Product Technical Specifications

Dimensions	:	220 x 190 x 60 mm
Weight	:	~1 kg
Output rate and data	:	10 Hz position and orientation
Max. velocity	:	70 km/h with sensor fusion
Position error in case of GPS outage	:	1% (as a percentage of distance traveled)
Data formats	:	ROS, Custom binary protocol

GNSS-related Specifications

Supported GNSS systems	:	GPS/QZSS, Galileo, Beidou, GLONASS
GNSS Antenna Connector	:	SMA
RTK Correction	:	RTCM 3.x over NTRIP

Hardware Specifications

Computation Module	:	Nvidia GPU Based SBC
Camera	:	CMOS Camera with Global Shutter (CSI-2)
Inertial Measurement Unit	:	Accelerometer, gyroscope
Internal Storage	:	16 GB
Interface	:	Ethernet, CAN
SIM Card	:	Nano SIM

Electrical Characteristics

Voltage input	:	12 V DC
Power consumption	:	≤ 30 W

VINS-RTK is a visual-inertial navigation system which has a sensor fusion engine extracting highly accurate and reliable 3D position and orientation information from a monocular camera, an inertial measurement unit and RTK-GNSS. The system can provide reliable localization information even if the GNSS signal is completely lost. It can work in normal GNSS and RTK-GNSS modes.