Quectel Wireless Solutions

Wireless Module Expert

L20 GPS Module Presentation

February, 2013

CONTENTS

New Features (L20 ROM2.2)

Item /Category	Brief Description
Hardware Baud Rate Configuration	Baud rate selection can be set upon startup through SDA2 and SCL2 configuration. Please note that if those two pins are unused, set baud rate as 4800bps by default.
SBAS Ranging	SBAS satellite ranging measurements are used in the navigation solution for improved DOP and coverage.
QZSS Support	The Quasi-Zenith Satellite System (QZSS) is supported by the module in ROM2.2 version. The receiver can use available QZSS satellites for ranging, but only use one QZSS satellite at any given time.
5 Hz Navigation Update Rate	User selectable 1 Hz or 5 Hz Navigation computation and message output rate.
Fast Time-sync Mode	The Fast Time-sync Mode enables the receiver to determine time quickly from the GPS satellites and then stop receiving signals.

Product Advantages

SIRFstarIV™ Chip Solution

SBAS (WAAS, EGNOS and QZSS)
5 Hz Navigation Update Rate

Low Power Consumption

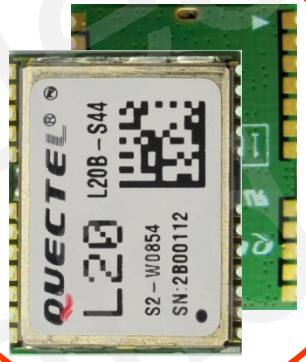
36mA@Tracking Mode
39mA @Acquisition Mode

Highest Sensitivity

-163dBm@Tracking Mode
-148dBm@Acqusicition Mode

Fast Time-sync Mode

1 SV Fast Time Setting
3~9s @Cold Start



Compact Size

16.0 mm x 12.2 mm x 2.4 mm

Hardware Baud Rate Configuration

Baud rate configured by hardware
Default: 4800 bps

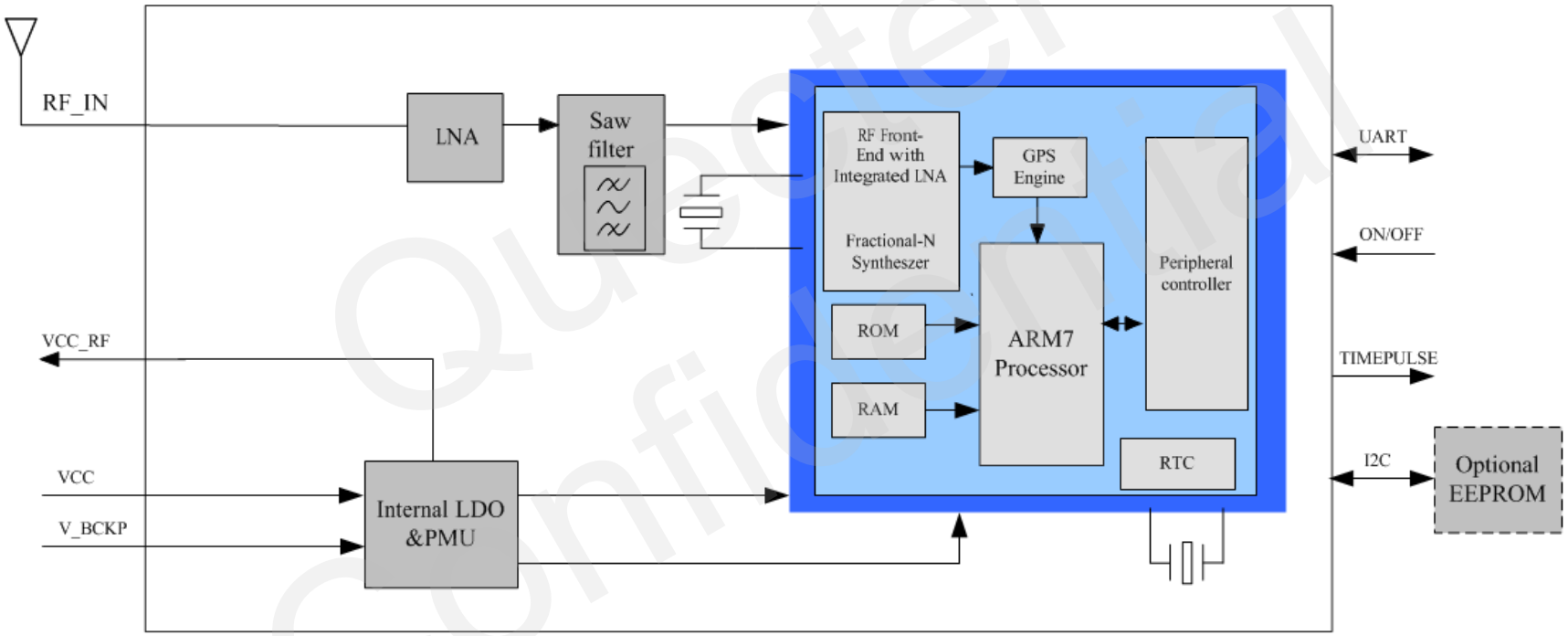
Active Jammer Remover

Removes in-band jammers up to 80 dB-Hz
Tracks up to 8 CW jammers

CGEE function

Up to 3-day prediction

Hardware Architecture



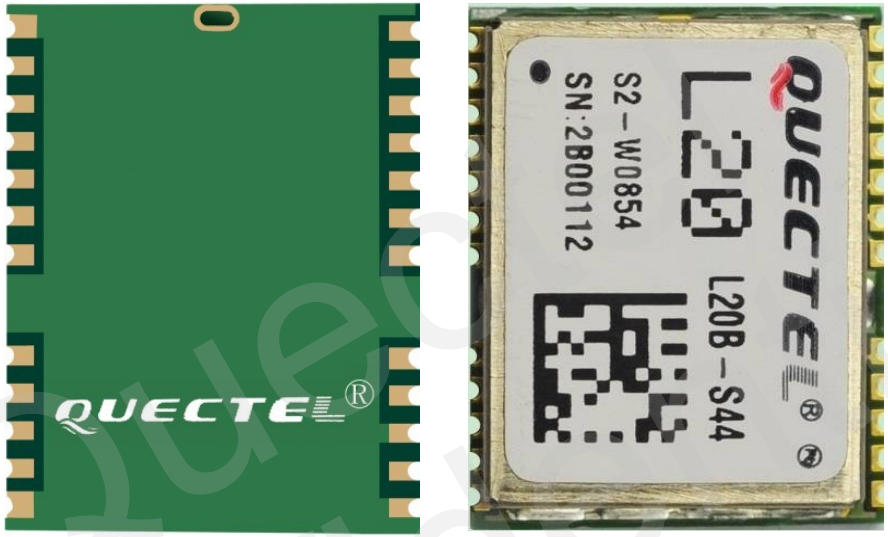
Target Applications

- Vehicle Tracking and Tracing
- Pet Tracking
- Asset Tracking
- Connected PND
- GIS Application
- Security
- Industrial PDA

Software Technology

- Standard NMEA protocol: NMEA 0183 standard V3.01
- SiRF OSP binary protocol
- Selectable navigation update rate
- Configurable baud rates
- Readable firmware version

Mechanical Dimensions



Length: 16.0 mm (±0.15mm)
Width: 12.2 mm (±0.15mm)
Height: 2.4 mm (±0.10mm)
Weight: Approx. 1.0g

Performance differences

Item	L20 ROM2.2	L20 ROM1.3
Navigation Update Rate	1Hz (default), up to 5Hz	1Hz
Power Acquisition	39mA	55mA
Power Tracking	36mA	40mA
Hardware Baud Rate Configuration	Baud rate configured by hardware	Not supported
QZSS	Support	Not supported
SBAS Ranging	Support	Not supported
Fast Time-sync	GPS time synchronization will be finished about 3-9 seconds from a cold start-up.	GPS time synchronization will be finished about 15 seconds from a cold start-up.

L20 vs. u-Company NEx-6Q

Product Features		Quectel L20	u-Company NEx-6Q
Power Supply Scope		2.0V~3.6V	2.7V~3.6V
Sensitivity	Cold start	-148dBm	-144dBm
	Tracking	-163dBm	-159dBm
	Reacquisition	-160dBm	-157dBm
ESD		Air discharge ±8KV	Unknown

L20 vs. u-Company NEx-6Q

We tested the sensitivity of Quectel L20 and u-Company NEx-6Q by MassPRO MP9000, a 8-star GPS signal generator. The test results show that the sensitivity of L20 is much better than NEx-6Q as listed in the table below.

Sensitivity	L20 better than NEx-6Q(dB)
Cold start	4
Tracking	4
Reacquisition	3

Support Package

- **Technical Materials Package**
  - Hardware, software specification
  - Application notes package
  - Test tool, EVB package
  - Certification & test report package

- **Development Tool**
  - **Interfaces**
    - ✓ RS-232 interface
    - ✓ Power supply
    - ✓ Antenna interface
  - **Features**
    - ✓ Power status LED
    - ✓ 1PPS LED

L20 EVB KIT

THE END

Thank You!

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