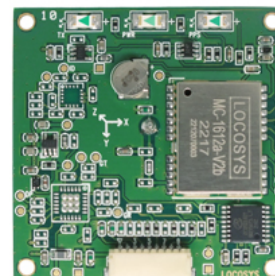| Product Name | Description | Version |
|:---:|:---|:---:|
| LC20030-Vx | Dual-frequency multi-constellation GNSS smart antenna, USB | |
| LC20031-Vx | Dual-frequency multi-constellation GNSS smart antenna, TTL | 0.2 |
| LC20032-Vx | Dual-frequency multi-constellation GNSS smart antenna, RS232 | |
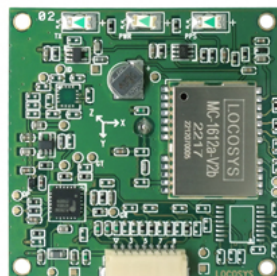


Antenna side    LC20030-Vx    LC20031-Vx    LC20032-Vx
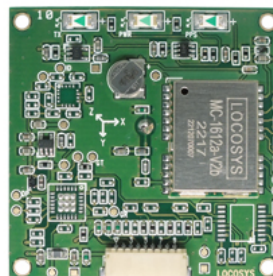
## 1    Introduction

LC2003x-Vx series products are high-performance dual-band GNSS smart antenna modules, including an embedded antenna and GNSS receiver circuits, designed for a broad spectrum of OEM system applications. The GNSS smart antenna will acquire both L1 and L5 signals at a time while providing the better standalone position accuracy. It can provide you with fast Time-To-First-Fix, superior sensitivity and low power consumption. Its far-reaching capability meets the sensitivity requirements of car navigation as well as other location-based applications.

## 2    Features

- Concurrent reception of L1 and L5 band signals
- Support GPS, GLONASS, BEIDOU, GALILEO, QZSS and IRNSS (NavIC)
- Capable of SBAS (WAAS, EGNOS, MSAS, GAGAN) and QZSS SLAS
- Support 135-channel GNSS
- Fast TTFF at low signal level
- Free hybrid ephemeris prediction to achieve faster cold start
- Smart jammer detection and suppression
- Build-in micro battery to reserve system data for rapid satellite acquisition
- LED indicator for GNSS fix or not

## 3    Application

- Personal positioning and navigation
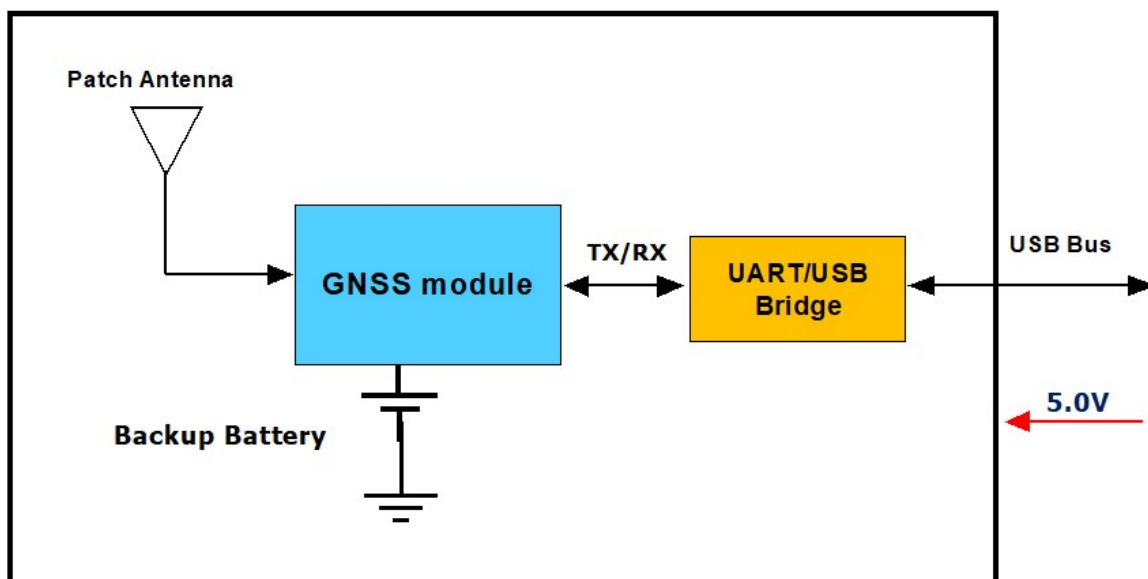- Automotive navigation and fleet management
- Marine navigation

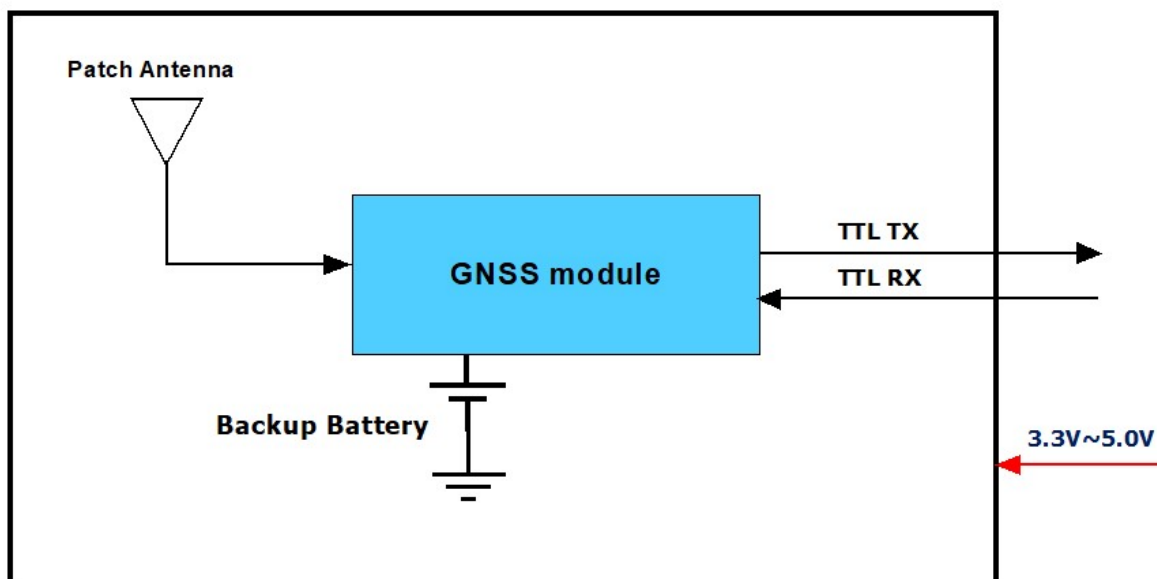Fig 3-1 System block diagram of LC20030-Vx
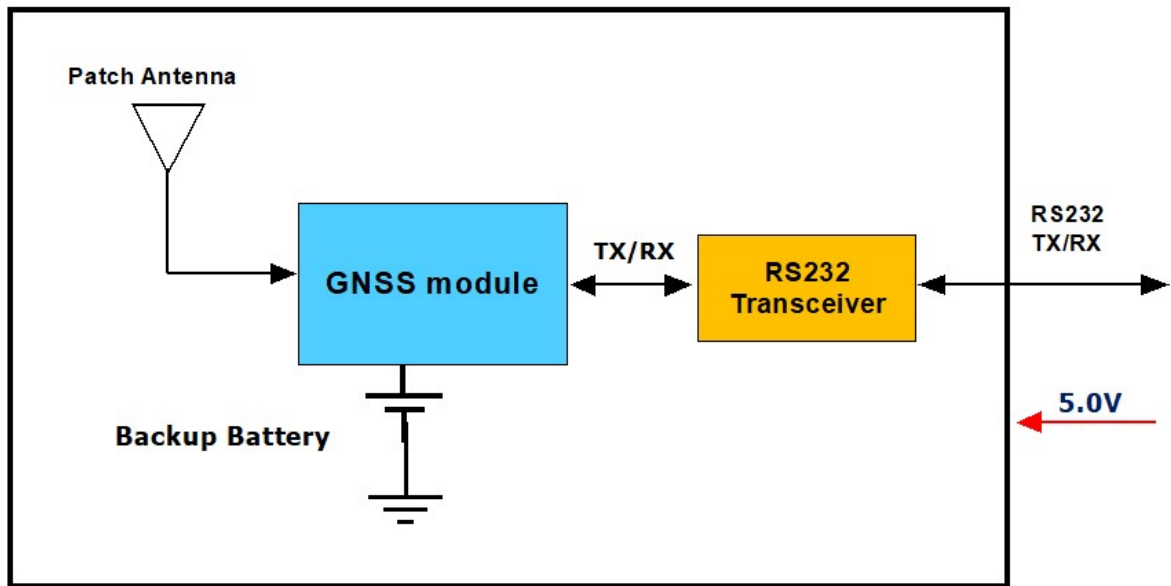


Fig 3-2 System block diagram of LC20031-Vx

Fig 3-3 System block diagram of LC20032-Vx

## 4 GNSS receiver

| | | |
|---|---|---|
| Frequency | LC20030-V2<br>LC20031-V2<br>LC20032-V2 | GPS/QZSS: L1 C/A, L5C<br>GLONASS: L1OF<br>BEIDOU: B1I, B2a<br>GALILEO: E1, E5a |
| | LC20030-V3<br>LC20031-V3<br>LC20032-V3 | GPS/QZSS: L1 C/A<br>GLONASS: L1OF<br>BEIDOU: B1I<br>GALILEO: E1<br>IRNSS L5 |
| Channels | Support 135 channels | |
| Update rate | 1Hz default, up to 10Hz | |
| Acquisition Time | Hot start (Open Sky) | 2s (typical) |
| | Cold Start (Open Sky) | 28s (typical) without AGPS |
| Position Accuracy | LC20030-V2<br>LC20031-V2<br>LC20032-V2 | Autonomous: 1.5m (CEP) |
| | LC20030-V3<br>LC20031-V3<br>LC20032-V3 | Autonomous: 2.5m (CEP) |
| Datum | WGS-84 (default) | |
| Max. Altitude | < 18,000 m | |
| Max. Velocity | < 500 m/s | |
| Protocol Support | NMEA 0183 ver. 4.1 | 115200 bps , 8 data bits, no parity, 1 stop bits (default)<br>1Hz: GGA, GLL, GSA, GSV, RMC, VTG, GST |

**HYPER-TECH Systems**