

## Notes: Unless Otherwise Stated

### Scheme Spec :

FLASH: MLC, 3V  
 DRAM: DDR3, 1.5V  
 Key: Vol +, Vol -, MENU, SEARCH, HOME, ESC, ENTER  
 Power: DCIN, 5V, 2A; BAT, 4.2V  
 USB0: OTG  
 USB2: WIFI  
 WIFI: USB WIFI&SDIO WIFI+BT  
 Card: TFcard  
 Other: Headphone, MIC, G-Sensor, Camera


### Power Supply :

电源名称	输出电压	最大供电能力	预计谁在用
AXP209 DCDC2	1.25V	1600mA	CPU
AXP209 DCDC3	1.2V	1200mA	CORE
AXP209 LDO1	1.3V	30mA	RTC
AXP209 LDO2	3V	200mA	AVCC
AXP209 LDO3	2.8V	400mA	CSI0-IO
AXP209 LDO4	2.8V	200mA	CSI1-IO
AP2125 LDO	1.8V	300mA	CSI-DVDD
AP3410 DCDC	1.5V	1200mA	DRAM
AP3410 DCDC	3V	1200mA	VCC/LCD/NAND//WIFI
SY7208	5V	1000mA	HDMI/USB
AP2125 LDO	3.3V	300mA	WIFI
AP3032 DCDC		1400mA	LCD
AP3032 DCDC		1400mA	LCD

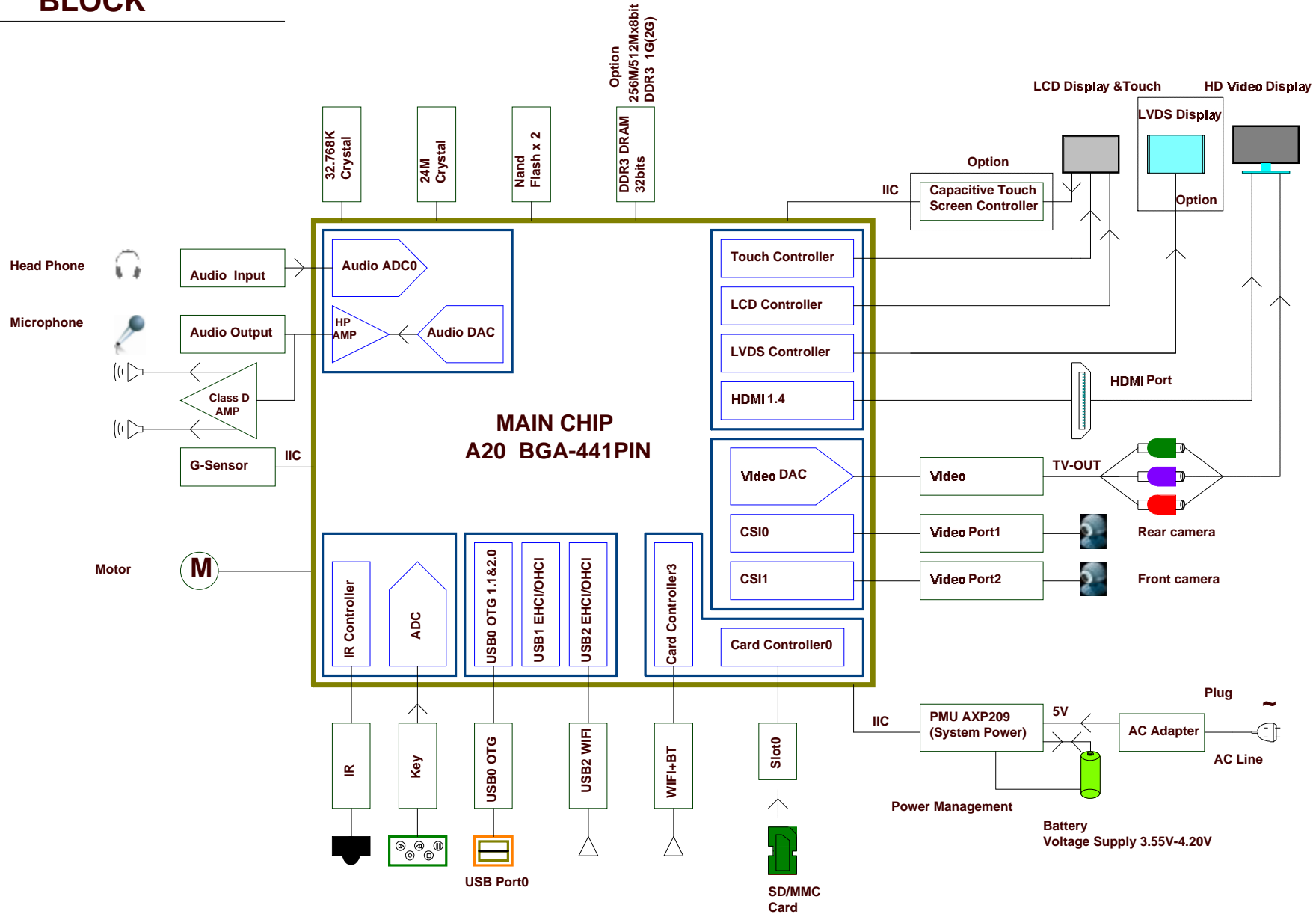
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Rev	Description	Date	Drawn	Checked	Approved
A20_PAD_STD_V1.0		2013-01-30			

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# BLOCK



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# PIO ASSIGNMENT

Pin Group	Pin Name	Define	Function	Pin Group	Pin Name	Define	Function	Pin Group	Pin Name	Define	Function	Pin Group	Pin Name	Define	Function
PA(18)	PA0	GPIO_OUT		PC(25)	PC0	NWE#	NAND	PD(28)	PD18	LCD0_D18	LCD	PH(28)	PH0	EINT0	USB-ICTRL
	PA1	GPIO_OUT			PC1	NALE			PD19	LCD0_D19			PH1	GPIO_IN	SD0-DET
	PA2	GPIO_OUT			PC2	NCLE			PD20	LCD0_D20			PH2	GPIO_IN	
	PA3	GPIO_OUT			PC3	NCE1			PD21	LCD0_D21			PH3	GPIO_OUT	USB2-DRV
	PA4	ETXD3			PC4	NCE0			PD22	LCD0_D22			PH4	GPIO_IN	USB0-IDDET
	PA5	ETXD2			PC5	NRE#			PD23	LCD0_D23			PH5	GPIO_IN	USB0-VBUSDET
	PA6	ETXD1			PC6	NRB0			PD24	LCD0_CLK			PH6	GPIO_OUT	USB1-DRV
	PA7	ETXD0			PC7	NRB1		PD25	LCD0_DE	PH7	GPIO_OUT		LCD-BL-EN		
	PA8	ERXCK			PC8	NDQ0		PD26	LCD0_HSYNC	PH8	GPIO_OUT		LCD-PWR		
	PA9	ERXERR			PC9	NDQ1		PD27	LCD0_VSYNC	PH9	GPIO_OUT		WIFI-SHDN		
	PA10	ERXDV			PC10	NDQ2		PE0	CSI0_PCLK	PH10	GPIO_IN		WIFI-HOST-WAKE		
	PA11	EMDC			PC11	NDQ3		PE1	CSI0_MCLK	PH11	GPIO_OUT				
	PA12	EMDIO			PC12	NDQ4		PE2	CSI0_HSYNC	PH12	GPIO_OUT				
	PA13	ETXEN			PC13	NDQ5		PE3	CSI0_VSYNC	PH13	GPIO_OUT		CAM-R-RESET#		
	PA14	ETXCK			PC14	NDQ6		PE4	CSI0_D0	PH14	GPIO_OUT		CAM-F-RESET#		
	PA15	ECRS			PC15	NDQ7		PE5	CSI0_D1	PH15	GPIO_OUT		PA-SHDN#		
	PA16	ECOL			PC16	NWP		PE6	CSI0_D2	PH16	GPIO_OUT		CAM-PWR-EN		
PA17	GPIO_OUT		PC17		NCE2	PE7		CSI0_D3	PH17	GPIO_OUT	CAM-F-PWR-EN				
PB(24)	PB0	TWI0_SCK	PMU	PC18	NCE3	PE8	CSI0_D4	PH18	EINT18	CAM-R-STBY-EN					
	PB1	TWI0_SDA		PC19	GPIO_OUT	PE9	CSI0_D5	PH19	EINT19	CAM-F-STBY-EN					
	PB2	PWM0	PWM	PC20	GPIO_OUT	PE10	CSI0_D6	PH20	EINT20						
	PB3	GPIO_OUT	MT-C	PC21	GPIO_OUT	PE11	CSI0_D7	PH21	EINT21	TP-INT					
	PB4	IRO_RX	IR	PC22	GPIO_OUT	PF0	SDC0_D1	PH22	SDC1_CMD						
	PB5	GPIO_OUT	BT-RST	PC23	GPIO_OUT	PF1	SDC0_D0	PH23	SDC1_CLK						
	PB6	I2S_BCLK	BT-PCM-CLK	PC24	NDQS	PF2	SDC0_CLK	PH24	SDC1_D0						
	PB7	I2S_LRCK	BT-PCM-SYNC	PD0	LCD0_D0	PF3	SDC0_CMD	PH25	SDC1_D1						
	PB8	I2S_DO0	BT-PCM-OUT	PD1	LCD0_D1	PF4	SDC0_D3	PH26	SDC1_D2						
	PB9	GPIO_OUT	USB0-DRV	PD2	LCD0_D2	PF5	SDC0_D2	PH27	SDC1_D3						
	PB10	GPIO_OUT		PD3	LCD0_D3	PG0	CSI1_PCLK	PI0	GPIO	WIFI					
	PB11	GPIO_OUT		PD4	LCD0_D4	PG1	CSI1_MCLK	PI1	GPIO						
	PB12	I2S_DI	BT-PCM-IN	PD5	LCD0_D5	PG2	CSI1_HSYNC	PI2	GPIO						
	PB13	GPIO_OUT	TP-WAKEUP	PD6	LCD0_D6	PG3	CSI1_VSYNC	PI3	PWM1						
	PB14	JTAG_MS0		PD7	LCD0_D7	PG4	CSI1_D0	PI4	SDC3_CMD						
	PB15	JTAG_CK0	JTAG	PD8	LCD0_D8	PG5	CSI1_D1	PI5	SDC3_CLK						
PB16	JTAG_DO0		PD9	LCD0_D9	PG6	CSI1_D2	PI6	SDC3_D0							
PB17	JTAG_DI0		PD10	LCD0_D10	PG7	CSI1_D3	PI7	SDC3_D1							
PB18	TWI1_SCK	TWI1	PD11	LCD0_D11	PG8	CSI1_D4	PI8	SDC3_D2							
PB19	TWI1_SDA		PD12	LCD0_D12	PG9	CSI1_D5	PI9	SDC3_D3							
PB20	TWI2_SCK	TWI2	PD13	LCD0_D13	PG10	CSI1_D6	PI10	SPI0_CS0							
PB21	TWI2_SDA		PD14	LCD0_D14	PG11	CSI1_D7	PI11	GPIO_OUT							
PB22	UART0_TX	UART (DEBUG)	PD15	LCD0_D15			PI12	SPI0_MOSI	CLK-32K						
PB23	UART0_RX		PD16	LCD0_D16			PI13	SPI0_MISO							
			PD17	LCD0_D17			PI14	GPIO_OUT							
											PI(22)	PI15	GPIO_OUT		
												PI16	UART2_RTS		
												PI17	UART2_CTS		
												PI18	UART2_TX		
												PI19	UART2_RX		
												PI20	GPIO_OUT		
											PI21	GPIO_OUT			

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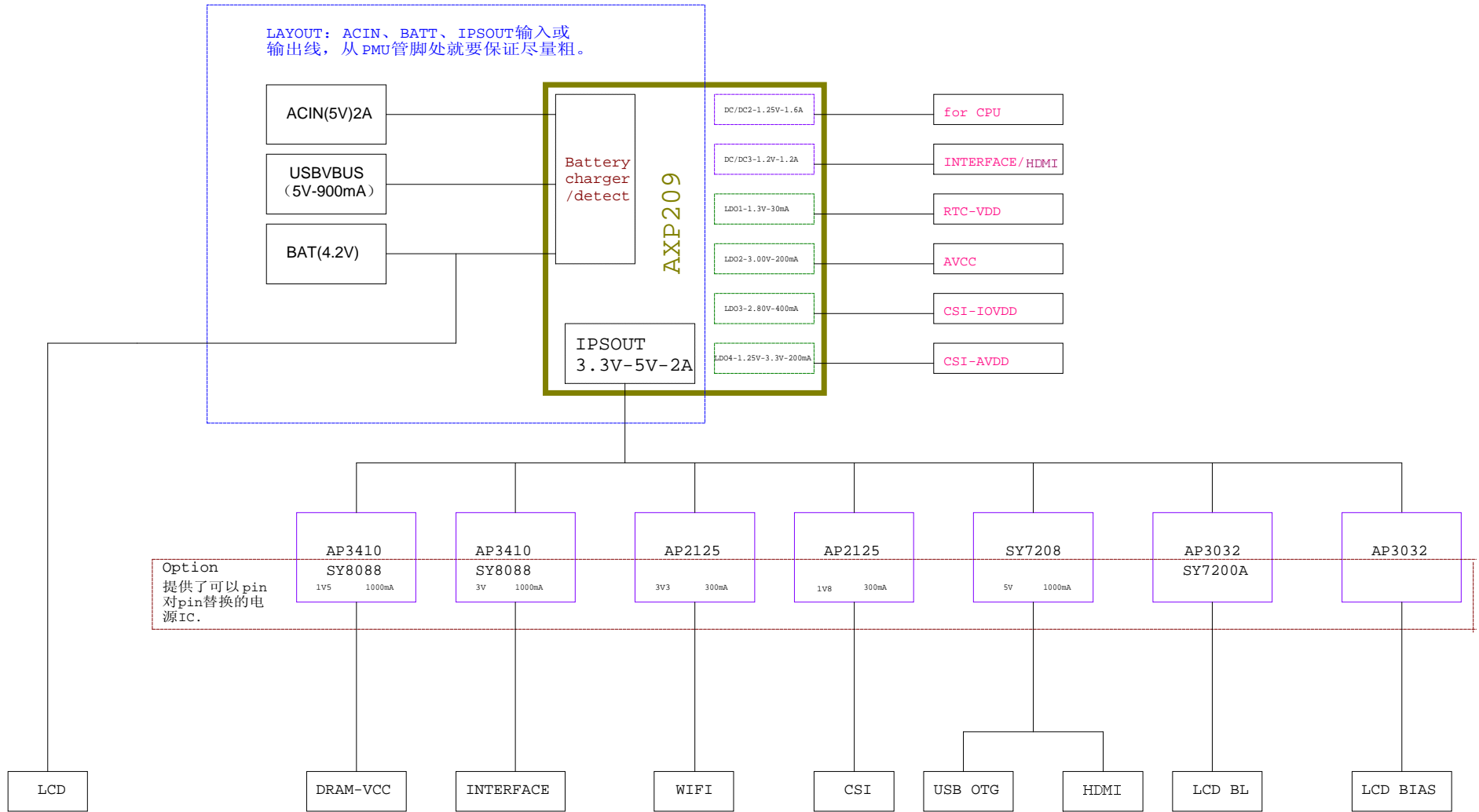
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Size: A3 Document Number: PIO ASSIGNMENT Rev: \_\_\_\_\_

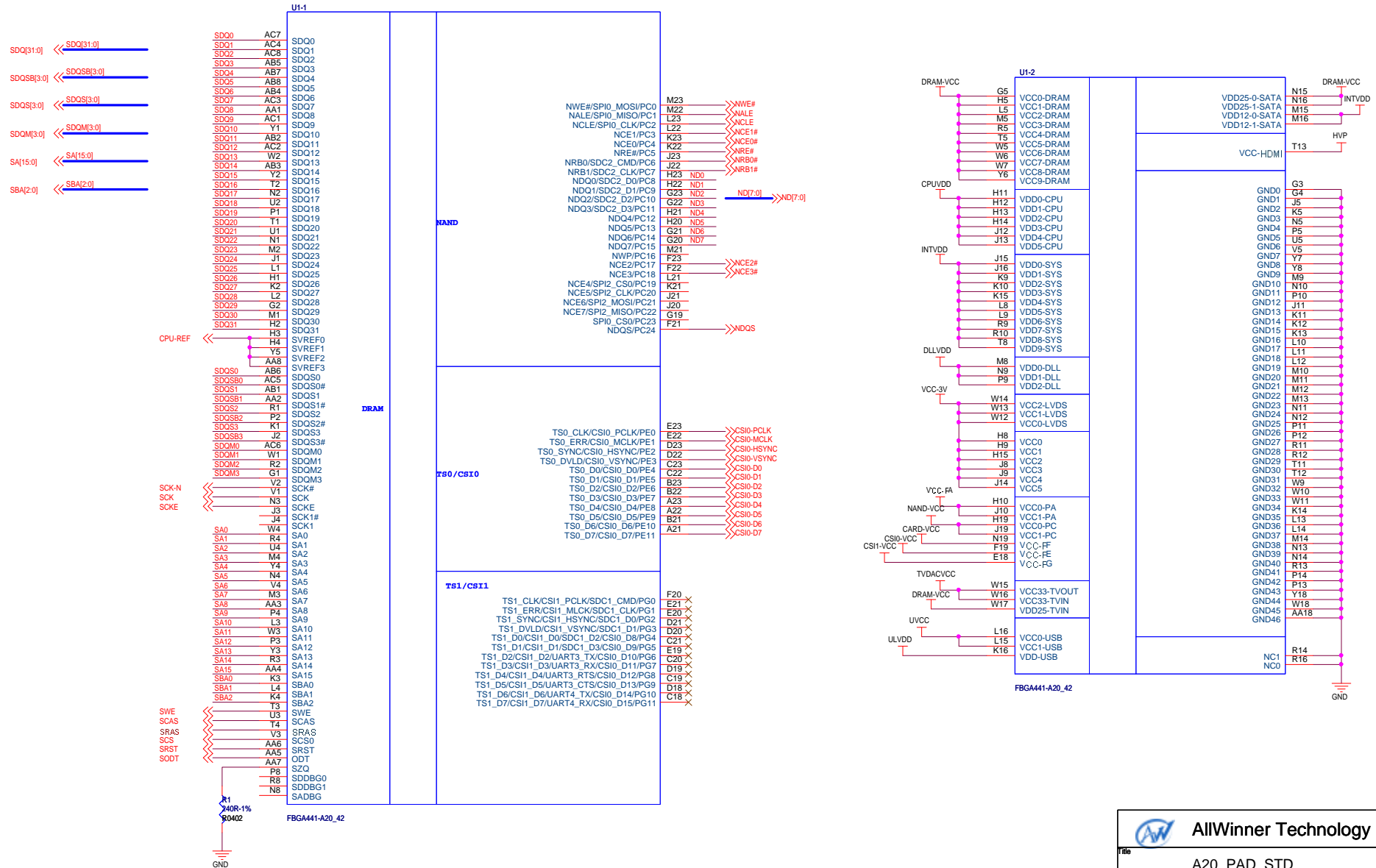
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# POWER TREE

LAYOUT: ACIN、BATT、IPSOUT输入或输出线，从PMU管脚处就要保证尽量粗。



# CPU1





# DDR3-8BITX4

Please copy DRAM PCB template and follow PCB layout guide. The circuit is only for single-side PCB layout.




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File: A20\_PAD\_STD

Size: A3 | Document Number: DDR3 8bit x 4pcs | Rev: [ ]

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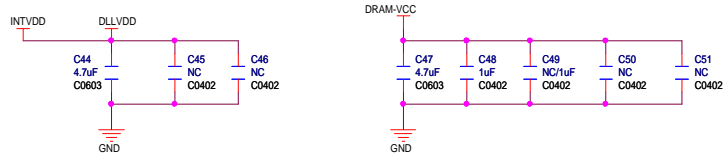
# DDR3-16BITX2

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A20_PAD_STD			
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A3	DDR3 16bit x 2pcs		
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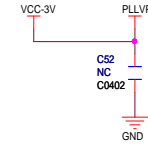


# BESIDE CPU

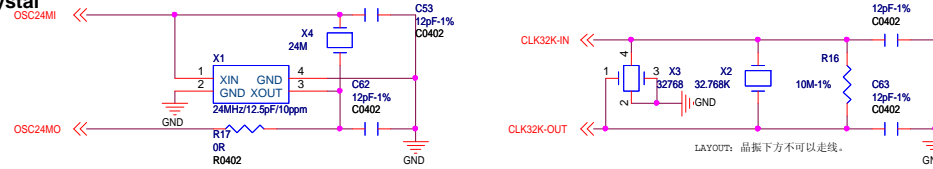
## DRAM



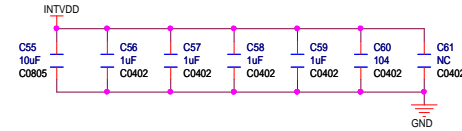
## PLL



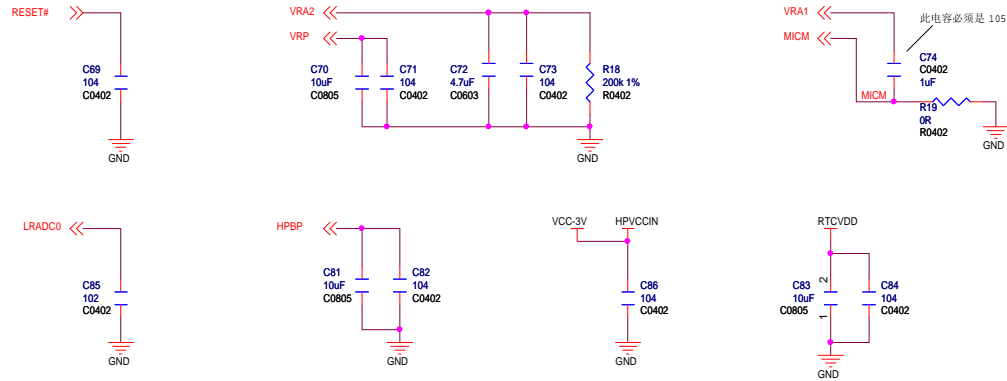
## Crystal



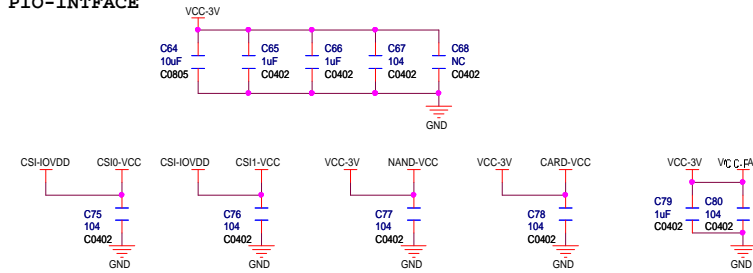
## CORE



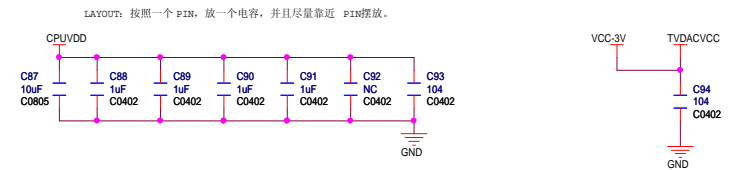
## AUDIO&SYS&TP



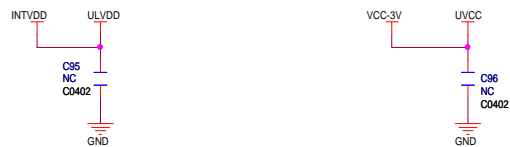
## PIO-INTERFACE



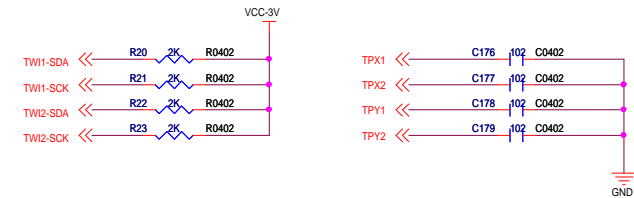
## CPU&TV



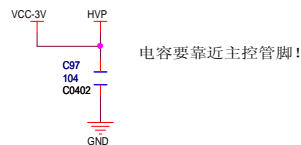
## USB



## TWI-PULLUP

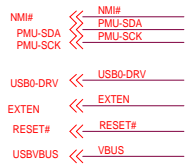


## HDMI



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# POWER-PMU

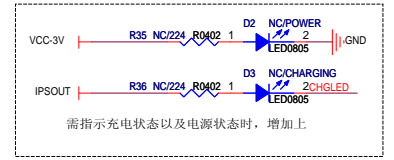
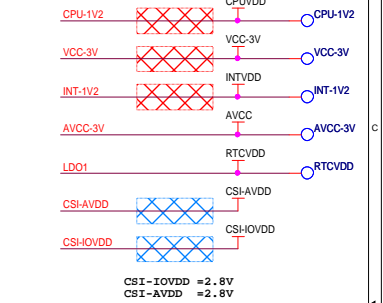


1. ACIN电源网络保留给 LCD供电;
2. 在ACIN、VBUS上靠近PMU接10uF电容对地。

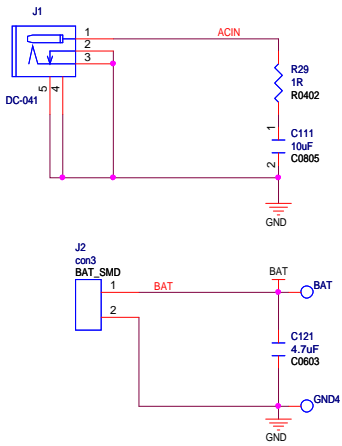
POWER LINE:Width>=80mil



POWER LINE:Width>=40mil

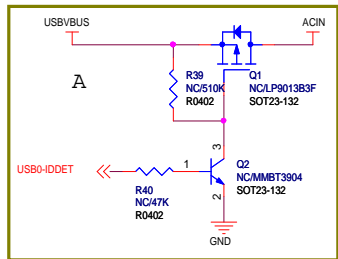


## POWER INPUT

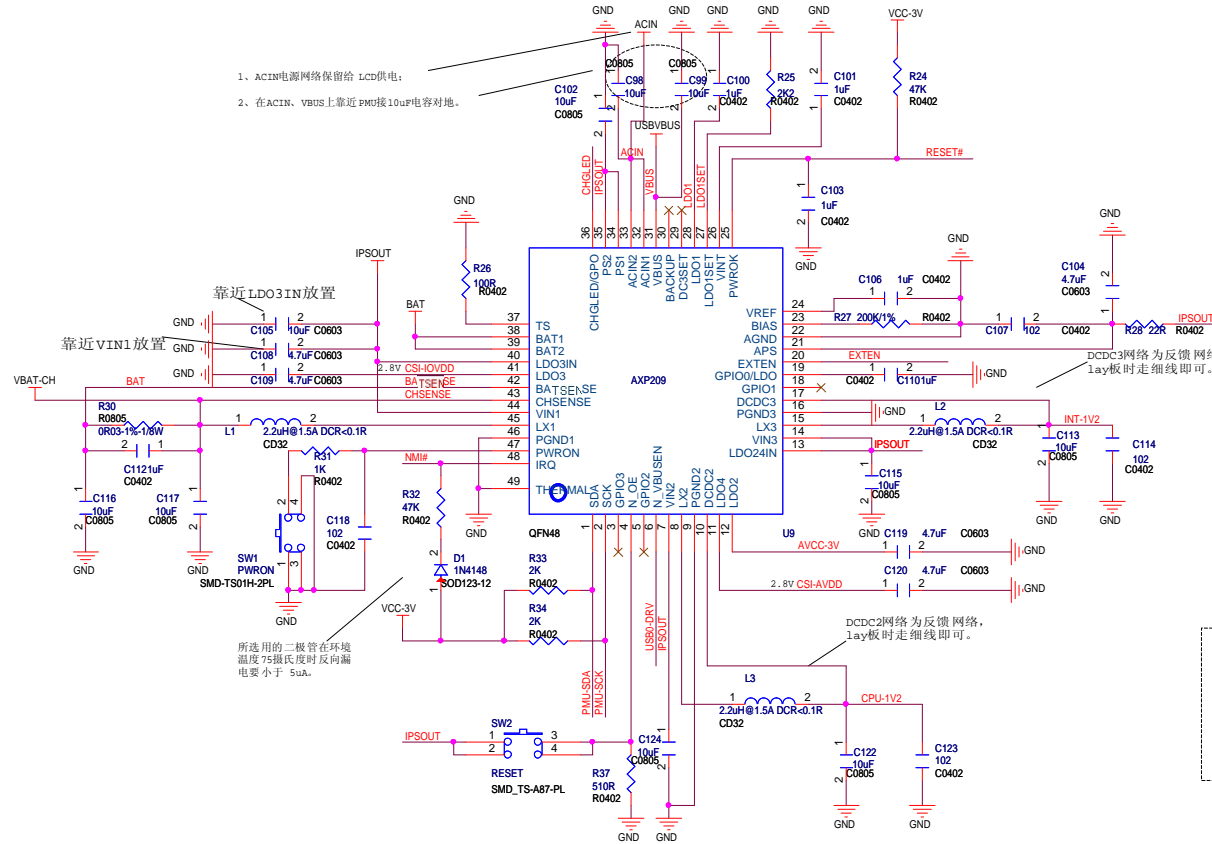


此时不支持电池温度检测

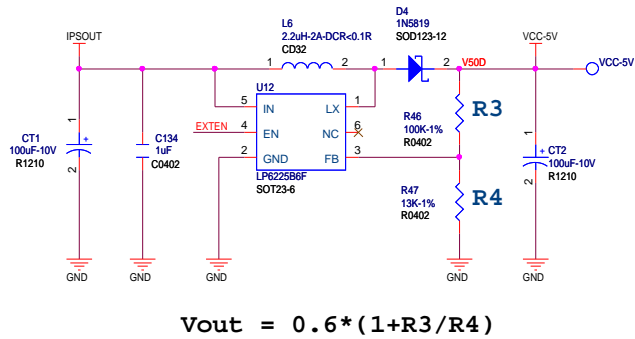
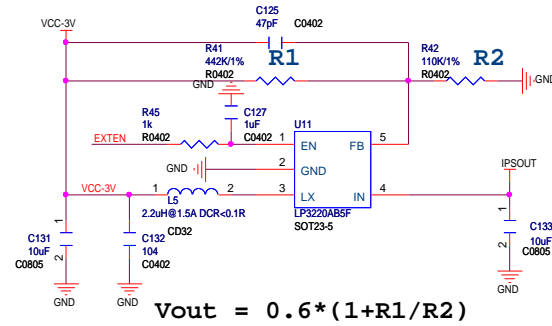
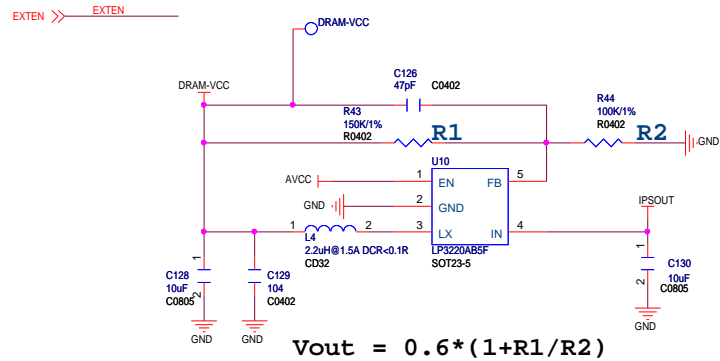
- 注意:
1. 在没有ACIN插座, 只使用USB供电时, 把A部分器件贴上;
  2. 有ACIN时A部分器件不贴。




备注:  
对于电感尺寸有轻薄要求的, 推荐使用乾坤的PSE250201B-2R2MS, 其体积为2.6x2.1平方毫米, 饱和电流为1.8A, 直流阻抗为85毫欧。

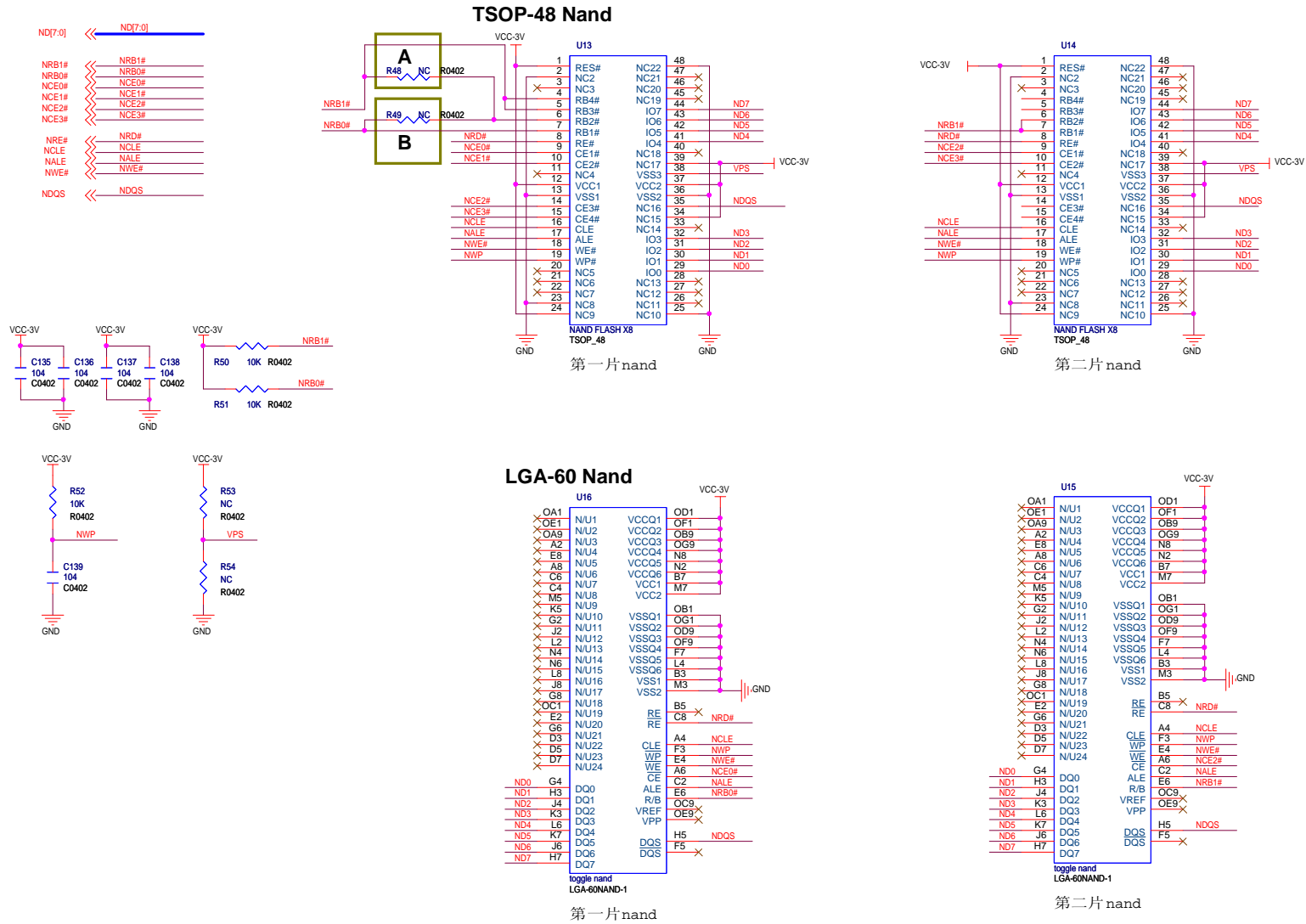


# POWER-DC/DC



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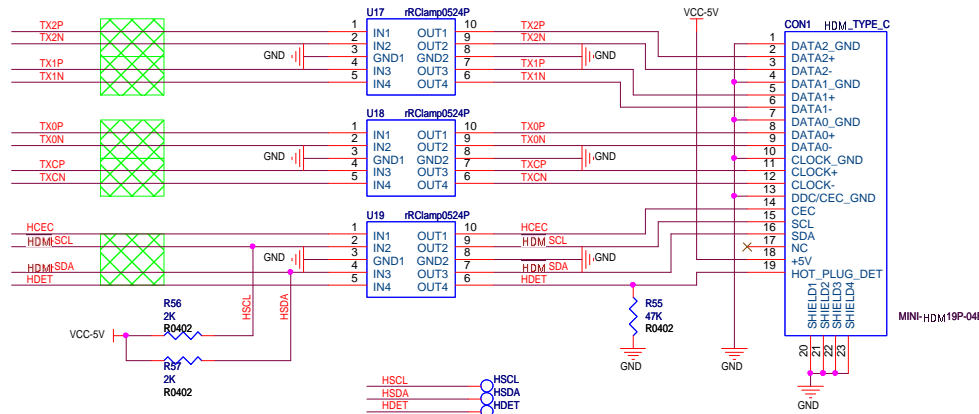
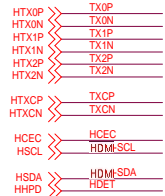
# NAND Flash



- (1) 接1片单片选Nand 时, 电阻A, B全断开
- (2) 接1片双片选Nand 时, 连接电阻A, 断开电阻B
- (3) 接1片四片选Nand 时, 连接电阻B, 断开电阻A
- (4) 接2片单片选或接2片双片选Nand 时, 连接电阻A, 断开电阻B

# HDMI-CSI

## HDMI

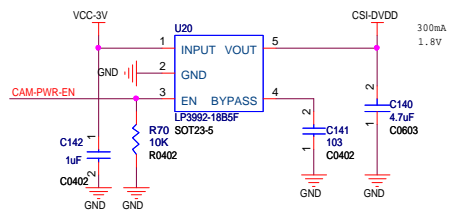
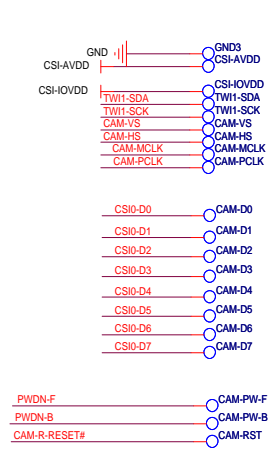
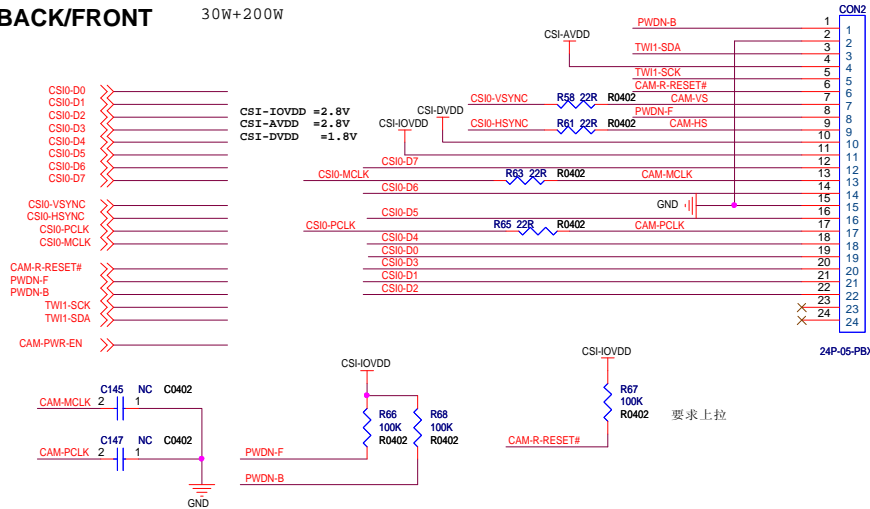


Differential pairs  
Z0= 100 ohm

LAYOUT差分走线过孔不能超过2个，有完整铺地。

## CSI0-BACK/FRONT

30W+200W

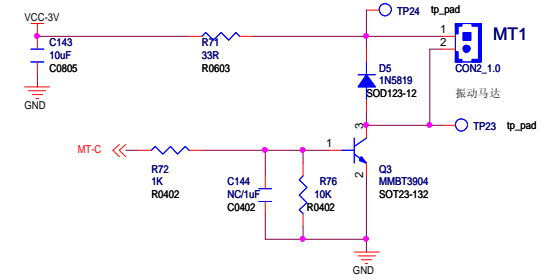


- 1、LAYOUT时，请保证摄像头成像方向与LCD显示一致；
- 2、LAYOUT时，请尽量保证两个摄像头的连接器不要分开太远，保证电源以及信号到达CSI的一致性；
- 3、若选用其他模组，请检查CSI-IOVDD, CSI-AVDD, CSI-DVDD的具体电压值以及负载能力能够满足。

# KEY-IR-TVOUT-MT

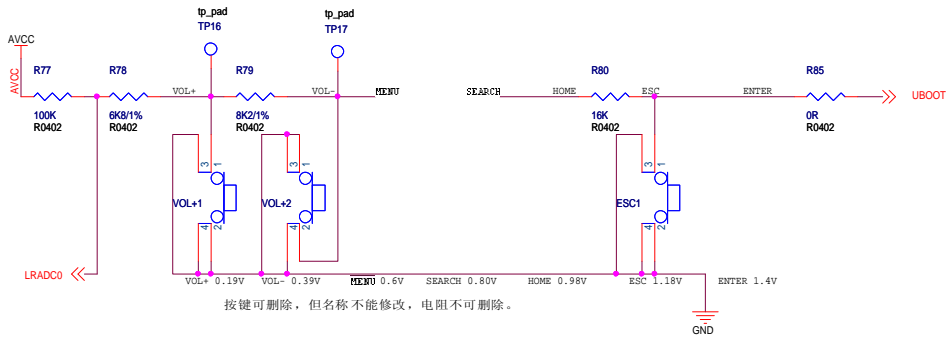
## TVOUT

## Motor



## KEY

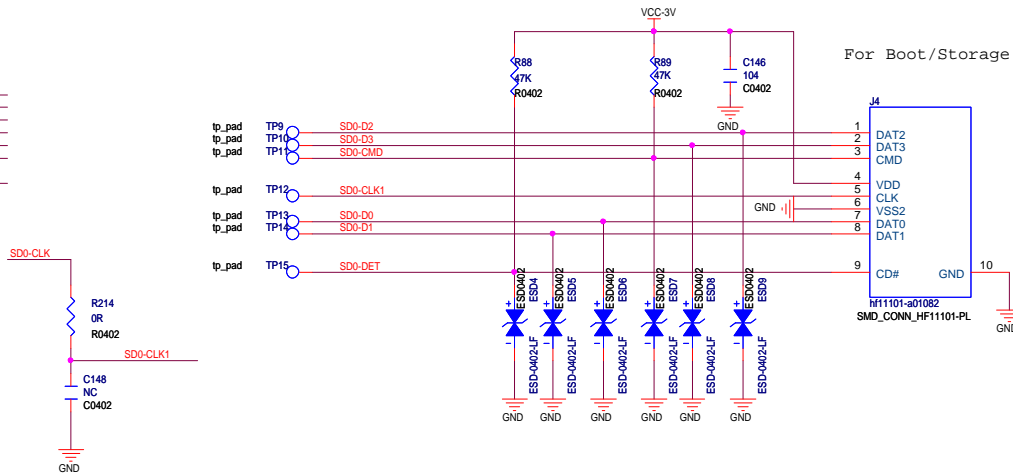
## IR MODULE



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KEY-IR-TVOUT-MT			
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# CARD-DEBUG-GS

## CARD0

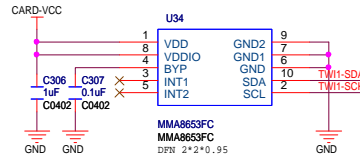
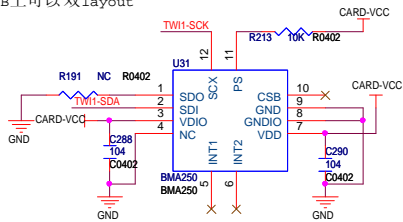


## G-SENSOR

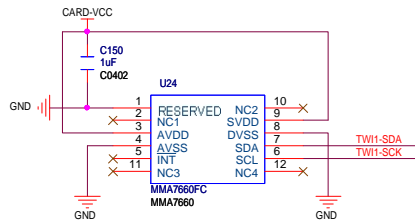
G-SENSOR IC与屏平行放置，放在屏的左上方，右上方放置PIN1脚。

### BMA250

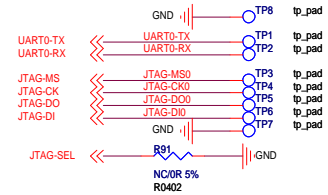
PCB上可以双layout



### MMA7660FC



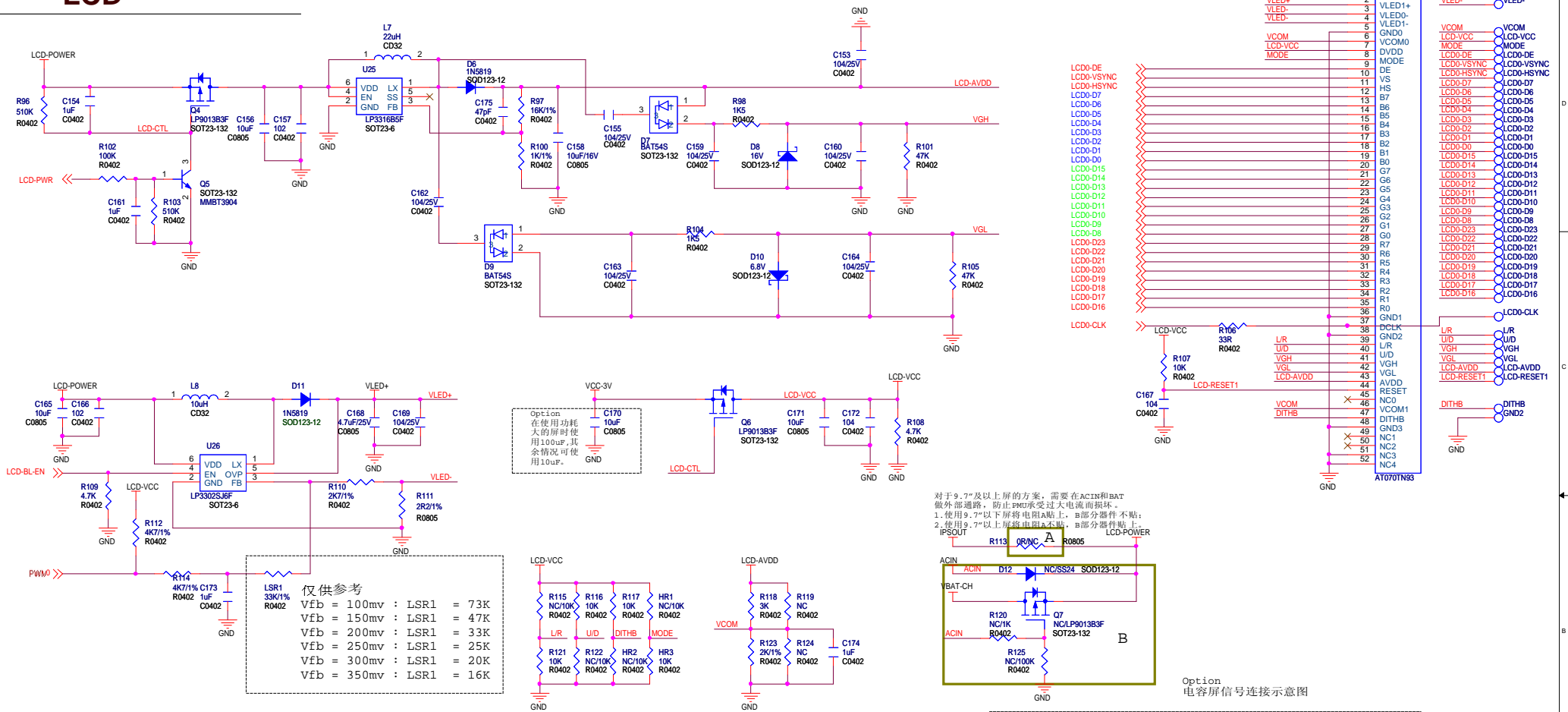
## DEBUG



预留JTAG、UART测试点，并要保证测试点方便焊接排列整齐，以备调试使用。

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# LCD

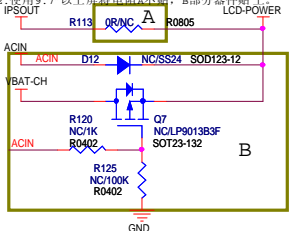
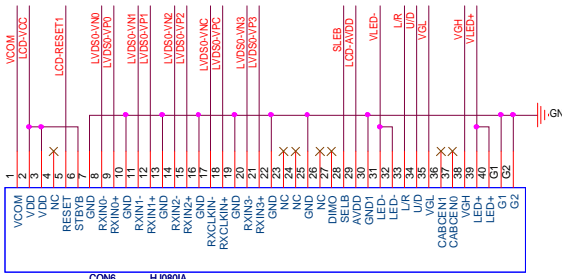


仅供参考

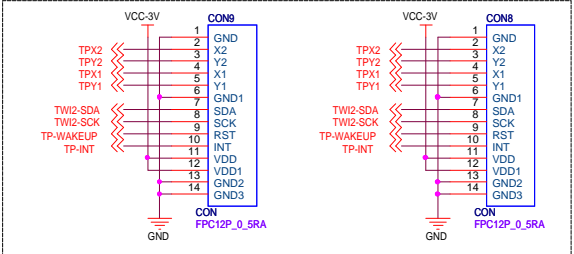
Vfb = 100mv	LSR1 = 73K
Vfb = 150mv	LSR1 = 47K
Vfb = 200mv	LSR1 = 33K
Vfb = 250mv	LSR1 = 25K
Vfb = 300mv	LSR1 = 20K
Vfb = 350mv	LSR1 = 16K

Option LVDS连接示意图

LCD0-D0	LVDS0-VP0
LCD0-D1	LVDS0-VN0
LCD0-D2	LVDS0-VP1
LCD0-D3	LVDS0-VN1
LCD0-D4	LVDS0-VP2
LCD0-D5	LVDS0-VN2
LCD0-D6	LVDS0-VP3
LCD0-D7	LVDS0-VN3
LCD0-D8	LVDS0-VP3
LCD0-D9	LVDS0-VN3



Option 电容屏信号连接示意图



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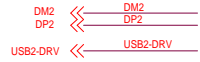
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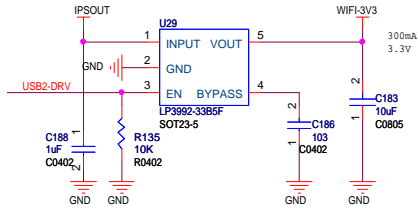
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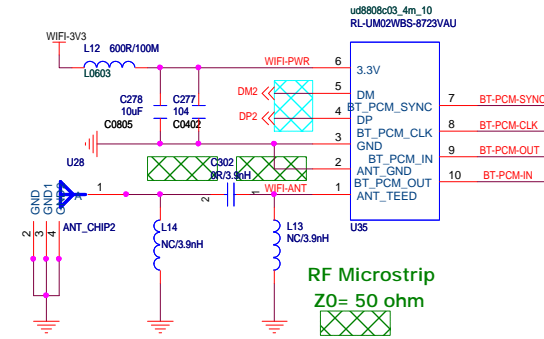
# WIFI-BT



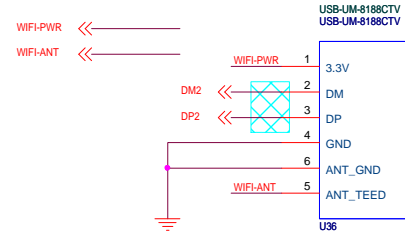
Differential pairs  
Z0= 90 ohm



# USB-WIFI



RF Microstrip  
Z0= 50 ohm



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Title: A20_PAD_STD			
Size: A3	Document Number: WIFI	Rev:	
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