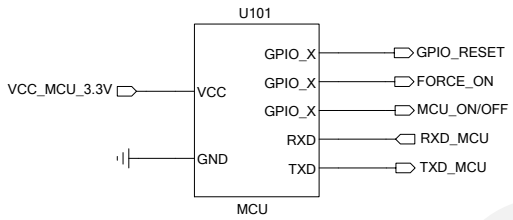
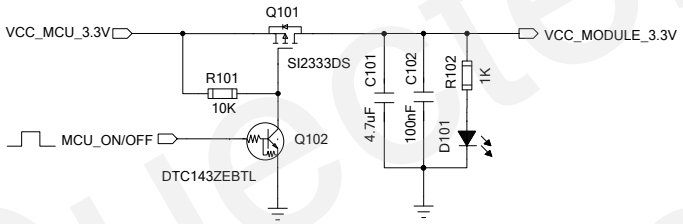
Power Suppply and UART Circuit

For 3.3V MCU

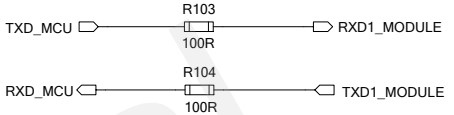
Customer's MCU



Power ON/OFF Circuit



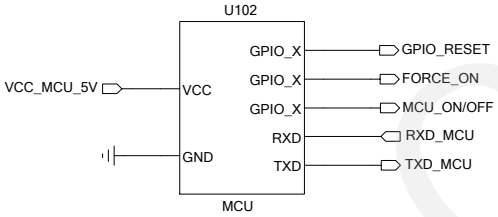
UART Circuit



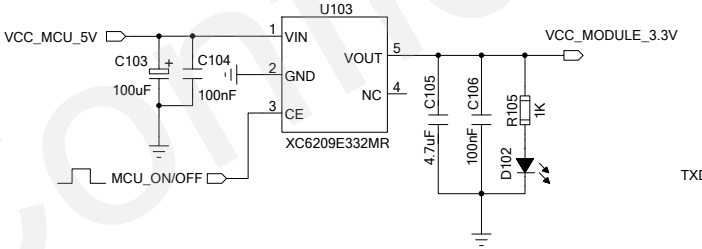
R103,R104 are resrved for debugging the waveform of UART, and they are also beneficial to ESD protection.
Generally,100R for R103 and R104 is recommended,but 0R also works well.

For 5V MCU

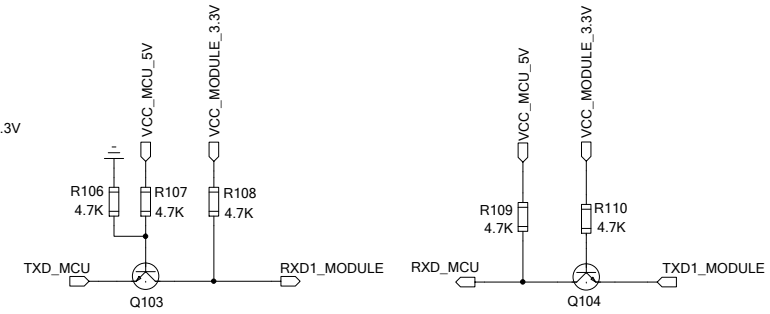
Customer's MCU



LDO Circuit



Level Shifting for UART



The transistor circuit will realize the voltage level shifting between VCC_MCU_5V and VCC_MODULE_3.3V, and block the leakage current from one power-on device to another power-off device.

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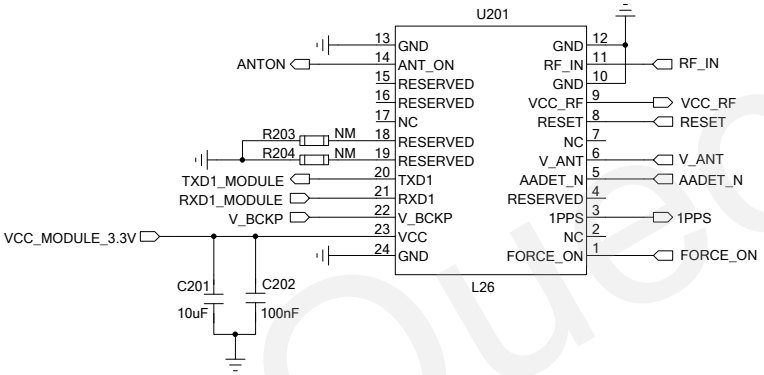
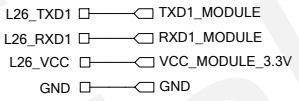
	SHEET 1 of 3	<2013.05>

Module Interface

Module Interface

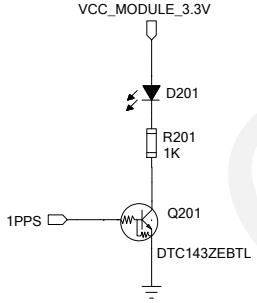


Test Points



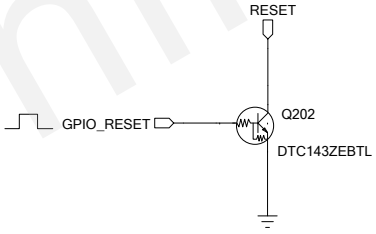
1. UART1 can be used to output NMEA message as well as to upgrade firmware.
2. R203,R204 are reserved to modify baud rate for future.
   Keep R203,R204 unmounted in L26 module.
3. The test points are reserved for module debugging.

Indicating Circuit



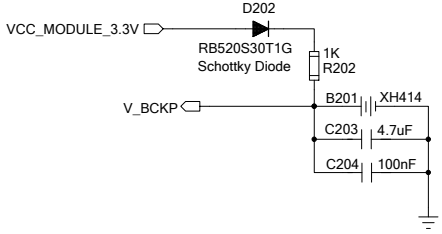
The 1PPS indicator will blink at 1Hz frequency after fixing the position.

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.

Charging Circuit for RTC logic



V_BCKP is designed to supply power for L26 RTC logic circuit when VCC_MODULE_3.3V is powered off.

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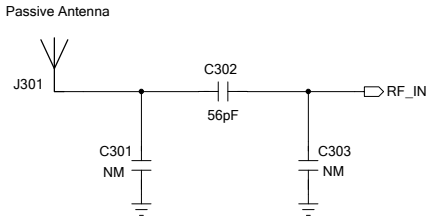
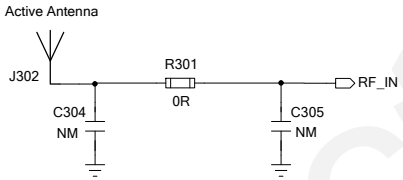
Antenna Interface

Passive Antenna

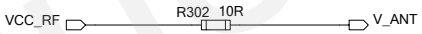


1

Active Antenna

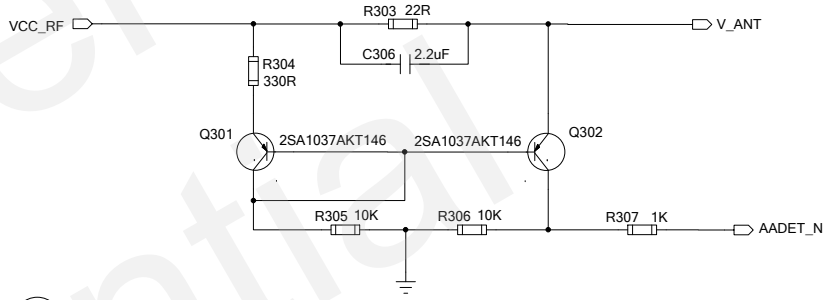


The most simplified power supply circuit is as follows:



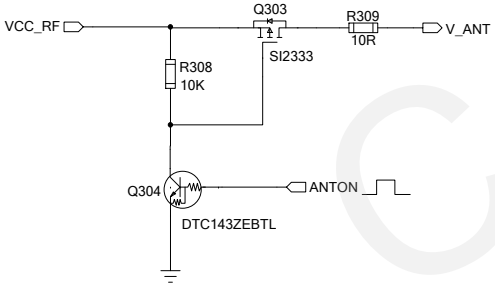
2

Reference Design for Detection Circuit



3

Reference Design for ANTON Circuit



4

1. Fig.1 shows the passive antenna circuit, here, Pi circuit (C301,C302,C303) is reserved for impedance matching for antenna. By default, C301 and C303 are not mounted, C302 is 56pF.
2. Fig.2 shows the basic active antenna circuit, here, Pi circuit (C304,R301,C305) is reserved for impedance matching for antenna. By default, C304 and C305 are not mounted, R301 is 0R. A 10R resistor (R302) is needed between VCC_RF and V_ANT to supply power. When use active antenne, the R301 must not be capacitance, because the current flows through R301 to the antenna.
3. Fig.3 shows the reference design for detection circuit.When active antenna is removed or not connected well, AADET_N will keep a high level to indicate the active antenna absent. AADET_N will change to a low level when active antenna is connected well.
4. Fig.4 shows the active antenna with ANTON circuit. The voltage level of ANTON will be pulled down in sleep mode.
5. The typical value of VCC_RF is 3.3V, ranging from 2.8V to 4.3V. If it is not suitable for the active antenna, it can be replaced by an external LDO.
6. 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 L26 Hardware Design.

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	SHEET 3 of 3	<2013.05>