



HARDWARE

REFERENCE DESIGN

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UM621N

Automotive Grade Dual-frequency
Multi-GNSS Integrated Positioning
Module

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Revision History

Version	Revision History	Date
R1.0	First release	Oct. 2022

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1 Reference Circuit Using an Active Antenna

- The supply voltage for VCC is 2.7 V ~ 3.6 V
- Ground all GND pins of the module
- Connect the RF_IN signal to the antenna; note the 50 Ω impedance matching
- Feed the antenna with external power supply
- The supply voltage for VBCKP is 1.7 V ~ 3.6 V
- Requirement for the odometer speed pulse: width ≥ 100 us, frequency ≤ 5K Hz

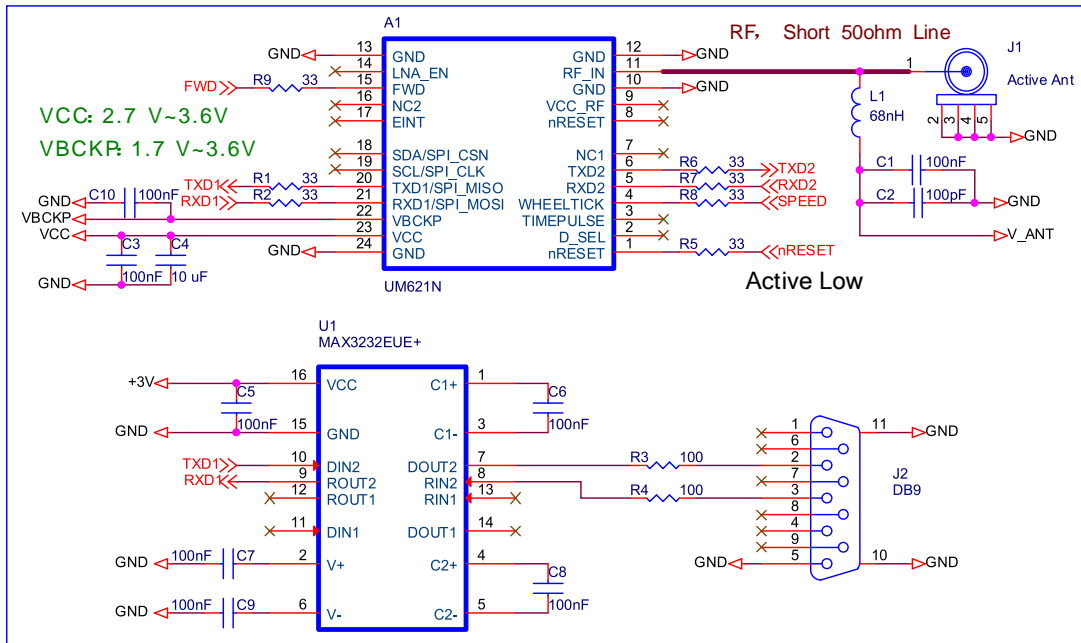


Figure 1-1 Reference Circuit Using an Active Antenna

2 Reference Circuit Using a Passive Antenna

- When using a passive antenna, a low noise amplifier should be added between the antenna and the RF_IN of the module in order to ensure the performance of the system.
- For the RF routing (antenna → LNA → RF_IN), note the 50 Ω impedance matching
- The supply voltage for VBCKP is 1.7 V ~ 3.6 V
- Requirement for the odometer speed pulse: width ≥ 100 us, frequency ≤ 5 KHz

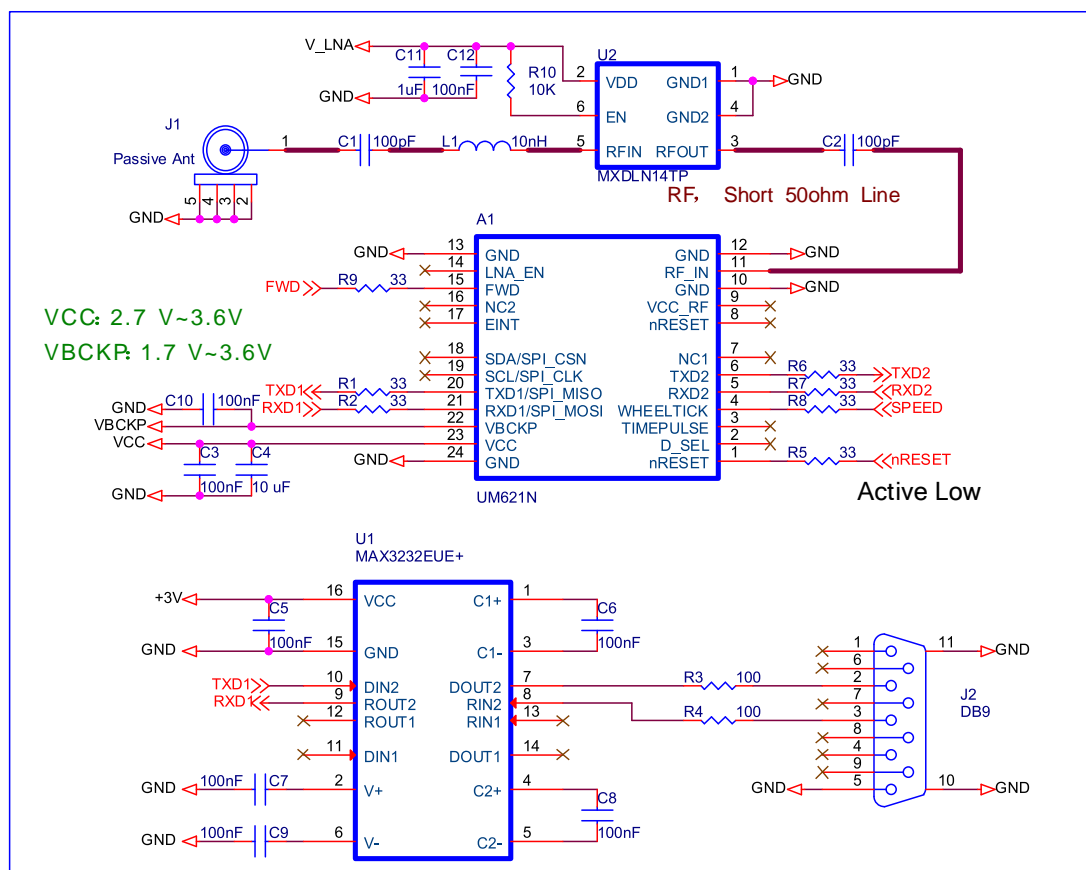


Figure 2-1 Reference Circuit Using a Passive Antenna

3 Recommended BOM

	Component	Order No.	Manufacturer
U1	RS-232 Transceivers	MAX3232EUE+	TI
U2	LNA	MXDLN14TP	MAXSCEND

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