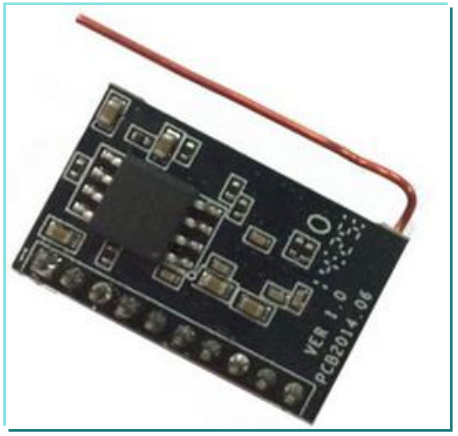
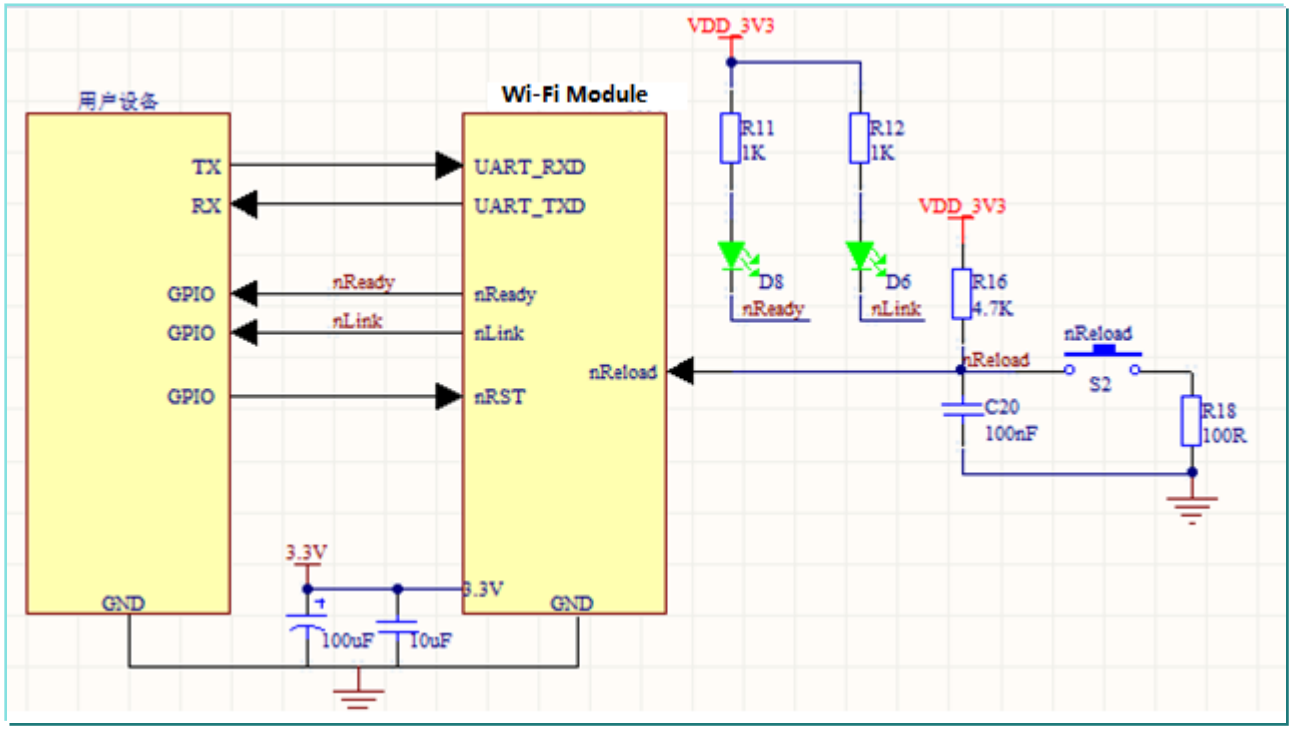
HF-LPB100&HF-LPB120 Series Hardware Design Guide

V1.0_20160219



1、Typical Application

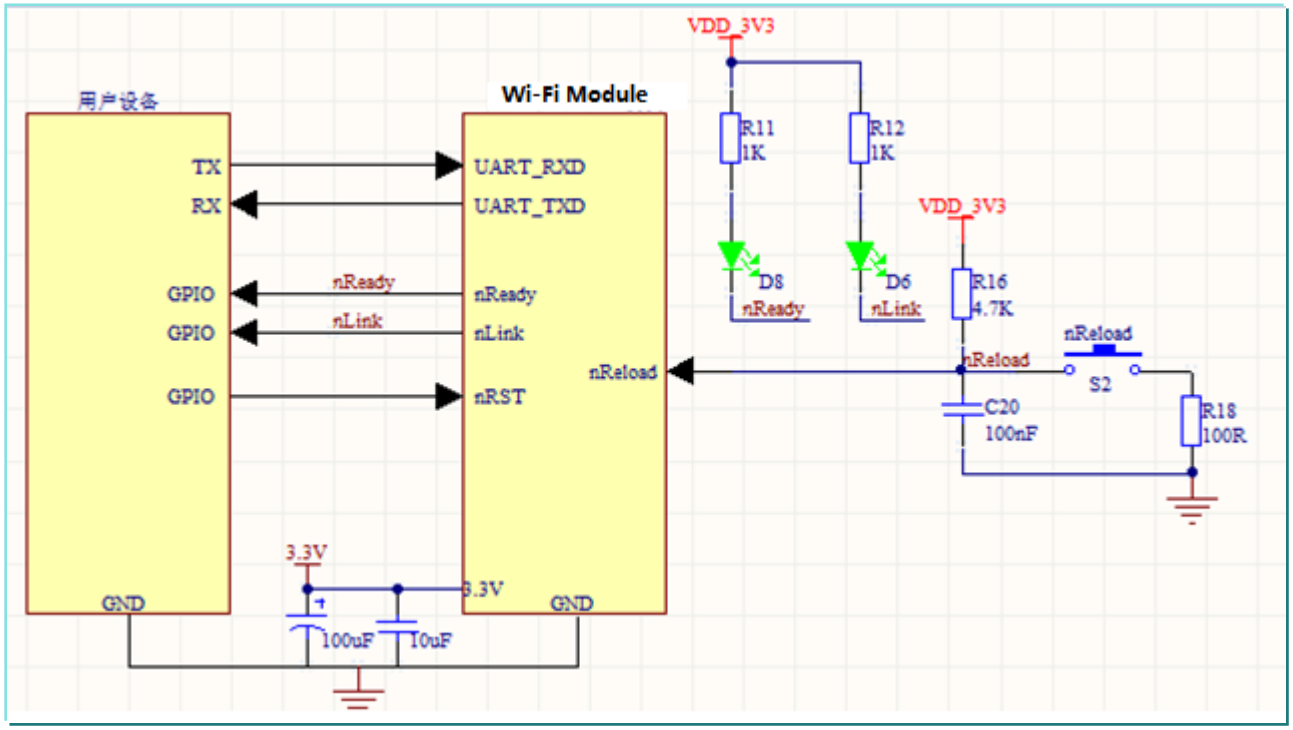


1、 nReset-(Optional) Module hardware reset signal. Input. Logics “0” effective. There is pull-up resister internal and no external pull-up required. When module power up or some issue happened, MCU need assert nRST signal “0” at least 10ms, then set” 1” to keep module fully reset.

2、 nLink-(Optional, useful for debug) Module WIFI connection status indication. Output.
When module connects to AP (AP associated), this pin will output “0”. This signal used to judge if module already at WiFi connection status. Thers is pull-up resister internal and no external pull-up required. If nLink function not required, can leave this pin open.

3、 nReady- (Optional, useful for debug) Module boot up ready signal. Output. Logics “0” effective.
The module will output “0” after normal boot up. This signal used to judge if module finish boot up and ready for application or working at normal mode. If nReady function not required, can leave this pin open.

1、Typical Application

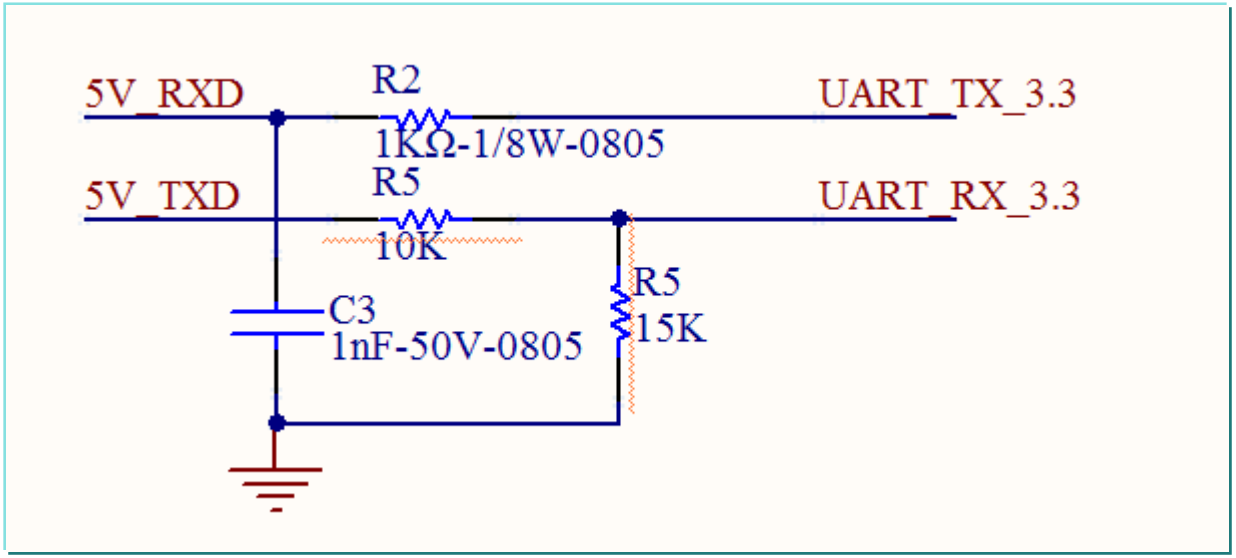


4、 nReload- (Recommended to use)
Module restore to factory default , Smart Link configuration.Input. Logics “0” effective.
User can de-assert nReload signal “0” more than 4s through button or MCU pin, then release, module will restore to factory default configuration and re-start boot up process.. If nReload function not required, can leave this pin open.

5、 UART0_TXD/RXD- (Must) UART port data transmit and receive signal.

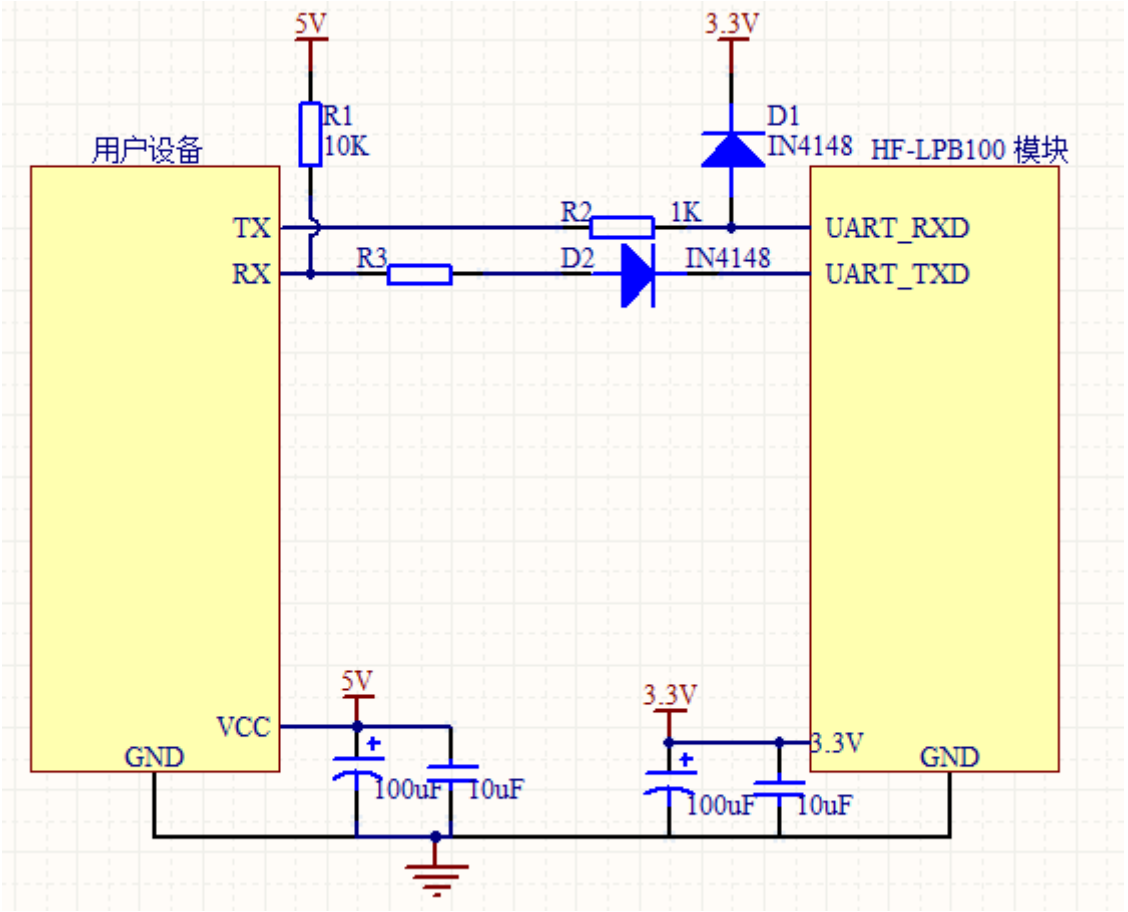
1、Typical Application

Module UART 3.3V TTL to User Board UART 5V TTL, Cost Saving
Method 1：Resistor divider, If user board uart consider 3.3V is high, may remove R2



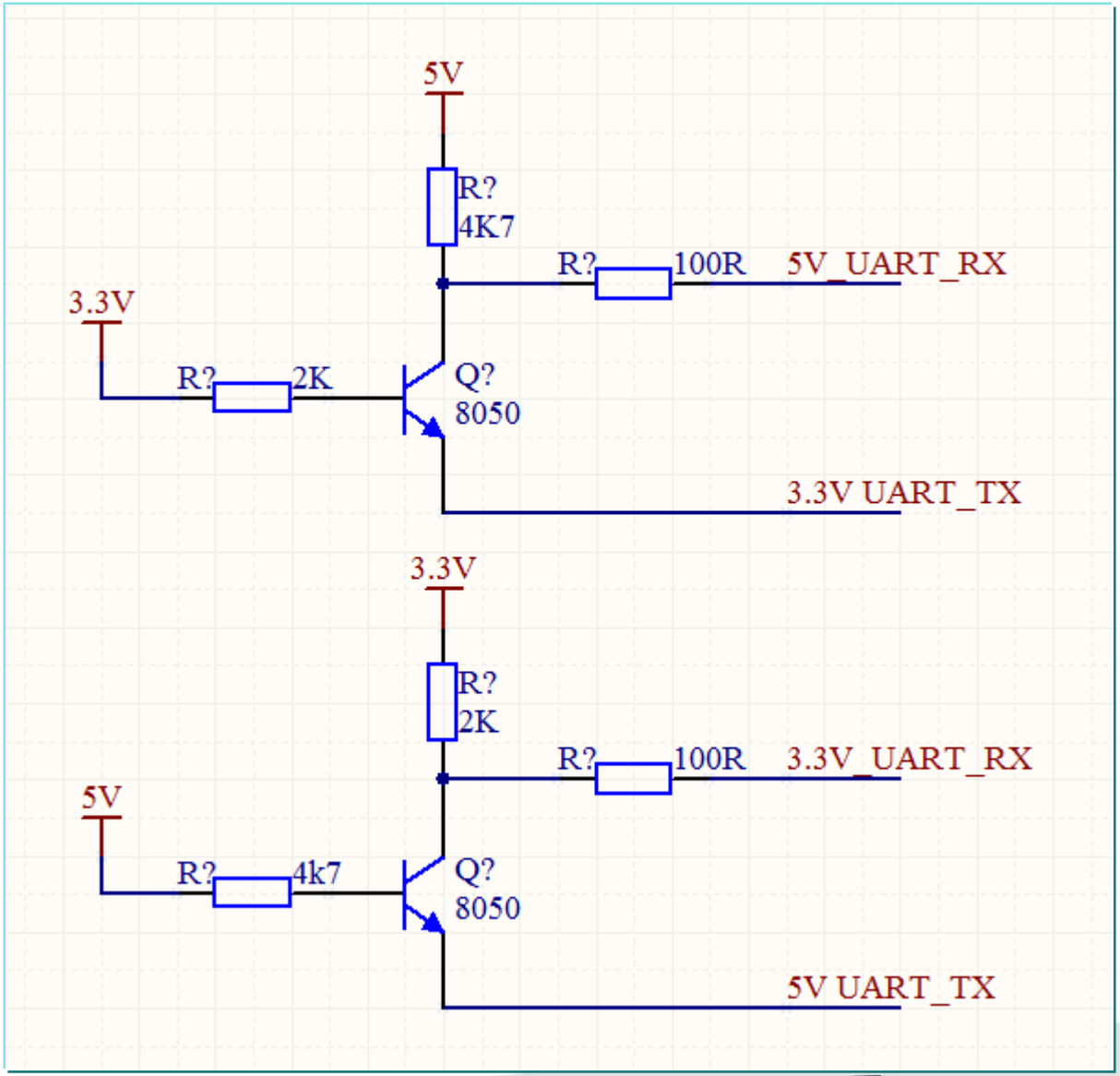
1、Typical Application

Module UART 3.3V TTL to User Board UART 5V TTL, Cost Saving
Method 2、If user board consider 3.3V is high, may remove R1,R3,D2



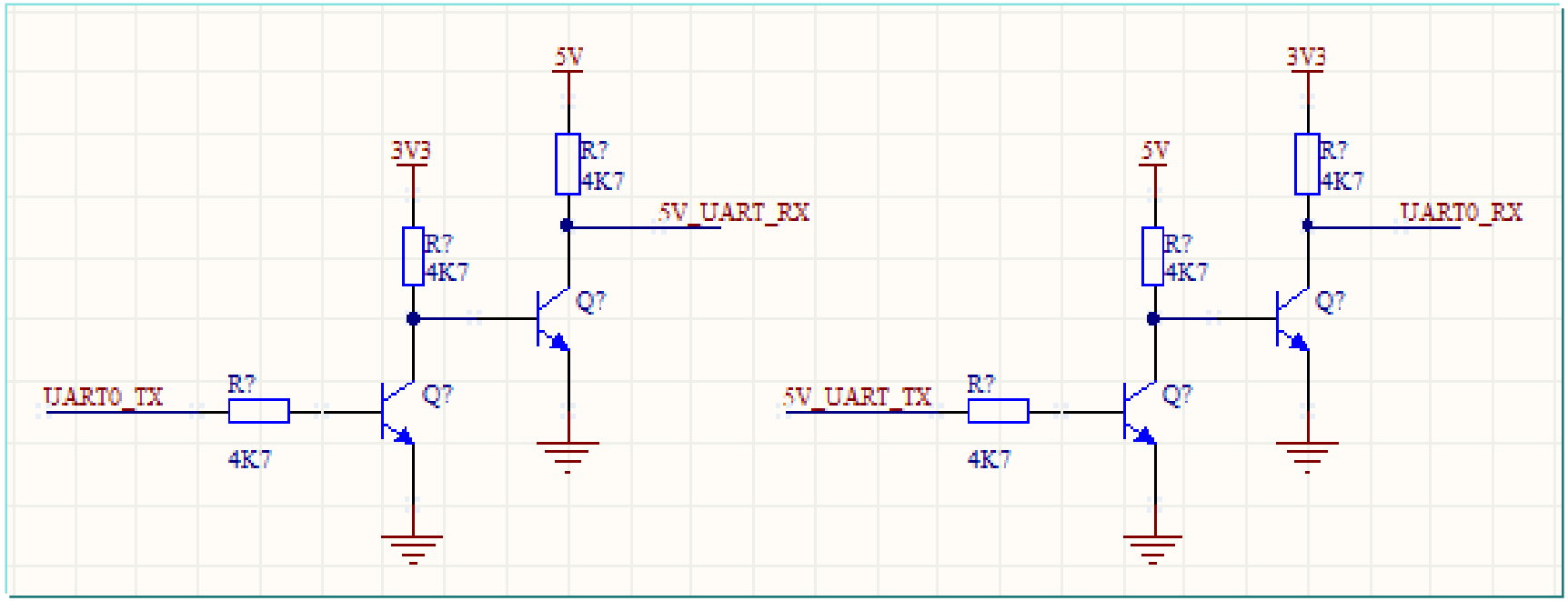
1、Typical Application

Module UART 3.3V TTL to User Board UART 5V TTL, stable circuit
Method 1: Use Transistor



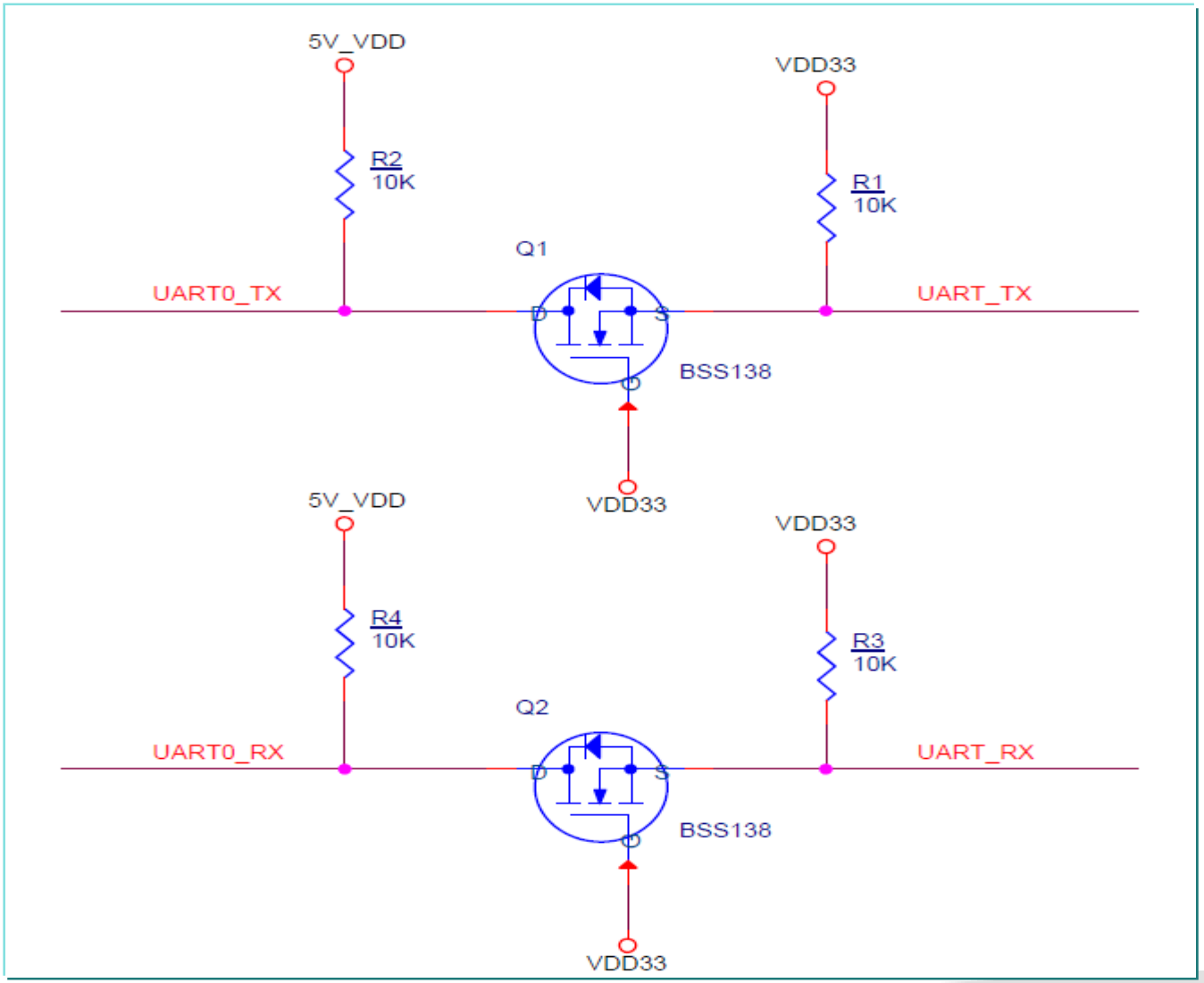
1、Typical Application

Module UART 3.3V TTL to User Board UART 5V TTL, stable circuit
Method 1: Use Transistor



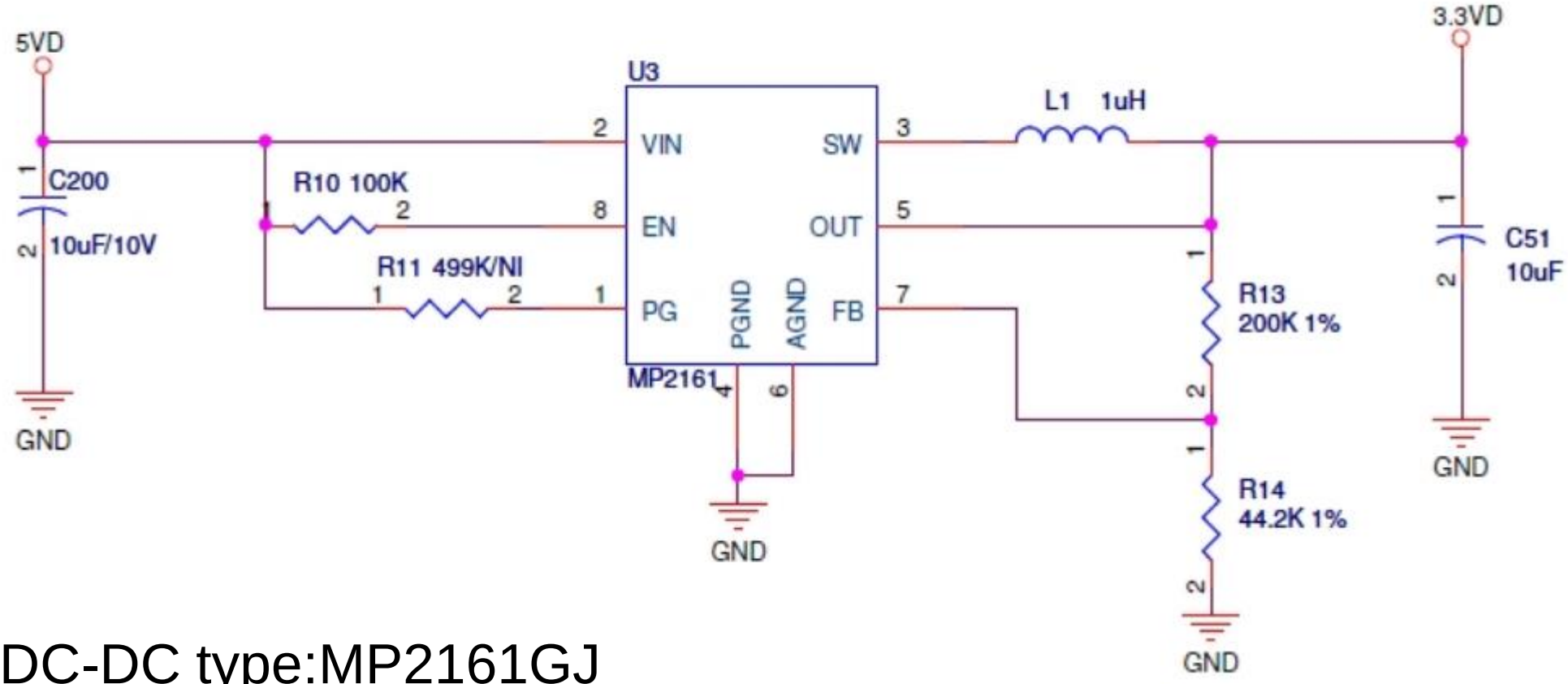
1、Typical Application

Module UART 3.3V TTL to User Board UART 5V TTL, stable circuit
Method 1: Use MOSFET



2、Power Supply Design

1、VIN 5V to VOUT 3.3V for module power supply（DC-DC）。



DC-DC type:MP2161GJ

1uH inductance: LQH32PN1R0NN0

2、Power Supply Design

2、VIN 5V to VOUT 3.3V for module power supply（AMS1117, LDO)

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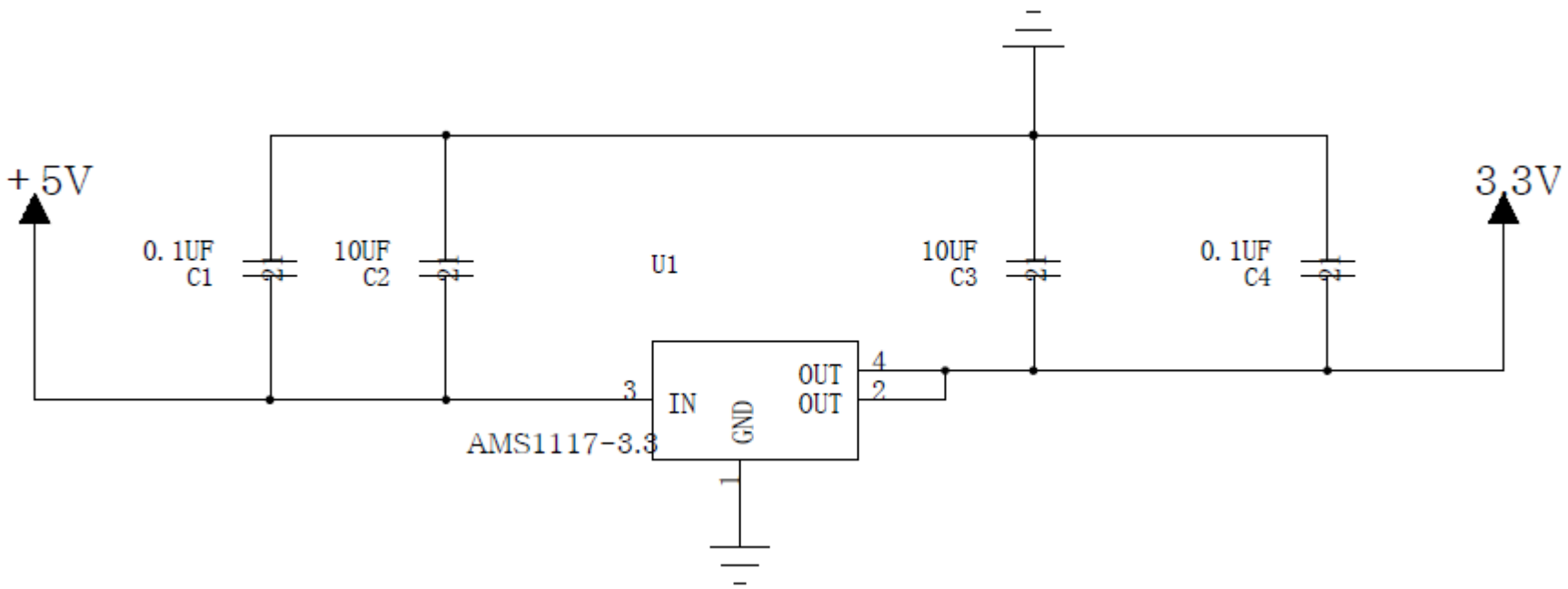
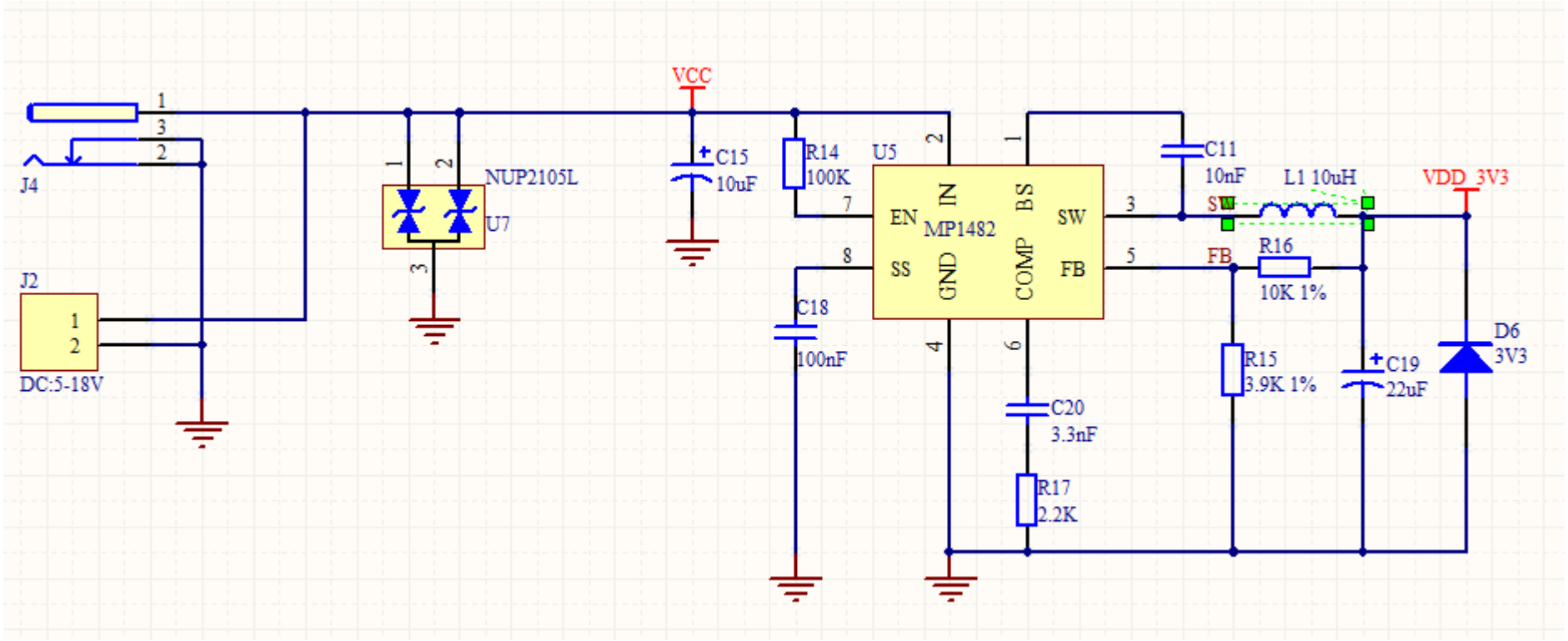


3、VIN 5V~18V to VOUT 3.3V for module power supply

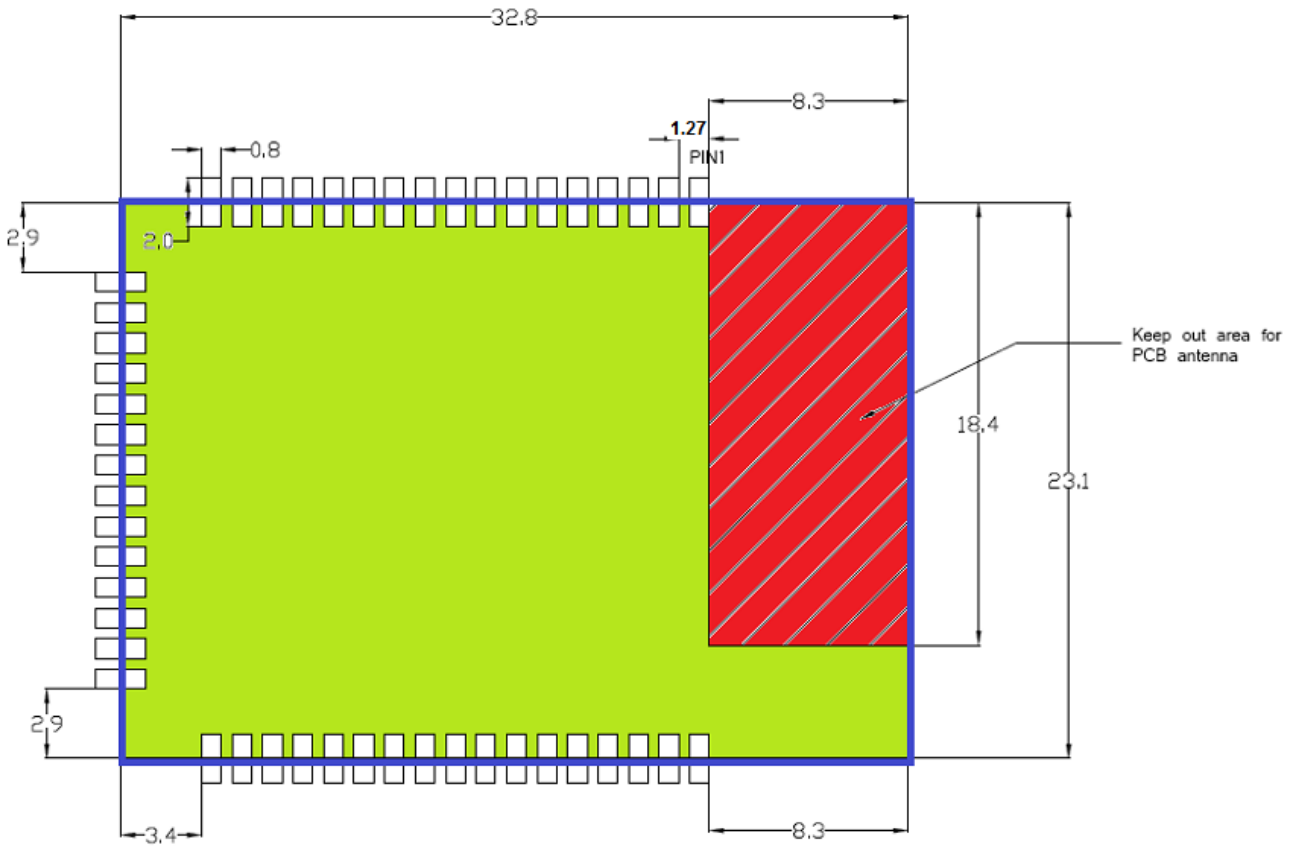


3、Antenna Rules

HF-LPB100&HF-LPB120 Series module support internal on-board PCB antenna option. When customer select internal antenna, you shall comply with following antenna design rules and module location suggestions:
(See corresponding module manual for details, the following take HF-LPB100 for example)：

- For customer PCB, RED color region (8.3x18.4mm) can’t put componet or paste GND net;
- Antenna must away from metal or high components at least 10mm;
- Antenna can’t be shielded by any metal enclosure;

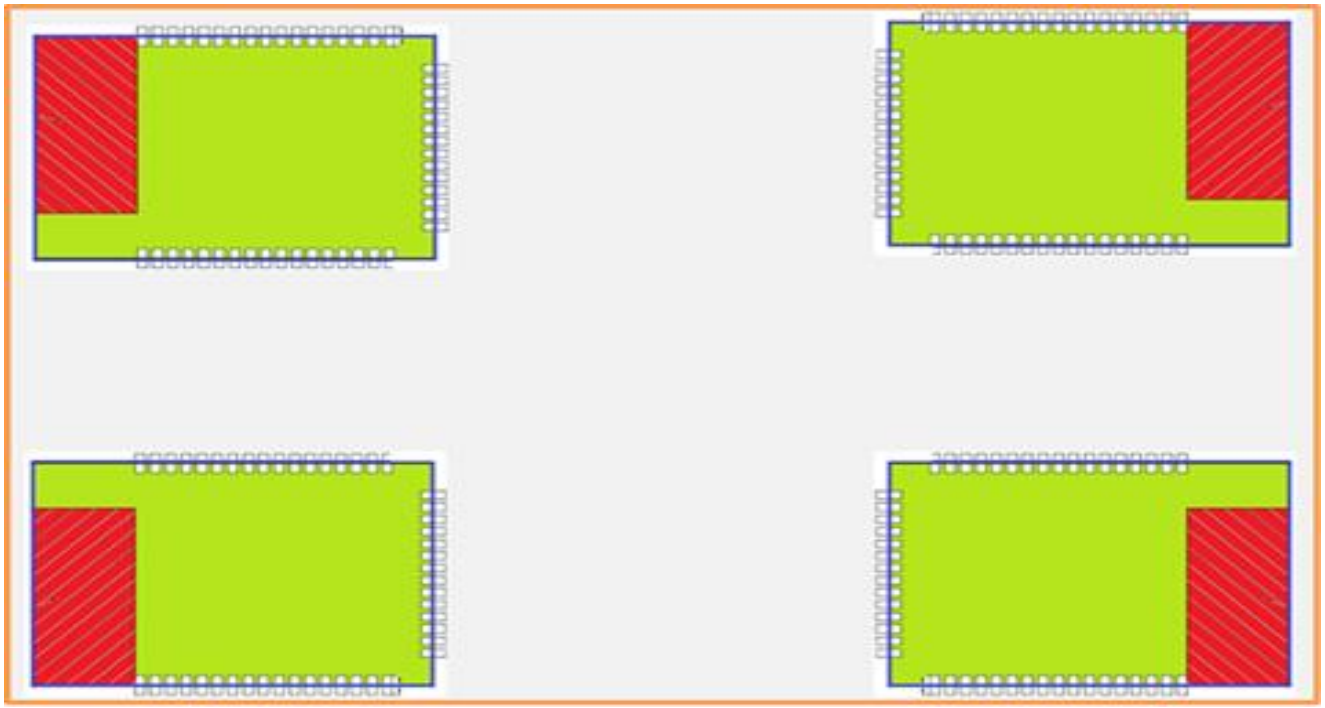
3、Antenna Rules



HF-LPB100 GND Keep Out Area

3、Antenna Rules

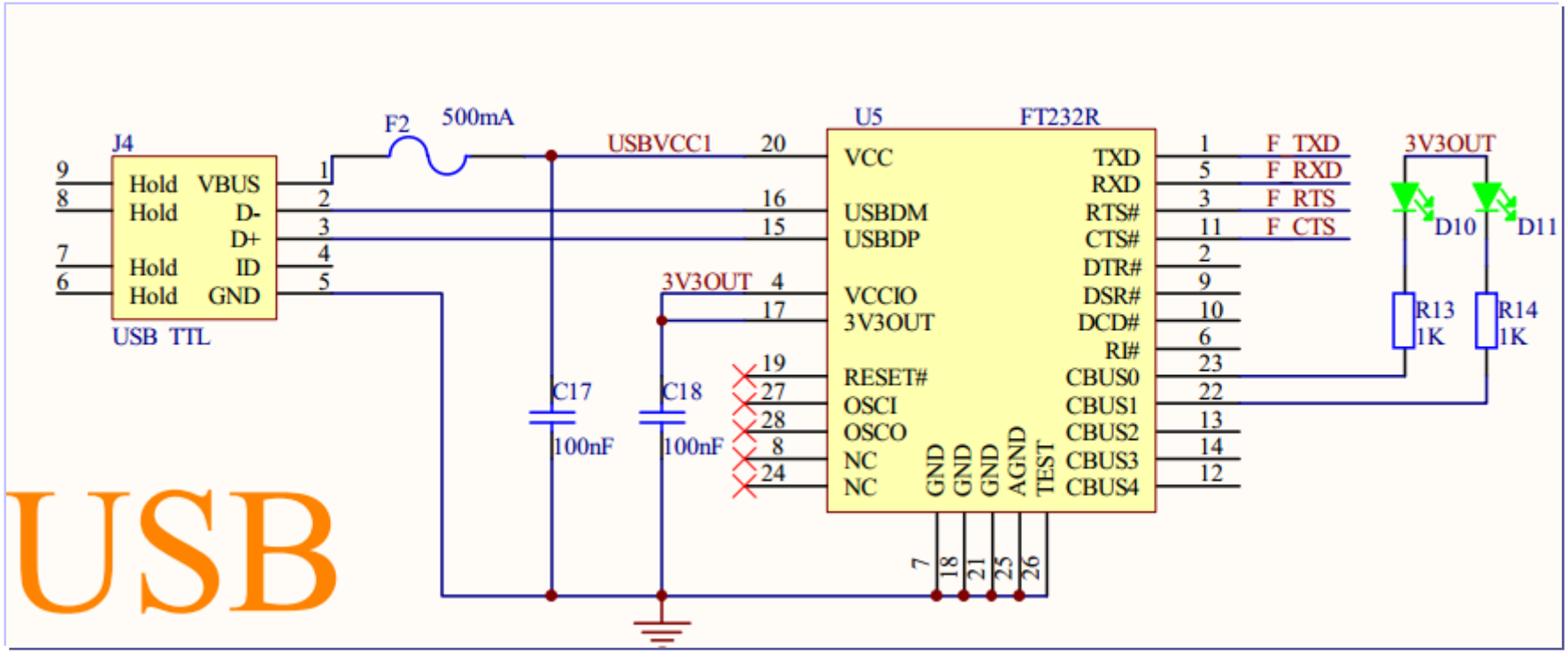
High-Flying suggest HF-LPB100 module better locate in following region at customer board, which to reduce the effect to antenna and wireless signal, and better consult High-Flying technical people when you structure your module placement and PCB layout.



Suggested Module Placement Region

4、USB to UART TTL Circuit

1、USB TTL: Mini B Type plug
2、FT232R: USB to TTL UART chip



5、Others

1、Refer to module EVK design package for reference.