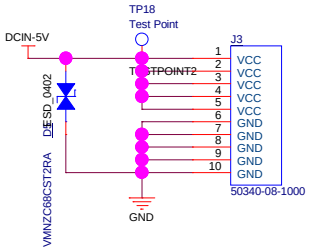
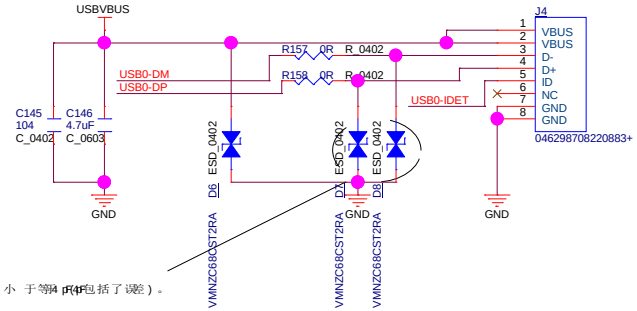
Button

PCB Power Assay



USB-DEVICE

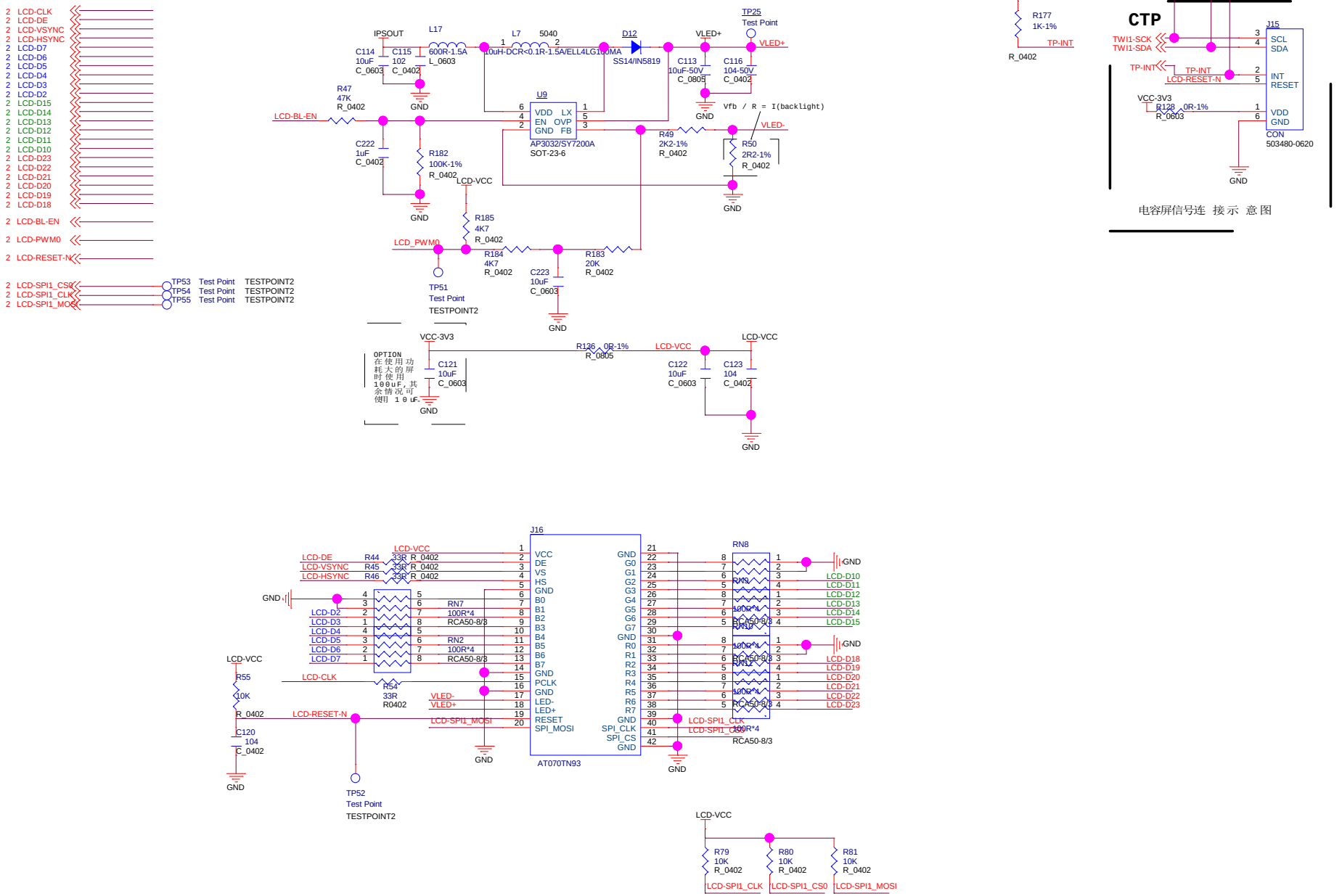
Differential pairs
Z0= 90 ohm



D+/D-上的ESD器件电容小于等于4pF(包括了误差)。

DISPLAY

LCD



电容屏信号连 接示 意图

FLASH/CARD

2 ND[7:0] ND[7:0]
2 NDQS NDQS

2 NRB1-N NRB1-N
2 NRB0-N NRB0-N
2 NRE-N NRE-N
2 NCE0-N NCE0-N
2 NCE1-N NCE1-N
2 NCLE NCLE
2 NALE NALE
2 NWE-N NWE-N

SYS-3.3V
C204 1uF C0402
C207 104 C0402
GND

TP79 Test Point TESTPOINT2
SYS-3.3V
C208 1uF C0402
C209 104 C0402
TP80 Test Point TESTPOINT2
GND

NAND FLASH

SYS-3.3V
R32 NC/0R-1% R_0402
VPS
R35 NC/0R-1% R_0402
GND

注：VPS的上下拉，具体请参见所用NAND FLASH的datasheet

SYS-3.3V
R39 10K R_0402
NWP-N
C111 104 C_0402
GND

SYS-3.3V SYS-3.3V
R34 10K R_0402
NRB1-N
NRB0-N
NRE-N
NCE0-N
NCE1-N
NCLE
NALE
NWE-N
NWP-N
GND

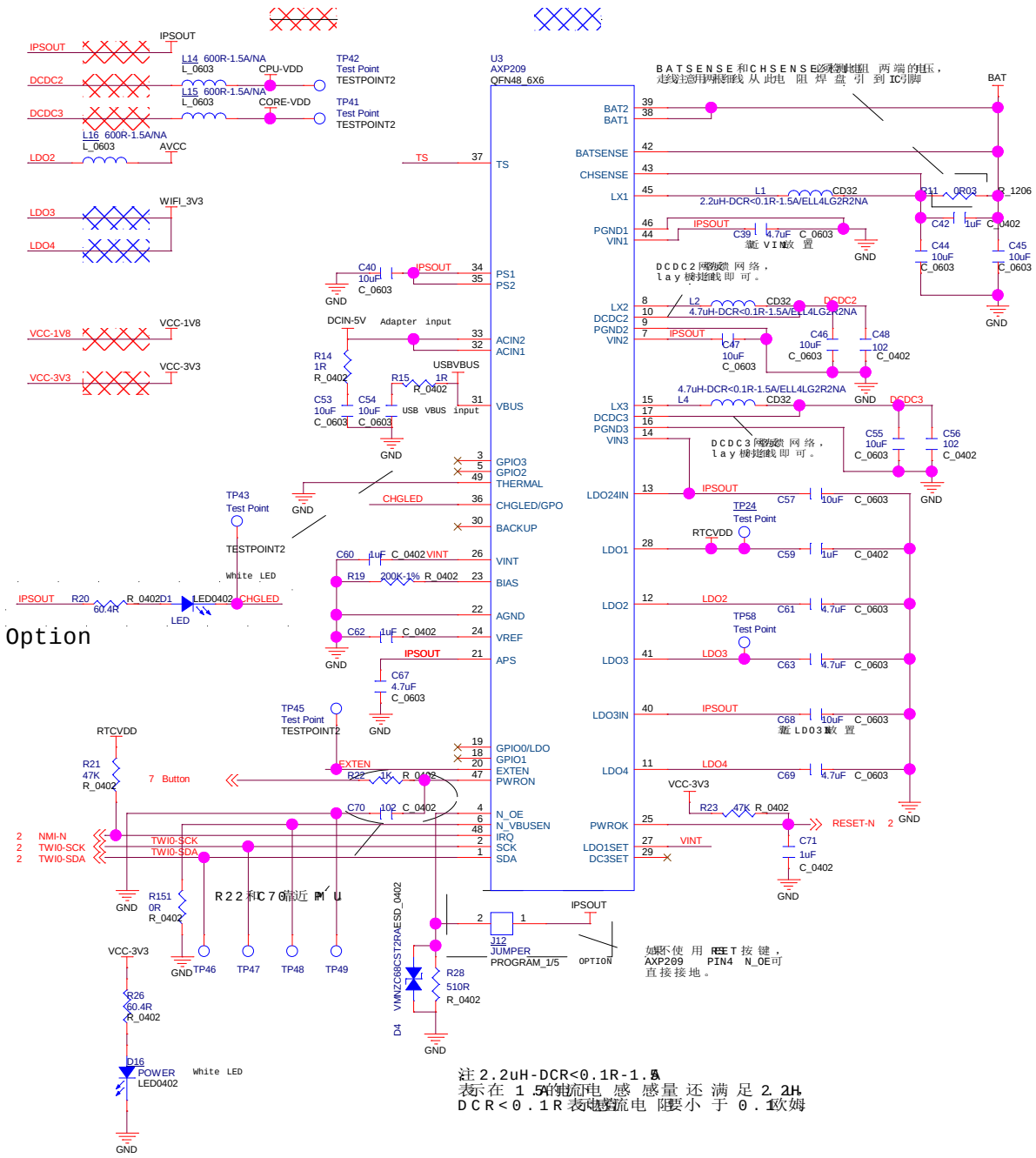
U8
SYS-3.3V

1	RES#	NC22	48
2	NC2	NC21	47
3	NC3	NC20	46
4	RB4#	NC19	45
5	RB3#	IO7	44 ND7
6	RB2#	IO6	43 ND6
7	RB1#	IO5	42 ND5
8	RE#	IO4	41 ND4
9	CE1#	NC18	40
10	CE2#	NC17	39
11	NC4	VSS3	38 VPS
12	VCC1	VCC2	37
13	VSS1	VSS2	36 NDQS
14	CE3#	NC16	35
15	CE4#	NC15	34
16	CLE	NC14	33
17	ALE	IO3	32 ND3
18	WE#	IO2	31 ND2
19	WP#	IO1	30 ND1
20	NC5	IO0	29 ND0
21	NC6	NC13	28
22	NC7	NC12	27
23	NC8	NC11	26
24	NC9	NC10	25

NAND FLASH X8
SSOP48
GND GND

POWER

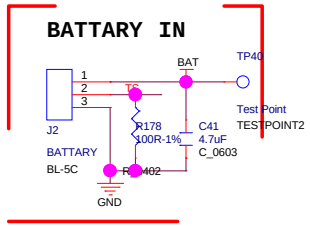
POWER LINE:Width>=80mil POWER LINE:Width>=50mil

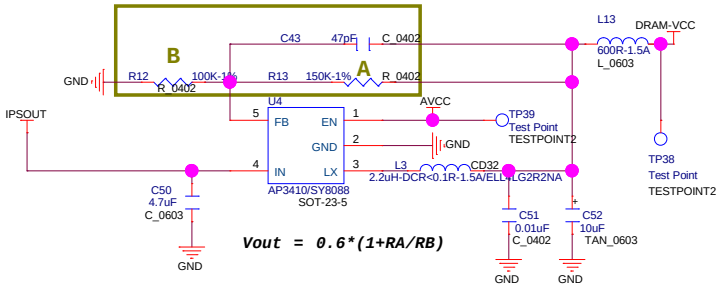


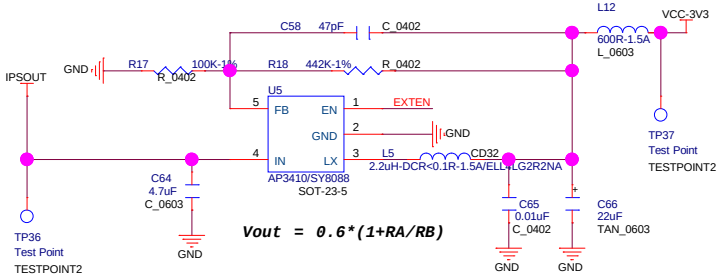
Option

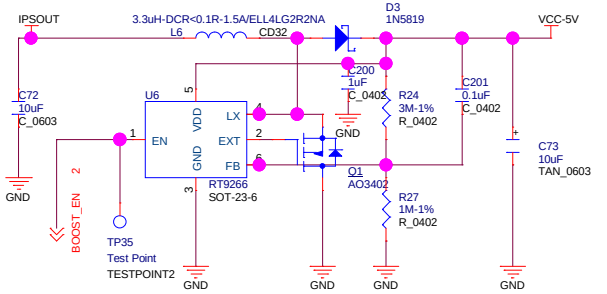
注 2.2uH-DCR<0.1R-1.5A 表示在 1.5A 的额定电流下电感量还满足 2.2uH，DCR<0.1R 表示额定电流下电阻要小于 0.1 欧姆

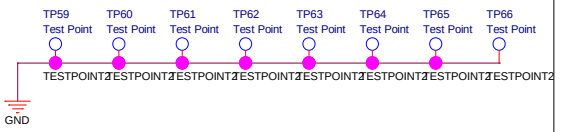
BATTARY IN

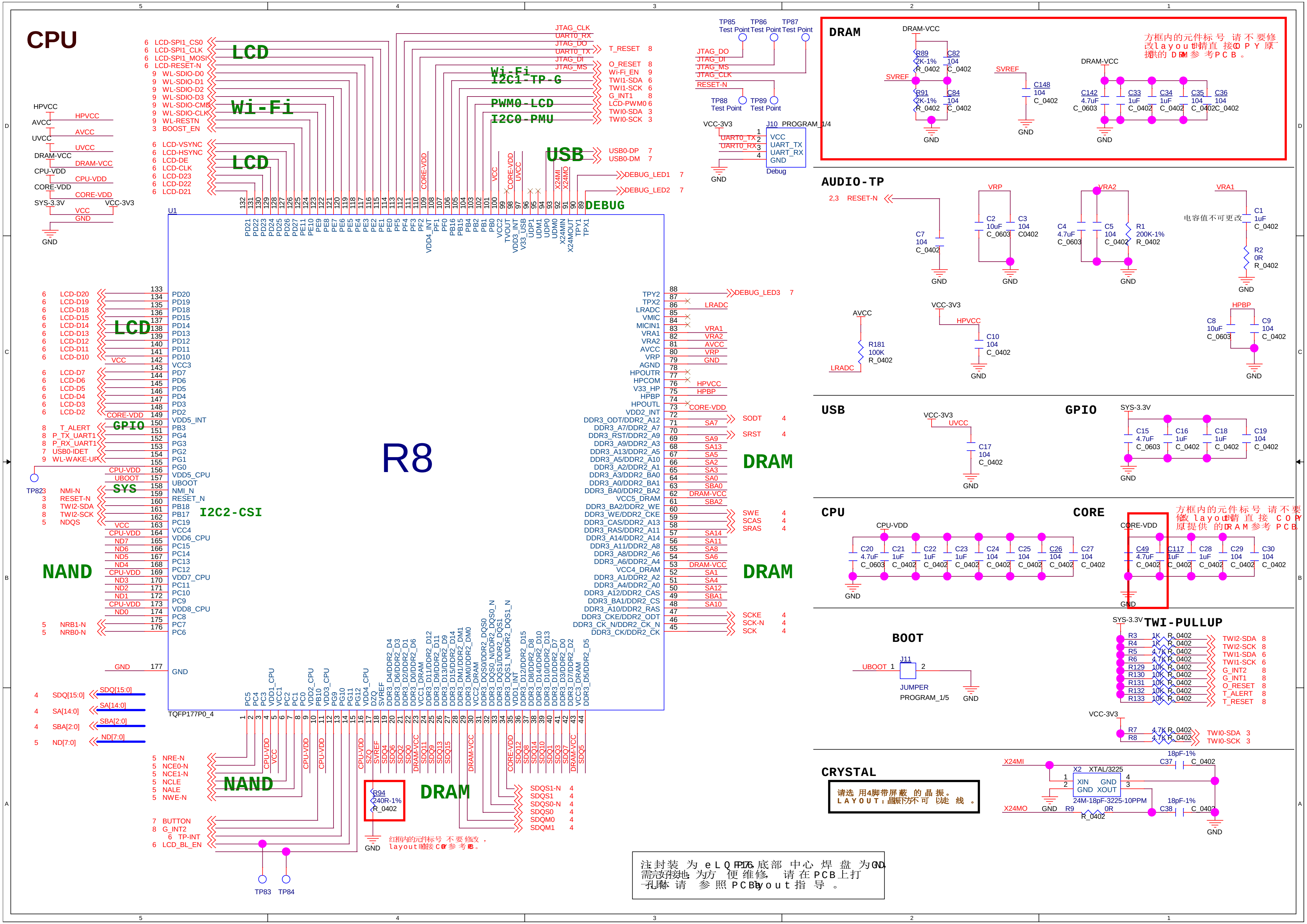












CPU
LCD
Wi-Fi
I2C1-TP-G
PWM0-LCD
I2C0-PMU
USB
DEBUG
R8
U1
TQFP177P0_4
GPIO
SYS
I2C2-CSI
NAND
DRAM
HPVCC
AVCC
UVCC
DRAM-VCC
CPU-VDD
CORE-VDD
SYS-3.3V
VCC-3V3
VCC
GND
LCD-SPI1_CS0
LCD-SPI1_CLK
LCD-SPI1_MOSI
LCD-RESET-N
WL-SDIO-D0
WL-SDIO-D1
WL-SDIO-D2
WL-SDIO-D3
WL-SDIO-CMD
WL-SDIO-CLK
WL-RESTN
BOOST_EN
LCD-VSYNC
LCD-HSYNC
LCD-DE
LCD-CLK
LCD-D23
LCD-D22
LCD-D21
JTAG_CLK
UART0_RX
JTAG_DO
UART0_TX
JTAG_DI
JTAG_MS
T_RESET
O_RESET
Wi-Fi_EN
TWI1-SDA
TWI1-SCK
G_INT1
LCD-PWM0
TWI0-SDA
TWI0-SCK
USB0-DP
USB0-DM
DEBUG_LED1
DEBUG_LED2
DEBUG_LED3
T_ALERT
P_TX_UART1
P_RX_UART1
USB0-IDET
WL-WAKE-UP
NMI-N
RESET-N
TWI2-SDA
TWI2-SCK
NDQS
NRB1-N
NRB0-N
SDQ[15:0]
SA[14:0]
SBA[2:0]
ND[7:0]
NRE-N
NCE0-N
NCE1-N
NCLE
NALE
NWE-N
BUTTON
G_INT2
TP-INT
LCD_BL_EN
TP83
TP84
TP82
SDQS1-N
SDQS1
SDQS0-N
SDQS0
SDQM0
SDQM1
SODT
SRST
SWE
SCAS
SRAS
SCKE
SCK-N
SCK
R94
240R-1%
R_0402
红框内的元件标号 不要修改，layout时请参考DRAM。
TP85 Test Point
TP86 Test Point
TP87 Test Point
TP88 Test Point
TP89 Test Point
RESET-N
J10 PROGRAM_1/4
Debug
UART_TX
UART_RX
DRAM
SVREF
R89 2K-1% R_0402
R91 2K-1% R_0402
C82 104 C_0402
C84 104 C_0402
C148 104 C_0402
C142 4.7uF C_0603
C33 1uF C_0402
C34 1uF C_0402
C35 104 C_0402
C36 104 C_0402
方框内的元件标号 请不要修改layout时请直接COPY原提供的DRAM参考PCB。
AUDIO-TP
RESET-N
VRP
VRA2
VRA1
C7 104 C_0402
C2 10uF C_0603
C3 104 C0402
C4 4.7uF C_0603
C5 104 C_0402
R1 200K-1% R_0402
电容值不可更改
C1 1uF C_0402
R2 0R R_0402
AVCC
R181 100K R_0402
LRADC
HPVCC
C10 104 C_0402
HPBP
C8 10uF C_0603
C9 104 C_0402
USB
UVCC
C17 104 C_0402
GPIO
C15 4.7uF C_0603
C16 1uF C_0402
C18 1uF C_0402
C19 104 C_0402
CPU
CORE
C20 4.7uF C_0603
C21 1uF C_0402
C22 1uF C_0402
C23 1uF C_0402
C24 104 C_0402
C25 104 C_0402
C26 104 C_0402
C27 104 C_0402
C49 4.7uF C_0402
C117 1uF C_0402
C28 1uF C_0402
C29 104 C_0402
C30 104 C_0402
方框内的元件标号 请不要修改layout时请直接COPY原提供的DRAM参考PCB。
BOOT
UBOOT
J11 JUMPER PROGRAM_1/5
TWI-PULLUP
R3 1K R_0402
R4 1K R_0402
R5 4.7K R_0402
R6 4.7K R_0402
R129 10K R_0402
R130 10K R_0402
R131 10K R_0402
R132 10K R_0402
R133 10K R_0402
TWI2-SDA
TWI2-SCK
TWI1-SDA
TWI1-SCK
G_INT2
G_INT1
O_RESET
T_ALERT
T_RESET
R7 4.7K R_0402
R8 4.7K R_0402
TWI0-SDA
TWI0-SCK
CRYSTAL
请选用4脚带屏蔽的晶振。LAYOUT：晶振下方不可以走线。
X24MI
X24MO
X2 XTAL/3225
24M-18pF-3225-10PPM
C37 18pF-1% C_0402
C38 18pF-1% C_0402
R9 0R R_0402
注：封装为eLQFP176，底部中心焊盘为GND，需要打孔接地。为方便维修，请在PCB上打孔，具体请参照PCB layout指导。

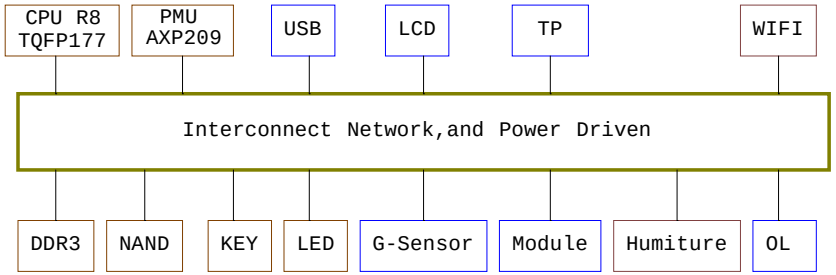
COVER

Schematics Index

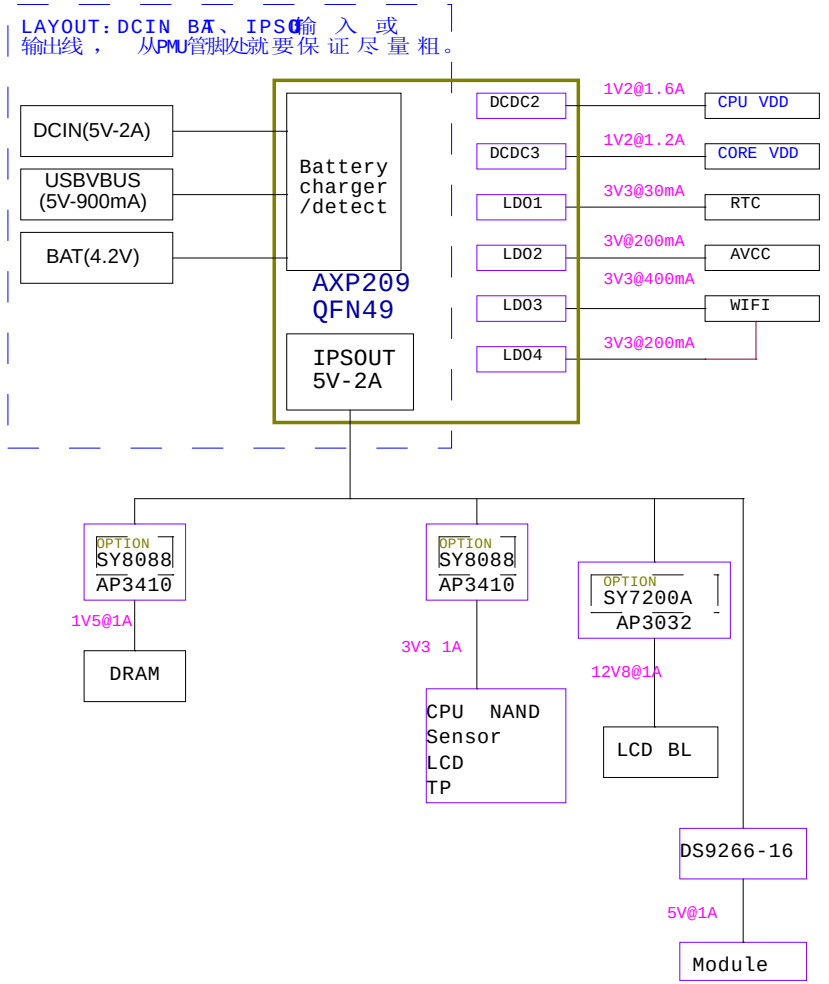
Bran-Design

特别提醒：
1:PG0 / PG1 / PG2这个PIN脚
只有INPUT功能。
2：PMU的GPIO0/1/2这四个PIN脚
做GPIO-OUTPUT功能
3:PG10 / PG11 / PG12这个PIN脚
的功能可改变。
4:CSI-PCLK / CSI-MCLK两个PIN脚
只有INPUT功能。
5：CSI-HSYNC只有INPUT传有功能，
不能用途。

BLOCK



POWER TREE



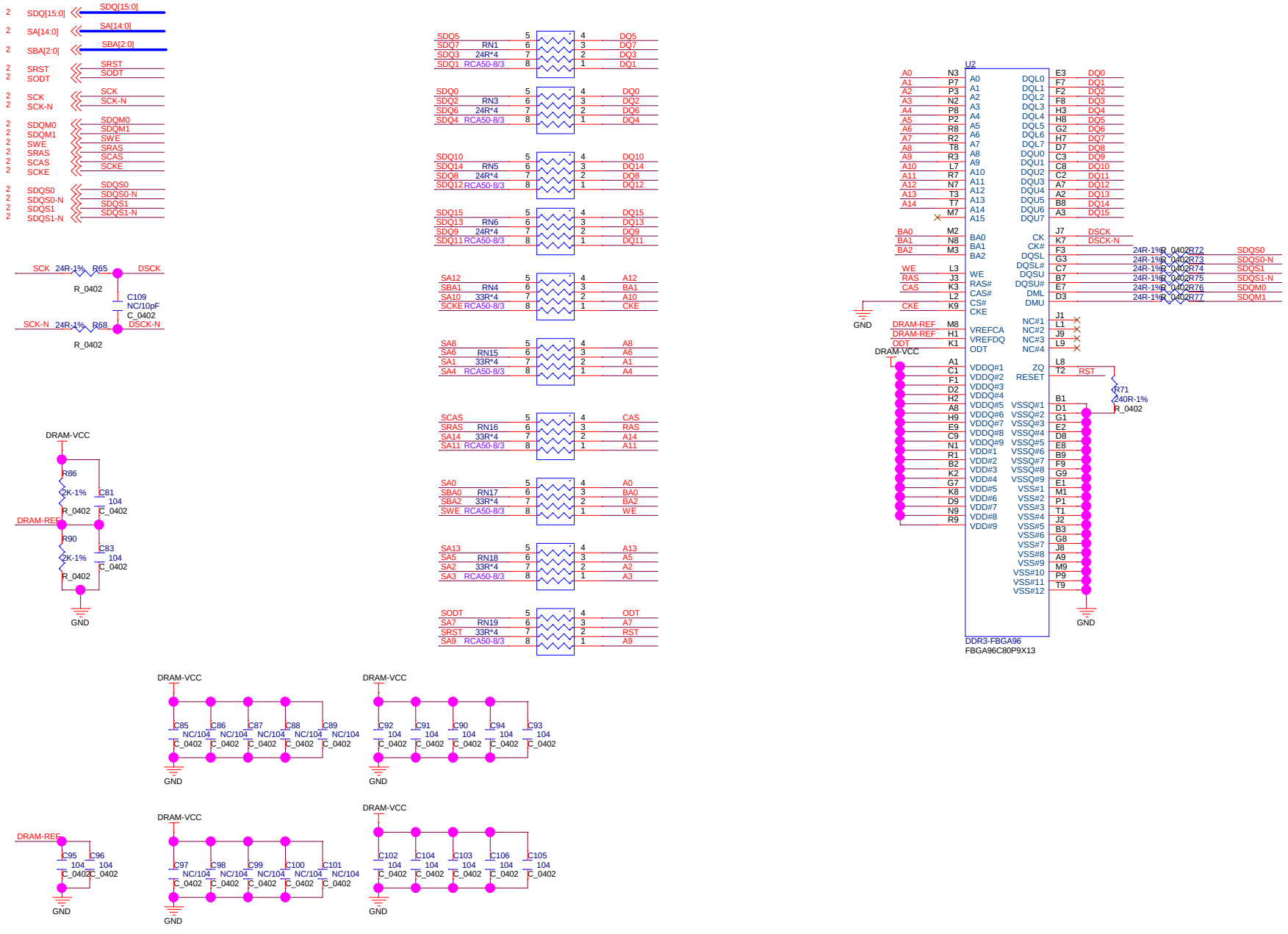
REVISION HISTORY

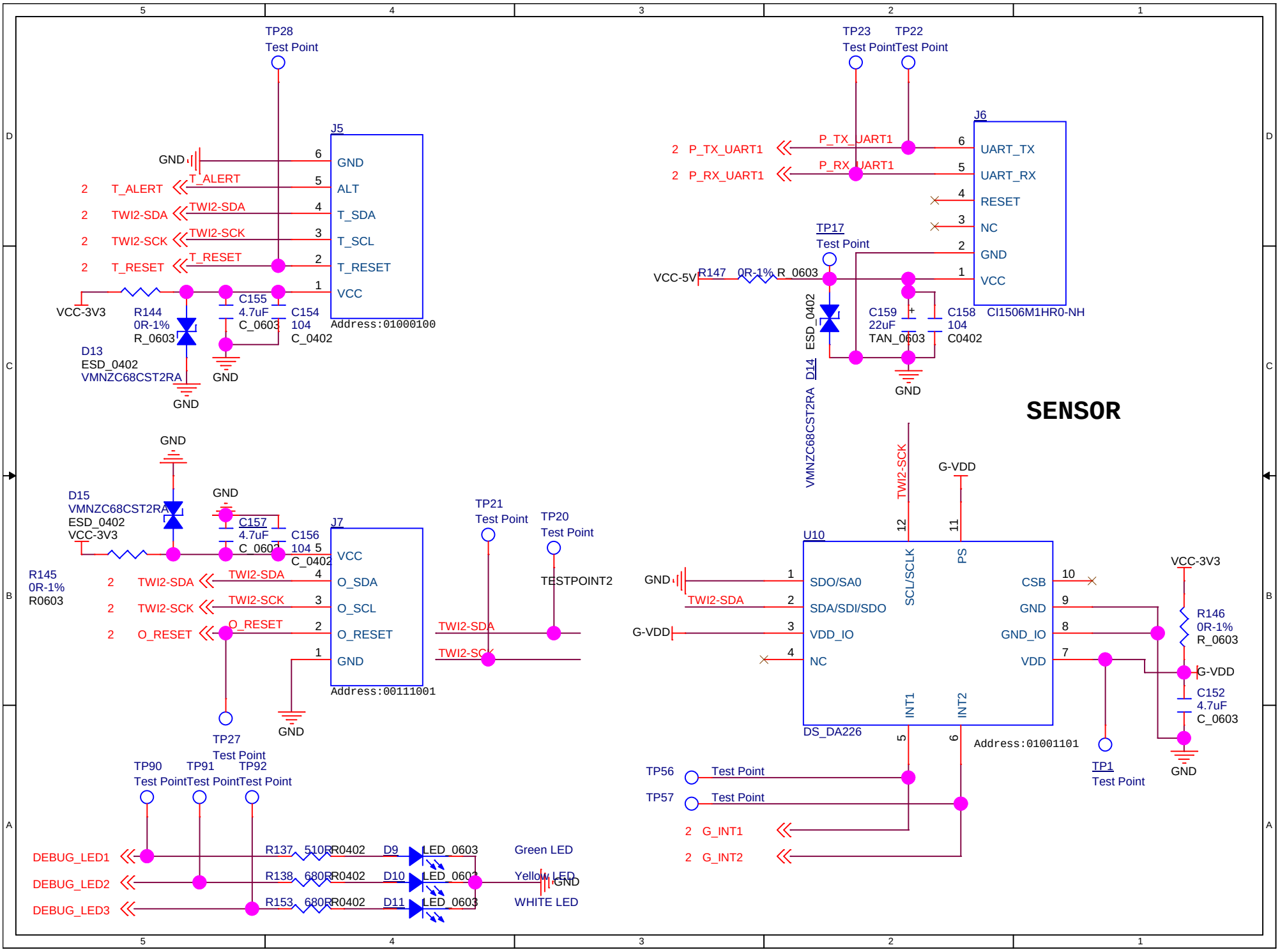
Revision	Description	Date	Drawn	Checked	Approved
Ver 1.0	Bran Main PCB ASSY	2016/6/19	Violet/Jemmey	Jemmey	
Ver 1.5	Bran Main PCB ASSY	2016/7/31	Jemmey	Jemmey/Violet	
Ver 2.0	Bran Main PCB ASSY	2016/8/11	Jemmey	Jemmey/Violet	

DDR3 16x1

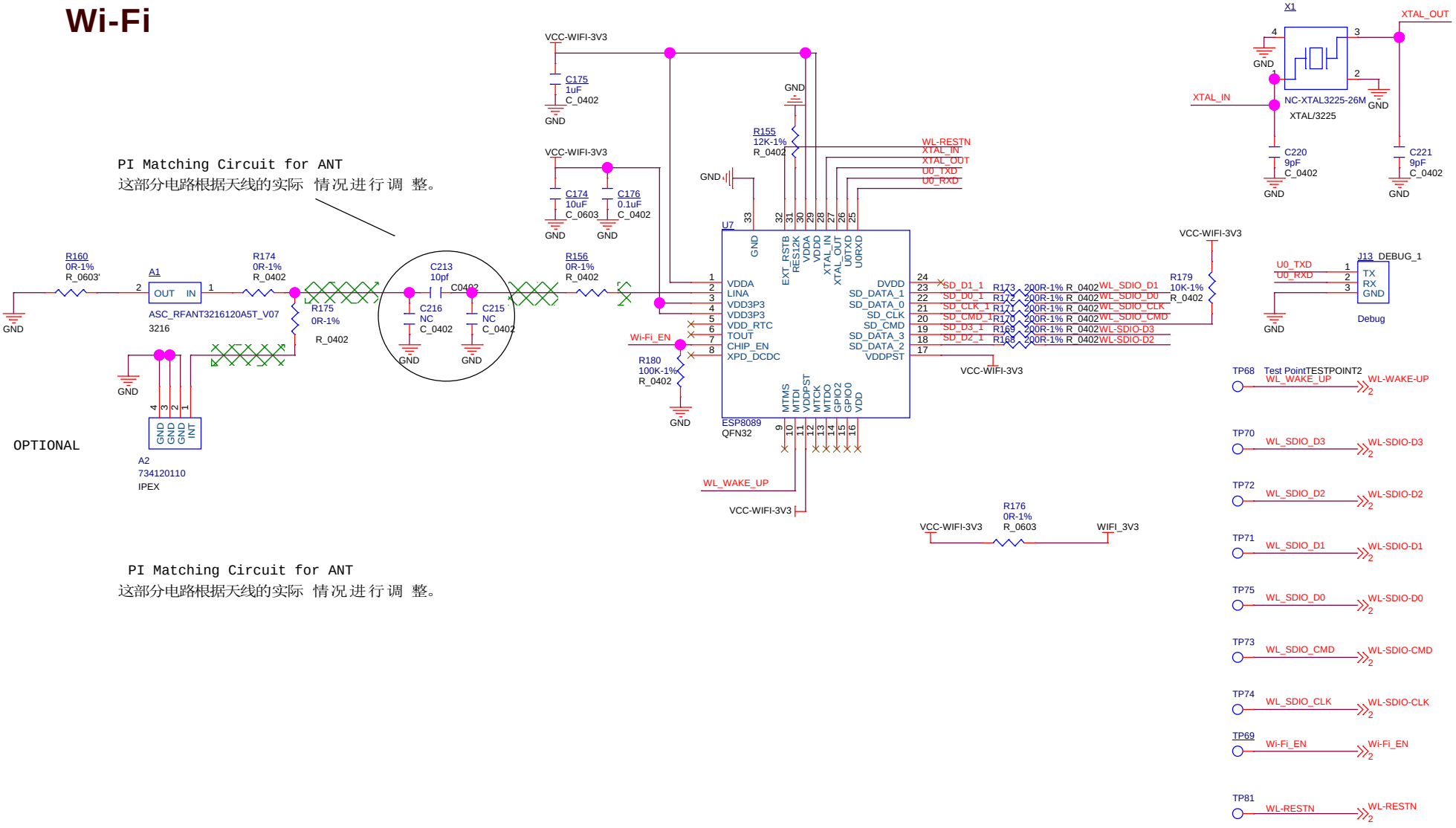
DDR3

本页的元件标号请不要修改
layout时直接COPY原厂提供
的DRAM参考PCB




SENSOR
TP28
Test Point
J5
GND
T_ALERT
TWI2-SDA
TWI2-SCK
T_RESET
VCC-3V3
R144
0R-1%
R_0603
C155
4.7uF
C_0603
C154
104
C_0402
D13
ESD_0402
VMNZC68CST2RA
Address:01000100
TP23
Test Point
TP22
Test Point
J6
P_TX_UART1
P_RX_UART1
UART_TX
UART_RX
RESET
NC
GND
VCC
TP17
Test Point
VCC-5V
R147
0R-1%
R_0603
C159
22uF
TAN_0603
C158
104
C0402
CI1506M1HR0-NH
D14
ESD_0402
VMNZC68CST2RA
D15
VMNZC68CST2RA
ESD_0402
VCC-3V3
C157
4.7uF
C_0603
C156
104
C_0402
J7
TWI2-SDA
TWI2-SCK
O_RESET
VCC
O_SDA
O_SCL
O_RESET
GND
Address:00111001
R145
0R-1%
R0603
TP21
Test Point
TP20
Test Point
TESTPOINT2
TP27
Test Point
U10
SDO/SA0
SDA/SDI/SDO
VDD_IO
NC
SCL/SCLK
PS
CSB
GND
GND_IO
VDD
INT1
INT2
DS_DA226
Address:01001101
TWI2-SCK
G-VDD
VCC-3V3
R146
0R-1%
R_0603
C152
4.7uF
C_0603
TP1
Test Point
TP56
Test Point
TP57
Test Point
G_INT1
G_INT2
TP90
Test Point
TP91
Test Point
TP92
Test Point
DEBUG_LED1
DEBUG_LED2
DEBUG_LED3
R137 510R R0402
R138 680R R0402
R153 680R R0402
D9
D10
D11
LED_0603
Green LED
Yellow LED
WHITE LED

Wi-Fi


PI Matching Circuit for ANT
这部分电路根据天线的实际 情况进行调 整。
OPTIONAL
PI Matching Circuit for ANT
这部分电路根据天线的实际 情况进行调 整。
R160 0R-1% R_0603'
A1
OUT IN
ASC_RFANT3216120A5T_V07
3216
R174 0R-1% R_0402
R175 0R-1% R_0402
C213 10pf C0402
C216 NC C_0402
C215 NC C_0402
R156 0R-1% R_0402
A2
734120110
IPEX
GND INT
VCC-WIFI-3V3
C175 1uF C_0402
C174 10uF C_0603
C176 0.1uF C_0402
R155 12K-1% R_0402
U7
ESP8089
QFN32
VDDA
LINA
VDD3P3
VDD3P3
VDD_RTC
TOUT
CHIP_EN
XPD_DCDC
DVDD
SD_DATA_1
SD_DATA_0
SD_CLK
SD_CMD
SD_DATA_3
SD_DATA_2
VDDPST
MTMS
MTDI
VDDPST
MTCK
MTDO
GPIO2
GPIO0
VDD
EXT_RSTB
RES12K
VDDA
VDDD
XTAL_IN
XTAL_OUT
U0TXD
U0RXD
WL-RESTN
XTAL_IN
XTAL_OUT
U0_TXD
U0_RXD
Wi-Fi_EN
R180 100K-1% R_0402
WL_WAKE_UP
R173 200R-1% R_0402 WL_SDIO_D1
R172 200R-1% R_0402 WL_SDIO_D0
R171 200R-1% R_0402 WL_SDIO_CLK
R170 200R-1% R_0402 WL_SDIO_CMD
R169 200R-1% R_0402 WL-SDIO-D3
R168 200R-1% R_0402 WL-SDIO-D2
R179 10K-1% R_0402
R176 0R-1% R_0603
WIFI_3V3
X1
NC-XTAL3225-26M
XTAL/3225
XTAL_OUT
XTAL_IN
C220 9pF C_0402
C221 9pF C_0402
J13_DEBUG_1
TX
RX
GND
Debug
TP68 Test PointTESTPOINT2 WL_WAKE_UP WL-WAKE-UP
TP70 WL_SDIO_D3 WL-SDIO-D3
TP72 WL_SDIO_D2 WL-SDIO-D2
TP71 WL_SDIO_D1 WL-SDIO-D1
TP75 WL_SDIO_D0 WL-SDIO-D0
TP73 WL_SDIO_CMD WL-SDIO-CMD
TP74 WL_SDIO_CLK WL-SDIO-CLK
TP69 Wi-Fi_EN Wi-Fi_EN
TP81 WL-RESTN WL-RESTN