

# **L26-DR** Reference Design

## **GNSS Module Series**

Rev. L26-DR\_Reference\_Design\_V1.0

Date: 2019-05-08

Status: Released



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**Quectel Wireless Solutions Co., Ltd.**

7<sup>th</sup> Floor, Hongye Building, No.1801 Hongmei Road, Xuhui District, Shanghai 200233, China

Tel: +86 21 5108 6236

Email: [info@quectel.com](mailto:info@quectel.com)

**Or our local office. For more information, please visit:**

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# About the Document

## History

Revision	Date	Author	Description
1.0	2019-05-08	Brooke WANG	Initial

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# 1 Reference Design

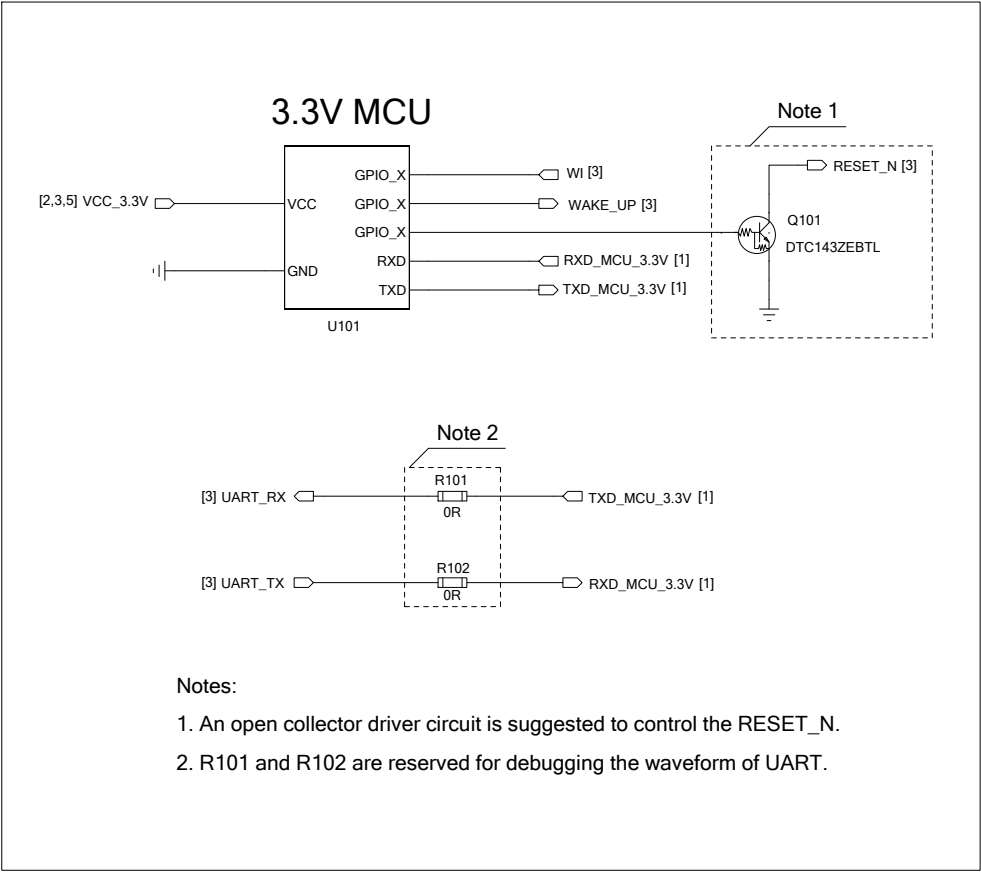
## 1.1. Introduction

This document provides the reference design for Quectel L26-DR module.

## 1.2. Schematics

The schematics illustrated in the following pages are provided for your reference only.

# MCU Circuit

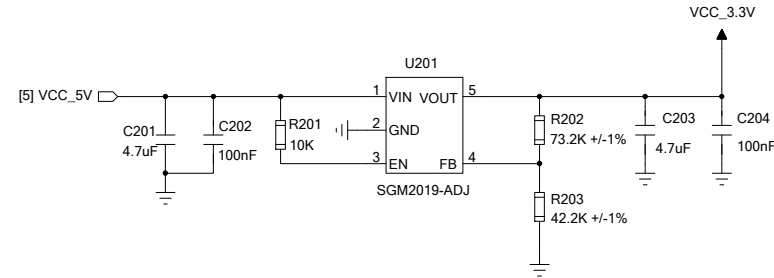


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# Power Supply

## LDO Application

It is used when the input voltage is below 7V.



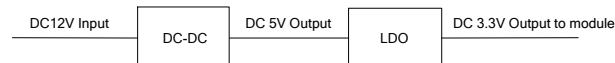
Note:

It is recommended to choose an LDO with a minimum output current of 150mA.

## DC-DC Application

When the input voltage is above 7V, a DC-DC converter should be used to convert high input voltage to 5V output, and then use an LDO to convert it to 3.3V for the module.

Example:

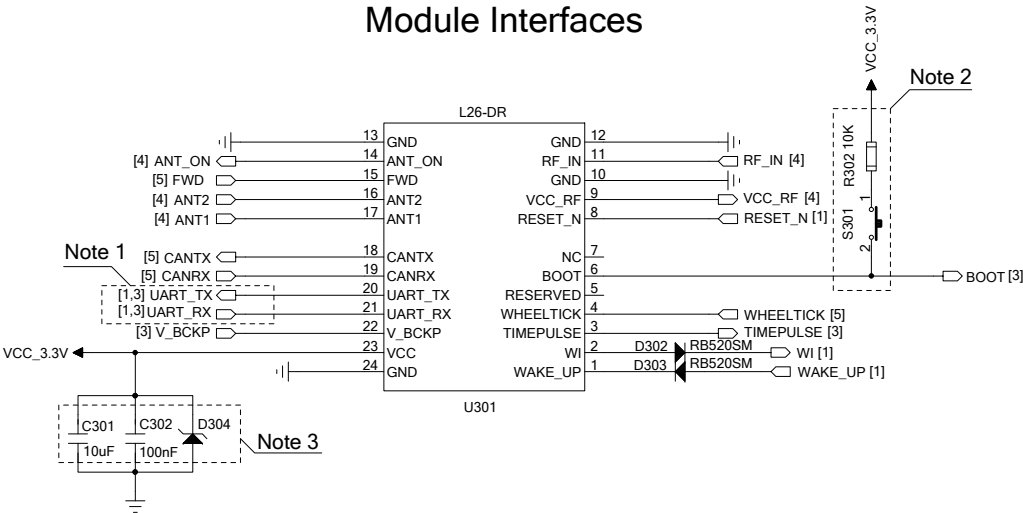


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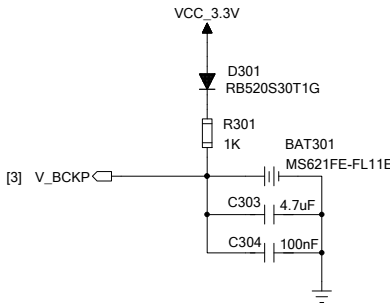
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# Module Interfaces

## Module Interfaces

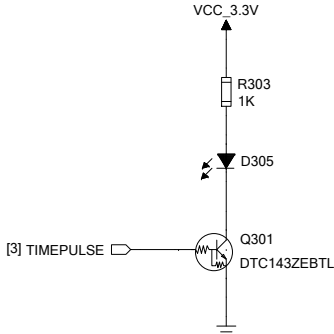


## Charging Circuit for RTC Logic



Note:  
V\_BCKP is designed to supply power for L26-DR's RTC logic circuit when VCC\_3.3V is powered off.

## Indicating Circuit for TIMEPULSE

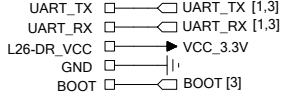


Note:  
The TIMEPULSE indicator will blink at 1Hz frequency when L26-DR module is turned on.

- Notes:
1. UART can be used for NMEA/PSTN output and firmware upgrade.
  2. Pull up BOOT to VCC with a 10KΩ resistor when the module is turned on, the module will enter bootloader download mode.
  3. It is recommended to add a TVS near the VBAT and make sure the maximum capacitance of C301 does not exceed 10uF.
  4. The test points are reserved for debugging the GNSS module.

### Note 4

### Test Points



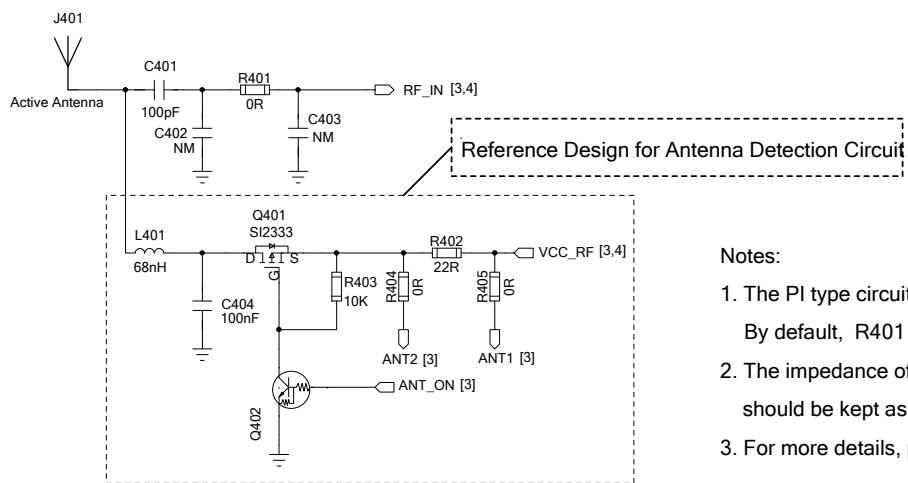
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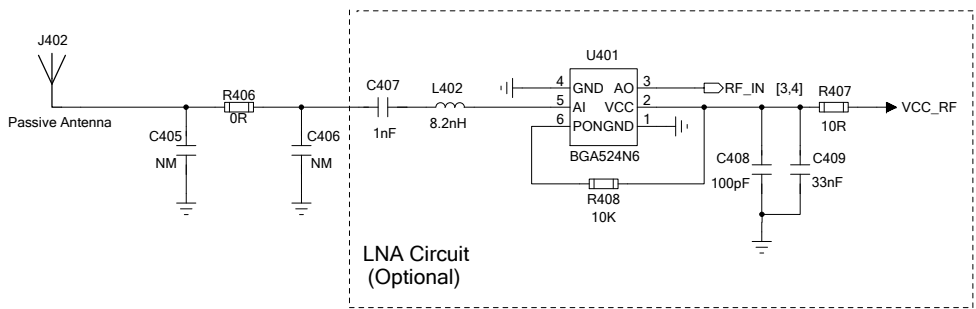
# Antenna Interface

## Active Antenna



- Notes:
1. The PI type circuit (R401, C402, C403) is reserved for antenna impedance matching.  
By default, R401 is 0 $\Omega$  while C402 and C403 are not mounted.
  2. The impedance of RF trace should be controlled as 50 $\Omega$  and the trace length should be kept as short as possible.
  3. For more details, please refer to *Quectel\_L26-DR\_Hardware\_Design*.

## Passive Antenna

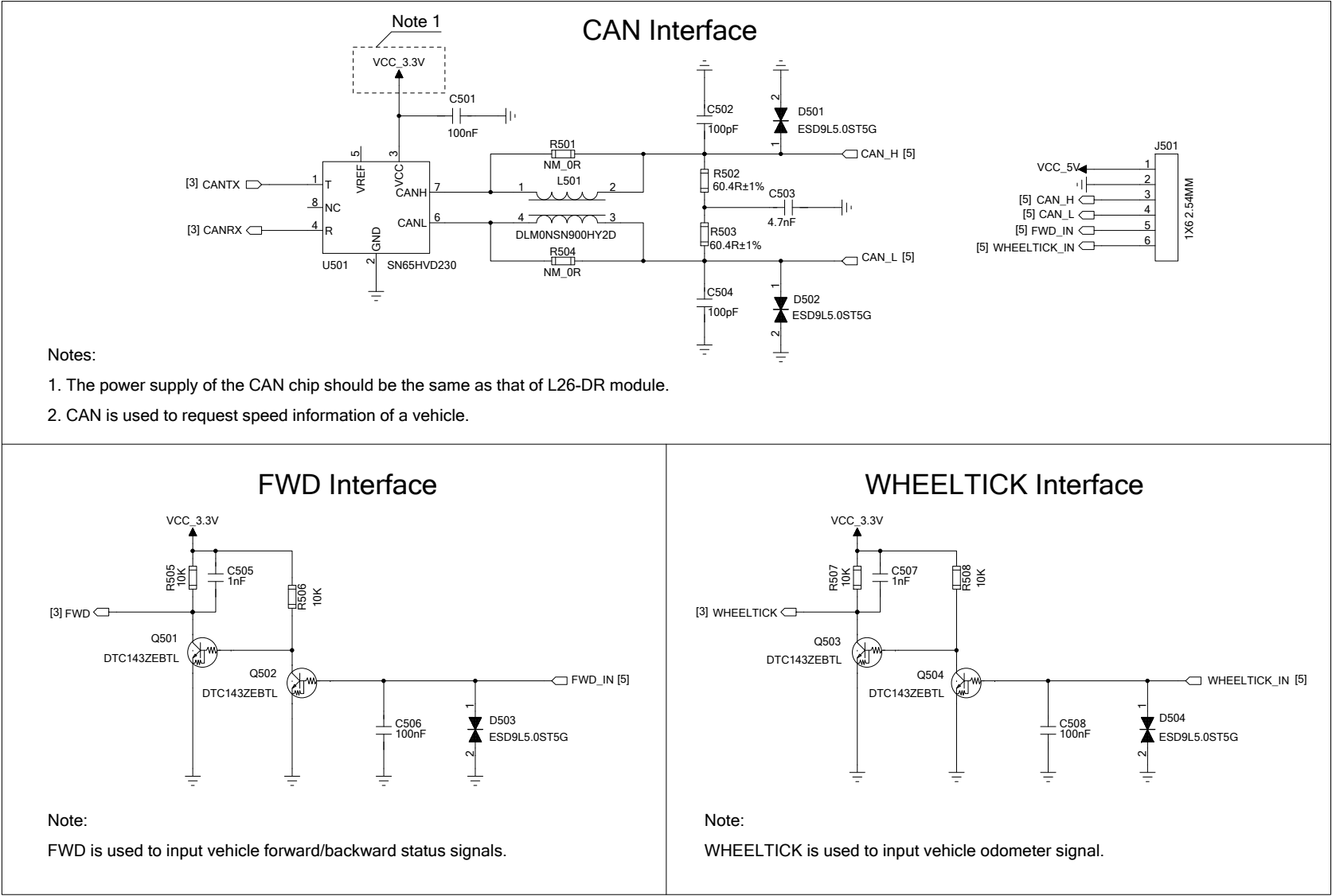


- Notes:
1. The PI type circuit (R406, C405, C406) is reserved for antenna impedance matching.  
By default, R406 is 0 $\Omega$  while C405 and C406 are not mounted.
  2. If an external LNA is added between the passive antenna and L26-DR module, the total sensitivity and TTFF can be further improved.
  3. In the typical reference circuit with BGA524N6, C407 is used to block DC and L402 is used to optimize the impedance. By default, C407 is 1nF and L402 is 8.2nH.
  4. The impedance of RF trace should be controlled as 50 $\Omega$  and the trace length should be kept as short as possible.
  5. For more details, please refer to *Quectel\_L26-DR\_Hardware\_Design*.

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CAN/FWD/WHEELTICK Interface Designs



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