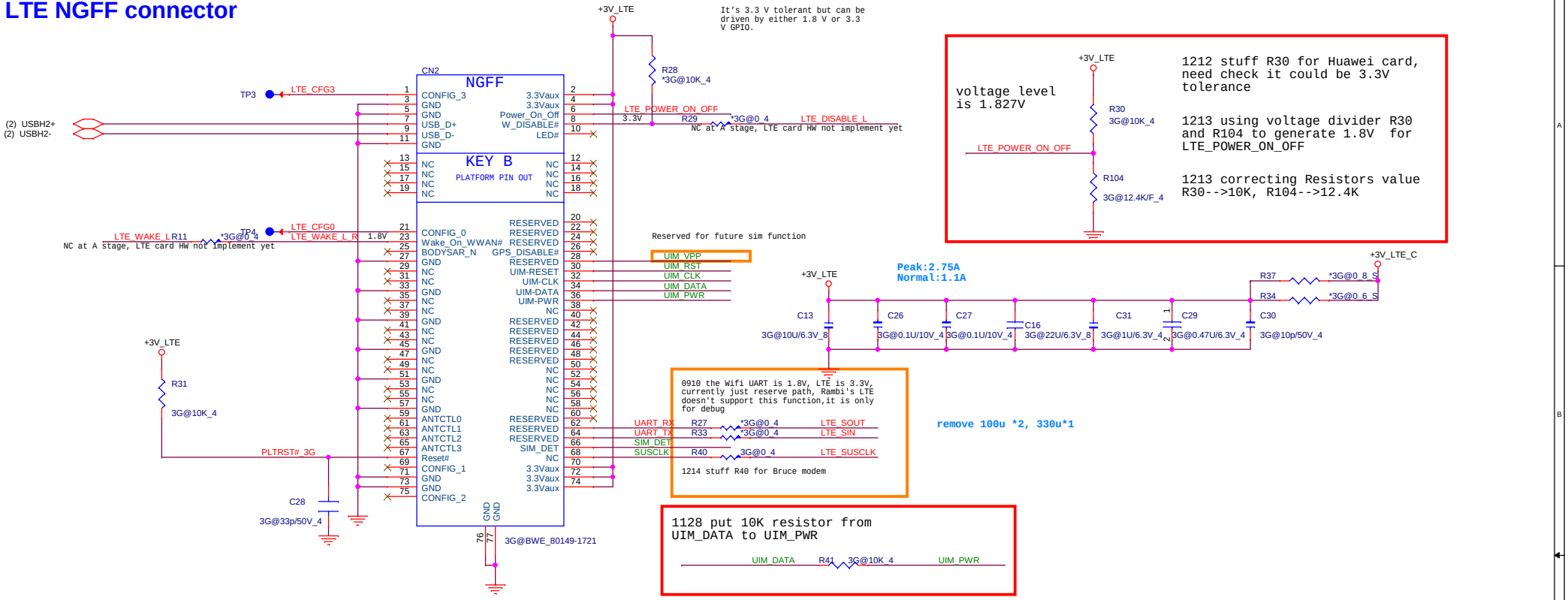
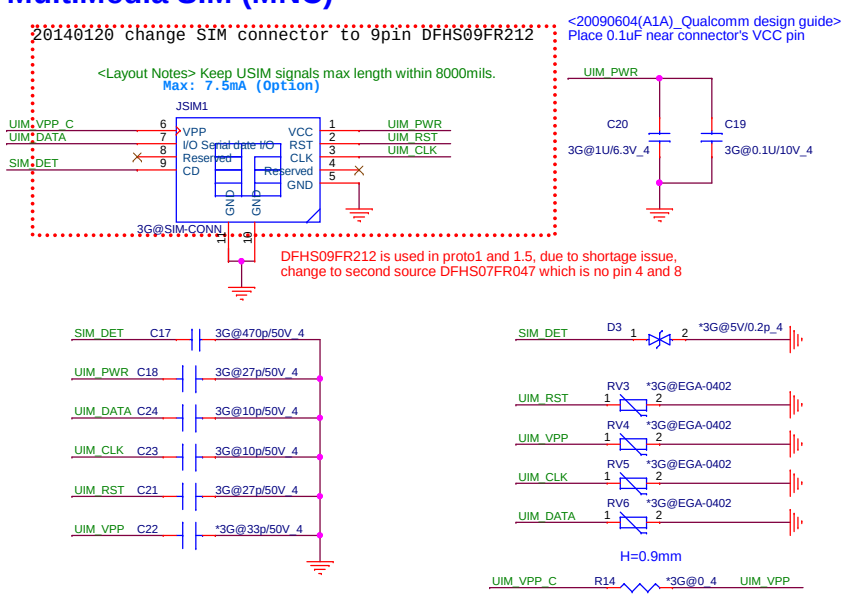
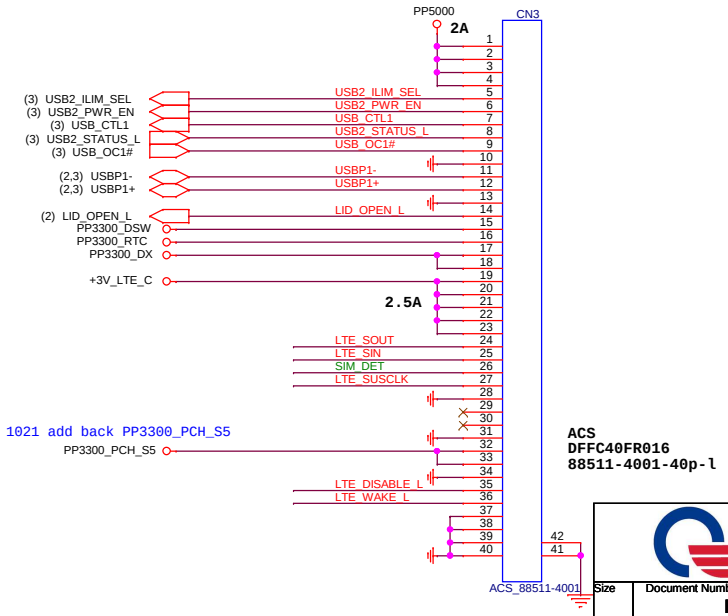
# LTE NGFF connector




# MultiMedia SIM (MNC)




# IO Board Connector

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|---|---|---|
| | LTE NGFF/SIM | 2A |

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# USB HUB

1021 3G@HUB@ means HUB will be stuffed if 3G/LTE exists

(1,3) USBP1-
(1,3) USBP1+
USBP1- R38 3G@HUB@0_4 USB_H1_N1
USBP1+ R39 3G@HUB@0_4 USB_H1_P1

TP7
TP2 USB_HUB_5V
+3V_USB
EEPROM_SCL
nOVRP1
nOVRP2
PGANG
PSELF

U1
VREG VCC SDA I2C_SCL OVR#[1] OVR#[2] GANG SELFPWR
28 27 26 25 24 23 22

USB_H1_N1 1 DD-0
USB_H1_P1 2 DD+0
USBH1- 3 DD-1
USBH1+ 4 DD+1
5 VCC_A_5
USBH2- 6 DD-2
USBH2+ 7 DD+2
QFN28
RREF 8
VCC_A_9 9
XIN 10
XOUT 11
DD-3 12
DD+3 13
VCC_A_14 14
GND 29
GL852G-OHG12

21 VCC_D
20 OVR#[3]
19 OVR#[4]
18 TEST
17 RESET#
16 DD+4
15 DD-4
GND

+3V_USB_D R1 3G@HUB@0_4 +3V_USB
nOVRP3
nOVRP4
EEPROM_SCL
RESET#_USB TP1

52.4mA
Follow vendor's suggestion(Close to pin 21)

C1 3G@HUB@0.1U/10V_4
GND

3G@HUB@GL852G-OHG12

USB 2.0
(3) USBH1-
(3) USBH1+
LTE
(1) USBH2-
(1) USBH2+

USBH_RREF
+3V_USB
XIN
XOUT
USBH3+ TP5
USBH3- TP6

1021 If USB2 external IO has wake up feature, HUB power need to be available in S5

PP3300_PCH_S5 R16 3G@HUB@0_6_S +3V_USB
PP3300_DX R15 *3G@HUB@0_6_S

Follow vendor's suggestion(Close to GL850G-31)

15 mil

C11 3G@HUB@0.1U/10V_4
C10 3G@HUB@0.1U/10V_4
C5 3G@HUB@1U/6.3V_4
C4 3G@HUB@1U/6.3V_4
C9 3G@HUB@0.1U/10V_4
GND

+3V_USB
C7 3G@HUB@10UF/6.3V_4
C8 3G@HUB@0.1U/10V_4
GND

Follow vendor's suggestion(Close to pin 28)

Y1
XIN
XOUT
C6 3G@HUB@18P/50V_4
3G@HUB@12MHz
C3 3G@HUB@18P/50V_4
GND

+3V_USB
R17 3G@HUB@10K/F_4
RESET#_USB
C25 3G@HUB@0.1U/10V_4
R18 *3G@HUB@47K_4
GND

+3V_USB
nOVRP1 R22 3G@HUB@10K_4
nOVRP2 R21 3G@HUB@10K_4
nOVRP3 R2 3G@HUB@10K_4
nOVRP4 R3 3G@HUB@10K_4
PSELF R19 3G@HUB@10K_4
PGANG R20 3G@HUB@100K/F_4
USBH_RREF R6 3G@HUB@680/F_4
GND

## Lid Switch (HSR)

PP3300_RTC R4 *100K_4 LID_OPEN_L (1)
R5 0_6
RAMP
D1 *5V/0.2p_4
LID_OPEN_L
D2 *5V/0.2p_4
C2 1U/6.3V_4
MR1 YB8251ST23

## Hole

HOLE4 *Hg-c236d95p2
HOLE5 *Hg-c236d95p2
HOLE3 *h-c98d98n
HOLE1 *h-c236d98p2
HOLE2 *h-c236d95p2

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|---|---|---|
| | USB HUB -1 | 2A |
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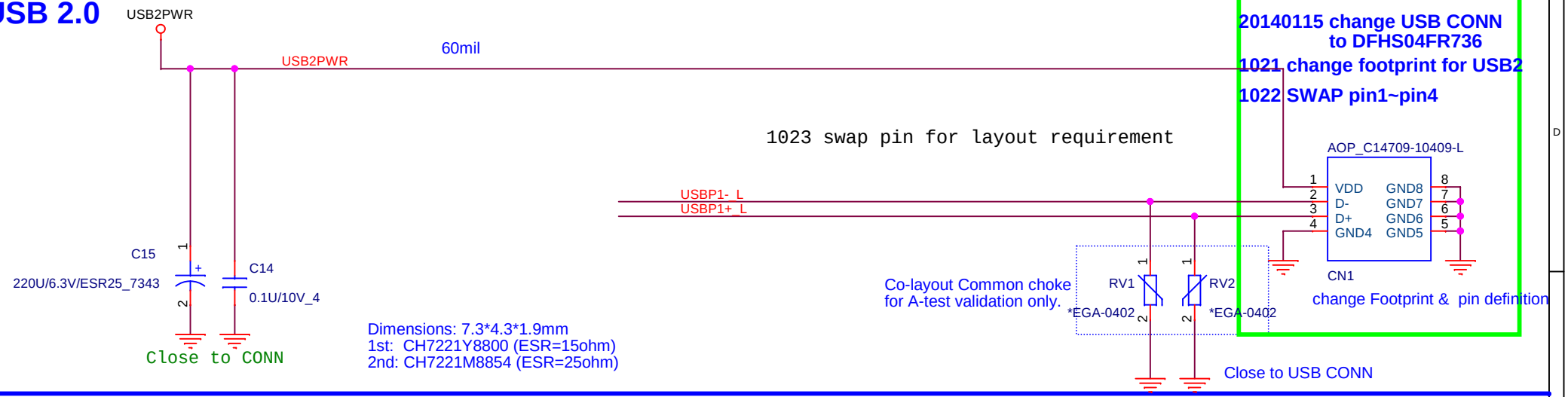
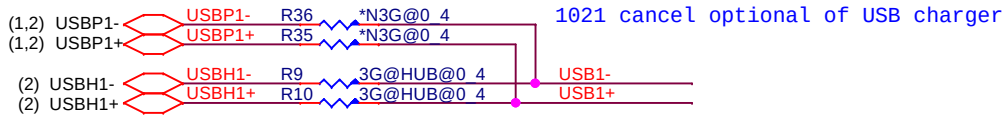
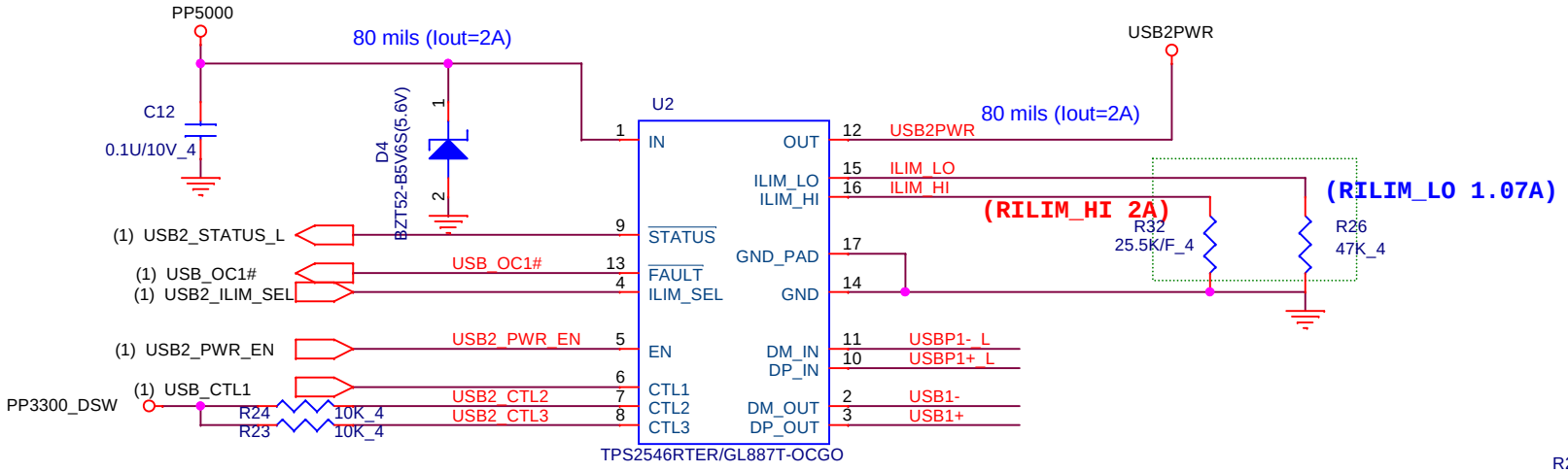
# USB 2.0

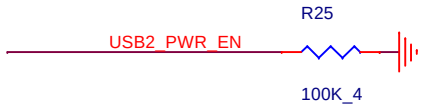



# USB Charger




$$IOS_typ(mA) = 50{,}250/\{RILIM_XX(K\Omega)+0.1\}$$




RILIM_LO is optional and the ILIM_LO pin may be left unconnected if the following conditions are met:
1. ILIM_SEL is always set high
2. Load Detection - Port Power Management is not used
3. Mouse / Keyboard wake function is not used
If conditions 1 and 2 are met but the mouse / keyboard wake function is also desired, it is recommended to use
RILIM_LO < 80.6 kΩ.
The following equation programs the typical current limit:
(1)
RILIM_XX corresponds to either RILIM_HI or RILIM_LO as appropriate.

| | | |
|---|---|---|
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| Size | Document Number: USB 2.0/USB Charger | Rev: 2A |
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| Model | Version | CHANGE LIST |
|---|---|---|
| Chrome | 1A | 1. update CN2 connecotr to DFFC24FS006 and footprint.<br>2. update CN22 connecotr to DFHS52FR107 and footprint.<br>3. update JSIM1 connecotr to DFHS09FR212 and footprint.<br>4. update CN17 connecotr to DFHD12MR046 and footprint.<br><br>5. Net LTE_WAKE_L change connection from CN22 pin51 to pin1<br>6. Change net name +3v_mini2 _VDD to +3v_VDD<br>7. Add 0 ohm in UIM_VPP<br><br>8. Add Hole1 ~ Hole6<br>9. reverse CN2 pindefine<br>10.swap USB6+_R,USB6-_R<br><br>11. Modify U1 pin20 net name.<br>12. Change Tp name and add TP<br>13. Change LTE to NGFF<br>14. Reserve 10KΩ pull up to LTE_POWER_ON_OFF<br>14. USB CN29 footprint & pin define<br>14. change D35,D23 to 0402 |
| | 2A | 1. Remove Card reader<br>2. Add USB HUB<br><br>10/21<br>1. add back PP3300_PCH_S5<br>2. add back USB HUB power option (PP3300_PCH_S5)<br>3. 3G@HUB@ means HUB will be stuffed if 3G/LTE exists<br>4. cancel optional of USB charger<br>5. change footprint and PN for USB2,need check layout file again<br><br>10/22<br>1. change USB connector pin definition for layout<br><br>10/23<br>1. swap L27 pin for layout requirement<br><br>10/24<br>1. Remove EEPROM U50.<br><br>10/25<br>1. Reserve R40, add LTE_SUSCLK |
| | 3A | 11/28<br>1. put 10K resistor from UIM_DATA to UIM_PWR<br><br>12/04<br>1. change SIM connector to 7pin DFHS07FR047<br><br>12/12<br>1. stuff R30 for Huawei card, need check it could be 3.3V tolerance<br><br>12/13<br>1. using voltage divider R30 and R104 to generate 1.8V for LTE_POWER_ON_OFF for Huawei card<br>2. correcting Resistors value R30-->10K, R104-->12.4K<br><br>12/14<br>1. stuff R40 for Bruce modem |

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| Size | Document Number | Rev |
|---|---|---|
| | Change list | 2A |

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