

ZZ1



PCB DAZ@
DA60010L000
PCB 10F LA-A391P REV0 M/B HDI

S1



FRAME
ECOMV000200

@

S4



FRAME
ECOMV000200
for GLONASS

@

Compal Confidential

Schematics Document

ZSJEV

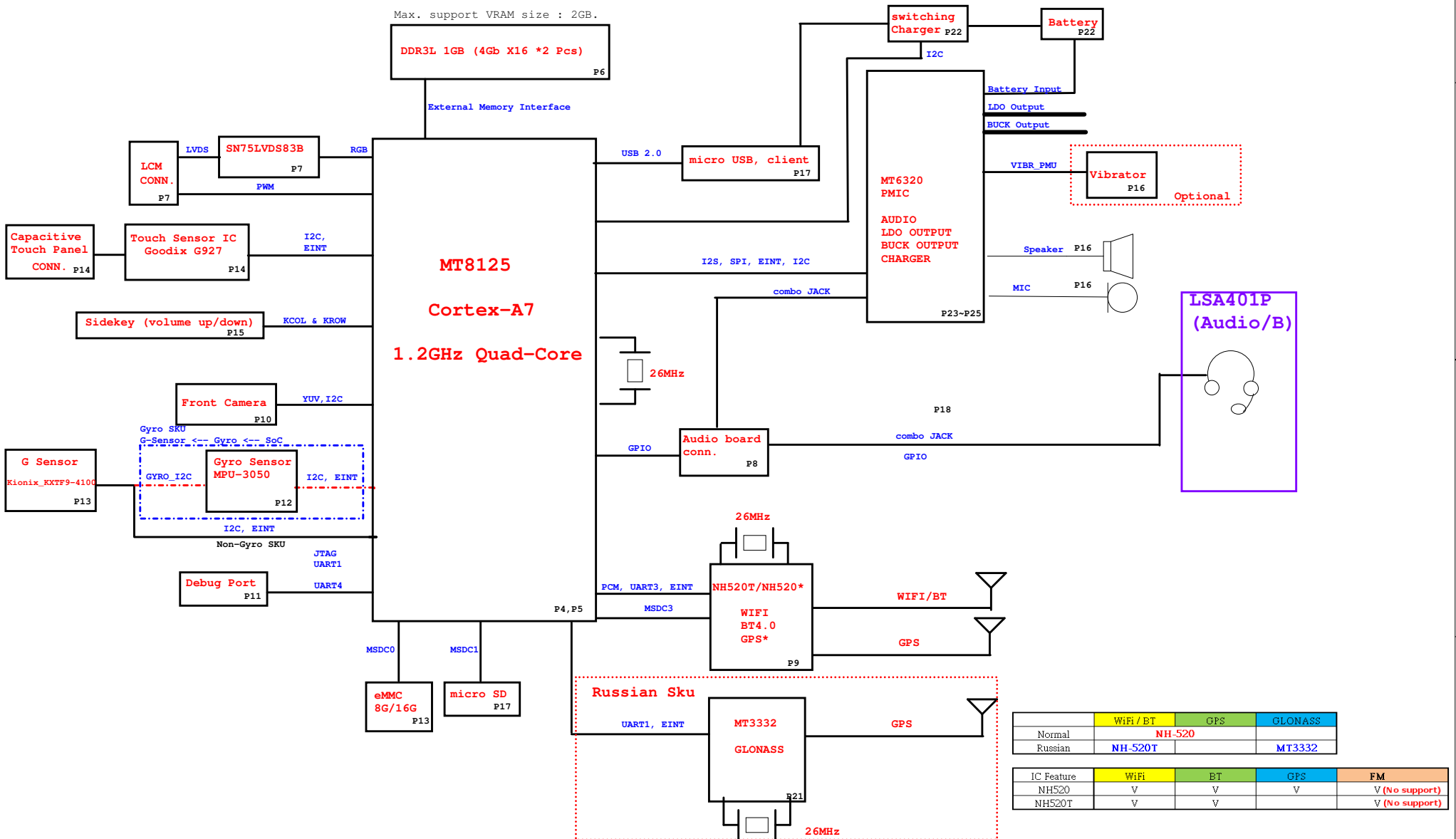
LA-A391P

2013-03-13

REV:0.1

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|---|--------------------|-----------------|------------|--------------------------------|---------------|
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giordano2 WIFI SKU block diagram



| | | | |
|---------|-----------|-----|---------|
| | WIFI / BT | GPS | GLONASS |
| Normal | NH-520 | | |
| Russian | NH-520T | | MT3332 |

| | | | | |
|------------|------|----|-----|----------------|
| IC Feature | WIFI | BT | GPS | FM |
| NH520 | v | v | v | v (No support) |
| NH520T | v | v | | v (No support) |

Voltage Rails

| MT6320 Power Plane | Function | Power Level | IDLE | Sleep mode |
|--------------------|-------------------------------|-------------|------|--------------|
| VCORE_PMU | VCORE switching output | 0.75 ~ 1.3 | ON | Low voltage |
| VPROC_PMU | VPROC switching output | 0.75 ~ 1.3 | ON | Low voltage |
| VTCXO_1_PMU | LDO output for TCXO | 2.8V | ON | OFF |
| VCAMA_PMU | LDO output for camera analog | 2.8V | ON | Gating by SW |
| VSRAM_PMU | LDO output used for 1.2V SRAM | 1.2V | ON | Low voltage |
| VDD28_6583 | LDO output used for 2.8V IO | 2.8V | ON | Gating by SW |
| VGP2_PMU | LDO output for camera 1.8V | 1.8V | ON | Gating by SW |
| VEMC_3V3_PMU | LDO output for eMMC | 3.3V | ON | Gating by SW |
| VMCH_PMU | LDO output for SD card | 3.3V | ON | Gating by SW |
| VGP5_PMU | LDO output for Touch panel | 2.8V | ON | Gating by SW |
| DDR3VCCIO | LDO output for DDR3L | 1.35V | ON | Gating by SW |
| VDD33_6583 | LCD & Bridge power | 3.3V | ON | Gating by SW |
| VDD18_6583 | LDO output used for 1.8V IO | 1.8V | ON | Gating by SW |

I2C address

| Device | Address(7 bit) | Address(8bit) | |
|-----------------------|----------------|---------------|------|
| | | Write | Read |
| Gyro (MPU-3050) | 0x68 | 0xD0 | 0xD1 |
| G-sensor (KXTIK-1004) | 0x0F | 0x1E | 0x1F |
| Touch screen (GT927) | 0x5D | 0xBA | 0xBB |
| Camera (OV7675) | 0x21 | 0x42 | 0x43 |
| Charge (BQ24196) | 0x6B | 0xD6 | 0xD7 |
| G-sensor(STK-8313) | | | |
| | | | |

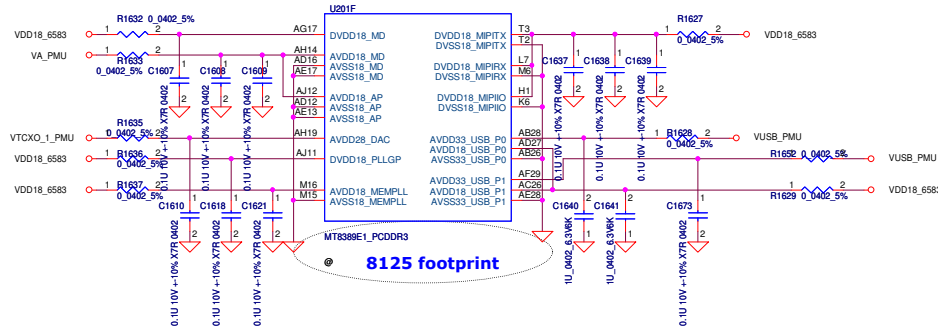
Main board ID

| MB_ID0 | MB_ID1 | |
|--------|--------|-----|
| 0 | 0 | EVT |
| 0 | 1 | DVT |
| 1 | 0 | PVT |
| 1 | 1 | MP |

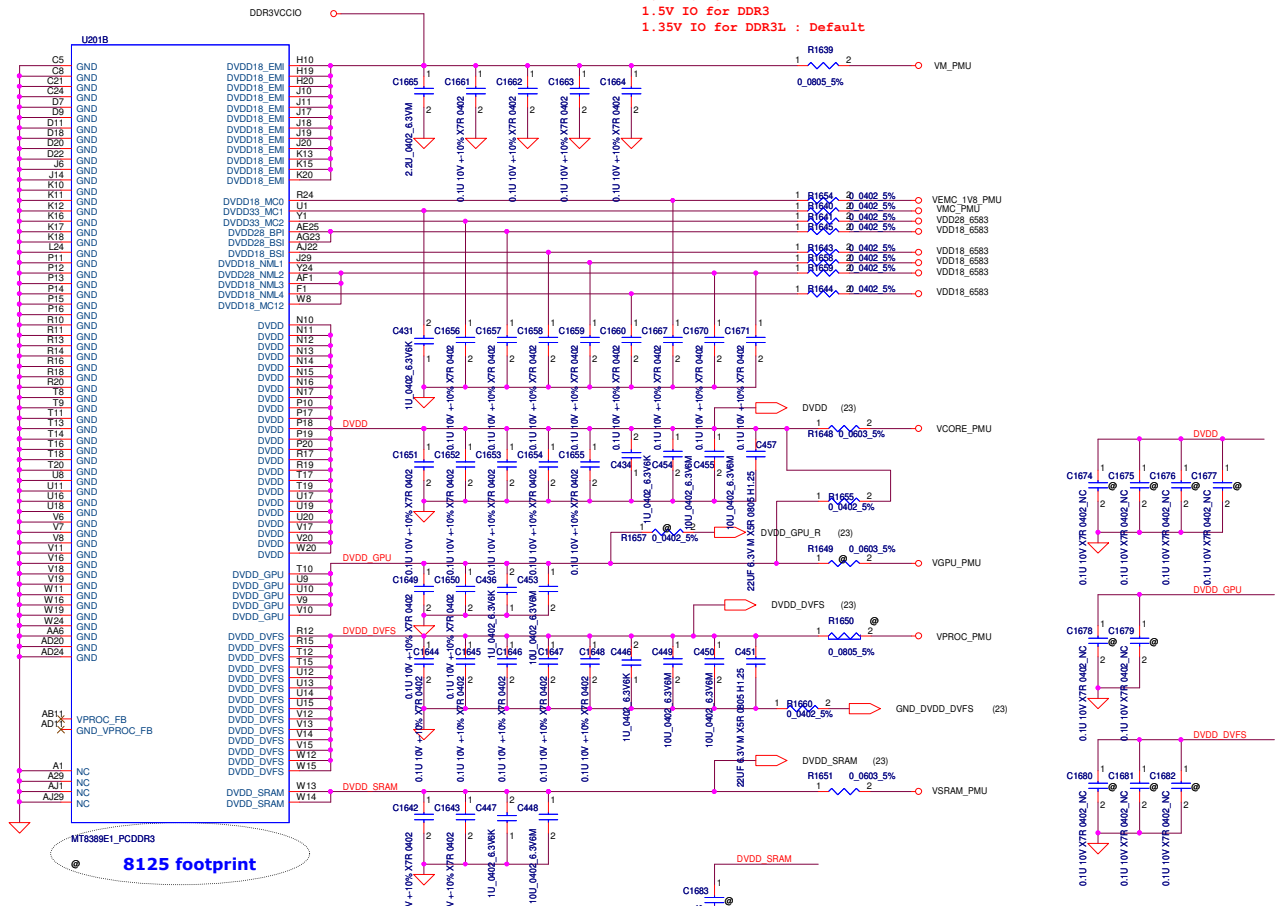
BOM structure

| Name | Function | |
|-----------|-----------------|--|
| | | |
| DAZ@ | PCB | |
| EMC@ | for EMC request | |
| NH520@ | AW-NH520 | |
| NH520_EM@ | GPS EMC | |
| GLONASS@ | MT3332 | |
| | | |

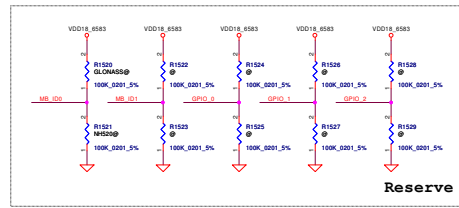
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| Custom | Date: | Thursday, March 28, 2013 | | Sheet | 3 | of | 28 |



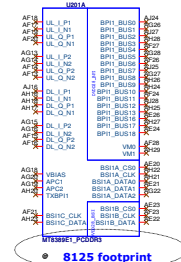
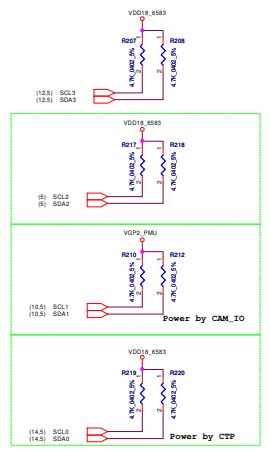
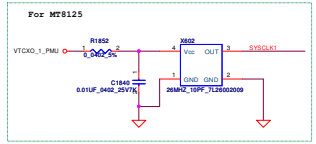
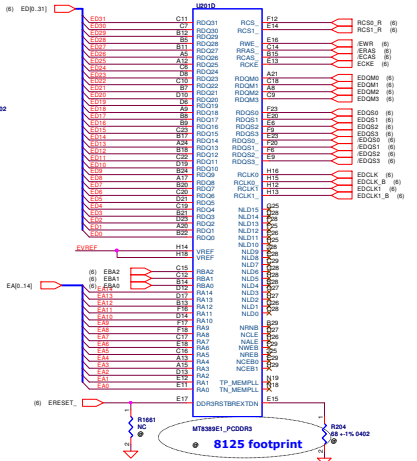
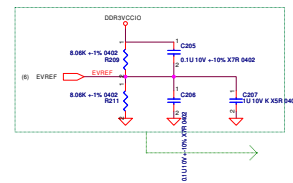
1.8V IO for DDR
1.2V IO for DDR2
1.5V IO for DDR3
1.35V IO for DDR3L : Default



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| Title | MT8377 - Power | | Documen Number | ZSJEV-LA-A391P |
| Date | Friday, March 29, 2013 | Sheet | 4 | of 28 |



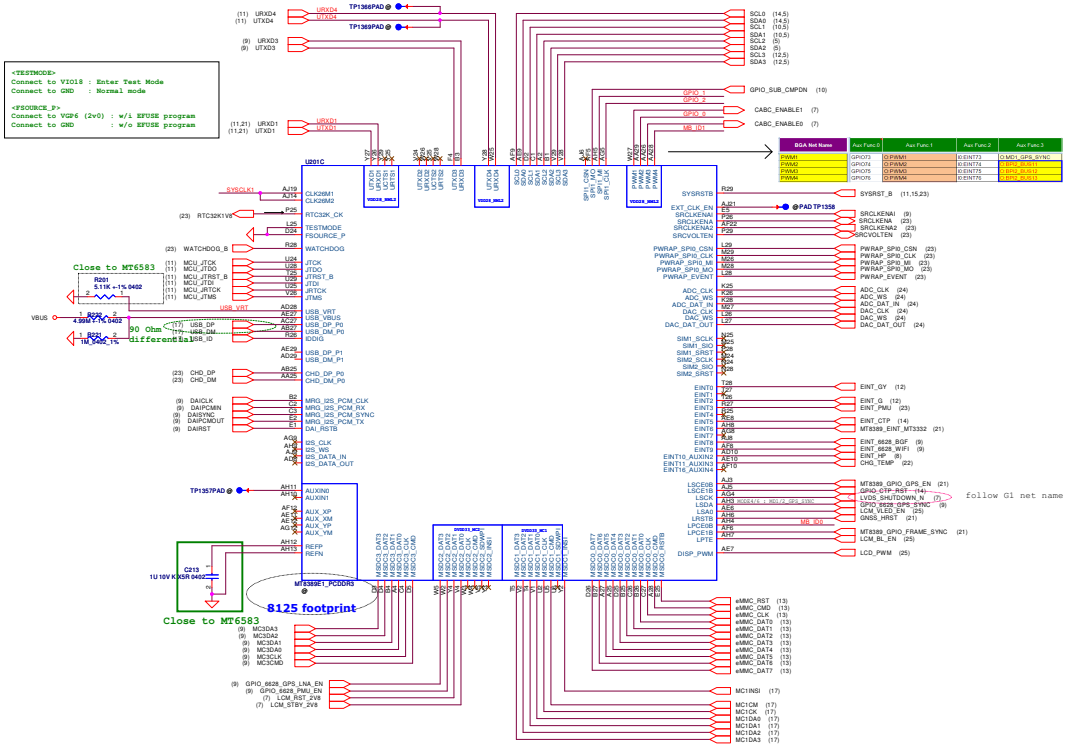
Reserve



8125 footprint

<TESTMODE>
Connect to VDD18 : Enter Test Mode
Connect to GND : Normal mode

<#SOURCE_P>
Connect to VDDP (2V0) : w/1 SPSZE program
Connect to GND : w/0 SPSZE program



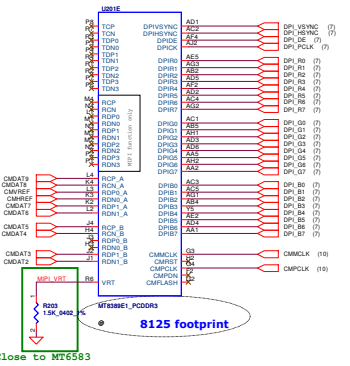
UART0 : Debug/Device
UART1 : SIM
UART2 : -Device
UART3 : PM0 HS330
UART4 : CTP
UART5 : MT6583
UART6 : MT6628 SGP
UART7 : MT6628 WIF
UART8 : HEADSET

UART1 : Debug/MT332
UART2 : -Device
UART3 : MT6628
UART4 : Debug

I2C0 : CTP
I2C1 : Sub Camera
I2C2 : G/YRO sensor
I2C3 (PMIC) : Charger IC
I2C5 (PMIC) :
I2C6 (PMIC) :

I2S :

MISO0 : eMMC
MOSI0 : SD Card
MOSI1 : GPIO (2.8V)
MOSI2 : MT6628

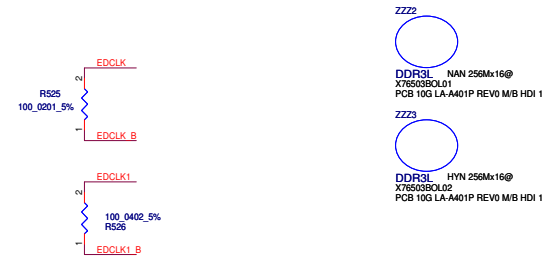
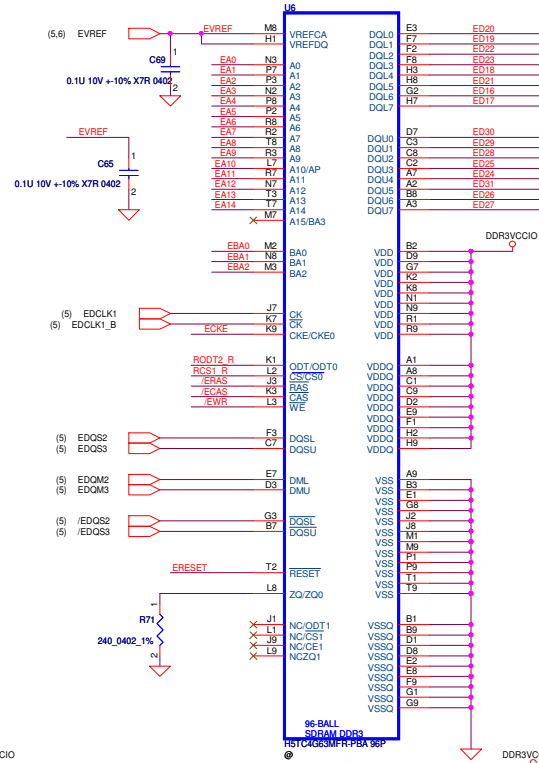
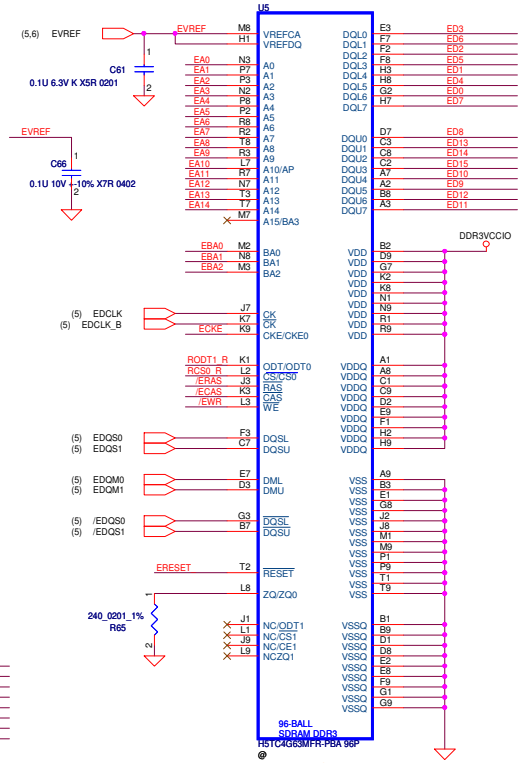


8125 footprint

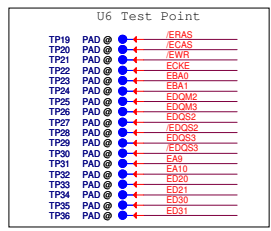
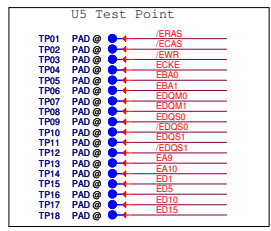
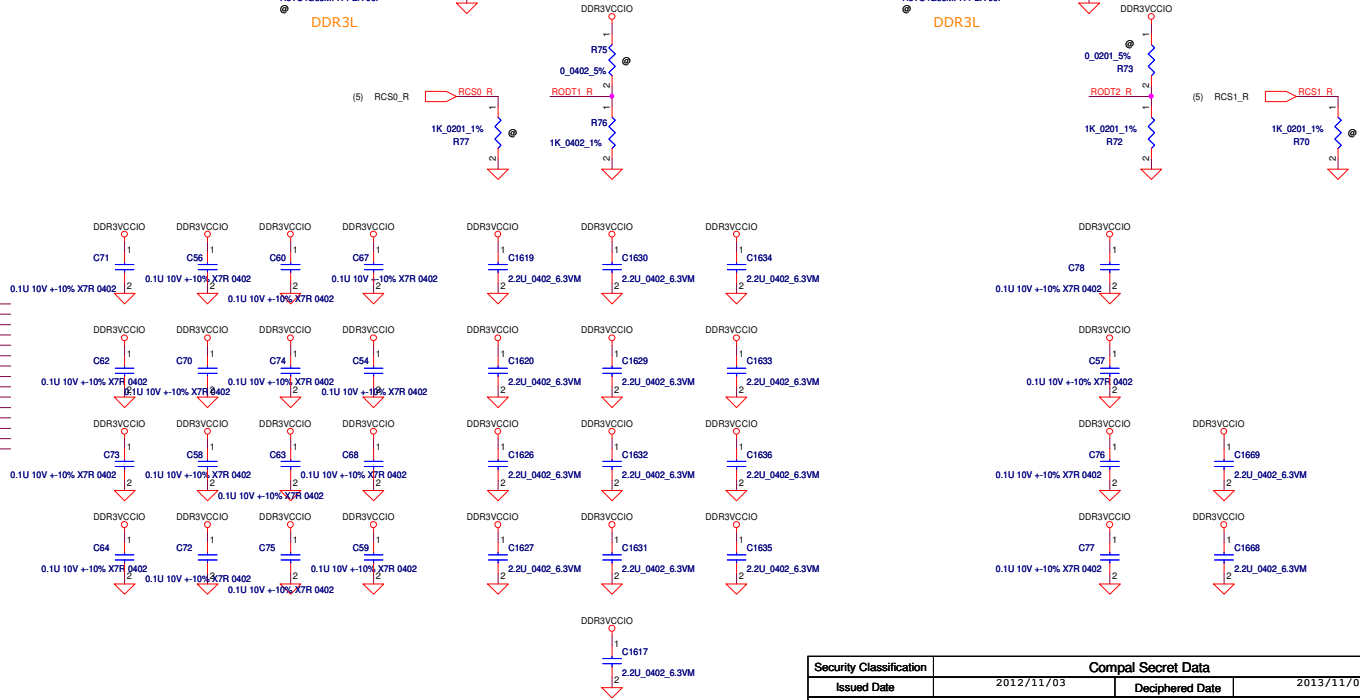
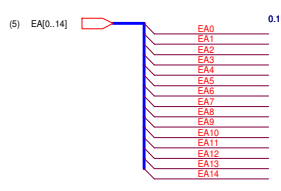
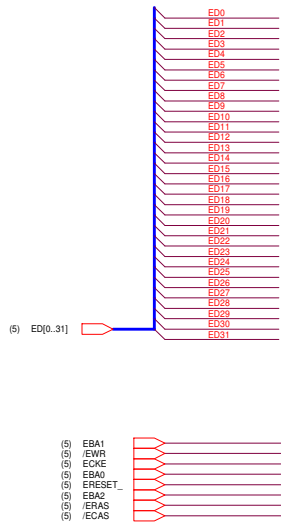
Close to MT6583

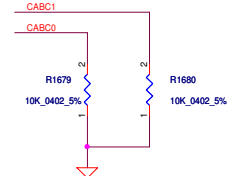
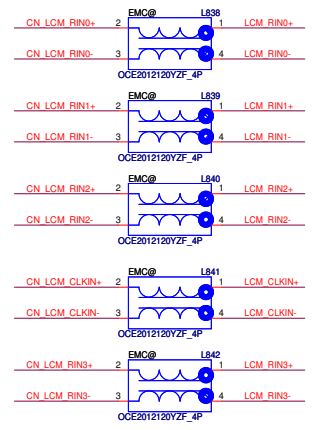
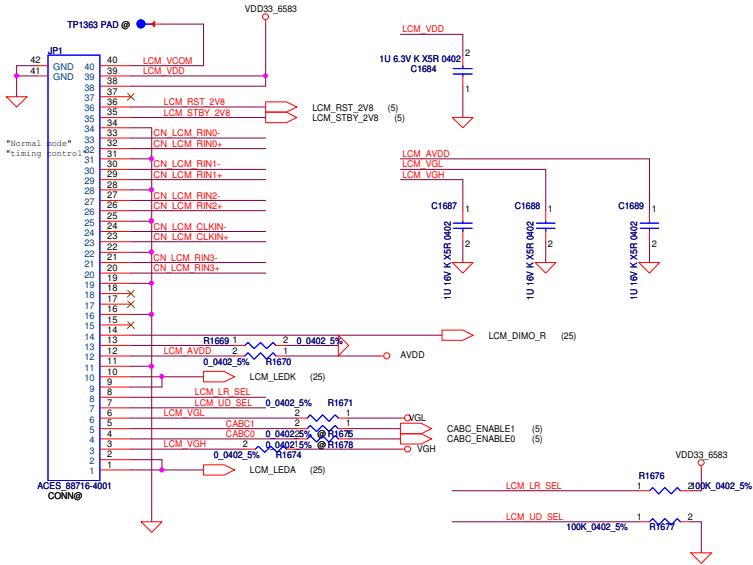
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| Issued Date | 2012/11/03 | Disciplined Date | 2013/11/03 |
| Board Name | | | MT8377 - Baseband |
| Rev D | | | Rev 5.1 |
| Project Name | | | ZSJEV-LA-A391P |
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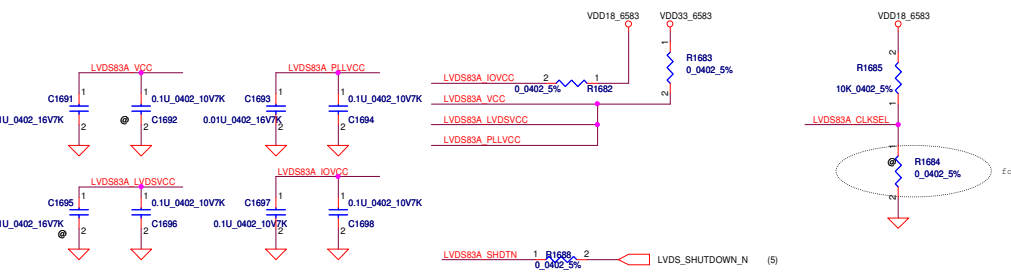
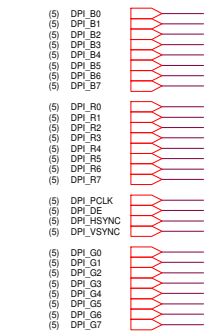
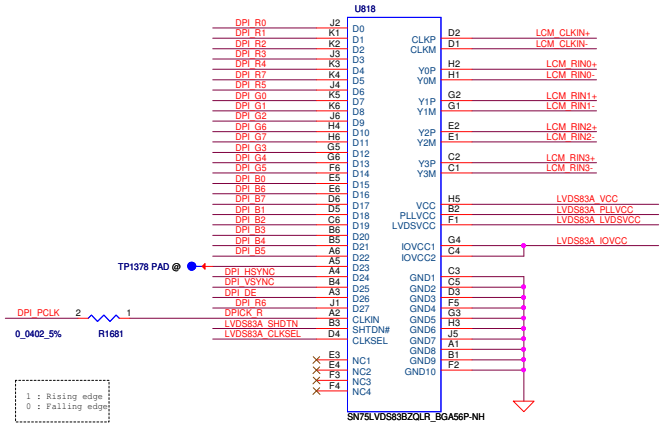


| Vendor | X76 level | BOM structure |
|----------|-------------|---------------|
| NANYA-1G | X76503BOL01 | NAN 256Mx16@ |
| HYNIX-1G | X76503BOL02 | HYN 256Mx16@ |
| | | |



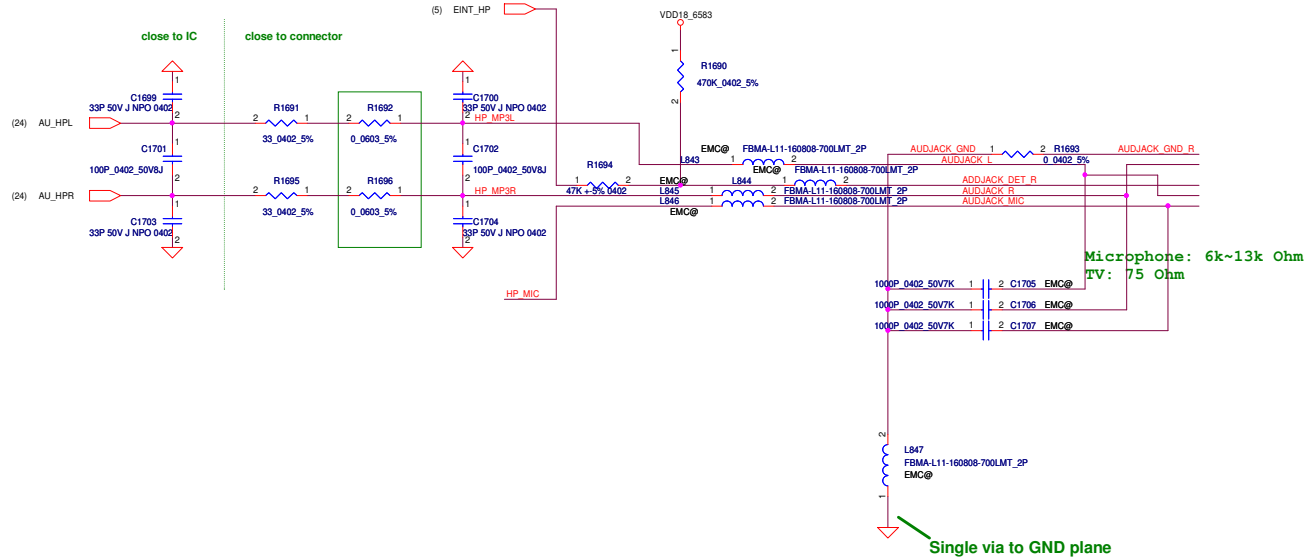


LVDS Bridge



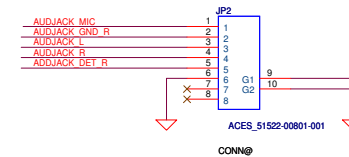
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Earphone RECEIVER

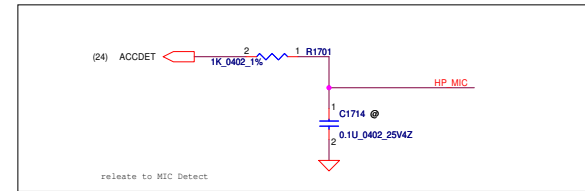
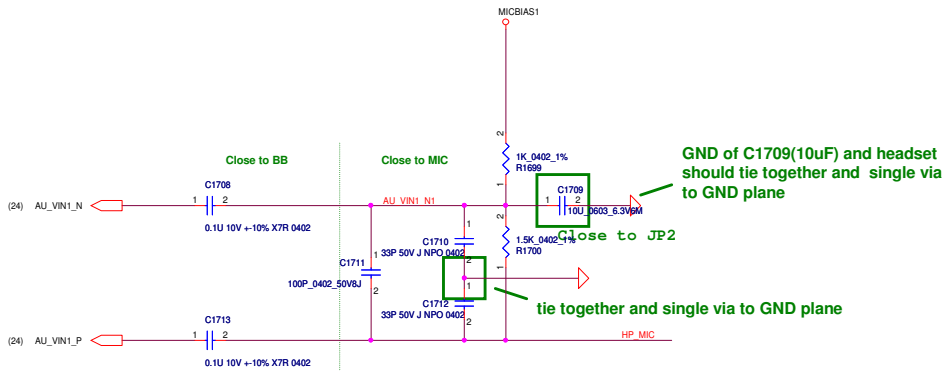


Single via to GND plane

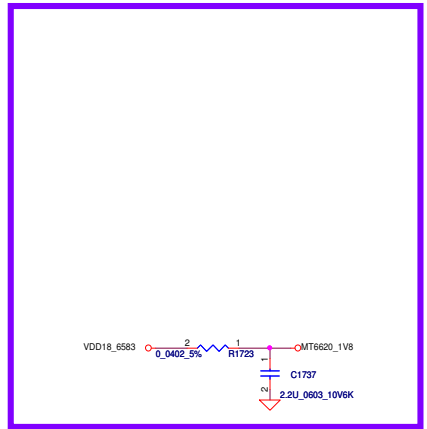
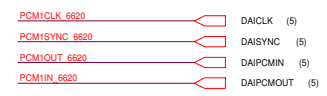
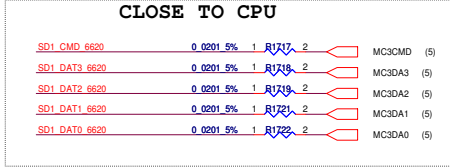
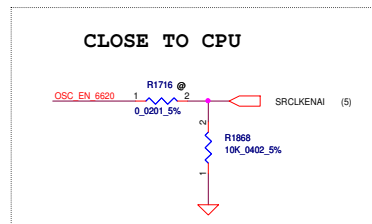
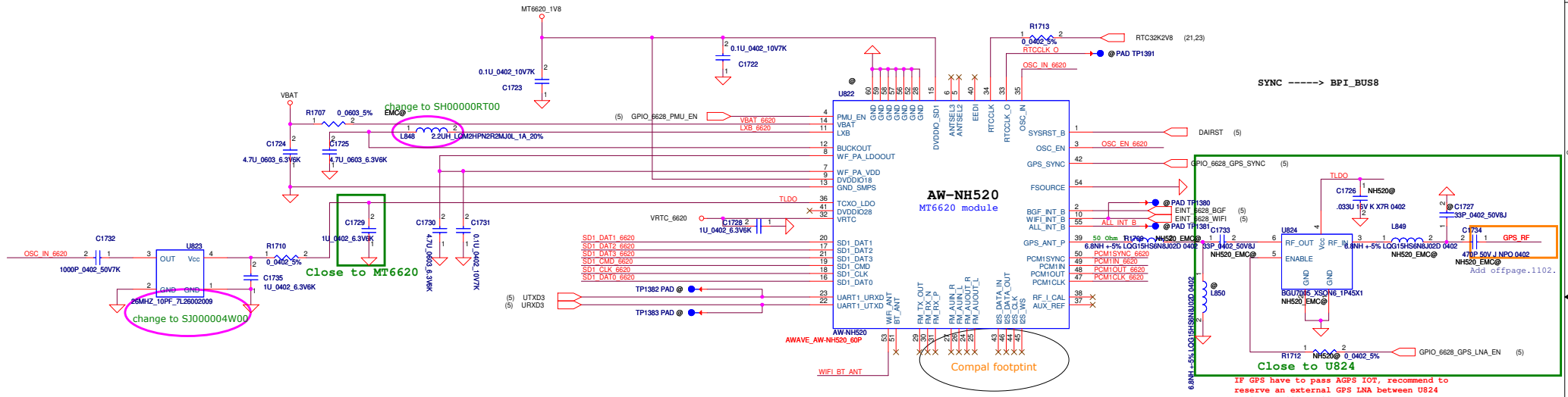
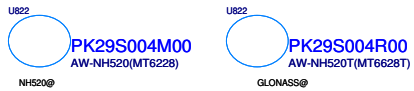
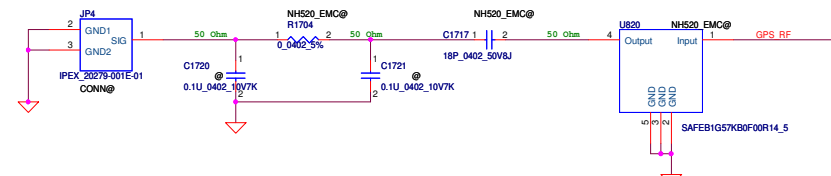
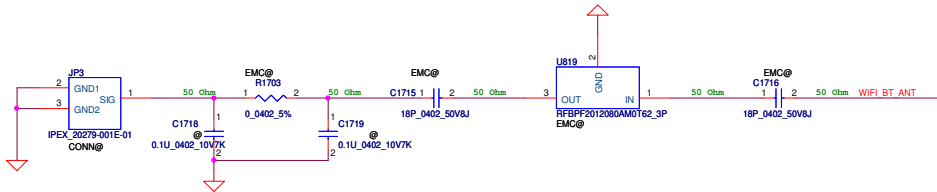
To Audio board



Earphone MICPHONE



| | | | | |
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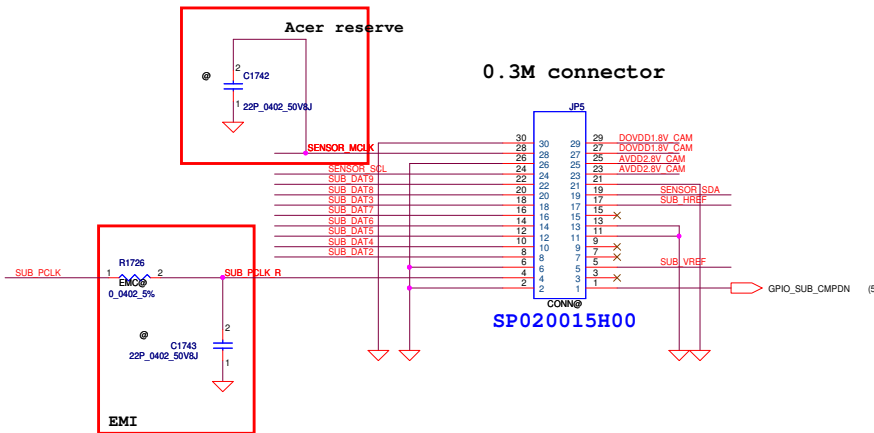
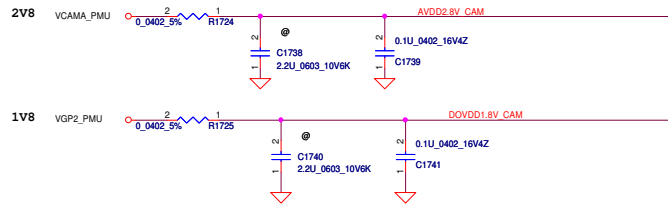
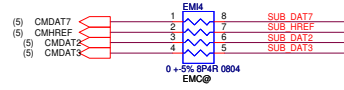
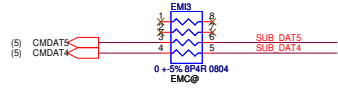
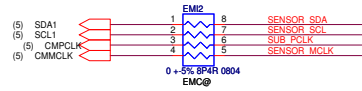
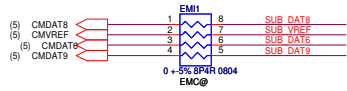


| | XTEST | EEDI | ANTSEL_3 | Default |
|---------------|---------------------|------|----------|---------|
| clock setting | 2.8V TCXO or OSC | 0 | 0 | 0 |
| | 1.8V TCXO or OSC | 0 | 1 | 0 |
| | XTAL | 0 | 0 | 1 |
| | external clock mode | 0 | 1 | 1 |

| | XTEST | ANTSEL_2 | ANTSEL_1 | Default |
|---------------------|----------------|----------|----------|---------|
| WiFi host interface | WiFi :SDIO1 | 0 | 0 | 0 |
| | WiFi :SDIO2 | 0 | 0 | 1 |
| | WiFi :SPI | 0 | 1 | 0 |
| | WiFi :reserved | 0 | 1 | 1 |

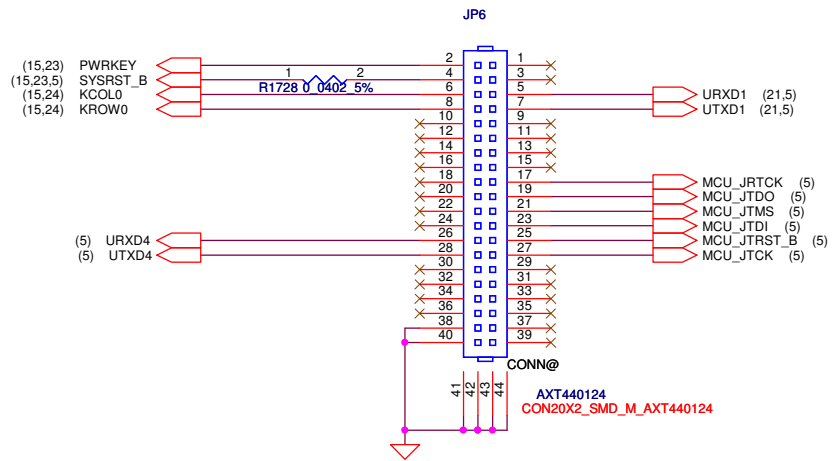
| | XTEST | ANTSEL_0 | Default |
|--------------------------|-------|----------|---------|
| BT/common host interface | UART1 | 0 | 0 |
| | SDIO2 | 0 | 1 |

Sub Camera



| | | | | |
|---|--------------------|-----------------|--------------------------|----------------------------------|
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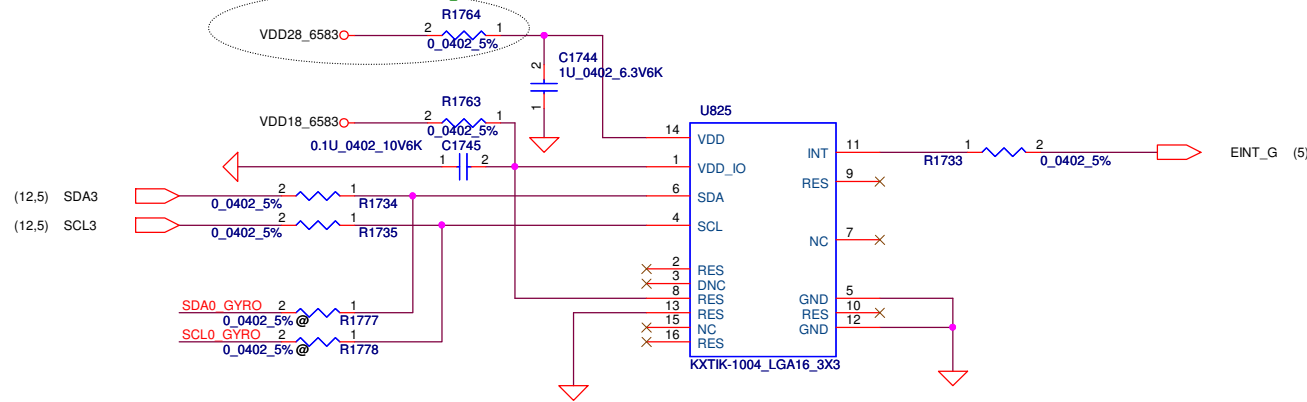
Common Debug



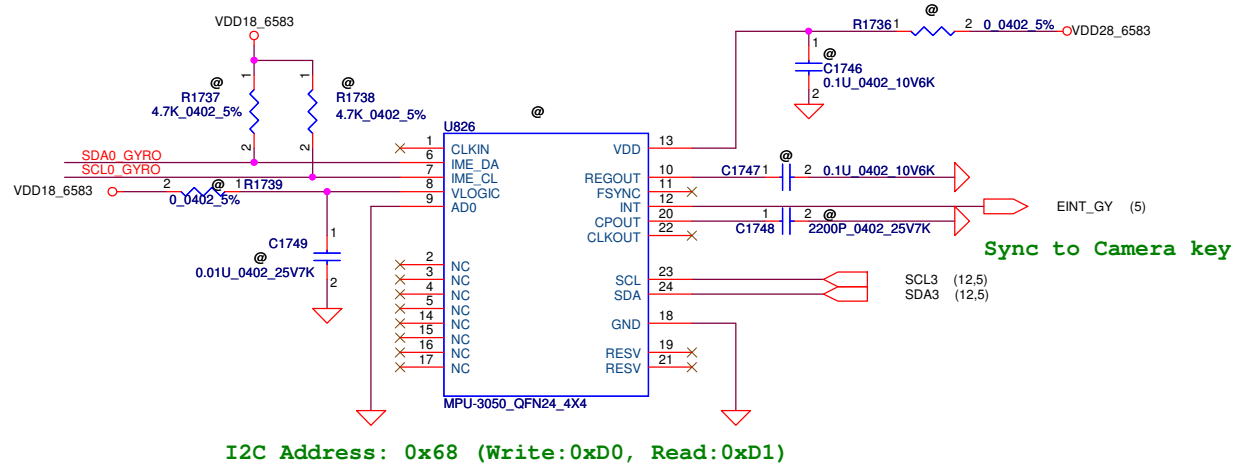
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| Issued Date | 2012/11/03 | Deciphered Date | 2013/11/03 | Title SD Card,Debug,USB |
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G-Sensor

for co-lay STK8313



Gyro Sensor

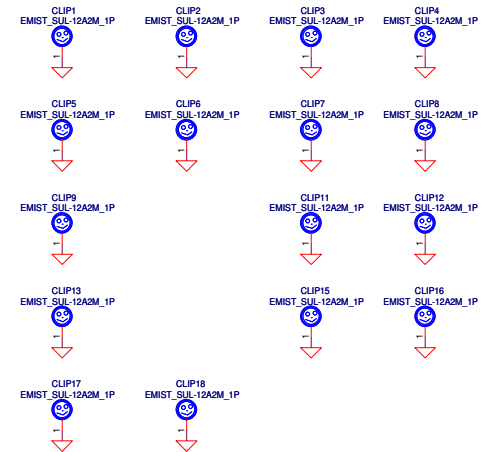
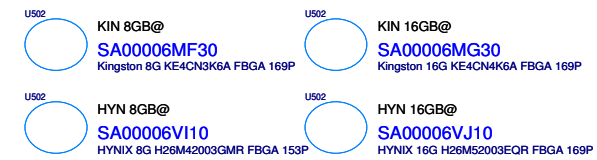
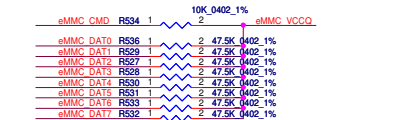
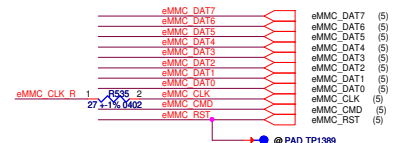
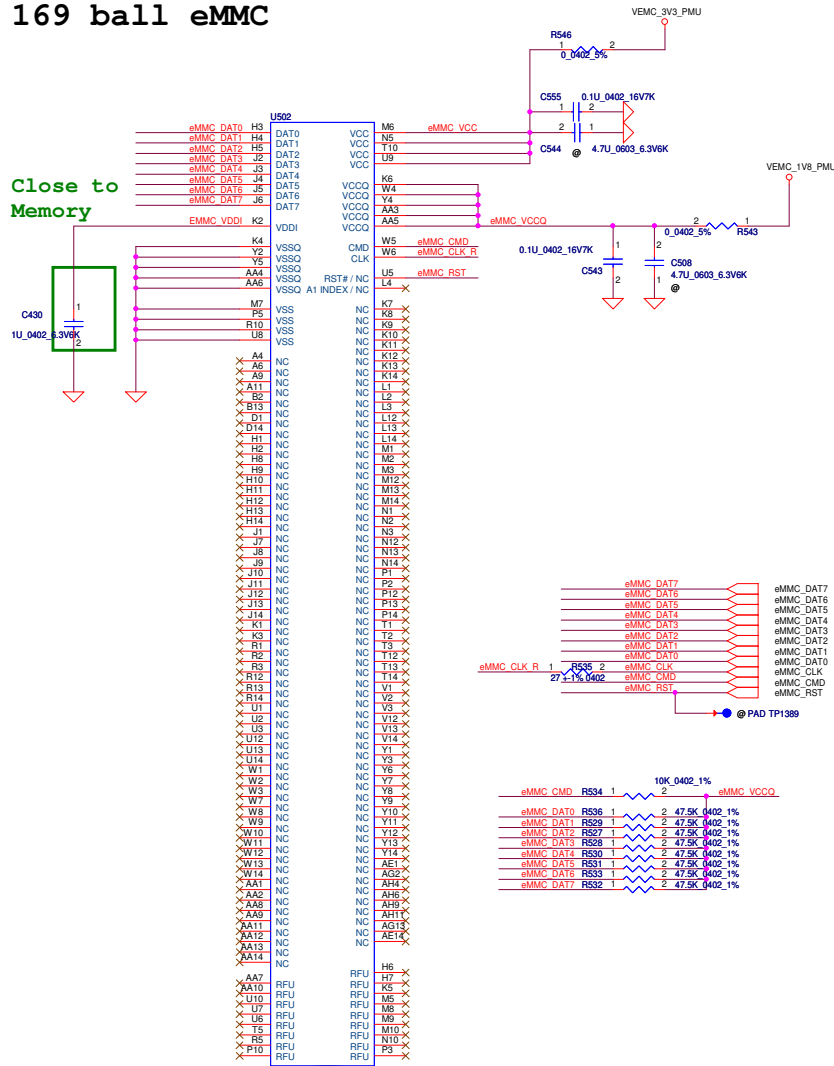


I2C Address: 0x68 (Write:0xD0, Read:0xD1)

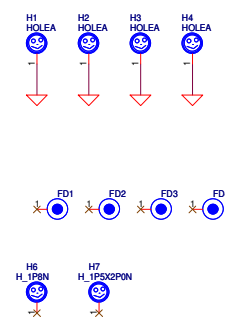
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| | | | | Size B |
| | | | | Rev 0.1 |
| | | | | Date: Thursday, March 28, 2013 |
| | | | | Sheet 12 of 28 |

169 ball eMMC

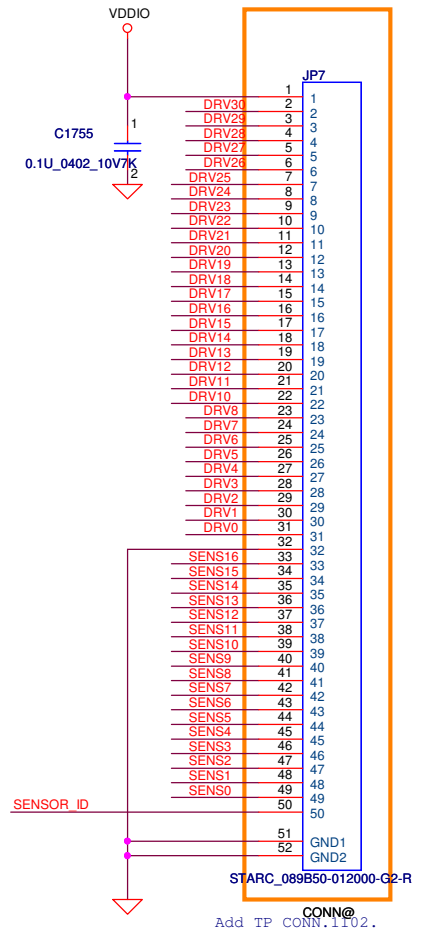
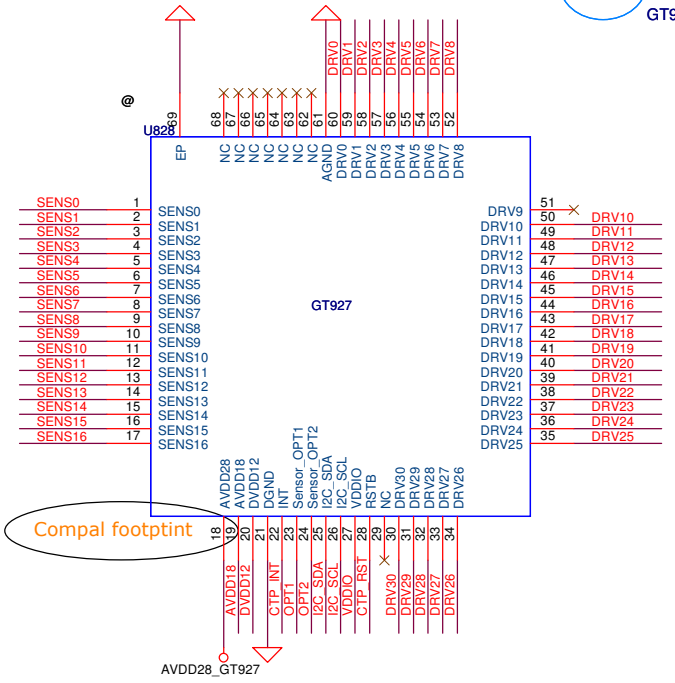
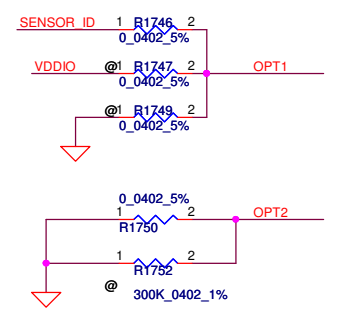
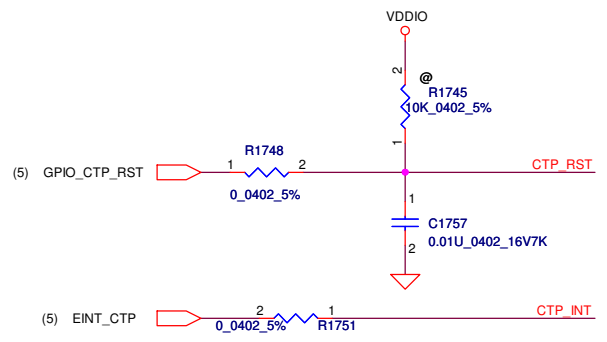
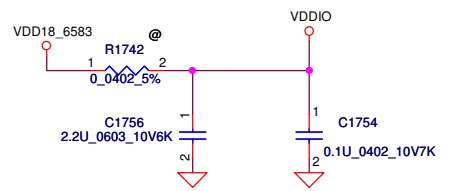
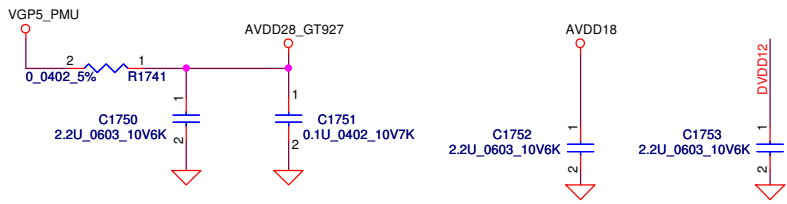
Close to Memory



SCREW HOLE

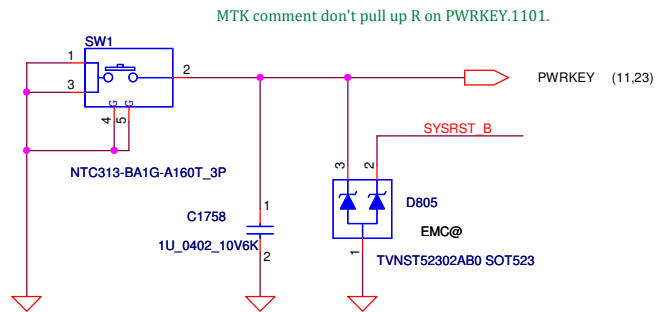


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| Size | C | Document Number | ZSJEV-LA-A391P | Rev |
| Date: | Thursday, March 28, 2013 | Sheet | 13 | of 28 |



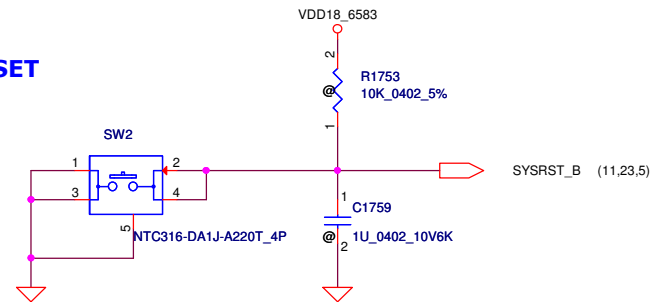
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| Issued Date | 2012/11/03 | Deciphered Date | 2013/11/03 | Title: Touch Panel |
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| Sheet | 14 | of | 28 | Sheet |

Power-on Button

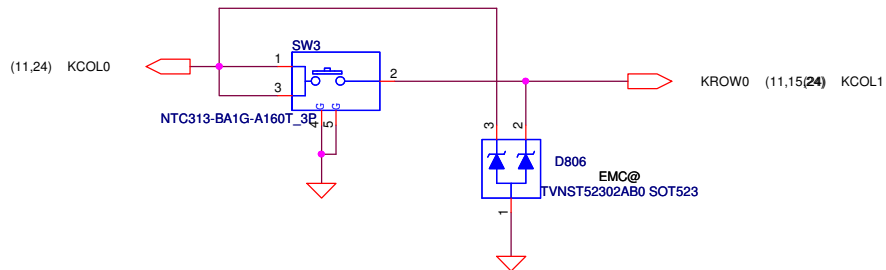


Compal GND MTK GND

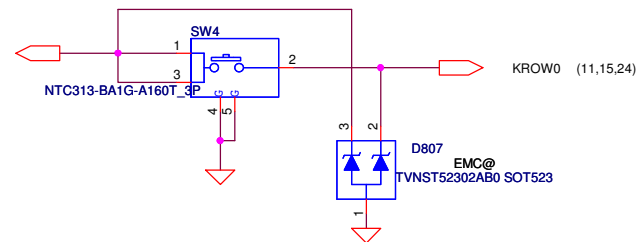
RESET



Volume Up (Download Key)

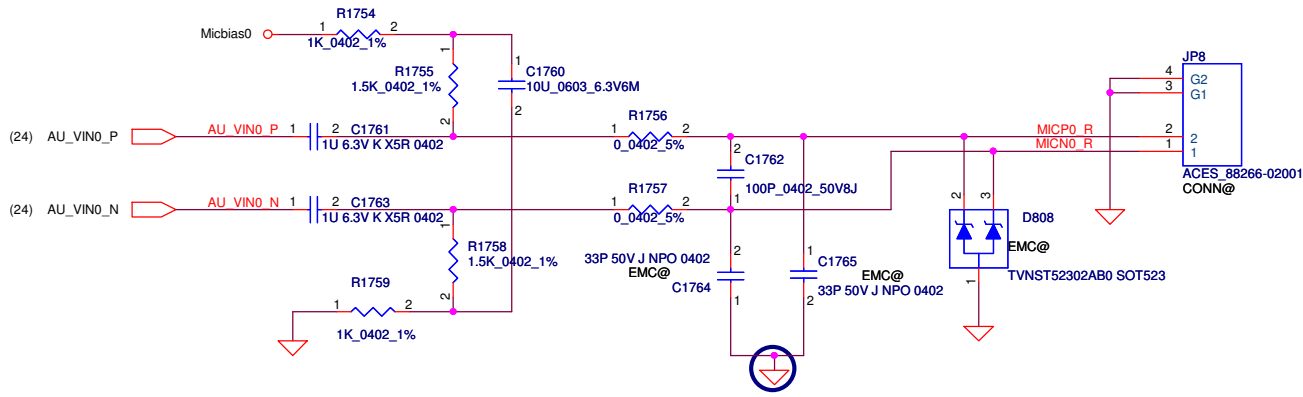


Volume Down

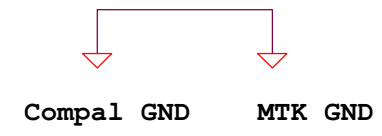


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| Issued Date | 2012/11/03 | Deciphered Date | 2013/11/03 | Title Button |
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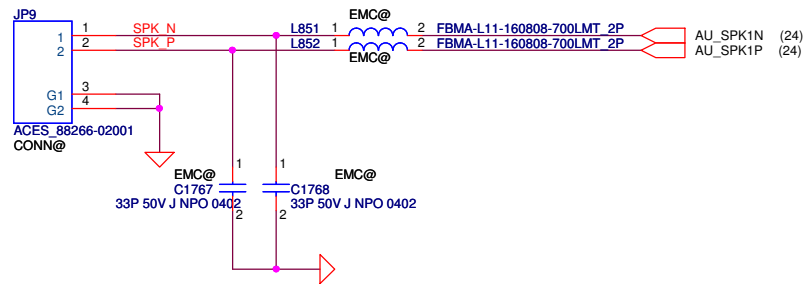
MIC



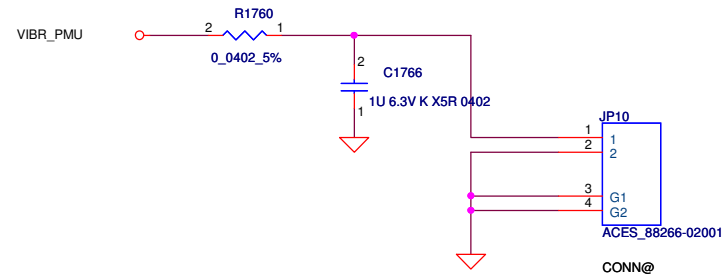
Modify MIC CONN SCH.1102.



SPAKER



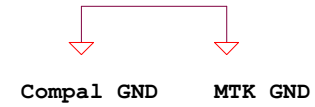
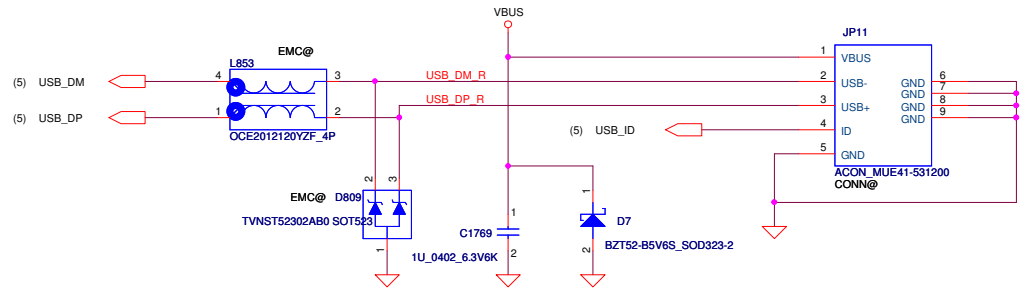
Vibrator



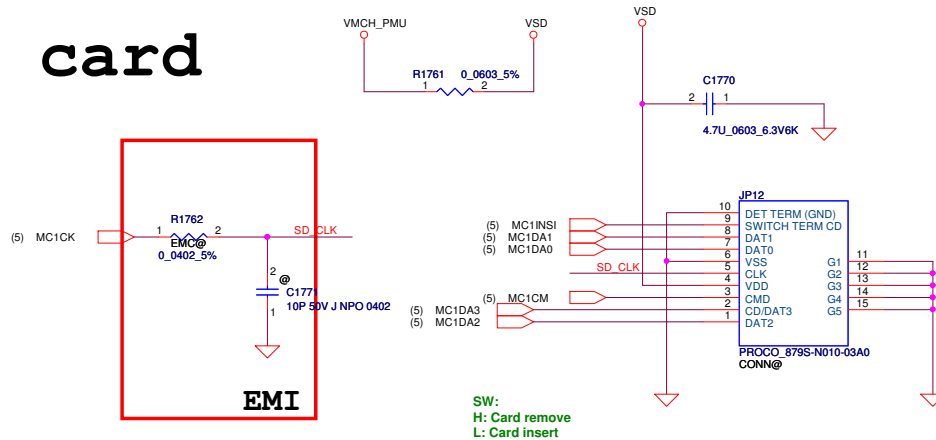
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Micro-USB

If mini-A connector insert => CID < 0V => Low
 If mini-B connector insert => CID > 1.2V => High
 IDPULLUP pin is replaced by 1.2V power source.



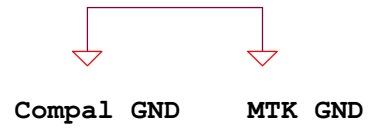
SD card



SW:
 H: Card remove
 L: Card insert

EMI

| | | | | |
|---|--------------------|-----------------|--------------------------|--|
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|---|--------------------|-----------------|------------|---|
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| Issued Date | 2012/11/09 | Deciphered Date | 2014/11/09 | RF_TX_ASM |
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| <small>Date</small> | | | | <small>Thursday, March 28, 2013</small> <small>Sheet</small> 20 <small>of</small> 28 |

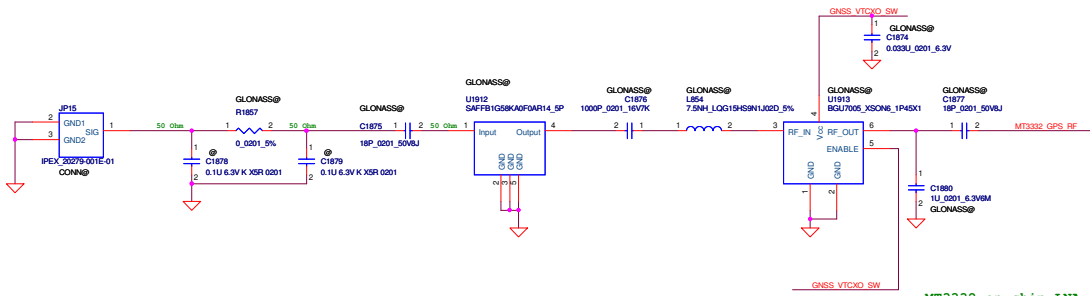
A

B

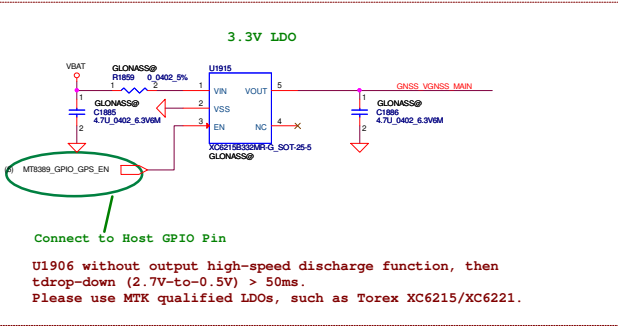
C

D

E



MT3332 on-chip LNA Matching



SA00006M400
S IC MT3332N QFN 48P GPS

**MT3332
QFN-48pins**

1.8V / 2.8V IO Voltage Selection
2.8V IO : U1907 pin30 - 42 need change to GNSS_VTLDO
1.8V IO : U1907 pin30 - 42 (IO voltage is SMP5_IV8)

Reserved for GPS HRST from host, connect to Host (MT62xx) GPIO pin

Reserved for improving GNSS Hot-Start performance.

Reference Frequency Selection
16.368MHz TCXO : R1864 = NC, PIN_41 = NC
26MHz TCXO : R1864 = 10K, PIN_41 = NC
26MHz XTAL : R1864 = 10K, PIN_41 contact 10K

As EINT to Host

Connect to HOST UART (TX/RX) interface

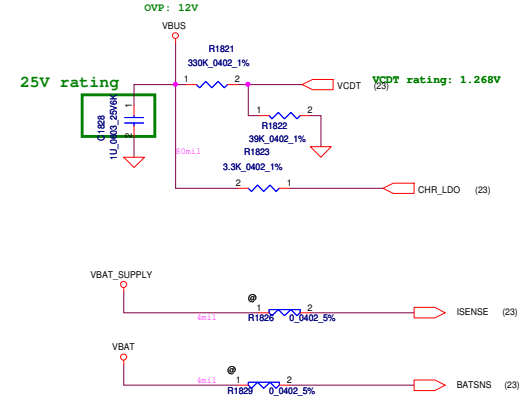
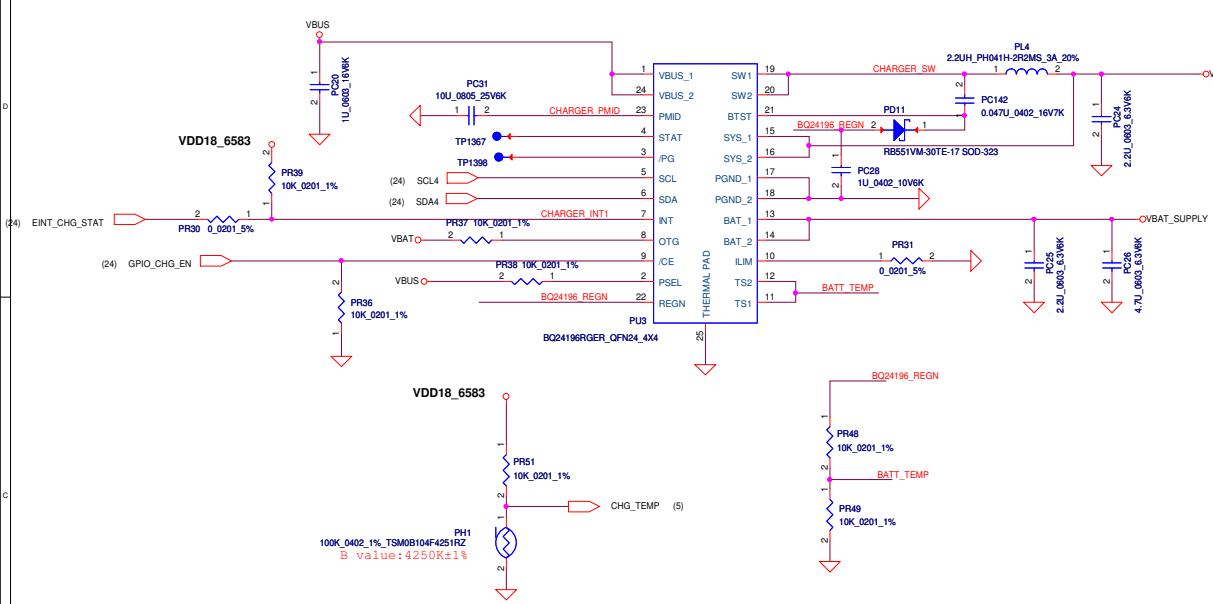
pin14 connect to C1894 GND net first, then connect to reference GND

RTC Voltage (2.8V)

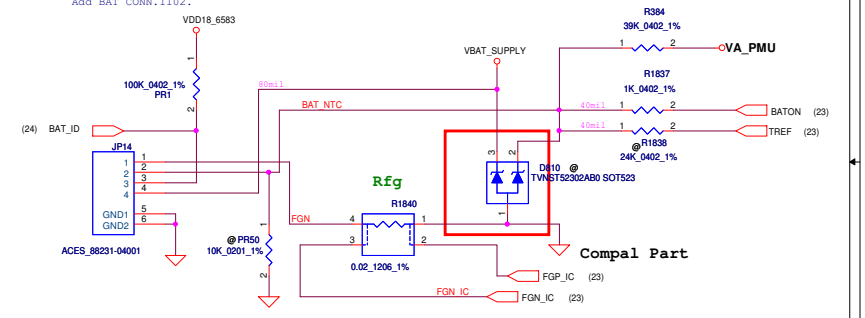
Connect GNSS_HOST_VRTC to always alive voltage source, and keep the voltage swing of GNSS_HOST_32K RTC clock same as GNSS_HOST_VRTC.

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Charger



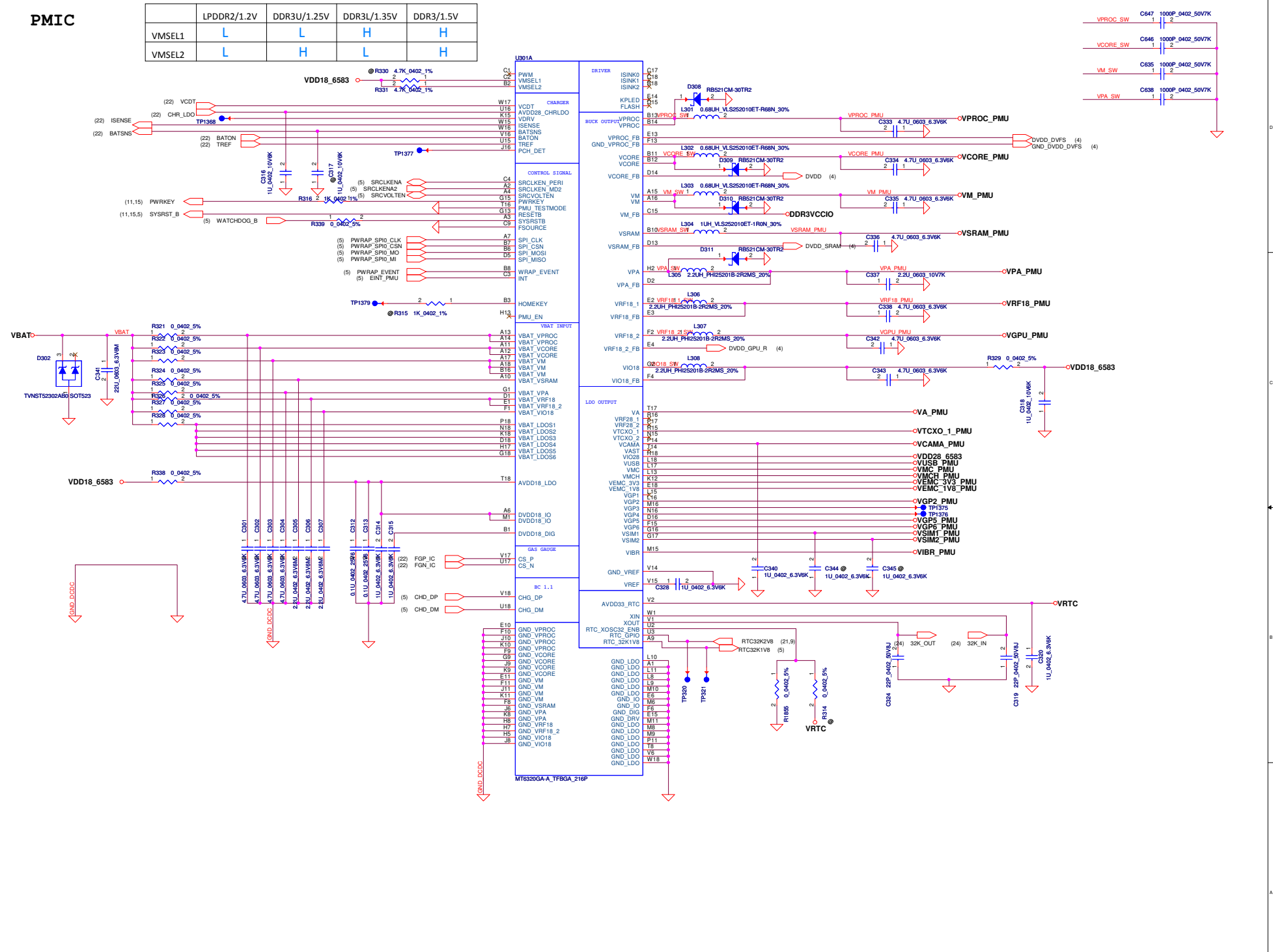
BATTERY CONNECTOR



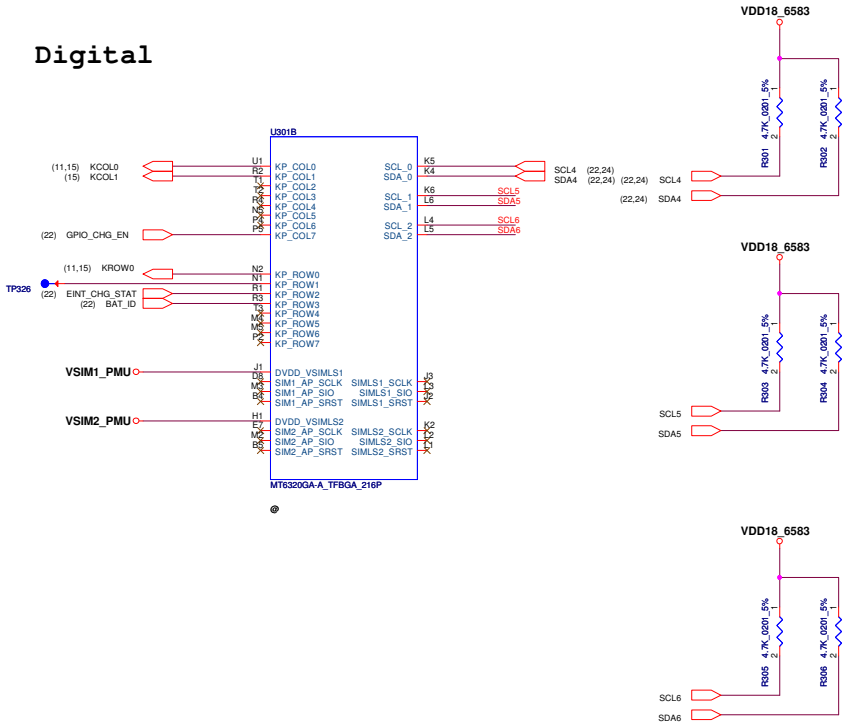
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| | | | | Date | Thursday, March 28, 2013 | Sheet |

PMIC

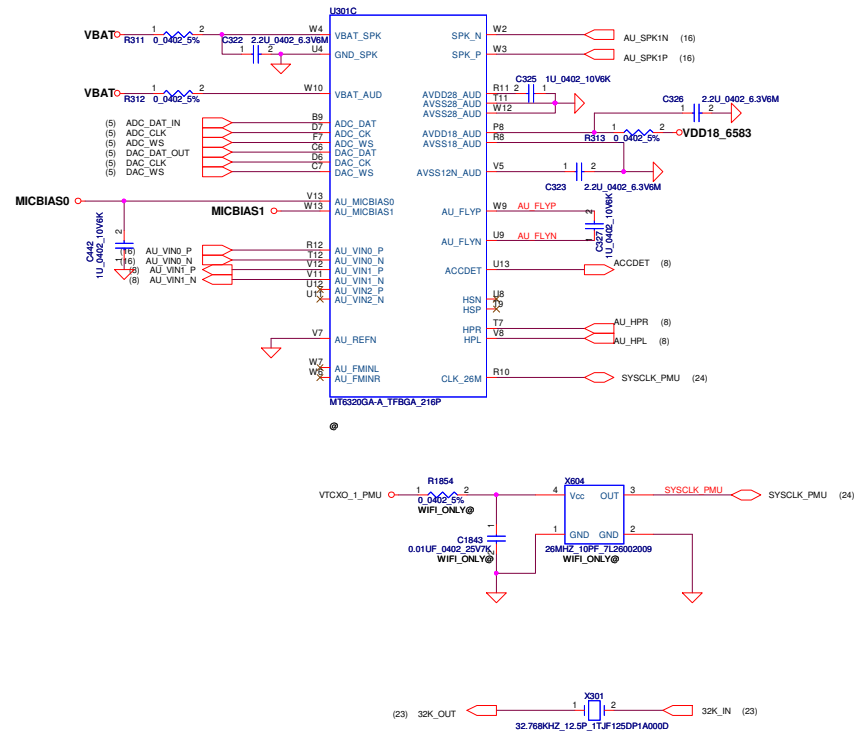
| | | | | |
|--------|-------------|-------------|-------------|-----------|
| | LPDDR2/1.2V | DDR3U/1.25V | DDR3L/1.35V | DDR3/1.5V |
| VMSEL1 | L | L | H | H |
| VMSEL2 | L | H | L | H |

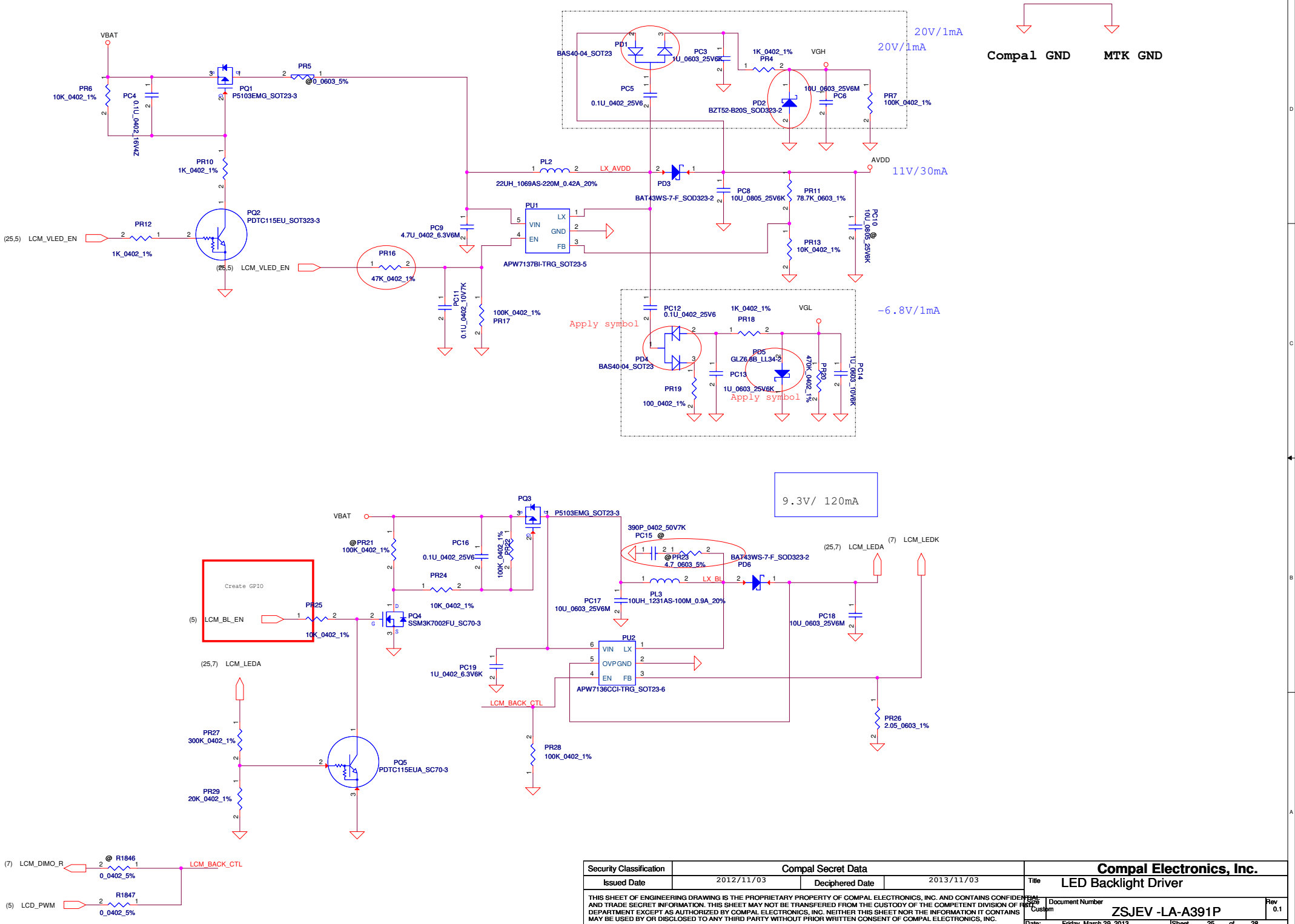


Digital



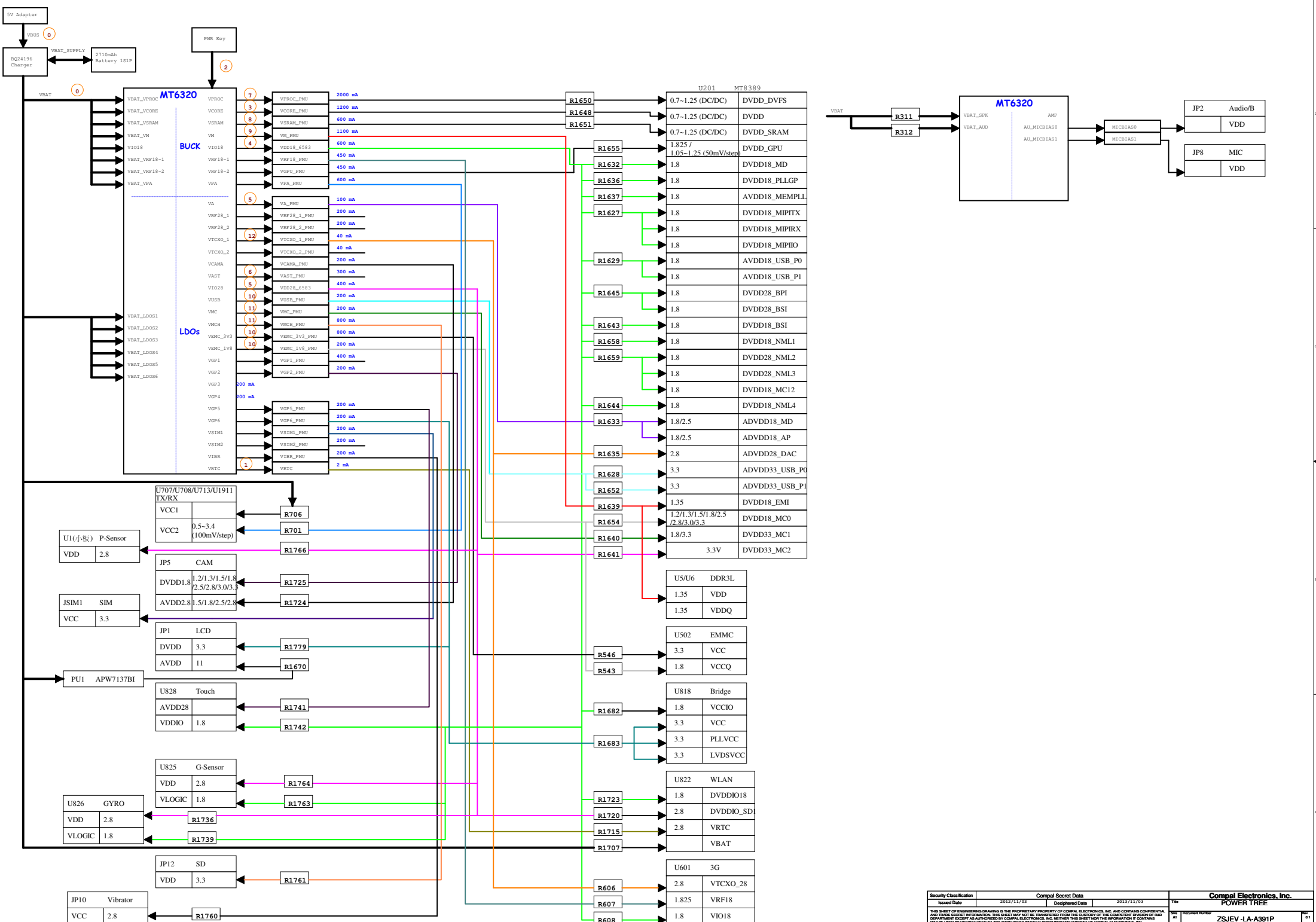
Audio





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| Compal Electronics, Inc. | |
| LED Backlight Driver | |
| Document Number | ZSJEV-LA-A391P |
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2013/3/11
 Update PD11 , D308 , D309 , D310 , D311 , L301 ,
 L302 , L303 , L304 , L307 , C647 , C646 , C635 ,
 C638 compal P/N
 Change to un-pop : PR50 , R1838 , R314 ,R315
 Change to pop : R1855

2013/3/22
 Add C318
 Del R332,R348

2013/3/25
 Delete TP324, TP325, TP327, TP328 test point

2013/3/28
 Delete net SIM1_SCLK, SIM1_SIO, SIM1_SRST,
 SIM1_CLK, SIM1_DATA, SIM1_RST

2013/3/29
 R1847 change to 0-ohm

| | | | | | |
|--|------------|--------------------|------------|--|---------------------------|
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| Date: Friday, March 29, 2013 | | | | Sheet 27 of 28 | |

2013/3/13
 ADD NH520@,NH520_EMC@
 modify RAM BOM structure
 P01 Add S4 for GLONASS frame
 P04. R1639 to 0_R_0805
 R1648,R1650 to 0_R_0603
 Del R1653
 P05. Del TP1373,R634,R1765,R1766
 Del U201A no function net
 P06. C70,C64,C68 to 0.1uf_0402
 P07 R1675,R1678 to @
 P08. Del R213, net POUT
 JP2_PINS to NC
 P09. update U823 symbol
 P13. RS35 to 27ohm(MTK advice)
 P15. R1753,C1759 to @ (MTK advice)

2013/3/22
 ADD S4,S5
 L838,L839,L840,L841,L842,L853 --> SM070001R00
 update EMMC FN.
 P05. ADD TP1366,TP1369
 R1520 to GLONASS@, R1521 to NH520@
 P10. C1743 to @, R1726 to 0 ohm for EMI reserve
 P13. DEL CILP19,CLIP20
 P16. C1766,R1760 del @
 P17. C1771 to @, R1762 to 0 ohm for EMI reserve
 P21.C1887,C1902-->SE000000WN00
 C1880,C1884,C1888,C1889,C1891,C1893-->SE000000UC00
 C1890-->SE000000V600
 R1859 to U1915 PIN1

2013/3/26
 P06. R72,R73,R65,R70,R525,R77 to 0201 size

2013/3/26A
 P06. C61 to 0201 size

2013/3/28
 P15. SW1,3,4 co-layout SN100008300

2013/3/29
 P04. R1650 change to short pad
 P05. del net: SIM1_SCLK, SIM1_SIO, SIM1_SRST, EINT_A

2013/ 4/ 1
 P15. del co-layout switch button(SW5,6,7)

| | | | | | |
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