specification

Performance specification	
Satellite signals tracked simultaneously	GPS: L1 C/A, L2C, L2P, L5 GLONASS: L1, L2, L3 BEIDOU: B1, B2, B3, B1C, B2a, B2b GALILEO: El/E5a/E5b/E6 QZSS: L1/L2/L5/L6 SBAS: WAAS, EGNOS, MSAS, GAGAN, SDCM
Channels	1408
Cold start	<60 s
Hot start	<15 s
Positioning output rate	1Hz–20Hz
Signal Reacquisition	<1s
RTK Initialization time	<5s
Initialization Reliability	>99.99%
Time accuracy	20 ns
Positioning[1]	
Static GNSS surveying	Horizontal: ±(2.5mm + 0.5ppm) Vertical: ±(5mm + 0.5ppm)
RTK Surveying	Horizontal: ±(8mm + 1.0ppm) Vertical: ±(15mm + 1.0ppm)
HARDWARE	
PHYSICAL	
Material	Magnesium alloy
Dimensions	120mm*72mm(without bottom connector 20mm)
weight	0.76kg
Operating temperature	-40°C to + 75°C
Storage temperature	-55°C to + 85°C
Protection IP	IP67 dust proof, protected from 30min immersion to depth of 1m
Shock	Survive 2 m drop onto the concrete
Vibration	MIL-STD-810G
Humidity	100%, condensing
IMU	
IMU	Supported, 4D IMU initialization in 3 seconds
IMU update rate	400Hz
IMU accuracy	＜2.5cm within 30°
IMU tilt compensation	0-120°
ELECTRICAL	
Power	9~24 V DC external power
USB Type-C fast charging	Support
Battery capacity	Internal 7000mAh lithium-ion battery
Working Time	
Network Mode	>24h
Radio Reception	>18h
Radio Transmission	>8h
Communication & Data Storage	
I/O interface	5pin Lemo port, TNC port
RADIO MODEM	
internal radio	TX/RX internal module
internal radio frenquency	410-470 MHZ
Communication protocols	Alphatalk15, Transparent transmission /TT450S/SOUTH
Bluetooth	
Fully integrated Bluetooth V4.0, range ≤ 50m	
Data format	
Differential data	RTCM2.X、RTCM3.X
GPS output data format	NMEA 0183s RTK, Binary code
static data format	RINEX
Storage	
8GB internal memory, supports cyclic storage; with ability to collect over one year raw observation based on 5 seconds interval	
Others	
System integration	
OS system	Intelligent LINUX operating system
Supported controllers	All android devices with supported software
Design	
Key	one button
Indicator	Power indicator, data link indicator, satellite indicator, Bluetooth indicator