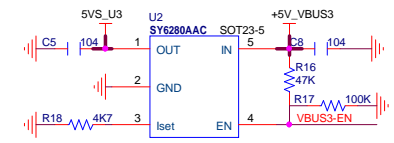
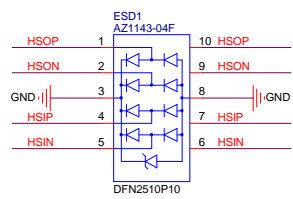
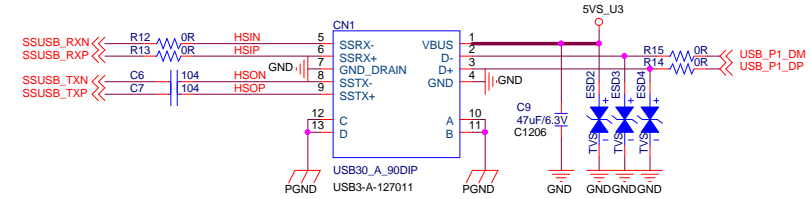
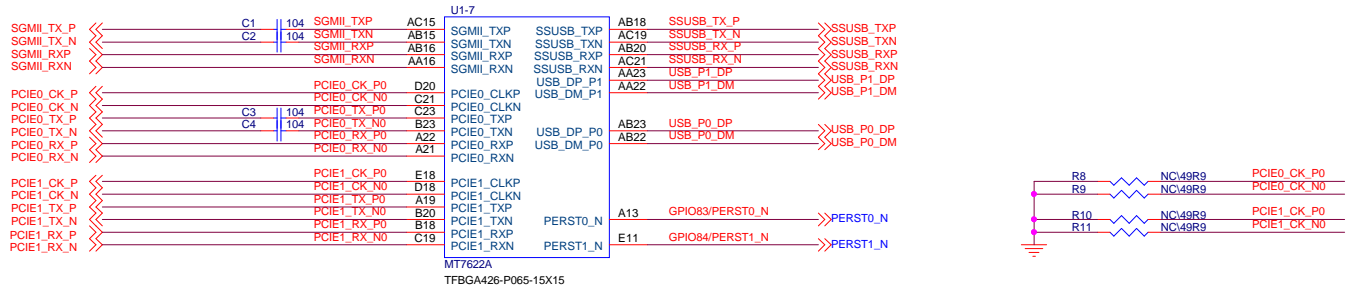
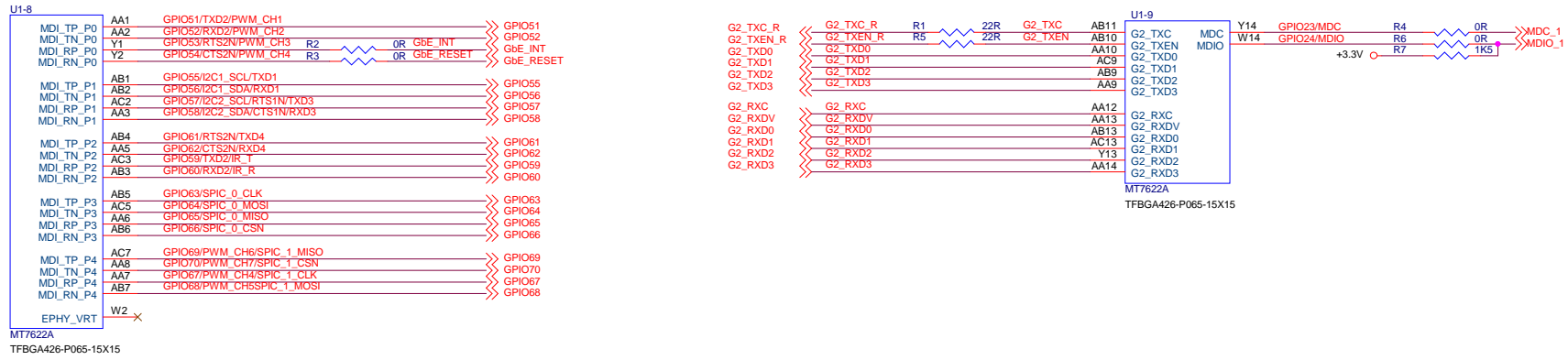


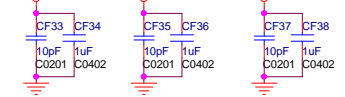
# 02 HIF\_RGMII\_SGMII



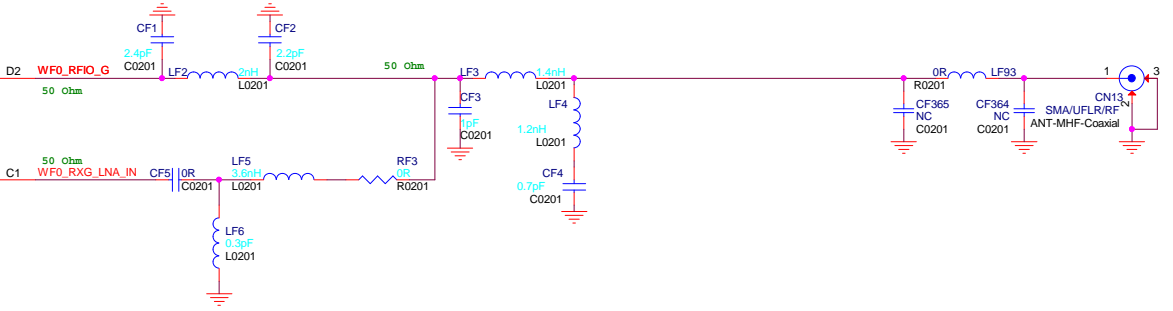
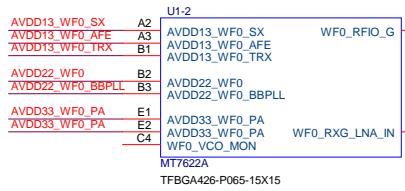
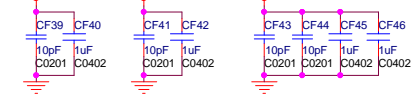


# 05 MT7622A\_2.4G Wi-Fi

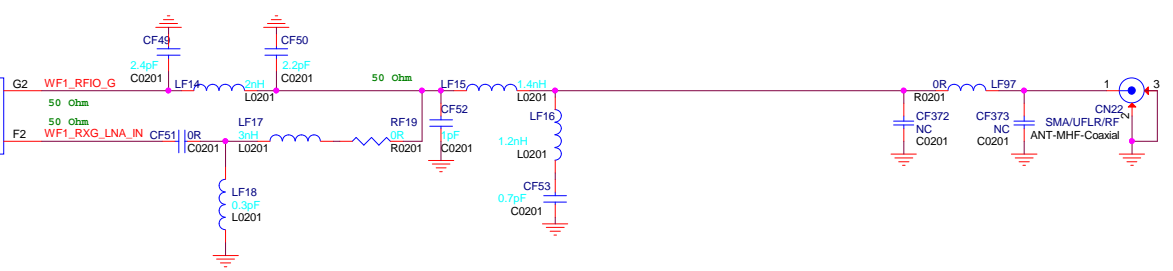
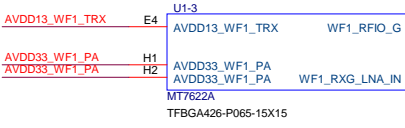
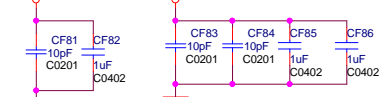
AVDD13\_WF0\_SX AVDD13\_WF0\_AFE AVDD13\_WF0\_TRX



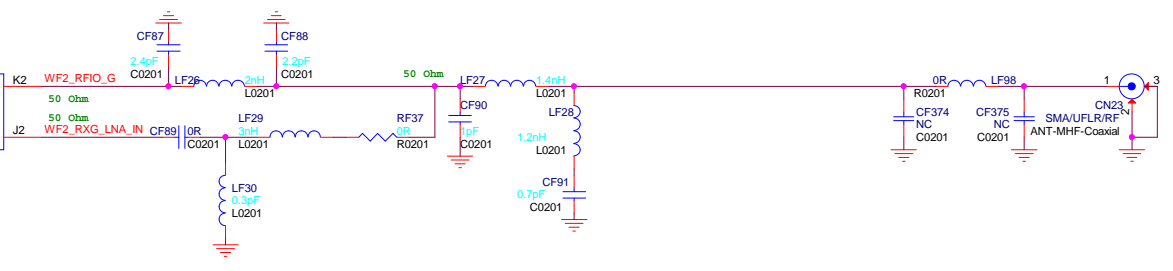
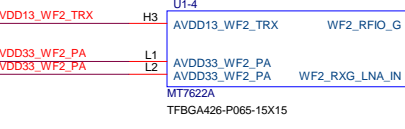
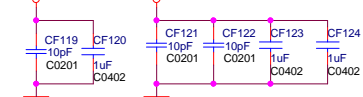
AVDD22\_WF0 AVDD22\_WF0\_BBPLL AVDD33\_WF0\_PA



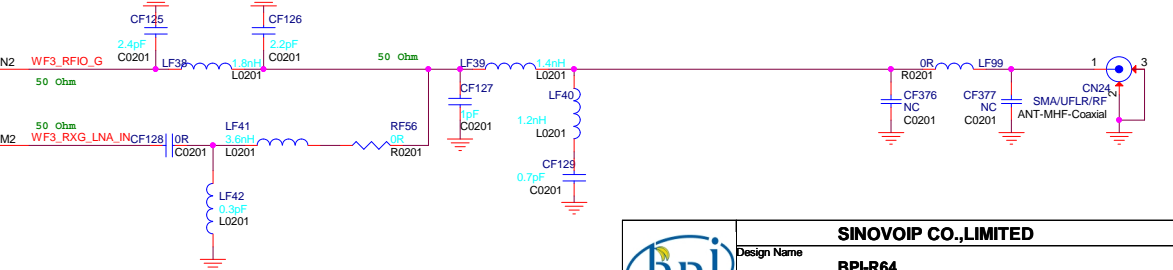
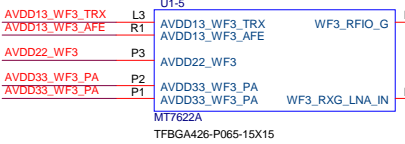
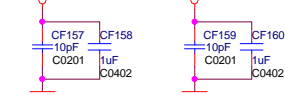
AVDD13\_WF1\_TRX AVDD33\_WF1\_PA



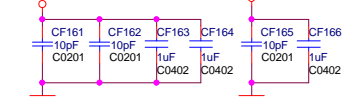
AVDD13\_WF2\_TRX AVDD33\_WF2\_PA



AVDD13\_WF3\_TRX AVDD13\_WF3\_AFE

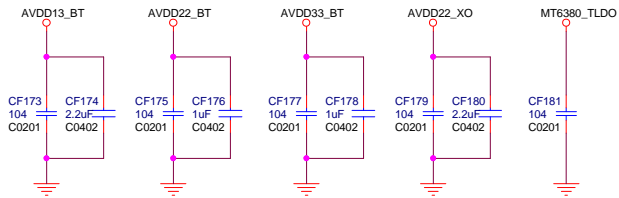
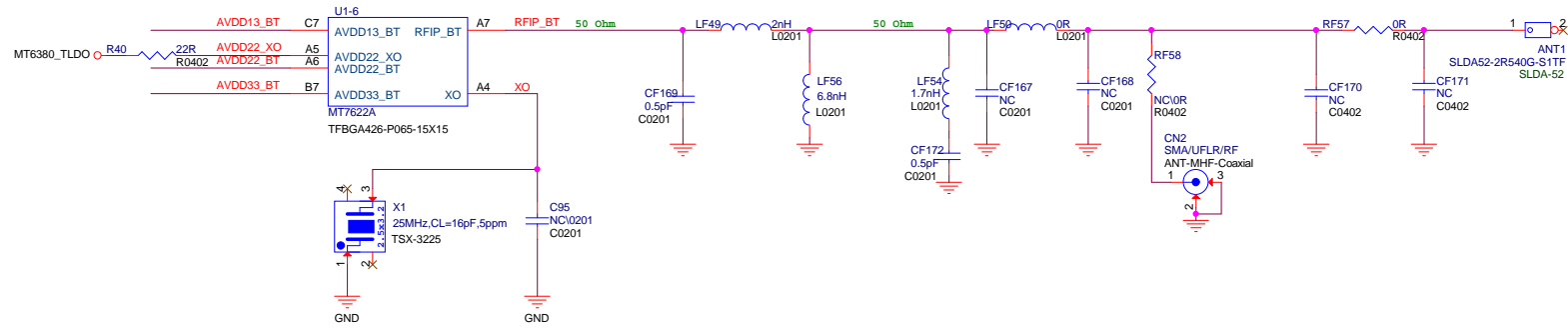



AVDD33\_WF3\_PA AVDD22\_WF3



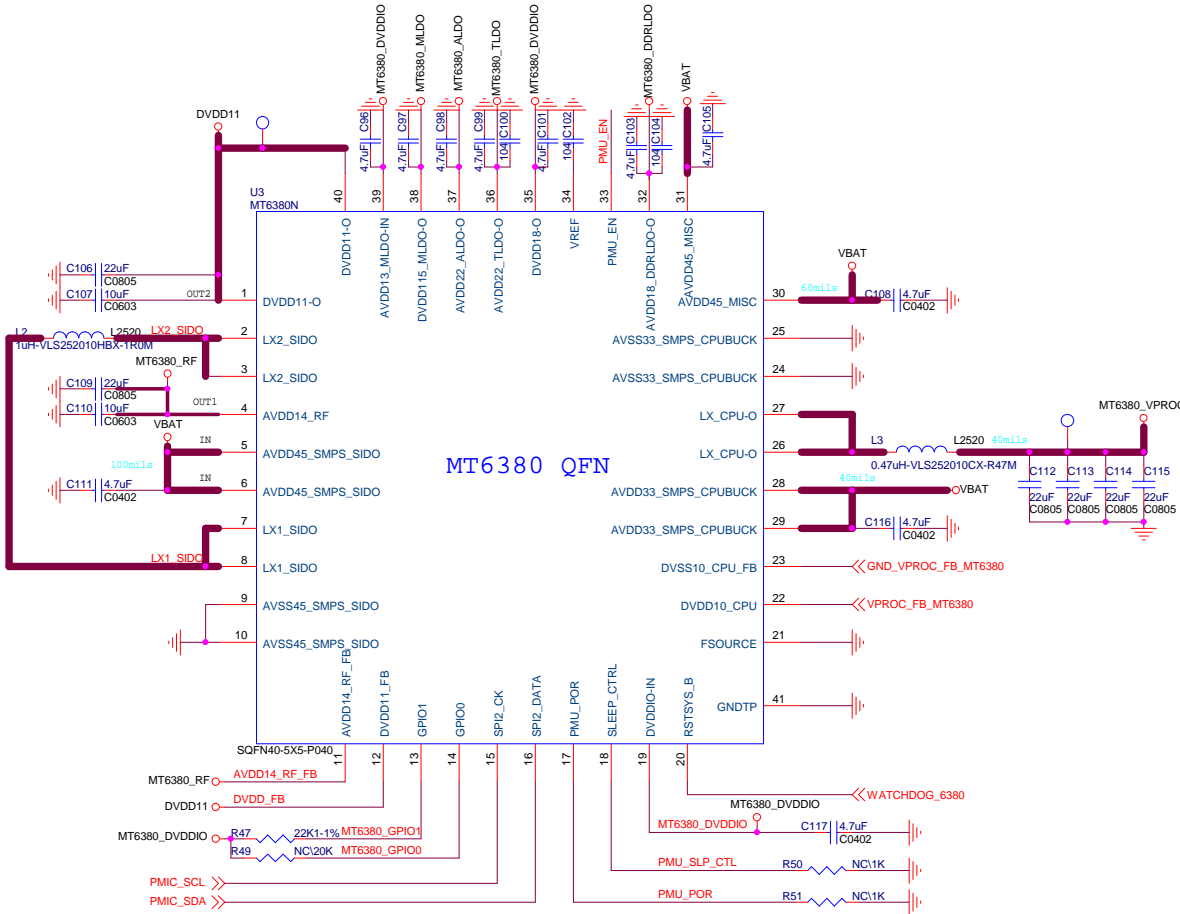
|   |                                     |                  |  |                               |  |
|---|-------------------------------------|------------------|--|-------------------------------|--|
|  |                                     |                  |  | <b>SINOVOIP CO., LIMITED</b>  |  |
|   |                                     |                  |  | Design Name<br><b>BPI-R64</b> |  |
| Size<br>A3  | Page Name<br><b>MT7622A_Wi-Fi 0</b> |                  |  | Rev<br>V1.1                   |  |
| Date:<br>Monday, October 28, 2019   |                                     | Sheet<br>5 of 16 |  |                               |  |

# 06 MT7622\_BT\_Xtal

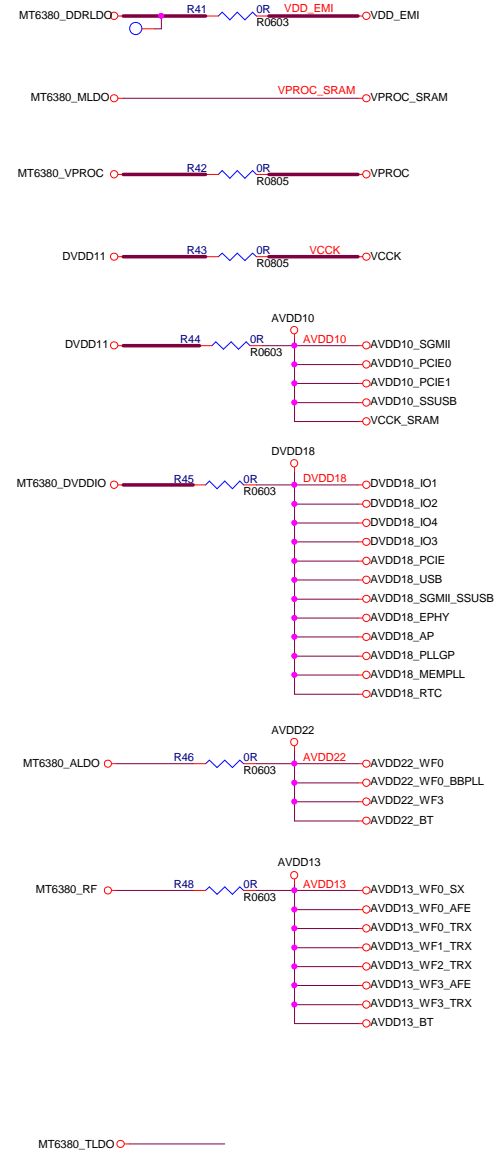
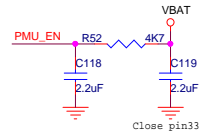


|   |                             |                               |             |
|---|-----------------------------|-------------------------------|-------------|
|  |                             | <b>SINOVOIP CO., LIMITED</b>  |             |
|   |                             | Design Name<br><b>BPI-R64</b> |             |
| Size<br>A3  | Page Name<br>MT7622_BT_Xtal |                               | Rev<br>V1.1 |
| Date: Monday, October 28, 2019  |                             | Sheet 6                       | of 16       |

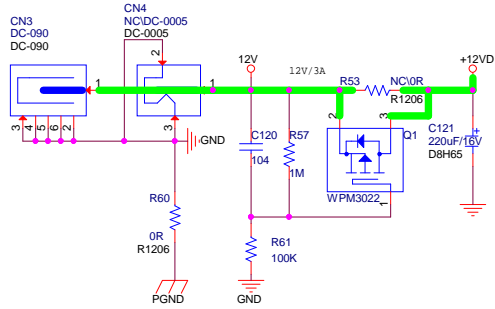
# 07 PMIC\_MT6380



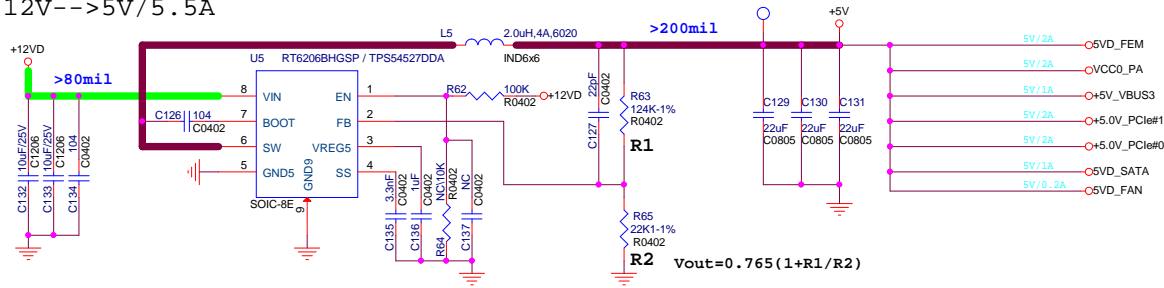
| Symbol       | LPDDR2/1.2V | PCDDR3L/1.35V | PCDDR3/1.5V | LPDDR1/1.8V | Default |
|--------------|-------------|---------------|-------------|-------------|---------|
| MT6380_GPIO0 | L           | H             | L           | H           | PD      |
| MT6380_GPIO1 | L           | L             | H           | H           | PD      |



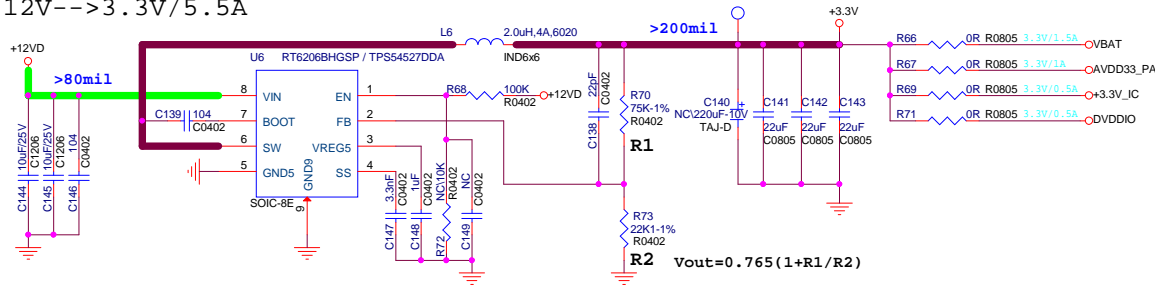
# 08 External Buck



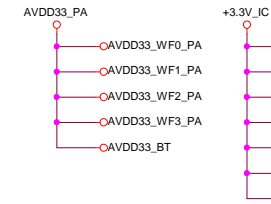
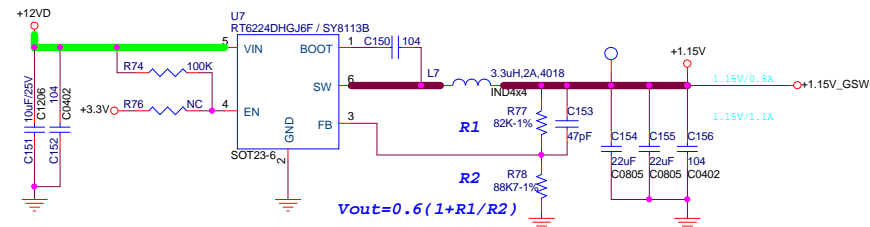
12V-->5V/5.5A




12V-->3.3V/5.5A



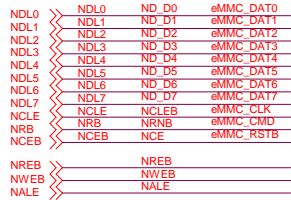
12V-->1.15V/3A



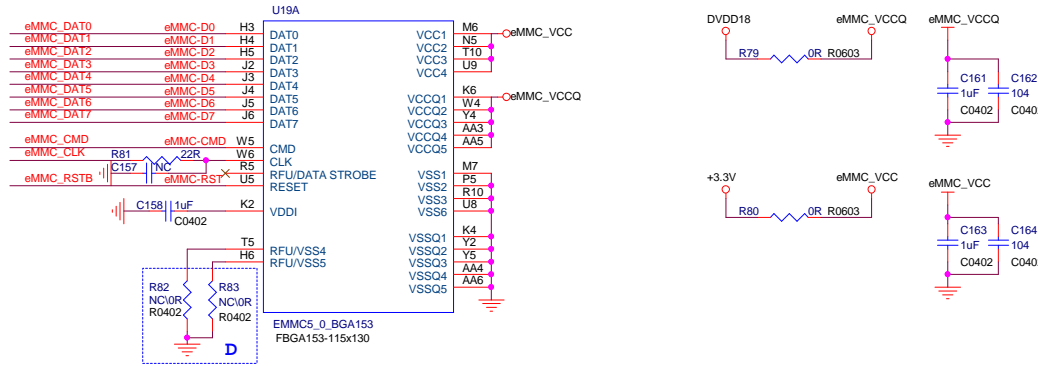
|   |   |            |  |                               |  |
|---|---|------------|--|-------------------------------|--|
|  |   |            |  | <b>SINOVOIP CO., LIMITED</b>  |  |
|   |   |            |  | Design Name<br><b>BPI-R64</b> |  |
| Size<br>A3  | Page Name<br><b>Power_External Buck</b> |            |  | Rev<br>V1.1                   |  |
| Date:<br>Monday, October 28, 2019   |   | Sheet<br>8 |  | of<br>16                      |  |

# 09 MSDC

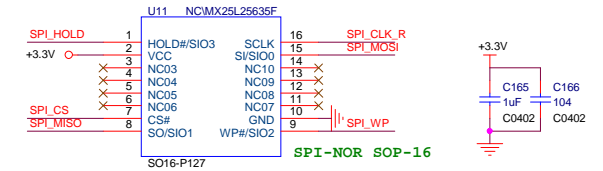
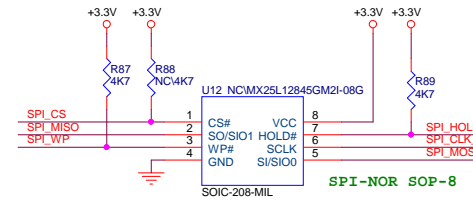
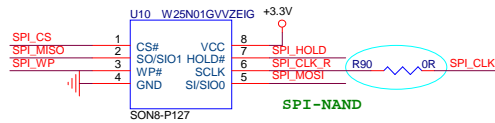
## eMMC/SLC NAND Flash



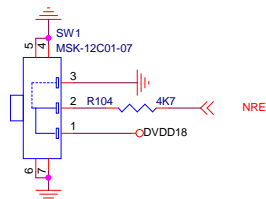
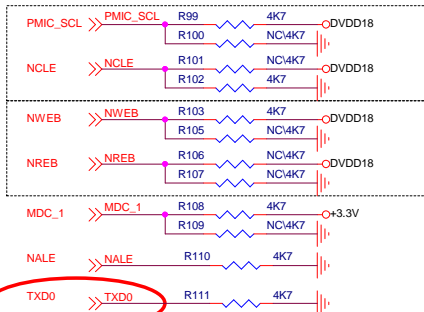
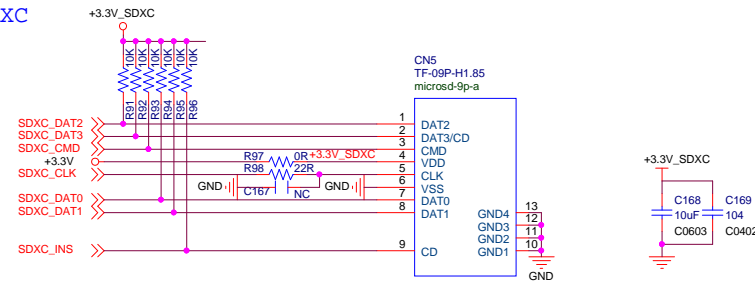
Default Voltage Setting  
 SLC-NAND IO 1.8V  
 eMMC IO 1.8V  
 SPI-NAND/NOR 3.3V  
 SDXC IO 3.3V



## SPI Nor/NAND Flash



## SDXC



### Boot Strapping Pins Description

| PAD Name | Strap Function | Description  |
|----------|----------------|--|
| PMIC_SCL | OSC_SEL[0]     | OSC_SEL[1:0]<br>00: 25MHz DIP XTAL<br>01: 25MHz SMD XTAL<br>10: Reserved<br>11: Reserved   |
| NCLE     | OSC_SEL[1]     |  |
| NWEB     | DBG_MODE[0]    | DBG_MODE[1:0]<br>00: SPI-NOR -> eMMC -> SDXC<br>01: SPI-NAND -> eMMC -> SDXC<br>10: SLC-NAND -> eMMC -> SDXC<br>11: SDXC -> eMMC -> SLC-NAND |
| NREB     | DBG_MODE[1]    |  |
| MDC      | JTAG_MODE      | 0: Normal Mode<br>1: JTAG Mode   |

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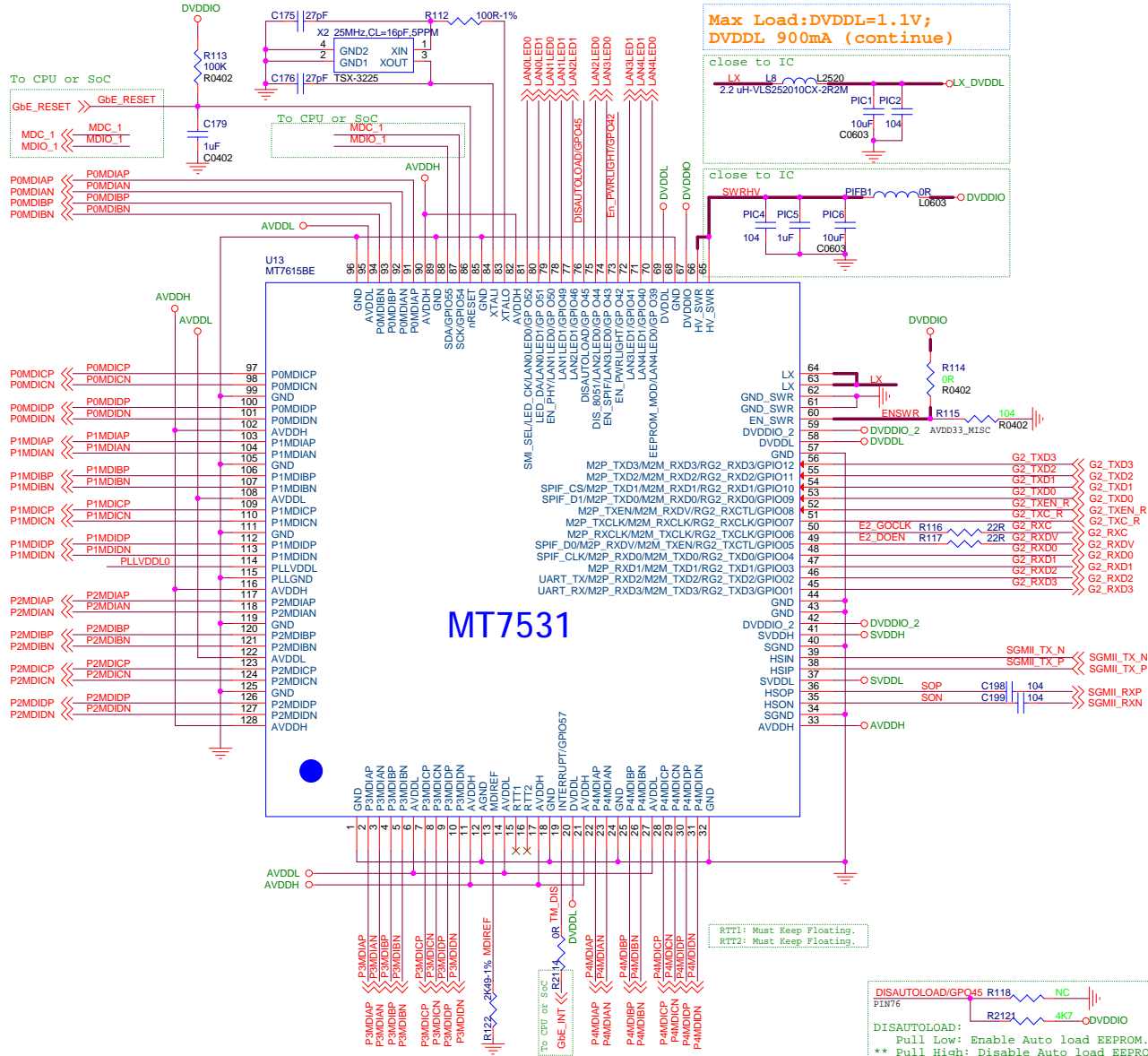
Design Name: **BPI-R64**

Size: A3 Page Name: **MSDC** Rev: V1.1

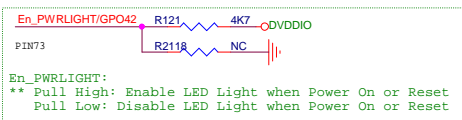
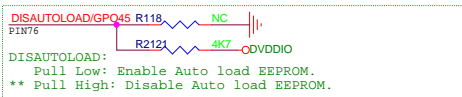
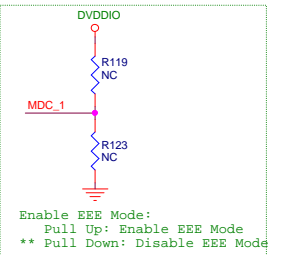
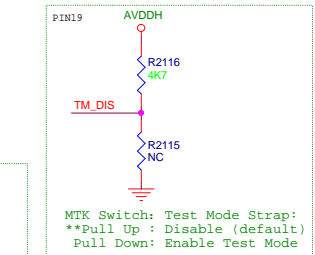
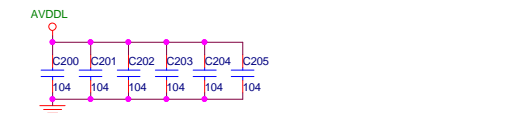
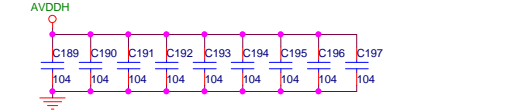
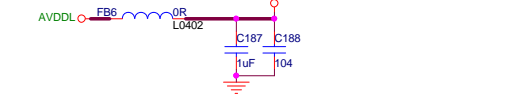
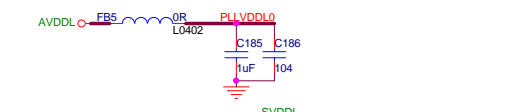
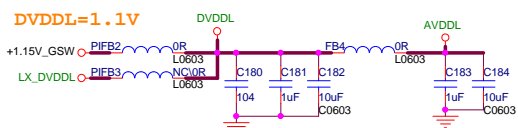
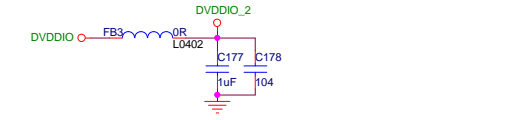
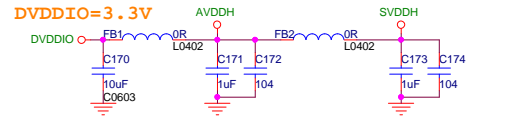
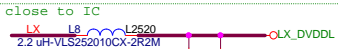
Date: Monday, October 28, 2019 Sheet: 9 of 16

**TXD0 must be "low" state during boot up !!**

# 10 GIGA Switch



Max Load:DVDDL=1.1V;  
DVDDL 900mA (continue)



|                              |                  |                          |                |
|------------------------------|------------------|--------------------------|----------------|
| <b>SINOVOIP CO., LIMITED</b> |                  |                          |                |
| <b>Design Name</b>           |                  | <b>BPI-R64</b>           |                |
| <b>Size</b>                  | <b>Page Name</b> | <b>GIGA Switch</b>       |                |
| A3                           | Date:            | Monday, October 28, 2019 | Sheet 10 of 16 |
| <b>Rev</b>                   |                  | <b>V1.1</b>              |                |

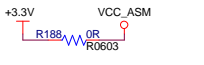
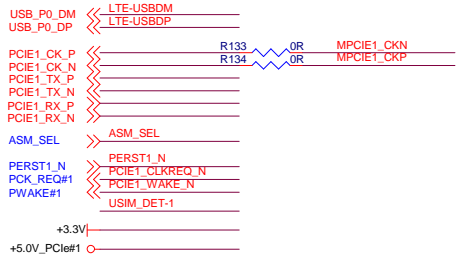


http://www.bpi.com.cn

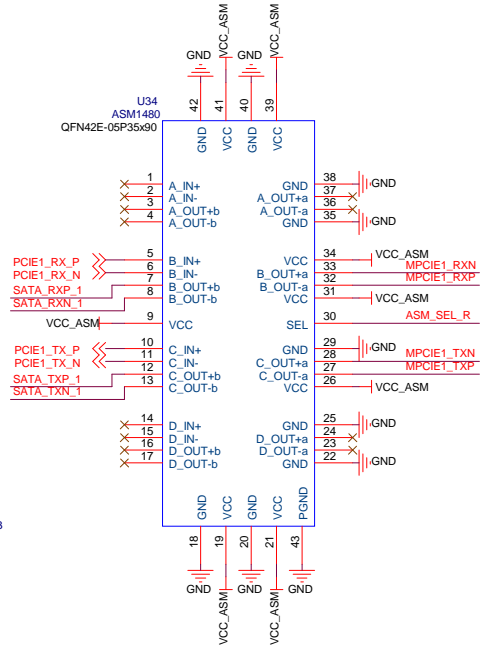
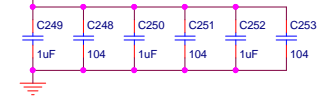
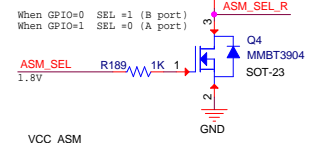




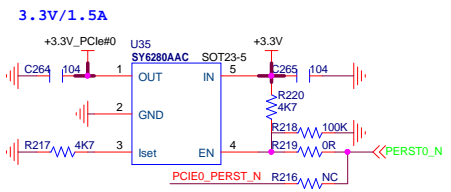
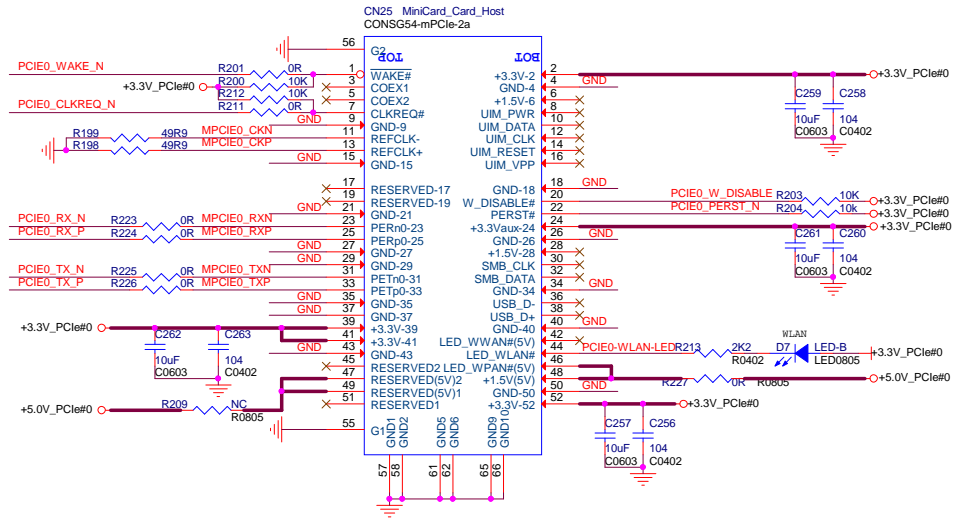
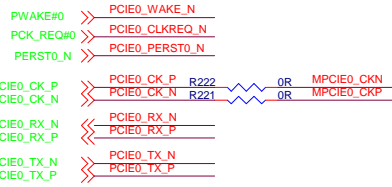
# 12 mPCIe/4G



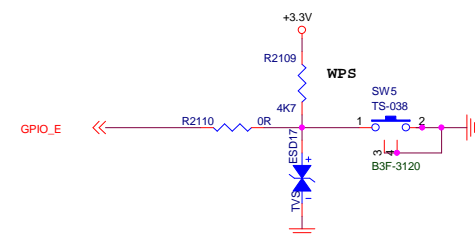
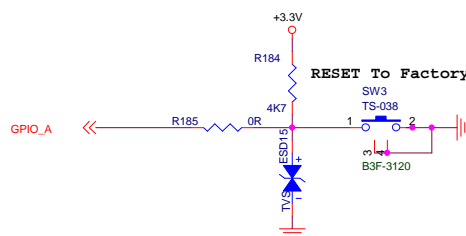
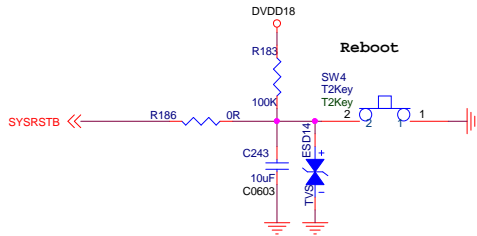
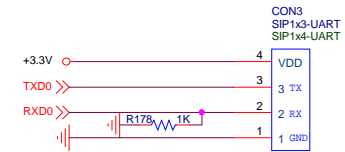
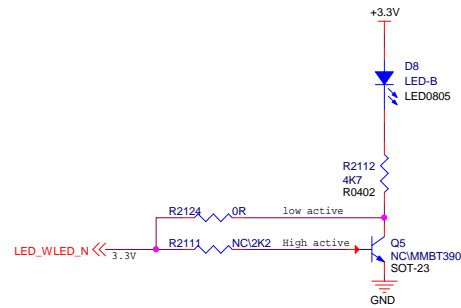
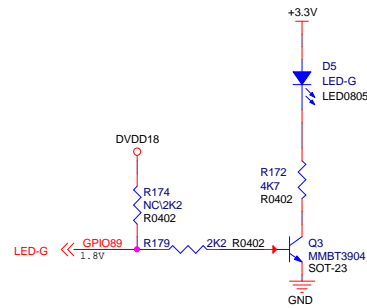
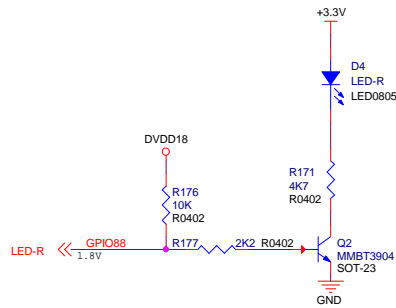
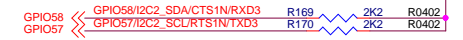
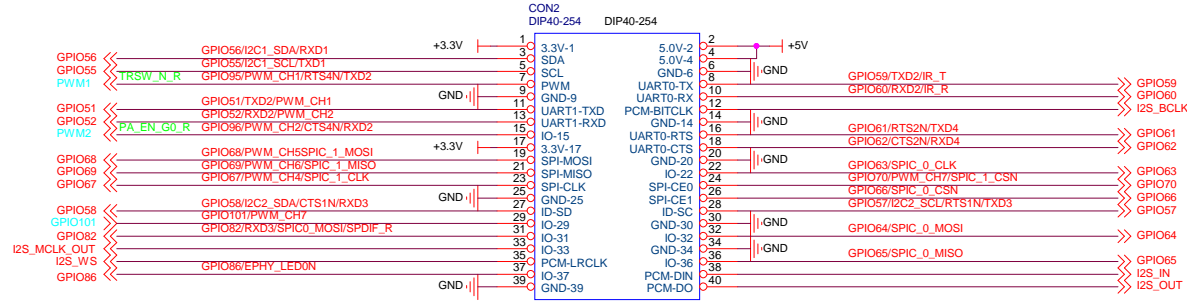
| SEL | Function       |
|-----|----------------|
| L   | N_IN to N_OUTa |
| H   | N_IN to N_OUTb |



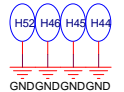
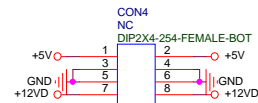
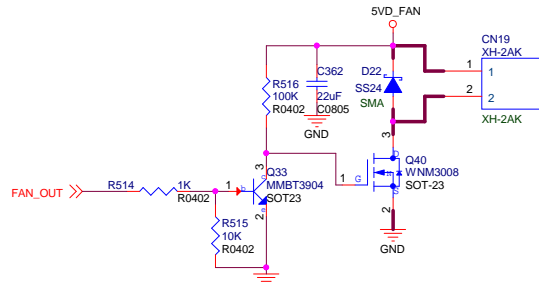
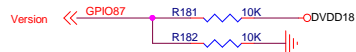
# 13 MT7615



# 14 GPIO



硬件版本选择



|                              |           |                          |                |
|------------------------------|-----------|--------------------------|----------------|
| <b>SINOVOIP CO., LIMITED</b> |           |                          |                |
| Design Name                  |           | <b>BPI-R64</b>           |                |
| Size                         | Page Name | Rev                      |                |
| A3                           | GPIO      | V1.1                     |                |
| Date:                        |           | Monday, October 28, 2019 | Sheet 14 of 16 |

# Z01 MT7622\_Block Diagram

