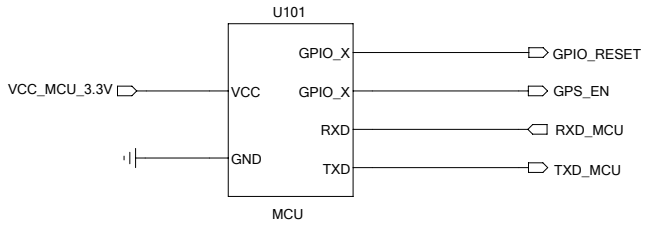
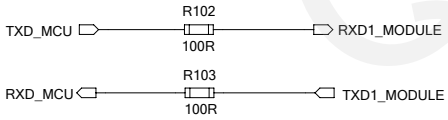
Power Suppply and UART Circuit

Customer's MCU

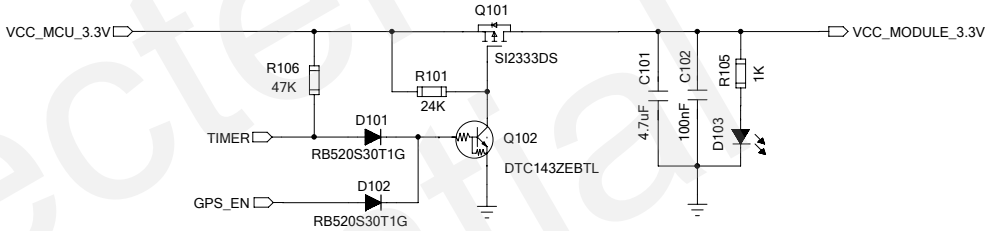


UART Circuit



R102,R103 are resrved for debugging the waveform of UART, and they can prevent L80 module from ESD interference. In general, 100R for R102 and R103 is recommended, but 0R also works well.

Power Management Circuit



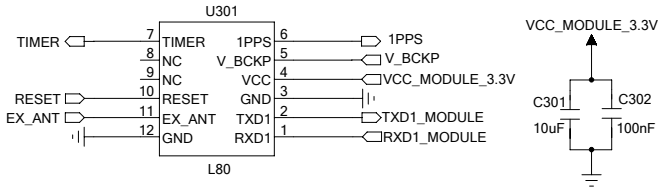
TIMER: An open drain output signal can be used to control L80's main power on/off. Please Note that when TIMER function is used in L80 module, ensure that V_BAKP is constantly supplied with power.

For more details about TIMER, please refer to L80 Hardware Design.

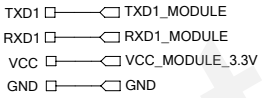
Quectel Wireless Solutions		
DRAWN BY <Tony GAO & Rain ZHOU>	PORJECT <L80>	TITLE <L80_Reference_Design>
CHECKED BY <Ray XU>	SIZE A2	VER <1.01>
	SHEET 1 of 3	<2013.07>

Module Interface

Module Interface

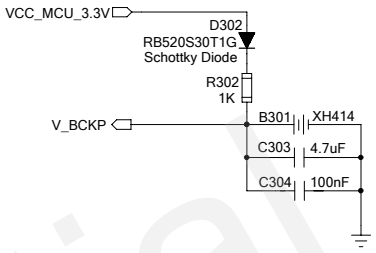


Test Points



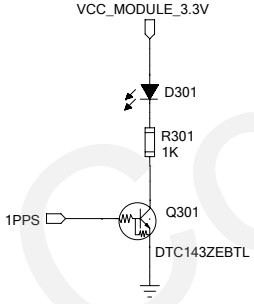
1. UART can be used to output NMEA message as well as to upgrade firmware.
2. The test points are reserved for debugging the GPS module.

Charging Circuit for RTC Domain



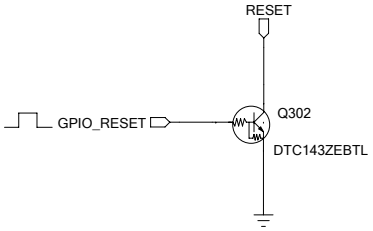
The V_BCKP pin can be directly supplied power by an external rechargeable battery. Furthermore, it is necessary to add an external charging circuit for rechargeable battery.

Indicating Circuit



The 1PPS indicator will blink at 1Hz frequency after fixing the position.

Reset Circuit



1. If the reset function is unused,the RESET pin can be connected to the VCC directly.
2. RESET has been pulled up internally.

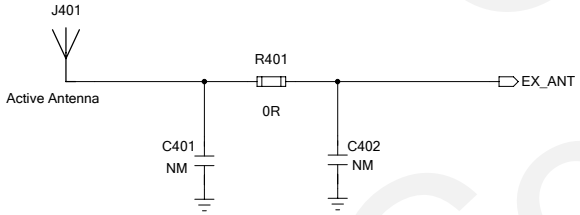
Quectel Wireless Solutions		
DRAWN BY <Tony GAO & Rain ZHOU>	PORJECT <L80>	TITLE <L80_Reference_Design>
CHECKED BY <Ray XU>	SIZE A2	VER <1.01>
	SHEET 2 of 3	<2013.07>

Antenna Interface

Inner Patch Antenna

1. Keep at least 10mm distance to the nearest edge of the mother board. It will be better for L80 to be placed in the center of the mother board.
2. Keep enough distance between L80 antenna and tall components (h>6mm) and the minimum d is 10mm.
3. Put L80 on the top of the device, which can guarantee antenna to face to open sky and achieve good receiving performance during operation.
4. Device enclosure should be made of non-metal materials especially around antenna area. The minimum distance between antenna and enclosure is 1mm.
5. It is recommended that the mother board is bigger than 80mm×40mm for the better performance, and pour ground copper on the whole mother board
6. Other antennas such as BT/WIFI/GSM should be kept minimum 10mm distance far away from the embedded patch antenna in L80.
   For more details, please refer to L80 Hardware Design.

EXT Active Antenna



By default, C401 and C402 are not mounted, R401 is 0R.

1. Pi circuit (C401,R401,C402) is reserved for impedance matching for antenna.
2. R401 must not be a capacitance, because DC will flow from the R401 to the antenna.
3. Impedance of RF trace should be controlled by 50 ohm and the length should be kept as short as possible.

For more details, please refer to L80 Hardware Design.

Quectel Wireless Solutions		
DRAWN BY <Tony GAO & Rain ZHOU>	PORJECT <L80>	TITLE <L80_Reference_Design>
CHECKED BY <Ray XU>	SIZE A2	VER <V1.01>
	SHEET 3 of 3	<2013.07>