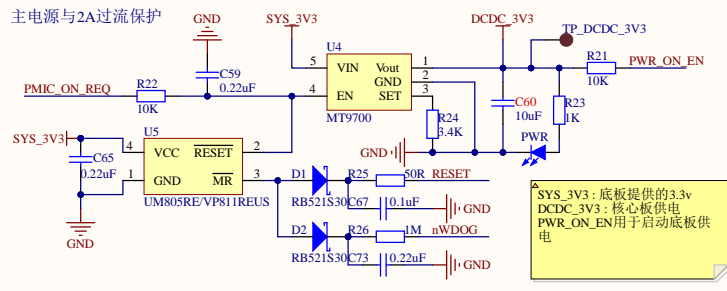
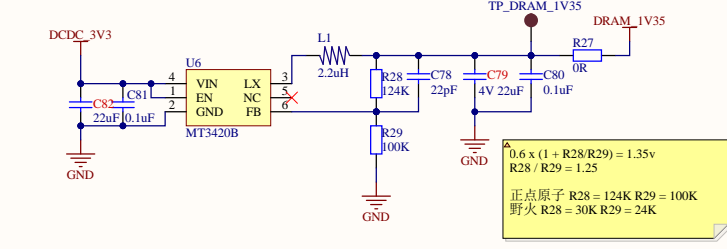


## 电源供电电路

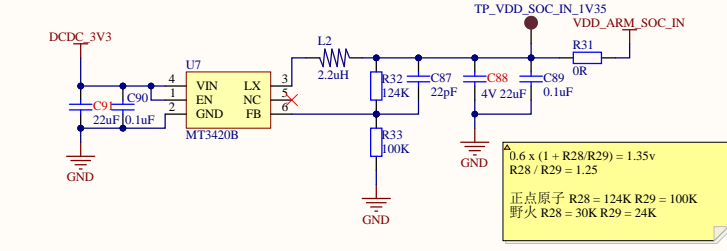
### 主电源与2A过流保护



### 内存供电



### IMX SOC供电



### SD卡供电

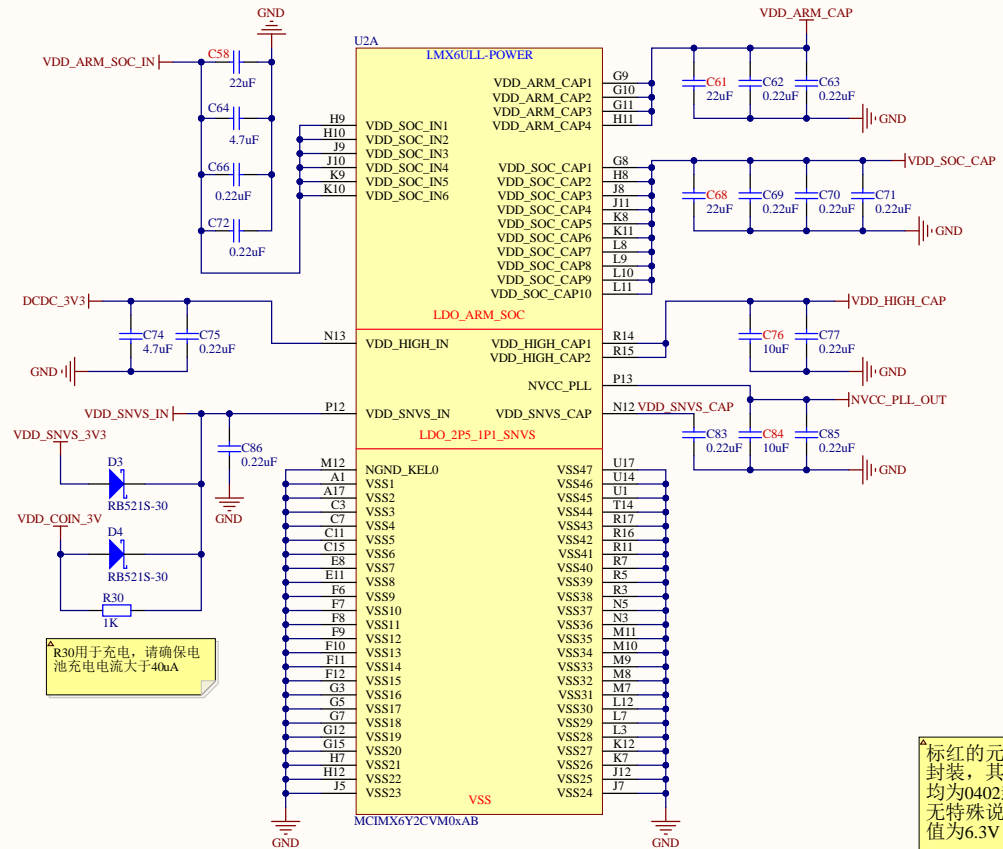
NVCC\_SD -- 3.3V

一般大卡为1.8V供电  
小卡为3.3V供电

### 其他供电



## MPU供电电路



## IMX6ULL上电时序

- 1、VDD\_SNVS\_IN (VDD\_SNVS\_IN supply must be turned on before any other power supply)
- 2、VDD\_HIGH\_IN (VDD\_HIGH\_IN should be turned on before VDD\_SOC\_IN)
- 3、VDD\_SOC\_IN 与其他供电 (PWR\_ON\_EN 使能)

VDD\_SNVS\_IN ----- SYS\_3V3 || VDD\_COIN\_3V

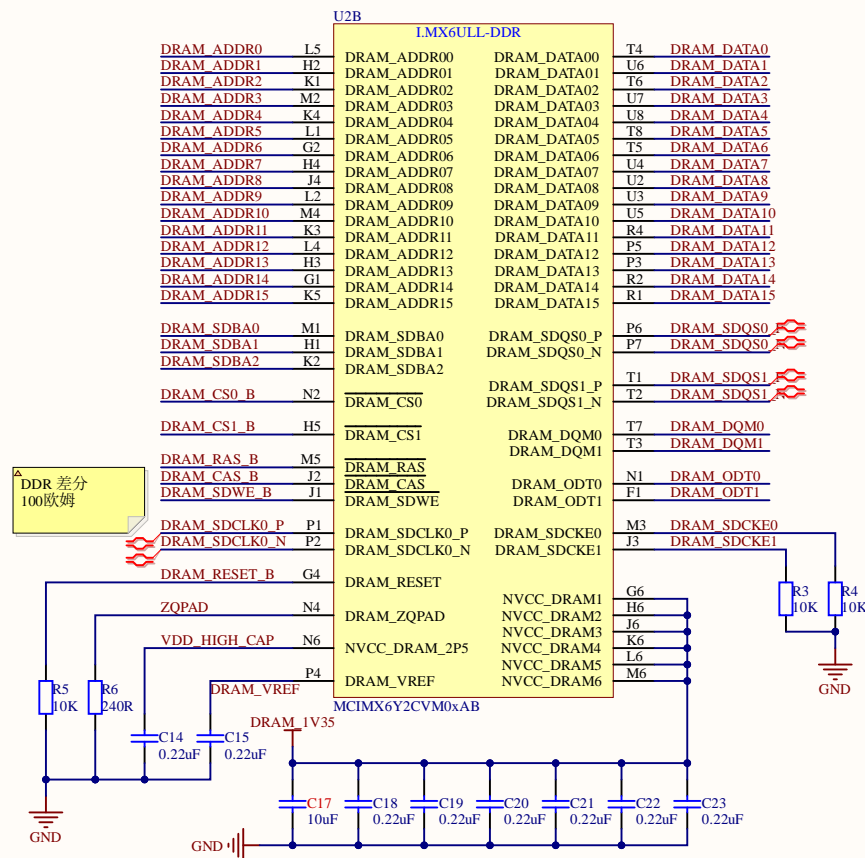
VDD\_HIGH\_IN ----- DCDC\_3V3

VDD\_SOC\_IN ----- VDD\_ARM\_SOC\_IN

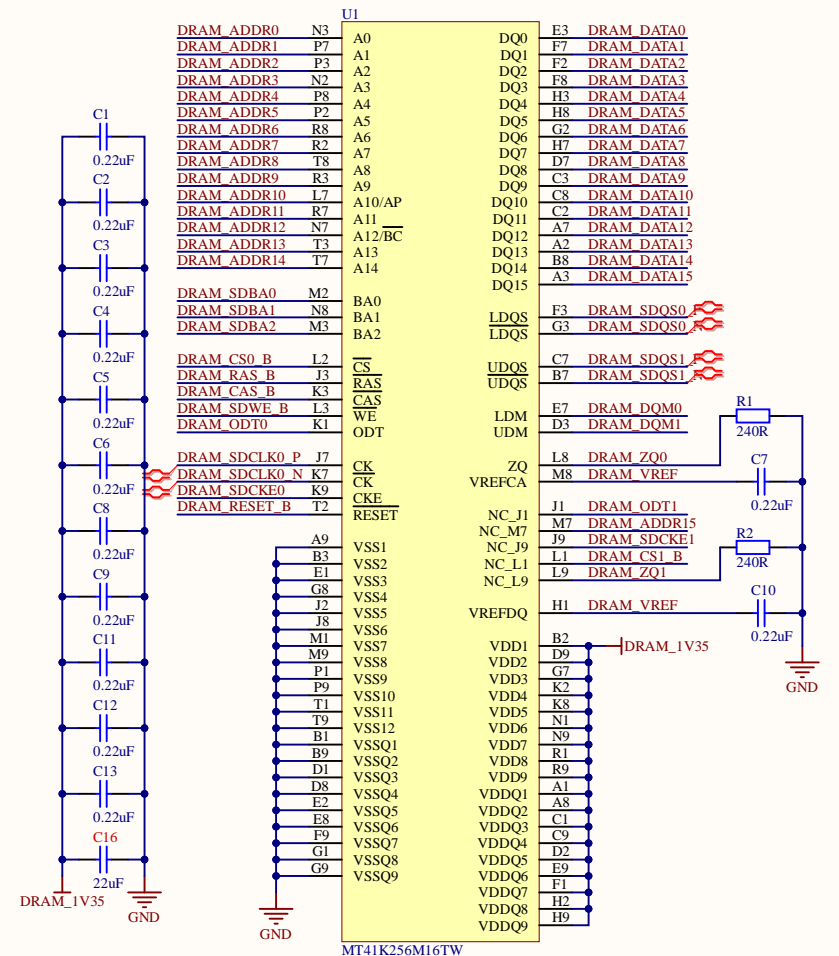
Title		
Size	Number	Revision
A3		
Date:	5/16/2023	Sheet of
File:	E:\AltiumDesigner\Power.SchDoc	Drawn By:

## DDR电路

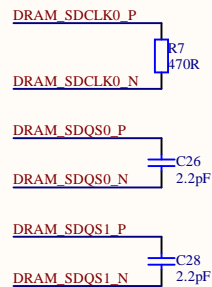
### MPU DDR



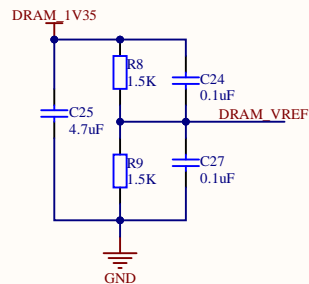
### DDR\_Device



### CLK终端电阻 靠近DDR



### DDR3参考电压



### DDR布线规范

DDR需要分组等长处理 (电源、数据总线、其他)

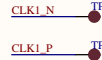
数据线低八位 = (d0-d7、dqm0、dqs0\_p/n)

数据线高八位 = (d8-d15、dqm1、dqs1\_p/n)

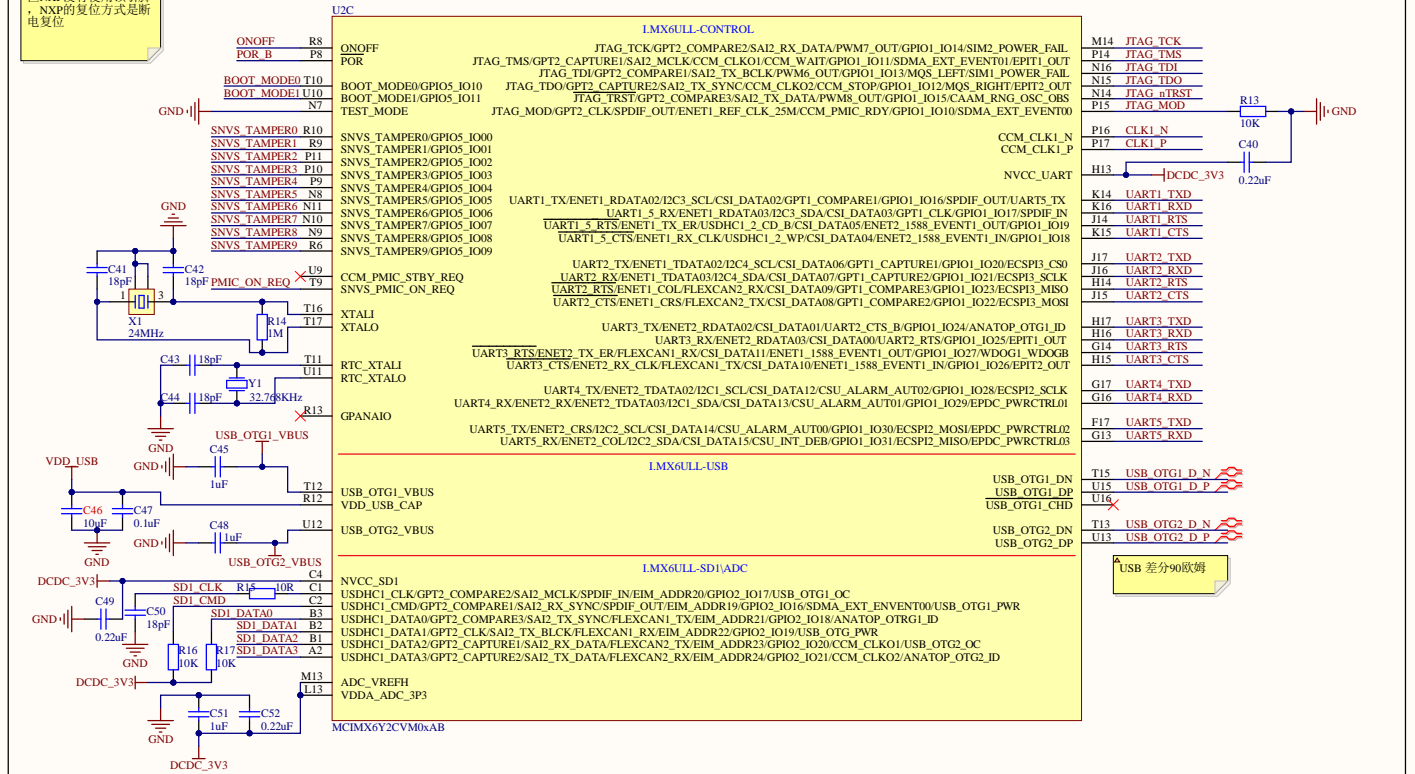
其余分为一组等长处理

## MPU 片上外设

### 信号完整性测试点



POR是芯片复位引脚，但NXP没有使用该引脚，NXP的复位方式是断电复位



USB 差分90欧姆



邮票孔连接器

A

A

B

B

C

C

D

D

J3

30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
LCD_BI	LCD_DE	LCD_VSYNC	LCD_HSYNC	LCD_PCLK	LCD_DATA7	LCD_DATA6	LCD_DATA5	LCD_DATA4	LCD_DATA3	LCD_DATA2	LCD_DATA1	LCD_DATA0	LCD_DATA15	LCD_DATA14	LCD_DATA13	LCD_DATA12	LCD_DATA11	LCD_DATA10	LCD_DATA9	LCD_DATA8	LCD_DATA23	LCD_DATA22	LCD_DATA21	LCD_DATA20	LCD_DATA19	LCD_DATA18	LCD_DATA17	LCD_DATA16	LCD_DATA1



J4

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
PWR_ON_EN	RESET			SD1_DATA1	SD1_DATA0	SD1_CLK	SD1_CMD	SD1_DATA3	SD1_DATA2	CSI_MCLK	CSI_PIXCLK	CSI_VSYNC	CSI_DATA2	CSI_HSYNC	CSI_DATA0	CSI_DATA1	CSI_DATA3	CSI_DATA4	CSI_DATA5	CSI_DATA6	CSI_DATA7	SNVS_TAMPER9	SNVS_TAMPER5	SNVS_TAMPER4	SNVS_TAMPER1	BOOT_MODE1		BOOT_MODE0	SNVS_TAMPER0



J2

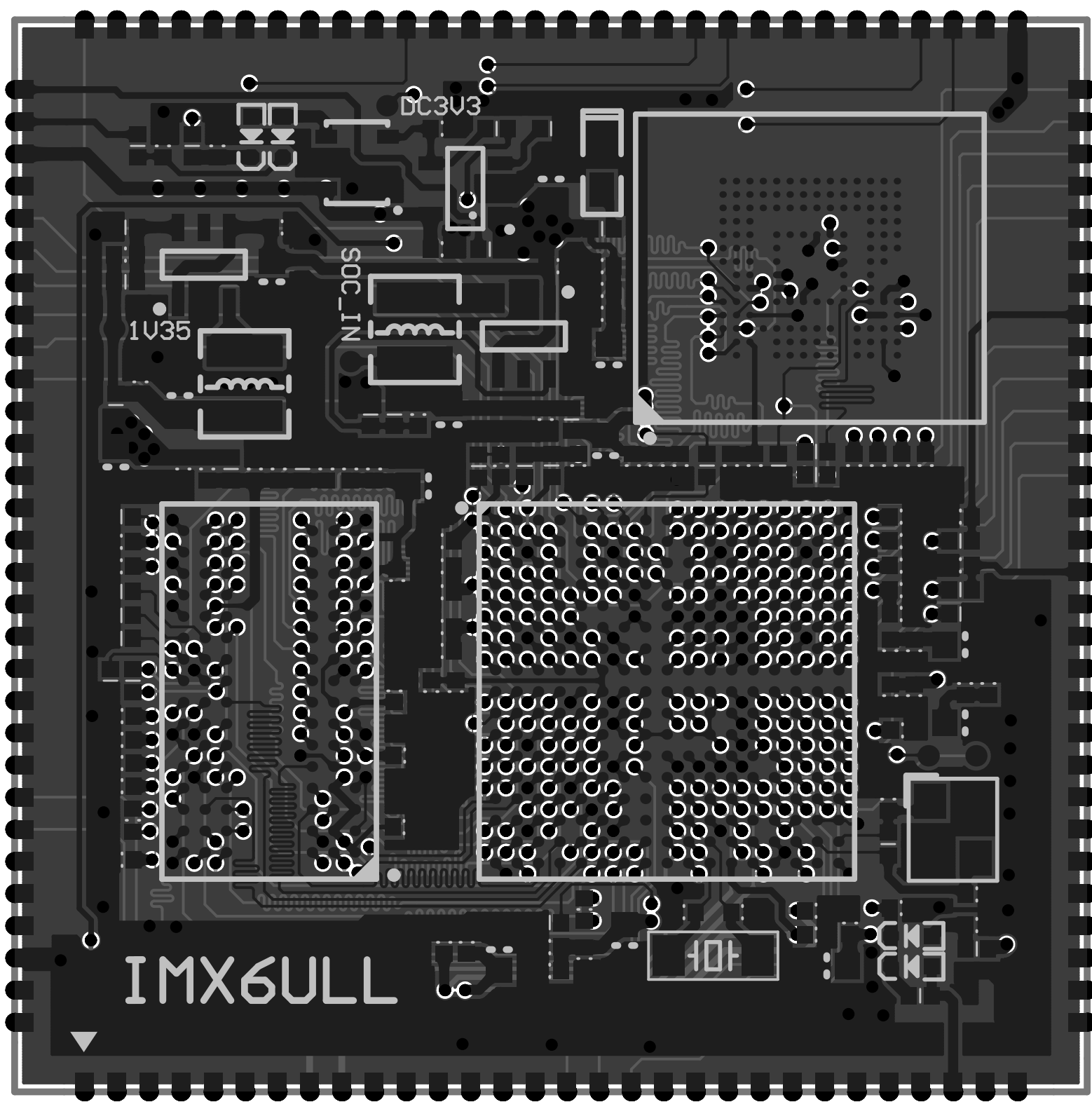
30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
ENET2_TXD1	ENET2_TXD0	ENET2 CRS_DV	ENET2_TXEN	ENET2_RXD0	ENET2_RXD1	ENET2_RXER	ENET2_TX_CLK	ENET1_RXER	ENET1_TXD0	ENET1_TXD1	ENET1_RXD0	ENET1_TXEN	ENET1_RXD1	ENET1 CRS_DV	ENET1_TX_CLK	UART4_TXD	UART4_RXD	UART5_RXD	UART3_RTS	UART5_TXD	UART3_CTS	UART3_RXD	UART3_TXD	UART2_RTS	UART2_CTS	UART2_TXD	UART2_RXD	UART1_RTS	UART1_TXD

IMX6ULL 核心板

VDD\_COIN\_3V

1	SNVS_TAMPER8	UART1_CTS
2	SNVS_TAMPER7	UART1_RXD
3	SNVS_TAMPER3	
4	SNVS_TAMPER6	
5	SNVS_TAMPER2	
6	USB_OTG2_D_N	
7	USB_OTG2_D_P	
8	USB_OTG2_VBUS	
9	USB_OTG1_VBUS	
10	USB_OTG1_D_N	
11	USB_OTG1_D_P	
12	USB_OTG1_ID	
13	JTAG_TMS	
14	JTAG_MOD	
15	JTAG_NTRST	
16	JTAG_TCK	
17	JTAG_TDO	
18	JTAG_TDI	
19	SD1_nRST	
20	GPIOL_IO08	
21	USB_OTG1_PWR	
22	GPIOL_IO05	
23	ENET_MDC	
24	ENET_MDIO	
25	USB_OTG2_PWR	
26	USB_OTG1_OC	
27	USB_OTG2_OC	
28		
29		
30		

J1



# Board Stack Report