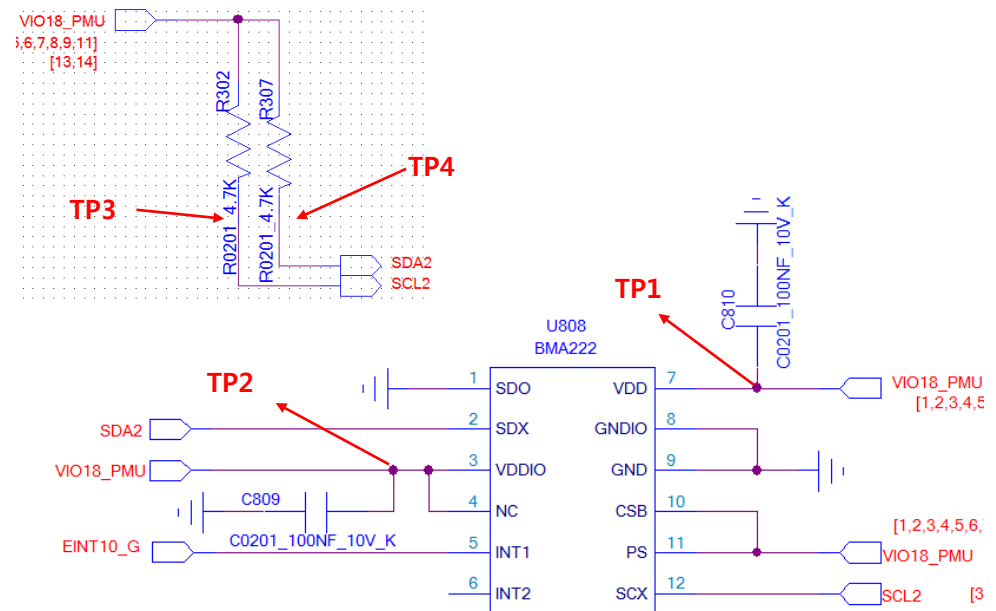
3.12.1 Checking G sensor Block

The G sensor is calibrated by using SW algorithm.

Checking Flow



Circuit Diagram



3. TROUBLE SHOOTING

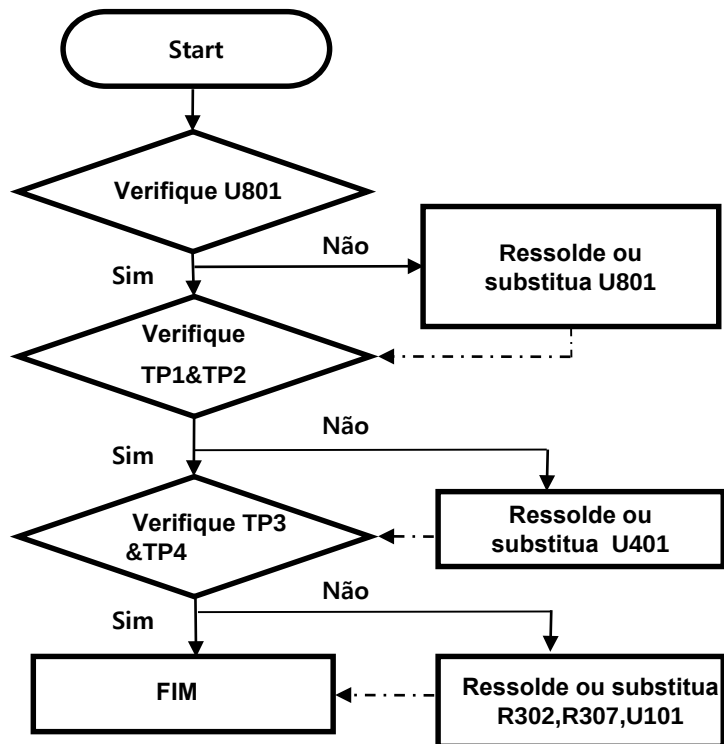
3.12 Checking sensor Block

3.12.2 Checking proximity sensor Block

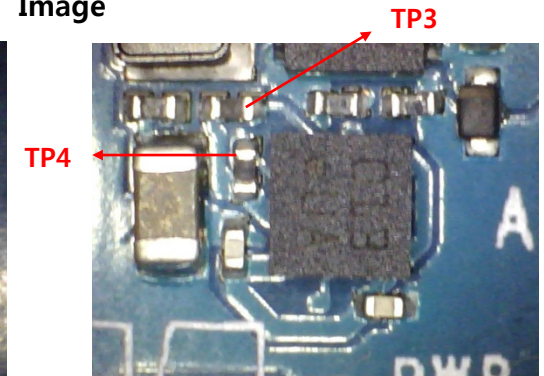
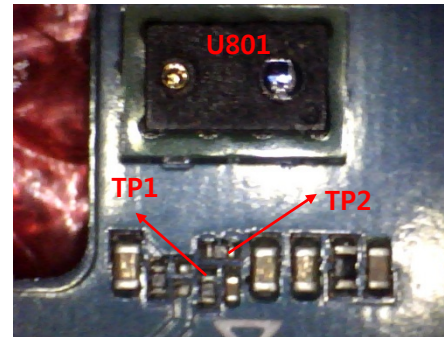
Proximity Sensor is worked as below: Send Key click ☐ Phone number click ☐ Call connected ☐ Object moved at the sensor ☐

Control the screen's on/off operation automatically

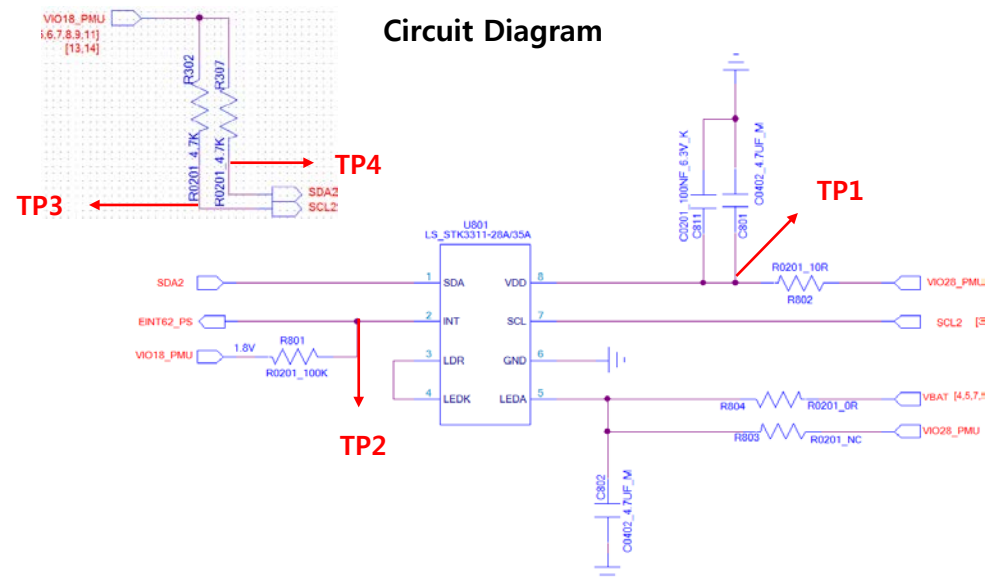
Checking Flow



Image



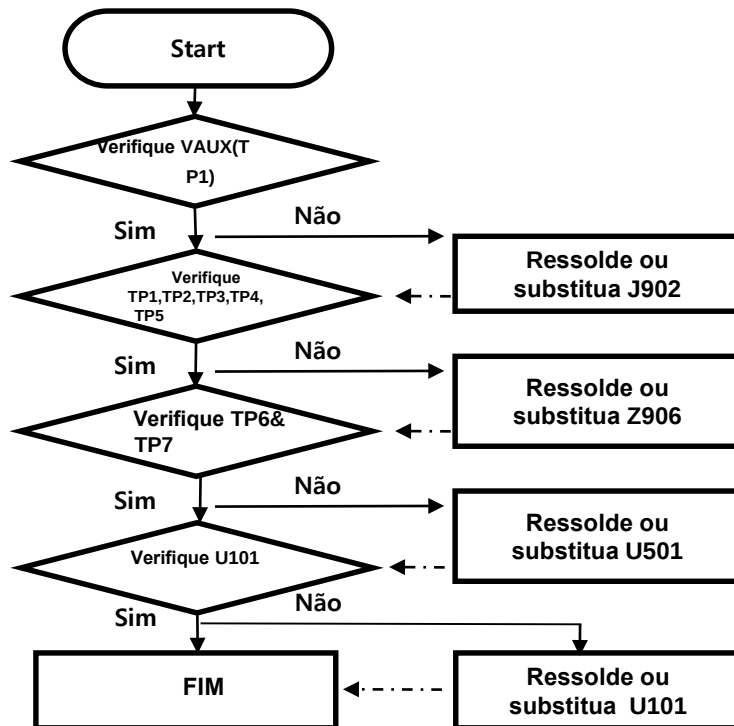
Circuit Diagram



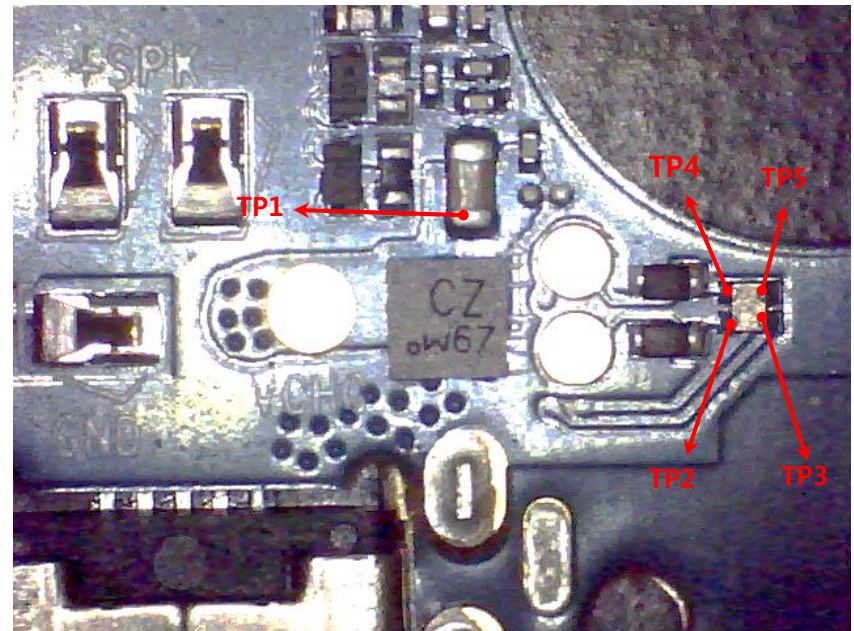
3.13 Checking USB Block

I/O connector is used as the USB port.

Checking Flow



Image

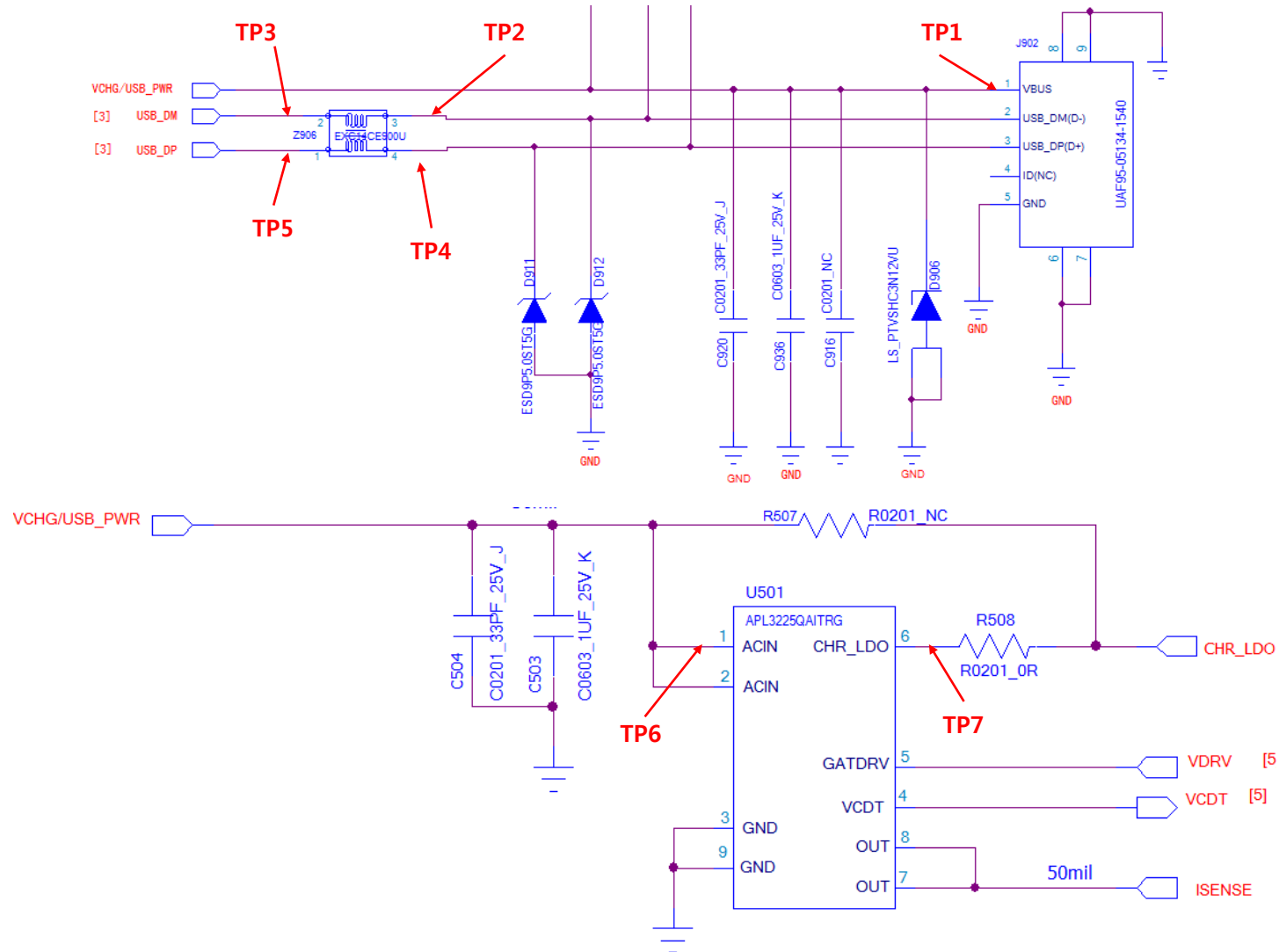


**Circuit Diagram
: Next Page**

3.13 Checking USB Block

I/O connector is used as the USB port.

Circuit Diagram

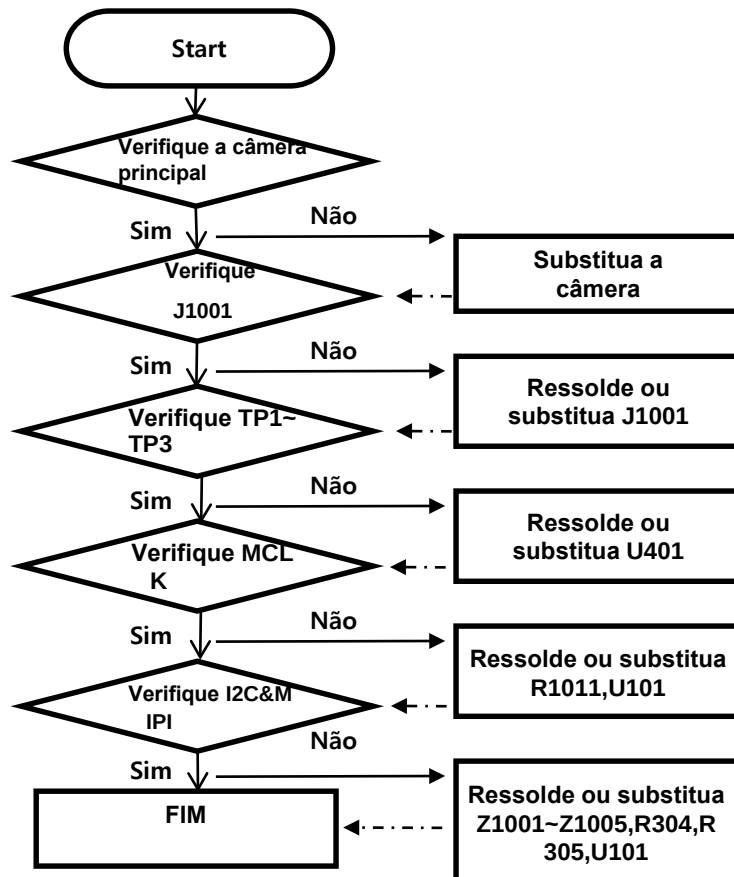


3.14 Checking camera Block

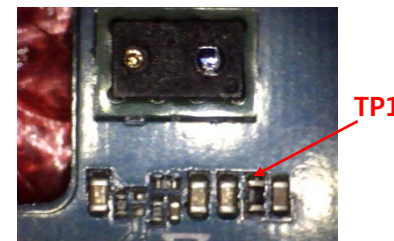
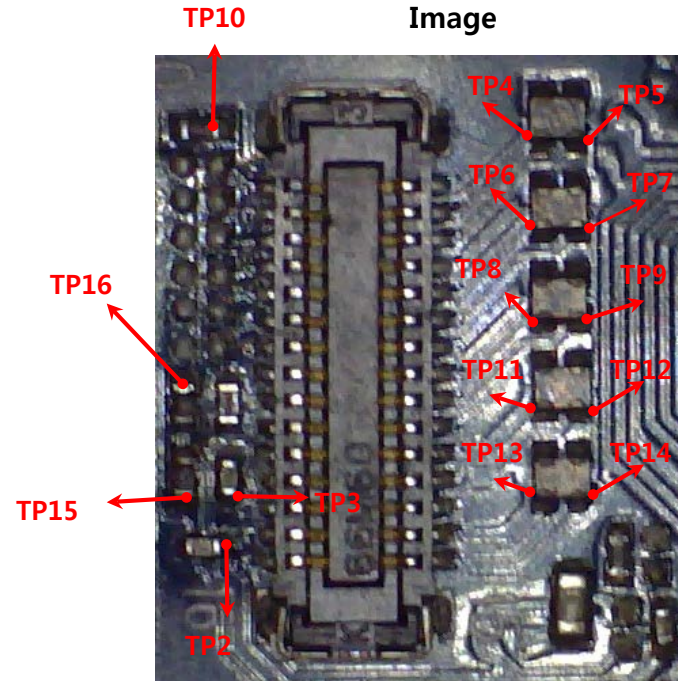
3.14.1 Checking Main camera Block

8M FF camera control signals are generated by MT6737M(U101). And powered by PMU(U401).

Checking Flow



Image



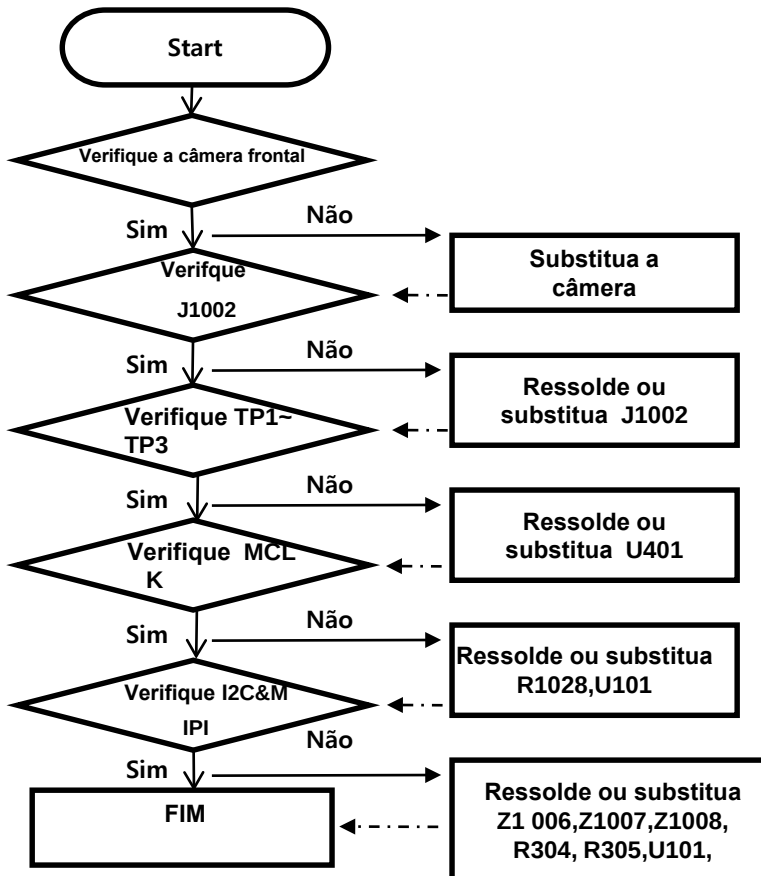
**Circuit Diagram
: Next Page**

3.14 Checking camera Block

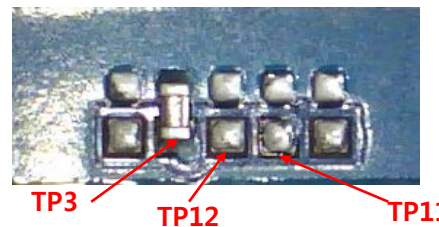
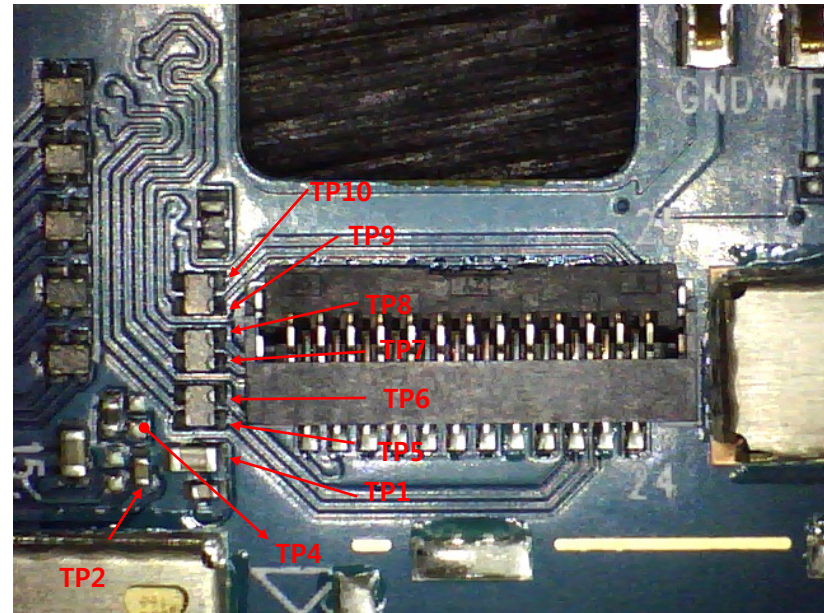
3.14.2 Checking sub camera Block

Sub camera control signals are generated by MT6737M(U101). And powered by PMU(U401).

Checking Flow



Image



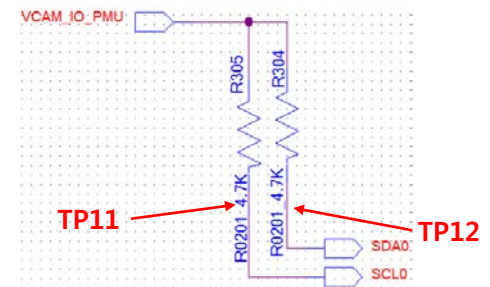
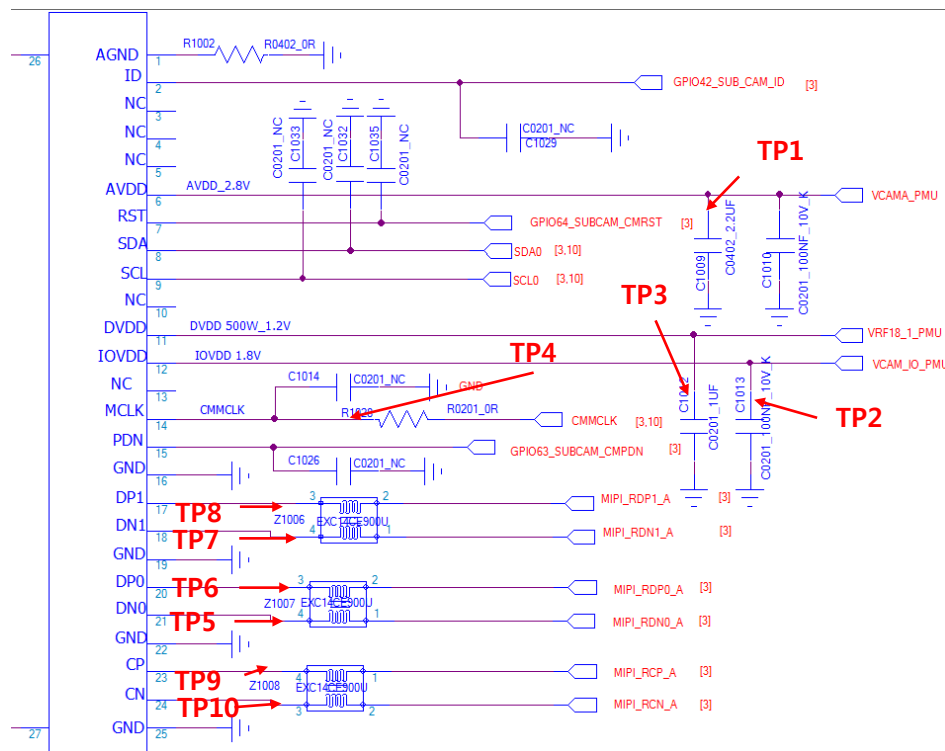
**Circuit Diagram
: Next Page**

3.14 Checking camera Block

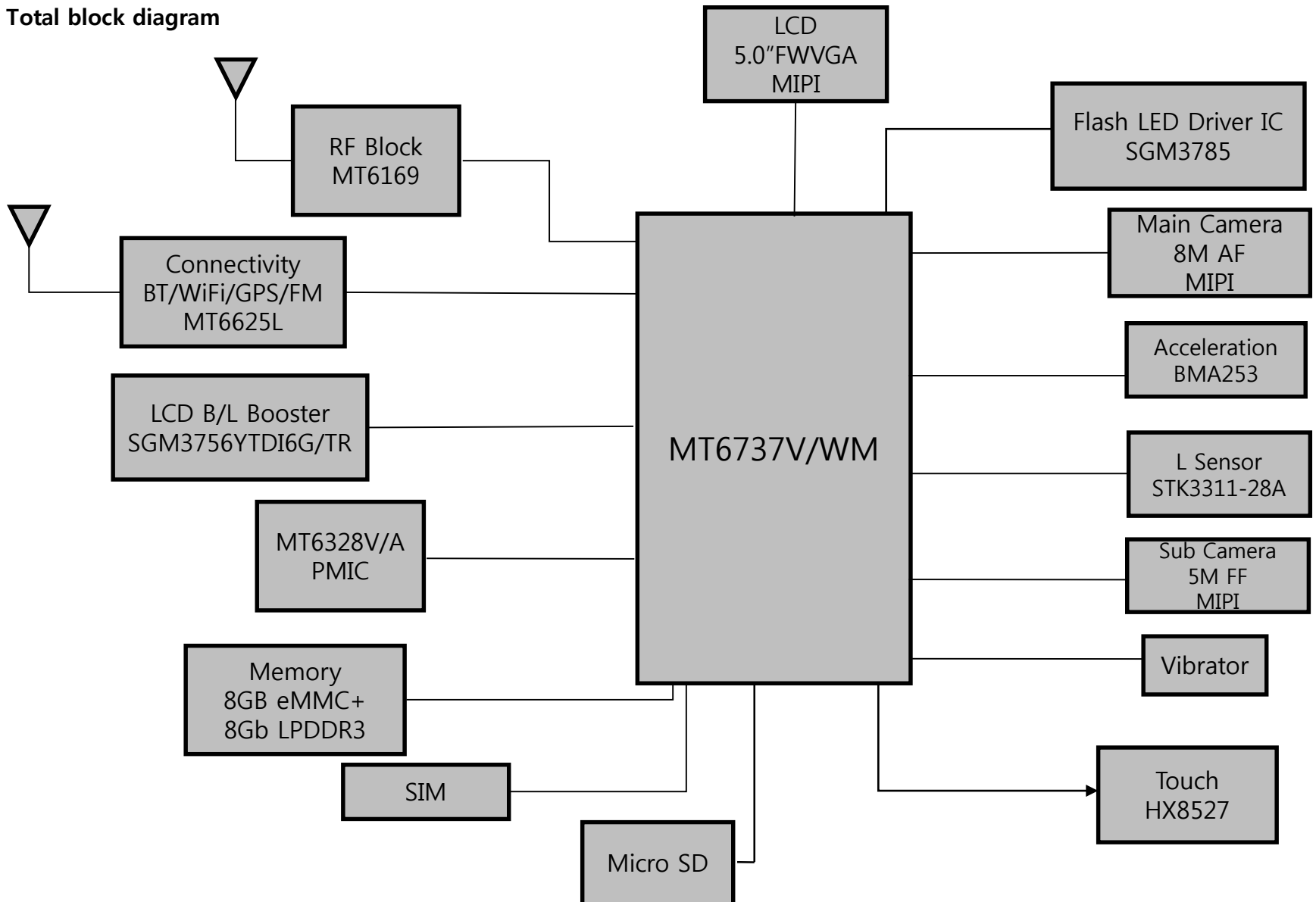
3.14.2 Checking sub camera Block

Sub camera control signals are generated by MT6737M(U101). And powered by PMU(U401).

Circuit Diagram

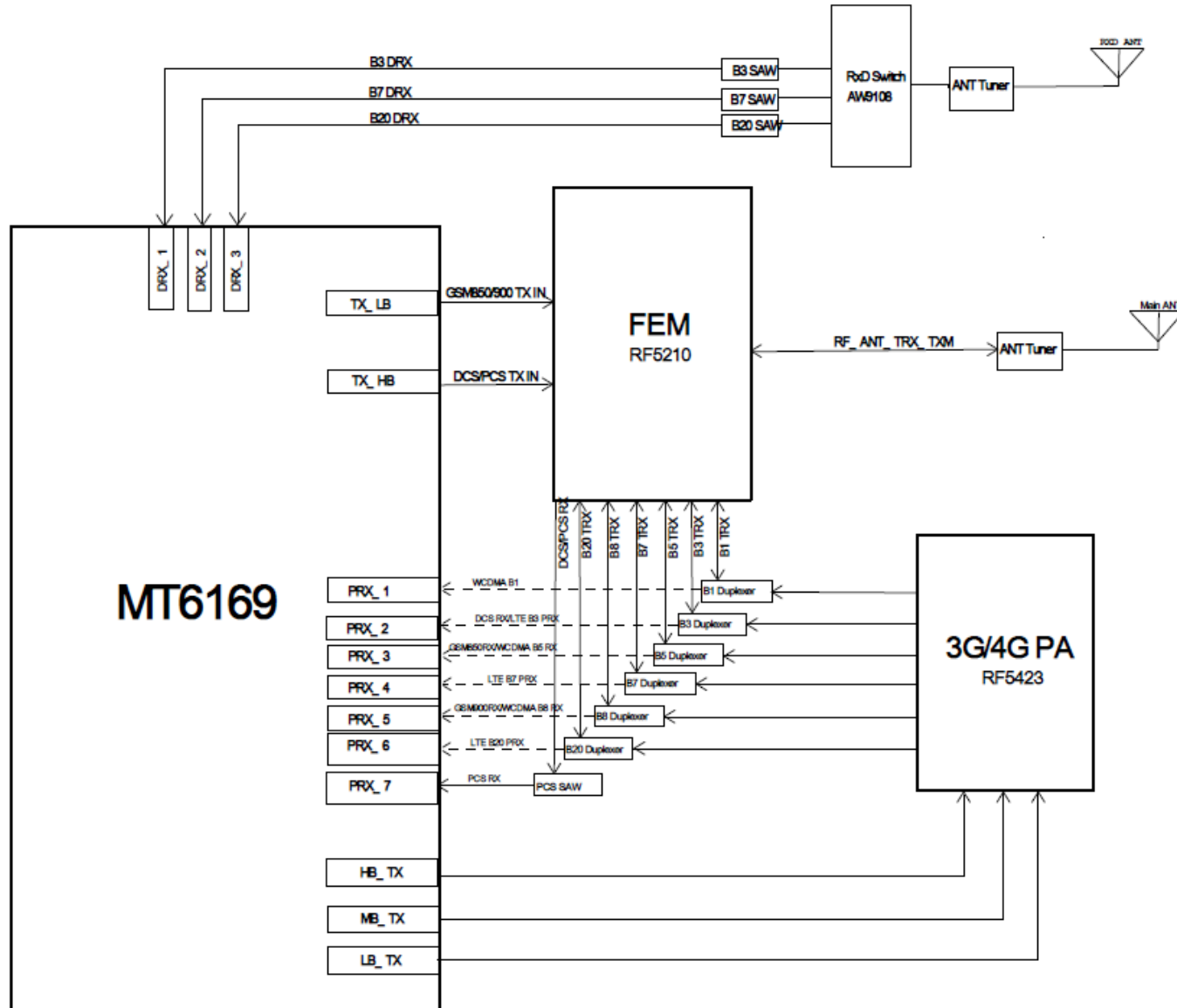


1. Total block diagram



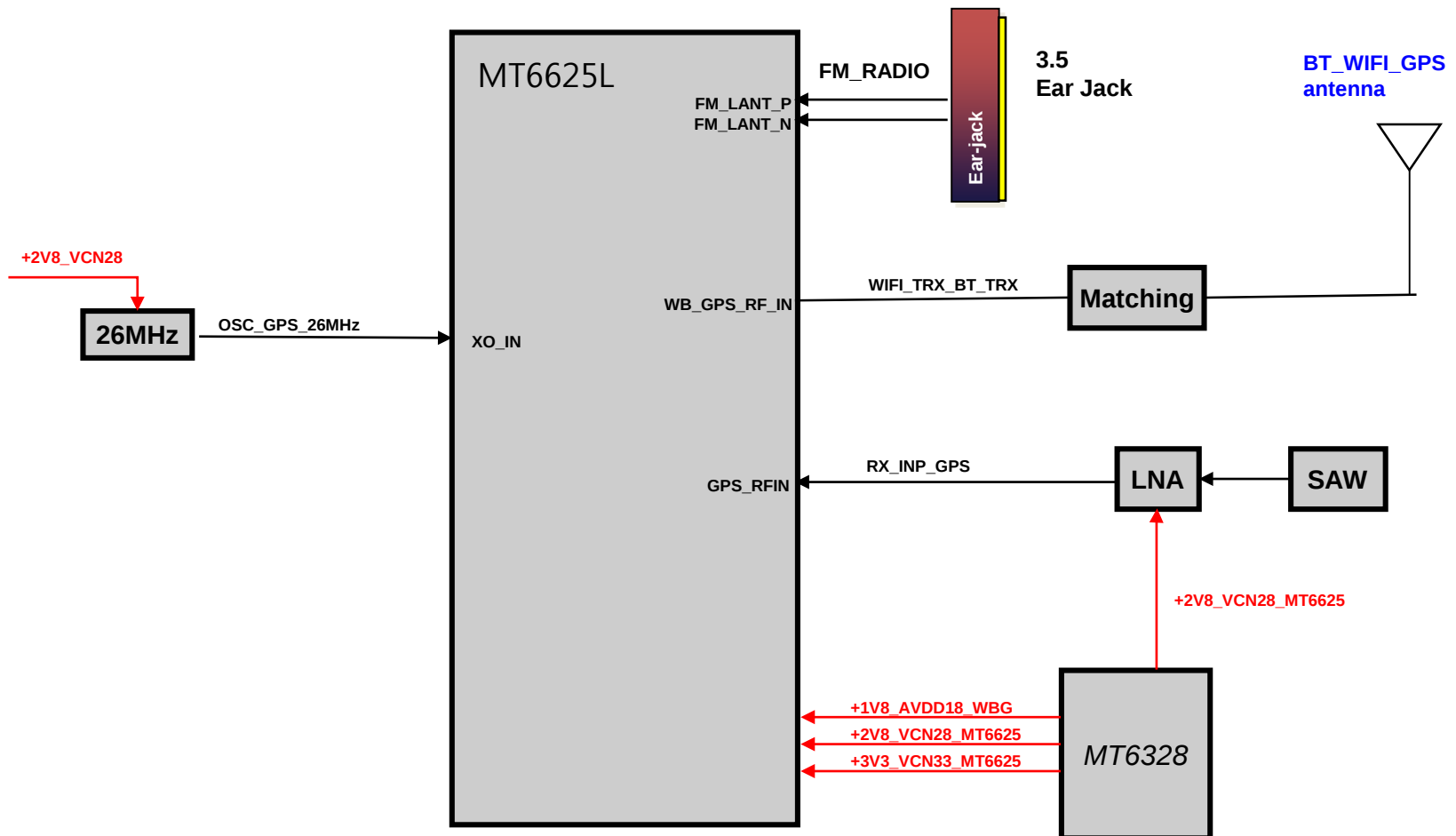
4. BLOCK DIAGRAM

2. RF Main

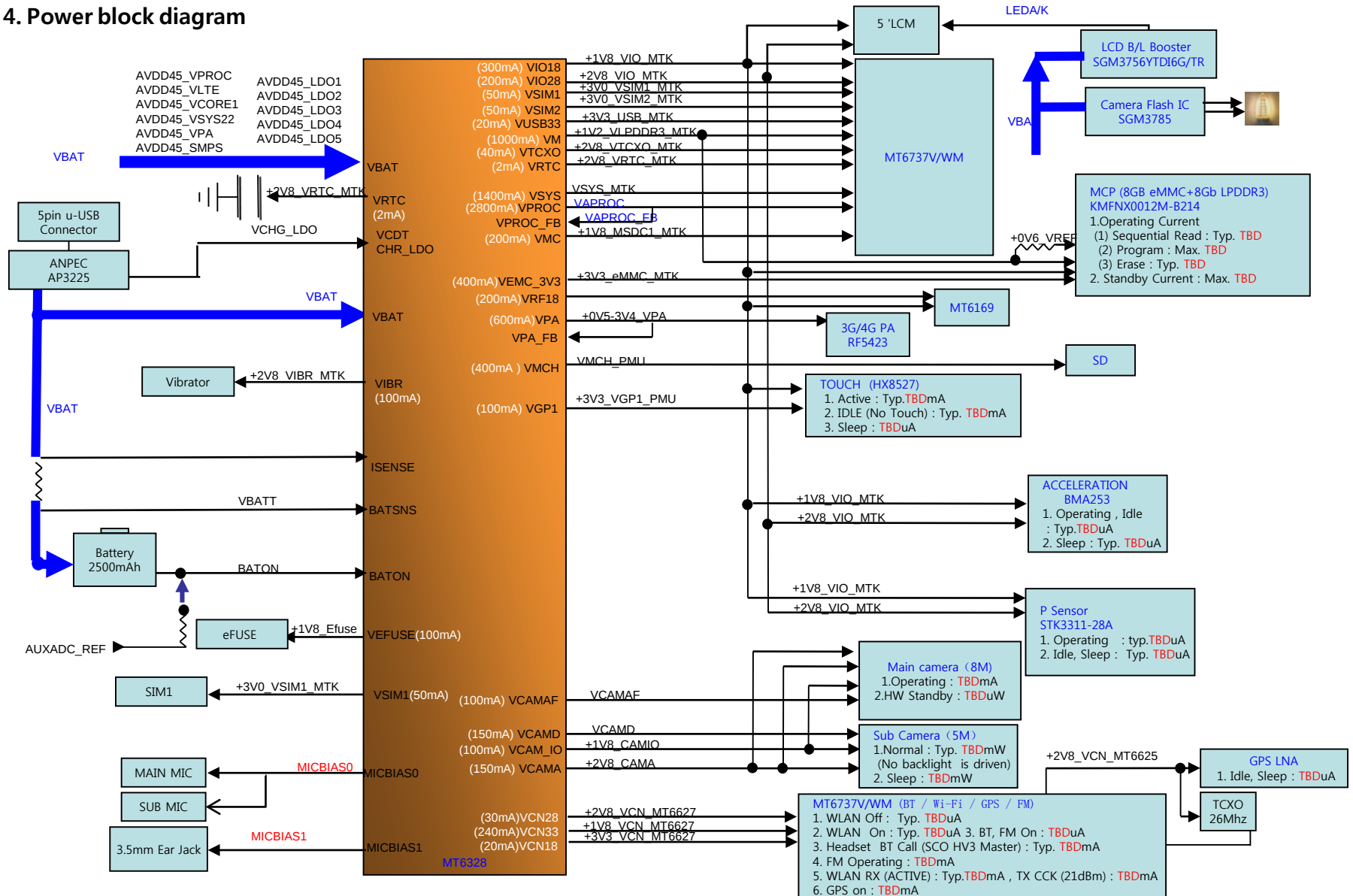


4. BLOCK DIAGRAM

3. Connectivity (BT / WIFI / FM RADIO)

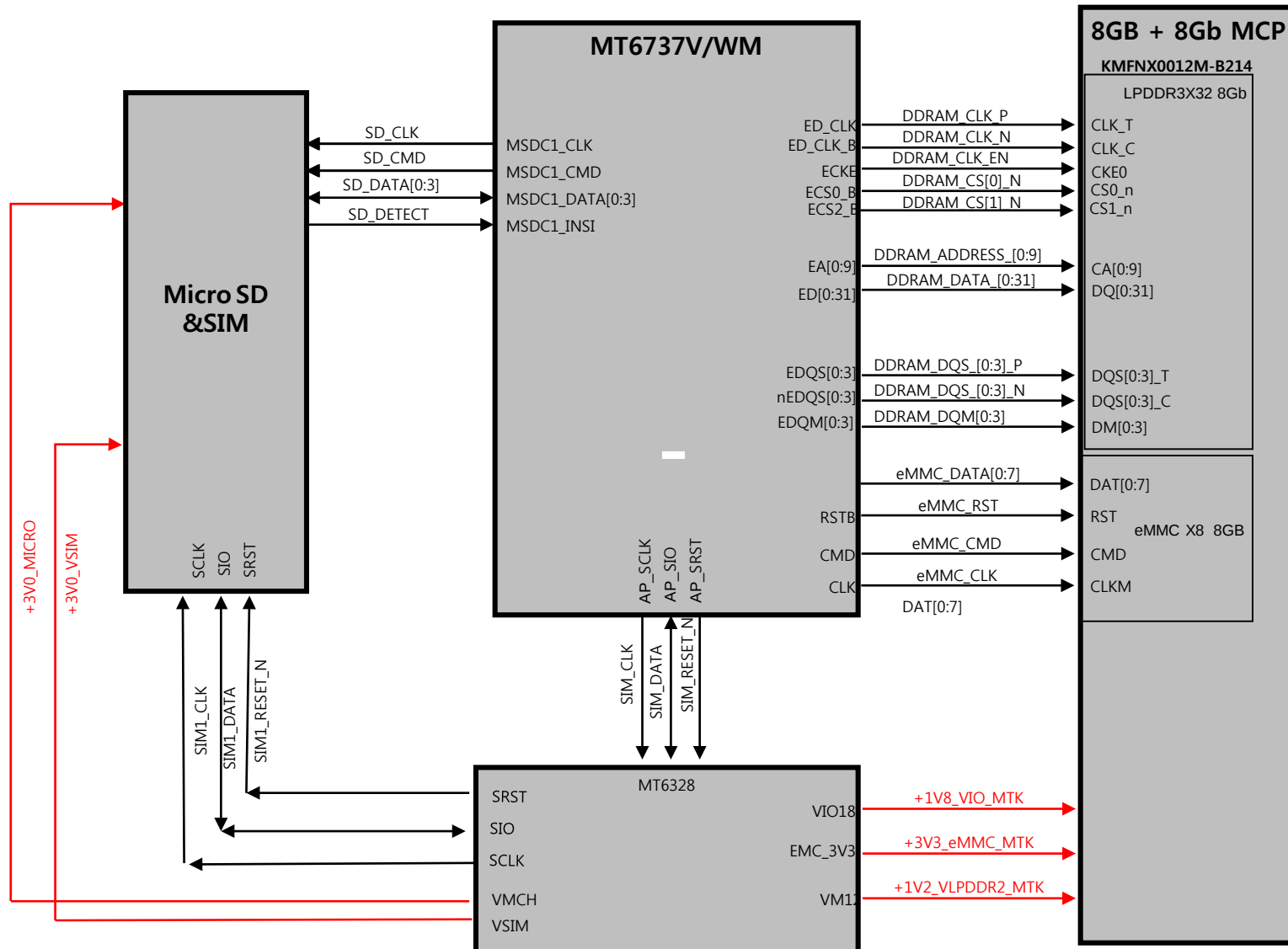


4. Power block diagram



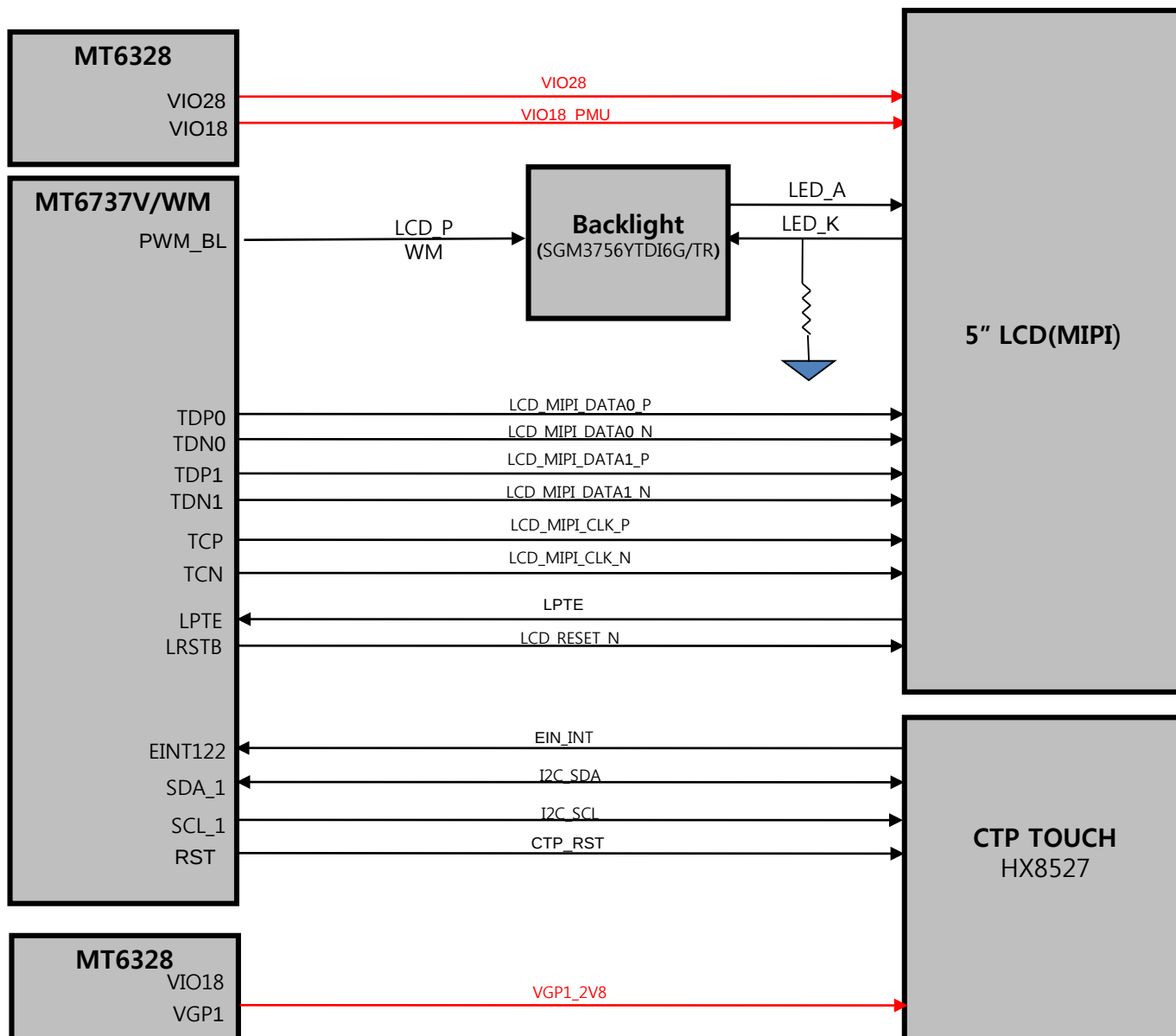
4. BLOCK DIAGRAM

5.Memory, MICRO-SD, USIM



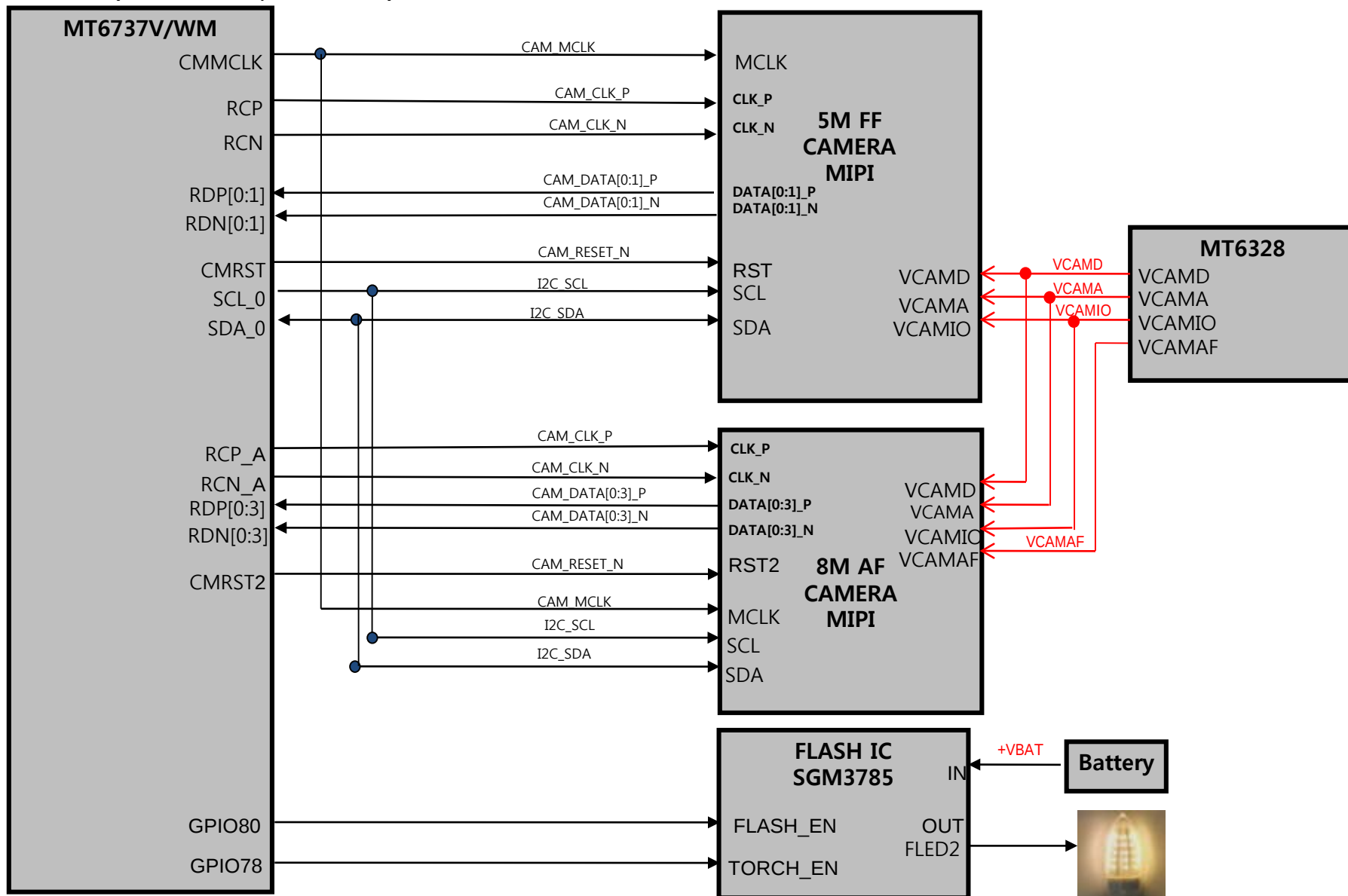
4. BLOCK DIAGRAM

6. LCD(INCELL TOUCH)

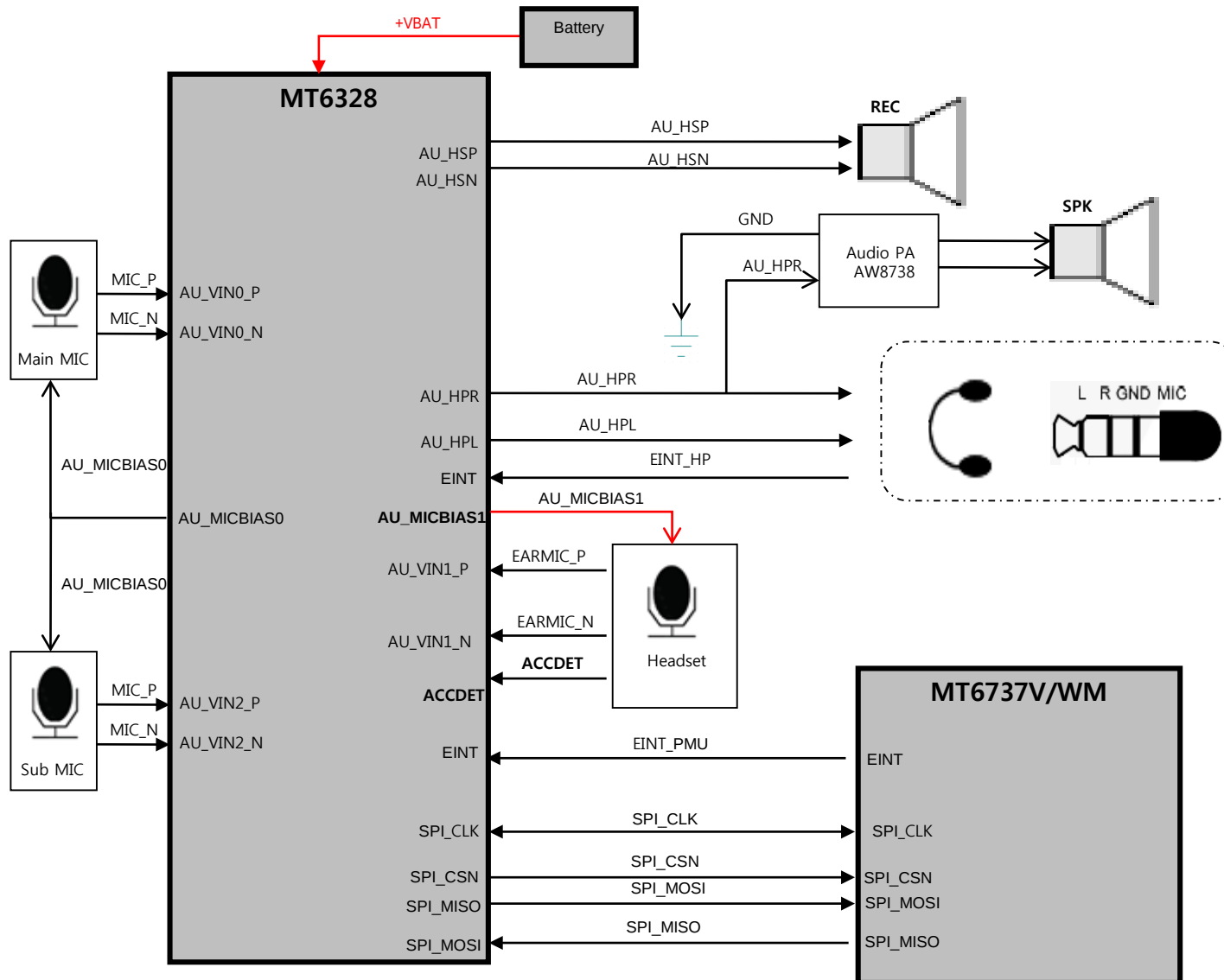


4. BLOCK DIAGRAM

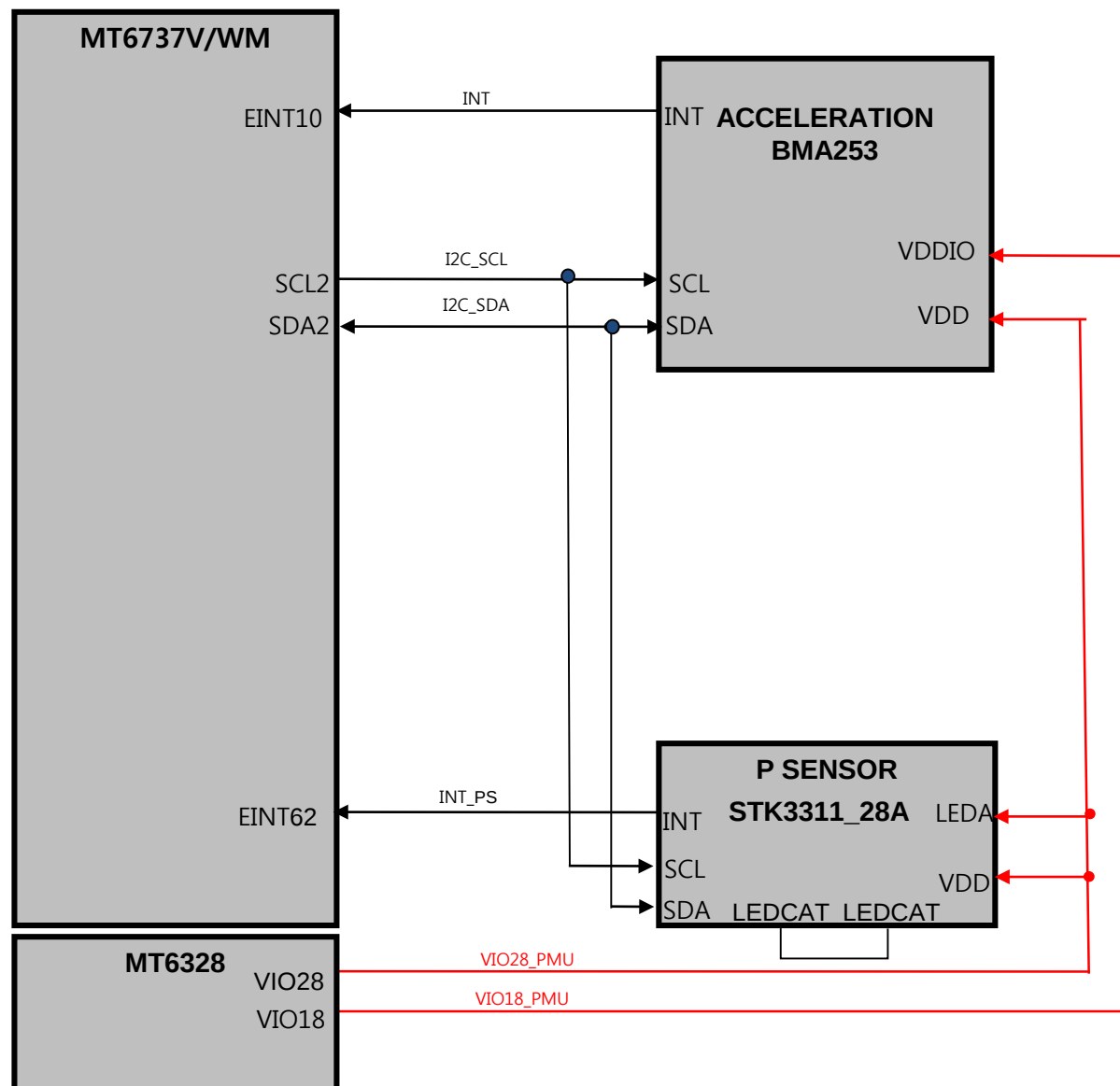
7. Camera (Main:8M AF,Sub:5M FF)



8. AUDIO



9. SENSORS

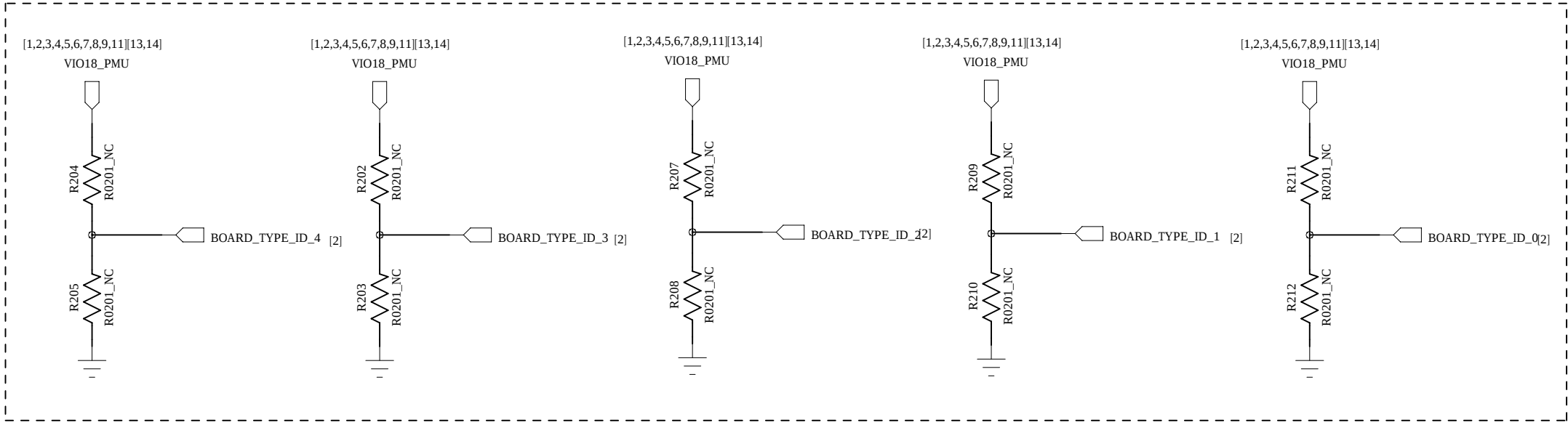


CIRCUIT DIAGRAM



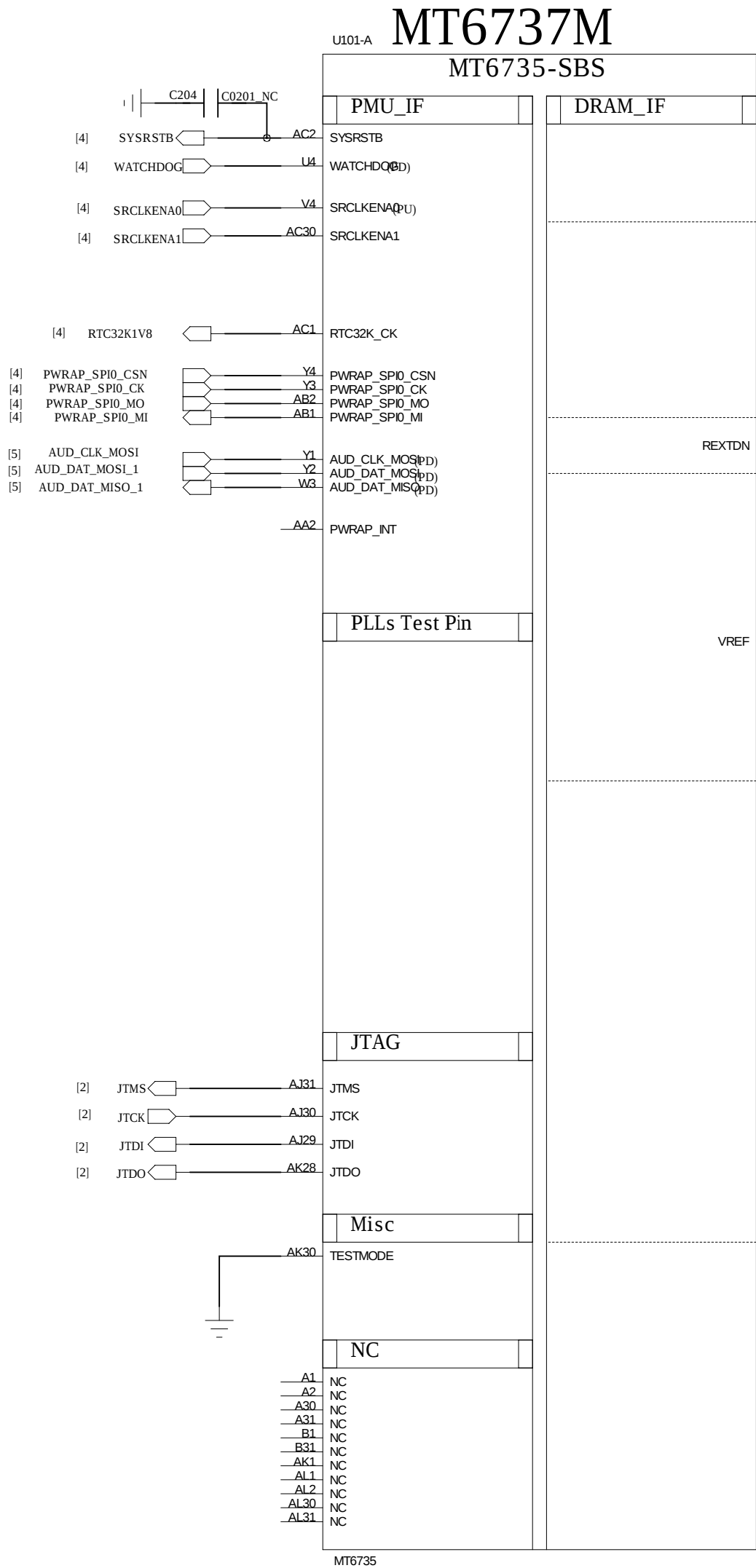
Adobe Acrobat
国 産

PCBA ID

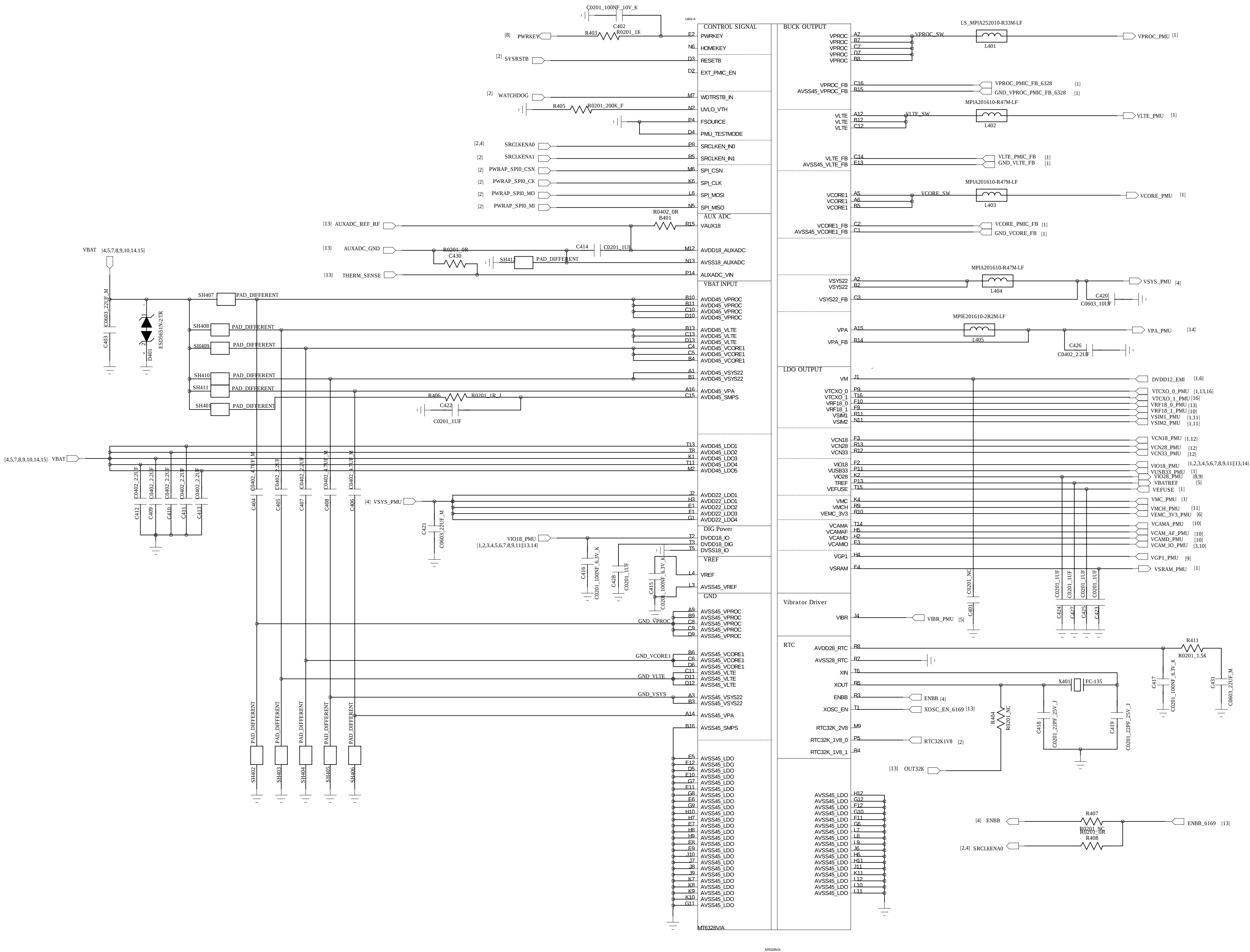


REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:

Model	Variant	SS/DS	Hardware Seting	Note
X240Z	South Africa	SS	R208/R210/R212-R204	000-1
X240DS	Brazil	DS	R208/R210/R211-R205	001-0
X240H	Mexico	SS	R208/R209/R212-R204	010-1
X240AR	Chile/Panama Colombia/Peru Argentina	SS	R208/R209/R211-R204	011-1
X240Y	Russia Kazakhstan	DS	R207/R210/R212-R205	100-0
X240K	Singapore Philippine	DS	R207/R210/R211-R205	101-0

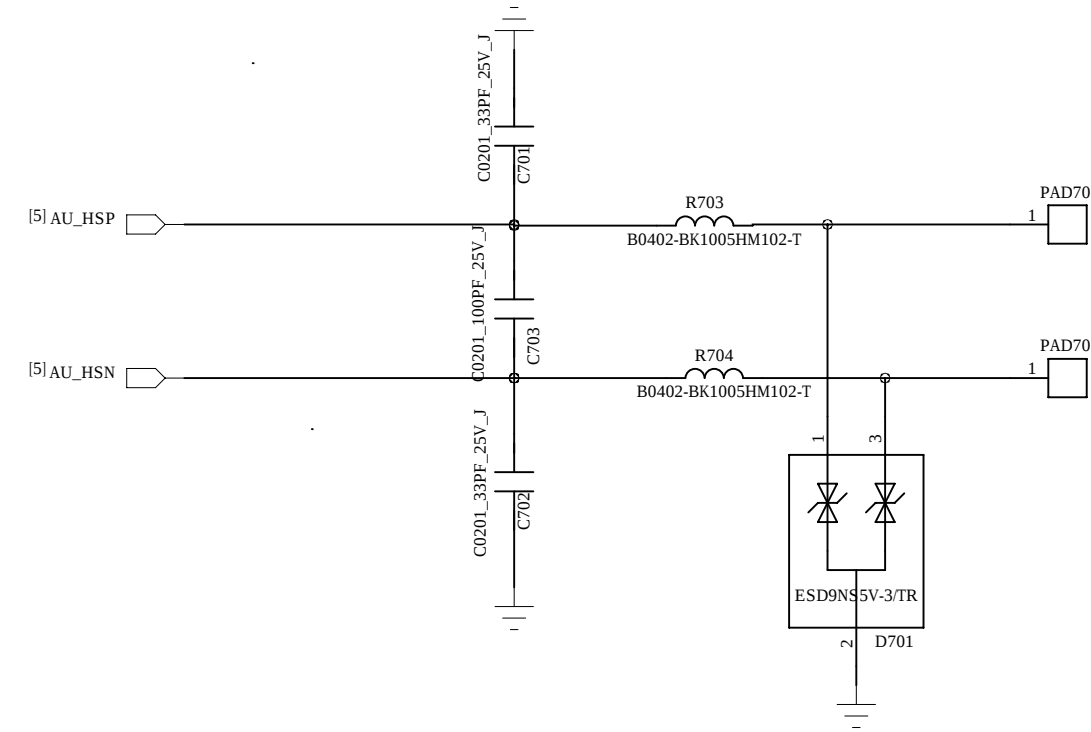


REVISION RECORD			
LTR	ECO NO.	APPROVED:	DATE:

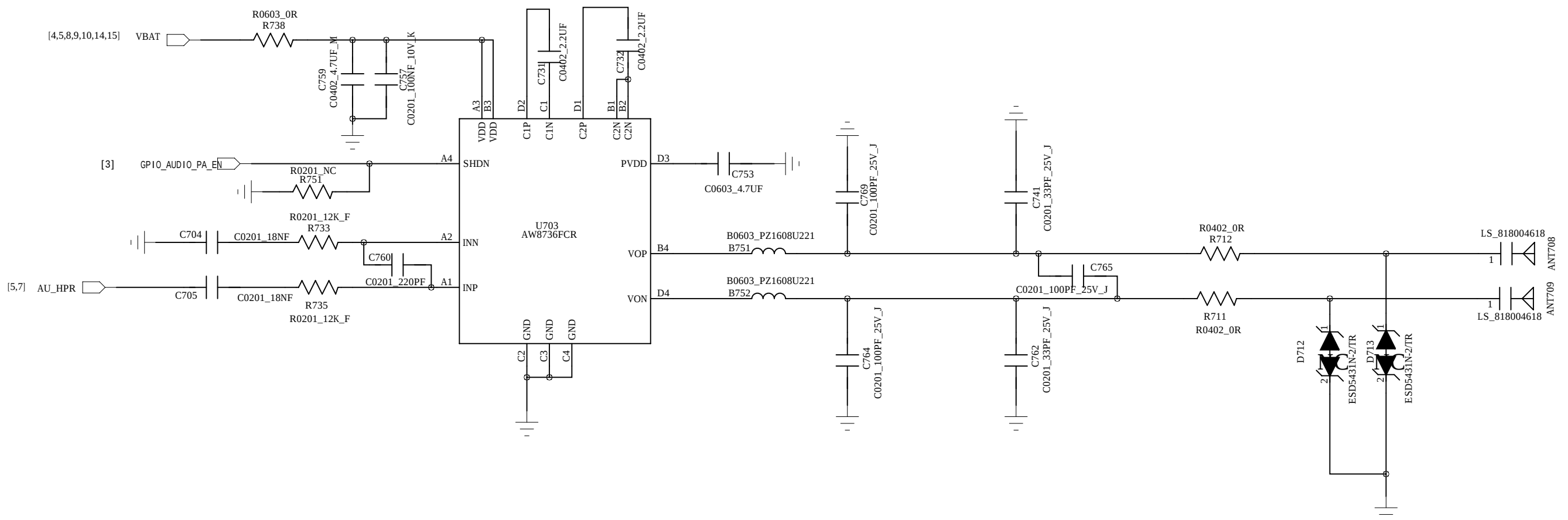


HUAQIN				MODEL:	AL1066	DRAWING NO.:	
DRAWN:		DATED		TITLE:	04.PMIC_1	VERSION:	
CHECKED		DATED				SHEET:	4/19

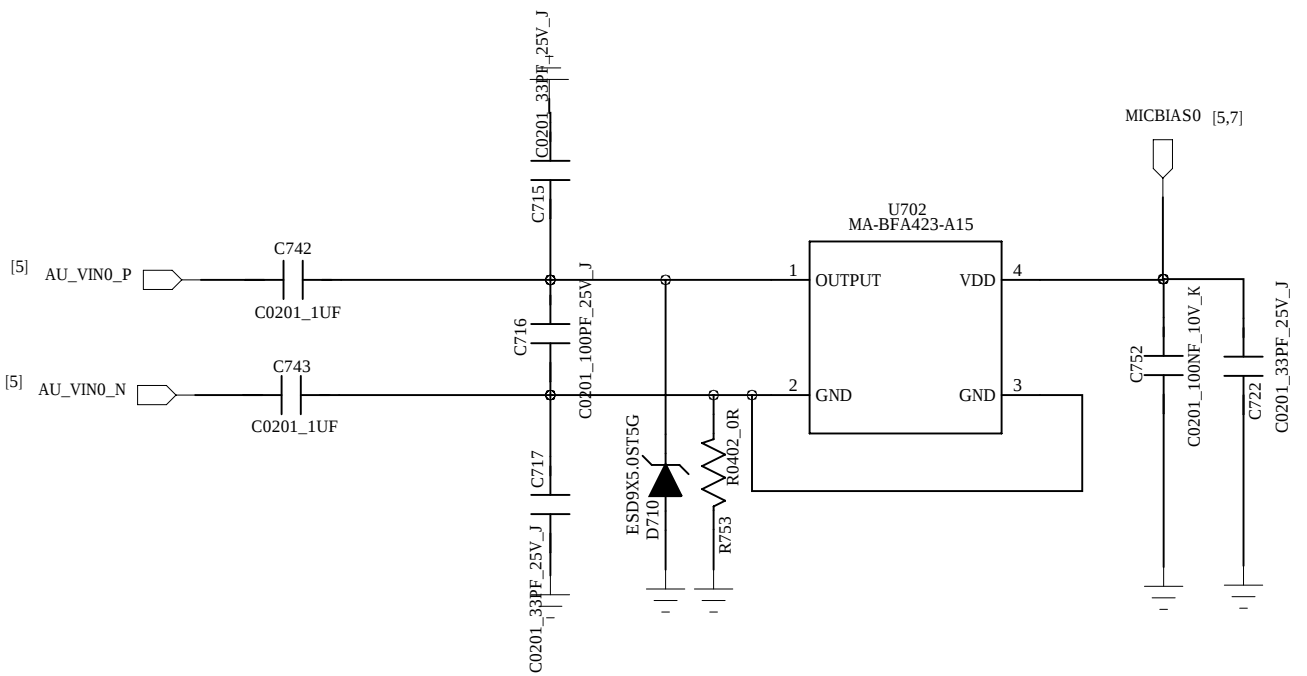
RECEIVER



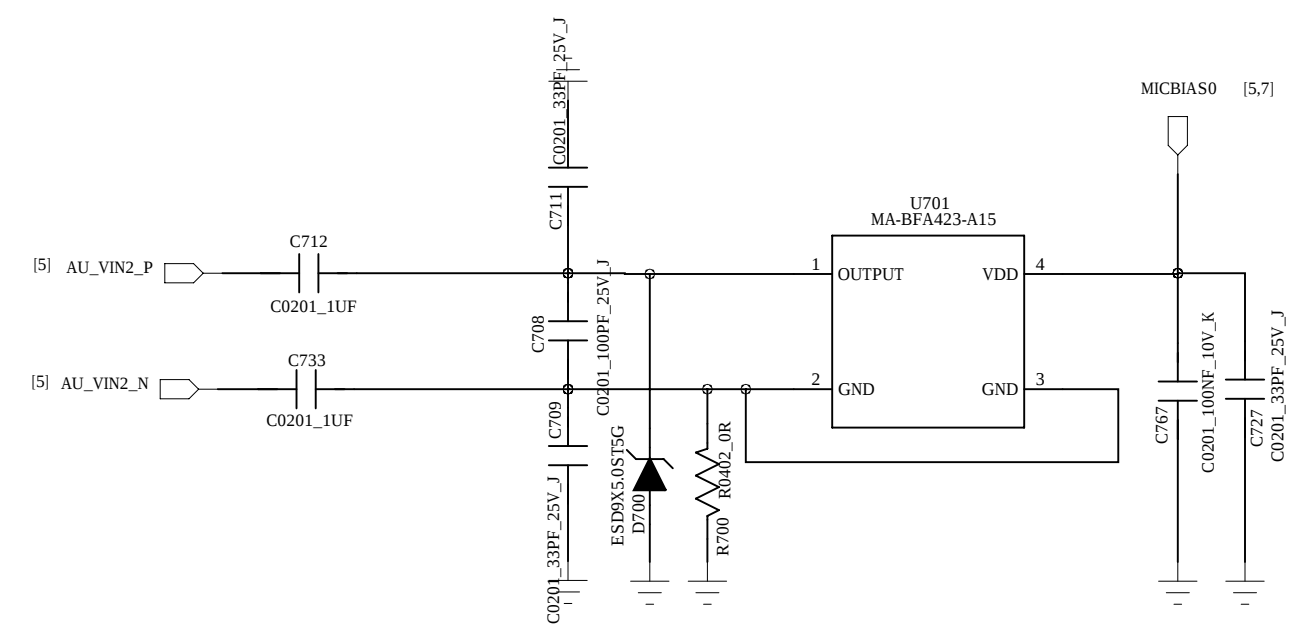
AUDIO PA



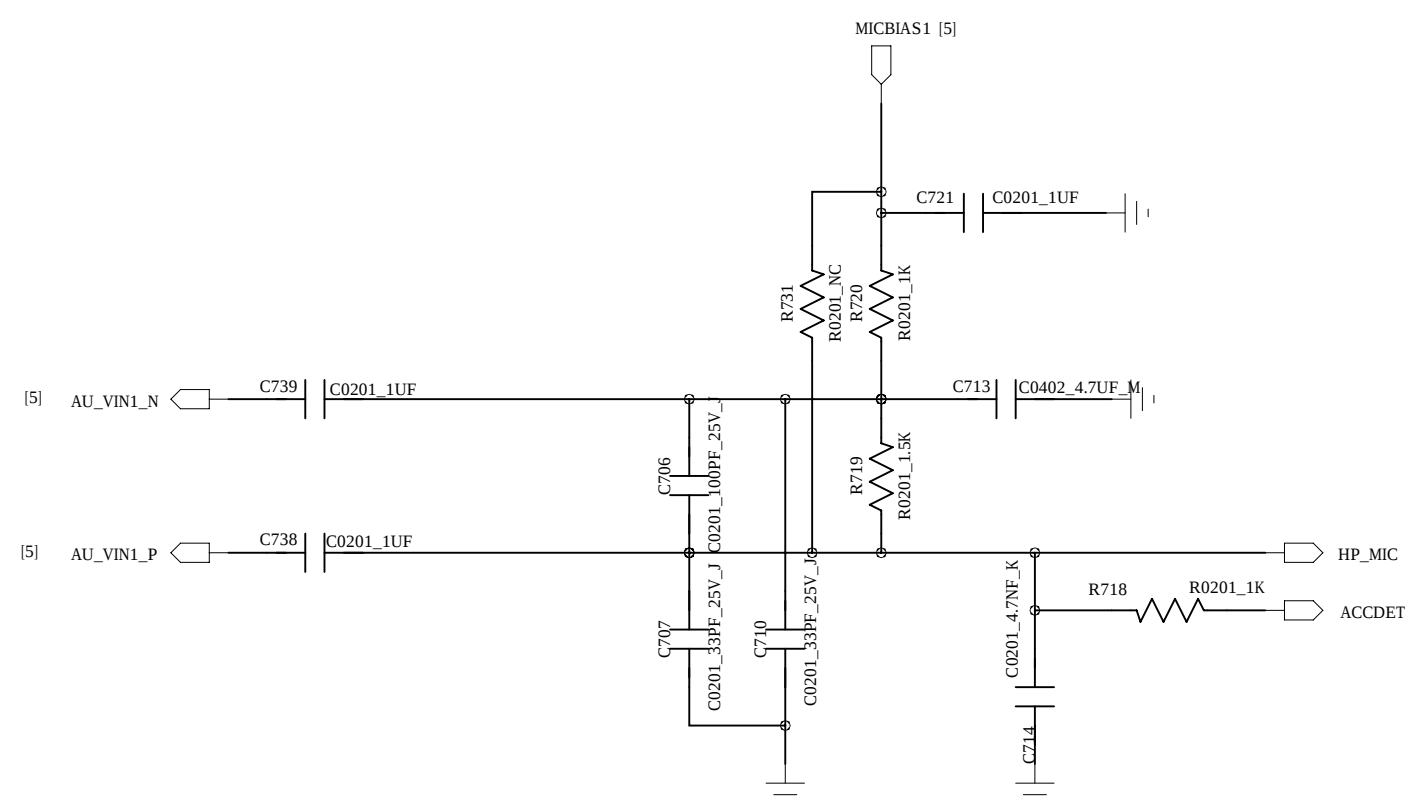
MIC_Main



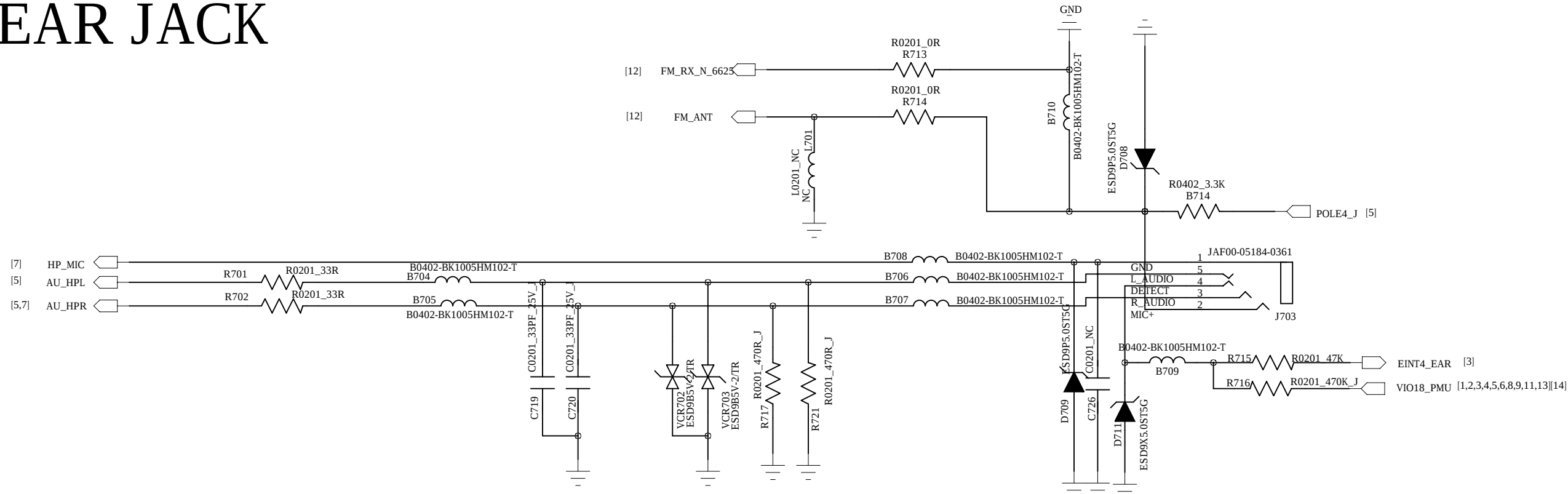
MIC_SUB



EAR MIC



EAR JACK



HUAQIN

MODEL: AL1066

DRAWING NO.:

DRAWN:

DATED

TITLE: 07.AUDIO_EARJACK

VERSION:

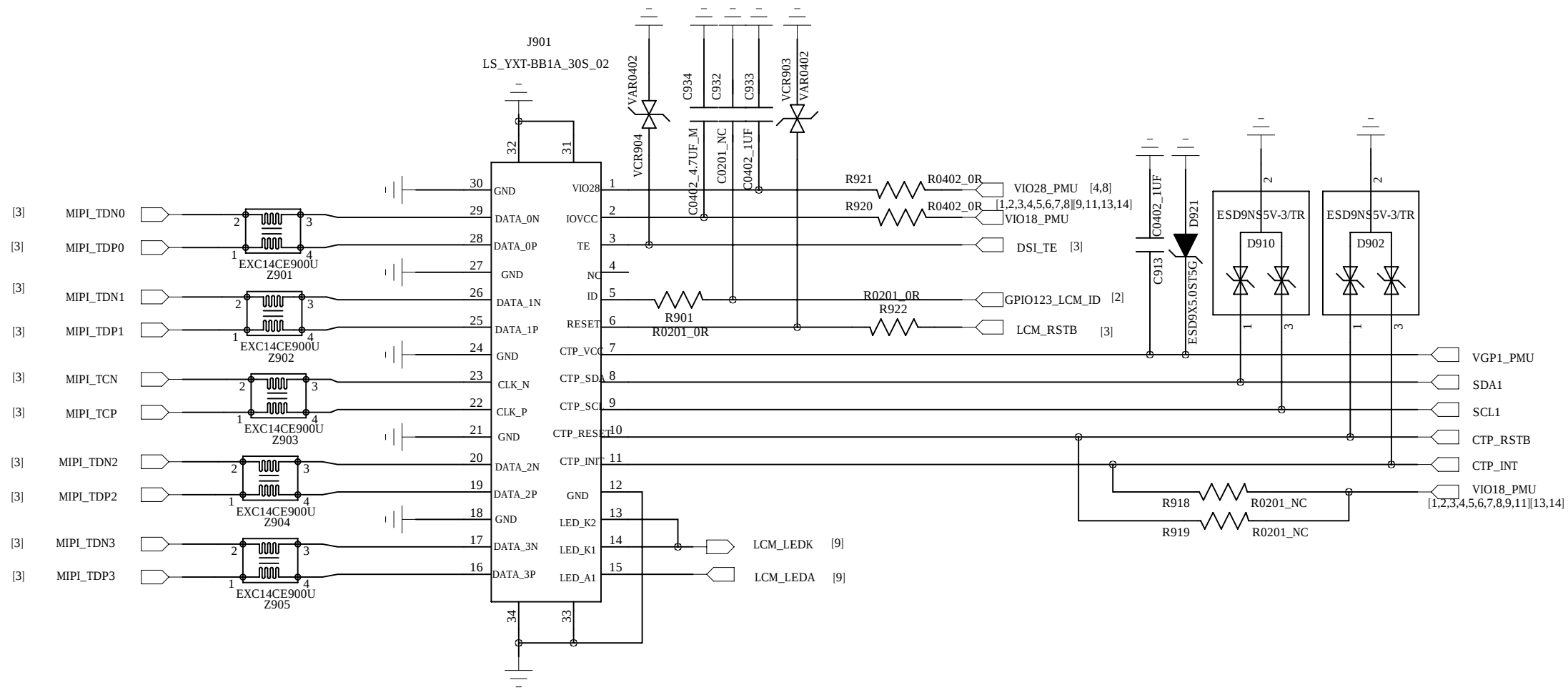
SHEET: 7/19

CHECKED

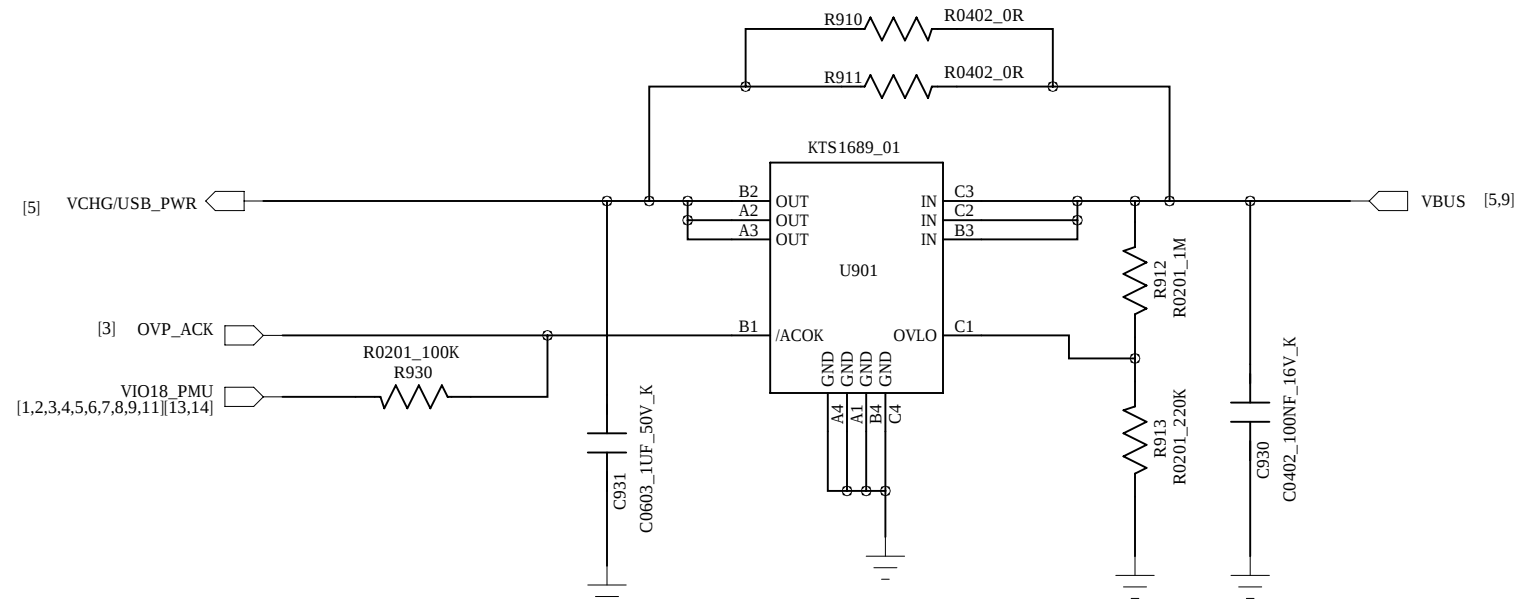
DATED

REVISION RECORD			
LTR	ECO NO:	APPROVED:	DATE:

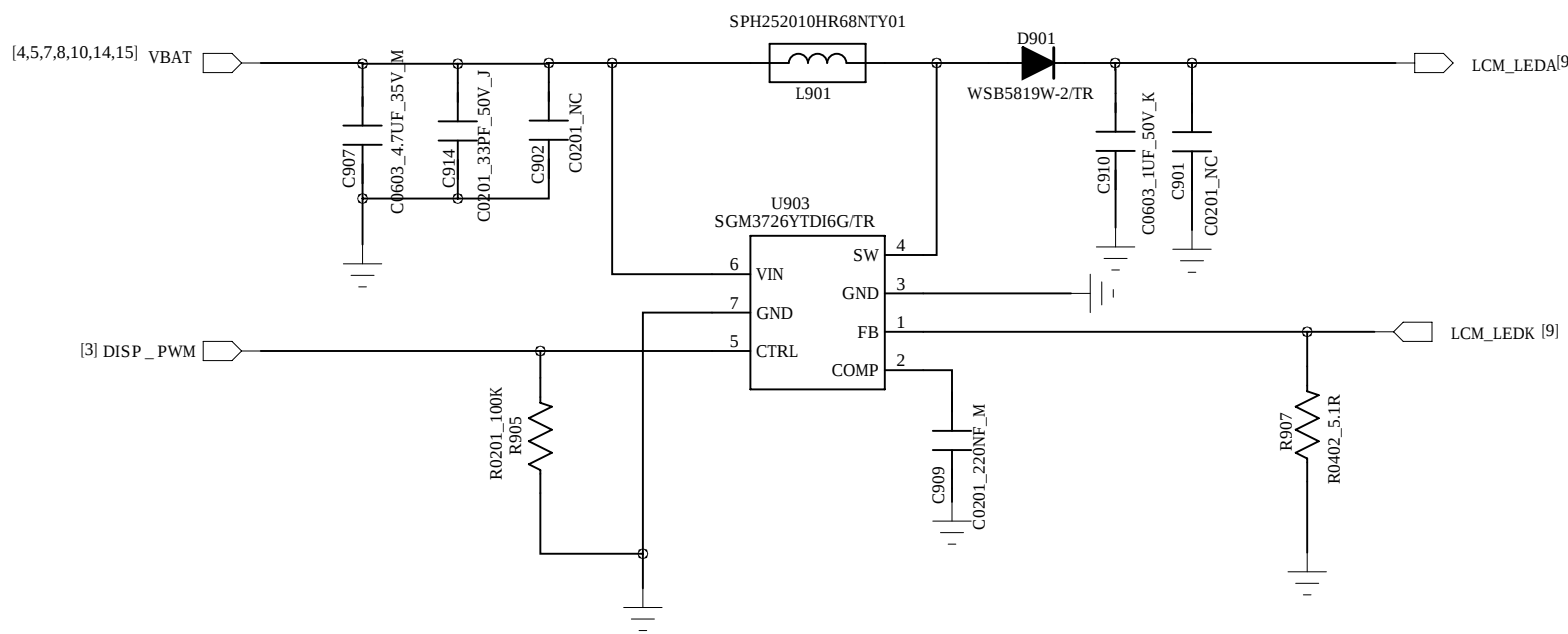
LCM



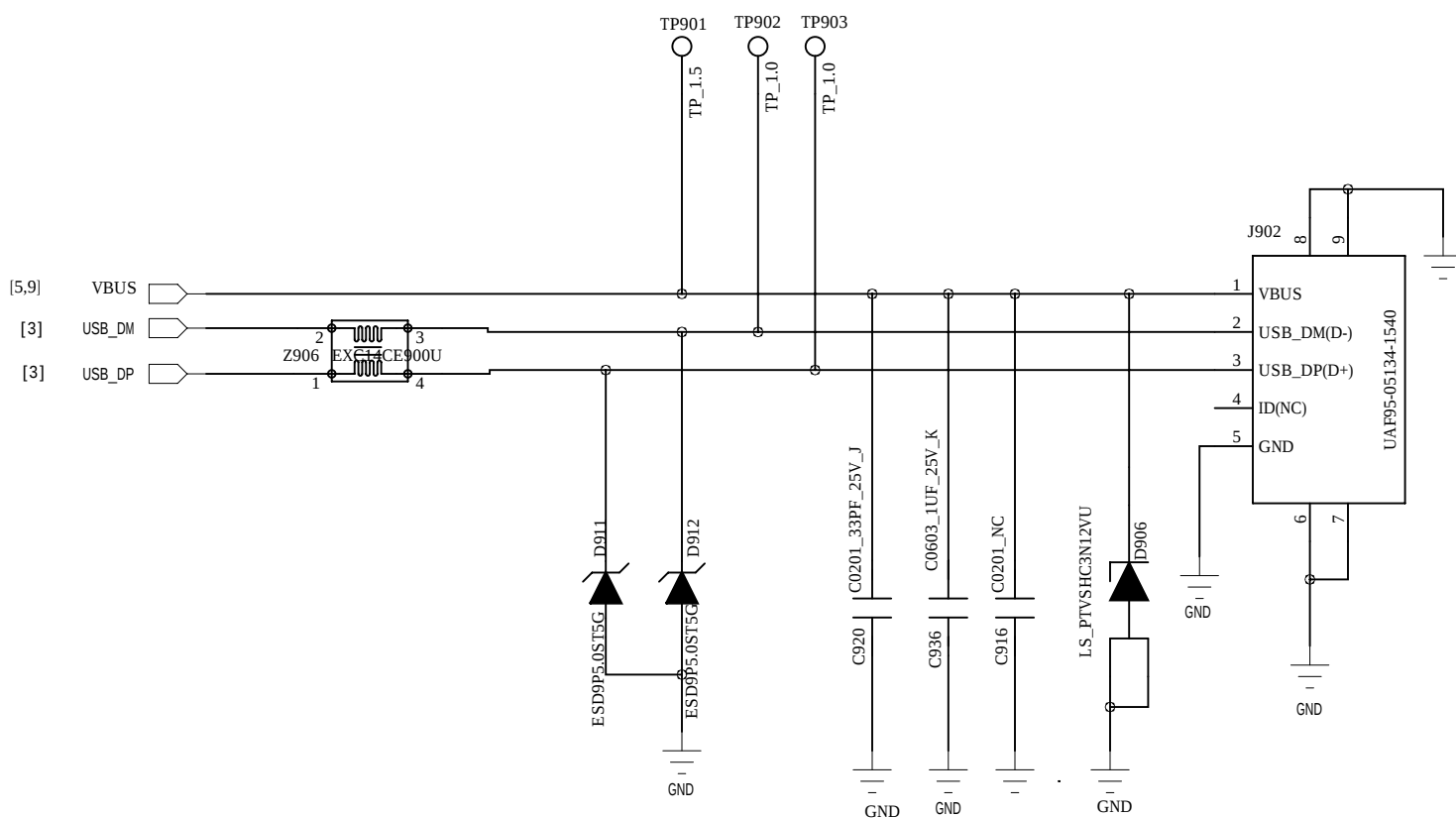
OVP



LCD BL Driver



USB



HUAQIN

MODEL: AL1066

DRAWING NO.:

DRAWN:

DATED

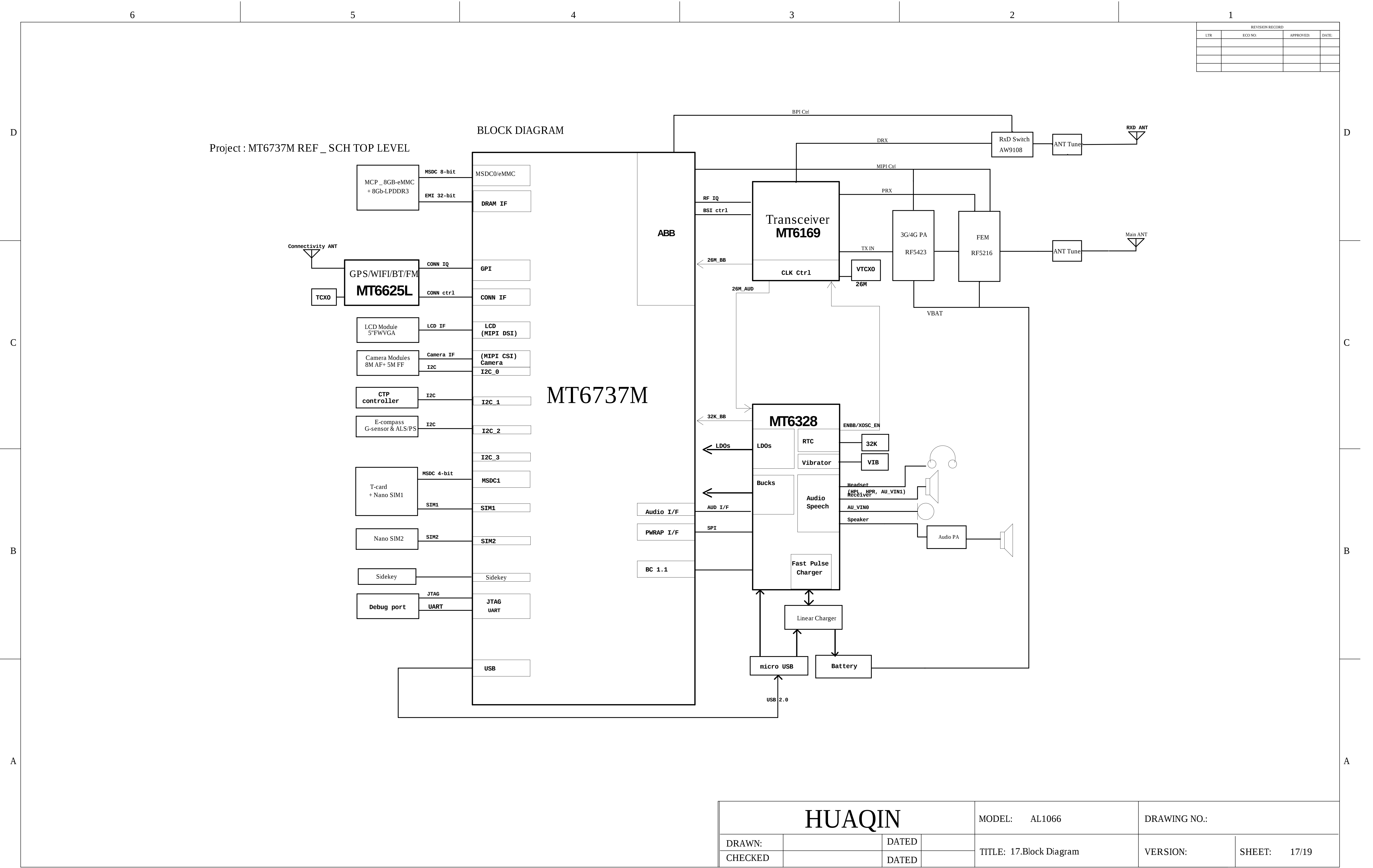
TITLE: 09.LCM_BACKLIGHT

VERSION:

SHEET: 9/19

CHECKED

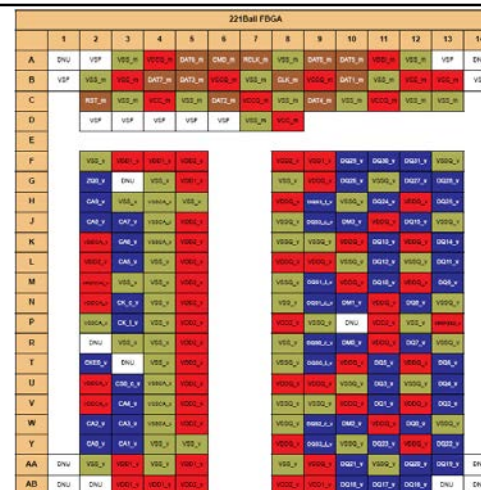
DATED



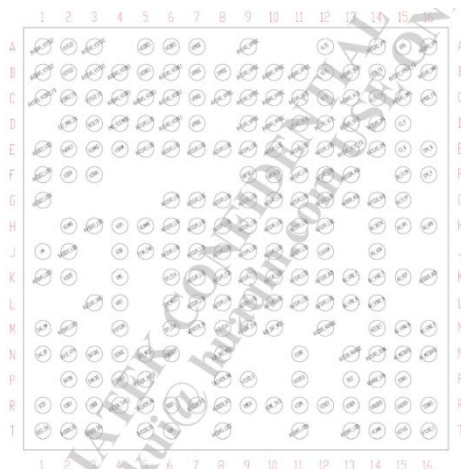
U101_MT6737_BB chip IC , Digital Baseband Processor(Top)



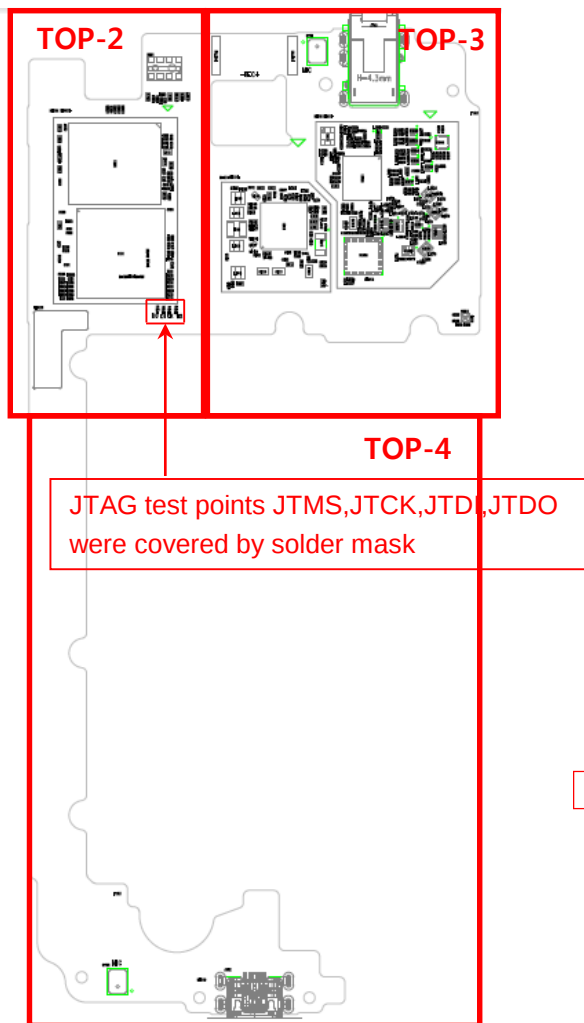
U602_KMFNX0012M-B214,IC,MCP. eMMC+LPDDR3(Top)



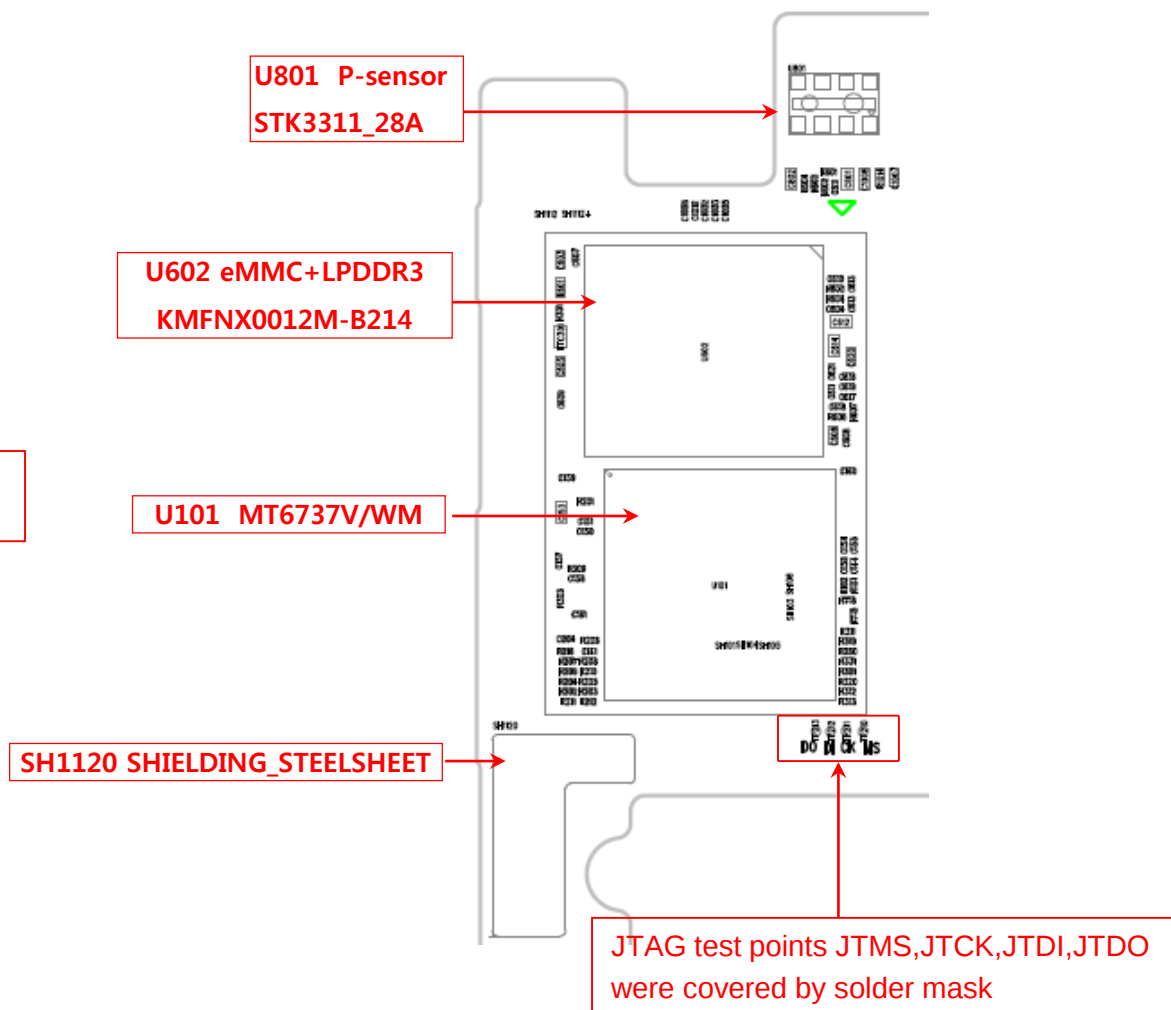
U401_MT6328_IC,PMIC (Top)



LG-X230ds-MAIN_TOP-1

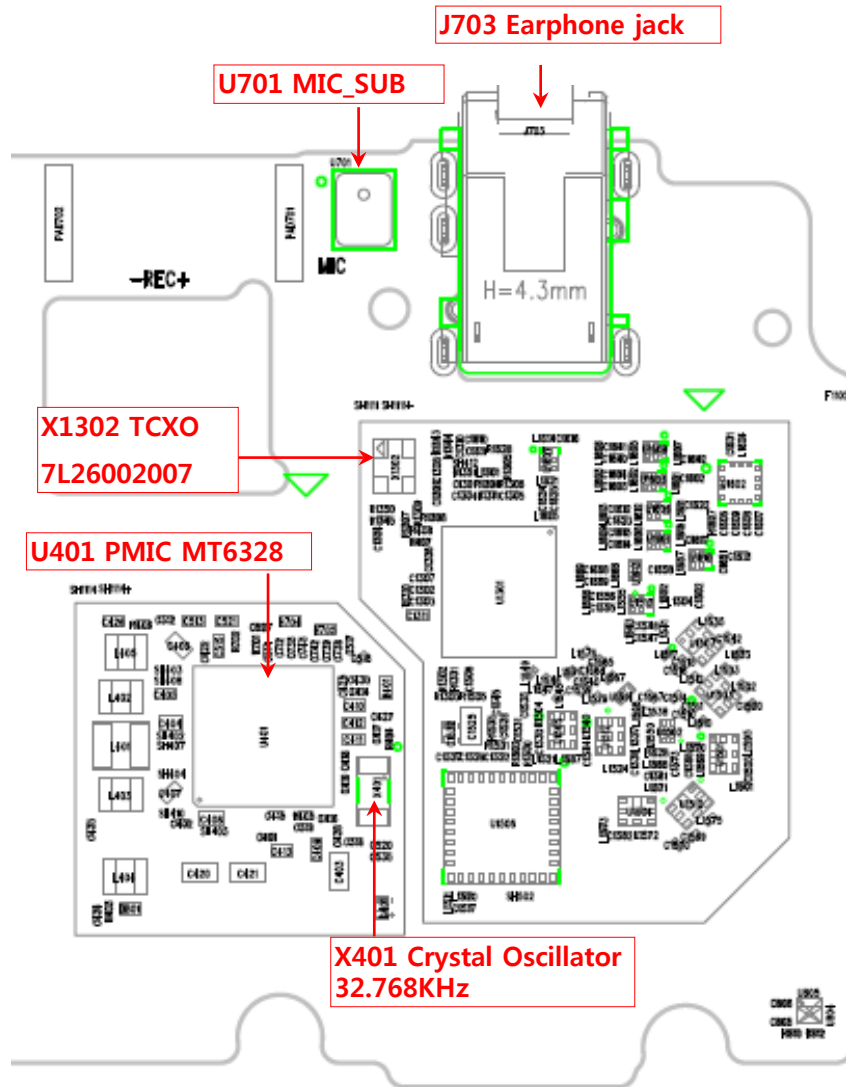


LG-X230ds-MAIN_TOP-2

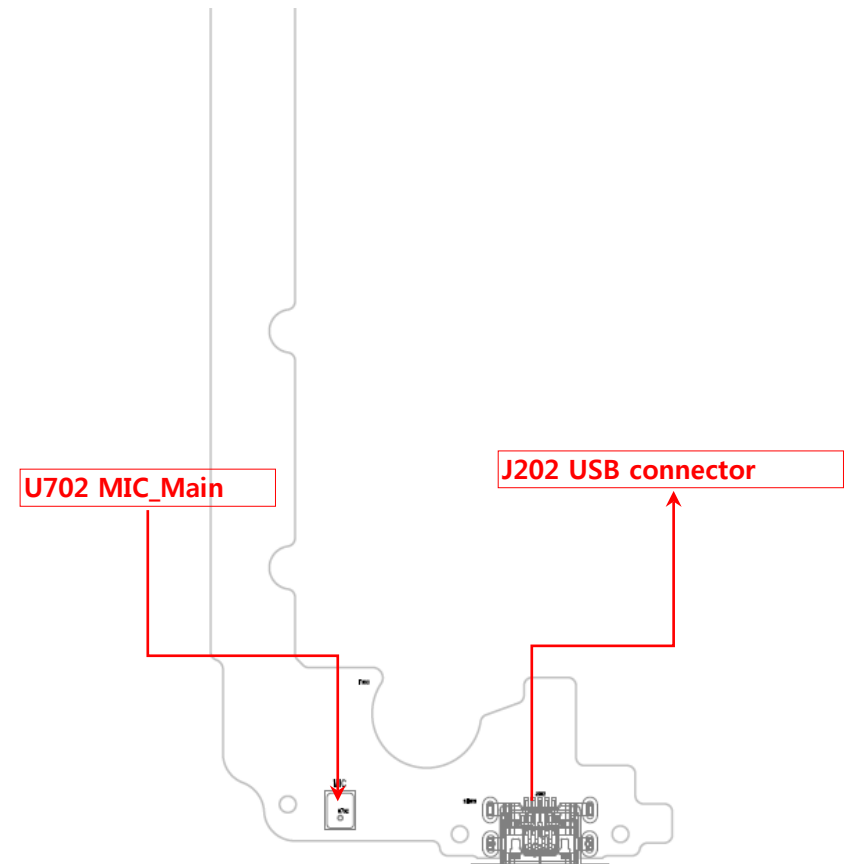


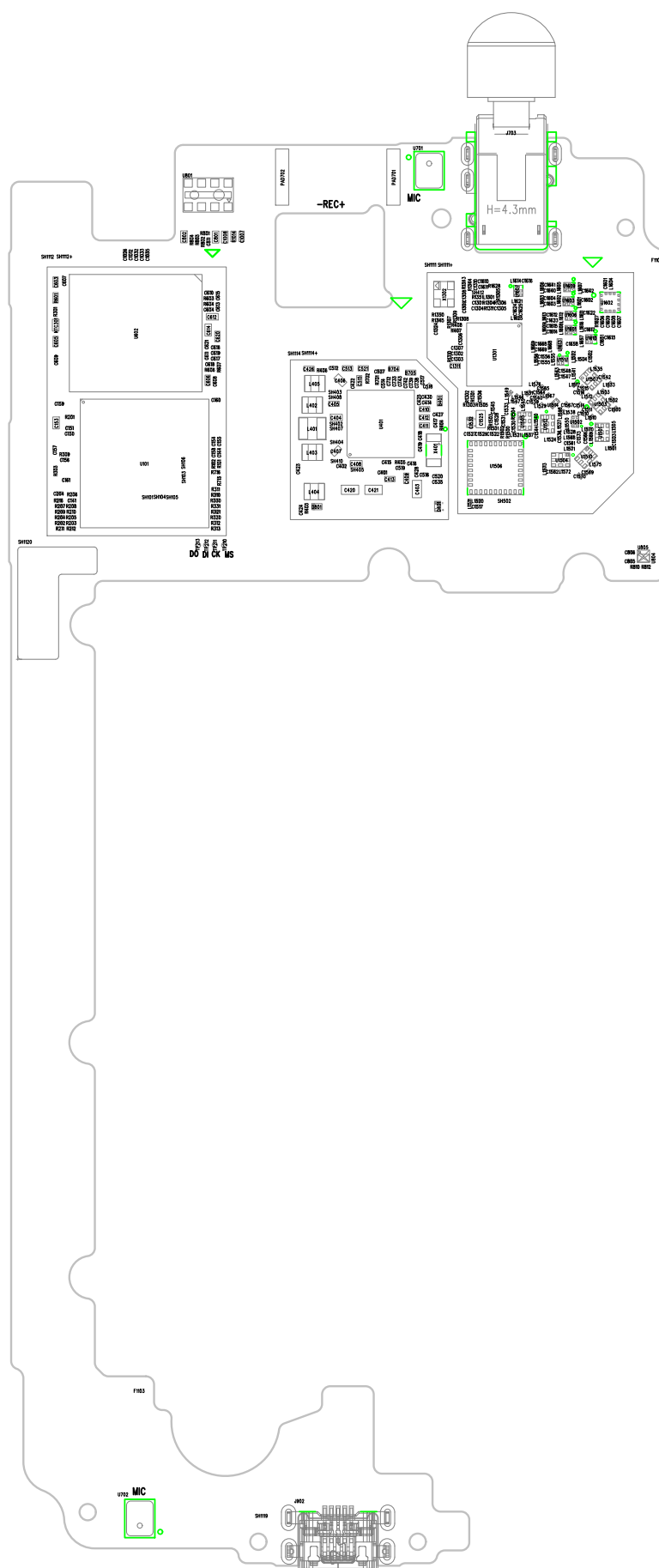
7. PCB LAYOUT

LG-X230ds-MAIN_TOP-3

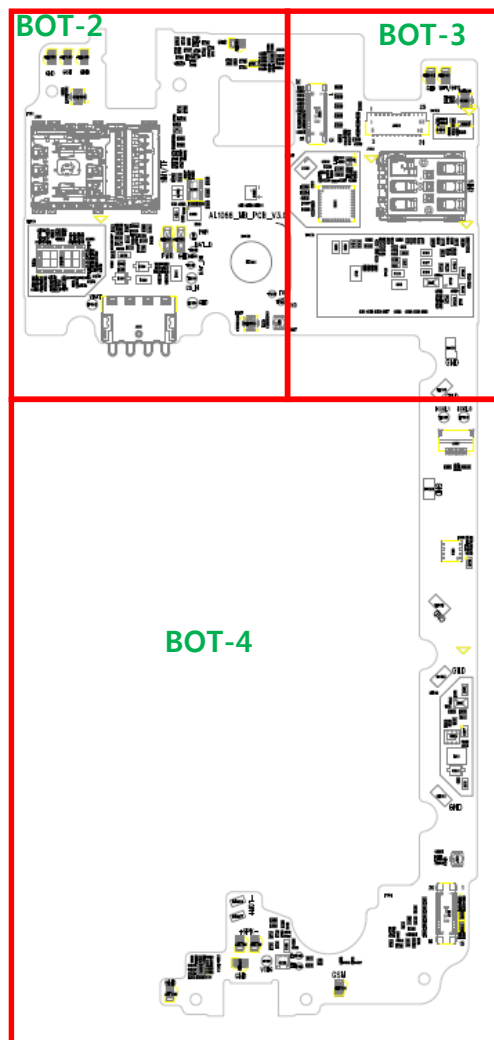


LG-X230ds-MAIN_TOP-4



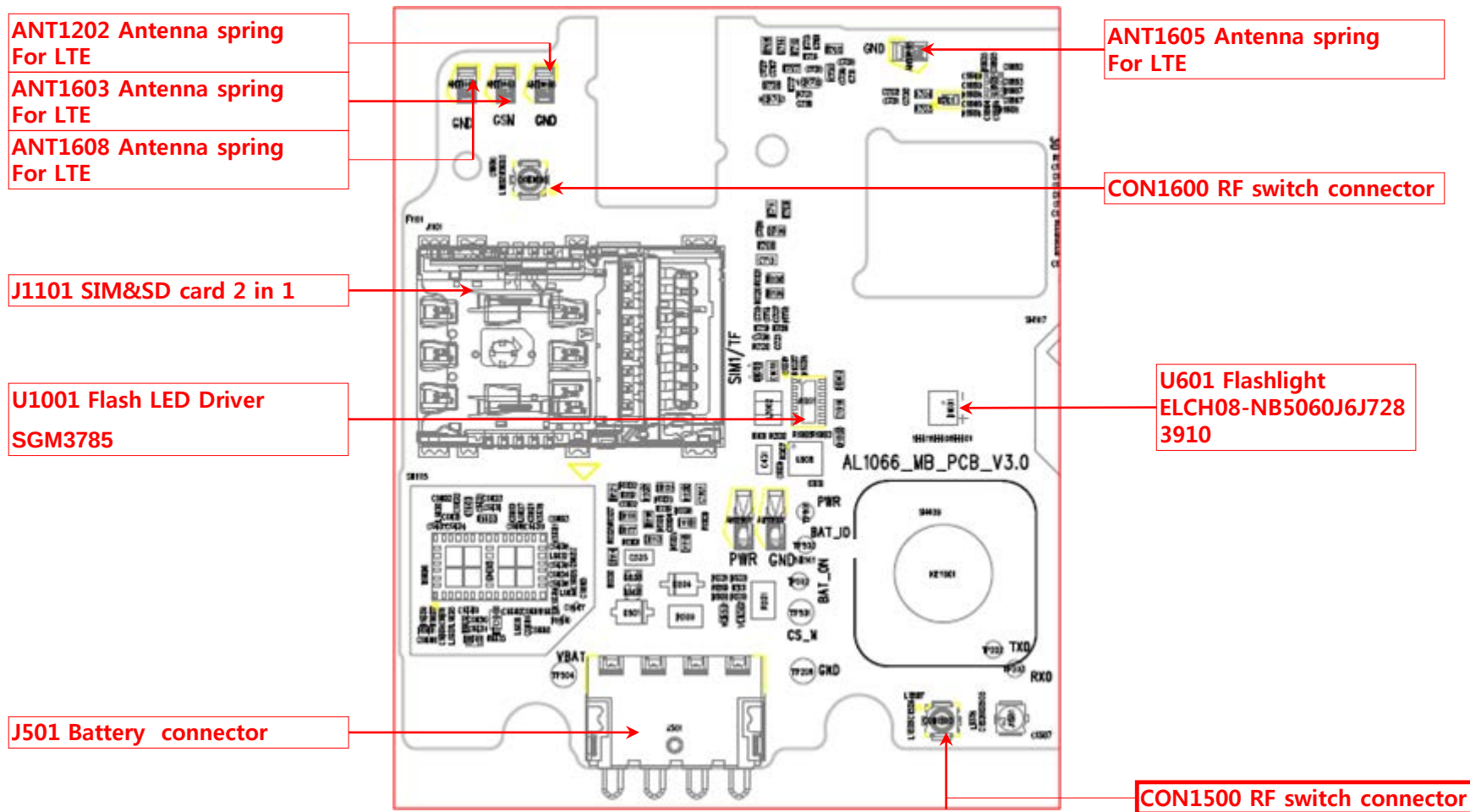


LG-X230ds-MAIN_BOT-1



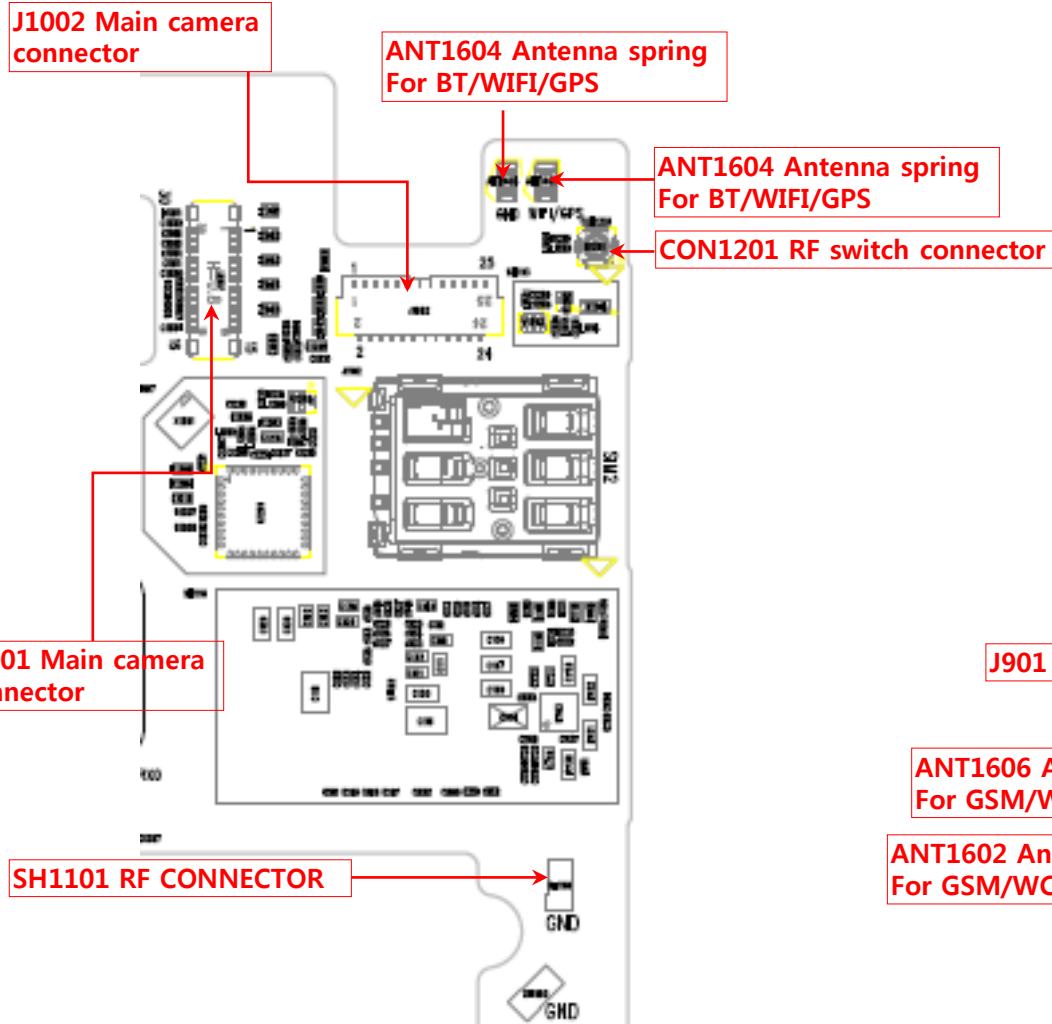
7. PCB LAYOUT

LG-X230ds-MAIN_BOT-2

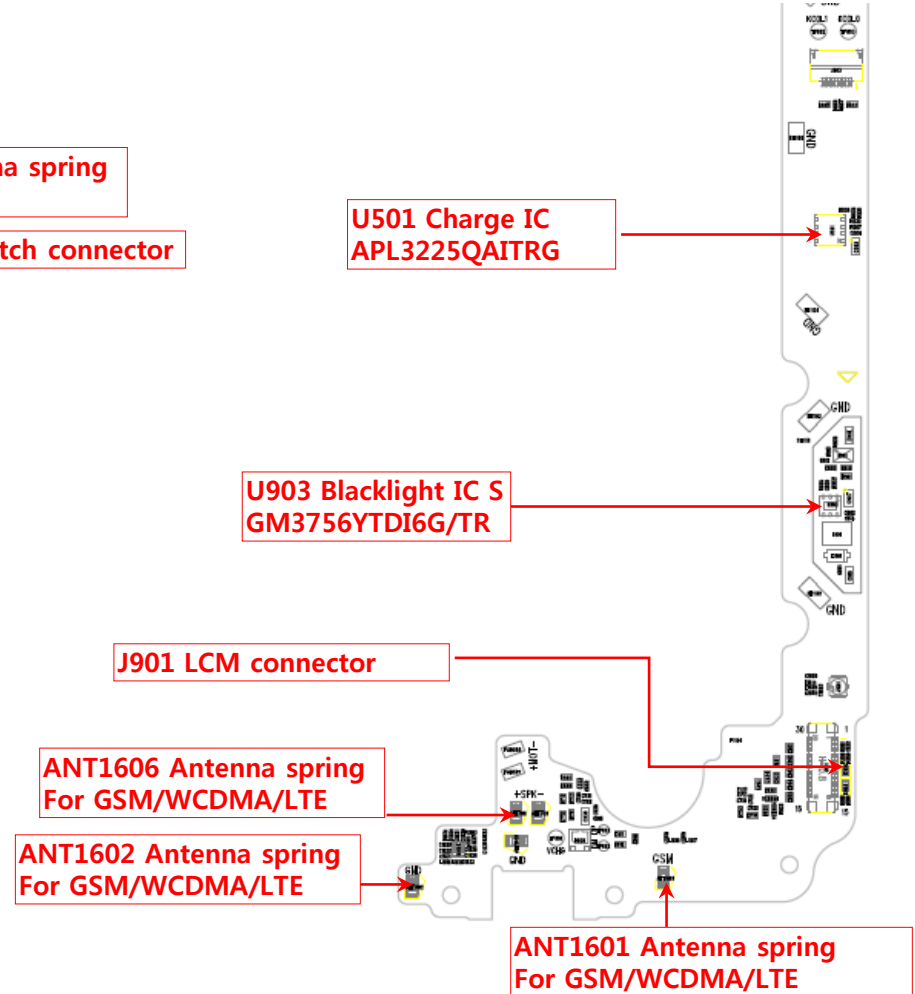


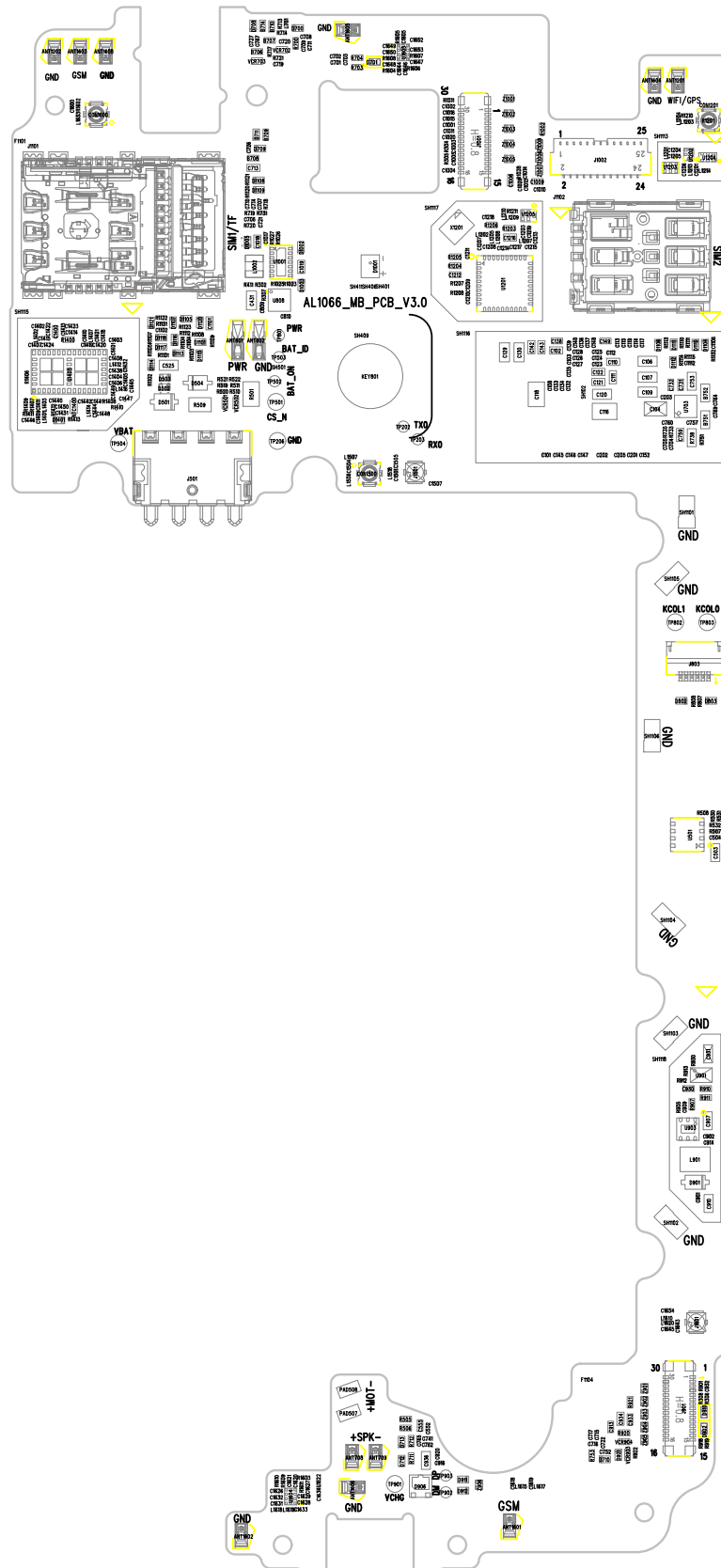
7. PCB LAYOUT

LG-X230ds-MAIN_BOT-3



LG-X230ds-MAIN_BOT-4





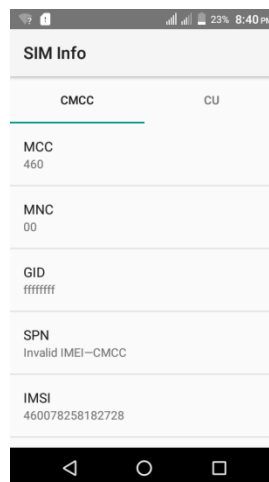
8. HIDDEN MENU

1. Hidden Menu Start



- Start shortcut key:
***#546368#*230#**
- Hidden Menu List
: Start the desired menu, click

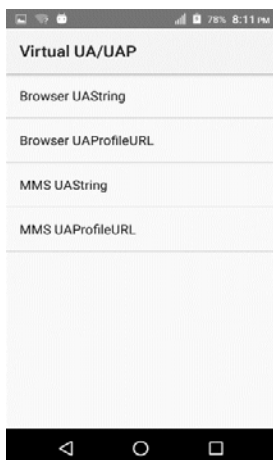
2. SIM Info



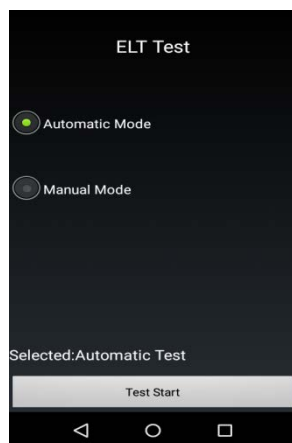
3. VSIM Test



4. Virtual UA/UAP



5. ELT Test



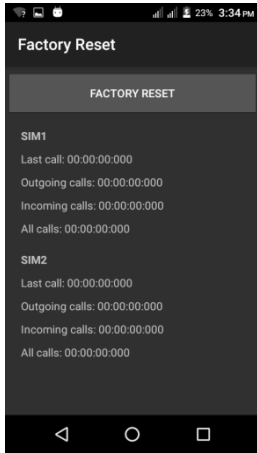
- ELT auto mode test
- ELT manual mode test
- press test start button to start ELT test

6. GCUV info



8. HIDDEN MENU

7. Factory Reset

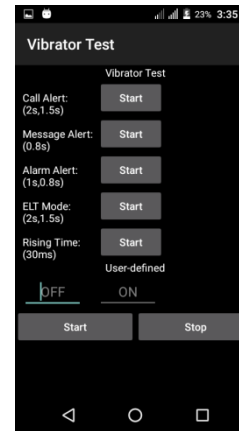


8. Function Test

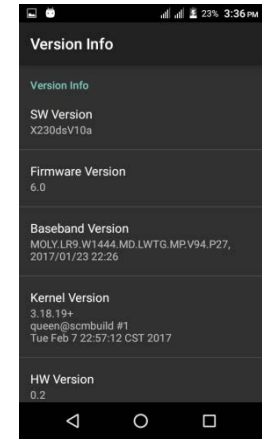
- test function one by one



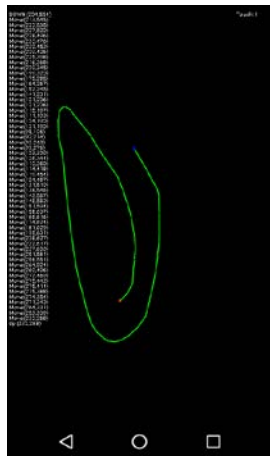
9. VibratorTest



10. Version Info



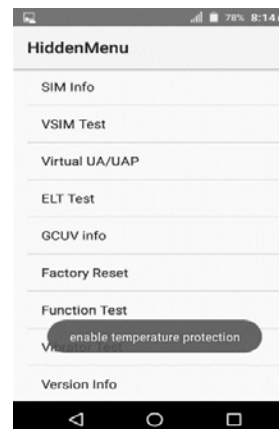
11. Touch Drawing Test



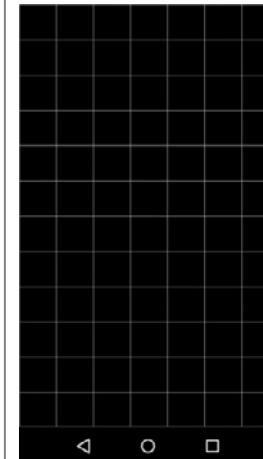
- Recording touch trace
- when slide on screen
- Recording touch count
- when slide on screen

12. Dry Heat Usage Test / Cold Usage Test

- Over temperature protection switch



13. Touch Test

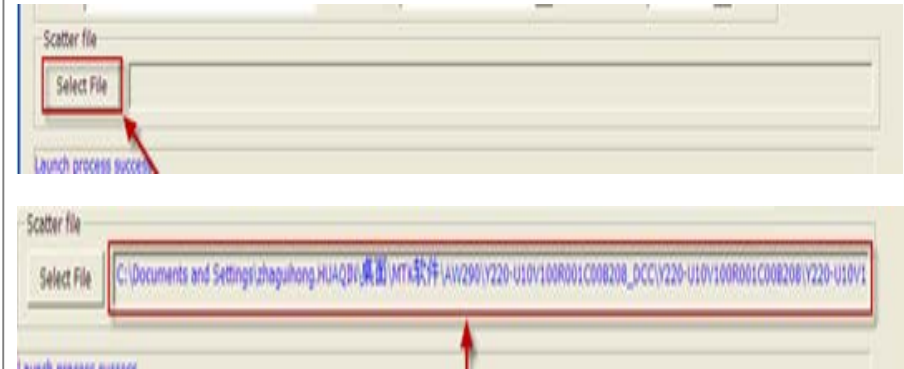


- Recording touch count
- Recording touch point
- Recording touch key count
- press volume up to back

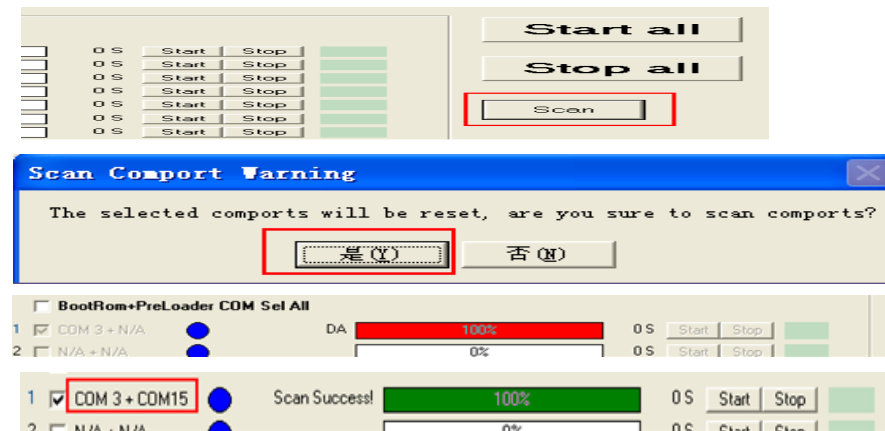
1. Summary

Tool Version	DLL name	USB Driver	
hq_mtk_factorydownload_V3.0_160301	FlashToolLib.dll (version 1540)	LGUnitedMobileDriver_S51MAN312AP22_ML_WHQL_Ver_3.14.1	
H/W			
	Name	Part No.	SW
D/L Cable	USB Cable 2.0	N/A	N/A

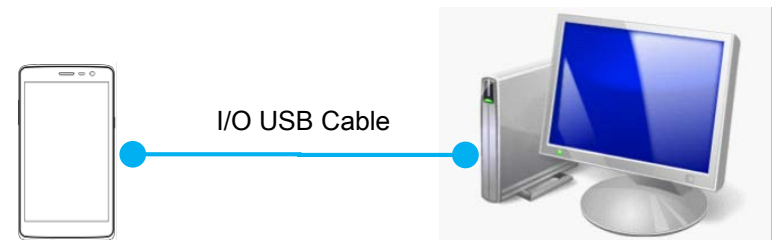
2. . Select and load file



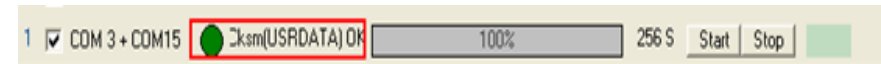
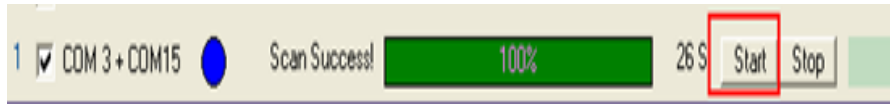
3. Scan comport



4. USB D/L Cable setting



5. Download



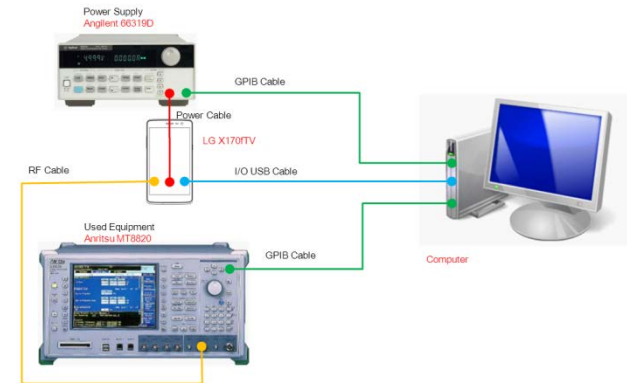
1. Summary

CAL INFORMATION

Summary

H/W	Name
USB Cable	USB Cable 2.0
Power Cable	DC Power Cable
RF Cable	MXHQ87WJ3000
Power Supply	Agilent 66319D
RF Test Equipment	Anritsu MT8820
USBVCOM Port Driver	LGUnitedMobileDriver_S51MAN312AP22_ML_WHQL_Ver_3.12.3

2. Calibration Cable setting



3. Calibration setting 1

1. Click it to start

2. Model Select

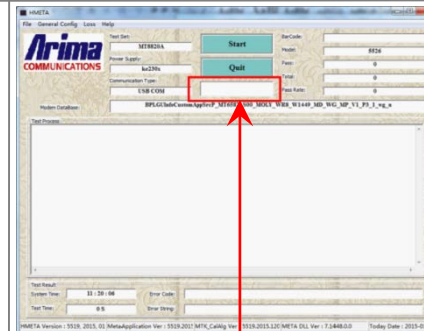
Board Trim.exe

Model Select: 5526 Run HMETA...

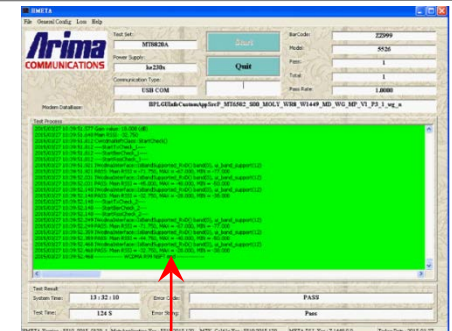
3.1. Calibration file setting

3.2. Calibration items setting

4. Calibration setting 2



Input Barcode in the red box,
and enter "Enter" key.
The tool will start to calibration.



If success, test Process will
turn green, else will turn red.

11. DISASSEMBLE GUIDE

1. Remove screws (13 points)



2. Disassemble Rear cover



3. Disassemble Connector and remove screws(2 screws)



4. Disassemble Main PCB



5. Disassemble HW parts(1ea)



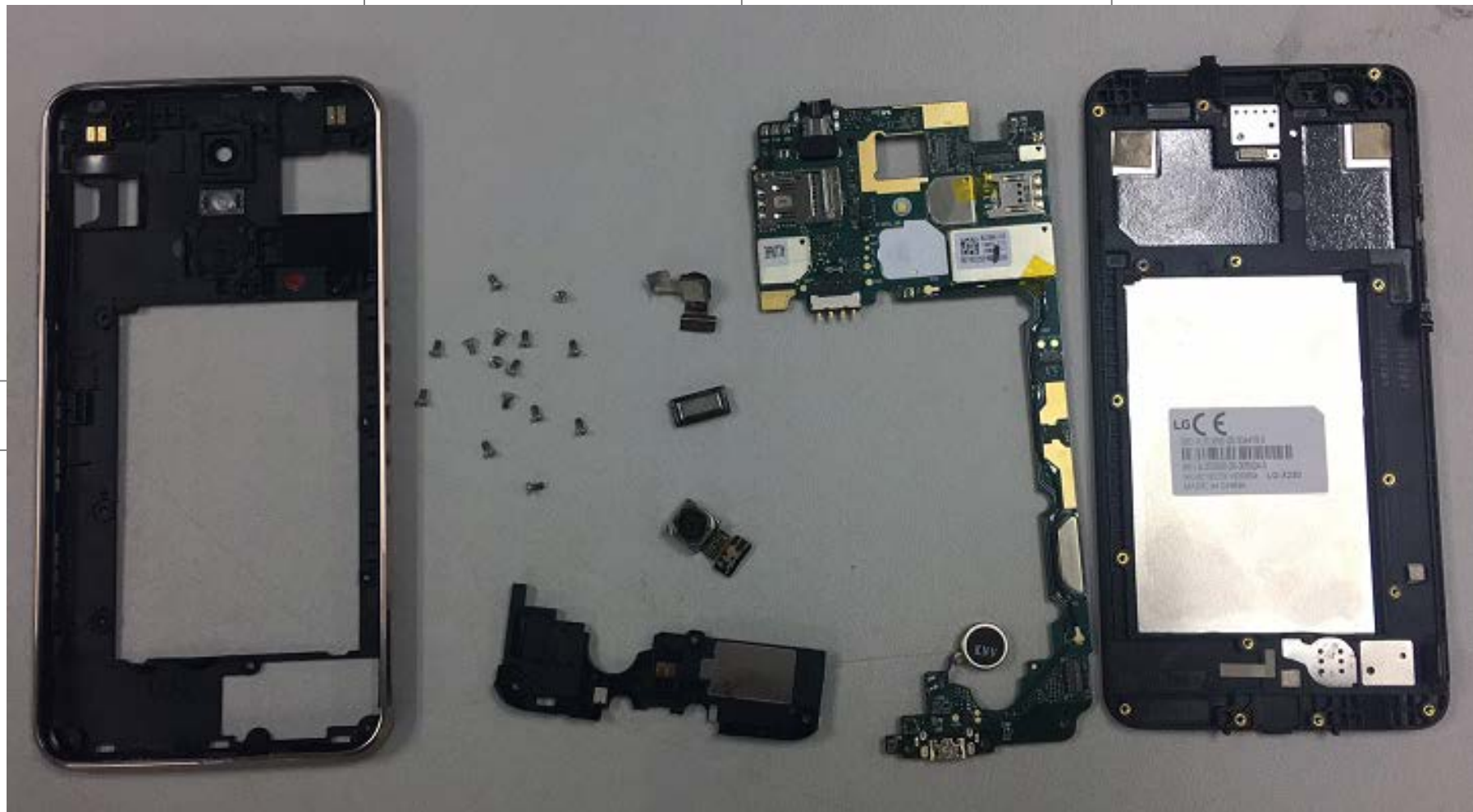
6. Disassemble HW parts(1ea)



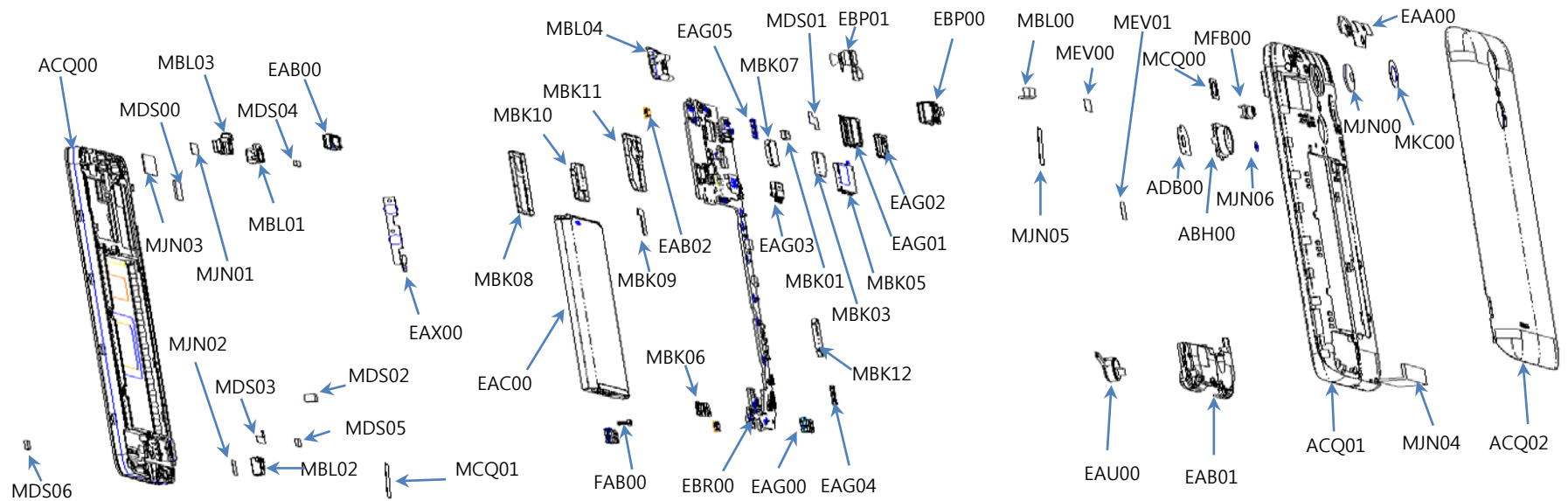
7. Disassemble cameras



8. Complete Disassembling



12. EXPLODED VIEW



Location no	Description	Location no	Description	Location no	Description	Location no	Description	Location no	Description
ACQ00	Cover Assembly	MDS06	Gasket	FAB00	Screw,Machine	EBR00	PCB Assembly,Main	MFB00	Lens,Flash
MJN03	Tape	MJN02	Tape	MBK03	Can,Shield	EAG02	Card Socket	ABH00	Button Assembly,Main
MDS00	Gasket	MBL02	Cap	MBK09	Can,Shield	EAG05	Connector,BtoB	MBK05	Can,Shield
MBL03	Cap	MDS03	Gasket	EAB02	Microphone,Condenser	MBL00	Cap,Earphone Jack	MBK07	Can,Shield
MDS04	Gasket	MDS05	Gasket	MBL04	Cap, Earphone Jack	MEV00	Insulator	EBP00	Camera Module
EAB00	Receiver	MDS02	Gasket	MEV01	Insulator	ADB00	Dome Assembly,Metal	EAU00	Motor,DC
ACQ01	Cover Assembly,Rear	MCQ01	Damper	MBK06	Can,Shield	MBK01	Can,Shield	EAB01	Speaker Module
MDS01	Gasket	EAX00	PCB,Sidekey	MCQ00	Damper,Camera	MJN04	Tape	MJN05	Tape
EBP01	Camera Module	EAC00	Rechargeable Battery,Lithium Ion	EAG03	Connector, Terminal Block	MBK12	Can,Shield	EAA00	Retractable Antenna,Multiple
EAG01	Card Socket	MBK08	Can,Shield	EAG00	Connector,I/O	MKC00	Window,Camera		
MJN01	Tape	MBK10	Can,Shield	EAG04	Connector,BtoB	ACQ02	Cover Assembly,Battery		
MBL01	Cap	MBK11	Can,Shield	MJN00	Tape,Camera	MJN06	Tape		

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
AGQ89346801	AGQ89346801	AGQ000000	Phone Assembly	1
ACQ89510801	ACQ89510801	ACQ100400	Cover Assembly,EMS	1
ACQ89593801	ACQ89593801	ACQ00	Cover Assembly	1
ACQ89490501	ACQ89490501	ACQ032700	Cover Assembly,Front	1
EAT63593301	EAT63593301	EAT130000	Module,Hybrid Touch LCD	1
MDJ65164201	MDJ65164201	MDJ000000	Filter	1
MCR66726201	MCR66726201	MCR000000	Decor	1
MBL67136901	MBL67136901	MBL01	Cap	1
MJN70206901	MJN70206901	MJN089300	Tape,Window	1
MJN70226901	MJN70226901	MJN089301	Tape,Window	1
MBL67156901	MBL67156901	MBL03	Cap	1
MCK69484501	MCK69484501	MCK032700	Cover,Front	1
MBL67176901	MBL67176901	MBL02	Cap	1
MCQ69184301	MCQ69184301	MCQ01	Damper	1
EAB64528601	EAB64528601	EAB00	Receiver	1
MJN70227001	MJN70227001	MJN01	Tape	1
MCQ69024301	MCQ69024301	MCQ043300	Damper,LCD	1
MDS65830201	MDS65830201	MDS06	Gasket	1
MDS65870201	MDS65870201	MDS00	Gasket	2
MDS65850801	MDS65850801	MDS03	Gasket	1
MDS65850601	MDS65850601	MDS04	Gasket	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
MDS65850701	MDS65850701	MDS05	Gasket	1
MJN70227401	MJN70227401	MJN03	Tape	1
MHK65745101	MHK65745101	MHK000000	Sheet	1
MDS65870301	MDS65870301	MDS02	Gasket	1
MJN70187001	MJN70187001	MJN02	Tape	1
ACQ89471101	ACQ89471101	ACQ01	Cover Assembly,Rear	1
ACQ89531101	ACQ89531101	ACQ105800	Cover Assembly,Rear(SVC)	1
MCK69504302	MCK69504302	MCK063300	Cover,Rear	1
ABH76039602	ABH76039602	ABH00	Button Assembly,Main	1
MBG66322502	MBG66322502	MBG071300	Button,Side	1
MFB64472901	MFB64472901	MFB00	Lens,Flash	1
MCQ69044401	MCQ69044401	MCQ000000,MCQ0	Damper	2
MCQ69004401	MCQ69004401	MCQ009400	Damper,Camera	1
MJN70187201	MJN70187201	MJN04	Tape	1
MCQ69064301	MCQ69064301	MCQ00	Damper,Camera	1
MJN70227101	MJN70227101	MJN00	Tape,Camera	1
MHK65848703	MHK65848703	MHK000002	Sheet	1
MHK65848701	MHK65848701	MHK000000	Sheet	1
MHK65848702	MHK65848702	MHK000001	Sheet	1
MEZ66948501	MEZ66948501	MEZ000900	Label,After Service	1
MJN70227501	MJN70227501	MJN05	Tape	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
MKC66218801	MKC66218801	MKC00	Window,Camera	1
MJN70227301	MJN70227301	MJN06	Tape	1
EAA64744901	EAA64744901	EAA00	Retractable Antenna,Multiple	1
EAA64724701	EAA64724701	EAA020100	Retractable Antenna,Multiple	1
EBP63061901	EBP63061901	EBP01	Front Camera Module	1
FAB33499301	FAB33499301	FAB00	Screw,Machine	15
EAB64508401	EAB64508401	EAB01	Speaker Module	1
EBP63121701	EBP63121701	EBP00	Main Camera Module	1
MJN70207002	MJN70207002	MJN107400	Tape,USP Film	1
EBR84033401	EBR84033401	EBR00	PCB Assembly,Main	1
EBR84072401	EBR84072401	EBR071800	PCB Assembly,Main,SMT	1
EBR84322801	EBR84322801	EBR071500	PCB Assembly,Main,Insert	1
EAU63723101	EAU63723101	EAU00	Motor,DC	1
EAX67344401	EAX67344401	EAX00	PCB,Sidekey	1
MBL67137001	MBL67137001	MBL00	Cap,Earphone Jack	1
MDS65850901	MDS65850901	MDS01	Gasket	1
MEV66090701	MEV66090701	MEV00	Insulator	1
MEV66090801	MEV66090801	MEV01	Insulator	1
ADB74878301	ADB74878301	ADB00	Dome Assembly,Metal	1
RAA34548901	RAA34548901	RAA050100	Resin,PC	0.35
EBR84074201	EBR84074201	EBR071700	PCB Assembly,Main,SMT To	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
EAB64548801	EAB64548801	EAB02	Microphone, Condenser	2
EAE64621607	EAE64621607	C1525, C403, C421	Capacitor, Ceramic, Chip	3
EAE64621608	EAE64621608	C1008, C153, C404, C	Capacitor, Ceramic, Chip	9
EAE64621609	EAE64621609	C1311, C405, C407, C	Capacitor, Ceramic, Chip	14
EAE64621610	EAE64621610	C1007	Capacitor, Ceramic, Chip	1
EAE64621611	EAE64621611	C603, C620	Capacitor, Ceramic, Chip	2
EAE64621616	EAE64621616	C1539, C1540, C1554	Capacitor, Ceramic, Chip	7
EAE64621617	EAE64621617	C1506, C1545, C1616	Capacitor, Ceramic, Chip	7
EAE64621618	EAE64621618	C1032, C1033, C1503	Capacitor, Ceramic, Chip	5
EBC64155618	EBC64155618	L1521, R1504	Resistor, Chip	2
EBC64155622	EBC64155622	R603, R604	Resistor, Chip	2
MBL67197901	MBL67197901	MBL04	Cap, Earphone Jack	1
EBC64155626	EBC64155626	R303	Resistor, Chip	1
EBC64155632	EBC64155632	R1301	Resistor, Chip	1
MBK64952801	MBK64952801	MBK10	Can, Shield	1
EAM64310102	EAM64310102	B704, B705	Filter, Bead	2
EBC64155612	EBC64155612	R405	Resistor, Chip	1
EAP63926009	EAP63926009	L1540	Inductor, Multilayer, Chip	1
EAE64621622	EAE64621622	C1528	Capacitor, Ceramic, Chip	1
EAP63945903	EAP63945903	L401	Inductor, Wire Wound, Chip	1
EAE64621636	EAE64621636	C1564, C1565, C1612	Capacitor, Ceramic, Chip	4

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
EAE64621621	EAE64621621	C402	Capacitor,Ceramic,Chip	1
EAM64270106	EAM64270106	U1504	Filter,Duplexer	1
EBC64155614	EBC64155614	C1530,R802	Resistor,Chip	2
EAE64621619	EAE64621619	C1301,C1302,C1303	Capacitor,Ceramic,Chip	31
EBC64155605	EBC64155605	B401,R1014,R601	Resistor,Chip	3
EAP63926024	EAP63926024	L1503,L1504	Inductor,Multilayer,Chip	2
EAM64290103	EAM64290103	U1517	Filter,Saw	1
EBC64155634	EBC64155634	R804	Resistor,Chip	1
EBC64155610	EBC64155610	R206,R715	Resistor,Chip	2
EBC64155616	EBC64155616	R406	Resistor,Chip	1
EAM64270101	EAM64270101	U1503	Filter,Duplexer	1
EAW63263402	EAW63263402	X401	Oscillator,Crystal	1
EAM64270103	EAM64270103	U1507	Filter,Duplexer	1
EAH63632613	EAH63632613	D801	Diode,TVS	1
EBC64155611	EBC64155611	R1505	Resistor,Chip	1
EAP63926038	EAP63926038	L1546,L1547,L1614	Inductor,Multilayer,Chip	3
EAE64741901	EAE64741901	C1529	Capacitor,Ceramic,Chip	1
EAE64621639	EAE64621639	C1606	Capacitor,Ceramic,Chip	1
EBC64155623	EBC64155623	R203,R205,R208,R209	Resistor,Chip	9
EAN64186602	EAN64186602	U602	IC,MCP,eMMC	1
EAP63926020	EAP63926020	L1604	Inductor,Multilayer,Chip	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
EAP63926005	EAP63926005	L1545	Inductor,Multilayer,Chip	1
EAN64488101	EAN64488101	U801	IC,Ambient Light Sensor	1
EAE64621625	EAE64621625	C1527,C155,C156,C	Capacitor,Ceramic,Chip	5
EAE64621626	EAE64621626	C1440	Capacitor,Ceramic,Chip	1
EAN64551701	EAN64551701	U1301	IC,RF Transceiver,4G	1
EAN64570901	EAN64570901	U401	IC,PMIC	1
EAN64535401	EAN64535401	U101	IC,Digital Baseband Processo	1
EAM64290101	EAM64290101	U1610	Filter,Saw	1
EAP63945901	EAP63945901	L402,L403,L404	Inductor,Wire Wound,Chip	3
EAG65050801	EAG65050801	EAG00	Connector,I/O	1
EAM64290104	EAM64290104	U1606	Filter,Saw	1
EAM64270105	EAM64270105	U1512	Filter,Duplexer	1
EBC64155627	EBC64155627	R1309,R1311,R312,	Resistor,Chip	5
EBC64155621	EBC64155621	R1310	Resistor,Chip	1
EAP63926022	EAP63926022	C1542,L1512,L1555	Inductor,Multilayer,Chip	3
EAE64621634	EAE64621634	L1511,L1524	Capacitor,Ceramic,Chip	2
EAX67344501	EAX67344501	PCB	PCB,Main	1
EAP63926011	EAP63926011	L1535,L1572,L1575	Inductor,Multilayer,Chip	3
EAP63926010	EAP63926010	L1576	Inductor,Multilayer,Chip	1
EAE64621631	EAE64621631	C1601,C1607,C1608	Capacitor,Ceramic,Chip	5
EBC64155636	EBC64155636	R716	Resistor,Chip	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
EAP63926032	EAP63926032	C1562,C1569,L1529	Inductor,Multilayer,Chip	3
EBC64155624	EBC64155624	R1501	Resistor,Chip	1
EAE64621624	EAE64621624	C1012,C141,C157,C	Capacitor,Ceramic,Chip	23
MBK64953001	MBK64953001	MBK06	Can,Shield	1
EAM64330101	EAM64330101	U1502	Filter,Separator,Switch	1
EBC64155625	EBC64155625	R1503	Resistor,Chip	1
EAE64621632	EAE64621632	C1515,C1516	Capacitor,Ceramic,Chip	2
EAN64448501	EAN64448501	U1506	IC,RF Amplifier	1
EAP63926025	EAP63926025	C1510,C1511,L1527	Inductor,Multilayer,Chip	4
EBG63025701	EBG63025701	NTC301	Thermistor,NTC	1
EAP63926015	EAP63926015	C1514	Inductor,Multilayer,Chip	1
EBC64155613	EBC64155613	R301	Resistor,Chip	1
EAP63926023	EAP63926023	L1505,L1621	Inductor,Multilayer,Chip	2
EBC64155619	EBC64155619	R1302,R1303	Resistor,Chip	2
EAM64290102	EAM64290102	U1514,U1613	Filter,Saw	2
EAH63632611	EAH63632611	C1532,D401	Diode,TVS	2
EAM64330301	EAM64330301	U1602	Filter,Separator,Switch	1
EBC64155630	EBC64155630	R309	Resistor,Chip	1
EBC64155608	EBC64155608	C430,C712,C733,C7	Resistor,Chip	15
EAM64270104	EAM64270104	U1505	Filter,Duplexer	1
EBC64155617	EBC64155617	R201	Resistor,Chip	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
EAM64270107	EAM64270107	U1510	Filter,Duplexer	1
MBK64972501	MBK64972501	MBK08	Can,Shield	1
EAE64621627	EAE64621627	C1522	Capacitor,Ceramic,Chip	1
EAP63945904	EAP63945904	L405	Inductor,Wire Wound,Chip	1
EAP63926026	EAP63926026	C1517,C1536,C1544	Inductor,Multilayer,Chip	3
EAM64270102	EAM64270102	U1501	Filter,Duplexer	1
EAP63926028	EAP63926028	L1541	Inductor,Multilayer,Chip	1
EBC64155631	EBC64155631	R701,R702	Resistor,Chip	2
EAP63926007	EAP63926007	C1547,C1548	Inductor,Multilayer,Chip	2
EAE64621603	EAE64621603	C420	Capacitor,Ceramic,Chip	1
MBK64953101	MBK64953101	MBK09	Can,Shield	1
EAM64290106	EAM64290106	U1607	Filter,Saw	1
MBK64952601	MBK64952601	MBK11	Can,Shield	1
EAE64621629	EAE64621629	C1567,C1573	Capacitor,Ceramic,Chip	2
EAU63283406	EAU63283406	X1302	Oscillator,TCXO	1
EAE64621637	EAE64621637	C1561,C1566,C1613	Capacitor,Ceramic,Chip	3
EBC64155615	EBC64155615	R606,R607	Resistor,Chip	2
EBR84016601	EBR84016601	EBR071600	PCB Assembly,Main,SMT B	1
EAE64621602	EAE64621602	C753	Capacitor,Ceramic,Chip	1
EAE64621604	EAE64621604	C907	Capacitor,Ceramic,Chip	1
EAE64621605	EAE64621605	C910	Capacitor,Ceramic,Chip	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
EAE64621606	EAE64621606	C503,C936	Capacitor,Ceramic,Chip	2
EAE64621607	EAE64621607	C1525,C403,C421	Capacitor,Ceramic,Chip	8
EAE64621608	EAE64621608	C1008,C153,C404,C	Capacitor,Ceramic,Chip	12
EAE64621609	EAE64621609	C1311,C405,C407,C	Capacitor,Ceramic,Chip	6
EAE64621611	EAE64621611	C603,C620	Capacitor,Ceramic,Chip	4
EAE64621612	EAE64621612	C1400	Capacitor,Ceramic,Chip	1
EAN64551801	EAN64551801	U1201	IC,WiFi	1
EBC64155613	EBC64155613	R301	Resistor,Chip	1
EBC64155607	EBC64155607	R717,R721	Resistor,Chip	2
EAP63926003	EAP63926003	L1414	Inductor,Multilayer,Chip	1
EAG65070103	EAG65070103	J803	Connector,FFC/FPC/PIC	1
EAE64621621	EAE64621621	C402	Capacitor,Ceramic,Chip	10
EAG65090301	EAG65090301	EAG02	Card Socket	1
EAE64621615	EAE64621615	C1210,C1215,C1217	Capacitor,Ceramic,Chip	11
MBK64952901	MBK64952901	MBK05	Can,Shield	1
EAM64270108	EAM64270108	U1204	Filter,Duplexer	1
EAM64310109	EAM64310109	B751,B752	Filter,Bead	2
EAE64621637	EAE64621637	C1561,C1566,C1613	Capacitor,Ceramic,Chip	2
EAE64708201	EAE64708201	C1420	Capacitor,Ceramic,Chip	1
MBK64992801	MBK64992801	MBK03	Can,Shield	1
EAP63926025	EAP63926025	C1510,C1511,L1527	Inductor,Multilayer,Chip	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
EBG63025701	EBG63025701	NTC301	Thermistor,NTC	1
EAE64621623	EAE64621623	C704,C705	Capacitor,Ceramic,Chip	2
EAP63926015	EAP63926015	C1514	Inductor,Multilayer,Chip	3
EAE64621619	EAE64621619	C1301,C1302,C1303	Capacitor,Ceramic,Chip	21
EBC64155605	EBC64155605	B401,R1014,R601	Resistor,Chip	13
EAP63926024	EAP63926024	L1503,L1504	Inductor,Multilayer,Chip	1
EBC64155628	EBC64155628	R302,R304,R305,R306	Resistor,Chip	7
EAG65109903	EAG65109903	CON1201,CON1500	Connector,RF	3
EAP63926001	EAP63926001	C1407,R1408	Inductor,Multilayer,Chip	2
EAP63926037	EAP63926037	L1209	Inductor,Multilayer,Chip	1
EAE64621620	EAE64621620	C1208	Capacitor,Ceramic,Chip	1
EAN64467701	EAN64467701	U1001	IC,LED Driver	1
EAH63632613	EAH63632613	D801	Diode,TVS	14
EBC64155611	EBC64155611	R1505	Resistor,Chip	1
EAG65110002	EAG65110002	EAG05	Connector,BtoB	1
EBC64155602	EBC64155602	R509	Resistor,Chip	1
EAE64621629	EAE64621629	C1567,C1573	Capacitor,Ceramic,Chip	1
EAN64448502	EAN64448502	U1203	IC,RF Amplifier	1
EAN64506901	EAN64506901	U501	IC,Power Generator	1
EAH63632603	EAH63632603	D1106,D1107,D1108	Diode,TVS	16
EAP63926101	EAP63926101	C1418	Inductor,Multilayer,Chip	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
EBC64155601	EBC64155601	R501	Resistor,Chip	1
EBC64155603	EBC64155603	R738	Resistor,Chip	1
EAN64467901	EAN64467901	U703	IC,Audio ADC	1
EAV63711901	EAV63711901	D1001	LED,Flash	1
EAM64290107	EAM64290107	U1205	Filter,Saw	1
MBK65012501	MBK65012501	MBK01	Can,Shield	1
EBC64155614	EBC64155614	C1530,R802	Resistor,Chip	12
EBC64155633	EBC64155633	R510	Resistor,Chip	1
EBC64155635	EBC64155635	R733,R735	Resistor,Chip	2
EAP63926027	EAP63926027	L1205	Inductor,Multilayer,Chip	1
EAH63632607	EAH63632607	D906	Diode,TVS	1
EAE64621624	EAE64621624	C1012,C141,C157,C	Capacitor,Ceramic,Chip	25
EAE64621622	EAE64621622	C1528	Capacitor,Ceramic,Chip	1
EBC64155620	EBC64155620	R1027	Resistor,Chip	1
EAE64621614	EAE64621614	C1018	Capacitor,Ceramic,Chip	1
EAM64371601	EAM64371601	R1011,R1028	Filter,Bead	2
EAG65070101	EAG65070101	J1002	Connector,FFC/FPC/PIC	1
EAE64621633	EAE64621633	C1442,C1444	Capacitor,Ceramic,Chip	2
EAP63926033	EAP63926033	L1518	Inductor,Multilayer,Chip	1
EBC64155604	EBC64155604	B714	Resistor,Chip	1
MBK64992701	MBK64992701	MBK07	Can,Shield	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
EAM64290109	EAM64290109	U1202	Filter,Saw	1
EAE64621627	EAE64621627	C1522	Capacitor,Ceramic,Chip	1
EAH63632501	EAH63632501	D901	Diode,Schottky	1
EAM64330201	EAM64330201	U1604	Filter,Separator,Switch	1
EAP63945904	EAP63945904	L405	Inductor,Wire Wound,Chip	1
EAP63926026	EAP63926026	C1517,C1536,C1544	Inductor,Multilayer,Chip	1
EAP63967501	EAP63967501	L1407	Inductor,Multilayer,Chip	1
EAE64621631	EAE64621631	C1601,C1607,C1608	Capacitor,Ceramic,Chip	4
EAE64621601	EAE64621601	C116,C118	Capacitor,Ceramic,Chip	2
EAE64621613	EAE64621613	C1019	Capacitor,Ceramic,Chip	1
EAE64621628	EAE64621628	L1412	Capacitor,Ceramic,Chip	1
EAN64507001	EAN64507001	U1405	IC,RF Amplifier	1
MBK65012601	MBK65012601	MBK12	Can,Shield	1
EBC64155623	EBC64155623	R203,R205,R208,R209	Resistor,Chip	4
EAH63632609	EAH63632609	D701,D902,D910	Diode,TVS	3
EAG65110001	EAG65110001	EAG04	Connector,BtoB	1
EAN64467801	EAN64467801	U903	IC,LED Driver	1
EBC64155629	EBC64155629	R411,R719	Resistor,Chip	2
EAH63632608	EAH63632608	D712,D713	Diode,TVS	2
EAE64621616	EAE64621616	C1539,C1540,C1554	Capacitor,Ceramic,Chip	3
EBC64155606	EBC64155606	R907	Resistor,Chip	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
EAE64621626	EAE64621626	C1440	Capacitor,Ceramic,Chip	1
EAP63945902	EAP63945902	L901	Inductor,Wire Wound,Chip	1
EBC64155627	EBC64155627	R1309,R1311,R312	Resistor,Chip	8
EAP63926022	EAP63926022	C1542,L1512,L1555	Inductor,Multilayer,Chip	1
MCE63272801	MCE63272801	ANT1201,ANT1202	Contact	10
EAE64621634	EAE64621634	L1511,L1524	Capacitor,Ceramic,Chip	1
EAP63926011	EAP63926011	L1535,L1572,L1575	Inductor,Multilayer,Chip	1
EBC64155609	EBC64155609	R1026	Resistor,Chip	1
EAH63632611	EAH63632611	C1532,D401	Diode,TVS	3
EBC64155608	EBC64155608	C430,C712,C733,C7	Resistor,Chip	23
EAP63926008	EAP63926008	C1619,L1506	Inductor,Multilayer,Chip	2
EAE64621630	EAE64621630	C1441,L1610,R1410	Capacitor,Ceramic,Chip	3
EAM64450201	EAM64450201	B706,B707,B708	Filter,Bead	3
EAP63926039	EAP63926039	L1618	Inductor,Multilayer,Chip	1
EAM64450101	EAM64450101	B710	Filter,Bead	1
EAP63926034	EAP63926034	C1438,C1654	Inductor,Multilayer,Chip	2
EAP63926019	EAP63926019	C1632	Inductor,Multilayer,Chip	1
EAE64722001	EAE64722001	D503	Capacitor,Ceramic,Chip	1
MEZ65049701	MEZ65049701	MEZ000000	Label	1
EAE64621618	EAE64621618	C1032,C1033,C1501	Capacitor,Ceramic,Chip	27
EAG65070001	EAG65070001	EAG01	Card Socket	1

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
EAE64621638	EAE64621638	C1211,C714,C726	Capacitor,Ceramic,Chip	3
EAN64468001	EAN64468001	U808	IC,Gyro Sensor	1
EA63290003	EA63290003	VCR501,VCR502,V	Varistor	4
EAH63632602	EAH63632602	VCR702,VCR703	Diode,TVS	2
EAH63632606	EAH63632606	D501,D504	Diode,TVS	2
EAM64310202	EAM64310202	Z1001,Z1002,Z1003	Filter,Ceramic	12
EAM64310103	EAM64310103	B709,R505,R506,R7	Filter,Bead	5
EAG65209901	EAG65209901	EAG03	Connector,Terminal Block	1
EAP63926028	EAP63926028	L1541	Inductor,Multilayer,Chip	1
EAM64310106	EAM64310106	R1206	Filter,Bead	1
EA63283402	EA63283402	X1201	Oscillator,TCXO	1
MEZ65049701	MEZ65049701	MEZ000000	Label	1
SAD36244001	SAD36244001	SAD010000	Software,Mobile	1
MEZ64615406	MEZ64615406	MEZ002100	Label,Approval	1
AGF78638801	- AGF78638801	AGF000000	Package Assembly	1
MAY66007618	MAY66007618	MAY047100	Box,Master	0.2
MAY66232701	MAY66232701	MAY010800	Box,Carton	0.00123
MAY66232702	MAY66232702	MAY010801	Box,Carton	0.0007
MAY66232703	MAY66232703	MAY010802	Box,Carton	0.001
MBEC0002901	MBEC0002901	MAY010803	Box,Carton	0.0022
MEZ63874703	MEZ63874703	MEZ084100	Label,Unit Box	2

13. REPLACEMENT PART LIST

P/N	Item	Location no	Description	Quantity
MEZ64781708	MEZ64781708	MEZ047200	Label,Master Box	0.2
MEZ65015204	MEZ65015204	MEZ084101	Label,Unit Box	1
MJN68155201	MJN68155201	MJN000000	Tape	0.00051
MPCY0019330	MPCY0019330	MGA000000	Pallet	0.0022
AAD88190701	- AAD88190701	AAD000000	Addition Assembly	1
EAY62751807	EAY62751807	EAY060000	Adapters	1
EAD62377927	EAD62377927	EAD010000	Cable,Assembly	1
MBM65776001	MBM65776001	MBM062600	Card,Quick Reference	1
MFL69860001	MFL69860001	MFL053800	Manual,Operation	0
EAC63382107	EAC63382107	EAC00	Rechargeable Battery,Lithium	1
MAY67584411	MAY67584411	MAY084000	Box,Unit	1
ACQ89508302	- ACQ89508302	ACQ02	Cover Assembly,Battery	1
MCK69524302	MCK69524302	MCK004100	Cover,Battery	1
MDJ65164301	MDJ65164301	MDJ000000	Filter	1
MHK65745302	MHK65745302	MHK000000	Sheet	1