

备注:

- 1、VBAT, LDO\_IN必须使用耐压值为16V的原装电容。
- 2、VDDIO, VBAT必须使用原装电容, 以防漏电。
- 3、没有备注耐压值的电容, 统一用耐压值6.3V的电容, 所有电容请使用原装电容, 以保证容值。

The diagram illustrates the PCB layout for the AC8972A8-QFN22 package. Key components and connections include:

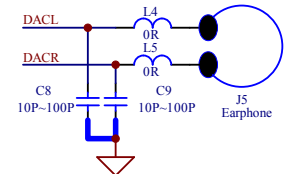
- AC8972A8-QFN22 Package:** The central component with pins 1 through 22. Pins 1-6 are on the left, 7-11 on the bottom, 12-17 on the right, and 18-22 on the top.
- Power and Grounding:**
  - BT\_AVDD:** Connected to pin 9, with a 10uH/150mA inductor (L1) and a 106/16V capacitor (C10) to GND.
  - BT\_AVDD:** Connected to pin 10, with a 105/16V capacitor (C5) to GND.
  - BT\_AVDD:** Connected to pin 11, with a 105/16V capacitor (C3) to GND.
  - SW:** Connected to pin 7, with a 105/16V capacitor (C4) to GND.
  - VBAT:** Connected to pin 8, with a 105/16V capacitor (C6) to GND.
  - BT\_AVDD:** Connected to pin 9, with a 105/16V capacitor (C10) to GND.
  - BT\_AVDD:** Connected to pin 10, with a 105/16V capacitor (C5) to GND.
  - BT\_AVDD:** Connected to pin 11, with a 105/16V capacitor (C3) to GND.
  - BT\_AVDD:** Connected to pin 12, with a 105/16V capacitor (C3) to GND.
  - BT\_AVDD:** Connected to pin 13, with a 105/16V capacitor (C3) to GND.
  - BT\_AVDD:** Connected to pin 14, with a 105/16V capacitor (C3) to GND.
  - BT\_AVDD:** Connected to pin 15, with a 105/16V capacitor (C3) to GND.
  - BT\_AVDD:** Connected to pin 16, with a 105/16V capacitor (C3) to GND.
  - BT\_AVDD:** Connected to pin 17, with a 105/16V capacitor (C3) to GND.
  - BT\_AVDD:** Connected to pin 18, with a 105/16V capacitor (C3) to GND.
  - BT\_AVDD:** Connected to pin 19, with a 105/16V capacitor (C3) to GND.
  - BT\_AVDD:** Connected to pin 20, with a 105/16V capacitor (C3) to GND.
  - BT\_AVDD:** Connected to pin 21, with a 105/16V capacitor (C3) to GND.
  - BT\_AVDD:** Connected to pin 22, with a 105/16V capacitor (C3) to GND.
- Signal and Control:**
  - BT\_OSCI:** Connected to pin 14, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 15, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 16, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 17, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 18, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 19, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 20, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 21, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 22, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 1, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 2, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 3, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 4, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 5, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 6, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 7, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 8, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 9, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 10, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 11, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 12, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 13, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 14, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 15, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 16, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 17, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 18, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 19, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 20, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCO:** Connected to pin 21, with a 105/16V capacitor (C3) to GND.
  - BT\_OSCI:** Connected to pin 22, with a 105/16V capacitor (C3) to GND.
- Design Notes:**
  - 滤波电容尽量用0402封装, 保证容值** (Filter capacitors should preferably use 0402 packaging to ensure capacitance value).
  - 晶振选型: 要求: 内部负载电容12PF; 频偏偏差±10PPM以内** (Crystal selection: Requirement: Internal load capacitance 12PF; Frequency deviation ±10PPM or less).
  - 备注: 天线匹配电路参数, 以实际样机调试结果为准。** (Note: Antenna matching circuit parameters, subject to actual prototype debugging results).

*MCU*



此四个点为烧写，升级测试点

### Test Point



**MIC电路处的滤波电容位置需预留**

**备注:**  
1、AGND单独走线，走线尽量宽，在电池地短接  
2、电池必须带保护板，或带保护电路

**POWER**