

|   |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
|---|--|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|
|   | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |
| A | <div><div>SAMSUNG CONFIDENTIAL<br/>THIS DOCUMENT CONTAINS CONFIDENTIAL<br/>PROPRIETARY INFORMATION THAT IS<br/>SAMSUNG ELECTRONICS CO.'S PROPERTY.<br/>DO NOT DISCLOSE TO OR DUPLICATE FOR OTHERS<br/>EXCEPT AS AUTHORIZED BY SAMSUNG.</div></div> |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| B |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| C |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| D |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| E |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| F |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| G |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| H |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| I |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| J |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| K |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
| L |  |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |
|   | 1  | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 |

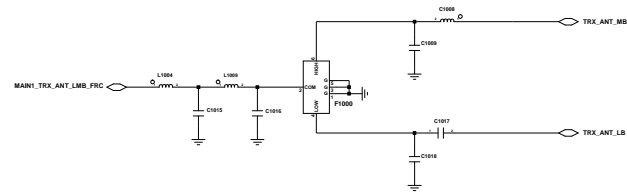
# SM-G990E REV01

Olympus

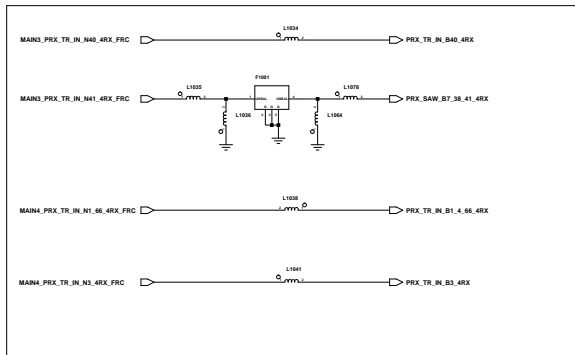
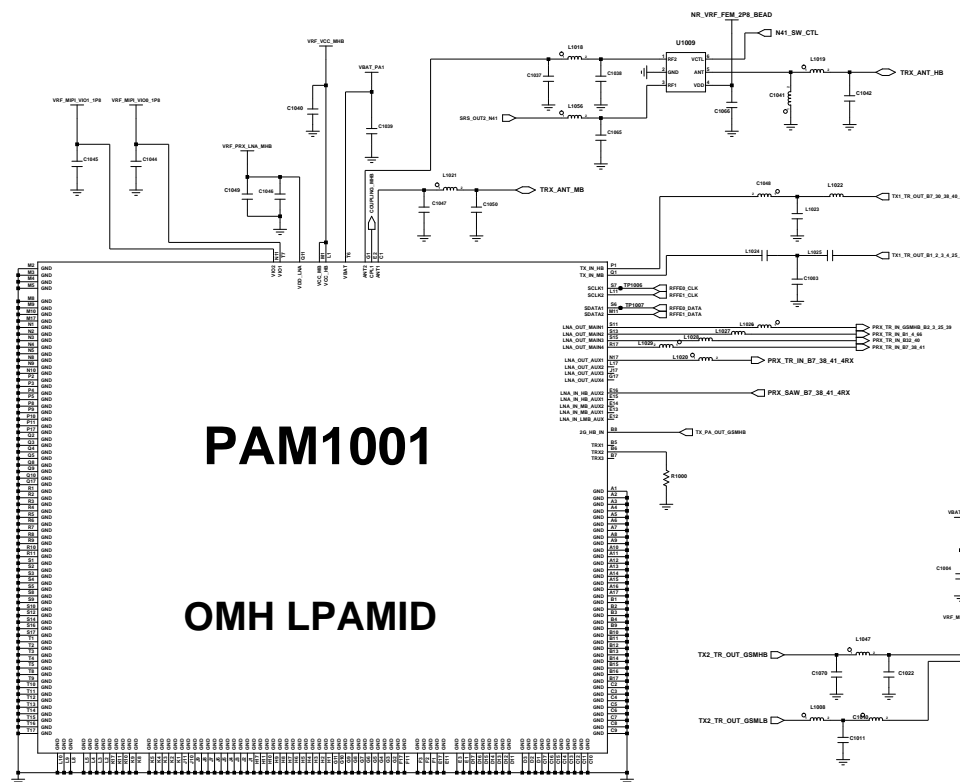
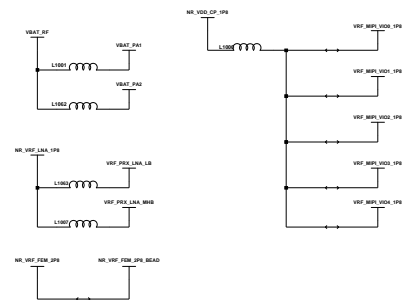
2021. 08. 18

- sheet01 : RF (1/2)
- sheet02 : RF (2/2)
- sheet03 : TRANSCEIVER, mmWave
- sheet04 : CONNECTIVITY(WIFI,GPS,NFC) , SENSORS
- sheet05 : ModAP(Olympus) & System Clock
- sheet06 : ModAP(Olympus) Power Decoupling Capacitor
- sheet07 : Power Management IC(ModAP / Peri) & Charging
- sheet08 : AUDIO
- sheet09 : CAMERA
- sheet10 : DISPLAY
- sheet11 : SYSTEM(KEYS, BtoB), POWER(W.C. & MFC, BATT)

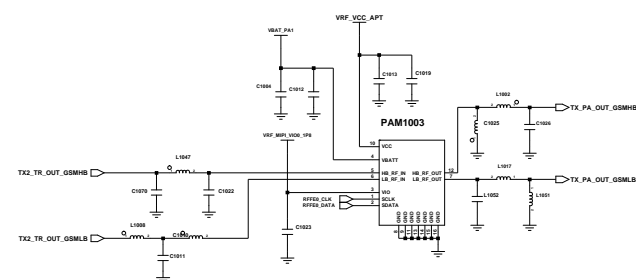
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| Engineer:     |        |                 |      |
| Drawn by:     |        |                 |      |
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| MFG ENGR CHK: |        |                 |      |
| QA CHK:       | REV:   | Drawing Number: | Page |

[illegible]

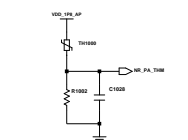
( FDD B1/3/4/66, NR N1/3/66/78) **SRS\_N78**

[illegible]

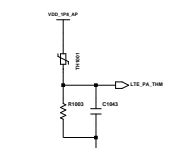
## GSM PA



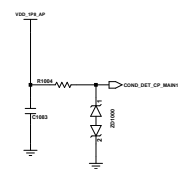
## ENDC LPAMID



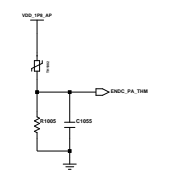
### N78 THERMISTER



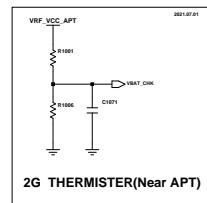
**LTE THERMISTER**



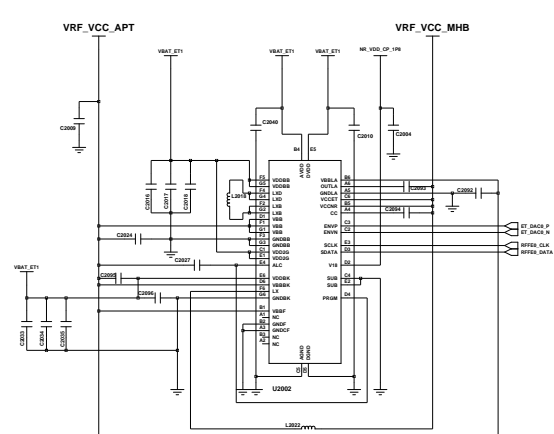
FRC\_CHK\_LOW



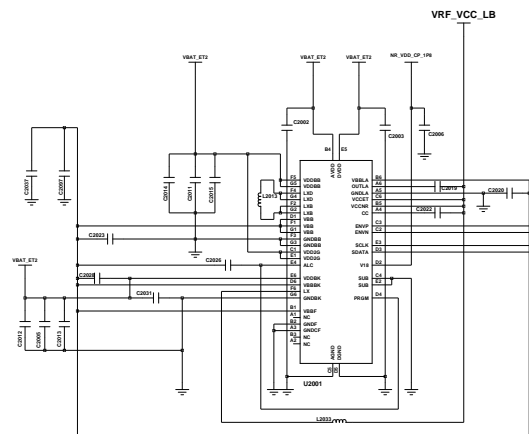
## ENCD THERMISTER



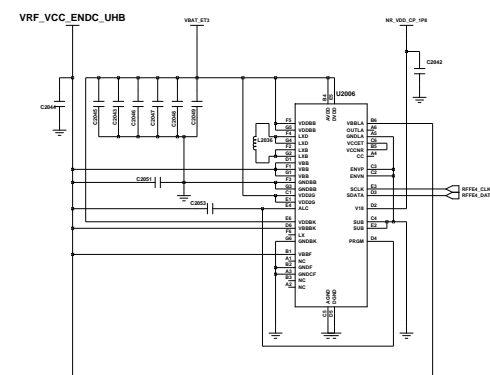
2G THERMISTER(Near APT)



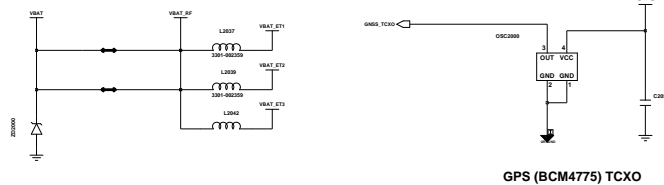
**ET & APT#1 2G/3G/LTE/NR MHB(2G,OMH LPAMID)**



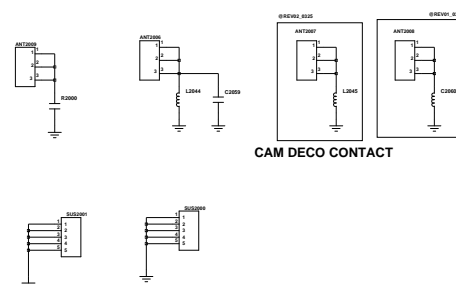
ET &amp; APT #2 3G/LTE/NR LB(LB LPAMID)



**APT#3 NR MHB/UHB(ENDC MOD,UHB MOD)**



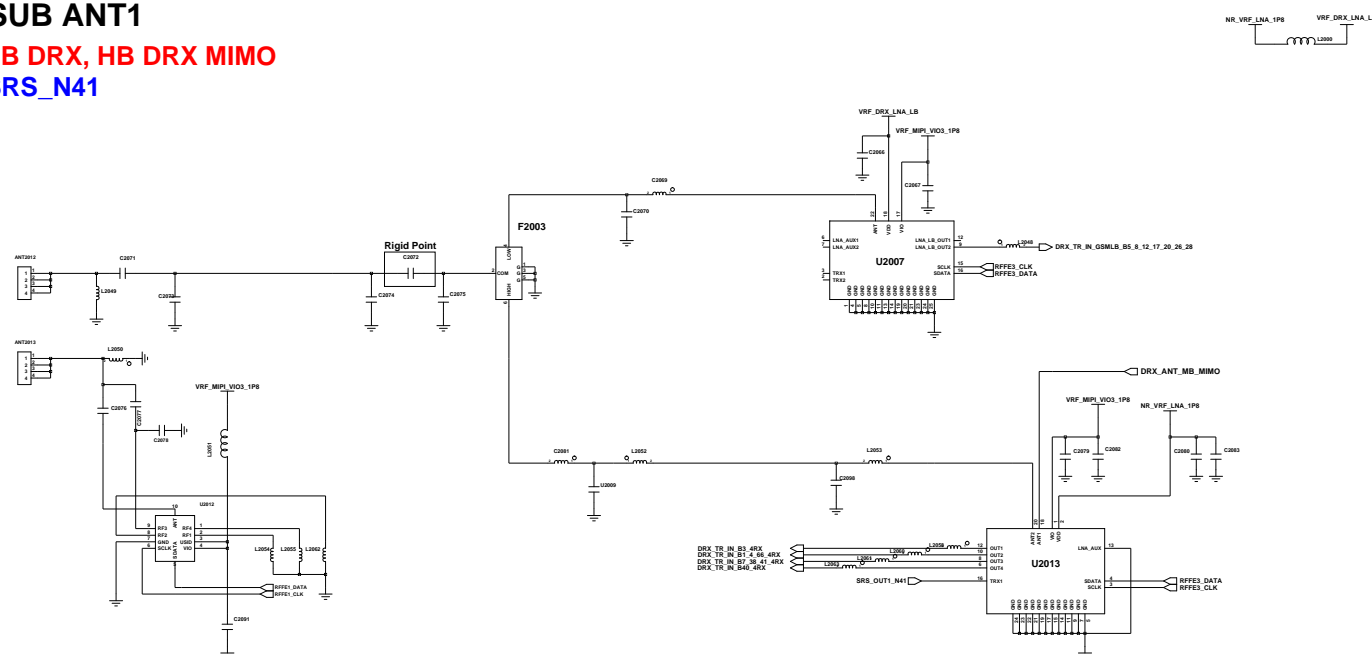
GPS (BCM4775) TCXO



**CAM DECO CONTACT**

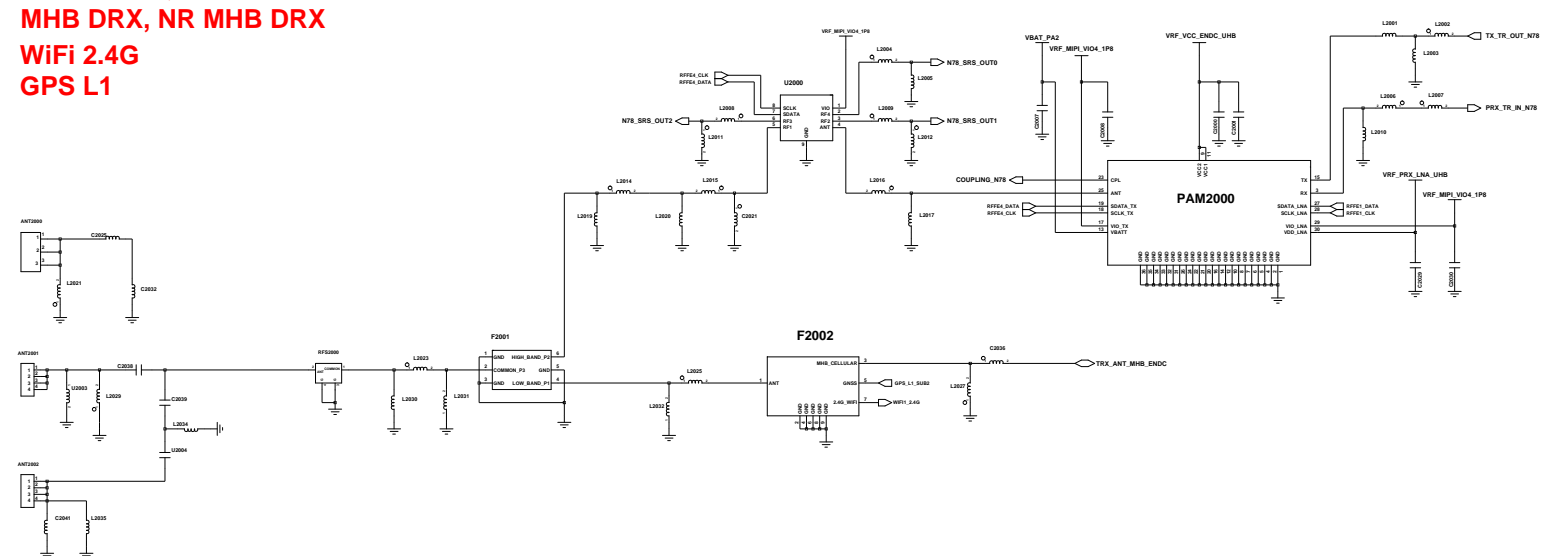
**SUB ANT1**

LB DRX, HB DRX MIMO  
SRS\_N41



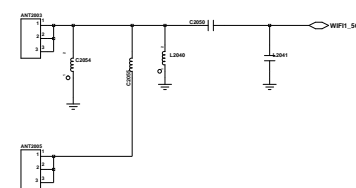
**SUB ANT2**

MB NR TRX, N41 TRX  
MHB DRX, NR MHB DRX  
WiFi 2.4G  
GPS L1



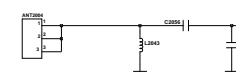
**SUB ANT3**

WIFI 5G



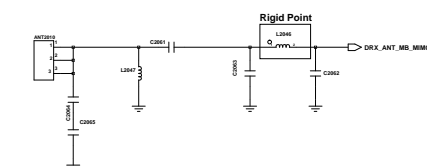
**SUB ANT5**

**(OPTIONT)**



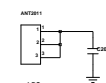
**SUB ANT6**

## MB DRX MIMO



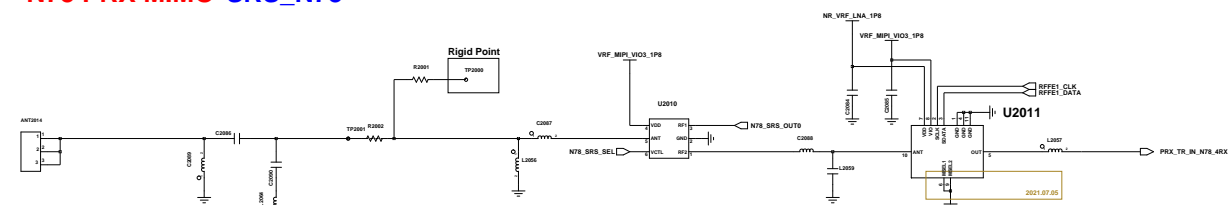
**SUB ANT7**

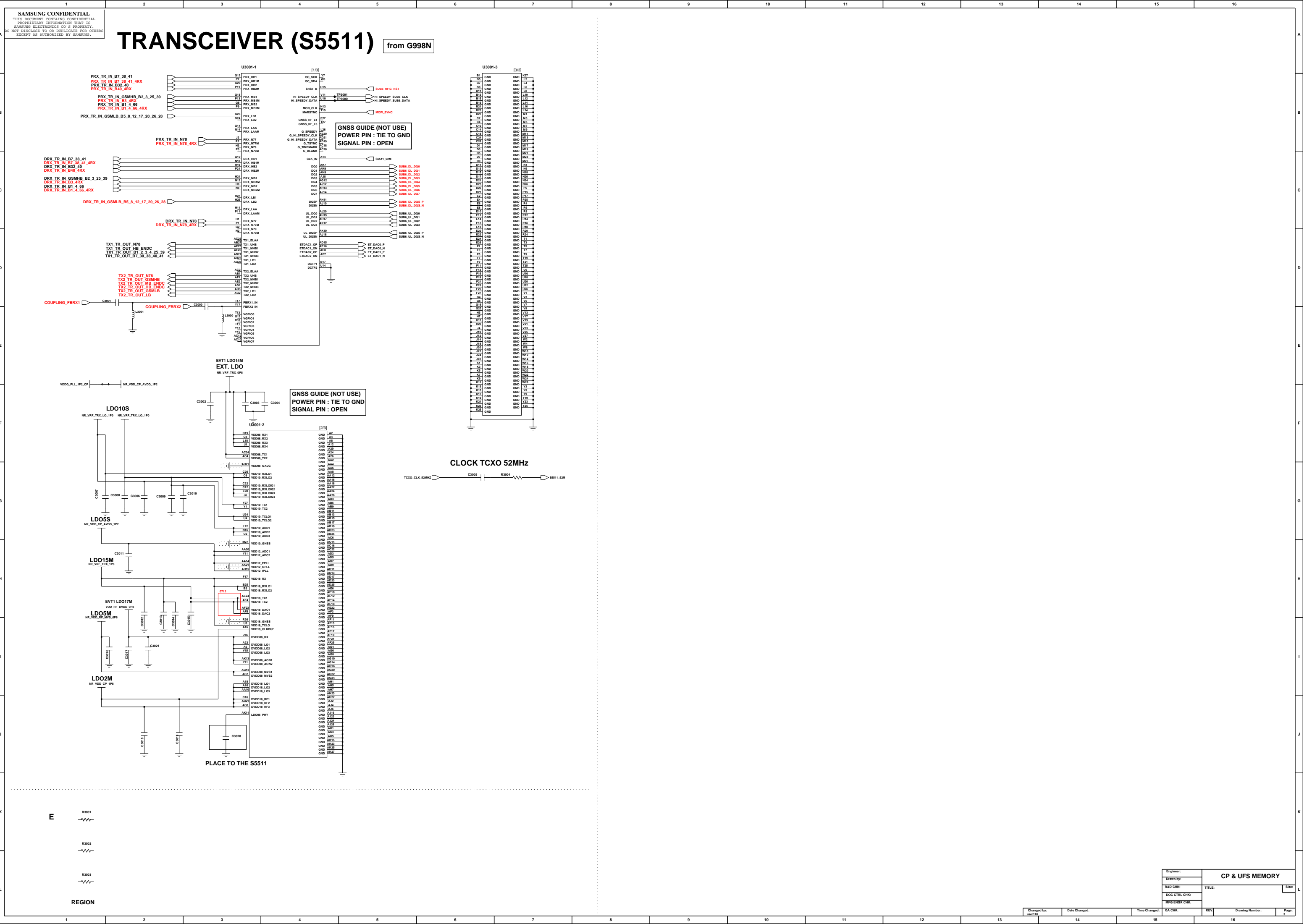
**(OPTION)**



## SUB ANT8

**N78 PRX MIMO SRS\_N78**





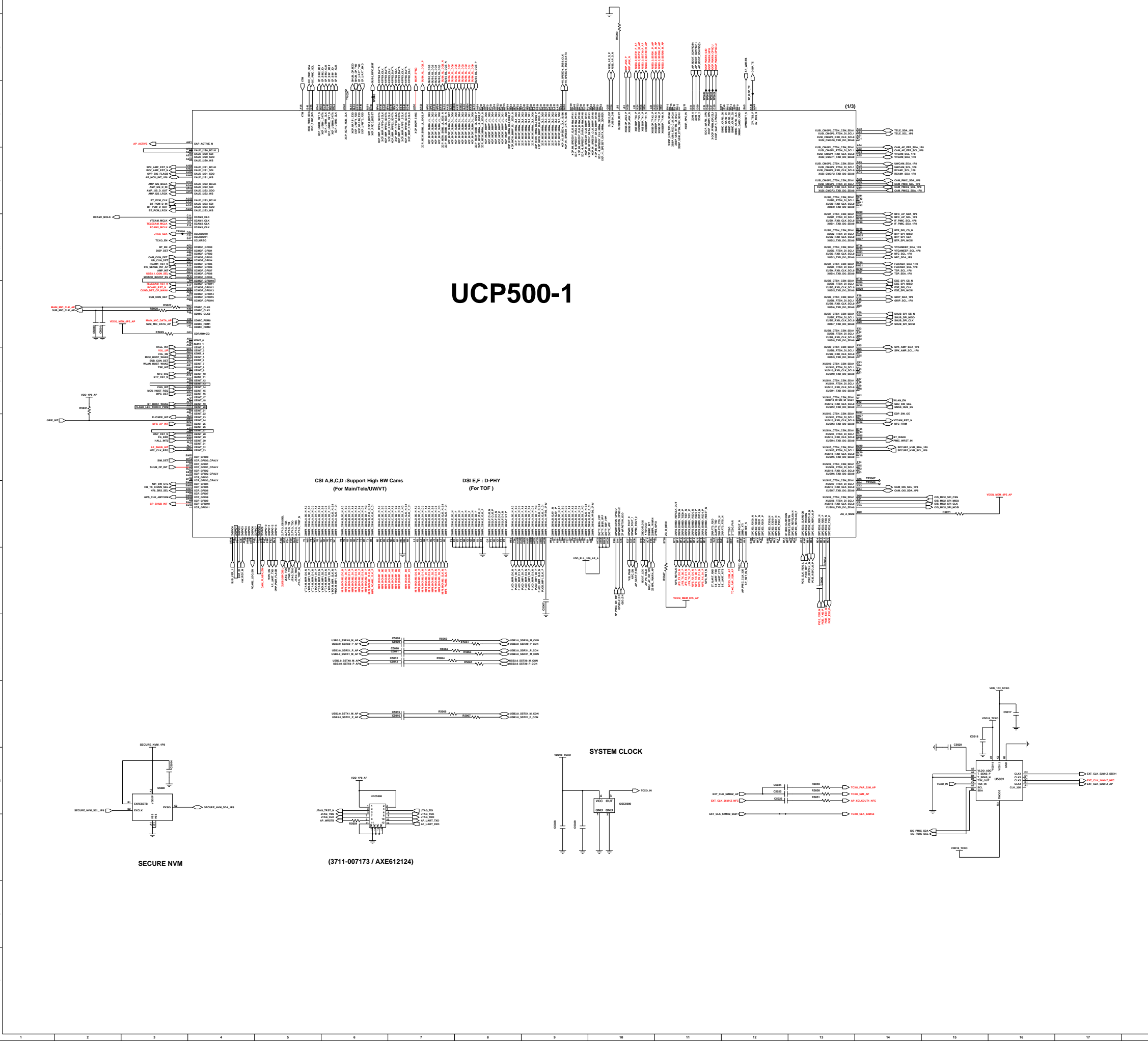
**SUB4**  
(WiFi2 2.4G, 5G MIMO)



**NFC (SN110T)**

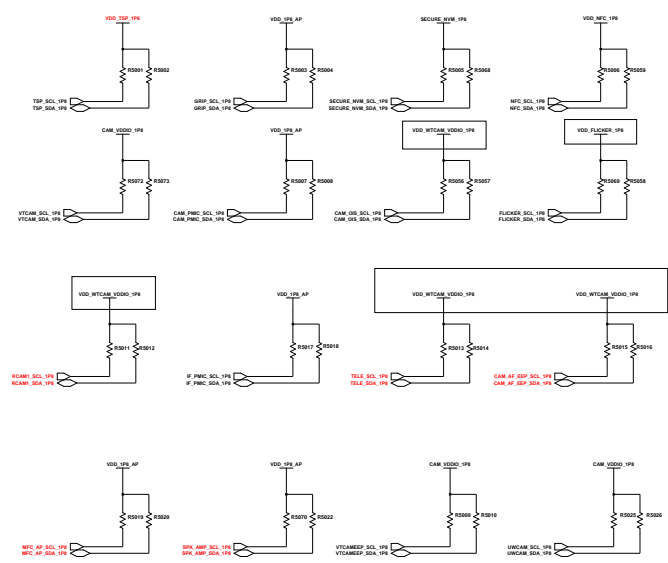


# 5. modAP(OLYMPUS) & System Clock



UCP500-1

H/W I2C



ETC



### AP HW ID

18

CAUTION: PLACEMENT Near to TP\_UB1

### CP HW ID

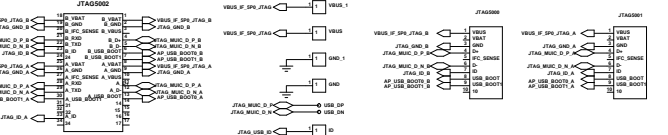
2

CP HW ID 2

| REV | AP HW ID | CP HW ID | R1(Rohm) | R2(Rohm) |
|-----|----------|----------|----------|----------|
| 1   | 18       | 2        | 430      | 30       |
| 2   | 18       | 2        | 390      | 62       |
| 3   | 19       | 3        | 360      | 91       |
| 4   | 20       | 4        | 330      | 120      |
| 5   | 21       | 5        | 300      | 150      |
| 6   | 22       | 6        | 270      | 180      |
| 7   | 23       | 7        | 240      | 220      |
| 8   | 24       | 8        | 200      | 240      |
| 9   | 25       | 9        | 180      | 270      |
| 10  | 26       | 10       | 150      | 300      |

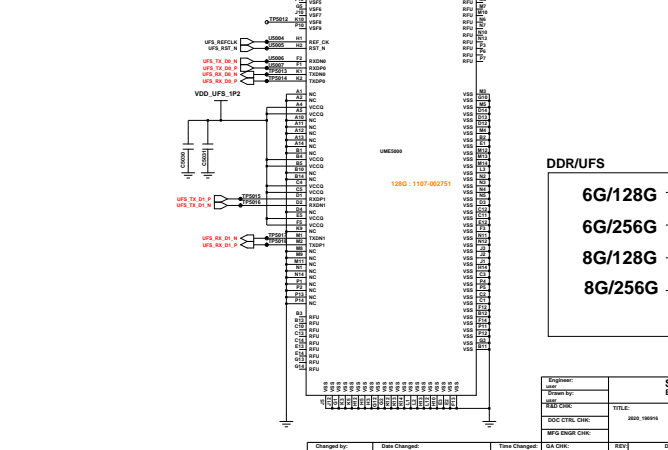
### iROM BOOT

| OM2-E | 1st / 2nd          |
|-------|--------------------|
| 000   | UFS, CHS / USB     |
| 001   | USB                |
| 010   | SD CARD / USB      |
| 011   | UFS, CHS / SD CARD |



PCB JTAG

UFS MEMORY



DDR/UFS

6G/128G

6G/256G

8G/128G

8G/256G

1. Place de\_caps around assigned pins
2. De\_caps could be removed(For powers that meet the Remote\_cap specification )







| Pin | Function         | Value |
|-----|------------------|-------|
| 1   | VDD_I2C AP       | 10k   |
| 2   | NC               | -     |
| 3   | VDD_VREF 3W3 AP  | 10k   |
| 4   | VDD_MEAS AP      | 10k   |
| 5   | VDD_INT M AP     | 10k   |
| 6   | VDD_FLL 3W3 AP   | 10k   |
| 7   | VDD_USRDP 3W3 AP | 10k   |
| 8   | VDD_FLL 3W3 AP   | 10k   |
| 9   | NC               | -     |
| 10  | VDD_FLL 3W3 AP   | 10k   |
| 11  | NC               | -     |
| 12  | VDD_FLL 3W3 AP   | 10k   |
| 13  | NC               | -     |
| 14  | VDD_FLL 3W3 AP   | 10k   |
| 15  | NC               | -     |
| 16  | VDD_FLL 3W3 AP   | 10k   |
| 17  | NC               | -     |
| 18  | VDD_FLL 3W3 AP   | 10k   |

## S2MPS24 PMIC LDO CAP

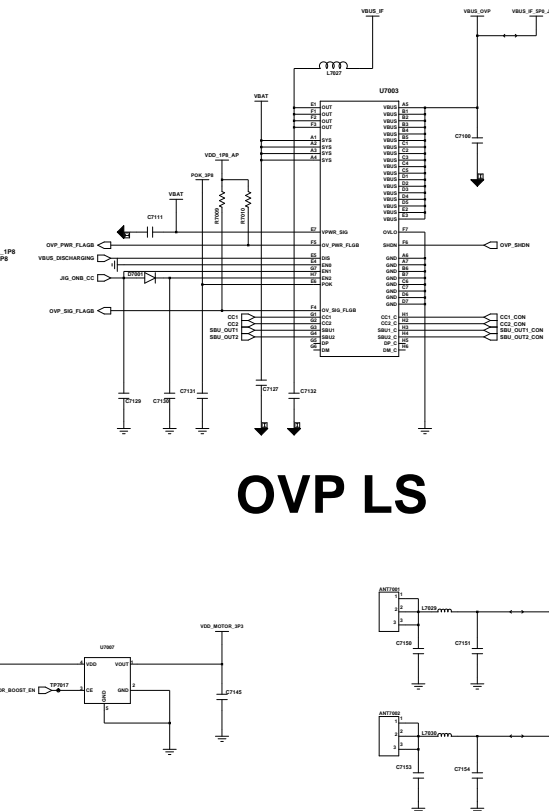
**IFPMIC**



## DIRECT CHARGER



## OVP LS

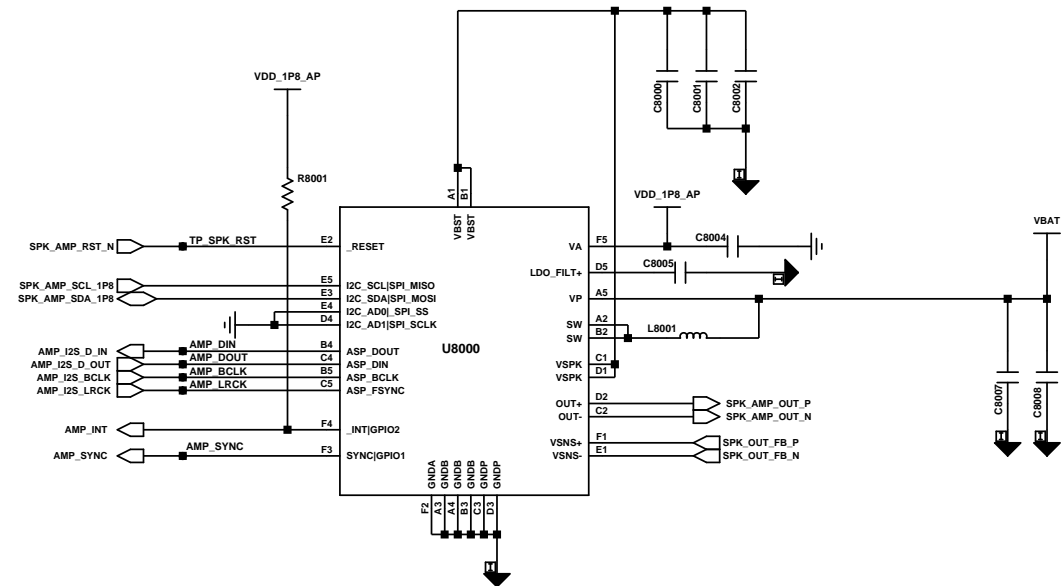


## MOTOR LDO

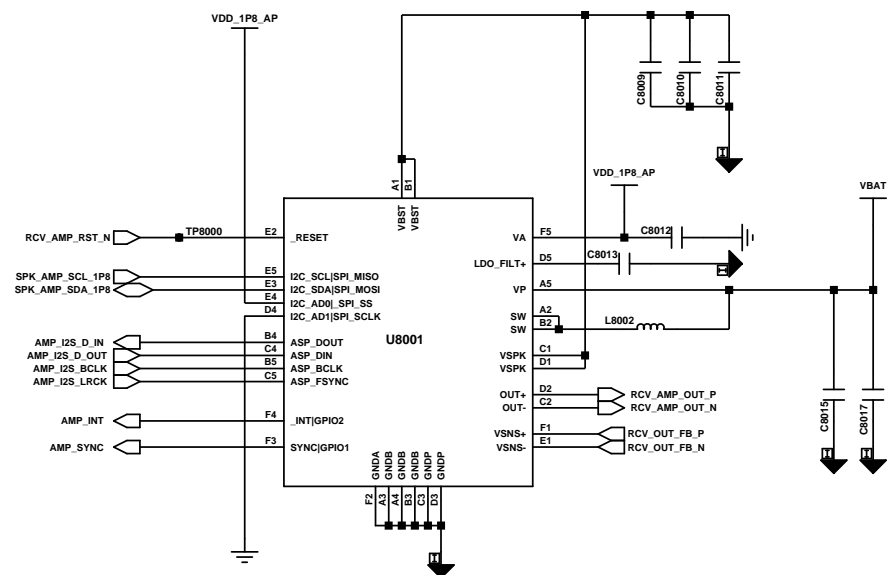
## MOTOR CON



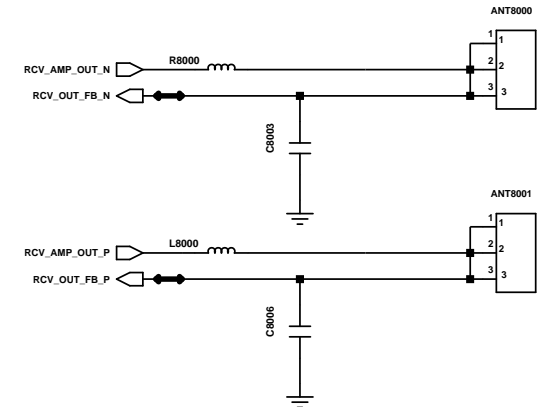
# 8. AUDIO



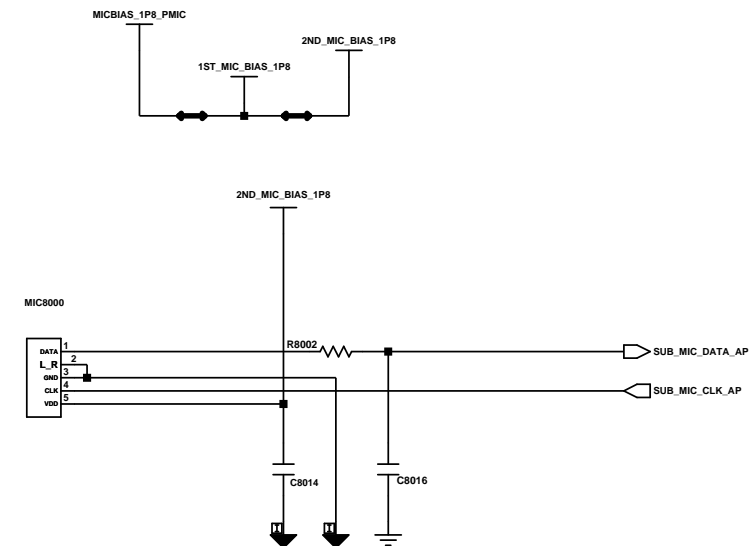
## SPK AMP



## RCV AMP

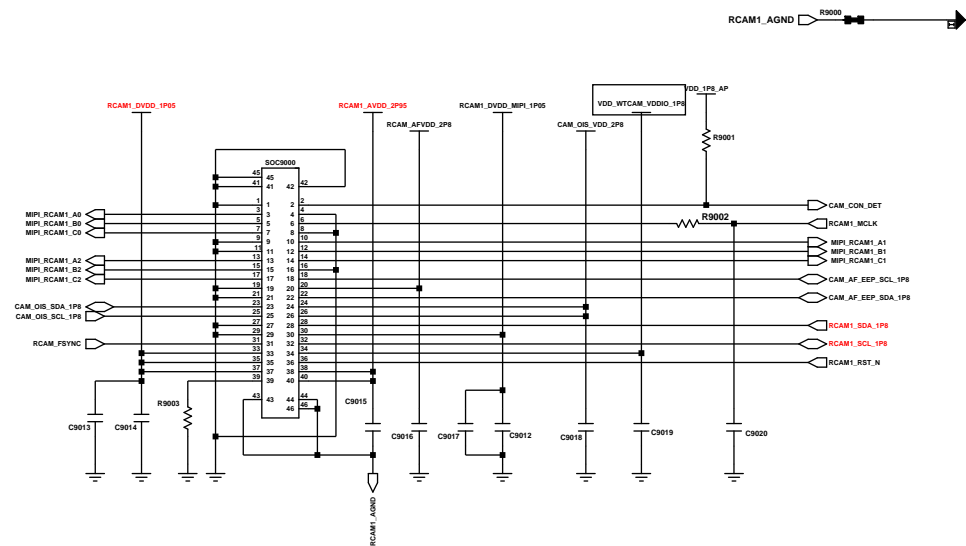


## RCV CON

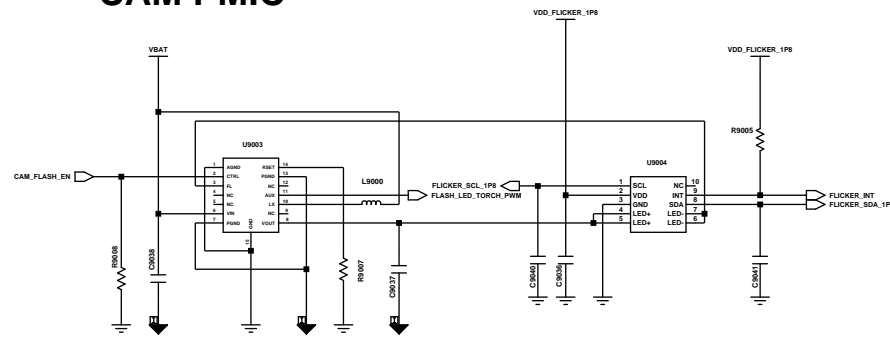


## SUB MIC

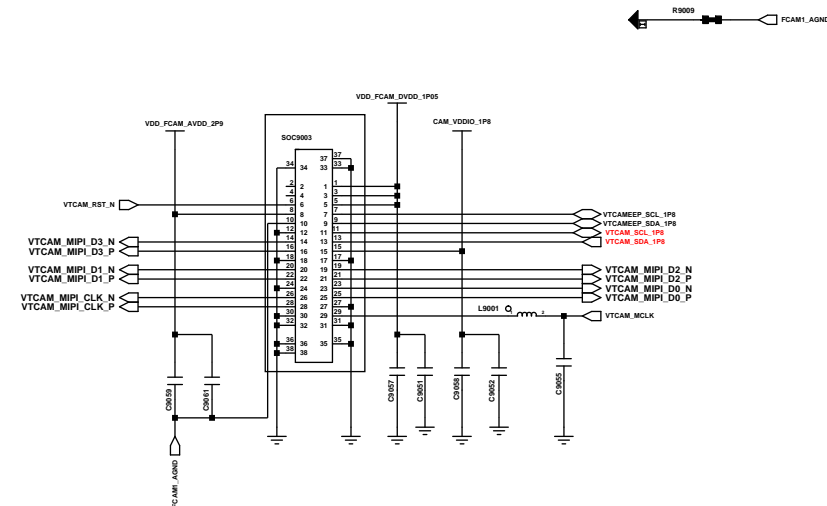
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|----------------------------------|--------------------------------|-----------------------------------|
| Engineer:<br>junghun.pas         | <b>SAMSUNG<br/>ELECTRONICS</b> | Size:<br><br>12 1 8 A             |
| Drawn by:<br>junghun.pas         |                                |                                   |
| R&D CHK:                         |                                |                                   |
| DOC CTRL CHK:                    |                                |                                   |
| MFG ENGR CHK:                    |                                |                                   |
| TITLE:<br><br>U_LSI Olympus_0206 |                                |                                   |
| QA CHK:                          | REV                            | Drawing Number:<br><br>Page:<br>8 |



## CAM PMIC

[illegible]

## 8M TELE CAM

[illegible]

## 12M SUPER WIDE CAM

|             |               |               |         |      |                 |       |
|-------------|---------------|---------------|---------|------|-----------------|-------|
| Changed by: | Date Changed: | Time Changed: | QA CHK: | REV: | Drawing Number: | Page: |
|-------------|---------------|---------------|---------|------|-----------------|-------|

# DISPLAY



|             |               |               |         |      |                 |       |
|-------------|---------------|---------------|---------|------|-----------------|-------|
| Changed by: | Date Changed: | Time Changed: | QA CHK: | REV: | Drawing Number: | Page: |
|             |               |               |         |      |                 | 9     |



SM-G990E

U4003

SC11000

U7001

U7000

SOC10000

SOC11001

SOC1000

SOC9001

SOC9000

SOC9003

SOC11003

SOC11002

U2007

U9004

U2013

U4006

U4005

U2002

U4001

UFC5000

JTAG5002

JTAG5000

JTAG5001

