Internal Use Only

MOBILE PHONE
SERVICE MANUAL

CAUTION
BEFORE SERVICING THE UNIT, READ THE “SAFETY PRECAUTIONS” IN THIS MANUAL

MODEL : LG-H990ds
(VIETMOBILE.VN)

Date: Oct. 2016 / Issue 1.0

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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.

Support Band	TX Freq (MHz)	RX Freq (MHz)
EGSM	880 – 915	925 – 960
GSM850	824 – 849	869 – 894
DCS1800	1710 – 1785	1805 – 1880
PCS1900	1850 – 1910	1930 – 1990
WCDMA(FDD1)	1920 – 1980	2110 – 2170
WCDMA(FDD2)	1850 – 1910	1930 – 1990
WCDMA(FDD3)	1710 – 1785	1805 – 1880
WCDMA(FDD4)	1710 – 1755	2110 – 2155
WCDMA(FDD5)	824 – 849	869 – 894
WCDMA(FDD8)	880 – 915	925 – 960
TD-SCDMA(B34)	2010~2025	2010~2025
TD-SCDMA(B39)	1880~1920	1880~1920

Support Band	TX Freq (MHz)	RX Freq (MHz)
LTE1	1920 – 1980	2110 – 2170
LTE2	1850 – 1910	1930 – 1990
LTE3	1710 – 1785	1805 – 1880
LTE4	1710 – 1755	2110 – 2155
LTE5	824 – 849	869 – 894
LTE7	2500 – 2570	2620 – 2690
LTE8	880 – 915	925 – 960
LTE12	699 – 716	729 – 746
LTE17	704 – 716	734 – 746
LTE20	832 – 862	791 - 821
LTE26	814 – 849	859 – 894
LTE28	703 – 748	758 – 803
LTE38	2570 – 2620	2570 – 2620
LTE39	1880~1920	1880~1920
LTE40	2300 – 2400	2300 – 2400
LTE41	2496 – 2690	2496 – 2690

항 목	Type / Spec.
1. Phone Type	DOP
2. Size	159.7mm x 78.1mm x 7.7mm
3. Weight	174g (with Battery)
4. Battery	3200mAh(Typ) 3.85V, (Li-ion)
5. MSM Chipset	MSN8996 2.15GHz Quad core
6. Memory	64GB(UFS) + 4GB(LPDDR4) External Memory(SD Card) : Up to 2TB
7. LCD	5.7" (2560x1440) , 16.7M Colors, TFT
8. Main Camera	16MP@30fps/8MP@30fps wide angle+ 5MP@30fps wide angle
9. Audio	14 X 14 X 3.3T Speaker
10. Bluetooth	Bluetooth 4.2 BLE
11. WLAN	2.4GHz IEEE 802.11 b/g/n/ac , 5GHz IEEE 802.11 a/n/ac
12. LTE	3GPP 36.101

RSSI BAR	GSM RSSI	WCDMA/ TD-SCDMA RSSI	LTE RSSI	Comment
BAR 5->4	- 90dBm± 3dB	- 87dBm± 4dB	-85dBm ± 4dB	1. Call Connected & CPIPH Level=-3.3
BAR 4->3	- 95dBm± 3dB	- 92dBm± 4dB	-95dBm ± 4dB	
BAR 3->2	- 98dBm± 3dB	- 98dBm± 4dB	-105dBm ± 4dB	
BAR 2->1	- 102dBm± 3dB	- 102dBm± 4dB	-115dBm ± 4dB	
BAR 1->0	- 104dBm± 3dB	- 108dBm± 4dB	-128dBm ± 4dB	

Measure RSSI after 10 seconds when you change power.
For GSM, Operating Mode -> GPRS
MS_TXPWR_MAX_CCH -> 5 / Maximum Uplink Transmit Power Level -> 33dBm
For WCDMA/TD-SCDMA, Uplink Parameters.
After Maximum Uplink Transmit Power Level set to max power,(24dBm)
progress the measurement

	Specification		
	GSM	WCDMA/ TD-SCDMA	LTE
1. Sleep Mode (Sleep & Idle Avg)	30mA↓@ P.P 5	30mA↓@ DRX 7	30mA↓@ 2.56s
2. Standby (With Earjack)	32.5mA↓@ P.P 5	32.5mA↓@ DRX 7	32.5mA↓@ 2.56s
3. Standby (BT Connected)	33.5mA↓	33.5mA↓	33.5mA↓
4. Talk Mode	-GSM LVL5 : 400mA↓@ Avg	-Max Pwr : 870mA↓@Avg -Tx 10dBm : 270 mA↓@ Avg	-Max Pwr(LCD Off) 870mA↓@Avg -Tx 10dBm(LCD Off) 370mA↓@ Avg
5. No SVC Mode	220mA↓	220mA↓	220mA↓
6. Power Off Mode	700uA↓	700uA↓	700uA↓

Battery Bar	Specification	Battery Bar	Specification
Bar 20(Full)	Over 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	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%, 1%
Bar 10 -> Bar 9	48% -> 47%		

※Cut Off Voltage : 3.3 ± 0.1 V, if[SOC(%) 2% → 1%], cut off.

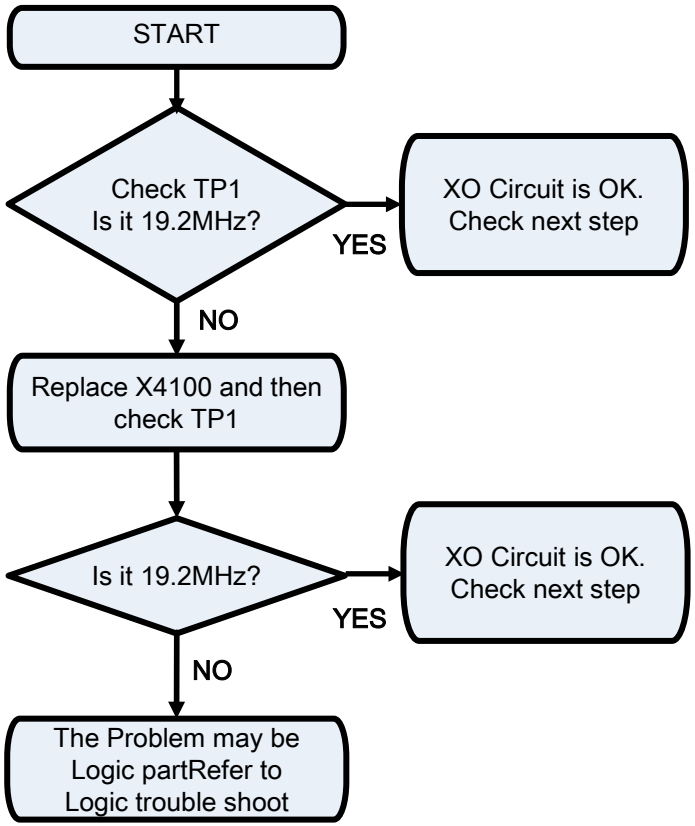
Item	Feature	Comment
RSSI	0 ~ 5 Levels	
Battery Charging	0 ~ 100 Levels	
Key Volume	0 ~ 15 Level	
Audio Volume	0 ~ 15 Level	
Time / Date Display	Yes	
Multi-Language	Yes	depending on build language
Quick Access Mode	Phone / Messaging / Applications	Phone / Messaging / Application
PC Sync	No	LG Bridge
Speed Dial	Yes	Voice mail center -> 1 key
Profile	Yes	not same with feature phone s etting
CLIP / CLIR	Yes	
Phone Book	Name / Number / Email / Groups / Postal addresses / Organizations / I M / Note / Nickname / Website / Ev ent /	There is no limitation on the n umber of items. It depends on available memor y amount.
Last Dial Number	Yes	
Last Received Number	Yes	
Last Missed Number	Yes	
Search by Number/Na me	Yes	
Group	Yes	There is no limitation on the n umber of items. It depends on available memor y amount.
Fixed Dial Number	Yes	
Service Dial Number	No	It depends on operator requirements. (OCT. 2016 : RGS, TCL, BELL, VIV, **USC(MX)**, VDF, ORG SCA)
Own Number	Yes	My Profile (add/edit/delete are supported)

Voice Memo	Yes	Support the HD Audio Recorder
Call Reminder	No	
Network Selection	Automatic	
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	Supported bearer : CS only
EMS Melody / Picture Send / Receive / Save	No	EMS does not supported.
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	It depends on country. 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	

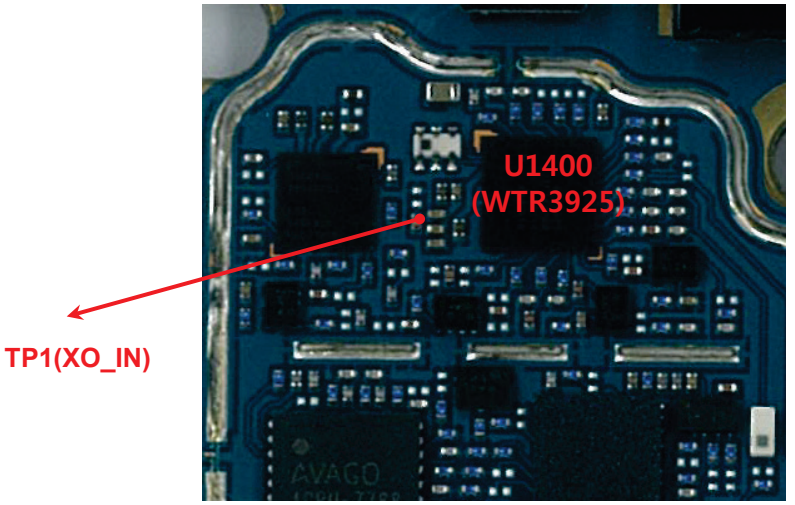
Unit Convert	No	
Stop Watch	Yes	
Wall Paper	Yes	
WAP Browser	No	Support only web browser based on webkit. WAP stack and wml are not supported.
Download Melody / Wallpaper	Yes	Over web browser
SIM Lock	No	It depends on operator requirements.
SIM Toolkit	Yes	
MMS	Yes	The default MMS client is LG Messaging application.
EONS	Yes	
CPHS	Yes	V4.2
ENS	No	
Camera	Yes	16M AF / Digital Zoom : x8
JAVA	No	
Voice Dial	No	Partially Compatible. It can be supported by GMS(Google search). It depends on country and language.
IrDa	No	IrRC
Bluetooth	Yes	Ver. 4.2
FM radio	Yes	
GPRS	Yes	Class 33
EDGE	Yes	Class 33
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	

The output frequency(19.2MHz) of XO(X4100) is used as the reference one of WTR3925 and PM8996 internal VCO

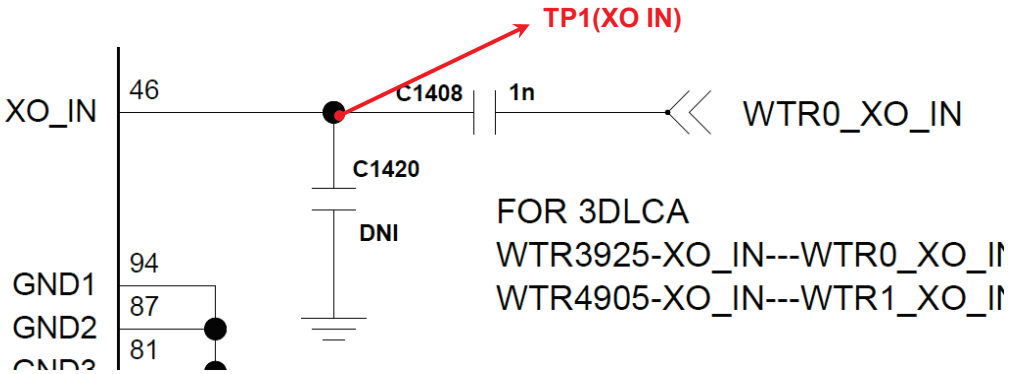
Checking Flow



TOP Image

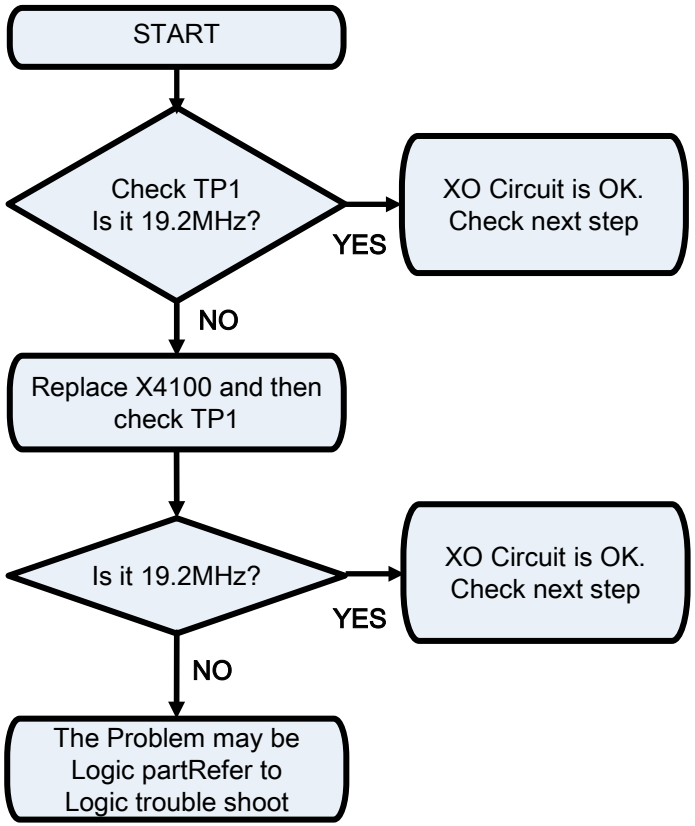


Circuit Diagram



The output frequency(19.2MHz) of XO(X4100) is used as the reference one of WTR4905 and PM8996 internal VCO

Checking Flow



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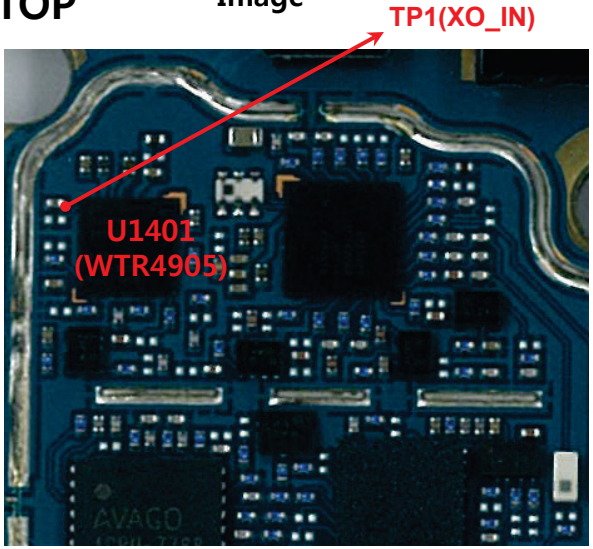
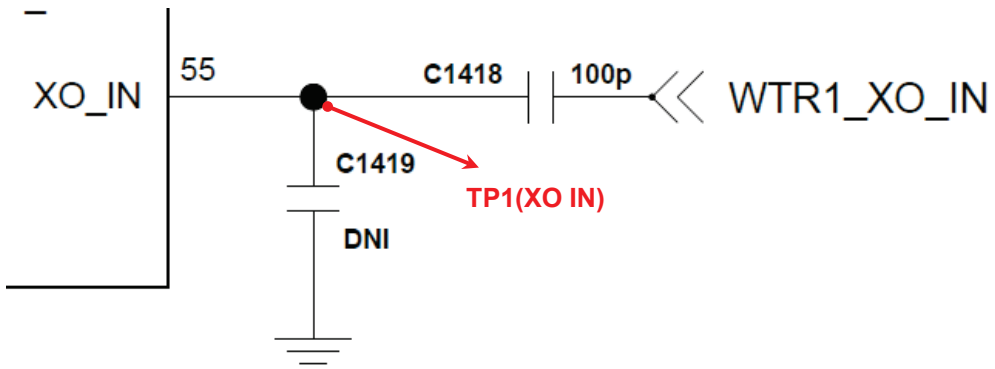
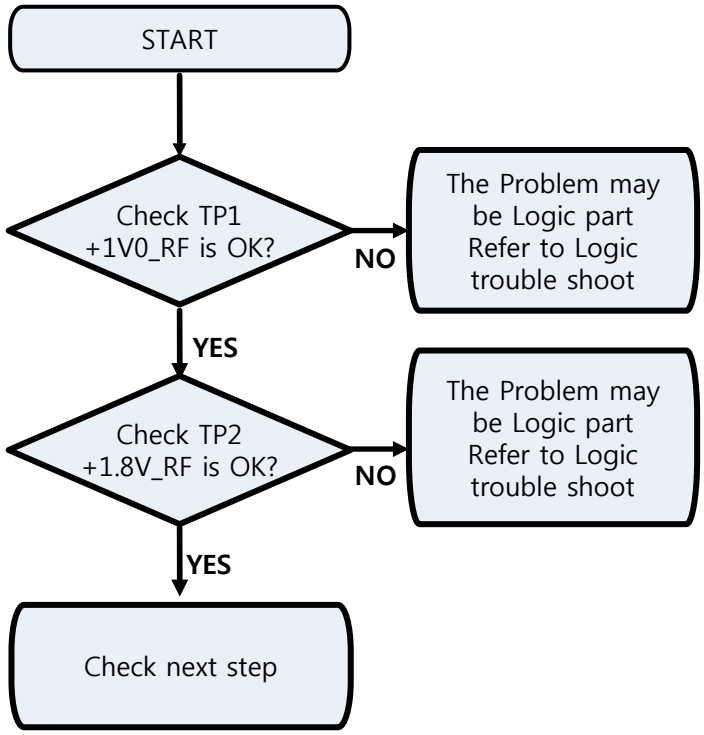


Circuit Diagram



Checking Transceiver 1 DC Power Supply Circuit

Checking Flow



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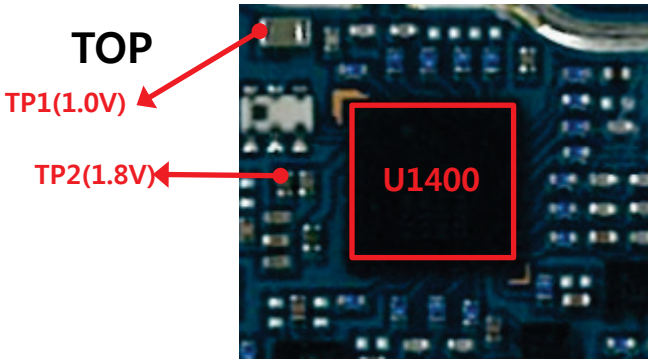
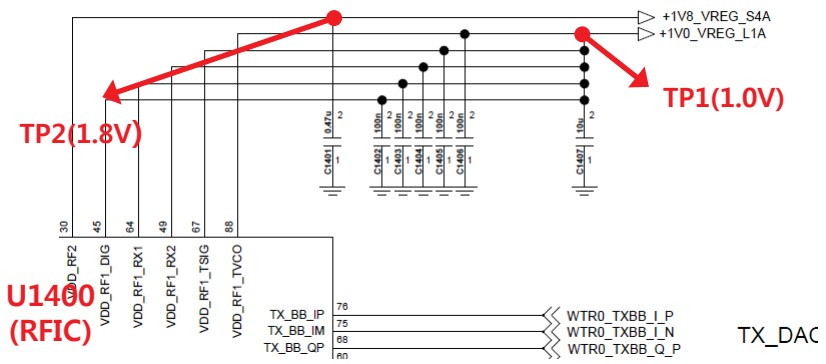
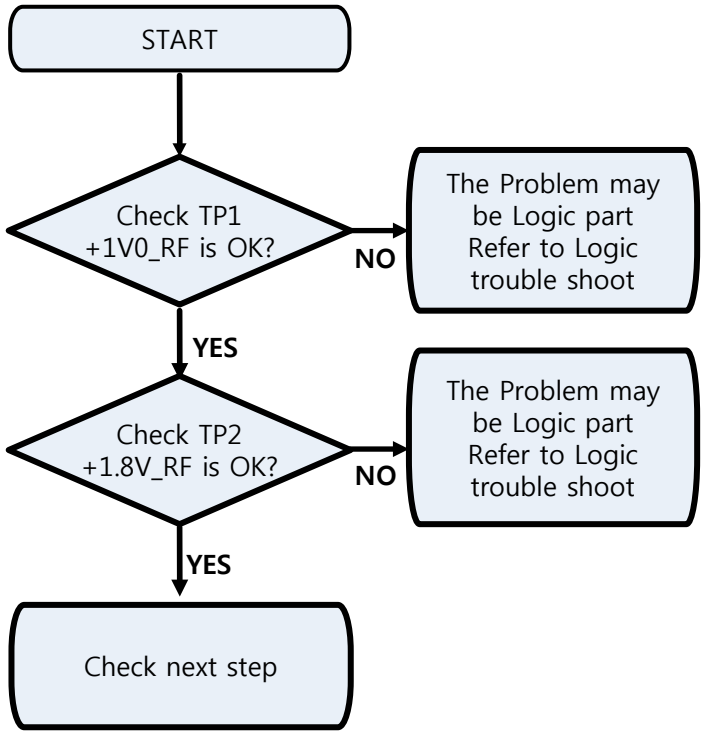


Circuit Diagram



Checking Transceiver 2 DC Power Supply Circuit

Checking Flow



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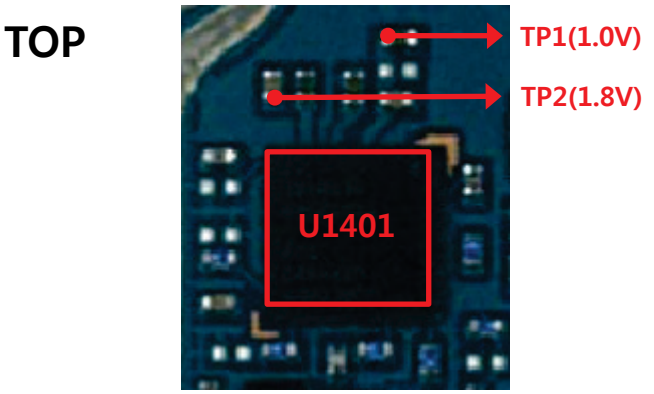
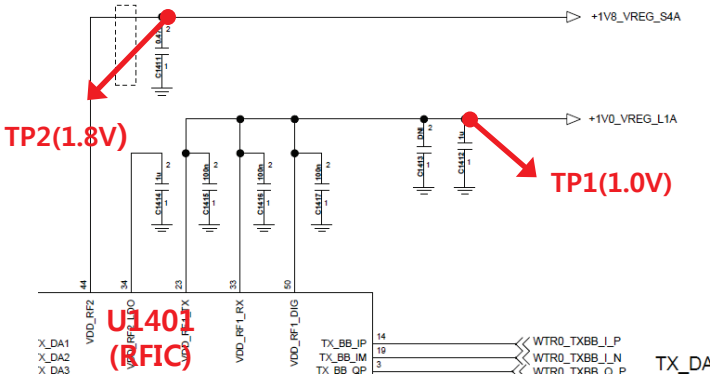
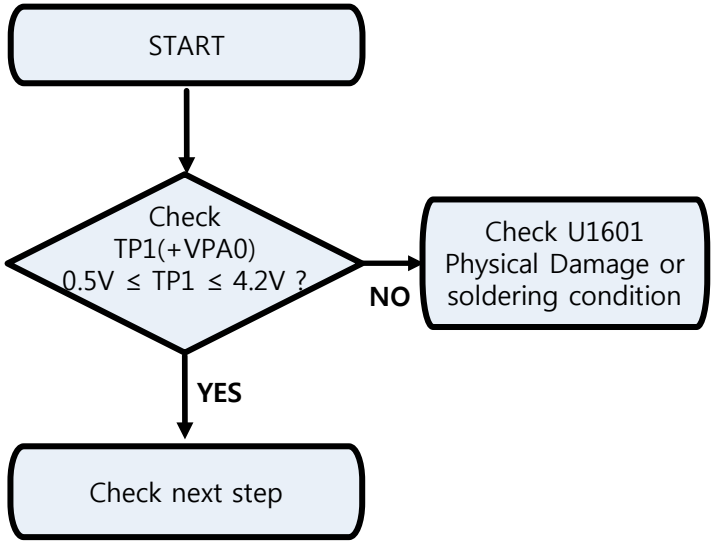


Circuit Diagram



Checking DC/DC Block

Checking Flow



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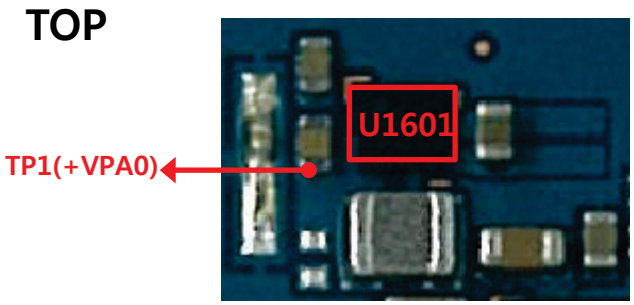
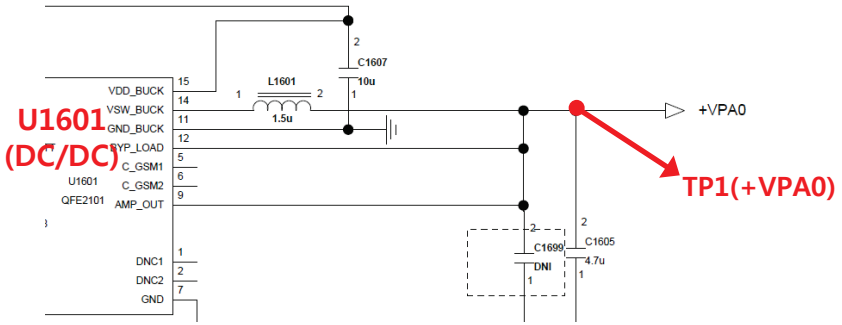
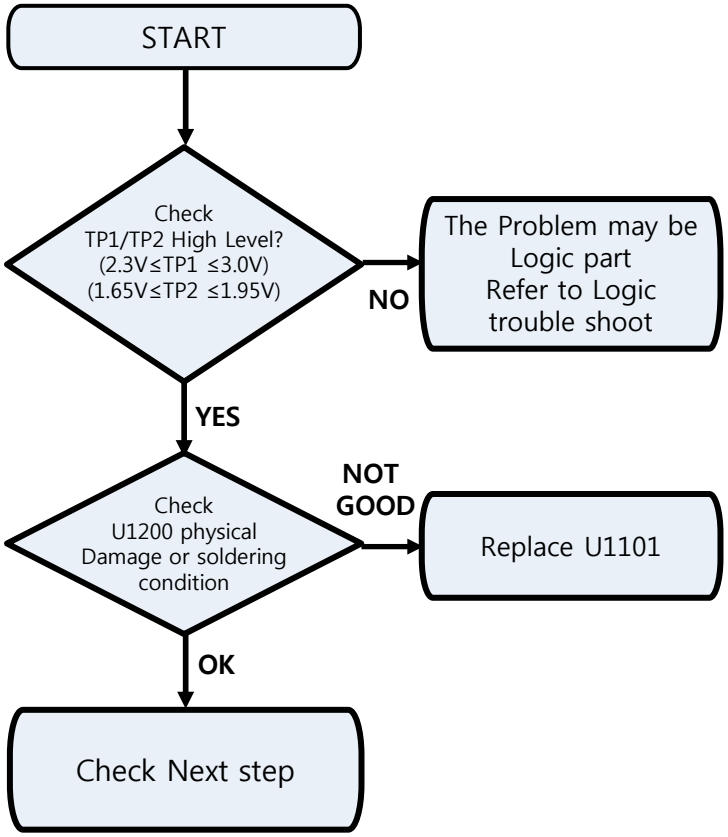


Circuit Diagram



Checking FEMiD Block

Checking Flow



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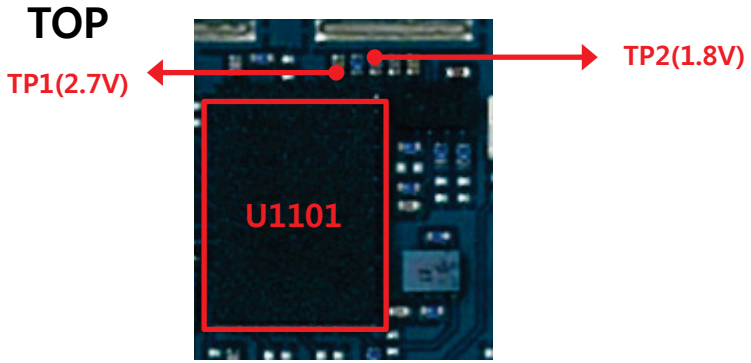
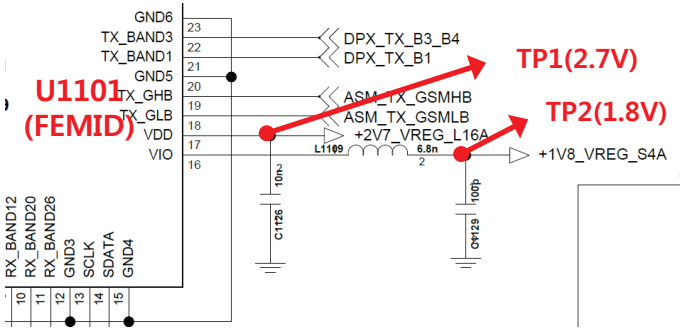
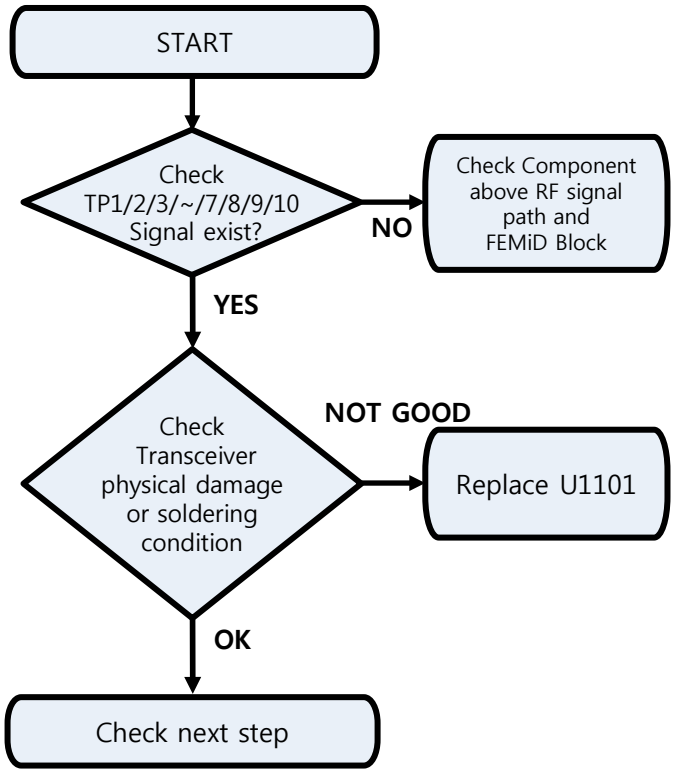


Circuit Diagram



Checking Rx signal path(LTE B1/B2/B3/B4/B5/B8/B12/B17/B20/B26/B28/B39)

Checking Flow



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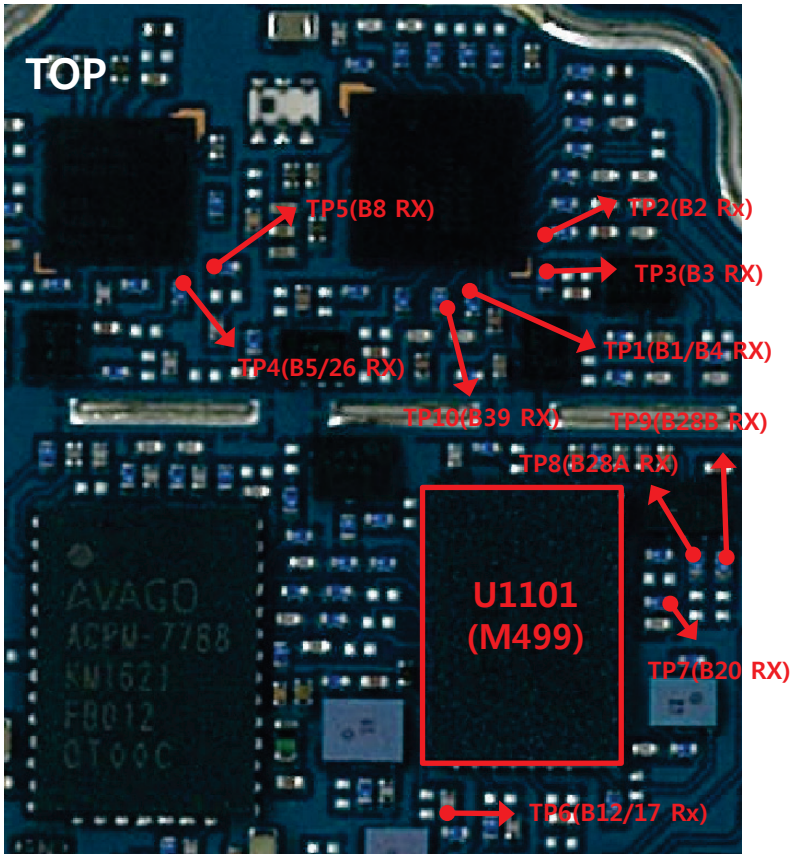
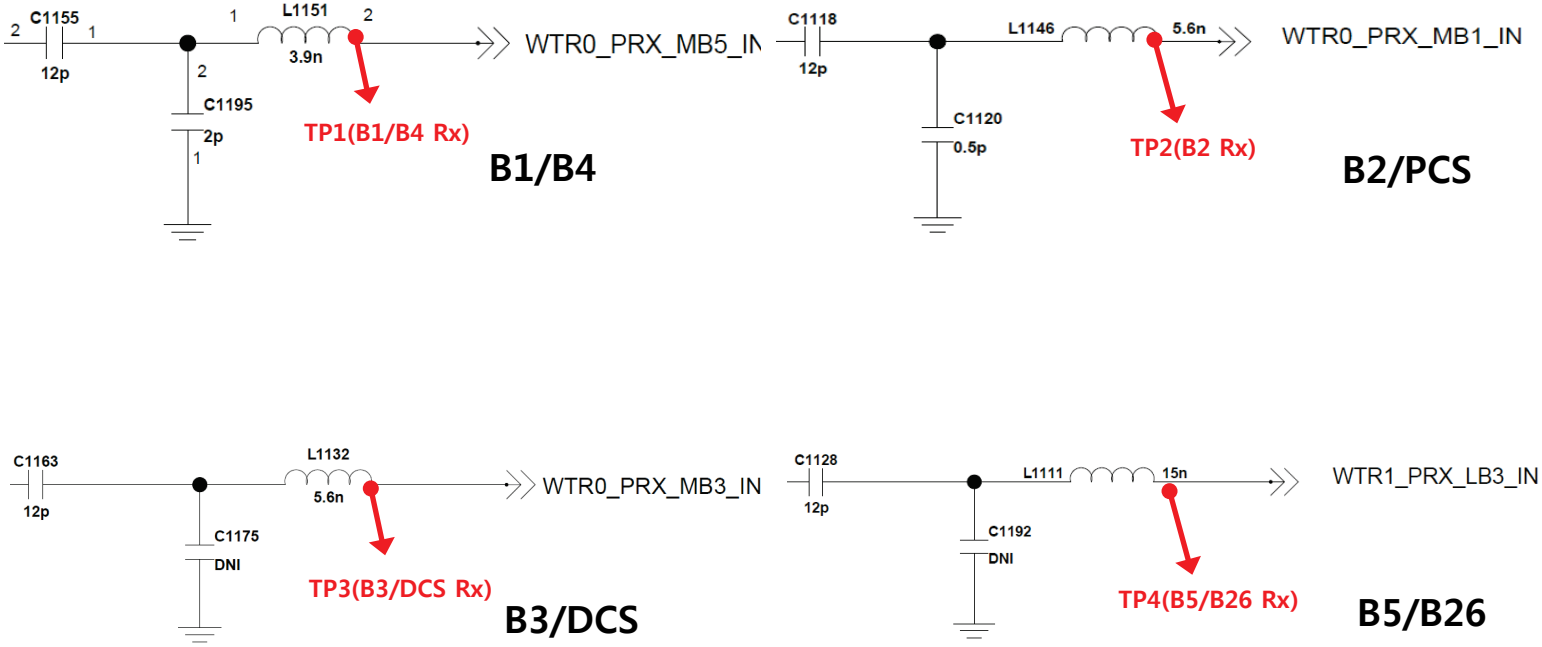
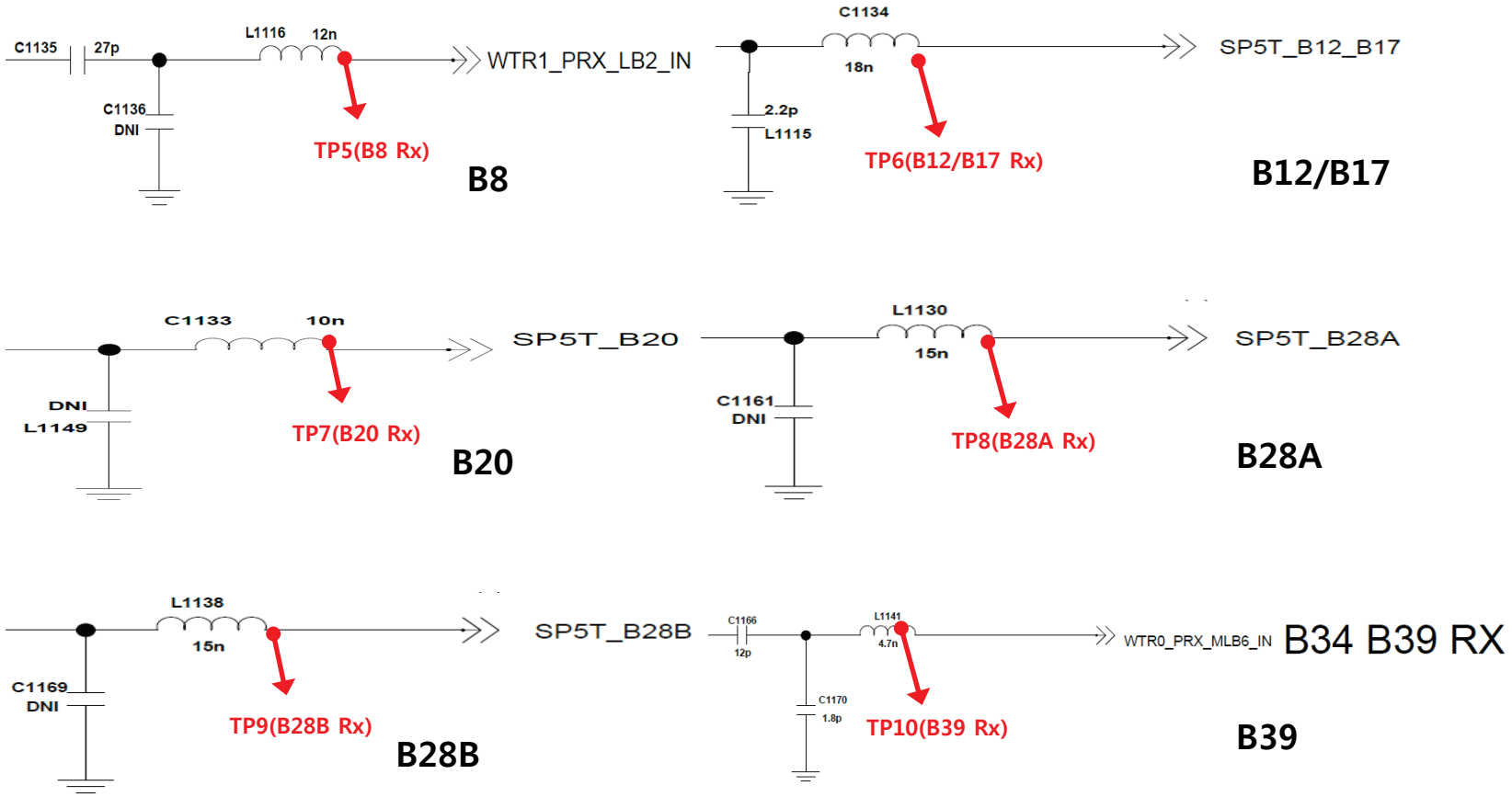


Circuit Diagram

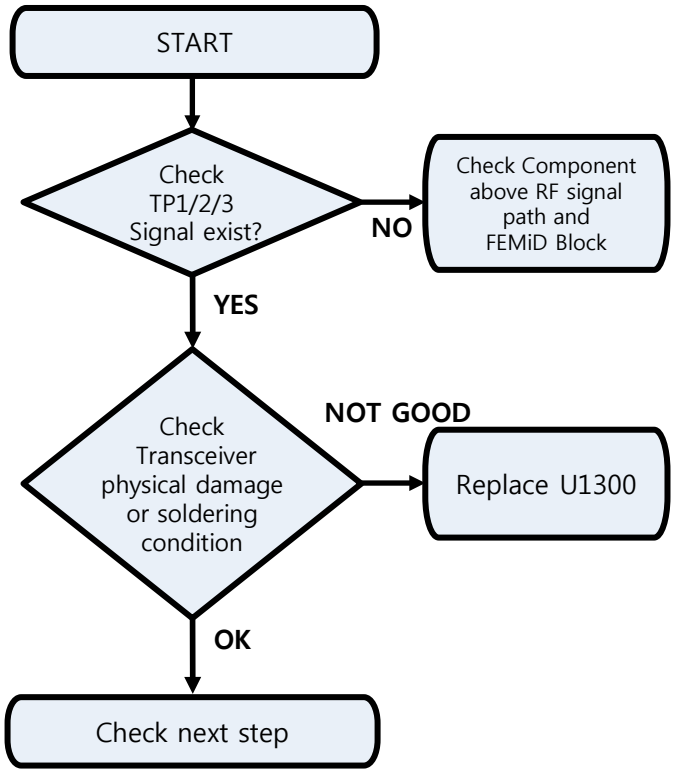


Circuit Diagram



Checking Rx signal path(LTE B7/B38/B40/B41)

Checking Flow



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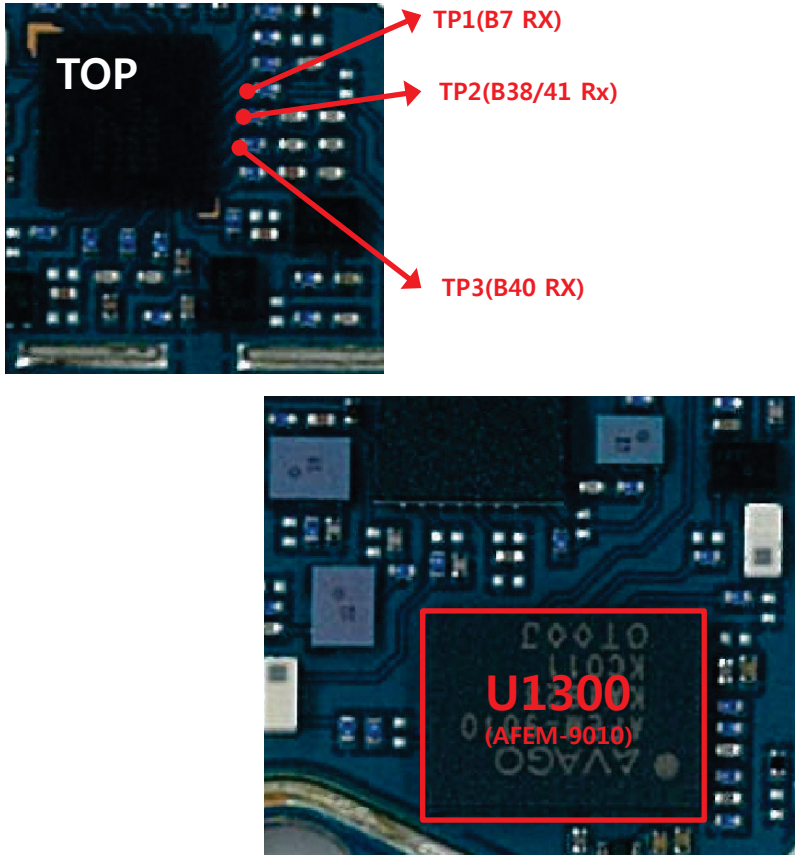
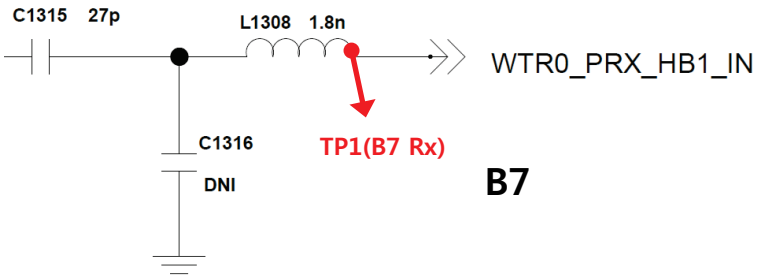
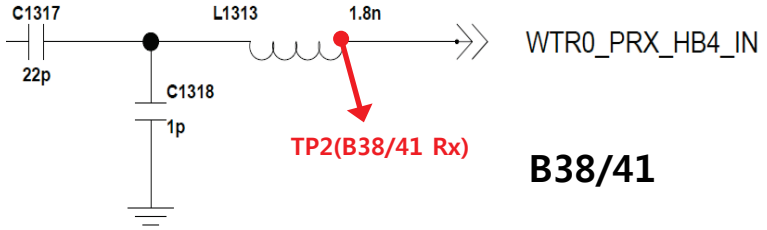


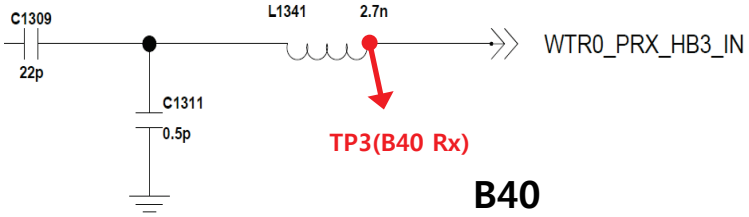
Circuit Diagram



B7

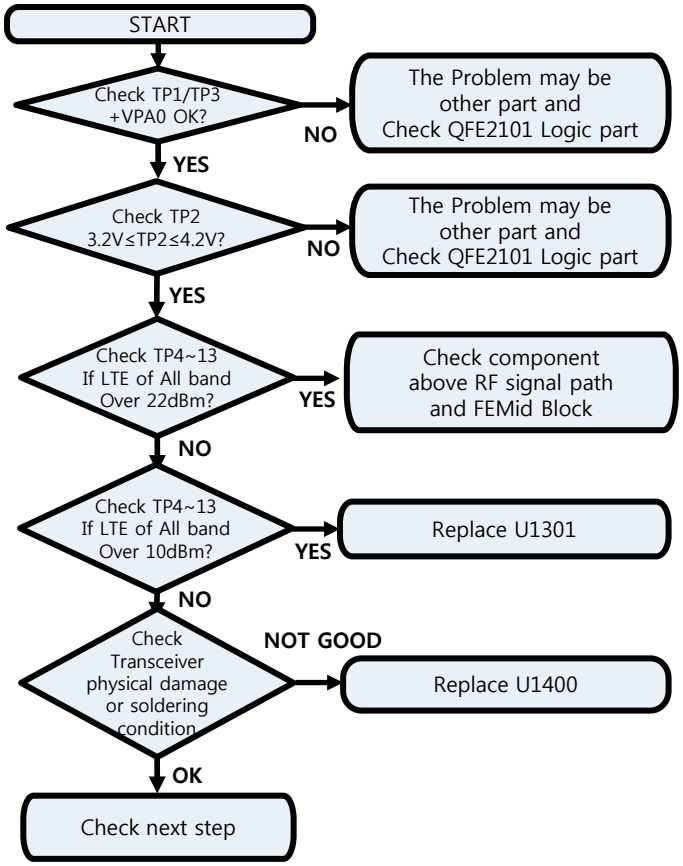


B38/41



B40

Checking Tx signal path(LTE B1/B2/B3/B4/B5/B8/B12/B17/B20/B26/B28/B34/B39 Tx)



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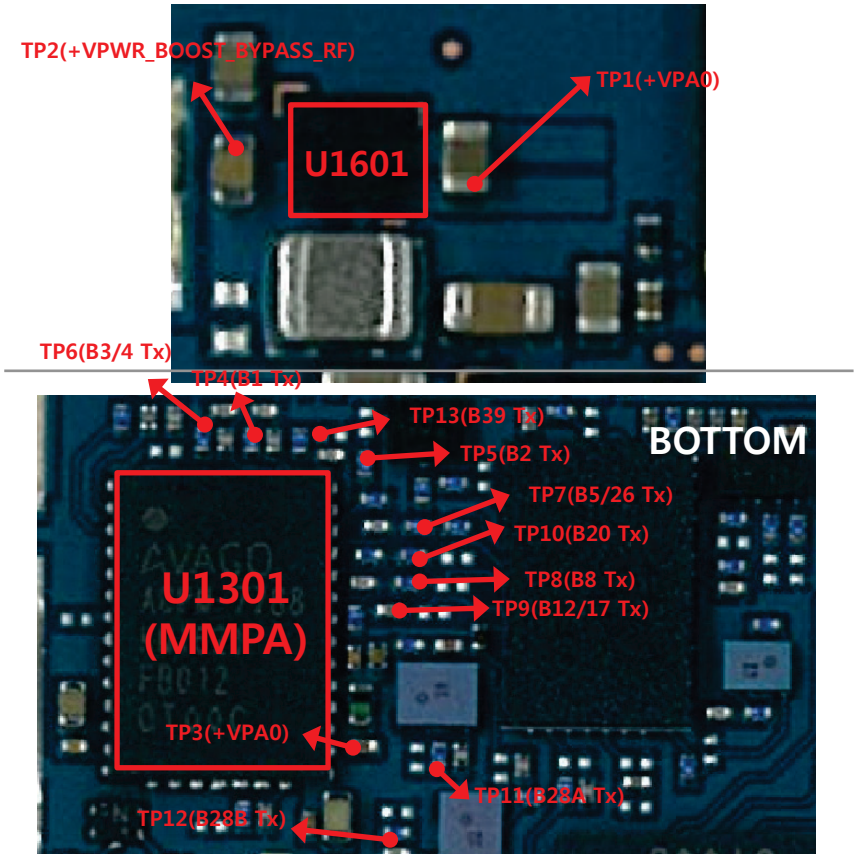
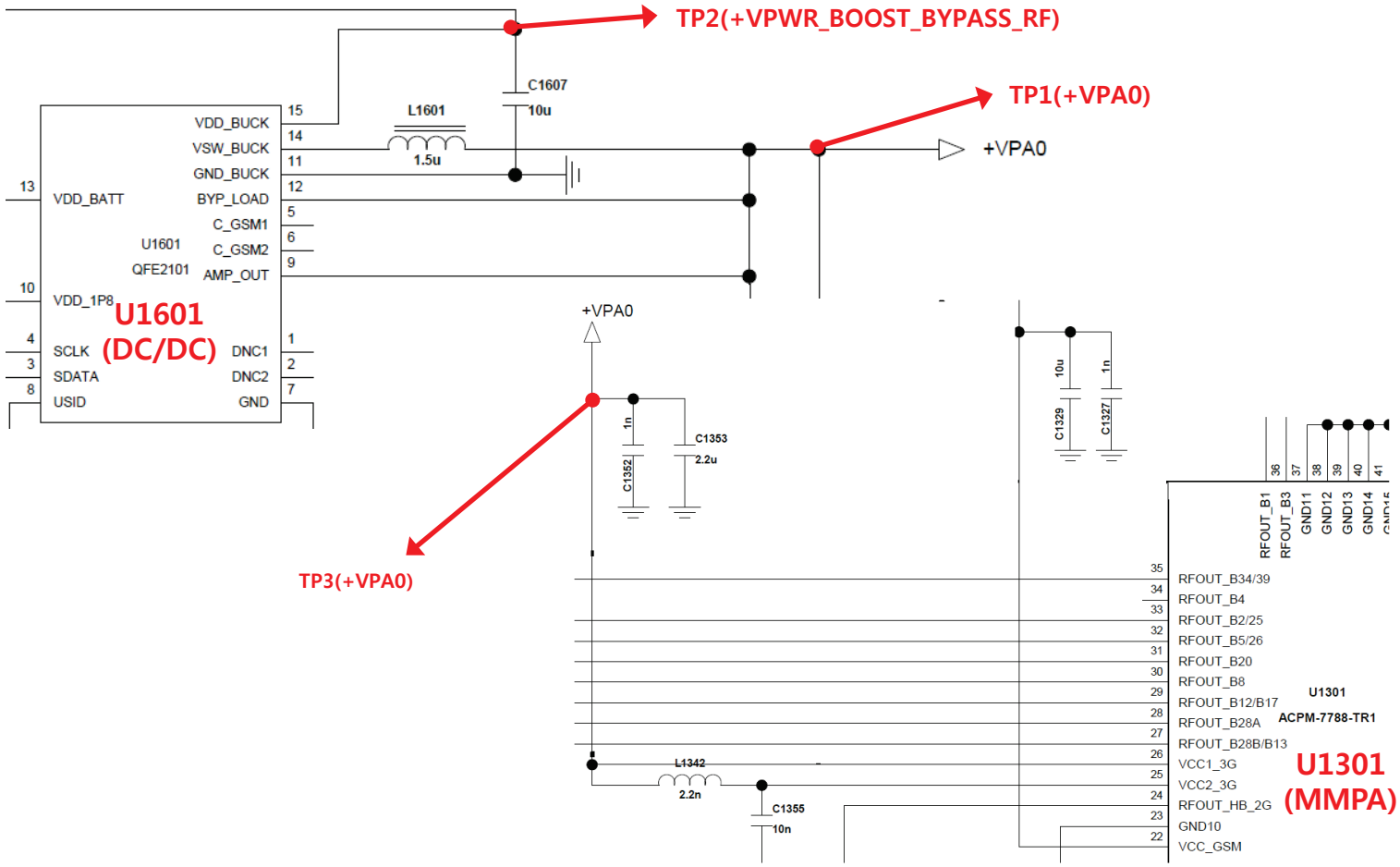
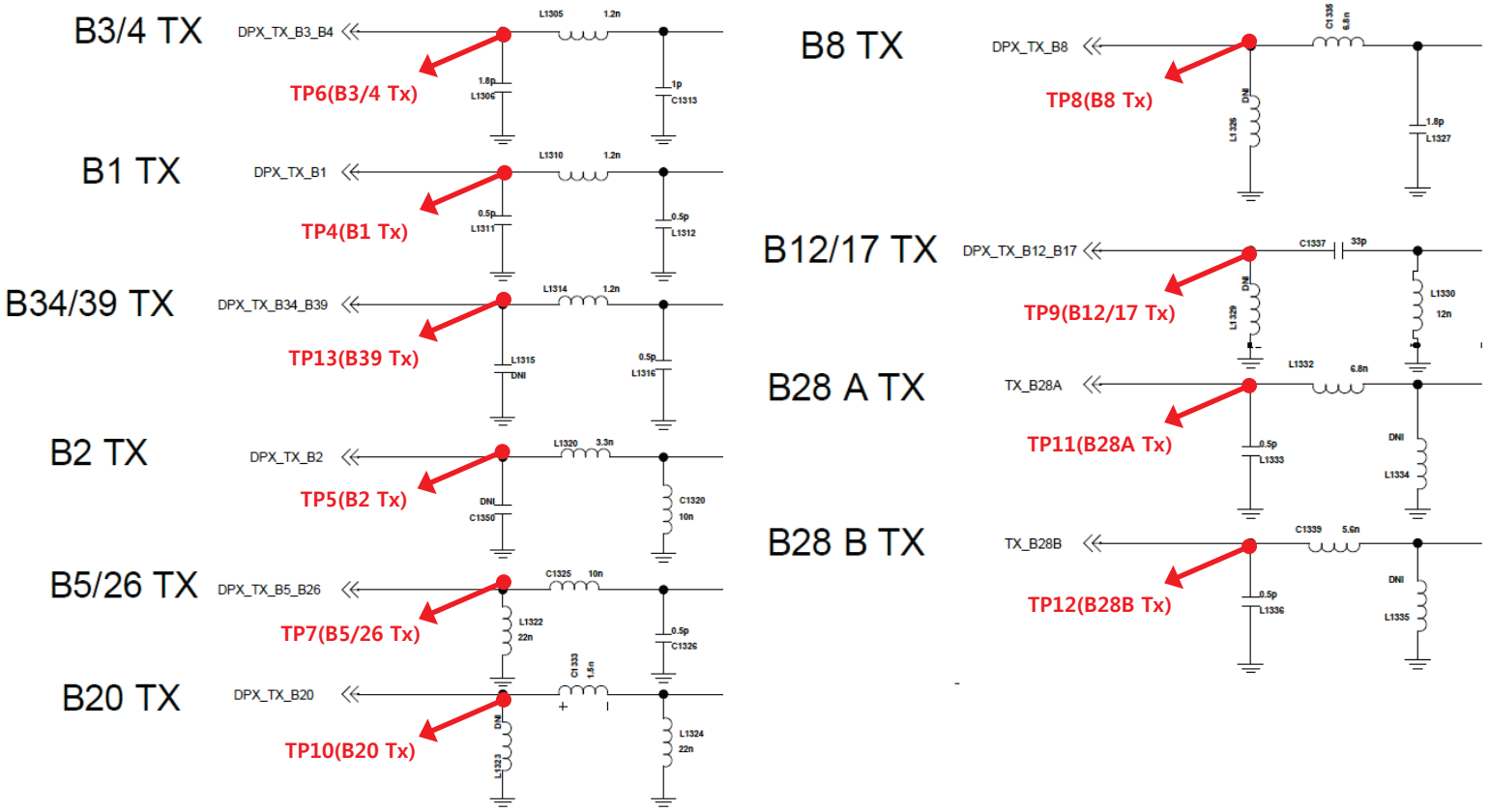


Circuit Diagram

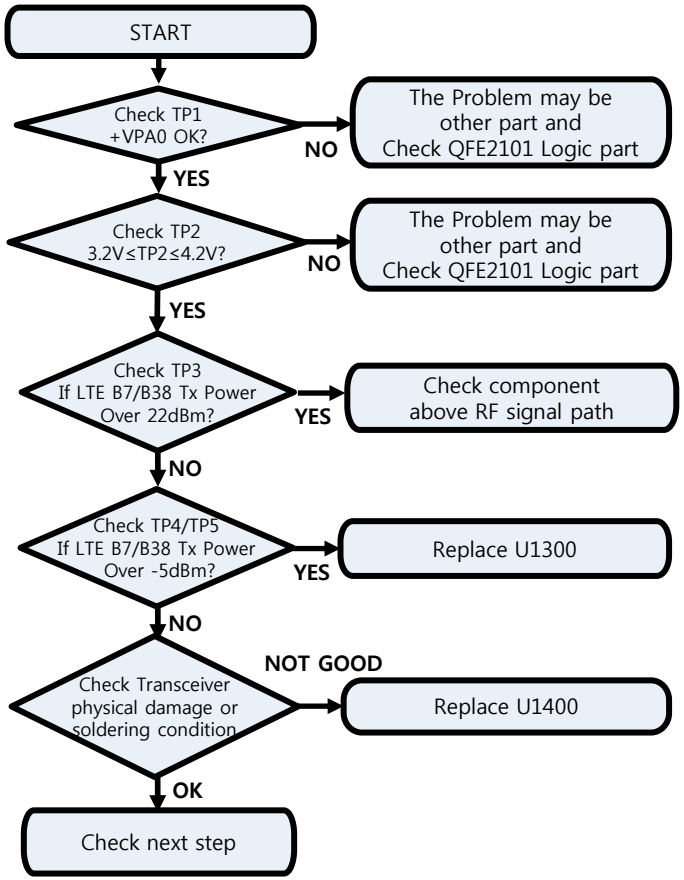


Circuit Diagram



Checking Tx signal path(LTE B7/B38/40/41)

Checking Flow



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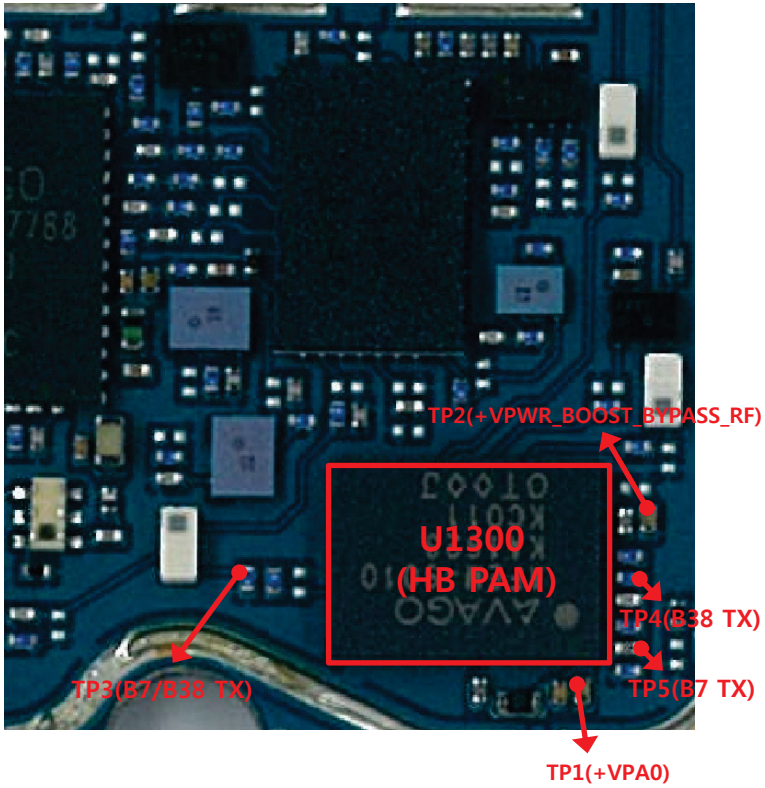
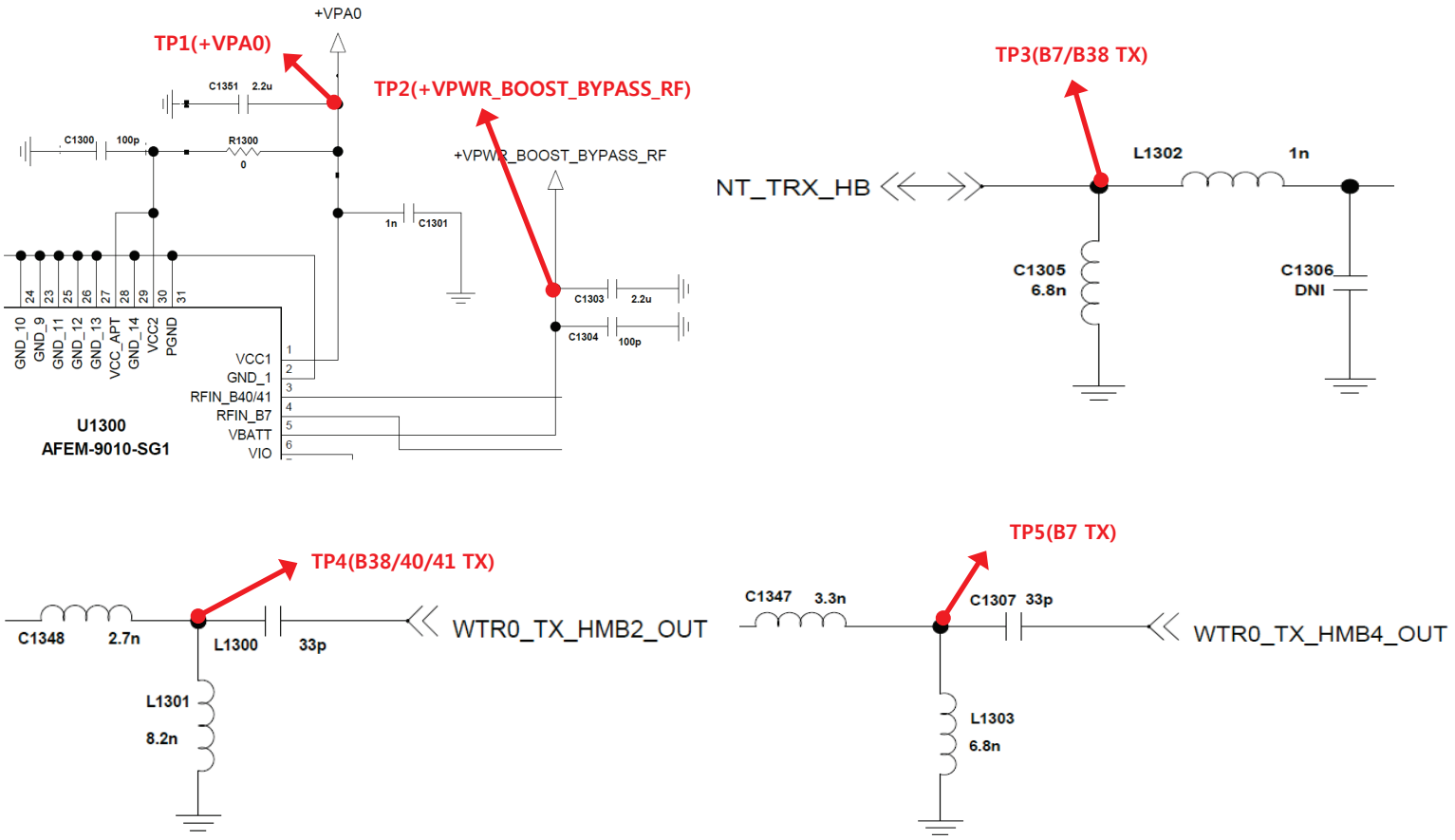
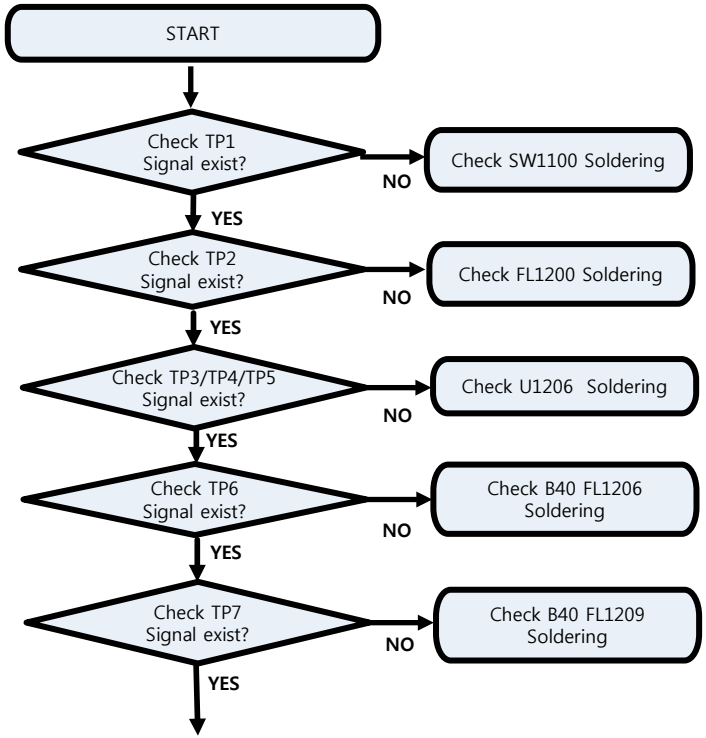


Circuit Diagram



Checking DRX RF signal path (B7/B38/B40/B41)

Checking Flow



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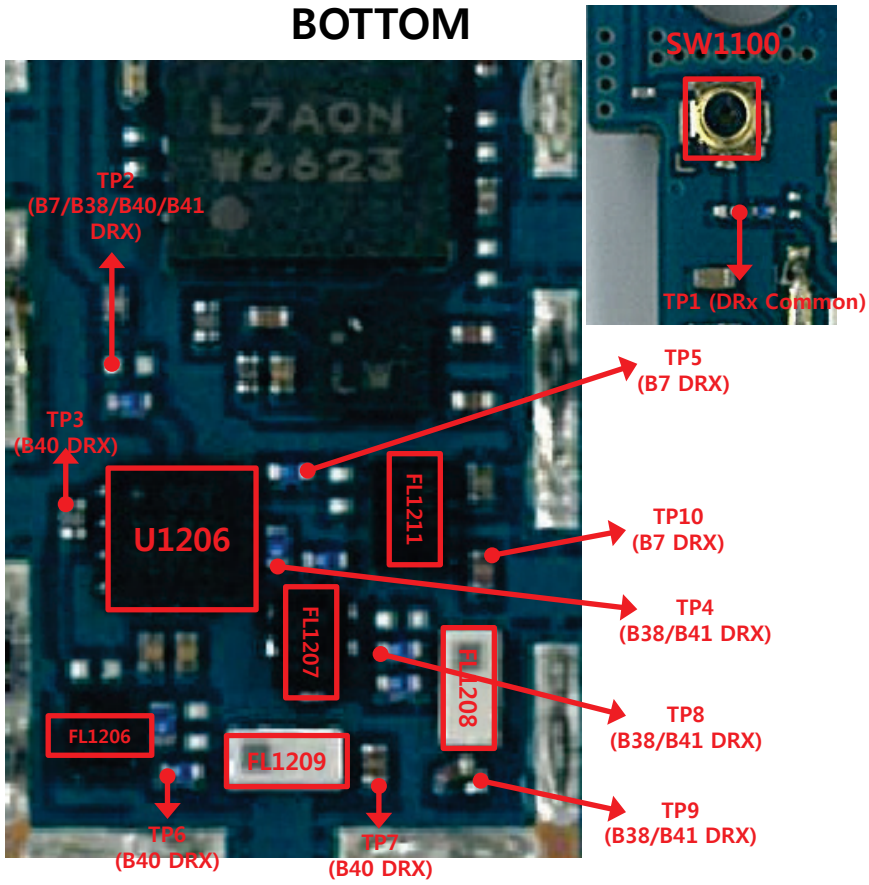
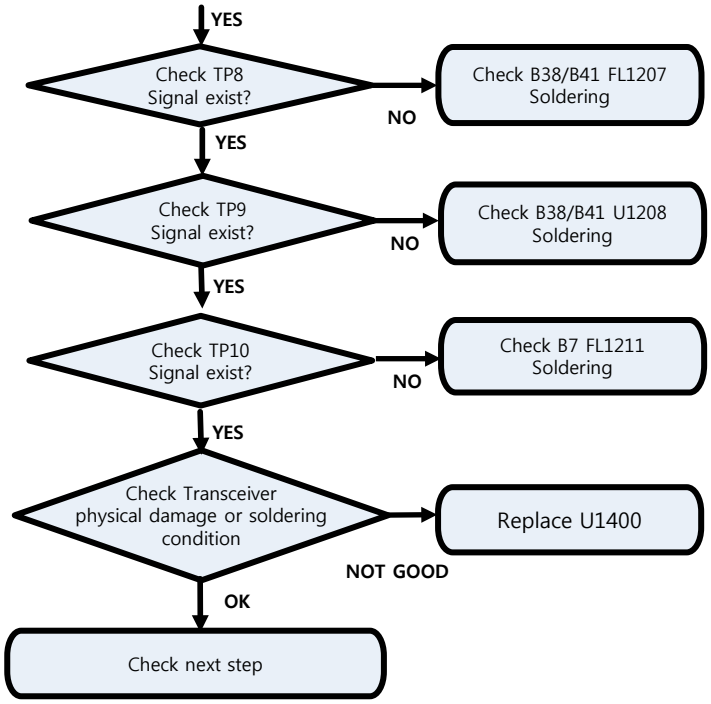


Checking DRX RF signal path (B7/B38/B40/B41)

Checking Flow



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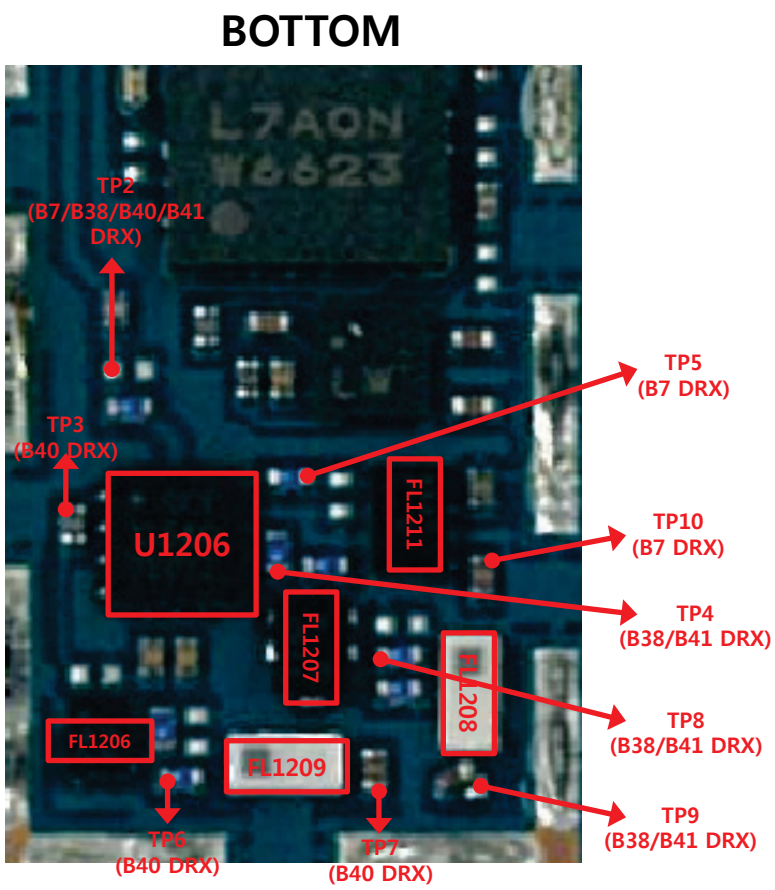
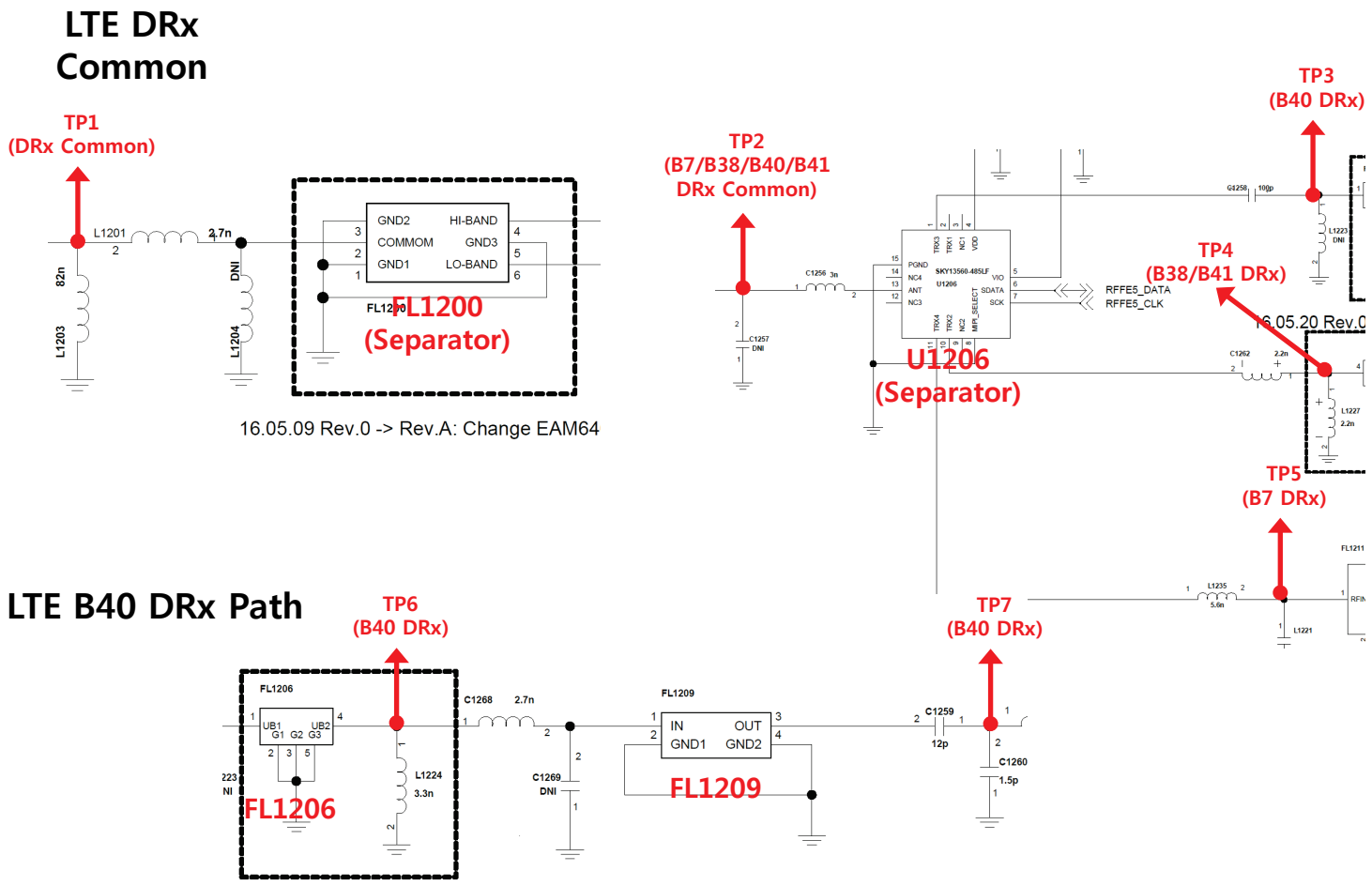
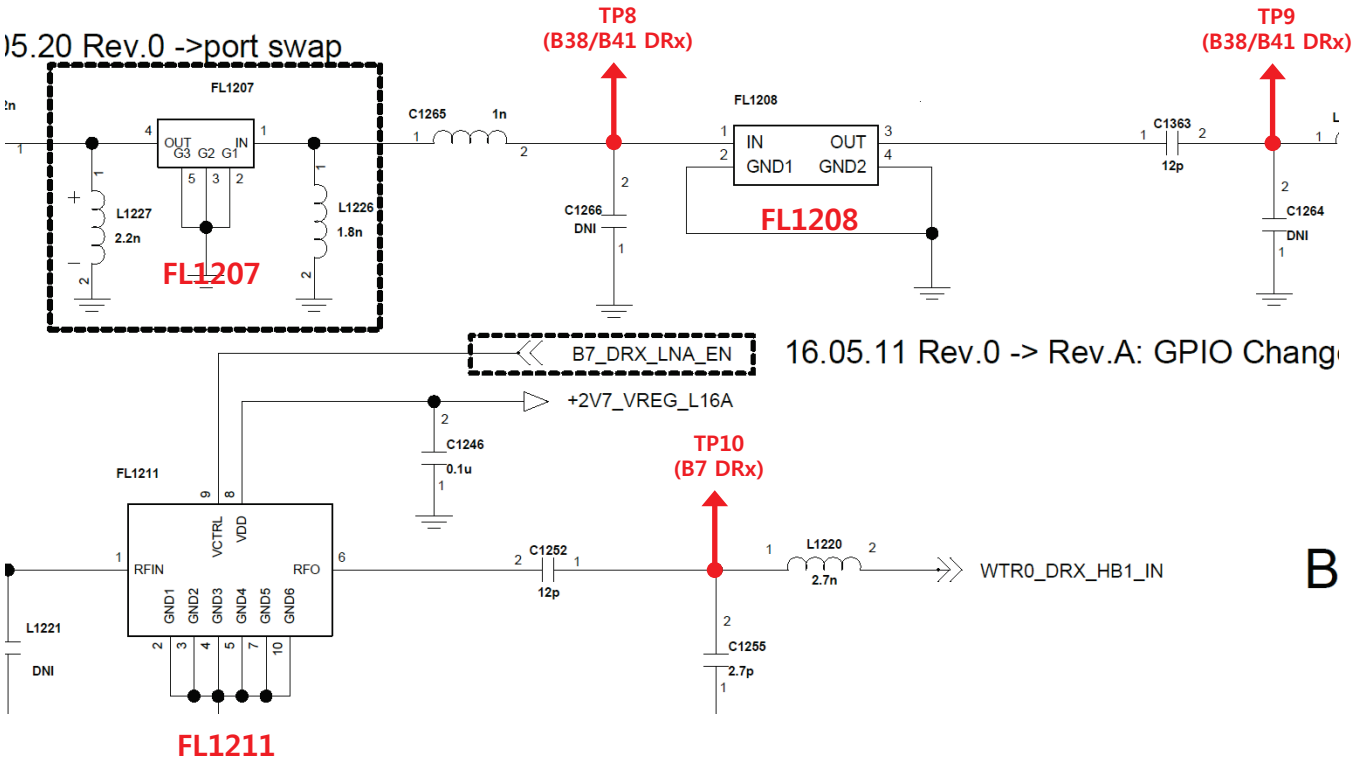


Circuit Diagram



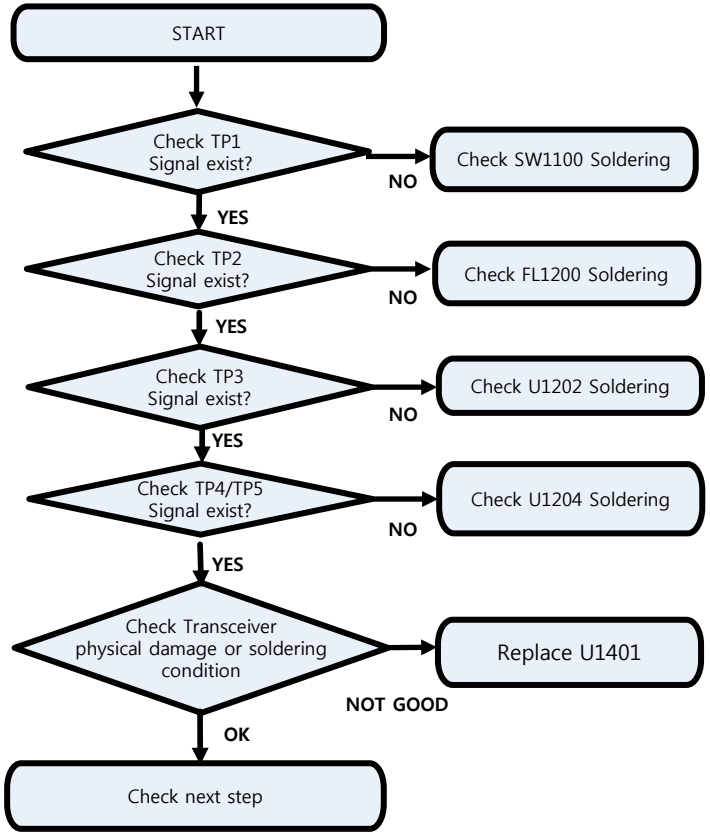
Circuit Diagram

LTE B38/B40/B7 DRx Path



Checking DRX RF signal path (B5/B8/B12/B17/B20/B26/B28)

Checking Flow



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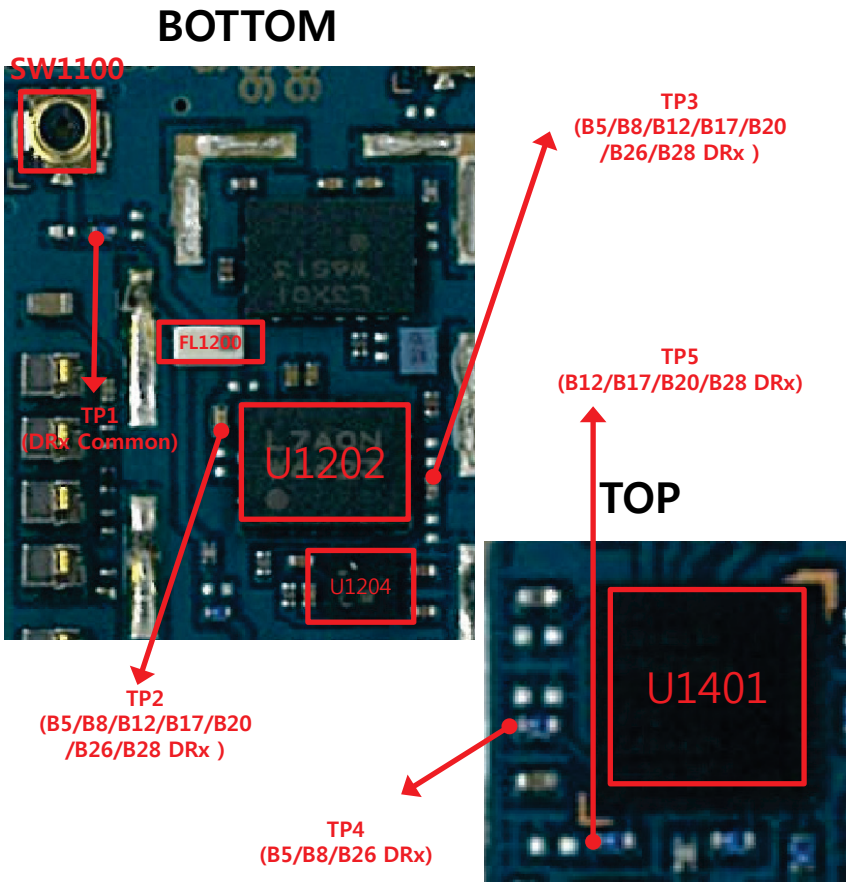
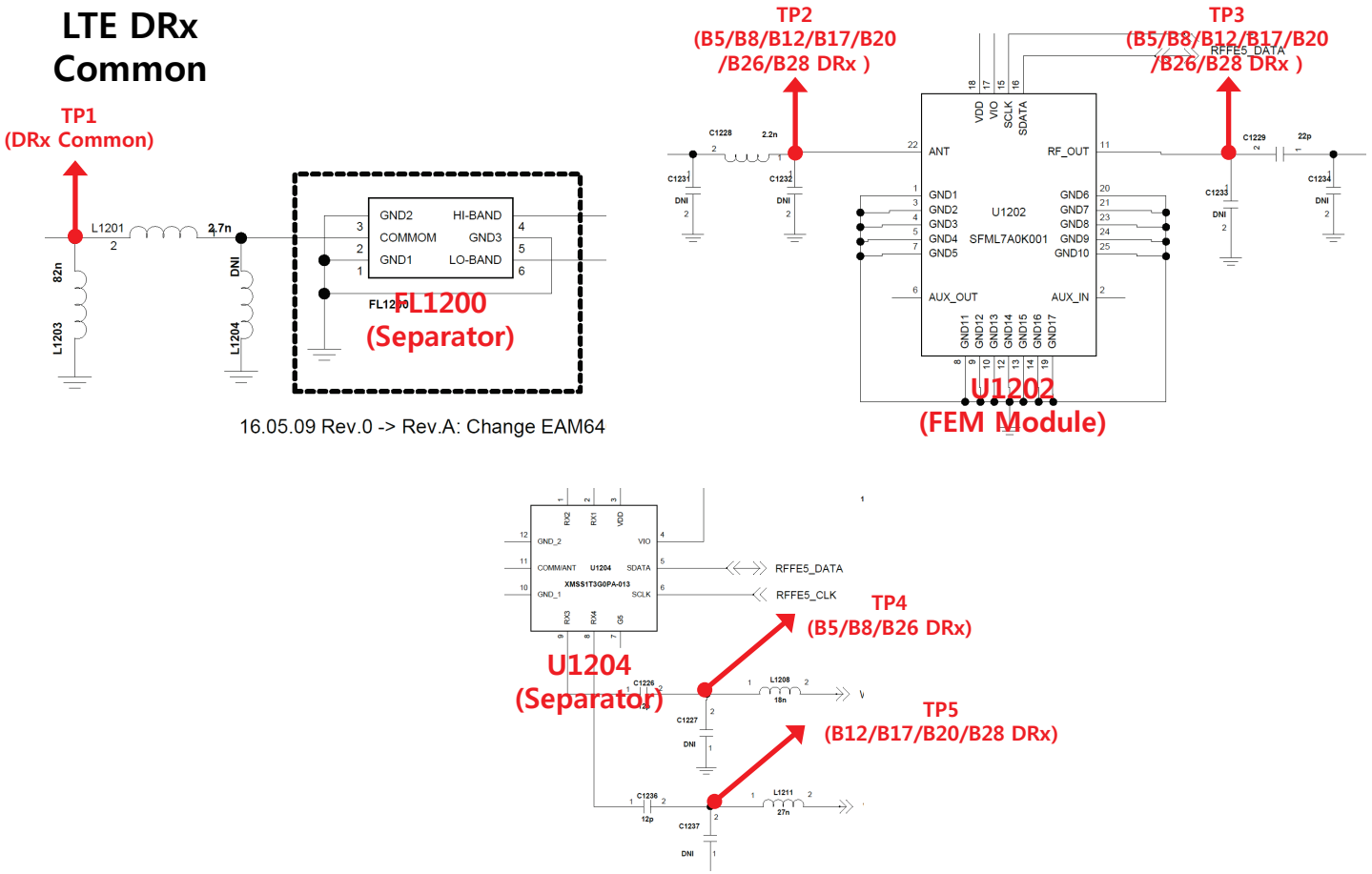


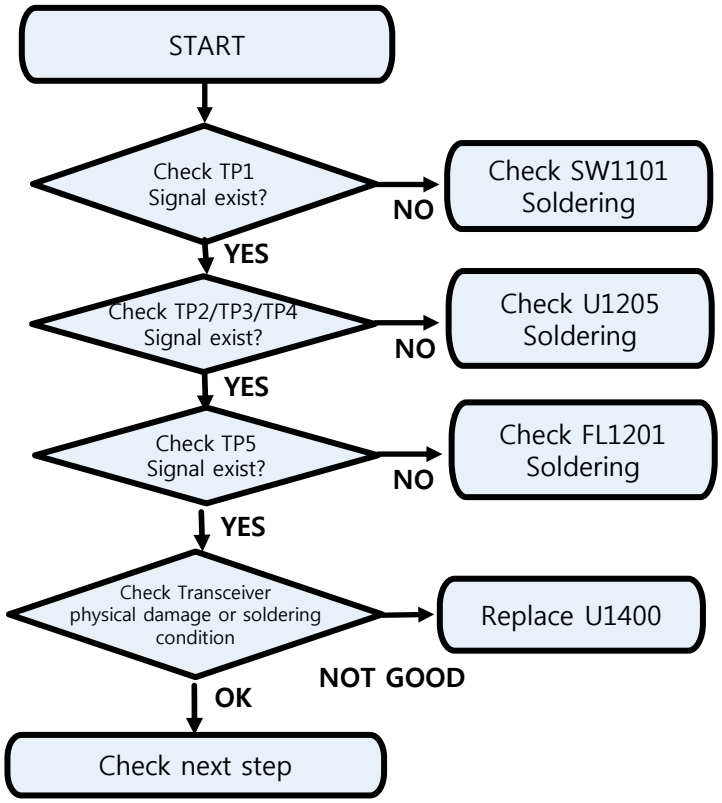
Circuit Diagram



16.05.09 Rev.0 -> Rev.A: Change EAM64

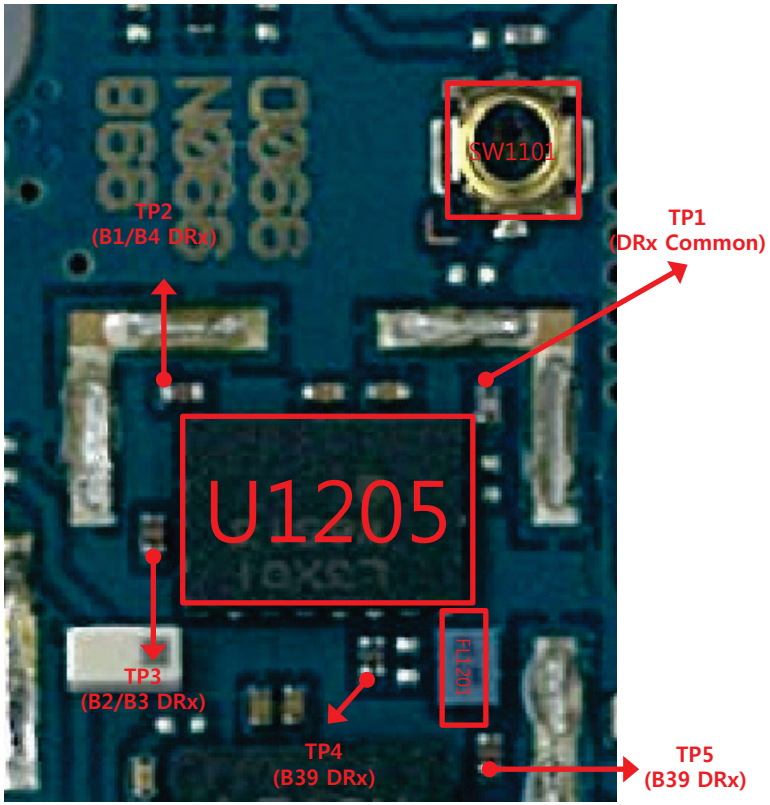
Checking DRX RF signal path (B1/B2/B3/B4/B39)

Checking Flow

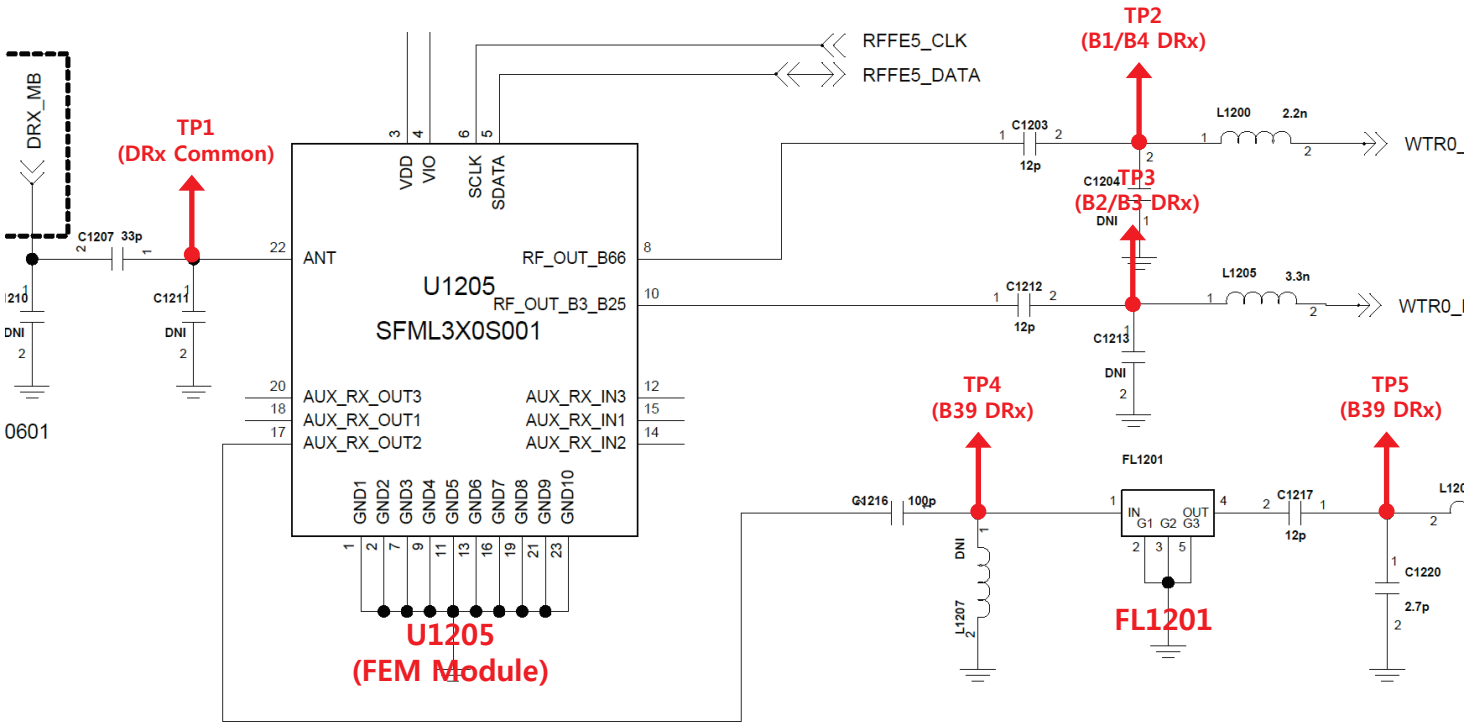


Image

BOTTOM

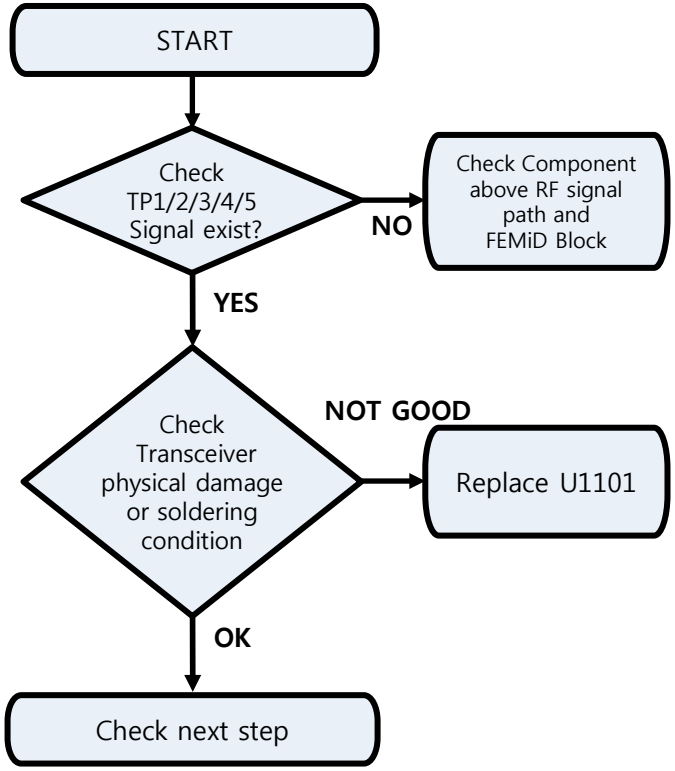


Circuit Diagram



Checking Rx signal path(B1/B2/B3/B4/B5)

Checking Flow



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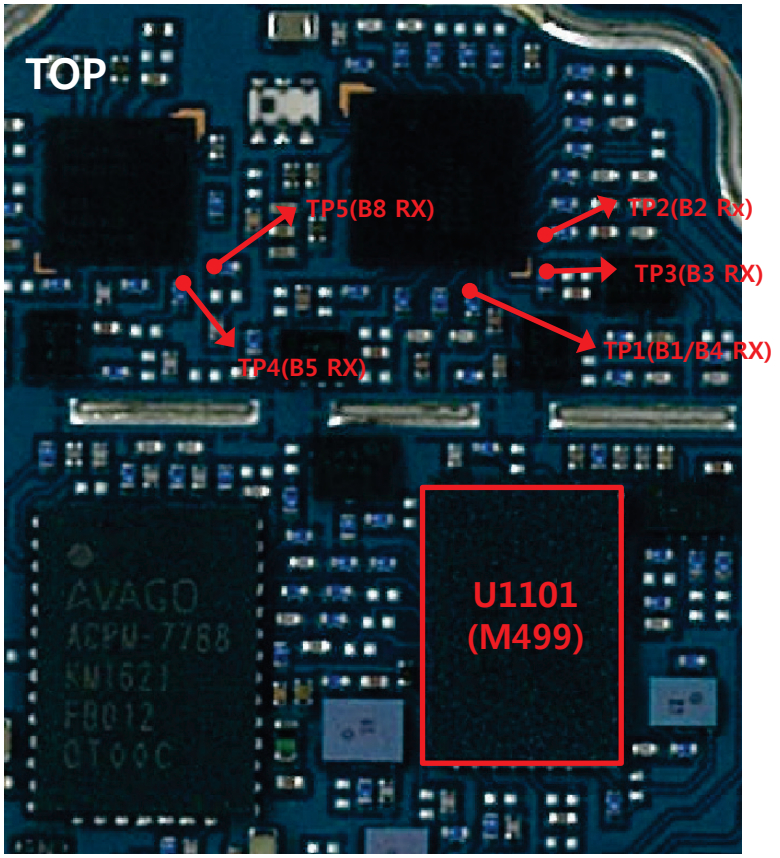
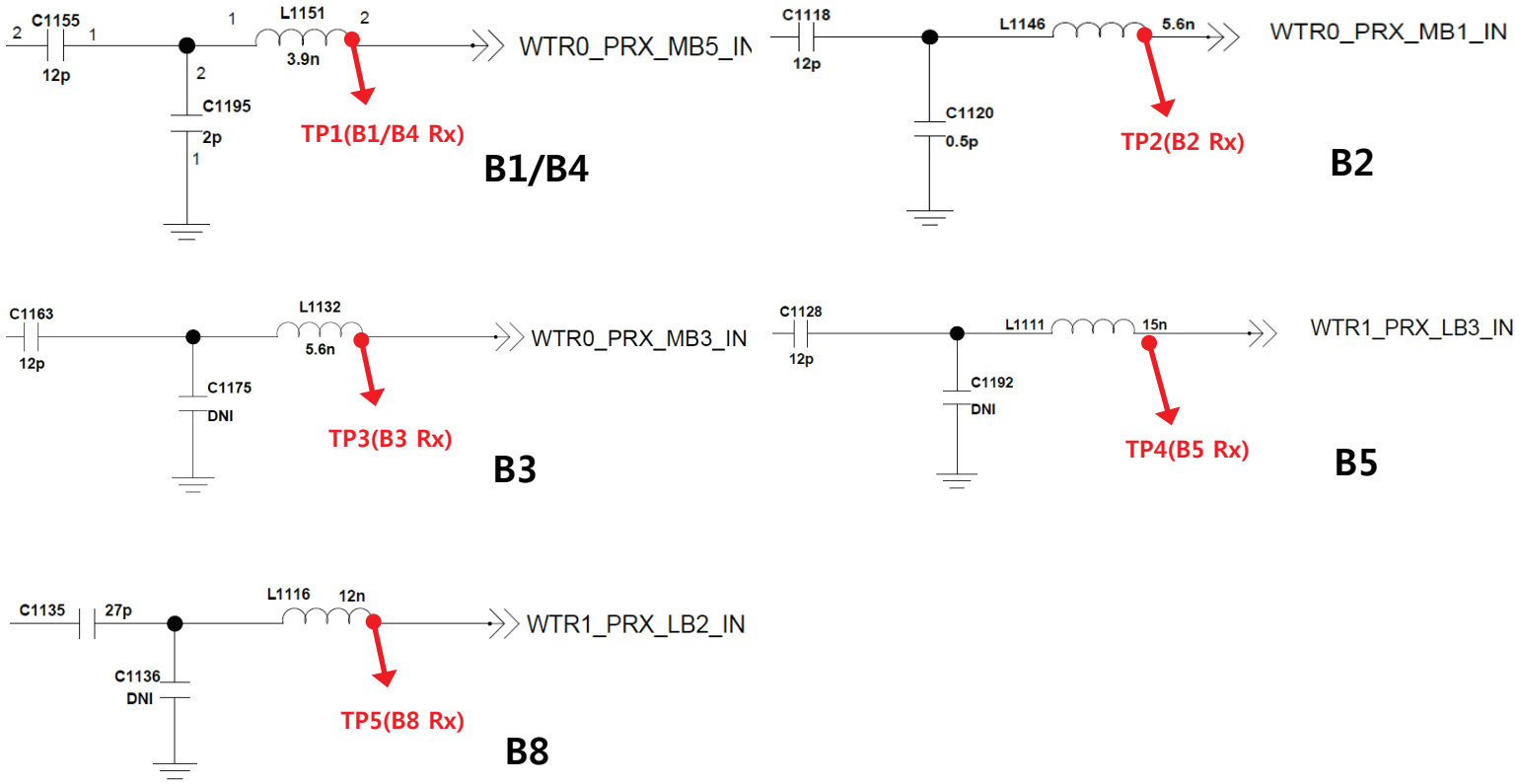
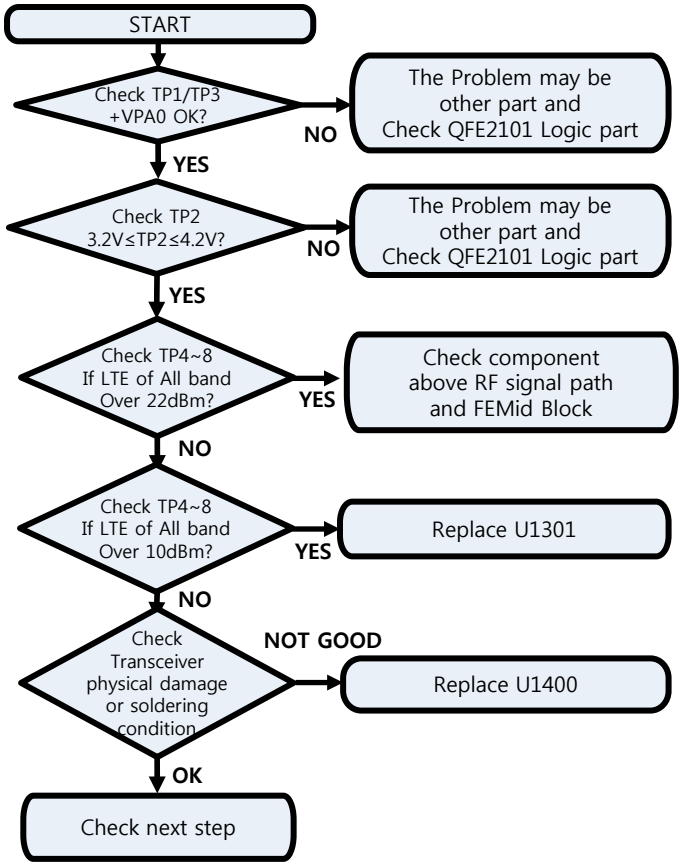


Circuit Diagram



Checking Tx signal path(B1/B2/B3/B4/B5/B8)

Checking Flow



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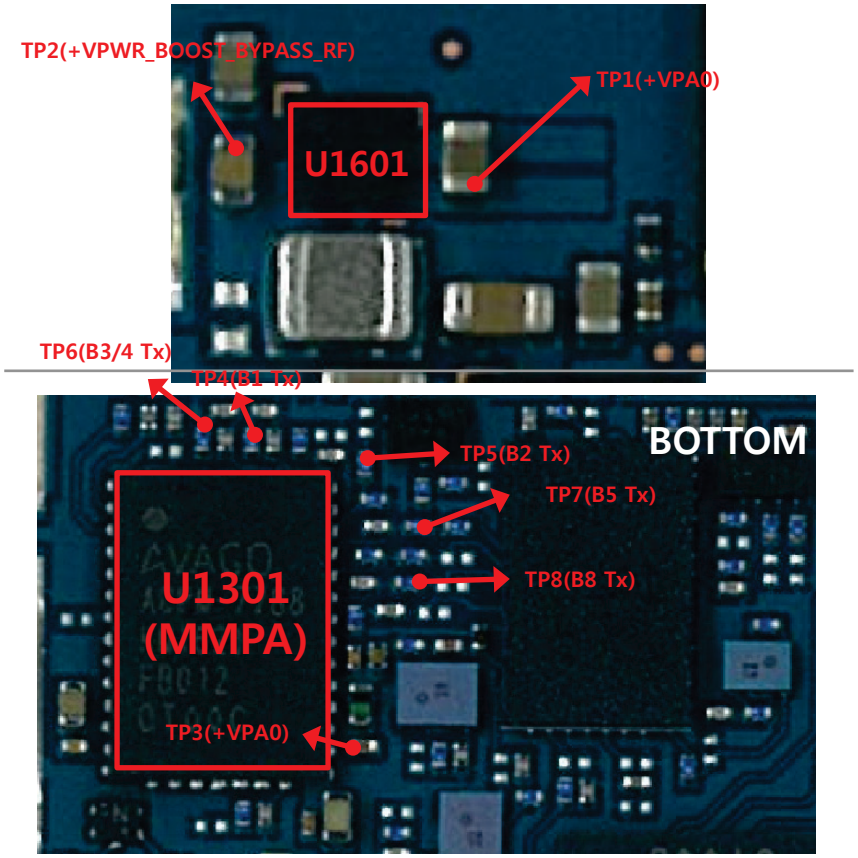
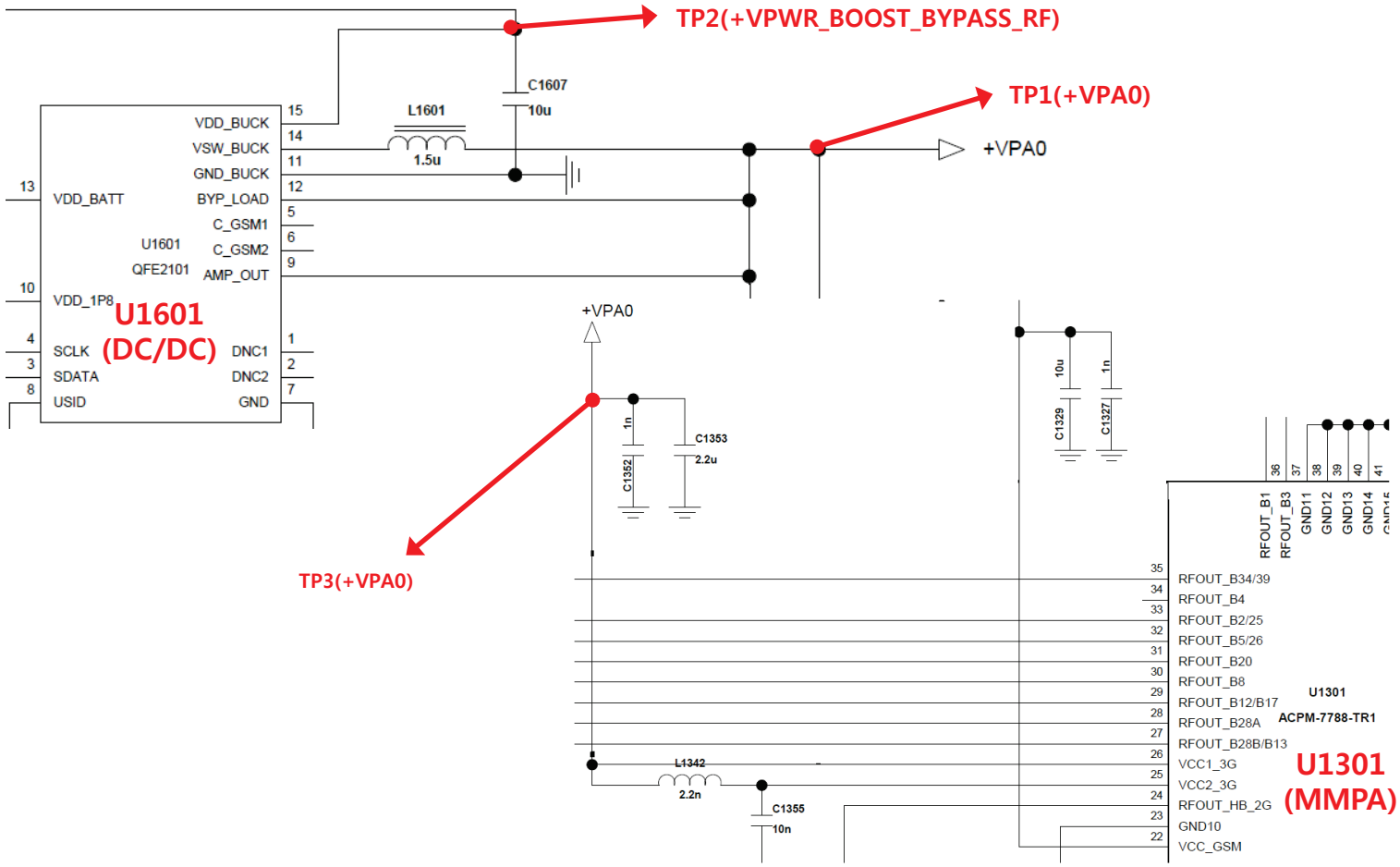
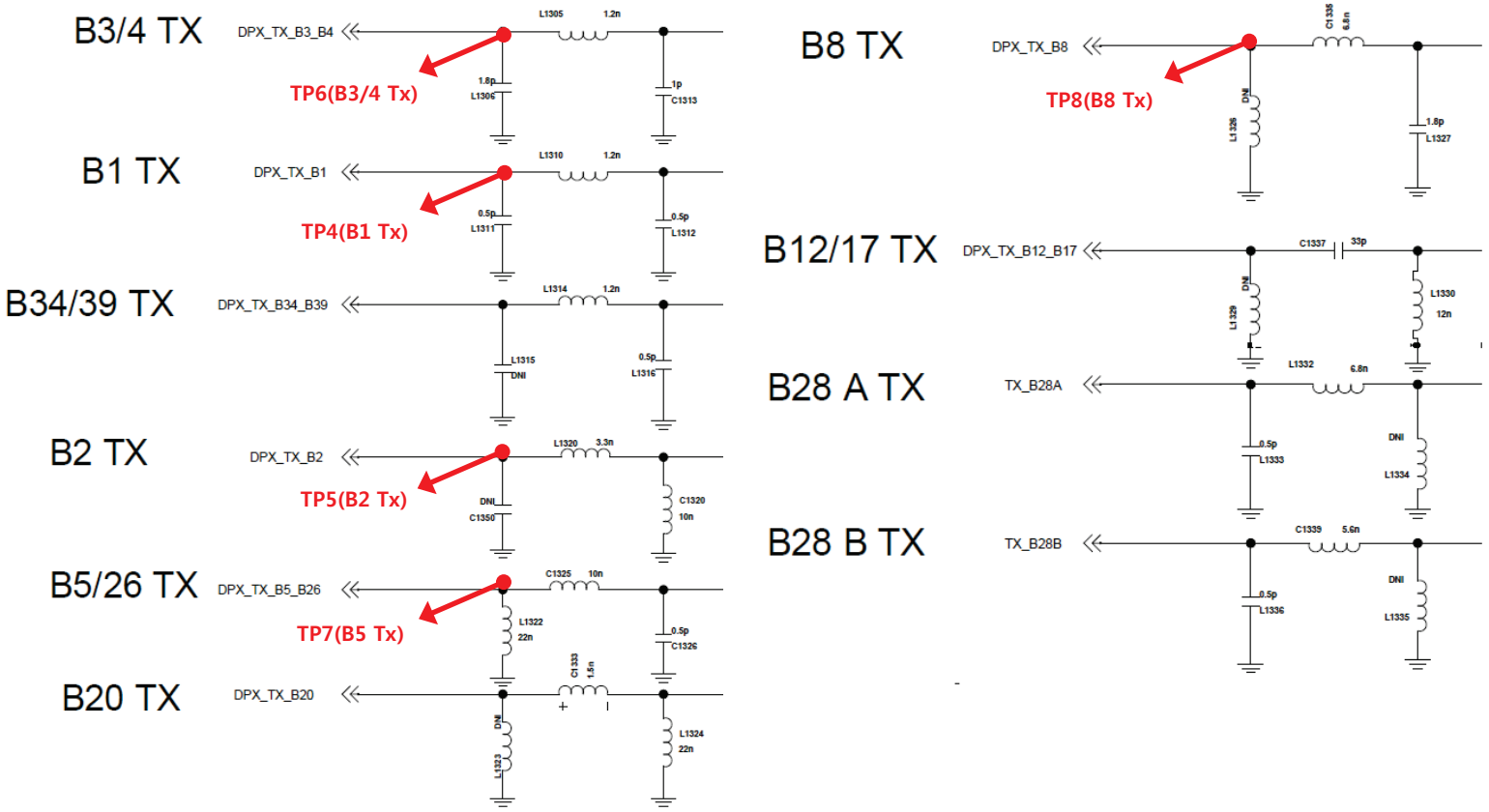


Circuit Diagram

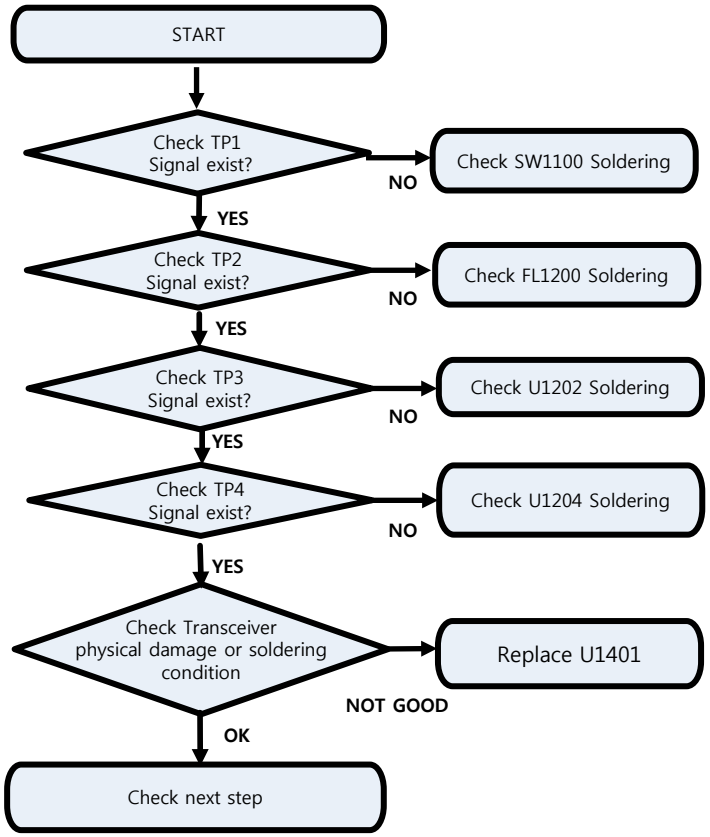


Circuit Diagram



Checking DRX RF signal path (B5/B8)

Checking Flow



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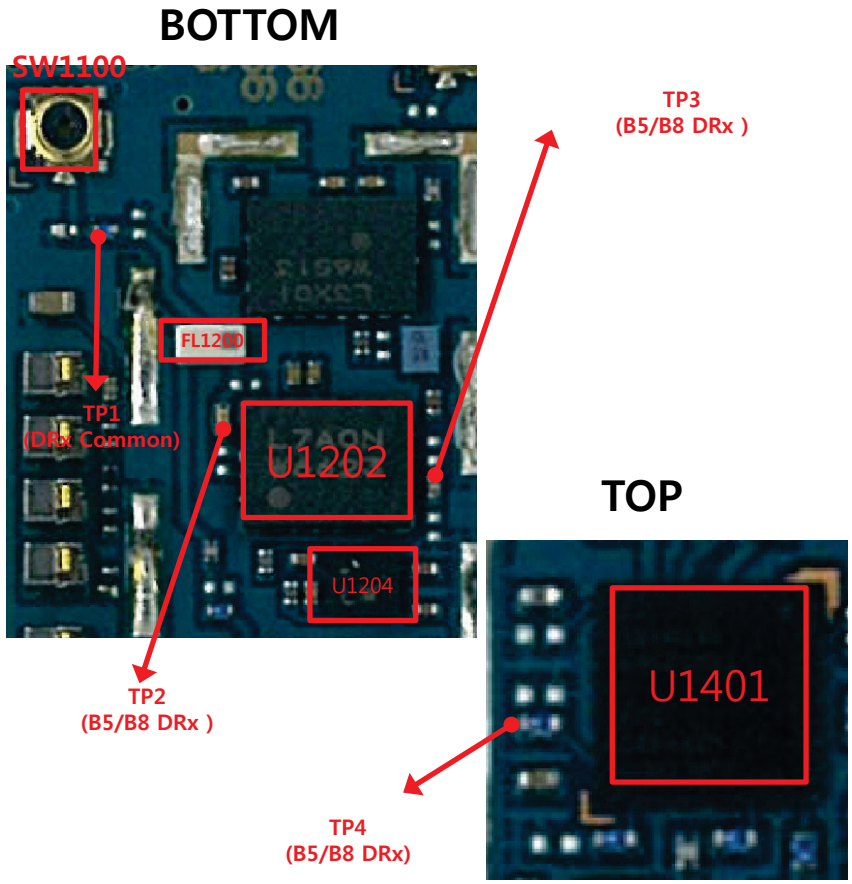
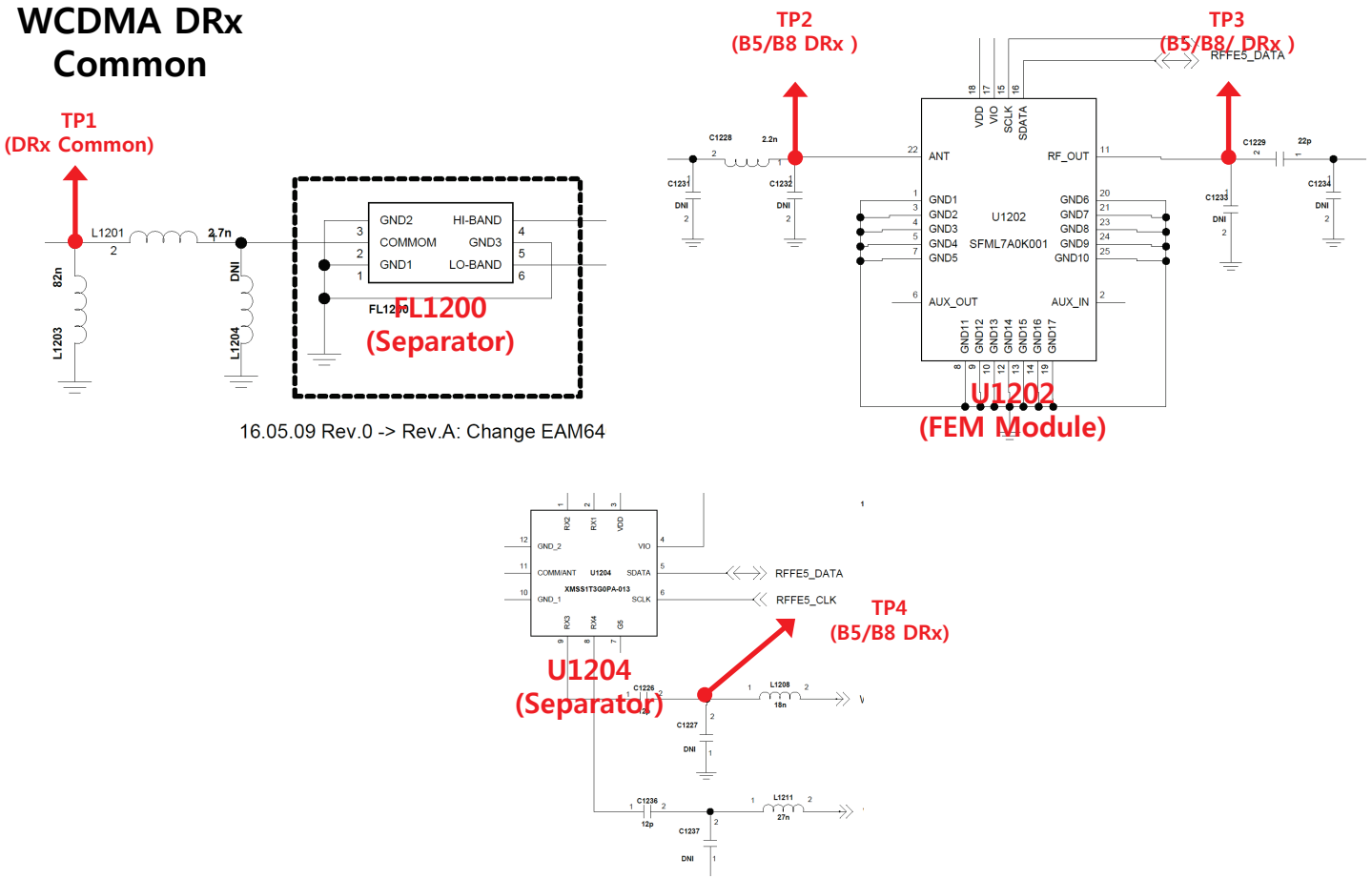
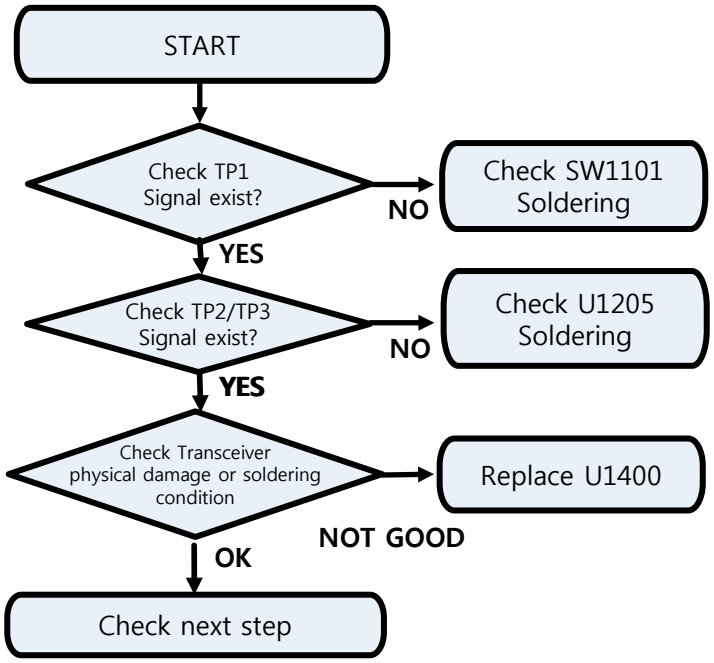


Circuit Diagram



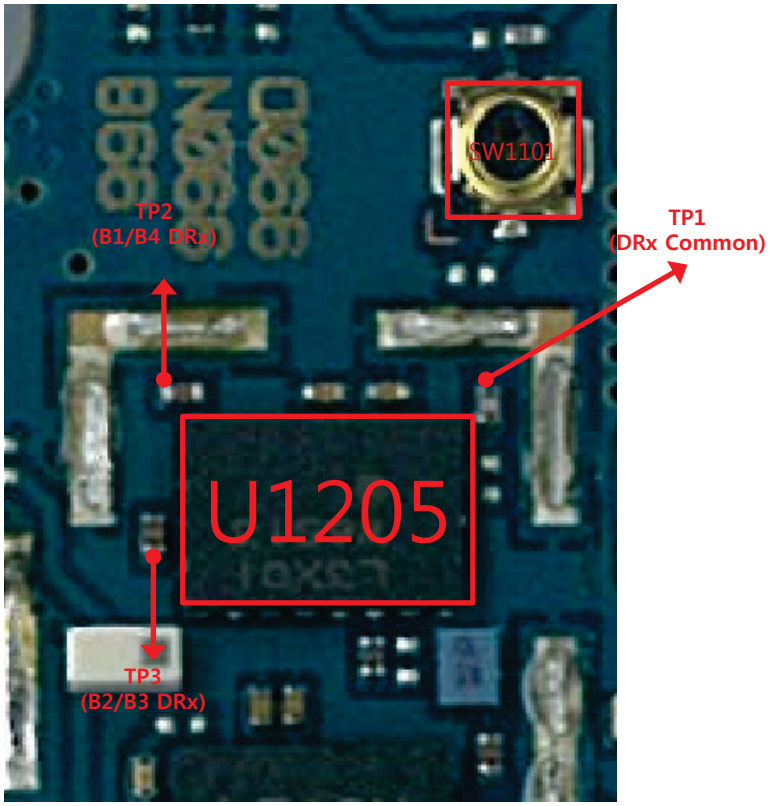
Checking DRX RF signal path (B1/B2/B3/B4)

Checking Flow

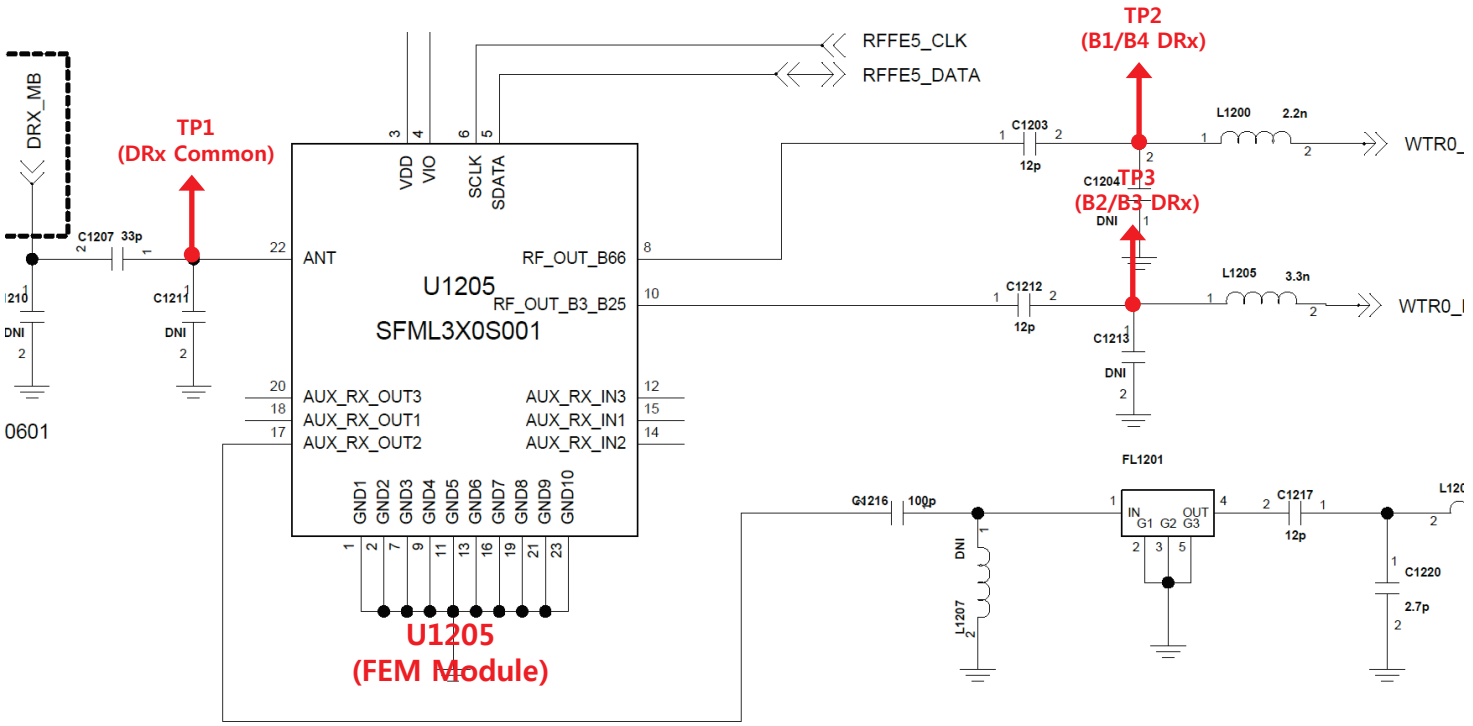


Image

BOTTOM

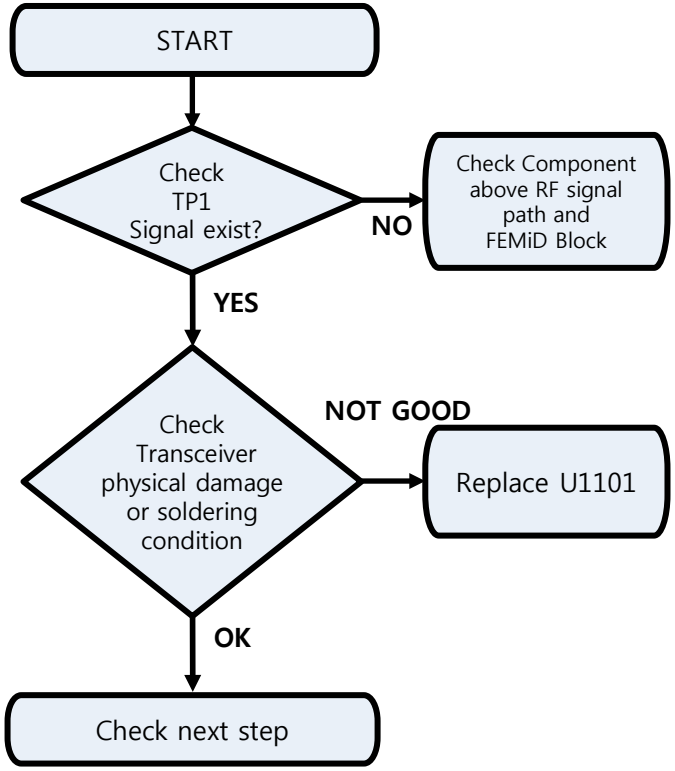


Circuit Diagram



Checking Rx signal path(TD-SCDMA B34/39)

Checking Flow



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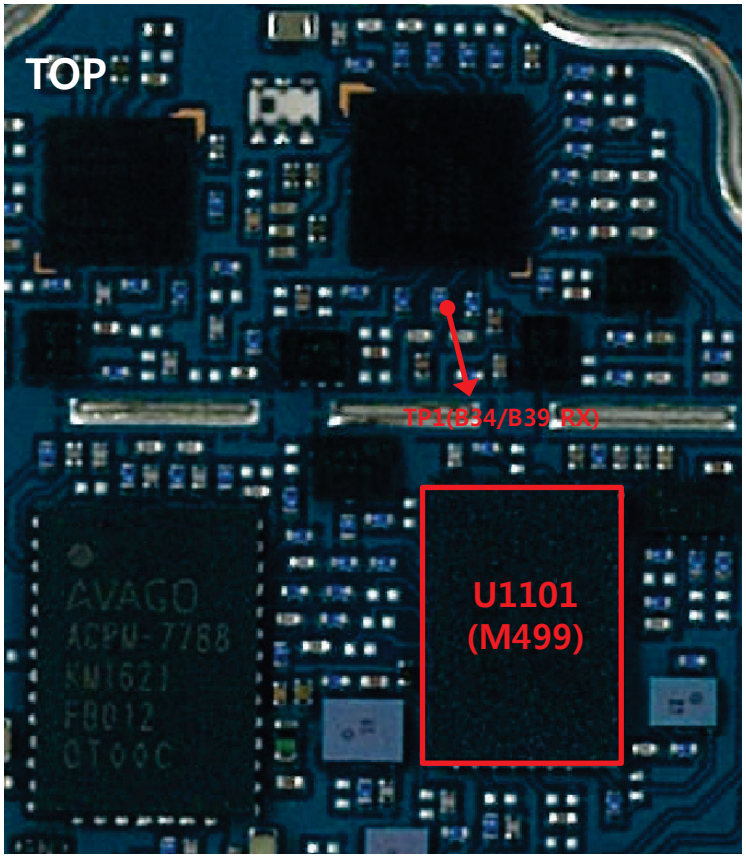
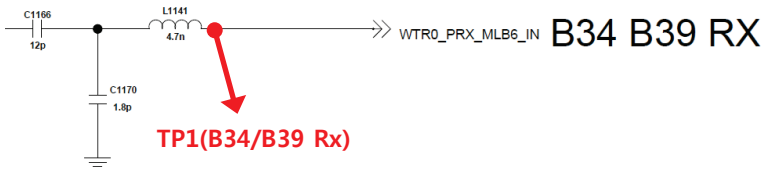


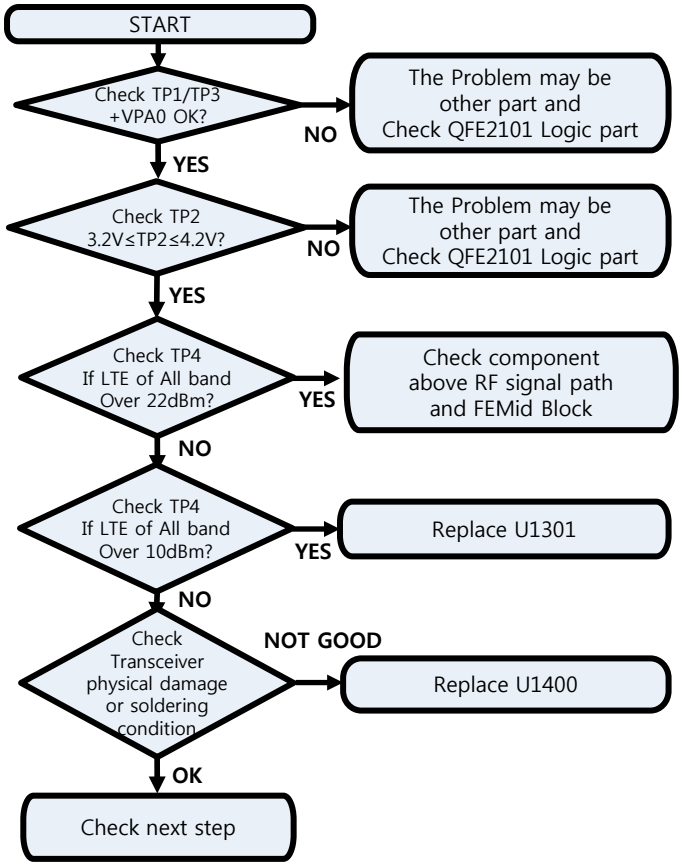
Circuit Diagram



B34/B39

Checking Tx signal path(TD-SCDMA B34/B39 Tx)

Checking Flow



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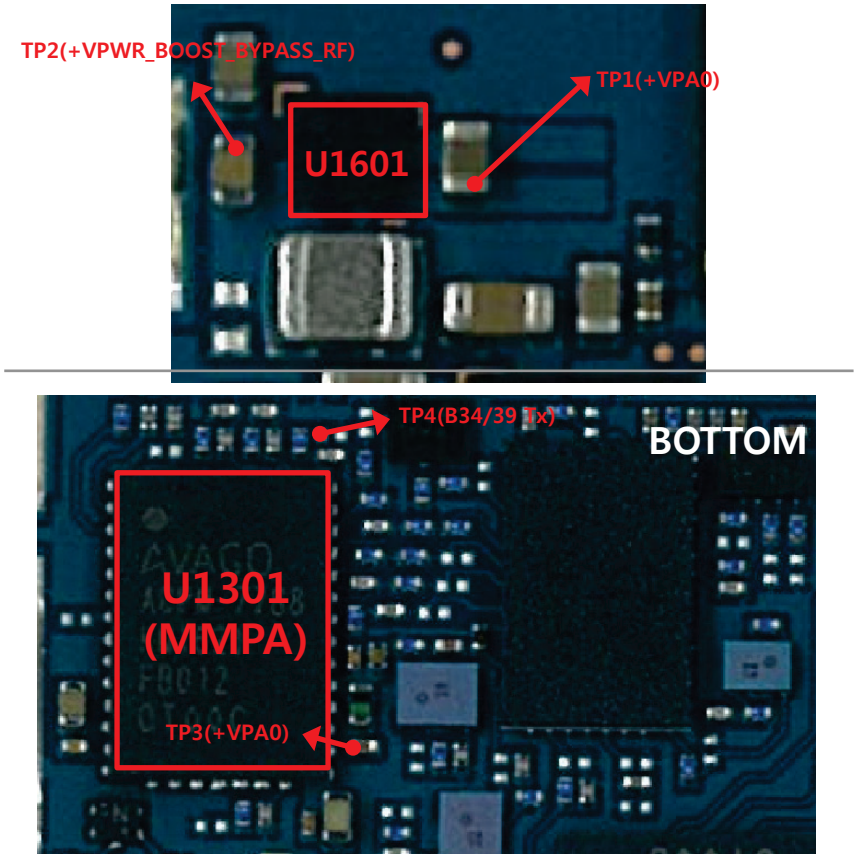
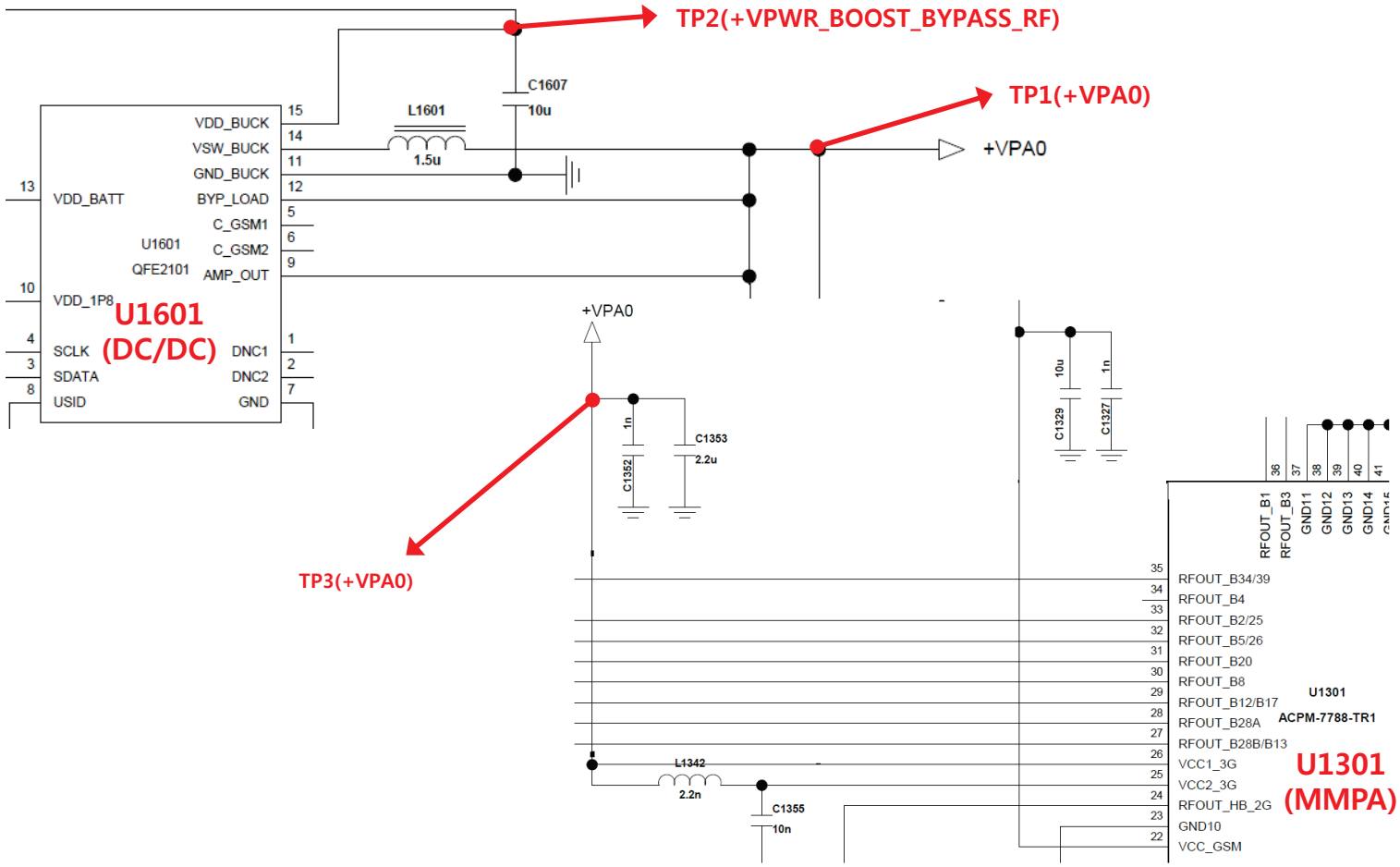
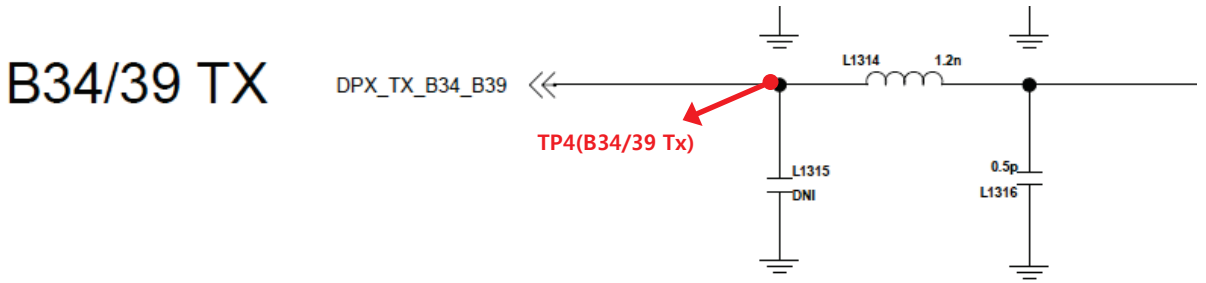


Circuit Diagram

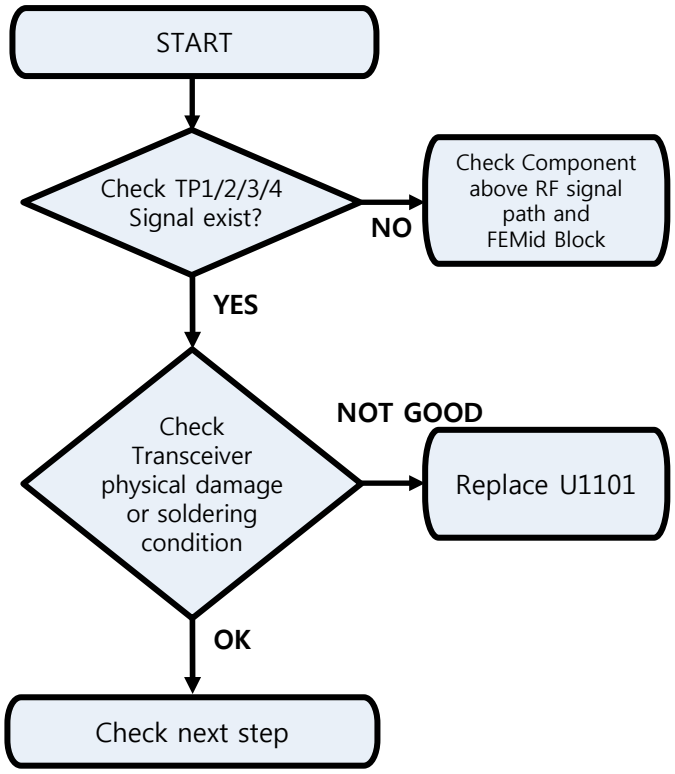


Circuit Diagram



Checking Rx signal path(GSM850/900/1800/1900)

Checking Flow



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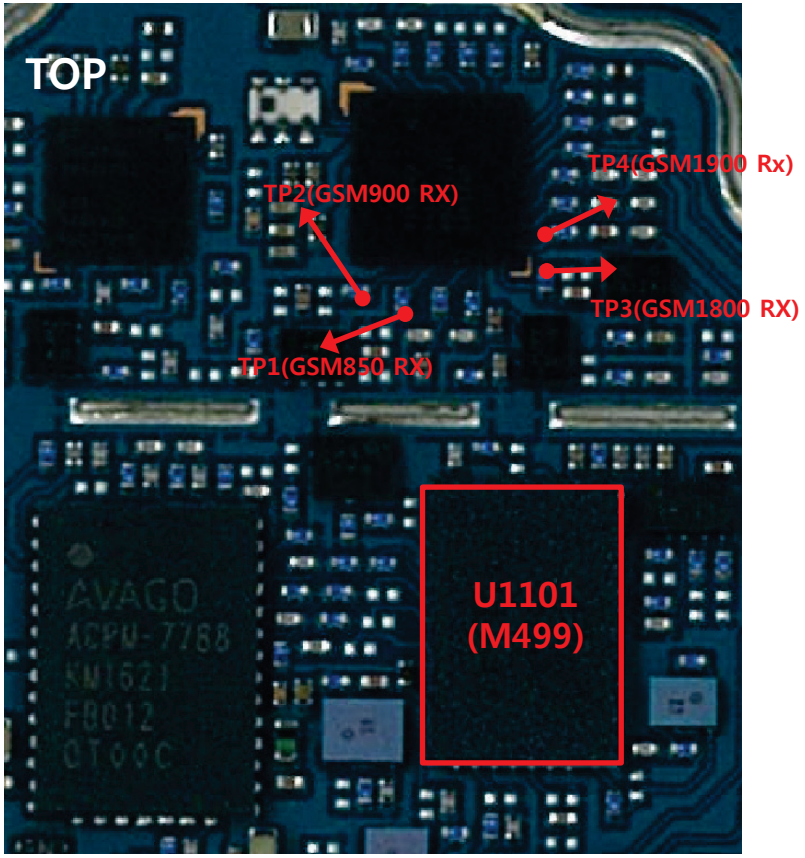
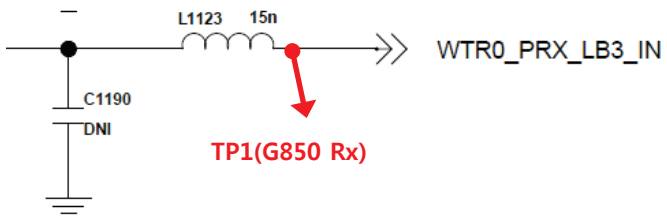
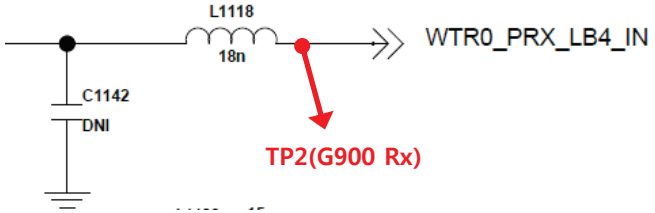


Circuit Diagram

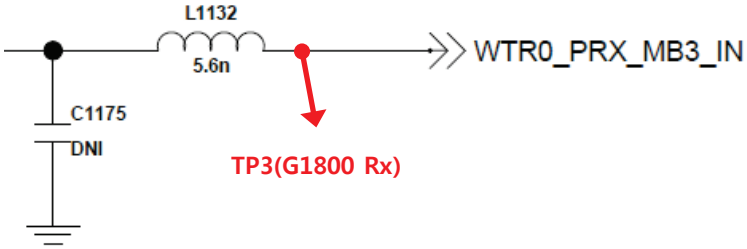
GSM850



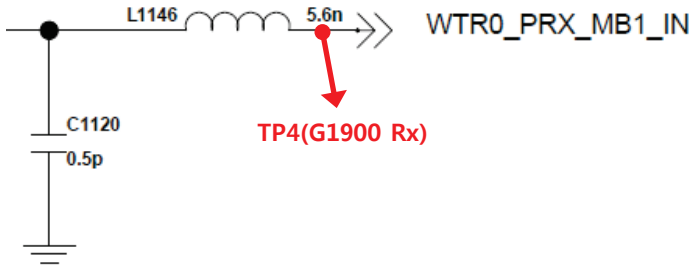
GSM900



GSM1800

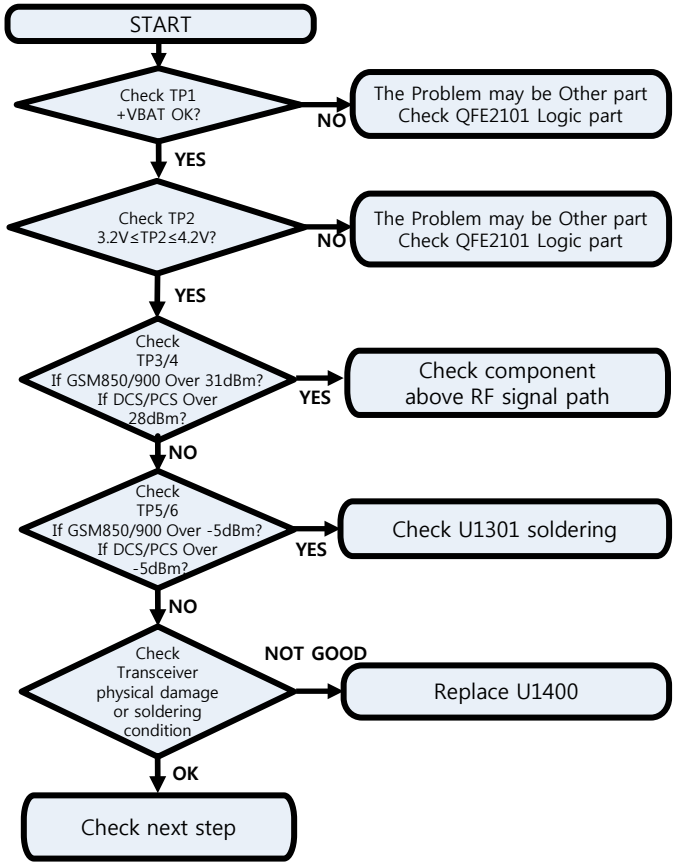


GSM1900



Checking Tx signal path(GSM850/900/1800/1900)

Checking Flow



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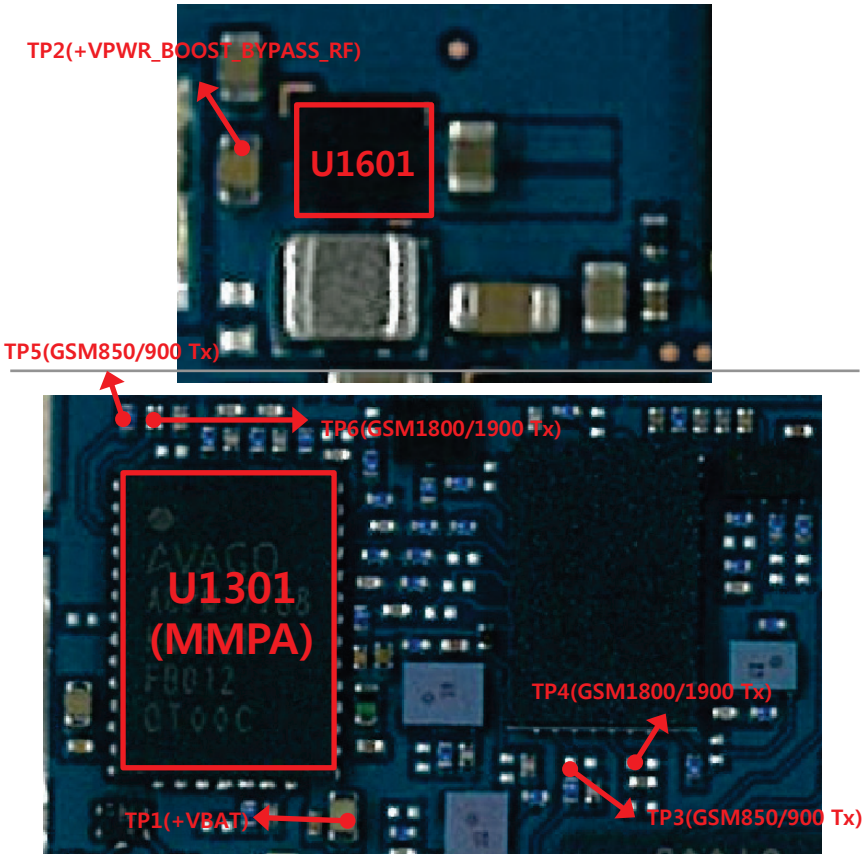
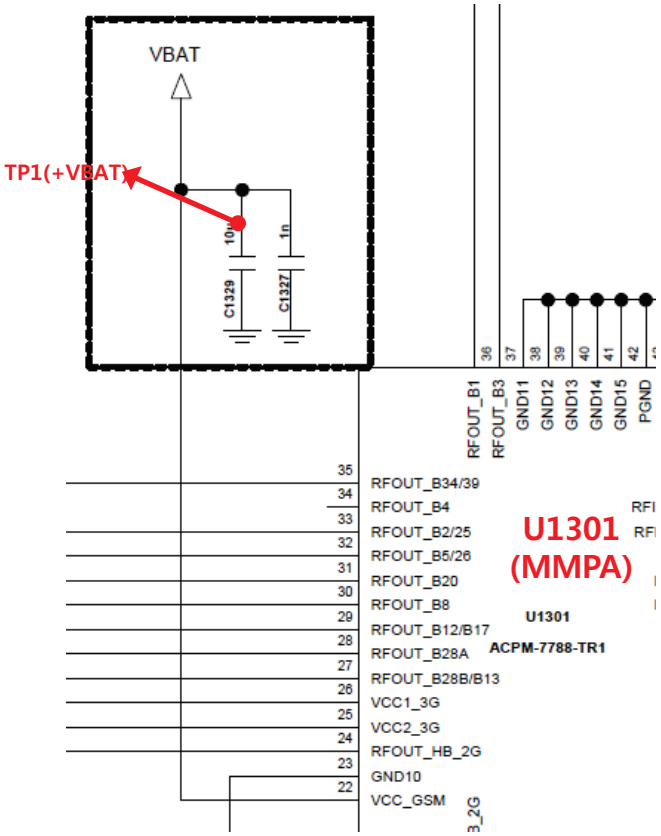
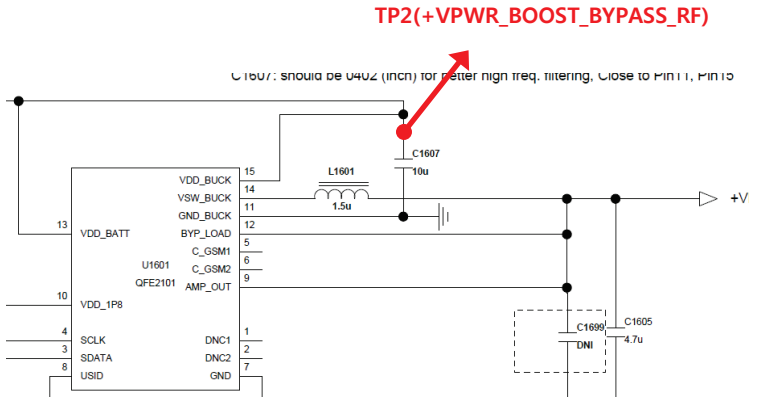


Circuit Diagram

MMPA

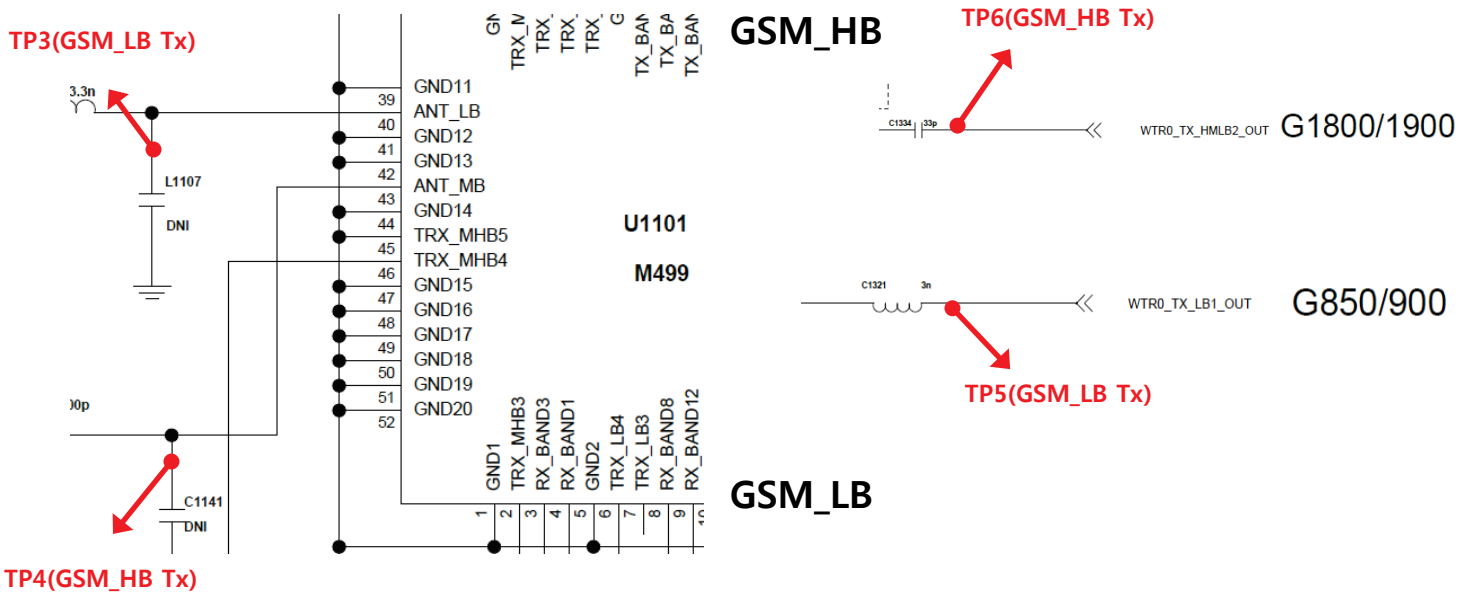


DC/DC



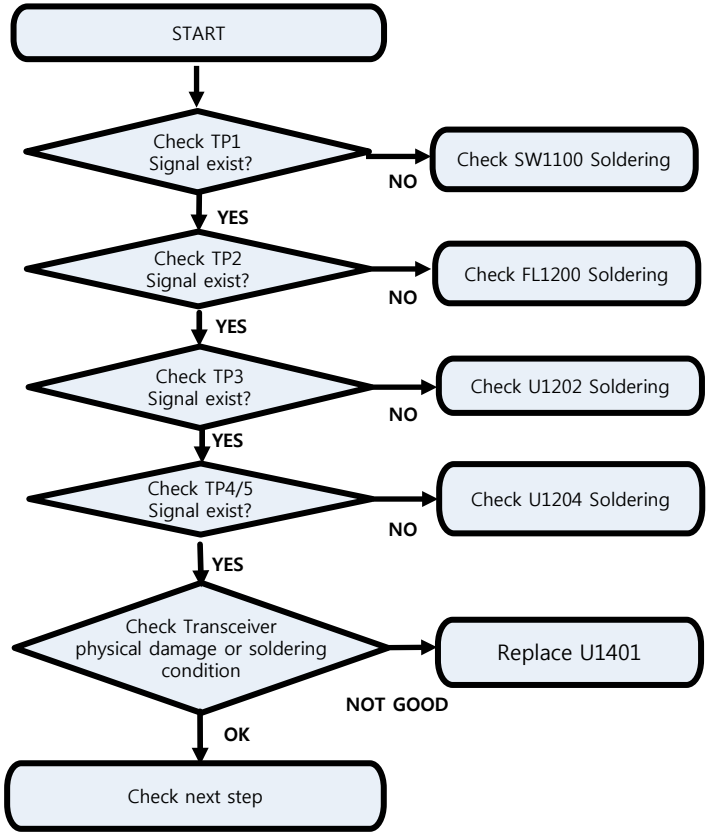
Circuit Diagram

Common Path



Checking DRX RF signal path (GSM 850/900)

Checking Flow



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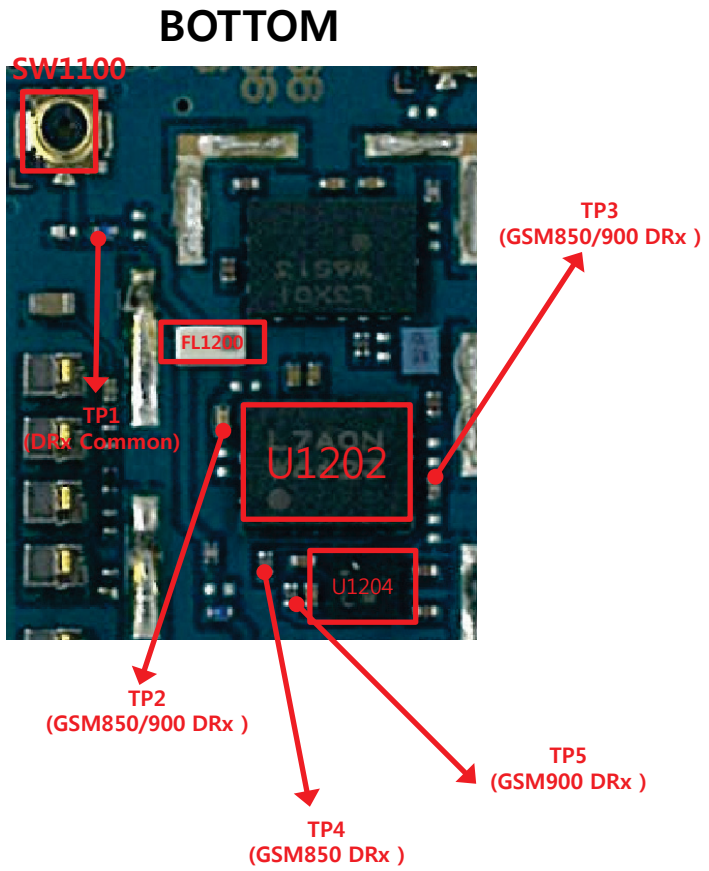
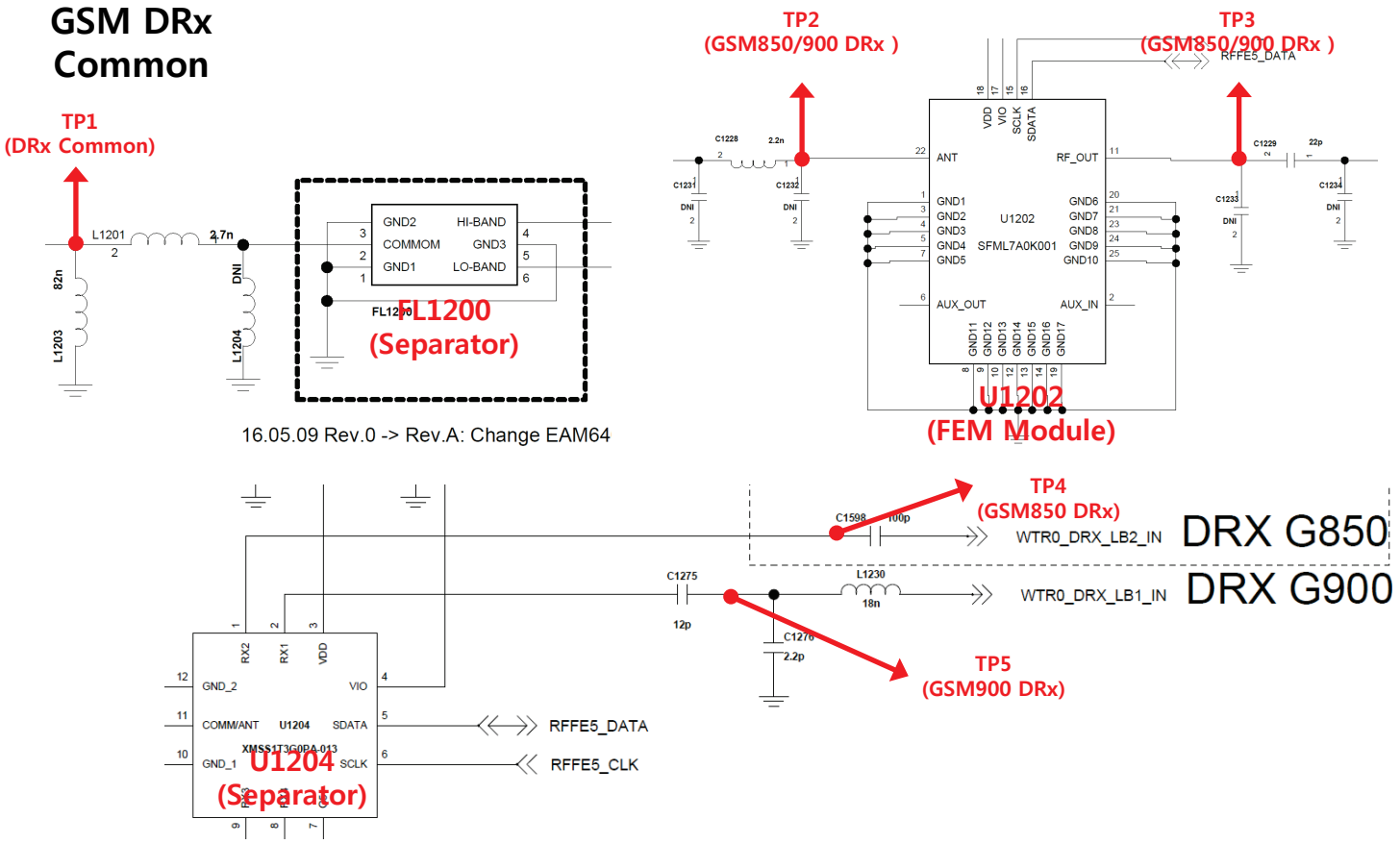
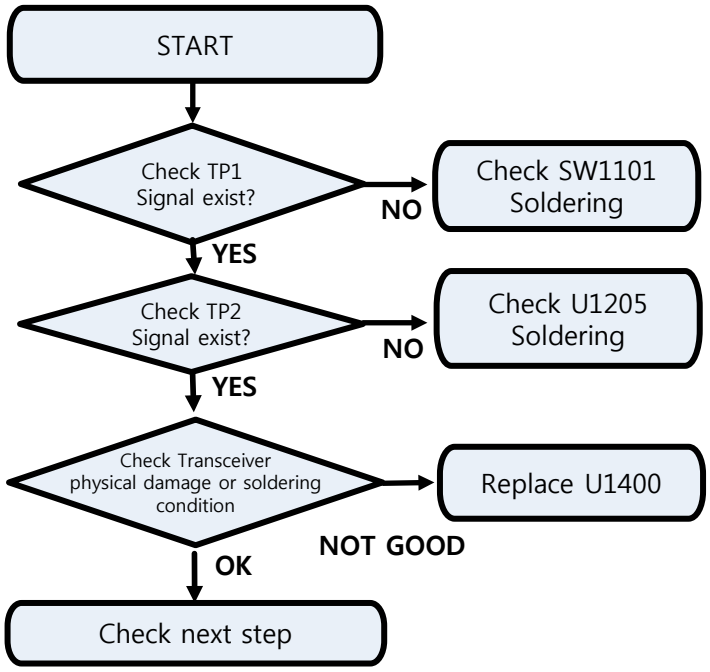


Circuit Diagram



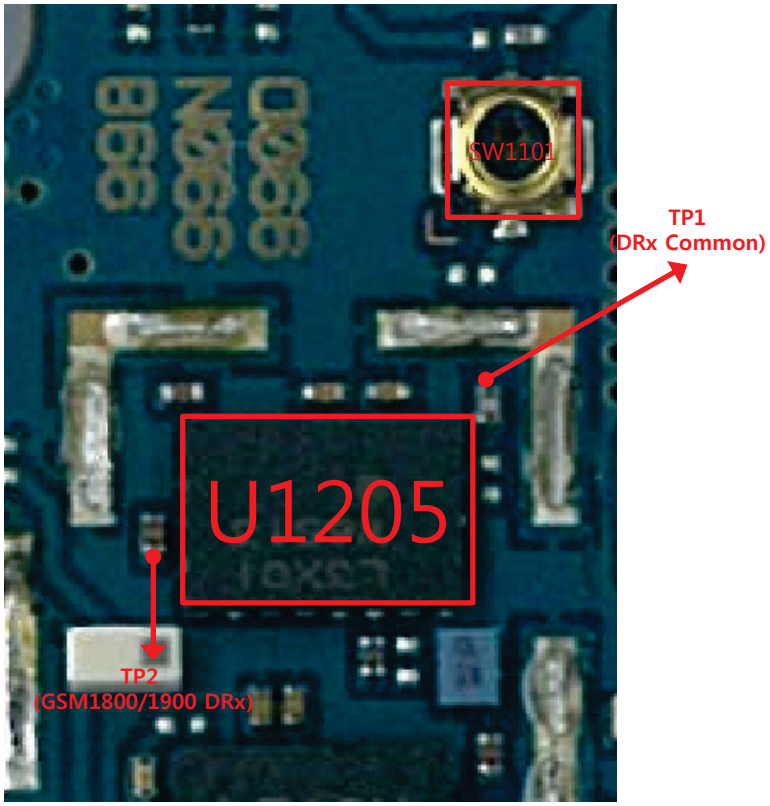
Checking DRX RF signal path (GSM 1800/1900)

Checking Flow

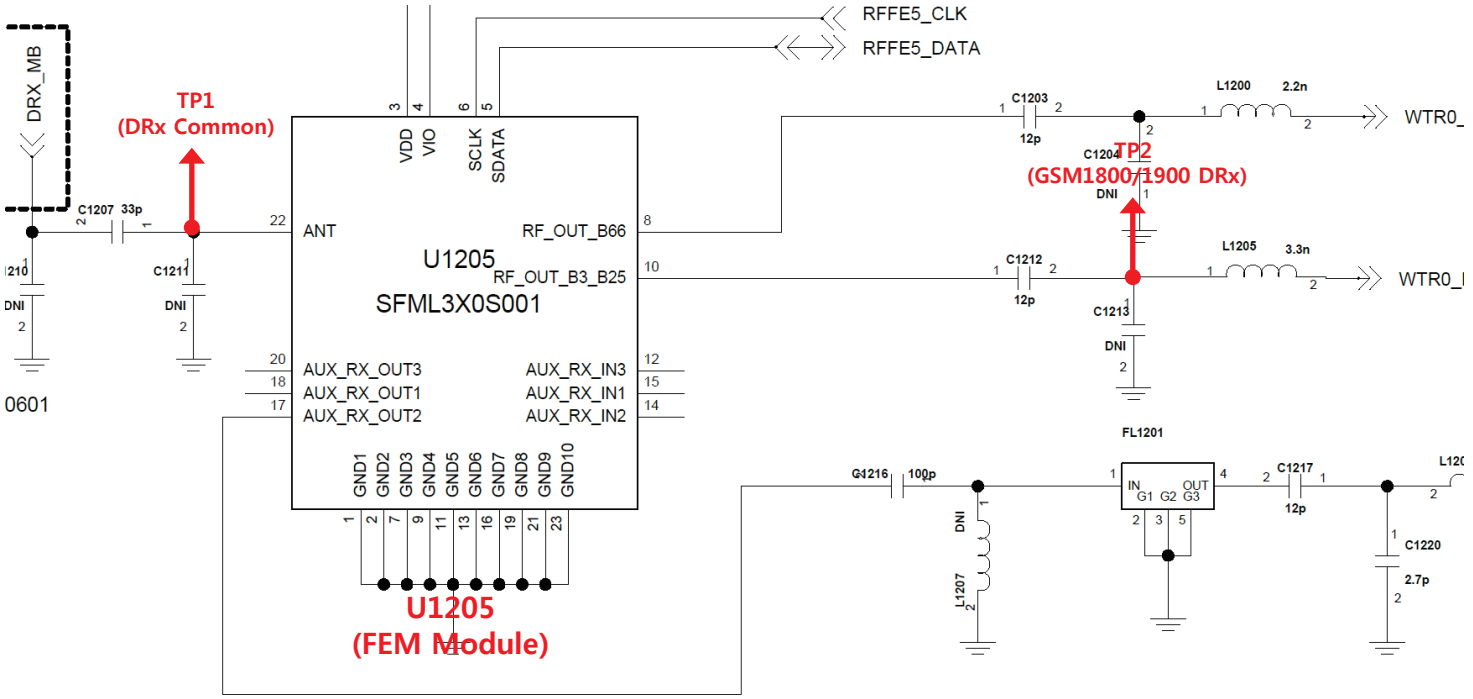


Image

BOTTOM

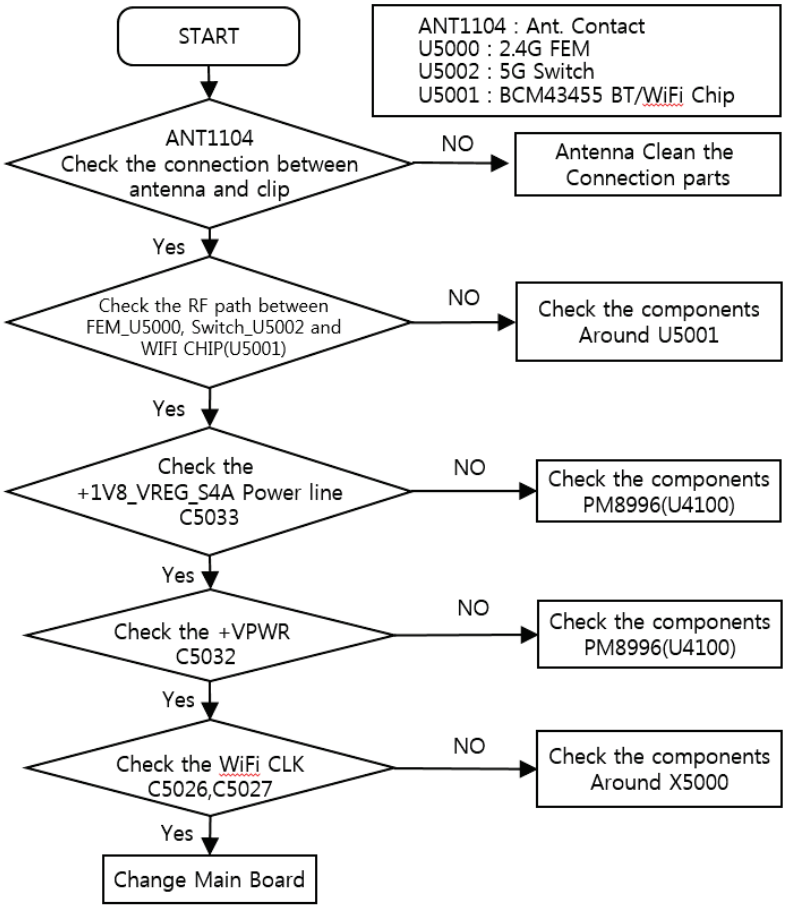


Circuit Diagram



Checking BT&WIFI signal path

Checking Flow



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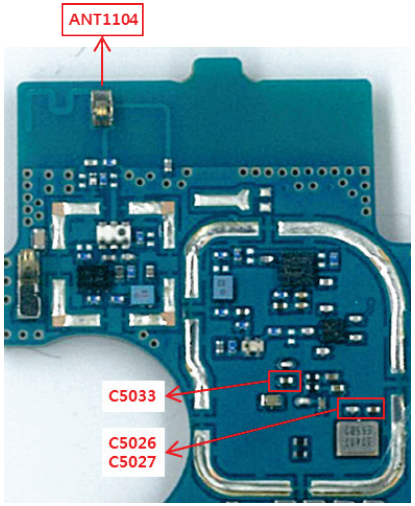
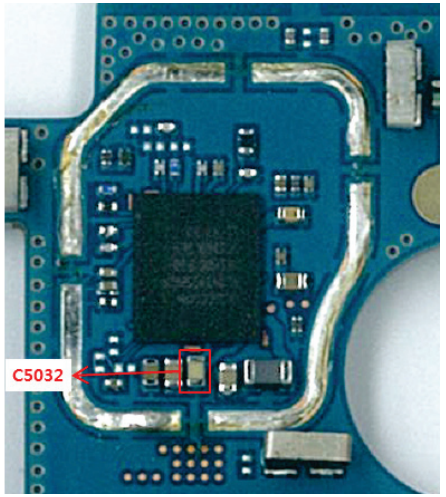
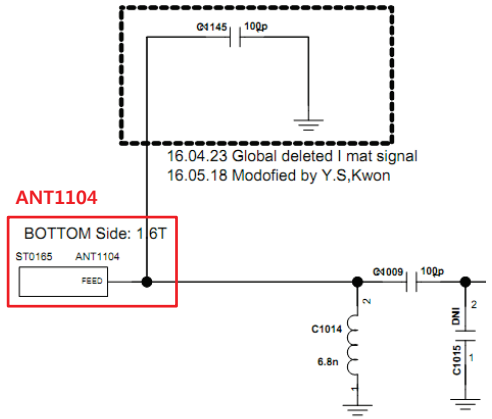


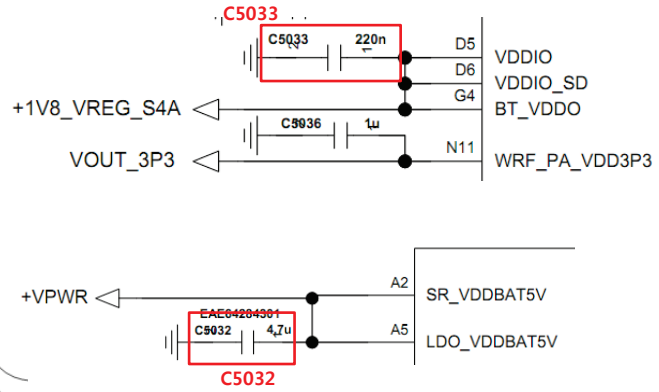
BOTTOM

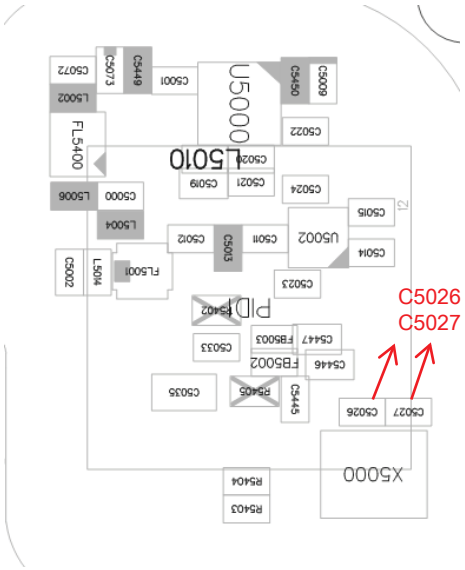
TOP



Circuit Diagram

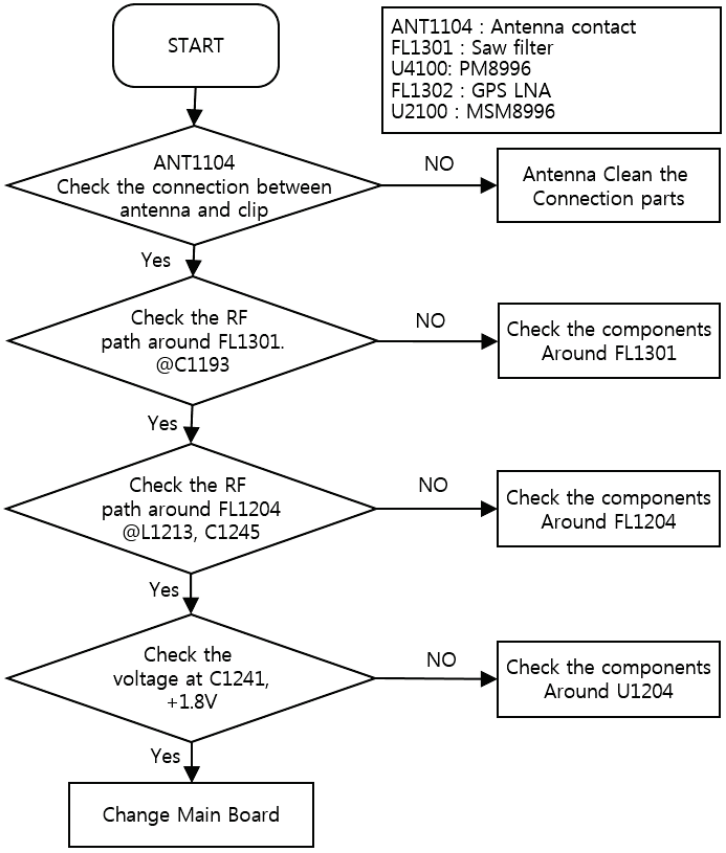






Checking GPS signal path

Checking Flow



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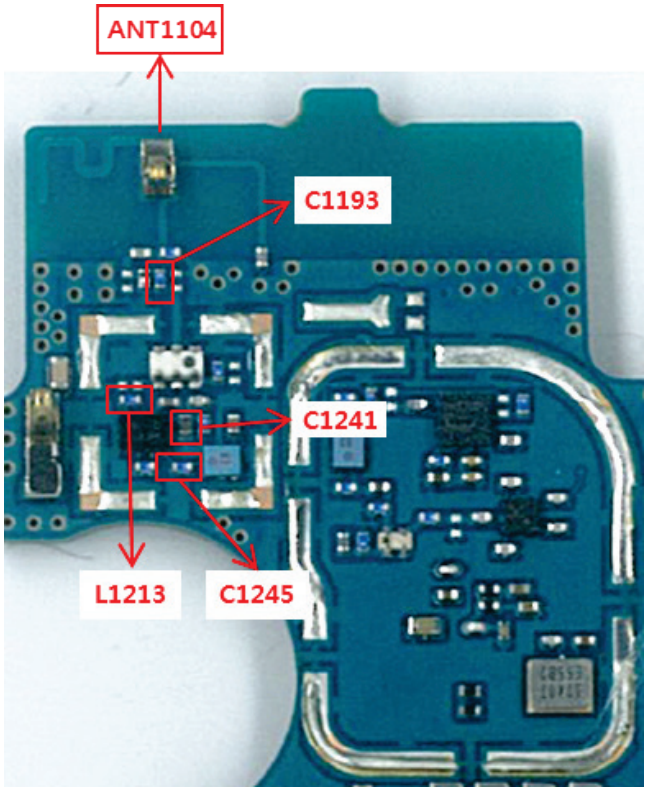
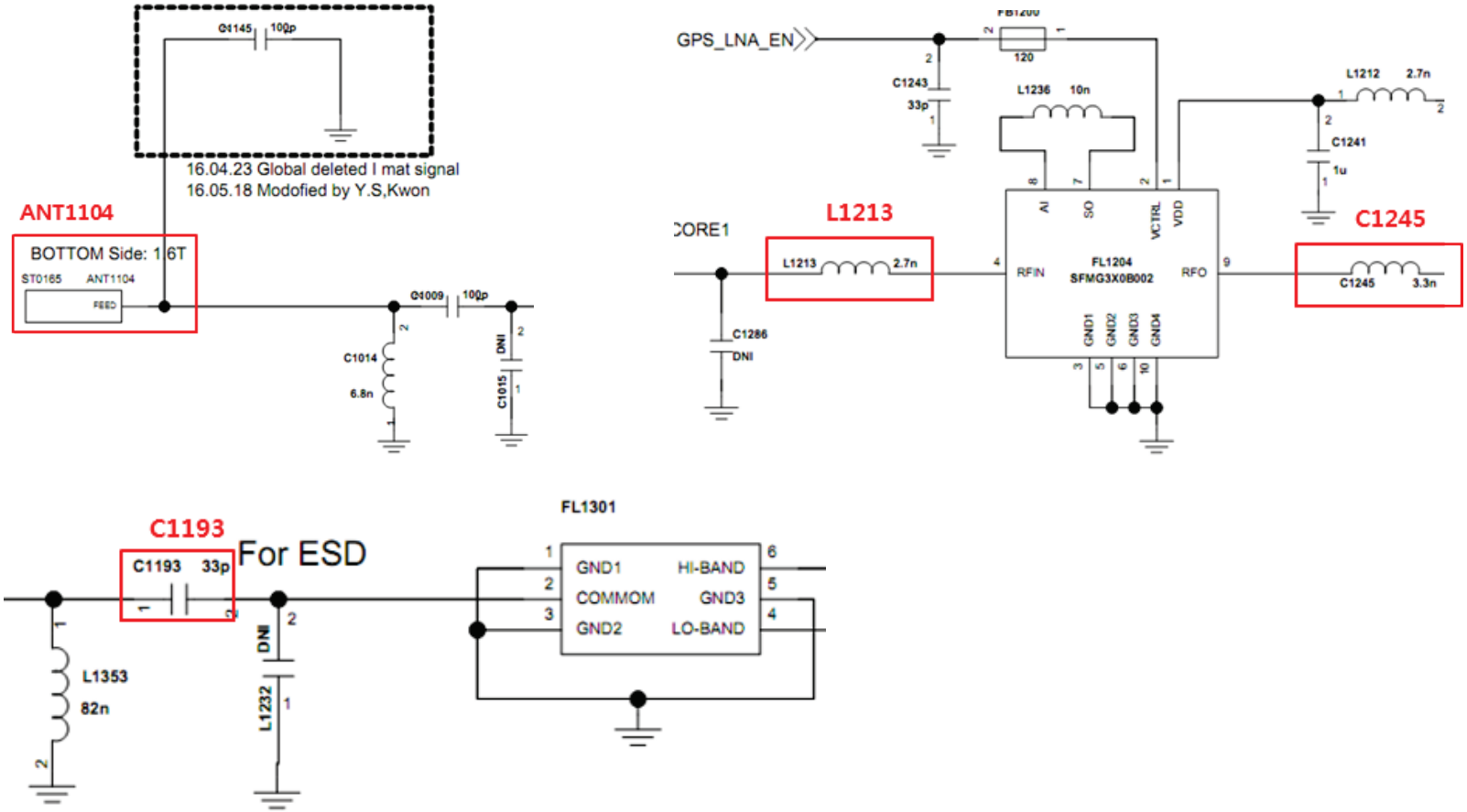
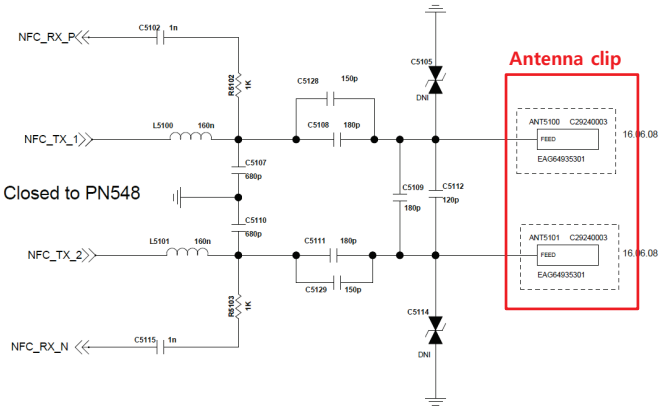
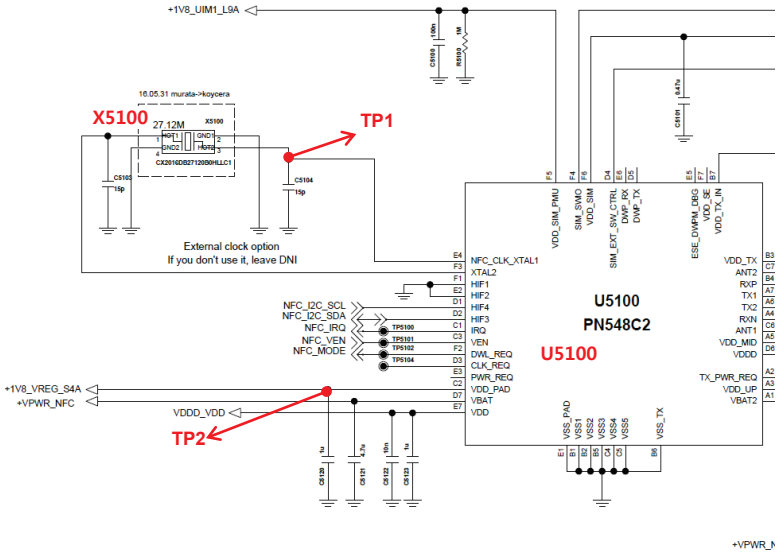


Circuit Diagram



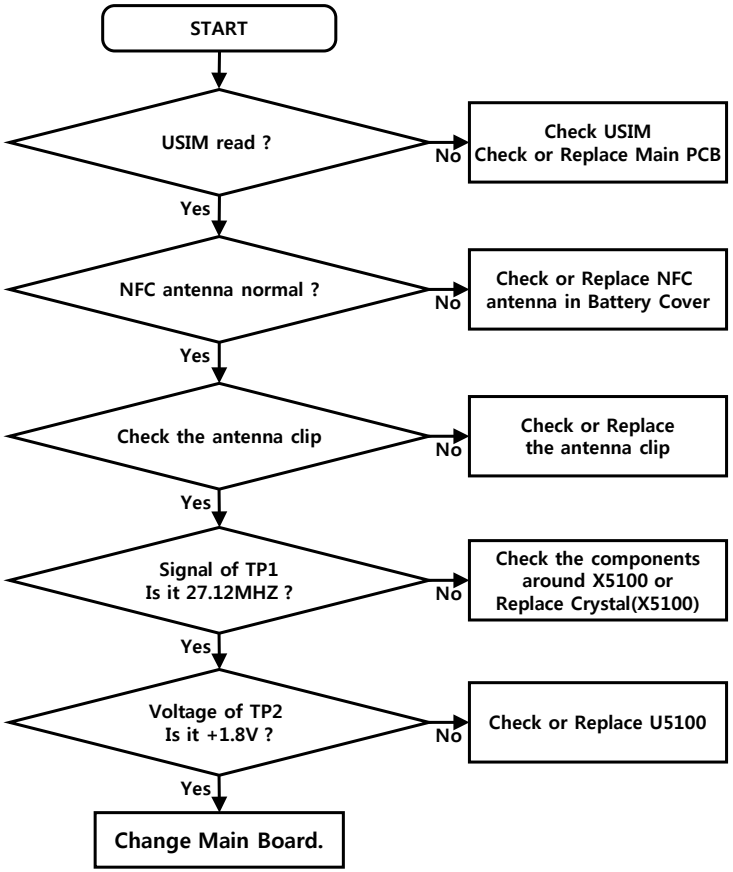
Circuit Diagram



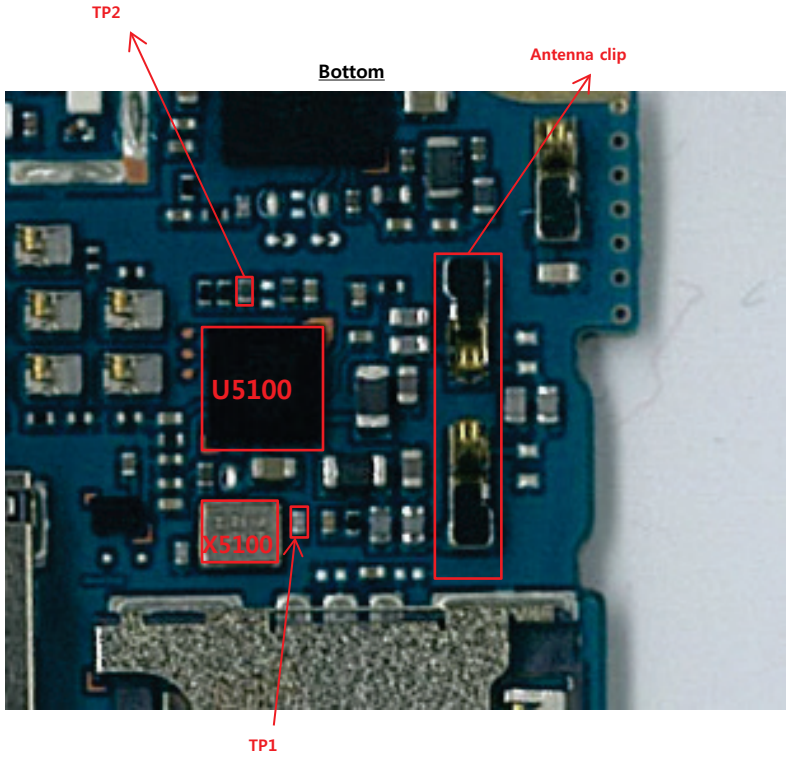


NFC

Checking Flow

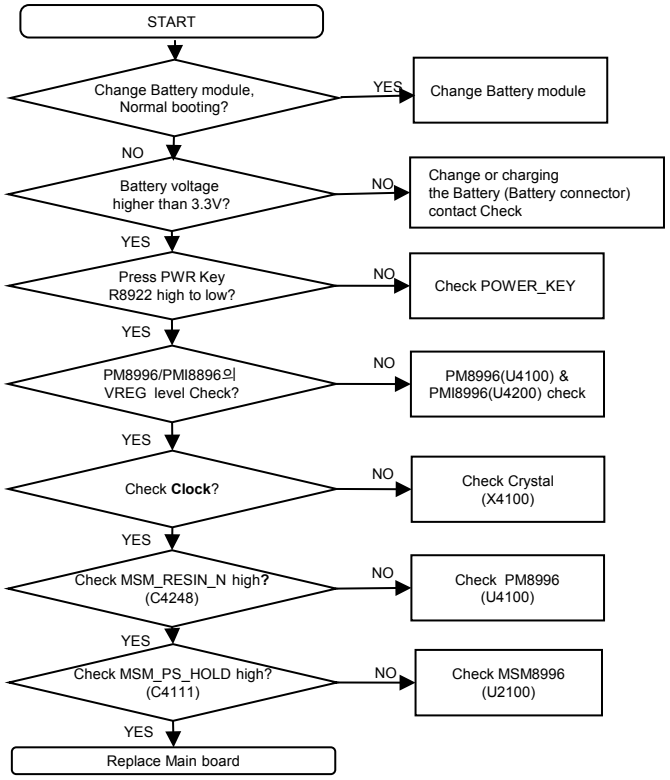


Image



Checking Power signal (Battery connector, Power Key, PMIC Regulator, MSM, Memory)

Checking Flow



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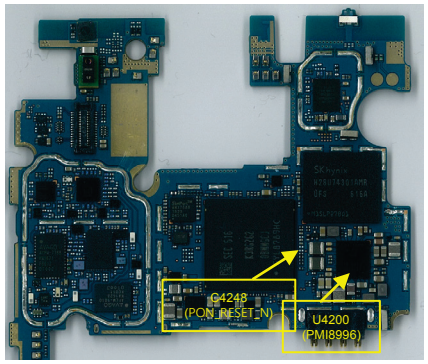
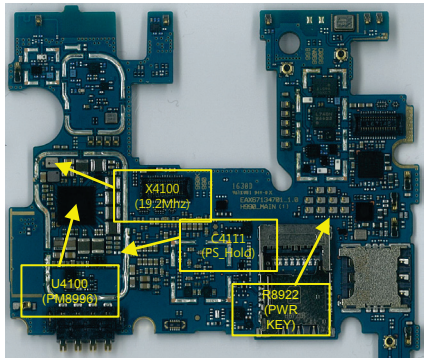
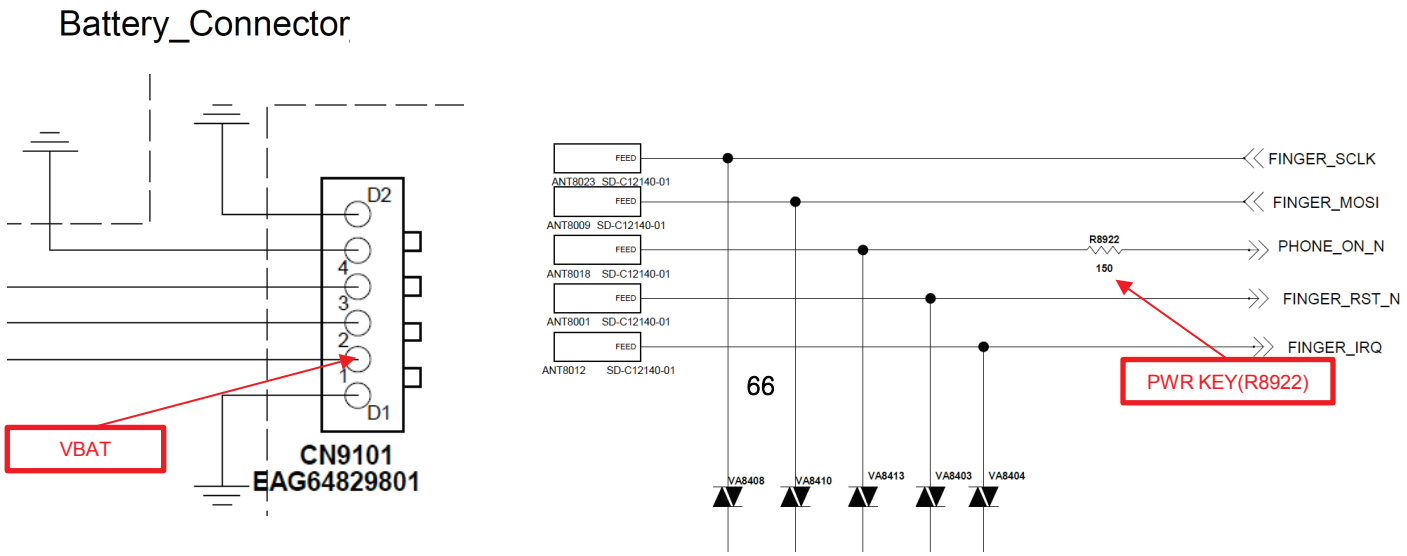




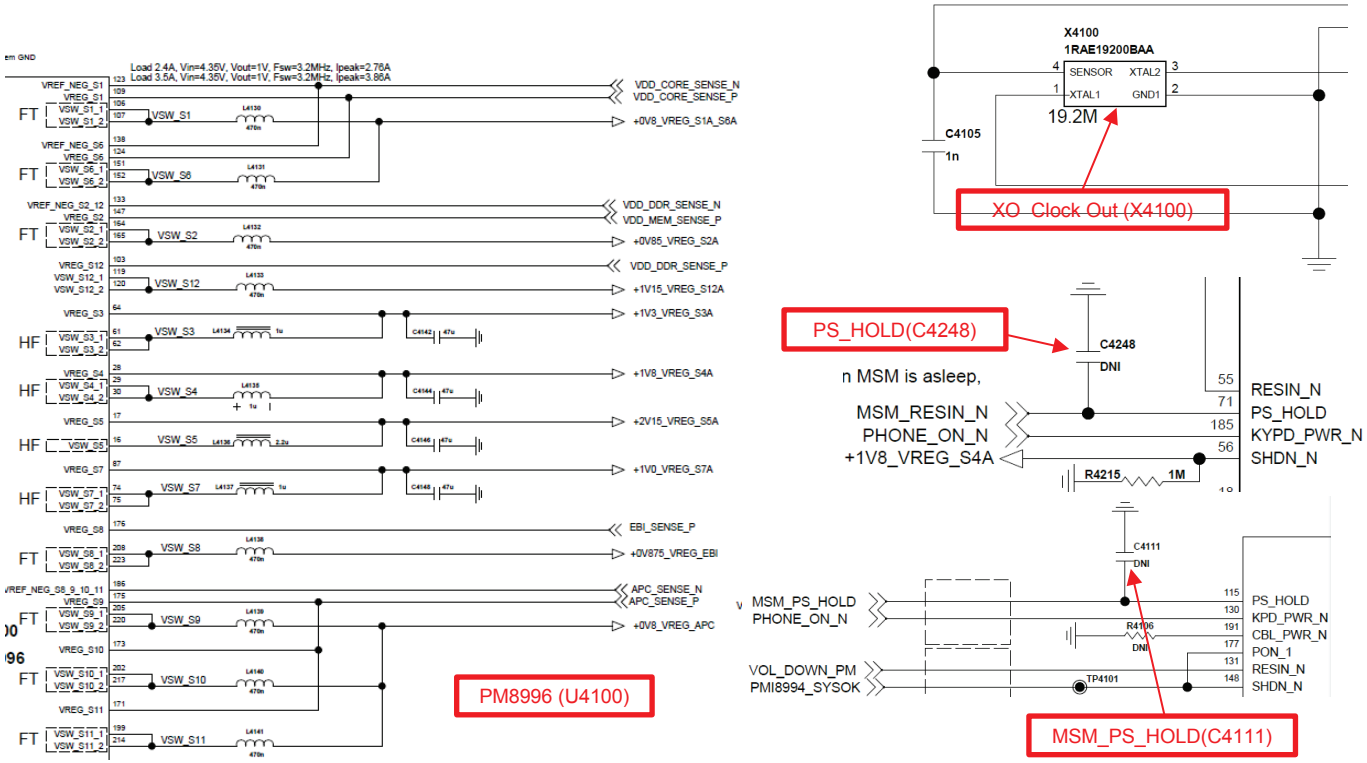
Checking Power signal (Battery connector, Power Key, PMIC Regulator, MSM, Memory)

Circuit Diagram



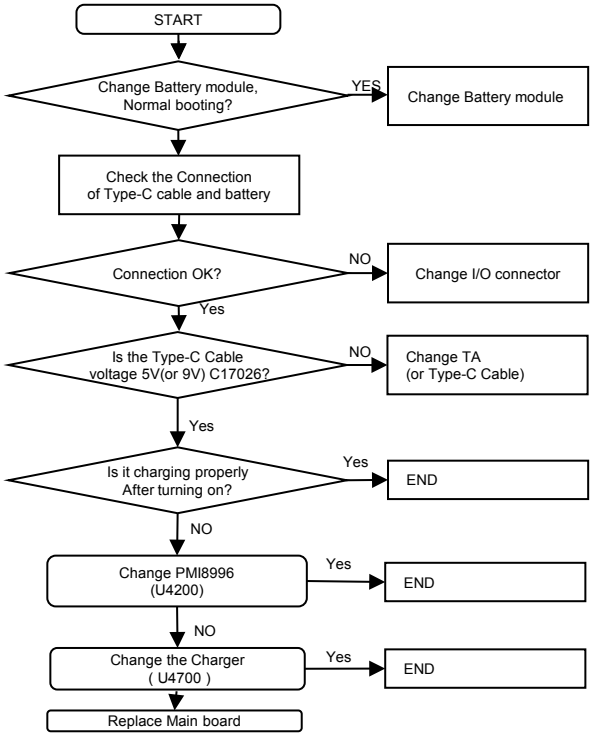
Checking Power signal (Battery connector, Power Key, PMIC Regulator, MSM, Memory)

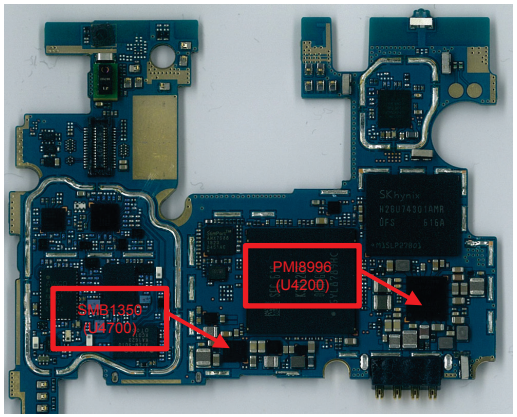
Circuit Diagram

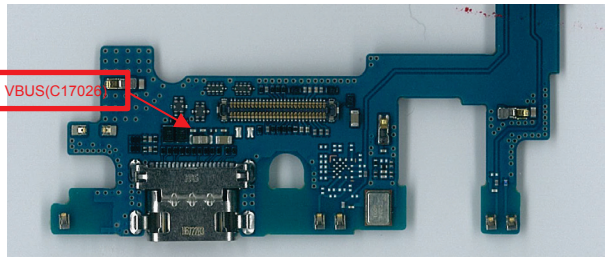


The I/O connector and Type-C cable voltage(5V or 9V) is used as the reference one of PMIC for charging.

Checking Flow

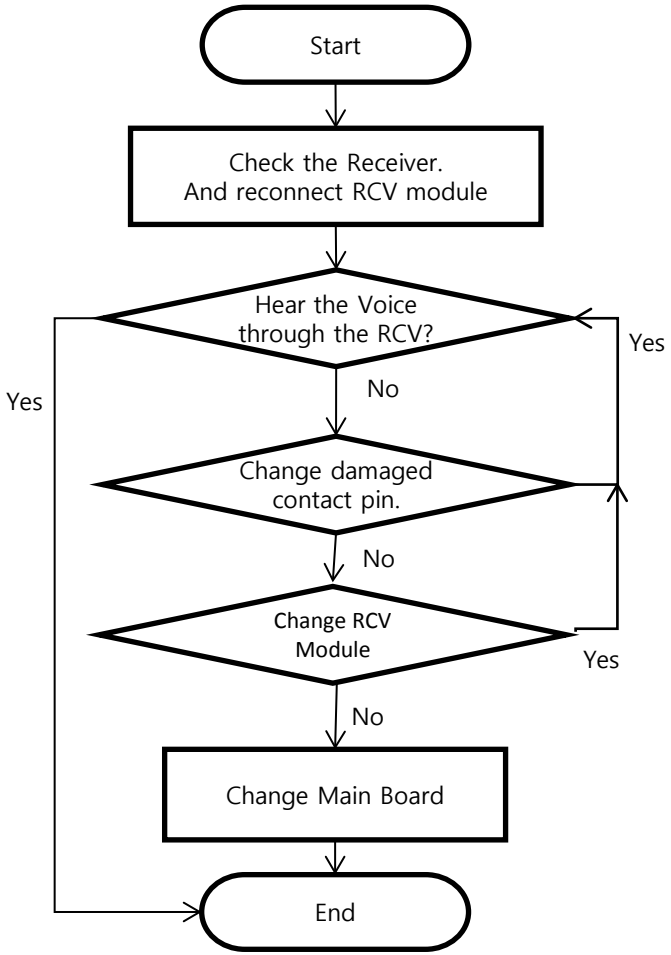






The receiver control signals are generated by WCD9335(U6000), the WCD9335 chip and the receiver are to be checked out.

Checking Flow



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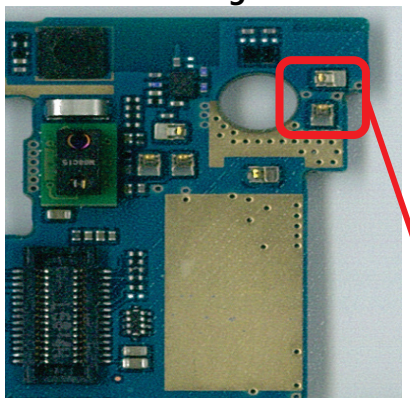
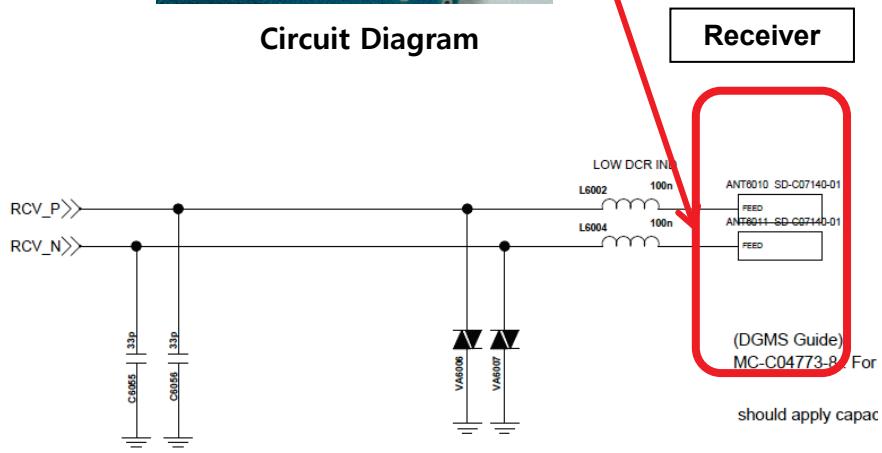


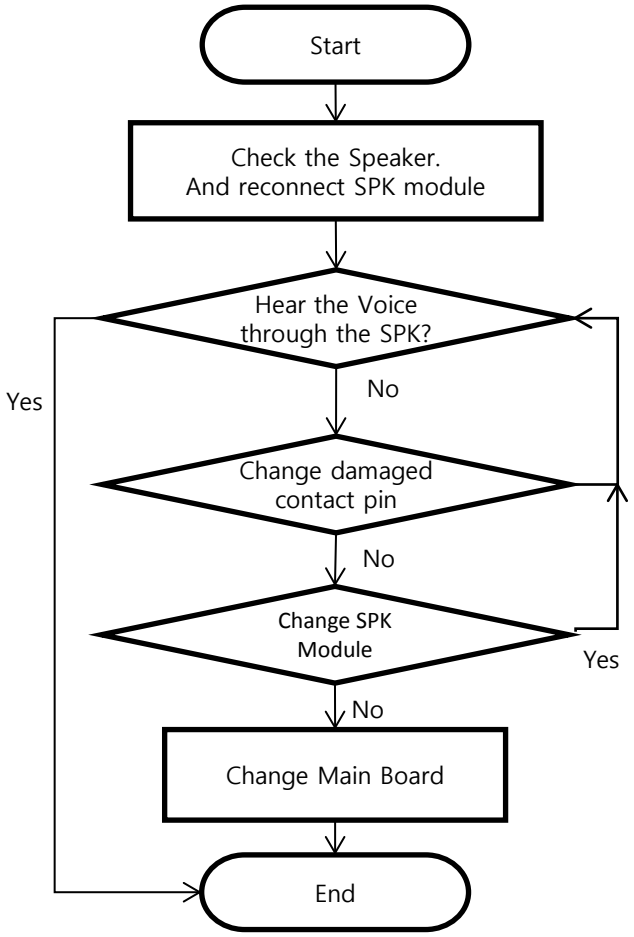
Contact pin
(ANT 6010, 6011)

Circuit Diagram



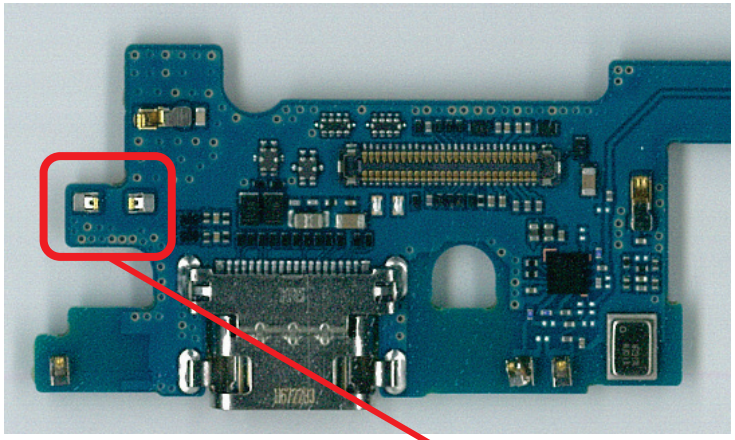
The Speaker control signals are generated by WCD9335(U6000), WSA8815(U6002). WCD9335/WSA8815 chip and the speaker are to be checked out.

Checking Flow

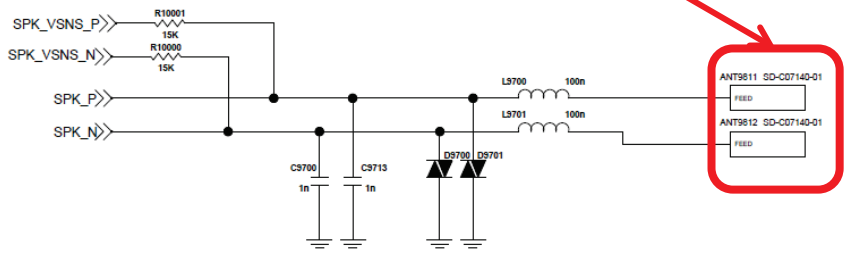


Image

Contact pin
(ANT 9811,9812)

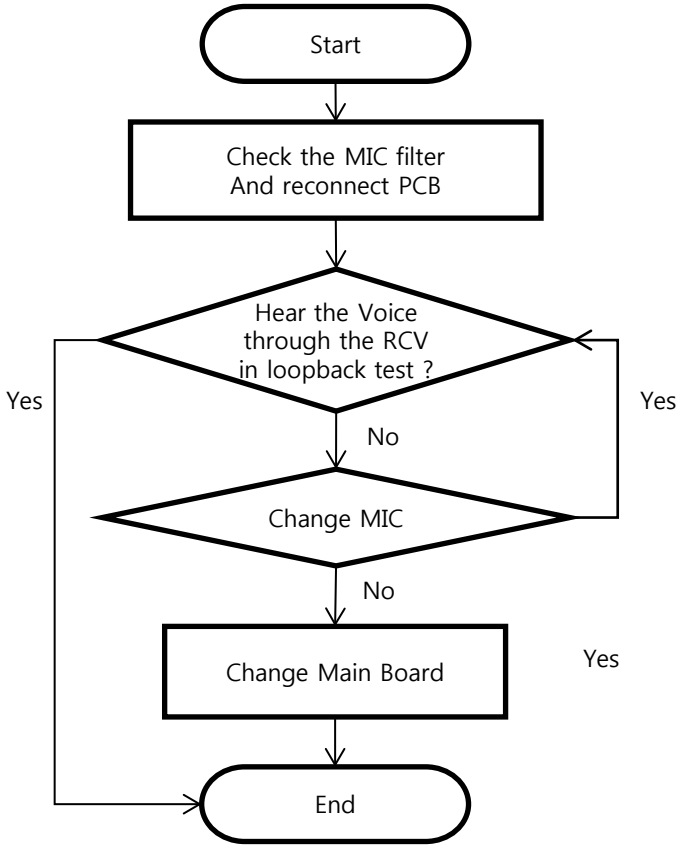


Circuit Diagram



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

Checking Flow



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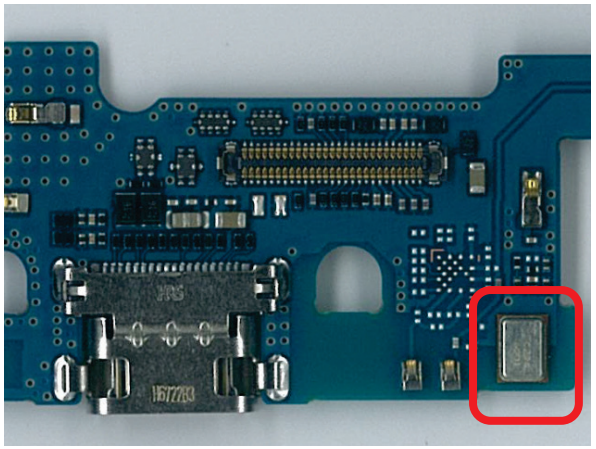
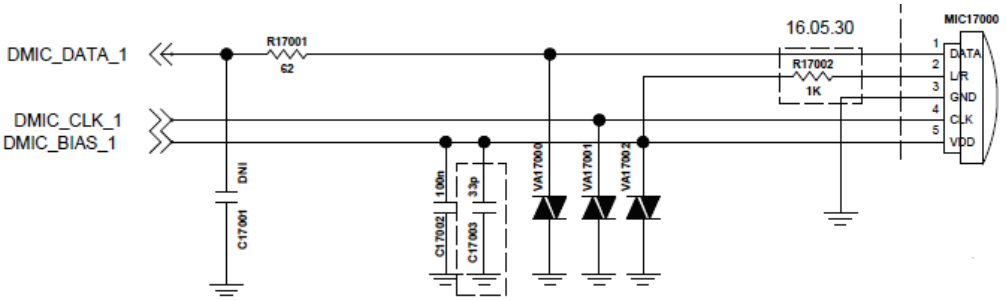
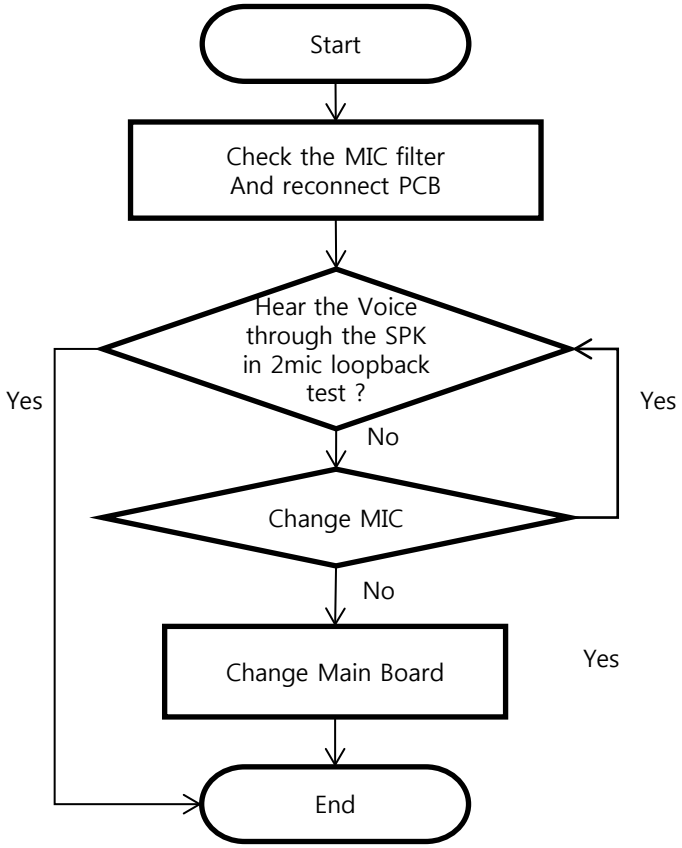


Circuit Diagram

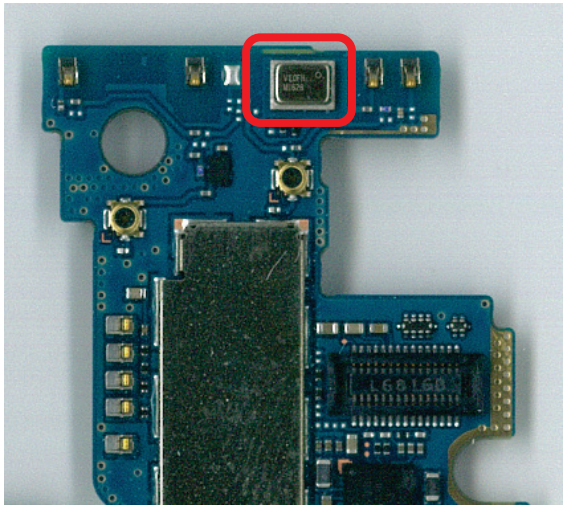


It's operating Speakerphone call.

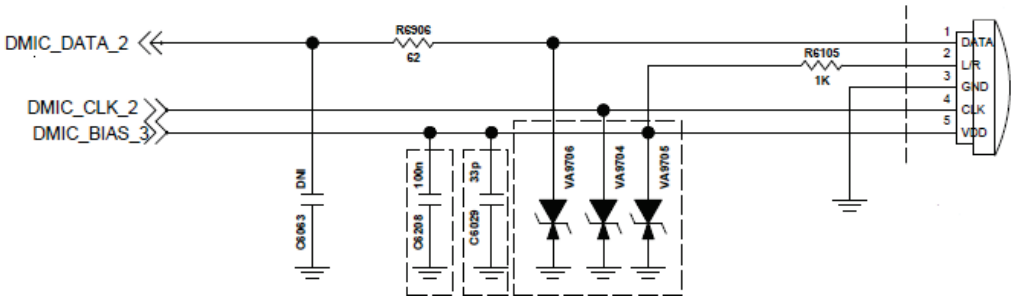
Checking Flow



Image

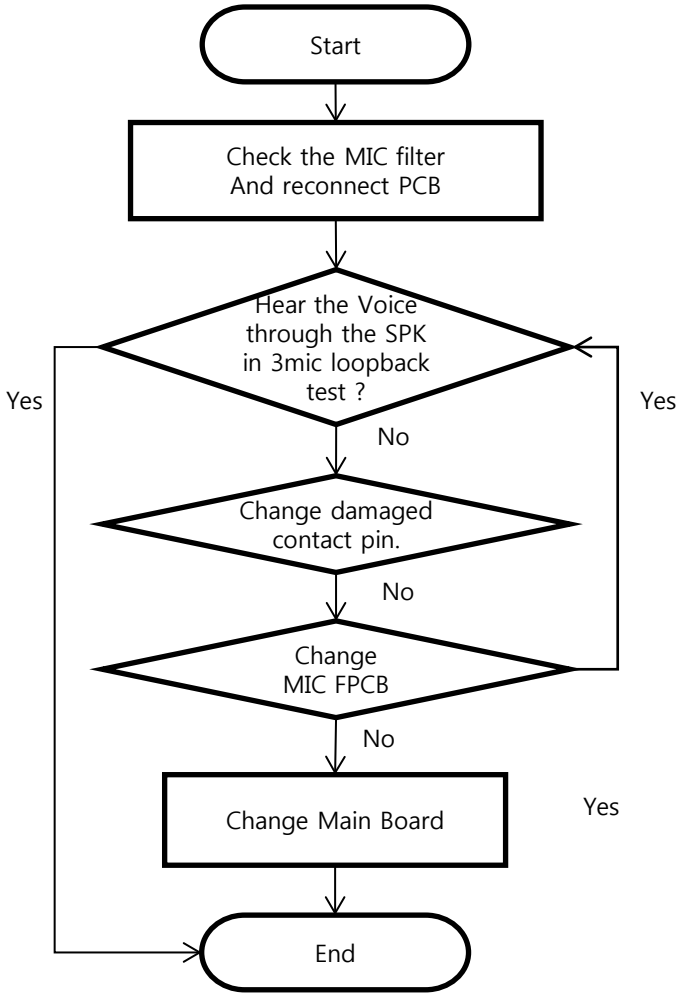


Circuit Diagram



It's operating Hifi Recording > concert mode

Checking Flow



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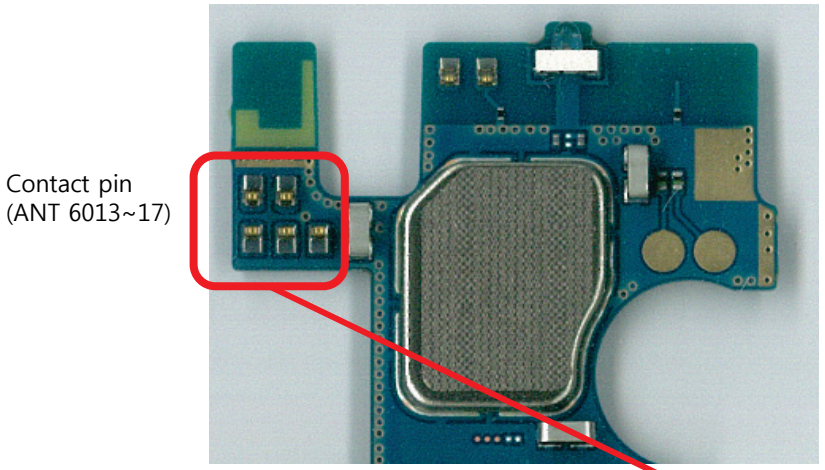
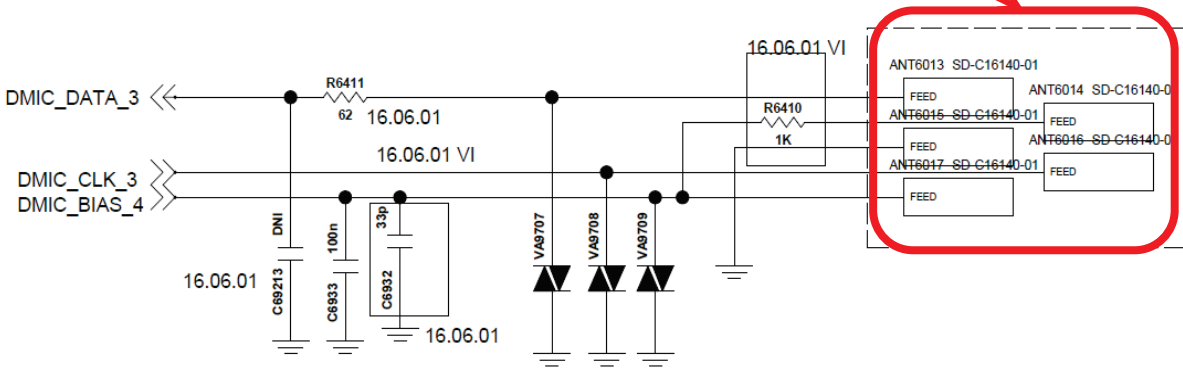
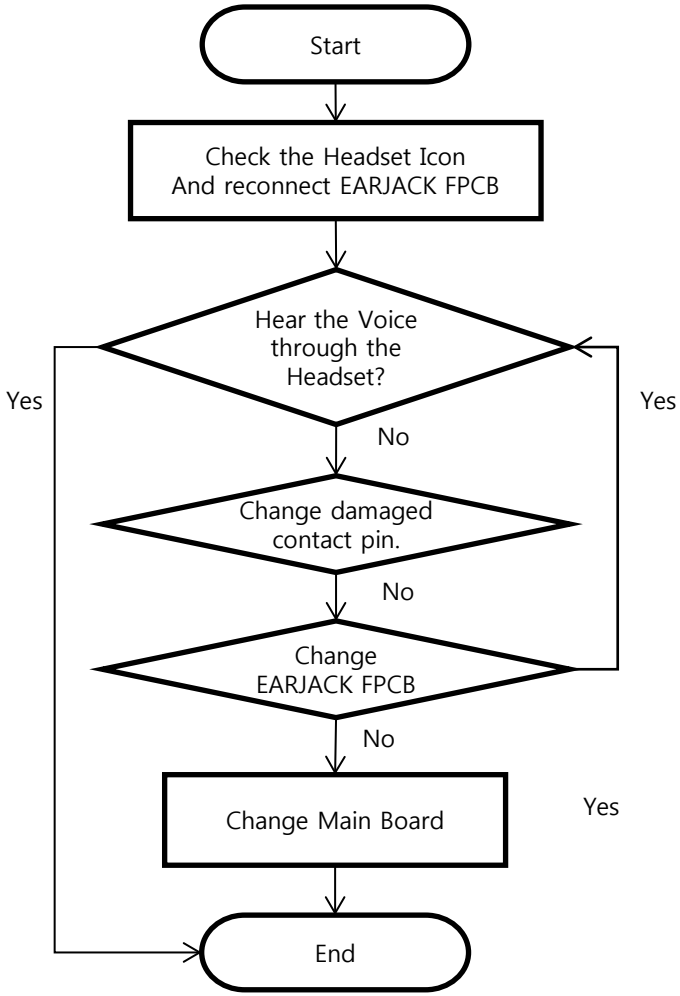


Circuit Diagram

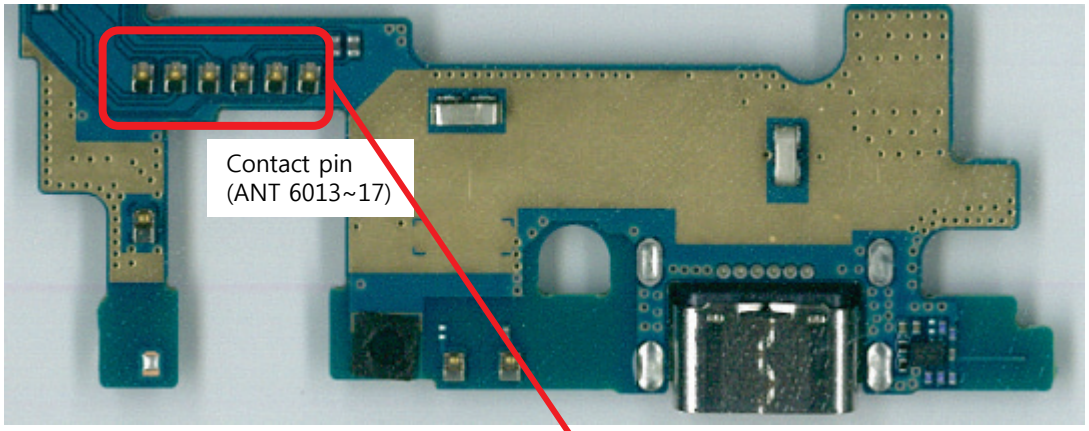


Disable detecting headset insert or No sound from Earphone, Check the Ear Mic.

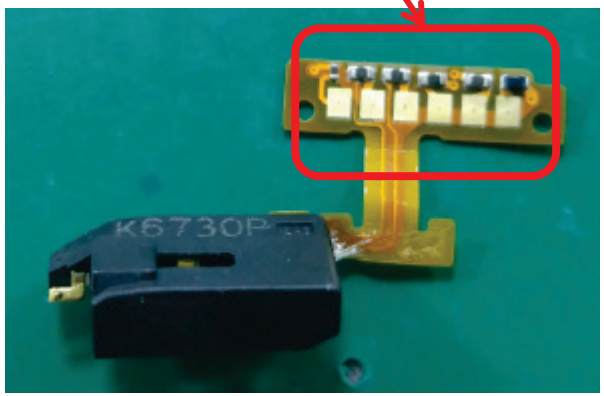
Checking Flow



Image

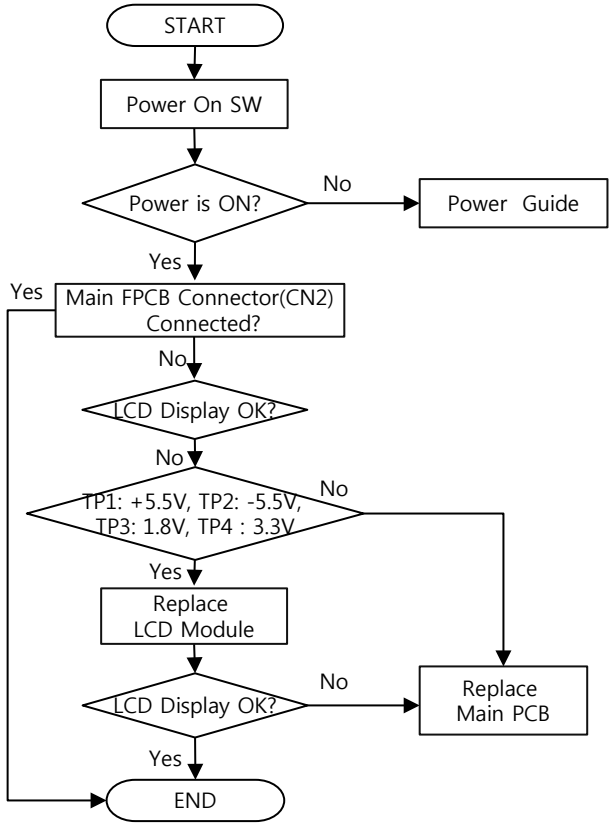


FPCB Image



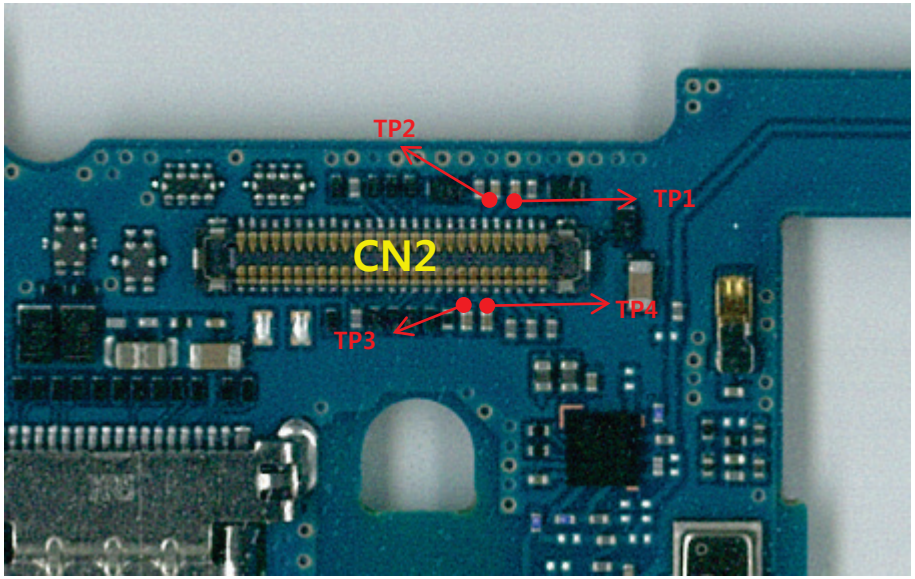
When Main display is does not working check CN7501 and TP Voltage.

Checking Flow

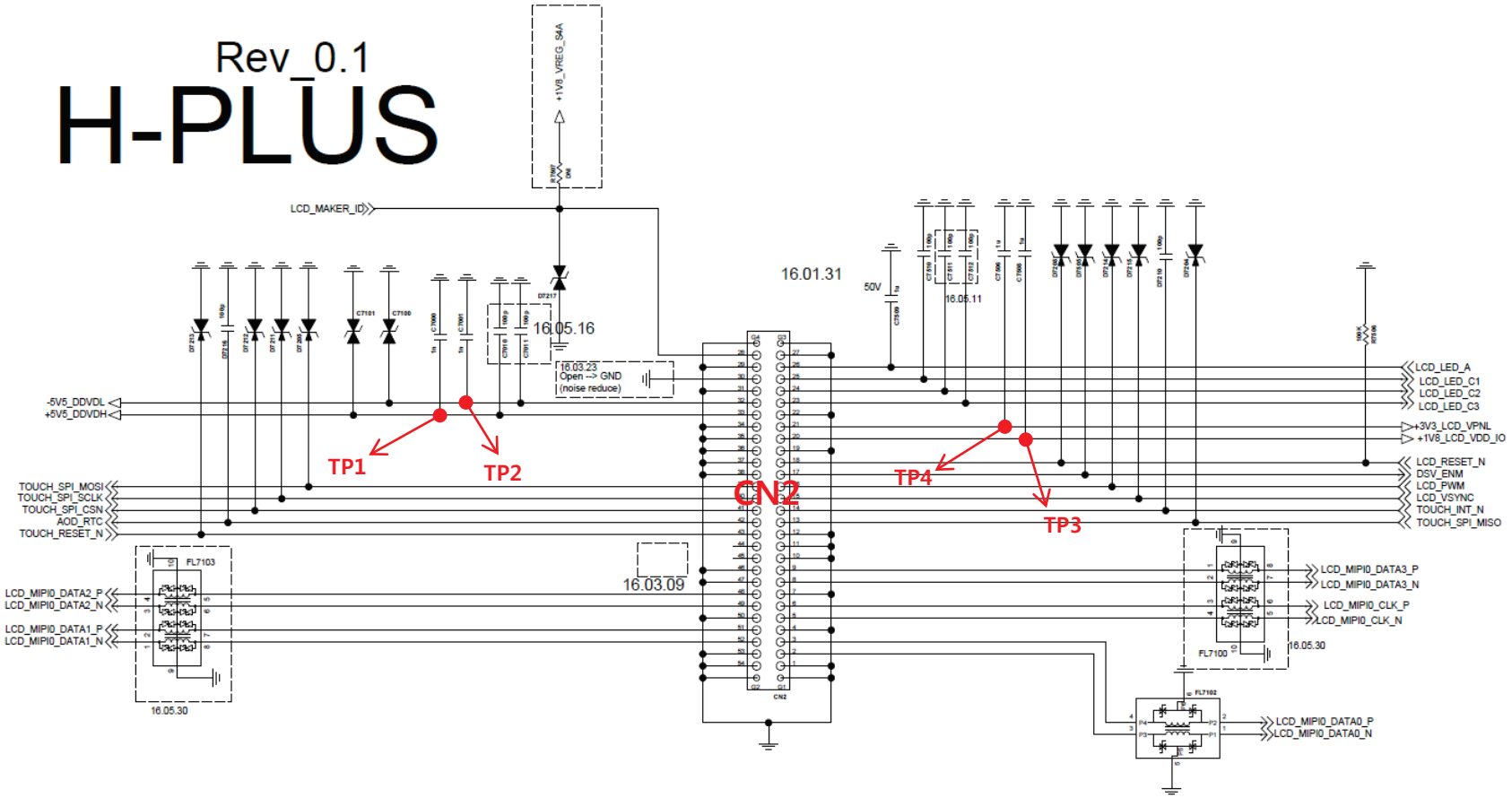


Image

BOTTOM

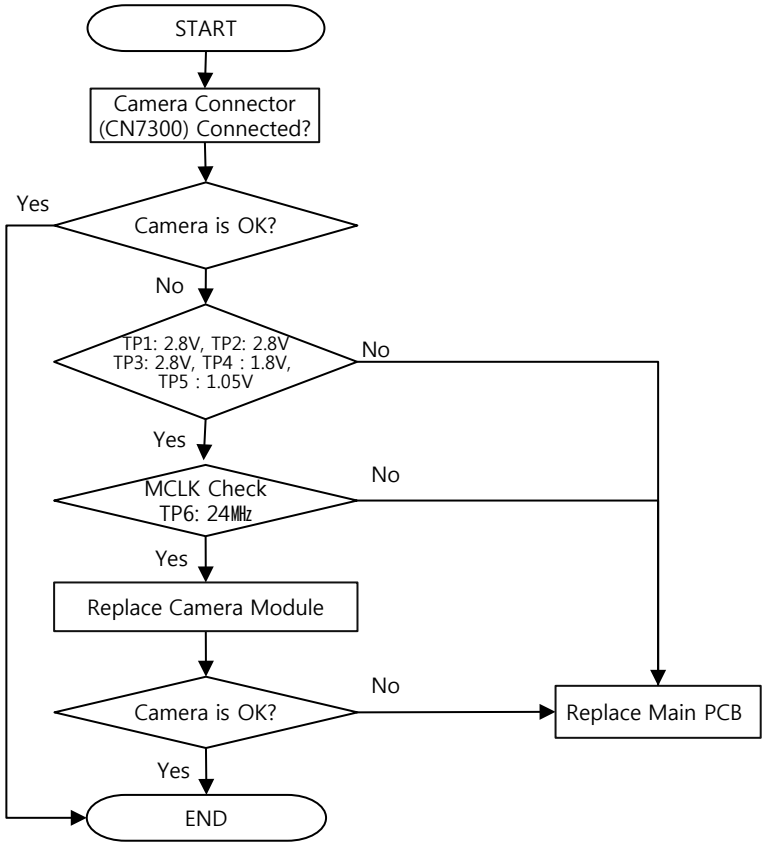


Circuit Diagram

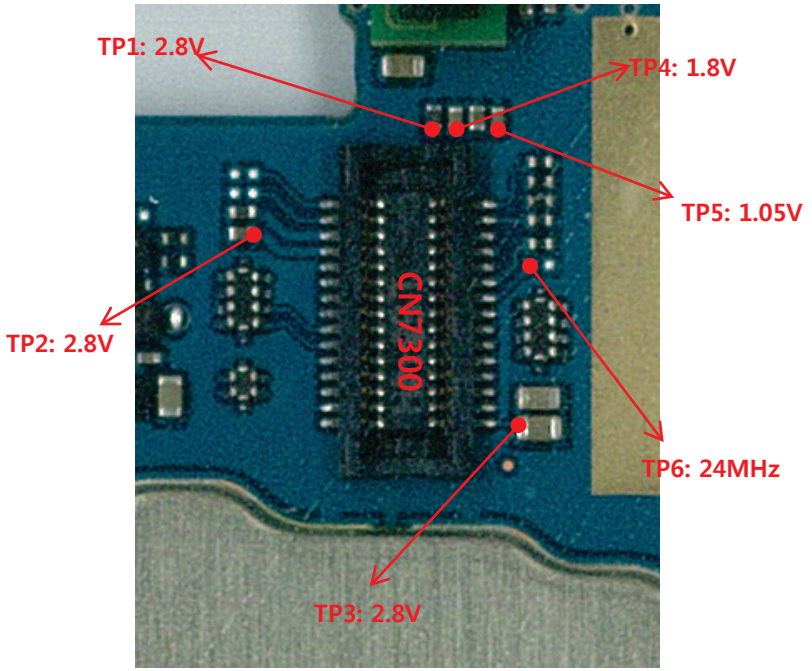


When 16M OIS camera is not working, check CN7300 and TP Voltage.

Checking Flow



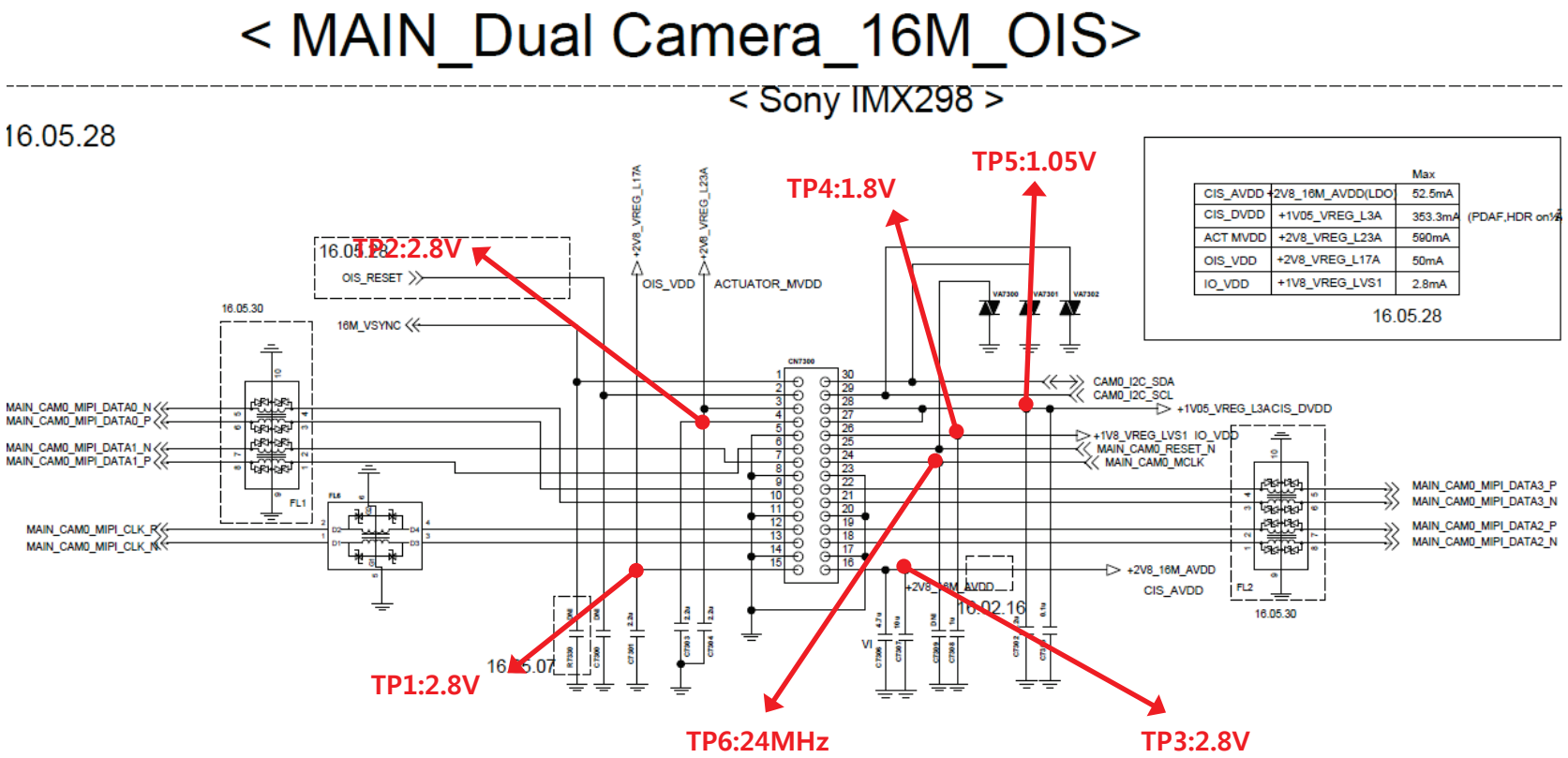
Image



TOP

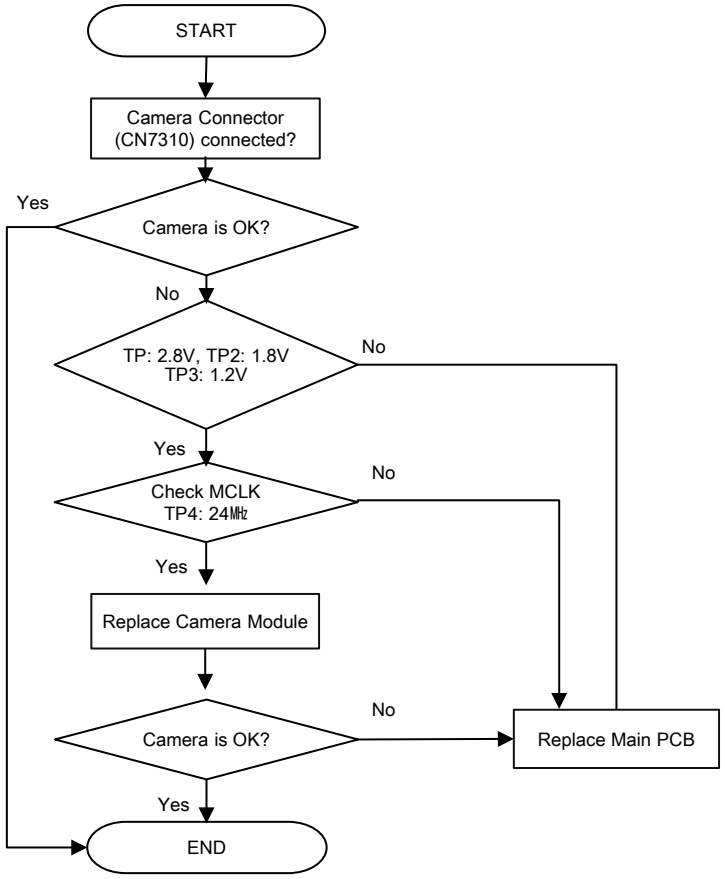
When 16M OIS camera is not working, check CN7300 and TP Voltage.

Circuit Diagram

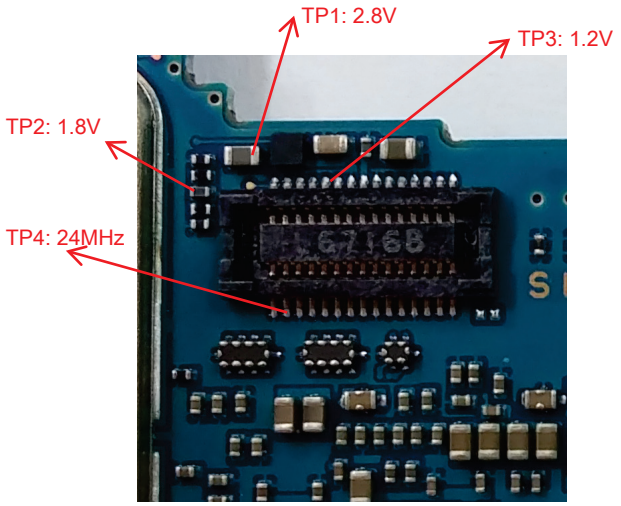


When 8M Camera is does not working check CN7310 and TP Voltage.

Checking Flow



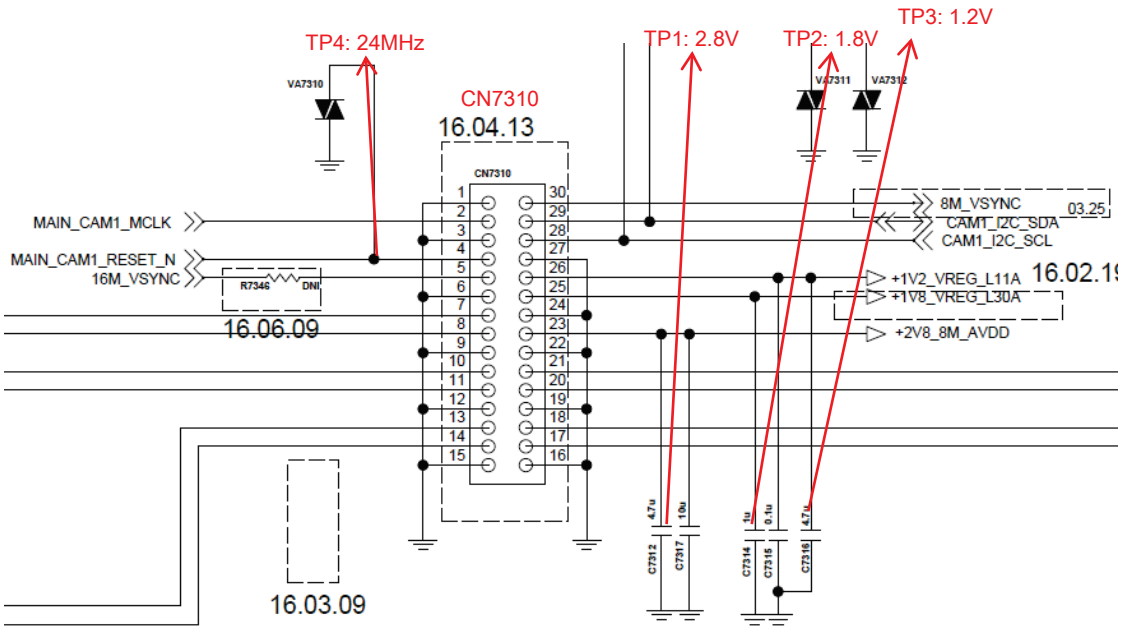
Image



BOTTOM

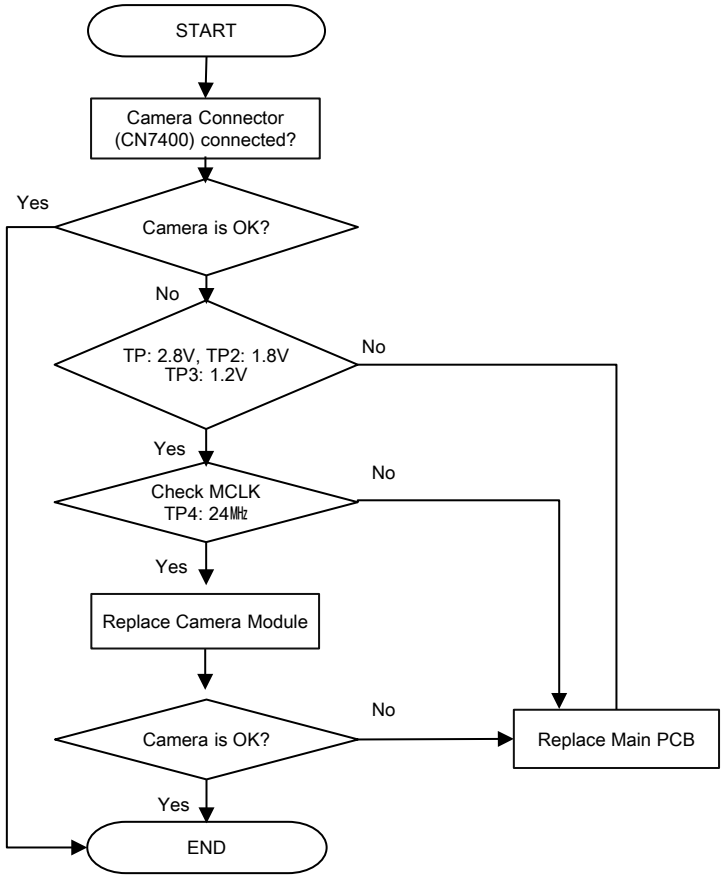
When 8M Wide camera is not working, check CN7310 and TP Voltage.

Circuit Diagram

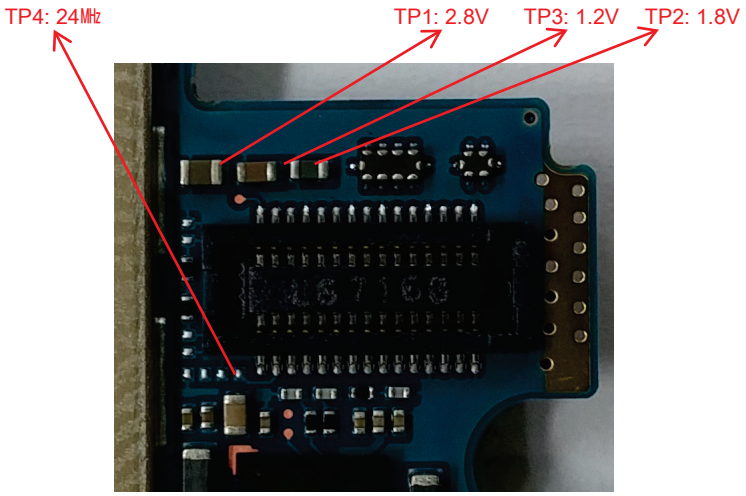


When VT camera is not working, check CN7400 and TP Voltage.

Checking Flow



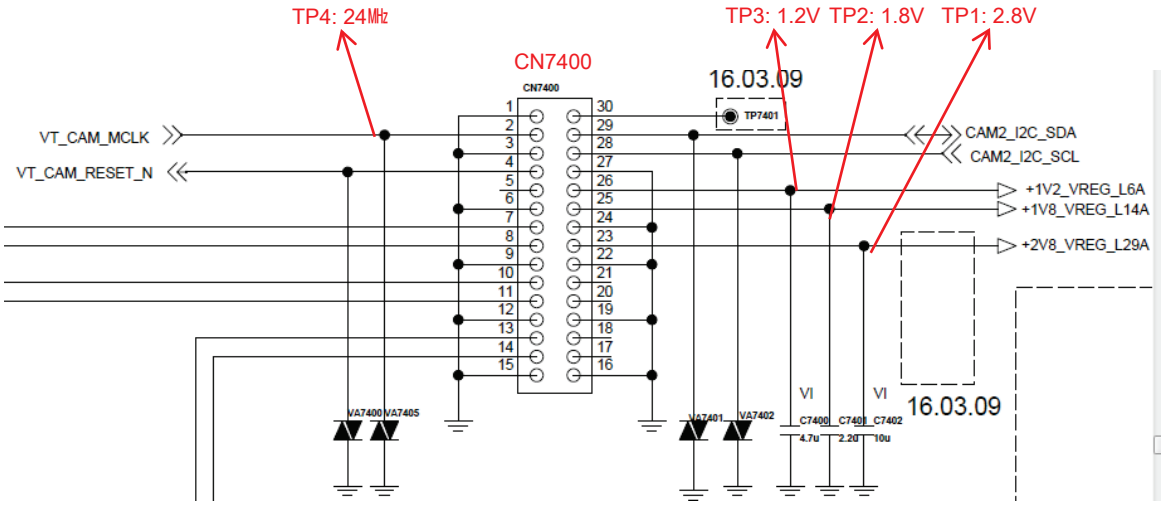
Image



BOTTOM

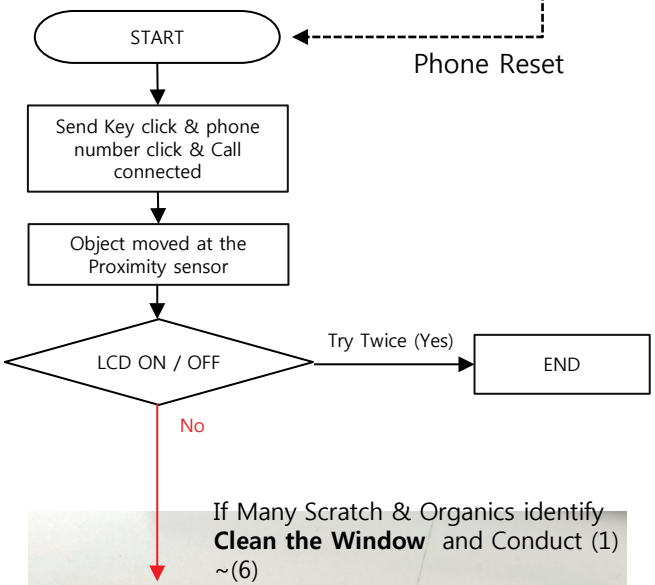
When VT camera is not working, check CN7400 and TP Voltage.

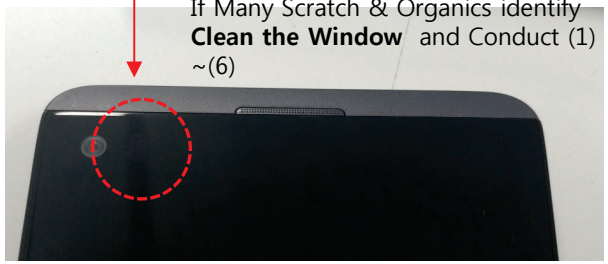
Circuit Diagram



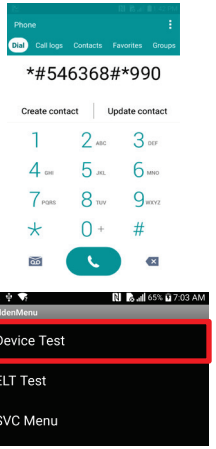
When LCD ON/OFF is not working automatically check proximity sensor.

Checking Flow



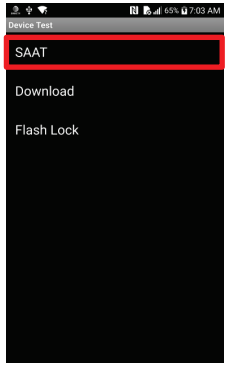


1. Hidden Menu Start

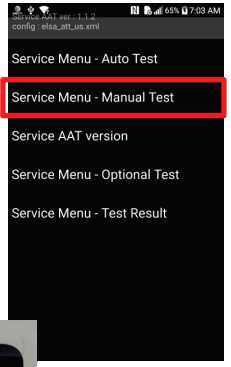


- Start shortcut key : *#546368#*990#
- Hidden Menu List : Choose Device Test

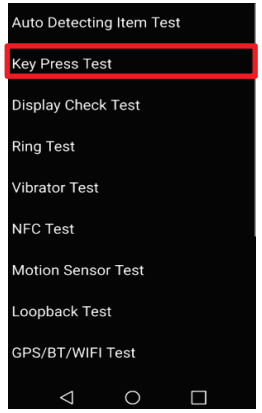
2. Device Test : SAAT choose
Service Menu Tests



3. Device Test : Service Menu Manual Test



4. Service Menu
: Key Press Test

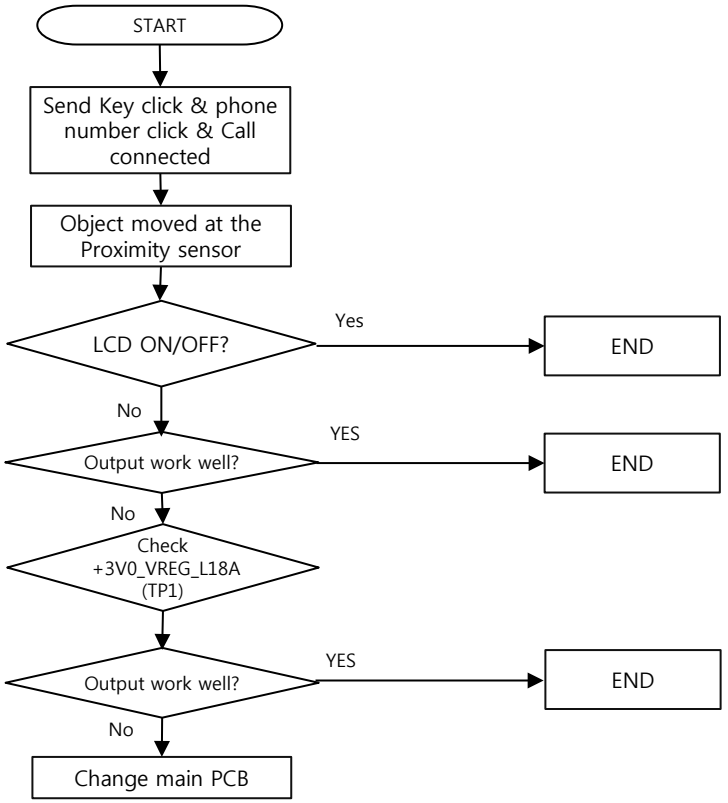


6. After Calibration Progress, Attach your Finger the Proximity Operation Near ← → Far Check!

5. Choose
: Calibration start

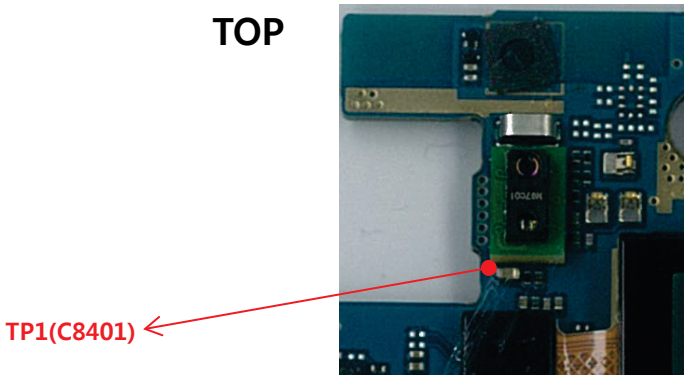
When LCD ON/OFF is not working automatically check proximity sensor.

Checking Flow

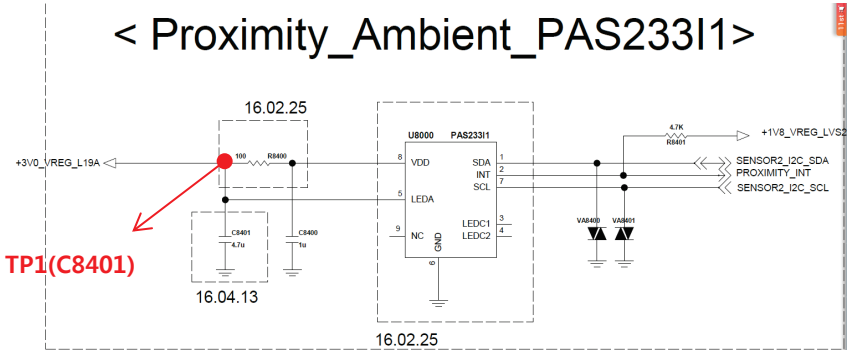


Image

TOP

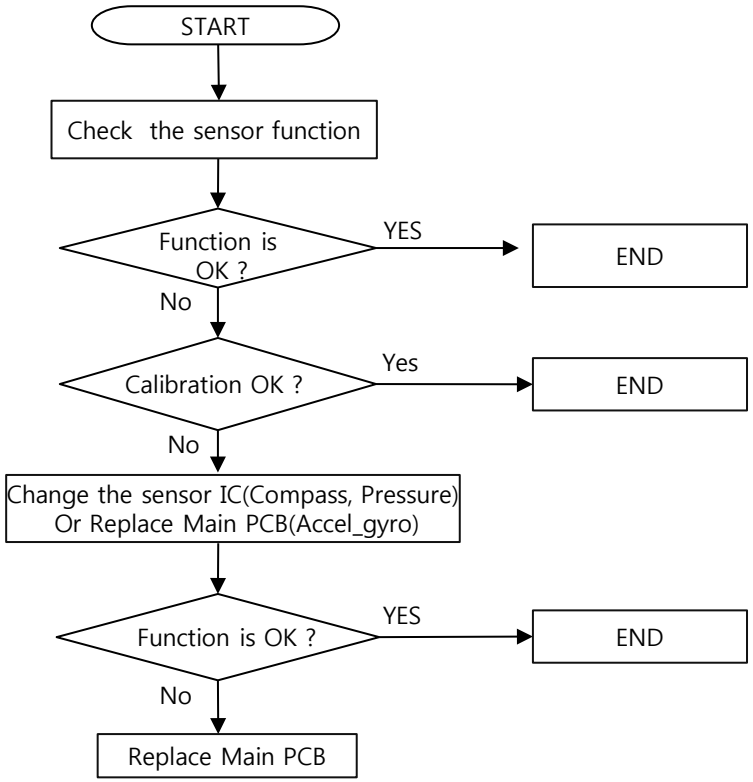


Circuit Diagram

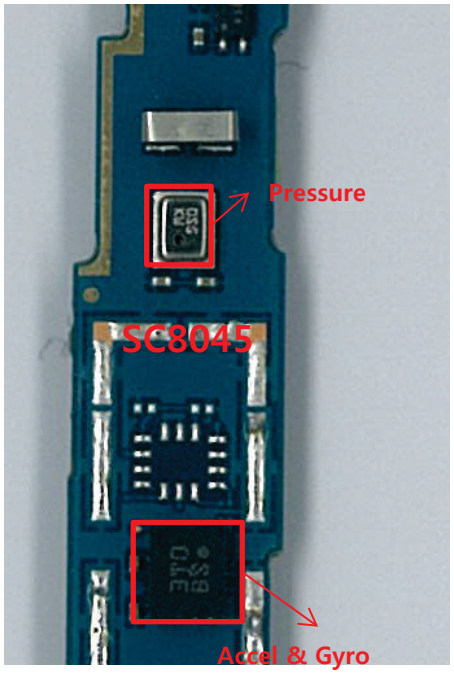


The Accl. & compass sensors are calibrated by using SW algorithm.

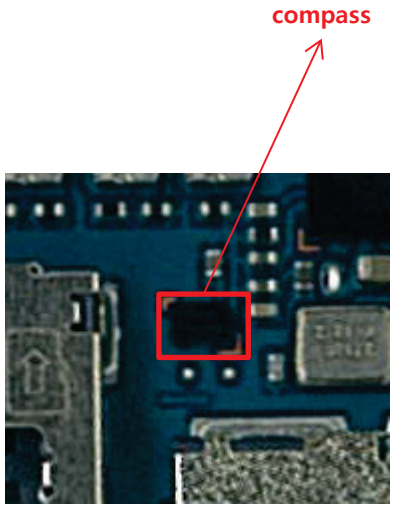
Checking Flow



Image

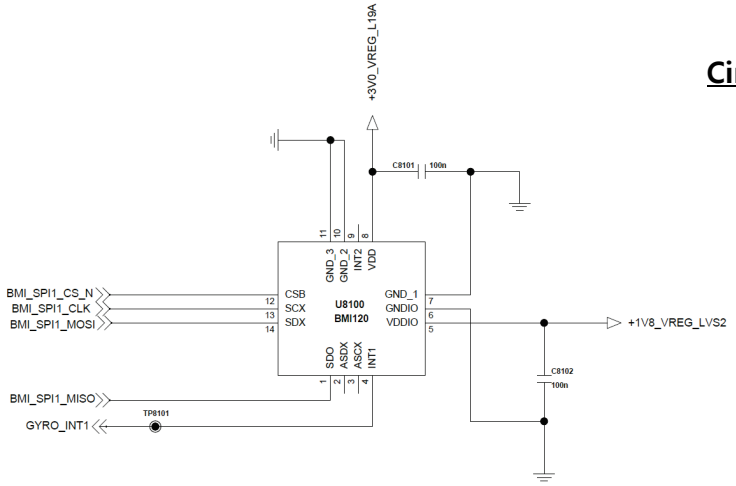


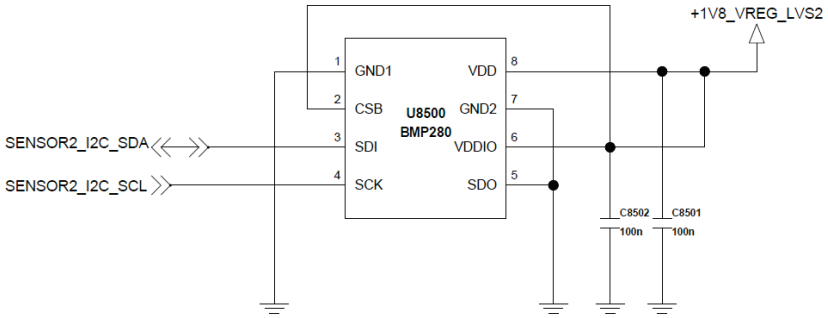
Top



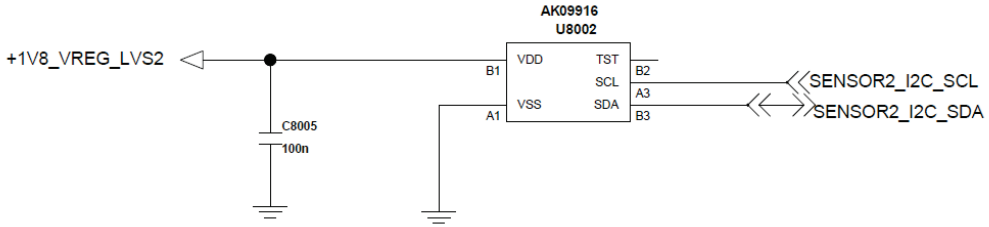
Bottom

Circuit Diagram



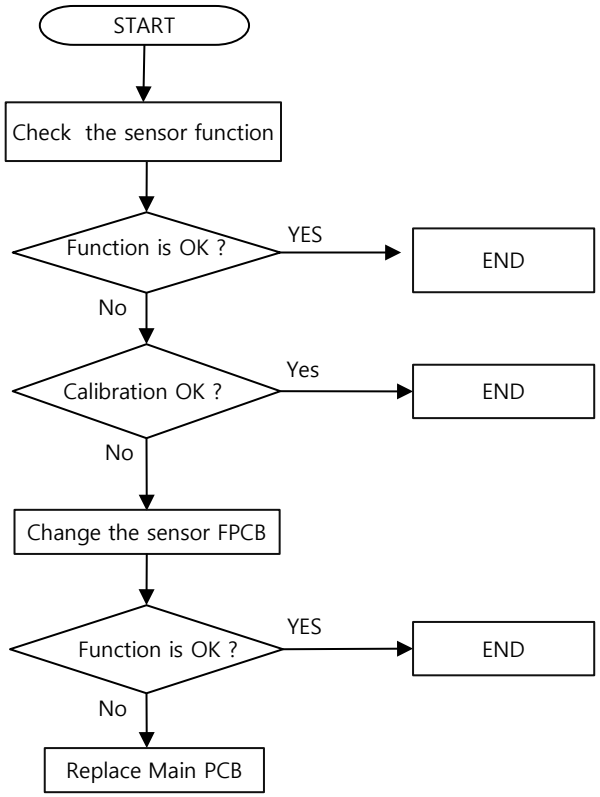


<Compass_AK09916>

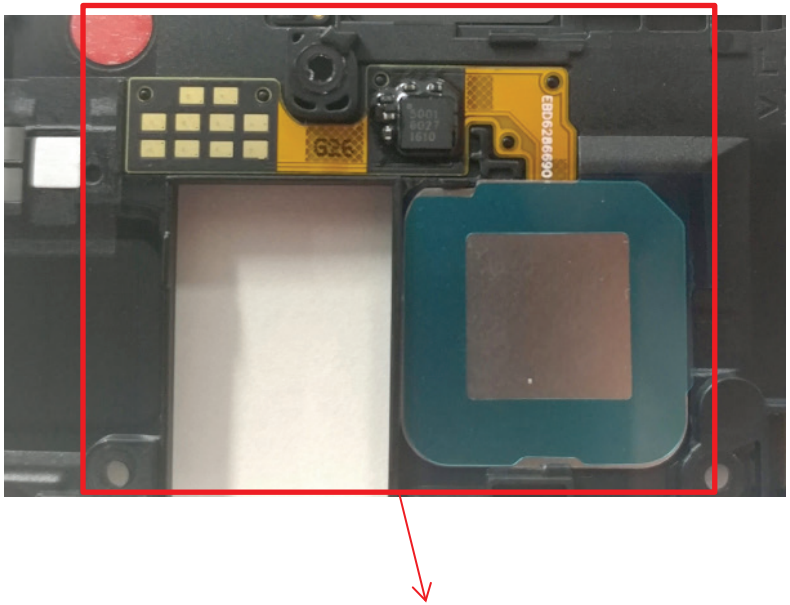


When Fingerprint sensor does not working, check fingerprint sensor IC and contact pin.

Checking Flow

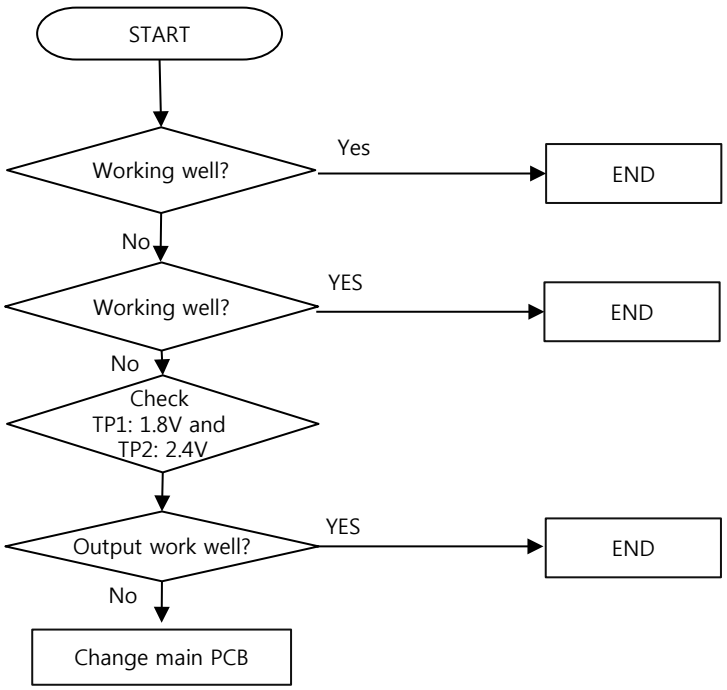


Image

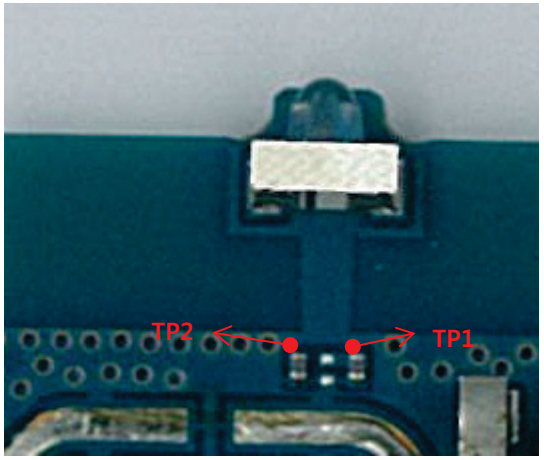


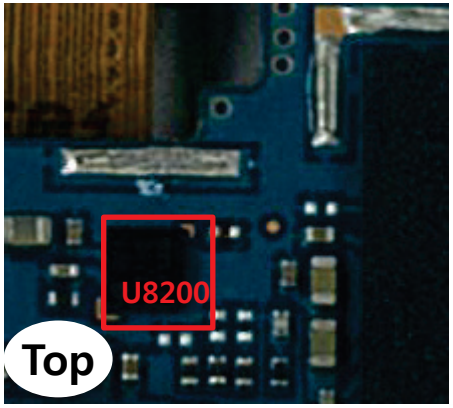
When IRRC is not working check as below.

Checking Flow

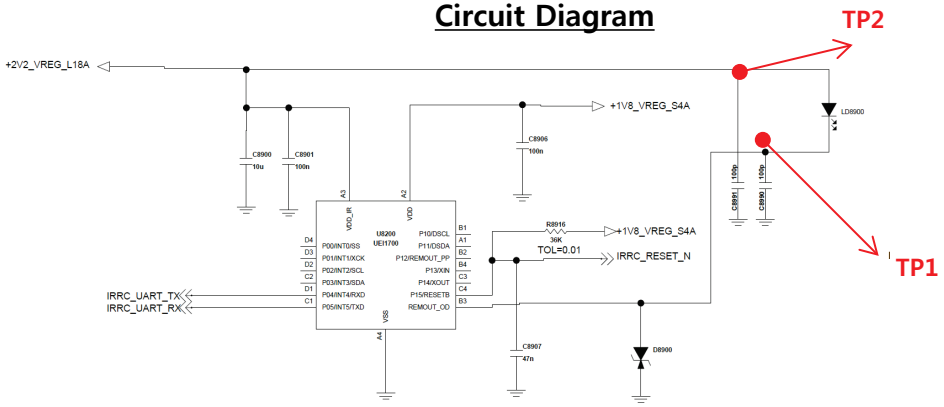


Image



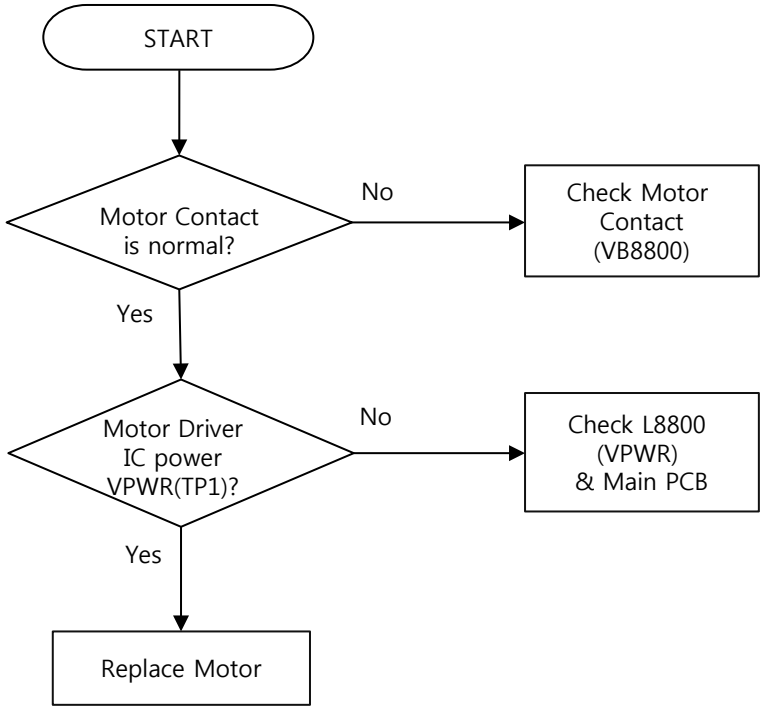


Circuit Diagram

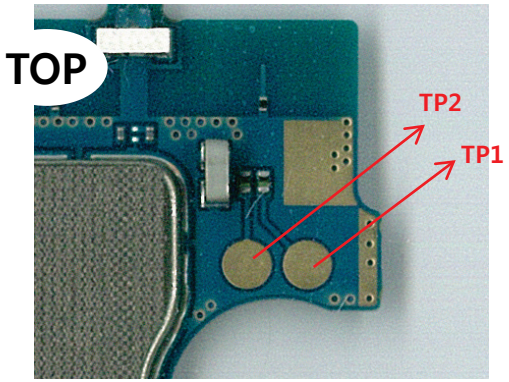


Motor is not working

Checking Flow

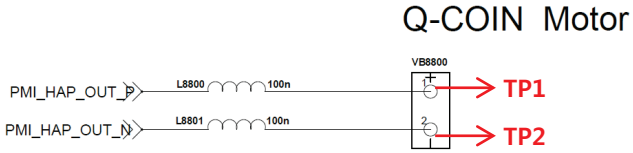


Image



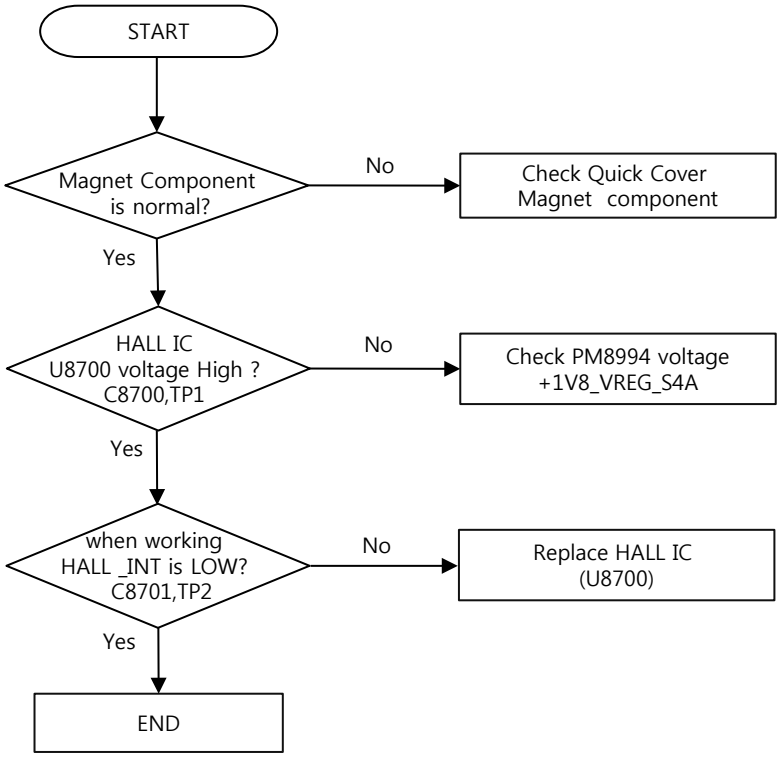
Circuit Diagram

< MOTOR Haptic >

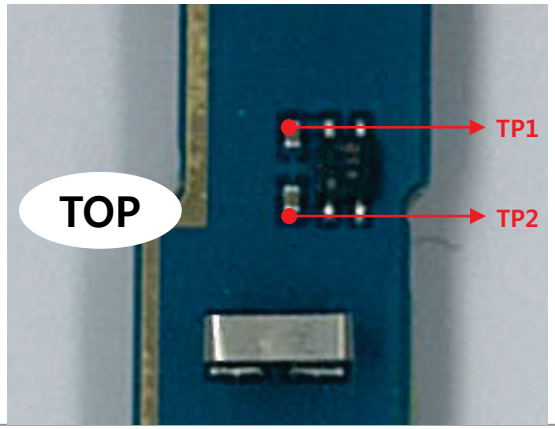


When Quick Cover does not working, check Hall IC.

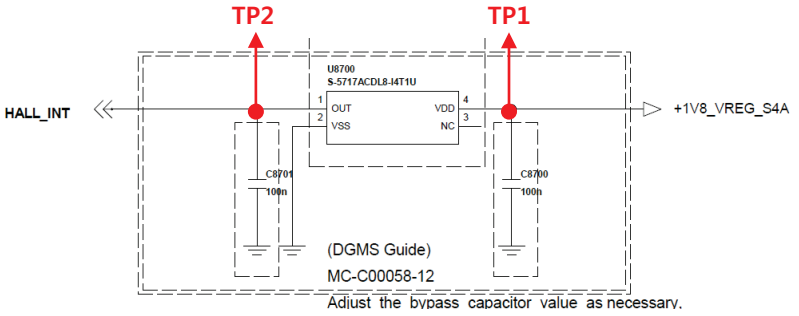
Checking Flow



Image

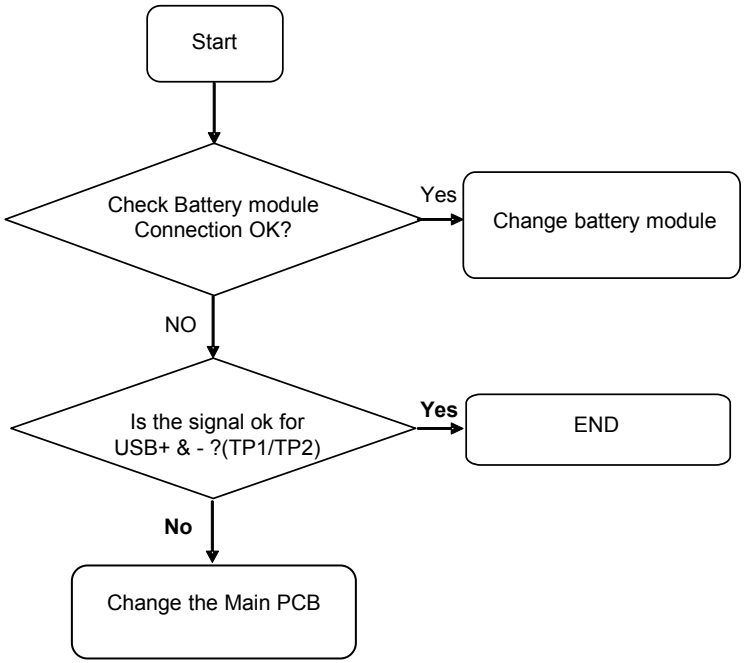


Circuit Diagram

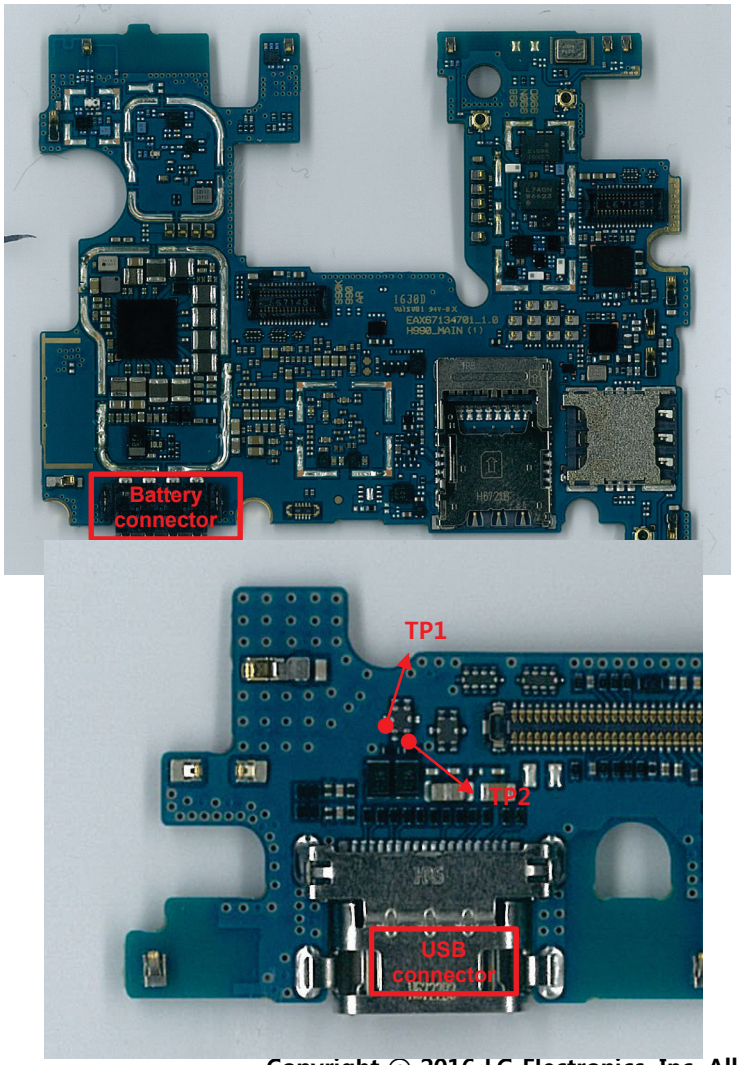


I/O Type-C connector is used as the USB port.

Checking Flow

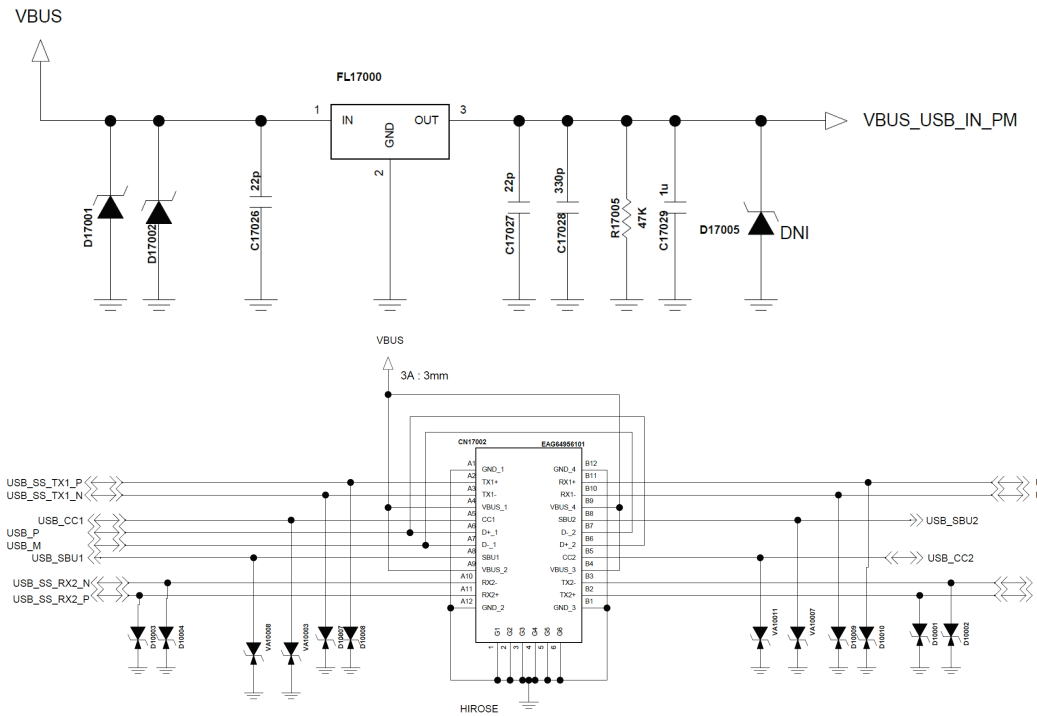


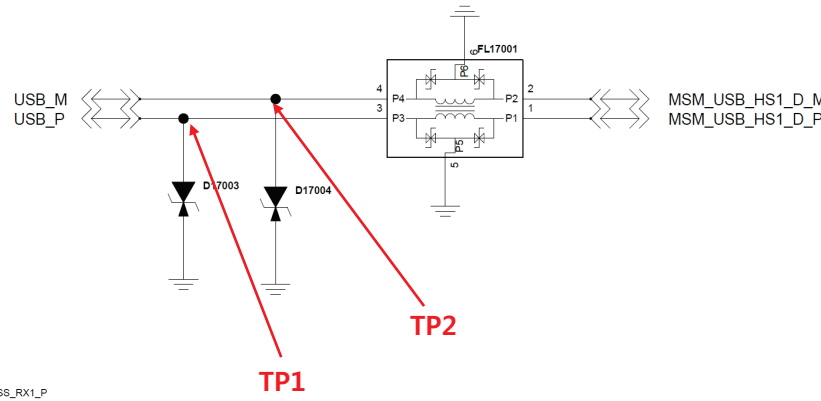
Image



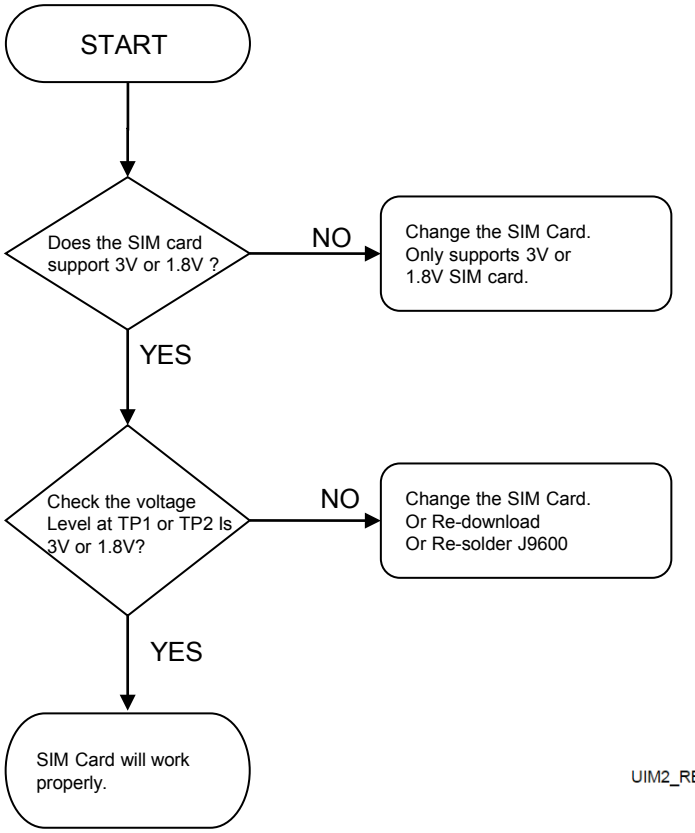
I/O Type-C connector is used as the USB port.

Circuit Diagram

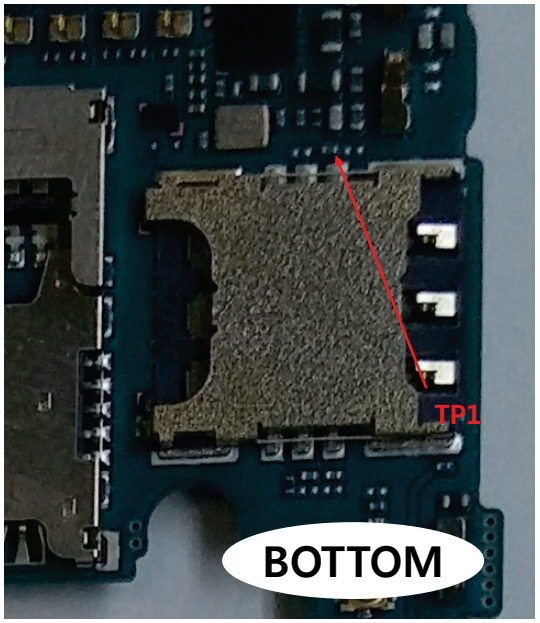


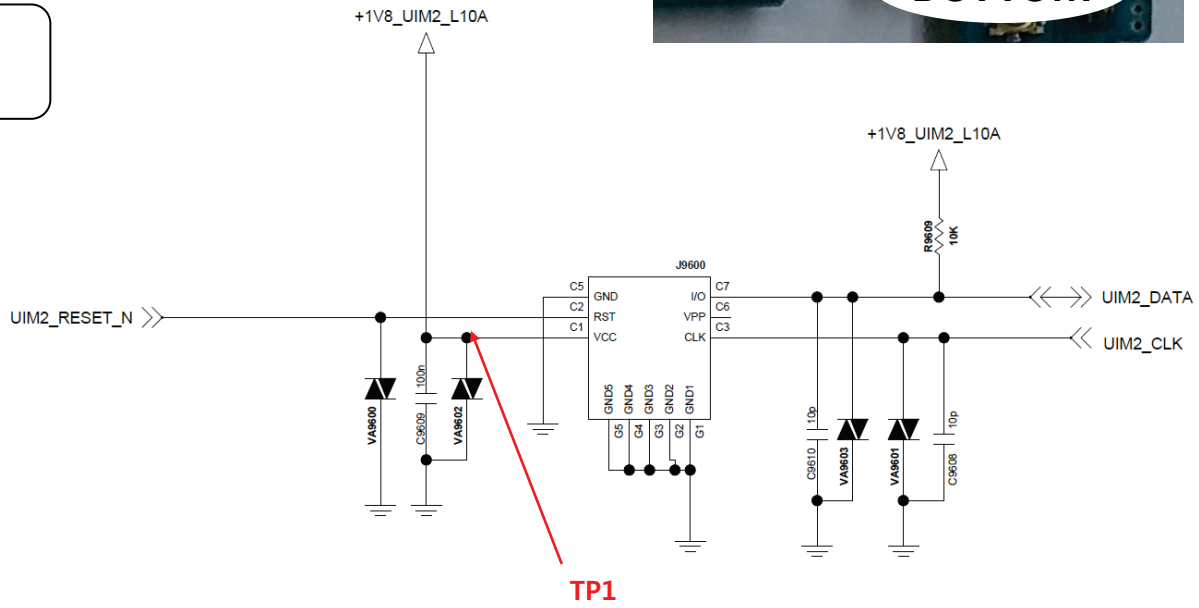


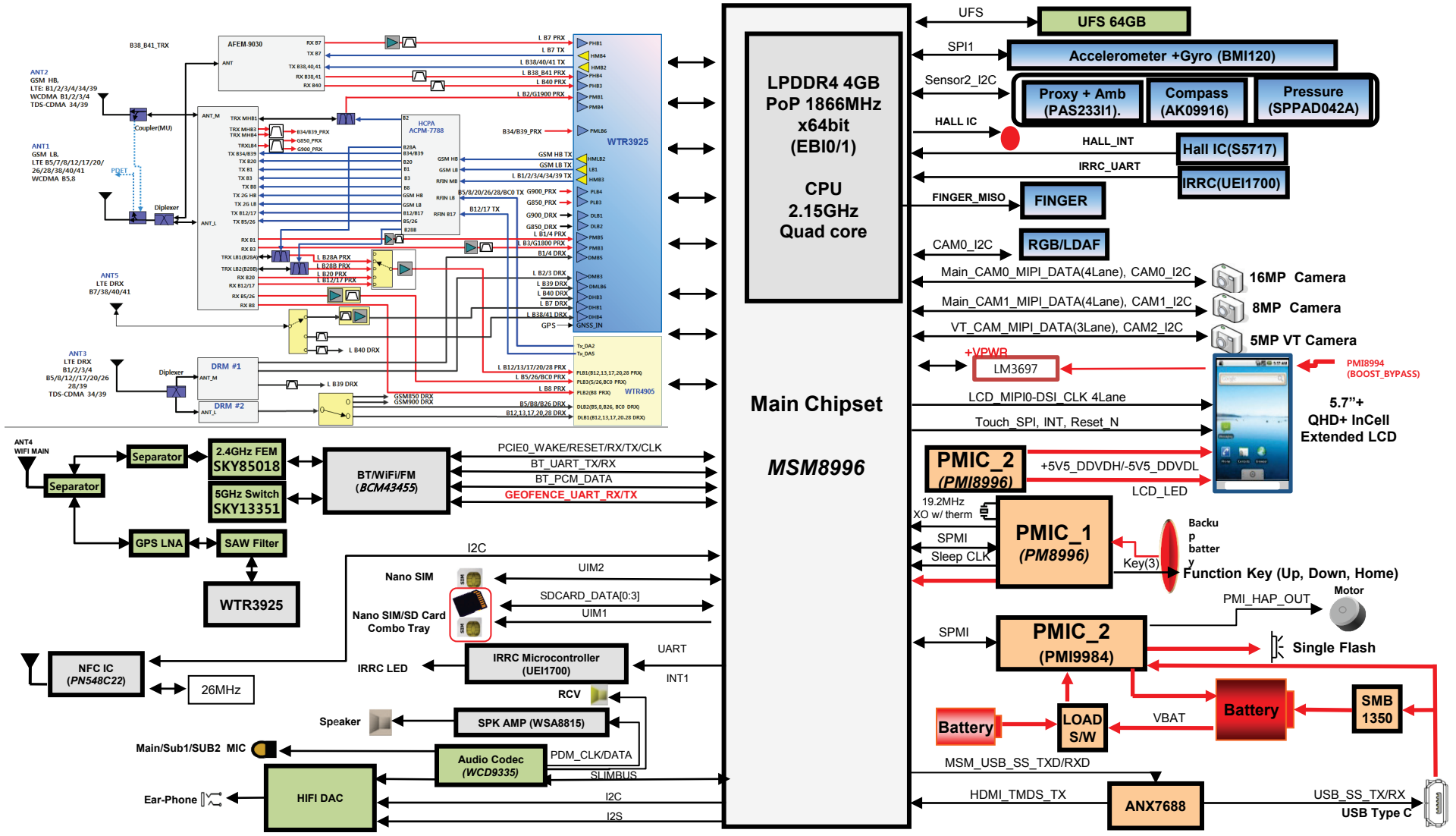
Trouble shooting when SIM2 does not work



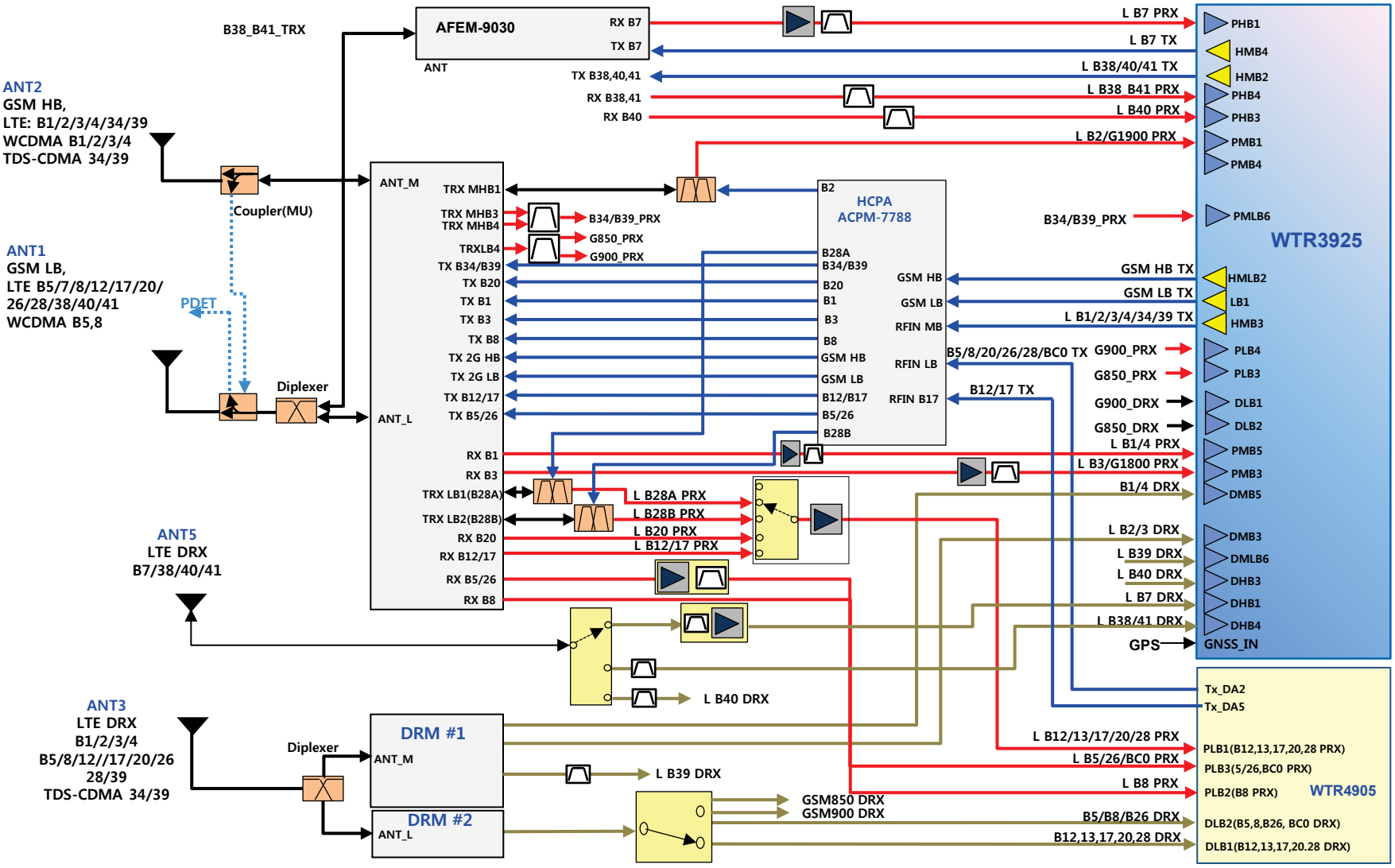
Circuit Diagram

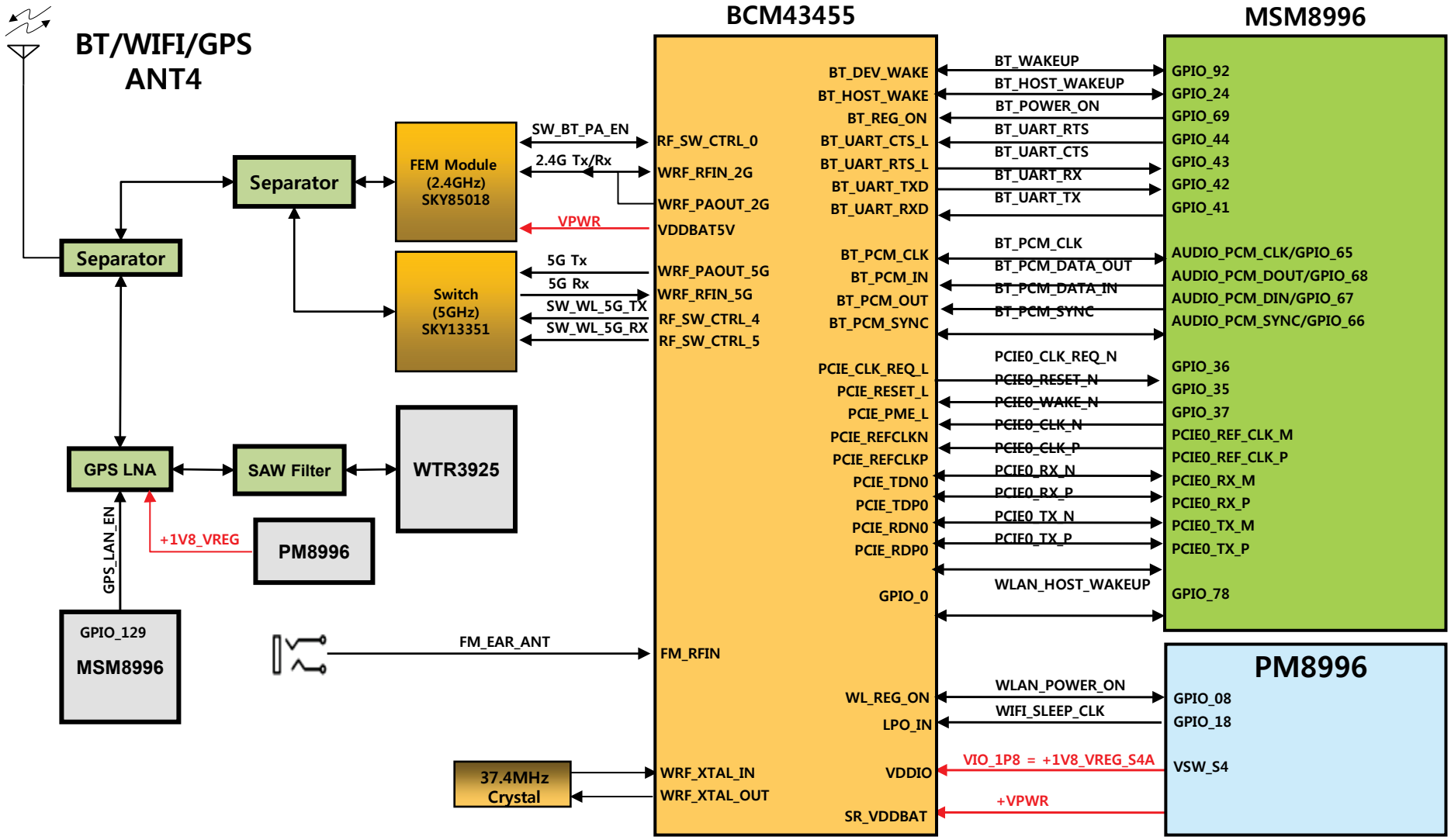


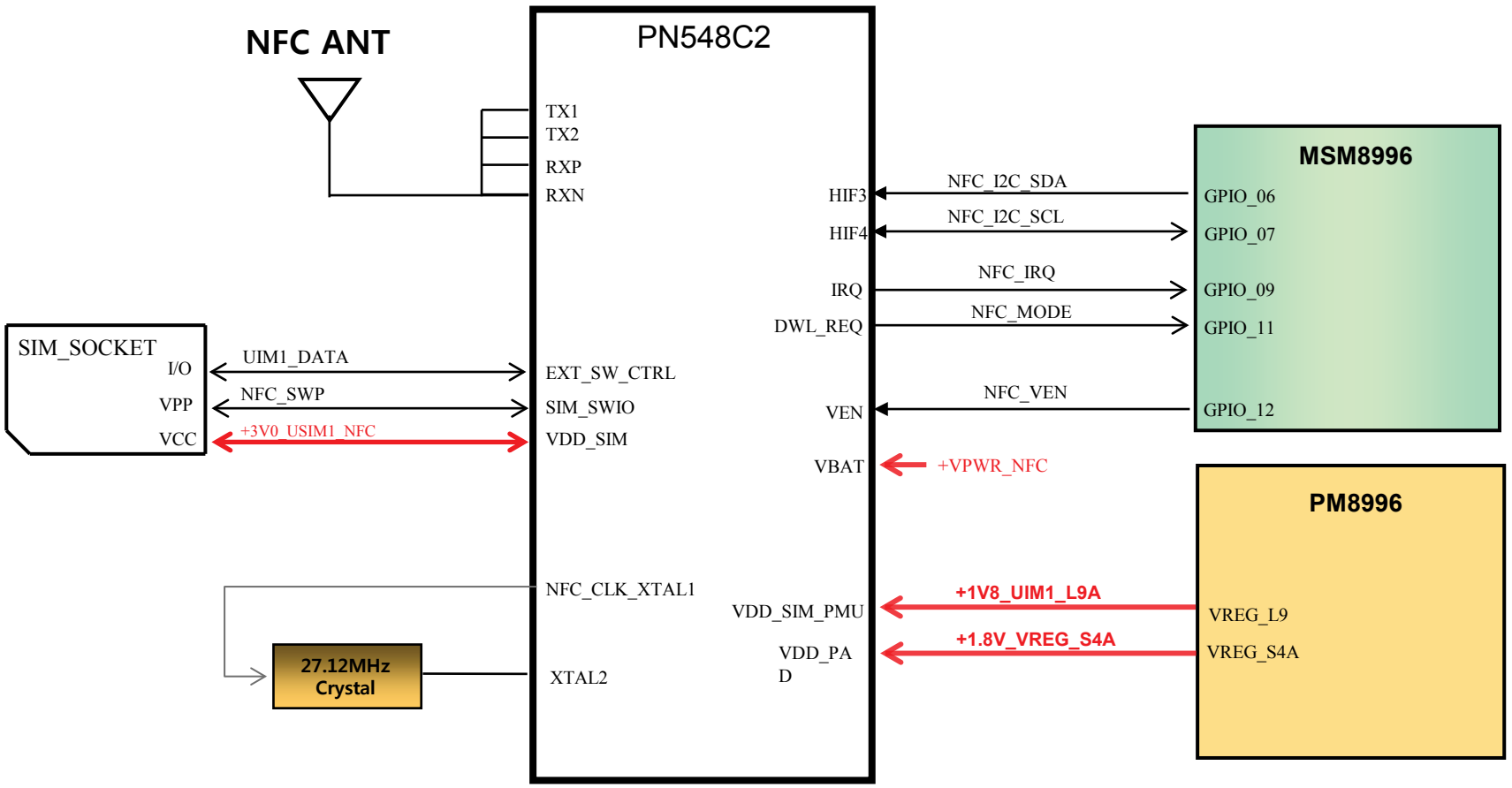


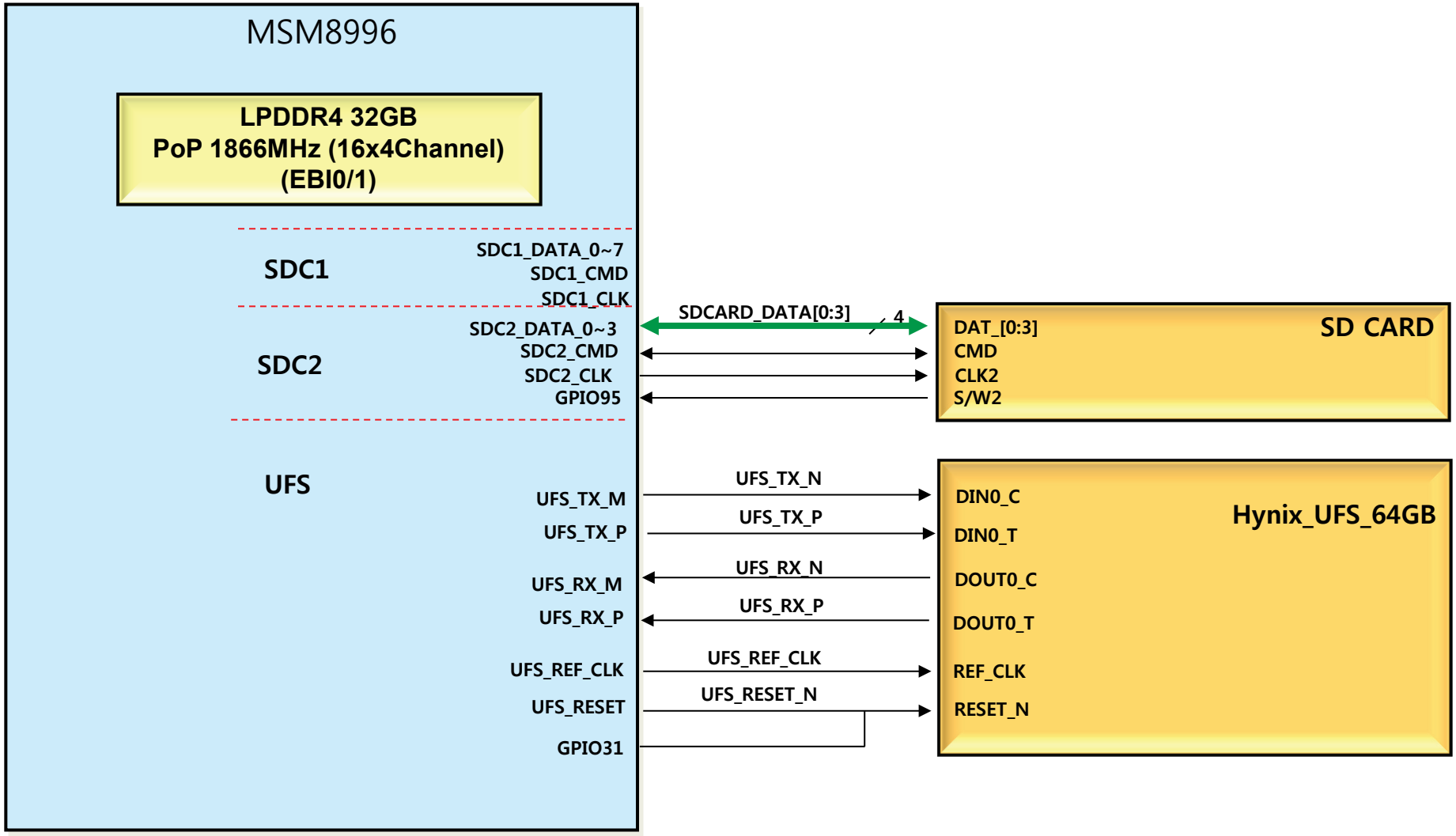


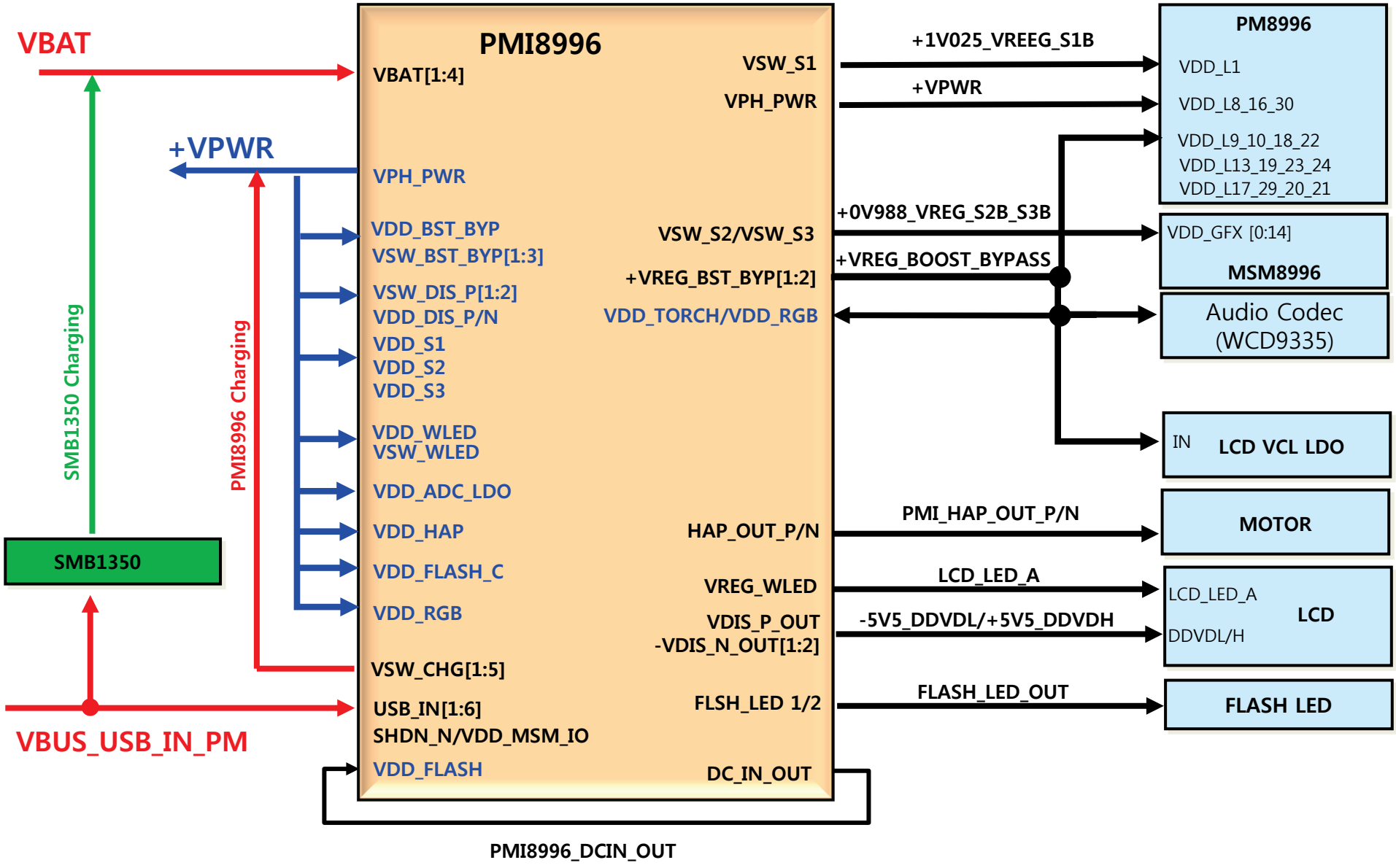
4. BLOCK DIAGRAM

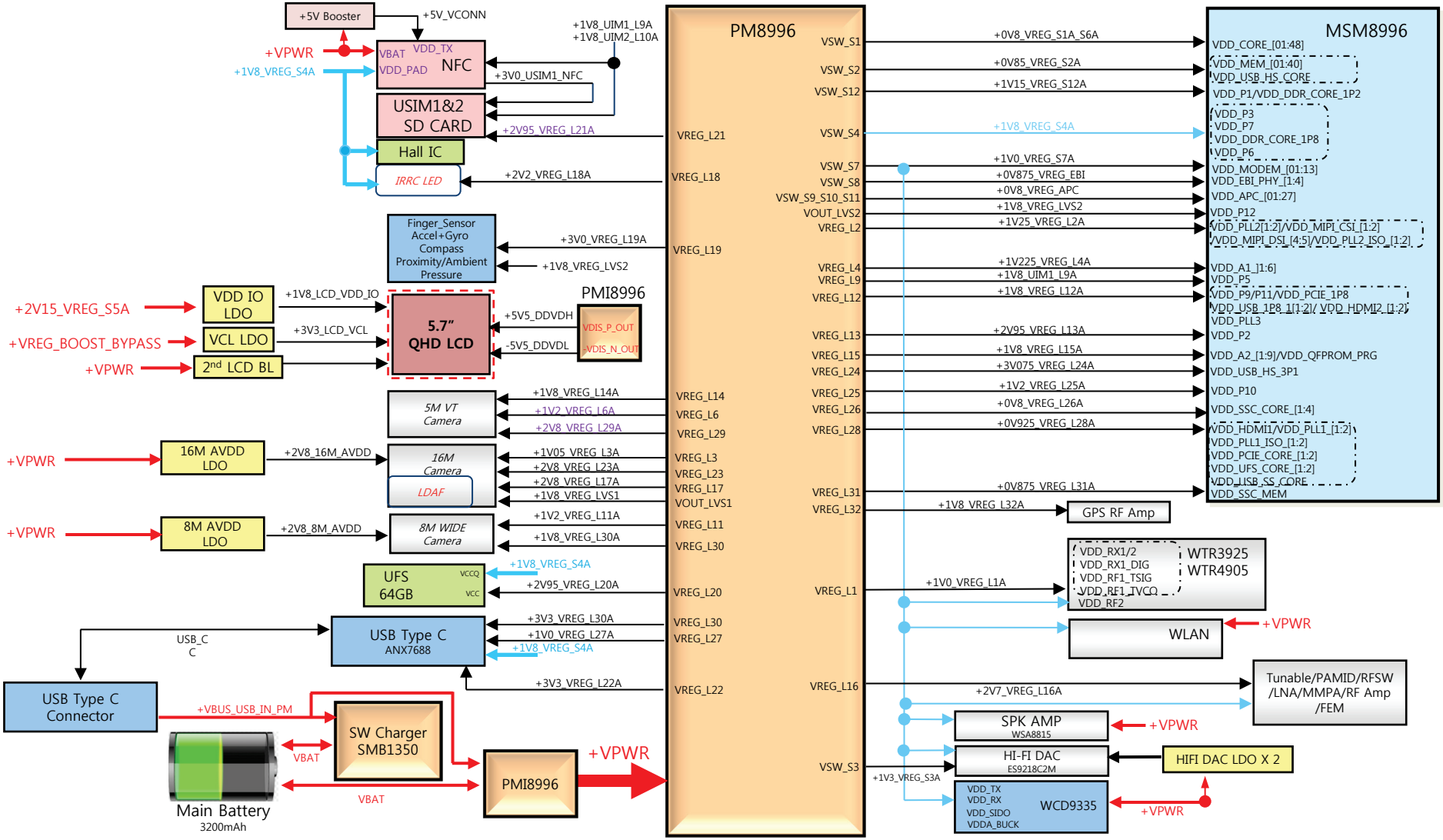


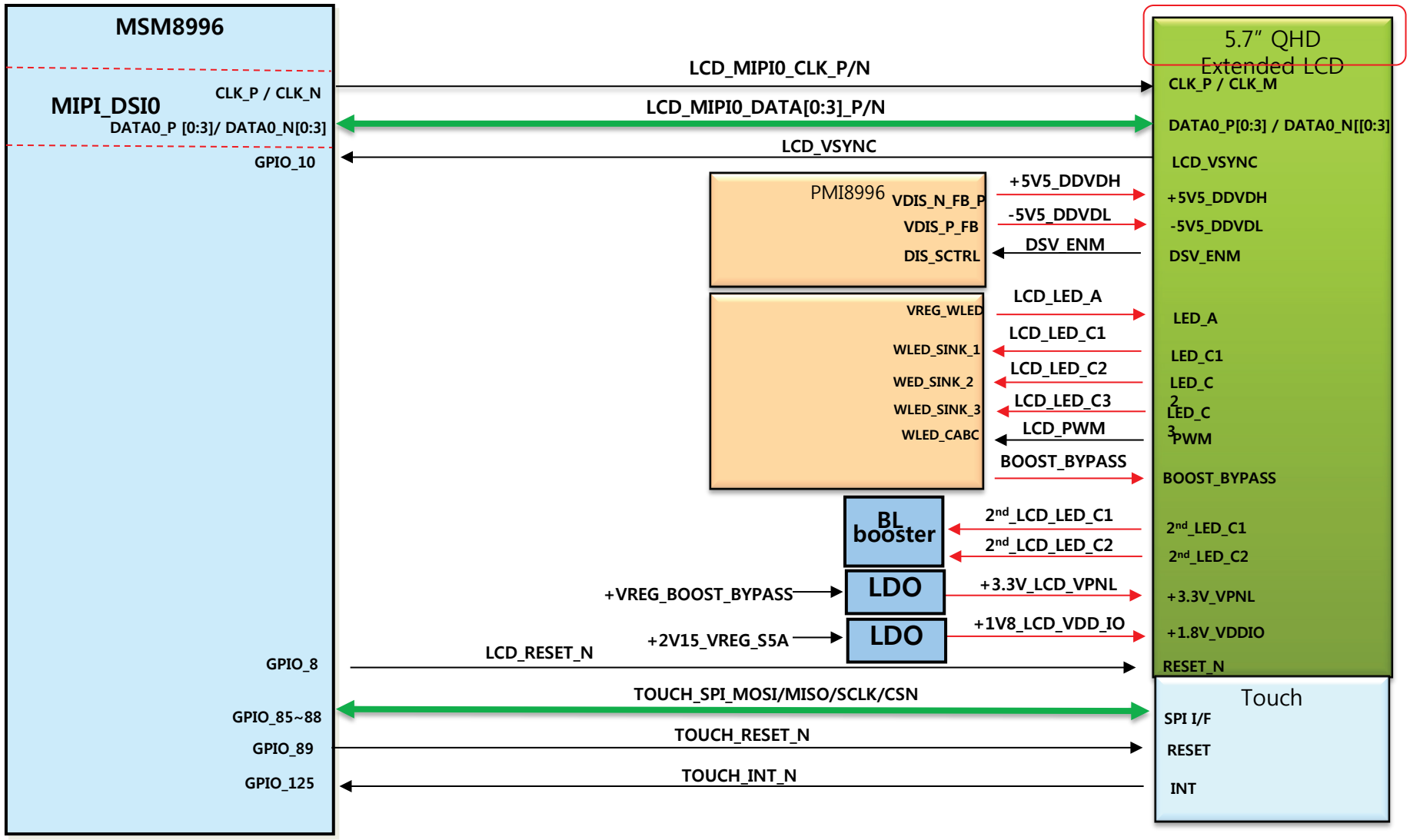


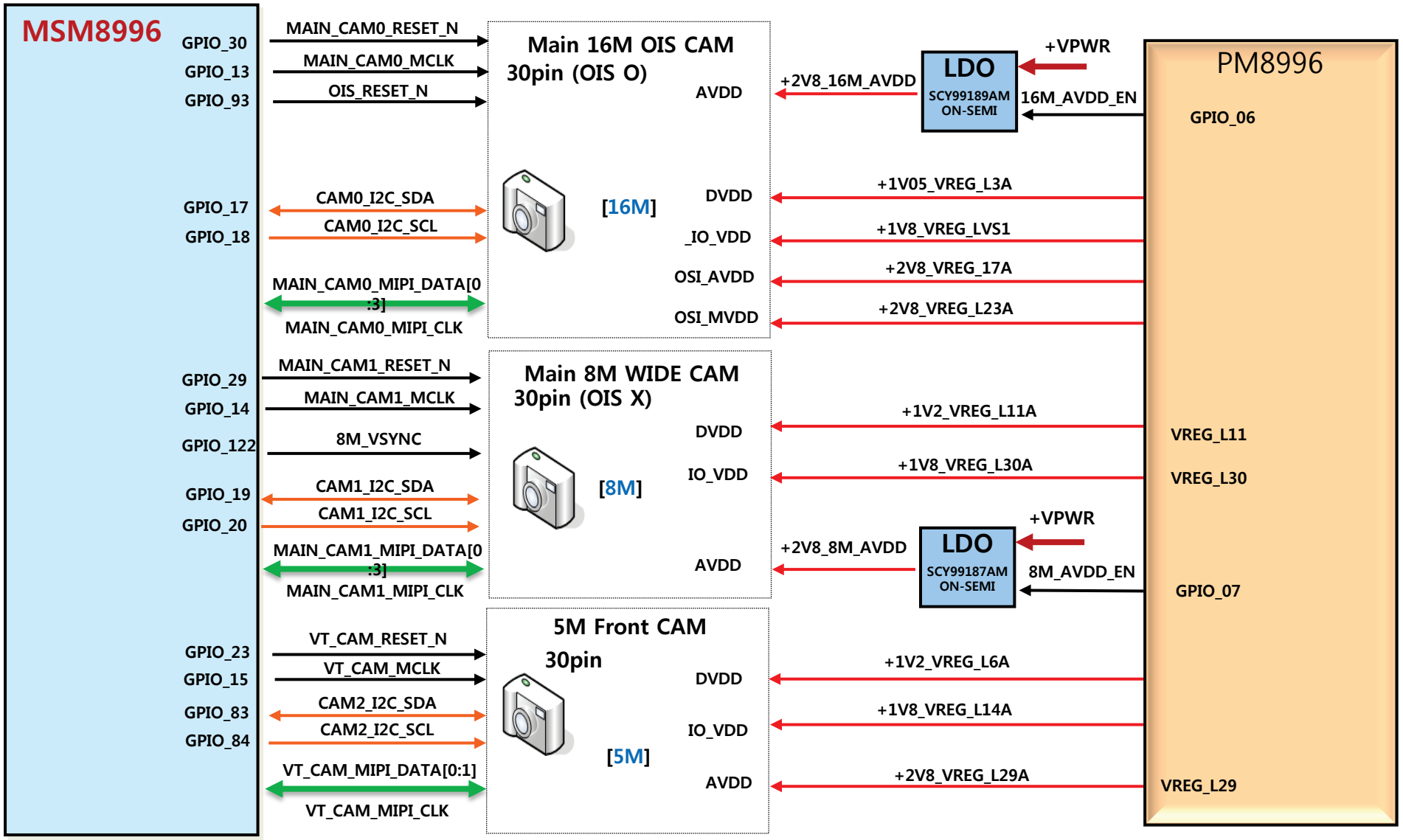


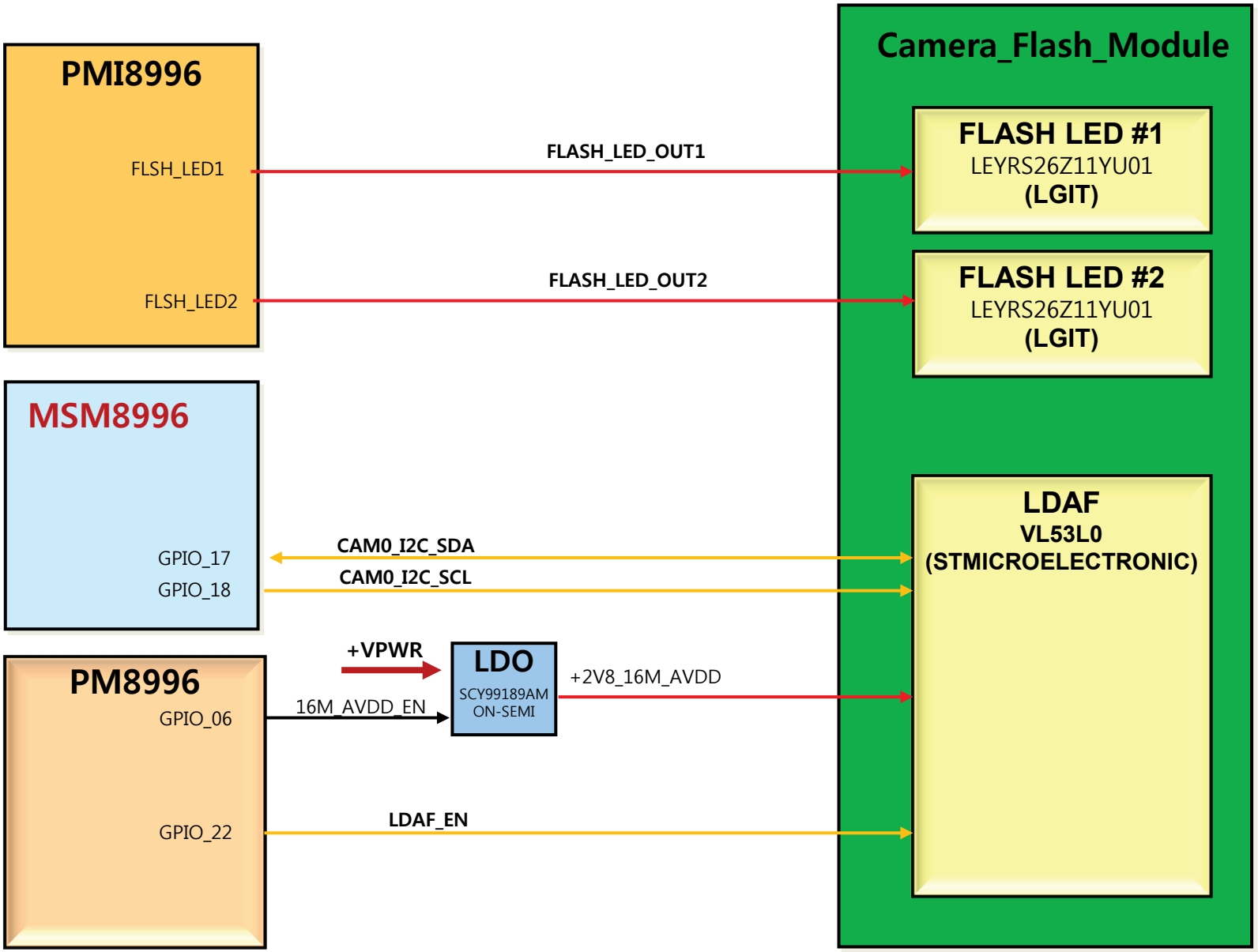


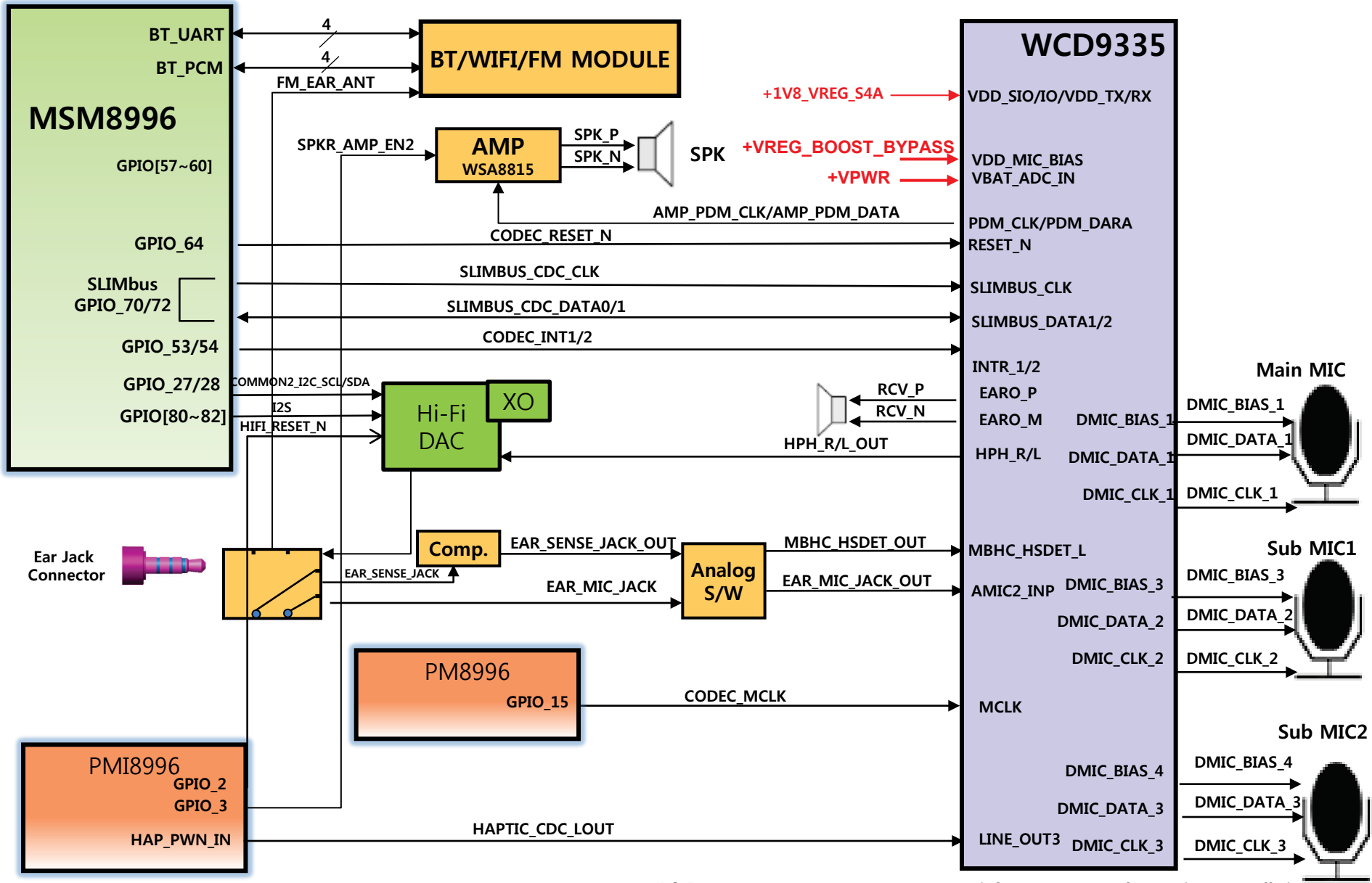


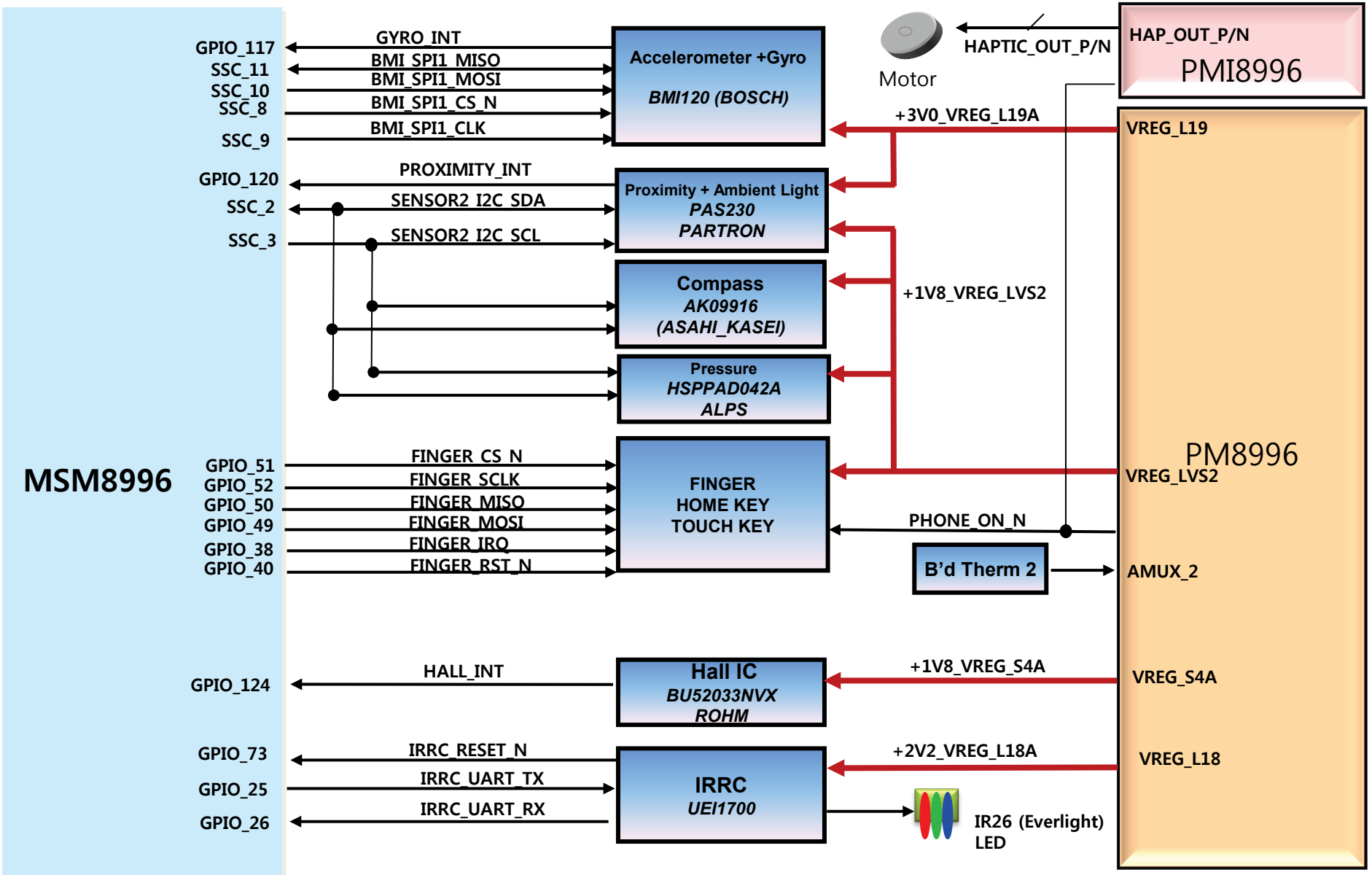


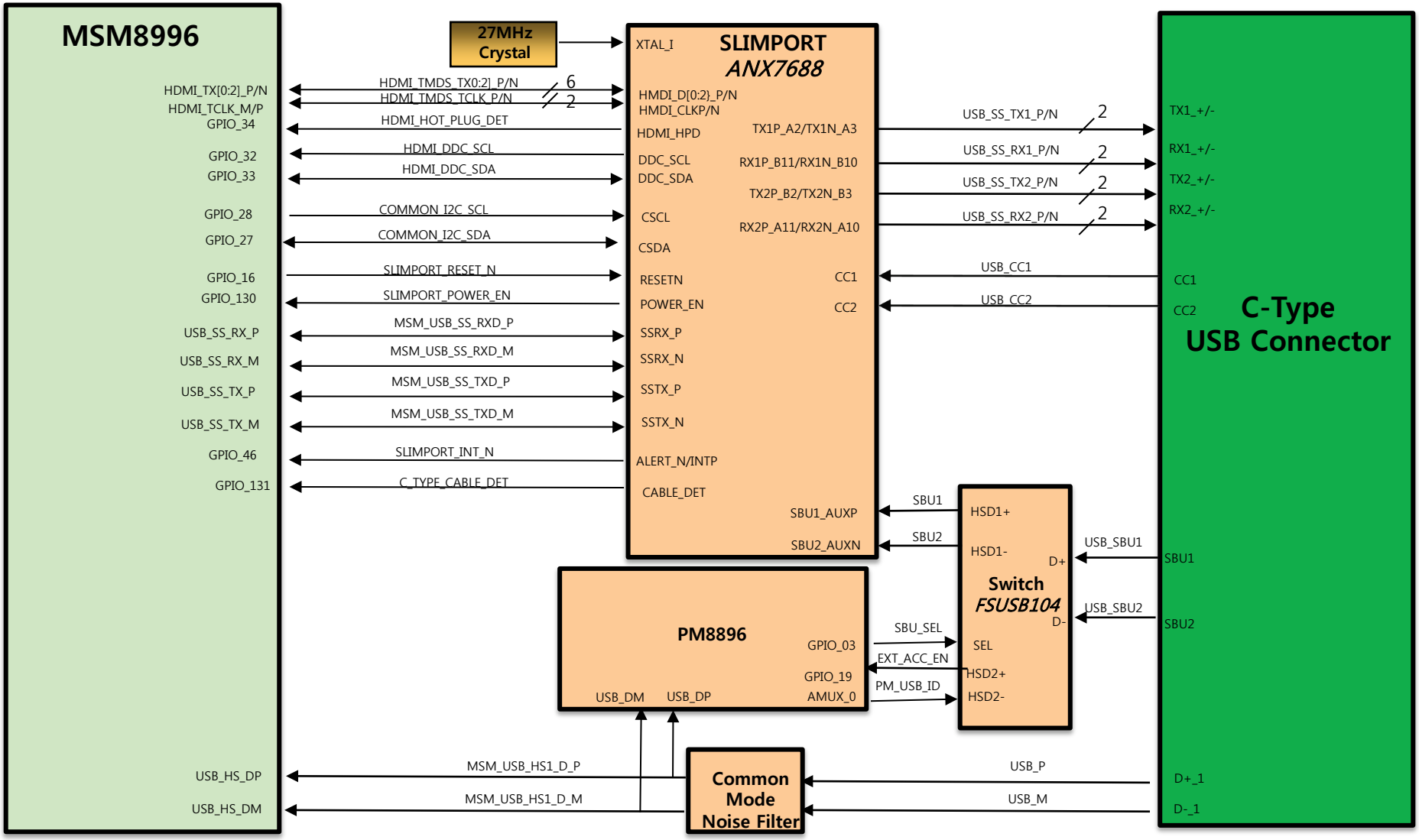












CIRCUIT DIAGRAM

(VIETMOBILE.VN)

ANT1 (GSM LB / LTE 5,7,8,12,17,20,26,28,38,40,41)

16.04.23 Global changed FB1000, FB1002 into 0 ohm

16.05.19 change position
16.05.09

16.05.18 changed SW1002 SW1003

16.05.09 Rev.0 -> Rev.A: change to RF FPCB

16.06.08 Rev.A -> Rev.B: DELETE

16.07.06 Rev.1.0: DELETE

16.05.09 Rev.0 -> Rev.A: Change EAM64030501 to EAM64030601

16.04.23 Global added shunt cap in RFFE3_CLK/DAT

16.05.18
16.05.09 Rev.0 -> Rev.A: change
16.07.06 Rev.B -> Rev.1.0: change

16.04.26 Global RFFE2 to RFFE3

B2/G1900 RX

ANT2 (GSM HB / LTE 1,2,3,4,39)

16.07.06 Rev.1.0: DELETE

Bottom Side

TOL=20%

16.05.18 Rev. A add matching

16.05.20 Rev. A add 100pF

B5/26, BC0 RX

B20 PRX

B12/17 PRX

B8 PRX

G900

G850

B1/B4 PRX

B3/G1800Rx

B34 B39 RX

B28A

B28B

16.05.23 Rev.0 -> Rev.A: Change to port swap.
TD-SCDMA B34: TRX_MHB3(Rev.0) -> MHB4(Rev.A)
TD-SCDMA B39: TRX_MHB4(Rev.0) -> MHB3(Rev.A)

LGE Internal Use Only

LG Electronics

Schematic1

A2 | PDM NUMBER | Rev

DRAWN BY: User Name | SHEET: 1-1_RF_1_Global_Ant1_Ant2 | DWG Drawing Date

ANT3 (LTE LB/HB MIMO)

16.04.16
BOTTOM Side

16.04.23 Global deleted

16.05.11 Rev.0 -> Rev.A: Port Swap.

16.05.09 Rev.0 -> Rev.A: Change EAM64030501 to EAM64030601

U1205
SFML3X0S001

DRX B1/4

DRX B2/3

DRX B39

ANT TUNER For Ant_3

16.04.16
BOTTOM Side

16.03.23

16.06.29 deleted ANT3_SEL_3

16.05.20 added 0 ohm

16.05.19 added 0 ohm
in ANT3_SEL_1/3

16.06.29 deleted ANT3_SEL_3

16.05.20 added 0 ohm

16.05.19 added 0 ohm
in ANT3_SEL_1/3

U1202
SFML7A0K001

DRX G850

DRX G900

DRX B5/8/26

ANT5(LTE MB MIMO)

16.05.11 Rev.0 -> Rev.A: Added

16.05.11 Rev.0 -> Rev.A: Deleted

16.05.11 Rev.0 -> Rev.A: Port Swap.

SKY13560-485LF
U1206

16.05.20 Rev.0 ->port swap

DRX B40

B38/41 DRX

16.05.11 Rev.0 -> Rev.A: GPIO Changed

B7 DRX

ANT4 (GPS/WiFi)

16.04.23 Global deleted I mat signal
16.05.18 Modofied by Y.S,Kwon

BOTTOM Side: 1.6T

16.05.11 Rev.0 -> Rev.A: Changed

For ESD

FL1204
SFMG3X0B002

GNSS

DRX B12/17/13/20/28

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LG Electronics

MODEL NAME

PDM NUMBER

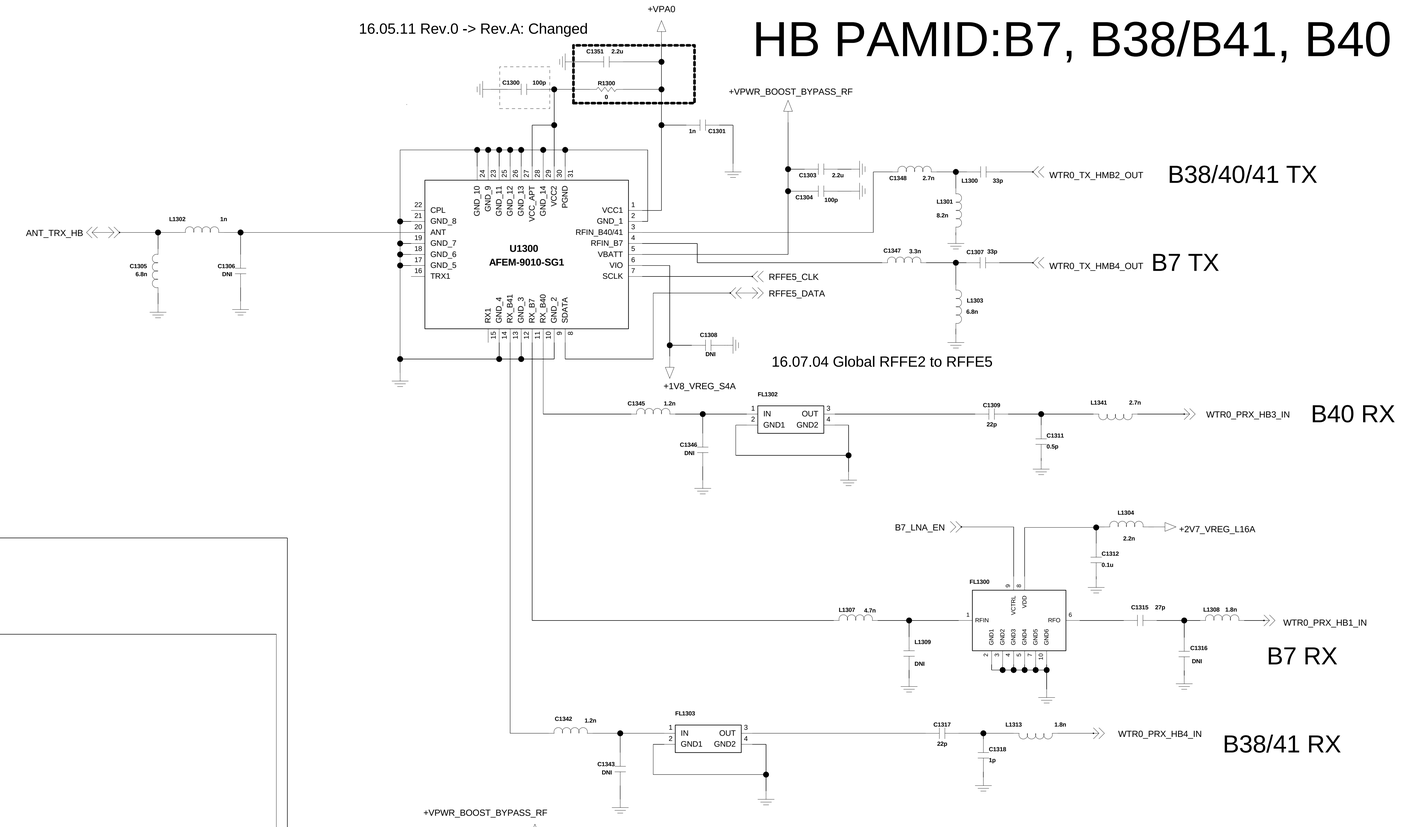
Rev

(for 2CA)

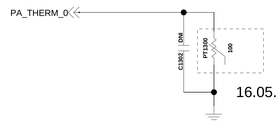
109

HB PAMID:B7, B38/B41, B40

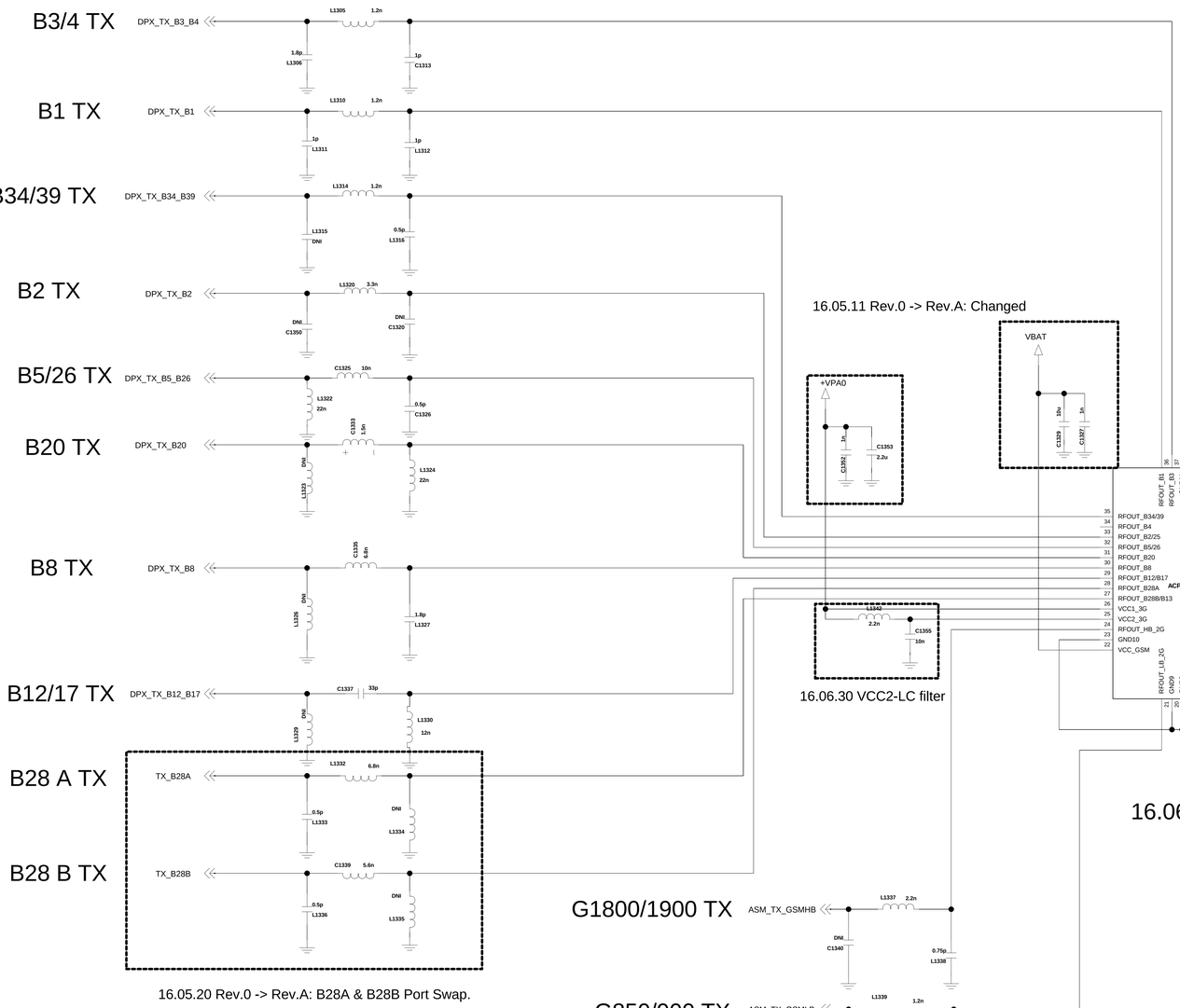
16.05.11 Rev.0 -> Rev.A: Changed



PA THERM_0 For MMPA_1

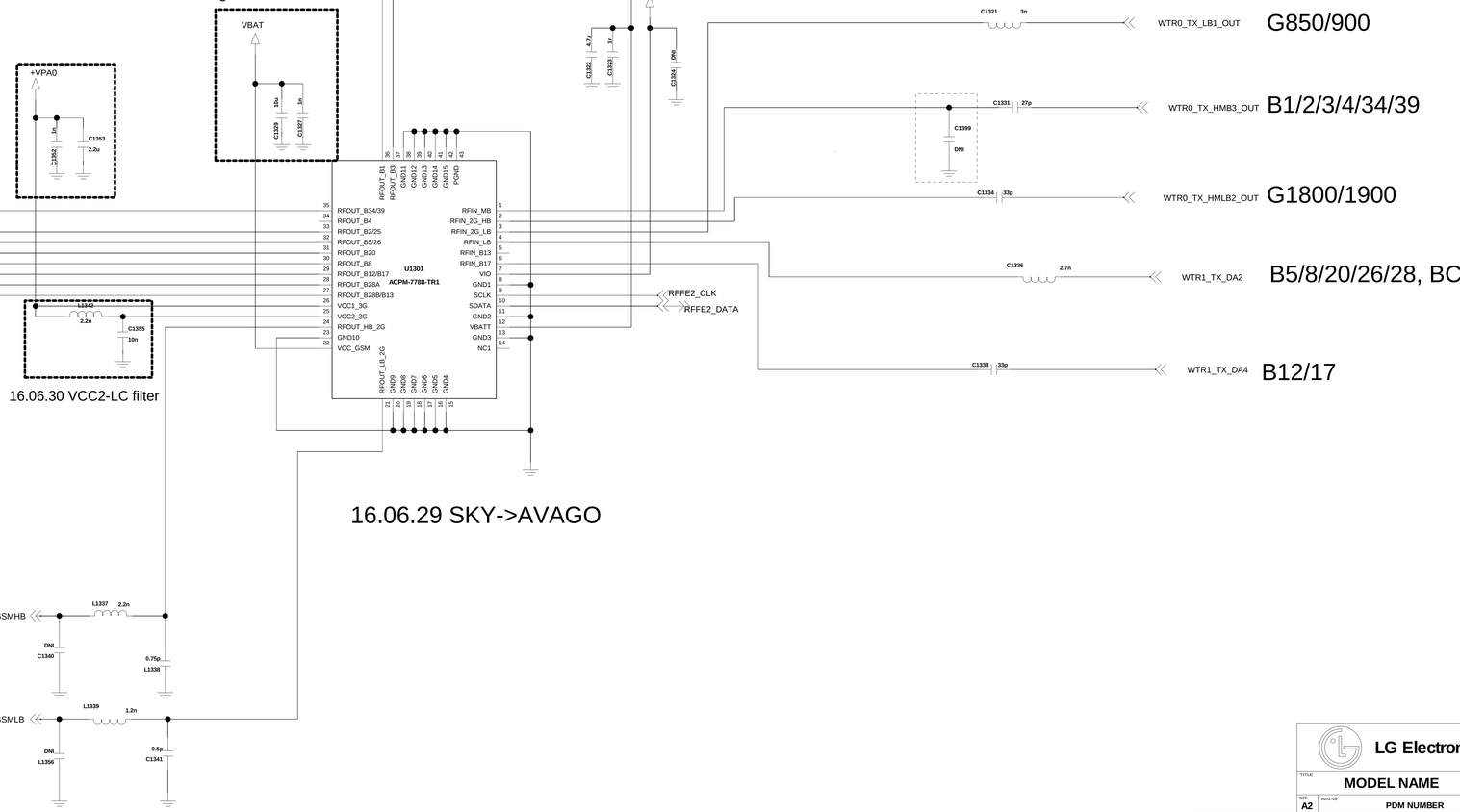


MMPA_1: B1/2/3/4/5/12/17/20/26/28/34/39 GSM Quad Band



16.05.20 Rev.0 -> Rev.A: B28A & B28B Port Swap.

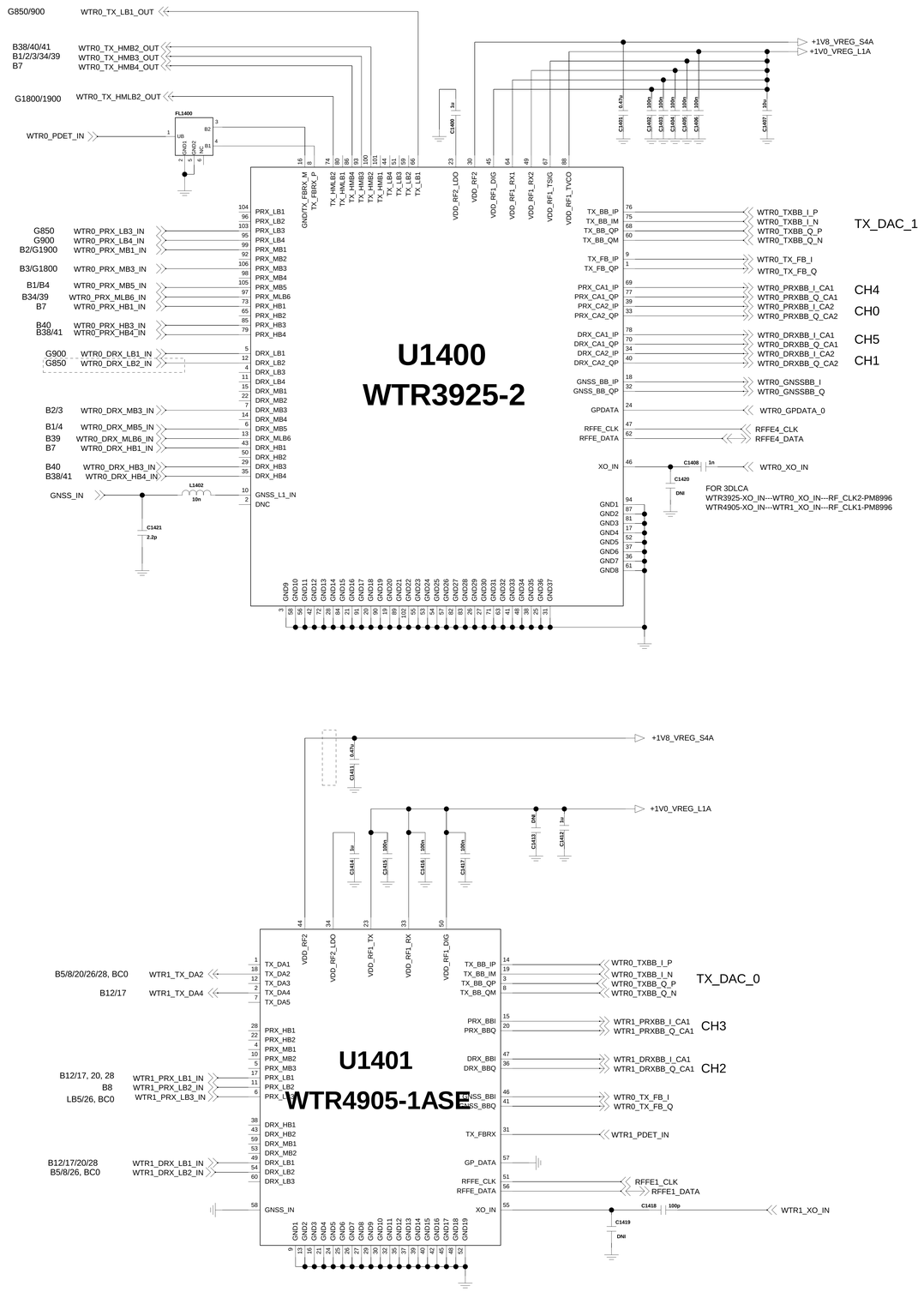
16.05.11 Rev.0 -> Rev.A: Changed



LGE Internal Use Only

LG Electronics	
TITLE	MODEL NAME
SIZE A2	DWG NO PDM NUMBER
REV Rev	
DRAWN BY User Name	SHEET 25 OF 21
Date Drawing Date	

< WTR3925_WTR4905_2DLCA_3DLCA >



LGE Internal Use Only

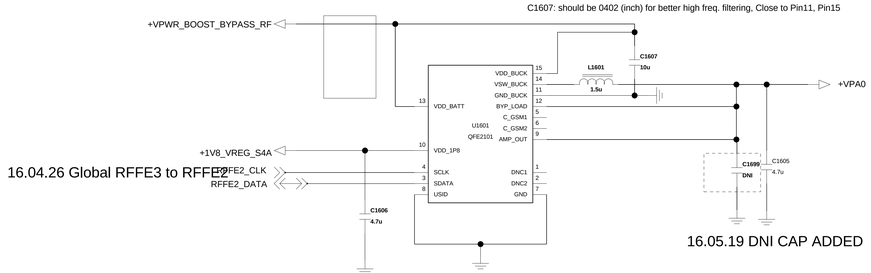
LG Electronics	
TITLE	S3_MSM8994
SIZE A2 / DWG NO / REV	PDM NUMBER / Rev
DRAWN BY: User Name	SHEET 27 of 23 / Date: Drawing Date

< 1-2-4-3_PT_APT_QFE2101 >
Rev_0.3

QFE2101 for MMPA_1, HMPA

L1601: Buck inductor follow the recommendndation, 80-NF713-111 P_15

C1607: should be 0402 (inch) for better high freq. filtering, Close to Pin11, Pin15

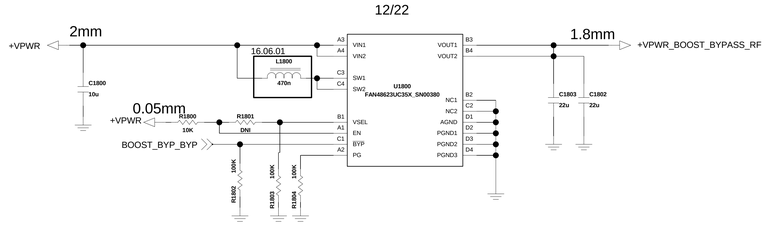


16.04.26 Global RFFE3 to RFFE2

16.05.19 DNI CAP ADDED

Bypass booster FAN48623 for RF

12/22



EN	BYP_N	VSEL	Vout
0	X	X	Boost bypass disabled
1	1	0	For Vin < 3.5V, Vout = 3.5V (Boost mode) For Vin > = 3.5V, Vout = Vin(bypass mode)
1	1	1	For Vin < 3.7V, Vout = 3.7V (Boost mode) For Vin > = 3.7V, Vout = Vin (bypass mode)
1	0	X	Vout = Vin (forced bypass mode)

LGE Internal Use Only

LG Electronics

TITLE: S3_MSM8994

SIZE: A2 | DWG NO: PDM NUMBER | REV: Rev

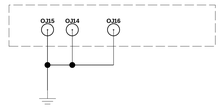
Drawn BY: User Name | SHEET: 26 of 22 | Date: Drawing Date

TOP GND C-Clip

16.07.06

PCB HOLE

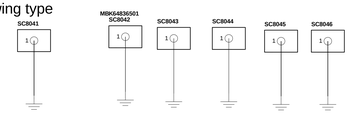
16.01.27



Part Num.: HOLE_0_TO_2

Top Shield can SMT

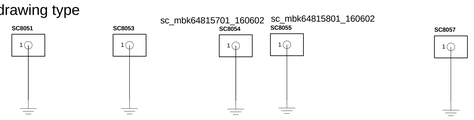
2016.5.13 drawing type



2016.6.10 Changed SC8042

BTM Shield can SMT

2016.5.13 drawing type



2016.5.20 Global added new shieldcan MBK64836501 in SC8052

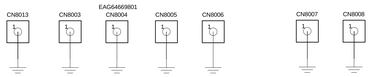
2016.6.07 Global updated SC8054 and SC8055

BTM Electric shock Protection

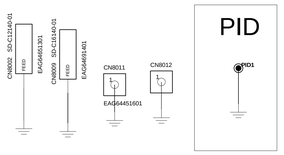
12/16,Deleted, ANT1714 , VA1714

16.07.08 DELETE

TOP SMT Type Gaskit



160629 added 2 more ANT and changed CN8011



PID

LGE Internal Use Only

LG Electronics

TITLE: Schematic1

SIZE	DWG NO	REV
A2	PDM NUMBER	Rev

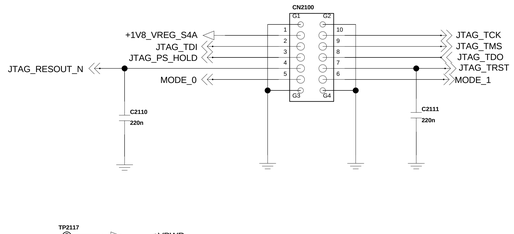
Drawn BY	SHEET	OF	Date
User Name	35	30	Drawing Date

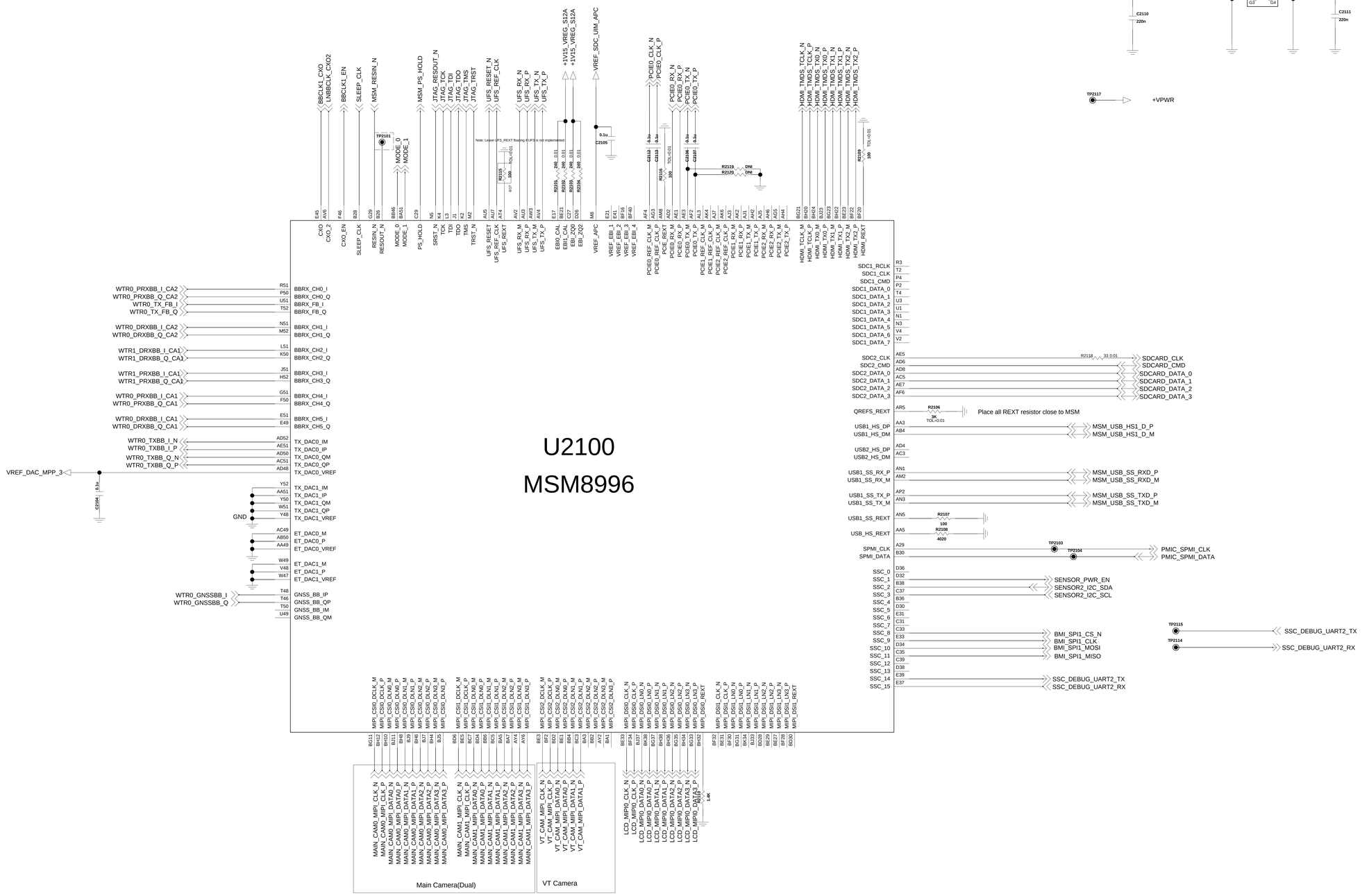
< 2-1-11-1-1 MSM8996 CONTROL > Rev.0.1

06/01

< JTAG >

CCDS CARD Information	
Release Date	
Based on Reference Schematic	



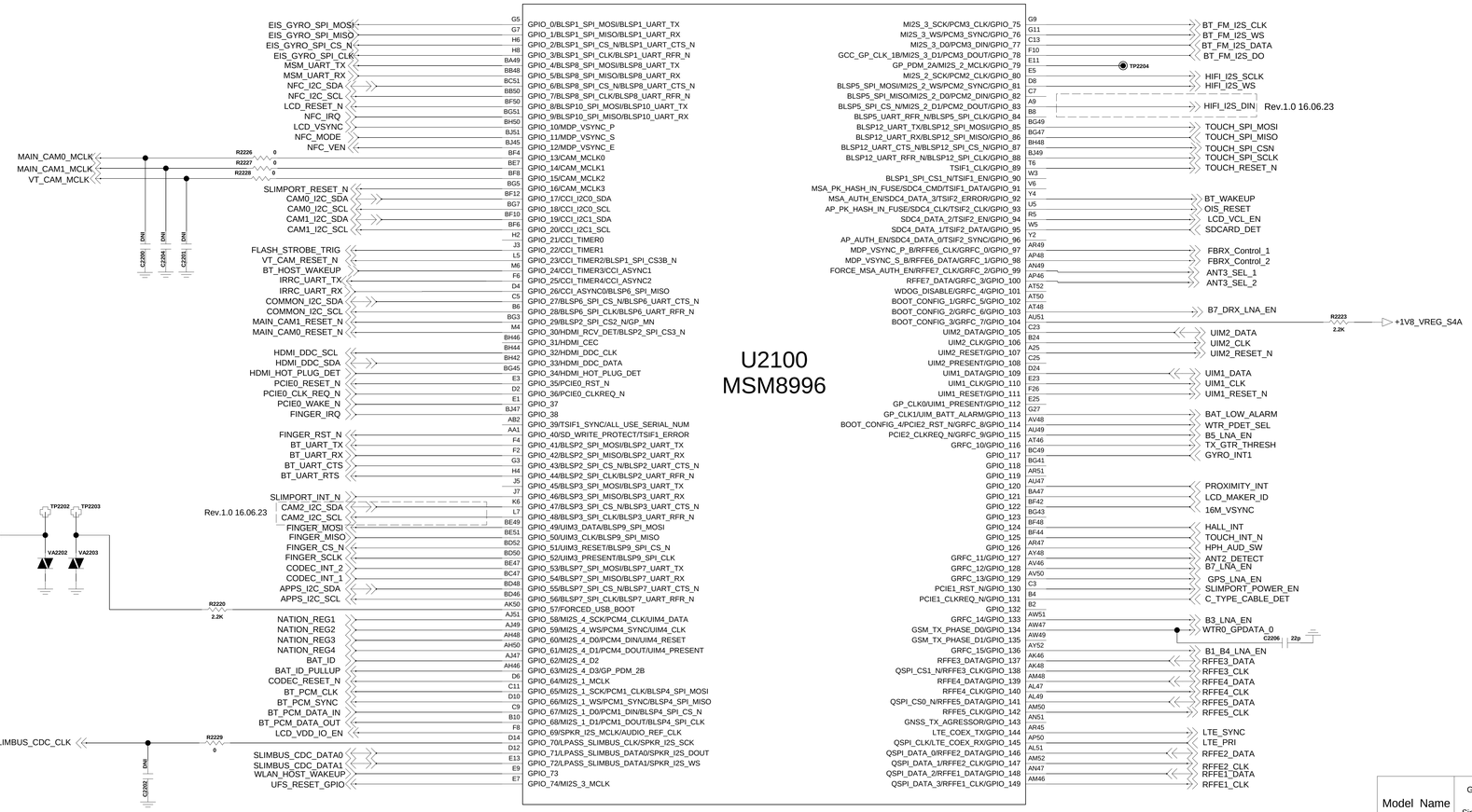


LGE Internal Use Only

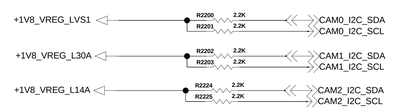
LG Electronics	
TITLE	Schematic1
SIZE	A2
DWG NO	
REV	
DRAWN BY	heesoo.kim
SHEET	of
Date	2-1-2-2-1_MSM8974AB_Date Drawing Date

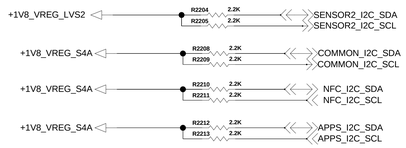
< 2-1-11-1-2 MSM8996 GPIO > Rev.0.1

CCDS CARD Information	
Release Date	
Based on Reference Schematic	



I2C Pull-Up

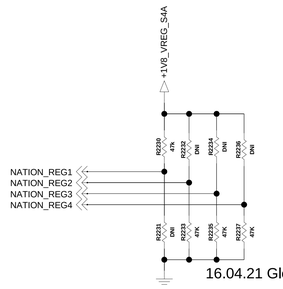




Boot Configuration GPIOs

GPIO_57	FORCED_USB_BOOT
GPIO101	BOOT_CONFIG_0 WDOG_DISABLE
GPIO102	BOOT_CONFIG_1 FASTBOOT_SELECT(0)
GPIO103	BOOT_CONFIG_2 FASTBOOT_SELECT(1)
GPIO104	BOOT_CONFIG_3 FASTBOOT_SELECT(2)
GPIO114	BOOT_CONFIG_4 FASTBOOT_SELECT(3)
GP_39	ALL_USE_SERIAL_NUMBER
GPIO91	MSA_PK_HASH_IN_FUSE
GPIO92	MSA_AUTH_EN
GPIO99	FORCED_MSA_AUTH_EN
GPIO93	AP_PK_HASH_IN_FUSE
GPIO96	AP_AUTH_EN

- Make sure there are no external pulls on these GPIOs.



16.04.21 Global 47k ohm added

16.04.06 Nation Register for Global model

Model Name	GPIO_58 Single/Dual	GPIO_59	GPIO_60	GPIO_61	Note
H990	L	L	L	L	EU, Asia, Pacific, MEA, Africa
-	L	L	L	H	
H990AR	L	L	H	L	Argentina
H990T	L	L	H	H	Telcel (in MEXICO)
H990K	L	H	L	L	Telstra(in Australia)
-	L	H	L	H	
H990TR	L	H	H	L	Turkey
-	L	H	H	H	
H990DS	H	L	L	L	Asia, India, CIS, MEA, Africa
-	H	L	L	H	
H990N	H	L	H	L	Hong Kong
-	H	L	H	H	
H998	H	H	L	L	China
-	H	H	L	H	
-	H	H	H	L	
-	H	H	H	H	

LG Electronics

TITLE: Schematic1

SIZE: A2 | DWG NO: | REV: Rev

SHEET: 115 of | Date: Drawing Date

DRAWN BY: heesoo.kim

2-1-2-2-1_MSM8974AB_Data

LGE Internal Use Only

< 2-1-11-1-3 MSM8996 POWER > Rev.0.1

12/16

U2100

MSM8996

NOTE1

VDD_PLL1_ISO pins must not be shorted to the VDD_PLL1 plane.
VDD_PLL1_ISO needs isolation. Use a separate trace and separate capacitor from the VDD_PLL1 plane to the VDD_PLL1_ISO pins.

NOTE2

VDD_EBI_IO pins must have a separation in the VREG_L3A plane from the VDD_EBI_PHY pins. VREG_L3A trace must be routed as two separate planes near these pins.

NOTE3

VDD_EBI_IO_ISO pins must not be shorted to the VDD_EBI_IO plane. VDD_EBI_IO_ISO needs isolation. Use a separate trace from the VDD_EBI_IO plane to the VDD_EBI_IO_ISO pins.

NOTE4

VDD_PLL2_ISO pins must not be shorted to the VDD_PLL2 plane VDD_PLL2_ISO needs isolation. Use a separate trace and separate capacitor from the VDD_PLL2 plane to the VDD_PLL2_ISO pins.

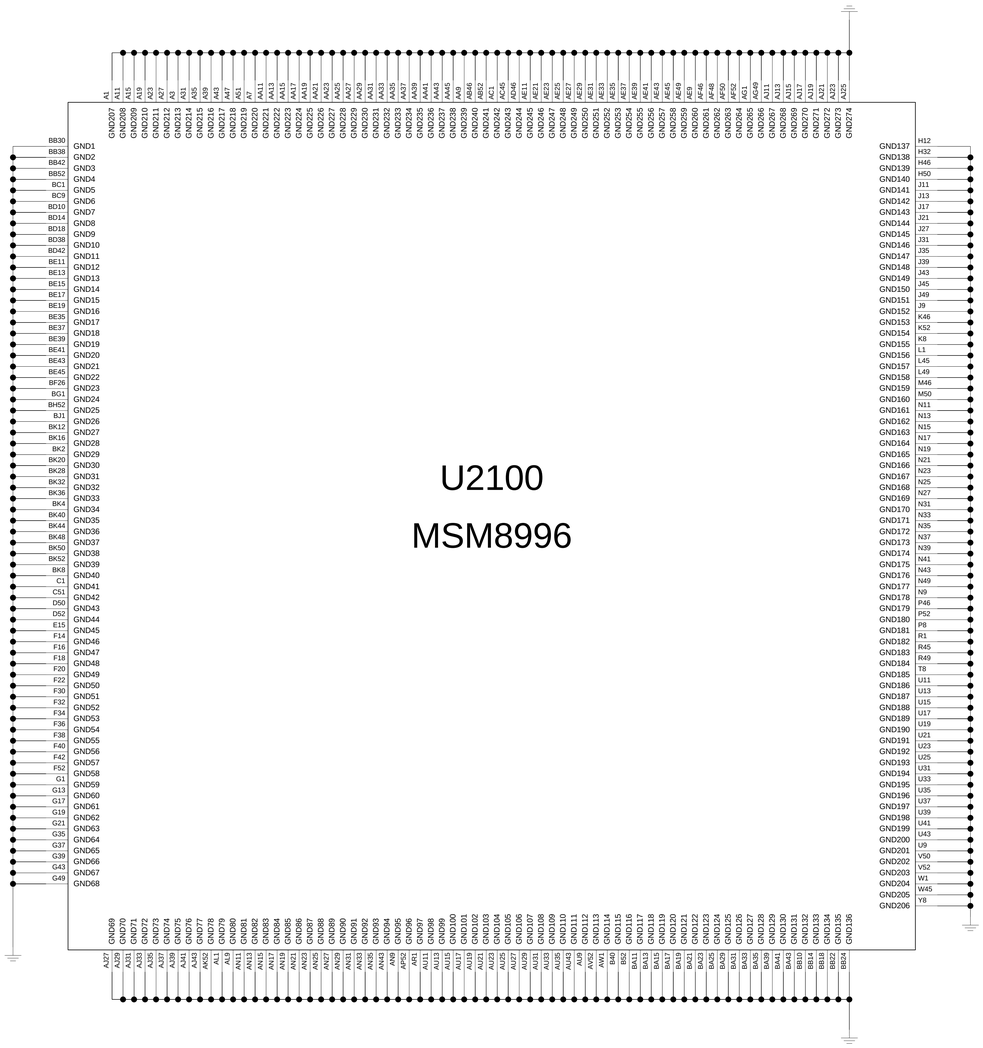
can replace each pair of 2x22uF with 1x47uF
although 2x22uF is the preferred/recommended combination due to lower ESR and ESL

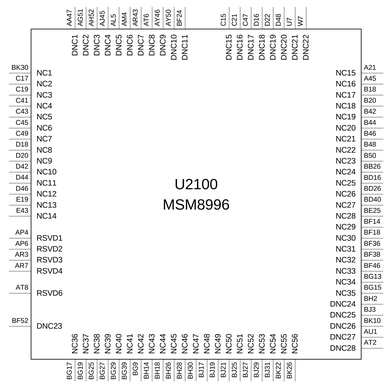
LGE Internal Use Only

LG Electronics

TITLE			
SIZE A2	DWG NO	PDM NUMBER	REV Rev
DRAWN BY chaemin.lim	SHEET 26 of	DATE Drawing Date	
2-1-2-2-3_MSM8974AB_Power			Schematic1

< 2-1-11-1-4 MSM8996 GND_NC > Rev.0.1





LGE Internal Use Only

LG Electronics

Schematic1

A2

Drawing Date

heesoo.kim

LPDDR4_POP 4GB

25nm / 1866MHz

U3201
K3RG1G10BM-MGCJ

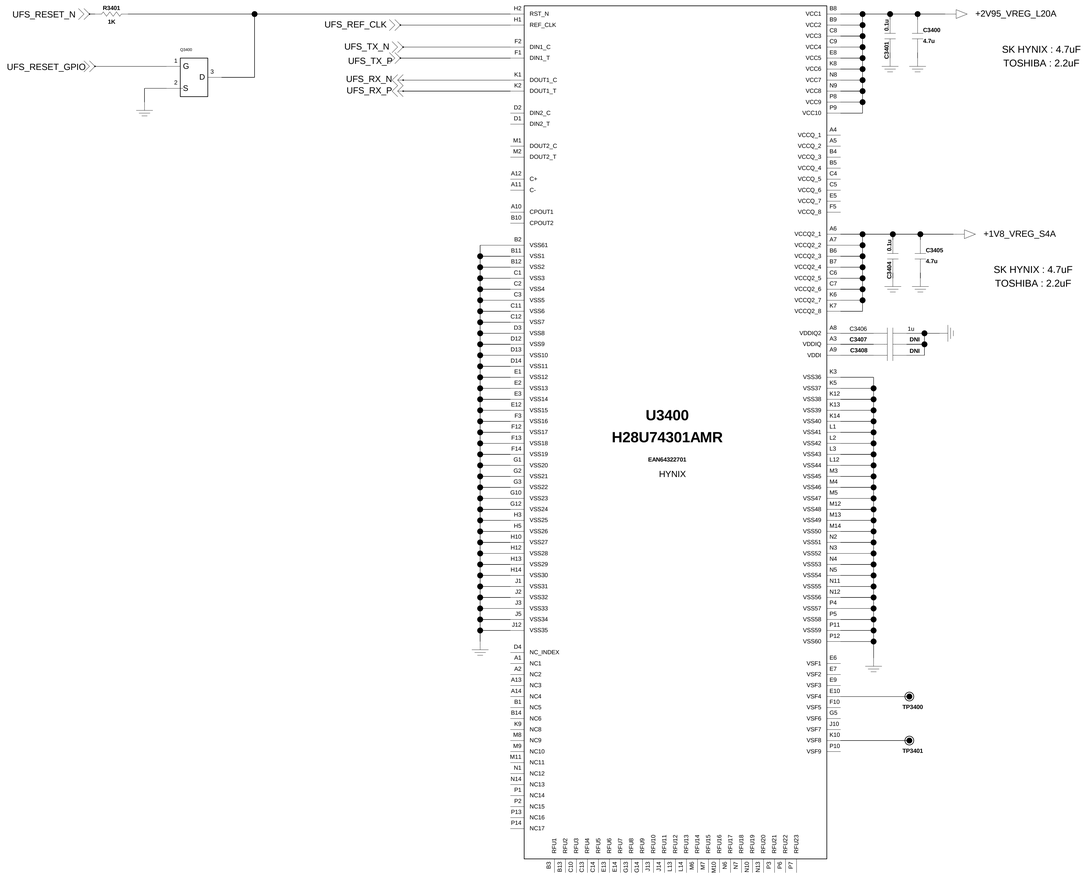
Fiducial1

SAMSUNG

32GBIT LPDDR4 1.06VTO1.17V 1866MHz 5500ns FBGA Tape & Reel 366P 4GB LPDDR4 PoP 366ball 1866MHz (20nm 8Gb x 4)

< 3-4-1-1-1_UFS_2_0_32Gbyte > Rev_0.3

UFS 64GB



64GBYTE 2.7VTO3.6V,1.7VTO1.95V 11.5x13.0x1.0 TRAY 153P NAND FBGA 64GB UFS v2.1 HS-G3 2-Lane (3D S36 128Gb MLC x 4)

160628 Changed memory into SK hynix

LGE Internal Use Only

LG Electronics

TITLE: Schematic1

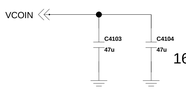
SIZE	DWG NO	REV
A2	PDM NUMBER	Rev

DRAWN BY: User Name | SHEET: 3-2-2-3-1+4EMC_3-1-4-3-1_LPDDR3_PoP

< 4-1-11-1_PMIC_PM8996_Data > Rev_0.3

OPT_2	Power-on sequence
GND	TBD
Hi-Z	TBD
VDD	PMIC will power-down

BACKUP BATTERY

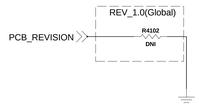


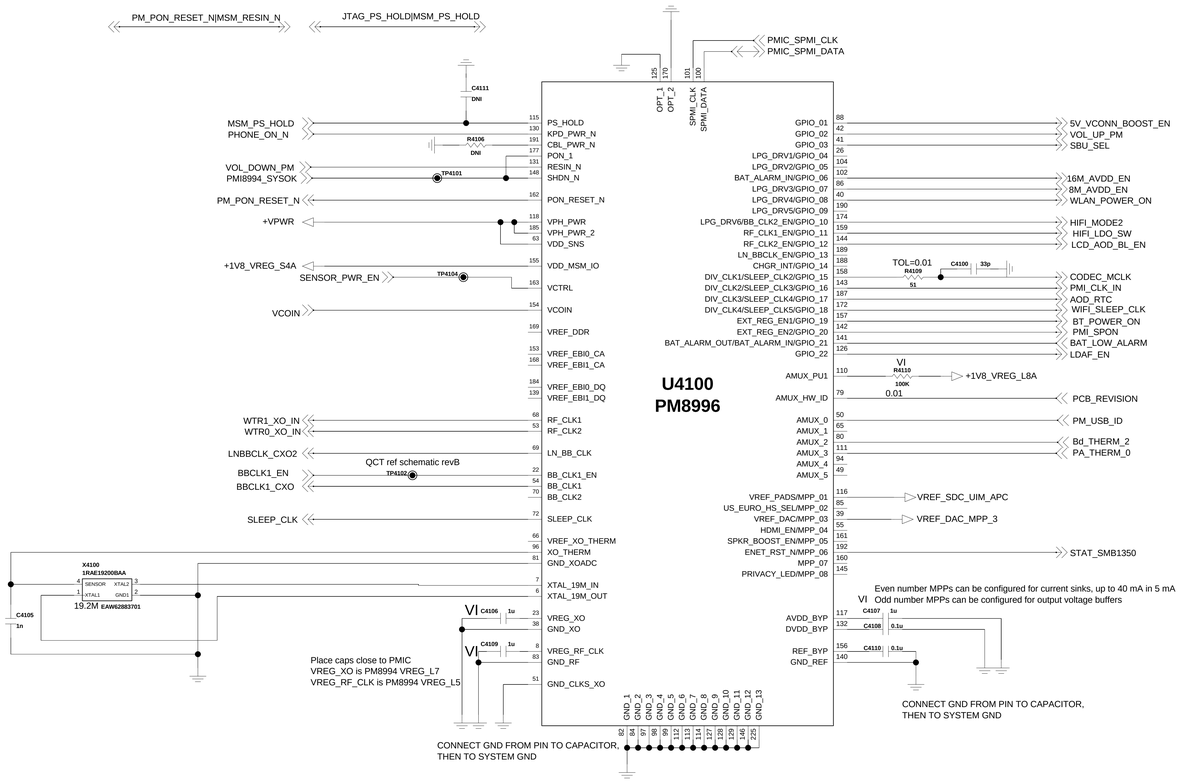
16.05.30 Global

PCB_Revision

HW_REV			SW_REV			
KOR	N_A	E/G				
HDK1			0	100K	20K	0.300
	QDM1		0_1	100K	27K	0.383
HDK2			0_2	100K	39K	0.505
REV_0	REV_0	REV_0	A	100K	51K	0.608
REV_A	REV_A	REV_A	B	100K	75K	0.771
REV_B		REV_B	C	100K	100K	0.900
			D	100K	130K	1.017
			E	100K	180K	1.157
			F	100K	240K	1.271
REV_10			1.0	100K	DNI	1.800
			1.1	100K	360K	1.408

16.06.28





LGE Internal Use Only

LG Electronics	
TITLE	Schematic1
SIZE	A2
DWG NO	PDM NUMBER
REV	Rev
DRAWN BY	User Name
SHEET	4-1-2_PMIC_PM8941
Date	Drawing Date

< 4-1-18-2_PMIC_PM8996_Power > Rev_0.3

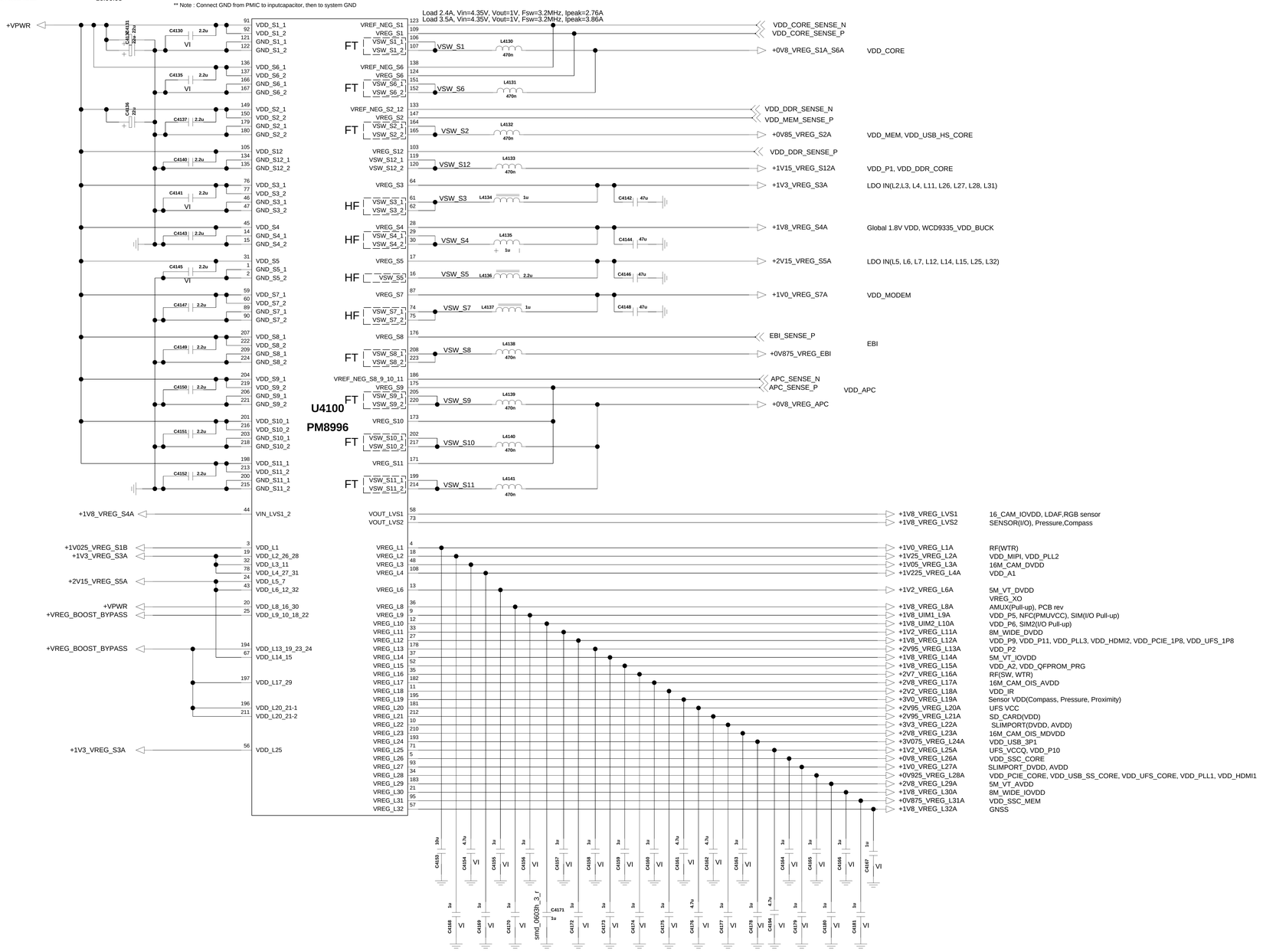
CCDS CARD Information

Release Date	2015. 2. 26
Based on Reference Schematic	Rev.T
80-NJ051-41_MSM8994_Baseband_Reference_Schematic	

** Note : C4131, C4132, C4136
** According to audible noise issue
If audible noise appears to your board,
replace C4131, C4132, C4136 with T-HMC, ZRB type, Polymer Tantal.

16.06.08

** Note : Connect GND from PMIC to inputcapacitor, then to system GND



16.05.19 C4171 changed into 0603 size cap

** Note : The following LDOs are not considered pseudo-capless capable
- L1, L3, L5, L7, L26 and L31
The remaining LDOs are considered pseudo-capless capable.

DC-DC(07/27 REV.R Ver)

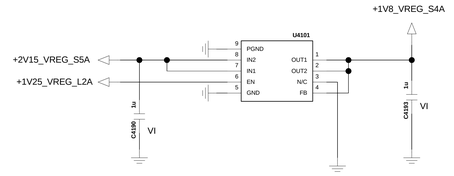
Function	Circuit Type	Default Voltage	Specified Range	Programmable Range	Rated Current	Default On
S1A	FT_SMPS	0.8V	0.375 - 1.1125 V	0.375 - 1.275 V	4000mA	Y
S6A					4000mA	
S2A	FT_SMPS	0.95V	0.5875 - 1.1125 V	0.375 - 1.275 V	4000mA	Y
S12A	FT_SMPS	1.125V	0.5875 - 1.1125 V	0.375 - 1.275 V	4000mA	Y
S3A	HF_SMPS	1.3V	0.375 - 1.400 V	0.375 - 3.050 V	3500mA	Y
S4A	HF_SMPS	1.8V	1.700 - 1.950 V	0.375 - 3.050 V	2000mA	Y
S5A	HF_SMPS	2.15V	1.700 - 2.300 V	0.375 - 3.050 V	2000mA	Y
S7A	HF_SMPS	0.8V	0.375 - 1.1125 V	0.375 - 3.050 V	3500mA	
S8A	FT_SMPS	0.8V	0.375 - 1.1125 V	0.375 - 1.275 V	4000mA	Y
S9A	FT_SMPS	0.8V	0.375 - 1.1125 V	0.375 - 1.275 V	4000mA	Y
S10A					4000mA	
S11A					4000mA	
S1B	HF_SMPS	1.05V			1000mA	
S2B	FT_SMPS	1.0V			4000mA	Y
S3B					4000mA	
SMBB	Bharger	4.35V			3000mA	
Bst/Byp	Boost-Bypass	3.3V			2000mA	Y
+5V	Boost	5.0V			1300mA	
WLED	Boost				400mA	
DISP	Boost					
DISN	Boost					
LPDDR Buck	Buck	1.1V			3000mA	Y
RF Bst/Byp	Boost-Bypass	3.5V			3000mA	?

LDO(07/27 REV.R Ver)

Function	Circuit Type	Default Voltage	Specified Range	Programmable Range	Rated Current	Default On
L1	NMOS LDO	1.0V	0.900 - 1.300 V	0.375 - 1.525 V	1200mA	
L2	NMOS LDO	1.225V	0.950 - 1.300 V	0.750 - 1.525 V	300mA	Y
L3	NMOS LDO	0.85V	0.380 - 1.300 V	0.375 - 1.525 V	1200mA	Y
L4	NMOS LDO	1.225V	0.950 - 1.430 V	0.750 - 1.525 V	300mA	
L5	Low noise LDO	1.74V	1.700 - 1.950 V	1.380 - 2.220 V	On-Chip-Only	
L6	PMOS LDO	1.2V	1.150 - 3.600 V	0.750 - 4.900 V	150mA	
L7	Low noise LDO	1.74V	1.700 - 1.950 V	1.380 - 2.220 V	On-Chip-Only	
L8	PMOS LDO	1.8V	1.700 - 1.950 V	0.750 - 4.900 V	50mA	N
L9	PMOS LDO	1.8/2.95V	1.620 - 3.6 V	0.750 - 4.900 V	150mA	
L10	PMOS LDO	1.8/2.95V	1.620 - 3.6 V	0.750 - 4.900 V	150mA	
L11	NMOS LDO	1.15V	0.950 - 1.430 V	0.750 - 1.525 V	300mA	
L12	PMOS LDO	1.8V	1.620 - 3.600 V	0.750 - 4.900 V	300mA	Y
L13	PMOS LDO	1.8/2.95V	1.620 - 3.600 V	0.750 - 4.900 V	150mA	Y
L14	PMOS LDO	1.8V	1.620 - 3.600 V	0.750 - 4.900 V	150mA	
L15	PMOS LDO	1.85V	1.620 - 3.300 V	0.750 - 4.900 V	300mA	
L16	PMOS LDO	2.7V	2.560 - 3.600 V	0.750 - 4.900 V	150mA	
L17	PMOS LDO	2.5V	1.620 - 3.600 V	0.750 - 4.900 V	300mA	
L18	PMOS LDO	2.85V	1.620 - 3.600 V	0.750 - 4.900 V	300mA	
L19	PMOS LDO	2.8V	1.620 - 3.600 V	0.750 - 4.900 V	600mA	
L20	PMOS LDO	2.95V	1.620 - 3.600 V	0.750 - 4.900 V	600mA	Y
L21	PMOS LDO	2.95V	1.620 - 3.600 V	0.750 - 4.900 V	800mA	Y
L22	PMOS LDO	3.0V	1.620 - 3.600 V	0.750 - 4.900 V	150mA	
L23	PMOS LDO	2.8V	1.620 - 3.600 V	0.750 - 4.900 V	600mA	
L24	PMOS LDO	3.075V	1.620 - 3.600 V	0.750 - 4.900 V	150mA	Y
L25	PMOS LDO	1.2V	0.950 - 1.300 V	0.750 - 4.900 V	600mA	Y
L26	NMOS LDO	0.8V	0.380 - 1.300 V	0.375 - 1.525 V	600mA	
L27	NMOS LDO	1.0V	0.950 - 1.300 V	0.750 - 1.525 V	300mA	
L28	NMOS LDO	1.0V	0.950 - 1.300 V	0.750 - 1.525 V	300mA	Y
L29	PMOS LDO	2.8V	1.620 - 3.600 V	0.750 - 4.900 V	300mA	
L30	PMOS LDO	1.8V	1.700 - 3.600 V	0.750 - 4.900 V	50mA	Y
L31	NMOS LDO	1.2V	0.550 - 1.300 V	0.375 - 1.525 V	600mA	N
L32	PMOS LDO	1.8V	1.700 - 3.600 V	0.750 - 4.900 V	50mA	
LVS1	Switch	1.8V	1.700 - 1.950 V		300mA	
LVS2	Switch	1.8V	1.700 - 1.950 V		100mA	

VREG_S4 BHELPER

NCP186BMX175TAG



LGE Internal Use Only

LG Electronics

Schematic1

SIZE	DWG NO	REV
A2	PDM NUMBER	Rev

DRAWN BY: User Name | SHEET 57 of 28 | Date: Drawing Date

CCDS CARD Information	
Release Date	2014. 12. 22
Based on Reference Schematic	Rev.N
80-NJ051-41_MSM8994_Baseband_Reference_Schematic	

CCDS CARD Information	
Release Date	2014. 12. 22
Based on Reference Schematic	Rev.N
80-NJ051-41_MSM8994_Baseband_Reference_Schematic	

U4200 PMI8996

Power net for SMB1357
147pin(SYSON)+5V Output 50mA

** Note : If Don't SUPPORT WIPOWER
143 pin is to be NC

PARALLEL_CHG_SHDN
VBATT_CONN_VSENSE_P
VBATT_CONN_VSENSE_M
VBAT_SENSE_P
VBAT_SENSE_M

WIPWR_RST_N 143
WIPWR_CHG_OK 206
WIPWR_DIV2_EN 132
VDIR_CHG 161
USB/WALL_IN 131
SYSON 147
BATT_PLUS 110
BATT_MINUS 125
CS_PLUS 109
CS_MINUS 124
VREG_FG1 140
VREG_FG2 201
GND_FG 169
GNDC_FG 141
GNDC_SUB_FG 156

C4205 10p
C4247 4.7u
C4202 1u
C4203 0.1u

DC_IN1 118
DC_IN2 119
DC_IN3 120

USB_IN1 193
USB_IN2 194
USB_IN3 195
USB_IN4 208
USB_IN5 209
USB_IN6 210

VBUS_USB_IN_PM
C4213 4.7u
** Note : Use 2.2uF for parallel charging(Dual Charging) and 4.7uF for single charging

** Note : If you use SMB1358, 100K
+1V8_VREG_S4A
R4219 100K
PARALLEL_CHG_EN

EN_CHG 159
STAT_CHG 145
PGOOD_SYSOK 160
PMI8994_SYSOK
BUA 82
BAT_LOW_ALARM
R_BIAS 139
VREF_BAT_THERM
BATT_THERM 154
BATT_ID 155
BAT_THERM

+VPWR
VDD_S1_1 14
VDD_S1_2 15
2.2u VI C4234
GND_S1 45
VDD_S2_1 12
VDD_S2_2 27
VDD_S2_3 42
2.2u VI C4237
GND_S2_1 10
GND_S2_2 25
GND_S2_3 40
VDD_S3_1 4
VDD_S3_2 19
2.2u VI C4242
GND_S3_1 6
GND_S3_2 21
GND_S3_3 36
GND_SUB_S2S3 23

** Note : Connect ground from PMIC to input capacitor, then to system ground

GND_REF_CHG 170
GNDC_CHG1 101
GNDC_CHG2 115
GNDC_CHG3 116
GNDC_CHG4 117
GNDC_CHG5 138
GNDC_CHG6 139
GNDC_CHG7 130
GNDC_CHG8 175
GNDC_SUB1 8
GNDC_SUB2 103
GNDC_SUB3 190
GNDC_S1_1 13
GNDC_S1_2 88
GNDC_S2S3_1 7
GNDC_S2S3_2 9

** Note : Divide SPMS input GND and Connect common GND.
** Note : Grounded GND_REF_CHG (pin 170) directly instead of sharing the same ground with GND_REF (pin 96)

DC_IN_OUT1 148
DC_IN_OUT2 149
DC_IN_OUT3 150
C4204 4.7u
PMI8994_DCIN_OUT

MID_DC_IN1 133
MID_DC_IN2 134
MID_DC_IN3 135
MID_USB_IN1 178
MID_USB_IN2 179
MID_USB_IN3 180
C4211 2.2u 35V
C4207 2.2u 35V
** It's required between 22nF and 33nF

BOOT_CAP 162
C4214 27n
L4201 1u
16.05.30

VSW_CHG1 163
VSW_CHG2 164
VSW_CHG3 165
VSW_CHG4 176
VSW_CHG5 177
D4201 NSR05F40NXTG
C4215 22u
C4216 22u
+VPWR
16.06.08

GND_CHG1 191
GND_CHG2 192
GND_CHG3 207

VPH_PWR1 174
VPH_PWR2 189
VPH_PWR3 204
VPH_PWR4 205
VSNS_FLSH 58

VBATT1 173
VBATT2 180
VBATT3 202
VBATT4 203
C4252 22u
16.06.08
VBAT

VBATT_SNS 187
VBATT_CONN_VSENSE_P

HF VSW_S1 30
L4205 2.2u
C4235 47u
VREG_S1 29
+1V025_VREG_S1B

FT VSW_S2_1 11
VSW_S2_2 26
VSW_S2_3 41
L4207 470n
VREG_S2 39
+0V988_VREG_S2B_S3B

FT VSW_S3_1 5
VSW_S3_2 20
VSW_S3_3 35
L4208 470n
VREG_S3 37
VSENSE_S2B_S3B_P

VREF_NEG_S2 24
VREF_NEG_S3 22
VSENSE_S2B_S3B_N

** Note : If you don't want to control boost bypass externally when MSM is asleep, please short this pin to GND directly
If you want to control boot bypass when MSM is asleep, add 100Kohm PD with control signal

PM_PON_RESET_N|MSM_RESIN_N

VOL_DOWN_PM
C4248 DNI
MSM_RESIN_N
PHONE_ON_N
+1V8_VREG_S4A
R4215 1M
+VPWR
PMI_CLK_IN
PMIC_SPMI_CLK
PMIC_SPMI_DATA
+1V8_VREG_S4A
+VPWR
+VPWR
DSV_ENM
LCD_PWM
R4233 100K
+1V8_VREG_S4A
+VPWR
PMI_HAP_OUT_P
PMI_HAP_OUT_N
HAPTIC_CDC_LOUT
+VPWR
+VPWR
PMI8994_DCIN_OUT
+VREG_BOOST_BYPASS
+VPWR

** Note : If CABC feature is unused, Connect WLED_CABC pin to GND without pull-down.

BOOST_BYP_BYP 112
IRRC_RESET_N 127
SPKR_AMP_EN2 113
EIS_GYRO_INT 114
IRRC_RESET_N 83
FLASH_STROBE_TRIG 68
PMI_SPON 111
MSM_USB_HS1_D_P 140
MSM_USB_HS1_D_M 155
142
TP4200
44
43
72
88
** Note : It will be changed to 301 Ohm 1%
R4204 300 (DS-018)
R4205 300 (DS-018)
171
169
158
146
USB_DP
USB_DM
USB_CS
USB_ID
172
144
USB_ID_RVAL2
USB_ID_RVAL1

GPIO_3/EXT_FET_CTL 112
GPIO_2/HDMI_EN 127
GPIO_3/EXT_FET_CTL 113
GPIO_4/USB2_HS_ID 114
GPIO_5/USB_OTG_VBUS_EN 83
GPIO_6/USB_OTG_VBUS_IS 68
GPIO_7/MASK_2 111
GPIO_8/MASK_3 140
GPIO_9/USB_SEL1 155
GPIO_10/USB_SEL2 142

MPP_1/WLED_BL_DIM 44
MPP_2/FLSH_STROBE 43
MPP_3/TX_GTR_THRESH 72
MPP_4/LED_DRV 88

RESIN_N 55
PS_HOLD 71
KYPD_PWR_N 185
SHDN_N 56
VDD_BST_BYP 18
MODE_BST_BYP 34
CLK_IN 72
SPMI_CLK 102
SPMI_DATA 87
REQ_5V_BST 65
VDD_MSM_IO 70
AVDD_BYP 54
DVDD_BYP 69
VDD_ADC_LDO 84
VREG_ADC_LDO 53
VDD_WLED 106
DIS_SCTRL 184
WLED_CABC 123
VDD_IP8_DIS_N 198
VDD_DIS_P 153
VDD_DIS_N 166
HAP_OUT_P 52
HAP_OUT_N 51
HAP_PWM_IN 38
VDD_HAP 49
GND_HAP 50
VDD_FLSH_C 59
VDD_FLASH 90
VDD_TORCH 74
VDD_RGB 94

GDNC_3 100
GNDC_1 89
GNDC_2 91

GNDC_IDSS1 57
GNDC_IDSS2 85
GNDC_IDSS3 87
GNDC_MBIC1 97
GNDC_MBIC2 86

GNDC_BST 48
GNDC_DIS_P 170
GNDC_DIS_N 199
GNDC_SUB_DIS_P 222
GNDC_SUB_DIS_N 200
GNDC_HAP 95
GNDC_FLSH 69

DIS_N_CAP_REF 167
GND_DIS_N_REF 183
1.0u C4244

REF_BYP 96
GND_REF 81
0.1u C4245

** Note : Connect to pin 183 first then AGND

** Note : Connect GND_REF and REF_BYP to C4245 on Top layer without via.

** Note : Grounded GND_REF_CHG (pin 170) directly instead of sharing the same ground with GND_REF (pin 96)

** Note : C4244 depends on LCD or AMOLED support.
LCD : 47nF, AMOLED : 1.5nF

** Note : PMI_SPON : Indicates to PM that S2B and S3B have been successfully enabled
** Note : If you use MHL or over ANX7816, you can use USB_ID(146) of PMI8994 for OTG.
In this case R4208 must be changed to a 121kohm 1% resistor for ES2 and CS parts.

** Note: Place 301 ohm near PMI, daisy chair DP/DM connector - PMI - MSM
To the extent possible keep the diff pairs (DP/DM) buried

VREF_BAT_THERM
PH234 DNI

+VPWR
16.06.01
L4200 470n
+VREG_BOOST_BYPASS

VSW_BST_BYP1 17
VSW_BST_BYP2 32
VSW_BST_BYP3 2
VREG_BST_BYP1 3
VREG_BST_BYP2 33
FB_BST_BYP
C4208 4.7u
C4210 22u
C4209 22u
GND_BST_BYP1 1
GND_BST_BYP2 16
** Note : Connect together

VSW_5V_BST1 61
VSW_5V_BST2 62
VREG_5V_BST1 46
VREG_5V_BST2 47
5V_FB_BST 64
GND_5V_BST 63

VSW_WLED 76
VREG_WLED 121
L1 10u
D4200
+VPWR
LCD_LED_A
4.7u
50V
15n
FB4200
C4225
C4226
GND_WLED 91

WLED_SINK_1 77
WLED_SINK_2 92
WLED_SINK_3 93
WLED_SINK_4 78
LCD_LED_C1
LCD_LED_C2
LCD_LED_C3

GND_WLED_I 108
Tie VDD_DIS_P pin

VSW_DIS_P1 152
VSW_DIS_P2 137
VSW_DIS_N1 181
VSW_DIS_N2 182
L4204 4.7u
+VPWR
L4206 4.7u
C4232 22u

-VDIS_N_OUT1 196
-VDIS_N_OUT2 197
-VDIS_N_FB 168
R4232 0
-5V5_DDVDL

VDIS_P_OUT 136
VDIS_P_FB 138
R4235 0
+5V5_DDVDH
C4241 22u

GND_DIS_P 151

FLSH_LED1_1 75
FLSH_LED1_2 89
FLSH_LED2_1 104
FLSH_LED2_2 105
C4238 10nF
VI
FLASH_LED_OUT1
C4239 10nF
VI
FLASH_LED_OUT2

RGB_RED 95
RGB_BLU 79
RGB_GRN 80

LDO IN(9,10,13,17,18,19,20,21,22,23,24,29)
Flash(VDD_TORCH), RGB(VDD_RGB)
WIFI, LDO IN(FingerPaint 3.3V)

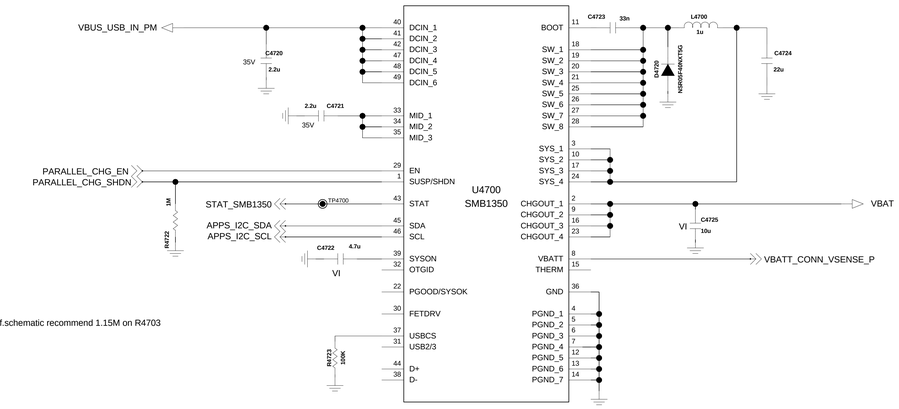
* Route +0V9_VSENSE_KRAIT and REMOTE_GND_SNS as a differential

LG Electronics

TITLE: MODEL NAME
SIZE: A2 | DWG NO: PDM NUMBER | REV: Rev
DRAWN BY: User Name | SHEET: 1 of 2 | Date: Drawing Date

LGE Internal Use Only

< 4-7-2-6_Charger_Switching_SMB1350> Rev.0



** Note 1. QMC Ref.schematic recommend 1.15M on R4703

LGE Internal Use Only

LG Electronics

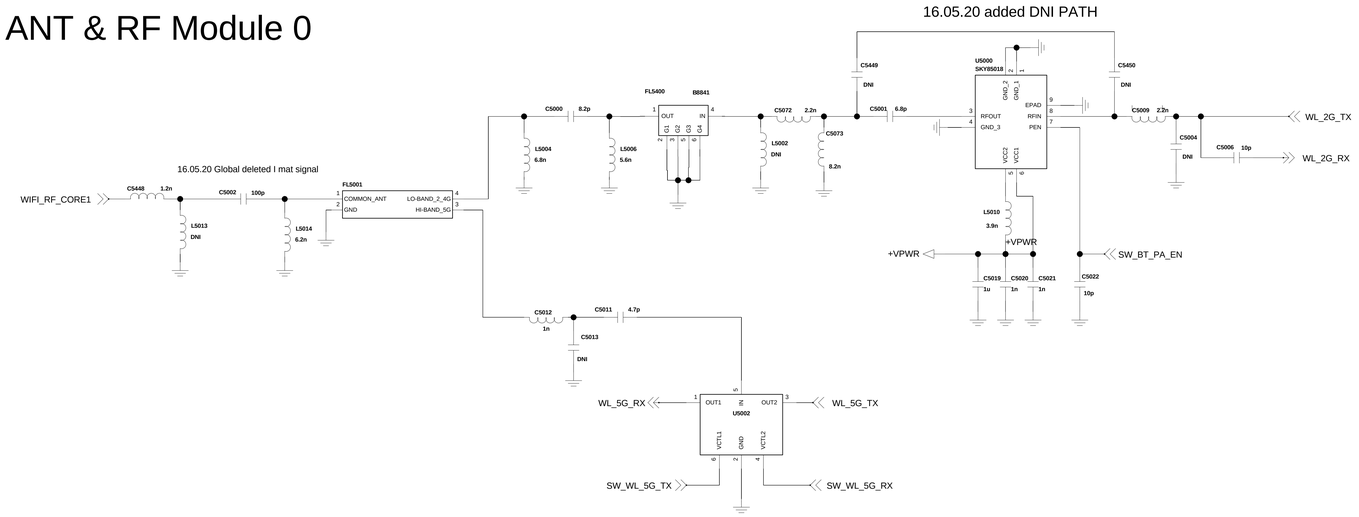
TITLE: Schematic1

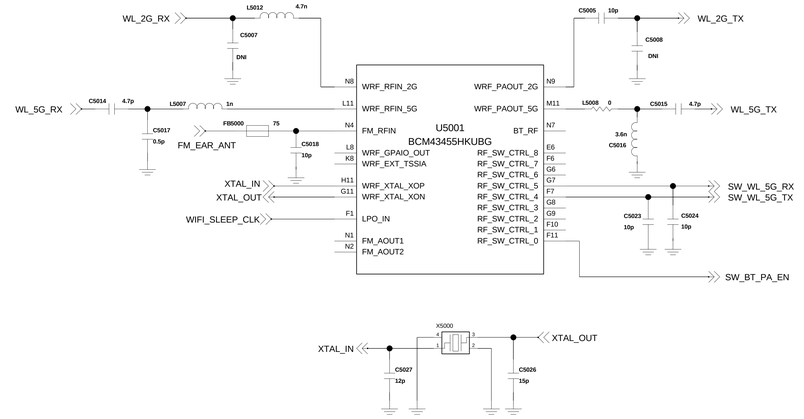
SIZE: A2 | DWG NO: PDM NUMBER | REV: Rev

Drawn By: User Name | SHEET: 28 of 27 | Date: Drawing Date

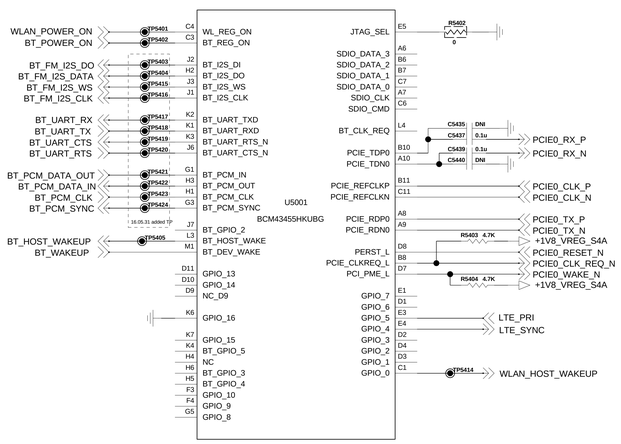
WLAN ANT & RF Module 0

16.05.20 added DNI PATH

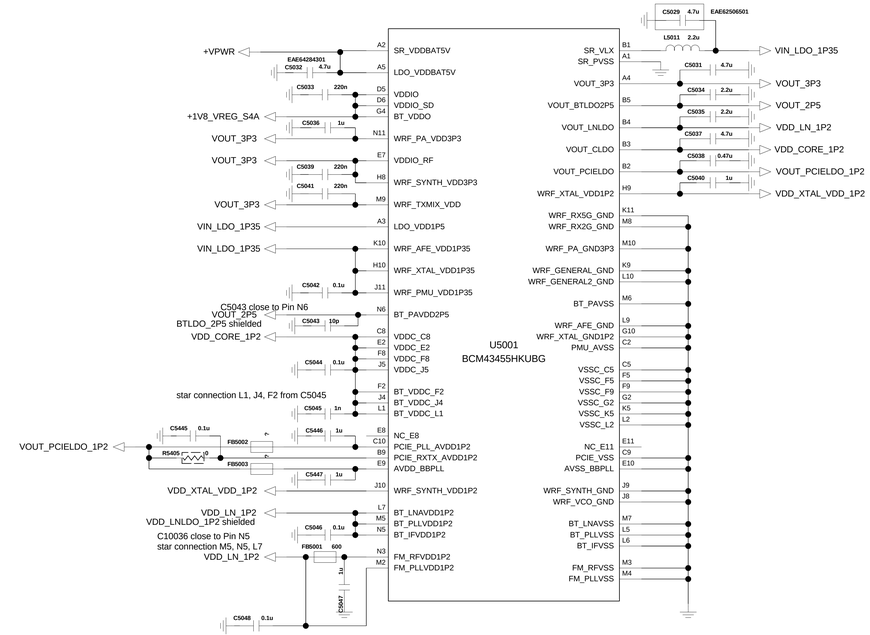




PCIE INTERFACE



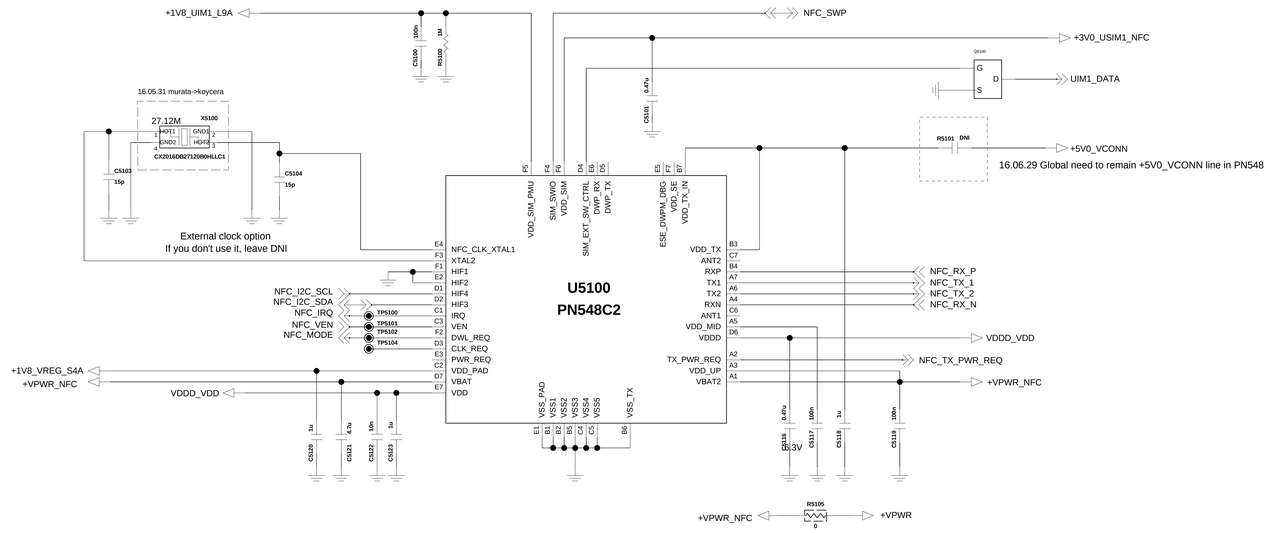
POWER



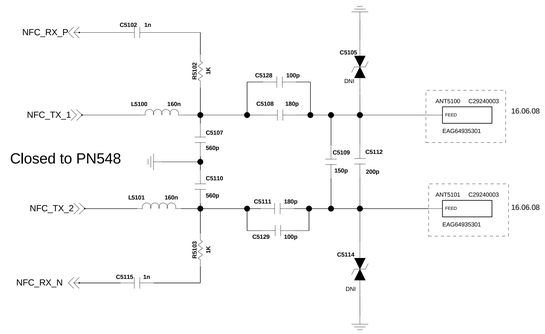
LGE Internal Use Only

LG Electronics	
TITLE	Schematic1
SIZE	A2
DWG NO	PDM NUMBER
REV	Rev
Drawn BY	User Name
SHEET	1 of 1
Date	Drawing Date

NFC_PN548



NFC Antenna



LGE Internal Use Only

LG Electronics

TITLE		
SIZE A2	DWG NO	REV
DRAWN BY heesoo.kim	SHEET of	Date

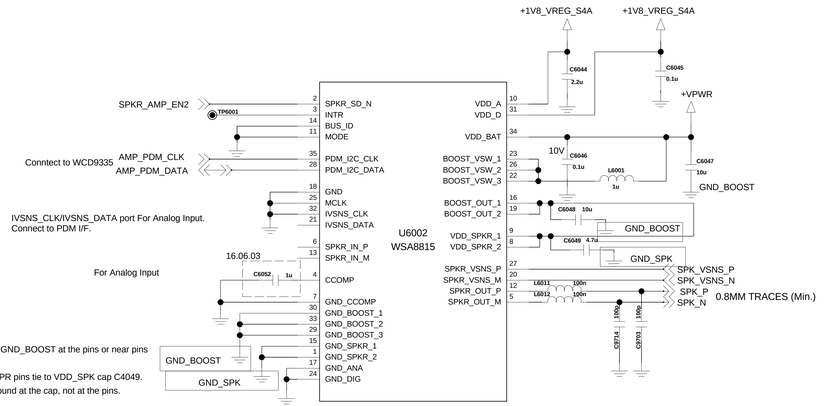
< Codec_WCD9335 >

11/18

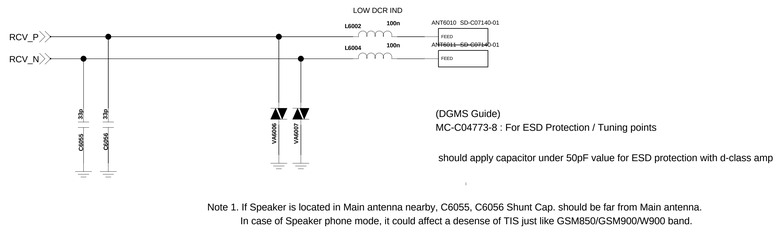
< WSA8810 Delete 8/11 >

< WSA8815 >

SPK AMP R_SPK



Receiver



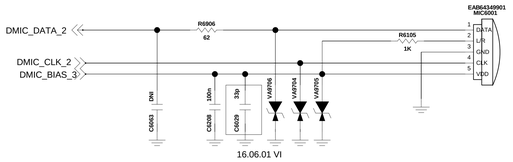
Note 1. If Speaker is located in Main antenna nearby, C6055, C6056 Shunt Cap. should be far from Main antenna.
In case of Speaker phone mode, it could affect a desense of TIS just like GSM850/GSM900/W900 band.

03.25

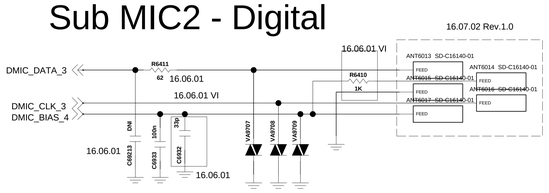
<Speaker>

<MIC>

Sub MIC - Digital

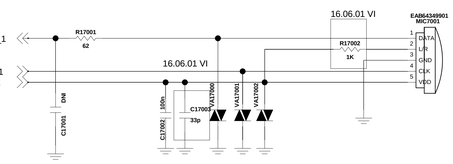


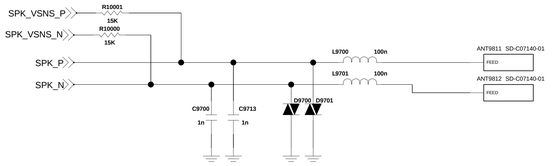
Sub MIC2 - Digital

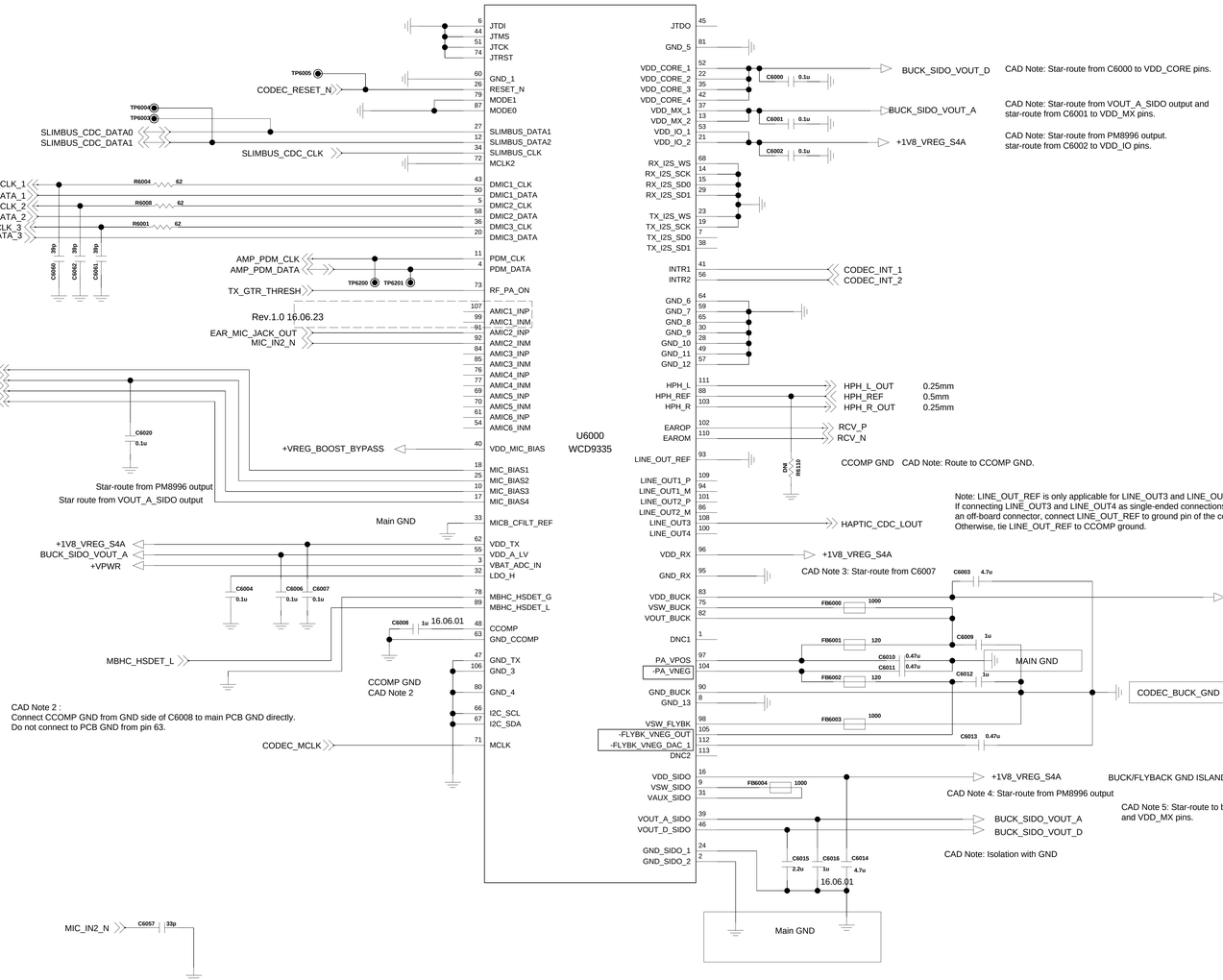


<MIC>

Main MIC - Digital



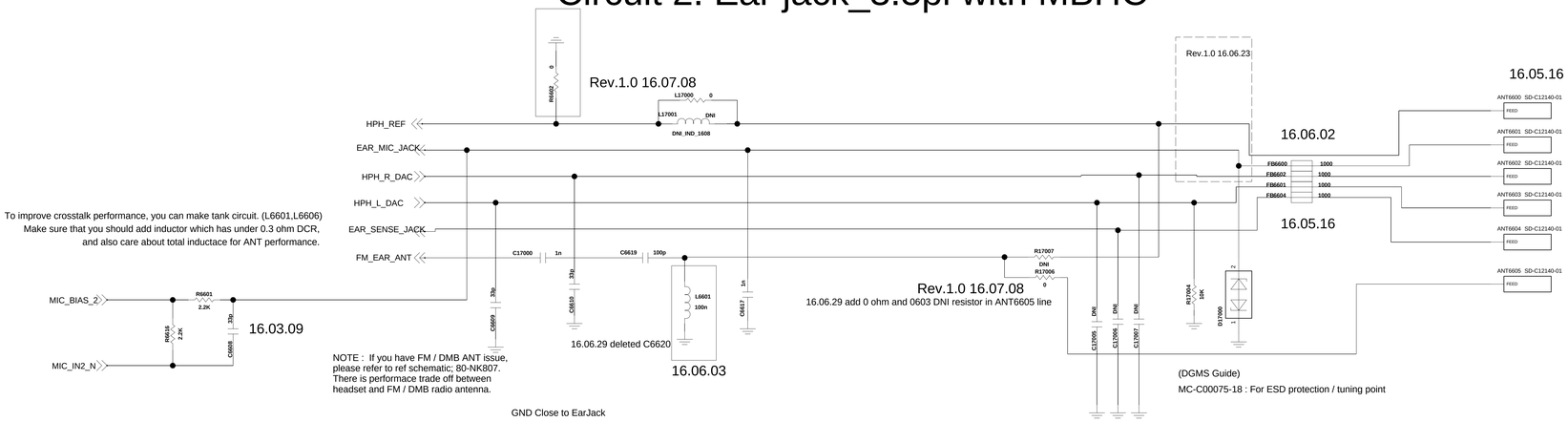




LG Electronics	
TITLE	Schematic1
SIZE	A2
DWG NO	PDM NUMBER
REV	
DRAWN BY	User Name
SHEET	6-1-1-5_WD9320_MIC_RCV_SPK
DATE	Date

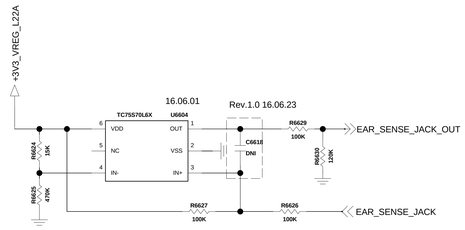
< 6-6_Earjack >

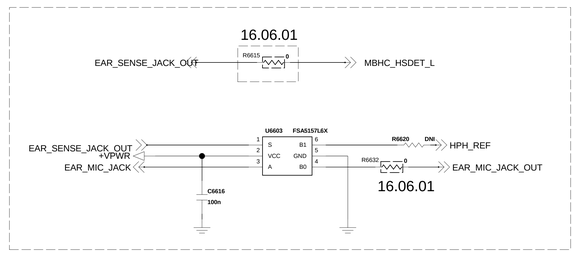
Circuit 2. Ear jack_3.5pi with MBHC



Debugger

[OUT]
Normal / Headset : High
UART debugger : Low





LGE Internal Use Only

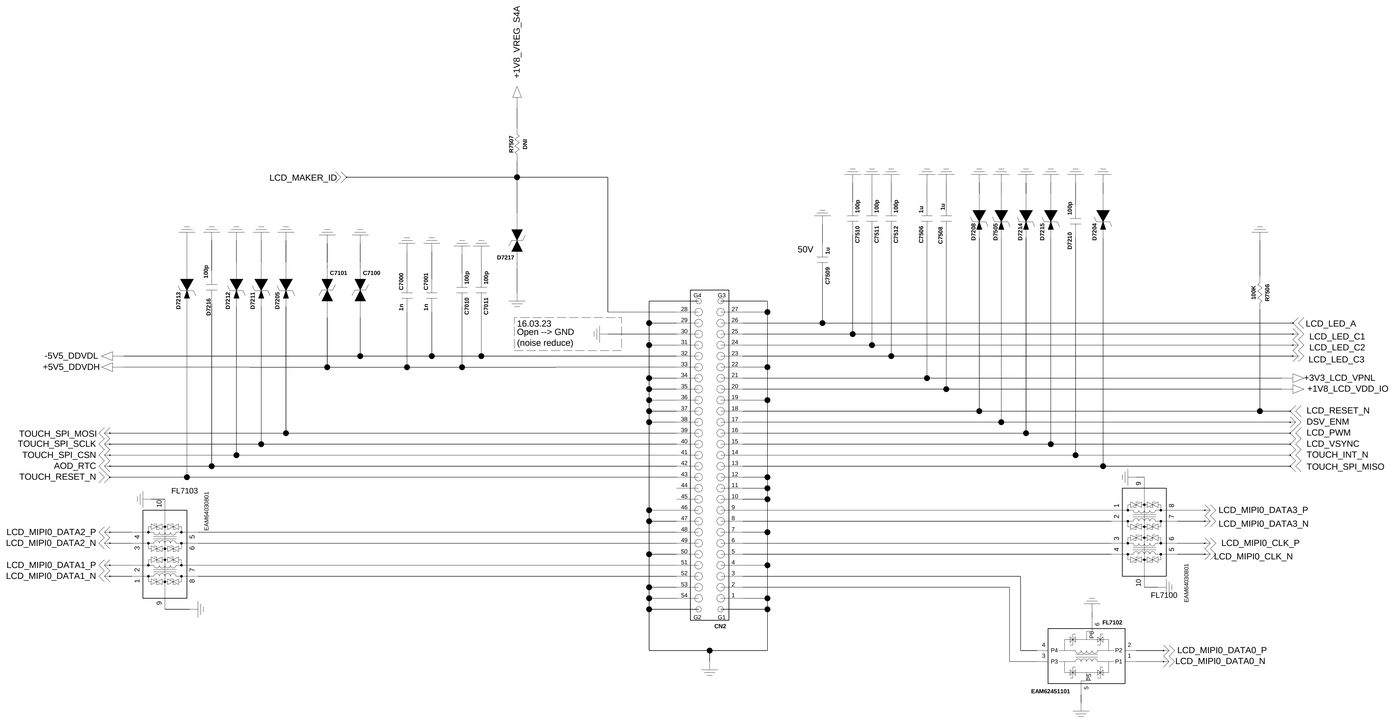
LG Electronics

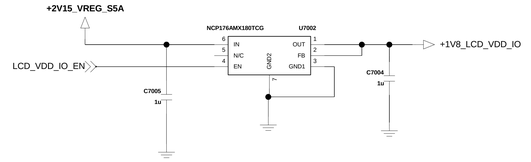
TITLE: Schematic1

SIZE: A2 | DWG NO: PDM NUMBER | REV: Rev

DRAWN BY: User Name | SHEET: 6-6-1_EARJACK | Date: Drawing Date

<7-1-8-4-2_Quad_INCELL_LCD_5.5">





PPLUS_UPPER

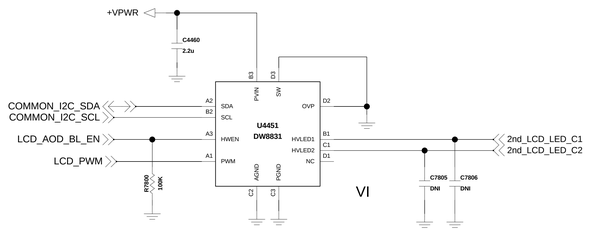
<4-4-4_LCD_BL_Booster_DW8831> Rev_1.0

LED Vf=3.2V, If=23mA/46mA(2string), 2P7S
20% inductor tolerance => fsw=500khz : Ipeak = 722.6mA, fsw=1MHz : Ipeak = 541.9mA
30% inductor tolerance => fsw=500khz : Ipeak = 774.2mA, fsw=1MHz : Ipeak = 567.7mA

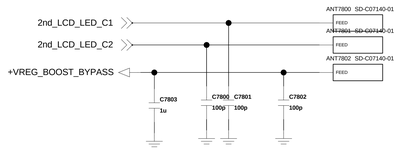
LED Vf=3.0V, If=20mA/46mA(2string), 2P7S
20% inductor tolerance => fsw=500khz : Ipeak = 651.9mA, fsw=1MHz : Ipeak = 473.3mA
30% inductor tolerance => fsw=500khz : Ipeak = 702.9mA, fsw=1MHz : Ipeak = 498.9mA

If you have other LED spec&quantity, recaculate Ipeak And select Power inductor

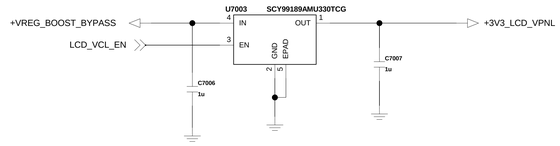
Vout_max = 22.7V at Vf=3.2V, 2P7S, Headroom V=0.3V
You Select diode spec : VR > Vout_max, If > LED If(all string current), I_FRM > Inductor Ipeak



160608 Changed cap to DNI



LCD_VCL_EN connected MSM8996



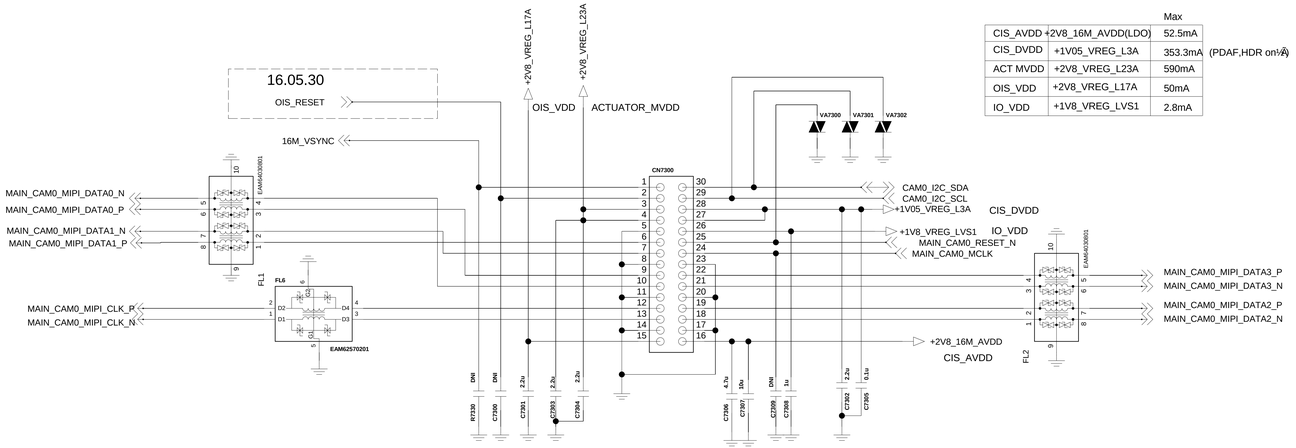
16.01.06

LGE Internal Use Only

LG Electronics	
TITLE	Schematic1
SIZE	A2
DWG NO	PDM NUMBER
REV	Rev
DRAWN BY	User Name
SHEET	127 of
Date	7-1-8-4-2_QHCD_TOUCH Drawing Date

16.05.30 < MAIN_Dual Camera_16M_OIS>

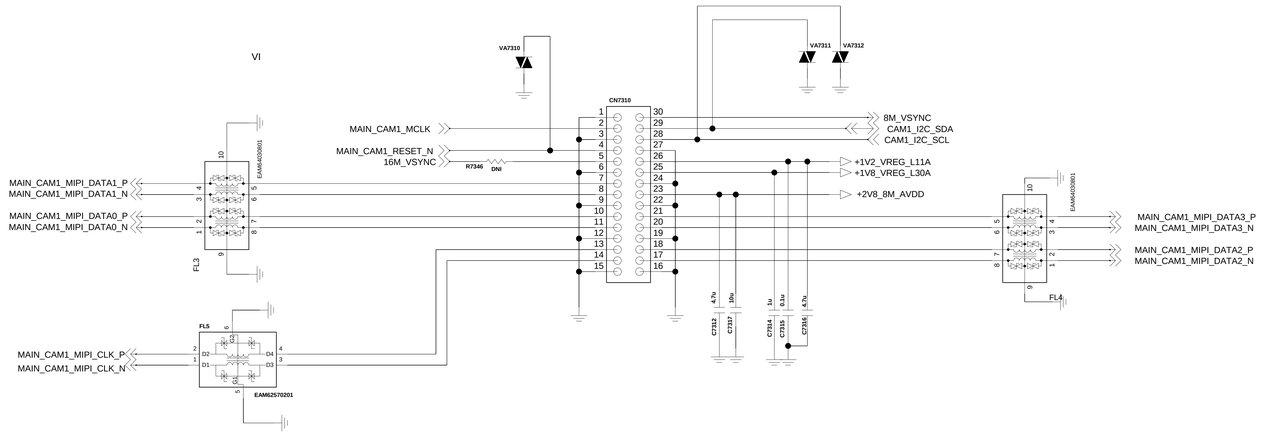
< Sony IMX298 >



		Max	
CIS_AVDD	+2V8_16M_AVDD(LDO)	52.5mA	
CIS_DVDD	+1V05_VREG_L3A	353.3mA	(PDAF,HDR on½)
ACT MVDD	+2V8_VREG_L23A	590mA	
OIS_VDD	+2V8_VREG_L17A	50mA	
IO_VDD	+1V8_VREG_LVS1	2.8mA	

<MAIN_8M_FF_WIDE>

< Sony IMX219 >

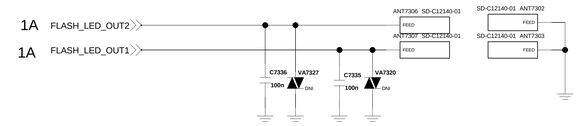


AVDD	+2V8_8M_AVDD(LDO)	TBD
DVDD	+1V2_VREG_L11A	TBD
Sensor IO	+1V8_VREG_L30A	TBD

9/21

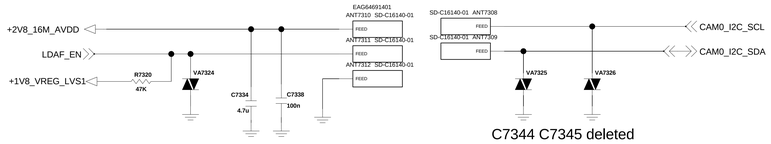
Check location change in EMN

< RGB, FLASH LED >



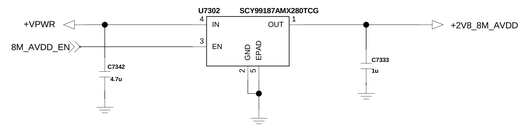
Check location change in EMN

< LDAF >

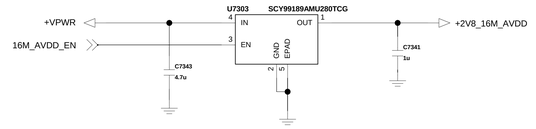


C7344 C7345 deleted

< Main_8M_AVDD Power >



< Main_16M_AVDD Power >



LGE Internal Use Only

LG Electronics

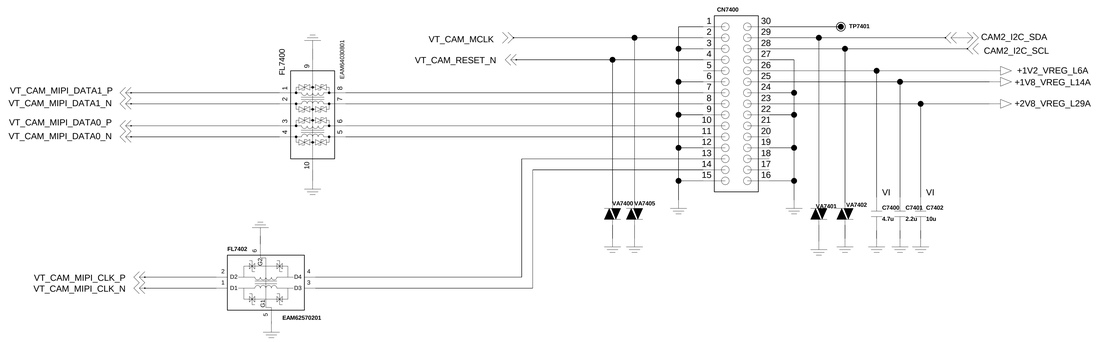
TITLE: Schematic1

SIZE: A2 | DWG NO: PDM NUMBER | REV: Rev

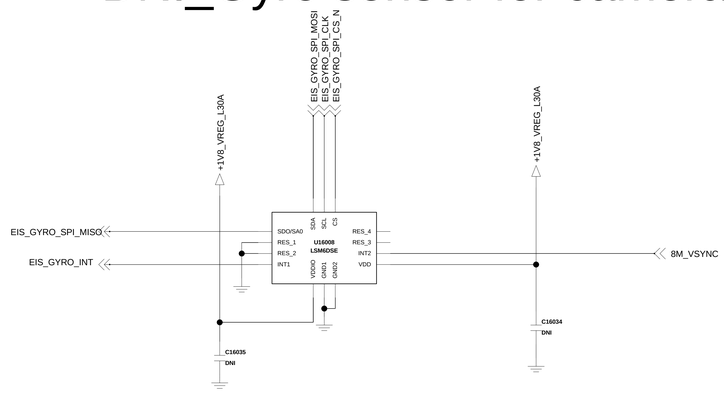
DRAWN BY: User Name | SHEET: 30 OF 26 | Date: Drawing Date

< VT_Camera_5M >

		Max
AVDD	+2V8_VREG_L29A	36mA
DVDD	+1V2_VREG_L6A	67mA
Sensor_IO	+1V8_VREG_L14A	2mA



DNI_Gyro sensor for camera



LGE Internal Use Only

LG Electronics

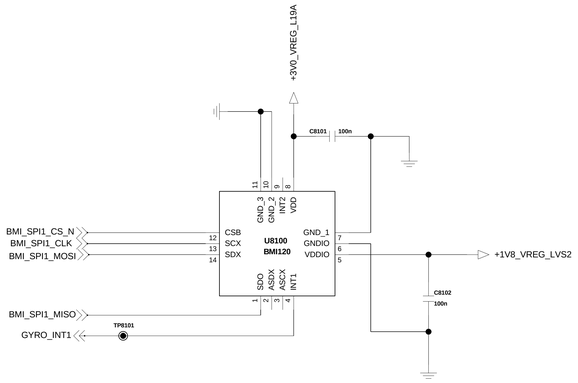
TITLE: Schematic1

SIZE	DWG NO	REV
A2	PDM NUMBER	Rev

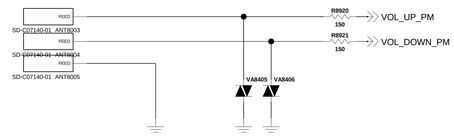
DRAWN BY: User Name | SHEET: 7-3 VT CAM7EIS GYRO_2_1 of | Date: Drawing Date

I2C	Devices
Sensor1	Accel+Gyro, Temp&Hum, RGB Sensor
Sensor2	Compass, Pressure, Prox+Amb

< Accel & Gyro_BMI120>

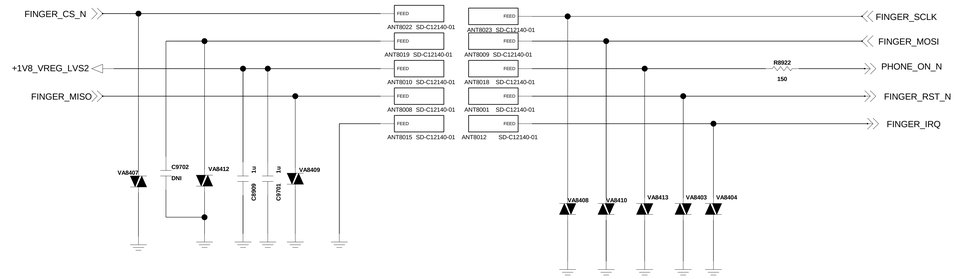


<POWER/ VOL_UP/ DOWN KEY >



16.03.23

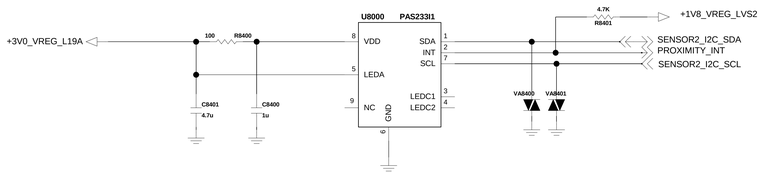
< FINGER +HOME KEY + TOUCH KEY >

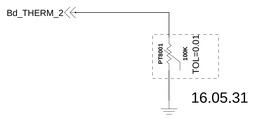


< B'd THERM>

16.06.28 Added 1 more compass

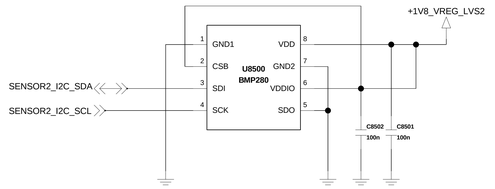
< Proximity_Ambient_PAS233I1>



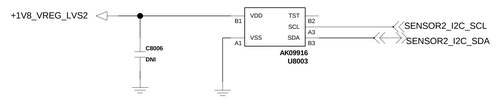


16.05.31

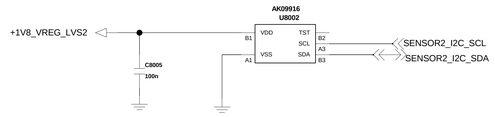
<Pressure_BMP280>



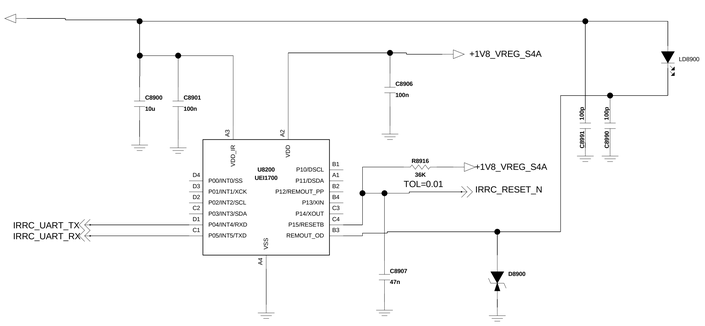
16.07.25 Changed C8006 into DNI



<Compass_AK09916>

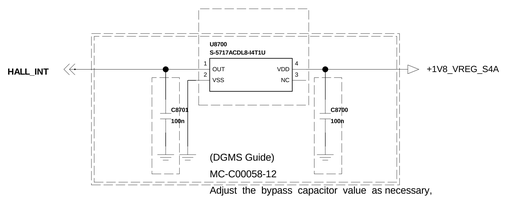


< IRRC UEI1700>



<8-7-1-5_Hall_IC_S5717>
Rev_1.1

16.02.25



(DGMS Guide)
MC-C00058-12
Adjust the bypass capacitor value as necessary, according to signal line noise conditions

< MOTOR Haptic >

Q-COIN Motor

LGE Internal Use Only

LG Electronics

TITLE: Schematic1

SIZE	DWG NO	REV
A2	PDM NUMBER	Rev

Drawn BY	SHEET	Date
User Name	10_Sensor2Motor_IRRC_LED	Drawing Date

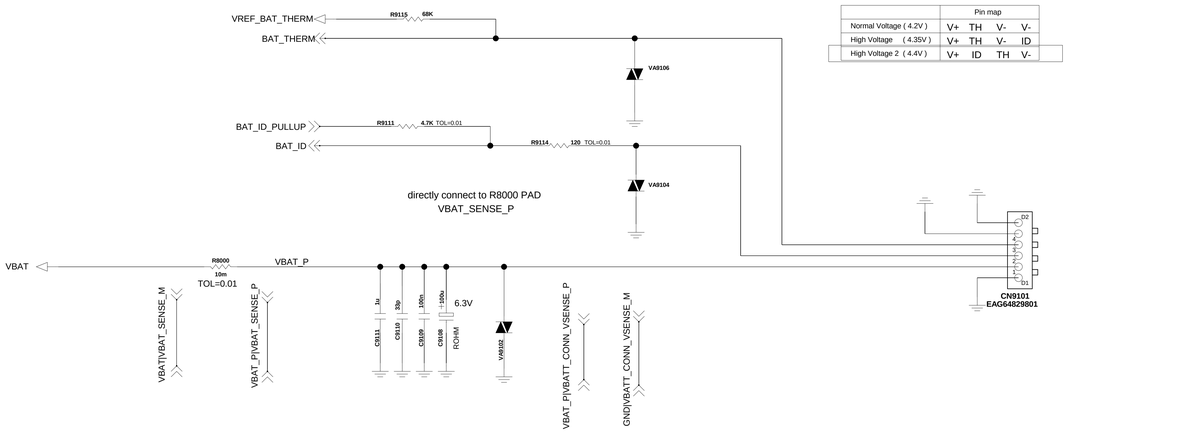
<9-1_Battery_Connector_4Pin> Rev_1.4

Circuit 3. Batt Conn. for High Voltage 2 : 4.4V

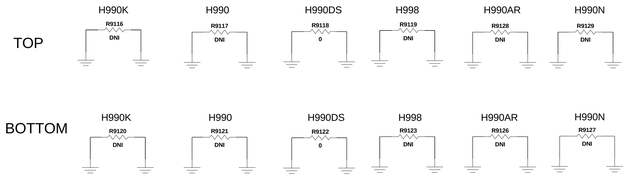
(DGMS Guide)
MC-C00073-15 : Apply to large capacity around the bat connector
1. Over 47uF around the bat connector
2. Over 100uF totally on Vbat line
Use the TVS diode of VR=5V, when TVS diode have to use for ESD

(DGMS Guide)
MC-C06162-1 : 1. Do not connect negative of tantal Cap. to positive voltage if use
2. We recommend Ceramic Cap.

(DGMS Guide)
MC-C02048-18 : 4. Polymer type tantal cap. is Spec =< Voltage rating X 0.8

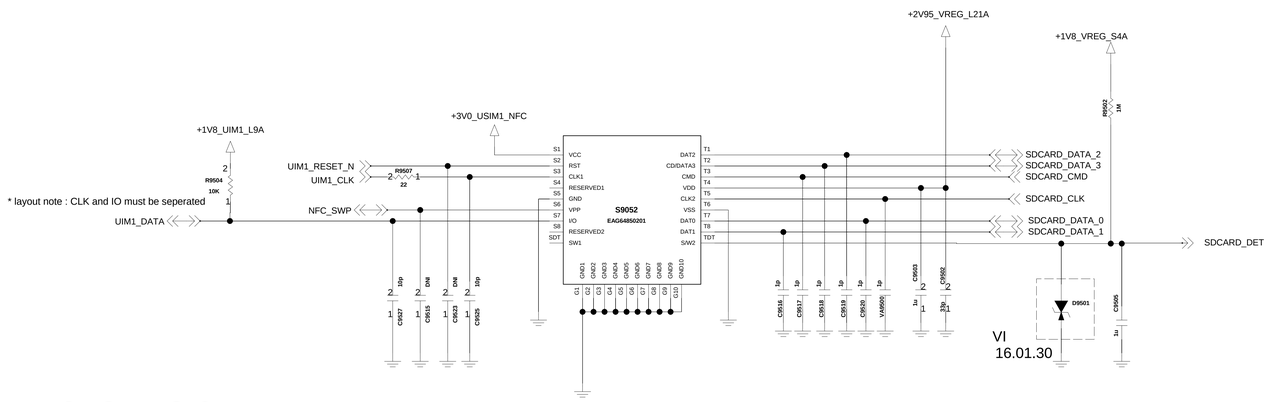


	Pin map			
Normal Voltage (4.2V)	V+	TH	V-	V-
High Voltage (4.35V)	V+	TH	V-	ID
High Voltage 2 (4.4V)	V+	ID	TH	V-



(DGMS Guide)
MC-C04766-5 Use F(1%) grade component
1. PCB rev
2. Device ADC
3. Thermistor, temperature pheri.

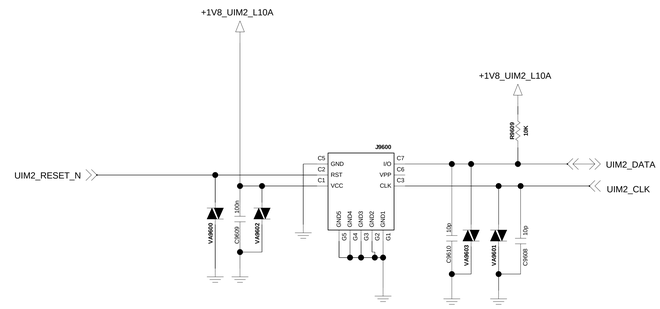
Nano SIM & SD CARD Combo



16.01.06

2nd_SIM (GLOBAL ONLY)

16.05.10 Global



16.05.18 Changed 1005 size to 0603

LGE Internal Use Only

LG Electronics

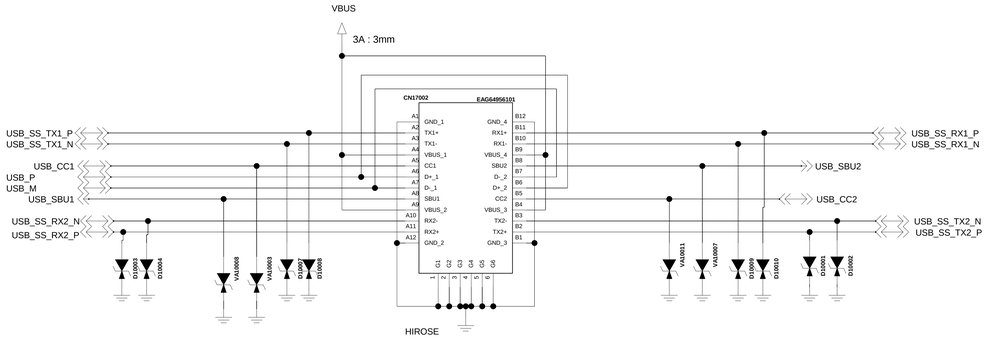
TITLE: Schematic1

SIZE	DWG NO	REV
A2	26	Rev

DRAWN BY: User Name

SHEET: 9-1-2_BAT_CNT_4-Pin_Fuel Gauge_Cable-7-2-4_Charger_SW

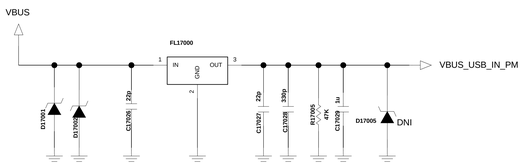
<USB TYPE-C Connector>



<USB TYPE-C Connector>

NOTE1: QMC Checklist

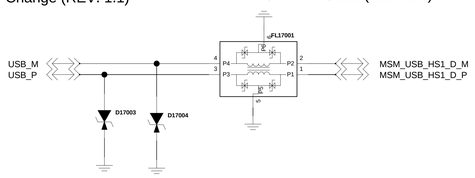
A 47 kΩ resistor and 1 μF shunt RC filter is required on the USB_IN lines of the PMIC for noise rejection and for charger removal detection.



Change (REV. 1.1)

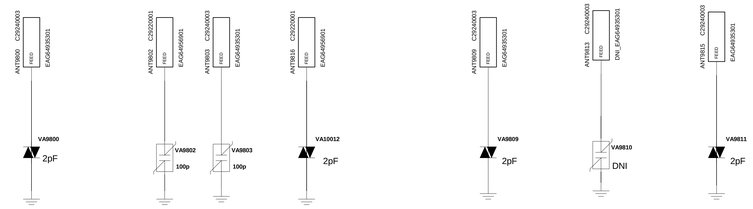
add (REV. 1.1)

add (REV. 1.1)



< Electric shock Protection >

160628 ANT9813 need to change DNI



160607 Copied from NA schematic. Need to check if it is ok for Global

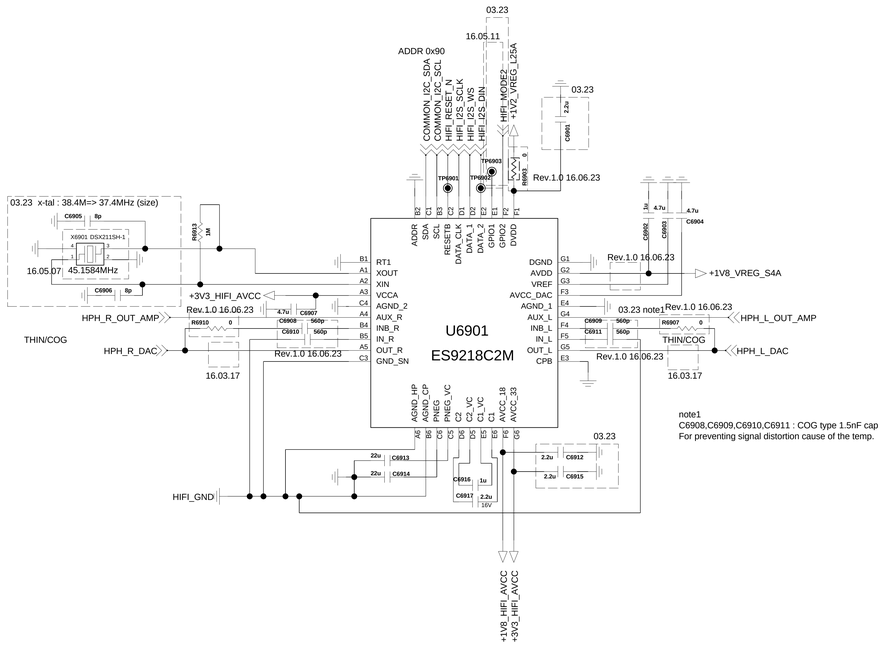
LGE Internal Use Only

LG Electronics

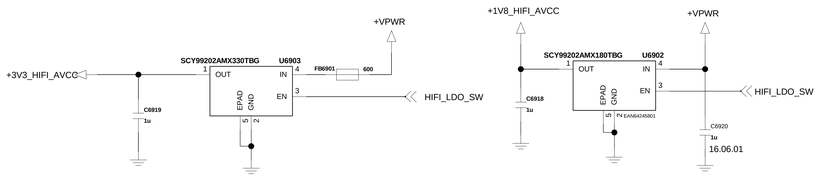
TITLE: Schematic1

SIZE: A2 | DWG NO: PDM NUMBER | REV: Rev

Drawn By: User Name | SHEET: 30 of 26 | Date: Drawing Date



HI-FI DAC_LDO

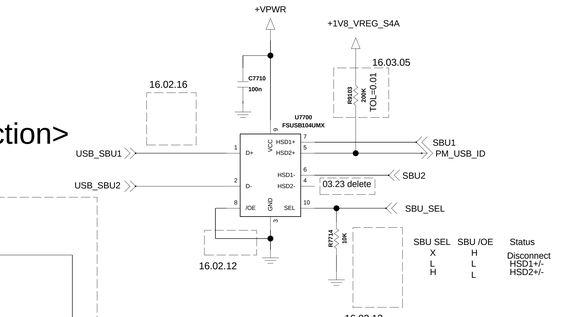


LGE Internal Use Only

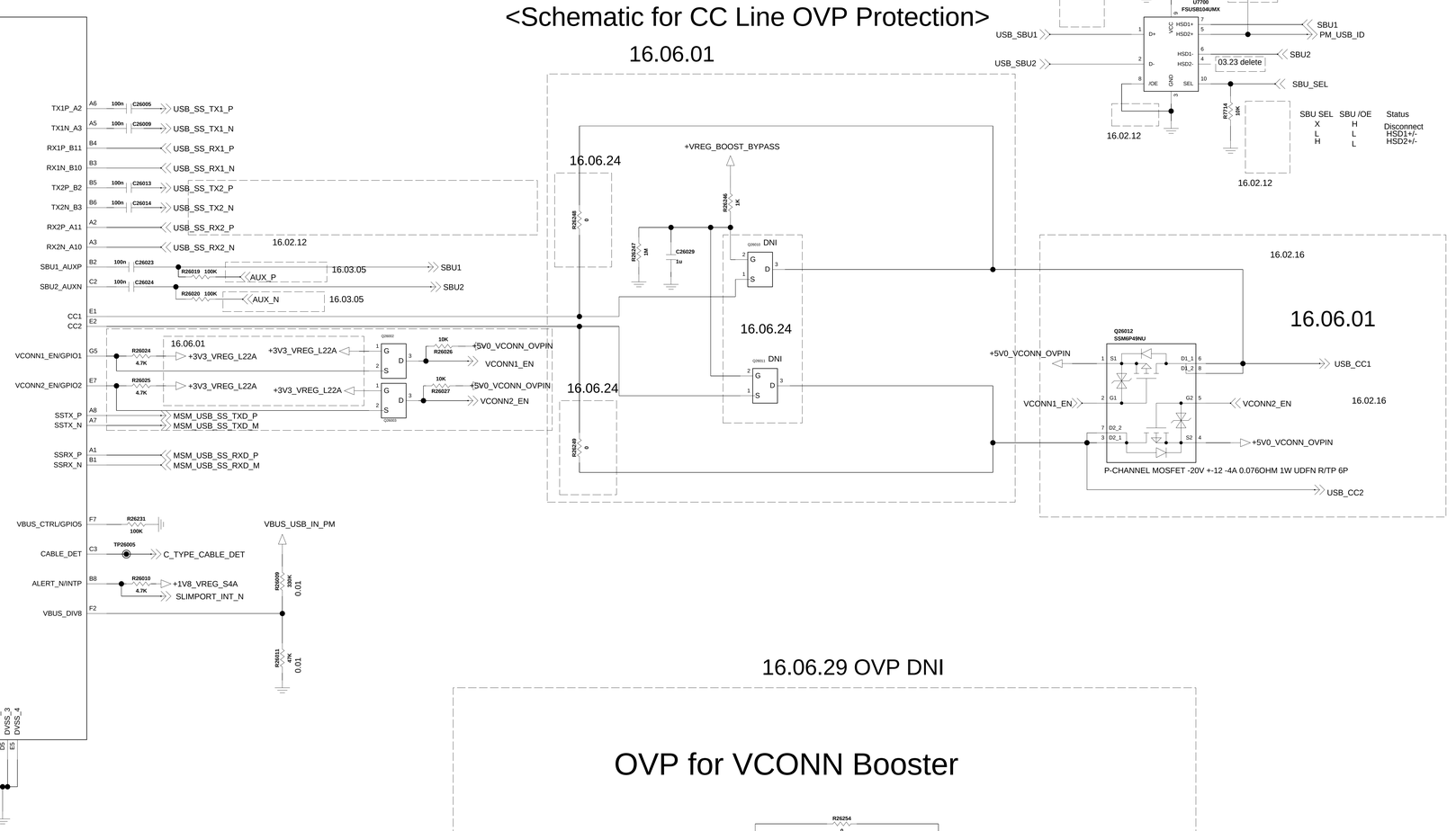
LG Electronics	
TITLE	Schematic1
SIZE A2	DWG NO PDM NUMBER
REV Rev	
DRAWN BY User Name	SHEET 15 OF 15
Date Drawing Date	

USB Type C ANX7688

Switch for ACC.

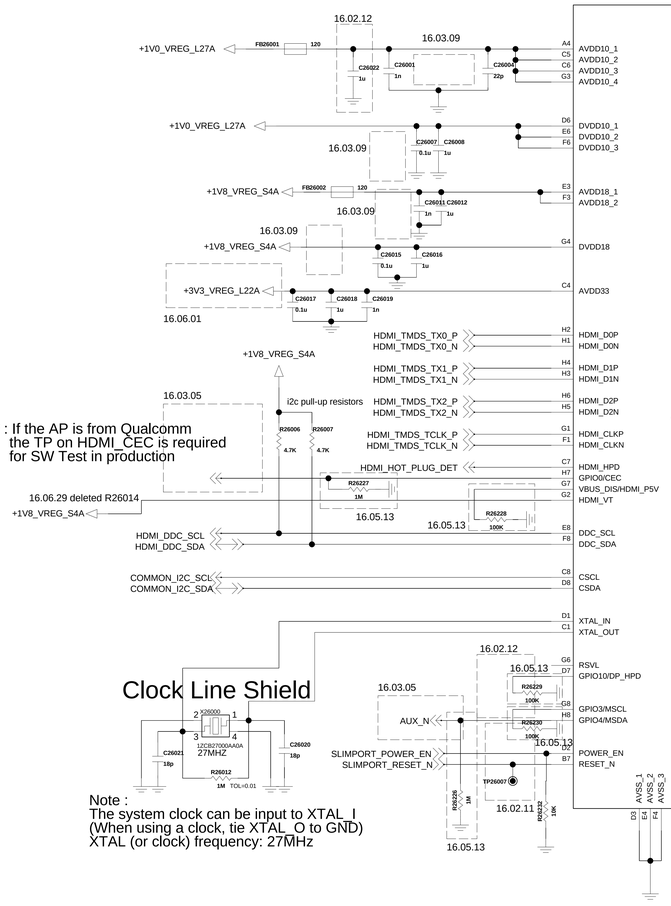


<Schematic for CC Line OVP Protection>



U26001
ANX7688

MC-C06026-2 : If the AP is from Qualcomm
the TP on HDMI_CEC is required
for SW Test in production

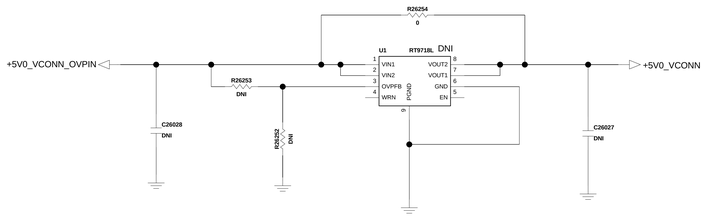


Note :
The system clock can be input to XTAL_I
(When using a clock, tie XTAL_O to GND)
XTAL (or clock) frequency: 27MHz

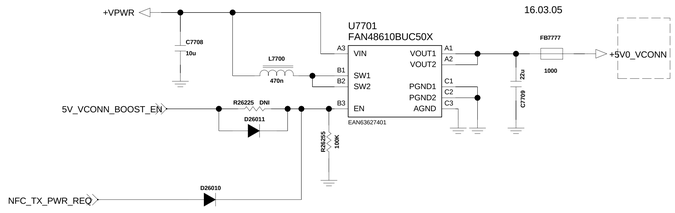
16.06.01

16.06.29 OVP DNI

OVP for VCONN Booster



Booster for Vconn



16.06.29

LDO for ANX7688 AVDD
- EN connected to MSM8996

16.05.30

LGE Internal Use Only

LG Electronics

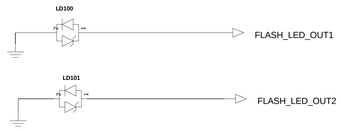
TITLE: Schematic1

SIZE: A2 | DWG NO: PDM NUMBER | REV: Rev

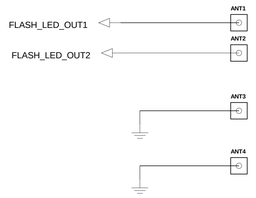
DRAWN BY: User Name | SHEET: 60 of 43 | Date: Drawing Date

Elsa Flash LED FPCB

<FLASH_LED>



<Antenna Clip>



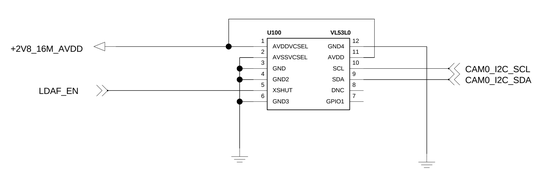
LGE Internal Use Only

LG Electronics

TITLE	Schematic1		
SIZE A2	DWG NO PDM NUMBER		REV Rev
Drawn By User Name	SHEET 1 of 1	Date Drawing Date	

Elsa LDAF FPCB

<LDAF_VL53L0>



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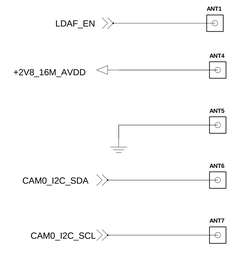


LGE Internal Use Only

LG Electronics

TITLE	Schematic1	
SIZE A2	DWG NO PDM NUMBER	REV Rev
DRAWN BY User Name	SHEET 1 OF 1	Date Drawing Date

3RD MIC FPCB

	Part No.
ALL	EAB64349901
Global	EAB64370001

LGE Internal Use Only

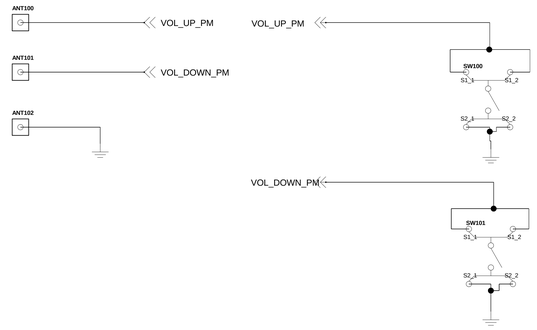
LG Electronics

TITLE: Schematic1

SIZE: A2 | DWG NO: PDM NUMBER | REV: Rev

DRAWN BY: User Name | SHEET: 1 of 1 | Date: Drawing Date

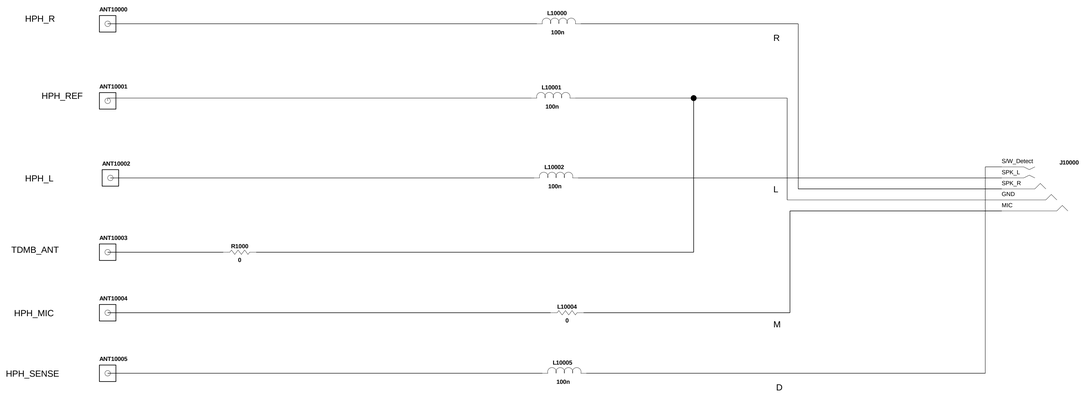
<VOLUME KEY FPCB >



LGE Internal Use Only

LG Electronics	
TITLE	Schematic1
SIZE A2 / DWG NO / PDM NUMBER	REV Rev
DRAWN BY User Name / SHEET 1 of 2	Date Drawing Date

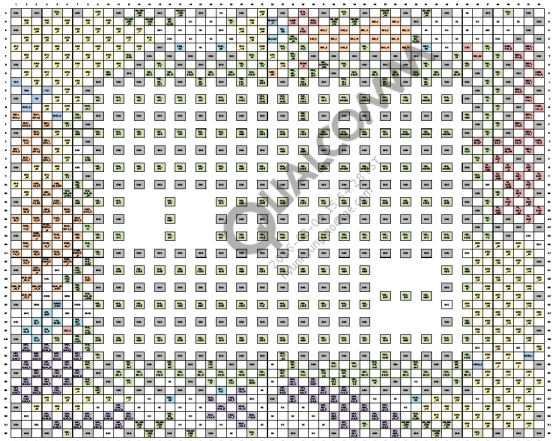
<EARJACK FPCB >



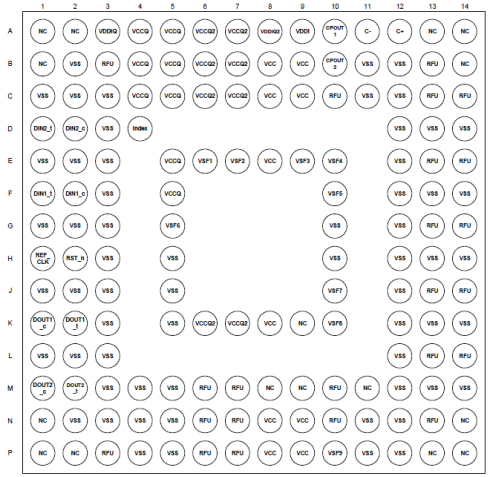
LGE Internal Use Only

LG Electronics				
TITLE: F800_EAR_FPCB				
SIZE: A2	DWG NO: 1			REV: Rev
DRAWN BY: User Name	SHEET: 1	OF: 1	Date: 2016.05.17	

U2100_MSM8996_IC,Digital Baseband Processor(Top View)



U3400_H28U74301AMR, UFS (Top View)



U4100_PM8996_IC,PMIC (Top View)

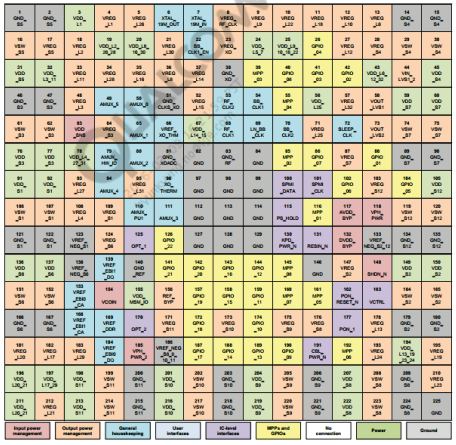


Figure 2-1 PM8994/PM8996 pad assignments (top view)

U4200_PMI8996_IC,PMIC (Top View)

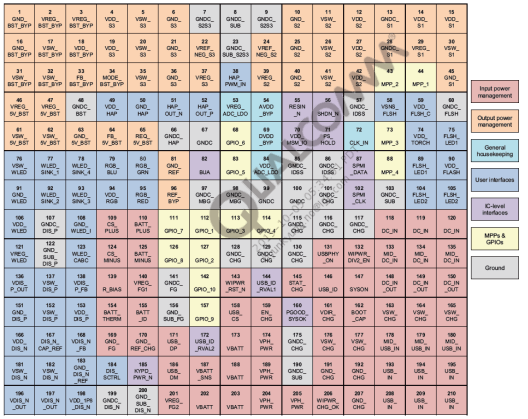


Figure 2-1 PMI8994/PMI8996 pad assignments (top view)

U1400_WTR3925_IC,RF Transceiver,4G (Top View)

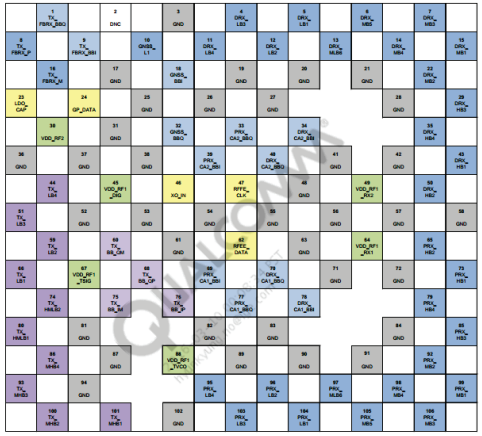


Figure 2-1 WTR3925/WTR3905 pin assignments – top view

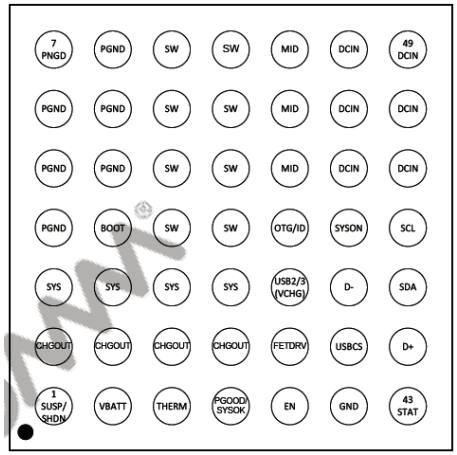
U1600_QFE2101, IC,DC,DC Converter (Top View)

1 DNC	2 DNC	3 SDATA	4 SCLK
5 C_GSM	6 C_GSM	7 GND	8 USID
9 AMP_ OUT	10 VDD _1P8		11 GND _BUCK
12 BYP_ LOAD	13 VDD _BATT	14 VSW _BUCK	15 VDD _BUCK

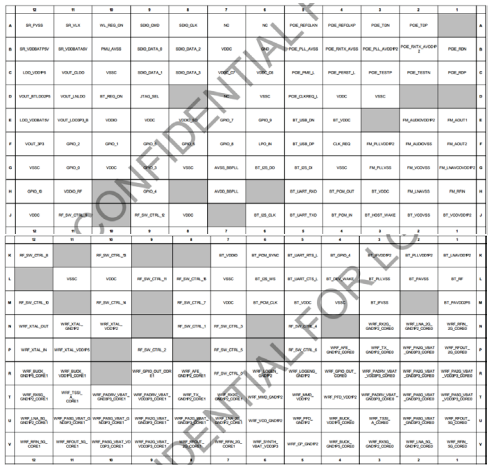
APT buck & switches
Support
Do not connect
Power
Ground

Figure 2-1 QFE2101 pin assignments (top view)

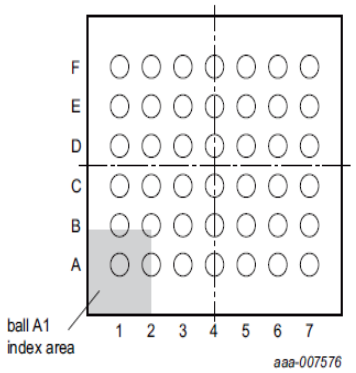
U4700_SMB1350_IC,Charger (Top View)



U5400_BCM4358_IC,WiFi (Bottom View)



U5100_PN548_IC,NFC (Bottom View)



U6000_WCD9335_ IC,Audio Codec (Top View)

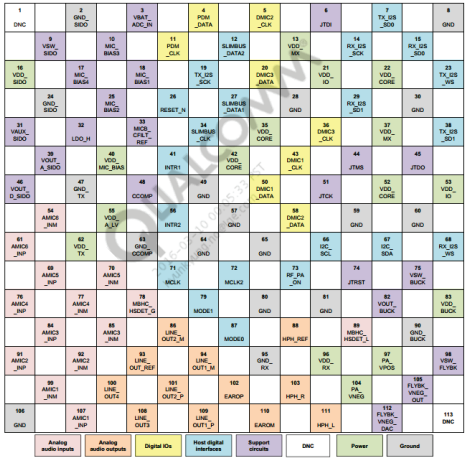


Figure 2-1 WCD9335 pin assignments (top view)

U6002_WSA8815_IC,Speaker Amplifier (Top View)

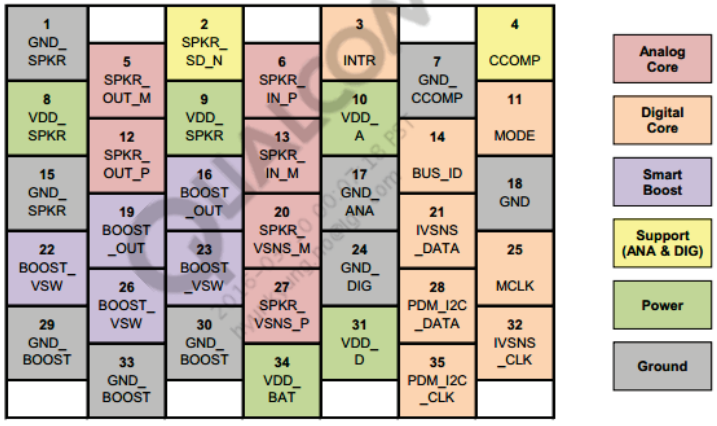
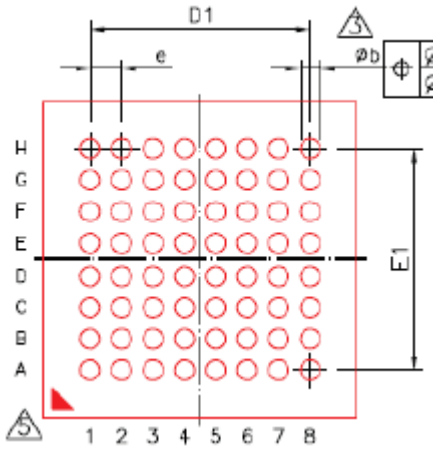
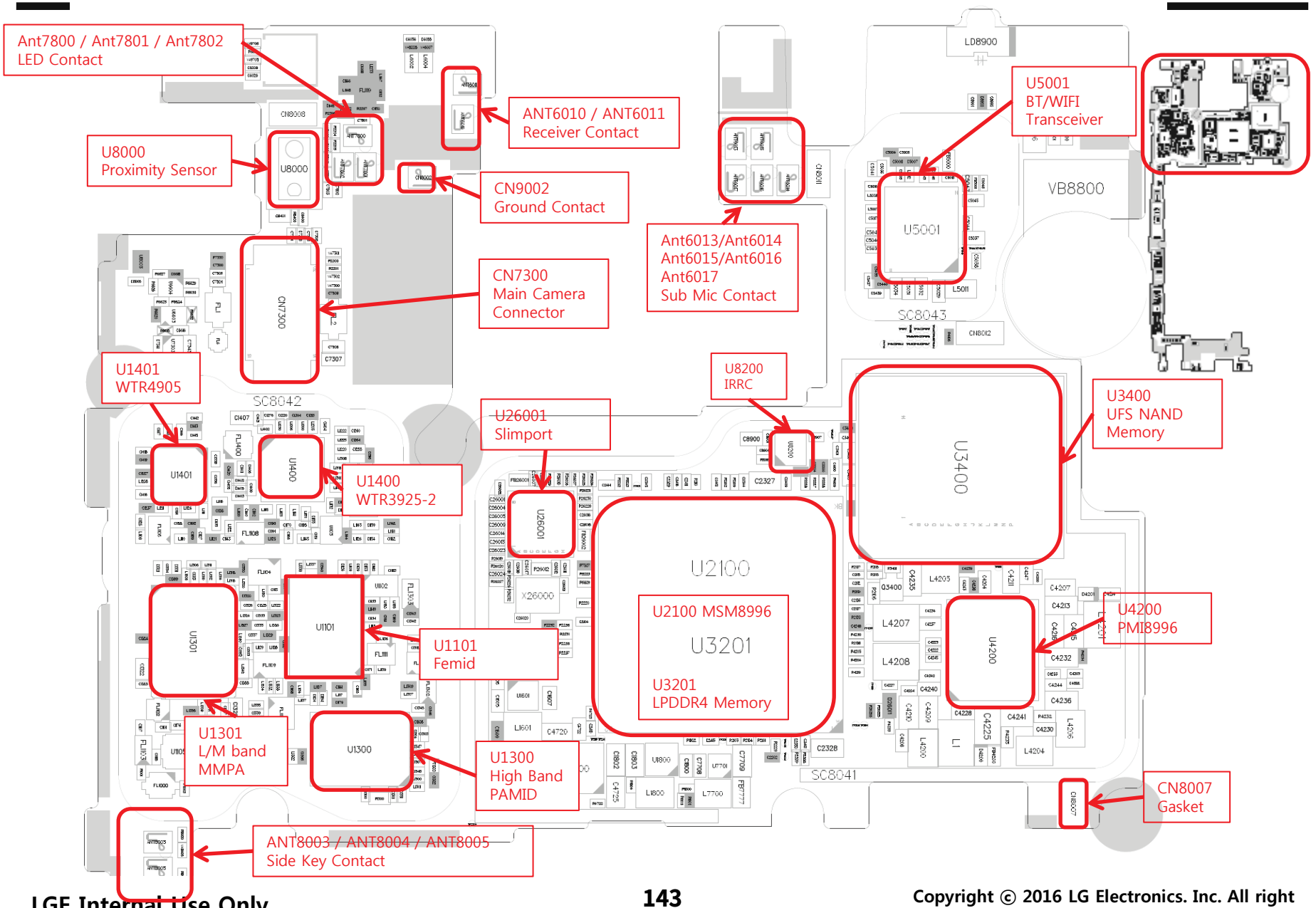
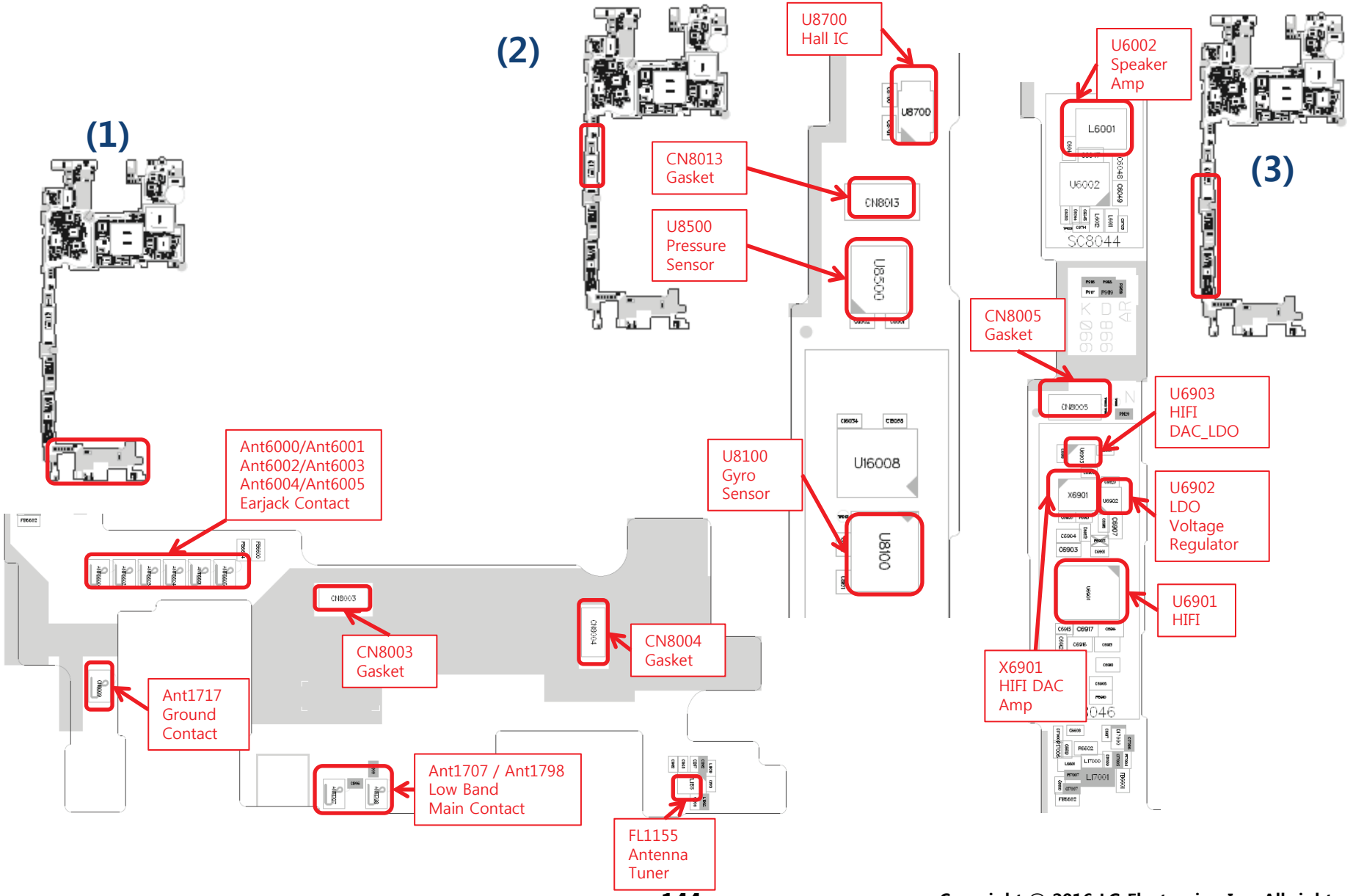


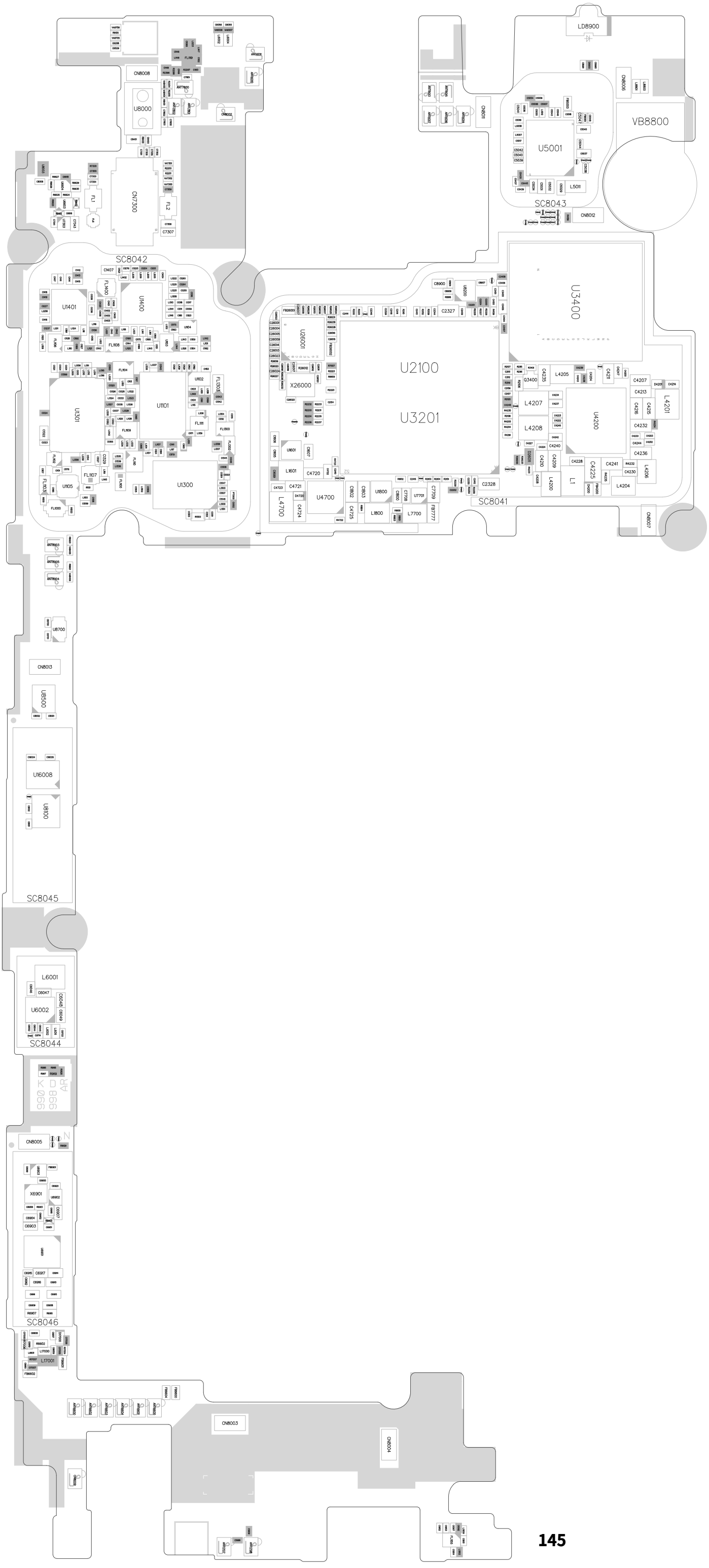
Figure 2-1 WSA8810 pin assignments (top view)

U26001_ANX7888_IC,Signal Bridge (Bottom view)








LD8900
CN8008
U8000
ANT8608
ANT7800
CN8002
CN8011
CN8006
VB8800
U5001
L5011
SC8043
CN8012
SC8042
U1401
U1400
U1104
U1301
U1101
U1102
U1111
U1105
U1107
U1300
U2100
U3201
U2601
X26000
U8200
U3400
U4200
L4205
L4207
L4208
L4201
L4206
L4204
L1
U4700
L4700
L1800
L7700
U1800
U7701
C7709
SC8041
CN8007
ANT8003
ANT8005
ANT8004
U8700
CN8013
U8500
U16008
U8100
SC8045
L6001
C6047
U6002
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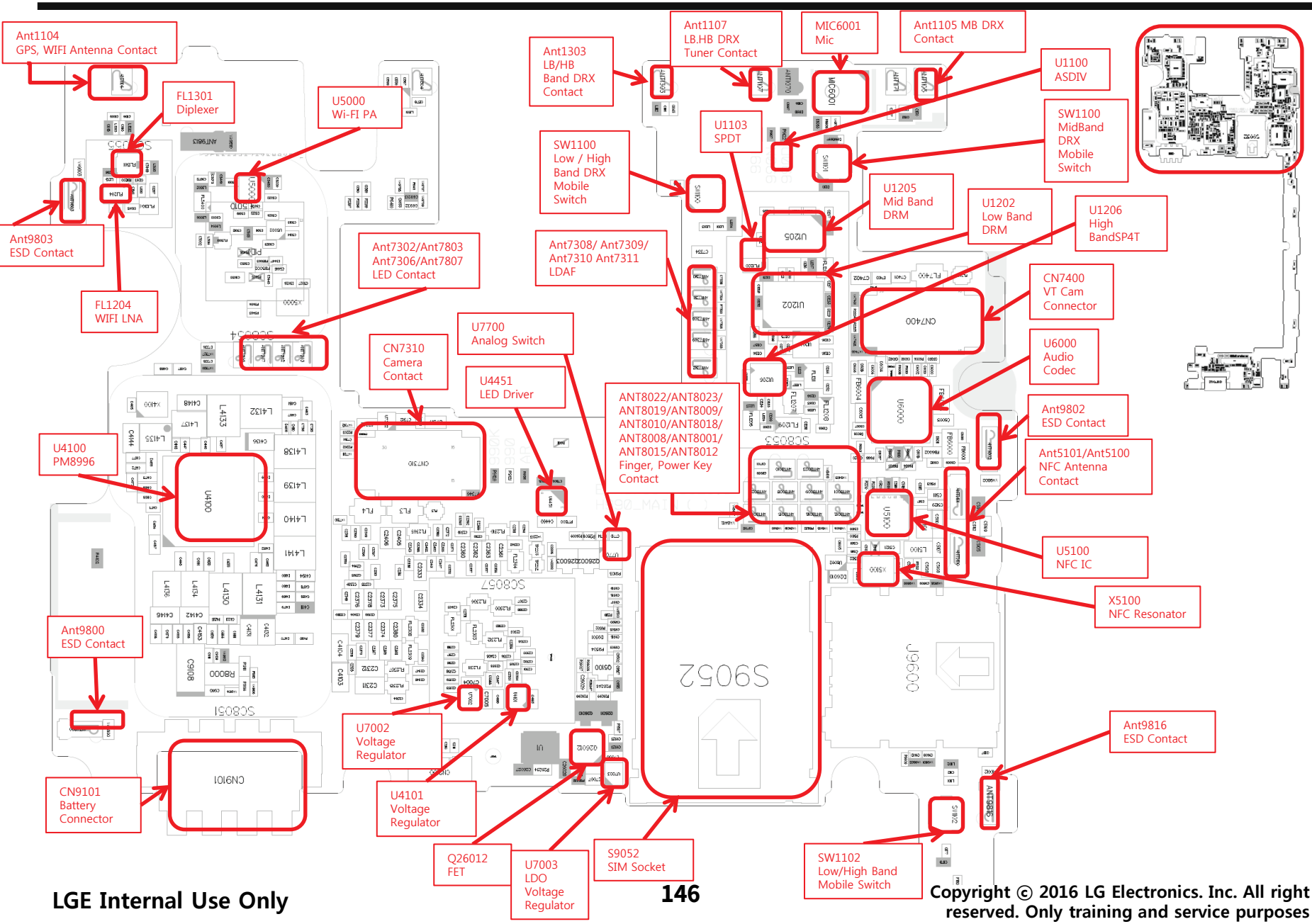
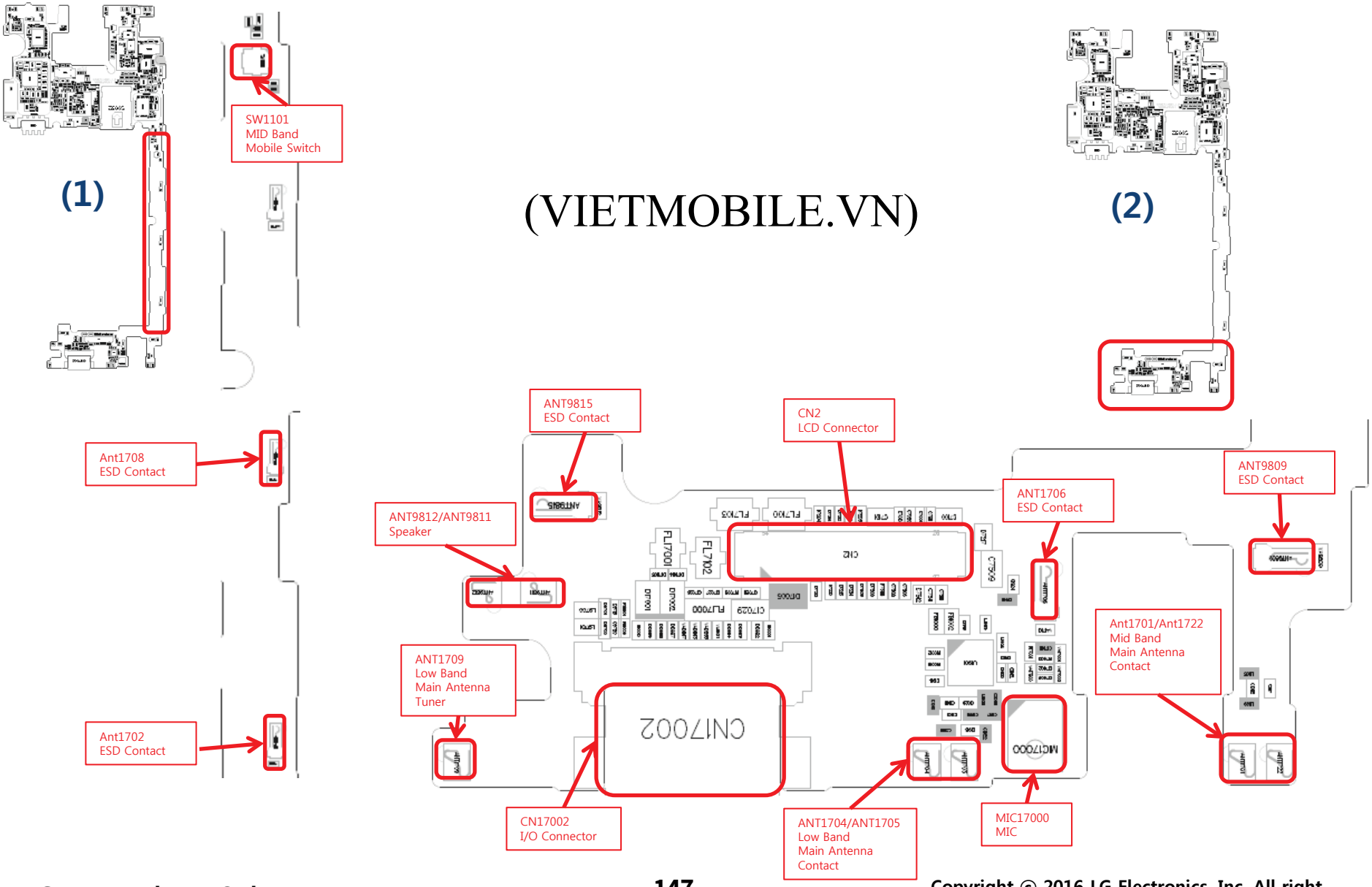
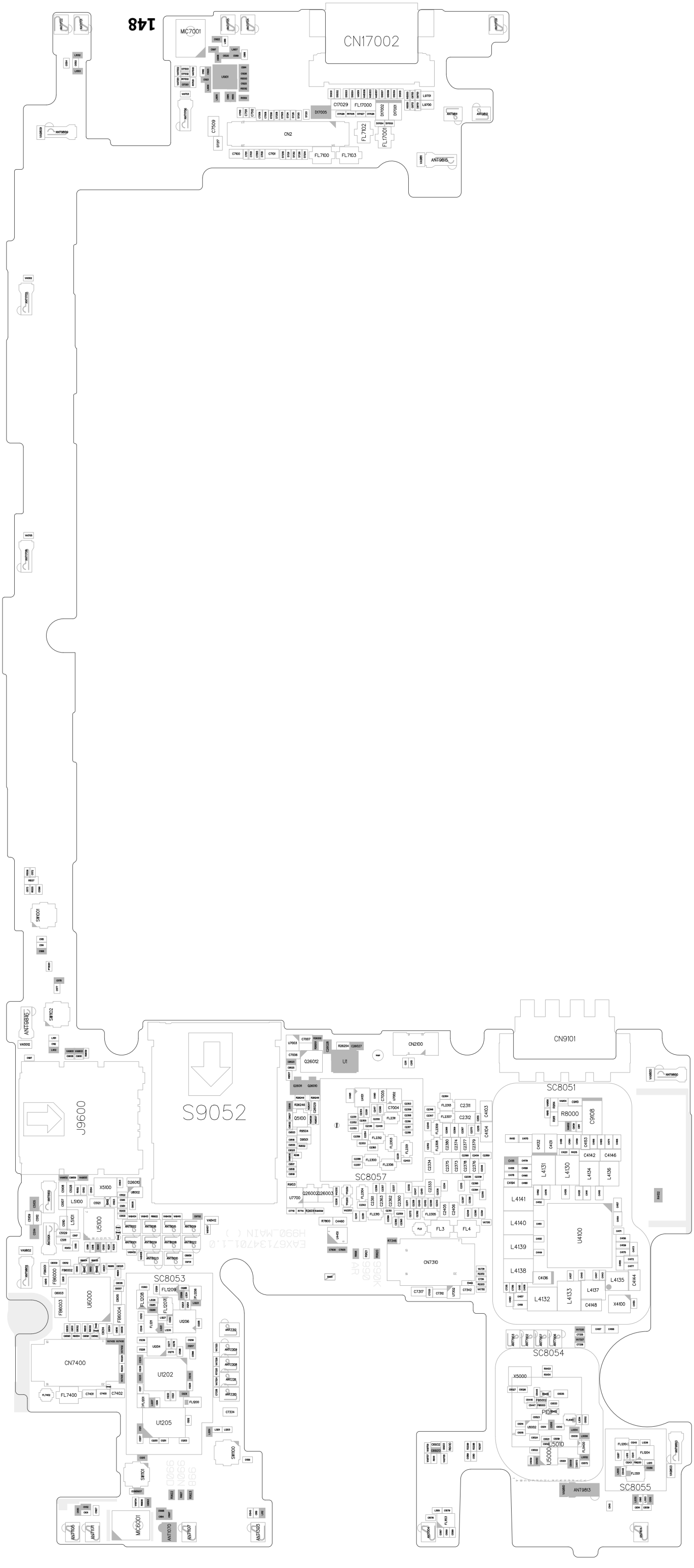
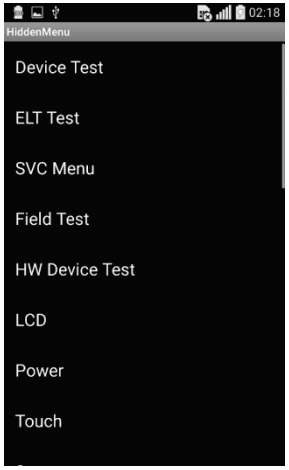
L7000
L17001
CN8003
CN8004
ANT8001
ANT8002





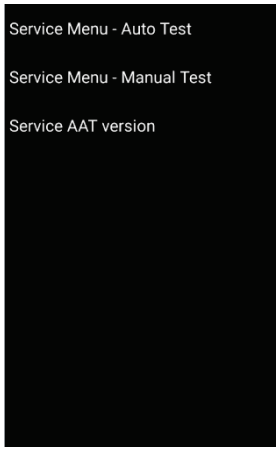

MIC7001
CN17002
C17029
FL17000
D17002
D17001
D17005
FL17001
FL7102
CN2
C7509
D7727
C7700
FL7100
FL7103
ANT9815
ANT9809
SW1001
SW1002
ANT9816
SW1101
MIC6001
J9600
S9052
CN9101
SC8051
SC8057
SC8053
SC8054
SC8055
U6000
U1202
U1205
U5000
U4100
CN7400
CN7310
CN2100
FL7400
X5100
L5100
U5100
D26010
U8002
Q26012
U1
Q5100
R9504
D9501
Q26002
Q26003
U7700
FL3
FL4
R8000
C9108
X4100
ANT9813

1. Hidden Menu Start



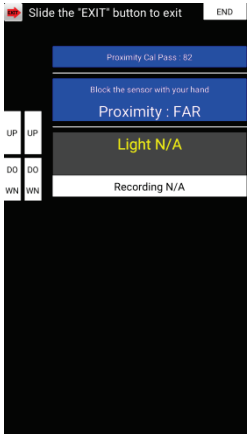
- Start shortcut key:
  *#546368#*990#
- Hidden Menu List
  : Start the desired menu, click

2. Device Test



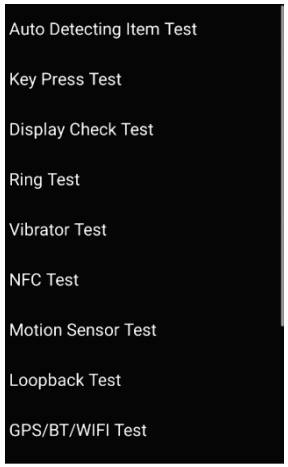
- Service Menu – Auto Test
- Service Menu – Manual Test
- Service AAT version
  → SAAT SWversion Display

2. Device Test

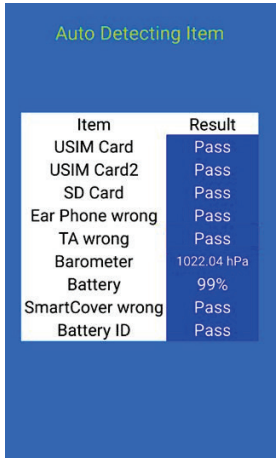
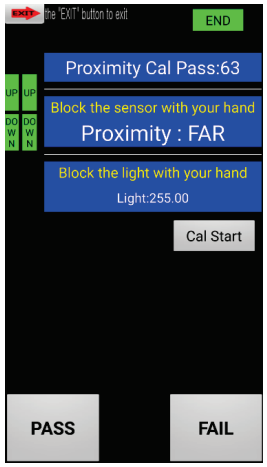
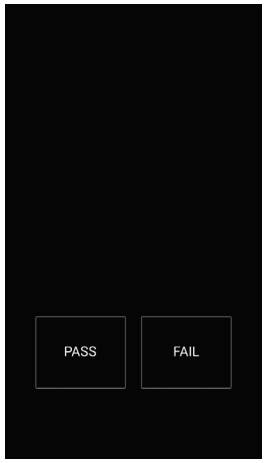
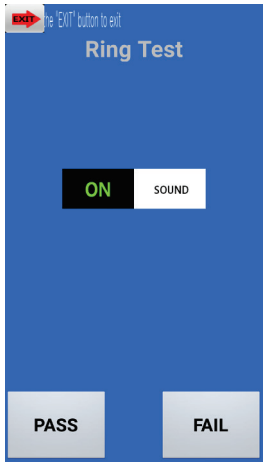
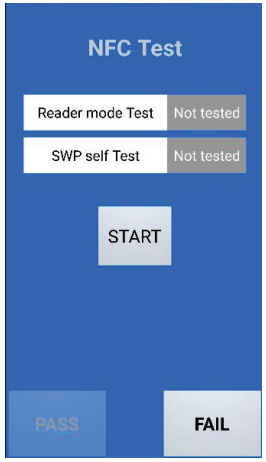
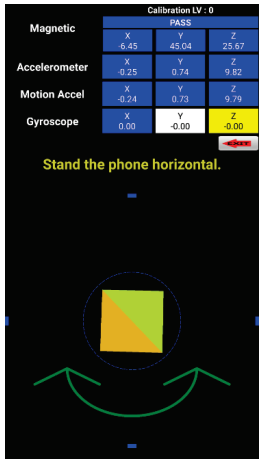
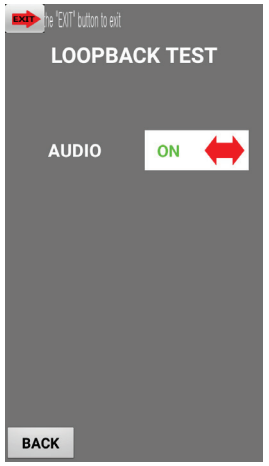


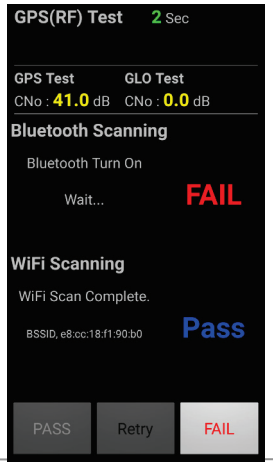
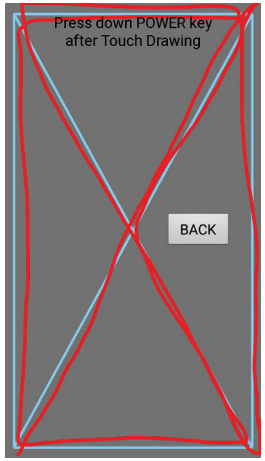
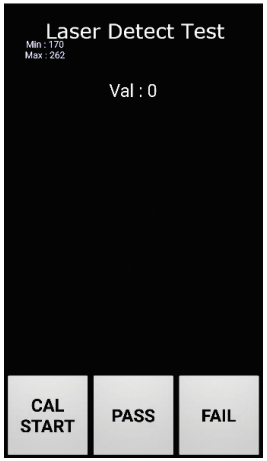
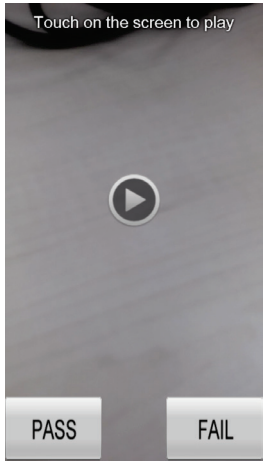
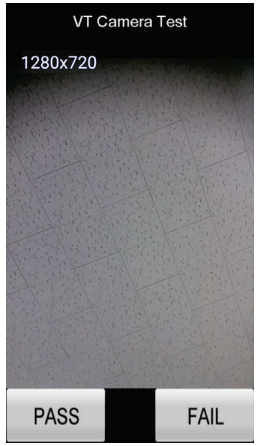
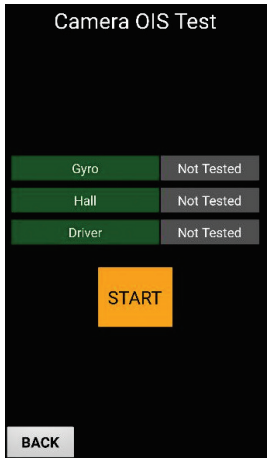
- Service Menu – Auto Test
  → All Test Items are continued one after another.
  → Continuous information on the menu, giving you ability test.

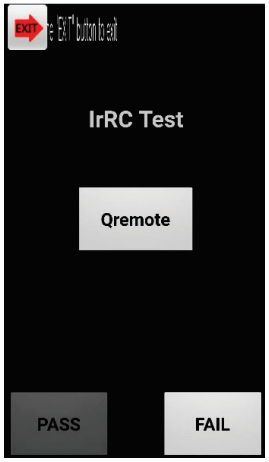
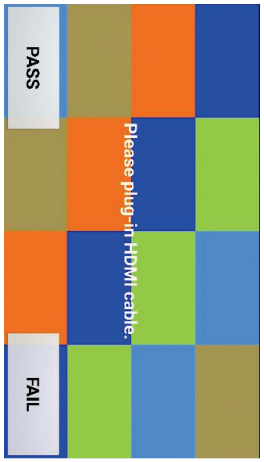
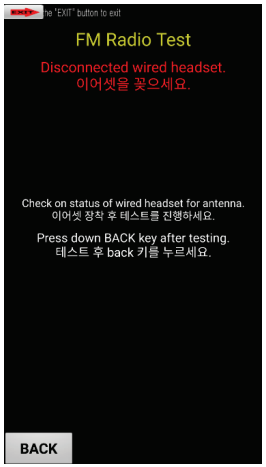
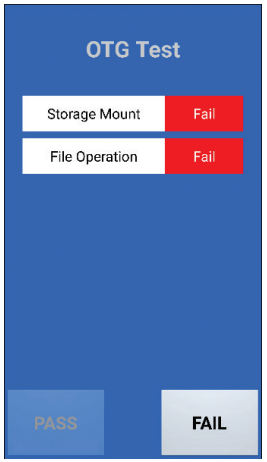
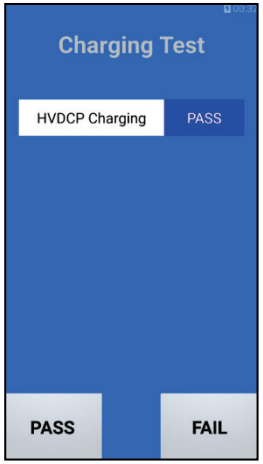
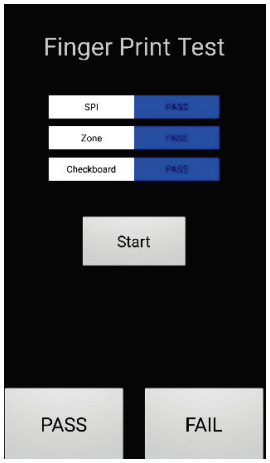
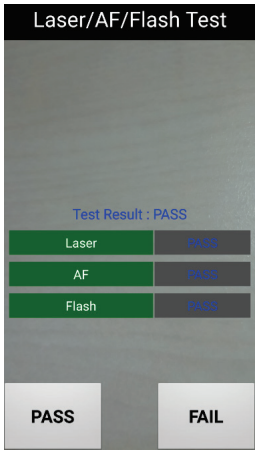
3. Device test List



- Service Menu – Manual Test
  → Each test item can be selected and performed by user.

1. Auto Detecting Item Test	2. Key Press Test	3. Display Check Test	4. Ring Test
			
5. Vibrator Test	**6. NFC**	**7. Motion Sensor Test**	**8. Loop Back Test**
			

9. GPS/BT/WIFI Test	10. Touch Draw -Manual	11. Camera(Main) Test	12. Camera(Main Wide) Test
			
13. Laser Detect Test	**14. Camcorder Test**	**15. Camera(VT) Test**	**16. Camera OIS Test**
			

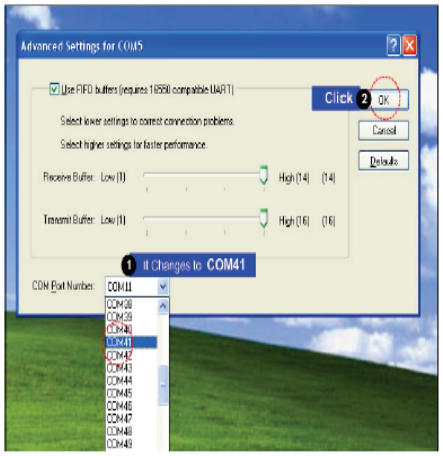
17.IrRC TEST	18. HDMI Test	19. FM Radio	20. OTG TEST
			
21. Charging Test	**22. FingerPrint Test**	**23. Camera(Laser/AF/Flash)**	
			

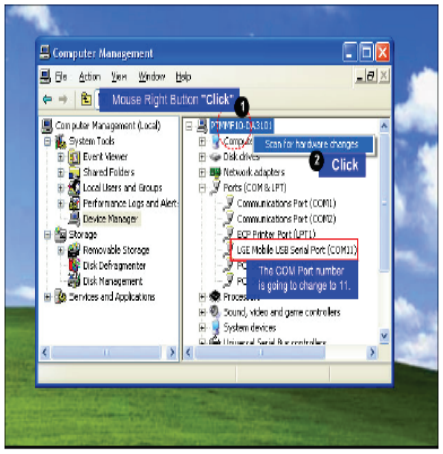
1. Summary

Tool Version	DLL name	USB Driver
LGFLASH v216	LGH990DS_20160905_LGFLASHv216_Download	LGUnitedMobileDriver_S52MAN314AP22_ML_WHQL_Ver_3.14.1
Please Check the Version to "LGST ServiceCenter Tool"		

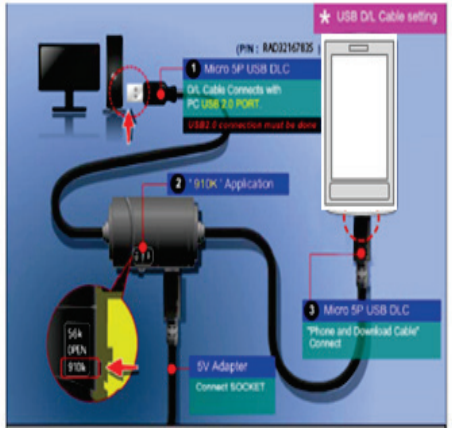
H/W			
	Name	Part No.	SW
D/L Cable	USB C Type D/L Cable(910K/56K)	RAD32947882	KDZ

2. . USB COM port Setting

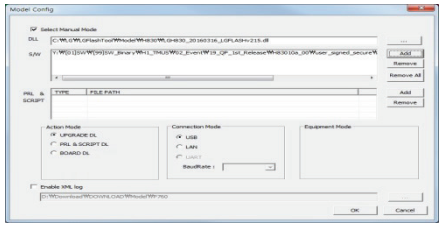


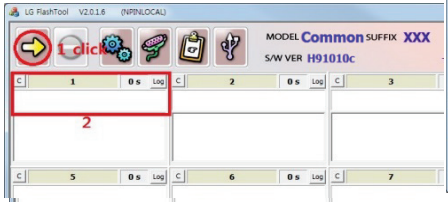


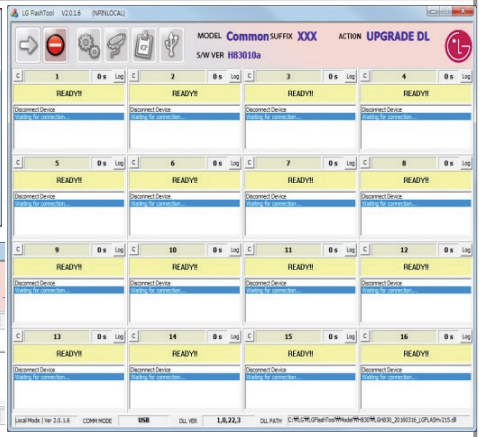
3. USB D/L Cable setting



4. Flash tool D/L setting





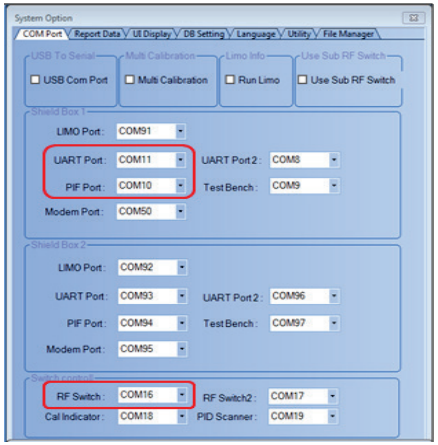


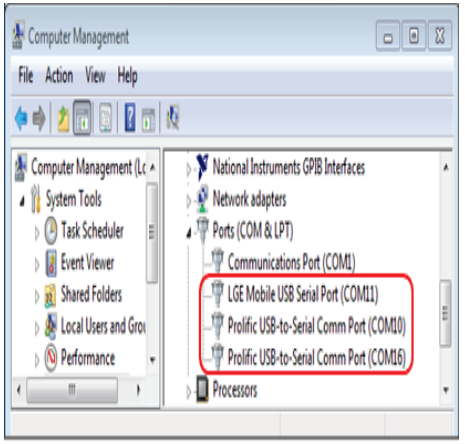
※ If you want more information, please refer LGST ServiceCenter Tool's Notification"Download User Guide".

1. Summary

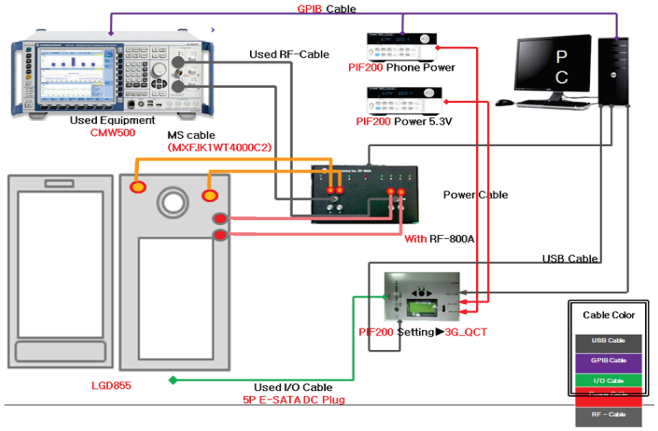
CAL INFORMATION		
S/W VERSION		
[TachyonV2013] LGH990DS 20160929 ALL File Calibration		
Please Check the Version to "B2B"		
H/W		
	Name	Part No.
PIF	PIF200	BJAY0024021
USB Cable	USB Cable	RAD32947882
Power Cable	DC Power Cable	RAD32247878
I/O Cable	USB type C + Esata	RAD32947853
RF Cable_Main	MXFJM3WX6000	RAD32827895
Power Supply_PIF	DC 5.2V	
Power Supply_Phone	Power supply control	
PF Test Equipment		
Notice	1. Use the Battery (Refer to Attached ppt) 1) Phone states: Power off 2) If do not use the battery, TX fails. 2. Port Setting (Refer to Attached ppt) 1) Uart Port1 : Use the "LGE Mobile USB Serial Port"	
CMW 500 RF Cable connection		

2. . USB COM port Setting

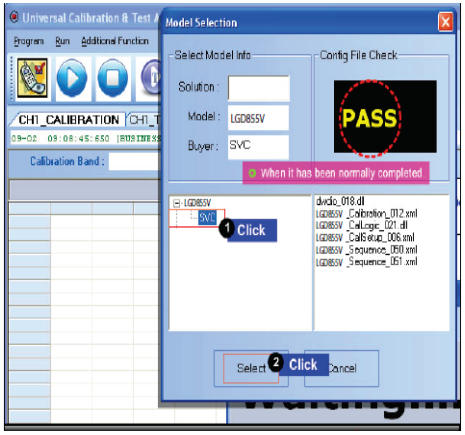


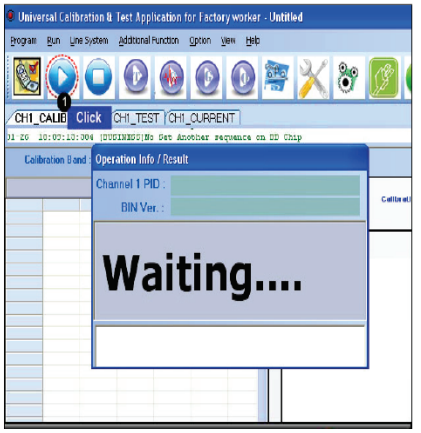


3. Calibration Cable setting



4. Tachyon setting



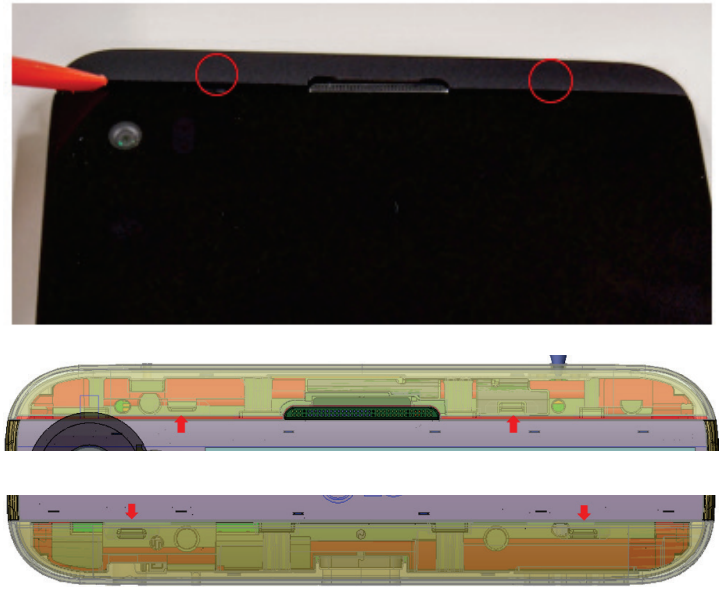
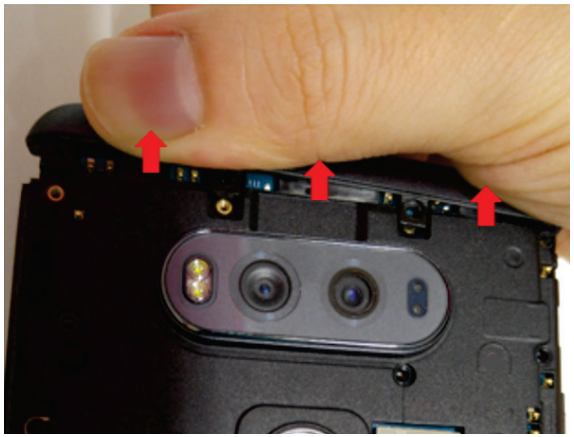


※ If you want more information, please refer LGST ServiceCenter Tool's Notification "RF Calibration User Guide".

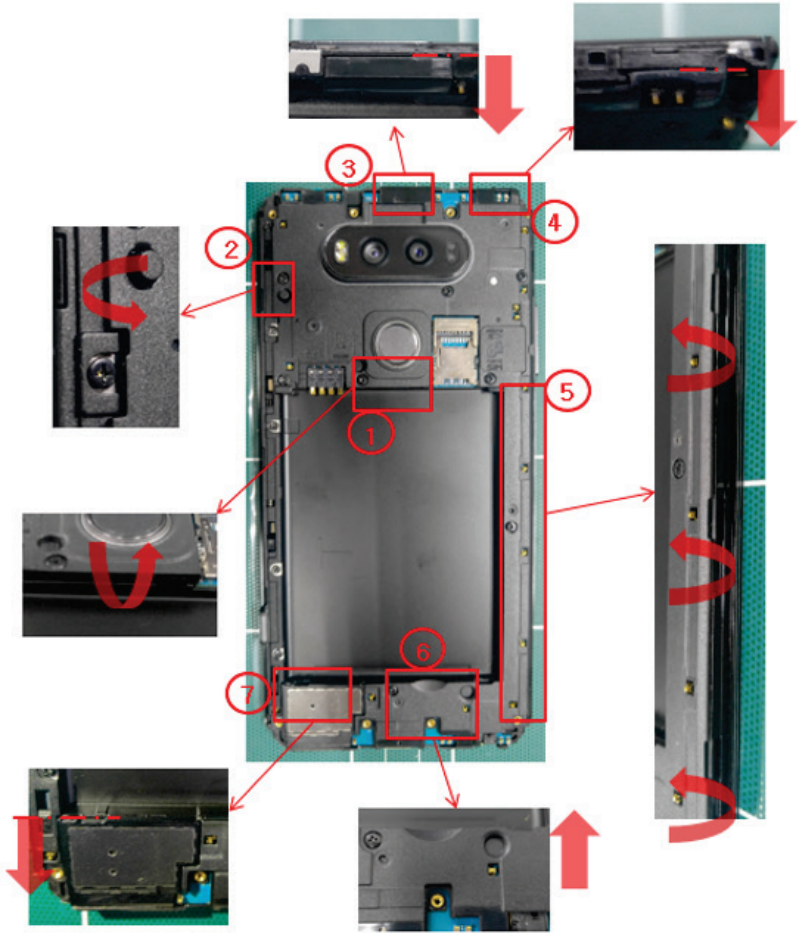
Battery & Battery cover& Rear cover

1	2	3
		 
Push the side button for release the battery cover hook.	**Lift up the battery cover and remove it.**	**Lift up the battery cell using the notch as below and remove it.**

Battery & Battery cover& Rear cover

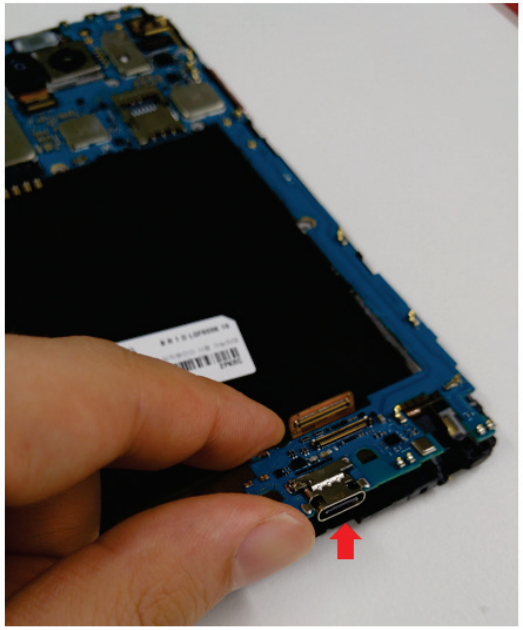
1	2	3
		
Loosen screws (16 points)	Release the hook which are located in front side of the phone set using a tool. (Top : 2 points / Bottom : 2 points)	Pull the antenna top (& bottom) side of the phone set and remove it. Be careful that damage of the c-clips.

Battery & Battery cover& Rear cover

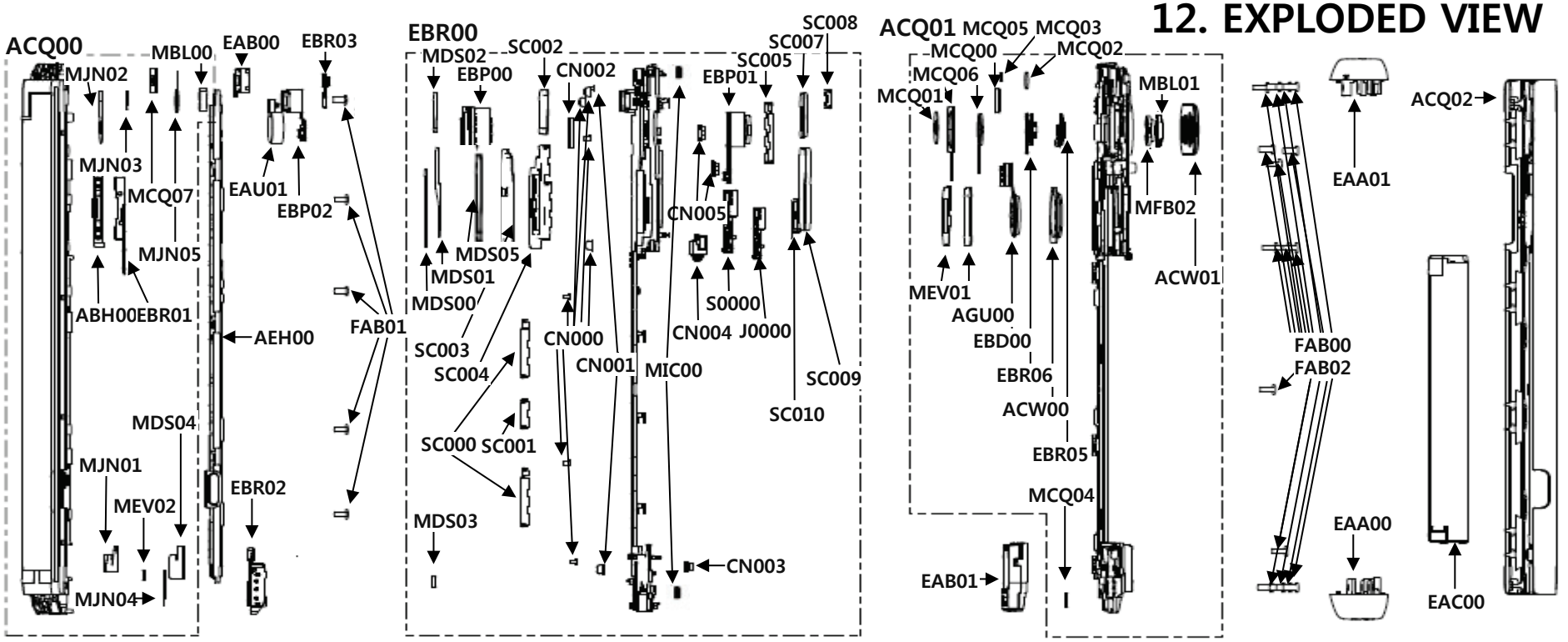


1. Disassemble center hook of cover rear.
2. Disassemble left hook of cover rear.
3. Disassemble center hook of cover rear top.
4. Disassemble right hook of cover rear top.
   ->Be careful that damage of the c-clips.
5. Disassemble right hooks of cover rear by push outside and lift up
   ->Be careful that damage of the c-clips.
6. Disassemble battery remove groove around hook of cover rear by push it upside.
   ->Be careful that damage of the c-clips.
   -> If cover rear lift up severely,
   It can cause damage to the speaker.
7. Disassemble the speaker by insert spatula in parting line.

PCB assembly, Main.

1	2
 	
Disassemble the connectors using the tools.	**Lift up the pcb and remove it.**

12. EXPLODED VIEW



Location no	Description	Location no	Description	Location no	Description	Location no	Description	Location no	Description	Location no	Description
ACQ00	Cover Assembly	**EBP02**	Camera Module	**EBR00**	PCB Assembly,Main	**SC007**	Can,Shield	**ACQ01**	Cover Assembly,Rear(SVC)	**MCQ01**	Damper,Motor
MJN01	Tape	**EAU01**	Motor,DC	**CN000**	Connector,Terminal	**SC008**	Can,Shield	**ACW00**	Decor Assembly	**ACW01**	Decor Assembly,SVC
MJN02	Tape	**EBR02**	PCB Assembly,Flexible	**CN001**	Connector,Terminal	**SC009**	Can,Shield	**EBD00**	Sensor,Fingerprint	**EAB01**	Speaker Module
MEV02	Insulator	**EBR03**	PCB Assembly,Flexible	**CN002**	Connector,BtoB	**SC010**	Can,Shield	**AGU00**	Plate Assembly	**MBL01**	Cap
MJN03	Tape	**FAB01**	Screw,Machine	**SC000**	Can,Shield	**EBP01**	Camera Module	**EBR05**	PCB Assembly,Flexible	**FAB00**	Screw,Machine
MCQ07	Damper			**SC001**	Can,Shield	**EBP00**	Camera Module	**EBR06**	PCB Assembly,Flexible	**FAB02**	Screw,Tapping
MJN04	Tape			**SC002**	Can,Shield	**MDS01**	Gasket	**MCQ05**	Damper	**EAA00**	PIFA Antenna,Multiple
MJN05	Tape,Camera			**SC003**	Can,Shield	**MDS02**	Gasket	**MCQ02**	Damper	**EAA01**	PIFA Antenna,RF
MDS04	Gasket			**SC004**	Can,Shield	**MDS03**	Gasket	**MEV01**	Insulator	**ACQ02**	Cover Assembly,Battery
MBL00	Cap			**SC005**	Can,Shield	**MDS00**	Gasket	**MCQ03**	Damper	**EAC00**	Rechargeable Battery,Lithium Ion
ABH00	Button Assembly			**CN003**	Connector,BtoB	**J0000**	Socket,DIMM/SIMM	**MFB02**	Lens,Flash		
EBR01	PCB Assembly,Flexible			**CN004**	Connector,Terminal Block	**MIC00**	Microphone,Condenser	**MCQ00**	Damper,Camera		
AEH00	Hinge Assembly			**S0000**	Socket,DIMM/SIMM	**MDS05**	Gasket	**MCQ06**	Damper,Camera		
EAB00	Receiver			**CN005**	Connector,BtoB			**MCQ04**	Damper		

No	Part no	Location no	Description	Quantity
1	AGQ89249101	AGQ000000	Phone Assembly	1
2	ACQ89277001	ACQ100400	Cover Assembly,EMS	1
3	ACQ89302251	ACQ003400	Cover Assembly,Bar	1
4	EAB64349801	EAB00	Receiver	1
5	AEH75296901	AEH00	Hinge Assembly	1
6	ABA75977601	ABA000000	Bracket Assembly	1
7	MAZ65407801	MAZ000000	Bracket	1
8	MGJ65218101	MGJ000000	Plate	4
9	MBF63223801	MBF000000	Bush	1
10	MFG63978801	MFG000000	Locker	1
11	MBG66206201	MBG000000	Button	1
12	MHY64365801	MHY014600	Spring,Coil	1
13	EAU63163201	EAU01	Motor,DC	1
14	EBP62902901	EBP02	Camera Module	1
15	EBR83185801	EBR02	PCB Assembly,Flexible	1
16	EBR83135401	EBR070400	PCB Assembly,Flexible,SMT	1
17	EBR83185901	EBR070300	PCB Assembly,Flexible,SMT Top	1
18	EAX67149301	EAX010700	PCB,Flexible	1
19	EBR83164701	EBR070200	PCB Assembly,Flexible,SMT Bottom	1
20	EAG64910801	J10000	Jack,Phone	1
21	EAP63345901	L10000,L10001,L10002,L10005	Inductor,Wire Wound,Chip	4
22	ERHY0009501	R1000	Resistor,Chip	1
23	ERHZ0000401	L10004	Resistor,Chip	1
24	EBR83601801	EBR070100	PCB Assembly,Flexible,Insert	1
25	MJN70110101	MJN000000	Tape	1
26	MJN70110201	MJN000001	Tape	1
27	GMZZ0024202	FAB01	Screw,Machine	5
28	MJN70021101	MJN061100	Tape,Protect	1
29	MEV66014601	MEV000000	Insulator	1
30	MLAZ0038301	MEZ000000	Label	1
31	EBR83635701	EBR03	PCB Assembly,Flexible	1
32	EBR83648901	EBR070400	PCB Assembly,Flexible,SMT	1
33	EBR83649001	EBR070300	PCB Assembly,Flexible,SMT Top	1
34	EAX67153501	EAX010700	PCB,Flexible	1
35	EBR83615301	EBR070200	PCB Assembly,Flexible,SMT Bottom	1
36	EAB64349901	MIC333	Microphone,Condenser	1
37	EBR83596101	EBR070100	PCB Assembly,Flexible,Insert	1
38	MDJ65084501	MDJ000000	Filter	1
39	MJN70128901	MJN000000	Tape	1
40	RAC34497901	RAC000000	Grease	0.01
41	MJN70081001	MJN107400	Tape,USP Film	1

No	Part no	Location no	Description	Quantity
42	ACQ89288351	ACQ00	Cover Assembly	1
43	ACQ89268301	ACQ032700	Cover Assembly,Front	1
44	ACQ89234501	ACQ033200	Cover Assembly,Front(Sub)	1
45	MCK69311901	MCK032700	Cover,Front	1
46	MCK69312001	MCK032701	Cover,Front	1
47	MDQ64940601	MDQ000000	Frame	1
48	MICE0016902	MET099500	Insert,Nut	8
49	ACW75338701	ACW000000	Decor Assembly	1
50	MCR66611701	MCR000000	Decor	1
51	MJN70037001	MJN020800	Tape,Decor	1
52	AGU75708701	AGU000000	Plate Assembly	1
53	MGJ65365201	MGJ000000	Plate	1
54	MJN70127101	MJN000000	Tape	1
55	MHK65632901	MHK000000	Sheet	1
56	MJN70021001	MJN01	Tape	1
57	MJN70080201	MJN02	Tape	1
58	MEV65937601	MEV02	Insulator	1
59	MJN70037501	MJN03	Tape	1
60	MJN70058001	MJN061100	Tape,Protect	1
61	MCQ68874401	MCQ07	Damper	1
62	MCQ68985201	MCQ000001	Damper	1
63	MDS65753501	MDS000001	Gasket	1
64	MCQ68926001	MCQ000002	Damper	1
65	MDS65811301	MDS000000	Gasket	1
66	MJN70021301	MJN061101	Tape,Protect	1
67	MJN70058201	MJN04	Tape	1
68	EAT63359601	EAT130000	Module,Hybrid Touch LCD	1
69	MJN70080901	MJN05	Tape,Camera	1
70	MDS65720301	MDS04	Gasket	1
71	MBL67042501	MBL00	Cap	1
72	ABH75901201	ABH00	Button Assembly	1
73	MBL67043101	MBL000000	Cap	1
74	MBG66206001	MBG071300	Button,Side	1
75	EBR83135501	EBR01	PCB Assembly,Flexible	1
76	EBR83135601	EBR070400	PCB Assembly,Flexible,SMT	1
77	EBR83147801	EBR070300	PCB Assembly,Flexible,SMT Top	1
78	EAX67109801	EAX010700	PCB,Flexible	1
79	EBF61955001	SW100,SW101	Switch,Tact	2
80	EBR83147901	EBR070200	PCB Assembly,Flexible,SMT Bottom	1
81	EBR83621201	EBR070100	PCB Assembly,Flexible,Insert	1
82	MJN70128801	MJN000000	Tape	1
83	MJN70090601	MJN000001	Tape	1
84	MJN70058301	MJN061100	Tape,Protect	1

No	Part no	Location no	Description	Quanti ty
85	EBR83575101	EBR00	PCB Assembly,Main	1
86	EBR83575201	EBR071800	PCB Assembly,Main,SMT	1
87	EBR83535601	EBR071700	PCB Assembly,Main,SMT Top	1
88	EAE62282201	C1408,C17000,C26011,C26019,C6617	Capacitor,Ceramic,Chip	5
89	EAE62286801	C1151,C1159,C1402,C1403,C1404,C1405,C1406,C1415,C1416,C1417,C26005,C26009,C26013,C26014,C26023,C26024,C6208,C6616,C8101,C8102,C8501,C8502,C8700,C8701,C8901,C8906	Capacitor,Ceramic,Chip	26
90	EAE62502901	C1407,C1800,C4228,C4230,C4240,C6047,C7307,C7708,C8900	Capacitor,Ceramic,Chip	9
91	EAE62506501	C1322,C1605,C4204,C4208,C4247,C5029,C7343	Capacitor,Ceramic,Chip	7
92	EAE62522101	C4215,C4216,C4232,C4236,C4241,C4724,C7709	Capacitor,Ceramic,Chip	7
93	EAE62686001	C6049	Capacitor,Ceramic,Chip	1
94	EAE62726601	C6044,C6901,C6912,C6915,C7301,C7302,C7303,C7304	Capacitor,Ceramic,Chip	8
95	EAE62762301	C1400,C1412,C1414,C26008,C26012,C26016,C26018,C26022,C4224,C4243,C5036,C7308,C7341,C7803,C8400	Capacitor,Ceramic,Chip	15
96	EAE62884201	C1220,C1255	Capacitor(High Frequency),Ceramic,Chip	2
97	EAE62924201	C6905,C6906	Capacitor(High Frequency),Ceramic,Chip	2
98	EAE62927201	C2327,C2328,C4235	Capacitor,Ceramic,Chip	3
99	EAE62945801	C1313,C1318,L1311,L1312	Capacitor(High Frequency),Ceramic,Chip	4
100	EAE62946001	C1170,L1306,L1327	Capacitor(High Frequency),Ceramic,Chip	3
101	EAE62946101	C1195	Capacitor(High Frequency),Ceramic,Chip	1
102	EAE62946201	C1276,C1421,L1115	Capacitor(High Frequency),Ceramic,Chip	3
103	EAE62947001	C4200,C5005,C5006,C5018,C5043	Capacitor(High Frequency),Ceramic,Chip	5
104	EAE62962201	L1338	Capacitor(High Frequency),Ceramic,Chip	1
105	EAE63143201	C1607	Acoustic Noise MLCC	1
106	EAE63286601	C1303,C1351,C1353	Capacitor,Ceramic,Chip	3
107	EAE63621501	C6913,C6914	Capacitor,Ceramic,Chip	2
108	EAE63745701	C6917	Capacitor,Ceramic,Chip	1
109	EAE63703001	C4213	Capacitor,Ceramic,Chip	1
110	EAE63882401	C4214	Capacitor,Ceramic,Chip	1
111	EAE63903901	C4207,C4211,C4720,C4721	Capacitor,Ceramic,Chip	4
112	EAE64022001	C1802,C1803,C4209,C4210	Acoustic Noise MLCC	4
113	EAE64163201	C1191	Capacitor(High Frequency),Ceramic,Chip	1
114	EAE64241501	C1329	Acoustic Noise MLCC	1
115	EAE64284301	C5032	Acoustic Noise MLCC	1
116	EAE64342701	C4225	Capacitor,Ceramic,Chip	1
117	EAE64383601	C6048	Capacitor,Ceramic,Chip	1
118	EAE64423401	C6908,C6909,C6910,C6911	Capacitor,Ceramic,Chip	4
119	EAF62210001	VA7300,VA7301,VA7302,VA8400,VA8401,VA8405,VA8406	Varistor	7
120	EAG64451601	CN000	Connector,Terminal	7
121	EAG64973401	ANT6600,ANT6601,ANT6602,ANT6603,ANT6604,ANT6605,CN8002	C-Clip	7
122	EAG64672301	ANT6010,ANT6011,ANT7800,ANT7801,ANT7802,ANT8003,ANT8004,ANT8005	C-Clip	8
123	EAG64669801	CN001	Connector,Terminal	2
124	EAG64691401	ANT6013,ANT6014,ANT6015,ANT6016,ANT6017,CN8009	C-Clip	6
125	EAH61693001	VA9706	Diode,TVS	1

No	Part no	Location no	Description	Quantity
126	EAH62033201	VA9705	Diode,TVS	1
127	EAH61992801	D4200	Diode,Schottky	1
128	EAH63414601	D4201,D4720	Diode,Schottky	2
129	EAM62070901	FB5001,FB6901	Filter,Bead	2
130	EAM62071101	FB26001,FB26002	Filter,Bead	2
131	EAM62490301	FB5000	Filter,Bead	1
132	EAM62570201	FL6	Filter,EMI/Power	1
133	EAM62630901	FB6600,FB6601,FB6602,FB6604	Filter,Bead	4
134	EAM62730001	FL1102	Filter,Separator,Switch	1
135	EAM62870101	FB7777	Filter,Bead	1
136	EAM63031001	U1105	Filter,Separator,Switch	1
137	EAM63210201	FL1111	Filter,Saw,Dual	1
138	EAM63310001	FL1400	Filter,LCR	1
139	EAM63330901	FL1103	Filter,Ceramic	1
140	EAM63730401	FB4200	Filter,Bead	1
141	EAM63750101	FL1108	Filter,Saw,Dual	1
142	EAM63930301	FL1104	Filter,Duplexer	1
143	EAM63950801	FL1110	Filter,Duplexer	1
144	EAM63971401	FL1109	Filter,Duplexer	1
145	EAM64030601	FL1100	Filter,Separator	1
146	EAM64030801	FL1,FL2	Filter,EMI/Power	2
147	EAM64071601	FL1303	Filter,Ceramic	1
148	EAM64113801	FL1155	Filter,Separator,Switch	1
149	EAM64133301	FL1302	Filter,Ceramic	1
150	EAN62578201	U6603	IC,Analog Switch	1
151	EAN62695801	U8500	IC,Acceleration Sensor	1
152	EAN62969801	U8700	IC,Hall Effect Switch	1
153	EAN63149401	U1601	IC,DC,DC Converter	1
154	EAN63627401	U7701	IC,DC,DC Converter	1
155	EAN63667201	U8200	IC,Microprocessors	1
156	EAN63727901	U1400	IC,RF Transceiver,4G	1
157	EAN63807801	FL1300	IC,RF Amplifier	1
158	EAN63809501	U1301	IC,Power Amplifier	1
159	EAN63847301	U1103	IC,RF Amplifier	1
160	EAN63946501	U5001	IC,WiFi	1
161	EAN64008301	U2100	IC,Digital Baseband Processor,4G	1
162	EAN64026001	U4700	IC,Charger	1
163	EAN64048201	U7303	IC,LDO Voltage Regulator	1
164	EAN64049201	U6002	IC,Speaker Amplifier	1
165	EAN64089201	U8000	IC,Proximity	1
166	EAN64147101	U6903	IC,LDO Voltage Regulator	1

No	Part no	Location no	Description	Quantity
167	EAN64151301	FL1106	IC,RF Amplifier	1
168	EAN64168101	U8100	IC,Gyro Sensor	1
169	EAN64207601	U4200	IC,PMIC	1
170	EAN64245801	U6902	IC,LDO Voltage Regulator	1
171	EAN64246501	U1401	IC,RF Transceiver,4G	1
172	EAN64247401	U1800	IC,DC,DC Converter	1
173	EAN64263401	U1300	IC,Power Amplifier	1
174	EAN64279101	U6901	IC,Hi,Fi	1
175	EAN64283401	U6604	IC,Comparator	1
176	EAN64290001	U3201	IC,Mobile SDRAM	1
177	EAN64313001	U1104	IC,RF Amplifier	1
178	EAN64317801	U26001	IC,Signal Bridge	1
179	EAN64322701	U3400	IC,MCP,NAND	1
180	EAP61767701	C1321	Inductor,Multilayer,Chip	1
181	EAP61747501	C1113,C5016	Inductor,Multilayer,Chip	2
182	EAP61866701	L1119	Inductor,Multilayer,Chip	1
183	EAP62107901	C1165,C1333,L1136	Inductor,Multilayer,Chip	3
184	EAP61925901	L1131	Inductor,Multilayer,Chip	1
185	EAP62108001	L1108,L1143,L1145,L1200,L1225,L1304,L1337	Inductor,Multilayer,Chip	7
186	EAX67134701	EAX010000	PCB,Main	1
187	EAP62108101	C1336,C1348,L1341	Inductor,Multilayer,Chip	3
188	EDSY0018101	D26011	Diode,Switching	1
189	ECZH0001215	C6916	Capacitor,Ceramic,Chip	1
190	EAP62108201	C1347,L1205	Inductor,Multilayer,Chip	2
191	EAP62108301	L1139,L1301	Inductor,Multilayer,Chip	2
192	EAP62108401	L1116,L1330	Inductor,Multilayer,Chip	2
193	EAP62108501	C1134,L1118,L1208,L1230	Inductor,Multilayer,Chip	4
194	EAP62108601	L1322,L1324	Inductor,Multilayer,Chip	2
195	EAP62108701	C1059,L1124,L1211,L1909	Inductor,Multilayer,Chip	4
196	EAP62225901	C1909,L1302	Inductor,Multilayer,Chip	2
197	EAP62186301	L1308,L1313	Inductor,Multilayer,Chip	2
198	EAP62226101	L1151	Inductor,Multilayer,Chip	1
199	EAP62226001	C1342,C1345,L1305,L1310,L1314,L1339	Inductor,Multilayer,Chip	6
200	EAP62226201	L1126,L1129,L1137,L1307	Inductor,Multilayer,Chip	4
201	EAP62226501	C1133,C1325	Inductor,Multilayer,Chip	2
202	EAP62226301	C1339,L1122,L1132,L1146	Inductor,Multilayer,Chip	4
203	EAP62226401	C1305,C1335,L1109,L1150,L1303,L1332	Inductor,Multilayer,Chip	6
204	EAP62226601	L1110,L1111,L1123,L1130,L1138	Inductor,Multilayer,Chip	5
205	EAP62226901	L5007	Inductor,Multilayer,Chip	1
206	EAP62526201	C1067,L1402	Inductor,Multilayer,Chip	2
207	EAP62526401	C1124,L1320	Inductor,Multilayer,Chip	2

No	Part no	Location no	Description	Quantity
208	EAP62266401	L1220,L1222	Inductor,Multilayer,Chip	2
209	EAP62588001	L4204,L4206	Inductor,Wire Wound,Chip	2
210	EAP63067001	C1904	Inductor,Multilayer,Chip	1
211	EAP62886101	L1141,L1206,L5012	Inductor,Multilayer,Chip	3
212	EAP63106201	L4205	Inductor,Wire Wound,Chip	1
213	EAP63146301	L7700	Inductor,Wire Wound,Chip	1
214	EAP63146401	L1800,L4200	Inductor,Wire Wound,Chip	2
215	EAP63345901	L10000,L10001,L10002,L10005	Inductor,Wire Wound,Chip	5
216	EAP63506101	L1	Inductor,Wire Wound,Chip	1
217	EAP63506201	L5011	Inductor,Multilayer,Chip	1
218	EAP63626101	L1601	Inductor,Wire Wound,Chip	1
219	EAP63647201	L4201,L4700,L6001	Inductor,Wire Wound,Chip	3
220	EAP63726101	L4207,L4208	Inductor,Wire Wound,Chip	2
221	EAT63354401	U1102	Module, FEM(Front End Module)	1
222	EAT63374301	U1101	Module,Rx Module	1
223	EAV62193601	LD8900	LED,Chip	1
224	EAW61543401	X26000	Crystal	1
225	EAW63163601	X6901	Crystal	1
226	EBC61856201	R2101,R2102,R2103,R2104	Resistor,Chip	4
227	EBC62235801	R8916	Resistor,Chip	1
228	EBC62575901	R4204,R4205	Resistor,Chip	2
229	EBC63141101	R6630	Resistor,Chip	1
230	EBC63896501	R2110	Resistor,Chip	1
231	EBG62446301	PT1300	Thermistor,NTC	1
232	EBK61691601	Q3400	FET	1
233	ECA30280001	FL1000	Coupler,RF Directional	1
234	ECA30360201	FL1107	Coupler,RF Directional	1
235	ECCH0000143	C5045	Capacitor,Ceramic,Chip	1
236	ECCH0000145	C4244	Capacitor,Ceramic,Chip	1
237	ECCH0000161	C4723	Capacitor,Ceramic,Chip	1
238	ECCH0000182	C6046	Capacitor,Ceramic,Chip	1
239	ECCH0000198	C5034	Capacitor,Ceramic,Chip	1
240	ECCH0007803	C4725	Capacitor,Ceramic,Chip	1
241	ECCH0007804	C4234,C4237,C4242	Capacitor,Ceramic,Chip	3
242	ECCH0009101	C1125,C1312,C1902,C1903,C2104,C2106,C2107,C2112,C2113,C26007,C26015,C26017,C3401,C3404,C4203,C4223,C4233,C4245,C5042,C5044,C5046,C5048,C5437,C5439,C6045,C7305	Capacitor,Ceramic,Chip	26
243	ECCH0009103	C1107,C1129,C1143,C1153,C1185,C1300,C1304,C1418,C1901,C6619,C7800,C7801,C7802,C8990,C8991,C9703,C9714,L1117,L1140	Capacitor,Ceramic,Chip	19
244	ECCH0009104	C1307,C4100,C6608,C6609,C6610	Capacitor,Ceramic,Chip	5
245	ECCH0009208	C1120,C1194,C1311,C1326,C1341,C5017,L1316,L1333,L1336	Capacitor,Ceramic,Chip	9
246	ECCH0009106	C1126,C1355	Capacitor,Ceramic,Chip	2
247	ECCH0009201	C8907	Capacitor,Ceramic,Chip	1
248	ECCH0009216	C1309,C1317,C26004	Capacitor,Ceramic,Chip	3

No	Part no	Location no	Description	Quantity
249	ECCH0009502	C1260	Capacitor,Ceramic,Chip	1
250	ECCH0009230	C1182	Capacitor,Ceramic,Chip	1
251	ECCH0009504	C26020,C26021	Capacitor,Ceramic,Chip	2
252	ECCH0009506	C1127,C1135,C1154,C1162,C1171,C1315,C1331,L1134	Capacitor,Ceramic,Chip	8
253	ECCH0009520	L1100	Capacitor,Ceramic,Chip	1
254	ECCH0017301	C2329,C2330,C2344,C2345,C2409,C2410,C2411,C2412,C2413,C2414,C2415,C2416,C3406,C4202,C5040,C5047,C6052,C6902,C6918,C6919,C6920	Capacitor,Ceramic,Chip	21
255	ECCH0017601	C1606,C3400,C3405,C4722,C5031,C5037,C6903,C6904,C6907,C7306,C8401	Capacitor,Ceramic,Chip	11
256	ECCH0032801	C5039,C5041	Capacitor,Ceramic,Chip	2
257	ECCH0034801	C1401,C1411,C4222,C4227,C5038	Capacitor,Ceramic,Chip	5
258	ECZH0025916	C1334,C1337,C1338,C6029,C6055,C6056,L1300	Capacitor,Ceramic,Chip	7
259	ECZH0025911	C1118,C1128,C1140,C1144,C1155,C1163,C1166,C1183,L1128,L1902	Capacitor,Ceramic,Chip	10
260	ECZH0025920	C1101,C1176,C1301,C1323,C1327,C1352,C26001	Capacitor,Ceramic,Chip	7
261	EDTY0012102	D17000	Diode,TVS	1
262	ELCH0003832	L1342	Inductor,Multilayer,Chip	1
263	ELCH0003842	L8800,L8801	Inductor,Multilayer,Chip	2
264	ENBY0040701	CN002	Connector,BtoB	1
265	ERHY0009301	R2107,R2109,R2115,R2116	Resistor,Chip	4
266	ERHY0009302	R3401	Resistor,Chip	1
267	ERHY0009307	R6625	Resistor,Chip	1
268	ERHY0009311	R1001,R1003,R1101,R4109	Resistor,Chip	4
269	ERHY0009501	R1000	Resistor,Chip	7
270	ERHY0009503	R8400	Resistor,Chip	1
271	ERHY0009504	R6105	Resistor,Chip	1
272	ERHY0009505	R17004,R1800,R26232	Resistor,Chip	3
273	ERHY0009506	R1802,R1803,R1804,R26019,R26020,R26228,R26229,R26230,R26231,R26255,R4219,R4233,R4723,R6609,R6626,R6627,R6629	Resistor,Chip	17
274	ERHY0009507	R26226,R26227,R4230,R4722,R6913	Resistor,Chip	5
275	ERHY0009516	R2200,R2201,R2204,R2205,R2208,R2209,R2212,R2213,R2220,R2223	Resistor,Chip	10
276	ERHY0009526	R26006,R26007,R26010,R26024,R26025,R8401	Resistor,Chip	6
277	ERHY0009527	,R2230,R2232,R2234,R2237	Resistor,Chip	4
278	ERHY0024601	R8920,R8921	Resistor,Chip	2
279	ERHY0042402	R6624	Resistor,Chip	1
280	ERHY0042405	R2108	Resistor,Chip	1
281	ERHZ0000205	R26012	Resistor,Chip	1
282	ERHZ0000264	R2106	Resistor,Chip	1
283	ERHZ0000401	L10004	Resistor,Chip	7
284	MBK64815401	SC000	Can,Shield	2
285	MBK64815501	SC001	Can,Shield	1
286	MBK64836201	SC002	Can,Shield	1
287	MBK64836501	SC003	Can,Shield	1
288	MBK64855801	SC004	Can,Shield	1
289	SAFP0000401	R6615,R6632,R6903	Wire_Pad,Short	3

No	Part no	Location no	Description	Quanti ty
290	EBR83575301	EBR071600	PCB Assembly,Main,SMT Bottom	1
291	EAB64349901	MIC333	Microphone,Condenser	2
292	EAE62282201	C1408,C17000,C26011,C26019,C6617	Capacitor,Ceramic,Chip	6
293	EAE62286801	C1151,C1159,C1402,C1403,C1404,C1405,C1406,C1415,C1416,C1417,C26005,C26009,C26013,C26014,C26023,C26024,C6208,C6616,C8101,C8102,C8501,C8502,C8700,C8701,C8901,C8906	Capacitor,Ceramic,Chip	12
294	EAE62502901	C1407,C1800,C4228,C4230,C4240,C6047,C7307,C7708,C8900	Capacitor,Ceramic,Chip	2
295	EAE62505701	C17029,C7509	Capacitor,Ceramic,Chip	2
296	EAE62506501	C1322,C1605,C4204,C4208,C4247,C5029,C7343	Capacitor,Ceramic,Chip	2
297	EAE62685301	C26029	Capacitor,Ceramic,Chip	1
298	EAE62726601	C6044,C6901,C6912,C6915,C7301,C7302,C7303,C7304	Capacitor,Ceramic,Chip	1
299	EAE62762301	C1400,C1412,C1414,C26008,C26012,C26016,C26018,C26022,C4224,C4243,C5036,C7308,C7341,C7803,C8400	Capacitor,Ceramic,Chip	10
300	EAE62946401	L1916	Capacitor(High Frequency),Ceramic,Chip	1
301	EAE62927201	C2327,C2328,C4235	Capacitor,Ceramic,Chip	5
302	EAE62946601	C5011,C5014,C5015	Capacitor(High Frequency),Ceramic,Chip	3
303	EAE62946801	C5001	Capacitor(High Frequency),Ceramic,Chip	1
304	EAE62947001	C4200,C5005,C5006,C5018,C5043	Capacitor(High Frequency),Ceramic,Chip	2
305	EAE62962301	C4130,C4135,C4141,C4145	Capacitor,Ceramic,Chip	4
306	EAE63143201	C1607	Acoustic Noise MLCC	1
307	EAE63266101	C9108	Capacitor,TA,Polymer	1
308	EAE63286601	C1303,C1351,C1353	Capacitor,Ceramic,Chip	8
309	EAE63421801	C4103,C4104,C4146	Capacitor,Ceramic,Chip	3
310	EAE63462901	FL2300,FL2301,FL2303,FL2304,FL2305,FL2306,FL2307,FL2308,FL2309,FL2310,FL2311,FL2312,FL2313	Capacitor,Low ESL	13
311	EAE63621501	C6913,C6914	Capacitor,Ceramic,Chip	16
312	EAE64061601	C7316	Capacitor,Ceramic,Chip	1
313	EAE64302401	C4131,C4132,C4136	Capacitor,TA,Polymer	3
314	EAF61450601	VA9104,VA9106	Varistor	2
315	EAF62210001	VA7300,VA7301,VA7302,VA8400,VA8401,VA8405,VA8406	Varistor	15
316	EAF63090601	VA1002,VA1703,VA1705	Varistor	3
317	EAF62990501	VA9802,VA9803	Varistor	2
318	EAG63772101	SW1001,SW1100,SW1101,SW1102	Connector,RF	4
319	EAG64650901	J0000	Socket,DIMM/SIMM	1
320	EAF63050001	VA10012,VA8412,VA9800,VA9809,VA9811	Varistor	5
321	EAG64973401	ANT6600,ANT6601,ANT6602,ANT6603,ANT6604,ANT6605,CN8002	C-Clip	14
322	EAG64672301	ANT6010,ANT6011,ANT7800,ANT7801,ANT7802,ANT8003,ANT8004,ANT8005	C-Clip	2
323	EAG64691401	ANT6013,ANT6014,ANT6015,ANT6016,ANT6017,CN8009	C-Clip	5
324	EAG64710701	CN003	Connector,BtoB	1
325	EAG64829801	CN004	Connector,Terminal Block	1
326	EAG64850201	S0000	Socket,DIMM/SIMM	1
327	EAG64956101	CN17002	Connector,I/O	1
328	EAG64956201	ANT1104,ANT1105,ANT1171,ANT1303,ANT1304,ANT1701,ANT1704,ANT1705,ANT1709,ANT1722	C-Clip	10
329	EAG64935301	ANT5100,ANT5101,ANT9800,ANT9803,ANT9809,ANT9815	C-Clip	6
330	EAH61693001	VA9706	Diode,TVS	1

No	Part no	Location no	Description	Quantity
331	EAH61995401	D10001,D10002,D10003,D10004,D10007,D10008,D10009,D10010,D17003,D17004,VA10003,VA10007,VA10008,VA10011	Diode,TVS	14
332	EAH63092501	D17001,D17002	Diode,TVS	2
333	EAG64956901	ANT1708,ANT9802,ANT9816	C-Clip	3
334	EAH63373101	D9501	Diode,TVS	1
335	EAH63393301	D7204,D7205,D7208,D7211,D7212,D7213,D7214,D7215,D7505	Diode,TVS	9
336	EAM62230101	FB1200	Filter,Bead	1
337	EAM62451101	FL17001,FL7102	Filter,LCR	2
338	EAM62570201	FL6	Filter,EMI/Power	2
339	EAM62633401	FB6001,FB6002	Filter,Bead	2
340	EAM62790301	FL17000	Filter,EMI/Power	1
341	EAM62870101	FB7777	Filter,Bead	3
342	EAM63050301	FL5001	Filter,Separator	1
343	EAM63390201	U5002	Filter,Separator,Switch	1
344	EAM63410301	U1206	Filter,Separator,Switch	1
345	EAM63471401	FL1210	Filter,Saw	1
346	EAM63590101	FL1206	Filter,Saw	1
347	EAM63670001	FL5400	Filter,Saw	1
348	EAM63891001	FL1201	Filter,Saw	1
349	EAM63991901	FL1153	Filter,Separator,Switch	1
350	EAM64030601	FL1100	Filter,Separator	1
351	EAM64030801	FL1,FL2	Filter,EMI/Power	5
352	EAM64031401	FB5002,FB5003	Filter,Bead	2
353	EAM64070001	FL1207	Filter,Saw	1
354	EAM64071601	FL1303	Filter,Ceramic	1
355	EAM64133301	FL1302	Filter,Ceramic	1
356	EAM64153301	FL1301	Filter,Separator	1
357	EAM64170401	U1204	Filter,Separator,Switch	1
358	EAN61828001	U7700	IC,Analog Switch	1
359	EAN63366201	FL1204	IC,RF Amplifier	1
360	EAN63530401	U7003	IC,LDO Voltage Regulator	1
361	EAN63807801	FL1300	IC,RF Amplifier	1
362	EAN64026401	U5100	IC,NFC	1
363	EAN64026601	U7302	IC,LDO Voltage Regulator	1
364	EAN64028201	U6000	IC,Audio Codec	1
365	EAN64028601	U4100	IC,PMIC	1
366	EAN64086601	U7002	IC,LDO Voltage Regulator	1
367	EAN64168201	U4101	IC,Voltage Regulator	1
368	EAN64187401	U8002	IC,Geomagnetic Sensor	1
369	EAN64279701	U4451	IC,LED Driver	1
370	EAP61767701	C1321	Inductor,Multilayer,Chip	1
371	EAP61866701	L1119	Inductor,Multilayer,Chip	4

No	Part no	Location no	Description	Quantity
372	EAP61925901	L1131	Inductor,Multilayer,Chip	1
373	EAP62108101	C1336,C1348,L1341	Inductor,Multilayer,Chip	2
374	EAP62108201	C1347,L1205	Inductor,Multilayer,Chip	1
375	EAP62107901	C1165,C1333,L1136	Inductor,Multilayer,Chip	2
376	EAP62108701	C1059,L1124,L1211,L1909	Inductor,Multilayer,Chip	1
377	EAP62108001	L1108,L1143,L1145,L1200,L1225,L1304,L1337	Inductor,Multilayer,Chip	2
378	EAP62108801	C1559	Inductor,Multilayer,Chip	1
379	EAP62109001	C1114	Inductor,Multilayer,Chip	1
380	EAP62108301	L1139,L1301	Inductor,Multilayer,Chip	3
381	EAP62225901	C1909,L1302	Inductor,Multilayer,Chip	3
382	EAP62186301	L1308,L1313	Inductor,Multilayer,Chip	2
383	EAP62226101	L1151	Inductor,Multilayer,Chip	1
384	EAE63024101	C5000	Capacitor(High Frequency),Ceramic,Chip	1
385	EAP62226301	C1339,L1122,L1132,L1146	Inductor,Multilayer,Chip	2
386	EAP62266401	L1220,L1222	Inductor,Multilayer,Chip	2
387	EAP62526501	L4134,L4137	Inductor,Wire Wound,Chip	2
388	EAP62226401	C1305,C1335,L1109,L1150,L1303,L1332	Inductor,Multilayer,Chip	1
389	EAP62526601	L4136	Inductor,Wire Wound,Chip	1
390	EAP62226501	C1133,C1325	Inductor,Multilayer,Chip	1
391	EAP62526401	C1124,L1320	Inductor,Multilayer,Chip	2
392	EAP63067001	C1904	Inductor,Multilayer,Chip	3
393	EAP63345901	L10000,L10001,L10002,L10005	Inductor,Wire Wound,Chip	2
394	EAP63485901	C5448	Inductor,Multilayer,Chip	1
395	EAP63486401	L5100,L5101	Inductor,Multilayer,Chip	2
396	EAP63586501	L4135	Inductor,Wire Wound,Chip	1
397	EAP63726101	L4207,L4208	Inductor,Wire Wound,Chip	8
398	EAT63375001	U5000	Module, FEM(Front End Module)	1
399	EAT63376601	U1205	Module,Diversity LNA FEM	1
400	EAT63416001	U1202	Module,Diversity LNA FEM	1
401	EAW61645401	X5000	Crystal	1
402	EAW62523601	X5100	Resonator,Ceramic	1
403	EAW62883701	X4100	Crystal	1
404	EBC61856101	R9507	Resistor,Chip	1
405	EBC62581901	R2118	Resistor,Chip	1
406	EBC62596701	R10000,R10001	Resistor,Chip	2
407	EBG62446301	PT1300	Thermistor,NTC	1
408	EBK61691601	Q3400	FET	3
409	EBK63491901	Q26012	FET	1
410	EAE63321901	C5112	Capacitor,Ceramic,Chip	1
411	ECCH0000198	C5034	Capacitor,Ceramic,Chip	6
412	ECCH0000187	C5109	Capacitor,Ceramic,Chip	1

No	Part no	Location no	Description	Quantity
413	ECCH0001002	C5108,C5111	Capacitor,Ceramic,Chip	2
414	ECCH0004904	C4106,C4107,C4109,C4155,C4156,C4157,C4158,C4159,C4160,C4163,C4164,C4165,C4166,C4167,C4168,C4169,C4170,C4172,C4173,C4174,C4175,C4177,C4178,C4179,C4180,C4181,C4190,C4193,C7004,C7005	Capacitor,Ceramic,Chip	30
415	ECCH0007804	C4234,C4237,C4242	Capacitor,Ceramic,Chip	1
416	ECCH0009101	C1125,C1312,C1902,C1903,C2104,C2106,C2107,C2112,C2113,C26007,C26015,C26017,C3401,C3404,C4203,C4223,C4233,C4245,C5042,C5044,C5046,C5048,C5437,C5439,C6045,C7305	Capacitor,Ceramic,Chip	14
417	ECCH0009103	C1107,C1129,C1143,C1153,C1185,C1300,C1304,C1418,C1901,C6619,C7800,C7801,C7802,C8990,C8991,C9703,C9714,L1117,L1140	Capacitor,Ceramic,Chip	24
418	ECCH0009104	C1307,C4100,C6608,C6609,C6610	Capacitor,Ceramic,Chip	4
419	ECCH0009106	C1126,C1355	Capacitor,Ceramic,Chip	2
420	ECCH0009107	C1200,C1201,C1221,C1222,C1253,C1254	Capacitor,Ceramic,Chip	6
421	ECCH0009109	C17028	Capacitor,Ceramic,Chip	1
422	ECCH0009209	C9516,C9517,C9518,C9519,C9520,VA9500	Capacitor,Ceramic,Chip	6
423	ECCH0009216	C1309,C1317,C26004	Capacitor,Ceramic,Chip	4
424	ECCH0009208	C1120,C1194,C1311,C1326,C1341,C5017,L1316,L1333,L1336	Capacitor,Ceramic,Chip	1
425	ECCH0009226	C6060,C6061,C6062	Capacitor,Ceramic,Chip	3
426	ECCH0009514	C5022,C9525,C9527,C9608,C9610	Capacitor,Ceramic,Chip	5
427	ECCH0009520	L1100	Capacitor,Ceramic,Chip	3
428	ECCH0017301	C2329,C2330,C2344,C2345,C2409,C2410,C2411,C2412,C2413,C2414,C2415,C2416,C3406,C4202,C5040,C5047,C6052,C6902,C6918,C6919,C6920	Capacitor,Ceramic,Chip	81
429	ECCH0017601	C1606,C3400,C3405,C4722,C5031,C5037,C6903,C6904,C6907,C7306,C8401	Capacitor,Ceramic,Chip	10
430	ECCH0032801	C5039,C5041	Capacitor,Ceramic,Chip	1
431	ECCH0034801	C1401,C1411,C4222,C4227,C5038	Capacitor,Ceramic,Chip	5
432	ECZH0000830	C9110	Capacitor,Ceramic,Chip	1
433	EAE64423401	C6908,C6909,C6910,C6911	Capacitor,Ceramic,Chip	2
434	ECZH0001215	C6916	Capacitor,Ceramic,Chip	2
435	ECZH0000813	C5128,C5129	Capacitor,Ceramic,Chip	2
436	ECZH0025911	C1118,C1128,C1140,C1144,C1155,C1163,C1166,C1183,L1128,L1902	Capacitor,Ceramic,Chip	11
437	ECZH0025916	C1334,C1337,C1338,C6029,C6055,C6056,L1300	Capacitor,Ceramic,Chip	5
438	ECZH0025920	C1101,C1176,C1301,C1323,C1327,C1352,C26001	Capacitor,Ceramic,Chip	4
439	EDTY0010501	C7100,C7101,D7217	Diode,TVS	3
440	ENBY0040701	CN005	Connector,BtoB	2
441	ERHY0003201	R26246	Resistor,Chip	1
442	ERHY0009302	R3401	Resistor,Chip	2
443	ERHY0009501	R1000	Resistor,Chip	6
444	ERHY0009504	R6105	Resistor,Chip	2
445	ERHY0009505	R17004,R1800,R26232	Resistor,Chip	4
446	ERHY0009506	R1802,R1803,R1804,R26019,R26020,R26228,R26229,R26230,R26231,R26255,R4219,R4233,R4723,R6609,R6626,R6627,R6629	Resistor,Chip	1
447	ERHY0009507	R26226,R26227,R4230,R4722,R6913	Resistor,Chip	4
448	ERHY0009516	R2200,R2201,R2204,R2205,R2208,R2209,R2212,R2213,R2220,R2223	Resistor,Chip	6
449	ERHY0009526	R26006,R26007,R26010,R26024,R26025,R8401	Resistor,Chip	2
450	ERHY0009527	R2230,R2233,R2234,R2237	Resistor,Chip	2
451	ERHY0009531	R17001,R6001,R6004,R6008,R6411,R6906	Resistor,Chip	6
452	ERHY0009547	R9103	Resistor,Chip	1

No	Part no	Location no	Description	Quantity
453	ERHY0009550	R26011	Resistor,Chip	1
454	ERHY0009558	R9115	Resistor,Chip	1
455	ERHY0009559	R26009	Resistor,Chip	1
456	ERHY0009586	R6601,R6616	Resistor,Chip	2
457	ERHY0024601	R8920,R8921	Resistor,Chip	1
458	ERHY0035601	R8000	Resistor,Chip	1
459	ERHZ0000204	R4110	Resistor,Chip	1
460	ERHZ0000210	R9114	Resistor,Chip	1
461	ERHZ0000286	R9111	Resistor,Chip	1
462	ERHZ0000401	L10004	Resistor,Chip	1
463	ERHZ0000405	R9504	Resistor,Chip	1
464	ERHZ0000406	R7800	Resistor,Chip	1
465	MBK64815701	SC007	Can,Shield	1
466	MBK64815801	SC008	Can,Shield	1
467	MBK64816301	SC009	Can,Shield	1
468	MBK64836301	SC010	Can,Shield	1
469	MBK64892601	SC005	Can,Shield	1
470	MEZ65049701	PID1	Label	1
471	SAFO0000401	R6604,R6605,R6611	Wire Pad,Open	3
472	SAFP0000401	R6615,R6632,R6903	Wire Pad,Short	5
473	SEVY0008901	D9700,D9701,VA17000,VA17001,VA17002,VA9707,VA9708,VA9709	Varistor	8
474	RAA34548901	RAA050100	Resin,PC	0.023
475	MEZ65049703	MEZ000000	Label	0.5
476	EBR83742201	EBR071500	PCB Assembly,Main,Insert	1
477	MDS65773901	MDS05	Gasket	1
478	MDJ65025401	MDJ000000	Filter	2
479	MHK65612101	MHK000000	Sheet	1
480	MDS65790801	MDS00	Gasket	1
481	MDS65752701	MDS01	Gasket	1
482	MDS65752801	MDS02	Gasket	1
483	MDS65772501	MDS03	Gasket	1
484	EBP62962301	EBP01	Camera Module	1
485	EBP62981701	EBP00	Camera Module	1
486	MEV65955101	MEV000001	Insulator	1
487	MEV66014301	MEV00	Insulator	1
488	EAA64509601	EAA00	PIFA Antenna,Multiple	1
489	EAA64551401	EAA01	PIFA Antenna,RF	1
490	RAA34700101	RAA050100	Resin,Epoxy	0.03
491	ACQ89234451	ACQ063300	Cover Assembly,Rear	1
492	ACQ89337651	ACQ01	Cover Assembly,Rear(SVC)	1
493	MCK69427501	MCK063300	Cover,Rear	1

No	Part no	Location no	Description	Quantity
494	ACW75338801	ACW00	Decor Assembly	1
495	MCR66612101	MCR000000	Decor	1
496	MJN70020201	MJN020800	Tape,Decor	1
497	EBD62846201	EBD00	Sensor,Fingerprint	1
498	AGU75670001	AGU00	Plate Assembly	1
499	MGJ65216801	MGJ000000	Plate	1
500	MJN70057801	MJN000000	Tape	1
501	MBL67022801	MBL000000	Cap	1
502	MHY64443701	MHY014600	Spring,Coil	1
503	EBR83185401	EBR05	PCB Assembly,Flexible	1
504	EBR83134901	EBR070400	PCB Assembly,Flexible,SMT	1
505	EBR83135001	EBR070300	PCB Assembly,Flexible,SMT Top	1
506	EAX67109701	EAX010701	PCB,Flexible	1
507	EBR83185501	EBR070200	PCB Assembly,Flexible,SMT Bottom	1
508	EAV63632201	LD100,LD101	LED,Flash	2
509	EBR83557201	EBR070100	PCB Assembly,Flexible,Insert	1
510	MJN70110001	MJN000000	Tape	1
511	EBR83185601	EBR06	PCB Assembly,Flexible	1
512	EBR83185701	EBR070400	PCB Assembly,Flexible,SMT	1
513	EBR83135201	EBR070300	PCB Assembly,Flexible,SMT Top	1
514	EAX67166701	EAX010700	PCB,Flexible	1
515	EBR83147701	EBR070200	PCB Assembly,Flexible,SMT Bottom	1
516	EAN64226801	U100	IC,Proximity	1
517	EBR83601901	EBR070100	PCB Assembly,Flexible,Insert	1
518	MJN70090701	MJN000000	Tape	1
519	MJN70147701	MJN000001	Tape	1
520	MFB64314301	MFB02	Lens,Flash	1
521	MCQ68874801	MCQ06	Damper,Camera	1
522	MHK65707101	MHK000000	Sheet	1
523	MCQ68875001	MCQ05	Damper	1
524	MEV65953001	MEV01	Insulator	1
525	MCQ68855701	MCQ04	Damper	1
526	MCQ68875601	MCQ03	Damper	1
527	MBL67097501	MBL000001	Cap	1
528	MCQ68914801	MCQ00	Damper,Camera	1
529	MJN70058401	MJN061101	Tape,Protect	1
530	MCQ68874901	MCQ01	Damper,Motor	1
531	MCQ68914901	MCQ02	Damper	1
532	ACW75377201	ACW01	Decor Assembly,SVC	1
533	MCR66631801	MCR000000	Decor	1
534	MJN70080601	MJN009400	Tape,Camera	1
535	MJN70036901	MJN020800	Tape,Decor	1
536	MJN70080701	MJN061100	Tape,Protect	1

No	Part no	Location no	Description	Quantity
537	ACW75397101	ACW000000	Decor Assembly	1
538	MKC66120801	MKC009400	Window,Camera	1
539	MJN70129201	MJN061100	Tape,Protect	1
540	MBL67117801	MBL01	Cap	1
541	MEZ64319901	MEZ000900	Label,After Service	1
542	EAB64370301	EAB01	Speaker Module	1
543	MEV66013301	MEV000000	Insulator	1
544	MJN70149401	MJN000000	Tape	1
545	FAB32258601	FAB02	Screw,Tapping	0
546	GMEY0011201	FAB00	Screw,Machine	16
547	MEZ66193101	MEZ002100	Label,Approval	1
548	SAD36089901	SAD010000	Software,Mobile	1
549	AAD88058801	AAD000000	Addition Assembly	1
550	EAB64410411	EAB010200	Earphone,Stereo	1
551	EAD63912801	EAD010000	Cable,Assembly	1
552	EAY64469110	EAY060000	Adapters	1
553	EAC63341101	EAC00	Rechargeable Battery,Lithium Ion	1
554	AFN77557101	AFN053800	Manual Assembly,Operation	1
555	MBM65581801	MBM062600	Card,Quick Reference	1
556	MBM64995929	MBM087200	Card,Warranty	1
557	MFL69670701	MFL053800	Manual,Operation	0
558	ACQ89288101	ACQ02	Cover Assembly,Battery	1
559	ACQ89183401	ACQ105900	Cover Assembly,Battery(Sub)	1
560	MCK69347301	MCK004100	Cover,Battery	1
561	MCK69311301	MCK004101	Cover,Battery	1
562	MEV65938101	MEV000000	Insulator	1
563	EAA64550302	EAA030100	PIFA Antenna,RF	1
564	MJN70021601	MJN000000	Tape	1
565	MJN70147801	MJN061100	Tape,Protect	1
566	MEZ66817301	MEZ003500	Label,Barcode	1
567	AGF78423213	AGF000000	Package Assembly	1
568	AAZ75216106	AAZ084000	Box Assembly,Unit	1
569	AGJ74459106	AGJ000000	Pallet Assembly	1
570	MAY67693504	MAY010800	Box,Carton	0.00167
571	MBL67077902	MBL007000	Cap,Box	0.00333
572	MGA64059201	MGA000000	Pallet	0.00167
573	MLAJ0004402	MEZ047200	Label,Master Box	0.00667
574	MLAZ0050901	MEZ000000	Label	0.00167
575	MAY67584206	MAY047100	Box,Master	0.2
576	MEZ64598701	MEZ084101	Label,Unit Box	1
577	MLAJ0004402	MEZ047200	Label,Master Box	0.2