

Module Interface

VBAT can be only connected to PIN38,39 or PIN 62,63. To get a better GND plane

Refer to Page5 for the GNSS Antenna details!

The total Capacitance depend on current ability

Add ZENER Diode (5.1V/500mW) to get better surge performance!

1. Place caps close to VBAT pins
2. VBAT trace should be short and wide (>2mm)
3. VBAT range is 3.4~4.2V, recommend 3.8V.

Reserved for Download mode

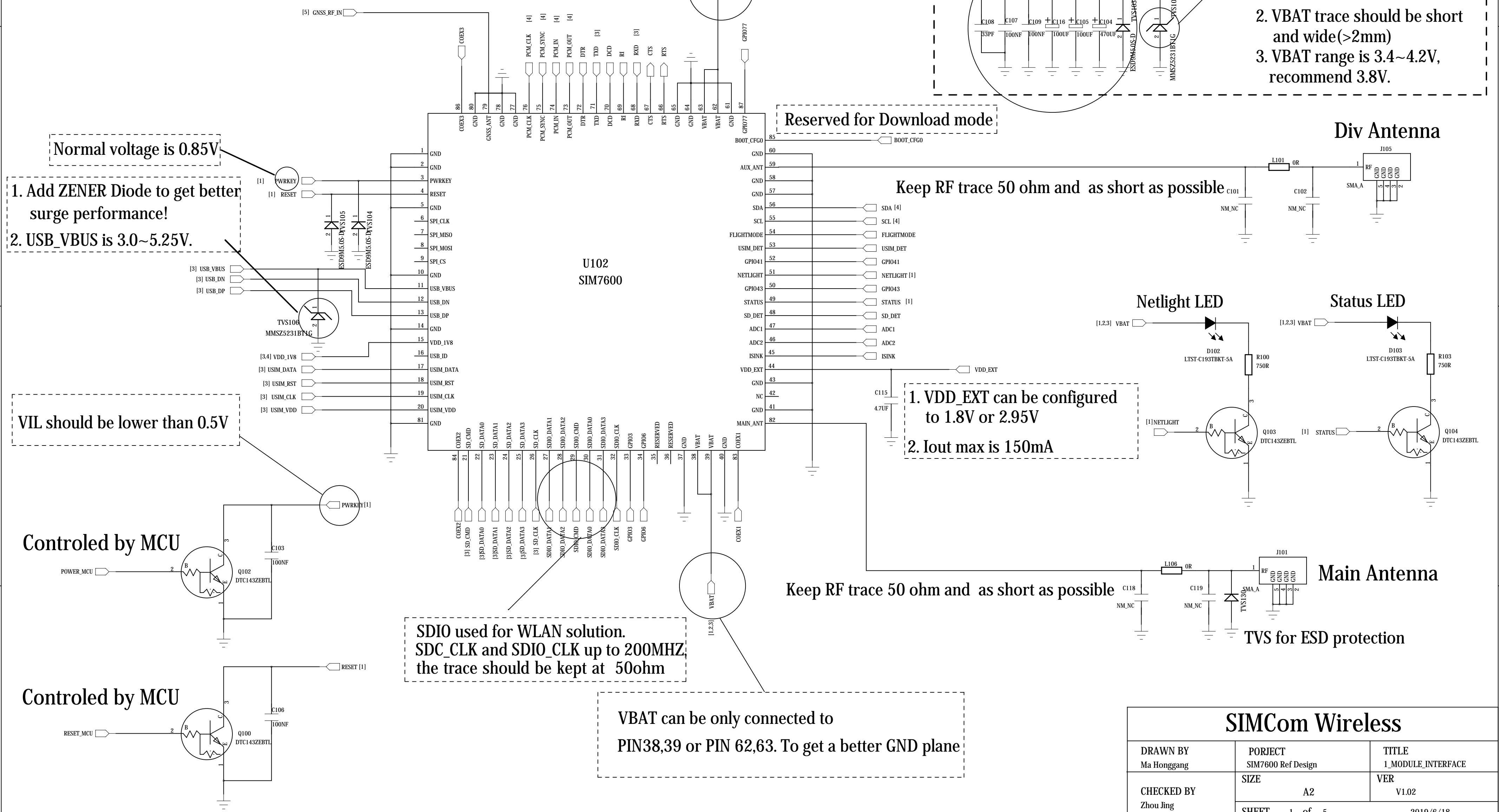
Keep RF trace 50 ohm and as short as possible

1. VDD_EXT can be configured to 1.8V or 2.95V
2. Iout max is 150mA

Keep RF trace 50 ohm and as short as possible

SDIO used for WLAN solution. SDC_CLK and SDIO_CLK up to 200MHZ, the trace should be kept at 50ohm

VBAT can be only connected to PIN38,39 or PIN 62,63. To get a better GND plane



Normal voltage is 0.85V

1. Add ZENER Diode to get better surge performance!
2. USB_VBUS is 3.0~5.25V.

VIL should be lower than 0.5V

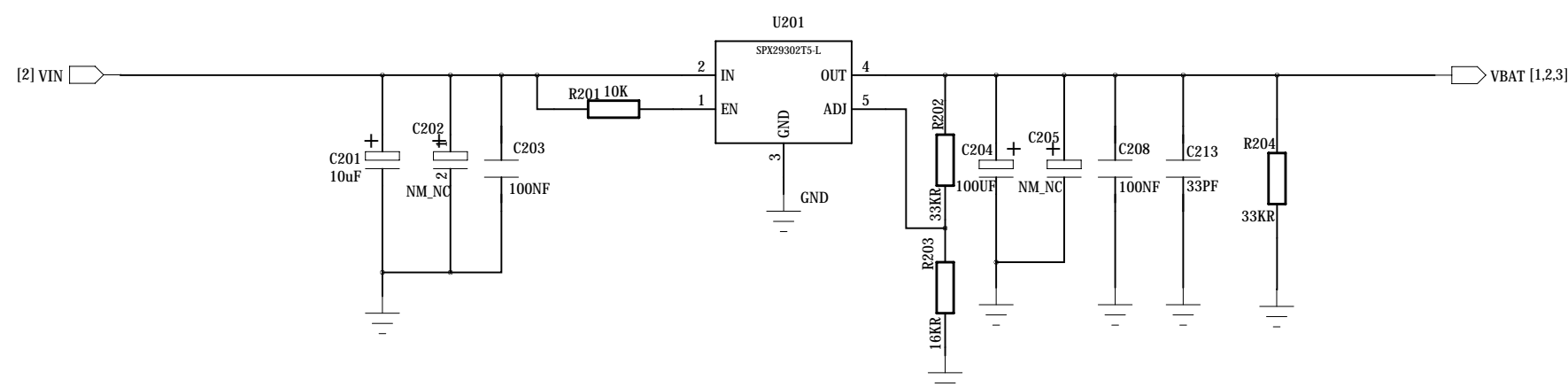
Controlled by MCU

Controlled by MCU

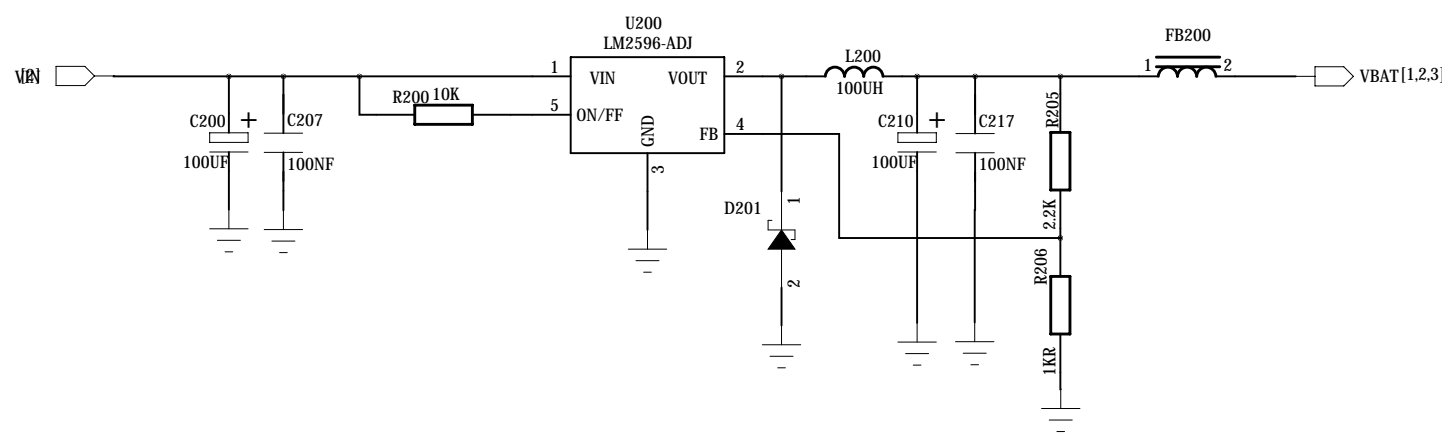
SIMCom Wireless		
DRAWN BY Ma Honggang	PROJECT SIM7600 Ref Design	TITLE 1_MODULE_INTERFACE
CHECKED BY Zhou Jing	SIZE A2	VER V1.02
SHEET 1 of 5	2019/6/18	

Power Design

LDO Circuit (VIN<9V)



DCDC Circuit (VIN>9V)

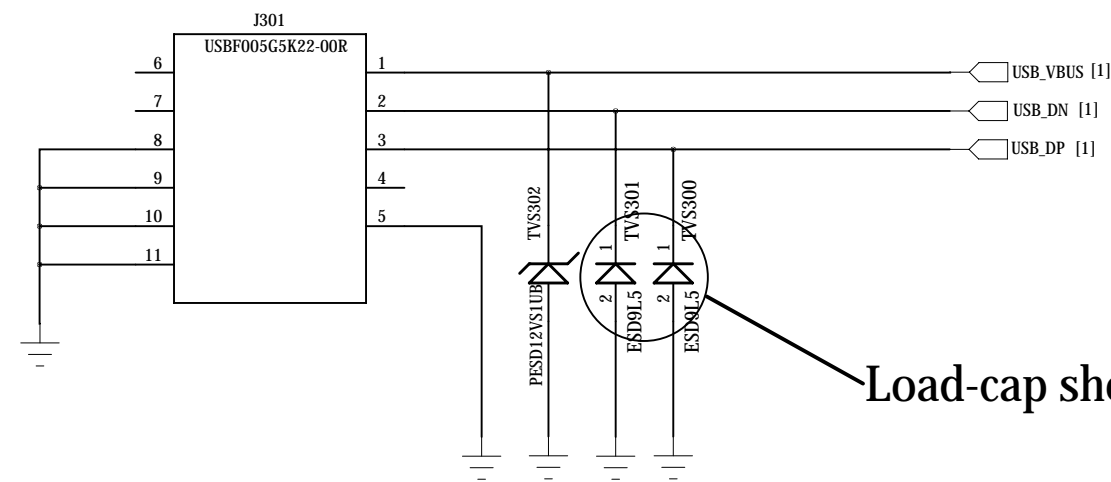


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DRAWN BY Ma Honggang	PROJECT SIM7600 Ref Design	TITLE 2_POWER_DESIGN
CHECKED BY Zhou Jing	SIZE A2	VER V1.02
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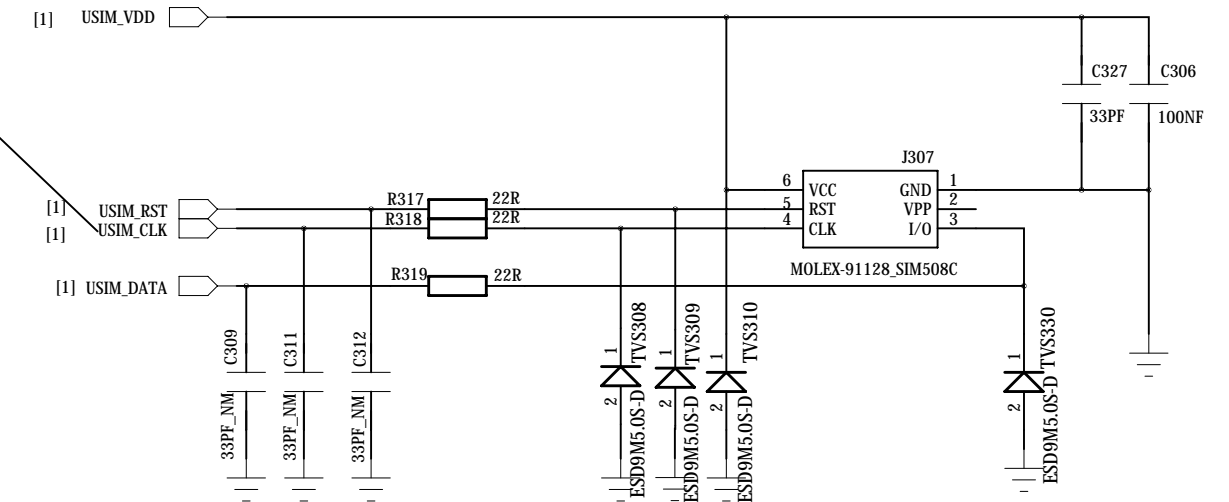
USIM/SD/USB/UART Interface

USB Interface

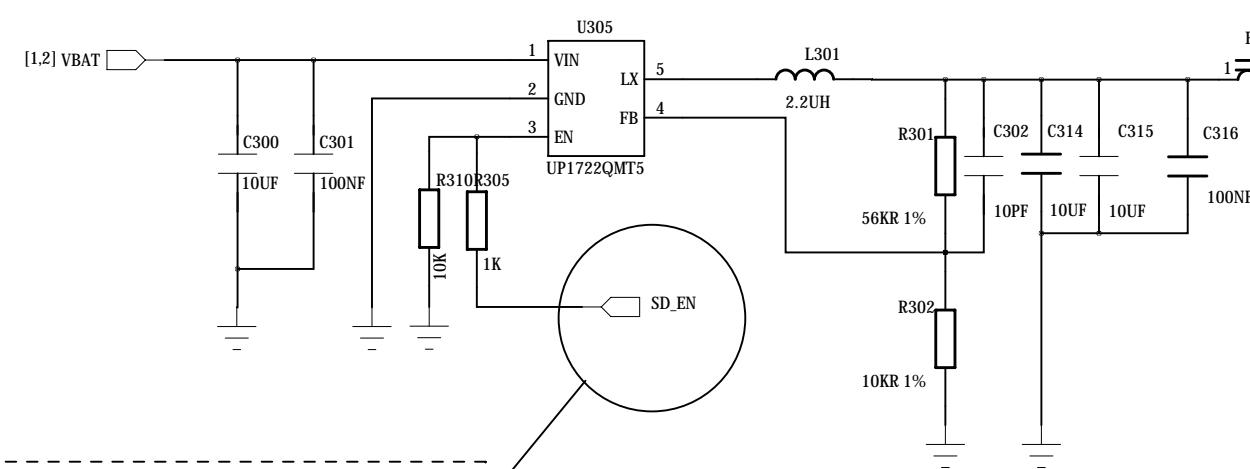


Rise time and Fall time of USIM_CLK should less than 40ns!

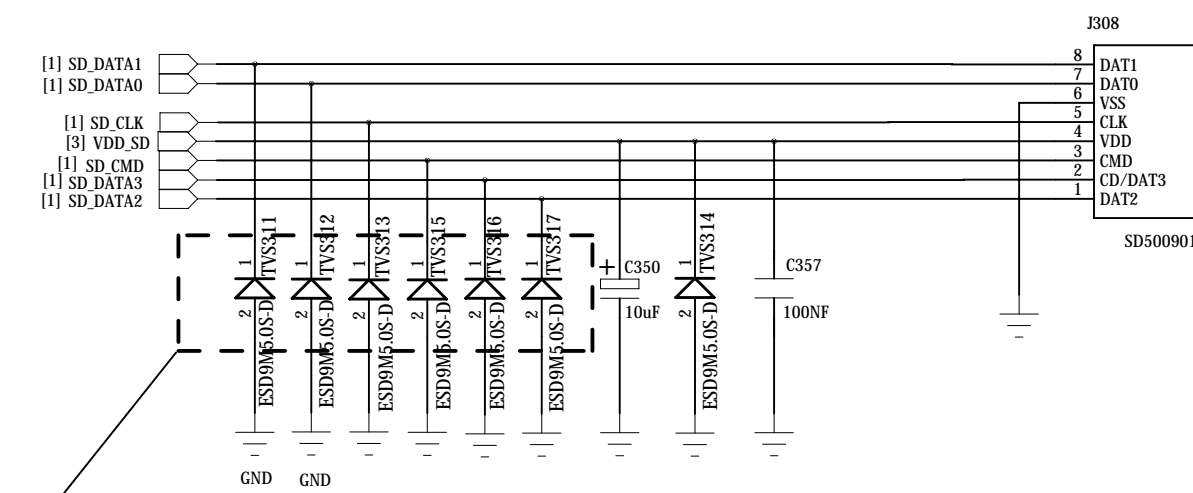
USIM Socket



SD Card Socket



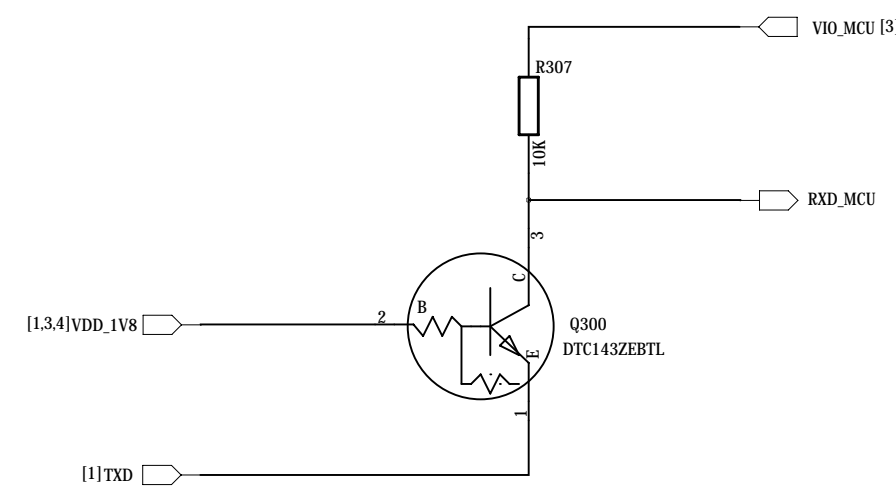
VDD_SD is 2.85V
VDD_SD provides 350mA at least



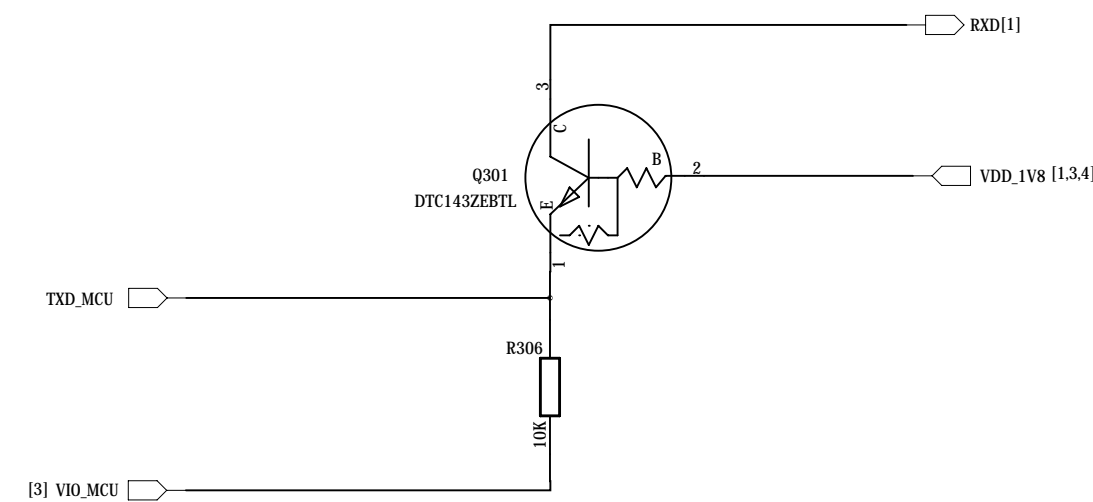
SDIO BUS CAP should less than 10pf

Can be controlled by host

TXD Circuit



RXD Circuit



Attention:

This voltage shifter circuit is only applied to the low speed UART baudrate;
If the baudrate is 4Mbps, customer should replace the transistor by N-MOSFET

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Audio Design

Analog ground and Digital ground

C412 reserved for audio tuning

Analog Audio

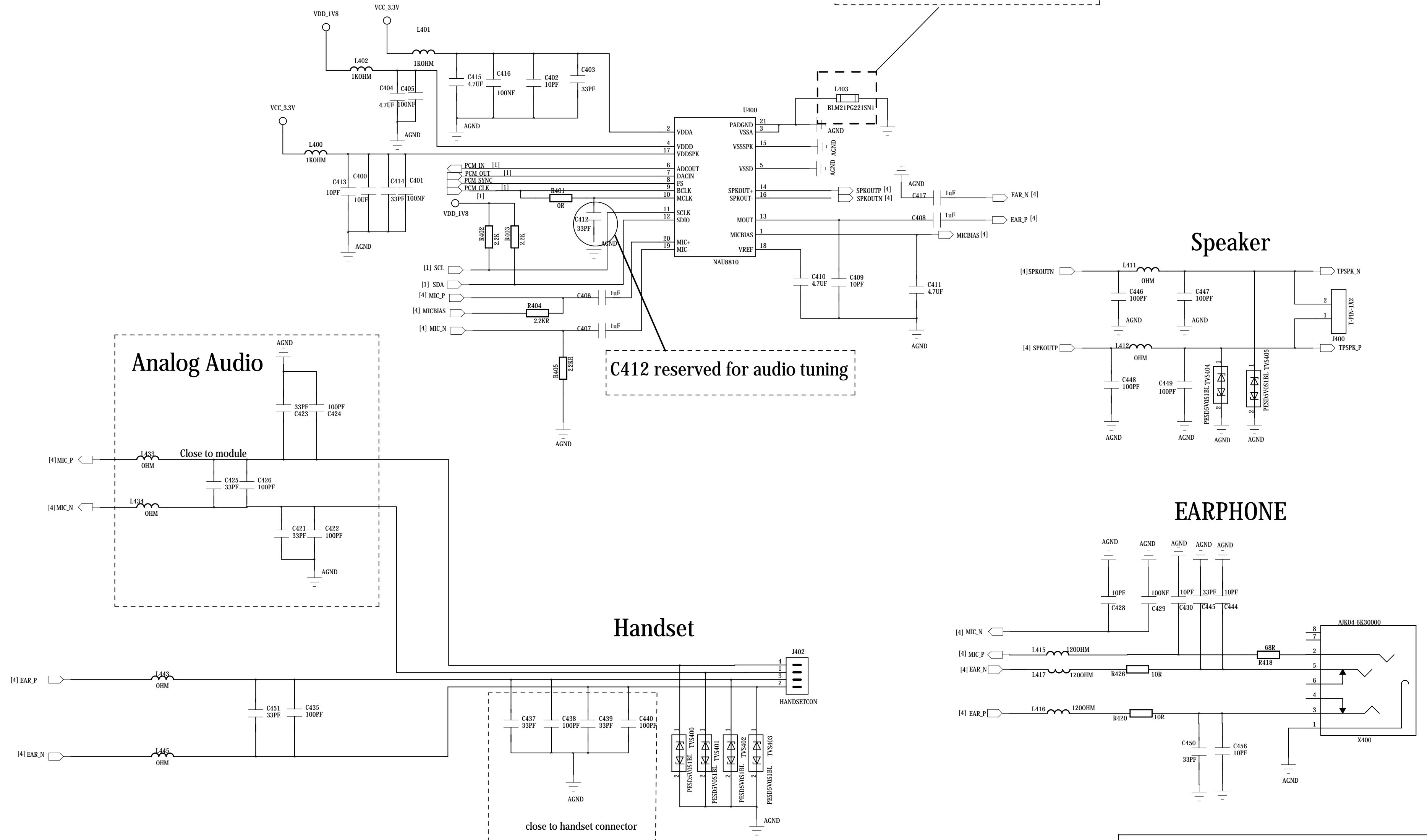
Speaker

EARPHONE

Handset

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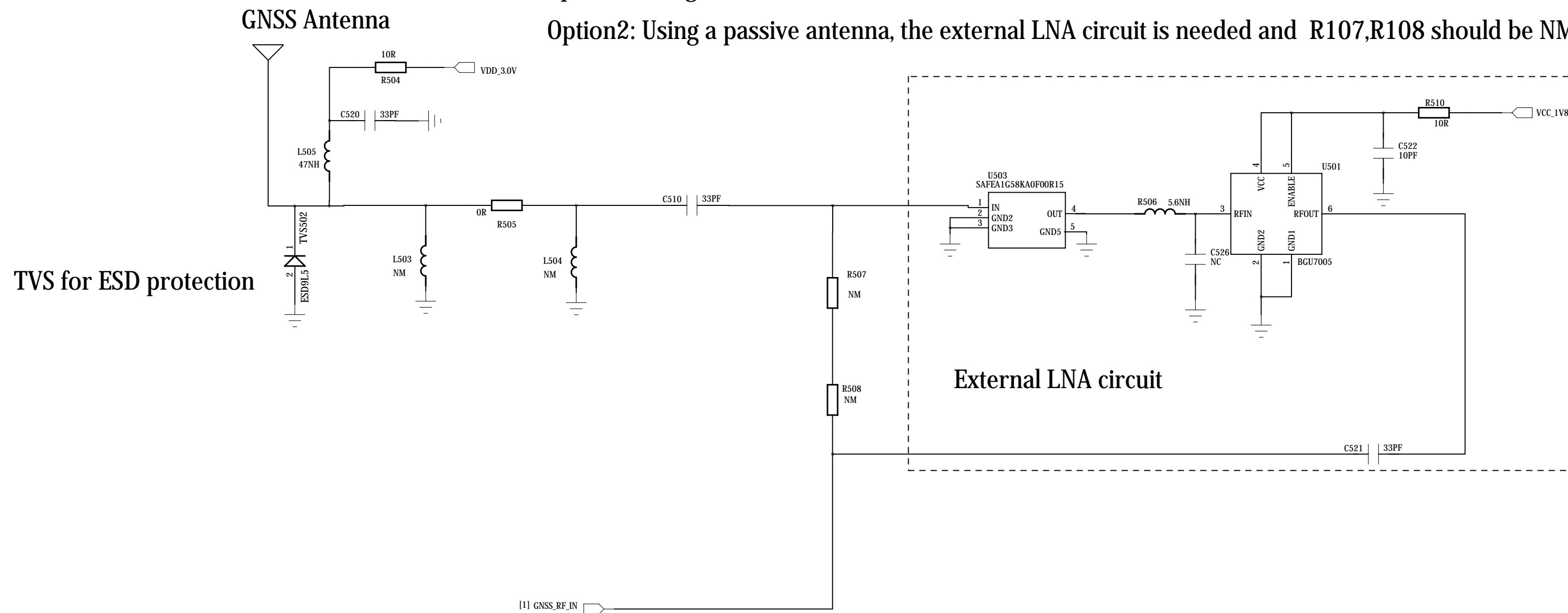
DRAWN BY Ma Honggang	PROJECT SIM7600 Ref Design	TITLE 4_AUDIO DESIGN
CHECKED BY Zhou Jing	SIZE A2	VER V1.02
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GNSS Antenna

Option1: Using an active antenna, the external LNA circuit is not needed and R107,R108 should be used.

Option2: Using a passive antenna, the external LNA circuit is needed and R107,R108 should be NM



TVS for ESD protection

External LNA circuit

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CHECKED BY Zhou Jing	SIZE A2	VER V1.02
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